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BELL & HOWELL COMPANY

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

August 2, 1966 Volume 829 Number 1

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of June 1966

Examiner affirmed	242
Examiner affirmed in part	59
Examiner reversed	76
Total	377

Guidelines to Examination of Programs

The following are guidelines which the Patent Office proposes to adopt for the examination of applications for patent on programming methods and apparatus. Comments as to these guidelines will be considered if received on or before October 4, 1966, on which date a public hearing on the matter will be held at 10:00 a.m. in Room 3886B of the Department of Commerce Building. All persons wishing to be heard orally at that time are requested to notify the Commissioner of Patents of their intended appearance.

EDWARD J. BRENNER,
July 6, 1966. *Commissioner of Patents.*

In considering these guidelines, it should be understood that, since it is not an analysis of judicial holdings, they must be considered as a tentative, theoretical analysis of applicable statutory law. It may well be that, when particular facts in particular applications are considered, modification in some instances may become necessary.

The term "program" has been loosely applied by authors discussing the patentability of processes and apparatus under our statutes.

For the purposes of this paper it is unnecessary to arrive at formal or precise definition of this term or of related terms such as "computer" or "data processor" since these are merely adaptations of the concept of "automatic control" which the Patent Office heretofore has been treating as within the classes of invention called for in 35 U.S.C. 101 as either apparatus or processes.

For example, the Jacquard looms of Class 139, Textiles, Weaving, subclass 59 and indented subclasses have presented for many years the concept of processes and apparatus that include a program. It is of no moment whether a "program device" is termed a Jacquard card belt, a player piano roll, a plug board or a magnetic tape and the corresponding "program" is termed a weaving design, a musical composition, a switching scheme or a document listing a series of instructions which a machine will execute, for its patentability is based on the presence or lack of statutory subject matter and this must be determined on the basis or a particular disclosure of subject matter.

It is not intended to indicate that there are no special, unresolved problems in the field of "programs" for electronic computers, such as where a program is a printed document, yet is acceptable directly by a computer having devices which can sense the printed characters on the program document.

PROCESS

Special problems of patentability arise in the computer, data processing and automatic control field that revolve around mathematical processes and equations. These problems may be more generically stated as the broad field of algorithms which are conclusions based upon a precise or mathematical premise and line of reasoning.

For example the prediction as to the winner in a presidential election made by a programmed "general purpose" computer is based on an algorithm, not generally publicized, which has been evolved from a line of reasoning based on known factors and is analogous to a mathematical formula. Similarly, business practices or methods may be reduced to an algorithm.

Mathematical process discoveries and mathematical formulas used therein may not be patented although they may be of enormous importance (e.g., $e=mc^2$). The mathematical process fails as a statutory process as defined by the Supreme Court in *Cochrane* v. *Deener*, 94 U.S. 780, 1877 C.D. 242, since it is not a treatment of "materials or substances." Processes in the electrical field were considered in the Telephone Cases 126 U.S. 1 (1887) and the electric telegraph case *O'Reilly* v. *Morse*, 15 How. (56 U.S.) 62 (1853).

Mathematical formulas are not included within 35 U.S.C. 101 since they are not a process, a machine, a manufacture, a composition of matter, or useful improvements thereof.

Other decisions treating similar non-statutory processes as "mental processes" are:

In re Abrams, 38 CCPA 945, 1951 C.D. 264, 648 O.G. 663, 188 F.2d 165, 89 USPQ 266.

In re Shao Wen Yuan, 38 CCPA 967, 1951 C.D. 286, 648 O.G. 967, 188 F.2d 377, 89 USPQ 324.

These processes were for, or were characterized by, an algorithm.

Processes of doing business and of evaluating data likewise are characterized by an algorithm.

Thus certain useful and important processes are non-statutory as being merely expressions of an algorithm while other useful processes are statutory since they deal with tangible things and substances. For convenience they may be distinguished as "algorithm" and "utility" processes, respectively.

To distinguish between algorithm and utility processes becomes difficult in the case of a programmed general purpose computer unless the distinction between *a result* of method or apparatus operation and the *function* of the method steps or apparatus components is maintained.

The *result* of a programmed operation of a computer may be the mathematical transformation of data according to an algorithm but the *functioning* of the computer is the change

New Applications Received During June 1966

Patents	7746
Designs	399
Plant Patents	8
Reissues	16
Total	8169

Issue—August 2, 1966

Patents	1419	No. 3,263,235 to No.	3,264,653, incl.
Designs	44	No. 205,394 to No.	205,437, incl.
Plant Patents	2	No. 2,660 to No.	2,661, incl.
Reissues	5	No. 26,068 to No.	26,072, incl.
Total	1470		

in state of certain electrical or mechanical devices within the computer according to the algorithm, as distinguished from the individual or total computational result of the components thereof.

Thus a process, defined as a series of steps for the manipulation or evaluation of data, even though it is required to be carried out by a programmed computer, would be an algorithm process. A process defined as a series of steps for causing a sequence of changes in state of components of the computer, even though the sequence is dictated by an algorithm, would be a utility process.

Since the general purpose computer usually is programmed solely in terms of an algorithm and but infrequently in terms of the machine functioning of its components, it would be possible to define the process solely in algorithm terms and thus not be within the statute and not in utility function terms so as to be within the statute.

Where a process is a combination of algorithm and utility steps, its patentability is measured by viewing the process as a whole against the background of the prior art, as evidenced by references, including that which can be judicially noticed, to determine whether the process is characterised solely by the algorithm. Mere inclusion of algorithm steps *per se* does not render a process non-statutory since the algorithm may illuminate or exemplify the utility steps.

35 U.S.C. 112, third paragraph, authorizes a claim, when expressed as a "step for performing a specified function without the recital of structure, material or act in support thereof," but this does not sanction the claiming of a result only, since this has been construed repeatedly by the courts as not such that would promote the progress of science and useful arts. "Function" here must be construed as a utility function, as a means to an end, not the end or result itself.

However, a process, which includes utility steps that may or may not be old *per se*, recited in proper interrelation and illuminated by the inclusion of steps which set forth an algorithm to be solved as a result of the utility operations, may yield some new and unobvious *utility* and thus may be patentable over the prior art that does not teach this utility and how to obtain it. For example, a known programmed computer may be combined with and monitor and control a known chemical reactor in a manner to carry out a new and unobvious algorithm by a procedure applied to a material and thus be possibly patentable as where a new, unobvious compound results.

In summary, a process carried out by a programmed apparatus is (*a*) non-statutory where the process as claimed merely states the algorithm and is (*b*) unpatentable over the prior art where the prior art shows (i.e., makes obvious) all the statutory subject matter although not applied to the same algorithm. However, where the algorithm expressed in the process results in a new utility function for the statutory subject matter of the claim and this utility function is not presented by the prior art, the algorithm is illuminating and may be limiting in the process. But in no case would the fact of inclusion of the algorithm vitiate the statutory subject matter of the process.

APPARATUS

Apparatus within the field of programmed devices is always some form of machine or other manufacture under 35 U.S.C. 101.

In the case of a programmed computer or other machine, evaluation of patentability of the combination claimed follows by analogy that set forth above for processes. The program itself (if this is considered to be the algorithm) and the physical embodiment for effectuating that program (as a structural device) require no further treatment.

Apparatus may be defined in many instances in terms of a paraphrase of a process definition, i.e., in terms of "means for" carrying out the "function" of each step of that process. If the "function" is a *machine function* such a means encompasses statutory subject matter, but where the "means" is modified only by a statement of the *result* to be effected (such as the analysis of intellectual information in accordance with an algorithm), definition is non-statutory.

35 U.S.C. 112, third paragraph, specifically relates "function" to the structure or material in support of the function and not to a result which the structure or material cannot give. A claim to a series of means for carrying out the successive steps of a mathematical algorithm tells nothing of the structure of a machine capable of so operating as to result in solving the algorithm, but merely claims, in effect, the non-statutory algorithm.

Similarly to the case of the process, a claim which includes both statutory apparatus features and non-statutory features may be patentable on the basis of the new utility of the statutory apparatus features, but only if properly claimed so as to be restricted to apparatus significantly different from the prior art.

A programable machine, such as a general purpose computer, with its various parts not interconnected to perform any useful combined operation is merely a "warehouse" of unrelated parts. It may well be that the same machine, with a program device correctly related thereto, may yield a novel and useful machine combination due to the new interrelation of parts. In other words, the fact that such a prior art machine can have its parts interrelated by a program device in a new way to carry out machine functions of a specialized character may well result in a new patentable combination, unless there is a prior art teaching that would make the interrelations and results thereof obvious.

A machine which has as a part thereof a program device to cause the entire combination to carry out machine functions is embraced within the patent statute the same as any other special purpose machine and the fact that portions of the complete machine take the form of a replaceable program device is of no moment.

Claims to apparatus frequently are directed to less than the total apparatus disclosure and the aforegoing considerations are applicable to any such subcombination.

However, when the subcombination is that portion of a programmed machine which is interchangeably related to the machine and is determinative of the choice of algorithm to be carried out by the total machine, special considerations may arise because of the various usage of the terms "program" or "computer program."

The term "program" has been applied indiscriminately both (*a*) to the algorithm which the machine is intended to solve as a result of its functioning and (*b*) to the physical device which is associatable with the machine and becomes a part of that machine so as to cause the total combination to be capable of yielding the result.

A "program," when this term designates an algorithm, has no physical connotations, but is an intellectual concept and is not, *per se*, statutory subject matter.

A "program" may be a physical device which may take many different forms, such as printing on a piece of paper, electric or magnetic discontinuities on a recording media or cam-like protuberances or recesses, which is capable in proper relation to other physical devices of yielding a combination functioning to solve algorithms as a result.

The physical modification of a program *device* may express the algorithmic meaning by a printed word, letter or symbol easily interpreted by the human mind according to the prearranged convention of language or by a coded arrangement of physical discontinuities which similarly may be interpreted, but with greater difficulty, by the human mind. These same physical modifications can be sensed by the machine to control the kind or sequence of the operations of various portions of the machine so that its function is in accordance with the algorithm. (Note that some machines optically sense print and are controlled in accordance with the printing, but not its *meaning*.)

Since these program devices include symbols which can be interpreted in an intellectual sense the numerous cases on "printed matter" may apply such as the following Board decisions:

Ex parte Gwinn, 716 O.G. 15, 1957 C.D. 18, 112 USPQ 439,
Ex parte Ehnes, 107 USPQ 282,
Ex parte Dere, 118 USPQ 541,
Ex parte Stange, 124 USPQ 238,
Ex parte des Granges, 1964 C.D. 265, 803 O.G. 899, 142 USPQ 41,

and the court decision to which reference is made therein.

Thus a program device which has in combination novel structure apart from the symbols or a novel relationship of the symbols to structure so that the combination functions to give a useful result, may qualify as a statutory machine or article of manufacture. Where the program device, as to all features and interrelations, is made obvious by prior art, the meaning or intelligence conveyed by the symbology of the physical representations thereon being the sole novelty, such being non-statutory subject matter, may not impart patentability to that which is old.

It is of extreme importance to an inventor who has devised an overall combination of a programmed machine that is patentable to be able to obtain a patent on the program device as a subcombination of that machine. This is particularly the case where the subcombination is to be sold separately from the machine, being evolved for interchangeable use with other correlative subcombinations.

Where the subcombination is defined in terms of its own novel structure and resultant utility, no problems in determining patentability exist.

Where the subcombination is defined in terms of the old structure of a known subcombination and thus is unpatentable for this reason, the fact that the claim also includes language indicating merely a sought for result or an intended use in an unclaimed combination cannot cause that which is old to be patentable.

The following is presented as a summary and as such must be construed in the context of the preceding discussion.

(1) The examination of process claims entails:
- (A) A determination whether or not there is a disclosure of a statutory process under 35 U.S.C. 100(b) and 101. Mere disclosure of an algorithm process in the absence of a utility process is insufficient under 35 U.S.C. 112, first paragraph.
- (B) A determination of whether or not the claims are in whole or in part to a utility process.
  - (*a*) Patentability of a utility process or of the utility steps of a process which have both utility and algorithm steps must be on the basis of prior art which is cited or is indicated to have been judicially noted (as under 35 U.S.C. 103).
  - (*b*) Patentability cannot be predicated on an algorithm process alone. Where a process has both utility and algorithm steps, patentability cannot be predicated on the algorithm but the algorithm steps do not vitiate the claim.
- (C) A search for, and an application of, the prior art to the statutory subject matter set out by the claims. The prior art is constituted by any known machine, any known process, any known algorithm or any other pertinent known information available in the prior art to render obvious the claimed process under 35 U.S.C. 101, 102, 103.

(2) The examination of apparatus claims entails:
- (A) A determination of whether or not there is a clear disclosure of apparatus coming under the statutes, particularly 35 U.S.C. 101 and 112, first paragraph.
- (B) A determination of whether or not the claims are in whole or in part to apparatus coming under the patent statutes.
  - (*a*) The claims may set forth structure or a means for carrying out an apparatus function.
    - (i) Where this function is that which an apparatus is capable of carrying out, it is a statutory definition of that apparatus or its equivalents under 35 U.S.C. 112, third paragraph.
    - (ii) Where this function is not one which apparatus can carry out but is merely a designation of the result of, or the meaning to be accorded to, the operation of the apparatus, only a non-statutory algorithm is claimed thereby.
  - (*b*) The presence in the claim of a statement of the algorithm practiced by the apparatus does not vitiate the statutory apparatus set forth therein but may illuminate a novel apparatus function of that apparatus.
  - (*c*) The claim may set forth less than the total disclosed apparatus. The program device, apart from the programable machine with which it is to function, may be a proper subcombination, if the claim defines that which provides an apparatus function; but such device is not a proper subcombination where its sole characteristic is the meaning, algorithm or result ascribed to a physical feature of the program device.
- (C) A search for, and application of, the prior art to the statutory apparatus set out in the claim. The prior art is constituted by any known process, any known apparatus, any known algorithm, or any other pertinent known information available in the prior art to render obvious the claimed apparatus under 35 U.S.C. 101, 102, and 103.
  - (*a*) The fact that known programable machine components could be programmed by appropriate interconnections to carry out the machine functions set out in a claim does not in and of itself anticipate or make obvious the invention claimed. However, additional prior art may make obvious the necessary interconnection.
  - (*b*) A program device for a programable machine is unpatentable which differs from the prior art only by reason of the meaning or algorithm ascribed to the symbology represented on the program device and the analogy to printed matter law to which there has been reference should be followed.
  - (*c*) A program device which is a proper subcombination of a disclosed combination may be patentable *per se* by reason of its novel structure and functions.

No Entries in Punched Cards for Organic Phosphorous Compound Patents After July 1, 1966

No further entries will be made by the Patent Office in the punched card file for mechanized search of organic phosphorous compound patents after July 1, 1966. The offer of cards containing new material, published March 22, 1966 (824 O.G. 1199), is, accordingly, withdrawn. A refund of payment will be made to each party who tendered a renewal subscription for such cards.

The file containing cards for patents issued before July 1, 1966, may still be purchased at the price of $40 and machine searches may still be obtained, in accordance with the notice published February 1, 1966 (823 O.G. 1), but only with respect to patents issued before July 1, 1966.

RICHARD A. SPENCER,
Director, Office of Research, Development and Analysis.
July 5, 1966.

Format—Requesting Streamlined Continuation Application

In response to many inquiries, the following format is suggested to transmit a new set of claims and request the use of the contents of an earlier filed application for a continuation application in compliance with 824 O.G. 1.

REQUEST FOR STREAMLINED CONTINUATION APPLICATION UNDER COMMISSIONER'S ORDER 824 O.G. 1

Earlier copending application:
Applicant(s) _____
Serial No. _____
Filed _____
Title _____
Enclosed are:
1. A new set of claims.
2. Filing Fee of $_____ (or*), to cover—
Total Number of claims _____
Independent Claims _____

Please use the contents (specification and drawings) of the above application in the new application since it meets all the requirements of the above Commissioner's Order dated February 11, 1966. The specification (and drawings) of the new application are identical with the earlier application, and the new claims are directed to the same invention.

*"Authorization letter (2 copies) for use of funds in my Deposit Account No. _____ for the filing fee of $_____; to cover—
Total Number of Claims_____
Independent Claims _____

EDWIN L. REYNOLDS,
May 31, 1966. *First Assistant Commissioner.*

Practice re: Filing Fees

It is suggested that attorneys review the notices pertaining to filing fees under the new Fee Act of 1965 appearing at 818 O.G. 1207, September 28, 1965, and 823 O.G. 814, February 15, 1966.

The filing fee includes the basic $65 fee plus an additional fee corresponding to the number and type of claims presented.

For filing fee purposes the Patent Office considers any claim that specifically refers back to another claim to be a dependent claim, regardless of statutory class.

It appears that some attorneys are submitting filing fees in excess of their computations, apparently to insure against loss of a filing date should their computations be in error. This is neither necessary nor desirable. The Application Branch has been authorized to accept all applications, otherwise acceptable, if the basic fee of $65 is submitted, and if the deficiency is no more than $25 of the required filing fee, and to require payment of the deficiency within a stated period upon notification of the deficiency. Practitioners are urged to discontinue submitting exeessive fees, since processing such fees has proved costly to the Office, and since applicants are believe to be adequately protected against loss of filing date by the practice outlined above.

There appears to be an erroneous impression that a Rule 147 divisional case requires a filing fee based on the claims in the parent case. The 818 O.G. 1207 notice specifically states than an amendment filed with a Rule 147 case will be effective to reduce the number of claims upon which the fee is based.

RICHARD A. WAHL,
Assistant Commissioner.

June 30, 1966.

Foreign Patents Received in the Scientific Library as of June 30, 1966

Source	Date received	Highest number
Australia:		
(*Abstracts*)	June 16, 1966	1,294/66
(*Patents*)	June 23, 1966	256,649
Austria	June 13, 1966	246,700
Belgium	Apr. 22, 1966	642,000
Canada	June 30, 1966	737,635
Czechoslovakia	June 17, 1966	116,555
Denmark	June 29, 1966	103,390
East Germany	June 9, 1966	47,898
Egypt	Dec. 14, 1965	5,228
Finland	June 24, 1966	35,249
France:		
(*Patents*)	June 13, 1966	1,430,450
(*Additions*)	June 15, 1966	86,550
(*Medicaments*)	June 13, 1966	3,450 M
(*Additions*)	Apr. 18, 1966	86 CAM
Germany:		
(*Auslegeschriften*)	June 17, 1966	1,214,170
(*Patents*)	June 17, 1966	1,201,272
Great Britain	June 23, 1966	1,031,980
India	June 29, 1966	91,606
Ireland	Mar. 14, 1966	24,259
Italy	Dec. 27, 1965	650,000
Japan	June 21, 1966	10,000/66
Netherlands:		
(*Octrooiaanvragen*)	May 25, 1966	02055/66
(*Patents*)	June 17, 1966	120,884
Norway	June 15, 1966	108,571
Pakistan	Feb. 3, 1964	112,446
Philippine Republic	Apr. 13, 1962	458
Poland	June 17, 1966	51,168
Rumania	Apr. 21, 1966	43,352
Sweden	June 6, 1966	203,520
Switzerland	June 14, 1966	402,157
U.S.S.R.	June 16, 1966	179,231

Australia: First 2,000 incomplete
Belgium: First printed 493,079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Not received between 81,300/1952 and 91,901/1959
Finland: First printed 19,428/1941.
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: First received 10,000/1929
Italy: First 243,000 incomplete
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1933
Latest 16,461/1941

Patents Available for Licensing or Sale

3,045,853. FORK-LIFT ATTACHMENT. William N. Card, Sr., 2020 Vallecito Drive, Hacienda Heights, Calif., 91745.

3,067,310. MICROFILM ELECTRIC HEATERS. Frank C. Walz, et al. Correspondence to: Anderson, Spangler & Wymore, Suite 2114, 1700 Broadway, Denver, Colo., 80202.

3,215,917. ELECTRICALLY-DRIVEN TIMING DEVICE. Buck Instrument Co., Boulder, Colo. Correspondence to: Anderson, Spangler & Wymore, Suite 2114, 1700 Broadway, Denver, Colo., 80202.

3,234,563. CAP CONSTRUCTION. Berta Klaif Tabbat, 314 W. 77th St., New York, N.Y., 10024.

3,245,519. BELT CONVEYOR. Benno Schilde, Bad Hersfeld, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,245,821. EXTENDER FOR OIL-BASE PAINT. Charles Wesley Skinner, 181 Torrey St., Brockton, Mass.

3,257,989. APPARATUS FOR PAINTING FENCES AND THE LIKE. George J. Webb, Box 96, Station D, Hamilton, Ontario, Canada.

The following 2 patents are offered by: William F. Hajek, 909 W. 20th Place, Chicago, Ill., 60608.

3,075,541. ALTERNATING SEATING FAUCET VALVE.

3,185,172. PUSH BUTTON FAUCET WITH ALTERNATELY SEATING VALVES.

General Electric Company is prepared to grant non-exclusive licenses under the following 57 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 8 patents may be addressed to: Patent Counsel, Heavy Military Electronics Department, General Electric Company, Legal Section, Building 1, Room 36, Court Street Plant, Syracuse, N.Y., 13201.

3,134,966. VOLTAGE CONTROLLED MAGNETIC SYSTEM.

3,154,749. MODULATOR ENVELOPE DETECTOR.

3,182,325. ARRAY PATTERN MODIFICATION.

3,182,330. VARIABLY SPACED ARRAYS OF WAVE RADIATORS AND RECEIVERS.

3,202,985. TRUE THREE-DIMENSIONAL DISPLAY SYSTEM.

3,218,015. GIMBAL CONFIGURATION FOR A STABLE BASE.

3,239,799. SONAR DIRECTIONAL BEAM FOCUSING SYSTEM.

3,245,008. GAS TUBE REFLECTIVE SURFACE IONIZABLE BY HIGH ENERGY ELECTROMAGNETIC WAVES.

Applications for license under the folowing 49 patents may be addressed to: General Electric Company, Housewares Division, 1285 Boston Ave., Bridgeport, Conn., 06602.

2,486,309. ELECTRIC HEATER.

2,510,038. ELECTRIC BLANKET CONTROL.

2,510,039. ELECTRIC BLANKET CONTROL.

2,510,040. ELECTRIC BLANKET CONTROL.

2,510,041. ELECTRIC BLANKET CONTROL.

2,511,471. ADJUSTMENT FOR THERMOSTATIC SWITCHES.

2,531,342. VACUUM CLEANER.

2,536,596. BOTTLE WARMER.

2,552,818. ELECTRICALLY HEATED FLATIRON.

2,555,229. ELECTRIC BOTTLE WARMER.

2,561,964. AIRFLOW CONTROL FOR VACUUM CLEANER.

2,576,110. ELECTRIC VAPORIZER.

2,577,958. VERTICAL VAPORIZER.

2,583,279. PERCOLATOR COFFEE MAKER.

2,607,138. FLATIRON.

2,613,459. ELECTRIC FLATIRON.

2,626,419. VACUUM CLEANER NOZZLE AND COMBING TOOTH CONSTRUCTION THEREFOR.

2,642,027. INDICATOR FOR FLATIRON CONTROL MEANS.

2,658,134. AUTOMATIC COFFEE MAKER.

2,664,002. COUPLING FOR DRINK MIXERS.

2,688,379. VACUUM CLEANER.

2,704,506. SELF-EMPTYING COFFEE MAKER.

2,726,607. COFFEE MAKER.

2,742,721. STEAM IRON.

2,750,162. IMPELLER ASSEMBLY MOUNTING FOR MIXERS.

2,767,882. PERCOLATOR CAPACITY MARKING.

2,841,812. TANK TYPE VACUUM CLEANER NOZZLE.

2,865,465. VACUUM CLEANER.

2,930,032. COFFEE MAKER.

2,942,082. THERMOSTATIC SWITCHING DEVICE.

2,952,759. PROTECTIVE DEVICE FOR APPLIANCES.

2,952,760. THERMOSTAT FOR COFFEE MAKERS.

2,962,576. HAIR DRYER.

3,011,428. COFFEE MAKER.

3,035,144. THERMOSTATIC SWITCH.

3,037,107. BRACKET ASSEMBLY FOR THERMOSTATIC COOKWARE.

3,040,649. COFFEE PERCOLATOR.

3,064,362. HAIR DRYER HOOD.

3,073,037. HOOD AND ADAPTER ASSEMBLY FOR HAIR DRYERS.

3,081,693. COFFEE BASKET ASSEMBLY.

3,081,709. COFFEE MAKER.

3,103,872. COFFEE BASKET ASSEMBLY.

3,110,975. STEAM IRON WITH DUAL HEATING MEANS.

3,128,996. MIXER DRIVE LOCK.

3,140,364. ROTARY SWITCH WITH U-SHAPED ROTATABLE CONTACT STRUCTURE.

3,165,844. STEAM IRON.

3,196,298. HAND PORTABLE POWER UNIT.

3,213,534. METHOD OF MAKING STEAM IRON.

3,257,593. SELF OSCILLATORY COMMUNICATION SYSTEM FOR D.C. MOTOR.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JUNE 1, 1966

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action: New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY, GROUP 110—W. B. KNIGHT, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	9-17-62	11-14-60
GENERAL ORGANIC CHEMISTRY, GROUP 120—G. D. MITCHELL, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	1- 9-63	2-20-61
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	3- 1-63	4- 5-62
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	2- 1-63	7-18-60
COMPOSITIONS AND MOLDING, GROUP 150—M. STERMAN, Manager Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-11-62	2- 26-60
COATING AND LAMINATING, GROUP 160—J. REBOLD, Manager Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	9-24-62	11-16-61
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	11-16-62	8-28-61
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-27-62	5-21-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	12-31-62	10- 5-61
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	6- 5-63	1- 2-62
INFORMATION TRANSMISSION, GROUP 230—E. J. SAX, Manager Communications; Multiplexing Techniques; Facsimile and Related Art.	1-28-63	12-22-61
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—E. J. SAX, Manager Data Processing, Computation and Conversion; Storage Devices and Related Art.	9- 4-62	2-15-60
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—E. M. STRADER, Manager Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	11- 1-62	4- 5-61
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager Optics; Radiant Energy; Measuring.	11-13-62	6-15-61
ELEMENTS, GROUP 270—M. L. LEVY, Manager Conductors; Switches; Miscellaneous.	3-19-63	8-17-62
PHYSICS, GROUP 280—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8-30-63	10-25-62
DESIGNS, GROUP 290—S. BOYD, Manager Industrial Arts; Household, Personal and Fine Arts.	5-17-65	6- 8-64

Total number of pending applications (excluding Designs)	198,186
Total number of Design applications pending	4,690
Total number of applications awaiting action (excluding Designs)	146,208
Total number of Design applications awaiting action	2,722
Date of oldest new application awaiting action	Sept. 4, 1962
Date of oldest amended application awaiting action	Feb. 15, 1960

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during July 1966, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1965*.

Patents	Numbers 2,474,805 to 2,477,457, inclusive
Plant Patents	Numbers 852 to 857, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action: New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	8-14-64	12- 2-63
MANUFACTURING; METAL, PLASTICS WORKING; MACHINE TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders.	11-15-63	8-16-61
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	4-10-64	4-30-63
FLUID HANDLING, GROUP 360—T. J. HICKEY, Manager Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	1-20-64	11- 7-62
HEAT AND POWER ENGINEERING, GROUP 370—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	8- 5-64	8-21-63
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, Etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletry.	9-26-63	1- 3-62
CIVIL ENGINEERING, GROUP 420—L. W. VARNER, Manager Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	10-14-63	6-18-62
TEXTILES AND APPAREL, GROUP 440—W. S. COLE, Manager Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	5- 3-63	3-22-62
TRANSPORTATION, GROUP 450—A. BERLIN, Manager Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	2-24-64	5-15-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	7-25-63	8-15-62
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Manager Printing; Typewriters; Stationery; Material Treatment.	7- 1-63	7-13-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE PHILIP M. CARABATEAS

No. 7517. Decided February 10, 1966

[53 CCPA —; 356 F.2d 129; 148 USPQ 429]

1. PATENTABILITY—PROCESS—OBVIOUSNESS—SELECTIVE ACYLATION.

"Crooks et al. disclose the use of acetic anhydride and acetyl chloride as agents for the stepwise acylation of the amino and alcohol radicals of the starting material. This reference teaches that ease of acylation follows the descending order: primary amine, primary alcohol, secondary alcohol. While not absolutely predictable, we believe that this teaching would suggest to a chemist having ordinary skill that one mole of an acylating agent such as acetic anhydride would react with a secondary amino group in preference to a tertiary alcohol group, as is the case with appellant's claimed process. While it is true that the acylatable groups of Crooks et al.'s compounds are located in significantly closer proximity to one another than the analogous groups of appellant's compound, no reason appears in the record why such a difference should be accorded patentable significance."

2. SAME—PARTICULAR SUBJECT MATTER—SUBSTITUTED PIPERIDINES AND THEIR PREPARATION.

The decision of the Board of Appeals refusing certain claims to substituted piperidines and to methods for their preparation is reversed as to the product claims and affirmed as to the process claims.

APPEAL from the Patent Office. Serial No. 12,909.

MODIFIED.

Laurence and Laurence (*Dean Laurence*, *Herbert I. Sherman* of counsel) for appellant.

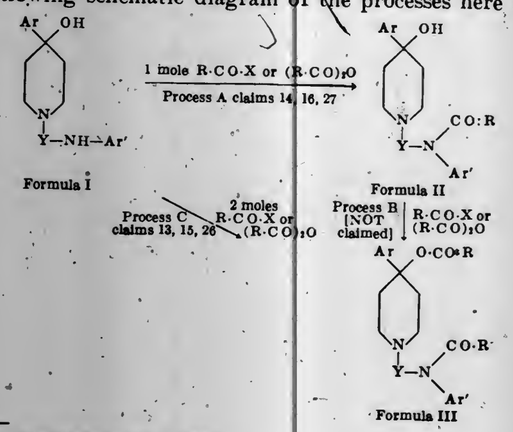
Clarence W. Moore (*Jack E. Armore* of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

ALMOND, *J.*, delivered the opinion of the court.

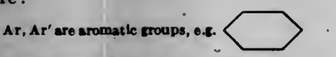
Philip M. Carabateas appeals from the decision of the Board of Appeals affirming the rejection of claims 13 to 21 and 26 to 29 in his application [1] for "Organic Compositions and Their Preparation."

The invention in all its aspects can best be understood by reference to the following schematic diagram of the processes here involved:



[1] Serial No. 12,909, filed March 7, 1960.

where:

Ar, Ar' are aromatic groups, e.g. 

Y is lower alkylene, e.g. —CH_2CH_2—

R·CO is lower carboxylic acyl, e.g. CH_3CO, and

X is halogen, e.g. Cl.

Compounds of Formula:

I=Claims 17–21, 28, 29 on appeal.

II=Claims 3, 5–7, 9–12, 25
III=Claims 2, 4, 8, 24 } 34 allowed.

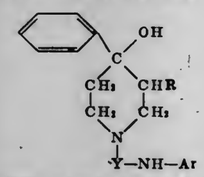
Appealed claims 17 to 21, 28, and 29 describe 4-aryl-4-piperidinols substituted on the heterocyclic nitrogen (1-position), 3-alkyl derivatives thereof, and their acid-addition salts. These compounds serve as the starting materials in the monoacylation process described in appealed claims 14, 16, and 27 and the diacylation process described in claims 13, 15, and 26.

Claims 13, 14, and 18 are representative, respectively, of the diacylation process, the monoacylation process, and the starting materials used therein, and read as follows:

13. The process for the preparation of a member selected from the group consisting of 4-(lower-carboxylic-acyloxy)-1-[N-(mono- and bi-cyclic-aromatic)-N-(lower-carboxylic-acyl) amino-(poly-carbon-lower-alkyl)]-4-(monocarbocyclic-aryl having six ring-carbon atoms and naphthyl)-piperidine which comprises reacting a member of the group consisting of 1-[(mono- and bi-cyclic-aromatic-amino)-(polycarbon-lower-alkyl)]-4-(monocarbocyclic-aryl having six ring-carbon atoms and naphthyl)-4-piperidinol with two molar equivalent quantities of a lower-carboxylic-acylating agent selected from the group consisting of lower-carboxylic acid anhydrides and lower-carboxylic acid halides.

14. The process for the preparation of a member selected from the group consisting of 1-[N-(mono- and bi-cyclic-aromatic)-(N-(lower-carboxylic-acyl) amino)-(polycarbon-lower-alkyl)]-4-(monocarbocyclic-aryl having six ring-carbon atoms and naphthyl)-4-piperidinol which comprises reacting a member of the group consisting of 1-[(mono- and bi-cyclic-aromatic-amino)-(polycarbon-lower-alkyl)]-4-(monocarbocyclic-aryl having six ring-carbon atoms and naphthyl)-4-piperidinol with one molar equivalent quantity of a lower-carboxylic-acylating agent selected from the group consisting of lower-carboxylic acid anhydrides and lower-carboxylic acid halides.

18. A compound having the structural formula



where R represents lower-alkyl, Y represents polycarbon-lower-alkylene and Ar represents monocarbocyclic-aryl having six ring-carbon atoms.

The appealed claims stand rejected as unpatentable over prior art under 35 U.S.C. 103. The references relied on are:

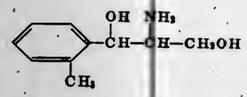
Crooks et al., 2,514,376, July 11, 1950.
Elpern I, 2,824,875, February 25, 1958.
Elpern II, 2,846,437, August 5, 1958.
Elpern III, 2,850,500, September 2, 1958.
Elpern IV, 2,880,211, March 31, 1959.

The patentability of the process and product claims will be considered separately.

Process

Process claims 13 to 16, 26 and 27 were rejected as being directed to conventional acylating procedures as shown by Crooks et al. This

reference discloses the stepwise acylation of compounds containing an $—NH_2$ radical, a $—CH_2OH$ radical, and a —CHOH radical. Exemplary of such compounds is 1-o-methylphenyl-2-aminopropane-1,3-diol having the formula:



Reacting the above compound with an excess of acetyl chloride in dry benzene at room temperature results in the formation of the N-acylated compound 1-o-methylphenyl-2-acetamido-propane-1,3-diol. Reacting this latter compound with an excess of acetic anhydride at 70–80° C. for fifteen minutes results in the acylation of the primary alcohol to yield 1-o-methylphenyl-2-acetamido-3-acetoxy-propane-1-ol. Reacting the latter compound with a 1:1 by volume mixture of acetic anhydride and pyridine at 100° C. for about thirty minutes results in acylation of the secondary alcohol to yield the triacetate.

Appellant contends that the differences in number, type, and location of the acylatable radicals of Crooks et al.'s compounds as compared to those on appellant's compounds, together with differences in the type and quantity of acylating agent employed in the respective processes, are such as to make the appealed process claims non-obvious.

[1] We disagree with this contention. Crooks et al. disclose the use of acetic anhydride and acetyl chloride as agents for the stepwise acylation of the amino and alcohol radicals of the starting material. This reference teaches that ease of acylation follows the descending order: primary amine, primary alcohol, secondary alcohol. While not absolutely predictable, we believe that this teaching would suggest to a chemist having ordinary skill that one mole of an acylating agent such as acetic anhydride would react with a secondary amino group in preference to a tertiary alcohol group, as is the case with appellant's claimed process. While it is true that the acylatable groups of Crooks et al.'s compounds are located in significantly closer proximity to one another than the analogous groups of appellant's compound, no reason appears in the record why such a difference should be accorded patentable significance.

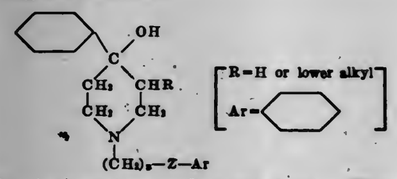
Appellant asserts that in certain instances Crooks et al. do not effect stepwise acylation of the primary amino group and the primary alcohol function but instead obtain diacylation in one step. This argument relates only to the patentability of claims 14, 16, and 27, which call for selective acylation of the imino group, as the other process claims, viz, 13, 15, and 26, recite a one-step diacylation process. However, it is clear from the reference that whether acylation of the primary amino and primary alcohol groups is accomplished in one or two steps depends on a suitable selection of acylating agent and reaction conditions. The fact that acylation can be accomplished in one step does not detract from the disclosure that the reaction can be controlled to provide a two-step process. Moreover, for purposes of this discussion, amino-*secondary* alcohol acylation as taught by Crooks et al. is more pertinent than amino-*primary* alcohol acylation since the former more nearly resembles the secondary amino-tertiary alcohol acylations recited in the instant claims. Crooks et al. reveal that the amino-secondary alcohol acylation occurs in a stepwise manner.

In summary, we believe that both the selective monoacylation process recited in claims 14, 16, and 27 and the diacylation process recited in claims 13, 15, and 26 would be obvious in view of Crooks et al. The decision of the Board is affirmed as to these claims.

Product

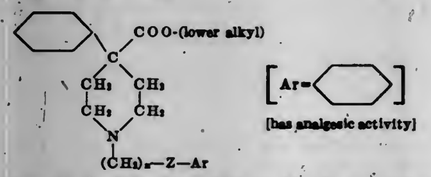
Claims 17–21, 28 and 29 were rejected as unpatentable over Elpern III in view of Elpern II, with the Elpern I to IV patents showing collectively the equivalence of 4-aryl-4-piperidinol esters and isonipecotic acid esters.

Elpern III discloses 4-phenyl-4-OH-N-aryloxy-lower alkylene-piperidines having the formula:



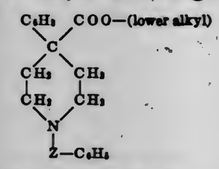
where Z is —O—(oxygen) or —S—(sulphur). The 4-OH group of the above compound can be acylated and the resultant product exhibits analgesic activity.

Elpern II, the secondary reference, discloses 4-phenyl-isonipecotic acid esters having the formula:



where Z is either O, S, SO, SO_2 NH or N (lower alkyl).

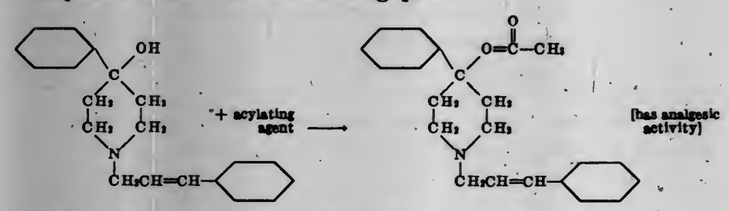
Elpern I discloses lower alkyl 4-phenyl-1-(3-phenyl-alkenyl and alkynyl) piperidine-4-carboxylates having the formula:



where $C_6H_5—Z—$ may be radicals typified by:

$C_6H_5CH=CHCH_2—$, $C_6H_5CH_2CH=CH—$, $C_6H_5C\equiv CCH_2—$, or $C_6H_5CH_2C\equiv C—$

Elpern IV teaches the following process:



The Examiner's position with regard to the instant compound claims, disclosed as analgesics, was stated as follows:

Product claims 17 to 21 and 28 to 29 stand rejected as being unpatentable over Elpern III who teaches generically 4-phenyl-4-OH-N-aryloxy-lower alkyl and N-arylmercapto-lower alkyl piperidines in view of Elpern II who teaches

the functional equivalence of N-arylamino, N-aryloxy and N-isonipecotic acid esters. Suggested functional equivalents of the prior art are deemed obvious under 35 U.S.C. 103. The equivalence of 4-aryl-4-piperidinol esters and isonipecotic acid esters is exemplified by the Elpern I, II, III and IV patents taken collectively.

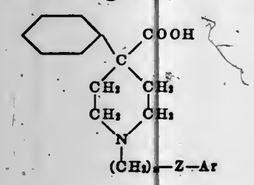
The herein claimed compounds would be suggested as being useful for making analgesic 4-phenyl-4-acyloxy-N-arylaminoalkyl piperidines and such suggested compounds are deemed obvious under 35 U.S.C. 103.

As appellant's counsel points out, the reasoning of the Examiner and the Board is rather involved. The Z-substituent of the piperidinols disclosed in Elpern III may be an oxygen or sulfur atom whereas the corresponding Z-substituent of appellant's claimed piperidinols is an imino radical. The esters of Elpern II, however, may have, inter alia, O, S, or NH as the corresponding Z-substituent. The Board noted further that where Z is an oxygen or sulfur atom, the esters of Elpern II and III differ only in the relative positions of the atoms making up the ester group attached to the 4-position of the piperidine ring, as is also true of the esters of Elpern I and IV. Elpern I–IV disclose that the respective esters all have analgesic activity and it is this common property which the Examiner and the Board argued established the equivalency of 4-aryl-4-piperidinol esters and isonipecotic acid esters. This equivalency, plus the equivalency of the O, S, and NH groups in Elpern II, suggested to one of ordinary skill in the art, in the Board's view, that the Z-substituent of the Elpern III *esters* may also be NH. Once this is established, it was argued, it would be obvious that the Z-substituent of the Elpern III piperidinol *starting compounds* may be NH, thus arriving at the structure of the instant claimed piperidinols. We do not believe this latter step in the Board's reasoning process is warranted by the prior art.

The issue here is whether the claimed compounds are obvious under 35 U.S.C. 103. We believe the issue must be answered in the negative.

The reasoning of the Examiner and the Board ignores the fact that the presence of an imino group on the *piperidinol* of Elpern III would, according to the prior art of record, have resulted in the formation of an acylimido group when the piperidinol was reacted with an acylating agent. There is nothing in Elpern II to suggest that the substituted piperidine starting materials could have two substituents capable of acylation. The presence of the imino radical in the Elpern II ester is explained by the fact that the carboxyl radical on the 4-position of the piperidine starting material is esterified with an *alcohol* which would *not* acylate the imino group on the 1-substituent. None of the Elpern references contemplates a compound capable of diacylation. Only the instant application was concerned with diacylation and it is improper to use such disclosure as prior art.

The Board's reasoning begins by considering the *esters* of the Elpern II and III references and moves from there to a consideration of the piperidinol starting material of the Elpern III reference. No mention is made of the starting material of the Elpern II reference which is a *carboxylic acid* having the structural formula:



It seems to us that to the extent esterification-deesterification processes are to be considered at all, and clearly the Examiner and Board placed much reliance thereon, the most meaningful comparison between prior art compounds and the claimed compounds is between the starting materials for the esters. The starting material of the ester disclosed in Elpern II has a carboxyl group in the 4-position of the piperidine ring and may have an imino group in the 1-substituent. Considering the imino group vis à vis the carboxyl group, one salient feature is immediately apparent which is that the carboxyl group can be esterified by reacting with an alcoholating agent whereas the imino group will be unaffected by such an agent. Thus, one can obtain the desired ester of Elpern II by a simple esterification.

Turning to the starting material of Elpern III, we note that the piperidine ring has a *hydroxyl* group in the 4-position and may have either an oxygen or sulfur atom, but no imino group, in the 1-substituent. To form the desired ester of Elpern III, it is necessary to react the piperidinol with an acylating agent. The oxygen or sulfur atom on the 1-substituent is inert to such acylating agents and it is thus possible to obtain the desired ester. The Board's position is that the piperidinol of Elpern III could also have an imino group in the 1-substituent just as does the piperidineoic acid of Elpern II, but if such were true, the prior art tells us that *the acylating agent would react first with the imino group* to form an acylimido group. Depending on the quantity of acylating agent employed, the result would be a substituted piperidine having an acylimido group in the 1-substituent and a hydroxyl group on the 4-position, or an acylimido group in the 1-substituent and an ester group in the 4-position. In neither instance would there be obtained the ester disclosed in Elpern III.

The Solicitor urges this court to consider the references for what they reasonably and realistically teach in relation to what is claimed, citing *In re Krogman*, 42 CCPA 1037, 233 F.2d 497, 106 USPQ 276. In doing so, we conclude that the subject matter of claims 17–21 and 28–29 is nonobvious under 35 U.S.C. 103.

[2] The decision of the Board with respect to claims 17–21 and 28–29 is reversed; the decision with respect to claims 13–16, 26 and 27 is affirmed.

MODIFIED.

MARTIN, *J.*, concurs in the result.

U.S. Court of Customs and Patent Appeals

IN RE FRITZ HOSTETTLER AND EUGENE F. COX

No. 7564. Decided February 17, 1966

[53 CCPA —; 356 F.2d 562; 148 USPQ 514]

1. PATENTABILITY—AFFIDAVIT UNDER RULE 131—REQUIREMENTS OF RULE 131.
"Rule 131 requires applicant to make oath to facts showing a completion 'of the invention.' That requirement does not mean affiant must show a reduction to practice of every embodiment of the invention. Nor is that requirement coextensive with the amount of disclosure necessary to support a claim under 35 U.S.C. 112."

2. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—DOCUMENTS RELIED UPON BY APPELLANTS MUST BE PRODUCED BEFORE THE PATENT OFFICE.
"While this patent was cited during the prosecution but not relied on for the rejection, the state of the prior art is not restricted to the documents

relied on by the Patent Office. They must, however, be produced before the Patent Office."

3. PATENTABILITY—AFFIDAVIT UNDER RULE 131—FACTS SUBMITTED UNDER RULE 131 NEED NOT SHOW WHAT IS OBVIOUS IN ADDITION TO COMPLETION OF INVENTION.

"Certainly appellants should not be required to submit facts under Rule 131 showing that they reduced to practice that which is obvious in addition to those facts offered as showing a completion of the invention, for the purposes of antedating a reference."

APPEAL from the Patent Office. Serial No. 24,650.

REVERSED.

Charles J. Metz, Francis M. Fazio, Paul A. Rose, Louis C. Smith for appellants.

Joseph Schimmel (*George C. Roeming of counsel*) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN, SMITH, and ALMOND, JR., *Associate Judges*, and WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

MARTIN, *J.*, delivered the opinion of the court.

The issue for determination in this appeal [1] from the Board of Appeals is the sufficiency of an affidavit under Rule 131 to remove publication which are conceded to be prior art references under 35 U.S.C. 102(a).

The invention is evident from the sole claim in the case on appeal, here:

4. A process for producing a urethane which comprises reacting.
(*a*) a compound having at least one isocyanato group with
(*b*) a compound having at least one alcoholic hydroxyl group, in the presence of a catalytic amount of stannous octoate, wherein the sole reactive groups present in both said compounds are isocyanato and aliphatic alcoholic hydroxyl groups, respectively.

It should be noted that the process claim, in calling for each reactant having "at least one" of the pertinent reactive groups, encompasses the use of alcohols and isocyanates of any "functionality" as reactants to produce compounds having a *single* NHCOO linkage, as well as those having a plurality of such linkages such as *poly*urethane resins and foams.[2] The reaction of the claimed process can be depicted in simplified form by the equation:

$$R^1\text{—NCO} + \text{HO—}R^2 \xrightarrow[\text{octoate}]{\text{Stannous}} R^1\text{—NH—}\overset{\overset{\text{O}}{\|}}{\text{C}}\text{—O—}R^2$$

Isocyanato group containing reactant; Hydroxyl group containing reactant; Urethane group containing product

R^1 and R^2 represent various organic moieties.

The references relied on for the 102(a) rejection are:

Technical Information Bulletin, No. 28–F9, July 20, 1959, Mobay Chemical Co., Pittsburgh, Pa.

Modern Plastics, February 1960, page 53.

There is no issue as to what those references show since the Solicitor agrees that appellants adequately summarize them in their brief thus:

The references * * * disclose the use of stannous octoate as a catalyst in the production of urethane foams which involves the reaction of polyfunctional alcohols with polyfunctional isocyanates to form polyurethanes. Thus, the references disclose the subject claimed invention employing polyfunctional reactants.

[1] This appeal PA 7564, is taken on application Serial No. 24,650, filed April 26, 1960, for "Tin-Containing Catalyst for Isocyanate Reactions."

[2] Functionality in this context thus refers to the reactive or functional groups of the reactants. "Any functionality" means having one or any number of functional groups per reactant molecule.

The Rule 131 affidavit alleges a completion of the invention prior to May 26, 1958,[3] which is prior to the effective date of the earliest reference. In the affidavit, reference is made to accompanying notebook pages on which was recorded an experiment using stannous octoate to catalyze the reaction of a *mono*functional alcohol (methanol) with a *mono*functional isocyanate (phenyl isocyanate) to produce a urethane containing only one NHCOO— group (methyl N-phenylcarbamate). The subject of the research is stated on the notebook pages to be "Catalytic Studies of the Reaction of Isocyanates with Active Hydrogen Compounds * * *," and the purpose of the particular experiment was "to determine the velocity coefficient for the [above noted] reaction * * * using * * * Stannnous Octoate * * * as catalyst." The affidavit admittedly does not show facts establishing reduction to practice of a process involving use of stannous octoate to produce a polyurethane resin or foam.

The Examiner was not satisfied by the affidavit, stating both in the final rejection and in the answer:

* * * Applicants' attention is directed to the premise of M.P.E.P. section 715.03 which states that the rejection is valid unless applicant overcomes the exact species of the reference by his affidavit, or else the affidavit shows an adequate generic disclosure. Applicants have failed to do this since their affidavit covers only one species methanol which is in fact generically different from the reference's species. As a matter of fact, the references all concern the formation of polymers, whereas the affidavit shows the reaction of methanol, a monofunctional compound with monoisocyanate, said reaction being unable to form a polymer. Thus the *Stempel* case [*In re Stempel*, 44 CCPA 820, 241 F.2d 755, 113 USPQ 77] is not applicable.

The Board in affirming stated:

In essence, the affidavit proves a reduction to practice of the simple monomeric reaction whereby methyl N-phenylcarbamate is produced from phenyl isocyanate and methanol, using stannous octoate as a catalyst. This may have been a useful preliminary or screening experiment raising hopes that the catalyst would be correspondingly useful in the preparation of urethane polymers, but it cannot be regarded as a reduction to practice of that principal aspect of the claimed process which involves the production of polyurethanes, particularly polyurethane foams. The simple monomer experiment is not deemed to be representative of the problems encountered in the preparation of polyurethane foams * * *, and certainly does not demonstrate the beneficial results mentioned in * * * appellants' specification.

Appellants may have carried out the simple reaction of their affidavit prior to the cited publications, but they did not complete the invention of the scope here claimed or the foamed polyurethane aspect taught in the references prior to the date of the references. Chronologically, appellants reacted phenyl isocyanate and methanol in the presence of stannous octoate and obtained methyl N-phenylcarbamate. Thereafter, the cited references were published disclosing the preparation of polyurethane foams using stannous octoate as the catalyst. Finally, the instant application was filed disclosing and claiming all aspects of urethane production using the specified catalyst. The record furnishes no basis for any different conclusion as to the chronological course of events and, clearly, it cannot be held that appellants were first as to all aspects of urethane production using stannous octoate as the catalyst.

We are not impressed by appellants' arguments that the procedure of their affidavit is representative of urethane production in general. The simple monomer reaction may be indicative of possible future utility of stannous octoate in the preparation of polyurethane foams, but the reaction is not so nearly identical that the completion of the simple monomer reaction can be regarded as constituting a completion of the considerably more complex polymer reaction.

[3] That date coincides with the filing date of a patent to Ikeda, No. 3,010,923 issued November 28, 1961, which was cited of interest in the prosecution but not relied on in the appeal.

U.S.C. 102(a).

The invention is evident from the sole claim in the case on appeal here:

4. A process for producing a urethane which comprises reacting
(a) a compound having at least one isocyanato group with
(b) a compound having at least one alcoholic hydroxyl group, in the presence of a catalytic amount of stannous octoate, wherein the sole reactive groups present in both said compounds are isocyanato and aliphatic alcoholic hydroxyl groups, respectively.

It should be noted that the process claim, in calling for each reactant having "at least one" of the pertinent reactive groups, encompasses the use of alcohols and isocyanates of any "functionality" as reactants to produce compounds having a *single* NHCOO linkage, as well as those having a plurality of such linkages such as *poly*urethane resins and foams.[2] The reaction of the claimed process can be depicted in simplified form by the equation:

$$R^1\text{—NCO} + \text{HO—}R^2 \xrightarrow[\text{octoate}]{\text{Stannous}} R^1\text{—NH—}\overset{\overset{O}{\|}}{C}\text{—O—}R^2$$

Isocyanato group containing reactant — Hydroxyl group containing reactant — Urethane group containing product

R^1 and R^2 represent various organic moieties.

The references relied on for the 102(a) rejection are:

Technical Information Bulletin, No. 28–F9, July 20, 1959, Mobay Chemical Co., Pittsburgh, Pa.

Modern Plastics, February 1960, page 53.

There is no issue as to what those references show since the Solicitor agrees that appellants adequately summarize them in their brief thus:

The references * * * disclose the use of stannous octoate as a catalyst in the production of urethane foams which involves the reaction of polyfunctional al-

[1] This appeal PA 7564, is taken on application Serial No. 24,650, filed April 26, 1960, for "Tin-Containing Catalyst for Isocyanate Reactions."

[2] Functionality in this context thus refers to the reactive or functional groups of the reactants. "Any functionality" means having one or any number of functional groups per reactant molecule.

[illegible] generic disclosure. Applicants have failed to do this since their affidavit covers only one species methanol which is in fact generically different from the reference's species. As a matter of fact, the references all concern the formation of polymers, whereas the affidavit shows the reaction of methanol, a monofunctional compound with monoisocyanate, said reaction being unable to form a polymer. Thus the *Stempel* case [*In re Stempel*, 44 CCPA 820, 241 F.2d 755, 113 USPQ 77] is not applicable.

The Board in affirming stated:

In essence, the affidavit proves a reduction to practice of the simple monomeric reaction whereby methyl N-phenylcarbamate is produced from phenyl isocyanate and methanol, using stannous octoate as a catalyst. This may have been a useful preliminary or screening experiment raising hopes that the catalyst would be correspondingly useful in the preparation of urethane polymers, but it cannot be regarded as a reduction to practice of that principal aspect of the claimed process which involves the production of polyurethanes, particularly polyurethane foams. The simple monomer experiment is not deemed to be representative of the problems encountered in the preparation of polyurethane foams * * *, and certainly does not demonstrate the beneficial results mentioned in * * * appellants' specification.

Appellants may have carried out the simple reaction of their affidavit prior to the cited publications, but they did not complete the invention of the scope here claimed or the foamed polyurethane aspect taught in the references prior to the date of the references. Chronologically, appellants reacted phenyl isocyanate and methanol in the presence of stannous octoate and obtained methyl N-phenylcarbamate. Thereafter, the cited references were published disclosing the preparation of polyurethane foams using stannous octoate as the catalyst. Finally, the instant application was filed disclosing and claiming all aspects of urethane production using the specified catalyst. The record furnishes no basis for any different conclusion as to the chronological course of events and, clearly, it cannot be held that appellants were first as to all aspects of urethane production using stannous octoate as the catalyst.

We are not impressed by appellants' arguments that the procedure of their affidavit is representative of urethane production in general. The simple monomer reaction may be indicative of possible future utility of stannous octoate in the preparation of polyurethane foams, but the reaction is not so nearly identical that the completion of the simple monomer reaction can be regarded as constituting a completion of the considerably more complex polymer reaction.

[3] That date coincides with the filing date of a patent to Ikeda, No. 3,010,923 issued November 28, 1961, which was cited of interest in the prosecution but not relied on in the appeal.

The Solicitor urges that the above position is particularly correct in view of the generally known unpredictability of catalytic activity, citing: *Corona Cord Tire Co.* v. *Dovan Chemical Corp.*, 276 U.S. 358 (1928); *In re Doumani*, 47 CCPA 1120, 281 F.2d 215, 126 USPQ 408; *Ex parte Meguerian*, 124 USPQ 456 (Pat. Off. Bd. App. 1960); *Ex parte Fugate*, 99 USPQ 54 (Pat. Off. Bd. App. 1953).

Thus, the issue, more specifically stated, is whether the factual showings in the Rule 131 affidavit relating the catalysis of a process to produce a compound having a single urethane group is sufficient to antedate a reference under 102(a) which shows the claimed process as producing polyurethane resins or foams.[4]

We think the Board erred in its view of what is the invention, and thereby demanded appellants show more in the affidavit than is necessary under Rule 131. [1] Rule 131 requires applicant to make oath to facts showing a completion "of the invention." That requirement does not mean affiant must show a reduction to practice of every embodiment of the invention. Nor is that requirement coextensive with the amount of disclosure necessary to support a claim under 35 U.S.C. 112.

The invention here is the use of a catalyst in a process involving an old reaction. As appellants state:

> * * * But has not the Board lost sight of that which appellants seek to claim, i.e., the use of a new catalyst for an old reaction? The Board emphasizes the functionality of the reactants, and thus whether or not the reactants are polymer-forming. But the Board has ignored the fact that, regardless of functionality, alcohol plus isocyanate produces urethane, and it is the use of stannous octoate to catalyze this urethane-forming reaction that appellants seek to claim. The invention is predicated upon catalytic activity alone. The Rule 131 Affidavit * * * shows such catalytic activity thereby overcoming references whose sole *pertinent* disclosure is the same catalytic activity.

The apparent requirement of the Patent Office that appellants show production of other *products*, polyurethane resins or foams, is considered improper in view of the nature of the invention. See *In re Fong*, 48 CCPA 897, 902, 288 F.2d 932, 129 USPQ 264. As evidence that alcohols of any functionality can be reacted with isocyanates of any functionality, appellants rely on a patent to Rothrock, No. 2,374,136, issued April 17, 1945,[5] which states in pertinent part:

> * * * When the active hydrogen-containing substance is monomeric and contains only one active hydrogen-containing group, the product is in general monomeric. On the other hand, if both of the reactants are bifunctional, the product is polymeric; and, if one of the reactants is polymeric, the product is a modified polymer of higher molecular weight. * * *

The Examiner's response, referred to by the Board, was:

> * * * Applicants cite Example I [in Rothrock] as a "model reaction" similar to applicants', in that the effectiveness of the catalyst is established, without the formation of the polymer, by the reactants. Applicants have apparently closed their eyes to the other specific examples, wherein the results of using or not using the catalysts are disclosed, not with methanol and a diisocyanate, but with a diisocyanate and a bifunctional high polymer forming polyhydroxyl containing compound.

[4] There is clearly no issue as to whether the specification is adequate to support the claim or that the claim is unduly broad, since the Board reversed the Examiner on that issue, stating:

> In our view, the nature of appellants' disclosure and the state of the prior art in the present case does not require that the known reactants be defined with greater particularity. We will not sustain the rejection of the appealed claim under 35 U.S.C. 112.

See *In re Fong*, 48 CCPA 897, 903, 288 F.2d 932, 129 USPQ 264.

[2] [5] While this patent was cited during the prosecution but not relied on for the rejection, the state of the prior art is not restricted to the documents relied on by the Patent Office. They must, however, be produced before the Patent Office. *In re Cofer*, 53 CCPA —, — F.2d —, 148 USPQ 268.

Clearly, while there is a difference shown in that patent between "using or not using the catalyst * * *," as the Examiner stated, the other specific examples support the position of appellants: that a catalyst for the monofunctional reactants also catalyzes the reaction between polyfunctional reactants. We think that is the gist of the teaching of Rothrock with regard to catalysis.

It is clear on this record that one of ordinary skill in this art would consider that functionality of the reactants determines whether the products are "monomeric"[6] or polymeric, but not that functionality would matter insofar as the reaction using the catalyst is concerned. The statement as to unpredictability of catalytic activity, while relevant, is so general as to afford little assistance in the determination of the precise issue before us. In fact, the more specific showings in the affidavit and the Rothrock patent indicate that one of ordinary skill in this art would expect that a catalyst for the particular functional groups involved in the reaction would operate relatively independently of the number of those groups on the reactant molecule. Thus we conclude that one of ordinary skill in the art would be satisfied from the facts shown in the affidavit that appellants had completed *the invention* as defined in the claims. See *In re Fong*, supra. [3] Certainly appellants should not be required to submit facts under Rule 131 showing that they reduced to practice that which is obvious in addition to those facts offered as showing a completion of the invention, for the purposes of antedating a reference.

For the foregoing reasons the decision of the Board is reversed.
REVERSED.

[6] By "monomeric" we mean a product containing only one NHCOO— or urethane group, and do not use the word in its technically more narrow sense as applied to a vinyl group-containing compound in addition polymerization.

U.S. Court of Customs and Patent Appeals

IN RE WILLIAM F. WETTERAU

No. 7516. Decided February 17, 1966

[53 CCPA —; 356 F.2d 556; 148 USPQ 499]

1. PATENTABILITY—DOUBLE PATENTING—REJECTION ON COPENDING APPLICATION—*Ex parte Feister* CONSTRUED.

"This appeal presents a preliminary question which we must consider. The basic reference upon which the appealed claims stand rejected is a copending application, not a patent. While the claims in the Carabateas application relied on by the Examiner and the Board are allowed *at this time*, no assurance can be given that that status will endure and a patent containing such claims will ultimately issue. If a patent were not to issue on the Carabateas application, the 'double patenting' rejection, if here affirmed, would of necessity evaporate for the possibility of two patents would not exist. Grave injury to applicant's rights might occur if the Wetterau application were to go abandoned through no fault of the applicant prior to the issuance of Carabateas, the reference application. It is our understanding, however, that the Patent Office has a policy of not forcing such an abandonment, this policy being announced at least as far back as the case of *Ex parte Feister*, 1890 C.D. 167. In that case, the Examiner attempted to require an applicant to abandon an application in which the claims were rejected on the ground of double patenting as a condition to the issuance of the application containing the claims upon which the 'double patenting' rejection was based. Commissioner Mitchell reversed the Examiner's position and granted applicant's petition which asked '* * * that the Examiner be instructed that the application referred to by him is no bar to the allowance of the present application.' In view of this practice, we believe no harm is done in entertaining an appeal such as this where the reference is not yet a patent. Of necessity, this means

that an affirmance of a 'double patenting' rejection in a case such as the instant one is only provisional in that it might be obviated by future events. Nonetheless, in view of the long-standing practice of rejecting claims on the allowed claims of copending applications on 'double patenting' grounds, and the benefits which such a practice appears to give to the interested parties, we are not persuaded that the practice should be overturned."

2. SAME—SAME—SAME.

"* * * the approach we believe proper is to determine whether the differences between the inventions claimed in the application at bar and in the copending reference application are such that the subject matter sought to be patented would have been obvious to one of ordinary skill in the art, in view of any prior art additionally relied on. If the issue as stated is answered in the negative, the appealed claims and the reference claims define patentably distinct subject matter and the 'double patenting' rejection is unsound."

3. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—NEW ISSUES.

"* * * it is not clear from the record that the *specific arguments* here advanced by appellant were made below. Nevertheless, the real *issue* below was whether the claims of the instant application would have been obvious to one of ordinary skill in the art in view of Carabateas and the prior art, and this rejection requires a consideration of the subject matter as a whole, which includes a consideration of structural and property differences [of the compounds]. Thus, we do not believe that appellant's assertions of the differences * * * raise new *issues*, and we will consider such assertions in deciding this appeal."

4. PATENTABILITY—COMPOUNDS—OBVIOUSNESS—"NORMAL" AND "REVERSE" PIPERIDINE ESTERS—STRUCTURAL OBVIOUSNESS.

"It will be noted that the compounds of Elpern I and Elpern II are 'normal' and 'reverse' substituted piperidine esters, respectively, and that the generic formula of Elpern I includes compounds which differ from those included in the generic formula of Elpern II only in the arrangement of the atoms of the 4-ester group. The same is true of Elpern III and IV. In view of this fact, and the further fact that all of the compounds are disclosed as being potent analgesics, we believe that given the structural formula of the claimed 'reverse' esters of Carabateas, *the structure* of the 'normal' esters set forth in the appealed claims would have been obvious to one of ordinary skill in the art."

5. SAME—SAME—EVIDENCE—DEGREE OF ANALGESIC PATENTING EXHIBITED BY ONE COMPOUND DOES ESTABLISH POTENCY OF GENUS OR ANY OTHER MEMBER.

"While we have no reason to doubt that appellant's claimed compounds are all potent analgesics, we do not believe that the particular facts of this case warrant the conclusion that the *degree* of analgesic potency exhibited by one compound of the genus establishes the degree of potency of the genus or any other of its members. Accordingly, appellant's arguments for patentability based upon the degree of analgesic activity are considered pertinent only to claim 4, which defines the only compound for which datum has been provided."

6. SAME—SAME—SAME—COMPARISON MUST BE WITH CLOSEST REFERENCE COMPOUND.

"We are unable to find 'clear and convincing evidence,' as required by this court in *In re Lohr*, 50 CCPA 1274, 317 F.2d 388, 137 USPQ 548, that appellant's compounds possess unexpected activity compared to the *closest* Carabateas reference compound. Because of appellant's lack of proof, the decision of the Board is affirmed."

7. SAME—PARTICULAR SUBJECT MATTER—"4-ARYL-4-CARBALKOXY-1-(N-ARYL-ALKANOYLAMINOALKYL) PIPERIDINES AND THEIR PREPARATION."

The refusal of certain claims in an application entitled "4-Aryl-4-Carbalkoxy-1-(N-Aryl-Alkanoylaminoalkyl) Piperidines and Their Preparation," as unpatentable on the ground of double patenting over the allowed claims of a commonly assigned application by another, is affirmed.

APPEAL from the Patent Office. Serial No. 12,929.

AFFIRMED.

Laurence and Laurence (*Dean Laurence*, *Herbert I. Sherman* of counsel) for appellant.

Clarence W. Moore (*Jack E. Armore* of counsel) for the Commissioner of Patents.

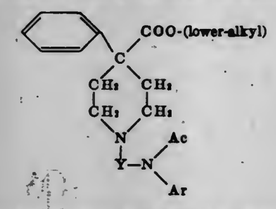
Before RICH, *Acting Chief Judge*, and MARTIN, SMITH, and ALMOND, JR., *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

ALMOND, *J.*, delivered the opinion of the court.

William F. Wetterau appeals from the Patent Office Board of Appeals' decision affirming the rejection of claims 1–4 in his application[1] entitled "4-Aryl-4-Carbalkoxy-1-(N-Aryl-Alkanoylaminoalkyl) Piperidines and Their Preparation."

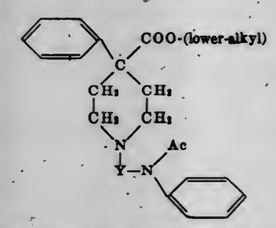
The appealed claims read as follows:

1. A composition of matter selected from the group consisting of a compound and acid-addition and alkyl, alkenyl and aralkyl quaternary-ammonium salts thereof, said compound having the structural formula



where Y represents polycarbon-lower-alkylene, Ac represents lower-alkanoyl and Ar represents monocarbocyclic-aryl having six ring-carbon atoms.

2. An acid-addition salt of the compound having in free base form the structural formula



where Y represents polycarbon-lower-alkylene and Ac represents lower-alkanoyl.

3. An acid-addition salt of ethyl 4-phenyl-1-[2-(N-phenylpropionamido)ethyl] piperidine-4-carboxylate.

4. An acid-addition salt of ethyl 4-phenyl-1-[3-(N-phenylpropionamido)propyl] piperidine-4-carboxylate.

The references are:

Carabateas application, Serial No. 12,909 (assigned to appellant's assignee).
Elpern IV, 2,846,437, August 5, 1958.
Elpern III, 2,850,500, September 2, 1958.
Elpern II, 2,880,211, March 31, 1959.
Elpern I, 2,914,532, November 24, 1959.

The above claims stand rejected as unpatentable on the ground of double patenting over the allowed claims of commonly assigned Carabateas application Serial No. 12,909 in view of Elpern I–IV.

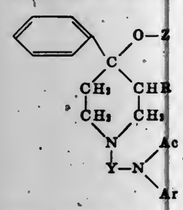
[1] This appeal presents a preliminary question which we must consider. The basic reference upon which the appealed claims stand

[1] Serial No. 12,929, filed March 7, 1960.

rejected is a copending application, not a patent. While the claims in the Carabateas application relied on by the Examiner and the Board are allowed *at this time*, no assurance can be given that that status will endure and a patent containing such claims will ultimately issue. If a patent were not to issue on the Carabateas application, the "double patenting" rejection, if here affirmed, would of necessity evaporate for the possibility of two patents would not exist. Grave injury to applicant's rights might occur if the Wetterau application were to go abandoned through no fault of the applicant prior to the issuance of Carabateas, the reference application. It is our understanding, however, that the Patent Office has a policy of not forcing such an abandonment, this policy being announced at least as far back as the case of *Ex parte Feister*, 1890 C.D. 167. In that case, the Examiner attempted to require an applicant to abandon an application in which the claims were rejected on the ground of double patenting as a condition to the issuance of the application containing the claims upon which the "double patenting" rejection was based. Commissioner Mitchell reversed the Examiner's position and granted applicant's petition which asked "* * * that the Examiner be instructed that the application referred to by him is no bar to the allowance of the present application.". In view of this practice, we believe no harm is done in entertaining an appeal such as this where the reference is not yet a patent. Of necessity, this means that an affirmance of a "double patenting" rejection in a case such as the instant one is only provisional in that it might be obviated by future events. Nonetheless, in view of the long-standing practice of rejecting claims on the allowed claims of copending applications on "double patenting" grounds, and the benefits which such a practice appears to give to the interested parties,[2] we are not persuaded that the practice should be overturned. We now turn to the merits of the rejection.

The claims in Carabateas upon which the rejection is based read as follows:

2. An acid-addition salt of a compound having the structural formula



where Ac and Z each represent lower-alkanoyl, R represents lower-alkyl, Y represents polycarbon-lower-alkylene and Ar represents monocarbocyclic-aryl having six ring-carbon atoms.

4. An acid-addition salt of 4-(lower-alkanoyloxy)-4-phenyl-1-[(N-phenyl-N-lower-alkanoylamino)-(polycarbon-lower-alkyl)]-piperidine.

7. An acid-addition salt of 4-phenyl-1-[2-(N-phenyl-propionamido)ethyl]-4-propionoxypiperidine.

8. An acid-addition salt of 4-acetoxy-4-phenyl-1-[2-(N-phenyl-acetamido)ethyl] piperidine.

The Board's interpretation of the claims in Carabateas and the disclosures of the Elpern patents was stated as follows:

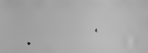
The Elpern patents are directed, like appellant's application and that of Carabateas, to analgesic compounds having a 4-aryl-piperidine structure. The compounds of these applications and the Elpern patents are so closely related structurally that the disclosures of the Elpern patents are particularly informative with respect to the claimed compounds of the Carabateas application and the application here involved. A comparison of the compounds of the Elpern (I) and (II) patents and of the Elpern (III) and (IV) patents shows that the "reverse esters" of the basic substituted 4-aryl-piperidine structure in each instance are highly active analgesics. A person of ordinary skill in this art would regard, therefore, each of the two alternative forms of this structure as being aspects of the same invention. If the analgesic ester of the 4-hydroxy-4-aryl piperidine compound were known, the 4-aryl-piperidine-4-carboxylate would be within the immediate contemplation of the art in structure as well as utility and vice versa. * * *

[2] In the instant case, the approach we believe proper is to determine whether the differences between the inventions claimed in the application at bar and in the copending reference application are such that the subject matter sought to be patented would have been obvious to one of ordinary skill in the art, in view of any prior art additionally relied on. If the issue as stated is answered in the negative, the appealed claims and the reference claims define patentably distinct subject matter and the "double patenting" rejection is unsound.

Controverting the refusal of the appealed claims, appellant urges that the claims on appeal and those of Carabateas are patentably distinct because (1) the compounds recited therein are "different and completely opposed classes of compounds" which should be considered as "unitary [molecular] wholes" that are "not made up of parts which themselves have a unitary existence, as would be the case in the mechanical field," and (2) the Wetterau compounds are about 95 times, while the Carabateas compounds are only about 2.5 times, as potent analgesics as meperidine hydrochloride, used as a comparative standard.

[3] While appellant did argue before the Board the patentable distinctness of his claims vis à vis the claims of Carabateas in view of the prior art, it is not clear from the record that the *specific arguments* here advanced by appellant were made below. Nevertheless, the real *issue* below was whether the claims of the instant application would have been obvious to one of ordinary skill in the art in view of Carabateas and the prior art, and this rejection requires a consideration of the subject matter as a whole, which includes a consideration of structural and property differences. Thus, we do not believe that appellant's assertions of the differences set forth above raise new *issues*, and we will consider such assertions in deciding this appeal. *In re Osweiler*, 52 CCPA 1427, 346 F.2d 617, 145 USPQ 691.

A comparison of generic claim 1 of the instant application with the generic claim 2 of Carabateas reveals that the compounds encompassed by the respective claims differ structurally only in the arrangement of the atoms comprising the ester group on the 4-carbon of the piperidine ring (where R is H in Carabateas). In the Wetterau compounds the piperidine ring is substituted in the 4-position by a carbalkoxy group, e.g.,



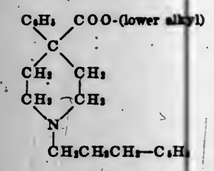
(carbomethoxy), while in the Carabateas compounds the corresponding piperidine substituent is an alkanoyloxy group, e. g.,



[2] The latter practice appears to benefit both the applicant and the Patent Office, the former because he is made aware of the possible existence of "double patenting" at an early date and has an opportunity, if he so desires, to elect which application to let issue, and the latter because of the hastening of the prosecution.

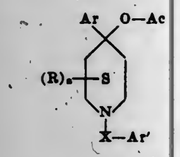
(acetoxy).[3] Both appellant's and Carabateas' compounds are stated to be potent analgesics.

Elpern I discloses lower alkyl 4-phenyl-1-(3-phenyl-propyl) piperidine-4-carboxylates having the formula



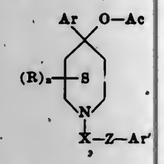
These esters and their acid-addition salts are stated to be potent analgesics.

Elpern II discloses compounds represented by the formula



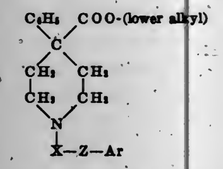
where Ar is an aryl radical of the benzene or naphthalene series, Ac is a lower carboxylic acyl radical, R is a lower alkyl radical, n is zero or an integer from 1 to 8, X is a divalent aliphatic hydrocarbon radical having from two to six carbon atoms and having its free valence bonds on different carbon atoms, and Ar' is an aryl radical of the benzene series.

Elpern III discloses compounds represented by the formula



where Ar is an aryl radical of the benzene or naphthalene series, Ac is a lower carboxylic acyl radical, R is a lower alkyl radical, n is zero or an integer from 1 to 8, X is an alkylene radical having from two to six carbon atoms and having its free valence bonds on different carbon atoms, Z is O or S, and Ar' is an aryl radical of the benzene series.

Elpern IV discloses compounds in free base form having the formula



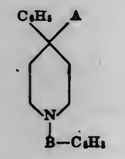
where X is a lower alkylene radical having at least two carbon atoms and having its free valence bonds on different carbon atoms, Z is O, S, SO, SO_2, NH or N (lower alkyl), and Ar is a monocarbocyclic aryl radical having six ring-carbon atoms.

[4] It will be noted that the compounds of Elpern I and Elpern II are "normal" and "reverse" substituted piperidine esters, respectively, and that the generic formula of Elpern I includes compounds which

[3] The Patent Office refers to the former arrangement as a "normal" ester and the latter as a "reverse" ester.

differ from those included in the generic formula of Elpern II only in the arrangement of the atoms of the 4-ester group. The same is true of Elpern III and IV. In view of this fact, and the further fact that all of the compounds are disclosed as being potent analgesics, we believe that given the structural formula of the claimed "reverse" esters of Carabateas, *the structure* of the "normal" esters set forth in the appealed claims would have been obvious to one of ordinary skill in the art.

This brings us to appellant's second contention which is that the claimed "normal" esters exhibit a degree of analgesic activity which is unexpected in view of the prior art teachings. More specifically, appellant asserts that the Elpern references suggest that a "reverse" ester will be a more potent analgesic than the corresponding "normal" ester, whereas the Wetterau "normal" esters are found to be more potent analgesics than the "reverse" esters of Carabateas. In order to resolve this issue, it is necessary to compare Wetterau's data as to the analgesic activity of his claimed compounds with the data supplied by Carabateas and the prior art. This can be done most conveniently by reference to the table below. All compounds were tested in rats by the same general method,[4] with the postscript "a" indicating subcutaneous administration of the compound and postscript "b" indicating intraperitoneal administration. Unless otherwise indicated by a numeral postscript, the hydrochloride salt of the particular piperidine ester was employed. Column 4 (labeled "Mep.") indicates the number of times more potent the compound tested is than meperidine hydrochloride. Column 5 (labeled "Benzyl") indicates the same thing relative to another standard, 1-benzyl-4-acetoxy-4-phenylpiperidine hydrochloride.



	A	B	Mep.	Benzyl
Wetterau [5]	$COOC_2H_5$	$(CH_2)_2$—$NCOC_2H_5$	95 [a] [6]	
Carabateas	$OCOCH_3$	$(CH_2)_2$—$NCOCH_3$	5.5 [a]	
	$OCOC_2H_5$	$(CH_2)_2$—$NCOC_2H_5$	2.5 [a]	
Elpern I	$COOC_2H_5$	$(CH_2)_3$	14 [a,b] [7]	56 [a,b]
Elpern II	$OCOCH_3$	$(CH_2)_3$	200,[a] 75 [b]	50 [b]
	$OCOCH_3$	$(CH_2)_4$	42 [a]	
	$OCOC_2H_5$	$(CH_2)_4$	112 [a]	
	$OCOCH_3$	$(CH_2)_2$	40 [a]	
	$OCOCH_3$	CH=CH—CH_2	350 [a]	
Elpern III	$OCOCH_3$	$(CH_2)_2$—O	180,[a] 24 [b]	16 [b]
Elpern IV	$COOC_2H_5$	$(CH_2)_2$—O	12 [b]	48 [b]
	$COOC_2H_5$	$(CH_2)_3$—O	6 [b]	
	$COOC_2H_5$	$(CH_2)_4$—O	3 [b]	
	$COOC_2H_5$	$(CH_2)_2$—S	5 [b]	
	$COOC_2H_5$	$(CH_2)_2$—NH	Many more [b] [8]	

[4] The Bass-Vander Brook modification of the D'Amour-Smith method was apparently employed.

[5] This compound, the only one for which datum is available, is the subject matter of claim 4.

[6] The methane sulfonate salt was tested.

[7] Both the hydrochloride and lactate salts were tested.

[8] The dihydrochloride salt was tested.

[5] While we have no reason to doubt that appellant's claimed compounds are all potent analgesics, we do not believe that the particular facts of this case warrant the conclusion that the *degree* of analgesic potency exhibited by one compound of the genus establishes the degree of potency of the genus or any other of its members. Accordingly, appellant's arguments for patentability based upon the degree of analgesic activity are considered pertinent only to claim 4, which defines the only compound for which datum has been provided.

It should be noted that no data are available for piperidine esters which differ *only* in the arrangement of the 4-ester group. Thus, generalizations based upon the data set forth in the above table are at best inconclusive. The data tend to indicate that "reverse" esters are more potent analgesics than "normal" esters when the standard is meperidine hydrochloride, but the opposite trend is indicated when the standard is the 1-benzyl compound. One thing is clear, and that is that the prior art suggests that the compound of claim 4 would be an analgesic. While the compound of claim 4 has a significantly greater potency than the tested Carabateas claimed "reverse" esters, the above table reveals that the former compound differs from the latter compounds by at least one methylene group, in one instance the difference being in the "A" substituent. Conceivably, these methylene groups have a significant influence on analgesic potency.

Thus, it cannot be determined with any degree of certainty to what the increased potency is attributable. [6] We are unable to find "clear and convincing evidence," as required by this court in *In re Lohr*, 50 CCPA 1274, 317 F.2d 388, 137 USPQ 548, that appellant's compounds possess unexpected activity compared to the *closest* Carabateas reference compound. Because of appellant's lack of proof, the decision of the Board is affirmed.

[7] AFFIRMED.

SMITH, *J.*, concurs in the result.

U.S. Court of Customs and Patent Appeals

FERRO CORPORATION *v.* RONCO LABORATORIES, INC.

No. 7498. Decided February 17, 1966

[53 CCPA —; 356 F.2d 122; 148 USPQ 497]

1. TRADEMARK—CONFUSING SIMILARITY—"FERRO-GARD," WITH DESIGN, FOR RUST PREVENTATIVE OILS AND "FERRO" FOR SUBSTANCES USED IN TREATING OR COATING METALS.

On the issue of confusing similarity between "FERRO-gard," with design, for Rust Preventative Oils and "FERRO," for Substances Used in Treating or Coating Metals, and with reference to the holding by the Trademark Trial and Appeal Board that there was no likelihood of confusion although the marks are used on products sold to the same industrial users and at times distributed through the same trade channels, *Held* that "Considering the many dissimilarities between appellant's marks and the mark sought to be registered, we agree with * * * the Board's holding" and that "It is not believed that appellant is, by virtue of prior registrations, entitled to the sole possession of the term 'ferro.'"

2. SAME—DESCRIPTIVENESS—15 U.S.C. 1052(e)—"FERRO-GARD," WITH DESIGN, FOR RUST PREVENTATIVE OILS.

"The Board * * * was of the opinion that the mark ['FERRO-gard,' with design, for Rust Preventative Oils] was 'only highly suggestive of the use of the product.' We agree. 'Ferro' and 'gard' can both be descriptive without making the entire mark as sought to be registered here, 'merely descriptive' under 15 U.S.C. 1052(e)."

3. APPEAL TO TRADEMARK TRIAL AND APPEAL BOARD—POWER TO RECOMMEND RE-EXAMINATION—RULE 2.131.

"Rule 2.131 grants the Board power to recommend re-examination where facts appear which, in the opinion of the Board, warrant it."

APPEAL from the Patent Office. Opposition No. 42,134.

AFFIRMED.

Milton L. Simmons (*Carroll Palmer* of counsel) for appellant.
Henry E. Rea, Jr., Jan C. Swensen for appellee.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

Appellant-opposer opposed the registration by appellee of the mark "Ferro-Gard" and design[1] for "rust preventative oils." The Trademark Trial and Appeal Board dismissed the opposition, 141 USPQ 846. The mark for which registration is sought, reproduced in the opinion of the Board, is as follows:



Appellant's notice of opposition was based on the contention that the above mark, when applied to the goods of applicant, would be likely to cause confusion, or to cause mistake, or to deceive by reason of its previous use and ownership of the following registered marks:

(*a*) "FERROLITE COMPOUND" (with design) Reg. No. 319,895, procured under the Act of 1905, republished under the act of 1946, for "Cleaning Compounds for General Use, Particularly Adapted for All Railroad Maintenance Cleaning."

(*b*) "FEROC" (with checkmark over the "o") Reg. No. 386,982, procured under the Act of 1905, for "Porcelain Enamel Frit"[2] [now abandoned].

(*c*) "FERROC" Reg. No. 405,169, procured under the Act of 1905, republished under the Act of 1946, for "Porcelain Enamel Frit" [now abandoned].

(*d*) "FERRO" Reg. No. 545,912, Act of 1946, Principal Register, for "Glaze and Enamel Frit and Clay."

(*e*) "FERRO" Reg. No. 549,848, Act of 1946, Principal Register, for "Inorganic Cobalt Compounds, Plastic Stabilizers and Fungicides."

(*f*) "FERRO Pickle Pills" Reg. No. 614,665, Act of 1946, Principal Register, for "Chemicals for Chemical Quantitative Analysis of Acids, Alkalies, and Elements in Solutions in Pickling Baths."

(*g*) "FERRO" Reg. 628,518, Act of 1946, Principal Register, for "Fertilizer Material Comprising Friable Glass-like Substances in Finely Divided Form Containing Essential Plant Foods."

(*h*) "FERRO CARB" Reg. No. 671,643, Act of 1946, Principal Register, for "Mineral Supplements Sold in Bulk for Use in the Preparation of Fertilizer and Animal Feeds."

(*i*) "FERRO" Reg. 684,616, Act of 1946, Principal Register, for "Organic and Inorganic Colorants and Pigments for Use in Ceramics, Plastics, Organic

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[1] Application Ser. No. 126,045, filed Aug. 15, 1961.
[2] According to appellant, as used above, "frit" designates the major component of enamels for steel and other ferrous alloys, for the coating and protection thereof from corrosion.

Paints and Finishes, Vitreous Enamels, Inks, Glazes and Building Materials, Screening Oils, Pastes, Wetting Compounds, and Color Concentrates Suspended in Plastic Resin Vehicles."

Since filing the notice of opposition, appellant has abandoned Reg. Nos. 386,982 and 405,169.

In considering the nature of the products to which the marks of the respective parties are applied, the Board stated:

Opposer's products, while specifically different from an oil to prevent rust and corrosion, nevertheless are compounds which are used in the treatment of metals or metal products or as a protective coating therefor. The products of both parties are sold to the same industrial users, and insofar as the record discloses, they may, at times, be distributed through the same trade channels. Under the circumstances, the respective products are considered to be so related that a likelihood of confusion could occur were they to be marketed under the same or confusingly similar marks.

In considering the question of whether the marks so resemble each other as to be likely "to cause confusion, or to cause mistake, or to deceive within the meaning of 15 U.S.C. 1052(d)," the Board found:

As to the marks, however, it is apparent that the only feature which applicant's mark has in common with opposer's marks and trade name is the term "FERRO" * * * it is concluded that applicant's "FERRO-GARD" and design sufficiently differs from each of opposer's marks and its trade name as to avoid any likelihood of confusion or mistake. * * *

Appellee argues that when the *complete* mark sought to be registered is compared to appellant's marks there is little resemblance between them. Appellee argues that considering the presence of the animated bolt carrying a flag on which are the letters "VCI"; and that the word "gard" is in larger and bolder lowercase letters than the term "Ferro" which is in smaller letters and above the term "gard," there is no likelihood of confusion. In short, appellee argues that the term "gard" and the design dominate the mark sought to be registered and thus the likelihood of confusion is not present.

[1] Considering the many dissimilarities between appellant's marks and the mark sought to be registered, we agree with appellee's argument and the Board's holding. It is not believed that appellant is, by virtue of prior registrations, entitled to the sole possession of the term "ferro."[3]

There remains for consideration appellant's argument that appellee's president, the witness Baseman, expressed the opinion during his testimony that both the words "FERRO" and "Gard" in its trademark were descriptive terms. Appellant urges that this testimony,

* * * constitutes a definite admission against interest that the mark sought to be registered is descriptive. It being unlawful to register a mark descriptive of the goods to which it is applied and with applicant asserting that its mark is descriptive of the goods to which it is applied, there was presented to the Board a situation falling squarely within the purview of Rule 2.131.

Rule 2.131 of the Trademark Rules of Practice is as follows:

2.131 *Ex parte matter in an inter partes case.*—If, in considering an inter partes case involving an application, facts appear which, in the opinion of the Trademark Trial and Appeal Board, render the mark of the applicant unregistrable on one or more ex parte grounds, the Board shall in its decision on the inter partes issues in the case recommend that if the applicant finally prevails in the case, registration be withheld pending a re-examination by the Examiner of Trademarks of the application in the light of such facts. If, upon such re-examination following termination of the inter partes case, the Examiner of Trademarks finally refuses registration to applicant, appeal may be taken as provided in Rules 2.141 and 2.142.

[3] Appellant argues that the Board erred in considering the descriptiveness per se of the term "ferro" in the absence of any challenge by appellee. Appellant also argues that certain third party registrations cited by appellee in his brief were not before the Board and are not before this court. Appellee argues the Board erred in finding that its goods were similar in nature to those of appellant's. We affirm the Board's decision on the broader basis that, considering the marks in their entireties, we do not find a likelihood of confusion.

[2] The Board considered appellant's argument but was of the opinion that the mark was "only highly suggestive of the use of the product." We agree. "Ferro" and "gard" can both be descriptive without making the entire mark as sought to be registered here, "merely descriptive" under 15 U.S.C. 1052(e).

[3] Rule 2.131 grants the Board power to recommend re-examination where facts appear which, in the opinion of the Board, warrant it. On the facts of this case, we do not believe the Board erred. The decision of the Board is therefore affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE EDGAR N. MEAKIN

No. 7552. Decided February 24, 1966

[53 CCPA —; 356 F.2d 569; 148 USPQ 558]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—PELLET MILL.

The decision of the Board of Appeals, refusing certain claims to a pellet mill as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 78,507.

AFFIRMED.

Bruce & Brosler, Charles O. Bruce, Edward Brosler for appellant.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection of claims 11, 17, 20, 21 and 22 of Meakin application Serial No. 78,507, filed December 22, 1960, as unpatentable over the prior art. All the other claims in the application stand allowed.

Appellant's application relates to pellet mills of "the type utilizing a floating die such as depicted in the patent to Bonnafoux, No. 2,870,481 of January 27, 1959." That patent refers to mills into which comminuted feeds and the like are fed for extrusion into the shape of hard, glossy pellets of cylindrical cross section. Such a pellet mill includes a rotatable ring-shaped die having a plurality of radial holes therethrough. The inner surface of the die is engaged by rolls that extrude feed or grain through the holes in an outward direction. In the "floating die" type mill disclosed in Bonnafoux, the ring die is not mounted on the mill housing but is supported entirely by three rotatable extrusion rolls spaced within the ring die, and the rolls, being in engagement with the inner surface, cause the die to rotate.

It is appellant's stated object to provide a pellet mill of the aforementioned type in which (1) the position of a single one of the three rolls is adjustable through a range sufficient to permit installation and removal of the die, and (2) a sealing arrangement around the adjustable roll minimizes contamination between the feed to be

pelleted and mill lubricant. The construction is illustrated in FIGURES 1 and 4 of the application, reproduced below:

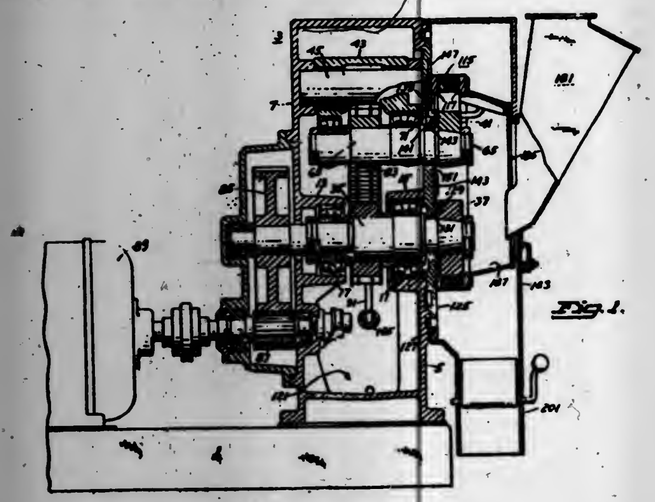


Fig. 1.

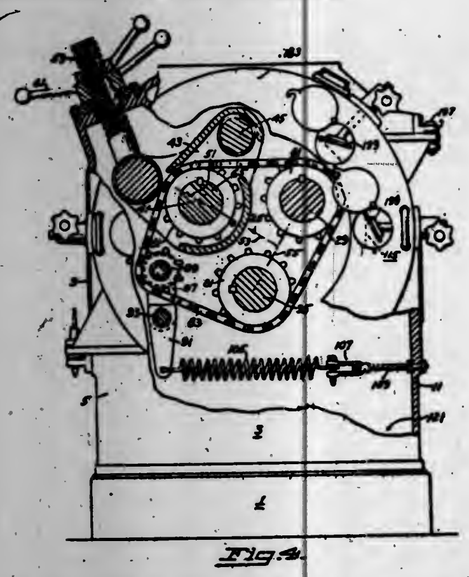


Fig. 4.

The device comprises a base 1 on which is mounted a housing 3 having front and rear walls 5 and 7 interconnected by end walls 9 and 11. The front and rear walls support two pairs of aligned bearing housings 13, 15 with bearings 17 therein, one pair of housings and bearings being displaced substantially 120° from the other pair about a central axis 25. One such pair of aligned bearings supports a fixed location extrusion roll supporting shaft 35 which extends through the front wall 5 to mount an extrusion roll 37, while the other pair carries a similar fixed location extrusion roll shaft 29 which also extends beyond the front wall to mount a second roll 31.

A third extrusion roll 41 is adjustably mounted with respect to the aforementioned fixed location rolls. That roll is mounted on a stub shaft 65 carried by a saddle-shaped lever 43 which is journalled

at one end on a pivot shaft 45 supported between the front and rear walls at a location such that an intermediate point in the adjustment the axis of roll 41 is substantially 120 degrees from the axis of the two fixed location rolls. An adjusting screw 59 connected to the free end of the lever and extending through the housing to an adjusting wheel 51 threadedly secured thereon permits adjustment of the position of the roll 41 relative to the fixed location rolls 37 and 31.

A sprocket is fixed to the shaft of each of the three rolls for engagement with a continuous chain 83 whereby all three are positively driven as a result of the shaft 35 being directly driven from a motor 89 through gear 85 and pinion 87. An idler gear or sprocket 99 in engagement with the chain 83 and mounted on an arm 91 pivoted on the housing at 93 is biased by a spring 105 to maintain proper tension in the chain despite adjustment of the position of the roll 41 and its shaft 65.

A floating ring type die 115, having radial openings therein, is mounted on the outside of the three rolls with the rolls bearing against it. The application discloses that the inner or "compression side of * * * [the die] is preferably recessed along the area of the die holes to receive the rolls and provide a retaining shoulder 117 to each side of the rolls." To install the die, the adjustable roll 41 is moved inwardly to a position permitting assembly of the die over the rolls, and that roll is then moved outwardly until pressure engagement is established between all three rolls and the die. Then rotation of the rolls will produce rotation of the die through the frictional engagement between the rolls and the die so that pellet material introduced in the die chamber through chute 181 will be extruded through the die openings. Pellet knives 199 adjacent the outer periphery of the die cut off the extruded material so that it falls within a pellet housing for recovery through a discharge spout 201.

A sealing arrangement is provided where the roller shafts 29, 35 and 65 pass through the front wall 5 into the die chamber in which the rolls are located. That arrangement includes a main front plate 125 affixed to the wall 5 and sealed thereto about its peripheral edge by a sealing ring 127. The main front plate has openings about the fixed location roll shafts 29 and 35 bounded by circular ribs 129 of slightly greater diameter than the shafts to receive seals 131. A more complicated arrangement utilizing a circular die seal plate 139 and other elements not clearly shown in the figures of the drawing reproduced herein is used to seal the shaft 65 for the adjustable roll.

Claims 11 and 17 are representative and read:

11. A pellet mill comprising a housing including parallel front and rear walls and end walls connecting said front and rear walls; two pairs of aligned bearing housings and included bearings in said front and rear walls, the one pair being displaced substantially 120 degrees from the other pair about a central axis; a fixed location extrusion roll supporting shaft journalled in each pair of aligned bearings and extending through said front wall; an extrusion roll mounted on each of said shafts; means for adjustably supporting a third extrusion roll, said means including a shaft extending through said front wall at a location such that the axis of said shaft can describe a path substantially along the mid-line between said aforementioned rolls; means for driving said rolls, said means including a sprocket on each of said roll shafts, a sprocket chain encircling said sprockets in engagement therewith; and means for tensioning said sprocket chain.

17. A pellet mill comprising a base; a housing on said base including front and rear walls and end walls connecting said front and rear walls; two pairs of aligned bearing housings and included bearings in said front and rear walls; a fixed location extrusion roll supporting shaft journalled in each pair of aligned

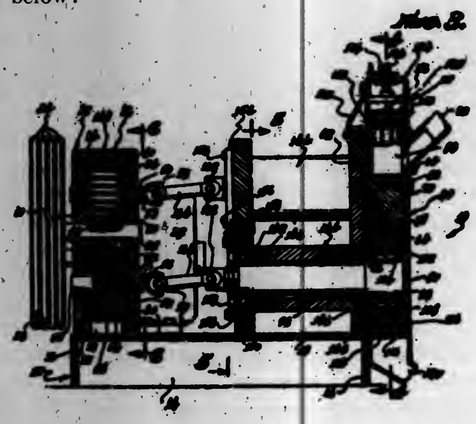
bearings and extending through said front wall; an extrusion roll mounted on each of said shafts; means for adjustably supporting a third extrusion roll for adjustment toward and away from said fixed location rolls, said means including a roll supporting shaft; an extrusion roll journalled on said adjustable supporting means shaft; means for sealing said fixed location roll shafts in said front wall; and means for sealing said adjustable supporting means shaft in said front wall; a cylindrical die adapted to fit over and be supported by said extrusions rolls; said die having its compression side recessed to receive all of said compression rolls when said adjustable roll is adjusted outwardly and thereby retain said die about said rolls and form a die chamber; said roll adjustment means having a range of inward adjustment sufficient, in and of itself, to release said die for removal from said rolls; and means for feeding extrudable material to said die chamber.

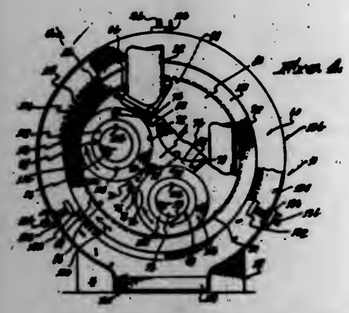
Claims 20, 21 and 22 do not call for the sprocket-type drive for the rolls set out in claim 11 or the sealing means recited in claim 17. They further differ from claim 11 by reciting, as does claim 17, that the inner side of the die is recessed.

The sole issue is whether the appealed claims are obvious over Bonnafoux in view of other prior art including:

Churchward, 1,153,372, September 14, 1915.
Ballot, 1,662,229, March 13, 1928.
Meakin, 2,391,638, December 25, 1945.
Italian patent, 504,930, December 14, 1954.

The Bonnafoux machine is illustrated in FIGURES 3, 4 and 5, reproduced below:







In Bonnafoux, a rotary die 110 having radial slots is mounted on and rotated by three cooperative rolls 106 engaging its inner periphery. The rolls are disposed at positions 120 degrees apart between plates or walls 67 and 80 in a pellet mill housing 60 to which is supplied

feed grain or like material to be formed into pellets. Each roll is mounted on the end of a drive shaft 98 rotatably supported between bearings in a mounting block 62 and adjustment plate 140 which are spaced horizontally. The shafts are each rotated from a motor-driven gear reducer 32 by means including a transmission shaft 164 having universal joints 58 and 162 at its ends.

Located around each shaft 98 and extending into bores 142 and 64 in the adjustment plate 140 and the mounting block 62, respectively, is an adjustment sleeve 144 whose opposite ends are provided with sockets 146 formed on centers eccentric with the sleeve to permit radial adjustment of the drive shafts 98 and the rolls 106 thereon. A roller thrust bearing 148 journals the right hand end of each shaft 98 in the adjustment sleeves 144 and a ball bearing 150 is located in the left-hand socket 146 of the sleeve to journal the left-hand extremity of the shaft. An adjustment flange 154 is formed integrally with each sleeve and secured in position with the adjustment plate 140 by a plurality of bolts 156 in elongated slots in the flange. Thus the positioning of each of the rolls 106 toward or away from the inside of the die 110 can be accomplished by rotating the adjustment flange 154 to rotate the sockets 146 with respect to the bearings 148 and 150 and thus adjust the centers of the sockets with respect to the center of the drive shaft 98.

Ballot, Churchward and the Italian patent relate to continuous belt-type means for driving generators, pumps, starters and the like from an engine or motor. Each arrangement provides means for maintaining the belt element under tension and in Ballot that element is a sprocket chain.

The Meakin patent discloses a pellet mill utilizing a circular die and cooperating roll and including a gasket arrangement for sealing the wall of the mill about the opening through which the drive shaft for the roll extends.

The Examiner rejected claim 11 as unpatentable over Bonnafoux in view of Ballot, Churchward or the Italian patent and claims 17, 20, 21 and 22 on Bonnafoux under 35 U.S.C. 103, with a further rejection of claim 17 on Bonnafoux in view of Meakin. The Board found no error in those rejections.

More specifically, the basis for the rejection of claim 11 is that Bonnafoux discloses all of the structure recited in the claim with the exception of the chain drive and that it would be obvious to substitute such a drive in view of any of the secondary references cited against it.

Claims 17, 20, 21 and 22 were regarded as not distinguishing unobviously over Bonnafoux in such recitations as that referring to the adjustable roll as having a range of inward adjustment sufficient to release the die for removal and, in the case of claim 17, that calling for sealing means about the shafts. As to the latter recitation, Meakin was also relied on as teaching the use of sealing means in a pellet mill.

Before us, appellant points out that his chain drive for the rolls differs from the individual gear drive for each roll in Bonnafoux. He further states that his structure permits quick and easy adjustment of the die on the supporting rolls during operation by a single hand-operable control. Appellant argues that movement of only one roll shaft in his machine effects the complete adjustment of the die while all three shafts must be moved in the Bonnafoux device to attain proper adjustment of the die. It is also urged that it would

be dangerous to adjust the rolls of the latter device when it is operating and that "in fact it is actually necessary that the machine be stopped and disassembled in order to adjust or remove the die."

While it is apparent there are many specific differences between appellant's machine as disclosed and that of Bonnafoux, we do not find any of the aforementioned points raised by appellant persuasive that the subject matter of the appealed claims is unobvious. In the first place, Ballot, Churchward and the Italian patent teach that it is a common expedient to drive a plurality of shafts from a single driven shaft through an interconnecting belt or chain. It seems clear that the incorporation of such drive means in place of the separate drive for each shaft in the Bonnafoux machine would be obvious, and we find no significant argument to the contrary by appellant.

While Bonnafoux discloses that all three of his rolls are adjustable in position, he states:

> • • • Therefore, when it is desired to adjust the drive and supporting rollers, or one of the drive and supporting rollers 106 toward or away from the tread 114 of the die 110, the bolts 156 are loosened and the adjustment flange 154 is rotated in the appropriate direction to accomplish such adjustment by rotating the sockets 146 with respect to the bearings 148 and 150 and thus adjusting the centers of the sockets 146 with respect to the center of the drive shaft 98.

Not only does that suggest, as would be obvious anyhow, that an adjustment may be made through one roll or roller alone, but it further seems clear that making the range of adjustment of a single roll sufficient to permit installation or removal of the die without disturbing the other rolls would be obvious to a person of ordinary skill in the art.

Concerning the matter of adjustment, Bonnafoux further states:

> • • • Furthermore, due to the provision of the adjustment sleeves 144, it is possible to adjust the drive and supporting rollers 106 with respect to the tread 114 of the die 110 during the operation of the pellet mill 10 and thus to obtain optimum driving and driven relationships between the drive and supporting rollers 106 and the die 110 and, furthermore, the production of optimum pellets from the combined die and rollers.

It thus is clear that appellant errs insofar as he contends that the Bonnafoux machine must be stopped to adjust the die or dies. Whether appellant's device as disclosed is easier or safer to *adjust* than the reference device is not material since the appealed claims do not define the adjustment structure with sufficient particularity to distinguish over the reference in that respect. As to the contention that the Bonnafoux machine must be stopped and disassembled to *remove* the die, appellant does not distinguish from his own machine which obviously must also be stopped and disassembled for such purpose.

Appellant also states that the Bonnafoux patent does not disclose a positive sealing means for the drive shafts while he, by utilizing only one movable shaft and two fixed ones, is able to provide a sliding positive seal which prevents cross contamination of the feed grain mixture and the machine lubricant. Since the Meakin patent discloses sealing the driving shaft in a pellet mill, nothing unobvious to a person of ordinary skill in the art is seen in the very broad recitation of sealing means in claim 17, the only appealed claim mentioning a seal.

Appellant further states that all appealed claims include a limitation directed to the extrusion die having its compression side recessed to receive all of the compression rolls and argues that Bonnafoux

does not teach that feature. He also argues that neither the Examiner's answer nor the decision of the Board gave consideration to that limitation.

There appears to be good reason for such omission by the Examiner and the Board. In the first place, the record does not show that appellant ever raised that issue before. But what is more important is that Bonnafoux clearly does disclose that the compression side of the die is recessed.

Appellant's argument is based on what is plainly a draftsman's error in FIG. 3 of Bonnafoux, reproduced hereinabove. While the right-hand side of the die 110 is shown therein as having a flange 112 which extends inwardly from its center portion, the element to which the reference numeral 112 is applied on the left-hand side of the die is shown as an integral part of the mounting plate 67. That the left-hand flange 112 should have been shown as a flange on the die similar to the flange 112 on the right-hand side is apparent from the following statement in the Bonnafoux specification:

> • • • It will be noted that the opposite flanges 112 on the die 110 engage the opposite edges of the rollers 106, thus maintaining the die 110 in alignment with said rollers. Furthermore, the outer flange 112 encompasses the circular face plate 80 while the inner flange 112 rotates about the circular mounting plate 67.

In addition, the sectioned portion of the die 110 at the left-hand side of FIG. 4 of the patent appears to show the described construction.

For the foregoing reasons, we think the appealed claims were correctly rejected as obvious under the provisions of 35 U.S.C. 103.

[1] The decision of the Board is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

Plant Patent 1,882, Simonian and Kazarian, PLUM TREE, filed June 2, 1965, D.C., S.D. Calif. (Fresno), Doc. 2660–ND, *Luke Kazarian* v. *H. H. Nahigian*. Consent judgment; patent held infringed; defendant enjoined (notice Apr. 22, 1966).

Plant Patent 1,967, J. S. Reed, AVOCADO, filed May 5, 1966, D.C., S.D. Calif. (San Diego), Doc. 3548–SD–C, *Mrs. Joe L. Shields* v. *H. G. Smits*.

3,011,804, R. S. Burns, DUAL WELL COMPLETION APPARATUS; **3,007,695**, R. K. Le Rouax et al., MULTIPLE STRING TUBING HANGER, filed May 2, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66–736–CC, *Armco Steel Corporation* v. *Joy Manufacturing Company*. Same, Doc. 66–737–CC, *Armco Steel Corporation* v. *Regan Forge and Engineering Company*. Same, filed May 10, 1966, D.C., E.D. La. (New Orleans), Doc. 16536, *Armco Steel Corporation* v. *The Brewster Company, Incorporated*.

3,025,233, D. M. Figert, FILTER, filed May 31, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c967, *Bowser, Inc.* v. *Mueller Brass Co.*

3,027,352, C. T. Walling et al., COPOLYMERS, filed May 13, 1966, D.C. Del. (Wilmington), Doc. 3209, *Celanese Corporation* v. *Tenneco Chemicals, Inc.*

3,033,245, Schreter and Turpin, TAR PUMP SYSTEM, filed July 1, 1964, D.C., W.D. Tex. (San Antonio), Doc. 3438, *Aeroil Products Co., Inc.* v. *Blackwell Burner Co.* Order of dismissal May 31, 1966.

3,007,695. (See 3,011,804.)

REISSUES

AUGUST 2, 1966

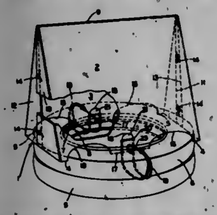
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,068
SIGN CONSTRUCTION

Guy L. Huey, Massillon, Ohio, assignor to The Massillon-Cleveland-Akron Sign Company, Massillon, Ohio, a corporation of Ohio

Original No. 3,193,958, dated July 13, 1965, Ser. No. 299,617, Aug. 2, 1963. Application for reissue Feb. 23, 1966, Ser. No. 538,132

2 Claims. (Cl. 40—125)



2. A sign construction for mounting on the side of an automobile tire, including a pair of sheet-like paperboard signs having lower spaced ends engageable on a side of a tire, each sign end having a central depending portion extending into a tire center, the pair of sheet-like signs extending upwardly from their respective lower ends and having converging upper ends forming an apex, said central depending portions being provided with reinforcing means, spacer means extending between and disposed perpendicular to the reinforced depending portions engaged with and holding said depending portions in fixed spaced apart relations, there being apertures formed in said reinforced depending portions, and means extending through said apertures into a tire and disposed between the tire beads.

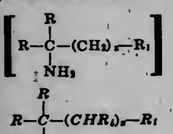
26,069
PROCESS FOR THE PRODUCTION OF AMINO HYDROXYETHERS

John A. Frump, Vigo, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

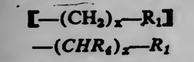
No Drawing. Original No. 3,179,697, dated Apr. 20, 1965, Ser. No. 27,468, May 9, 1960. Application for reissue Dec. 28, 1965, Ser. No. 523,830

17 Claims. (Cl. 260—570.6)

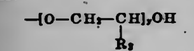
1. A process for the production of a compound having the following general formula:



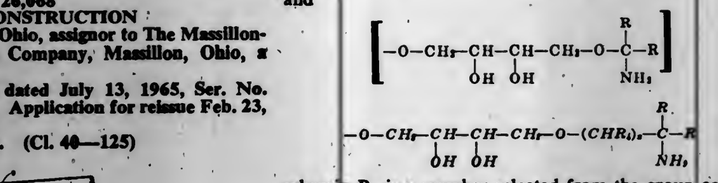
wherein R_4 is a member selected from the group consisting of methyl and hydrogen; wherein R is a member selected from the group consisting of lower alkyl, lower hydroxyalkyl and a radical having the formula:



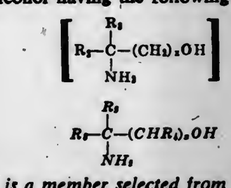
wherein R_1 is a member selected from the group consisting of the radicals:



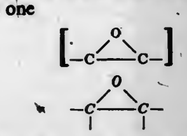
and



wherein R_2 is a member selected from the group consisting of hydrogen, phenyl, amino substituted phenyl, halo substituted phenyl, alkyl, hydroxyl substituted alkyl, halo substituted alkyl, alkenyl and phenyl, substituted alkyl, wherein x is an integer ranging from 1 to 20 and y is an integer ranging from 1 to 20 which comprises interacting an amino alcohol having the following general formula:



wherein R_4 is a member selected from the group consisting of methyl and hydrogen; wherein R_3 is a member selected from the group consisting of lower alkyl and lower hydroxy alkyl, with sodium in an amount sufficient to provide 1 mol of sodium for each hydroxyl group of the amino alcohol to be oxyalkylated, oxyalkylating the resulting amino-ONa compound with a compound containing at least one



grouping selected from the group consisting of alkylene oxides, halo substituted alkylene oxides, phenyl substituted alkylene oxides, aminophenyl substituted alkylene oxides, halo phenyl substituted alkylene oxides, and alkylene dioxides, at temperatures ranging from about 0 to about 150° C. and at pressures ranging from atmospheric to 20 p.s.i.g. to form an amino sodium-containing oxyalkylation product, subsequently treating the amino sodium-containing oxyalkylation product with water and carbon dioxide and recovering the thus produced amino hydroxyether.

26,070
SUPPORT STANDS

Clayton A. Laughlin, Minneapolis, Minn., assignor to Infanseat Company, Eldora, Iowa, a corporation of Iowa

Original No. 3,101,972, dated Aug. 27, 1963, Ser. No. 200,685, June 7, 1962, which is a continuation of Ser. No. 43,493, July 18, 1960. Application for reissue Sept. 2, 1964, Ser. No. 407,268

12 Claims. (Cl. 297—377)

1. A baby carrier comprising:

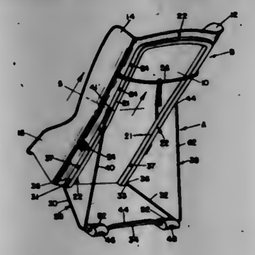
a back with lower and upper connector means on the rear thereof providing at the lower part of the back means for pivotal connection to a support and providing at the portion of the back thereabove a plurality of transversely aligned pairs of lateral sockets spaced apart along the length of the back or selective adjustable connection to a support, and

a bottom connected to the back extending forwardly therefrom a substantial distance compared to the length of the back of the carrier,

said baby carrier further comprising a support including:

a base member having means thereon for making tension-taking pivotal connection with the lower connector means on the back of the carrier,

a brace member comprising a U-shaped frame of resilient rod-like material having side arms and a cross piece connecting one end thereof, *the distance separating said one end of said side arms approximating the width of said carrier,*



means pivotally connecting the cross piece of the U-shaped frame with the base member in tension taking relationship, and

said frame having laterally extending pins formed at the other end of the arms thereof adapted selectively to engage the lateral sockets of the upper connector means on the back of the carrier,

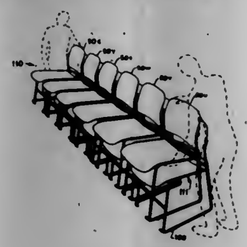
the length of the back of the carrier being as great as the combined lengths of the base and brace *members, and the distance separating the uppermost of said lateral sockets from said lower connector means approximating said combined lengths of said base and brace members.*

26,071
COMPACTLY STACKABLE CHAIR

David L. Rowland, 49 W. 55th St., New York, N.Y.

Original No. 3,080,194, dated Mar. 5, 1963, Ser. No. 13,090, Mar. 7, 1960. Application for reissue Jan. 11, 1965, Ser. No. 438,809

16 Claims. (Cl. 297—239)



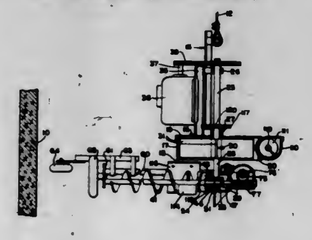
1. A lightweight, strong, durable, compactly storable chair, comprising: a relatively thin, hard and lightweight seat and back firmly affixed to a relatively lightweight, small-diameter, non-collapsible frame comprising; [a] first and second substantially L-shaped *side* frame *portions* [member], each of which forms an upstanding back support, a rear leg and a horizontal bottom rail extending forward from the bottom of the rear leg [and terminating in] *to a front end,* a short, horizontal portion extending inwardly [at an angle of 90°] from *the front end of* said bottom rail[;], [a third] frame [member] *portions* comprising parallel front legs each connected to a *bottom rail by said short horizontal portion and to a* rear leg by spacing means connected to backwardly extending side rails which, adjacent their connection to the rear legs, *are connected to* [turn inwardly to form] one, substantially horizontal, back rail, [; a fourth frame member comprising] *and* a horizontal cross brace connected at each end to approximately the midpoint of the abutting front leg; separable snap fastener means mounted on the outside of the forward portion of said bottom rails; separable fastener means mounted vertically upon each of the rear legs, said fastener means being permanently secured to said rear legs and extending along them both above and below the junction of said [third frame member] *side rails* to said rear legs so as to stiffen said rear legs; and fastening means to secure in a permanent manner the seat and the back to their respective frame supports.

26,072
SILO UNLOADER

Sylvan H. Sime, Kiester, Minn., assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Original No. 3,144,144, dated Aug. 11, 1964, Ser. No. 165,394, Jan. 10, 1962. Application for reissue Aug. 2, 1965, Ser. No. 479,042

19 Claims. (Cl. 214—17)



1. A material unloader for use in a silo having an upright silo wall with a series of openings in one side thereof comprising: a main frame structure including an inverted cup-shaped impeller chamber having an upright wall with a lower terminal edge and a side discharge opening in the wall; means supporting the frame structure substantially at the center of the silo; a vertical drive shaft extending through and concentric with the axis of the chamber with a lower end below the chamber; an impeller including at least one laterally extending and vertically disposed impeller blade fixed to the shaft with an outer upright edge closely adjacent the wall and a lower edge substantially coplanar with the lower edge of the wall; sweep means disposed radially in the silo beneath the chamber and extending substantially from the center to the wall of the silo and including a laterally extending auger drive shaft, an auger flighting on the shaft outboard of the chamber and terminating adjacent the wall of the chamber; a flipper fixed to and extending radially from the auger shaft beneath and inboard of the chamber and adapted to flip material upwardly in the path of the impeller blade; drive means between the lower end of the drive shaft and the auger drive shaft; an auger discharge housing having one end connected to the chamber adjacent to and for receiving material through the side discharge opening, and extending therefrom through an opening in the silo wall, an auger within the auger housing for discharging material through the opening; and a drive mechanism for effecting rotation of the sweep means over the surface of the silage.

PLANT PATENTS

GRANTED AUGUST 2, 1966

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,660
CARNATION
Leonard K. Oku, 300 N. Bailey Ave., Mountain View, Calif.
Filed Mar. 19, 1965, Ser. No. 441,386
1 Claim. (Cl. Plt.—70)

The new and distinct variety of carnation substantially as herein described and illustrated.

2,661
ROSE
John W. Patterson, 6518 Kernel, Houston, Tex. 77017
Filed Apr. 12, 1965, Ser. No. 447,590
1 Claim. (Cl. Plt.—22)

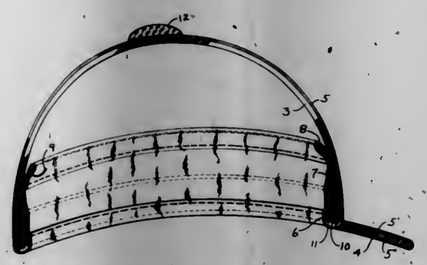
A new and distinct variety of rose plant of the floribunda class, substantially as herein shown and described, characterized particularly as to novelty by the combination of a distinctive color progression of its blooms from yellow, with some markings of red at first, to almost red with cream underlay as the bloom ages, by the moderate fragrance and good petal substance of its blooms, with attendant long-lasting quality thereof, by the very double petalage and the many-flowered cluster habit of its blooms, and by its abundant and leathery foliage.

PATENTS

GRANTED AUGUST 2, 1966

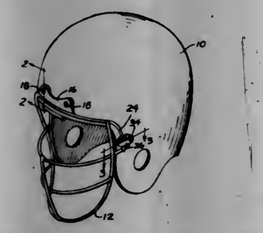
GENERAL AND MECHANICAL

3,263,235
HUNT CAP
Dorothy M. Young, 2316 Colston Drive, Silver Spring, Md.
Filed Mar. 6, 1964, Ser. No. 349,932
2 Claims. (Cl. 2—3)



1. A hunt cap or the like comprising a rigid protective hard inner shell, said shell consisting of a crown portion and visor portion, and a decorative cover assembly completely covering the outer portion of said shell including said visor portion, said decorative cover assembly extending inside said crown portion, coextensive fastening means having one portion secured to the inner side of said crown portion extending completely around the inside opening of said crown portion and other cooperating portions of said fastening means extending completely around the inside of said cover assembly adjacent the open portion of said crown to engage said portions of said coextensive fastening means mounted on said crown and cooperating mounting means on said cover assembly to secure and retain said removable cover assembly on said crown.

3,263,236
MOUNTING FOR FACE MASK
Delby C. Humphrey, 700 Indiana Ave., Terre Haute, Ind.
Filed Sept. 10, 1964, Ser. No. 395,371
8 Claims. (Cl. 2—9)



1. In combination; a football helmet, a grid-like face mask for the helmet, first means connecting the face mask to the helmet at the top of the mask and providing for at least a small amount of swinging movement of the mask on the helmet toward and away from the helmet, and second means connecting the sides of the face mask to the sides of the helmet and providing for a predetermined small amount of resilience of the face mask on the helmet thereby to inhibit the transmitting of shocks from the mask to the helmet, said second means holding the sides of said face mask to the sides of the helmet and permitting no more than a small amount of movement therebetween, said first and second means forming the sole means of supporting and positioning the mask on the helmet.

3,263,237
PRE-KNOTTED NECKTIE
Robert E. Bellon, 349 Amsterdam Ave., New York, N.Y.
Filed July 2, 1965, Ser. No. 469,277
2 Claims. (Cl. 2—150)
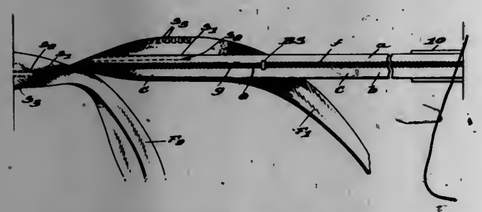


1. A pre-knotted necktie having a V-shaped knot comprising an elongated strip of fabric having a wider exposed end and a narrower hidden end, a fitting located within said knot when tied in a portion of the wider exposed end to secure the fitting within said knot, said fitting comprising a tubular section and a tab extending outwardly from the axis of said tubular section to form a V-shaped fitting, said tubular portion being encircled by one loop of said fabric when formed into said knot and said tab portion being encircled by another loop of material formed in said knot, the end of said tubular portion carrying said tab being positioned at the narrow portion of said V-shaped knot and flaring outwardly to support and define the V-shaped configuration of said knot, said fitting being secured within said knot by the encircling folds of material, said tubular section forming an open passageway through said knot and adapted to receive said narrower hidden end of said fabric strip for installation over and removal of said necktie during wear.

3,263,238
ART OF PRODUCING TROUSER-FLY CLOSURE UNITS
George Waldes, Plandome, N.Y., assignor to Waldes Kohinoor, Inc., Long Island City, N.Y., a corporation of New York
Filed Oct. 12, 1964, Ser. No. 403,073
8 Claims. (Cl. 2—265)

1. The method of producing trouser-fly closure units which comprises the steps of:

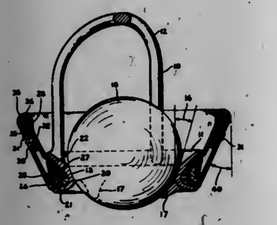
causing a continuous slide-fastener chain to move along a predetermined path;

progressively assembling a first continuous tape of fly-strip material to said continuous slide-fastener chain during the course of movement of said tape in a similar but underlying and laterally offset path;
then progressively sewing said first tape to the tape of one of the stringers making up the continuous chain, then turning the continuous slide-fastener chain and first tape sewn thereto about substantially the longitudinal center line of said chain so as to dispose its formerly upper side downwardly;
then progressively assembling a second continuous tape of fly-strip material to the now under side of the continuous fastener chain after first folding said second tape about its longitudinal center line and



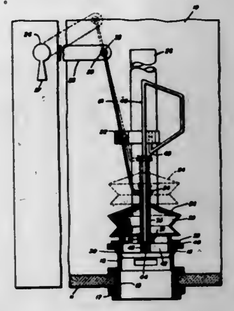
positionally relating said folded tape with respect to said chain so that its folded edge portion underlies said chain and its free longitudinal edges substantially underlie the free longitudinal edge of the tape of the other stringer making up said continuous slide fastener chain;
then progressively sewing said second tape to the tape of said other stringer along the so-related free longitudinal edges of said second fly-strip and said other stringer tapes;
and then cutting off from the so-assembled and sewn-together continuous slide-fastener chain and fly-strip tapes a succession of predetermined lengths thereof each corresponding to the length of the individual trouser-fly closure units then being produced.

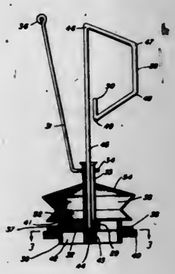
3,263,239
AORTA VALVE WITH EXPANSIBLE SUTURING RING
Miles Lowell Edwards, Santa Ana, Calif., and Albert Starr, Portland, Oreg., assignors to Edwards Laboratories, Inc., Santa Ana, Calif., a corporation of California
Filed Apr. 1, 1963, Ser. No. 269,299
13 Claims. (Cl. 3—1)



10. A heart valve prosthesis comprising a substantially rigid circular valve body having a valve member and a cloth sleeve having a lower end surrounding and secured to said body, said sleeve extending axially of the valve body and having a substantially circular free upper end surrounding said valve member, spaced radially therefrom and at a substantial distance above said secured end.

3,263,240
REPLACEMENT FLUSH VALVE
Philip J. Brewington, 6401 Emerald St., Austin, Tex.
Filed June 30, 1964, Ser. No. 379,311
4 Claims. (Cl. 4—57)



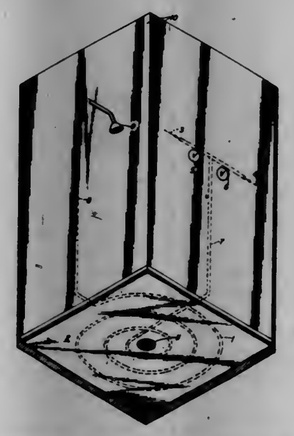


1. A toilet flush valve assembly to replace a worn ball closure and add a new valve seat, while retaining the old valve seat comprising a new ball closure, a member coaxial with the old seat and the outlet closure pipe and having at its upper surface a replacement seat to receive the new ball closure and means adapted to resiliently urge the replacement seat toward the retained valve seat, said urging means comprising a spring adapted to be secured at one end to the coaxial member and detachably anchored at the other end in a retained guide bracket formerly used to guide the stem of the worn valve closure.

3,263,241
SHEET MATERIAL AND PRODUCTS UTILIZING SAME
Stanley H. Saulson, 3403 Jo Ann Drive, Baltimore, Md.
No Drawing. Filed Feb. 15, 1963, Ser. No. 258,920
12 Claims. (Cl. 4—112)

1. Sheet material consisting essentially of:
a paper base characterized by:
(a) a dry strength effective to permit the same to retain its integrity when subjected to tension of the order of about 10 to about 80 pounds per inch average tensile strength measured in the long and in the short directions,
(b) a flexibility and suppleness to enable it to be conformed by relatively light hand pressure into irregular three-dimensional shape without tearing,
(c) ready wettability by water, and
(d) a wet strength effective to permit ready disintegration thereof when immersed in water and subjected to turbulent action therein, said effective wet strength being of the order of zero to about 1.5 pounds per inch average tensile strength measured as above set forth,
one surface only of said paper base being provided with a layer of material possessing:
(a) relatively high resistance to passage of water and water vapor into said base during a period of contact of at least several hours, and
(b) sufficiently low wet strength to enable said layer to become readily disintegrated along with said paper base when said sheet material is immersed in a body of water and subjected to turbulent action therein.

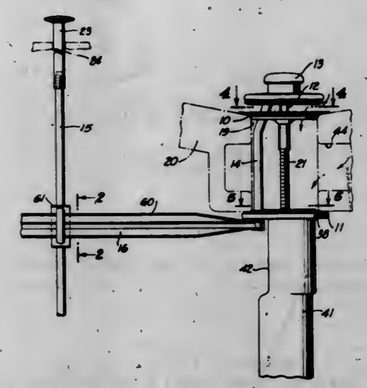
3,263,242
SHOWER BATH
Wesley P. Will, 3801 25th Ave., Sacramento, Calif.
Filed May 24, 1963, Ser. No. 282,943
2 Claims. (Cl. 4—146)



1. A shower bath floor heating arrangement comprising a shower stall having side walls, a floor and drain receptor disposed and connected at the bottom of said side walls, a spray head mounted from one of said walls, a valve arrangement mounted below the spray head on an adjacent wall, and a pipe connection between said spray head and said valve arrangement including a spiral coil of copper pipe inserted within the floor in parallel arrangement thereto substantially one-half inch below the floor, so that the floor is heated when heated water passes outwardly from the center of the coil through the spiral coil of copper pipe.

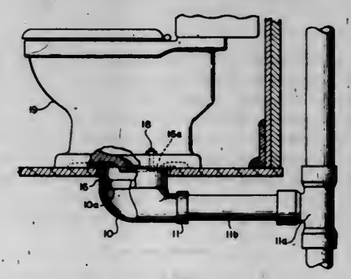
3,263,243
POP-UP VALVE
Orville K. Doyle, 1501 E. Commonwealth, Fullerton, Calif.
Filed July 15, 1963, Ser. No. 294,851
11 Claims. (Cl. 4—203)

1. In a valve for mounting in the drain opening of a lavatory or the like, the combination of:
an upper flange for positioning at the upper end of the drain opening and including guide members defining a slide opening therethrough;
a lower flange for positioning at the lower end of the drain opening;
means for fastening said upper flange to said lower flange for clamping said flanges in place at the drain opening;
a plug carrier slidably mounted in said slide opening of said upper flange and including a plug at the upper end thereof for engaging said upper flange in sealing relation; and



a drive member slidably carried in said lower flange and connected to said plug carrier for moving said carrier upward away from said upper flange and downward toward said upper flange as said drive member moves upward and downward respectively.

3,263,244
CLOSET FITTING
Ken Katz, 4848 W. 28th St., Cicero, Ill.
Filed Nov. 5, 1963, Ser. No. 321,649
2 Claims. (Cl. 4—252)



1. A closet bend having an outlet passage; an elongated substantially oval shaped upper inlet; and an elongated oval shaped flanged collar adapted to seat into said inlet of said bend; said flange of said collar having a pair of parallel elongated slots formed in opposite side portions thereof adapted to provide for adjustable positioning of a closet bowl and for adjustable positioning of connecting bolts to connect said bowl and said collar.

3,263,245
BACK SUPPORT ATTACHMENT FOR SEATS
Bette Ettinger, 220 E. 63rd St., New York, N.Y.
Filed Oct. 17, 1963, Ser. No. 316,904
3 Claims. (Cl. 4—254)

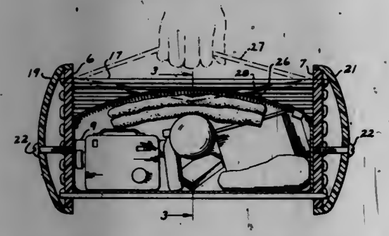
1. An attachment for the back member of a seat for a human body comprising a yieldable cushion, means on said cushion for removably attaching it to said back member, said cushion projecting outwardly from said back member and being generally wedge shaped and tapering from the thinnest portion at the upper end thereof to be located adjacent the top of said back member to the thickest portion at the lower end thereof to be located

adjacent the bottom of the back member, said cushion being narrower than long to engage the spinal area of a



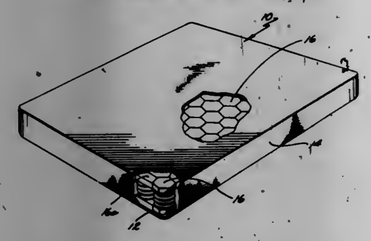
human body sitting on the seat with said thickest projecting portion engaging a lower area of the human body.

3,263,246
BEACH PILLOW AND BAG
Max D. Towery, 3225 G St., Eureka, Calif.
Filed Mar. 25, 1964, Ser. No. 354,726
4 Claims. (Cl. 5—337)



4. A beach pillow and bag comprising a pair of disc-like end supports each having a plurality of cord-receiving openings therein; means including a strut for holding said end supports a predetermined distance apart; a flexible bag mounted on said holding means between said end supports; flexible cord sections disposed in said openings, spanning the distance between said end supports and movable into contact with said bag; and caps on said end supports overlying the adjacent portions of said cord sections.

3,263,247
HEADED HOLLOW BODY SUPPORT
Richard R. Knittel, Box 855, R.R. 1, Martinsville, N.J.; Charles H. Burnette, 1219 Panama St., Philadelphia, Pa.; and Ronald H. Beckman, 27 Bank St., New York, N.Y.
Filed Mar. 3, 1964, Ser. No. 348,993
5 Claims. (Cl. 5—353)



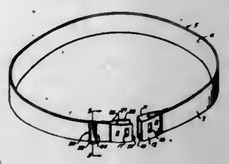
1. A load supporting, bellows spring comprising: a hollow body formed of a plurality of integrally interconnected individual bellows forming a resilient support; each of said bellows having a resilient hinge at its outer peripheral extremity to collectively provide support to said body; the interior of said body being vented to the atmosphere to prevent significant pneumatic interference; one end of said spring having an enlarged head extending radially beyond the bellows, being polygonal in cross-sectional configuration, and having a peripheral contact surface of substantial height; and the other end of said spring having a polygonal head of smaller size, and with peripheral contact surface of substantial height to interfit with the enlarged heads of adjacent inverted springs.

3,263,248
SWIMMING GLOVE
Ovaldo Wendorf, 325 Broadway, Newark, N.J.
Filed Sept. 21, 1964, Ser. No. 397,907
2 Claims. (Cl. 9—308)



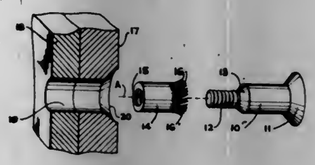
1. A swimming glove comprising hand receiving means including thumb, finger and wrist portions, a planar member secured to the hand receiving means by connection to at least one of said finger portions, a collapsible pocket having a wall pivotally connected to the inner face of said planar member near the periphery thereof remote from said wrist portion, means to limit the movement of said wall through an acute angle, said pocket and said wall being oriented to pivot outwardly from a substantially parallel position with respect to said member as the user moves the glove through water in a withdrawing operative swimming stroke exerting thereby resistance to the movement of said glove in a direction abnormal to the plane of said planar member and to pivot inwardly toward said member to a position substantially parallel thereto in a forward inoperative swimming stroke thereby reducing the resistance to said latter movement of said glove.

3,263,249
INFLATABLE SAFETY BELT
Joseph R. Bryan, 165 Palm Springs Drive, Slidell, La. 70458
Filed Aug. 6, 1964, Ser. No. 387,949
3 Claims. (Cl. 9—316)



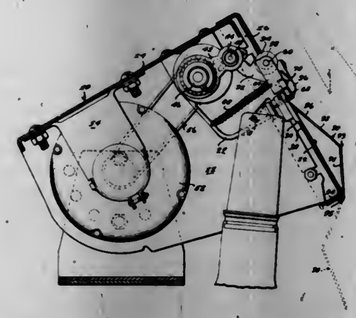
1. An inflatable safety belt comprising, a flat tubular strip, cooperating buckles secured to each end of the strip, an inflating device mounted upon one side of the strip, said device replaceably receiving a gas cartridge, an actuating lever mounted outwardly on the device for opening the cartridge to cause the strip to inflate, wedges movably disposed within each buckle, and said ends of the strip extending around the wedges in an adjustable and locking relationship within each buckle to permit the adjustment of the effective length of the belt.

3,263,250
METHOD OF MANUFACTURING A NUT FOR A TWO-PIECE BLIND FASTENER
Rudolph M. Vaughn, 611 Lido Park Drive, Newport Beach, Calif.
Original application Mar. 28, 1963, Ser. No. 268,786, now Patent No. 3,180,203, dated Apr. 27, 1965. Divided and this application Feb. 1, 1965, Ser. No. 438,453
1 Claim. (Cl. 10—86)



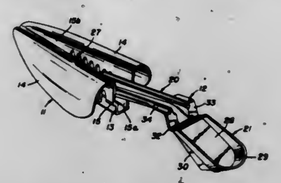
A method of manufacturing a nut for a two-piece fastener comprising the steps of: cutting a metal round from bar stock of given overall length corresponding to said nut; providing a high pitch left hand knurl to the external surface of one end portion of said metal round; center-boring said metal round; internally threading the other end of said round; machining said one end portion internally to provide a tapered wall thickness and to break through said knurl on said external surface so that separate whiskers are defined; and radially flaring the ends of said separate whiskers.

3,263,251
APPARATUS FOR TRIMMING HEEL TOP LIFTS
Roy E. Smith and James M. Chafin, Atlanta, Ga., assignors to The Auto-Soler Company, a corporation of Georgia
Filed Mar. 1, 1965, Ser. No. 436,101
6 Claims. (Cl. 12—85)



1. In apparatus for trimming heel top lifts and the like comprising a work supporting plate member having an opening formed therein at which a fixed blade member is mounted to present a cutting edge flush with the supporting surface of said plate member and a cutting knife is pivotally disposed in relation to said fixed blade member for cutting action at the flush edge thereof in substantially square relation to said plate member supporting surface, the improvement which comprises an auxiliary plate element carried adjacent said work supporting plate member by means allowing selective superposition therewith to provide an alternative work supporting surface having a different angular relationship than said plate member supporting surface with the cutting action of said cutting knife.

3,263,252
PLASTIC SHOE TREE
Roland E. Johnson, Cincinnati, Ohio, assignor to Columbus Plastic Products, Inc., Columbus, Ohio, a corporation of Ohio
Filed Oct. 15, 1965, Ser. No. 496,593
5 Claims. (Cl. 12—116.6)



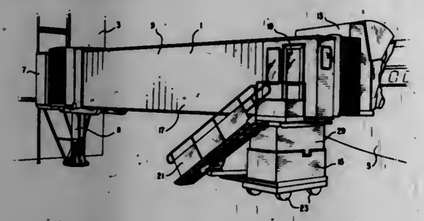
1. A shoe tree comprising a toe section adapted for insertion in the forward portion of a shoe and including an elongated channel-shaped rib extending longitudinally thereof having a pair of laterally spaced, upstanding side walls interconnected along their lower longitudinal edges with the inner wall surfaces being upwardly divergent, and a laterally projecting side element carried by each of said rib side walls at the upper marginal edge portion with said side elements forming a complementary surface for engaging the interior surface of a shoe, said toe section being formed from a resilient material to permit relative lateral displacement of the upper marginal edge portions of said rib side walls and said side elements, and a heel section connected with said toe section and selectively engageable with the heel portion of a shoe for applying a longitudinal stretching force to the shoe when disposed in an operable position relative to the shoe, said heel section including an elongated spacer bar pivotally connected at one end to said toe section for swinging movement in a plane aligned with the longitudinal axis of said rib into interleaved relationship with said rib side walls when said heel section is disposed in an operable position, said spacer bar being formed with longitudinal, upwardly divergent side wall surfaces which are cooperatively engageable with the opposed inner wall surfaces of said rib side walls when interleaved therewith to effect lateral displacement of said side elements and thereby exert a transverse stretching force on the forward portion of the shoe.

3,263,253
CONVEYANCE LOADER ELEVATING SYSTEM
Joseph C. Wollard, Miami Springs, John S. Slaney, Opalocka, and Lester L. Preiss, Miami, Fla., assignors to Wollard Aircraft Service Equipment Inc., a corporation of Florida
Filed Nov. 29, 1963, Ser. No. 326,794
9 Claims. (Cl. 14—71)

1. A conveyance loader comprising
(a) an elongated gangway mounted for vertical swinging movement about a horizontal axis,
(b) an upwardly extensible support means for supporting an outer portion of the elongated gangway,
(c) the support means comprising a gangway support portion carried by said outer portion of the elongated gangway and a ground supported portion,
(d) a pair of extensible fluid motor means disposed one at either side of the support means and connected between one support means portion and the other

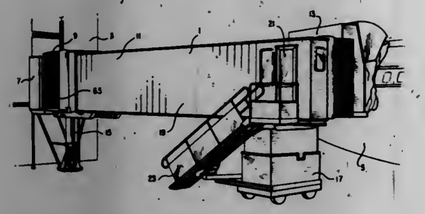
support means portion for raising and lowering said outer portion of the elongated gangway,

(e) a pair of rack means carried by one support means portion and disposed one on either side of the support means, and



(f) unitary pinion gear means carried by the other support means portion in mesh with both of the rack means to constrain the two extensible fluid motor means to uniform upward and downward movement.

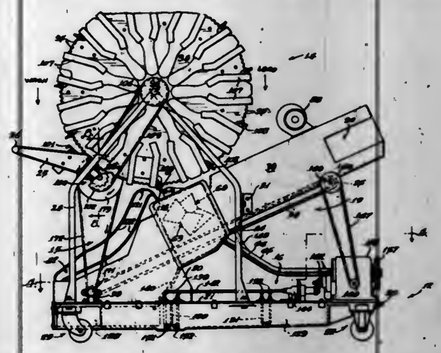
3,263,254
CONVEYANCE LOADER PIVOT APPARATUS
Joseph C. Wollard, Miami Springs, John S. Slaney, Opa-Locka, and Lester L. Preiss, Miami, Fla., assignors to Wollard Aircraft Service Equipment Inc., a corporation of Florida
Filed Nov. 29, 1963, Ser. No. 326,795
9 Claims. (Cl. 14—71)



1. A conveyance loader comprising
(a) fixed passageway means,
(b) a support means adjacent the fixed passageway means,
(c) rotatable passageway means,
(d) first pivot means supporting the rotatable passageway means on the support means contiguous to the fixed passageway for rotation in a horizontal plane about a vertical axis,
(e) swingable passageway means,
(f) structural means carried by the swingable passageway means at one end thereof and projecting under the rotatable passageway means,
(g) second pivot means connected between the support means and the structural means mounting the swingable passageway means for swinging movement in a vertical plane about a horizontal axis located below the rotatable passageway means and contiguous to the vertical axis.

3,263,255
PIN CLEANER
Eric S. Stevens, Jamestown, N.Y., and Ernest E. Emery, Manhattan Beach, Calif., assignors to Brunswick Corporation, a corporation of Delaware
Filed Dec. 24, 1963, Ser. No. 333,115
18 Claims. (Cl. 15—21)

12. A bowling pin cleaning device comprising a wheeled carriage, handle means for moving said carriage, structure defining a pin cleaning zone mounted on said carriage, and pin receiving turret means rotatably mounted on said carriage for receiving bowling pins at a position



adjacent said handle means and sequentially delivering received bowling pins through a delivery path to said pin cleaning zone.

3,263,256
RUG SHAMPOOER
Donald W. Ruehmann, Bloomington, Ill., assignor to National Union Electric Corporation, Stamford, Conn., a corporation of Delaware
Filed June 19, 1964, Ser. No. 376,454
25 Claims. (Cl. 15—50)

1. In a rug shampooer having a brush mounted for rotation on a vertical axis with bristles adapted to contact a rug, and means for feeding a shampoo liquid from a supply container into the vicinity of the brush, the improvement comprising means providing a foam generating surface underlying a portion of said brush and disposed in the path of rotation thereof so that the lower end portions of said bristles are flexed as they sweep across said surface in contact therewith during rotation of said brush, and means for directing shampoo liquid onto said surface whereby said liquid is aerated and converted into foam during passage of the bristles across said surface before coming into contact with the rug.

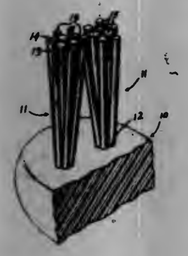
3,263,257
POULTRY HOUSE CLEANER
William M. Stapleton, Sr., Rte. 1, Dumber City, Ga.
Filed Feb. 19, 1965, Ser. No. 434,052
3 Claims. (Cl. 15—93)

1. In a device of the character described for use with a towing vehicle having vertically movable drawbar means and power takeoff means, the combination including a body supported by a pair of ground-engaging wheels, hitch means secured to said body spaced forwardly from said wheels for detachable engagement with a drawbar means, loading conveyor means provided at its leading edge with forwardly directed scraper means fixedly secured to said body forwardly of said wheels, unloader conveyor means, and power transmitting means, said power transmitting means including coupling means for detachable engagement with said power takeoff means and also including differential gear means having a pair



of output shafts connected to said conveyor means, and means to selectively prevent rotation of each shaft to insure rotation of the respective other shaft, said coupling means being mounted on said body for relative vertical movement, whereby the scraper means may be raised or lowered by a drawbar means while the coupling means is engaged with the power takeoff means.

3,263,258
TOOTHBRUSH
David E. Burge, Garden City, N.Y., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Continuation of abandoned application Ser. No. 111,839, May 22, 1961. This application Apr. 1, 1965, Ser. No. 446,783
2 Claims. (Cl. 15—167)



1. A brush comprising a body portion and a plurality of tufts attached to said body portion, each of said tufts comprising a first, a second, and a third group of bristles, each bristle of said first group of bristles having a diameter of approximately .009 inch, each bristle of said second group of bristles having a diameter of approximately .012 inch, and each bristle of said third group of bristles having a diameter of approximately 0.13 inch, said third group of bristles being positioned in the center of each tuft, and said first and second groups of bristles being alternately arranged around said third group of bristles.

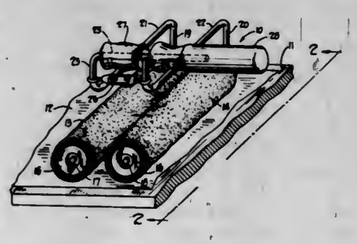
3,263,259
PAINT BRUSH
Stuart M. Shulman, New York, N.Y., assignor to Baker Brush Co. Inc., New York, N.Y., a corporation of New York
Filed June 15, 1964, Ser. No. 374,940
1 Claim. (Cl. 15—193)

A paint brush construction comprising a tubular ferrule, a knot of bristles inserted part way into said ferrule substantially to seal one end of said ferrule, a hardened mass of cured, resinous cement disposed atop said bristle knot in firm adhesive connection with portions of said bristle knot in said ferrule, and an integral handle including a gripping portion extending outwardly of said ferrule, a shoulder portion abutting the upper edge of said ferrule and a retention portion disposed in said ferrule, said retention portion having a lower portion disposed beneath the level of resinous composition in said ferrule, said lower portion being of a generally U shaped structure with the downwardly directed leg portions of said structure defining therebetween an opening of the general shape of a downwardly directed C, the walls of said opening sloping gradually arcuately upwardly and transversely outwardly away from the center line of said ferrule, and



outwardly opening grooves of substantial depth formed on the outer side edges of said leg portions, said grooves having inclined wall portions formed on the outer side edges of said leg portions, said lower portion of said handle being disposed beneath the surface of said cement to a depth whereat said cement covers said grooves completely and substantial parts of said leg portions are disposed beneath the surface of said cement, all upwardly facing parts of said handle beneath said surface being curvingly inclined with respect to the surface of said cement.

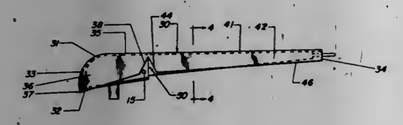
3,263,260
SELF-SUPPORTING PASTE APPLICATOR FOR WALLPAPER
Ben B. Filler, 3844 Berkeley Road, Cleveland Heights, Ohio
Filed Oct. 21, 1964, Ser. No. 405,437
2 Claims. (Cl. 15—230.11)



1. A wallpaper paste applicator, comprising in combination, a wire frame bent to define a saddle having dependent, spaced and parallel arms, at its ends, which in turn are bent at their lower ends, laterally therefrom at 90° thereto, to define two spaced and parallel horizontal sections which, in turn, are bent both downwardly and then inwardly at 90° to define two spaced and parallel roller supporting shafts, with the saddle positioned thereabove and centered between the midpoints of the longitudinal axes of the shafts; a fibrous roller jour-

naled on each shaft, in normally, spaced, parallel and freely revolving relation, having a high degree of resiliency to provide a resilient paste retaining and distributing surface; a first hand grip mounted on the saddle, between the dependent arms; and, a second hand grip mounted on the saddle in alignment with the first hand grip, extending outwardly therefrom at 90° to both the saddle arms and the roller axes.

3,263,261
NON-GLARE COVER FOR WINDSHIELD WIPER ARM
Lear W. Schulz, Omaha, Nebr., assignor of forty percent to George R. Nimmer, Omaha, Nebr.
Filed Oct. 15, 1965, Ser. No. 496,642
3 Claims. (Cl. 15—250.35)



1. A non-glare cover for a windshield wiper arm, said arm having a shorter and wider rearward section and a longer and narrower forward section pivotably attached to the arm rearward section, said non-glare cover comprising a non-reflecting light-absorbing unitary dual-segment cap-like mantle of inverted trough configuration, said mantle having a rearward end and an open forward end, said cap-like mantle comprising:

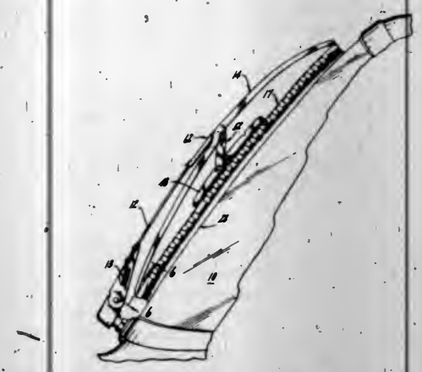
(A) An elongate flexible roof panel formed of a structurally-continuous elastic resinous material, said roof panel being transversely wider at the mantle rearward end than at the forward end,

(B) A pair of upright opposed lateral panels, each of said lateral panels being integrally attached to opposite elongate edges of the roof panel nearer to the roof panel forward end, said lateral panels and coextensive portions of the intervening roof panel providing the forward segment of the mantle, the forward extremities of the lateral panels being spaced apart a finite distance to provide a forward open end for the mantle, the inward surface of the respective lateral panels along the lower elongate extremity being free of inwardly-extending flange-like protrusions, the rearward extremities of the lateral panels terminating at the roof panel interior surface, the interior surface of the mantle forward segment having a layer of adhesive material for attachment of said mantle to the windshield wiper arm forward section, and

(C) At least one upright panel integrally attached to the roof panel rearward portion to provide a rearward segment adapted to cover light-reflecting outward surfaces of the arm rearward section, the forward extremity of the rearward segment terminating at the roof panel interior surface to provide in conjunction with the forward segment rearward extremities a notch-like boundary between the two segments, the apex of said notch-like boundary being at the roof panel interior surface.

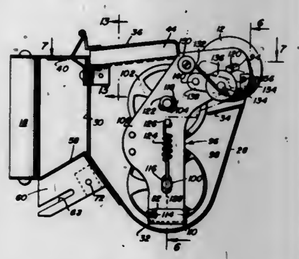
3,263,262
WINDSHIELD WIPER
Ralph H. Wise, % Arvin Industries Inc., Columbus, Ind.
Filed Nov. 4, 1964, Ser. No. 408,788
22 Claims. (Cl. 15—250.42)

22. A windshield wiper assembly, comprising a bow, an elongated flexible holder connected to said bow, an elongated squeegee mounted in said holder and projecting outwardly therefrom to engage the surface to be wiped, a link operatively interconnected to said bow and holder inwardly from the ends thereof on a pair of pivot



axes at least one of which is movable with respect to the other, and a connector pivotally connected to said link and connectable to a wiper driving arm.

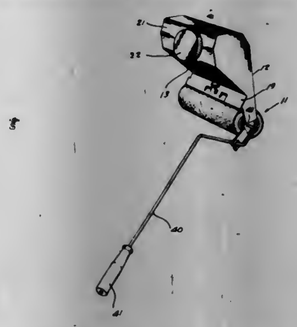
3,263,263
PAINT ROLLER DEVICE
Elvin R. Munn, St. Louis, Mo., assignor of one-half to Ronald A. Munn, St. Louis, Mo.
Filed Dec. 2, 1964, Ser. No. 415,239
17 Claims. (Cl. 15—573)



1. In a liquid applying device having a container from which liquid is transferred to a liquid applying roller, roller supporting means mounting the liquid applying roller for movement between two limit positions, liquid transfer means operatively mounted by the supporting means for transfer of liquid thereto in response to contact of the roller, contact pressure means rendered operative to urge the transfer means into contact with roller in one limit position of the roller, bias means for urging the roller to the other limit position out of contact with the transfer means, and pressure control means for reducing the bias imposed by said biasing means on the roller when displaced to said one limit position to render the contact pressure means operative.

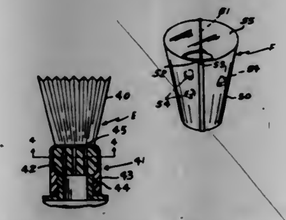
3,263,264
FOUNTAIN PAINT ROLLER ASSEMBLY
Ragnvald G. Leland, 2334 W. 241st St., Lomita, Calif.
Filed May 28, 1964, Ser. No. 370,789
5 Claims. (Cl. 15—575)

1. A fountain paint roller assembly comprising a substantially vertical elongated reservoir having front and rear walls and transverse side walls, said front and rear walls having spaced lower edges and convergent portions above said lower edges defining a restricted throat, a cylindrical valve core disposed adjacent and substantially in contact with said throat parallel thereto, arcuate inwardly projecting downwardly concave ribs on said side walls overlying the ends of the core, inwardly projecting lugs on the front wall underlying the core and cooperating with the arcuate ribs to rotatably support said core, said core being larger in diameter than said throat, said core having longitudinally spaced notches in one side thereof, means for rotating said core between a throat-closing position and an open position wherein its notches provide



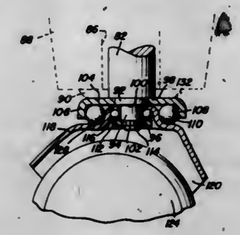
communication between the reservoir above said throat and the space below the core, a paint roller rotatably connected to said side walls below and parallel to said throat with its upper surface substantially in contact with said spaced lower edges of the front and rear walls, said roller being provided with a handle rod, and cooperating stop means on said handle rod and one of the side walls limiting rotation of the reservoir relative to said handle rod.

3,263,265
BASTER
David L. Judson, 27 Thornton Drive, Fairborn, Ohio
Filed Mar. 5, 1964, Ser. No. 349,607
1 Claim. (Cl. 15—592)



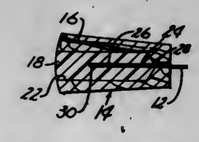
A fluid applicator comprising a fluid container adapted to store the fluid to be dispensed, a base adapted to support the ends of a plurality of bristles projecting therefrom in the form of a brush, means for securing said base to said container, means for directing fluid from said container to said bristles, a cover for said brush which approximates the shape of said brush, said cover comprising a body of generally frusto conical configuration and hinged along the length thereof defining first and second body portions, a unitary cap secured to one of said body portions and effective to close the larger end of said cover, means for locking said hinged body portions together to form a closed substantially impervious cover except for an opening in the smaller end thereof opposite said cap, said open end adapted to rest on said base and closely surround said bristle ends whereby said open end of said cover is closed by said base to form a substantially impervious cover preventing dirt and/or other foreign matter from reaching the brush during non-use, and a plurality of equally spaced brush engaging lugs mounted on and projecting inwardly of said body intermediate the ends thereof and effective to engage and compress said bristles to impede flow of the fluid through the brush during non-use.

3,263,266
VERTICAL PRESSURE SWIVEL CASTER
Nicholas A. Rabelos, 2448-A Morongo Way NE., Atlanta, Ga., and Donald E. Robert, Fulton, Ga. (3123 Robin Road, Decatur, Ga.)
Filed Mar. 27, 1964, Ser. No. 356,021
5 Claims. (Cl. 16—44)



1. A caster wheel assembly comprising a vertically disposed stem, a cap carried by said stem, a yoke rotatably mounted on the stem, said yoke having an annular shoulder means defined thereon for forming a downwardly opening inwardly facing bearing race and an upwardly opening outwardly facing bearing race, a plurality of ball bearings between the cap and the outwardly facing race on the yoke and retained in place by said cap, a plurality of ball bearings between the inner race on the yoke and the stem, and means retaining the inner ball bearings in place.

3,263,267
HANDLE
Carl S. Ahlberg, Minneapolis, Minn., assignor to Salm-Harley Corporation, Chicago, Ill., a corporation of Illinois
Filed Apr. 24, 1964, Ser. No. 362,304
10 Claims. (Cl. 16—114)



1. A handle for a portable article comprising a body portion formed of relatively rigid material, said body portion having a cavity formed therein, and a relatively homogeneous, resilient insert in said cavity, a slot being formed in said body portion to receive said portable article, said slot passing through at least a portion of said insert.

3,263,268
HINGE WITH A THERMOSETTING RESIN PORTION
James H. Flaherty, Hales Corners, Wis., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 19, 1962, Ser. No. 238,488
4 Claims. (Cl. 16—128)

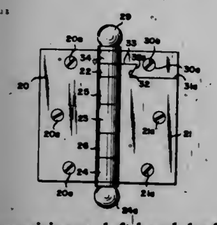
1. In combination as a hinge means for structure including at least one member pivotable relative to another, a substantially centralized core element coated with a material so as to enhance pivotal movement ultimately to form a hinge pin, bead-like members located coaxially on said core element at predetermined intervals, and a

thermosetting resin covering portion radially on said core element at least in part between bead-like members and alternately joined as cured to make one member



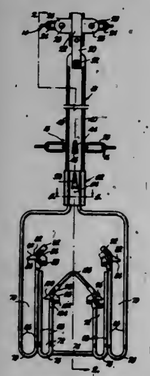
pivotable relative to another with axis of pivotal movement coinciding with location of said substantially centralized core element.

3,263,269
SAFETY HINGES
Welbourne D. McGahee, 170 S. Pine Drive, Satellite Beach, Fla.
Filed Sept. 2, 1964, Ser. No. 393,894
4 Claims. (Cl. 16—169)



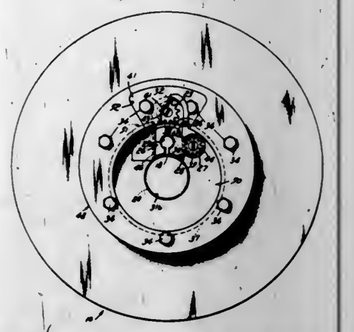
1. A hinge comprising a left-hand leaf, a right-hand leaf, knuckles on both said leaves for receiving a pintle, said right-hand leaf having an angled cutout portion, a pintle, a retainer member integral with said pintle, said retainer member having an angled lower portion for cooperation with said right-hand leaf angled cutout portion whereby said pintle is restrained in upward movement.

3,263,270
POULTRY SHACKLE
Robert D. Crawford, Kansas City, Mo., and James A. Bonuchi, Merriam, Kans., assignors to Gordon Johnson Company, Kansas City, Mo., a corporation of Missouri
Filed July 20, 1964, Ser. No. 383,589
5 Claims. (Cl. 17—44.1)



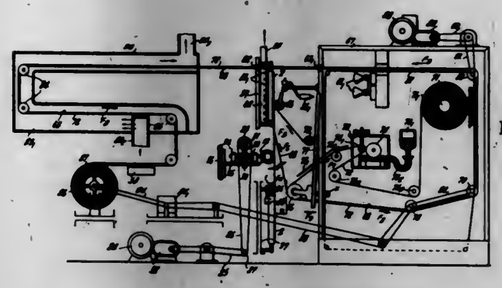
1. In a poultry conveyor having a pair of vertically spaced shifting mechanisms movable substantially in the same direction and at the same speed, the combination with said mechanisms of means for coupling a bird by an appendage thereof to said mechanisms for movement therewith and for limiting the movement of the bird laterally and upwardly with respect to said mechanisms, said means comprising:
- an elongated, rigid member;
- means securing the member adjacent one end thereof to one of said mechanisms and holding the member against movement laterally of the direction of movement of said mechanisms;
- means coupling said member adjacent the opposite end thereof to the other of said mechanisms;
- a rigid element having a pair of legs defining an appendage-receiving notch;
- means releasably connecting said element to the lower end of said member to hold the element against movement relative to the member laterally and longitudinally of the path of travel thereof with said legs extending downwardly from said member; and
- a projection carried by one of said legs and extending partially across said notch to restrict the upward movement of an appendage in said notch.

3,263,271
EXTRUSION APPARATUS
Eugene S. Hannis, Hoboken, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 2, 1964, Ser. No. 348,359
8 Claims. (Cl. 18—13)



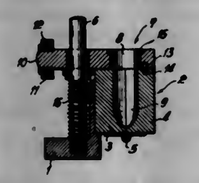
1. In an apparatus for sheathing self-supporting cable comprising a cable core and support wire each having an insulating sheath and being interconnected by a web of insulating material, the combination of:
- a die body mounted at the exit portion of the sheathing apparatus having a pair of spaced substantially circular apertures extending therethrough joined by a slot, the apertures being adopted to receive the cable core and support wire respectively, and an outer recessed portion,
- a rotatable die insert mounted within the recessed portion of the die body, the insert having a pair of spaced substantially circular apertures and a connecting slot, the insert apertures being in substantially concentric relationship with the corresponding apertures in the die body and the insert slot being aligned with the slot in the die body, a cutaway portion, and a toothed peripheral portion,
- a toothed rack slidably mounted within the cutaway portion of the die insert and having a substantially circular aperture positioned concentrically with reference to the support wire aperture and a slotted portion aligned with the connecting slot to regulate the vertical application of sheathing material to the wire and to control the web height,
- a first gear meshing with the rack and designed to move said rack transversely with reference to the sheath axis when sheath adjustments are desired, and
- a second gear meshing with the toothed peripheral portion of the die insert and adapted to impart rotational movement to the insert for horizontal adjustments to the wire sheath.

3,263,272
FILM CASTING APPARATUS
Alvin M. Marks, 149—61 Powells Cove Blvd., and Mortimer M. Marks, 166—25 Cryders Lane, both of Whitestone, N.Y.
Original application Dec. 15, 1958, Ser. No. 780,580. Divided and this application Nov. 2, 1962, Ser. No. 234,918
Claims priority, application France, Dec. 16, 1957, 753,953, Patent 1,188,708
7 Claims. (Cl. 18—15)



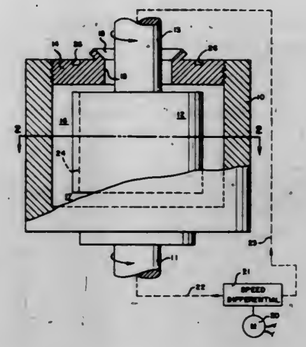
1. A machine for continuously casting a foil comprising an endless flexible band, a gravity flow fluid casting station on said band, a nozzle member directed at said casting station, a source of foil forming solution connected to said nozzle, a power source connected to said band for driving the same, guide means for guiding said band past said nozzle and an appreciable distance therebeyond in a generally vertical orientation and generally horizontal direction of travel and for subsequently guiding said band to travel in at least one direction of travel other than horizontal while maintaining said band in generally vertical orientation, and means adjacent said band and spaced from said gravity flow fluid casting station for removing formed foil from said band at a velocity which is constant across the width of said band.

3,263,273
ARRANGEMENT OF HINGED MOLDS FOR WAX-LIKE SOLIDS
Kurt Büttel, Rheinfurkheim, Germany, assignor to Blendax-Werke R. Schneider & Co., Mainz (Rhine), Germany, a corporation of Germany
Filed Apr. 5, 1962, Ser. No. 185,364
Claims priority, application Germany, Apr. 7, 1961, B 62,043
5 Claims. (Cl. 18—26)



1. An apparatus for continuously molding wax-like materials including:
- at least one mold consisting of a pair of vertically extending mold sections having mating cavities therein;
- bottom hinge means for pivotally connecting said mold sections such that when said sections are juxtaposed the mating cavities form a single cavity opening opposite said hinge means;
- vertically extending support means integral with one of said mold sections;
- an upstanding bolt mounted on said support means and adjacent said integral mold section;
- a cover member slidably mounted on said upstanding bolt, said cover member extending over said mold sections and having an aperture alignable with the opening of the cavity of said mold sections, said cover member including camming means for moving said cover member relative to said mold sections; and
- a centering peg forming a connection between said cover member and the second of said mold sections for aligning said cavity opening with said aperture.

3,263,274
HIGH STRENGTH ROTARY MEMBER AND METHOD
Edward G. Pickels, Atherton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Mar. 14, 1963, Ser. No. 265,090
2 Claims. (Cl. 18—26)

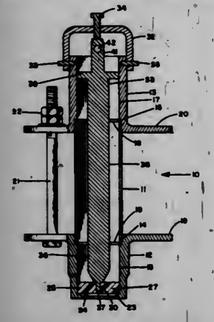


1. Apparatus for forming a cylindrical member adapted for high speed rotation about its own axis comprising a hollow bowl-shaped generally cylindrical mold open at one end for receiving fluid material, said mold being mounted for centrifugation rotation about the axis thereof, a mandrel depending coaxially into said mold and spaced therefrom, said mandrel being rotatable with respect to said mold to define said member being formed, means for rotating said mold and mandrel at different respective angular velocities, and means for ensuring a sufficient supply of material to provide full thickness of the member being formed, said last means including an upwardly extending slot formed along said mandrel and accessible for filling at the upper end thereof.

3,263,275
APPARATUS FOR CASTING SMALL SOLID PROPELLANT ROCKET MOTORS FOR TESTING PURPOSES
Robert M. McElroy, Jr., Huntsville, Ala., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed July 22, 1963, Ser. No. 296,676
5 Claims. (Cl. 18—26)

1. An apparatus for use with the casting of solid propellant rocket motors comprising a pair of tubular sleeves for engaging the opposite ends of a motor case, each of said

sleeves having a seat therein to receive the respective ends of the motor case, each of said sleeves having an integral disc flange thereon, tie bolts extended through said flanges for retaining the motor case and said sleeves in fixed rigid relation to each other, core means for insertion into said



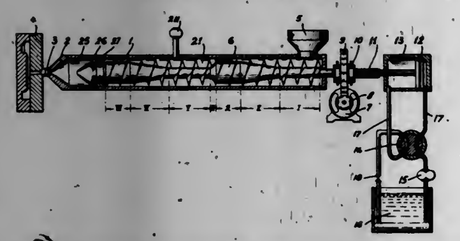
sleeves, aligning means in said sleeves and integral with said core means for properly aligning said core means in the motor case, and means connected to said sleeves and engaging said core means to retain said core means in fixed relation to said sleeves.

3,263,276

INJECTION MOLDING MACHINE

Richard Maier, Bahnhofstrasse 103, Uzwil, Switzerland

Filed Oct. 30, 1962, Ser. No. 234,063
Claims priority, application Switzerland, Oct. 30, 1961, 12,523/61
4 Claims. (Cl. 18—30)



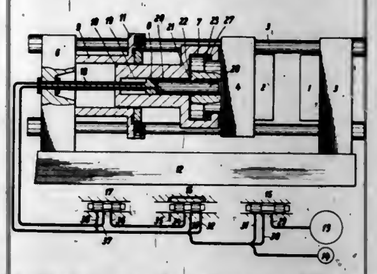
1. An injection molding machine comprising, in combination, an elongated, hollow cylinder, of substantially constant internal diameter throughout its length, having an injection chamber and injection nozzle defined at one end thereof and a feed hopper defined at an opposite end thereof for feeding material into said cylinder; a single elongated worm screw, including a longitudinal shaft and a helical thread on said shaft, mounted inside said cylinder for relative rotation and axial reciprocation therein, the rotation of said worm screw plasticizing the material and advancing it toward and into said injection chamber, one end of said worm screw having an injection head defined therein which is situated within said injection chamber rearwardly of said injection nozzle, and is moved toward said injection nozzle by axial reciprocation of said worm screw; means associated with said injection chamber and said injection head to prevent material from being moved from said injection chamber into said cylinder; the parameters of said worm screw being such as to define, with said cylinder, a pair of axially spaced compression zones, each decreasing in volume toward said injection chamber, separated by an axially elongated, substantially constant volume, vacuum zone having an axial length at least equal to the axial reciprocation stroke of said worm screw; and means connected to the interior of said cylinder at said vacuum zone and maintaining a vacuum in said vacuum zone; said worm screw and said cylinder conjointly defining an expansion zone between said vacuum zone and said feed hopper.

3,263,277

HOLD-SHUT DEVICE FOR INJECTION MOLDING

Wolfgang Ohlendorf, Monchen-Gladbach, and Eduard Schultes, Rheydt, Germany, assignors to Mannesmann-Meer Aktiengesellschaft, Monchen-Gladbach, Germany, a German company

Filed June 4, 1963, Ser. No. 285,474
8 Claims. (Cl. 18—30)



1. A hold-shut device for injection molding apparatus comprising a frame for the apparatus,
a stationary mold segment mounted on the frame,
a member slidable along the frame,
and a traverse mold segment fixedly mounted on the slidable member,
in combination with a shift body slidably mounted on the frame and having two chambers of different diameters spatially and directly united merging into each other within the shift body,
locking means to immobilize the shift body at a predetermined position along the frame,
a stationary shift piston mounted immovably within one chamber of the shift body,
a hold-shut piston within the remaining chamber of larger diameter than that containing the stationary shift piston of the shift body, attached to the slidable member and movable therewith relatively to the shift body,
a withdrawal face on said hold-shut piston and force-exerting resilient means on the withdrawal face,
a supply of hydraulic fluid,
rigid conduits to and from the hydraulic fluid supply, drilled into and through the stationary shift piston and providing fluid supply common to the cylinder chambers,
low and high pressure pumps connecting the rigid conduits to the fluid supply,
and pressure reversing and differential control slides associated with the pumps, the rigid conduits and the fluid supply, to control movement of the hold-shut piston within the shift body;
whereby the shift body and chambers therein are movable relative to the stationary shift piston and the hold-shut piston has a very short, powerful mold clamp-up stroke.

3,263,278

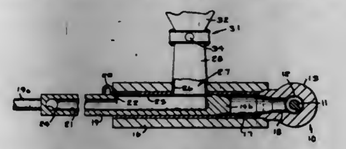
COMBINED HEATER AND FEEDER RAM

James W. Hendry, Scottsburg, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Sept. 5, 1963, Ser. No. 306,745
13 Claims. (Cl. 18—30)

9. In a combined preheating and feeding device for a machine for utilizing plastic material, the combination comprising:
a machine for utilizing plastic material;

means defining an elongated preheating chamber having an inlet opening and a discharge opening;
supply means adapted for containing a supply of plastic material;
first gas flow means;
means for alternatively placing said supply means and said first gas flow means in communication with said inlet opening;
means defining a passage leading from said discharge opening to said machine;
an element slidably disposed in said passage, said element having passageway means associated therewith and providing second gas flow means;



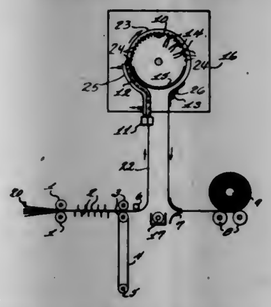
means for moving said element back and forth in said passage between a first position in which said passageway means is in communication with said discharge opening and a second position in which said element blocks communication between said passageway means and said discharge opening; and
means for connecting one of said gas flow means to a source of heating fluid and means for connecting the other of said gas flow means to exhaust.

3,263,279

METHOD AND APPARATUS FOR TREATING SLIVERS OF WOOL OR OTHER FIBERS

Malcolm Chaikin, 23 Mermaid Ave., and Alexander Douglas Dircks, Culloden Road, both of Eastwood, New South Wales, Australia

Filed Sept. 30, 1963, Ser. No. 312,657
Claims priority, application Australia, Oct. 22, 1962, 23,434/62; Mar. 29, 1963, 28,975/63
5 Claims. (Cl. 19—66)



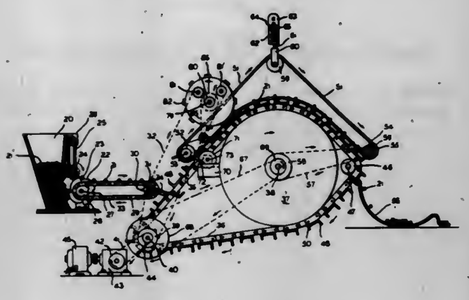
2. Apparatus for treating a sliver of textile fibers for stress relaxation or straining recovery, said apparatus including a supply for said sliver, a heating compartment having a sliver inlet and a sliver discharge, means for preheating said sliver, said preheating means communicating with said heating compartment for passing said sliver into said heating compartment through said inlet, steaming means within said compartment between said sliver inlet and discharge, said steaming means including means for maintaining the sliver under a relatively low, essentially constant tension in said preheating means and said heating compartment and through the sliver discharge from said heating compartment, said steaming means further including a plurality of steam discharging apertures therein positioned for close proximity to sliver within said compartment, means for supplying steam to sliver within said compartment through said apertures, and means for changing the tension on said sliver after discharge from said compartment, the last said means including means for collecting said discharged sliver under said changed tension.

3,263,280

SWAB MAKING APPARATUS

Harry C. Gustafson, 5508 N. 38th St., Milwaukee, Wis.

Continuation of application Ser. No. 203,189, June 18, 1962. This application July 6, 1965, Ser. No. 477,336
17 Claims. (Cl. 19—145.3)



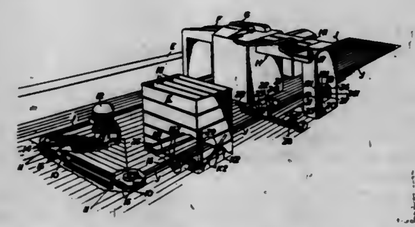
1. A swab forming apparatus including means for continuously feeding applicator sticks along a predetermined path and means for feeding a torn predetermined length of fibers along a second path intersecting with said first named path, a forming die positioned in said second named path and having an opening of predetermined configuration, means for forcing said fibers through and beyond said opening, said opening being located closely adjacent to the point of intersection of said paths but spaced from said point of intersection so that said fibers enter said die before reaching said point of intersection, whereby said sticks engage said fibers after passage through said opening and near said point of intersection, and means for rotating said sticks at and near said point of intersection so as to cause winding of said fibers around said sticks.

3,263,281

APPARATUS FOR PROCESSING AND PACKAGING TEXTILE SLIVERS

Stanley Lewis Cole, Helmshore, Rossendale, England, assignor to T.M.M. (Research) Limited, Oldham, England, a British company

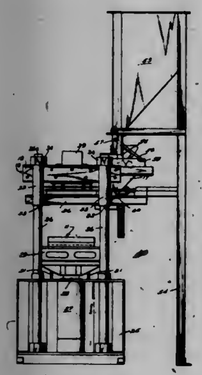
Filed Mar. 1, 1961, Ser. No. 92,679
Claims priority, application Great Britain, Mar. 9, 1960, 8,335/60
5 Claims. (Cl. 19—160)



1. For use in conjunction with apparatus for receiving coiled textile sliver, said apparatus including textile receiving cans and a coiling station having means for de-

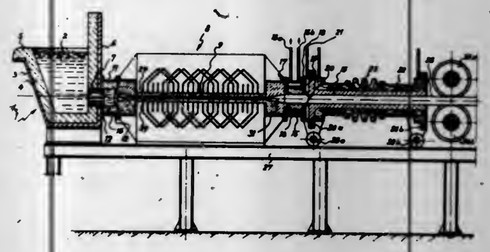
livering textile sliver into the receiving cans; intermittently actuating moving means for moving the cans in turn into receiving relation with said coiling station, said last mentioned means comprising an automatically operable endless conveyor, means for automatically restraining the cans at said coiling station against continuing movement of the conveyor, means for stopping movement of the conveyor after a predetermined interval following delivery of one of the cans to the coiling station, means for initiating movement of said conveyor after a predetermined interval of sliver delivery, and means for subsequently actuating said restraining means and for associating the cans with said conveyor for travel thereby.

3,263,282
PRESS MACHINE FOR FORMING FOUNDRY MOLDS OR CORES
Gerald A. Conger, Park Ridge, Ill., assignor to Barber-Greene Company, Aurora, Ill., a corporation of Illinois
Filed Oct. 23, 1963, Ser. No. 318,231
2 Claims. (Cl. 22—35)



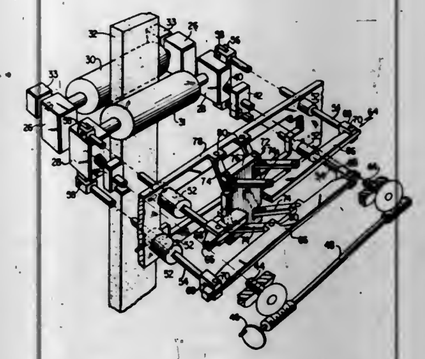
1. A machine for foundry use comprising,
a core box adapted to contain a pattern,
carriage supporting means for supporting a carriage,
a carriage mounted on said carriage supporting means movable transversely of said core box,
a spread hopper carried on said carriage having a hopper outlet for discharging sand into said core box as said hopper is moved across said core box on said carriage,
means comprising a sand retainer plate for closing said hopper outlet when the spread hopper is moved away from overlying relation to the core box and into overlying engagement with said sand retainer plate,
a vertically movable press plate overlying said pattern for compacting the sand discharged from the hopper into the core box,
means for heating the sand in the core box to form a cured mold, and
a supply hopper being mounted above said spread hopper for supplying sand to the spread hopper,
said supply hopper having a gate for controlling the flow of sand from the supply hopper to the spread hopper,
said gate being provided with means actuatable by said carriage to open and close the gate with the gate being normally opened with the spread hopper overlies the sand retainer plate and with said gate being closed when said spread hopper overlies said core box.

3,263,283
CONTINUOUS CASTING PROCESS AND APPARATUS
Marc Allard, Saint-Germain-en-Laye, France, assignor to Institut de Recherches de la Siderurgie Francaise, Saint-Germain-en-Laye, France
Filed Aug. 26, 1963, Ser. No. 304,324
Claims priority, application France, Sept. 4, 1962, 908,533, Patent 1,340,276
13 Claims. (Cl. 22—57.2)



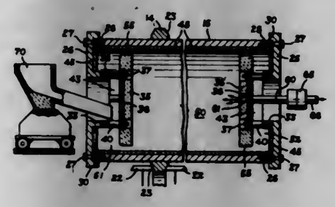
1. In a process for continuously casting metal, the steps of continuously directing molten metal from a source thereof into an elongated horizontal mold which is open at its opposite ends so that the metal continuously moves into the mold to be shaped therein and continuously issues from the mold with at least a solid exterior surface; and magnetically pumping the molten metal from the source thereof into the mold to provide the metal with a pressure above that which it would have without the pumping thereof.

3,263,284
CONSTANT-PRESSURE PINCH ROLLS FOR CONTINUOUS CASTING
Howard S. Orr, Upper St. Clair Township, Allegheny County, and John H. Richards, Penn Hills Township, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Dec. 20, 1963, Ser. No. 332,056
6 Claims. (Cl. 22—57.2)



2. Apparatus for maintaining a constant pinch roll pressure in a continuous casting system comprising a pair of fixed bearing blocks, a pair of reciprocable bearing blocks which are movable toward and away from said fixed bearing blocks, at least one pinch roll, journaled for rotation in said pair of fixed bearing blocks, at least one pinch roll journaled for rotation in said pair of reciprocable bearing blocks, said pinch rolls adapted to confine a casting passing therebetween and in contact therewith, spring means urging said reciprocable bearing blocks toward said fixed bearing blocks, fluid pressure operated means opposing the force of said spring means, means for continuously measuring the force transmitted to the fixed bearing blocks from the casting, means for transmitting a signal which is proportional to the difference between said measured force and a preselected force, and means for moving said reciprocable bearing blocks in response to said differential signal.

3,263,285
CENTRIFUGAL CASTING APPARATUS FOR CASTING A FLANGED ROLL AND METHOD OF CASTING
Walter E. Rojecki, Watertown, N.Y., assignor to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed July 14, 1964, Ser. No. 384,033
14 Claims. (Cl. 22—65)

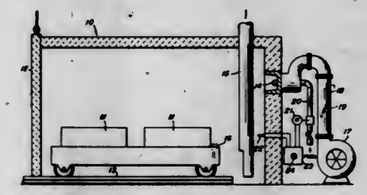


1. Apparatus for centrifugally casting a tubular member having an internal flange therein, comprising a tubular mold mounted for rotation, partition means separating the interior of the mold into pressure and flange chambers, said partition means having an outer diameter smaller than the inner diameter of said mold to provide a passage interconnecting said chambers, means defining an opening in said mold through which a predetermined volume of a molten material can be supplied to said chambers, drive means for rotating said mold at a speed sufficient to cause the molten material to be distributed evenly over said inner surface of said mold, and means for creating and maintaining a pressure differential between said chambers to cause a predetermined portion of the molten material to flow from said pressure chamber through said passage into said flange chamber so that the material in said flange chamber forms an integral internal flange on the tubular member when the material solidifies.

3,263,286
PROCESS AND MATERIAL FOR PRECISION INVESTMENT CASTING
Claude H. Watts, Lyndhurst, and Michael Daskivich, Cleveland, Ohio, assignors to Precision Metalsmiths, Inc.
No Drawing. Filed Apr. 26, 1965, Ser. No. 451,036
15 Claims. (Cl. 22—164)

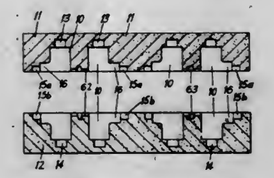
1. A molded workpiece pattern for forming a casting mold comprising from about 30% to about 50% by weight of a modified pale wood rosin, from about 5% to about 15% by weight of a high molecular weight ethylene/vinyl acetate copolymer, and from about 25% to about 50% by weight of blended waxes, said pattern being free of solvents and having the foregoing ingredients blended while molten and substantially uniformly distributed throughout the pattern at room temperature, and said pattern being further characterized by a softening point in the range of from about 210° F. to about 220° F. and by substantially immediate surface melting to a low viscosity liquid when subjected to a temperature in the range of from about 1600° F. to about 2300° F.

3,263,287
METHOD OF PREPARING MOLDS
Richard W. Kirkpatrick, North Canton, Ohio, assignor to United States Steel Corporation, a corporation of Delaware
Filed Nov. 3, 1964, Ser. No. 408,578
4 Claims. (Cl. 22—192)



1. A method of preparing mold parts for use in forming cast iron rolls comprising placing the parts at ambient temperature in a direct-fired heating chamber, burning gaseous fuel in air in said chamber with the products of combustion directly contacting the parts, setting the ratio of fuel-to-air at a level which maintains a flame temperature of about 300° to 325° F. and a chamber temperature of about 200° to 220° F. for about four hours, and changing the ratio of fuel-to-air to a level which maintains the chamber temperature at about 600° to 800° F. for about eight hours, whereby the parts heat slowly until they reach a temperature above the dew point and thereafter heat to a temperature for receiving molten iron.

3,263,288
METHOD OF CASTING CORED OBJECTS
Michael Schaible, Indianapolis, Ind., and Wainwright Tuttle, Cincinnati, Ohio, assignors, by mesne assignments, to Altamil Corporation, Indianapolis, Ind., a corporation of Delaware
Filed Dec. 18, 1963, Ser. No. 331,558
9 Claims. (Cl. 22—194)



1. In a method of casting cored objects having intersecting axes including the steps of forming a pair of mold halves mating along a parting surface and defining at least one cavity therebetween, said cavity having at least two complete core prints; the improvement which comprises orienting said mold cavity within said mold halves so that one of said mold halves includes at least one complete core print and at least a portion of another core print of said cavity.

3,263,289
COUPLING DEVICE FOR WOVEN BANDS
Roe Howe Lagarde, Talbot County, Md., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Feb. 19, 1965, Ser. No. 438,459
7 Claims. (Cl. 24—123)

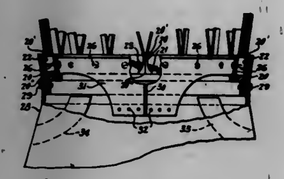
1. An attaching device for lugs formed on the ends of flexible woven bands including weft and warp strands, wherein each lug is formed with at least one curved

tapered face, tapered inwardly from the outer end of the lug toward the band comprising in combination:

(a) a rigid lug supporting element having means for receiving said lug;

(b) the lug receiving means being in the form of a cavity and of such dimensions and configuration as to closely receive the lug;

(c) the lug being shaped to include at least one tapered concaved face portion, tapered inwardly from the outer end thereof to a thickness substantially equal to the thickness of the band;



(d) said lug composed of a solid plastic material formed substantially about the warp strands of the band;

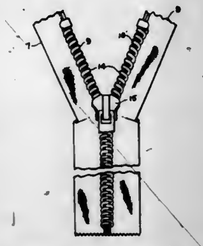
(e) the warp strands of the band being unwoven from the weft strands in the lug area and distributed in extended position from the woven area of the band throughout at least the area of the lug opposite the curved face of the lug.

3,263,290
METHOD OF MAKING A BUTTONHOLE AND EYELET
Yasukata Eguchi and Akio Komuro, Tokyo, Japan, assignors to Janome Sewing Machine Co., Ltd., Tokyo, Japan
Filed Jan. 20, 1964, Ser. No. 339,003
Claims priority, application Japan, Jan. 24, 1963, 38/3,403
5 Claims. (Cl. 24—202)



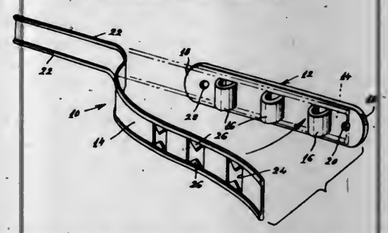
4. A buttonhole eyelet for attachment to a fabric consisting of a thermoplastic synthetic flexible resin selected from the group consisting of polyethylene, polyvinyl chloride, polystyrene, polybutadiene, and polyvinyl acetate, said plastic partly penetrating between the fibers of a fabric to which said eyelet is attached, said eyelet comprising a collar having two substantially parallel elongated side wall portions, a first curved end wall portion connecting one pair of ends of said side wall portions, and a second curved end wall portion connecting the other pair of ends of said side wall portions, and laterally projecting from the same, said wall portions defining together a buttonhole having an elongated narrow part and a round part having a diameter greater than the transverse extension of said narrow part and adapted for receiving thread securing a button, and a pair of spaced transverse flanges outwardly projecting from said collar integral with the same and adapted to partly penetrate and adhere to a fabric having a slit bounded by said collar.

3,263,291
END STOP FOR PLASTIC ZIPPER
Donald O. Taylor, Waterbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Mar. 12, 1965, Ser. No. 439,275
2 Claims. (Cl. 24—205.11)



1. In a zipper employing a pair of tapes and fastening means in the form of a continuous thermoplastic filament secured to each of said tapes, each of said filaments being shaped to provide closely spaced loops adapted to nest between and interlock with the loops of the other of said filaments, portions of each loop being in abutting relationship with portions of the adjacent loops of the mating filament; means forming an end stop comprising a plurality of the aforesaid loops which are welded together where they are in abutting relationship.

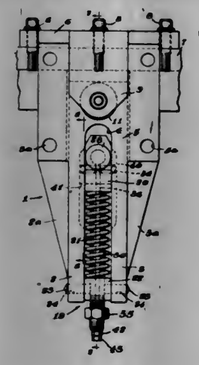
3,263,292
PLASTIC CLOSURE DEVICE
Joseph Fekete, % Virginia Garment Co., Inc., 510 N. 17th St., Richmond, Va.
Filed Sept. 30, 1964, Ser. No. 400,357
5 Claims. (Cl. 24—206)



1. A two-part fastening assembly, one part including an elongated flexible but stiff plate with spaced tubular loops projecting from one surface thereof, the other part including an elongated flexible strap with spaced openings therein at one end thereof, the spacing of the openings conforming to the spacing of the loops, and tongues on opposed edges of the openings extending inwardly of the openings for cooperation with the loops for interlocking the strap and plate.

3,263,293
CLAMPING APPARATUS
Robert W. Cashman, Saginaw, Mich., assignor to Saginaw Machine and Tool Company, Saginaw, Mich., a corporation of Michigan
Original application Aug. 30, 1962, Ser. No. 220,472, now Patent No. 3,178,789, dated Apr. 20, 1965. Divided and this application Feb. 5, 1965, Ser. No. 435,399
10 Claims. (Cl. 24—263)

1. A clamp device for exerting clamping forces on two opposed surfaces of a member, said device comprising rotatable first clamp means having a clamp surface; first means rigidly mounting said first clamp means for free rotation about a fixed axis; second rotatable clamp means having a clamping surface; second mounting means mounting said second clamp means for rotation about an axis parallel to and spaced from the axis of rotation of said first clamp means and for movement relative to the axis of rotation of said first clamp means, the spacing between said axes normally being such as to permit said member to be interposed between said first and second clamp means whereby said first and second clamp means may engage opposed surfaces of said member; resilient force transmitting means reacting between said first and second mounting means and normally forcibly urging said second clamp means in a direction to clamp said member between said first and second clamp means; and normally inactive means connected to said second clamp means and operable to overcome the force of said force transmitting means and effect movement of said second clamp means in a direction to release said member.



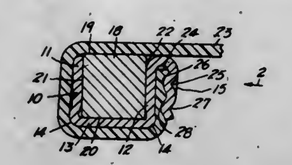
3,263,294
SUPPORT
William J. Pappas, 304 N. Main St., High Point, N.C.
Filed Mar. 20, 1964, Ser. No. 353,518
2 Claims. (Cl. 24—265)



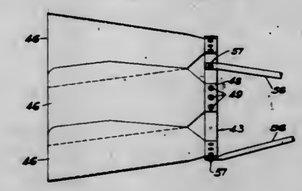
2. A fastener for securing a flexible spring to a chair frame, said fastener having integral planar portions offset from each other formed from sheet material which is longitudinally and laterally elongated, the lateral edges being rolled inwardly toward each other to form an arcuate flange in one planar portion on one lateral edge of hook configuration adapted to receive and shroud an end portion of the flexible spring therein and to form an open V-shaped hook in the other planar portion on the other lateral edge adapted to be releasably clamped to a chair frame, said planar portions being offset from each other to form an included angle greater than ninety degrees but less than one hundred eighty degrees.

3,263,295
COUPLING DEVICES FOR STRAPS OR WEBBINGS
Charles P. Molla, Old Westbury, and Anthony Ladogana, Bronx, N.Y., assignors to Molla Incorporated, Westbury, N.Y., a corporation of New York
Filed July 8, 1964, Ser. No. 381,203
4 Claims. (Cl. 24—265)

1. A coupling device for securing webbings to supports of rectangular cross-sectional form, said device initially comprising a strip of sheet metal having a wide U-shaped channel portion defined by spaced rigid substantially parallel side walls joined by a substantially flat elongated crosshead, the device including a narrow pressure deformable U-shaped webbing gripping channel portion, said narrow channel portion being formed by one of said side walls and a supplemental gripper wall integral wtih said one side wall and flared with respect thereto, said narrow channel portion opening in a direction opposed to the direction of opening of said wide channel portion, the side walls joining said crosshead in rounded corners, said gripper wall terminating at its end in a webbing engageable flange offset at an angle greater than 90° to the inner surface of said gripper wall, and said gripper wall, in attachment of an end of a webbing in the narrow channel portion of the device by deformation thereof thereonto being fashioned to form rounded elongated gripper means extending transversely of said gripper wall.

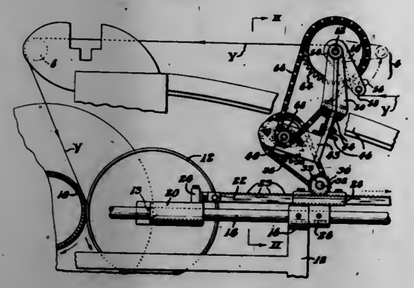


3,263,296
TROWEL FOR PIPE LINING MATERIAL
John T. Barton, Montour Falls, N.Y., assignor to Perkins Pipe Linings, Inc., Grand Island, N.Y.
Filed June 9, 1965, Ser. No. 462,644
7 Claims. (Cl. 25—38)



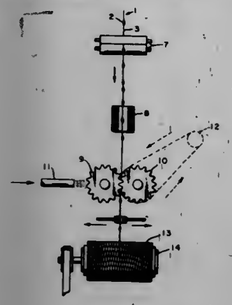
1. Trowel means for smoothing a layer of plastic lining material in an interior generally cylindrical surface, said trowel means comprising a plurality of longitudinally extending plate members which combine to form a generally frusto-conical trowel body having a small leading end and a larger trailing end, the portions of said plate members adjacent to the small end of the trowel body being substantially flat and the remaining portions of said plate members being arcuate in transverse cross section and of a progressively increasing radius toward the large end of the trowel body with such arcuate portions in laterally overlapping relation to form said frusto conical body, and a central mounting member at the small end of said trowel body having polygonally arranged outer surface portions, said flat portions of said plate members being fixed against said mounting member surface portions, the flat portions of said plate members adjacent to said mounting member permitting flexure of said plate members about transverse axes whereby the diameter of the large end of the frusto-conical trowel body may readily expand and contract by relative intersliding movement of said overlapping arcuate portions, and resilient means within the large end of the trowel body to exert a perimeter-increasing force at said larger end for resiliently urging the plate members radially outwardly to urge said larger end into yieldable troweling contact with said lining material.

3,263,297
METHOD AND APPARATUS FOR WINDING YARNS ON A BEAM
George Manning, Gastonia, N.C., assignor to Cocker Machine & Foundry Company, Gastonia, N.C., a corporation of North Carolina
Filed Mar. 31, 1964, Ser. No. 356,293
6 Claims. (Cl. 28—35)



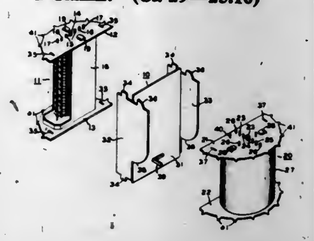
1. In an apparatus for winding yarns upon a beam, the combination which comprises
means for rotating the beam,
sensing means adjacent said beam and arranged to sense the amount of yarn wound up on the beam, and to react thereto,
variable tension means arranged in the course of travel of the yarn to the beam and operative to exert controllable amounts of added drag to control the tension of said yarn, and
control means operative in response to said reaction of said sensing means for gradually decreasing the drag added to said yarn as the amount of yarn accumulated on said beam increases.

3,263,298
PRODUCTION OF INTERMITTENTLY TEXTURED YARN
James R. Holton, Gulf Breeze, Fla., assignor to Monsanto Company, a corporation of Delaware
Filed Nov. 12, 1963, Ser. No. 322,731
20 Claims. (Cl. 28—72)



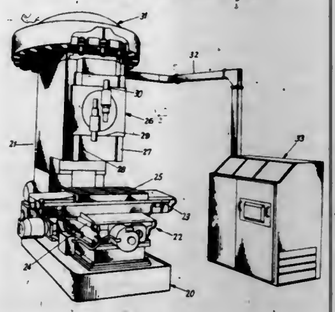
1. A method of producing intermittently textured yarn comprising:
(a) providing a source of thermoplastic continuous filament yarn drawn below the natural draw ratio so that the yarn exhibits thick and thin portions along the length thereof;
(b) subjecting the yarn to a texturing operation; and
(c) stretching the yarn to complete the natural draw thereof whereby the thin portions retain the texturing therein and the thick portions are removed from the yarn.

3,263,299
ASSEMBLY METHOD FOR ELECTRON DISCHARGE DEVICES
Stan W. Lemaster and William B. Mesplay, Owensboro, Ky., assignors to General Electric Company, a corporation of New York
Original application Apr. 5, 1962, Ser. No. 185,260. Divided and this application June 14, 1965, Ser. No. 463,725
2 Claims. (Cl. 29—25.16)



1. The method of assembling an electron tube which includes a plurality of electron discharge devices comprising the steps of securing a connector member having ears on portions thereof which extend outwardly to a first segment-shaped insulating member of a first electron discharge device; hooking said ears in slots provided in a second segment-shaped insulating member of a second electron discharge device; rotating said second electron discharge device relative to said first electron discharge device to juxtapose said electron discharge devices and said insulating members, with said insulating members complementing each other to form a circular periphery; securing another portion of said first electron discharge device to said second electron discharge device to anchor said device together in the juxtaposed position; and inserting the juxtaposed devices into an envelope with the circular periphery of the combined insulating members contacting the interior wall of the envelope.

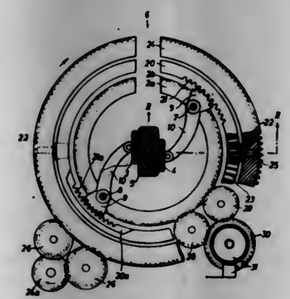
3,263,300
AUTOMATIC TOOL CHANGE ARRANGEMENT
Edward W. Schatzman and Vincent C. Webster, both of South Fort Mitchell, Ky., assignors to The Motch & Merryweather Machinery Co., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 30, 1963, Ser. No. 334,427
18 Claims. (Cl. 29—26)



1. In a machine tool, the improved tool change arrangement comprising:
(a) a tool magazine slidable to a tool change position;
(b) a plurality of tools removably secured in said magazine;
(c) a rotatable turret movable in opposed working and loading strokes;
(d) a working spindle carried by said turret;

(e) a chuck for said spindle, adapted to engage selectively one of said tools; and
(f) means for moving said turret in said opposed working and loading strokes, alternate working strokes normally being effective to remove a tool from said chuck and to perform a working operation, alternate loading strokes normally being effective to bring said chuck into engagement with one of said tools, and to withdraw said one of said tools from a work piece.

3,263,301
MACHINE FOR IRONING INSULATING MATERIAL AROUND THE STRAIGHT ARMS OF COILS OF ELECTRIC MACHINES AND APPARATUSES
Gerhard W. Scheffler and Karl A. J. Brand, Lubeck, Germany, assignors to Heinrich Schürmann, Lubeck, Germany
Filed Dec. 10, 1963, Ser. No. 329,412
Claims priority, application Germany, Dec. 15, 1962, Sch 32,479
15 Claims. (Cl. 29—90)



1. A rotary machine for ironing insulating material around the rectangularly shaped straight arm portions of coils for electric machines comprising centrally located chucking means stationarily maintaining said coil arm substantially aligned with the axis of rotation of said machine; a transversely slotted annular support member substantially coaxially encompassing said coil arm and pivotally supporting a pair of double armed levers on diametrically opposed pivot shafts extending in parallel relation to the axis of rotation; each of said double armed levers having at least one arm extending toward said axis of rotation; a pair of heated ironing jaws carried by the free ends of said inwardly extending lever arms for pivotal movement around axes extending in parallel relation to said axis of rotation, said ironing jaws engaging said coil arm with said insulating material disposed therebetween in opposed relation; a pair of axially spaced intermediate drive members each being provided with an inner toothed section disposed diametrically with respect to each other and each being in mesh with a sector gear formed on the other outwardly extending arms of said pair of double armed levers, said meshing engagement allowing said pair of double armed levers to pivot around their pivotal axes thereby causing a relative rotational movement between said annular support means and said pair of intermediate drive members; a transversely slotted main drive ring coaxially encompassing said intermediate pair of drive members and drivingly coupled with said pair of intermediate drive members by differential gear means allowing relative rotational movement of said intermediate drive members with respect to each other thereby compensating for asymmetrical movements of said pair of double armed levers caused by misaligned or asymmetrically shaped coil arms; and drive means for rotating said main drive ring.

3,263,302
METHOD OF MAKING A TAPERED STRUCTURAL MEMBER
Harold E. Handley, Jackson, Mich., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Original application Mar. 23, 1961, Ser. No. 97,868, now Patent No. 3,196,990, dated July 27, 1965. Divided and this application May 7, 1965, Ser. No. 454,083
3 Claims. (Cl. 29—155)

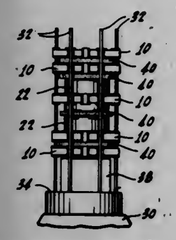


1. The method of fabricating a hollow, tapered elongated structural member of octagonal configuration at one end and a substantially square configuration at the other end from an elongated member comprising three parallel elongated rectangular planar portions, said portions including a central portion having parallel longitudinal edges and side portions having longitudinal parallel edges, one edge of each of said side portions being affixed to a longitudinal edge of said central portion whereby said side portions are angularly disposed on a common side of the plane of said central portion 45° therefrom, comprising the steps of diagonally severing the central portion of two of said elongated members of equal length longitudinally from the intersection of one longitudinal edge and one end thereof to the intersection of the other longitudinal edge and other end thereof to form two halves from each of said elongated members, each of said halves being of a base width at one end substantially equal to the width of one of said side portions plus the width of the central portion and of a top width at the other end substantially equal to the width of one of said side portions, placing said halves such that said halves longitudinally extending edges adjacent said base widths are in engaging relationship defining an octagon and said top widths substantially define a rectangle and welding the engaging longitudinally extending edges of said halves.

3,263,303
METHOD OF MAKING MODULES
William L. Ostes, Bernardsville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Apr. 9, 1962, Ser. No. 186,161
3 Claims. (Cl. 29—155.5)

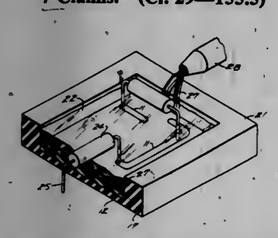
1. A method of making a module comprised of a plurality of circuit wafers each having at least one circuit component thereon and substantially similar periphery and metalized terminals on said periphery, first straight riser wires, second straight riser wires with hooked ends, and soluble spacers of insulating material, said method comprising the steps of:
(a) disposing said first straight riser wires in substantially parallel alignment to form a cage-like structure, open at the top, and adapted to receive a stack of wafers snugly therein through said open top,

(b) introducing said circuit wafers and said spacers through said open top in interleaved relation to form a stack thereof within said structure with said first riser wires adjacent to certain ones of said terminals,
(c) disposing at least two of said second straight riser wires with their hooked ends engaging the upper surface of the topmost circuit wafer in said interleaved



stack with said second riser wires adjacent to other ones of said terminals,
(d) compressing said stack with said hooked ends of said second riser wires engaging the upper surface of the topmost circuit wafer in said interleaved stack,
(e) soldering said first and said second riser wires to adjacent ones of said terminals, and
(f) dissolving said spacers in a solvent.

3,263,304
METHOD FOR MOUNTING ELECTRICAL CIRCUITRY
Bruno J. Falanga, Lawrence, Arthur Gingrande, Boxford, George J. Marotta, Andover, Anthony J. Murabito, Methuen, James F. Russell, Jr., Topsfield, and Robert A. Waddell, Winthrop, Mass., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 3, 1963, Ser. No. 249,179
7 Claims. (Cl. 29—155.5)



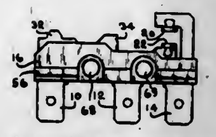
6. A method of fabricating wiring circuits which comprises:
resisting a sheet of solder foil to define a predetermined pattern,
plating metal on the exposed pattern areas of the solder foil,
placing the plated solder foil on the base of a cavity of a primary mold such that the surface of the metal pattern contacts said base,
casting within the primary mold a one-piece, flexible secondary mold of compounded cellulose acetate butyrate so that the metal pattern is exposed in a cavity of the secondary mold when it is reversed bottom side up,
removing the secondary mold from the primary mold,
piercing the leads of components through the metal pattern and foil into the compounded cellulose acetate butyrate,
pouring epoxy resin into the cavity of the secondary mold in direct contact with the metal pattern and exposed areas of the solder foil to a desired depth about the exposed component leads,
curing the epoxy resin to form a hardened supporting base,
stripping the secondary mold from the hardened base with the leads, metal plated pattern and solder foil embedded therein, and
dipping the exposed solder foil into a molten solder bath to remove the exposed solder foil and to solder the terminal ends to the metal wiring pattern.

3,263,305
CONTINUOUS METHOD OF CONVEYING AND FORMING ELECTRICAL COMPONENTS
Claude R. Butler, Emmaus, and Gerard A. Frank, Allentown, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 7, 1963, Ser. No. 278,714
9 Claims. (Cl. 29—155.5)



1. A method of forming electrical components having a body portion and at least one terminal attached thereto comprising the steps of:
deforming sections in a pair of spaced wires,
overlapping the deformed sections,
joining alternate overlapping deformed sections leaving an unjoined overlapping section therebetween,
engaging at least one of the joined sections to index the pair of wires,
inserting a body portion between the unjoined overlapping section,
securing the body portion to the wires, and
removing the wires on both sides of the body portion to provide at least one terminal.
7. A method of conveying articles comprising:
guiding a pair of wire-like members in spaced relationship,
deforming the members to form crimped sections at the same position along the length of each member,
overlapping the crimped sections,
joining alternate crimped sections together to form joined loops leaving therebetween crimped sections of unjoined loops,
inserting articles between the unjoined loops, and
then engaging joined loops to advance the members.

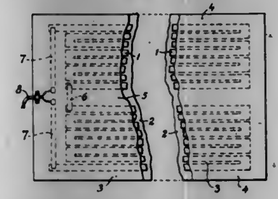
3,263,306
METHOD OF MAKING A SNAP ACTION SWITCH
Howard R. Chapin, Park Ridge, and Joseph J. Kaleba, Roselle, Ill., assignors to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Application Aug. 27, 1962, Ser. No. 219,790, now Patent No. 3,189,703, dated June 15, 1965, which is a continuation of abandoned application Ser. No. 816,189, filed May 27, 1959. Divided and this application Apr. 26, 1963, Ser. No. 280,487
3 Claims. (Cl. 29—155.5)



1. A process for making a snap action switch terminal unit body comprising the steps of stamping a multiplicity of switch terminal units in a continuous metal strip, each of said units including the terminals, a blade anchor and a set of contact supports for a single switch each of said contact supports being provided with contact receiving

means in confronting edges thereof, each terminal being connected to an adjacent terminal by webbing at the conclusion of the stamping operation, peening a set of contacts into the contact receiving means of contact supports, molding a continuous body strip of electrical insulating material on the terminal strip, removing the webbing interconnecting the terminals whereby the terminals are electrically insulated, and separating the said continuous body strip into individual bodies for each unit.

3,263,307
METHOD FOR MAKING ELECTRICAL HEATING MATS AND BLANKS THEREFOR
Olav Gerhard Lund, Oslo, and Erik Bjerkeseth, Bekkestua, Norway, assignors, by mesne assignments, to Patentkonsortiet Robert Meinich & Co., Oslo, Norway
Filed Nov. 4, 1963, Ser. No. 321,721
Claims priority, application Norway, Nov. 9, 1962, 146.372
7 Claims. (Cl. 29—155.5)



1. A method for making low temperature electrical heating elements having at least one resistor in the form of a resistance foil of uniform thickness extending in sinuous windings of uniform width, said method comprising:
(a) advancing at least one thin resistance foil web of a substantial width,
(b) while removing uniform widths of foil material from said resistance web to form a first set of numerous narrow longitudinal slots and a second set of corresponding slots arranged respectively between the slots of said first set, the slots in each set being interrupted over uniformly spaced-apart areas located approximately mid-way between the interruptions of the other set,
(c) then, while the thus-slotted foil web is being further advanced, applying to each surface thereof a continuous web of flexible insulating material, the width of said insulating webs being at least sufficient to cover said foil web over its width
(d) and adhering the insulating webs to each other so that a coilable composite web results which can subsequently be severed across the areas of interruptions of said slots, to produce separate, thin, flexible insulated heating mats.

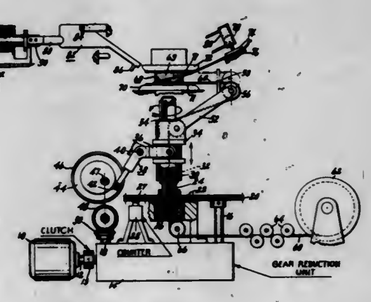
3,263,308
PROCESS FOR GROUND INSULATING A CONDUCTOR BAR FOR ELECTRODYNAMIC MACHINES
Kevork A. Torossian, Ballston Lake, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 31, 1962, Ser. No. 198,995
11 Claims. (Cl. 29—155.5)

2. The process of ground insulating an arm portion of a conductor bar for an electrodynamic machine which comprises
(a) wrapping said arm portion, except for an end contact portion, with an insulating tape impregnated with a heat curable, completely reactive resin composition,
(b) wrapping about said insulating tape a layer of non-adherent material,
(c) wrapping over said non-adherent material at least one layer of post-oriented, shrinkable tape material having at least about five percent shrinkage when heated at a temperature of at least 120° C.,
(d) placing over said shrinkable material and at each side of said bar rigid metal pressure applying and distributing means which conform to the configuration of said bar,



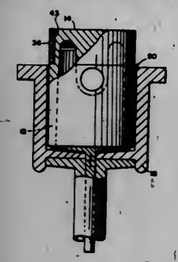
(e) wrapping over said outer layer of shrinkable material a heating tape,
(f) passing a current through said heating tape to heat said bar to shrink said shrinkable material of (c), and compact said insulating tape,
(g) removing the outer layer of shrinkable material and metal pressure applying and distributing means,
(h) heating to flexibilize said arm insulation,
(i) installing said bar in said machine, and
(j) heating said bar for a time and at a temperature sufficient to cure the insulation thereon.

3,263,309
METHOD OF WINDING A LOOP CONTAINING COIL
Frank H. Carman and James R. Vande Sande, Rochester, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 20, 1959, Ser. No. 807,395
2 Claims. (Cl. 29—155.57)



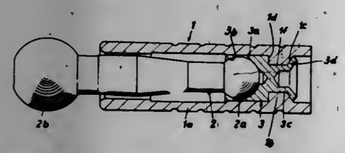
1. The method of winding a center tapped coil having a predetermined number of turns on a bobbin from a continuous length of insulated wire, the bobbin having a core with a flange at each end, comprising the steps of, winding substantially half of said predetermined number of turns on said bobbin, extending a hook into the path of movement of said wire to wind one turn near the center about the hook, automatically retracting the hook out of the path of movement of said wire due to wire tension to form a loop by pulling one side of said one turn into engagement with one of the flanges on said core, and then winding the remainder of said predetermined number of turns on said bobbin over said one turn to securely retain the loop in assembled relation with the coil.

3,263,310
METHOD OF BONDING FERROUS METAL WITH ALUMINUM
Carl G. A. Rosen, Woodside, Calif., assignor to Darlite Corporation, Peoria, Ill., a corporation of Illinois
Original application Nov. 20, 1961, Ser. No. 153,483, now Patent No. 3,203,321, dated Aug. 31, 1965. Divided and this application Sept. 9, 1964, Ser. No. 411,655
7 Claims. (Cl. 29—156.5)



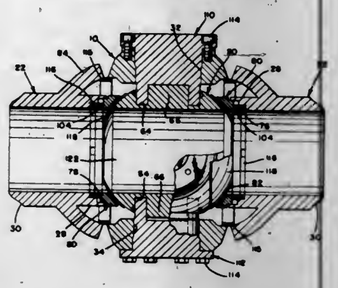
1. The method of making a piston with a marginally reinforced ring groove comprising reducing the diameter of a forged piston body of aluminum over a ring groove portion thereof whose surface oxidizes, removing the aluminum oxide from the surface of the reduced portion with heat and an atmosphere of dilute chlorine gas, spraying said surface with a mono-molecular layer of metal having a melting point above the boiling point of aluminum, coating the inside surface of a ferrous metal band with a layer of aluminum and bringing the temperature of the band to a level activating the aluminum to diffuse the interface portions of the aluminum and the ferrous metal and form a Fe-Al alloy interlayer, placing the band on the reduced portion of the piston at said temperatures, allowing the engaging surfaces to bond and cool, and cutting the ring groove through the band and into the aluminum stock of the piston body.

3,263,311
PROCESS FOR ASSEMBLING PISTONS AND CONNECTING RODS OF AXIAL PISTON MACHINES
Josef Riedhammer, Horb am Neckar, and Josef Kurzeja, Geisweid, Germany, assignors to Stahlwerke Bruninghaus G.m.b.H., Westhofen, Westphalia, Germany
Filed Feb. 23, 1965, Ser. No. 434,473
Claims priority, application Germany, Feb. 21, 1964, St 21,730
10 Claims. (Cl. 29—156.5)



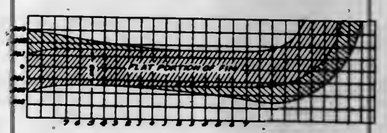
1. A process for coupling one end portion of a connecting rod with a trunk type piston whose skirt is provided with an internal transversely extending apertured wall, comprising the steps of coupling said end portion with a coupling element which includes a projection arranged to extend through and beyond said apertured wall, said coupling element consisting of a hardenable solid solution of a metallic material in quenched and hence cold-deformable state; inserting said coupling element into the piston so that the end portion of said connecting rod is received in the skirt at one side of said wall and the projection of said coupling element extends through and beyond the other side of said wall; deforming the projection against the other side of said wall so that the coupling element is anchored in the wall and simultaneously couples said connecting rod to said piston; and causing the material of said coupling element to harden by precipitation hardening.

3,263,312
METHOD OF FABRICATING BALL VALVES
Homer J. Shafer, Brookwood Way, Mansfield, Ohio
Original application May 2, 1962, Ser. No. 191,131, now Patent No. 3,195,857, dated July 20, 1965. Divided and this application Mar. 8, 1965, Ser. No. 446,452
11 Claims. (Cl. 29—157.1)



11. In the method of frabricating a ball valve having a welded body construction with a ball shut-off rotatable on a fixed axis therein and resilient seals between the ball and body, the steps of
temporarily holding the body parts in assembled relation around the ball without the resilient seals and with flexible shim material of predetermined thickness between the ball and adjacent seating surfaces on the body,
welding said body parts together while maintaining the parts in position around the ball,
allowing the assembly to cool,
removing said shim material through the flow ports of the body and replacing the shim material with resilient ring seals.

3,263,313
TAPER PLATING SERPENTINE FINS
Arthur B. Modine, 119 11th St., Racine, Wis.
Filed Jan. 29, 1962, Ser. No. 169,279
6 Claims. (Cl. 29—157.3)



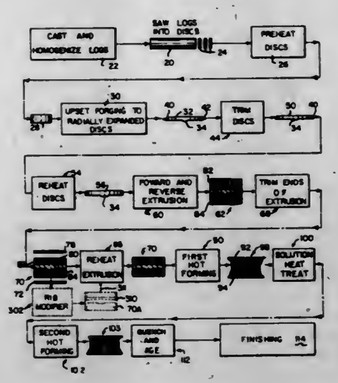
1. The method of forming a serpentine fin structure comprising thickened arcuate crown portions and interconnecting intermediate portions, which interconnecting portions progressively taper to a lesser degree toward their intermediate section from said crown portion, comprising the steps of forming a strip of material, into a serpentine-shaped fin structure having a plurality of substantially uniform corrugations comprising crown portions and interconnecting intermediate portions, and passing said corrugated fin structure through an electro-plating bath to selectively plate the outermost surfaces of said crown portions and intermediate portions to a greater extent than the corresponding innermost surfaces of each crown portion and interconnecting intermediate portions of the fin elements, with the plating thickness varying from each crown portion toward the intermediate section of the interconnecting intermediate portions.

3,263,314
FIXTURE FOR AND METHOD OF ASSEMBLING HEAT EXCHANGER CORE
Paul J. Smeltzer, Pittsburgh, Pa., and David D. Jordan, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed June 5, 1963, Ser. No. 285,663
4 Claims. (Cl. 29—157.3)



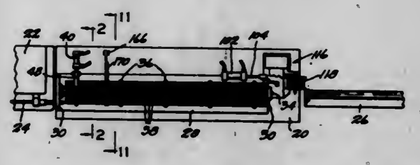
3. A method of making a tube type brazed heat exchanger core having end plates and baffles intermediate thereof through which a plurality of tubes extend and which define a plurality of compartments adapted to be filled with pellet material comprising the steps of:
providing a fixture having a two part housing removably secured together to form a cavity closed at one end by an end plate removably secured to the two part housing and provided with a plurality of loading ports formed in the sidewall thereof,
placing the two part housing upright on the closed end thereof,
inserting a first end plate of said core in position within said two part housing and inserting one end of the plurality of tubes in spaced apart openings formed in said first end plate,
inserting spacing members and baffles spaced apart by said spacing members in order longitudinally within said two part housing to define the plurality of compartments separated by said baffles and communicating with said loading ports,
inserting a second end plate of said core having spaced apart openings therein which receive the opposite end of said plurality of tubes in position within said two part housing,
inserting an end plate in position against said second end plate and locking the same in position to thereby retain said first and second end plates and spacing members and baffles intermediate said first and second end plates in spaced apart relationship,
placing said two part housing on a side thereof with the loading ports therein facing upward,
pouring pellet material through each of said loading ports to fill the chamber communicating therewith,
inserting plugs in said loading ports to retain the pellet material within the chambers,
subjecting the fixture which is coated with a material to prevent adherence of brazing material thereto and the heat exchanger core which is coated with a brazing material to a brazing operation whereby the component sections of the heat exchanger core are brazed together to form a unitized heat exchanger core, and
disassembling the two part housing and end plate secured thereto to permit removal of the unitized heat exchanger core therefrom.

3,263,315
METAL FORMING SYSTEM
Paul R. O'Brien, Anchorage, Ky., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Oct. 24, 1962, Ser. No. 232,691
19 Claims. (Cl. 29—159)



1. A method of producing a wheel from a ductile metal comprising forging a disc thereof, compressing the opposite sides of the disc simultaneously and causing the metal thereof to flow radially outwardly toward its periphery and thence through extrusion dies to form a pair of opposite cylindrical walls integrally connected to a transverse web formed of the unextruded remainder of the disc, said walls being unrestrained at their projecting ends and along both sides thereof adjacent said projecting ends during movement of the metal through the extrusion dies, and expanding the oppositely extending extruded cylindrical walls to form a pair of integral rims suitable for mounting a tire.

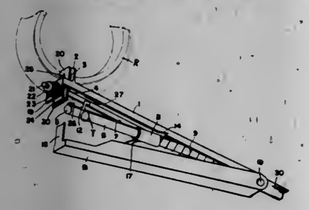
3,263,316
AUTOMATIC TERMINAL APPLICATOR MECHANISM
Robert W. Schrader, Niles, Mich., assignor to AMP Incorporated, Harrisburg, Pa., a corporation of New Jersey
Filed Dec. 28, 1964, Ser. No. 421,502
16 Claims. (Cl. 29—203)



1. A device for applying an electrical terminal member to an electrical conductor, comprising a carrier having a plurality of spaced elongated open ended conductor receiving tubes, means for advancing said carrier step by step to move said tubes laterally in a predetermined endless path to and from a plurality of stations, each tube stopping at each station, terminal clinching means located at one station adjacent one end of a tube stopped at said station, and pneumatic means located at said station adjacent the opposite end of a tube stopped at said station and operative to direct a charge of compressed air into said tube to advance a conductor endwise in said tube to feed said conductor to said terminal clinching means.

3,263,317
TRAVELLER MOUNTING APPARATUS FOR USE FOR TRAVELLERS CUMULATED AND PACKED IN BAR SHAPE

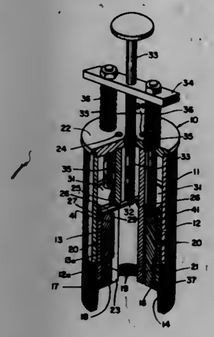
Shigeji Iwamatsu, Osaka, Japan, assignor to Hiroyuki Kanai, Ashiya, Japan
Filed Oct. 7, 1964, Ser. No. 402,174
3 Claims. (Cl. 29—207)



1. Apparatus for consecutively severing the covering about a container manually moved in a substantially straight path, of a plurality of side-by-side mounted travellers as said container is being introduced into said apparatus and for dispensing the unpackaged travellers, said apparatus including a frame having a container-receiving end; dual function means for mounting a plurality of travellers in side-by-side relationship, and for providing a blade support, carried by and within said frame including an elongated member for receiving said travellers, from said opened container; coupling means for coupling said frame to a spinning frame ring; means for ejecting said travellers, one by one from said member; and means for severing the covering about a container of said travellers prior to mounting said travellers upon said member, comprising a blade having a cutting edge disposed in the path of travel of the covering of said container, said blade being mounted upon said member adjacent said end.

3,263,318
APPARATUS FOR APPLYING SEALING ELEMENTS TO CLOSURES

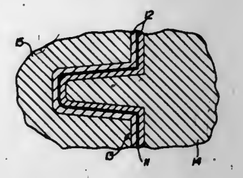
Edward W. Merrill, Belmont, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Filed Oct. 20, 1964, Ser. No. 405,205
2 Claims. (Cl. 29—212)



1. A device for applying strip-seal rings to the necks of jars comprising a hollow cylinder, a barrel cylinder adapted to hold a stack of strip-seal rings having an internally tapered lower end adapted to fit over the mouth portion of a jar, said barrel cylinder being slip-fitted within the cylinder first named, a ratchet cylinder having its upper face shaped to form a fulcrum and having ratchet teeth in its inner wall, toggles having their working ends socketed in said barrel cylinder, a top plate, means to support said ratchet cylinder from said top plate, pawls engaging said ratchet teeth, pawl support means, and plunger means to rock the toggles, whereby, upon each reciprocation of the plunger, the barrel cylinder is drawn upwardly one ratchet tooth, and a ring is released from the end of the device.

3,263,319
METHOD OF COLD DEEP DRAWING METAL FOIL

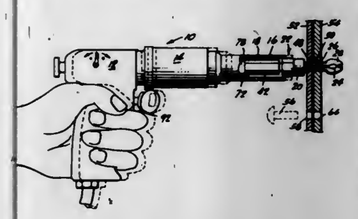
William H. Tifft, Bremerton, Wash., John W. McLaughlin, San Jose, and Randolph H. Wendelin, Belmont, Calif., and Michael J. Sandor, Salt Lake City, Utah, assignors, by direct and mesne assignments, to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Feb. 28, 1964, Ser. No. 348,040
6 Claims. (Cl. 29—423)



1. A method of cold forming a metal foil having a thickness of about .001" and composed of a metallic material selected from the group consisting of Kovar and tantalum comprising the steps of securing a layer of Monel to each side of the metal foil to form a composite metallic sheet having a thickness of at least .005", cold working the composite metallic sheet to form a predetermined hollow form, removing any unwanted portion of said formed composite metallic material, removing the Monel from the shaped composite material by submerging the shaped composite material in clear concentrated nitric acid.

3,263,320
APPARATUS AND METHOD FOR ASSEMBLING AND DISASSEMBLING CLAMPS

Sterling B. Jones, Torrance, Calif., assignor to Monogram Industries, Inc., Culver City, Calif.
Filed Apr. 20, 1964, Ser. No. 361,178
16 Claims. (Cl. 29—423)

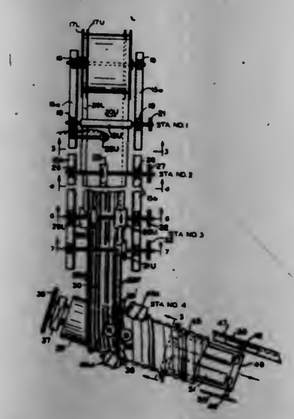


1. A speedrunner for actuating an axial, pin type clamp having a base portion and a relatively rotatable head portion with tool engaging formations on each portion, comprising; a barrel having a fore end and an aft end with a drive motor at said aft end; the inner wall of the fore end of the barrel being formed to non-rotatably engage the base portion of said clamp; a driving element mounted for rotation in an intermediate portion of said barrel and being restrained against axial movement; the fore end of said element being formed to non-rotatably engage the head portion of said clamp; a drive shaft slidably and non-rotatably mounted in the aft portion of said element, and having a fore end adapted to be axially engaged and moved by the head portion of said clamp and an aft end carrying a drive abutment; a drive rotor connected to said drive motor and having a drive abutment engageable with said first mentioned drive abutment upon rearward axial movement of said drive shaft; and means to yieldably urge said drive shaft forwardly to maintain said drive abutments out of driving engagement; said drive shaft, upon actuation by said rotor, causing rotation of said element in said barrel and thereby relative rotation of the head and base portions of said clamp to selectively secure and release said clamp.

14. A method of actuating an axial, pin type clamp having a base portion and a relatively rotatable head portion with tool engaging formations on each portion by means of an apparatus including a restraining socket, a drive socket, and a drive rotor drivingly engageable with and disengageable from said drive socket, comprising: engaging said restraining socket and said drive socket with said base portion and head portion, respectively, of the clamp; holding said restraining socket against rotation; bringing said drive rotor up to full operational speed to develop maximum momentum; and suddenly engaging said drive rotor with said drive socket to transfer its momentum thereto for initiating rotation of said head portion with the maximum power available.

3,263,321
METHOD AND MACHINE FOR MAKING SPIRAL SEAMED PIPE

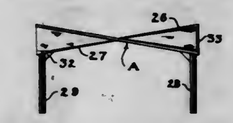
Jack P. Lombardi, Dugald Road, Manlius, N.Y.
Filed Mar. 12, 1964, Ser. No. 351,352
6 Claims. (Cl. 29—429)



1. A method of making laminated pipe comprising the steps: drawing more than one strip of formable sheet material from separate reels and feeding the strips one on top of the other to a forming mill with each strip laterally offset from the strip beneath a distance which is a small multiple of the thickness of the strips; securing the strips together along a line extending lengthwise of the strips to form a layered web; forming a male locking hook along one edge of the web and a female locking hook along the other edge thereof; guiding the hooked web around a mandrel which is disposed at an angle to the direction in which the web extends; winding the web helically on the mandrel and at the same time engaging the male hook at one side of the web in the female hook at the opposite side to form a helical lock seam; and at the same time continuously sliding the helically formed pipe axially along the mandrel.

3,263,322
METHOD OF PRODUCING SHELL ROOF STRUCTURE

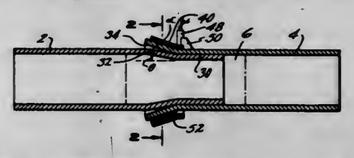
Arthur T. Brown, 726 N. Country Club Road, Tucson, Ariz.
Filed Jan. 7, 1959, Ser. No. 785,486
2 Claims. (Cl. 29—446)



1. The method of producing a shell roof structure which comprises superposing two sheets of structural bendable material having undulations extending the length of each sheet with the undulations of the two sheets running at right angles to each other, rotating opposite edges of the sheets in opposite directions while said sheets are in mutual contact to define a composite structure generally approximating a hyperbolic paraboloid, and fixedly securing said sheets together at a plurality of contacting points of a plurality of the undulations of each sheet to retain said hyperbolic paraboloidal shape.

3,263,323
FABRICATION OF A CONTINUOUS PERIPHERAL JOINT

Walter E. Maher, West Palm Beach, Manly J. Miller, Jupiter, and Frederick C. Polhemus, Jr., Lake Park, Fla., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Continuation of application Ser. No. 248,001, Dec. 28, 1962. This application Oct. 21, 1965, Ser. No. 505,132
9 Claims. (Cl. 29—470)

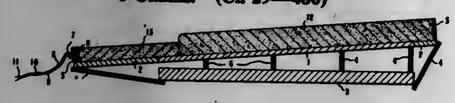


1. Method of making a circumferential joint from metals capable of being explosively joined to each other:
(a) selecting a first metallic member;
(b) selecting a second metallic member of a material and geometry which will explosively bond to said first member, one of said members being provided with a flange which will form an acute angle with the surface of said other member when said members are positioned in cooperating relationship with said second member engaging said first member;
(c) positioning said first member in cooperating relationship with said second member, with said second member completely engaging said first member adjacent the flange and said angular flange being positioned so that said flange of said one member can be explosively driven against said other member to join the two members;
(d) supporting both of said members in said cooperating relationship;
(e) providing a continuous explosive charge on the flange of said one member on the surface away from said other member where it extends over the other member, a metallic tab between said charge and the face of said flange at one location, and detonating means in position to ignite the charge so that the traveling pressure fronts resulting from said igniting will meet over said metallic tab to join the two members, said charge being of such sufficient explosive force so that said one member can be explosively driven against said other member to

join the two members, said metallic tab extending in length for approximately the width of the charge at that location, said metallic tab having a width not exceeding a maximum of approximately 1/12 of the length of said flange, said metallic tab having a thickness of from 1/5 to 5 times the thickness of said flange; and

(f) igniting said detonating means.

3,263,324
PROCESS FOR EXPLOSIVELY BONDING METAL LAYERS
Alexis A. Popoff, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 23, 1963, Ser. No. 253,483
6 Claims. (Cl. 29—486)



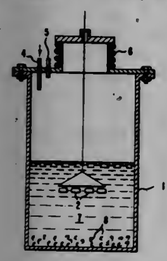
1. A process for explosively bonding metal layers to form a multi-layered body which comprises

(1) supporting a substantially rectangular metal cladding layer at least 1/4 inch thick separated by a distance of at least about 1/32 inch from a substantially rectangular metal base layer,

(2) covering the outside surface of said metal cladding layer with a composite explosive layer comprising at least two sections positioned in juxtaposed relationship, at least one of said sections being a first explosive having a detonation velocity between about 1200 meters per second and 80% of the sonic velocity of the metal having the highest sonic velocity in the system, and one section being a second explosive having a detonation velocity higher than that of the first explosive and between about 80% and 120% of the sonic velocity of the metal having the highest sonic velocity in the system, and

(3) initiating said composite explosive layer so that detonation is propagated parallel to the plane of the metal cladding layer, and so that said second explosive initiates but is not initiated by said first explosive.

3,263,325
METHOD OF COATING AND BONDING REFRACTORY-BASE-METAL ARTICLES
Howard W. Jacobson, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 7, 1963, Ser. No. 278,706
3 Claims. (Cl. 29—492)



1. In a process for coating a refractory-base-metal article, said metal being selected from the group consisting of columbium, columbium-base alloys in which the columbium content is at least 50% by weight, tantalum, and tantalum-base alloys in which the tantalum content is at least 50% by weight, the step comprising heating said refractory metal article for a period of about from 1 to 5 hours, at a temperature of 800° C. to 1000° C., in a molten salt bath comprising (1) a salt selected from the group consisting of alkali and alkaline earth metal halides, (2) at least one metal chloride selected from the group consisting of titanium dichloride and chromium dichloride and (3) at least two metals selected from the group consisting of titanium, chromium, aluminum, vanadium, and zirconium, at least one of these metals being identical with a metal whose chloride is chosen from group (2), whereby an alloy coating of the metals selected from group (3) is formed on the surface of said refractory metal article.

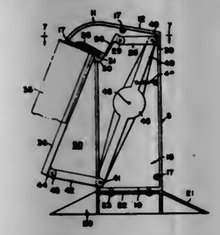
2. In a process for bonding a plurality of refractory-base-metal articles, said metal being selected from the group consisting of columbium, columbium-base alloys in which the columbium content is at least 50% by weight, tantalum and tantalum-base alloys in which the tantalum content is at least 50% by weight, the steps comprising (a) heating said refractory metal article for a period of about from 1 to 5 hours, at a temperature of 800° C. to 1000° C., in a molten salt bath comprising (1) a salt selected from the group consisting of alkali and alkaline earth metal halides, (2) at least one metal chloride selected from the group consisting of titanium dichloride and chromium dichloride and (3) at least two metals selected from the group consisting of titanium, chromium, aluminum, vanadium, and zirconium, at least one of these metals being identical with a metal whose chloride is chosen from group (2), whereby an alloy coating of the metals selected from group (3) is formed on the surface of said refractory metal article, (b) placing a plurality of said coated articles in contact with each other, and (c) subjecting said contacted articles to an elevated temperature at least sufficiently high to effect diffusion bonding thereof.

3,263,326
CAN OPENER HAVING PUNCHING AND VENTING MEANS
John Walter, Jr., Evergreen Park, Ill., assignor to Rock-Ola Manufacturing Corporation, Chicago, Ill., a corporation of Delaware
Filed July 3, 1964, Ser. No. 380,179
5 Claims. (Cl. 30—6.1)



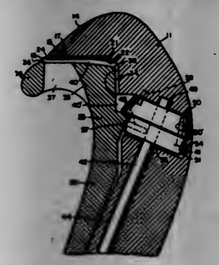
1. Improved container opening means comprising: a receptacle having an open side and means interiorly thereof for positioning a container to be opened therewithin, a container piercing means movable through an upper wall of and into the interior of said receptacle for engaging one wall of a container placed therein and operative for effecting an aperture through said one wall; operationally reversible means selectively operable in either direction of operation thereof for periodically reciprocating said container piercing means into and out of the interior of said receptacle, means operatively associated with said container piercing means for venting and conveying pressurized atmosphere within the container and liquid materials entrained therein through said upper wall of said receptacle and adapted to discharge the same outwardly of said receptacle, means including barrier means cooperative with the exterior of said receptacle for deflecting gaseous and liquid materials vented and discharged from said container to a position remote of said receptacle, and means for receiving and storing liquid

3,263,327
CAN PUNCTURING DEVICE
Jack Miller, 1410 20th St., Miami Beach, Fla., and Carl E. Malone, 2281 SW. 33rd Way, Fort Lauderdale, Fla.
Filed July 30, 1964, Ser. No. 386,220
6 Claims. (Cl. 30—8.5)



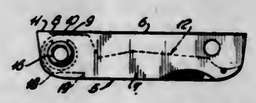
1. A can puncturing device for use in connection with cans having opposite end walls and circumferential beads at each end, a housing of rectangular shape that is open at its forward side, the housing being extended at its upper end to project forwardly of and over the open side, a can lever that is pivotally connected to the housing adjacent to the extension and with the can lever being normally angled away from the open side and swingable into the opening when a can is pressed thereagainst, a puncturing bar that is pivoted upon the first named pivot, means formed upon the bar that engages the bead of the can to hold the can initially from dropping away, means operable when the can is forced against the can lever to rotate the puncturing bar to puncturing engagement with an adjacent end of the can and means to return the puncturing bar and the can lever to an inoperative position after the can has been punctured and pressure removed from the can lever.

3,263,328
ADJUSTABLE DISPOSABLE RAZOR
Burnie J. Craig, 1042 La Presa Drive, Pasadena, Calif.
Filed Apr. 22, 1965, Ser. No. 450,122
2 Claims. (Cl. 30—63)



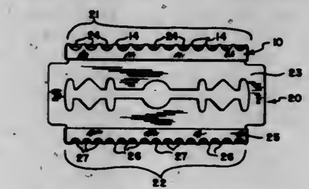
1. A razor including a handle having a shaving head thereon, said shaving head including an upper portion and a lower portion, a blade secured to one of said portions and spaced from the other portion, said blade including an exposed sharpened edge, said lower portion including a guard member for the sharpened edge of the blade, said guard member having a depending portion integrally secured at its lower end to the handle, said guard member being made of a material so that the guard member may move backwardly and forwardly relative to the sharpened edge of the blade, said guard member being biased to move in one direction, said handle having a cam rod receiving recess therein, a cam rod rotatable in said recess, an operating member fixed on the cam rod and rotatable to turn the cam rod, a cam member, said cam being secured on said cam rod to turn therewith, said cam member including a portion having an operating cam face periphery, said guard member including a portion having a cam surface aligned with and in engagement with the periphery of the cam face, the construction being such that when the rod is rotated in one direction the cam face will shift said cam surface to thereby move the guard member in a direction against its bias and when the rod is turned in an opposite direction the bias of the guard member will cause the guard member to move in a reverse direction.

3,263,329
POCKET KNIFE WITH PIVOTED BLADE
William G. Hennessy, 49½ Elm St., Ansonia, Conn.
Filed Apr. 20, 1964, Ser. No. 360,852
4 Claims. (Cl. 30—155)



1. In a tool of the character indicated, a handle comprising a single-piece sheet-metal channel having a base and upstanding side walls, said side walls having opposed aligned openings defining a pivot axis spaced from said base near one longitudinal end thereof, an elongated blade member being of stiffly compliant material and including a substantially flat body with a hub having a pivot opening near one end thereof, said hub comprising a radially inner portion of limited radial extent circumferentially defining the pivot opening and a radially outer portion of limited radial extent circumferentially continuously encompassing said inner portion, said inner and outer portions being axially offset with respect to each other and having an integral compliant interconnection of limited arcuate extent, and pivot-pin means extending through all said openings and retaining said side walls in compressionally loaded relation with said inner and outer portions against the axially compliant reaction of said interconnection.

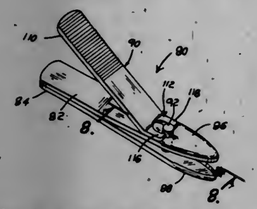
3,263,330
SAFETY RAZOR BLADE
Alfred W. Ferrara, 63 Admiral Lane, Hicksville, N.Y.
Filed Sept. 21, 1964, Ser. No. 397,994
6 Claims. (Cl. 30—346)



5. A guard adapted to be fixed to a razor blade, comprising a sheet of flexible material having formed therein a row of holes the centers of which are aligned, said

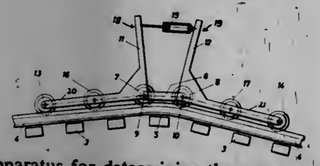
holes being separated from each other by spacing portions of said sheet, said sheet being folded along a straight fold line that intersects the centers of said holes.

3,263,331
ANIMAL TEETH CUTTERS
Joseph B. Davis, deceased, late of Lohrville, Iowa, by Margaret H. Davis, administratrix, Lohrville, Iowa, assignor of one-third to Margaret H. Davis, one-third to Joyce G. Davis, and one-third to Axel Davis
Filed Apr. 13, 1964, Ser. No. 359,822
2 Claims. (Cl. 32—47)



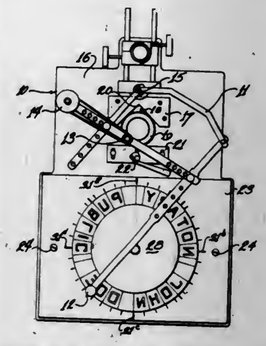
1. A device for cutting the wolf teeth on both sides of the jaw of an animal, comprising,
a pair of jaw sections hingedly connected together at one end, said sections having finger shaped free end portions,
means for normally biasing said finger portions apart,
a pin means interconnecting said jaw sections and having a free end exposed outwardly of one jaw section,
an actuating member pivotally connected at one end to said exposed end of said pin means,
a fulcrum for engagement between said actuating member and said one jaw section,
a finger engaging portion outwardly of said fulcrum for operating said actuating member to close said jaws,
said finger shaped portions each having blade sections on either side, each of said blade sections having an outer arcuate convex surface being beveled inwardly toward the transversely opposite blade section.

3,263,332
APPARATUS FOR DETERMINING HIGH TRACK POINTS
Franz Plasser, Johannesgasse 3; Egon Schubert, Sturzgasse 17; and Josef Theurer, Johannesgasse 3, all of Vienna, Austria
Filed Nov. 26, 1963, Ser. No. 326,275
5 Claims. (Cl. 33—1)



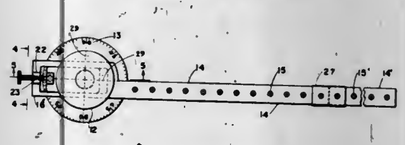
1. Apparatus for determining the curvature of a track in a plane extending in the direction of the track but perpendicular thereto, comprising a carriage with wheels running on the track, the carriage consisting of two parts constituted as bell crank levers, each of the bell crank levers having one arm whereon said wheels are mounted and another arm extending upwardly therefrom, the arms of each bell crank lever meeting at a fulcrum, the one arms of the bell crank levers extending in the direction of the track and the other arms of the bell crank levers being adjacent each other, a coupling pivotally linking the fulcrums of the bell crank lever carriage parts, and the carriage parts being freely pivoted about their respective fulcrums in a pivoting angle responsive to the track curvature, and a means mounted on, and interconnecting the other arms of the bell crank lever carriage parts at points remote from their respective fulcrums for indicating the size of the pivoting angle of the carriage parts.

3,263,333
CIRCULAR TEMPLATE FOR ENGRAVING MACHINES AND THE LIKE
Neil H. Bell, 201 18th Ave. NW., Birmingham, Ala.
Filed Apr. 6, 1964, Ser. No. 357,352
1 Claim. (Cl. 33—23)



For use in intaglio engraving of metal plates and the like,
(a) a plurality of type pieces each embodying a flat piece of material generally frusto-triangular in shape, the end nearest the apex of the triangle being concave and the end nearest the base of the triangle being convex,
(b) intaglio indicia cut into one face of each of said type pieces with the top of the indicia adjacent said concave end of the type piece,
(c) other intaglio indicia cut into the other face of each of said type pieces with the top of said other indicia adjacent said convex end of the type piece, and
(d) said plurality of type pieces being arranged in a circular configuration patterned into "upper" and "lower" quadrants, the type pieces in the "upper" quadrant having uppermost the faces thereof on which the tops of the indicia are at the convex end of said pieces, and those pieces in the "lower" quadrant having uppermost the faces thereof on which the tops of the indicia are at the concave end of the pieces.

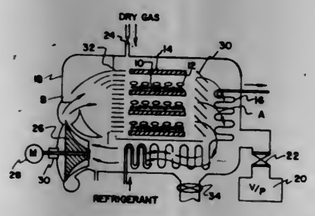
3,263,334
BEAM COMPASS
Erwin A. Mutter, 313 N. Stiler St., Linden, N.J.
Filed May 27, 1965, Ser. No. 459,171
1 Claim. (Cl. 33—27)



A beam compass, comprising, in combination:
a transparent base carrying visible protractor graduations,
a transparent pivot post extending centrally and upwardly from said base,
a slide plate disposed over said base and around said pivot, in pivoting relation thereto,

a compass arm having straight edges and having a hollowed mounting end disposed around said slide plate in a manner such that said mounting end may be slid in the direction of the axis of the arm, with the edges of said plate serving as the guides,
a threaded screw mounting disposed at the end of said hollowed mounting,
a pivot screw mounting on said slide plate opposite said threaded screw mounting,
a vernier screw passing through both screw mountings in a manner such as to enable movement thereby of said compass arm with respect to said slide plate,
a cover disposed on said pivot post and extending over said slide plate and designed to prevent slipping out of said post, said cover being transparent at least in the portion over said post, and
crossed center lines imprinted on at least the top surface of said cover and designed to facilitate finding, through the transparent cover, post and base portions, of the center of the arc or circle to be drawn by the compass.

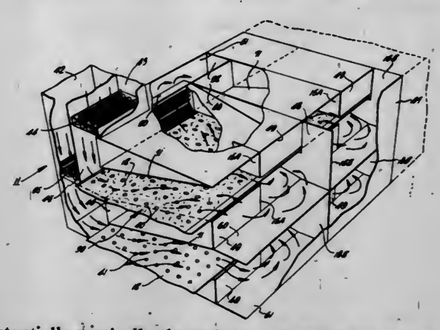
3,263,335
PROCESS AND APPARATUS FOR FREEZE DRYING UTILIZING DRY GAS
Billy Kan, Newton, Mass., assignor, by mesne assignments, to United Fruit Company, Boston, Mass., a corporation of New Jersey
Filed Oct. 31, 1963, Ser. No. 320,343
14 Claims. (Cl. 34—5)



3. An improved freeze drying method for a heater-condenser-drying shelf system, comprising the steps of evacuating the system, isolating the system, and partially backfilling with a dry, noncondensible, inert gas, maintaining the system isolated from evacuating means for a continuous period at least throughout half the drying cycle time so that the dry gas remains in the system, maintaining a flow of water vapor from the foodproduct to the condenser and diffusing dry gas into the cellular dry outer layers of food product so that a certain partial pressure of dry gas is continuously maintained in the layers throughout said period of isolation, the said partial pressure of dry gas being at least equal to the partial pressure of water vapor in said shelf area and less than 12 torr, as measured in the shelf area most remote from the condenser inlet.

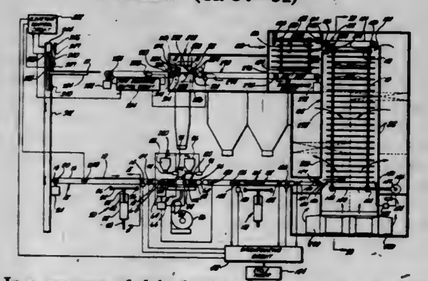
3,263,336
METHOD AND APPARATUS FOR DRYING FOAM
Charles Norman Sjogren, San Gabriel, Calif., assignor to Chemet Enterprises, Pasadena, Calif., a limited partnership
Filed Nov. 23, 1962, Ser. No. 239,527
12 Claims. (Cl. 34—23)

2. An improved method for drying foam deposited upon an endless perforated belt and having craters formed therein corresponding to belt perforations, comprising moving the belt and foam along a longitudinally planar path through a drying region, directing a drying medium from a source vertically displaced from one longitudinal edge in a direction substantially normal to the direction of movement of the belt, and constricting the drying medium as it travels across the belt and foam and passes



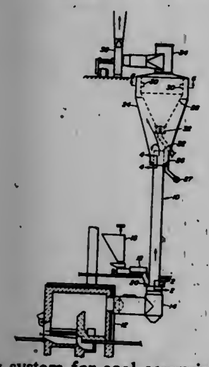
substantially vertically through the belt and foam and increasing the constriction until substantially all the drying medium passes through the belt.

3,263,337
METHOD AND APPARATUS FOR DEHYDRATING FOAM
Charles Norman Sjogren, San Gabriel, Calif., assignor, by mesne assignments, to Chemet Enterprises, Pasadena, Calif., a limited partnership
Filed Jan. 8, 1962, Ser. No. 164,897
5 Claims. (Cl. 34—31)



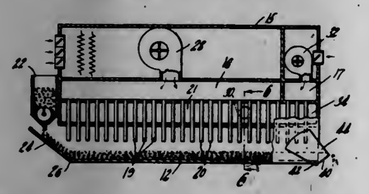
1. In a process of dehydrating a foam which involves spreading the foam on the top surface of a plurality of perforated trays of uniform dimension, forcing gas upwardly through the perforations to perforate the foam, and drying the foam on the trays, the improvement which comprises
(a) introducing the trays sequentially into a vertically oriented drying chamber,
(b) moving the trays vertically through the drying chamber in vertically spaced relation one from the other, maintaining said chamber completely filled with the vertically spaced trays to provide apertured baffles,
(c) removing a tray from one end of the drying chamber as each fresh tray is introduced at the opposite end of the chamber,
(d) introducing a drying gas into the chamber at a plurality of vertically spaced locations while exhausting drying gas from the chamber at least at one location intermediate and spaced from the locations of introduction, and
(e) causing substantially all of the drying gas to flow through the perforations in the foam covered trays disposed in the chamber and while the trays are moving through the chamber, whereby the trays function to establish separate drying zones within the chamber between locations of drying gas introduction.

3,263,338
FLASH DRYING SYSTEM FOR FINE COAL
Charles W. Gordon, Ellyn, Ill., assignor to Combustion Engineering Inc., Windsor, Conn., a corporation of Delaware
Filed Sept. 26, 1963, Ser. No. 311,851
3 Claims. (Cl. 34—57)



1. A drying system for coal comprising a substantially vertical duct, having a lower inlet end and an upper outlet end, a source of hot gases connected to the inlet end, means for maintaining a high velocity flow of the hot gases through said duct, means for introducing crushed wet coal into said duct evenly about the entire periphery thereof at a location above the inlet end, and means for separating the dried coal particles leaving the outlet end from the gases, said means for introducing wet crushed coal into the duct around the entire periphery thereof comprises a table feeder which completely surrounds the duct, the table feeder being made up of wall means forming a series of pockets, and a helical discharge opening in the duct adjacent such pockets, said helical opening extending through a 360° arc, the upper portions of the pockets being at the same height as the highest portion of the helical opening, and the lowest portion of the pockets being at the same height as the lower portion of the helical opening, and means for continuously rotating the table feeder.

3,263,339
APPARATUS FOR TREATING SOLID PARTICLES IN A FLUIDIZED STATE
Ernest C. Brown, Danvers, and Robert S. Temple, Concord, Mass., assignors to Wolverine Corporation, a corporation of Massachusetts
Filed Oct. 23, 1963, Ser. No. 318,261
3 Claims. (Cl. 34—57)



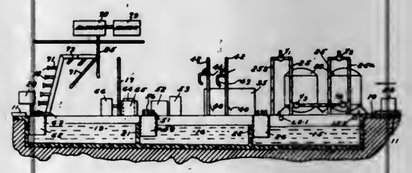
1. Apparatus for thermally treating particles as they advance continuously, comprising a substantially horizontal elongated trough, means for feeding particles continuously and at a constant rate into one end of said trough, a series of nozzles arranged to project gaseous streams perpendicularly downwardly into said trough to fluidize said particles in said trough, means for exhausting said gases upwardly away from said trough between said nozzles, a plenum for hot air communicating with one group of said nozzles located in a treating zone in advance of an exit zone, a separate plenum for cooler air communicating with the nozzles in said exit zone, and baffle means extending upwardly from the plane of said trough adjacent the exit end of said exit zone and reducing the cross-sectional area of the path of advance of said particles as they emerge from said exit zone.

3,263,340
MULTIPLE RUN DRIER IMPROVEMENTS
Horace L. Smith, Jr., Richmond, Va., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Nov. 13, 1963, Ser. No. 323,519
4 Claims. (Cl. 34—60)



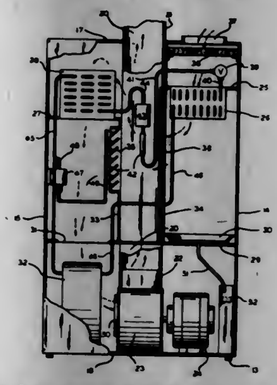
1. In multiple run drying apparatus for continuous, moving webs of paper and like products, comprising:
(a) support rolls arranged in superimposed, spaced apart, substantially horizontal rows to form a multiplicity of web drying runs;
(b) a product supporting felt trained over the support rolls in at least the initial one of said runs; and
(c) radiant heating means for each of said runs; the improvements wherein
(d) the radiant heating means comprises radiators both above and below the path of the web through each of said runs for simultaneously heating both sides of said web;
(e) said felts being made substantially entirely of an open mesh synthetic material.

3,263,341
CAR WASH SYSTEM
Russell B. Allen, 18253 Evergreen, Detroit, Mich.
Filed Feb. 28, 1964, Ser. No. 348,048
6 Claims. (Cl. 34—60)



2. In a car wash system wherein a car is moved in a predetermined path,
a drying apparatus comprising
a blower,
an air distributor to which said blower directs air,
and a plurality of drying heads having low friction contact surfaces for engaging the surfaces of the car,
each said head having an air outlet for directing air under pressure rearwardly of the direction of movement of the car whereby when said head is brought into position adjacent to the car by movement of the car toward said head,
the movement of the air rearwardly of the direction of movement of the car causes a differential pressure which pushes the head against the surface of the car,
and means for flexibly connecting each said head to said air distributor.

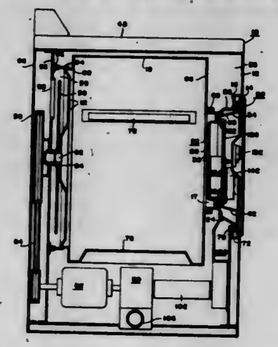
3,263,342
HAIR DRYERS
Anthony A. Giuffre, 4344 N. 70th St., Milwaukee, Wis.
Filed Mar. 15, 1963, Ser. No. 265,483
6 Claims. (Cl. 34—76)



1. A hair dryer system including an outlet hood, a duct connected to said hood and means for delivering air through said duct and to said hood for discharge through said hood, means defining air dehumidifying and heating passages connected to one another, air inlet means in said dehumidifying passage and means establishing communication between said heating passage and said duct, a refrigerant evaporator in said dehumidifying passage for cooling and dehumidifying air passing therethrough, a condenser and a compressor in said heating passage for heating air flowing therethrough, said compressor, condenser and evaporator being connected together for cycling refrigerant therethrough, bypass means for directing the flow of air direct from the evaporation to the compressor to thereby avoid a heat exchange relation with said condenser, means for maintaining the pressure of said evaporator at a preselected amount whereby the pressure and temperature of said condenser builds up rapidly to a predetermined amount, and means responsive to a buildup in the condenser pressure to a predetermined level for thereafter closing said bypass means to enable heat abstraction from said condenser.

3,263,343
LINT DISPOSER FOR CLOTHES DRYER
John H. Loos, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 12, 1963, Ser. No. 322,844
10 Claims. (Cl. 34—82)

1. A fabric dryer comprising a casing defining a drying chamber and having an air inlet opening and an air outlet opening therein, door means vertically hingedly mounted with respect to said casing for closing said air outlet opening, lint eliminating means supported on said door means for burning lint carried from the fabric through said air outlet opening and for causing the products of said burning to be colorless and odorless, and blower means operable for circulating air flow sequentially through said drying chamber and the lint eliminating means when said door means is closed, said lint-eliminating means including housing means having a perforated inlet panel portion parallel to said door means extending sealingly into air intercepting relationship with said air outlet opening, and having an exhaust port connected in air flow supply relationship to said blower means, a flat, circular screen member positioned extending across said housing means downstream from said perforated panel portion and parallel therewith and having at least a section thereof in intercepting air flow relationship to the flow of air from said air outlet opening to said exhaust port to form a lint catcring barrier, said screen member being rotatably mounted and positioned so that rotation of said screen member causes said at least a section thereof alternately to be placed in intercepting air flow relationship and then to be removed from said intercepting air flow relationship, motor means on said door means for rotating said screen member, means forming an insulated lint burning chamber within said housing means blocking a portion of said perforated inlet panel in a manner to shield air flow from that section of said screen mmeber which is removed and enclosing heating means positioned adjacent that section of said screen member which is removed for burning lint caught on said section of said screen member, and means forming a smoke and odor eliminating chamber on the opposite side of said section

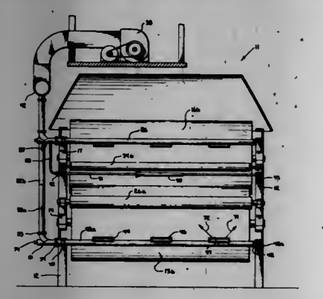


of said screen member from said heating means and sandwiching said screen member section therebetween, said means forming the lint burning chamber being spaced slightly from said means forming the smoke and odor eliminating chamber to permit passage of said screen member and a limited flow of air therebetween, said smoke and odor eliminating chamber enclosing catalyst means in communication with the smoke and odor resulting from said burning lint and including restricted outlet ports in communication with said blower means through said exhaust port in said housing means for conveying said limited flow of air from said portion of said screen member to said catalyst means thereby to draw the smoke and odor from said burning lint to said catalyst means when said blower means is operating and said door means is closed.

3,263,344
DRYING SYSTEM FOR PAPER-MAKING MACHINERY AND THE LIKE
Cole A. Stickle, Indianapolis, Ind., assignor to Stickle Steam Specialties Co., Inc., Indianapolis, Ind., a corporation of Indiana
Filed July 31, 1963, Ser. No. 298,827
7 Claims. (Cl. 34—116)

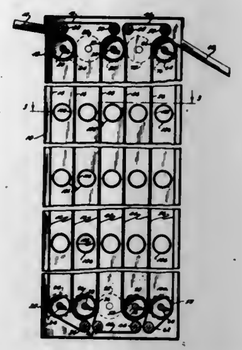
5. A drying machine comprising: a first set of rolls having parallel horizontal axes lying in a horizontal plane, said rolls being cylindrical and being in horizontally spaced relation in the row; a second row of cylindrical rolls having parallel axes lying in a horizontal plane above the horizontal plane of the first set of rolls, said second set being in a row disposed above said first row with the axes of the rolls of said second row lying in vertical planes disposed between the axes of the rolls of the first row; a third set of rolls having parallel axes lying in a third horizontal plane between the first and second mentioned horizontal planes with the rolls of said third set being substantially smaller than the rolls of said first set and disposed between portions of said rolls of said first set; a fourth set of rolls disposed in a row and having parallel

axes lying in a fourth horizontal plane disposed between said second mentioned and said third mentioned horizontal planes with the rolls of said fourth set being disposed between portions of the rolls of said second set and above rolls of said first set; a first endless felt belt operating on the rolls of said first and third sets; and a second endless felt belt operating on the rolls of said second and fourth sets; a warm air supply source; a plurality of horizontally disposed distribution ducts extending transversely of the machine and communicating with said source, said ducts being divided into a first group disposed below the rolls in said third set and a second group disposed above the rolls in said fourth set, with said ducts of the first group having discharge nozzles discharging air on portions of said first felt belt spanning spaces between rolls of said first and third sets and said ducts of the second group having discharge nozzles discharging air on portions of said second felt belt spanning spaces between rolls of said second and fourth sets, to dry said spanning portions of said belts, said ducts being adjustable by rotation on axes parallel to the axes of said rolls, one of said ducts of said first group having first, second and third discharge nozzles spaced along the length thereof and each of said first, second and third nozzles having a set of adjustable louvers therein, all louvers of a set being adjustable equally and simultaneously and being in parallel relationship to each other, and the set in each nozzle being adjustable independently of



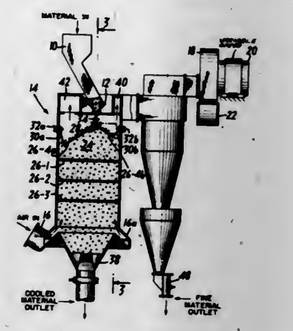
the sets in the other nozzles, all nozzles in said one duct being oriented to discharge air unilaterally from the duct and primarily in one plane containing the axis of rotation of the duct, said second nozzle being between said first and third nozzles, and said louvers in said second nozzle being adjustable to discharge air in said plane onto a space spanning portion of said first belt intercepted by said plane selectively from the left of center of the belt to the right of center of the belt, and said louvers in said first nozzle being adjustable to discharge air in said plane onto said spanning portion selectively from the left of center of the belt to farther left on the belt, and said louvers in said third nozzle being adjustable to discharge air in said plane onto said spanning portion selectively from right of center of the belt to farther right on the belt, said one duct being adjustable by rotation on its axis to tilt said one plane of discharge to selected angles with respect to vertical; and auxiliary duct means including tubes communicating with said source and extending transversely of said machine and having longitudinal slots therein, said auxiliary duct tubes being disposed below the rolls of said fourth set and above the rolls of said first set, said auxiliary duct means having sliding sleeves on the tube thereof, said sliding sleeves having transverse apertures therein registering with slots in the tube portions thereof to discharge air therefrom, whereby sliding of said sleeves is effective to move the air discharge thereof transversely of said machine to provide dry air at desired locations in said machine.

3,263,345
PHOTOGRAPHIC MATERIAL DRYING APPARATUS
Marvin B. Fleisher, Wantagh, and Philip E. Hixon, Jericho, N.Y., assignors to The Rolor Corporation, Syosset, N.Y., a corporation of New York
Filed Apr. 24, 1963, Ser. No. 275,361
4 Claims. (Cl. 34—159)



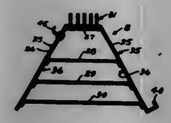
4. In a photographic material drying apparatus, the combination with a housing defining a heating zone, an assembly operatively positioned in said housing, said assembly including a plurality of endless belts of spongy material trained about supporting rollers with adjacent runs of the belts cooperating to form a plurality of vertical downward and upward passes for conveying photographic material through said housing, and material transfer mechanisms positioned adjacent the ends of said vertical passes, the material transfer mechanism at the lowermost portion of the housing including an idler roller operatively associated with a belt supporting roller, and the axes of said idler roller and belt supporting roller being in vertical alignment.

3,263,346
HEAT EXCHANGING METHOD AND APPARATUS
Jean-Paul Vandenhoeck, New York, N.Y., assignor to Buell Engineering Company, Inc., New York, N.Y., a corporation of New York
Filed July 24, 1963, Ser. No. 297,358
13 Claims. (Cl. 34—10)



11. In a method of exchanging heat between a particulate material and a gas, the steps comprising introducing the material above a perforated plate whose perforations are sufficiently large to permit the material to pass therethrough, and passing a gas upwardly through the plate, the gas flow being sufficient to product turbulent action of the material above the plate yet permitting the downward passage of material through the plate, thereby to exchange heat between the material and the gas.

3,263,347
EDUCATIONAL AND RECREATIONAL LESSON-AIDS AND GAMES WITH EASEL
Lulu A. McCutcheon, P.O. Box 323, Oakland, Calif.
Filed Feb. 20, 1964, Ser. No. 346,235
2 Claims. (Cl. 35—60)



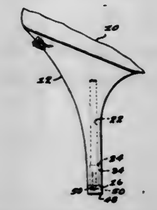
1. Educational and recreational game apparatus including support means comprising an easel having a pair of spaced apart upwardly converging side portions, each of said side portions having an outer face, the outer face of one of said side portions facing away from the outer face of the other of said side portions, one of said outer faces including a sideway for removably supporting game materials and the other of said outer faces including a plurality of hook-like members for detachable interconnection therewith of game materials, a plurality of game material receiving shelves attached to and extending horizontally between said side portions of said easel, and a plurality of vertically extending members attached adjacent the uppermost portion of said easel and extending between said side portions in juxtaposition whereby to form a plurality of parallel elongated slots for receiving game material adjacent the uppermost ends of each of said side portions.

3,263,348
SKI BOOT SOLE PROTECTOR
Linda Cohen, 278 State St., San Francisco, Calif., and Joan Elizabeth Milligan, 1510 S. 59th St., Richmond, Calif.
Filed Jan. 14, 1964, Ser. No. 337,654
1 Claim. (Cl. 36—2.5)



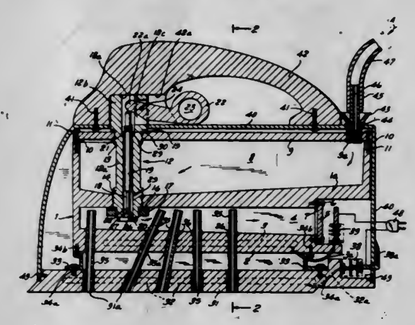
The combination with a ski boot having a sole and an upper secured upon the sole and inset from the peripheral edge of the sole, the top of the sole outwardly of the upper and the outer side of the upper defining a groove extending around the boot; of a flexible pan-shaped protector having a bottom wall engaged with the bottom of the sole and a sidewall extending upwardly around the peripheral edge of the sole, said sidewall being taller than the thickness of the sole, said sidewall having an originally free upper edge, the upper part of the sidewall being turned laterally inwardly and downwardly and outwardly to define a tube extending around the sidewall, said free edge being secured to the inner surface of the sidewall, and an elastic draw-string enclosed in the tube and contracting said tube in said groove and onto the top of the sole.

3,263,349
HEEL PIN STRUCTURE
Charles D. Toney, Jr., Atlanta, Ga., assignor to The Auto-Soler Company, a corporation of Georgia
Filed Feb. 13, 1962, Ser. No. 173,059
8 Claims. (Cl. 36—34)



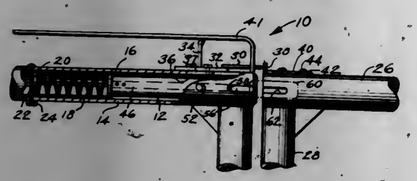
1. A heel pin structure for reinforcing a heel block by insertion of said pin into a bore in the heel block, said pin structure comprising a relatively thin metal sheath incasing a wood core, with the wood core exposed endwise of said sheath, and of sufficient length for anchoring insertion of top lift fasteners therein, and with the length of said pin structure exceeding the insertion depth in said bore in the heel block to be reinforced.

3,263,350
ELECTRIC STEAM IRON
Carlos Salomon Abraham, 64 Belisario Dominguez, Desp. 120, Mexico City, Mexico
Filed Dec. 15, 1959, Ser. No. 859,737
Claims priority, application Mexico, Dec. 18, 1958, 53,101
1 Claim. (Cl. 38—77)



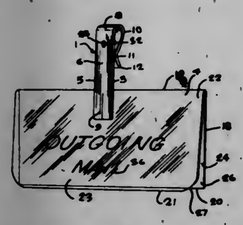
A steam iron comprising: a sole plate having a pressing surface, a steam generating vessel, means mounting said steam generating vessel in poor heat transfer relationship with said sole plate, steam passage means leading from said steam generating vessel to said pressing surface, a water reservoir disposed above said steam generating vessel and having a port therein communicating with said steam generating vessel, a valve disposed in said port, said valve being continuously variable from a fully closed position to a fully opened position to vary the amount of water admitted to said steam generating vessel, first electric heating means embedded in said sole plate, second electric heating means embedded in said steam generator, a first thermostatic switch having its heat sensing element in good heat conducting relationship with said sole plate and having its contacts arranged to control energization of said first electric heating means, a second thermostatic switch having its heat sensing element in good heat conducting relationship with said steam generating vessel and having its contacts arranged to control the energization of said second heating means.

3,263,351
GATE LATCH AND OIL HINGE
Dayton Olson, 3340 Sanders St., Butte, Mont. 59701
Filed July 8, 1964, Ser. No. 381,070
10 Claims. (Cl. 49—394)



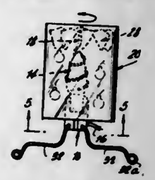
1. A gate latch comprising, in combination, a hollow gate top rail, an elongated plunger sleeve carried within said top rail providing engagement means within the top rail of a gate post, a coil spring carried within said hollow gate top rail providing a means for urging said plunger sleeve outward of said top rail, an elongated leaf spring carried within said top rail of gate providing a means for urging a trigger plate of rectangular configuration external of the outer periphery of said gate top rail to engage with a cam plate secured to said gate post top rail, a latch pin carried by said gate top rail providing alignment means for said gate top rail with said gate post top rail, a vertical brass handle carried by said gate top rail providing a means for disengaging the latching mechanism in order to open said gate, an L-shaped latch bar providing a means for receiving said latching pin, a pair of hollow oil hinges carried by said gate providing constant lubrication for said gate.

3,263,352
DEVICE FOR OUTGOING MAIL
Bernard J. Fitzpatrick, 3211 Garner, Kansas City, Mo. 64124
Filed Jan. 20, 1964, Ser. No. 338,962
4 Claims. (Cl. 40—10)



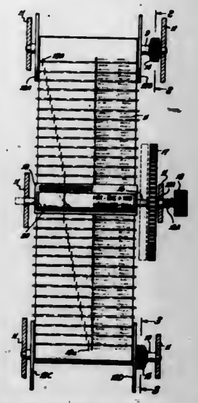
1. A device for mounting on a wall, said device being adapted to receive outgoing letters, vendor notes and the like including: a supporting body and a cover member, said body being comprised of spring-like material having a front and rear face and first and second end portions, means associated with said first end portion for mounting said body on said wall, said second end portion being positioned with respect to said first end portion for exerting resilient pressure rearwardly against said wall when said body is mounted thereon, said cover member comprising a folder having joined front and rear overlapping pages, said folder pages having a height and width sufficient to receive and cover said letters, notes and the like therebetween, said second end portion being secured at said rear face to said front page for resiliently urging said pages together when said rear page is in contact with said wall, no portion of said supporting body extending between said pages whereby said letters, notes and the like may be easily slipped between said pages and frictionally retained between said pages and conveniently removed therefrom.

3,263,353
LAMP CONSTRUCTION
John P. Quinn, Hasbrouck Heights, N.J. (131 Woodland Ave., East Orange, N.J. 07604)
Filed Jan. 17, 1964, Ser. No. 338,370
1 Claim. (Cl. 40—40)



A lamp comprising a hollow tubular base member of resilient material having a slit defined along a side to permit expansion of said member for receiving a socket of a lamp of slightly larger size, an electrical socket adapted to have a lamp positioned therein positioned in said base, said socket having an electrical cord connected which extends through the slit in said base, a continuous single bendable wire pivot member for rotatably supporting a lamp shade, including a coiled portion adapted to be wrapped around the lamp, and a straight portion extending upwardly from the coiled portion and terminating in a point for supporting the lamp shade thereon, a lamp shade of tubular configuration, a top portion member carrying said lamp shade rotatably supported on the point of said pivot member and having fins at the periphery thereof for rotating said lamp shade in a given direction from the convection currents produced by the heat of said lamp, and a bendable combination supporting and securing element secured to the lower end of said base forming spaced leg elements for supporting said base upright and sufficiently flexible alternatively for securing said base to an object by bending the leg elements around the object, said lamp shade including a tubular member and an insert within said tubular member, said insert comprising a flat sheet of resilient material biased by its own resiliency against the interior wall thereof.

3,263,354
ROLLER DICTIONARY AND LIKE
Anatol N. Andrews, 6033 Dauphin Ave., Los Angeles, Calif.
Filed July 10, 1961, Ser. No. 122,734
7 Claims. (Cl. 40—95)



1. For roller dictionary and like, conventionally including a base and, supported thereby, double reel, a web for rolling engagement with the reels, web variable exhibitor, axially displaceable gear drive for alternate

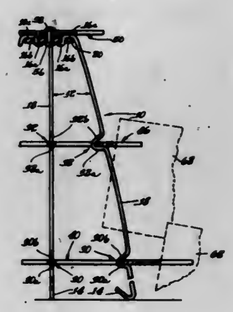
rotation of the reels and including three separate gear axles turnably held in base parallel to each other at predetermined distance from each other, and thereof middle axle held movable also sidewise, and the other two axles being the respective axles of said double reel; an improvement for displacing the gear drive automatically in response to reversal of turning direction of said middle axle, and comprising two gear wheels respectively secured over two axles and held thereon in predetermined lateral displacement in relation to each other, a third gear wheel teethed for meshing with either of said two other gear wheels and stationary secured over and with said middle axle at predetermined point thereon, an elongated section of said middle axle extends sidewise beyond its gear wheel towards and through a threaded hole in a stationary support secured with said base, said elongated section of said middle axle includes lengthwise three successive sub-sections thereof, the middle sub-section thereof is threaded for engaging with threads in said hole,



and the respectively adjacent thereto two sub-sections being each of slightly smaller diameter than said middle sub-section, and identifiable as the thinner sub-sections, and of respective lengths adapted to fit but loosely with, in and when respectively in respective positions within said threaded hole; and whereby continous turning of said middle axle in one predetermined direction keeps one of said thinner sub-sections continuously in position within said hole, and the reversal of direction of said turning causes engagement of the threads of said middle sub-section with threads in said hole and thus the screwing of said middle sub-section into, through and beyond said hole, and, in said process, automatic moving of said middle axle and its secured thereto gear wheel sidewise from engagement with one reel gear wheel to engagement with, disaligned with latter, other reel gear wheel, and brings the other thinner sub-section of said middle axle into position within said hole until the turning direction of said middle axle is again being reversed when the process repeats itself backwards.

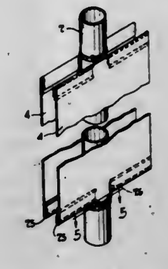
3,263,355
CARD HOLDING DEVICE
Anthony J. March, Bellwood, Ill., assignor to Animated Advertising Techniques, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 24, 1965, Ser. No. 504,688
5 Claims. (Cl. 40—124)

1. A device for holding greeting cards to provide a tree-like display, comprising: a plurality of elongated relatively slender support members the lower ends of which are disposed in spaced apart relation and adapted to rest on a supporting surface for the device and the upper ends of which are inclined inwardly to impart a substantially upwardly tapered configuration to the support members, anchoring means for engaging the upper ends of the support members to maintain them in spaced apart relation and at an angle of inclination with respect to a supporting surface for the device, a plurality of card holding members supported on said support members, said card holding members having different dimensions and being disposed in substantially horizontal planes in spaced vertical relation to each other, each of the card holding members positioned between the ends of said support members having a substantially centrally disposed opening therethrough for receiving said support members and



a plurality of spaced, elongated vertical slots in the edge portions of said card holding members for receiving and retaining greeting cards in a substantially vertical position.

3,263,356
BANNER MOUNTING APPARATUS
Harold J. Gilmoure and Ronald M. Strachan, Cleveland, Ohio, assignors to Sales Promotion Products, Inc., Cleveland, Ohio, a corporation of Ohio
Continuation of application Ser. No. 152,589, Nov. 15, 1961. This application Nov. 16, 1964, Ser. No. 412,596
9 Claims. (Cl. 40—125)



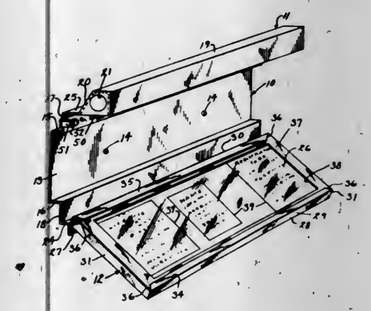
5. Mounting apparatus for mounting display banner means having upper and lower edges on a pole and the like, said apparatus comprising brace means to be carried on said banner means adjacent said edges, respectively, and means detachably engaging each said brace means intermediate its ends for detachably securing said brace means, respectively, to said pole and the like, said brace means being resilient horizontally and longitudinally in all directions relative to said engagement with said securing means, said securing means tensioning said brace means longitudinally when said brace means are engaged thereby and said securing means are spaced a predetermined distance apart, said brace means comprising a central handle portion and transversely extending arm portions, said handle portion comprising a horizontal base portion and leg portions extending angularly from both ends of said base portion, said arm portions extending from the respective leg portions of said handle portion and forming a greater angle therewith when under tension.

3,263,357
SIGN MOLDING
Richard L. Carleton, Raytown, Mo., assignor to Butler Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Continuation of abandoned application Ser. No. 118,678, June 21, 1961. This application Jan. 22, 1965, Ser. No. 432,048
1 Claim. (Cl. 40—125)



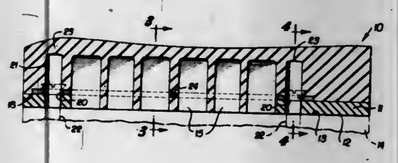
In a sign construction including a panel portion having substantially parallel side edges and substantially parallel top and bottom edges, all of said panel portion edges free, said panel portion having front and rear faces, a molding structure including a pair of vertical side edge members and a pair of horizontal top and bottom edge members making up two sets of said members, the side edge members each comprising an elongate configured strip adapted to overlie in direct contact with and enclose one side edge of the sign panel and engage the panel portion resiliently on its front and rear faces, the top and bottom edge members each comprising an elongate configured strip adapted to overlie in direct contact with and enclose one of the top and bottom edges of the sign panel and engage the panel portion resiliently on its front and rear faces, the corners of the edge members mitered at their junctures, each edge member including a rear strip portion adapted to lie against the rear face of the sign panel, an edge portion adapted to lie against the sign panel edge, an outwardly angled facing portion adapted to overlie but not contact the panel face and an inwardly extending panel abutting portion, and means for connecting each of said molding side and top and bottom edge members to end abutting members of the other of the two sets of edge members, said edge portion is of greater width than the width of the edge it contacts, the means for end connections between end abutting molding sections are present in the inwardly extending panel abutting portion and panel edge contacting portions thereof the former a L-strip fastened with respective legs of the L to the inwardly extending panel abutting portions and the latter a tab on one of the panel edge contacting portions fastened to an opposed panel edge contacting portion.

3,263,358
COMBINATION LICENSE PLATE FRAME AND HOLDER
Erwin F. Dosie and Bernard J. Golatka, Milwaukee, Wis., assignors of one-fourth each to Clarence E. Hessenthaler and Edwin C. Griffa, both of Milwaukee, Wis.
Filed Mar. 9, 1964, Ser. No. 350,390
5 Claims. (Cl. 40—209)



1. A combination license plate frame and holder comprising, a frame member of a size and configuration to be secured to an automotive vehicle, a substantially rectangularly shaped holder, means pivotally securing the holder to said frame, said holder being open front and rear, a pair of spaced transparent panels held in said holder, a license plate and identification material positioned between said panels, said license plate exhibited through one of said panels, and the identification material viewable through the other of said panels, and means for removably holding said material in said holder, said holder being so constructed and arranged to be pivoted to a vertical position for exhibiting the license plate, and pivotally moved to a substantially horizontal position to exhibit said identification material.

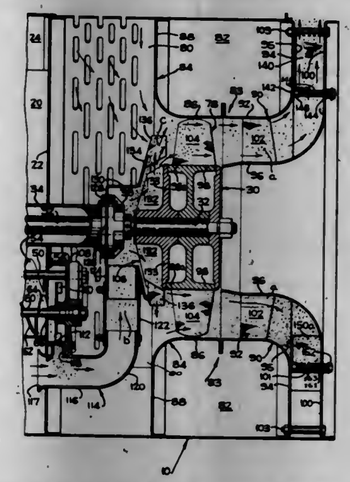
3,263,359
REINFORCED FIREARM RECOIL PAD
Frank A. Pachmayr, 1220 S. Grand Ave., Los Angeles, Calif. 90015
Filed Aug. 2, 1965, Ser. No. 476,589
7 Claims. (Cl. 42—74)



1. A firearm recoil pad comprising an elongated rubber body having an inner face applicable to and having peripheral shape conformance with the end surface of a gun stock, and an elongated metallic reinforcing plate embedded in the body in spaced parallel relation with its inner face and attachable to the gun stock, said plate having a central elongated open area and an integral rib transversely bridging said area.

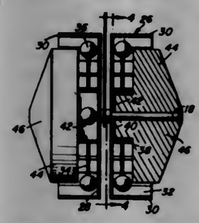
3,263,360
POWDERED MATERIAL DISTRIBUTOR
Joseph M. Patterson, Winter Park, Fla., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Jan. 30, 1964, Ser. No. 341,241
11 Claims. (Cl. 43—148)

11. A powdered material distributor comprising an axially extending cylindrical shroud and an axial flow impeller within said shroud for providing a high velocity, axially flowing annular stream of air, fan means for introducing a substantially angularly continuous sheet of radially outwardly flowing, powdered material laden air into a radially inner zone of said axially flowing annular stream of air and upstream of said axial flow impeller, and deflector means downstream of said axial flow impeller



for directing said axially flowing annular stream of air in a generally radial direction.

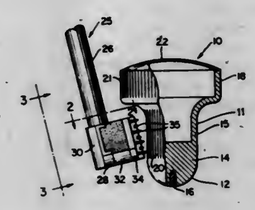
3,263,361
NOISEMAKING TOY
James C. Bowden, 308 Mark Bldg., Atlanta, Ga. 30303
Filed Jan. 13, 1964, Ser. No. 337,414
6 Claims. (Cl. 46—61)



1. A noisemaking toy comprising: an axle, an elongated string operatively associated with said axle, at least one disk mounted for rotation on said axle, said disk having an inner peripheral surface provided with circumferentially spaced rack-teeth, spring fingers spaced circumferentially around said axle and having inward ends carried by said axle by way of a hub member mounted thereon, the outer ends of said fingers being free and terminating in ball-like heads, said heads having intermittent raking noisemaking engagement with said rack-teeth.

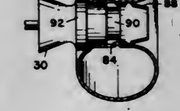
3,263,362
ROTATABLE TOP AND SPINNER
Palmerino C. La Falce, Buffalo, N.Y.
Filed Aug. 30, 1963, Ser. No. 305,786
11 Claims. (Cl. 46—67)

1. A game set comprising a rotary toy that has a generally cylindrical body that has an upper end and a lower end, and that is formed at its lower end with a broad, generally semi-spherical curved surface for supporting said toy in a generally upright position during rotation thereof, the diameter of the curved surface being sufficiently large to permit stable support of the toy thereon at relatively low rates of rotation, said toy being solid at its lower end and hollow at its upper end to locate the center of gravity thereof low in the body of the toy and close to the center of curvature of said curved surface, and a stick for striking the toy to rotate it, said stick comprising an elongate rod and a head that is mounted near one end of the rod to extend transversely thereof, said head



comprising an elongate backing member and a resilient pad that is mounted on said backing member remote from said rod, whereby the stick can be grasped at the end of the rod remote from said head for swinging the stick at said toy.

3,263,363
WHEEL ASSEMBLY
Walter P. Doe, East Aurora, N.Y., assignor to Fisher-Price Toys Inc., East Aurora, N.Y., a corporation of New York
Original application Mar. 6, 1961, Ser. No. 93,401. Divided and this application Feb. 17, 1964, Ser. No. 345,210
9 Claims. (Cl. 46—221)



1. A wheel assembly for toy vehicles and the like, comprising a resilient tire having an internal bore extending therethrough with a radially inwardly extending ridge located substantially midway between opposite sides of said tire, a wheel having a diameter slightly larger than the diameter of said bore and having a recess that receives said ridge of said tire when said tire is positioned on said wheel, said wheel having an enlarged rim portion with an edge that engages one side of said tire, the axial distance from said edge of said rim to the edge of said recess distal to said edge of said rim being sufficiently less than the axial distance, prior to said tire being positioned on said wheel, between said ridge on said tire and said side of said tire that when said tire is positioned on said wheel frictional engagement between said wheel and said tire normally prevents relative rotation therebetween.

3,263,364
ELECTRICALLY OPERATED TOY AUTO AND GUIDE RAIL
Oscar Francis Lindstrom, Great Falls, Mont., assignor of one-half to David J. McKay, Great Falls, Mont.
Filed Oct. 3, 1963, Ser. No. 313,690
3 Claims. (Cl. 46—244)

1. In combination with a vertically disposed flexible guide rail formed to define a pair of longitudinally extended parallel electrical conductor elements having in-

sulator means therebetween and one each exposing a brush-engaging surface on opposite sides thereof:

(a) a toy vehicle having rear wheels;

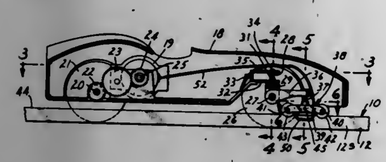
(b) an electrically operated motor carried by said vehicle and operatively connected to impart rotation to said rear wheels;

(c) means supporting and guiding the front portion of said vehicle along the guide rail and including:

(1) a longitudinally extended carriage;

(2) grooved guide wheels one each journalled for rotation on an opposite end of said carriage and engageable with the guide rail in tandem relationship;

(3) means pivotally mounting said carriage intermediate said wheels to said vehicle for compound pivotal movements on a horizontal axis extending normal to the guide rail and on an extended vertical axis which bisects said horizontal axis;



(4) a pair of laterally spaced brush elements;

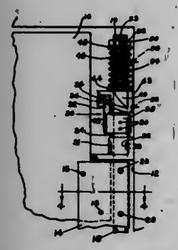
(5) means pivotally mounting said brush elements to said carriage in underlying relationship to said axes for swinging movements one each toward and away from one of the conductor elements of the guide rail;

(6) means yieldingly biasing each of said brush elements toward engagement with the adjacent exposed brushing surface of its respective conductor element;

(7) conductor means connecting each of said brush elements to said electric motor; and

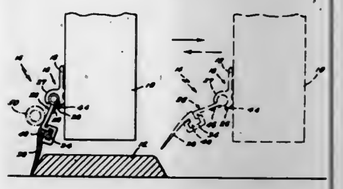
(8) means connecting said conductor elements to a source of electrical power.

3,263,365
DOOR
Oliver C. Eckel, Carlisle, Mass. (P.O. Box 226, Cambridge, Mass.)
Filed Feb. 12, 1964, Ser. No. 344,455
6 Claims. (Cl. 49—237)



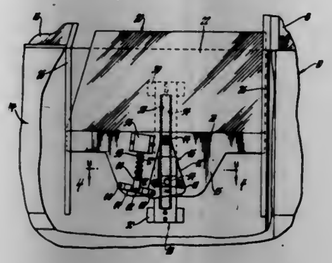
1. A door comprising a body, a mounting attachment fastened to said body, an elongate post fastened to said mounting attachment, supporting means adapted to be fixedly attached exteriorly of said door and through which said post rotatably extends, a cam follower attached to said post and movable therewith, a crown cam movably mounted on said post having a cam surface on which said follower is adapted to travel upon rotation of said post to thereby move said cam longitudinally of the latter, a compression spring mounted on said post and one end of which is adjacent said cam, and means to retain said spring on said post and in contact with one end of said spring, said spring being adapted to be compressed upon longitudinal movement in one direction of said cam against it.

3,263,366
DOOR SEALING DEVICE
James H. Woloohojian, 233 Warrington St., and Harry J. Woloohojian, Jr., 211 Adelade Ave., both of Providence, R.I.
Filed May 4, 1964, Ser. No. 364,397
1 Claim. (Cl. 49—314)



In a sealing device for a door, an elongated body portion that is adapted to be secured to said door at the lower end thereof, said body portion including a forwardly extending portion that terminates in a depending lip and a tail portion spaced from said forwardly extending portion and depending lip and defining an interior groove therewith, said interior groove extending longitudinally for the length of said body portion, an elongated strip including an upper beaded edge that is received in said longitudinally extending groove and having a configuration that conforms to that of said groove, the depending lip cooperating with said tail portion to effectively envelop said beaded edge and providing for pivotal movement of said strip with respect to said body portion, an enlarged section formed on the lowermost end of said strip, said enlarged section being located rearwardly with respect to the upper plane of said strip and having a longitudinal track formed therein that extends substantially the length thereof, an elongated resilient sealing member having an upper flange formed thereon that extends rearwardly of the plane of the front of the sealing member, the upper part of said strip and the upper front part of sealing member being substantially in the same plane, and the rear portion of the sealing member having a configuration that conforms to that of said track and is in a plane substantially parallel to the upper forward portion of said sealing member, said flange being received in said track to lock said sealing member to said strip, the uppermost end of said sealing member abutting the lowermost end of the strip and the outer surfaces of said strip and sealing member being substantially coextensive, the lowermost end of said sealing member extending downwardly for engagement with a surface above which the door is mounted when the door is closed, the upper beaded edge of said strip that is received in said groove being imperforate substantially throughout the length thereof with the exception of a cutout portion that is formed intermediate the ends thereof and that defines a slot in said beaded edge, and a spring positioned in said slot and including ends, one of which engages said body portion and the other of which engages said strip, wherein said strip and sealing member engaged therewith are normally retained in a nonsealing position by said spring when said door is located in the open position thereof, said spring having a diameter substantially that of said beaded edge and being retained in said slot by the interaction of the ends thereof with said body portion and strip and by the depending lip and tail portion of said body portion that effectively envelops said spring to lock it in said slot.

3,263,367
CLOSURE REGULATOR MEANS
Akira Tanaka, Southfield, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 8, 1964, Ser. No. 366,041
7 Claims. (Cl. 49—349)



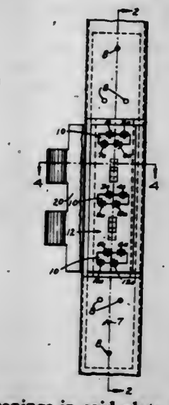
1. In a vehicle body including a body member and a closure member movable relative to said body member to a plurality of positions between first and second terminal positions, the combination comprising, power-operated means, means mounting said power-operated means on one of said members for movement relative thereto between first and second positions, first means mounted on the other of said members engageable by said power-operated means in said first position thereof to move said closure member in one direction between said terminal positions thereof, second means mounted on said other member and engageable by said power-operated means in said second position thereof to move said closure member in an opposite direction between said terminal positions thereof, and means operable to selectively move said power-operated means between said first and second positions thereof at any position of said closure member between said terminal positions thereof.

ERRATUM

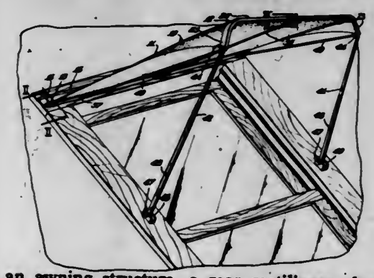
For Class 49—375 see:
Patent No. 3,264,032

3,263,368
DOOR ASSEMBLY WITH UNIVERSAL HINGE REINFORCEMENT
Jack E. Hildum, Mason, and Arthur S. Brown, Girard, Ohio, assignors to The American Welding & Manufacturing Company
Filed May 20, 1964, Ser. No. 368,860
6 Claims. (Cl. 49—382)

1. A universal hinge reinforcement for use with right and lefthand single swing doors and with template and non-template hinge leaves comprising a plate to be attached to a door, and a holder secured in assembled position with the plate for limited longitudinal adjustment relative thereto, said plate having a plurality of longitudinally spaced, transversely extending openings and said holder having a plurality of groups of longitudinally spaced holes, respectively confronting said openings, each group having holes selectively alignable with the longitudinally spaced openings in said plate and with holes in template and non-template hinge leaves.



3,263,369
AWNING STRUCTURE
Burton L. Siegal and Nicholas S. Kategianis, Chicago, Ill., assignors to Kenron Awning & Window Corporation, Chicago, Ill., a corporation of Illinois
Filed Apr. 22, 1964, Ser. No. 361,787
6 Claims. (Cl. 49—397)

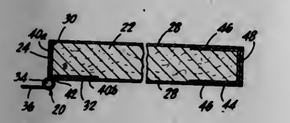


1. In an awning structure, a rear rectilinear channel member adapted to be secured to the wall of a building, a front channel member arched at its opposite ends, said channel members having facing channels opening to opposite ends thereof, a flexible awning panel slidably mounted in said channel members, supports for said awning panel connected between opposite ends of said arched channel and a wall of a building, end tensioning members connected between said arched channel at the points of connection of said connectors thereto and connected to said rear channel inwardly of the ends thereof and stressing said awning panel upwardly and maintained under tension by the stored up energy of said awning panel, and a tensioning strut extending beneath and connected to opposite end portions of said front channel and bowing said front channel upwardly.

3,263,370
FLUSH-TYPE DOORS AND PANELS FOR PARTITIONS
Evidjo E. Martinez, 3920 Broadway, New York, N.Y.
Filed Nov. 6, 1963, Ser. No. 321,844
4 Claims. (Cl. 49—501)

1. A panel comprising a main body member comprising a mass of compacted interconnected fibres of paper, said mass being the product of the process wherein paper

is first thoroughly wetted with water, then is formed into very small pieces, then is stirred until formed into a thick flowable paste-like consistency, then is compressed to remove a portion of the water, and then is baked at about 300° F. to 400° F. for about 4 to 6 hours, said body member having opposite flat spaced sides and being substantially non-flexible, porous and slightly resiliently compressible, a frame extending around and covering the peripheral edge of said body member in surface-to-surface contact therewith, said frame comprising a flat strip of metal, a plastic sheet member covering one of said flat sides in surface-to-surface contact therewith, another plastic sheet member covering the other one of said flat sides in surface-to-surface contact therewith, each of said sheet members having peripheral edge portions covering the adjacent side edges of said frame, and adhesive material securing the contacting surfaces of said frame, said sheet members and said body member to each other.

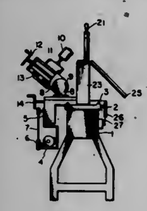


3,263,371

RUBBER SHEET SPLICING MACHINE

Robert W. Weidhaas and John B. Furioni, Easthampton, Mass., assignors to United Elastic Corporation, Easthampton, Mass., a corporation of Massachusetts

Filed Apr. 3, 1963, Ser. No. 270,281
4 Claims. (Cl. 51—34)



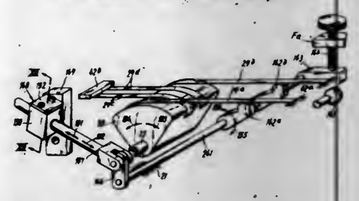
1. A splicing machine comprising in combination,
(a) a bed with an accurate horizontal extent said bed carrying rails,
(b) a moveable carriage riding on the rails,
(c) means for laterally moving the carriage along the rails at a slow speed,
(d) a mounting carried by the carriage in which is mounted a motor and a sanding drum,
(e) means for adjusting the angle of said motor with respect to the horizontal and the distance from the carriage,
(f) a flat plate extending parallel to and above the bed adjacent to the sanding drum and provided with mountings to the bed at the ends thereof,
(g) a firm but resilient scuff pad on said plate having and edge toward the sanding drum beveled, the controls of the sanding drum being capable of positioning the drum parallel to the bevel and at predetermined distance therefrom,
(h) a hold-down arm pivoted on the bed and extending parallel to the plate,
(i) resilient gripping pads on the plate and on the hold down arm parallel to each other whereby on lowering the hold down arm sheet material can be firmly clamped between the pads.

3,263,372

MACHINE FOR GRINDING GEARS

Manfred Erhardt, Munich, Germany, assignor to Carl Hurth Maschinen- und Zahnradfabrik, Munich, Germany

Filed Mar. 5, 1963, Ser. No. 262,908
Claims priority, application Germany, Mar. 9, 1962, H 45,108
16 Claims. (Cl. 51—123)



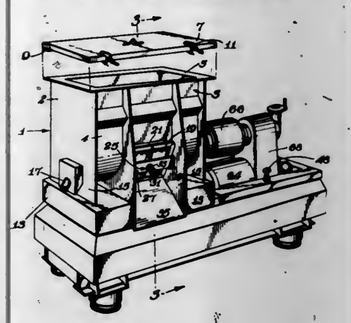
1. A machine for generation grinding of teeth on work gears, comprising a rotary grinding wheel having an annular active surface; deformable rolling motion producing means arranged to reciprocate the work gear in a predetermined path and to simultaneously rock the gear teeth about the axis of the gear so as to impart to a given tooth flank of the gear back-and-forth rolling movements with respect to and along the active surface of the grinding wheel whereby the gear is subjected to the action of disengaging forces which result from deformation of said rolling motion producing means and tend to bring about stray movements of the flank in a direction to separate the flank from the active surface during one of such rolling movements; and compensating means arranged to oppose such disengaging forces by automatically compensating for deformation of said rolling motion producing means and to retain said active surface in uninterrupted engagement with the flank.

3,263,373

VIBRATORY FINISHING APPARATUS

Louis V. Abrams and J. Anthony Engel, Hagerstown, Md., assignors to The Pangborn Corporation, Hagerstown, Md., a corporation of Delaware

Filed Jan. 27, 1964, Ser. No. 340,225
14 Claims. (Cl. 51—163)



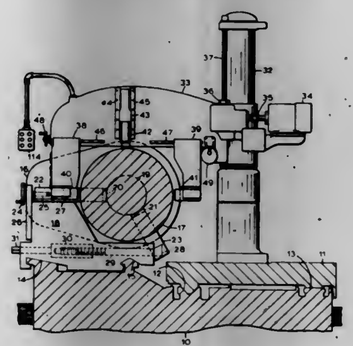
1. A vibratory apparatus for treating work pieces comprising a base support, a tub supported in upright position by said base, said tub having vertically disposed end walls and side walls which curve inwardly at the bottom to provide a curved bottom wall portion for the tub, a liquid drain spout extending through and from one of the vertically disposed end walls, a work piece discharge door which fits in an opening therefor in the curved bottom wall portion of the tub to engage with said wall portion, said door when in closed position mating with the inner surface of the tub to provide a flush uninterrupted inner tub surface, a top cover for the tub, resilient means connecting the tub with said base support, and means connected with the base support for vibrating the tub.

3,263,374

ROLL GRINDER COMPARATOR GAUGE

Albert D. C. Stuckey and Paul J. Gruber, both of Cincinnati, Ohio, assignors to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

Filed Apr. 16, 1964, Ser. No. 360,232
7 Claims. (Cl. 51—165)



1. A roll grinding machine comprising:
(a) a base having a set of wheelhead carriage ways therein,
(b) a wheelhead carriage slidably received on said ways for movement therealong,
(c) journal rests for supporting a roll in a grinding operation and including means for adjusting the roll position for alignment thereof parallel to said ways,
(d) a gauge arm attached to said wheelhead carriage and swingable to a predetermined position over the roll supported in said journal rests,
(e) a set of gauge heads carried by said gauge arm and movable along paths radiating from a common center,
(f) means for simultaneously moving said gauge heads along the radial paths toward and away from said common center, and
(g) deflectable means associated with each of said gauge heads for indicating contact with the roll supported by said journal rests when said gauge arm is swung to the position thereover and said gauge heads are moved toward said common center.

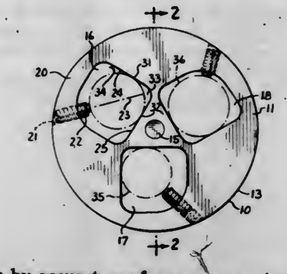
3,263,375

SPECIMEN HOLDER FOR POLISHING MACHINE

Donald G. Zimmerman, Park Ridge, Ill., assignor to Precision Scientific Company, Chicago, Ill., a corporation of Illinois

Filed Aug. 9, 1963, Ser. No. 301,082
1 Claim. (Cl. 51—217)

A specimen holder for a metallurgical specimen polishing machine or the like for holding cylindrical specimen mounts which comprises a one piece body of disc shape having a flat face and having a plurality of windows formed therein symmetrically distributed about the axis and extending to within a short distance of the periphery to define individual peripheral wall portions, a set screw penetrating each of the peripheral wall portions and oriented along a clamping axis, each of said openings having intersectingly arranged clamping surfaces at a relatively wide angle parallel to the holder axis and symmetrically arranged with respect to the clamping axis, the disc having appreciable thickness so that, when a cylindrical mount is inserted into one of the windows and the set screw turned tight, line contact is established at two widely spaced points on the periphery of the mount symmetrically arranged with respect to the point of contact of the set screw, said intersectingly arranged surfaces being substantially straight and connected at each of their opposite ends by accurate surfaces on opposite sides of the mount so as to define a pair of generally crescent-shaped openings on the opposite sides of the mount which are relatively wide and blunt ended to facilitate flushing of the holder and assembled mounts free of one size of grit prior to use of grit of progressively finer grade.

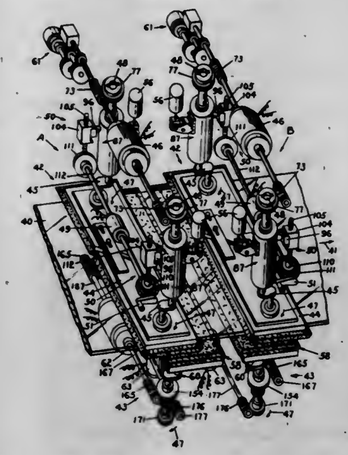


3,263,376

METHOD FOR SURFACING GLASS

Emmett L. Walters, Richard E. Warren, Otto V. Young, and Martin Miklosek, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Original application Dec. 16, 1959, Ser. No. 859,919, now Patent No. 3,107,457, dated Oct. 22, 1963. Divided and this application Sept. 23, 1963, Ser. No. 320,944
2 Claims. (Cl. 51—283)



1. In a method of simultaneously surfacing both sides of a glass sheet moving along a predetermined path, wherein said sheet is passed into and through the space defined by a plurality of pairs of opposed, generally rectangular surfacing members, with each member being in surfacing engagement with a side of the glass sheet adjacent thereto and driven through means effective to impart a curvilinear translation to each member such that the longitudinal edges thereof remain substantially normal to the path of movement of the glass sheet during the surfacing operation, the improvement comprising driving all of the surfacing members in the same direction and synchronizing the motion of opposed surfacing members of each pair such that they are 180° out of phase with respect to one

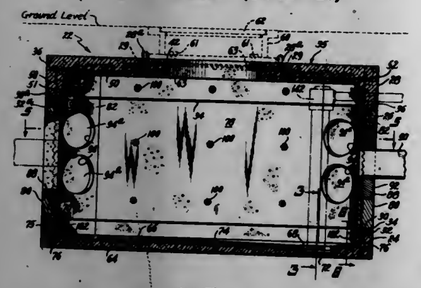
another and also such that the upper surfacing member of one pair is in phase with the lower surfacing member of the pair or pairs immediately adjacent thereto.

3,263,377
REINFORCED FLEXIBLE ABRASIVE WHEEL
Vernon K. Charvat, Bay Village, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 13, 1963, Ser. No. 330,347
13 Claims. (Cl. 51—394)



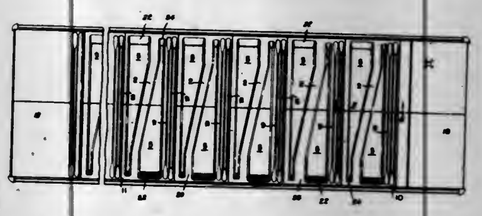
10. A finishing and polishing wheel having a resin and abrasive body normally laterally flexible under lateral pressures encountered in use and radially distensible under centrifugal force at operating speeds encountered in use, a flexible reinforcing skeleton embedded within said body and concentric therewith, said skeleton extending radially outwardly from the central region thereof, with the radially outer periphery of said skeleton being spaced inwardly from the outer periphery of said wheel, said skeleton being readily laterally flexible so as not substantially to impair such normal lateral flexibility of said body in use but being substantially radially rigid effectively to resist the otherwise normal radial distension of said body due to centrifugal force developed during use thereof.

3,263,378
PRECAST SUBTERRANEAN UTILITY VAULT STRUCTURES
John P. Dorris, Newport Beach, Calif., assignor to Underground Vault Company, Santa Ana, Calif., a partnership
Filed July 21, 1960, Ser. No. 44,324
25 Claims. (Cl. 52—20)



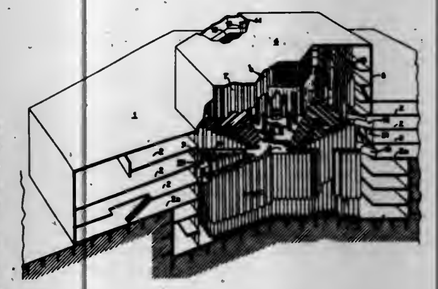
1. A sectional, precast splicing vault, comprising: a unitary base: a unitary intermediate section mounted upon said base; and a unitary cap mounted upon said intermediate section having a top wall containing a preformed manhole opening therein to afford access to the interior of said vault, said base, intermediate section and cap, respectively, being elongated and having opposed end wall portions, and opposed side walls, the side and end walls of said cap extending downwardly a substantial distance below the plane of said top wall in the form of a circumferentially continuous flange, said base having a bottom wall and the side and end walls of said base extending upwardly a substantial distance above the plane of said bottom wall in the form of a circumferentially continuous flange, at least one of the wall portions of said intermediate section having means for the reception of a conduit and/or a cable.

3,263,379
PANELED ROOF SHEET WITH INTEGRAL CARLINE
Edward S. Cisco, Highland, Ind., assignor to Stanray Corporation, Chicago, Ill., a corporation of Delaware
Filed Apr. 12, 1963, Ser. No. 272,569
2 Claims. (Cl. 52—53)



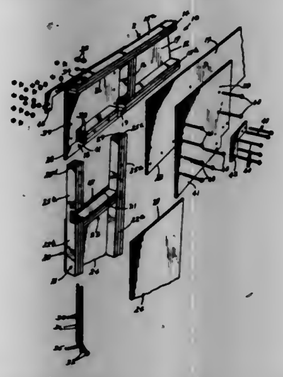
1. A railway car roof sheet formed from a flat rectangular sheet of rigid material, one longitudinal marginal edge being offset upwardly the thickness of the material for overlapping an adjacent sheet, a pair of spaced stiffening panels pressed upwardly in the main body portion of said sheet, one of the ends of each panel being adjacent opposite ends of said sheet, each panel extending toward the other end of the sheet, passing each other, and merging into the sheet adjacent the other end thereof, the areas of said panels on either side of the transverse center of the sheet being unequal, an integral carline pressed upwardly from said sheet inwardly from the other longitudinal marginal edge thereof, said carline being substantially greater in depth than said panels, said other longitudinal marginal edge providing means for underlapping the offset margin of an adjacent sheet, a shallow corrugation pressed upwardly from said sheet between the carline and adjacent panel and being of less depth than said panels, said carline and said shallow corrugation extending substantially from end to end of said sheet.

3,263,380
ARCHITECTURE OF THEATRES
Marcel-Alain Bourbonnais, 45 Rue Jacob, Paris, France
Filed Dec. 24, 1963, Ser. No. 333,062
Claims priority, application France, Jan. 9, 1963, 920,851
14 Claims. (Cl. 52—64)



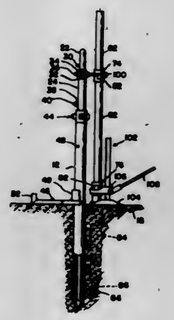
1. A theatre having multiple possibilities of transformation, comprising a substructure including a first group of assembled contiguous identical prisms having an equilateral triangular base, said prisms being vertically adjustable independently of each other and said group having a regular hexagonal shape in plan.

3,263,381
BUILDING FRAME STRUCTURE
Harold W. Dickinson, % Rafters Inc., Olivia, Minn.
Filed Oct. 28, 1963, Ser. No. 319,111
5 Claims. (Cl. 52—90)



1. A prefabricated building support comprising:
(a) a longitudinally extending roof-supporting member,
(b) a leg member detachably securable to one end of said roof-supporting member,
(c) each of said members being formed of multi-ply construction and including skeletonized frame elements and laterally spaced plate-like cover elements,
(d) the frame element of said roof-supporting member including vertically spaced side-forming upper and lower stringers and longitudinally spaced interconnecting struts,
(e) the skeletonized frame of said leg member comprising laterally spaced inner and outer generally upstanding side-forming stringers, and vertically spaced interconnecting struts,
(f) the outer stringer of said leg member projecting upwardly from the upper limits of said leg member cover elements to define an exposed leg element,
(g) the extreme outer end of the lower stringer of said roof-supporting member terminating in inwardly spaced relation to the outer limits of said roof-supporting cover elements and defining a downwardly and laterally outwardly opening passage for reception of said exposed leg element,
(h) the upper end of the inner stringer of said leg member abutting the undersurface of one of the stringers of said roof-supporting member and defining therewith a fulcrum,
(i) the upper end of said exposed leg element engaging the undersurface of the upper stringer of said roof-supporting member,
(j) the uppermost strut of said leg member closely underlying the adjacent portion of the lower stringer of said roof-supporting member, and
(k) means for clamping said leg member to said roof-supporting member, said means including
(1) a drawbolt passing upwardly through said uppermost strut and the upper and lower stringers of the roof-supporting member in closely spaced relation to the outer stringer of said leg member, whereby to restrict rocking movements of said roof-supporting member about said fulcrum.

3,263,382
VERTICAL CANTILEVER FLAGPOLE
Mills C. Tourtellotte, 1114 Inwood Drive, Richmond, Tex.
Filed Apr. 15, 1963, Ser. No. 272,889
9 Claims. (Cl. 52—111)

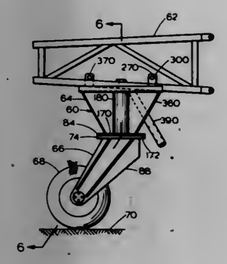


1. The combination of: a plurality of elongated tubular telescopically arranged vertically mounted elements of gradually decreasing diameter and of gradually increasing length from the bottom element to the top element; the lower end of said bottom element being fixedly mounted to form one portion of a vertical cantilever sectional beam; a vertically extending fixedly mounted tubular support laterally spaced from the lower end of said bottom element; a vertically arranged rigid and integral elongated erection member adjustably carried on the lower end thereof by said tubular support for limited vertical movement and extending vertically upwardly therefrom; said erection member being spaced from and substantially parallel to said sectional beam; said erection member having a length greater than each of said elements when in a lowered position and less than the combined length of any two elements thereof; means for successively interconnecting said elements, starting with the top element, with said erection member; actuating means supported adjacent the location where said erection member emerges from said tubular support and engageable with said erection member to move the same vertically relative to said tubular support to respectively extend and retract said beam, element by element; said actuating means being independent of said sectional beam; mechanical means for locking each element when extended to the adjacent element, after its extending movement by said erection member and said actuating means, whereby the latter may be returned to its lowered position along with said erection member to move the next succeeding element to its extended position.

3,263,383
SAFETY CARRIAGE FOR CRANE BOOMS
Edward T. Foster, 4360 Nicholas, Omaha, Nebr.
Filed July 16, 1962, Ser. No. 209,963
1 Claim. (Cl. 52—143)

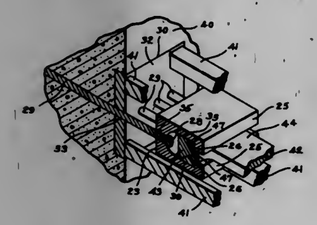
For supporting a mobile crane having a long and heavy boom projecting substantially horizontally rearwardly during road travel, a caster wheel assembly disposable generally beneath said boom for supporting at least a substantial portion of the weight of the boom, and removable means for attaching said caster wheel assembly to said boom, said caster wheel assembly having an upper mounting portion and a lower portion comprising a wheel, means for attaching said upper mounting portion to said boom, means fixed to said upper mounting portion and providing elongated sockets disposed approxi-

mately upright, elongated temporary boom supports removably disposable in said sockets and of a length sufficient to hold said caster wheel assembly upright to facilitate its installation or removal, said boom supports being at least two in number and having lower ground-engaging ends disposed in use for engaging the ground



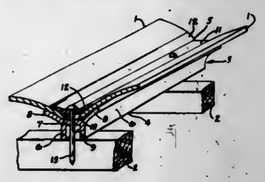
at two points spaced apart with respect to the point at which said caster wheel engages the ground whereby the two ground-engaging points of said boom supports and the ground-engaging point of said caster wheel are all sufficiently spaced for supporting said caster wheel assembly upright when it is detached from said boom.

3,263,384
APPARATUS FOR POST-TENSIONING CONCRETE PRESTRESSING MEMBERS
Karl H. Middendorf, Costa Mesa, Calif., assignor to The Prescon Corporation, a corporation of Texas
Original application Jan. 21, 1960, Ser. No. 3,851. Divided and this application Oct. 19, 1964, Ser. No. 409,622
12 Claims. (Cl. 52—173)



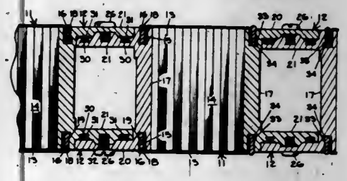
7. The combination with an anchor member for tension members for prestressing concrete having a rigid elongated body portion channel shaped in cross section to provide a pair of rigid parallel legs thereon connected by a transverse portion having a longitudinally extending row of openings therethrough, said legs having inwardly directed undercut flanges at their extremities extending longitudinally of said body portion having inner faces inclined transversely of said flanges, of a pulling member having an elongated bar-like head portion thereon longitudinally slidably connected with said anchor member and having undercut longitudinally extending shoulders thereon having inclined faces engaging the inner faces of said undercut flanges, said head portion having side faces engaging the inner sides of said legs, tension members extending through said openings and enlargements on said tension members engaging the inner side of said transverse portion of said anchor member.

3,263,385
BUILDING STRUCTURE WITH ANCHORED PANELS
Theron F. Pauls, Alton, Ill., assignor to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia
Filed Aug. 29, 1962, Ser. No. 220,196
4 Claims. (Cl. 52—461)



1. A building structure comprising a beam; an elongated channel-shaped base member defined by spaced apart upright side walls connected together at their upper edges by a web portion at the lateral edge portions thereof, integral panel support side flanges extending divergently upwardly from said web portion at said lateral edges forming an upwardly opening trough-like seat coextending with said base member; spaced apart panel members having their adjacent marginal edge portions downwardly converging and resting on said side flanges; an elongated trough-like cap member seated in said seat adjacent said panel members and defined by a longitudinal web section provided at its lateral edges with coextending edge flanges extending divergently upwardly from said web section substantially parallel with said side flanges, said edge flanges seated on top of said marginal edge portions with said web section spaced from said web portion of the base member; and fastening means rigidly securing together said beam, said base member, said panel members and said cap member.

3,263,386
WEATHER TIGHT AND PRESSURE PROOF PANEL STRUCTURES
Irvine Kimmel, 1231 Stillwater Drive, Miami Beach, Fla.
Filed July 1, 1963, Ser. No. 291,938
5 Claims. (Cl. 52—580)



1. An elongated joint member for weather tight panel structures comprising an elongated web portion having a slot at each end for fastening a panel thereto, a pair of leg portions extending from said web portion at substantially right angle, one of said leg portions extending substantially flush with an end portion of said web portion, said other of said leg portions being set back from the other end portion of said web portion a distance substantially equal to the thickness of said one of said leg portions, an elongated crown portion mounted on the outer surface of said other of said leg portions, said crown portion having a slot with serrated side walls along its full length, said other of said leg portions having slotted portions on each side of said crown portion, said one of said leg portions having a slotted portion for receiving said crown portion of a second joint member and pliable weather stripping means mounted in said slotted portions of said other of said leg portions, said other of

said leg portions having bores for receiving fastening members that extend into said slot and engage said serrated side walls.

3,263,387
FABRICATED NON-SYMMETRICAL BEAM
William M. Simpson, 509 Floral Park Terrace, South Pasadena, Calif.
Filed Aug. 9, 1965, Ser. No. 478,056
13 Claims. (Cl. 52—634)

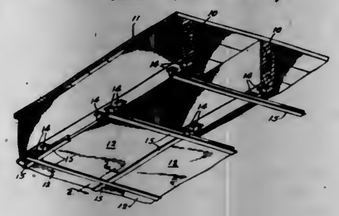


1. A fabricated non-symmetrical beam comprising, in combination,
an elongated substantially planar web having one continuous longitudinal edge and its other longitudinal edge serrated in a toothed configuration;
an elongated substantially planar first flange disposed perpendicular to said web in engagement with said continuous longitudinal edge and secured thereto;
an elongated substantially planar second flange disposed perpendicular to said web in engagement with said other serrated longitudinal edge and secured thereto;
and support means for loading the beam in a predetermined relationship placing said first planar flange in compression and said second planar flange in tension;
the cross-sectional configuration of the beam being such that in the region of minimum cross-sectional area the equation

$$\frac{a}{b}=\frac{f_c(\text{max.})}{f_t(\text{max.})}$$

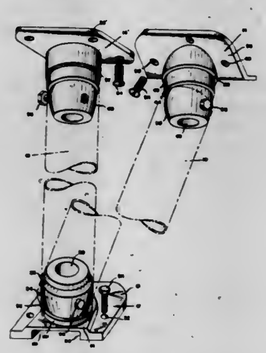
is substantially satisfied, where "a" and "b" are the distances from the beam centroid to the outer surfaces of said first and second flange respectively and f_c (max.) and f_t (max.) represent the predetermined maximum compressive and tensile stresses respectively at any point along the respective first and second planar flanges.

3,263,388
CEILING TILE HANGER INSTALLATION
Allen Z. Bogert, 305 Linden Ave., Doylestown, Pa.
Filed Dec. 18, 1963, Ser. No. 331,615
6 Claims. (Cl. 52—665)



1. A ceiling tile installation capable of providing a level tile surface with permissible support variation in level of considerable magnitude, comprising
parallel support beams with permissible variation in level along the beams and from one beam to another,
laterally short tile anchor members on each beam where the sides of a tile are to fall, and
tile support members running at least the length of one side of a tile for supporting the tile on said anchor members,
each said tile anchor member having a base flange secured to said support beam and a stem extending directly outward from the base flange, said stem having a plurality of saw-tooth serrations on at least one side surface,
each said tile support member having a base flange for supporting tiles and a stem having a plurality of saw-tooth serrations on a side mating with the serrations of the anchor member,
at least one of said members having a second stem parallel to and cooperable with the serrated stem to confine the stem of the mating part therebetween, at least one of said parallel stems being flexibly biased toward the other so as to resiliently retain said serrations interengaged,
said serrations being inclined to resist separation of said base flanges, providing retaining engagement of various adjusted levels of said tile,
each said tile support member being interengaged with a plurality of said short tile anchor members, the level of said interengagement varying along at least one tile in accordance with the variation in level of the beams along said tile, the spacing between the base flange of said support member and the base flange of at least one anchor member being greater than the thickness of said tile.

3,263,389
VARI-ANGLE TUBULAR SUPPORT AND DRAINAGE ASSEMBLY FOR CANOPIES
William C. Heirich, 2912 Wauhilah Drive, Muskogee, Okla.
Filed May 5, 1964, Ser. No. 365,101
11 Claims. (Cl. 52—720)



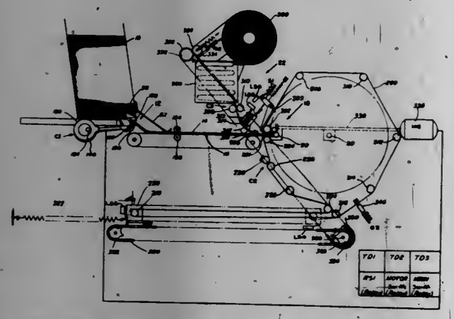
6. In a canopy to be supported at a pre-determined distance above a floor and of the type having interlocking panels terminating on each end thereof in a facia assembly having a trough-like bottom portion for the collection of water and drainage openings therein, the combination with said facia assembly of:
(A) a bracket attached to said bottom portion of said facia assembly adjacent one of said drainage openings, said bracket including portions that are circular in cross-section and of varying diameter so as to define first and third supporting shoulders and a first ball joint at the bottom of said bracket adjacent said third shoulder, said bracket further containing a first vertical passageway extending through-

out the entire length thereof and in registering relationship with said one of said openings, means for securing said bracket to said facia assembly;

(B) a flange for attachment to said floor, said flange including portions that are circular in cross-section and of varying diameter so as to define second and fourth supporting shoulders and a second ball joint at the top of said flange adjacent said fourth shoulder, said flange further containing a second vertical passageway extending therethrough and a horizontal passageway intersecting said second vertical passageway and terminating at one side of said flange at the bottom thereof;

(C) a hollow tubular conduit having end portions resting in abutting relationship against said bracket and flange.

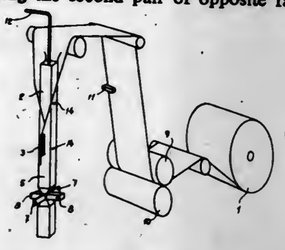
3,263,390
APPARATUS FOR AND METHOD OF FANNING, ROLLING AND BANDING FLEXIBLE SHEETS
Robert Gordon Dexter, Harvard, Mass., assignor to Barkley & Dexter, Incorporated, Fitchburg, Mass., a corporation of Massachusetts
Filed July 5, 1963, Ser. No. 292,965
30 Claims. (Cl. 53—21)



16. The method of producing an elongated web of fanned sheets from a stack thereof which consists in bending downwardly the forward edges of a group of lowermost sheets in the stack to spread the forward edges relative to each other, then clamping the spread edges and returning the group to its initial position to effect forward movement of the underlying sheets of the group relative to the stack in an amount equal to the spread of the edges, and repeating the bending, clamping and returning operations to increase the spreading and forward movement of the group whereby to provide an elongated web of spread sheets adapted to be rolled and banded.

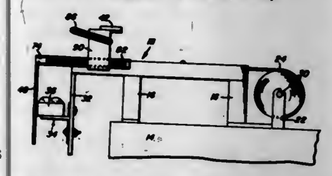
3,263,391
METHOD OF MANUFACTURING PACKAGES
Hans Ivar Wallstén, Dals-Langed, Sweden
Filed May 3, 1963, Ser. No. 277,918
17 Claims. (Cl. 53—28)

1. A method of producing a package having a substantially rectangular cross-section, comprising the steps of shaping a web of sheet material around a shaping body of rectangular cross-section, sealing the longitudinal edges of said web to each other to form a rectangular tubular package element, folding pair-wise opposite faces of said package element toward each other at four spaced folding lines perpendicular to the longitudinal direction of said package element wherein the folding of the bottom of a package and the top of an adjoining package is carried out simultaneously, simultaneously effecting in a first pair of said faces a folding in the shape of triangular sections having their bases formed by the outer parallel folding lines of the latter pair, pressing said triangular sections flatly against the bottom portion of said shaping body, pressing the second pair of opposite faces of said



package element against the bottom portion of said shaping body, and sealing the bottom of one package simultaneously with the sealing of the top of the adjoining package.

3,263,392
MANUAL PACKAGE WRAPPING MACHINE
Sebastiano J. Petrella, 11A Golden Ave., and Salvatore J. Petrella, 18 Wright Ave., both of Medford, Mass.
Filed Mar. 8, 1963, Ser. No. 263,923
11 Claims. (Cl. 53—33)

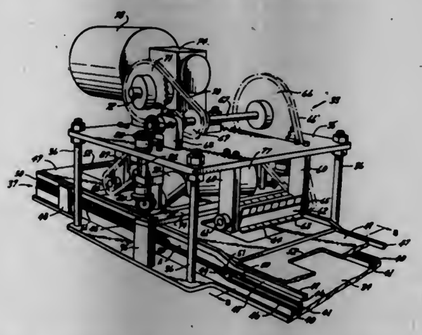


1. The method of manually wrapping a package with a thin heat sealable film disposed upon a stationary rotatable roll comprising the steps of placing the package upon a horizontally oriented support having access means to the bottom of said package, wrapping said package with said film by disposing one end of said film perpendicular to said package, grasping said one end and disposing it in abutting contact with said bottom, removing the package from said support while maintaining said abutting contact by raising it and moving it longitudinally outwardly with respect to said support simultaneously and then raising it and moving it longitudinally inwardly with respect to said support and pulling more film from said roll simultaneously, thereby completely encircling said package with film, cutting the film adjacent said pulled portion thus forming a second end of said film encircling said package and heat sealing said ends together.

8. Manually operable package wrapping apparatus comprising means for mounting a roll of wrapping film, means for supporting an end of said film in a position wherein said end may contact said package to initiate the wrapping process, means for supporting a package to be wrapped, means cooperating with said film support means for rendering the correct length of film available for wrapping said package in one continuous motion, means mounted upon said support means for cutting said film when said package is wrapped and means for sealing said cut film and said one end about said package, said film support means including a table, slot means formed integral with and extending longitudinally of said table for threadedly receiving said end of film and guide means mounted on said table for guiding said film longitudinally and transversely thereof, said means for rendering the correct length of film available for wrapping said package in one continuous motion including a pair of vertically aligned and transversely extending rollers adjustably

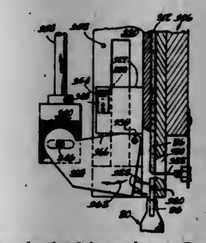
mounted at one end of said table and guiding said end of film therebetween, a pair of arms adjustably mounted above and straddling said table, said arms mounting said cutting element therebetween and disposed rearwardly of said rollers.

3,263,393
METHOD AND APPARATUS FOR SECURING A COVER MEMBER TO A CONTAINER HAVING A PERIPHERAL FLANGE
Otto R. Weber, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Oct. 8, 1962, Ser. No. 228,907
53 Claims. (Cl. 53—40)



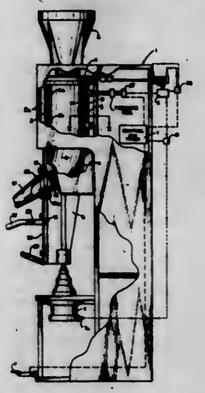
45. A method for folding inwardly a continuous upstanding peripheral flange of a container over a cover member or the like disposed substantially perpendicular to said flange and assembled to said container comprising the steps of continuously moving said container and assembled cover member in one direction from one point to another point, and folding inwardly said peripheral flange of said container over said cover member while said container is continuously moving in said one direction.

3,263,394
APPARATUS FOR AND METHODS OF MAKING A MARKING DEVICE
Theodore E. Jensen, Oak Park, Ill., assignor, by mesne assignments, to Sanford Research Company, a corporation of Illinois
Filed Dec. 26, 1962, Ser. No. 246,968
11 Claims. (Cl. 53—43)



11. In a method of inserting a flexible, elongated wick of rectangular cross-section in the neck of a marking device housing, the steps comprising: delivering a said wick to a position aligned with the open-ended neck of a marking device housing; guidably engaging said wick on at least three lateral sides to confine said wick during its insertion in said neck; piercingly engaging a lateral side of said wick with a drive element and at a position away from the guidably engaged regions of said wick; moving said drive element generally toward said marking device to impel said wick into said neck in an interference fit; and releasing said guidable engagement on one lateral side of said wick to free the assembled wick and housing for transit.

3,263,395
MECHANICAL DEVICE FOR FILLING A CONTAINER
Robert J. Broersma, Spring Lake Township, Ottawa County, Mich., assignor to B & B Engineering Company, Grand Haven, Mich., a partnership of Michigan
Filed Oct. 17, 1962, Ser. No. 231,117
16 Claims. (Cl. 53—124)



2. A device for conveying packing material into an open end container containing a plant, the roots thereof being within said container and the stem thereof extending out therefrom, comprising:

wall means defining a suspension chamber having a discharge opening;

means for supplying said material to said suspension chamber;

means for introducing air under pressure into said suspension chamber so that the material becomes entrained in the air;

a mounting plate affixed to said wall means adjacent said discharge opening;

an attaching plate fastened to said mounting plate;

a conduit supported at one end by said attaching plate in registry with said opening;

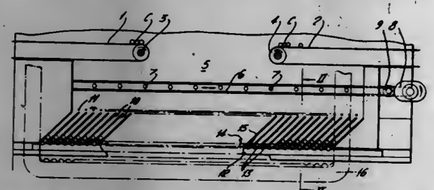
at least two nozzles communicating with the other end of said conduit; and

means for supporting a container having a plant therein with the plant positioned between said nozzles and said container encircling said nozzles.

3,263,396
FEEDING OF ROD-LIKE ARTICLES
Geoffrey Alexander Cruickshank, Deptford, London, England, assignor to The Molins Organisation Limited
Filed Mar. 6, 1963, Ser. No. 263,299
Claims priority, application Great Britain, Mar. 8, 1962, 8,969/62
1 Claim. (Cl. 53—236)

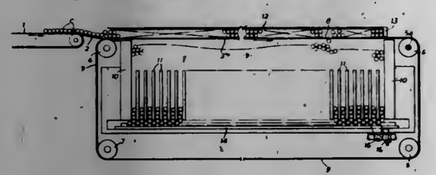
Apparatus for feeding rod-like articles in which rows of the rod-like articles are formed for transfer into an adjacent container, each row containing a desired number of articles and running transversely to their axes, comprising a series of substantially parallel downwardly sloping vanes spaced apart by a selected distance and inclined at a selected angle to the vertical, means to feed rod-like articles between the said vanes so as to form columns of articles, means to support the said columns so that the articles therein form substantially horizontal rows, means

to support a container at a position at which the container can receive adjacent rows of articles moved from between the said vanes, and transfer means to move the articles in adjacent rows longitudinally into a container thus supported, the said distance and the said angle being selected so that the axes of adjacent rod-like articles in a



row transferred into the container are separated by a distance substantially equal to the diameter of the articles multiplied by the square root of three, whereby an article in the uppermost of three rows, one directly above another, in the container, can rest centrally on and between two articles in the middle row and in contact with an article in the lowermost of the said three rows.

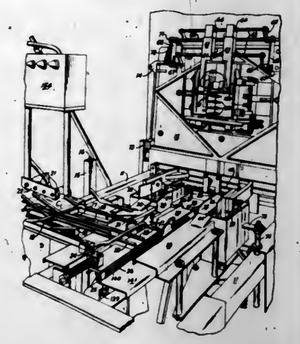
3,263,397
FEEDING OF ROD-LIKE ARTICLES
Geoffrey Alexander Cruickshank, Deptford, London, England, assignor to The Molins Organisation Limited
Filed Mar. 6, 1963, Ser. No. 263,338
Claims priority, application Great Britain, Mar. 8, 1962, 8,968/62
4 Claims. (Cl. 53—236)



4. Apparatus for feeding rod-like articles, comprising a receptacle into which the articles are fed, an element extending above and across the receptacle, and having at least one part defining a space through which rod-like articles can fall, a conveyor to convey rod-like articles in a direction towards said element, means to move said element so that said part moves across the receptacle, and means to prevent articles being carried beyond the receptacle by the element so that the latter can slip beneath the article supported on it, and articles can fall through said space into the receptacle as said part defining the space moves across the receptacle, said element being arranged to receive the articles and to continue their feed in the same general direction as the direction of feed by said conveyor.

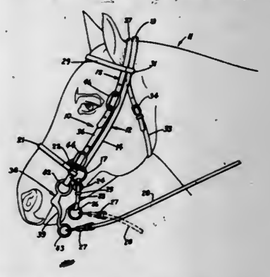
3,263,398
CARTON SEALING MACHINES
Kenneth Clyde Gobalet, Redwood City, Calif., assignor, by mesne assignments, to Kliklok Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 3, 1963, Ser. No. 313,579
12 Claims. (Cl. 53—376)

2. A carton sealing machine comprising, in combination, a plunger having a top surface adapted to engage the bottom panel of a carton to be sealed; a die in line with, and above, the plunger, the die comprising at least two opposite wall elements defining a die throat between them, at least one of said elements being resiliently movable in a direction to exert compressive force on the walls of a carton in said die; carton supporting means underneath said die for supporting a carton in a position in which the carton bottom wall is spaced above the top surface of the plunger when the plunger is retracted, said supporting means comprising at least one element for engaging the carton bottom adjacent its leading edge and a further element for supporting the carton



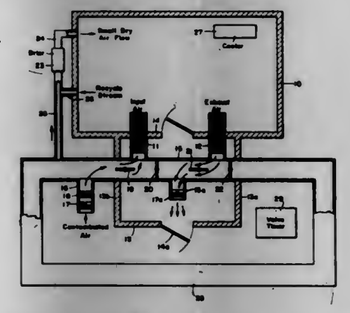
by its trailing wall; transport means for moving a carton to be sealed onto said supporting means; adhesive applying means alongside said supporting means for applying adhesive to the cover flap of a carton on said supporting means; and power means for operating said plunger, transport means and applying means in time relationship.

3,263,399
HALTER-BRIDLE COMBINATION
Reginald G. Faragher, 615 2nd Ave. S., Minneapolis 2, Minn.
Filed Nov. 23, 1964, Ser. No. 412,935
3 Claims. (Cl. 54—6)



2. A halter-bridle for a horse comprising
(a) halter means positionable on the head of a horse, said halter means including
(1) nose loop means positionable around the nose of the horse and adapted for attachment to a fixed object,
(2) strap means having a crown strap adapted to extend over the top of the head of the horse, and lower ends connectable with the nose loop means,
(3) throat latch means adapted to extend under the neck of the horse and over the top of the head of the horse, said throat latch means having a top portion positioned under and supporting the crown strap of the strap means and
(4) a brow band positionable across the face of the horse, said brow band having loops at the opposite ends thereof slidably receiving the strap means and throat latch means for holding the top portion of the throat latch means in alignment with and under the crown section of the strap means and allowing adjustment of the brow band relative to the strap means and throat latch means,
(b) a bit positionable in the mouth of the horse, and
(c) head stall means having a crown section positionable over the horse's head adjacent and abutting the edge of the crown strap and throat latch and under opposite end sections of the brow band and opposite end sections attached to the bit to hold the position of the bit in the horse's mouth.

3,263,400
AIR TREATMENT
Ronald C. Hoke, Berkeley Heights, and James R. Felix, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed July 16, 1963, Ser. No. 295,396
10 Claims. (Cl. 55—33)

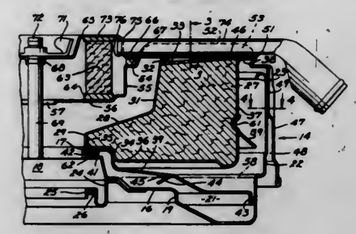


1. A method of ventilating a region comprising an enclosed space by transferring gas from said region to a second region of a different temperature with substantially no change in the temperature of the region comprising an enclosed space which comprises in combination:
(a) Flowing gas cyclically through a first heat transfer zone which zone provides a passage between said regions, said zone being characterized by a heat capacity greater than the total of said gas flowing through it per cycle;
(b) Simultaneously flowing gas cyclically through a second heat transfer zone which second zone provides a passage between said regions, said second zone being characterized by a heat capacity greater than the total of said gas flowing through it per cycle;
(c) Cyclically alternating the direction of flow of gas through said first zone and said second zone, wherein the flow of gas through the zones is such that substantially no breakthrough of the heat within said zones occurs and wherein flow through a zone into one of said regions is accompanied by flow out of the same region through the other zone;
(d) Conveying the flow of gas out of said region comprising an enclosed spaced into a third region while not permitting gas from said second region from entering said third region and not permitting gas from said third region to enter said region comprising an enclosed space.

3,263,401
CHROMATOGRAPHY
Walter R. Supina, State College, Pa., assignor to Applied Science Laboratories, Inc., State College, Pa.
No Drawing. Filed Nov. 21, 1962, Ser. No. 239,332
6 Claims. (Cl. 55—67)

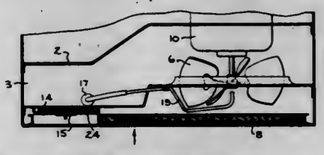
1. The method of separating complex mixtures into their components which comprises passing said mixture in a vapor phase with an inert carrier gas through a liquid partition zone containing on an inert carrier a film of a stationary phase comprising the polyester reaction product of a silicon-containing compound, a polyol and a polycarboxylic acid.

3,263,402
INTERNAL COMBUSTION ENGINE FILTRATION ASSEMBLY FOR FRESH AIR AND CRANKCASE VENTILATING AIR
Benton B. Lindamood, Detroit, Robert C. McKinlay, Dearborn, and Jack G. Thom, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 2, 1964, Ser. No. 335,235
4 Claims. (Cl. 55—252)



1. An air filter assembly for the induction system of an internal combustion engine comprising a body part, said body part including a lower tray having a central aperture forming an air outlet adapted to communicate with the induction system, a cover plate affixed axially relative to said body part, a first filter medium interposed between said lower tray and said cover plate around said central aperture, a fresh air inlet communicating with one side of said first filter medium, another side of said first filter medium being in open communication with said central aperture for air flow from said fresh air inlet through said first filter medium and out of said central aperture, said cover plate having a depressed central portion having a central opening in open communication with the central aperture of said lower tray, a second filter medium received in said depressed central portion around said central opening, a closure for said central portion laterally removed from said central opening, said closure and said central portion being on opposite ends of said second filter medium, means removably securing said closure relative to said body portion, and a ventilating air inlet in said closure radially outwardly of said central opening and on the opposite side of the second filter medium.

3,263,403
AIR FILTER CONDITION INDICATOR
William T. Ladusaw, Jeffersontown, Ky., assignor to General Electric Company, a corporation of New York
Filed Sept. 17, 1964, Ser. No. 397,113
4 Claims. (Cl. 55—274)



1. An air conditioning unit comprising:
a multiple-speed fan operable at either a low speed or a high speed for moving a stream of air through said unit at either a low velocity or a high velocity,
fan control means movable to a first setting to operate said fan at a low speed and to a second setting to operate said fan at a high speed,

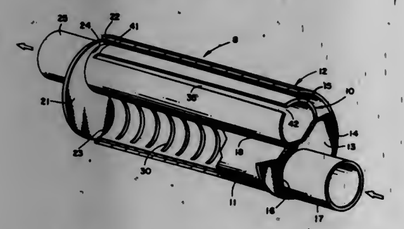
a filter positioned in said unit for filtering said stream of air, said filter offering a greater resistance to the flow of air therethrough at a high fan speed than at a low fan speed,

filter condition indicating means responsive to the pressure drop across said filter for indicating when said filter is dirty,

said indicating means including an indicator movable, when said filter is dirty, to a first position at low fan speed and to a second position at high fan speed,

and means for indicating said first position when said fan control means is at its first setting and said second position when said fan control means is at its second setting.

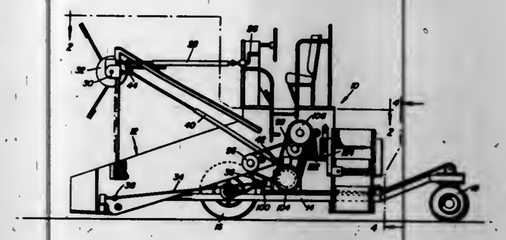
3,263,404
SPARK ARRESTER
John Krizman, Jr., 10549 Monogram Ave., Granada Hills, Calif.
Filed Apr. 1, 1963, Ser. No. 269,496
10 Claims. (Cl. 55—447)



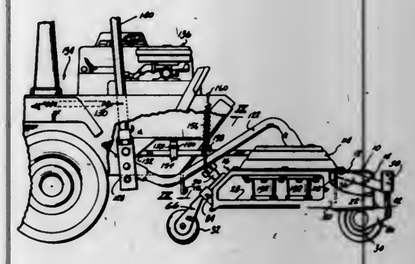
1. A spark arrester comprising: an elongated shell having end closure walls; first and second conduits having overlapping ends enclosed within said shell, the other end of said first conduit adapted to be in communication with the exhaust of an internal combustion engine and the other end of said second conduit adapted to be in communication with the atmosphere; said overlapping end of said first conduit being in longitudinally abutting and closed relationship with a portion of the interior surface of said shell and one of said end closure walls and the overlapping end of said second conduit; the overlapping end of said second conduit being in longitudinally abutting and closed relationship with the other of said end closure walls; passage means in one side of said overlapping end of said first conduit to permit said engine exhaust to be conducted away from and in a direction transverse to said first conduit; discharge opening means in said second conduit on the side opposite to the side on which said passage means is located; means for directing the exhaust from said passage means to said discharge opening means including a flow passage having a throat portion upstream of said discharge opening means for increasing the velocity of the exhaust in said flow passage to separate carbon particles from said engine exhaust prior to entering said discharge opening means for discharge through said second conduit; and carbon trap means located downstream and below said discharge opening means, said trap means including a converging space defined by the downstream lower exterior surface of said first conduit and the downstream lower interior surface of said shell.

3,263,405
FEED CONDITIONER
Norbert L. Rohmfeld, Rural Route, Rowena, Tex.
Filed Mar. 13, 1964, Ser. No. 351,607
4 Claims. (Cl. 56—23)

1. An apparatus for crushing stalks to facilitate their drying as stock feed comprising two spaced pairs of cooperating upper and lower crushing rollers, means for causing longitudinal passage of stalks to be crushed between said rollers of each pair whereby the stalks being acted upon are crushed and split along substantially their entire length, said lower crushing rollers being horizontally staggered from said upper crushing rollers, one of said lower rollers being disposed intermediate of said upper rollers and one of said upper rollers being disposed intermediate of said lower rollers whereby the stalks passing therebetween will be bent to break the stalks transversely during their travel through said rollers, said means for causing longitudinal passage of stalks comprises a first conveyor transporting stalks toward said rollers, a second conveyor receiving stalks from said first conveyor and delivering them to said rollers, said second conveyor having a greater speed of travel than said first conveyor thereby spreading the stalks more thinly prior to their delivery to said rollers.



3,263,406
FRONT MOUNTING FOR ROTARY TYPE MOWER
Rudolph A. Hanson, Edward J. Ziegler, and John E. Fischer, Jackson, Mich., assignors to Yard-Man, Inc., Jackson, Mich., a corporation of Michigan
Filed Sept. 4, 1964, Ser. No. 394,465
7 Claims. (Cl. 56—25.4)



1. A self-supporting rotary lawn mowing attachment comprising, in combination,

(a) a housing,

(b) at least one vertically disposed shaft mounted on said housing having a blade attachment end located within said housing,

(c) a blade attached to said blade attachment end of said shaft,

(d) a bracket mounted upon said housing,

(e) a vertically disposed cylindrical bore defined in said bracket,

(f) a cylindrical shaft received within said bore and axially adjustable therein,

(g) a ground wheel rotatably suported on said cylindrical shaft,

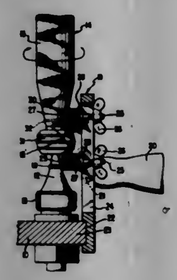
(h) a plurality of axially spaced circumferential grooves defined on said cylindrical shaft, said grooves each including an abutment shoulder,

(i) a locking member mounted on said bracket including a cylindrical shaft engaging portion restrained against vertical upward movement relative to said bracket,

(j) a shaft receiving opening defined in said locking member shaft engaging portion, said opening including a first portion of a larger diametrical dimension than said shaft and a second portion including opposed spaced edges adapted to be closely received within a shaft groove upon a groove being aligned with said shaft engaging portion to restrict axial movement of said cylindrical shaft within said bracket while permitting rotation of said shaft therein, and

(k) biasing means biasing said locking member shaft engaging portion in a direction maintaining said opening second portion in engagement with an aligned shaft groove.

3,263,407
IMPLEMENT FOR CONDITIONING BOBBINS ON TEXTILE SPINNING FRAMES
Coy V. Jones, Sr., Greer, S.C., assignor to Southern Machinery Company, Greer, S.C., a corporation of South Carolina
Filed July 30, 1964, Ser. No. 386,170
8 Claims. (Cl. 57—34)



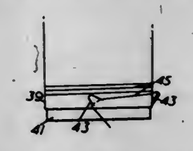
1. An implement for conditioning bobbins during winding in a spinning frame having a fixed spindle rail and vertically oriented bobbin supporting spindles thereon comprising, a hand held body portion adapted for guided engagement with the fixed spindle rail of the spinning frame as the implement is moved along the spinning frame, and means on the body portion projecting from one side thereof to engage and sever yarn ends extending from the lower portion of the bobbins in the spinning frame and to wrap the severed yarn ends into the yarn packages of the bobbins and to also engage the bobbin spindles immediately below the bobbins to clean wraps of yarn therefrom.

3,263,408
WINDING AND DOFFING APPARATUS
David F. G. Mansfield, Pontypool, Thomas H. R. Browning, Monmouth, Roy Smith, Newport, and Terence G. Davies, Croesyceiliog, England, assignors to British Nylon Spinners Limited, Pontypool, England
Filed July 23, 1965, Ser. No. 478,018
Claims priority, application Great Britain, Aug. 19, 1964, 33,871/64
13 Claims. (Cl. 57—34)

1. In a winding apparatus for filamentary material, a flangeless rotating receiving bobbin disposed in a generally vertical position and adapted to have a transfer tail wound on the lower end portion thereof in the form of spaced helical turns of yarn, and a transverse mechanism to guide the filamentary material for collection upon said bobbin, said bobbin having means on its lower end portion for automatically receiving and securing the lowermost of said helical turns as the same tends to slip off the lower end of



the bobbin upon upward movement of the bobbin during doffing, said means including a radial projection on the surface of the lower end portion of said bobbin, said projection forming a slot which has an open end facing opposite the direction of winding of said helical coils whereby when said bobbin is not rotating and is moved upwardly during a doffing operation, said lowermost helical turn will tend to unwind in the direction in which said bobbin was rotated and will become trapped in said slot.



3,263,409
METHOD FOR PRODUCING A YARN PACKAGE
Bert Zuidema, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Dec. 11, 1963, Ser. No. 329,685
Claims priority, application Netherlands, Dec. 19, 1962, 286,993
3 Claims. (Cl. 57—156)



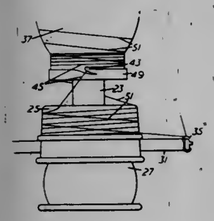
1. In a method for producing a yarn package on a rotating bobbin mounted on a twisting spindle and wherein yarn is guided by a rail ring to form a waste bundle on the spindle preliminary to forming said yarn package on said bobbin, the improvement which comprises:

(1) subsequent to forming said waste bundle, guiding and grasping said yarn to laterally deviate same outwardly to lay steep connecting windings between said waste bundle and said yarn package,
(2) forming a yarn package,
(3) after forming said yarn package, guiding said yarn to lay a bundle of fixation windings between said yarn package and said waste bundle,
(4) securing the latter of said yarn windings of the fixation bundle to form an initial thread end, and
(5) separating the bobbin from the spindle whereby the yarn connection between said waste bundle and the steep windings is severed to produce the yarn package having an easily accessible transfer tail and initial thread end.

3,263,410
PROCESSES FOR WINDING AND DOFFING BOBBINS

David F. G. Mansfield, Pontypool, Thomas H. R. Browning, Monmouth, and Roy Smith, Malpas, Newport, England, assignors to British Nylon Spinners Limited, Pontypool, England

Original application Sept. 14, 1962, Ser. No. 223,710. Divided and this application Oct. 27, 1964, Ser. No. 413,671
Claims priority, application Great Britain, Sept. 26, 1961, 34,358/61
1 Claim. (Cl. 57—156)



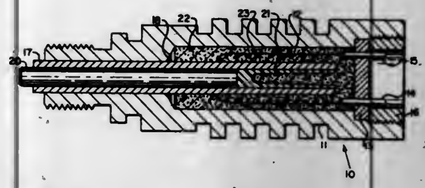
A process for winding yarn, and for doffing a yarn package so wound, on a ring spindle apparatus, comprising the steps of winding the initial lengths of yarn on a waste spool spaced heightwise below a bobbin, winding spaced turns of yarn in the form of a helix on the lower end-portion of said bobbin, said turns connecting the yarn on said waste spool with the main build of yarn on the bobbin, completing the winding of the main build of yarn, and doffing the bobbin by lifting it upwardly of the spindle of the said ring spindle apparatus so that yarn in the lower of said helical turns is automatically trapped in a slot formed by a radial projection from the surface of the bobbin, the line of direction of said slot towards its open end being such as to intersect the line of direction of yarn in said helical turns.

3,263,411
CONTROL APPARATUS

William L. Carlson, Jr., and James E. Cox, Minneapolis, and Richard Hankins Dean, Buffalo, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Aug. 2, 1965, Ser. No. 476,399
6 Claims. (Cl. 60—23)

1. A thermal actuator comprising: a body having a pressure chamber therein; an output member associated with said body and movable with respect thereto in response to pressure changes in said chamber; heater means associated with said body and operable to elevate the temperature in said chamber; and a thermally expansible fill in said chamber, said fill comprising a mixture of two classes of organic materials including a first material characterized in that it is a relatively incompressible, thermally stable substance having a comparatively low rate of thermal expansion at temperatures below about 100° F., a comparatively high rate of thermal expansion over a predetermined temperature increment occurring above 100° F., and a comparatively low rate of thermal expansion at temperatures above said predetermined temperature increment, said first material further being characterized in that it is normally brittle and relatively nonplastic at temperatures below about 100° F., and said

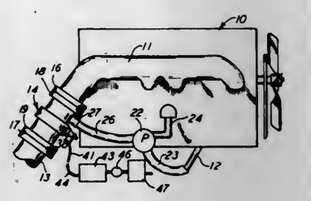


mixture including a second material characterized in that it is an oil which remains a substantially incompressible liquid over the entire range of temperatures and pressures normally encountered in said chamber and has a relatively low rate of thermal expansion over said normal range, is electrically nonconductive and noncorrosive, and is readily miscible in said first material, said second material substantially increasing the plasticity of said fill over that exhibited by said first material alone without substantially changing the thermal expansion characteristics of said first material.

3,263,412
METHOD AND MEANS FOR ELIMINATING SMOG

Carl J. Thompson, Racine, Wis., assignor of one-third to William R. Stroemer and one-third to Arthur J. Hansmann, both of Racine, Wis.

Filed Dec. 28, 1962, Ser. No. 248,142
2 Claims. (Cl. 60—30)

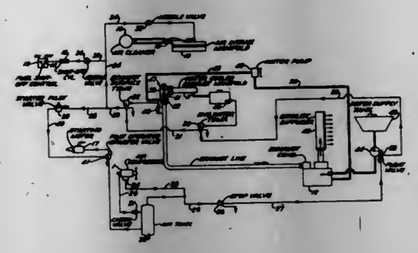


2. A device for eliminating smog from an engine of the type having an exhaust manifold and a muffler and a connecting pipe between said manifold and said muffler and with said engine having a crankcase which emits vapors, comprising a housing mounted intermediate said exhaust manifold and said connecting pipe in a straight-line gas-flow communication with said exhaust manifold for receiving exhaust gases from said exhaust manifold and with said housing having a passageway of a cross-sectional area as large as that of said manifold for unrestricted flow of exhaust gases into said housing, a pump and completely enclosed conduit means connected between said pump and both said crankcase and said housing for pumping all the emitted vapors into said housing for mixing with the exhaust gases from said exhaust manifold and burning the mixture of said gases and said vapors in said housing.

3,263,413
SYSTEM FOR CONTROLLING A DIESEL ENGINE TO PROVIDE SAFE OPERATION IN AN EXPLOSIVE ATMOSPHERE

Benjamin H. Van Vactor, Ashland, Ky., assignor to National Mine Service Company, a corporation of West Virginia

Filed Aug. 10, 1965, Ser. No. 478,666
7 Claims. (Cl. 60—30)



6. In a safety control system for a diesel engine of the type having the following known features:
(a) a water-cooled exhaust manifold;
(b) an exhaust gas conditioner containing a level of water in a sump;
(c) an exhaust line carrying exhaust gases from the manifold to the conditioner;
the improvement that comprises the combination of elements designated as Elements G to K inclusive and defined as follows:
Element G, an exhaust elbow carrying the exhaust gases from the manifold to the exhaust line;
Element H, a closed water jacket surrounding the elbow;
Element I, a water conduit connected to the exhaust gas conditioner (b) and to the closed water jacket (H);
Element J, a water pump in the water conduit (I); and
Element K, a water tube disposed in the exhaust elbow (G) with its upper end extending through the wall of the elbow by way of a water-tight joint and projecting into the closed water jacket (H) and with its lower end disposed on the center line of the discharge end of the elbow, and extending to a point below the level of the water-cooled exhaust manifold (a).

3,263,414
ENDOTHERMIC REACTIONS FOR COOLING AND PROVIDING FUEL IN SUPERSONIC COMBUSTION

Walter A. Herbst, Union, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Apr. 17, 1964, Ser. No. 360,762
7 Claims. (Cl. 60—35.4)

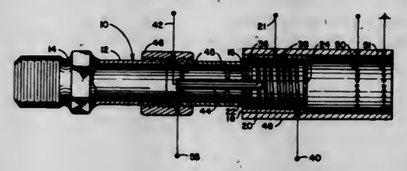
1. In a process wherein a chemical substance undergoes an endothermic chemical reaction, thereby yielding at least one reaction product which has a tendency to burn with a luminous flame, and wherein said reaction product is subsequently burned as a fuel in a combustor, the improvement which comprises adding to said fuel at a point between the position where said endothermic chemical reaction takes place and said combustor, a combustion promoter in an amount sufficient to reduce the luminosity of the flame in said combustor.

3. A process according to claim 1 wherein said combustion promoter is selected from the group consisting of organo-metallics, organic peroxides, organic ozonides, organic nitrites, organic nitrates and organic azides.

3,263,415
ION PROPULSION DEVICE

Robert J. Sunderland, Glendora, and John R. Radbill, Azusa, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

Filed Mar. 6, 1961, Ser. No. 93,794
13 Claims. (Cl. 60—35.5)



5. An ion propulsion device comprising a housing at a predetermined electric potential and formed from a material having a high work function, said housing having a cavity formed therein, an inlet portion and an exit portion communicating with said cavity, said inlet portion adapted to receive a vapor having a low ionization potential, means for raising the temperature of the walls of the cavity to a level high enough so contact between the neutral atoms of said vapor and the walls of said cavity cause the atoms to become ionized, creating thereby a positive space charge in the cavity, the exit portion of said cavity being small enough so that substantially all of the neutral atoms of said vapor are retained in said cavity in position to be ionized whereby the ionization efficiency of the propulsion device is increased, and an extracting electrode at a suitable potential placed in front of the exit portion to provide an electric field between the electrode and the exit portion, a portion of said electric field penetrating said exit portion into the cavity in said housing, said electric field having a polarity such that said portion of said electric field attracts the ions formed in the cavity and causes them to move out of the cavity through the exit portion, means for adjusting the electric field caused by the space charge in the cavity so that the space charge field cooperates with the portion of the electric field penetrating said cavity from said extracting electrode to reinforce the movement of the ions inside the cavity toward the exit portion whereby said ions move out of the exit portions of the cavity in a focused narrow high density ion beam where they are further accelerated by the electric field from said extracting electrode, a second electrode at local ground potential positioned beyond the extracting electrode whereby the potential difference between said second electrode and the said housing cavity determines the specific impulse of the ions leaving the propulsion device, means for inserting charged neutralizing particles having a polarity opposite to said ions, into said ion beam for neutralizing said ion beam, said second electrode having the added function of preventing a counter-flow of said neutralizing particles into said housing cavity.

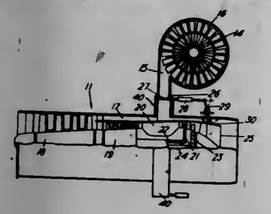
3,263,416
BY-PASS AIR DIVERSION TO LIFT FANS

Arthur Bill, Derby, and Frederick Bowen Powell, Hathern, near Loughborough, England, assignors to Rolls-Royce Limited

Filed Aug. 3, 1964, Ser. No. 387,150
Claims priority, application Great Britain, Aug. 22, 1963, 33,365/63
20 Claims. (Cl. 60—35.6)

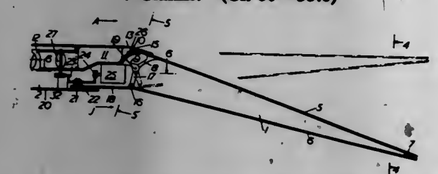
1. A by-pass gas turbine engine comprising: compressor means, combustion means and turbine means arranged in flow series; means drivingly interconnecting said turbine means with said compressor means; a jet pipe for receiving exhaust gases from said turbine means, said jet pipe having a discharge outlet; a by-pass duct having an inlet for receiving a portion of air compressed by said compressor means and an outlet for discharging

the air as part of the propulsive jet; a bleed duct communicating with said by-pass duct intermediate the inlet and outlet of the by-pass duct for supplying by-pass air to an ancillary point of use; a first valve means for controlling communication between said by-pass duct and said bleed duct; a second valve means for controlling discharge of by-pass air from the outlet of said by-pass duct and for varying area of the discharge outlet of said jet pipe; and operating means operatively interconnecting



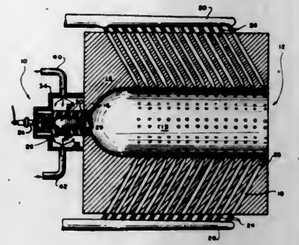
said first and second valve means, said operating means being arranged to open said first valve means when said second valve means blocks discharge of air from the outlet of said by-pass duct and increases the area of said jet pipe so that a pressure drop occurs across said turbine means to thereby increase flow in said compressor means resulting in an increase of flow in the by-pass duct and the bleed duct over flow of by-pass air normally discharged from the outlet of said by-pass duct.

3,263,417
JET PROPULSION NOZZLE
Stanley George Hooker, Bristol, England, assignor to Bristol Siddeley Engines Limited, Bristol, England, a British company
Filed Sept. 24, 1964, Ser. No. 398,862
Claims priority, application Great Britain, Oct. 2, 1963, 38,830/63
7 Claims. (Cl. 60—35.6)



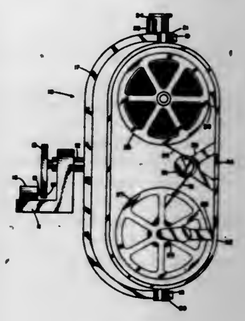
1. A jet propulsion nozzle for an aircraft, comprising an assembly of a jet pipe and at least one flap hinged at its front end to the jet pipe and having an external surface which is exposed during flight to the free airstream past the aircraft and an internal surface exposed to flow through the nozzle and terminating in a rear edge defining part of the periphery of the outlet end of the nozzle, with means for varying the inclination of each flap to the general direction of the free airstream for the purpose of varying the area of the outlet end of the nozzle, and means for discharging gaseous fluid rearwards at a velocity at least about twice the flight velocity over the external surface of at least one of the flaps from a position adjacent to the front end of that flap, when that flap is inclined to the direction of the free airstream, the means for discharging fluid including a rearward-facing slot defined externally by a rear portion of a member of the jet pipe and internally by a forward portion of the flap and means forming a passage within the jet pipe leading to said slot, means closing off said passage from the interior of the jet pipe-flap assembly, and means responsive to movement of the flap to a position corresponding to the largest nozzle opening to close said passage.

3,263,418
DETONATION REACTION ENGINE
Oswald H. Lange, 1702 Montdale Road, and Richard J. Stein, 3612 Lakewood Road SW., both of Huntsville, Ala., and Harold E. Tubbs, 2903 W. 21st St., Panama City, Fla.
Filed Dec. 6, 1965, Ser. No. 512,273
9 Claims. (Cl. 60—35.6)



1. A detonation reaction engine comprising:
(a) a first casing forming a detonation reaction chamber having a discharge opening therein,
(b) a second casing mounted to said first casing and forming a shock wave generating chamber having an open end in communication with said reaction chamber,
(c) means connected to said second casing for injecting an explosive mixture into said wave generator chamber,
(d) means for repeatedly detonating the explosive mixture in said wave generator to thereby generate shock waves which travel into said reaction chamber,
(e) means connected to said second casing for supplying a propellant mixture to said reaction chamber that is detonated by the shock wave from said wave generator chamber to produce condensed detonation products that are expelled from the open end of the reaction chamber to generate thrust.

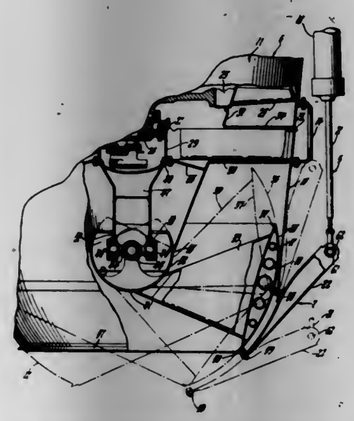
3,263,419
ATTITUDE CONTROL SYSTEM FOR SPACE VEHICLES
Gert F. Schmitz, Huntsville, Ala., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed May 23, 1963, Ser. No. 282,628
6 Claims. (Cl. 60—35.54)



1. A solid propellant attitude control system for space vehicles comprising means for mounting said system on said vehicle, said system including a frame, a mounting

means for rotating said frame 360 degrees, a case mounted in the frame and also adapted to be rotated 360 degrees, a pair of reels mounted in said case, a tape wound on said reels, means for activating one of said reels to wind the tape from one reel to the other reel, solid propellant charges mounted on said tape in equally-spaced relation to each other, and means for ignition of said charges to burn said charges to create directional thrusts outwardly of said casing.

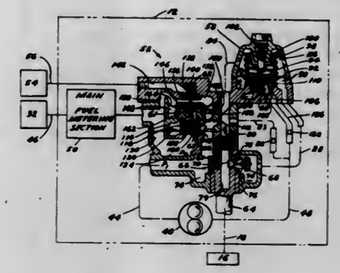
3,263,420
SWIVELING NOZZLE ENGINE
Esten W. Spears, Jr., Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 18, 1964, Ser. No. 352,756
4 Claims. (Cl. 60—35.55)



1. A jet engine comprising, in combination,
a gas generator including a turbine exhausting gas under pressure,
an exhaust duct conveying the gases, and a swiveling jet propulsion nozzle mounted at the outlet of the exhaust duct,
the engine including a turbine bearing support spider disposed downstream of the turbine,
a nozzle support fixed to the bearing support spider and extending downstream therefrom;
the nozzle comprising a throat ring having an outer surface conforming to a zone of a sphere,
a central hub,
and streamlined struts rigidly connecting the throat ring to the hub;
a swivel joint connecting the hub to the nozzle support, and
means coupled between the engine and the throat ring operable to swivel the throat ring about an axis transverse to the axis of the engine.

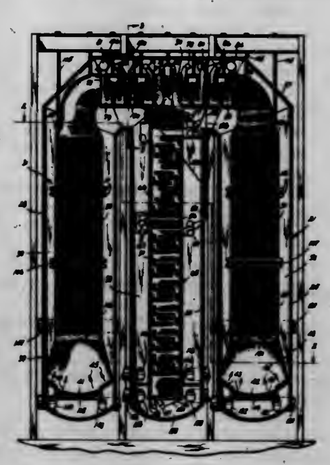
3,263,421
FUEL CONTROL SYSTEM FOR IGNITER AND MAIN BURNER OF GAS TURBINE ENGINE
Ralph K. Londal, Detroit, Mich., assignor to Holley Carburetor Company, Warren, Mich., a corporation of Michigan
Filed Dec. 18, 1963, Ser. No. 331,603
6 Claims. (Cl. 60—39.14)

1. Apparatus for starting the flow of fuel to the burner section of a gas turbine engine and for sequentially starting and stopping the flow of fuel to the igniter section thereof, said apparatus comprising three pairs of chambers, each pair of chambers having pressure responsive means forming a movable wall therebetween, a conduitry system operatively connecting said three pairs of chambers, single valve means associated with two of said pressure responsive means and with said conduitry system, double valve means associated with said third pressure responsive means and with said conduitry system, said two single valves being arranged to open and close alternatively upon attainment of some predetermined pres-



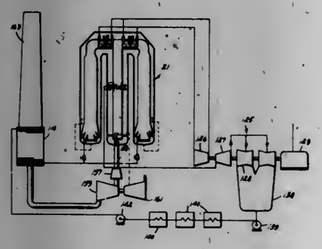
sure differential across one of said pressure responsive means and the two valves of said double valve means being arranged to open and close alternatively upon attainment of some higher predetermined pressure differential across their associated pressure responsive means.

3,263,422
POWER PLANT VAPOR GENERATOR
Walter P. Gorzegno, Florham Park, N.J., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed June 10, 1965, Ser. No. 462,860
6 Claims. (Cl. 60—39.18)



1. A vapor generator for use in a power plant which includes a gas turbine with an afterburner, a vapor turbine, and an air compressor driven by the gas turbine, comprising:
fluid heating tubes with fins therebetween defining a chamber, said chamber including a left vertical section, a right vertical section, a central vertical section between the left vertical section and right vertical section, and a horizontal section connecting the

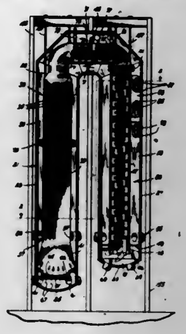
upper ends of said left vertical section and said right vertical section and said central vertical section;
means for supplying a vaporizable fluid to said fluid heating tubes at the lower ends of said left vertical section and said right vertical section;
burner means located at the lower ends of said left vertical section and said right vertical section of said chamber for supplying heating gases to said chamber for flow therethrough;
an outer containment shell for surrounding said enclosure;
means partially coextensive with said enclosure and outer containment shell for supplying air from said compressor to said burner means;
means for discharging said heating gases partially coextensive with said outer containment shell and connected to the lower end of said central vertical section and to said gas turbine through said afterburner;
means for structurally supporting said chamber and outer containment shell;



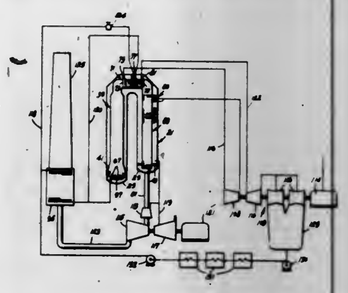
a primary superheater means located within and toward the lower end of said central vertical section and connected for series flow of fluid from said fluid heating tubes at the lower end of said central vertical section;
a secondary superheater means located within said horizontal section and connected for series flow of fluid from said primary superheater means and to said vapor turbine;
a primary reheater means located within the horizontal section of said chamber and connected for series flow of fluid from said vapor turbine;
a secondary reheater means located within said central vertical section above said primary superheater means; and
means for controlling the temperature of the fluid from said secondary reheater means to said vapor turbine.

3,263,423
SUPERCHARGED STEAM GENERATOR FOR POWERPLANT
Walter P. Gorzegno, Florham Park, and William D. Stevens, North Caldwell, N.J., and Luis A. Uriarte, San Francisco, Calif., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed June 10, 1965, Ser. No. 462,862
6 Claims. (Cl. 60—39.18)

1. A vapor generator for use in a power plant which includes a gas turbine with an auxiliary combustor, a vapor turbine, and an air compressor driven by the gas turbine, comprising:
fluid heating tubes with fins therebetween defining a chamber, said chamber including a first vertical section, a second vertical section, and a horizontal section connecting the upper ends of said first vertical section and said second vertical section;
means for supplying a vaporizable fluid to said fluid heating tubes at the lower end of said first vertical section;
burner means located at the lower end of said first vertical section of said chamber for supplying heating gases to said chamber for flow therethrough;
an outer containment shell for surrounding said enclosure;
means partially coextensive with said enclosure and outer containment shell for supplying air from said compressor to said burner means;



means for discharging said heating gases partially coextensive with said outer containment shell and connected to the lower end of said second vertical section and to said gas turbine through said auxiliary combustor;
means for structurally supporting said chamber and outer containment shell;
a superheater means located within the second vertical section of said chamber and connected for series flow

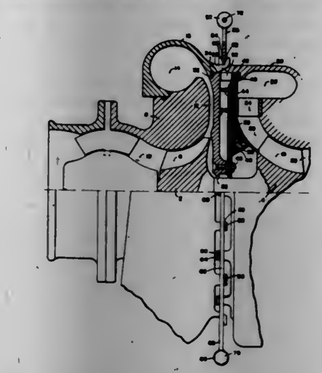


of fluid from said fluid heating tubes at the lower end of said second vertical section and to said vapor turbine;
a reheater means located within the horizontal section of the chamber and connected for series flow of fluid from said vapor turbine and back to said vapor turbine; and
means for controlling the temperature of the fluid from said reheater means to said vapor turbine.

3,263,424
TURBINE-COMPRESSOR UNIT
Rudolph Birmann, R.D. 1, Newtown, Pa.
Filed Mar. 25, 1965, Ser. No. 442,693
12 Claims. (Cl. 60—39.32)

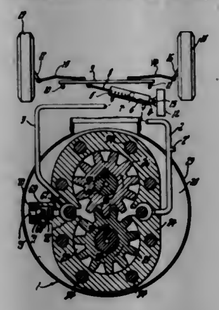
1. A turbo-compressor unit comprising an impeller, an impeller housing surrounding the impeller and providing a passage receiving elastic fluid handled by said impeller, a turbine rotor coaxial with the impeller and connected thereto to drive the same, a turbine housing surrounding the turbine rotor and providing a passage for hot gases,

driving the turbine rotor, and means connecting said impeller and turbine housings, said means comprising an annular array of circumferentially spaced projections on each of said housings and annularly extending means en-



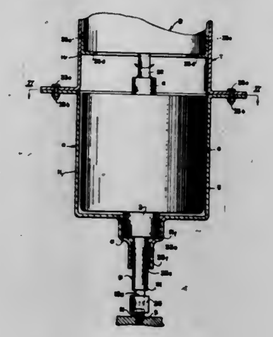
gaging said projections, the projections on the respective housings being circumferentially spaced from each other and alternating in their engagement with said annularly extending means.

3,263,425
HYDRAULIC ACTUATING SYSTEM
Robert P. Rohde, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 23, 1963, Ser. No. 310,560
4 Claims. (Cl. 60—52)



1. In combination with a reversely drivable hydraulic motor having greater fluid displacement in one direction of operation than in the opposite direction, a reversely drivable positive displacement pump in fluid driving relation with said motor, said pump having equal fluid displacement in both directions of operation, a sump having a first one-way flow connection with the motor accommodating flow to the sump of the volume of motor displaced fluid exceeding the volume of pump delivered fluid during operation in said one direction and having a second one-way flow connection with the pump accommodating flow of fluid to the pump to compensate for the volume of pump delivered fluid exceeding the volume of motor returned fluid during operation in said opposite direction, and pump driving and driven members having a lost motion connection therebetween, said first one-way flow connection including a passage in one of said members and a valve operable by the other of said members to close said passage when said lost motion is taken up in response to operation of the pump in said opposite direction.

3,263,426
POWER TOOL
Donald K. Skoog, Stamford, Conn., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Original application Dec. 12, 1961, Ser. No. 158,838, now Patent No. 3,116,617, dated Jan. 7, 1964. Divided and this application Mar. 18, 1963, Ser. No. 285,160
17 Claims. (Cl. 60—54.5)

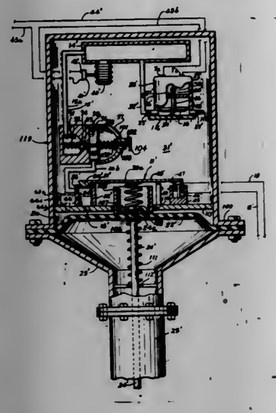


1. Apparatus connected to a tool for driving the tool by fluid pressure impulses, said apparatus comprising stationary casing means, housing means within said casing means and containing a pressure-transmitting fluid, spindle means mounted in said housing means and in said fluid, one of said housing means and said spindle means being non-rotatably secured to said casing means, the other of said housing means and said spindle means being rotatable relative to said casing means and said one means, means providing a fluid passageway in communication with the fluid in said housing means and connected to said tool, and drive means connected to said other of said housing means and said spindle means for causing relative rotation of said other means with respect to said casing means and said one means, said housing means and said spindle means being cooperable during a portion of each revolution of said relative rotation to dynamically seal off a portion of said fluid so that the pressure in said portion of the fluid increases thereby causing a fluid pressure impulse to be transmitted through said fluid passageway to said tool.

3,263,427
ELECTRO-PNEUMATIC ACTUATOR INCLUDING A SELF-CONTAINED CLOSED SOURCE OF RESTORATIVE PNEUMATIC PRESSURE
George C. Childs, 11416 Manorwood Drive, Baton Rouge, La.
Filed Sept. 20, 1965, Ser. No. 488,640
4 Claims. (Cl. 60—57)

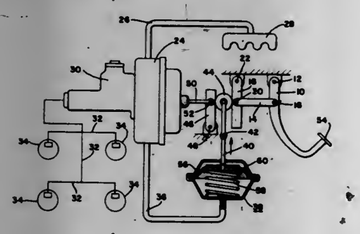
1. An electro-pneumatic actuator including a closed housing with a diaphragm across an end thereof, an actuator shaft extending from said housing, resilient means based externally of said housing to bear against said diaphragm to yieldably oppose outward movement of said shaft in its exertion of mechanical control on an external physical condition, an electrical transducer within said housing, a controller to transmit a signal to said transducer responsive to the needs of said external physical condition, said transducer including a control valve opening into a low pressure chamber comprised by the part of the housing on the opposite side of said transducer from said diaphragm, said control valve being urged toward opening and closing responsive to signal impulses, a positioner spring based on the inner side of said diaphragm to yieldably urge said control valve in opposition to signal impulse, an input conduit, a fixed

orifice therein connected to the upstream end of said control valve, a closure plate to support said transducer and extending across said housing to seal off a control chamber between said transducer and said diaphragm, tubular means movable with said diaphragm and sealably through said closure plate to seal between said low pressure chamber and said control chamber, an outlet port between said control valve and orifice and communicating through said closure plate with said control chamber, said housing mounting within said low pressure chamber: a drive means and a pressure increaser



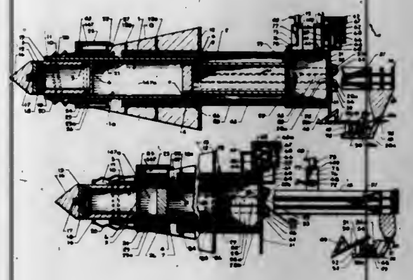
driven thereby and taking suction from within said low pressure chamber, a receiver with an inlet to receive high pressure discharge from said pressure increaser, an outlet means connecting said receiver to said fixed orifice, and a pressure sensitive device operable at a predetermined pressure differential between said low pressure chamber and said receiver to start said drive means to drive said pressure increaser to restore a predetermined pressure differential between said receiver and said low pressure chamber whereby to operate said pressure sensitive device to stop said drive means.

3,263,428
BRAKE PEDAL RATIO CHANGER
Frank H. Highley, Franklin, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 4, 1965, Ser. No. 430,365
8 Claims. (Cl. 60—60)



1. Vehicle brake actuating mechanism comprising: power source means carried by a vehicle; power operable means including an input member, said power operable means being in force communication with said power source means and vehicle brakes; actuator means pivotally supported by the vehicle and having an output member; and force transmitting means including an actuator responsive to a force in said power operable means and an element adapted to be positioned to a plurality of force transmitting positions between the input member of said power operable means and the output member of said actuator means, said element and said actuator being responsive to a force in said power operable means to increase and decrease the ratio of said actuator means for brake actuation as required under various operating conditions.

3,263,429
RECOILLESS, JET DRIVEN HAMMER
Fay Edison Null, Choctawmar Subdivision, Fla. (Box 158, Shalimar, Fla.)
Filed Sept. 30, 1963, Ser. No. 312,401
10 Claims. (Cl. 60—62.5)



3. In a hand tool, the combination of, a hammerhead means ensemble to deliver a force impulse at the end of its stroke, consisting of, a drive piston to compress a gas column at the end of said stroke, a jet-supply gas tank, a gas exhaust nozzle connected to said tank by duct means and pointed in the opposite direction to the forward stroke of said hammerhead means ensemble, for the formation of an exhaust gas jet whose reaction force accelerates said hammerhead means ensemble in its forward stroke while an equal and opposite force drives said jet in the rearward direction without recoil forces in the rearward direction acting on any part of said hand tool except for small secondary effects by small deflections of said jet by parts of said hand tool, jet valve means in series with said jet to initiate the flow of said jet when opened for the forward stroke of said hammerhead means ensemble, first force means for supplying power for part of the operational cycle of said jet valve means, cam-type means for opening a fill-valve supported by a stationary parts complex of said hand tool, a checkvalve in series with said jet-supply tank, attachment means to form a unit of the members of said ensemble, and completing said hammerhead means ensemble, first guide means for interaction with said second guide means on said stationary parts complex for the stroke of said hammerhead means ensemble, said stationary parts complex of said hand tool consisting of mutually attached stationary parts including a frame, and said second guide means supported by said stationary parts complex for a freely moving, nonrotating stroke of said hammerhead means ensemble, a cylinder

supported by said stationary parts complex, whose first end receives said drive piston in freely sliding contact, a tool mounting piston received by the second end of said cylinder, a tool mounted on said tool mounting piston, a gas column between said drive and tool mounting pistons, and a mass of said tool mounting piston including said tool, substantially equal to the mass of said drive piston and the other parts of said hammerhead means ensemble, so that when said drive piston is decelerated by the compressive force it exerts on said gas column, said tool mounting piston is accelerated by the same compressive force, for the same time, to approximately the velocity of said drive piston at the termination of the thrust of said jet, second force means supported from said stationary parts complex to return said hammerhead means ensemble to its prestroke position, third force means supported from said stationary parts complex to return said tool mounting piston to its prestroke position, and a fourth force means supported from said stationary parts complex for interaction with said first force means and a trigger locking and release means, for maintenance of the closed position of said slide valve means in the retracted position of said hammerhead means ensemble, and said trigger and release means actuated by manual means for control of said fourth force means for opening said slide valve for the forward stroke of said hammerhead means ensemble, and jet-supply tank filling means actuated in the retracted stroke position of said jet-supply tank, consisting of a filling inlet on said jet-supply tank, a gas supply outlet means mounted on said stationary parts complex and aligned and making contact with said filling inlet, a fill-valve in series with said gas supply outlet, fifth force means mounted on said stationary parts complex to bias said fill-valve to the closed position, said cam-type means mounted on said hammerhead means ensemble to open said fill-valve in the retracted position of said hammerhead means ensemble, and said checkvalve means in series with the inlet of said jet-supply tank and carried by said hammerhead means ensemble.

3,263,430
DITCH BRACE
Herbert E. Bryan, 310 Maple Drive, Rockville, Md.
Filed Oct. 3, 1963, Ser. No. 313,516
2 Claims. (Cl. 61—41)



1. A ditch brace adapted to be placed in a ditch having somewhat parallel vertical walls so that it will engage and support these walls to prevent collapse or cave-in, said ditch brace comprising a pair of elongated shoring channel members, an adjustable toggle assembly pivotally connected to said shoring members intermediate their ends to maintain same in spaced relation and allow said shoring members to be disposed at an angle to one another so as to bear against ditch walls which are not parallel to each other, said adjustable toggle assembly comprising upper and lower toggle units, the upper toggle comprising a pair of toggle links pivotally secured to each respective shoring member, said toggle link pairs converging upwardly, a head plate pivotally mounting the inward ends of the toggle link pairs, the lower toggle unit comprising a pair of toggle links pivotally secured to each respective shoring member at the same point as the upper toggle link pairs, said lower toggle link pairs converging downwardly, and a lower head plate pivotally mounting the lower toggle link pairs, the upper head plate having a threaded vertical hole, a rotatable screw threadedly carried in the threaded hole in the upper head plate and rotatably secured to the lower head plate whereby rotation of the screw will vary the distance between the head plates and thereby vary the distance between the shoring members.

3,263,431
INSTALLATION OF PILE SHELLS AND APPARATUS THEREFOR
Lindsey J. Phares, Butler, N.J., assignor to Raymond International Inc., New York, N.Y., a corporation of New Jersey
Filed July 3, 1963, Ser. No. 292,704
7 Claims. (Cl. 61—53.5)



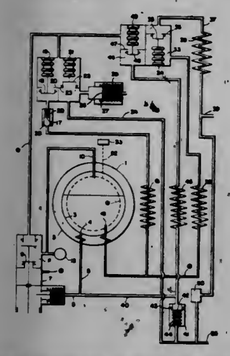
1. Method for driving a substantially smooth-walled tapered sheet metal pile shell section into the earth, the shell having its smaller end lowermost, which method comprises: placing a mandrel therein to be embraced thereby, which mandrel has an overall taper generally corresponding to that of the shell section and occurring by reason of the mandrel being formed with a succession of mandrel portions one above another and of slightly larger and larger sizes respectively, whereby circumferential corner configurations occur at the junctures of such mandrel portions; driving the assembly of such mandrel with the shell section embraced thereon into the earth, the shell section being formed of a metal of a gauge such that the driving forces cause such corner configurations at each thereof, to outwardly and circumferentially deform somewhat the shell section, the corner configurations respectively causing the shell portions therebetween to be each forcefully pulled downwardly, the frictional engagements between the shell section and the mandrel being largely concentrated at the regions of said configurations; and thereafter withdrawing the mandrel from the driven shell section.

3,263,432
BALLAST WEIGHT CARRYING AND RELEASING MEANS
Dennis Ford Maskell, Yeovil, England, assignor to Normalair Limited, Somerset, England
Filed Mar. 26, 1963, Ser. No. 268,029
Claims priority, application Great Britain, Mar. 29, 1962, 12,004/62
4 Claims. (Cl. 61—70)



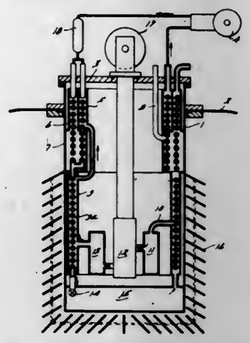
1. A quick release ballast weight device for use in diving operations, comprising an elongate flexible member having a portion folded upon itself to form a loop between the ends of the member, a ballast weight having a hole therethrough, said loop passing freely through said hole in said ballast weight and projecting beyond the remote face thereof, and a pin member removably inserted through said loop and bearing against said remote face of said ballast weight to prevent retraction of the loop through said hole and consequent inadvertent release of said ballast weight from said elongate flexible member.

3,263,433
OXYGEN SUPPLY SYSTEMS
Peter W. Fitt, Yeovil, England, assignor to Normalair Limited, Yeovil, England
Filed Dec. 4, 1959, Ser. No. 857,457
Claims priority, application Great Britain, Dec. 11, 1958, 39,941/58
11 Claims. (Cl. 62—52)



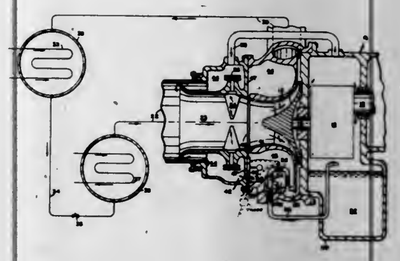
1. A liquid gas converter system including an insulated container having liquid and gas phase sections, a pressure build-up circuit comprising a build-up conduit interconnecting said gas and said liquid phases and containing in series a heat exchanger and a pressure closing valve having a seat and co-operating closure member, said build-up conduit having its liquid take-off point positioned in such a manner that a predetermined liquid gas reserve remains below said liquid take-off point upon the liquid level in said converter rendering said build-up circuit inoperative, whereby said liquid gas reserve is used at a lower pressure than the pressure previously maintained by said build-up circuit, passage means for conveying oxygen from said container to at least two points of use, and means for automatically closing the passage means to one of said points of use when said build-up circuit is rendered inoperative due to the liquid level falling below said take-off point.

3,263,434
HIGH VACUUM CRYOPUMPS
Franz X. Eder, Munich, Germany, assignor to Bendix-Balzers Vacuum, Inc., Rochester, N.Y.
Filed Mar. 16, 1965, Ser. No. 440,087
Claims priority, application Switzerland, Apr. 17, 1964, 4,998/64
7 Claims. (Cl. 62—55.5)



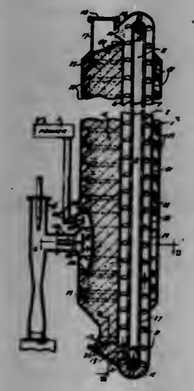
1. A cryopump for removing gas from a vessel comprising: a compressor, a pump casing extending into the vessel to be evacuated, a countercurrent heat exchanger in said casing, and connecting means forming a closed circuit for connecting said compressor to said heat exchanger and said heat exchanger to said machine and said machine to said compressor, a portion of the outer wall of said pump casing forming the condensation surface for said cryopump.

3,263,435
LUBRICANT SEPARATION AND RECOVERY SYSTEM
James W. Endress and Carl M. Anderson, Syracuse, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Sept. 26, 1963, Ser. No. 311,874
11 Claims. (Cl. 62—84)



8. The method of separating lubricant from a lubricant-refrigerant mixture flowing in a refrigeration machine having a compressor communicating with an evaporator and a lubrication system comprising:
(a) imparting a rotary motion to the fluid flowing from the evaporator to the compressor so as to deposit by centrifugal action any liquid component of the fluid flowing to the compressor;
(b) collecting the deposited fluid for flow to a collection area;
(c) applying heat to the collected mixture to vaporize the refrigerant constituent; and
(d) utilizing a portion of the discharge gas to transmit the residue to the sump of the machine for introduction into the lubrication system.

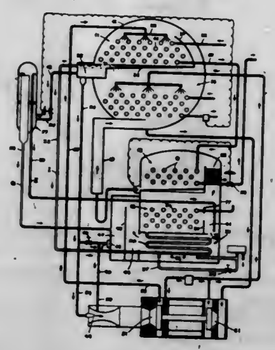
3,263,436
METHOD OF AND APPARATUS FOR PRE-COOLING CONCRETE MIX INGREDIENTS
Erwin J. Goldfarb, Champaign, Ill., assignor to Koehring Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 5, 1965, Ser. No. 430,640
11 Claims. (Cl. 62—100)



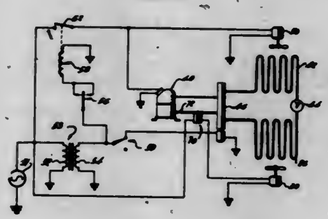
1. A method of cooling moist granular material by vacuum evaporation of moisture therefrom comprising, continuously circulating a quantity of said material in an endless path within a tank and simultaneously maintaining a moisture evaporating vacuum therein.

3,263,437
ABSORPTION REFRIGERATION SYSTEM CONTROL
David Aronson, Upper Montclair, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Jan. 17, 1964, Ser. No. 338,488
15 Claims. (Cl. 62—101)

6. A method for operating an absorption system including an absorber, a generator, an evaporator and a condenser connected to circulate saline solution consisting of a vaporizable refrigerant and a salt, between the generator and the absorber, the steps for controlling said system consisting of:
(a) passing unconcentrated solution from the absorber to the generator,
(b) heating said unconcentrated solution to remove refrigerant therefrom and to concentrate the solution remaining,
(c) passing said concentrated solution leaving the generator into heat exchange contact with unconcentrated solution passing from the absorber to the generator,
(d) and introducing at part load a second stream of said unconcentrated solution to the concentrated solution leaving the generator for mixing therewith to form a stream of intermediate concentration.



3,263,438
AIR CONDITIONING SYSTEM
Wendell E. Maudlin, Lebanon, Ind., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Nov. 18, 1963, Ser. No. 324,397
3 Claims. (Cl. 62—183)



1. An air conditioning system for an enclosure having an attic space thereabove, the improvement comprising a compressor, a refrigerant charged circuit having a hot side extending from said compressor and optionally connected to either a first coil in said circuit disposed in the attic space or a second coil in said circuit disposed in the enclosure for either cooling or heating said enclosure, air inlet means open generally to the attic from the outside ambient air from at least one location in the attic spaced from the attic coil, exhaust vent means adjacent the coil between the attic and the outside ambient atmosphere, blower means operable proximate the attic coil and the exhaust vent means operable to draw air through the inlet means and across the attic generally to the coil and to discharge said air from the vent means back to the ambient atmosphere, and a temperature sensitive switch disposed in temperature sensing relation both with the hot side of the refrigerant charged circuit and with the attic air operable at a predetermined minimum temperature of either said hot side or a minimum temperature of the air in said attic for automatically operating said blower means adjacent said attic coil to vent the air in said attic and draw air through said inlet means.

3,263,439
REFRIGERATION APPARATUS FOR KILLING WEEDS
Ellis Howard Ross, 1241 W. 31st St., Topeka, Kans.
Filed July 26, 1965, Ser. No. 474,564
5 Claims. (Cl. 62—228)



1. Apparatus for treating vegetation to kill undesirable plant life incapable of survival at low temperatures while leaving frost resistant grasses unharmed, said apparatus comprising:

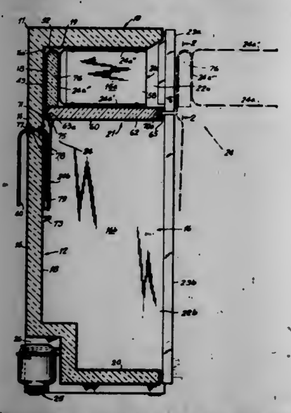
a wheeled carrier having a shroud provided with a ground-engaging skirt; and

a refrigeration unit mounted on said carrier and including an evaporator within said shroud disposed to lower the temperature of the ground covered by the shroud when said skirt is in engagement with said ground, whereby to kill the undesirable plant life growing in said ground,

said shroud including an insulated, normally generally horizontal platform supporting said unit with said evaporator disposed adjacent the underside of the platform,

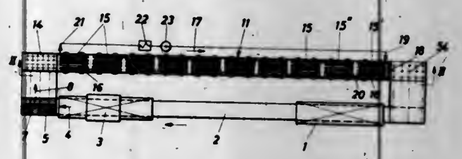
said unit being provided with a thermostatic control having a temperature sensor disposed beneath said evaporator in spaced relationship thereto and overlying the ground when the latter is engaged by the skirt.

3,263,440
REFRIGERATION
Axel Gosta Hellstrom, Johanneshov, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden
Filed Dec. 14, 1964, Ser. No. 417,937
20 Claims. (Cl. 62—288)



1. A refrigerator comprising a cabinet having a thermally insulated interior divided into first and second thermally segregated spaces, a compression refrigerating system including a cooling unit disposed in the cabinet interior which is formed from contacting metal sheets having passage means therebetween, said metal sheets including a first part forming the top, bottom and rear walls of a first low temperature cooling unit section and a plate-like second part which is adjacent to said first part and depends therefrom and forms a second higher temperature cooling unit section and a third part comprising relatively narrow strip means providing a relatively poor heat conductive path and connecting said first and second parts, said passage means between said contacting metal sheets providing a path of flow for refrigerant having portions in said first and second cooling unit sections and said connecting strip means and in which refrigerant flows serially therethrough, structure including said first low temperature cooling unit section providing a freezer compartment in said first space and from which said first cooling unit section is arranged to abstract heat, and structure comprising said second higher temperature cooling unit section for abstracting heat from said second space, said connecting strip means vertically overlapping at least a major portion of the rear wall of said first part of said first low temperature cooling unit section.

3,263,441
APPARATUS FOR COOLING PRESSED SHAPED STRUCTURES
Bruno Rother, Neumarkt, Germany, assignor to G. A. Pfeiderer, Neumarkt, Upper Palatinate, Germany, a firm
Filed Nov. 25, 1964, Ser. No. 413,907
Claims priority, application Germany, Nov. 30, 1963, P 33,101
4 Claims. (Cl. 62—341)



1. Apparatus for cooling to room temperatures hot pressed articles to avoid cooling stresses and distortion therein comprising:

a plurality of pairs of superposed heat exchange members arranged in substantial alignment to define an elongated cooling path;

means for moving the heat exchange members of each pair toward and away from each other;

conveyor means extending through one heat exchange member of each pair to convey the articles from one pair to the pair next adjacent thereto, said conveyor means comprising a plurality of rotatably-driven disks which engage with the undersurface of the articles to urge them along said elongated cooling path;

and means for circulating a fluid coolant through all of said heat exchange members.

3,263,442
UNDER THE SINK WATER COOLER
David J. W. Timmersman, 3708 Beard N., Minneapolis, Minn.
Filed July 2, 1964, Ser. No. 379,903
5 Claims. (Cl. 62—394)

1. A combination sink unit and water cooler comprising a cold water faucet connected to a source of running water including:

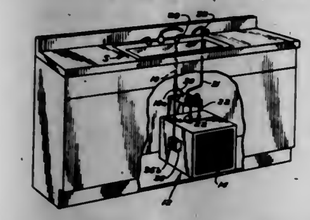
(a) a fluid-tight insulated housing arranged for placement under the sink;

(b) a cooling coil arranged in said housing having a plurality of helically wound convolutions disposed in adjacent side-by-side relation;

(c) means for supplying refrigerant to said coil;

(d) means closing the lower end of the helically wound convolutions to provide a cooling chamber defined by said means and said coil;

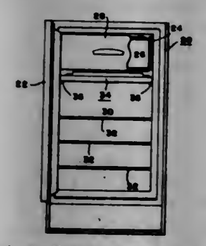
(e) means supplying water from the source of running water to said housing, a portion of said water



freezing about said coils to close said cooling chamber along the sides thereof to provide a longitudinally extending closed end chamber; and

(f) a separate discharge ice water faucet receiving chilled water from said housing.

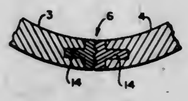
3,263,443
REFRIGERATING APPARATUS
Arthur J. Frei, Sr., Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 10, 1964, Ser. No. 381,627
1 Claim. (Cl. 62—417)



A refrigerator including an insulated cabinet having insulating walls and a door opening and an insulated door enclosing a compartment, refrigerating means for establishing below freezing temperature in the upper part of said compartment, a horizontal tray mounted in said compartment directly beneath said refrigerating means in a below freezing temperature zone for preventing the cooling of the compartment beneath to below freezing temperatures, means for mounting said tray for lateral movement out said door opening, said tray being provided with a plurality of liquid comestible receiving pockets containing means for separating the frozen contents into pieces, said tray having means for preventing liquid flow between said pockets, said tray having the liquid receiving pockets at the front and having a large storage pocket at the rear, and a removable cover for said storage pocket.

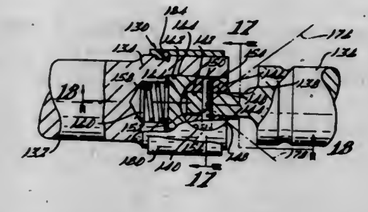
3,263,444
SAFETY FINGER RING HAVING SEPARABLE PARTS
Robert N. Di Croce, 25 Spruce St., Brockton, Mass.
Filed July 18, 1963, Ser. No. 296,067
4 Claims. (Cl. 63—15.7)

1. A ring of such size as to be worn upon the finger comprising a plurality of rigid circumferential segments, the end portions of the segments abutting one another the mutually abutting ones of said end portions being of uniform cross-section and forming a smooth continuous external surface in the assembled ring, the abutting end faces of the segments extending transversely thereof and having complementary interfitting corrugations, means connecting said segments in such a way that they are



separable by pulling circumferentially of the ring, said means including mutually-adherent surfaces such that said segments are separable and re-connectable.

3,263,445
UNIVERSAL JOINT
George E. Dunn, Orchard Lake, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,751
4 Claims. (Cl. 64—7)

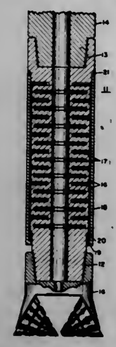


1. A universal joint comprising a drive member and a driven member, one of said members having formed thereon a yoke portion with a cylindrical opening formed therethrough, the other of said members having formed thereon a tang portion received generally within said cylindrical opening, first and second shoe members respectively received between opposite sides of said tang and said cylindrical opening, pivot means operatively joining said tang and said shoe members for enabling rotative motion of said other member about the axis of said pivot means in a plane passing generally through the axis of said cylindrical opening, and additional means carried by said one member for urging said shoe members into engagement with the surface of said cylindrical opening, said additional means comprising resiliently deformable means and a bearing member continually urged by said deformable means into engagement with at least one of said shoe members, said bearing member being provided with a cylindrical surface of a curvature substantially equal to the curvature of said cylindrical opening.

3,263,446
SHOCK ISOLATOR FOR ROTARY DRILL STRING
John H. Wiggins, Jr., Tulsa, Okla., assignor, by mesne assignments, to Esso Production Research Company, a corporation of Delaware
Filed Aug. 20, 1963, Ser. No. 303,327
2 Claims. (Cl. 64—15)

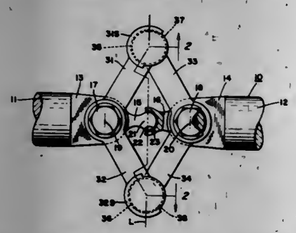
1. A shock isolator coupling comprising an essentially tubular element adapted for connection in a rotary drill string, at least a portion of said element consisting of bellows-like internal and external convolutions at least partially filled with a resilient material; a perimetric shoulder on said tubular element intermediate one end thereof and said convolutions, said shoulder facing said

one end; and a sleeve surrounding said convolutions and attached to said tubular element intermediate said convolutions and the other end thereof, said sleeve extending



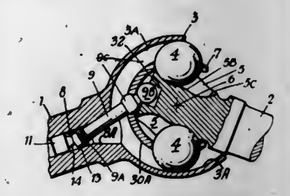
beyond said shoulder and comprising a flange positioned to engage said shoulder in the event a substantial tensile load is placed on said convolutions.

3,263,447
CONSTANT VELOCITY UNIVERSAL JOINT
Max P. Baker, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 9, 1964, Ser. No. 336,729
1 Claim. (Cl. 64—21)



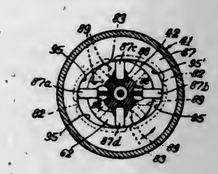
In a constant velocity universal joint arrangement between a pair of shaft ends of reduced size forming a spherical bearing means including a rounded head portion carried by one shaft end and a central socket portion carried by another shaft end in complementary though pivotal fit to each other as well as a pair of diagonally opposite spherical bearing means each having a ball and split socket portions laterally in opposite outward locations from the rounded head portion and central socket portion, the improvement therewith which comprises cup-shaped low friction fluoride material in both said diagonally opposite spherical bearing means as well as said central socket portion, and two pairs of complementary levers all of equal length as well as each pair having said split socket portion integrally therewith, said pairs of levers each having cylindrical bearing pivotal attachment also including annular low friction fluoride material journalling as to each shaft end, said two pairs of levers each having collective interfit so that at least one lever of each pair is symmetrically split into shell-like complementary socket portions each carried by a lever arm portion and separable on opposite sides of a plane coincident with axes of the shaft ends with said cylindrical bearings each transverse thereto, with said opposite spherical bearing means and said central socket portion all having said low friction fluoride material therewith in addition to said low friction fluoride material at the cylindrical bearing attachment at each shaft end for overcoming noise problems.

3,263,448
UNIVERSAL JOINTS
Frederick John Adams, Houghton Regis, England, assignor to Cam Gears Limited, a British company
Filed June 4, 1964, Ser. No. 372,463
Claims priority, application Great Britain, July 23, 1963, 29,097/63
5 Claims. (Cl. 64—21)



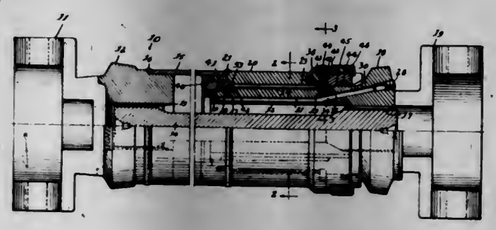
1. Constant-speed universal joint comprising first and second shaft ends having complementary concentric arcuate tracks formed respectively inside and outside them, a single pair of balls to transmit torque between said shaft ends by engaging said tracks, a cage element engaging and adapted to locate said balls always with their centres on a common diameter of the joint passing through the common arc centre of said tracks, a bail articularly engaged in the first shaft end, articularly engaged in the second shaft end, and articularly engaged in said cage element and free to slide diametrically in one of said articular engagements, said cage element having a cylindrical bearing with one of said shafts and a spherical bearing with the other of said shafts the axes of both such bearings intersecting said centre and the axis of said cylindrical bearing being parallel with the diameter in which said bail is slidable.

3,263,449
IMPULSE TOOL
Leo Kramer, Chester, N.J., assignor to Thor Power Tool Company, Aurora, Ill., a corporation of Delaware
Filed Nov. 22, 1963, Ser. No. 325,629
11 Claims. (Cl. 64—26)



1. In an impulse tool, an improved impulse generating means comprising a rotatable housing member having a symmetrical, non-eccentric, coaxial, internal cavity containing a pressure transmitting fluid, a spindle member rotatably disposed in coaxial non-eccentric relation in said cavity for relative rotation between said housing member and said spindle member, means on one of said members defining a plurality of fluid pressure sealing portions disposed in symmetrically spaced relation around said cavity, a plurality of movable elements carried by the other of said members in symmetrically spaced relation around said cavity, the configurations of said cavity and said spindle member being such that, during relative rotation of said members, said fluid pressure sealing portions and said movable elements are engageable at different distances from the axis of rotation of said members whereby to divide said cavity into a plurality of zones of alternately increasing and decreasing volume, and fluid passage means in said other member for simultaneously communicating the resultant increasing fluid pressure from the zones of decreasing volume to all of said movable elements at certain predetermined relative rotational positions of said members so as to urge said movable elements into momentary sealing relation with said fluid pressure sealing portions, whereby to generate intermittent substantial fluid pressure increases in sealed-off portions of fluid in said zones of decreasing volume and thereby transmitting rotational torque impulses through said fluid between said members.

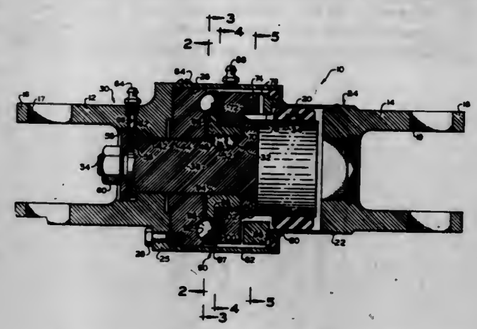
3,263,450
DAMPING CONNECTOR FOR A POWER TRAIN
William T. Condon, Rockford, Ill., assignor to Twin Disc Clutch Company, Racine, Wis., a corporation of Wisconsin
Filed Feb. 13, 1964, Ser. No. 344,615
2 Claims. (Cl. 64—26)



1. For a power transmitting system including an engine and a remotely connected load, a connector comprising a torsion bar whose input and output ends are respectively connectible to the engine and load, a tube concentric with the torsion bar and having one end tied to the input end of the torsion bar for rotation therewith, and concentric sleeve members respectively carried by the output end of the torsion bar and the opposite end of the tube in a manner enabling relative rotation of said last named ends and including therebetween spaced pairs of liquid filled chambers arranged as an annulus around the torsion bar, each pair of chambers being partially defined by a pair of spaced teeth radially extending from one of the sleeve members and a tooth extending radially in the opposite direction from the other sleeve member between and in spaced relation to the teeth of said pair and having its peripheral face spaced from said one sleeve member to provide an orifice passage connecting said pair of chambers whereby a damping torque is produced during said relative rotation by liquid flow between the chambers of the respective pairs, each said pair of spaced teeth having peripheral bearing contact with said other sleeve member.

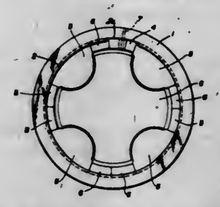
3,263,451
TORQUE OVERLOAD CONTROL DEVICE
Borge R. Reimer, St. Catharines, Ontario, Canada, assignor to Hayes Steel Products Limited, Thorold, Ontario, Canada, a corporation of Canada
Filed Mar. 23, 1964, Ser. No. 353,888
17 Claims. (Cl. 64—29)

1. A first and a second member,
(a) a coupling means coupling said first and second members in torque transferring relationship,
(b) said coupling means including a clutch means and a torsionally operative resilient means disposed in a serial relationship,
(c) said resilient means being operatively positioned between said clutch means and one of said members,
(d) and clutch disengaging means operatively connected to one of said members upon a predetermined amount of relative rotation between said first and second members and being operative to disengage



said resilient means from a portion of said clutch means and engage said resilient means solely to said one member,
(e) whereby said torque transferring relationship between said members is terminated.

3,263,452
COUPLING
Richard Janssen, Theodor Burdelski, and Kurt Volks, Dusseldorf, Germany, assignors to Ferroplast, Theo. Burdelski & Co., Dusseldorf, Germany, a corporation of Germany
Filed June 15, 1964, Ser. No. 375,050
Claims priority, application Germany, June 14, 1963, B 72,290
14 Claims. (Cl. 64—30)

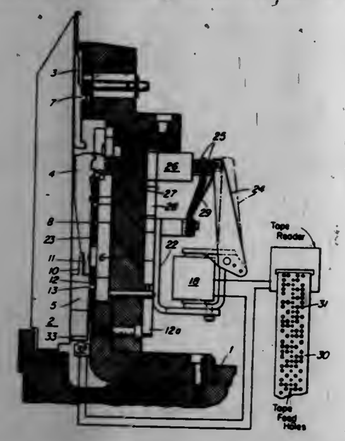


1. A coupling consisting of a sleeve and a shaft lying within the sleeve with grippers between the sleeve and shaft which are movable in a direction parallel to the clutch axis and are exchangeable,
distinguished by the fact that
liners are arranged between the grippers and rest on the inside wall of the sleeve, with the assistance of tension devices creating tangential tension which press against each other and against the sleeve wall, and are retained in that position relative to each other.

3,263,453
CIRCULAR KNITTING MACHINES
Frederick Henry Carrotte, Leicester, and Kenneth A. Hartley, Coundon, Coventry, England, assignors to A. Kirkland & Company Limited, Leicester, England, a British company
Filed Dec. 4, 1963, Ser. No. 327,912
Claims priority, application Great Britain, Dec. 6, 1962, 46,042/62
11 Claims. (Cl. 66—50)

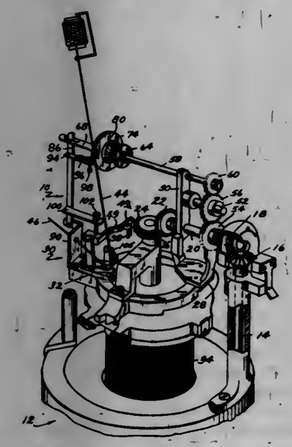
1. Setting apparatus for a circular knitting machine having two needle beds, one being a dial and the other being a cylinder, needles in the dial and needles in the

cylinder, a plurality of knitting stations, cam segments at each station to cooperate selectively with the dial and cylinder needles, devices associated with the needles of one bed and complementary cams which cooperate with the needles of that bed, said devices being capable of being adapted to be set selectively into and out of position to cooperate with the complementary cams comprising an abutment for mounting on the machine in such posi-



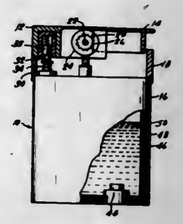
tion that the devices associated with the needles will move past it as a machine is rotated, said abutment being movable into position in which it will cooperate with one of the said devices adjacent to it when so mounted as to set the device into one of its two conditions, in combination with electromagnetically operated control means associated with such abutment for causing it to move in or out of the said position.

3,263,454
METHOD AND APPARATUS FOR KNITTING
Vaughn H. Butler, Harriman, Tenn., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Sept. 25, 1962, Ser. No. 226,018
8 Claims. (Cl. 66—132)



1. Method of knitting a circular compressive stocking with a main nylon yarn strand, a bare elastomeric polyurethane yarn strand and a covering nylon yarn strand comprising the steps of feeding the covering yarn strand and the elastomeric yarn strand to the same point in the knitting station and plaiting the same to thereby position the cover yarn to the outside of the fabric while controlling the length of the elastomeric yarn strand during feeding thereof by wrapping the yarn about a rotating feed wheel interposed between a yarn supply and the knitting station, the circumferential surface of the wheel having a high coefficient of friction and a low static conductivity whereby the yarn is fed to the knitting station without substantial variations of length; the rotating feed wheel feeding the yarn to a feeding station having a yarn finger adjacent the knitting station; the yarn finger having two angular holes including an upper hole which is closer to the needles of the knitting station; the method further including running the elastomeric yarn through said upper hole.

3,263,455
LIGHTER CONSTRUCTION
James D. Smith, Stroudsburg, Pa., assignor to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Filed Apr. 27, 1964, Ser. No. 362,726
12 Claims. (Cl. 67—7.1)

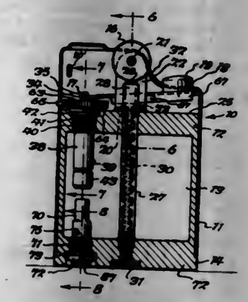


1. A lighter comprising a fuel container formed of a structurally rigid metallic electrodeposit upon a plastic liner, fuel burning means including a fuel passageway interconnecting the interior of said fuel container and a point external thereto, ignition means and ignition actuating means mounted in interoperative relationship above said fuel container for initiating fuel combustion at said external point said ignition means comprising a peripherally abraded plastic sparking element and a metallic electrodeposit thereon.

3,263,456
LIGHTER
Leonard S. Dexter, 29 Dewbourne, Toronto, Ontario, Canada
Filed Aug. 3, 1964, Ser. No. 386,853
1 Claim. (Cl. 67—7.1)

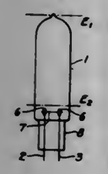
A lighter comprising a first housing, a chamber in said first housing for storing a fuel at above atmospheric pressure, a spark wheel mounted at one end of said first housing, a fuel nozzle located proximate said spark wheel and at one side thereof, a lever having a first end thereof located at said end of said first housing on the opposite side of said spark wheel from said fuel nozzle whereby a person's finger leaving said spark wheel must invariably fall on said first end of said lever, valve means mounted proximate said fuel nozzle and supporting said fuel nozzle, said valve means including a second housing having an internal portion thereof in communication with said chamber in said first housing, a third housing mounted on said second housing and having a portion thereof in communication with said internal portion of said second housing and a portion thereof in communication with said nozzle, poppet valve means on said third housing for preventing the flow of fuel in said internal portion of said second housing through said nozzle, spring means in said second

housing for biasing said poppet valve means to a closed position, said nozzle forming a part of said poppet valve means, interengaging means coupling said nozzle and a second end of said lever which is opposite to said first end, said spring means biasing said lever to a first position when said poppet valve means are closed, said lever including a central portion pivotally mounted on said first housing, stop means for limiting pivotal movement of said lever to a predetermined amount to a second posi-



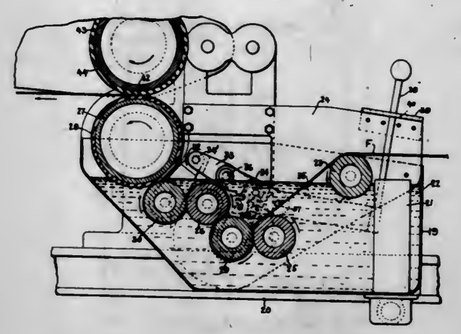
tion when actuated by said person's finger against the bias of said spring means, and means for moving said second and third housings relative to each other in an axial direction to vary the amount of opening movement provided by said poppet valve means when said poppet valve means are moved in response to the depressing of said first end of said lever by said finger to thereby provide an arrangement for adjusting the amount of flow of said fuel from said nozzle.

3,263,457
PHOTOFLASH LAMP
Hans Reiber, Augsburg, Germany, assignor to Patent-Treuhand-Gesellschaft fur elektrische Gluhlampen m.b.H.
Filed Feb. 4, 1963, Ser. No. 256,051
Claims priority, application Germany, Feb. 9, 1962, P 28,770
4 Claims. (Cl. 67—31)



1. A photoflash lamp comprising an elongated tubular envelope having a volume of less than one cubic centimeter and formed of radiation-transmitting vitreous material filled with oxygen at a pressure of about 20 atmospheres or greater, finely divided combustible material, and ignition means: said ignition means having at least one current inlead which extends inwardly from at least one end of said envelope a total distance of less than 25% of the total internal length of the envelope, and the portion of the internal length of the envelope exclusive of the inward extents of the ignition means containing said combustible material and constituting at least 75% of the total internal length of the envelope.

3,263,458
APPARATUS FOR DYEING TUBULAR KNIT MATERIAL
Samuel Cohn, New York, Eugene Cohn, Great Neck, and Frank Catallo, Elmont, N.Y., assignors to Samcoe Holding Corporation, Woodside, N.Y., a corporation of New York
Continuation of application Ser. No. 55,672, Sept. 13, 1960. This application Aug. 14, 1963, Ser. No. 302,094
5 Claims. (Cl. 68—22)



1. Apparatus for continuously and uniformly impregnating tubular knit fabric with a dye liquid to provide dyed tubular knitted fabric free of edge marks, which comprises

(a) a reservoir for maintaining a bath of the liquid at a predetermined level,

(b) means adjacent the entry end of the reservoir for guiding the tubular fabric and presenting it in flat form into the bath,

(c) a plurality of pressure rollers below the surface of the bath and forming a succession of submerged nips arranged successively to receive and apply concentrated pressure to the fabric,

(d) said pressure rollers being wholly submerged in said bath, whereby said fabric remains continuously and wholly submerged in said bath while passing through said succession of submerged nips,

(e) the succession of submerged nips comprising a plurality of non-resilient rollers forming concentrated pressure nips,

(f) certain of the non-resilient rollers being mounted for rotation on normally fixed axes and being spaced from each other,

(g) the remainder of the non-resilient rollers being controllably and forcibly movable into and out of the spaces formed between the fixed rollers,

(h) the movable rollers being suspended at each end by pairs of support arms,

(i) the support arms being pivotally secured to yokes at opposite ends of the rollers,

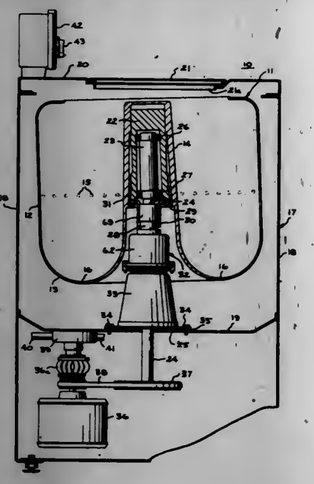
(j) the yokes being mounted for pivoting movement about axes substantially centrally between the pivot axes of the support arms,

(k) means being provided for controllably moving the pivot axes of the yokes toward and away from the normally fixed rollers, and

(l) an extracting nip mounted adjacent the exit end of the reservoir and above the level of the bath and comprising a pair of extracting rolls having resilient outer surfaces,

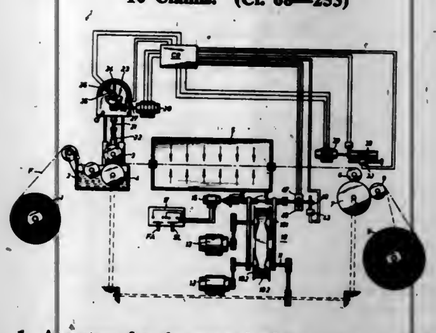
(m) said pressure rollers being mounted in a contacting series, whereby the fabric is caused to be in edge-to-edge control contact with a dimensionally stable surface while passing through said submerged nips.

3,263,459
CLUTCH MECHANISM FOR A WASHING MACHINE
John Bochan and Eugene A. Pottinger, Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed Sept. 25, 1964, Ser. No. 399,158
7 Claims. (Cl. 68—23)



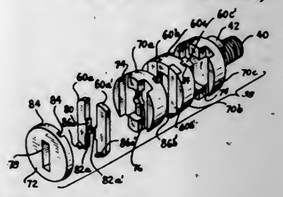
1. In an automatic washing machine, including a basket to receive liquid and clothes to be washed in the liquid, wash means for effecting washing of the clothes, a drive shaft, a sleeve concentric with the drive shaft and connected to the basket, and drive means for selectively rotating the drive shaft in opposite directions to selectively produce a wash period of operation and a centrifugal extraction period of operation; a clutch mechanism including:
(a) an input hub mounted on said shaft for rotation therewith and extending axially thereof in spaced relationship with said sleeve,
(b) brake means including an elongated brake hub mounted around said sleeve for rotation relative thereto,
(c) first wound spring clutch mounted on said sleeve and said brake hub,
(d) an intermediate member mounted on said shaft for rotation relative thereto between said sleeve and said input hub, and
(e) a second wound spring clutch mounted on said input hub and said intermediate member,
(f) said second spring clutch slipping with respect to said input hub and said intermediate member when the drive means rotates said shaft in a first direction to effect relative motion of said shaft with respect to said sleeve to provide a wash period of operation,
(g) said second spring clutch firmly seizing upon said input hub and said intermediate member when the drive means rotates said shaft in a second direction to lock said input hub to said intermediate member and said intermediate member drivingly engaging said first spring clutch to cause said first spring clutch to slip with respect to said sleeve and said brake hub, the friction between said sleeve and said first spring clutch causing said sleeve to rotate with said shaft for spinning the basket to provide a centrifugal extraction period of operation,
(h) said intermediate member ceasing to drivingly engage said first spring clutch at the conclusion of the centrifugal period of operation so that said first spring clutch will firmly seize upon said sleeve and said brake hub to lock sleeve to said brake hub whereby the basket is connected to said brake means for terminating spinning of the basket.

3,263,460
SYSTEM FOR THE CONTROL OF SQUEEZING PRESSURE APPLIED TO TRAVELLING WEB MATERIAL
Hans Kabelitz and Herbert Jennihsen, Monchen-Gladbach, Germany, assignors to Gebrüder Sucker, Monchen-Gladbach, Germany, a corporation of Germany
Filed Dec. 18, 1964, Ser. No. 419,493
Claims priority, application Germany, Dec. 21, 1963, S 88,847
10 Claims. (Cl. 68—253)



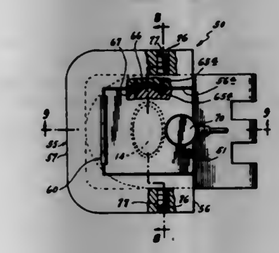
1. A system for the control of squeezing pressure applied to traveling textile material, comprising means defining a travel path for material, a variable-speed drive for moving the material along said path, speed control means connected with said drive for varying the travel speed, a squeezing device engageable with the material on said path and having pressure adjusting means for varying the squeezing pressure, pulse generating means in controlling connection with said pressure adjusting means and responsively connected to said speed control means for effecting pulsewise variation of the squeezing pressure in dependence upon the travel speed of the material.

3,263,461
CYLINDER LOCK
John A. Tartaglia, 108 Stoddard Road, Waterbury, Conn.
Filed Nov. 21, 1963, Ser. No. 325,240
3 Claims. (Cl. 70—383)



1. In a cylinder lock employing multiple tumblers and individual retainers therefor, wherein said tumblers are slidably received transversely of the axis of the lock, a barrel rotatably receiving said retainers and tumblers, means for maintaining said tumblers and retainers against movement axially of said barrel, a bolt operatively associated with the innermost retainer in said barrel and fixedly rotatable therewith to throw said bolt from a locking to an unlocking position, said barrel having axial slot means on its inner surface for engagement by said tumblers to dispose them eccentrically of their respective retainers thereby preventing rotation thereof in the barrel, a keyway extending through said retainers, and camming means on said tumblers projecting into said keyway for camming said tumblers to a position symmetrical with said retainers upon the insertion if a proper key, the improvement which comprises:
(a) first means comprising an axial projection fast with each of said tumblers adjacent an end thereof;
(b) cooperative second means comprising a mating groove in the opposing face of each adjacent tumbler retainer for each of said first means;
(c) said first means being slidable into and out of engagement with said second means upon transverse sliding movement of said tumblers from positions symmetrical with the respective retainers to positions eccentric thereof as occasioned by movement of said tumblers into said barrel slot.

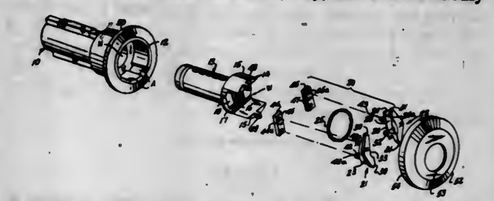
3,263,462
LOCKING DEVICE
Leonard William Suroff, 68—04 Burns St., Jericho, N.Y., and Hyman Suroff, 254 E. 56th St., Brooklyn, N.Y.
Filed Mar. 9, 1964, Ser. No. 350,426
10 Claims. (Cl. 70—447)



7. A locking device for preventing angular displacement of the manual actuator of a door lock having opposed surfaces, the combination comprising:
(A) A base having a shaped recess therein for the non-rotational acceptance of said actuator and whose inside circumference is slightly larger than the peripheral edge of the door lock actuator,
(B) A pair of spaced apart legs projecting from said base, and adapted to extend over the opposed surfaces of the door lock, and
(C) Adjustable clamping means for securing said legs to the opposed surfaces of the door lock to resist any movement of the manual actuator.

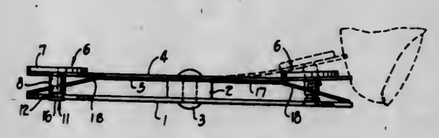
3,263,463
WEATHER SEAL
Robert Armand Duval and George P. Patriquin, Worcester, Mass., assignors to Independent Lock Company, Fitchburg, Mass., a corporation of Massachusetts
Filed Apr. 24, 1964, Ser. No. 362,430
10 Claims. (Cl. 70—455)

2. A weather resistant cylinder lock assembly comprising a lock housing having a bore, a lock cylinder roatably mounted in said bore and having a longitudinally extending keyway, a weather seal adjacent the face of said cylinder including first and second transversely shiftable half sections, each said half section including longitudinally spaced front and rear shutter members, spring means biasing said front and rear shutter members of one said section into mating engagement with the front and rear shutters, respectively, of the other section, the engaging surfaces of said shutter being disposed substantially in a plane coincident with said keyway, and a downwardly



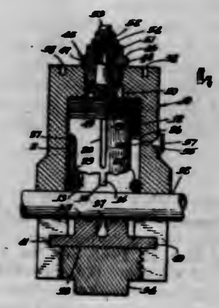
directed aperture formed through a lower part of said housing in registry with a space between said front and rear shutter members.

3,263,464
KEY HOLDER
Henry H. Campbell, 4469 Vicliff Road, West Palm Beach, Fla.
Filed May 4, 1964, Ser. No. 364,720
6 Claims. (Cl. 70—456)



1. In a key holder of the class described, in combination, a holder body, a latch carrier spaced therefrom having a movable section, a one piece latch member longitudinally shiftably connected to said section for movement to and from locked position, said member including means to engage a key intermediate the body and carrier and interengage with the body to retain the key, and means permitting separation of said latch member from said body.

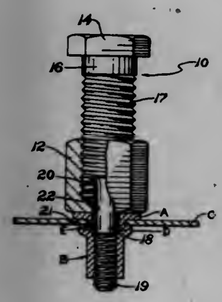
3,263,465
APPARATUS FOR AND METHOD OF SEVERING AND SEALING HOLLOW CONDUIT
Arthur L. Way, 25 Claude Ave., Denville, N.J., and Robert C. Bivona, Clifton Road, Milton, N.J.
Filed Dec. 14, 1961, Ser. No. 159,334
9 Claims. (Cl. 72—48)



1. Apparatus for sealing a hollow conduit, comprising a body member having open ended slot means for laterally receiving the hollow conduit, means including a die por-

tion and a conduit supporting member movably positioned in the body member on opposite sides of the conduit for sealing the conduit, said supporting member being movable toward the conduit in the open ended slot means of the body member to cause the conduit to be clamped therein, and means for propelling the die portion at a high velocity into cooperative relation to the supporting member to seal the conduit.

3,263,466
TOOL
James R. Shackelford, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Feb. 3, 1964, Ser. No. 341,939
1 Claim. (Cl. 72—114)

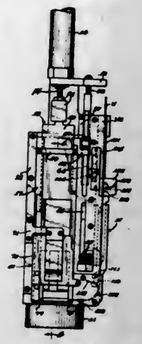


A tool for upsetting axially deformable threaded fasteners, said tool comprising:

(A) a bolt having
  (1) a wrench-engageable head;
  (2) a large shank with an external thread thereon; and
  (3) a smaller shank coaxial with said large shank and with an external thread thereon of opposite hand than said thread of said large shank; and
(B) a nut having
  (1) a wrench-engageable external surface;
  (2) an external thread mating with the thread of said large shank;
  (3) a partially closed end through which only said small shank projects; and
  (4) said closed end having an external surface adapted to bear against the head of a fastener threaded onto said small shank projecting through said nut;
(C) said tool being operable by turning said nut on said thread of said large shank relative to said bolt to displace said small shank axially into said nut and thereby axially compress a fastener between said closed end of said nut and the engaged regions of said small shank with said fastener.

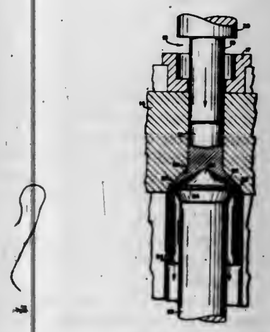
3,263,467
COMPONENT INSERTING HEAD
George A. Gagnon, Wilmette, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware
Filed Mar. 20, 1963, Ser. No. 266,596
13 Claims. (Cl. 72—131)

1. An inserting head for shaping and inserting an electrical circuit component including, a head frame, a forming anvil mounted on said frame, a slide movable on said frame relative to said anvil to form said component and carry said component away from the anvil, a ram movable relative to said slide for ejecting a formed component from said slide, and means mounting parts of said ram, slide, and anvil for interrelated movement relative to other parts of said ram, slide and anvil respectively to provide



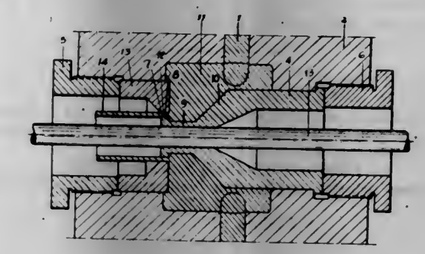
for different lengths of components to be shaped and inserted.

3,263,468
METHOD AND APPARATUS FOR EXTRUSION OF TUBES
Douglas W. Rowell, Litchfield, Conn., assignor to Anaconda American Brass Company, a corporation of Connecticut
Filed Apr. 21, 1965, Ser. No. 452,446
12 Claims. (Cl. 72—267)



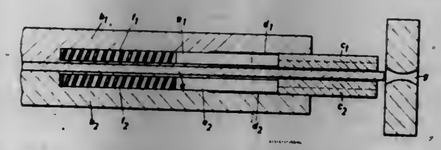
1. In an extrusion press for producing an extruded tube wherein said press has a billet chamber and a ram for driving a billet through a billet chamber, the improvement in combination therewith comprising an outwardly flared die at the outlet end of the billet chamber, a mandrel about which the billet is extruded into tube form, said mandrel having a flared mandrel surface extending outwardly at an angle to the axis of the press and terminating in a maximum sizing diameter, said die having a flared die surface extending outwardly from the outlet end of the billet chamber to a diameter greater than the maximum sizing diameter of the mandrel, the mandrel surface and the die surface being in axial spaced relationship and defining therebetween outwardly extending aperture sizing means for sizing the wall thickness of the tube and directing metal flow outwardly away from said mandrel and axially into an extruded tube having an inside diameter greater than the maximum sizing diameter of said mandrel.

3,263,469
TUBE-EXTRUSION AND CABLE-SHEATHING PRESSES
Karl Seidel, Moers, Germany, assignor to Schloemann Aktiengesellschaft, Dusseldorf, Germany
Filed June 10, 1964, Ser. No. 374,002
Claims priority, application Germany, June 27, 1963, Sch 33,467
2 Claims. (Cl. 72—269)



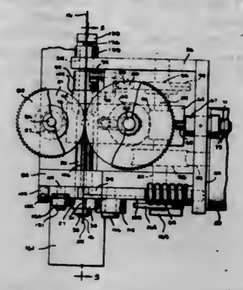
1. An extrusion press for the production of tubular cable sheaths, comprising: a press head, a die, formed with a cylindrical die aperture, mounted in the press head, a hollow mandrel in the press head, the mandrel having a portion of its external surface tapering conically towards the die and an externally cylindrical portion extending from the conical portion to the die, an extrusion chamber enclosed in the press head and surrounding the cylindrical and conical external surfaces of the mandrel, and a cylindrical collar at the inner end of the cylindrical portion of the mandrel, the axial length of this collar being equal to the axial length of the die aperture, and the front and rear surfaces of the collar registering with the front and rear ends of the die aperture.

3,263,470
DEVICE FOR PUSHING A BAR THROUGH A DRAWING DIE
Horst Schneider, Troisdorf, Germany, assignor to Kloeckner-Werke A.G., Duisburg, Germany
Filed Dec. 10, 1965, Ser. No. 512,994
Claims priority, application Germany, Dec. 12, 1964, K 54,800
7 Claims. (Cl. 72—284)



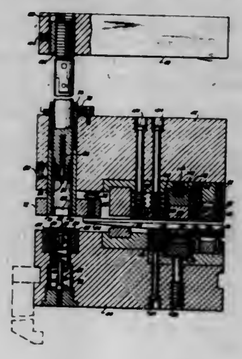
1. A device for pushing the front end portion of a bar through a drawing die comprising, in combination, pusher means having a front end portion for gripping a bar with an end portion of the bar projecting beyond said front end of said pusher means and for pushing the bar through a drawing die; and a pair of auxiliary jaws slidably guided in said pusher means and projecting with portions thereof beyond said front end of said pusher means and adapted to slidingly engage the end portion of a bar projecting beyond the front end of said pusher means to prevent buckling of said end portion of the bar as it is pushed through the drawing die, said auxiliary jaws retracting into said pusher means during pushing of the bar into the drawing die.

3,263,471
HEADING APPARATUS
William C. Martin and Gustav O. Steguer, Naperville, Ill., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 28, 1963, Ser. No. 283,897
9 Claims. (Cl. 72—294)



1. An apparatus for forming headed leads from wire:
means to advance the wire to a predetermined position;
anvil means for gripping the wire when in the predetermined position;
a shear member spaced from said anvil means;
a heading tool mounted adjacent said shear member for axial and pivotal movement and having a shear thereon;
means for pivoting said heading tool to cause said shear thereon to engage said shear member and to cut the wire therebetween; and
means for axially moving said heading tool toward said anvil means to effect the heading of the wire gripped by said anvil means.

3,263,472
PROGRESSIVE DIE FOR MANUFACTURE OF MANUALLY OPENABLE CROWN BOTTLE CAPS
Fred A. Arndt, Upper Montclair, and Roy Barraclough, Fair Lawn, N.J., assignors to United States Crown Corporation, Saddle Brook, N.J., a corporation of Delaware
Filed Oct. 18, 1963, Ser. No. 317,288
15 Claims. (Cl. 72—324)



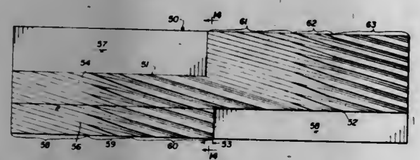
1. A progressive die for making a crown bottle cap having a body and a tab for manual removal, said die comprising relatively movable holders, punches on one holder and mating dies on the other holder at a first station for making small holes at the two intersections of the tab blank periphery and the body blank periphery, a U shaped lancing punch on one holder and a mating die on the other holder at a second station to form a flange

defining the tab between said holes, and mating forming dies on said holders at a third station to close the flange defining the tab.

3,263,473
METHOD AND APPARATUS FOR MAKING THREADED FASTENERS

Harvey F. Phipard, Jr., South Dartmouth, Mass., assignor to Research Engineering and Manufacturing, Inc., New Bedford, Mass., a corporation of Massachusetts

Filed Mar. 12, 1964, Ser. No. 351,469
17 Claims. (Cl. 72—374)



1. The method of making a self-tapping screw having a round shank and a tapered lobular thread-forming end portion, said method including the steps:

(a) forming a blank having a round shank portion and a thread-forming end portion,

(b) then rolling said blank between a pair of opposed thread-forming die surfaces while applying thread-forming pressures to said shank and thread-forming end portions,

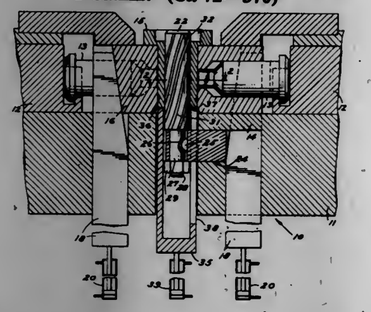
(c) and during said rolling, at least while applying thread-forming pressure to said shank portion, maintaining a non-undulating distance between the axis of said blank in said shank portion and the adjacent die surfaces and thereby generating a continuous helical thread formation on said shank portion having circular pitch diameter cross sections,

(d) and further during said rolling, at least while applying thread-forming pressure to said end portion, causing said axis in said end portion to undulate relative to the adjacent portions of said die surfaces, and thereby generating on said end portion a continuation of said helical thread formation having lobular pitch diameter cross sections of arcuate polygonal configuration.

3,263,474
METHOD AND APPARATUS FOR FORMING SPLINES

Alex M. Pentland, Ann Arbor, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Dec. 14, 1962, Ser. No. 244,607
2 Claims. (Cl. 72—370)

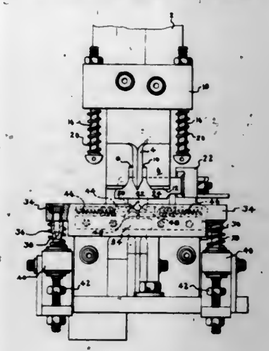


1. The process of forming an internal spline in a hollow deformable blank comprising bringing the internal diameter of the hollow blank to the required final interior diameter, inserting a die into the hollowed portion of said blank without altering the interior diameter, said die having a configuration conforming to the desired internal spline and a diameter essentially the same as the interior diameter of the hollow blank, and causing a pressure to be exerted on the exterior of said blank over an area greater in width than the width of the spline to be formed, said pressure being of such magnitude that the blank is extruded into the die and the internal spline is given its final shape in a single extrusion step, the formation of the spline taking place while the blank is stationary.

3,263,475
TWIN CRIMP APPLICATOR

Lodevicus Lambertus Johannes van de Kerkhof, 's-Hertogenbosch, Netherlands, assignor to AMP, Incorporated, Harrisburg, Pa.

Filed July 23, 1963, Ser. No. 297,031
Claims priority, application Netherlands, July 25, 1962, 281,370
8 Claims. (Cl. 72—381)

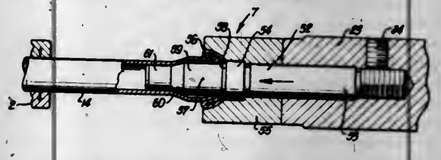


1. An assembly for crimping electrical connectors simultaneously to the ends of two juxtaposed electrical wires arranged in parallel relationship, the assembly comprising a pair of juxtaposed spaced connector crimping die sets and a wire separating mechanism actuatable to separate the wire ends and to retain the wire ends in their separated position, and means for locating each wire end in an electrical connector disposed between the dies of one of the die sets.

3,263,476
METAL FORMING PROCESS FOR SHAPING ENDS OF TUBES AND THE PRODUCT THEREOF

Gottlob Hinderer, Sylmar, Calif., assignor to Price-Pfister Brass Mfg. Co., Los Angeles, Calif., a corporation of California

Original application Aug. 21, 1961, Ser. No. 132,868, now Patent No. 3,225,581, dated Dec. 28, 1965. Divided and this application Mar. 15, 1965, Ser. No. 447,936
2 Claims. (Cl. 72—386)



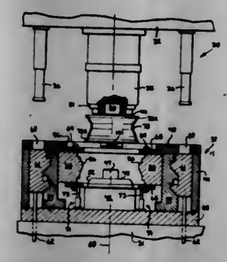
1. In a punch for folding and constricting the end of a metallic tube: an outer sleeve having at its active end a concave surface forming a spherical zone; and a cylindrical punch member located concentrically at the

axis of the zone, and projecting outwardly beyond the surface; said surface having an outer larger circular end and an inner smaller circular end, the outer circular end having a diameter substantially equal to the spherical diameter of the zone.

3,263,477
APPARATUS FOR FORMING METALLIC RING MEMBERS

Ralph E. Roper, Indianapolis, Ind., assignor to Wallace Expanding Machines, Inc., Indianapolis, Ind., a corporation of Indiana

Continuation of application Ser. No. 167,320, Jan. 19, 1962. This application Apr. 28, 1965, Ser. No. 453,559
9 Claims. (Cl. 72—401)



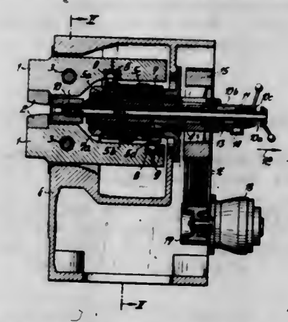
1. Forming apparatus comprising a pair of elements each having a pair of projecting lips adapted to receive a workpiece therebetween for supporting the workpiece when said elements are in a first position, the lips of one element projecting toward the lips of the other element so that the elements engage the opposite sides of the workpiece when the elements are in said first position, a forming die movable through a path between an initial position and a position at which the die forms the workpiece, the lips of each pair being spaced apart in the direction of said path, a further position of said die along said path being such that the die is received by and firmly seated upon the workpiece being supported by said elements, said elements being reciprocal away from one another from said first position to a second position wherein said lips are disengaged from said workpiece, a pair of cams fixed with relation to said die and movable therewith, said cams having cam surfaces adapted to locate and hold said elements in said first position when said die is between said initial and further positions and to release said elements for movement away from said first position when said die is between said forming position and said further position, spring means yieldably holding said elements in said first position, and latch means arranged to automatically lock said elements in said second position upon movement of said elements thereto, and projections upon said cams positioned to disengage said latch means as said die moves into said further position from said forming position.

3,263,478
FORGING MACHINES

Hans Brauer and Gerd Schmittert, Solingen, Germany, assignors to Th. Kieserling & Albrecht, Solingen (Rhine), Germany

Filed Oct. 9, 1963, Ser. No. 314,974
Claims priority, application Germany, Oct. 12, 1962, K 47,956
10 Claims. (Cl. 72—402)

1. In a forging machine, in combination, stationary support means; rotary drive shaft means supported for rotary movement by said support means in a position where the axis of said drive shaft means extends in the same direction as the work which is treated by the machine; a plurality of now-rotary tool-carrying lever means distributed about and extending in the same general direction as said rotary drive shaft means, the number of said stationary tool-carrying lever means extending two; a plurality of pivot means respectively supporting said plurality of lever means for tilting movement, said plu-

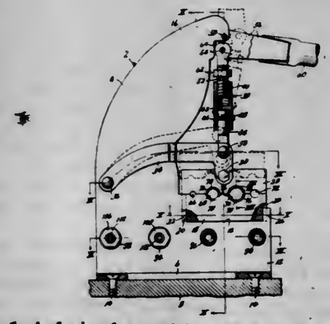


rality of pivot means being respectively carried by said stationary support means and each of said pivot means extending perpendicularly with respect to said rotary shaft means; and actuating means extending between and cooperating with said rotary shaft means and said plurality of now-rotary lever means for actuating the latter.

3,263,479
ATTACHING DEVICE FOR HOSE FITTINGS

Otto J. Johnson, 6209 E. 11th St., Kansas City 26, Mo.

Filed June 26, 1963, Ser. No. 290,768
6 Claims. (Cl. 72—416)



1. A device for applying a hose to a hose fitting including a tubular nipple adapted to enter said hose and a cylindrical malleable ferrule adapted to surround said hose and nipple, said device comprising:

(a) a frame,

(b) a jaw carried fixedly by said frame,

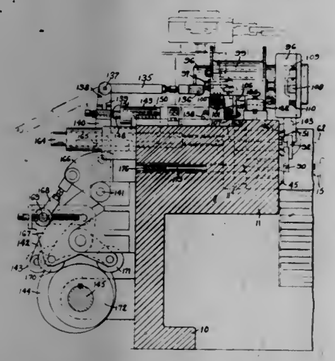
(c) a jaw carried by said frame for movement toward and from said fixed jaw, said jaws having cooperating generally semicylindrical crimping grooves in the mating faces thereof for receiving said ferrule therebetween when the jaws are separated, said grooves cooperating to form a cylindrical bore when said jaws are closed to reduce the diameter of said ferrule,

(d) an arm pivoted at one end to said movable jaw on an axis parallel to said crimping grooves and pivoted at its opposite end to said frame at a point remote from said movable jaw on an axis parallel to the pivotal axis of said movable jaw, whereby pivotal movement of said arm causes movement of said movable jaw away from said fixed jaw and

also displaces said moveable jaw relative to said fixed jaw in a direction transverse to said crimping grooves, the pivotal connection of said movable jaw to said arm being remote from the mating surfaces of said jaws whereby pivotal movement of said movable jaw on said arm can return said crimping grooves into lateral alignment, and

(e) operating means for moving said movable jaw toward and from said fixed jaw.

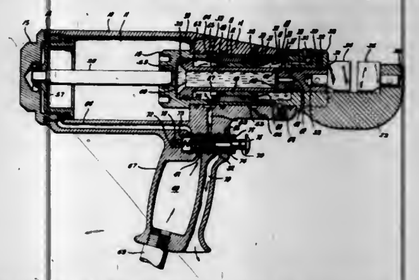
3,263,480
TRANSFER MECHANISM FOR HEADER MACHINES
Raymond H. Carlson, Rockford, Ill., assignor to Textron Industries, Inc., Rockford, Ill., a corporation of Delaware
Original application July 6, 1959, Ser. No. 825,363, now Patent No. 3,158,047, dated Nov. 24, 1964. Divided and this application Sept. 23, 1964, Ser. No. 398,527
10 Claims. (Cl. 72—421)



1. A header having a frame, a die bed thereon,
transfer mechanism including a holder member and workpiece-gripping means on said holder member mounted adjacent the die bed for transferring a workpiece of substantial length formed from rod or wire stock from a first die to a second die,
means for actuating said mechanism in a plane generally parallel to the face of the die bed to effect such transfer,
means for moving said transfer mechanism away from and toward the face of the die bed in a direction perpendicular to said face whereby the workpiece will first be moved outwardly in a straight line until the inner end thereof is clear of the face of said first die and subsequently will be moved in a straight line and securely inserted by said gripping means into a cavity in said second die,
and drive connections between said means for actuating and for moving said transfer mechanism to the main drive means of said header whereby said transfer mechanism will be driven by said main drive means in synchronism with other mechanism of said header.

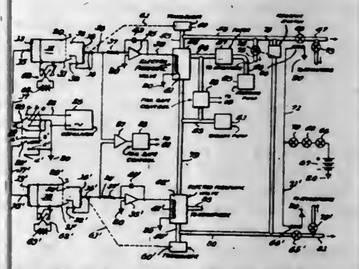
3,263,481
PNEUMA-HYDRAULIC FORMING TOOL
George A. Boyd, Pasadena, and Clifford R. Patterson, Taft, Calif., assignors to Reed Roller Bit Company, Houston, Tex., a corporation of Texas
Filed Aug. 5, 1963, Ser. No. 299,964
7 Claims. (Cl. 72—453)

1. A forming tool comprising a casing, a cylinder mounted within one end of said casing, a yoke member secured to said cylinder and arranged to project beyond said end of the casing, a plunger slidably mounted in a portion of said yoke, a die carried by said plunger, a second die carried by another portion of said yoke in alignment with the first die to receive a piece of work to be formed, a piston having a hollow depending rod portion slidably mounted in said cylinder, said plunger secured to the hollow depending rod portion of said piston and defining therewith a fluid containing cavity, means in said cylinder arranged in concentric relation with said hollow depending rod and defining with said piston a chamber, a piston slidably mounted in the other end of



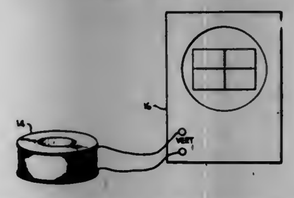
said casing, a ram carried by said last mentioned piston and arranged to extend through said cylinder into said fluid containing cavity, said casing connected to a source of compressed air, means carried by said casing for controlling the delivery of air to said casing for moving said piston and ram in said casing to compress said fluid to move as a unit the piston and plunger with the die for engaging and forming the workpiece, and said means controlling the evacuation of the air from the casing contemporaneous with the delivery of air to said chamber to retract the piston and plunger for separating said dies.

3,263,482
PRESSURE ANALOG GENERATING EQUIPMENT
Clifford A. Shank, Santa Monica, Calif., assignor to Shafford Electronics & Development Corporation, a corporation of California
Filed July 11, 1961, Ser. No. 123,174
3 Claims. (Cl. 73—4)



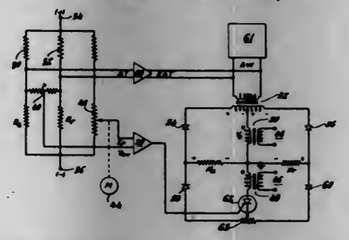
1. Circuitry for selectively developing fluid pressure outputs indicative of static and ramp conditions for aircraft comprising a feed-back amplifier, means for producing pressure conditions above atmospheric, means to produce pressure below atmospheric, an electro-pneumatic valve connected to each of the pressure producing means, an output tube connected to said valve so that a pressure is produced which is the output pressure differential, means to control the electropneumatic valve from said amplifier to establish the pressure differential in the output tube as developed from each of said pressure differential producing means, a bridge circuit, means to connect the input circuit of the amplifier across one of the bridge diagonals to determine the current flowing through said amplifier in accordance with the balanced and unbalanced condition of the said bridge circuit, fluid transducer means connected to receive a fluid input pressure corresponding to that available in the output tube from said valve, means controlled by said transducer for returning the bridge circuit to a balanced state in its static operational mode and thereby reduce the amplifier input to substantially a zero value, switch means for transforming the bridge circuit from a static to a ramp condition and removing the output effect of the fluid transducer on the amplifier input during a ramp condition of operation, and means for supplying a controllable input signal of selected polarity to the amplifier for producing changing amplifier outputs and resultant pressure changes in the output of the electro-pneumatic valve during a controllable state of operation indicative of ramp conditions.

3,263,483
METHOD OF ADJUSTING END PLAY IN V BEARINGS OF CLOCKS, WATCHES AND INSTRUMENTS
Warren P. Morrow, Wheaton, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed June 18, 1964, Ser. No. 376,278
3 Claims. (Cl. 73—9)



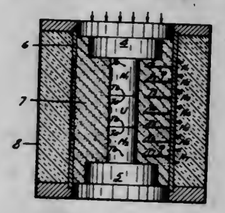
1. An improved method of adjusting the end play in V bearings in precision instruments comprising the steps of:
(a) electrically monitoring and providing a display of the motion of the pivot assembly in the bearings to be adjusted,
(b) decreasing the end play in the bearings until excessive friction is noted in the display, and
(c) increasing the end play in the bearings until optimum end play is achieved as shown by the display.

3,263,484
DIFFERENTIAL MICROCALORIMETER
Emmett S. Watson, Ridgefield, and Michael J. O'Neill, West Redding, Conn., assignors to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed Apr. 4, 1962, Ser. No. 185,499
24 Claims. (Cl. 73—15)



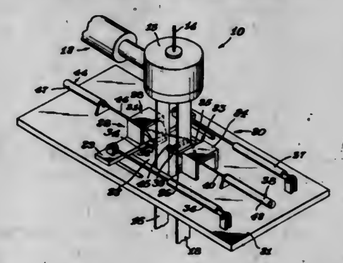
8. Apparatus for performing an analysis of a sample material which comprises: a reference material; means for varying the environment of said sample material; means for measuring the difference in temperature between said sample material and said reference material; an external source of energy; means for varying the relative flow of thermal energy both between said sample material relative to said external source and between said reference material relative to said external source in response to said difference in temperature in such manner as to equalize the temperature of said sample and said reference material; means for independently varying equally an additional heat flow to both said sample and reference material in such manner as to cause them both to attain the same desired temperature; and means for measuring the difference in said first-mentioned relative flow of thermal energy between that supplied to said sample material and that supplied to said reference material.

3,263,485
APPARATUS FOR DETERMINING THERMAL CONDUCTIVITY
Parviz Mahmoodi, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Jan. 30, 1964, Ser. No. 341,349
6 Claims. (Cl. 73—15)



6. In an apparatus for determining the thermal conductivity of a solid material by a comparative method, a guard tube comprising an open ended cylindrical tube provided with at least one closely wound helical groove extending substantially over the entire outer wall thereof, a plurality of wires helically wound around said tube within said groove and arranged as a succession of heater coils wherein each succeeding coil begins immediately following the termination of a preceding coil, inwardly extending support means carried by the guard tube and thermocouples mounted on the support means and positioned to transversely align centrally with each coil.

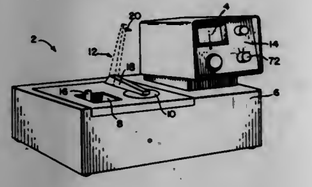
3,263,486
WELDABILITY TEST APPARATUS
Jerry W. Watts, Baton Rouge, and Earl J. Rothermel, Jr., Baker, La., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 26, 1964, Ser. No. 354,847
4 Claims. (Cl. 73—15.4)



1. An apparatus for evaluating the weldability of thermoplastic resinous materials comprising in cooperative combination an extruder having means to heat plastify a thermoplastic resinous composition and extrude the composition as a pair of generally parallel spaced-apart strands, means to press the strands together while in a

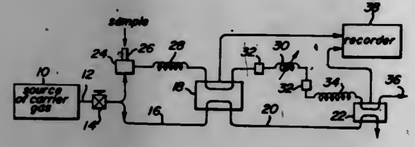
heat plastified condition at two separate locations, means to sever the portions of the two strands which are welded together from the extruded strands, means to deform the welded strands to a predetermined degree and place a stress upon the welds.

3,263,487
PIVOTALLY MOUNTED OPERATING HEAD
Augustus H. Fiske, Jr., West Redding, Conn., assignor to Fiske Associates, Inc., Bethel, Conn., a corporation of Massachusetts
Filed Apr. 14, 1964, Ser. No. 359,604
7 Claims. (Cl. 73—17)



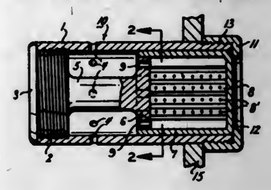
1. In a freezing point depression apparatus having a base, a coolant container mounted in said base, coolant circulating means and electrical means for measuring the freezing point of a sample solution, the improvement comprising: a probe arm pivotally secured to said base for rotation in a vertical plane; a probe unit comprising a temperature transducer and vibratory stirring means, said probe unit being mounted on the distal end of said probe arm; and means for positioning a cylindrical tube containing said sample solution in said coolant container so that when said probe arm is rotated downwardly said probe unit will be positioned along the axis of said tube and partially immersed in said sample solution without contacting any portion of said tube.

3,263,488
METHOD FOR GAS CHROMATOGRAPHY
Aaron J. Martin, Kennett Square, Pa., assignor, by mesne assignments, to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Mar. 4, 1963, Ser. No. 262,513
7 Claims. (Cl. 73—23.1)



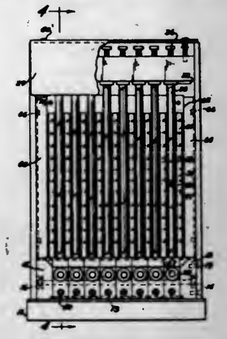
1. The method of effecting separation by gas chromatography of a plurality of components contained in a mixture, said method comprising the steps of:
passing a carrier gas containing said mixture at a predetermined flow rate through a first chromatograph column to effect separation of said mixture into a first component and second components, said second components normally being eluted substantially simultaneously and prior to said first component,
continuously passing said carrier gas containing said second components eluted from said first column at said predetermined flow rate through a serially connected substantially unobstructed conduit and second chromatograph column to separate said second components, said conduit having a sufficient volume so related to said flow rate to delay in time only said second components to prevent said first component from eluting from said first column and said second components from eluting from said second column at substantially the same time, the carrier gas continuously being flowed through both said columns during the entire period of the above separations.

3,263,489
ENERGY SENSOR
Morry L. Schimmel, University City, Mo., and Roy H. Bleikamp, Jr., and Victor W. Drexelius, Edwardsville, Ill., assignors to McDonnell Aircraft Corporation, St. Louis, Mo., a corporation of Maryland
Filed July 6, 1964, Ser. No. 380,553
6 Claims. (Cl. 73—35)



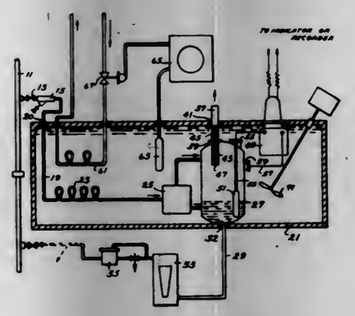
1. An explosive blast energy sensor comprising a housing, a fixed plunger in said housing, a piston telescopically received in said housing over and movable relative to the plunger, and a honeycomb section retained in said housing by and between the plunger and piston with its honeycombs directed axially of said plunger and piston so as to be adapted to be uniformly compressed therebetween by explosive energy to be measured impinging on the piston said honeycomb section being pre-crushed by an amount to initially overcome its honeycomb columnar strength, and said housing being vented to atmosphere to free said piston from compressing air.

3,263,490
AIR GAGE
William A. Minix, Detroit, Mich., assignor to Freeland Gauge Company, Detroit, Mich.
Original application June 25, 1963, Ser. No. 290,526, now Patent No. 3,170,318, dated Feb. 23, 1965. Divided and this application Nov. 25, 1964, Ser. No. 413,682
2 Claims. (Cl. 73—37.5)



1. A cabinet type multiple column gage comprising a single elongated base;
an elongated sectional valve body unit horizontally disposed and mounted on and secured to said base, and comprising a plurality of separate short valve bodies side by side and closely adjacent; with locking pins passing horizontally through these valve bodies to connect them to one another and thus form said valve body unit; with each valve body containing a bleed valve and a by-pass valve;
a horizontally disposed elongated single air tube support well above said valve body unit and parallel to it;
vertical air tubes or columns, one for each valve body, connecting said valve body unit to said support;
gage elements, one for each valve body;
outlet conduits, one for each valve body and each gage element, with each conduit connecting a valve body and a gage element;
cabinet side members connected at their lower ends to the ends of and thus connected by said valve body unit; and connected at their upper ends to the ends of and thus connected by said support;
an elongated single air supply manifold parallel to but alongside said valve body unit and having air supply conduits, one for each valve body, connecting the valve body unit to said manifold;
said manifold being connected at its ends to and thus connecting said side members.

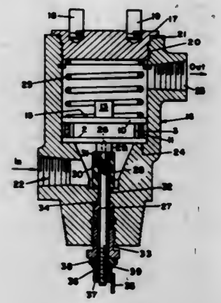
3,263,491
VAPOR PRESSURE MONITORING
Rupert A. Brown, New Canaan, Conn., Kevin N. Thompson, Whitestone, N.Y., and Robert W. Somers, Glassboro, N.J., assignors to Mobil Oil Corporation, a corporation of New York
Filed Nov. 16, 1962, Ser. No. 238,142
8 Claims. (Cl. 73—53)



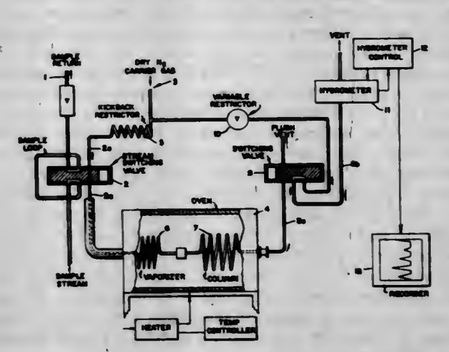
1. An apparatus for continuously determining vapor pressure of liquids comprising a measuring chamber, a closed container suitable for containing a standard fluid within said measuring chamber, means to continuously introduce liquid into said chamber, remove such liquid from said chamber, and maintain a pool of such liquid in said chamber immersing said closed container, means to detect any pressure differential between said container and said chamber, and means to provide a constant temperature bath immersing said measuring chamber.

3,263,492
STREAM MOISTURE INDICATOR
Julius Lerner, Broomall, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Continuation of application Ser. No. 104,874, Apr. 24, 1961. This application July 25, 1963, Ser. No. 297,650
4 Claims. (Cl. 73—53)

1. Apparatus for measuring the moisture content of a fluid stream, comprising a capacitive sensing unit through which said stream may flow, the effective capacitance of said unit, between its electrodes, varying as the moisture content of said stream varies, a housing adapted to be coupled into said fluid stream so that such stream can flow continuously therethrough, said housing having therein a seat near one end thereof; a removable closure at the other end of said housing, a compression spring bearing against both said closure and said unit to removably maintain the latter in position on said seat at said one end of the housing, the stream then flowing through said unit; and an electrical contact mounted in said housing in juxtaposition to said seat but insulated from the housing, so as to automatically contact one of the electrodes of said unit when the latter is in position on said seat.

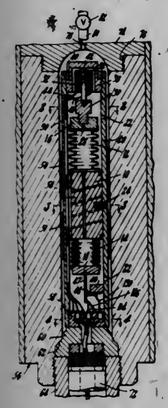


3,263,493
GAS CHROMATOGRAPH MOISTURE ANALYZER
Van Michael Davidson, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Apr. 13, 1964, Ser. No. 359,118
4 Claims. (Cl. 73—53)



1. A gas chromatograph-hygrometer moisture analyzer for a hydrocarbon sample containing hydrocarbon and moisture portions comprising chromatographic means for absorbing all moisture from said sample product for a predetermined time while passing through said chromatographic means the hydrocarbon portion thereof, means for passing said hydrocarbon portion sequentially and initially from said chromatographic means, a hygrometer, and means for passing the moisture portion of said sample to said hygrometer subsequent to the elimination of the hydrocarbon portion of said sample from said chromatographic means.

3,263,494
VISCOMETER
Leonard H. Abbot, Newton, Mass., assignor to Harwood Engineering Company, Walpole, Mass., a corporation of Massachusetts
Filed Oct. 21, 1963, Ser. No. 317,531
7 Claims. (Cl. 73—55)



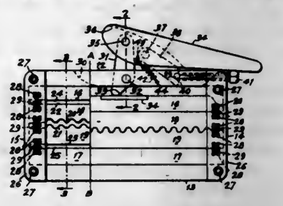
1. A viscometer of the capillary class adapted for determination of viscosity of a fluid according to a viscosity determining equation

$$U=\frac{\pi\Delta_p D^4}{128Ql}$$

stated in terms of static pressure drop Δ_p, and volume rate of flow Q through, and length l and internal diameter D of the capillary which comprises, in combination, a closed liquid viscosity measuring system having as elements thereof a capillary tube of known internal diameter D and length *l*, a longitudinal expandable and retractable spring bellows having a known spring rate and a known mean effective area attached to each end of said capillary tube in a normally spring balanced relation, access means through which the elements of said closed system are filled with the liquid to be tested, means for stressing said bellows into an unbalanced spring tensed position in which one of said bellows is elongated and the other bellows is shortened, and in which liquid from the shortened bellows is passed through the capillary tube into the elongated bellows, and for thereafter releasing said bellows for return to said normally spring balanced position, and means for measuring the change of length of said bellows while returning to said balanced position for a predetermined time interval for the determination of pressure drop and volume rate of flow in said equation thereby providing a determination of Δ_p of said equation in terms of the spring rate S times said change of length of said bellows divided by said known mean effective area A.

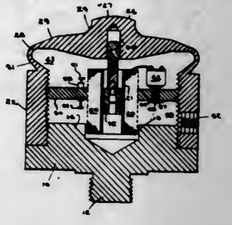
3,263,495
METHOD FOR CRUSH TESTING
Henry J. Ostrowski, Port Credit, Ontario, Canada, assignor to Domtar Limited, Montreal, Quebec, Canada, a company of Canada
Filed Oct. 14, 1963, Ser. No. 315,984
2 Claims. (Cl. 73—94)

1. A method of testing liners for corrugated paper board comprising firmly clamping the longitudinal edges of a pair of prepared liner samples between a pair of clamping surfaces, said samples being positioned such that the filler sides of said samples face inwardly toward each other, said samples projecting above the top edge of said surfaces, applying a straightener bar to the longitudinal edges of said samples that project above said surfaces,



and applying a compressive force to said samples through said straightener in a direction parallel to the faces of said samples to crush said samples.

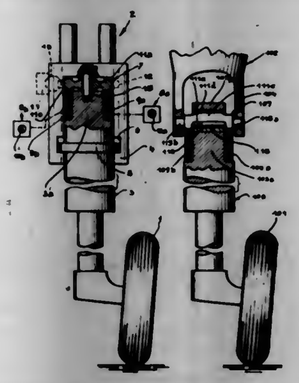
3,263,496
LOAD CELL AND WEIGHING SYSTEM
George H. Fathauer, Decatur, Ill., assignor to Radson Engineering Corporation, Macon, Ill., a corporation of Illinois
Filed Mar. 14, 1963, Ser. No. 265,087
24 Claims. (Cl. 73—141)



1. A force measuring system comprising an integral load cell having a fixed relatively massive and rigid load-bearing member, a circular, relatively massive, and rigid load-receiving member adapted to receive a force to be measured, an annular relatively thin and flexible outwardly-bowed member integral with said load-receiving member and connected to said load-bearing member for transmitting load substantially in an axial direction to said load-bearing member, the displacement of said load-receiving member relative to said load-bearing member being substantially without hysteresis, and means for electrically measuring said displacement.

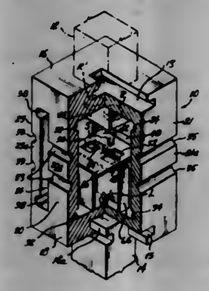
3,263,497
FORCE DIRECTING AND MEASURING ARRANGEMENT
Egwin Leiber, Kolner Strasse 42, Frankfurt am Main, Germany
Filed Mar. 14, 1963, Ser. No. 265,102
Claims priority, application Germany, Mar. 17, 1962, L 41,312; Aug. 8, 1962, L 42,662
22 Claims. (Cl. 73—141)

22. An arrangement for selectively directing forces into different paths and for measuring the magnitude of forces in at least one of such paths particularly for measuring forces transmitted between two structural elements of a vehicle comprising a first structural element and a second structural element located at a fixed distance from each other, said first element having a force transmitting surface portion and a measuring surface portion and said second element having a force transmitting surface, the distance between said force transmitting surface of said second element and said force transmitting surface portion of said first element being equal to the distance between said force transmitting surface of said second element and said measuring surface portion of said first element; and a detouring member having a width equal to the distance between said force transmitting portion of said second element and said portions of said first element; and means for moving said detouring member between a measuring position of adjustment in which it is located solely between said measuring surface portion of said first element and a



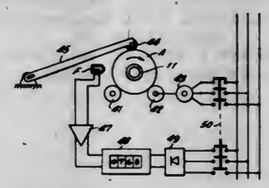
force transmitting surface of said second element and a force transmitting position in which it is located solely between said force transmitting surface portion of said first element and said force transmitting surface of said second element whereby said detouring member may be moved between said measuring and force transmitting positions thereof without change of distance between said structural elements.

3,263,498
LOAD CELL
Ronald L. Hagman, Renton, and Paul W. Olson, Milton, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed July 6, 1964, Ser. No. 380,215
7 Claims. (Cl. 73—141)



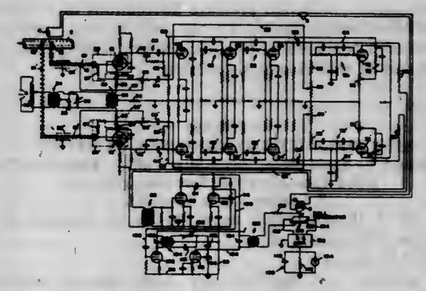
1. A load cell of the type adapted to measure force applied thereto by measuring its own distortion in response to such force comprising end portions to which an axial force may be applied and an intermediate force measuring portion including a pair of longitudinal transversely spaced wall members interconnecting said end portions, all of integral one-piece construction, said wall members being materially thinner in the direction of their transverse spacing than laterally of themselves and adapted to flex oppositely of one another in response to said axial force, a light source and light-sensitive detector means located within said device, light control means interposed between the light source and the detector means and including a pair of transversely overlapping parallel plate members, one attached to each of said wall members whereby opposite flexing of the wall members translates said plate members relatively, said plate members having corresponding light-transmitting areas normally disposed in partial light-transmitting registry whereby relative translation of the plate member varies said registry to control the amount of light transmitted to said detector means, and calibrated force indication means operatively associated with said detector means.

3,263,499
METHOD FOR TESTING THE YARN QUALITY OF MULTI-FRAME SPINNING OPERATIONS
Walter Gilth, Monchen-Gladbach, and Hans Raasch, Rheydt-Odenkirchen, Germany, assignors to Walter Reiners, Monchen-Gladbach, Germany
Filed Feb. 18, 1963, Ser. No. 259,117
Claims priority, application Germany, Feb. 17, 1962, R 32,118
5 Claims. (Cl. 73—160)



1. The method of testing the quality of yarn spun on multi-frame spinning plants, which comprises providing each resulting spinning cop with a core having magnetizable surface area and impressing upon said area a magnetic recording of discriminatory markings identifying the corresponding one of the respective spinning frames, immediately thereafter unwinding yarn from the completed cop and simultaneously counting any yarn faults, and magnetically reproducing and reading the markings for thereby tracing excessively faulty cops back to said corresponding one spinning frame.

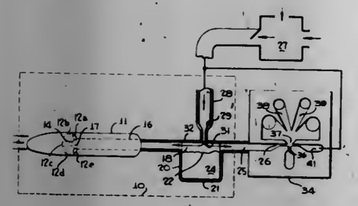
3,263,500
MAGNETIC FLOWMETER
Prathivadhi Bayankaram Krishnaswamy, Philadelphia, Donald L. Ham, Northampton, and John Peter Fath, Trevose, Pa., assignors to Fischer & Porter Company, Warminster, Pa., a corporation of Pennsylvania
Filed Aug. 27, 1962, Ser. No. 219,499
7 Claims. (Cl. 73—194)



4. A magnetic flowmeter comprising a conduit for fluid of which the flow is to be measured, means providing an alternating magnetic field transversely threading said con-

duit, electrodes arranged on a line extending transversely of both said field and the path of fluid flow through said conduit to pick up signals resulting from the fluid flow through said field, an amplifier sharply peaked at the frequency of said field receiving signals from said electrodes, means providing a reference signal synchronized with said field, synchronous product-forming rectifier means receiving the output of said amplifier and said reference signal and providing an output in the form of the mathematical product of instantaneous values of the output of said amplifier and of said reference signal, said synchronous rectifier means being in the form of a Hall generator having a magnetic field synchronous with the field threading said conduit and an electrical input provided by the output of the amplifier, and means measuring the direct component of said product output, the last mentioned means including a smoothing filter of long time constant for the suppression of transient variations of said direct component.

3,263,501
PRESSURE SENSING AND MEASURING DEVICE
Romald E. Bowles, 12712 Meadowood Drive, Silver Spring, Md.
Filed Jan. 9, 1964, Ser. No. 336,677
8 Claims. (Cl. 73—389)



1. A system for sensing the static pressure in a fluid medium comprising: fluid conveying means having ends through which fluid pressure signals travel; a fluid resistance in each end of said conveying means for restricting the flow of fluid therethrough, a fluid capacitance communicating with said conveying means for receiving fluid from, and for discharging fluid into said conveying means as the pressure in said conveying means respectively increases and decreases, fluid supply means connected to said conveying means for discharging fluid at a predetermined pressure into said conveying means, and a fluid resistance in said supply means for restricting flow from said supply means to said conveying mean, the combination of fluid resistances in each end of said conveying means and said fluid capacitance providing a time constant for the conveying means such that pressure fluctuations of predetermined frequencies sensed by one end of said conveying means are attenuated in amplitude before issuing from the other end of said conveying means.

3,263,502
MULTIPLE THERMOCOUPLE SUPPORT
Redwood L. Springfield, 3827 Sun Valley, Houston, Tex.
Filed Jan. 21, 1964, Ser. No. 339,194
8 Claims. (Cl. 73—341)

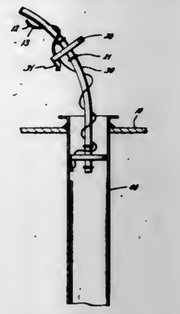
2. In a thermocouple assembly to be inserted in a well the combination of:

flexible support;

a plurality of thermocouple cable means helically wrapped around but non-integral with said support means, each of said cable means including a thermocouple junction;

means for positioning said cable means, said positioning means being slidably and encirclingly engageable with said support means when said assembly is being inserted within said well, said positioning means being of lesser unstressed diameter than the internal diameter of said well; and

spring means appended to said positioning means, for forcing said junctions in a radially outward direction from said support member.



3,263,503
INDICATING INSTRUMENT FOR A MOTOR
Andrew J. White, Lee, N.H.
(Newmarket P.O., South Lee, N.H.)
Filed Apr. 13, 1964, Ser. No. 359,141
6 Claims. (Cl. 73—431)



5. An indicating instrument comprising a housing embodying an outer casing having a forwardly projecting circular rim having slots therein, a cover for said casing embodying interior guide members at its inner periphery extending into said rim slots, a holder mounted on said cover, vacuum-responsive mechanism attached to said holder and having an intake opening, a dial supported by said cover having indicia thereon adjacent the periphery thereof, and a movable pointer rotatably mounted on said mechanism and extending towards said indicia and adapted to respond to actuation of said mechanism by rotative movement.

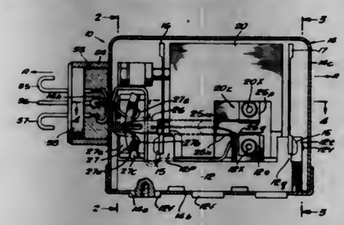
3,263,504
MINIATURE ACCELEROMETER
Robert C. Parkinson, George J. Brown, and Arthur A. Zuehlke, Riverside, Calif., assignors to Bourns, Inc.
Filed Aug. 23, 1961, Ser. No. 133,518
11 Claims. (Cl. 73—515)

1. A compact acceleration sensor instrument comprising:

first means, comprising base means, constructed and arranged to be subjected to acceleration;

second means, comprising inertial-mass means of generally rectangular parallelepiped external configuration and resilient means including first and second spring devices each having two pairs of limbs each pair of which is spaced-apart from the other pair to provide an intervening space, and each said spring device having a respective integral bridge portion interconnecting the limbs thereof and each said device being of length substantially equal to the height of said mass means and connecting the inertial-mass means at opposite ends thereof to said first means and constraining the inertial-mass means to rectilinear motion relative to said base means;

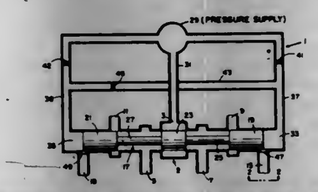
third means, comprising indicating means comprising a relatively fixed signaling element connected to said first means and a movable arm cooperating with said element and connected to said inertial-mass means and said indicating means having first and second spaced-apart convergent leaf-spring limbs and means rigidly uniting the limbs adjacent the convergent ends thereof, the unbridged end of the first of said



leaf-spring limbs being secured to move with said inertial-mass means and the unbridged end of the second leaf-spring limb being secured to remain relatively fixed with said base means whereby said limbs are flexed and said arm is moved relative to said first means incident to to-and-fro movement of said inertial-mass means relative to said base means to produce a physical indication of rectilinear motion of said inertial-mass means relative to said base means; and

fourth means, comprising sharp-edge orifice dashpot motion-damping means including damping liquid and means for confining about the dashpot means a supply of the liquid, said motion-damping means being constructed and arranged to damp relative motion of said inertial-mass means relative to said base means uniformly in both directions of said rectilinear motion irrespective of changes of viscosity of said damping fluid.

3,263,505
PNEUMATIC ACCELEROMETER
Wilbur E. Grunwald, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed May 26, 1964, Ser. No. 370,381
10 Claims. (Cl. 73—515)



1. A pneumatic accelerometer comprising: a fluid supply means; a valve body having a balance chamber on each end thereof, a control section intermediate said balance chambers, an inlet port, a pair of output ports, a pair of relief ports and a pair of exhaust ports; a control spool positioned within said valve body for movement in either direction therethrough; a balance piston on each end of said control spool adjacent said balance chambers, said control spool having an output control piston intermediate said balance pistons and within said control section; fluid communication means connected between said fluid supply and each of said balance chambers; means providing fluid communication between said fluid supply and said control section via said inlet port; and fluid metering means connecting each of said balance chambers to one of said exhaust ports, said metering means operating in response to lateral movement of said balance pistons, said output control piston cooperating with said control section of the valve body to control passage of fluid from said inlet port to one of said output ports in proportion to the lateral position of said output control piston, each of said relief ports cooperating with one of said balance pistons to provide communication between one of said output ports and one of said relief ports when said output control piston terminates flow to said last mentioned output port.

3,263,506
GYROSCOPIC APPARATUS
Shin-ichi Kawada, Tokyo, Japan, assignor to Tokyo Keiki Seizosho Company, Ltd., Tokyo, Japan, a corporation of Japan
Filed Mar. 5, 1962, Ser. No. 177,502
Claims priority, application Japan, Mar. 11, 1961, 36/8,541
2 Claims. (Cl. 74—5)

1. A gyroscopic apparatus comprising

a gyro case containing a high speed gyro rotor rotatable about an axis, said gyro case having secured at its upper and lower ends, upper and lower vertical shafts;

a first supporting member for supporting the gyro case provided with

upper and lower guide bearings for receiving the upper and lower shafts, respectively, of the gyro case and a wire attached to the upper shaft for suspending the gyro case;

a second supporting member for supporting the first supporting member freely rotatably about a horizontal axis so that substantially no force is exerted between said first and second supporting members;

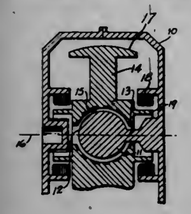
a third supporting member for supporting the second supporting member freely rotatably about another horizontal axis perpendicular to the first horizontal axis so that substantially no force is exerted between said second and third supporting members;

means for supporting the third supporting member to a binnacle rotatably about its vertical axis;

a mutual non-contact follower device including means detecting the rotary deflection between the gyro case and the first supporting member; and

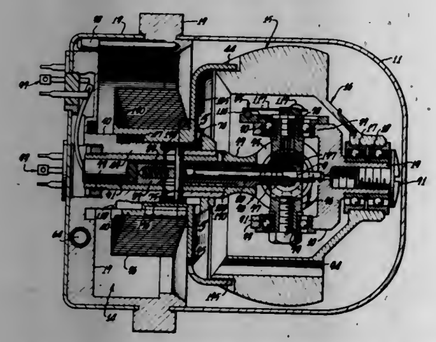
means responsive to the detecting means for driving the third supporting member.

3,263,507
HYDRODYNAMIC GAS-SUPPORTED TWO-DEGREE OF FREEDOM GYRO
Norman J. Appleton, Plainview, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed Oct. 20, 1959, Ser. No. 847,597
19 Claims. (Cl. 74—5.7)



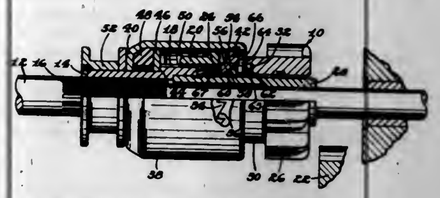
13. In a two-degree-of-freedom gyroscope, a housing, a hollow case rotatable within said housing about a spin axis, a rotor within the housing and being hydrodynamically supported for rotation about said spin axis and being angularly displaceable with respect to the hollow case and housing about both axes normal to the spin axis, said hydrodynamic supporting means including a bearing surface on the rotor that is hydrodynamically coupled to a bearing member supported by the housing, means rotatably driving said hollow case, relative to the housing and means interconnecting the inner surface of the case and rotor whereby the rotor is rotatably driven with the hollow case.

3,263,508
GYROSCOPE
Andrew Voge, Canoga Park, and James Bjordahl, Temple City, Calif., assignors to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed Aug. 27, 1964, Ser. No. 392,425
10 Claims. (Cl. 74—5.12)



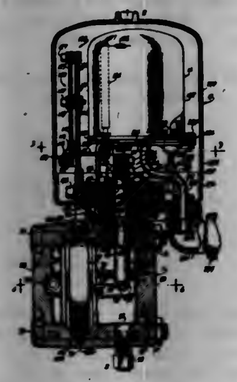
1. A gyroscope comprising a rotor having a first coupling part, gimbal means supporting said rotor for rotation about a spin axis and for movement about mutually perpendicular axes, a gyroscope base, a tubular extension integral with said base, said extension supporting said gimbal means, a rotatable drive member, said drive member having a second coupling part engageable with said first coupling part whereby to drive said rotor, means forming a screw threaded connection between said extension and said drive member for moving said drive member away from said rotor upon rotation of said drive member, a spring extending between said base and said drive member for rotating said drive member, and a caging pin slideable lengthwise in said tubular extension, said caging pin being normally in caging engagement with said gimbal means, and said drive member being effective to retract said caging pin from caging engagement upon a predetermined movement of said drive member away from said rotor.

3,263,509
ENGINE STARTER GEARING
James J. Digby, Elmira, N.Y., assignor to The Bendix Corporation, Elmira, N.Y., a corporation of Delaware
Filed Dec. 16, 1964, Ser. No. 418,613
5 Claims. (Cl. 74—6)



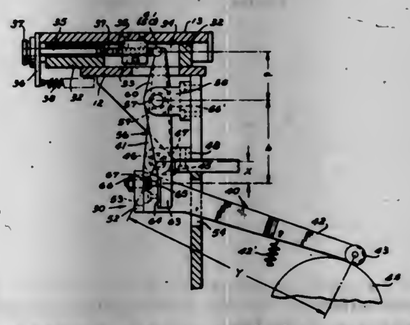
1. Engine starter gearing comprising:
a power shaft;
a sleeve slidably, but non-rotatably, secured to said power shaft, said sleeve having external helical splines formed on one extremity thereof;
a pinion gear slidably journalled for axial movement relative to the power shaft adapted for movement into and out of engagement with a gear of the engine to be started;
an annular driven clutch member secured to said pinion gear for movement therewith and forming a circular recess radially inwardly of said driven clutch member;
a driving clutch member slidably mounted on said helical splines of said sleeve;
said driving and driven clutch members having complementary mutually-engageable inclined teeth for transmitting torque therebetween in one direction of relative rotation;
a barrel housing having an open end, slidably supported on said sleeve and spatially encompassing said clutch members;
abutment means within the housing adjacent the open end thereof adapted for engagement with the driven clutch member for confining the clutch members within the housing;
resilient means within said housing abutting said driving clutch member and biasing said clutch members into engaged position;
said driving clutch member having a radially-inwardly-extending shoulder formed thereon adjacent said circular recess formed in said driven clutch member;
an annular thrust ring having an inner conical surface loosely disposed in said circular recess, said annular thrust ring adapted to abut said radially-inwardly-extending shoulder of said driving clutch member when displaced in a first axial direction;
a plurality of centrifugal flyweight members annularly arranged within said circular recess, said flyweight members each having an inclined surface abutting said conical surface of said thrust ring operative to displace said thrust ring in a first axial direction in response to centrifugal force;
a plurality of support pins, one for each flyweight member connected to said driving clutch member and extending radially inward within said circular recess; and
each of said flyweight members having a radially-extending hole formed therein, connecting said weight members to respective support pins to prevent axial and permit radial movement of said flyweight members.

3,263,510
MOTION TRANSMITTING MECHANISM FOR DIFFERENTIAL PRESSURE TRANSMITTER
Harry E. Crossley, Jr., Topsfield, Mass., assignor to Robertshaw Controls Company, a corporation of Delaware
Original application Sept. 13, 1957, Ser. No. 683,729, now Patent No. 3,061,823, dated Oct. 30, 1962. Divided and this application Feb. 19, 1962, Ser. No. 173,868
17 Claims. (Cl. 74—18.1)



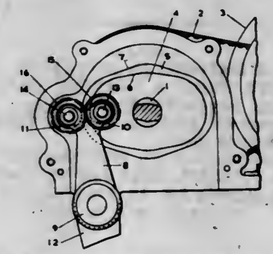
7. In a mechanism for transmitting motion from a sealed chamber, support structure having an opening therein, a diaphragm secured to the support structure adjacent said opening, a vertical lever extending from the chamber and through said opening, means securing said lever to said diaphragm, motion transmitting means connected to said lever for rocking said lever about said diaphragm, flexible supporting means connected to said lever above said diaphragm, and means mounting said flexible supporting means on said support structure for movement about spaced points located vertically below said outer portion of said diaphragm in order to supply a force moment to said lever when the latter is deflected.

3,263,511
VARIABLE SPEED LINKAGE
William Wellstein, Fostoria, Ohio, assignor, by mesne assignments, to Kerco, Inc., a corporation of Delaware
Filed Dec. 2, 1963, Ser. No. 327,358
15 Claims. (Cl. 74—53)



1. In apparatus of the type described, a support, a slide unit mounted for reversing sliding movement on said support, a linkage to operate said slide unit at varying speeds in different phases of said movement, said linkage comprising a primary actuator operatively engaging said unit, said actuator having a pivotal axis on said support and having a first portion to engage and operate said unit at a given speed in one of said phases, and a second operated portion to be operated, a secondary actuator operatively engaging said slide unit and having a pivotal axis on said support in parallel but transversely spaced relation to the pivotal axis of said primary actuator, said secondary actuator also having a portion to engage and operate said unit and a further portion providing an operating connection for actuation by said primary actuator, which further portion is transversely spaced from the pivotal axis of the primary actuator, the moment arm distance from said primary actuator axis to said further portion being substantially different from the distance from said primary actuator axis to its said second operated portion, said actuators thus coacting in operating the slide unit at a different speed in another of said phases, and an automatically cycling drive device engaging said primary actuator at said second operated portion of the latter to provide repeated variable speed movement of the slide unit over the direction of the two phases.

3,263,512
CAM FOLLOWER MECHANISM
John Handley, 39 Wilhelmina Ave., Coulsdon, Surrey, England
Filed Feb. 5, 1964, Ser. No. 342,636
Claims priority, application Great Britain, Feb. 12, 1963, 5,670/63
6 Claims. (Cl. 74—54)

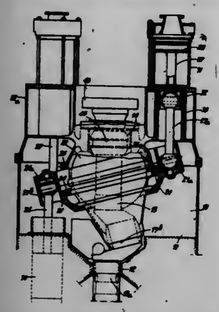


1. A cam follower arm carrying a pair of spaced parallel spindles, a pair of rotatable coplanar intermeshing gearwheels mounted one on each spindle, and a pair of coplanar cam rollers which are mounted one on each said spindle which are rotatably fixed one to each gearwheel and which are of smaller diameter than said gearwheels so as to be capable of embracing a cam bar therebetween, whereby rotation of either roller causes counter-rotation of the other roller.

3,263,513
WABBLER MECHANISM
Marius Georges Henri Girodin, 18–20 Place de la Madeleine, Paris, France
Filed Oct. 24, 1963, Ser. No. 318,628
Claims priority, application France, Oct. 31, 1962, 914,040, Patent 1,345,734
6 Claims. (Cl. 74—60)

1. A wabbler mechanism, for a barrel type, multiple cylinder engine-compressor machine having a plurality of driving and driven piston-cylinder devices located symmetrically around the machine, comprising a tubular casing for supporting internally thereof and near one end a plurality of driving piston-cylinder devices parallel to the axis of the casing, an annular, hollow caisson secured to and extending said one end of the casing for supporting the driven piston-cylinder devices, a hollow sphere secured to said caisson and positioned partly within said one end of the casing, a crankshaft including an oblique pin, said crankshaft being journalled for rotation with its longitudinal axis passing through the center of said hollow sphere, said hollow sphere swivelly

supporting a movement converting part including a truncated conic portion journalling said crankshaft pin and a hollow torus in which two series of oppositely directed cavities are formed, a toothed crown wheel carried by said movement converting part, a second toothed wheel cooperating with said first wheel and secured to said



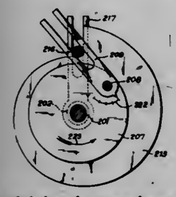
caisson, ball and socket elements forming universal joints seated in one of said series of cavities of the torus for connecting the piston rods of said driving piston-cylinder devices to said torus, and similar ball and socket elements disposed in said opposite series of cavities for connecting the piston rods of said driven piston-cylinder devices to the torus.

3,263,514

DEVICE FOR DRIVING IN ROTATION A DRIVEN SHAFT FROM A DRIVING SHAFT

Maurice Lange, Issy-les-Moulineaux, France, assignor to Société anonyme Ancienne Maison Turquetil, Ivry, France, a French society

Original application Nov. 25, 1960, Ser. No. 71,573, now Patent No. 3,194,881, dated July 13, 1965. Divided and this application Jan. 13, 1965, Ser. No. 428,011
4 Claims. (Cl. 74—69)



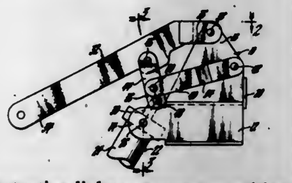
1. A device for driving in rotation a driven shaft from a driving shaft, said device comprising: variable coupling means connecting said shafts for arresting the rotation of the driven shaft during a predetermined fraction of each revolution of the driving shaft and for increasing the speed of rotation of the driven shaft over that of the driving shaft throughout the remainder of each revolution such that the driven shaft undergoes one complete revolution for each revolution of the driving shaft, said variable coupling means comprising drive means rotatable with the driving shaft and driven means coaxially aligned with the drive means and rotatable with the driven shaft, a coupling rod member extending generally parallel to the common axis of said drive and driven means at a variable radial distance from said axis, a first constraining member rotatable with the drive means and engageable with the rod member for constraining the rod member to follow a predetermined linear path of relative motion with respect to the drive means, a second constraining member rotatable with the driven means and engageable with the rod member for constraining the rod member to follow a predetermined linear path of relative motion with respect to the driven means, the position of at least one of said constraining members being adjustable to adjust the angular setting of the related linear path with respect to a radius of the related drive or driven means, and cam means engageable with the rod member for cyclically varying the radial distance thereof from said common axis throughout each revolution of said drive and driven means.

3,263,515

FORCE TRANSFER SYSTEM

Joseph Adamski, Manitou Beach, Mich., assignor to Dura Corporation, Oak Park, Mich., a corporation of Michigan

Filed Dec. 6, 1963, Ser. No. 328,572
3 Claims. (Cl. 74—105)



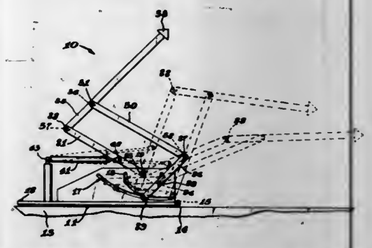
1. Power actuating linkage means comprising a mounting plate, a main lever pivotally mounted adjacent one end to said plate, a control link means pivotally mounting one end of the control link to said plate, a linear actuator, means pivotally mounting one portion of the linear actuator to said plate, a rocker link, means pivotally mounting one end of the rocker link to said main lever, means pivotally mounting the other end of the rocker link to another portion of the linear actuator, means pivotally mounting the other end of the control link to the rocker link intermediate the pivotal connections at the ends of the rocker link, the said pivotal connections being positioned such that the line of linear force application from the linear actuator to the rocker link is between the pivotal connections of the control link and the plate and the control link and the rocker link during the high torque portion of the duty cycle of the power actuating mechanism.

3,263,516

MECHANICAL LINKAGE FOR GENERATING A CURVED SURFACE

Douglas S. Chisholm, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Sept. 10, 1965, Ser. No. 486,312
7 Claims. (Cl. 74—105)



1. An apparatus adapted to position an arm on a curved surface of rotation, the apparatus comprising in cooperative combination

a base member having a fixed pivot point, the fixed pivot point having means to secure the base rotatably to a reference surface, the base member constructed so as to rotate about the pivot point in a plane generally normal to the axis of the pivot, the base defining

a model surface, the model surface being a model of the curvature of at least a portion of the curvature of the cross sectional configuration of a radial section of the desired surface, the base member further defining a guide means,

a first arm, a second arm, a third arm and a fourth arm, the first arm being pivotally connected to the second and fourth arms, the third arm also being pivotally connected to the second and fourth arms at positions remote from the pivotal connections of the first arm to form a quadrilateral figure of a four bar linkage,

the first arm pivotally connected to the base member to pivot in a plane containing the axis of the base member fixed pivot, the first and second arms being disposed generally adjacent the base member, the third and fourth arms being disposed generally remote from the base member,

a guide means follower secured to the pivotal connection between the first and second arms and positioned to engage the guide means, a model surface follower secured to the second arm and positioned to engage the model surface of the base, the pivotal connections between the four arms having generally parallel axes which are parallel to the axis of the pivotal connection of the first arm to the base member.

3,263,517

MOLDED INDUSTRIAL CONTACT WHEEL

William J. Cosmos, Mundelein, Ill.
(651 Market St., Waukegan, Ill.)

Filed June 14, 1965, Ser. No. 463,760
9 Claims. (Cl. 74—230.7)



9. A high speed contact roll adaptable to be mounted on and rotated with a central axial shaft comprising a plurality of concentric like wheel sections, each section comprising a pair of axially apertured planar rigid discs concentrically arranged and spaced one from the other, an axially apertured circular body of resiliently yieldable material of the same diameter as said pair of discs arranged between and bonded to opposed faces of said discs, and a peripheral rim of resiliently yieldable material integral with the peripheral edge of said resiliently yieldable body, the margins of said discs being bonded to said peripheral rim, the discs, body and rim of each section forming a unitary assembly, resilient axially apertured spacer means secured to each section adaptable to maintain said sections spaced one from the other in substantially perpendicular relation to and frictionally engaged with the shaft, and mounting means for removably securing the sections on and for rotation with the shaft.

3,263,518

SHIFTING MECHANISM FOR CHANGE-SPEED TRANSMISSIONS

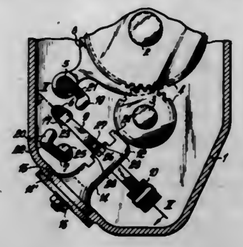
Richard Hetmann, Tamm, Germany, assignor to Firma Dr. Ing. h.c. F. Porsche KG, Stuttgart-Zuffenhausen, Germany

Filed July 20, 1964, Ser. No. 383,674
Claims priority, application Germany, Aug. 10, 1963, P 32,374
8 Claims. (Cl. 74—477)

1. A shifting arrangement for a multi-speed gear-type change-speed transmission, especially for motor vehicles, comprising:

means for selectively engaging the speeds of the change-speed transmission including a plurality of shifting rods arranged substantially parallel to one another and a shifting finger operable to cooperate with said shifting rods for selectively engaging the speeds of the transmission,

and blocking means to enable displacement of only one shifting rod at any one time while blocking the movement of the remaining shifting rods including



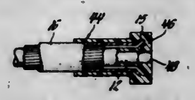
substantially U-shaped bow-like means having leg portions, means pivotally supporting said shifting finger between said leg portions, and said shifting finger being provided with nose portions in the shifting direction of the shifting rods, said nose portions cooperating with a number of apertures provided in said leg portions corresponding to the number of shifting rods.

3,263,519

FLEXIBLE CONDUIT WITH MOLDED END FITTING

Winthrop Brown Conrad, Franklin, Mich., assignor to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware

Filed July 26, 1963, Ser. No. 297,899
9 Claims. (Cl. 74—501)

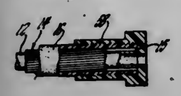


1. A flexible motion-transmitting control assembly comprising a flexible conduit of organic polymeric material having an outer surface and an inner bore, and at least one wire extending helically on a long lead through said conduit between said outer surface and bore thereof and being movable relative to said conduit as the latter is flexed, an end of said wire projecting from an end of said conduit and being bent radially outwardly from the axis of the latter; a flexible motion-transmitting wire core element supported within and extending through said bore for movement relative to said conduit; an end fitting of organic polymeric material molded about said end of said conduit and said end of said wire so as to embed the latter therein to form a mechanical interlock therebetween to prevent relative axial movement between said fitting and said conduit as said core element is moved relative to the latter, said fitting and mechanical interlock maintaining said conduit substantially free of radial forces which would radially deform said conduit and said bore and interfere with movement of said wire and said core element relative thereto, axial loads imposed on said wire as said core element is moved within said conduit being transmitted therefrom to said fitting; and attachment means carried by said fitting and attachable to a fixed support structure to secure said end of said conduit thereto while said core element is moved relative to said conduit.

3,263,520
FLEXIBLE CONDUIT WITH MOLDED END FITTING

August E. Tschanz, Chalfont, Pa., assignor to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware

Filed July 26, 1963, Ser. No. 297,900
16 Claims. (Cl. 74—501)

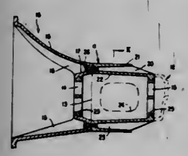


1. A flexible motion-transmitting control assembly comprising a flexible thin walled conduit susceptible of being radially deformed and having an outer surface of organic polymeric thermoplastic material and an inner unitary bore of plastic material, a flexible motion-transmitting core element mounted within and extending through and being engageable with said bore for movement axially relative thereto, axial movement of said core element imposing axial loads on said conduit, and a fitting of organic polymeric material molded on said outer surface of said conduit for attachment to a fixed support to secure said conduit thereto, the organic polymeric material of one of said outer surface of said conduit and said fitting being diffused into the organic polymeric material of the other thereof to form a bond therebetween to prevent relative axial movement between said fitting and said conduit as said core element is moved axially relative to the latter while maintaining said conduit substantially free of radial forces which would radially deform said conduit and said bore and interfere with movement of said core element relative to said bore.

3,263,521
TRANSMISSION HOUSING

Josef Müller, Stuttgart-Riedenberg, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany

Filed Jan. 28, 1963, Ser. No. 254,312
Claims priority, application Germany, Jan. 31, 1962, D 38,035
19 Claims. (Cl. 74—606)



1. A housing made of light metal for gear transmissions, especially for change-speed transmissions of motor vehicles of the type in which the transmission shafts extending substantially parallel to each other are disposed in the longitudinal direction of the housing and are supported in housing end walls, comprising:

inner and outer wall means forming a double-walled housing construction over at least three-quarters the length of the housing,

longitudinal rib means arranged between the outer and inner wall means,

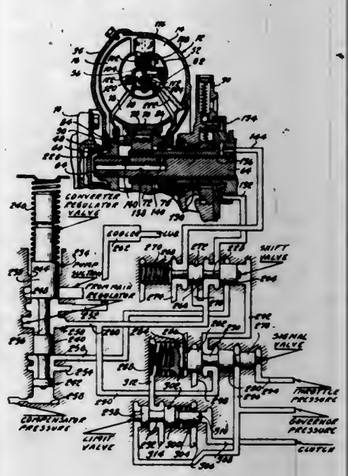
the hollow spaces disposed between the longitudinal rib means and the outer and inner wall means being open at least toward one housing end face,

and a bell-shaped clutch housing flangedly connected to said first-named housing and including an outer wall.

3,263,522
DUAL RANGE TORQUE CONVERTER TRANSMISSION

Norman T. General, Orchard Lake, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 2, 1963, Ser. No. 313,230
8 Claims. (Cl. 74—645)

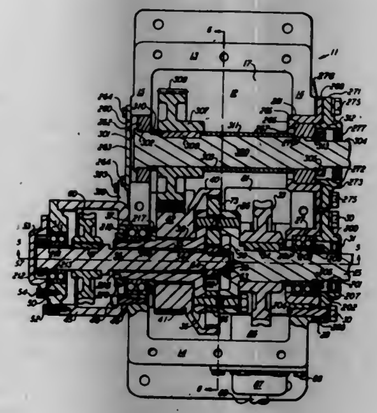


7. A hydrokinetic power transmission mechanism adapted to deliver driving torque from a driving member to a driven member, a bladed impeller and a bladed turbine situated in toroidal fluid flow relationship in a common torus circuit, said impeller being connected to said driving member, said turbine being connected to said driven member, said impeller having fluid directing blades situated at the flow exit region thereof, fluid pressure operated servo means located within the inner torus region of said circuit for adjustably positioning said blades and comprising a movable piston connected mechanically to said blades for adjustably positioning the latter, a flow restricting orifice formed in said piston, fluid passage means for circulating fluid through said circuit with one portion thereof being adapted to direct fluid to one region of said circuit and the other portion thereof being adapted to accommodate the return flow of fluid from another region of said circuit, a source of pressurized fluid, shift valve means for connecting selectively said source with each of said portions of said passage means, an auxiliary passage communicating with said source and with said shift valve means for distirbuting pressure to the latter for actuating the same, phase valve means located in and partly defining said auxiliary passage means for selectively interrupting and establishing communication between said shift valve means and said source, a source of a pressure signal that is proportioned to the speed of said driven member, a speed signal passage means for distributing said signal to said phase valve means for establishing a fluid pressure force thereon to actuate the same, limit valve means disposed in and partly defining said signal passage means for interrupting distribution of said speed signal to said phase valve means at speeds greater than a predetermined value, a multiple speed ratio gear system having an input element thereof connected to said driven member, a power output shaft connected to a power output element of said gear system, clutch and brake means for controlling the relative motion of the elements of said gear system to condition the same for operation in either a low speed ratio or a higher speed ratio, fluid pressure operated servos for actuating said clutch and brake means, and a fluid connection between said limit valve means and one of said servos for modifying the response of said limit valve means to said speed signal.

3,263,523
POSITIVELY DRIVEN VARIABLE SPEED MECHANISM

John Crandon Nash, Providence, R.I., assignor, by mesne assignments, to Bevis Industries, Inc., Providence, R.I., a corporation of Florida

Filed May 23, 1962, Ser. No. 197,016
3 Claims. (Cl. 74—665)



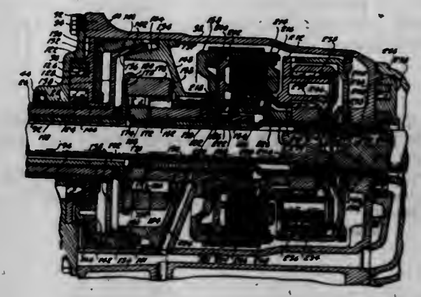
1. A positively driven variable speed mechanism consisting of a power shaft, a first output driven shaft, a second output driven shaft, said first and second output driven shafts being parallel, a worm gear and worm wheel driving connection between said power shaft and said first output driven shaft, a sun gear shaft provided with a sun gear on one end, a planetary gear train drivably connecting said sun gear and sun gear shaft and said first output driven shaft, a gear train drivably connecting said planetary gear train and said second output driven shaft, and a speed control device provided with a control element drivably connecting said power shaft and said sun gear shaft and sun gear whereby the speed of the second output driven shaft may be varied through said sun gear, said planetary gear train and said gear train in relation to the speed of the first output driven shaft at the will of the operator through the control element.

3,263,524
HYDROKINETIC TORQUE CONVERTER TRANSMISSION WITH STATOR REVERSE DRIVE

Eugene W. Konrad, Northville, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed July 22, 1963, Ser. No. 296,658
6 Claims. (Cl. 74—677)

1. A power transmission mechanism comprising a hydrokinetic torque converter unit having an impeller, a turbine and a stator situated in toroidal fluid flow relationship, a planetary gear unit, means for drivably connecting the turbine to one element of the planetary gear unit, brake means for selectively anchoring a second element of the planetary gear unit, a third element of the planetary gear unit being connected to a driven member, clutch means for connecting two elements of said gear unit together to establish a 1:1 speed ratio therein, selectively engageable brake means for anchoring said first element during reverse drive operation, an overrunning coupling connection defining in part a first reaction torque delivery path between said stator and a stationary portion of said mechanism whereby said stator is inhibited from rotating in the direction of rotation of said impeller but capable of freewheeling in the opposite direction, and an overrunning coupling means defining in part in

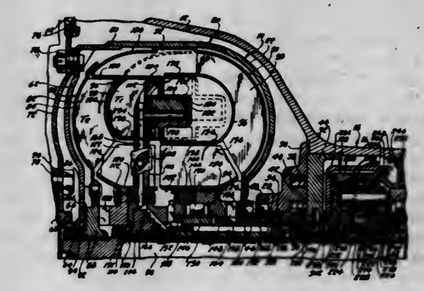


parallel disposition with respect to said first torque delivery path a second driving torque delivery path between said stator and said second element of said gear unit, said overrunning coupling connection and said overrunning coupling means having common overrunning coupling elements.

3,263,525
POWER TRANSMISSION MECHANISM WITH COMPOUND TORQUE CONVERTER

Vladimir Joseph Jandasek, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Aug. 22, 1963, Ser. No. 303,879
6 Claims. (Cl. 74—677)



1. A hydrokinetic power transmission mechanism comprising a hydrokinetic unit having two turbines and an impeller, each turbine being disposed in a separate torus circuit, said impeller being in fluid flow relationship with respect to each turbine and defining a common portion of each circuit, a pair of simple planetary gear units, each unit comprising a sun gear, a ring gear, a carrier and planet gears carried by said carrier in meshing engagement with said sun and ring gears, the carrier of a first of said gear units being connected to a driven member, first coupling means for connecting a first turbine to the sun gear of first of said gear units, the ring gear of the other gear unit being connected to the sun gear of said first gear unit, the ring gear of said first gear unit being connected to the sun gear of said other gear unit, second

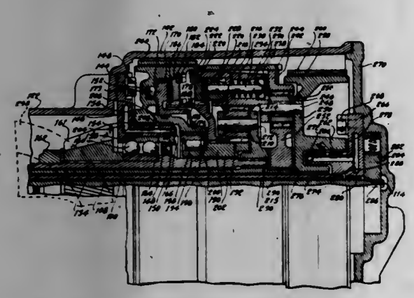
coupling means for connecting the carrier of said other gear unit to the other turbine, brake means for anchoring the sun gear of said other gear unit and the ring gear of said first gear unit to provide a torque reaction, selectively engageable clutch means for connecting said first turbine to said driven member, means for directing toroidal fluid flow from said impeller to each of said turbines selectively to render said turbines alternately operable to accomplish speed ratio changes, and selectively engageable brake means for anchoring the carrier of said other gear unit whereby a reverse drive ratio may be established when said first turbine is rendered operable.

3,263,526

MULTIPLE SPEED RATIO POWER TRANSMISSION MECHANISM WITH HYDROKINETIC UNIT AND TWO PLANETARY GEAR UNITS

Thomas R. Stockton, Northville, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed July 1, 1963, Ser. No. 291,802
2 Claims. (Cl. 74—688)



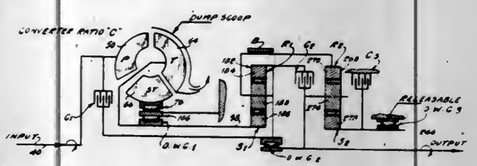
1. In a multiple speed ratio power transmission mechanism for distributing torque from a driving member to a driven member, a pair of planetary gear units, each gear unit comprising a sun gear, a ring gear, planet gears meshing with said sun and ring gears and a carrier rotatably supporting said planet gears, a hydrokinetic unit having an impeller and a turbine disposed in toroidal fluid flow relationship, said impeller being connected drivably to said driving member, an overrunning coupling connection between the turbine member and the sun gear of a first of said gear units, the carrier of said first gear unit being connected to the ring gear of the second unit, the carrier of the second unit being connected to said driven member, first selectively engageable clutch means for drivably connecting the carrier of said first unit to the sun gear of said second unit during operation in a second and a fourth speed ratio, second selectively engageable clutch means for connecting together the ring gear of said first unit and the sun gear of said second unit during reverse drive operation, overrunning brake means for anchoring the sun gear of said second gear unit to establish a driving torque reaction path during operation in a first and a third speed ratio, selectively engageable brake means for anchoring the carrier of said first gear unit during reverse drive operation, a drum rotatably supported by a relatively stationary portion of said mechanism, other selectively engageable brake means for anchoring said drum, said drum enclosing and partly defining a portion of said second selectively engageable clutch means, said drum enclosing also said first gear unit and said first selectively engageable clutch means, and third selectively engageable clutch means for drivably connecting the carrier of said first gear unit to said driving member during operation in a third speed ratio and a fourth speed ratio.

3,263,527

MULTIPLE SPEED RATIO POWER TRANSMISSION MECHANISM HAVING CONTROLLABLE HYDROKINETIC UNIT AND TWO SIMPLE PLANETARY GEAR UNITS

Thomas R. Stockton, Northville, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed July 1, 1963, Ser. No. 291,803
6 Claims. (Cl. 74—688)



1. In a multiple speed power transmission mechanism having a hydrokinetic unit, a pair of simple planetary gear units capable of delivering power from a driving member to a driven member, said hydrokinetic unit comprising an impeller and a turbine situated in toroidal fluid flow relationship, said impeller being connected to said driving member, each gear unit comprising a ring gear, a sun gear, planet gears meshing with said sun and ring gears and a carrier rotatably supporting said planet gears, said turbine being connected to a first power input element of a first of said gear units, first selectively engageable clutch means for connecting said impeller to a second power input element of said first gear unit, a power output element of said first gear unit being connected to one element of said second gear unit, means for anchoring a second element of said second gear unit to establish a torque reaction, second selectively engageable clutch means for connecting one element of said first gear unit with an element of said second gear unit, a power output element of said second gear unit being connected to said driven member, selectively operable means for rendering said hydrokinetic unit ineffective for torque delivery, means for anchoring said first power input element of said first gear unit when said hydrokinetic unit is ineffective, and means for delivering torque between said second power input element and said driven member.

3,263,528

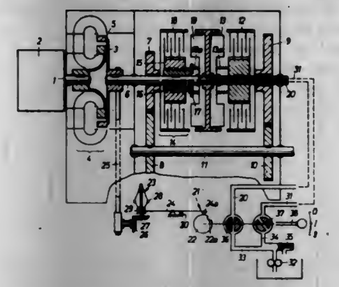
HYDRAULIC POWER TRANSMISSION, ESPECIALLY FOR USE IN CONNECTION WITH RAIL VEHICLES

Gustav Eduard Ernst Lammerz, deceased, late of Essen, Germany, by Ilse Hedwig Elisabeth Karoline Lammerz, née Roth, heir, and Alfred Köss, guardian of minor heir, both of Essen, Germany, assignors to Voith-Getriebe Kommanditgesellschaft, Heidenheim (Brenz), Germany

Filed May 25, 1962, Ser. No. 199,218
Claims priority, application Germany, June 2, 1961, B 62,761
6 Claims. (Cl. 74—731)

1. In combination in a hydraulic power transmission, especially for rail vehicles: a speed variable driving engine, a fluid flow transmission having a pump wheel rigidly drivingly connected to said driving engine and also having a turbine wheel, mechanical change gear transmission means operable to be drivingly connected to said turbine wheel so as to be driven thereby, said change gear transmission means having a lower and a higher velocity range and including clutch means engageable for said lower velocity range and automatically disengaging itself in response to the shifting into said higher velocity range, and control means operatively connected with said clutch

means for controlling the engagement and disengagement thereof, said control means including means driven by



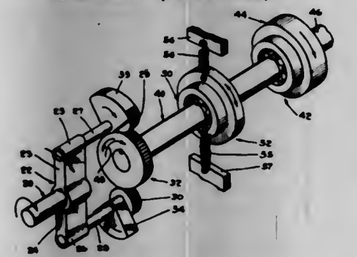
said engine and operable to influence said control means so as to permit engagement of said clutch means at low speeds only of said driving engine.

3,263,529

TORQUE CONVERTER CONSTRUCTION

Boris Borisoff, Van Nuys, Calif., assignor to Tork-Link Corporation, North Hollywood, Calif., a corporation of California

Filed June 26, 1963, Ser. No. 290,660
13 Claims. (Cl. 74—751)



1. In a torque converter for receiving rotational power through an input shaft and delivering rotational power through an output shaft and having an intermediate converter shaft operatively connected to said input and output shafts and subjected to oscillatory rotation when the input and output shafts' speeds differ, means for rectifying the motion of the converter shaft comprising a reaction member displaceable from a neutral position by converter shaft rotation in a given direction and unidirectional clutch means for transferring rotational power from the converter shaft to the output shaft when the former is rotating opposite said given direction: resilient means biasing said reaction member toward said neutral position and having a resonant characteristic when the output shaft speed is between about one quarter and about one half of the input shaft speed.

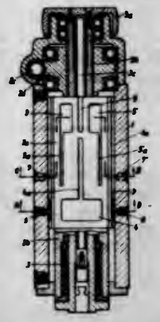
3,263,530

PRECISION BORING HEADS

Curt Pleger, Oberrieden-Zurich, Switzerland, and Walter Clashausen, Remscheid, Germany, assignors to Gebruder Honsberg, Remscheid-Hasten, Germany, a company of Germany

Filed Jan. 18, 1965, Ser. No. 426,094
Claims priority, application Germany, Jan. 18, 1964, H 51,429
3 Claims. (Cl. 77—1)

1. A precision boring head containing a spindle sleeve axially movably mounted in a spindle head casing and comprising a polygonal prismatic guiding portion which is substantially non-inertially maintained in centralised position by the pressure of a flowing pressurised medium, the end of the spindle sleeve nearest the tool having a smaller diameter than said guiding portion and holding the driven spindle in bearings providing no lateral play and preventing axial movement of the spindle relative to the sleeve, characterised in that the spindle sleeve is slideably held with lateral play inside the spindle casing in a



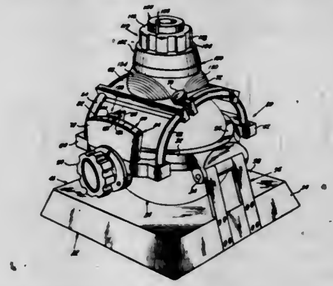
bore of polygonal cross section corresponding to the polygonal cross section of the guiding portion of the sleeve and that the peripheral polygon faces of the guiding portion of the sleeve are provided with pressure chambers or pockets into which the flowing pressurised medium is introduced for maintaining the sleeve in centralised position inside its casing.

3,263,531

BOWLING BALL DRILL JIG

Martin V. Sammons, and Robert D. Baker, Sioux City, Iowa, assignors, by direct and mesne assignments, to said Sammons, Victor I. Blanchine, South Sioux City, Nebr., and Donald K. Price, Sioux City, Iowa

Filed Mar. 20, 1964, Ser. No. 353,487
14 Claims. (Cl. 77—62)



1. A jig for drilling thumb and finger holes in a bowling ball, said jig comprising:

a base for supporting said ball,

a lockable frame carried by said base to embraceably engage said ball and hold it against movement relative to said base,

an arched span gauge pivotally connected to said frame and movable in two respective opposite directions in parallel spaced relationship to the perimeter of a ball on said base,

an offset gauge movably mounted on said span gauge for movement in two respective opposite directions perpendicular to the direction of movement of said span gauge,

a calibrated scale on said span gauge and movable therewith,

a fixed clip on said frame for reference association with said scale,

a tab removably disposed in said clip,
said tab including an elongated body having an exact length corresponding to the diameter of a hole to be drilled in said ball and referenced over said scale,
a turret assembly having a vertical bore and mounted on said offset gauge and movable correspondingly with both said span and offset gauges,
said turret assembly being universally movable to vary the inclination of the axis of said bore, and
a drill bit guide bushing removably journalled in said bore for receiving and guiding a drill bit on a hand held electric drill.

3,263,532
MAIN SPRING WINDER
Leonard Amberg, P.O. Box 94, Redwood Falls, Minn. 56283
Filed Aug. 10, 1964, Ser. No. 388,517
7 Claims. (Cl. 81—7.5)



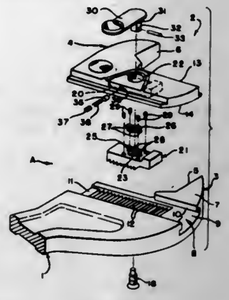
1. A tool for winding elongated resilient objects comprising a rotatable disc provided with a relatively small axial bore, a protruding pin integral with said disc in adjacent relationship to said bore, a rod removably and rotatably mounted in said disc bore, and a cam on said rod positioned for mating with said pin as said rod is rotated with respect to said disc when said rod is mounted in said disc bore, said pin and cam further defining means for releasably anchoring an end of the object.

3,263,533
SCREW EXTRACTOR
Raymond H. Carlson, Rockford, Ill., assignor to Textron Industries, Inc., Rockford, Ill., a corporation of Delaware
Filed Aug. 27, 1964, Ser. No. 392,578
3 Claims. (Cl. 81—71)



1. A device for extracting broken screw-threaded members from materials into which said members have been at least partially threaded, said device comprising:
an elongate member including a cylindrical unthreaded shank portion having a driving means at one end and a threaded lobular shank portion extending from the opposite end thereof,
said lobular threaded shank portion having a single rolled screw thread with a plurality of convolutions extending continuously from the work-entering end portion thereof to a position adjacent said opposite end of said cylindrical shank portion,
said thread, as viewed axially, winding in a receding direction opposite to the receding direction in which the thread on the member to be extracted winds,
said thread, at least in said work-entering end portion, having a pitch surface which in cross section is in the shape of an arcuate lobular equilateral triangle having convexly arcuate sides and arcuate lobes at the intersections of said sides,
the crest of said thread in said work-entering end portion tapering inwardly in a direction toward the tip of said end portion,
the lead angle of said thread being less than 30°,
the crest surface defined by said thread next adjacent the intersection of said cylindrical and lobular shank portions having, in transverse cross section through said lobular shank portion, a maximum width less than the width of said cylindrical shank portion such that the intersection of said lobular and cylindrical shank portions defines a shoulder for abutting the exposed end of a member to be extracted so as to facilitate unthreading of said member to be extracted from its parent body.

3,263,534
SLIDING SIDE JAW WRENCH ADJUSTED BY A CAM OPERATED, SPRING-SEATED, SLIDING RACK CATCH
Carl Webbeking, 3434 W. 148th St., Cleveland, Ohio
Filed Nov. 10, 1964, Ser. No. 410,250
12 Claims. (Cl. 81—143)



1. An adjustable wrench comprising a handle having a stationary jaw at one end and a box type slideway therein having ratchet teeth formed therein in a plane substantially perpendicular to the axis of turn of said wrench, a movable jaw carrier slidably mounted in said slideway on said handle for adjustment to a desired jaw spacing, a pawl mounted in said movable jaw carrier for reciprocating movement into and out of engagement with said ratchet teeth to prevent movement of said movable jaw carrier to a wider jaw spacing when in engagement with said ratchet teeth, spring means biasing said pawl toward engagement with said ratchet teeth, and lifting means carried by said movable jaw carrier for operating said pawl, said lifting means including a manually operable actuating member, said actuating member when moved in a direction tending to open the wrench lifts said pawl out of engagement with said ratchet teeth and slides said movable jaw carrier to a position of wider jaw spacing, and when moved in a direction tending to close the wrench moves the jaw carrier until the movable jaw is arrested and further movement locks the pawl in engagement with said ratchet teeth, said ratchet teeth, the pawl, the spring means biasing the said pawl, and the lifting means for said pawl all being enclosed between the said handle, the movable jaw, and said actuating member.

3,263,535
CLAMPING PLIERS HAVING THREE JAWS, TWO OF WHICH ARE CONNECTED BY LEVERS TO THE HANDLE MEMBERS
Erwin Zürcher, Steckborn, Thurgau, Switzerland
Filed Dec. 31, 1964, Ser. No. 422,587
5 Claims. (Cl. 81—302)

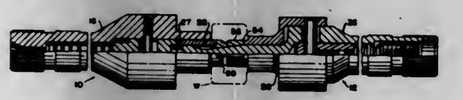
1. A tool comprising a first and second lever members pivoted together intermediate their lengths, said members including a pair of mouth-forming portions movable toward and away from each other in response to corresponding opposite movement of a pair of handle portions,

means defining a support for a workpiece within the mouth formed between the mouth-forming portions, a lever connected to each of said mouth-forming portions and extending toward the respective opposite mouth-forming portion and toward said supporting means, a workpiece engaging jaw pivotally carried on the inner ends of each of said levers, said handle portions being movable together to open the mouth by moving said



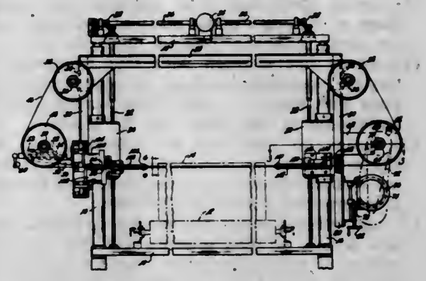
mouth-forming portions with said levers outwardly for the reception of a workpiece between said jaws, said handle portions being movable outwardly to move said mouth-forming portions inwardly toward engagement with each other and to move said jaws into clamping engagement with a workpiece, the lever members carrying said jaws being inclined so that the workpiece clamped by said jaws is also moved into the mouth and toward said workpiece supporting means.

3,263,536
EXPANDING ARBORS
Russel W. Anthony, Detroit, Mich., assignor to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan
Filed Apr. 12, 1965, Ser. No. 447,239
8 Claims. (Cl. 82—44)



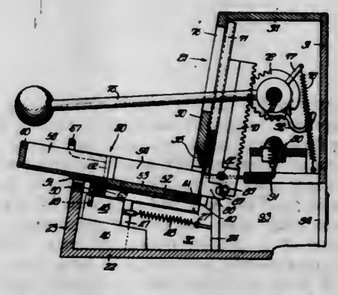
1. An expanding arbor comprising an elongated cup member having an open recess of circular cross-section at one end, drive means in said recess for establishing a driving connection with said cup member, a plug assembly comprising an elongated plug member having a free end extending toward said cup member, a sleeve slidable on the free end of said plug member, rotary drive means between said plug member and sleeve, work engaging keys movable radially in slots in said sleeve, cam surfaces on said plug member engaging said keys and operable to cam said keys radially outwardly on movement of said plug member into said sleeve, said sleeve having an end portion movable into the recess in said cup member and engageable with said drive means therein to establish driving connection therethrough to said cup member and to prevent further movement of said sleeve to provide for movement of said plug member in said sleeve to cam said keys outwardly.

3,263,537
ENDLESS BAND KNIFE APPARATUS
John L. Rehman, Barberton, and Robert B. Livergood, Jr., Cuyahoga Falls, Ohio, assignors to Falls Engineering & Machine Co., Cuyahoga Falls, Ohio
Filed Apr. 13, 1964, Ser. No. 359,030
9 Claims. (Cl. 83—4)



1. Endless band knife apparatus including a base, a pair of posts secured to the base and extending vertically therefrom in laterally spaced relation, a box vertically slidable on each post, screw means for simultaneously moving each box vertically of its post, an endless flexible band knife having a cutting edge at one side, a thin knife means extending between the boxes, hydraulic means for applying a high tension to the guide means, rotatable means on each box supporting the band knife in two separate loops one edge of each loop being guided in the guide means but with the cutting edges extending in the opposite directions, spring means tensioning the band knife, means driving the band knife, an outrigger means carried by each box, a curved beam mounted substantially parallel with each post and engaged by the outrigger for holding the box against turning even though the posts may bend under the tensioning of the knife and knife guide means, and means for adjusting the curvature of the beam to substantially conform it with the bending encountered in the posts.

3,263,538
CARD GROOVER
Dolph Gobel, Great Neck, N.Y., and Leonard M. Davis, Fair Lawn, N.J., assignors to Shaw-Walker Co., Muskegon, Mich., a corporation of Michigan
Filed Feb. 4, 1964, Ser. No. 342,418
10 Claims. (Cl. 83—98)

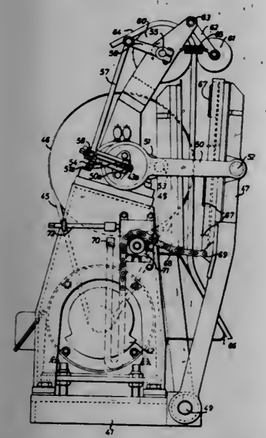


1. A machine for grooving for classification stacks of record cards that have a plurality of perforations in rows that are disposed each a fixed distance from an edge of the cards, said machine comprising:
(1) a framework;

(2) a cutting blade mounted in said framework for substantially vertical movement and having a normal position;
(3) spring means for holding said blade in said normal position;
(4) a card tray supported upon said framework, beneath said blade for movement laterally with respect to the blade and framework;
(5) means upstanding from said tray and engaging three of the edges of the stack of cards for holding the cards in definite position upon the tray;
(6) means inter-engaged with said framework and tray for positioning said tray in predetermined positions with respect to said blade thereby to align a perforation in the cards with the blade;
(7) means on said tray for releasing said inter-engaged means to permit the tray to be manually moved laterally of the machine thereby to change the predetermined position of the tray;
(8) and manual means for moving said blade out of said normal position towards said tray against the tension of said spring means thereby to groove the stack of cards at said predetermined position.

3,263,539
SINGULARLY MOUNTED CUTTERS OPERATIVE TO FORM BLANKS

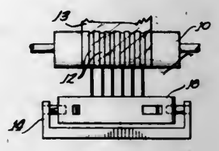
Thomas John Daniel and William Christopher Hodson, Shrewsbury, England, assignors to Rubber and Plastics Research Association of Great Britain, Shrewsbury, England, a British company
Filed May 13, 1964, Ser. No. 367,117
Claims priority, application Great Britain, May 16, 1963, 19,438/63
7 Claims. (Cl. 83—140)



1. Apparatus for cutting shapes from sheet material and comprising a support member, a cutting head and a cutting bed, said head and said bed being mounted on said support member for generally horizontal movement towards and away from each other, means for moving said head and said bed progressively towards and away from each other, means for displacing a strip of sheet material a predetermined distance substantially vertically downwards between said head and said bed when said head and said bed are spaced apart, an assembly of blades mounted in spaced-apart relation to one another on said head to make cuts in said strip material when said head and said bed are moved towards each other, the blades of the assembly being so arranged in relation to one another and in relation to the predetermined distance of displacement of the sheet material that cuts made in a plurality of cutting steps are needed to form said shapes.

3,263,540
APPARATUS FOR SLITTING PLASTIC FILM

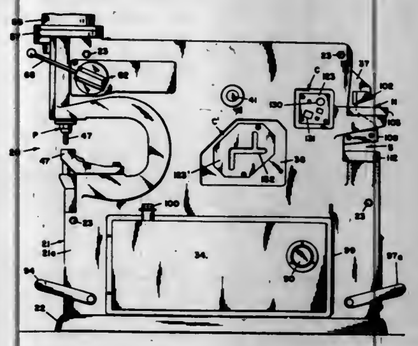
Lloyd E. Lefevre, Bay City, and Harold A. Brejcha, Midland Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed May 27, 1964, Ser. No. 370,456
5 Claims. (Cl. 83—171)



1. Apparatus for slitting thermoplastic film comprising, a roll formed to provide a plurality of parallel arranged peripheral grooves, a blade assembly including a plurality of blades each having at least one cutting edge which is positioned for entering one of said grooves, a slot formed in each of said blades extending substantially through said blade forming a path of least resistance to curent flow through the tip of each of said blades, spacer support means for said plurality of blades and means for providing current flow through said blades, whereby the tips of said blades are heated.

3,263,541
METAL WORKING MACHINES

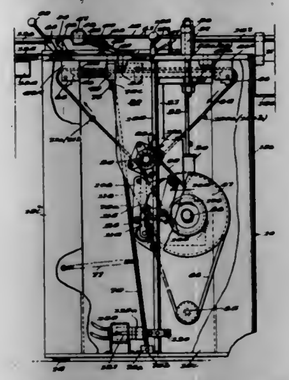
Ben B. Stockard, Jr., Greensboro, N.C., assignor to Wysong & Miles Company, Greensboro, N.C.
Original application Aug. 18, 1964, Ser. No. 390,381. Divided and this application Oct. 5, 1965, Ser. No. 508,407
2 Claims. (Cl. 83—197)



1. In a sheet metal working machine, the combination of a housing, first and second fulcrum shafts provided in said housing, an actuating plate rockably mounted on the first fulcrum shaft, a pair of reciprocable shearing plates, pivot means connecting said shearing plates at spaced points to said actuating plate, a pair of links pivoted to the respective shearing plates and mounted on said second fulcrum shaft, coacting metal working tools carried by said shearing plates and by said housing, and a fluid operator connected to said actuating plate for rocking the same on said first fulcrum shaft whereby to simultaneously reciprocate said shearing plates.

3,263,542
STRIP MATERIAL FEEDING AND CUTTING-OFF APPARATUS

John D. Langwell, Freeport, N.Y., assignor to Waldes Kohinoor, Inc., Long Island City, N.Y., a corporation of New York
Filed Jan. 13, 1965, Ser. No. 425,217
9 Claims. (Cl. 83—241)

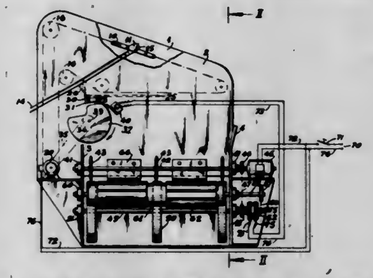


1. Apparatus for cutting off a succession of trouser-fly closure unit lengths of zipper chain and fly-strips assembled thereto from an indeterminate length of an assembly of continuous gapped zipper chain and continuous fly-strip tapes sewn thereto comprising, in combination: an upright stand including a top plate; zipper-chain guide and hold-down means for guiding said gapped zipper chain and fly-strip tape assembly in a straight-line path of motion which extends generally across the upper surface of said top plate; a cutting-off means mounted to said top plate and being disposed astride said path of motion and in position as to sever individual closure-unit lengths of zipper chain and fly strips sewn thereto from the advancing end portion of said assembly traveling thereunder; means for intermittently feeding said gapped zipper chain and fly-strip assembly along said path of motion in increments of length corresponding to the length of the trouser-fly closure units being produced at any given time, said means including a reciprocatory feed finger mounted above said path of motion and being biased for movement into the gaps of the continuous zipper chain of the assembly as said gaps are successively disposed thereunder responsive to movement of said assembly along said path of motion and being operative on each forward stroke to abut the rearward closed end of each next forwardly disposed closure-unit length of zipper chain and thereupon to push the same and thereby said chain and fly-strip tape assembly forwardly a distance corresponding to the length of said stroke, and means for imparting reciprocatory motion to said finger including a powered endless chain and means for translating chain travel in uniform direction into forward and return motion of said finger; and means for translating chain travel as aforesaid into properly timed operation of said cutting-off means.

3,263,543
STRIPPING AND CUTTING UNIT FOR ALIMENTARY PASTE PRODUCTS

Renzo Vassalli, Uzwil, Switzerland, assignor to Gebruder Buhler, Uzwil, Switzerland, a company of Switzerland
Filed Aug. 5, 1963, Ser. No. 299,965
Claims priority, application Switzerland, Aug. 10, 1962, 9,611/62
13 Claims. (Cl. 83—367)

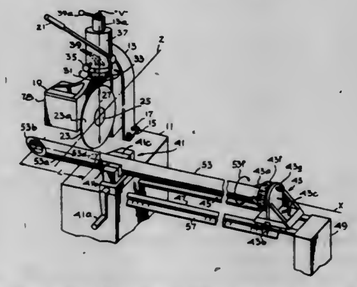
1. In an automatic stripping and cutting unit for handling elongated strands of food and the like products, looped over suspension rods, and of the type including a first endless conveyer means for receiving and transporting strand-laden suspension rods, stripping means for removing the looped strands from the suspension rods, strand cutting and trimming means, and a second endless conveyer extending transversely of the first conveyer means for delivering looped strands, stripped from the suspension rods, to the cutting and trimming means: the improvement comprising stripping means including a table disposed beneath said first conveyer means, means pivotally supporting said table at one end for tilting of its free end about an axis extending transversely of said first conveyer means, and a stripping member extending along said one end of said table; said first conveyer means having an upper run extending toward



the free end of said table and a lower run extending, immediately above said table, toward said one end of said table; said stripping member engaging the legs of looped strands suspended on said suspension rods traveling along said upper run to swing the suspended strands to pivot about their loop ends toward said table, and abutting the free ends of the strand legs as the suspension rods travel along said lower run to strip the strands from said suspension rods; said second conveyer being disposed beneath said table; and an aligning member extending along one side of said second conveyer in spaced relation to the free end of said table; said table being tiltable downwardly to discharge strands thereon onto said second conveyer with their loop ends engaged with said aligning member.

3,263,544
ELONGATED STOCK CUTTING APPARATUS

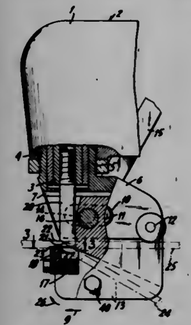
David H. Margolien, 23206 Hatteras Ave., Woodland Hills, Calif.
Filed Sept. 1, 1964, Ser. No. 393,582
4 Claims. (Cl. 83—409)



1. An apparatus for cutting the end of elongated stock having a longitudinal axis with the cut end at an angle with respect thereto comprising a vertically disposed support shaft; a cutting member assembly having a central axis; means for movably mounting said cutting member assembly to establish said central axis as a vertical reference axis; fastening means for releasably mounting said

elongated stock with its longitudinal axis perpendicular to said vertical reference axis; means for rotatably positioning said cutting member assembly about said vertical reference axis to cut the end of said elongated stock at said angle with respect to said longitudinal axis thereof; movable support means for supporting an end of said stock opposite the end to be cut; and means in said movable support means for selectively controlling the rotational position of the stock about its longitudinal axis to control the angular relationship of the end surfaces thereof.

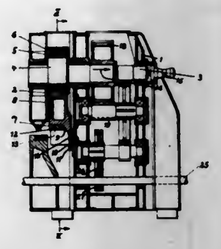
3,263,545
SLITTING TOOL
Berthold Leibinger, Stuttgart-Weilimdorf, and Eugen Herb, Ditzingen, Wurttemberg, Germany, assignors to Trumpf & Co., Stuttgart-Weilimdorf, Germany
Filed Jan. 14, 1964, Ser. No. 337,581
Claims priority, application Germany, Jan. 15, 1963, T 23,331
5 Claims. (Cl. 83—528)



1. A cutting tool for cutting materials such as metal, plastic and the like, comprising a head, a cutting member carried by said head and being reciprocable therein, a matrix movably supported from said head, cutting knife means carried by said matrix for positioning in alignment with said cutting member for cutting materials, said cutting knife means including transverse cutting knife means and longitudinal cutting knife means, said cutting member having side edges which cooperate with said longitudinal cutting knife means to cut away a strip of material and having a forward edge which does not come close enough to the transverse cutting knife carried by said matrix during the reciprocation of said cutting die to cause the complete severance of the chip material being cut in a first operating position of said matrix, said matrix being movable on said support member to bring said matrix to a second operative position at which said transverse cutting knife comes close enough to the forward cutting edge of said cutting die during reciprocation thereof to sever the material being cut in a second operative position.

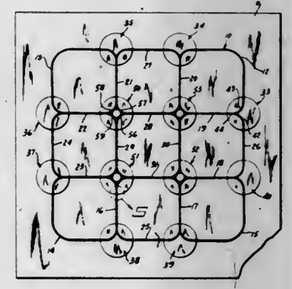
3,263,546
SHEARS FOR TRIMMING THICK AND MEDIUM METAL PLATES
Hans Musly, Dusseldorf, and Willi Benz, Neuss (Rhine), Germany, assignors to Schloemann Aktiengesellschaft, Dusseldorf, Germany
Filed Feb. 14, 1964, Ser. No. 344,855
Claims priority, application Germany, Mar. 18, 1963, Sch 32,960
10 Claims. (Cl. 83—556)

1. Shears for trimming the edges of thick and medium metal plates, comprising: a stand, a lower blade fixedly mounted in the stand, a movable blade-holder mounted in the stand and adapted to be reciprocated for executing the cut, and a movable upper blade carried by the movable blade-holder, the movable blade-holder being rockable about an axis parallel to the cutting edge of the movable blade, this axis being at a level not higher than



the level of the cutting edge of the movable blade, so as to bring the cutting edge of the movable blade out of the cutting plane during the return stroke.

3,263,547
STEEL RULE CUTTING DIE
Alan R. Pfaff, Sr., Bloomfield Hills, and Alan R. Pfaff, Jr., Orchard Lake, Mich., assignors to Bernal Tool & Machine Co., Detroit, Mich., a corporation of Michigan
Filed Aug. 14, 1964, Ser. No. 389,715
6 Claims. (Cl. 83—620)

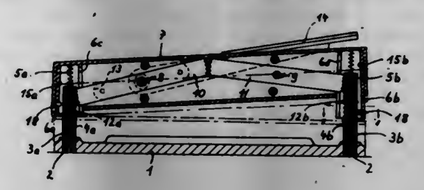


1. A steel rule cutting die comprising:
a plurality of straight rule cutting members joined by a plurality of joiner members, one of the members of each joint being characterized by a V-shaped notch, and the other member of each joint being characterized by a corresponding V-shaped projection positioned within said notch.

3,263,548
CUTTING MACHINE WITH TAPERED GUIDE MEANS FOR THE MOVABLE BLADE
Victor Kobler, Huttenstrasse 42, and Werner Kobler, Huttenstrasse 43, both of Zurich, Switzerland
Filed Apr. 20, 1964, Ser. No. 360,934
12 Claims. (Cl. 83—633)

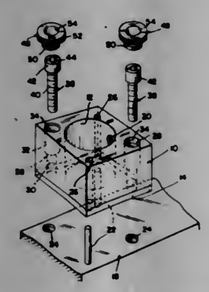
1. A cutting machine comprising a base provided with a knife horizontally mounted thereon, a part mounted on said base for vertical movement and provided with an elongated knife extending approximately parallel to said first knife and movable therewith into operative cutting relation with said first knife, said part having guiding abutment means facing approximately in the longitudinal direction of extent of said knives, two parallel vertical guide columns attached to said base for

guiding said vertically movable part relative to said base, said vertical longitudinal guide columns being appreciably spaced from said abutment means in the direction of extent of said knives so that said movable part has longitudinal horizontal play relative to said guide columns, said movable part also having abutment surfaces



facing toward each other transversally to the longitudinal direction of extent of said knives and in close guiding engagement with said guide columns so as to allow substantially no play in the vertical plane extending through the respective axes of said guide columns transversally of said longitudinal direction of said knives.

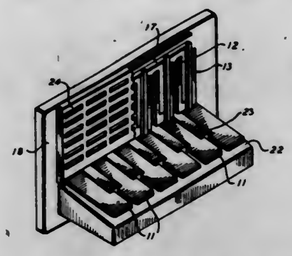
3,263,549
RETAINER FOR DIE OR PUNCH MEMBERS
Marvin F. Jordan, Detroit, and Thaddeus C. Klimowicz, Drayton Plains, Mich., assignors to Acme Industrial Products, Inc., Royal Oak, Mich., a corporation of Michigan
Filed May 25, 1964, Ser. No. 369,929
16 Claims. (Cl. 83—698)



6. A retainer for removably mounting a tool on a press shoe or like member, comprising a retainer body having a hole receiving an element threadedly engageable with a part of said press member to hold said retainer in aligned relation to said member, and means engaging said retainer body in fixed relation thereto adjacent the outer end of said hole for reaction with the outer end of said element upon unthreading movement of the latter in removing said retainer from said press member.

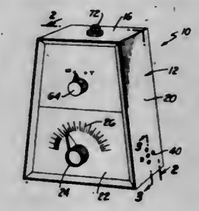
3,263,550
KEYBOARD ASSEMBLY FOR A MUSICAL INSTRUMENT
Peter S. Proll, 246 Pomona Ave., Newark, N.J.
Filed July 10, 1964, Ser. No. 381,792
16 Claims. (Cl. 84—423)

1. A keyboard assembly for a musical instrument comprising:
(a) a key,
(b) an integral stop on the key,
(c) a support for the stop having an airhole,
(d) the key and stop, defining a pivotable air-control assembly, arranged together on the support, with the stop against the airhole,
(e) a spring attached to and integral with the air-control assembly and normally urging the stop against the airhole,
(f) the air-control assembly being dimensioned as to



the length of its members and the thickness of the material from which it is made to be relatively rigid,
(g) the spring being dimensioned as to its length, and the thinness of the material of which it is made to be relatively resilient.

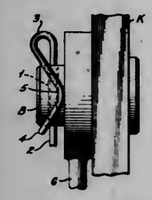
3,263,551
ELECTRONIC METRONOME
Clair O. Musser, 12997 Blairwood Drive, Studio City, Calif.
Filed May 7, 1965, Ser. No. 454,026
4 Claims. (Cl. 84—484)



1. An electronic metronome, said electronic metronome comprising:
a housing, an electronic signal generator positioned within said housing, and an audible sound producing device positioned within said housing;
said audible sound producing device comprising a solenoid having a core therein, tone generating means mounted within said housing, said tone generating means being capable of being magnetically excited to produce a substantially clear tone, said core being positioned adjacent to said tone generating means and out of contact therewith so that electrical energization of said solenoid produces electro-magnetic force which causes deflection of said tone generating means to cause it to emit a tone, said solenoid being connected to said electronic signal generator, said tone generating means being arranged to emit a substantially clear tone;
a resonance chamber mounted within said housing and adjacent said tone generating means so as to resonate the tone of said tone generating means, said resonance chamber having an opening therein, said opening in said resonance chamber being adjacent a portion of said tone generating means which moves upon emission of an audible signal from said tone generating means, said resonance chamber being coupled with said tone generating means by means of an air column extending from said tone generating means through said opening in said resonance chamber and into said resonance chamber so that said tone generating means is non-mechanically audibly coupled

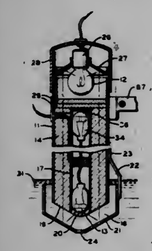
to said resonance chamber and said resonance chamber amplifies the tonal sound of said tone generating means.

3,263,552
COTTER
Max Fischer, Hanfrose 3, Zurich, Switzerland
Filed Sept. 17, 1965, Ser. No. 488,199
Claims priority, application Switzerland, Nov. 10, 1961, 13,118/61
5 Claims. (Cl. 85—8.3)



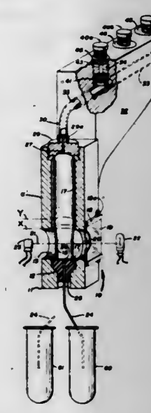
1. A one-piece cotter adapted to secure a plurality of machine elements to each other comprising a substantially straight locking portion to be passed through a hole in one of said machine elements, a substantially circular securing portion defining a pair of diametrically opposed bends, and a resilient connecting portion defining a loop connected at one end perpendicular to a point on said securing portion intermediate said bends and at its other end to one end of said locking portion to position said locking portion in the diametral plane of said securing portion including said point, said point and a second point diametrically opposed on the securing portion being spaced from said locking portion in one direction and said bends extending toward said locking portion with the apexes of said bends projecting beyond said locking portion in the opposite direction, whereby when said locking portion is inserted the securing portion positively slides over the circumference of the one machine element and moves into a securing position wherein the clearance between the locking portion and machine element is equalized.

3,263,553
PHOTOELECTRIC IMMERSION PROBE
Hans Baruch, Berkeley, Calif., assignor, by mesne assignments, to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J.
Filed Dec. 12, 1961, Ser. No. 159,206
3 Claims. (Cl. 88—14)



1. An optical analyzer in the form of a compact unit capable of being immersed into and withdrawn out of a liquid sample, comprising an elongated generally cylindrical housing having opaque walls for preventing light from passing through the walls, a section of tubing within said housing, the outside of said tubing being located inwardly from the opaque walls to provide a space, light transmitting material in said space, walls attached to the lower end of said housing defining a chamber, said chamber having openings at its upper and lower ends permitting the ingress thereinto and discharge of liquid therefrom upon the immersion and withdrawal, respectively, of said unit into and from the liquid sample, reflecting means on the walls of said chamber for reflecting light transmitted through said light transmitting means and liquid in said chamber back toward the lower end of said tubing, a photoelectric cell located in the lower end of said tubing and facing said chamber, and an incandescent lamp in the upper portion of said housing for directing light through said light transmitting means, said light passing from said light transmitting means through the liquid in said chamber to said reflective means from which the light is reflected back through the liquid onto said photoelectric cell.

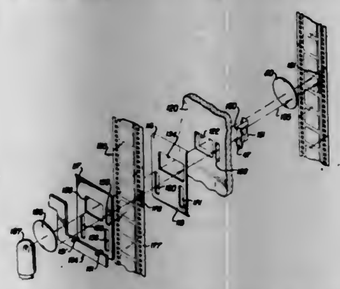
3,263,554
CUVETTE WITH MEANS FOR CONTROLLED VOLUMETRIC DISPLACEMENT
Edward G. Pickels, Atherton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Dec. 26, 1961, Ser. No. 161,802
2 Claims. (Cl. 88—14)



1. In a cuvette assembly having a transparent hollow fluid examining chamber and fluid conducting means leading into said chamber to supply fluid thereto, the combination of a resilient deformable tube closed at one end and coupled to lead into said chamber from the other, manually operable slidable plunger means disposed to selectively compress said tube and reduce the interior volume thereof in progressively increasing discrete degrees, said plunger means including a plurality of pistons of the same diameter but limited to move through different linear displacements, thereby each deforming said tube to a different related degree.

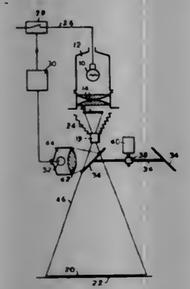
3,263,555
OPTICAL FILM PRINTER HAVING MEANS TO PRINT EDGE NUMBERS WITHIN THE PICTURE AREA
Harold A. Scheib, 4570 Gable Drive, Encino, Calif.
Filed May 13, 1963, Ser. No. 279,915
8 Claims. (Cl. 88—24)

1. An optical film printing machine comprising a projector and a camera arranged for projecting images of a film having edge indicia outside the picture area by the projector, and optically printing them by the camera on a second sensitized film, the improvements comprising means for projecting the said edge indicia outside of the



picture area of the film being projected so that they are reproduced by the camera within the picture area of the sensitized printed film.

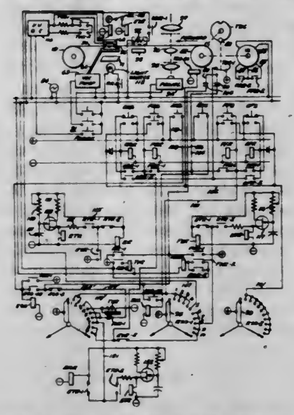
3,263,556
PHOTOGRAPHIC COPYING APPARATUS
Hansjuerg Mey, Oberengstringen, Switzerland, assignor to Gretag Aktiengesellschaft, Regensdorf, Switzerland
Filed June 17, 1963, Ser. No. 288,381
Claims priority, application Switzerland, June 26, 1962, 7,695/62
8 Claims. (Cl. 88—24)



1. In a photo copying apparatus comprising means for holding an original to be copied, a light source and lenses for transmitting a beam of light through said original onto photosensitive material, a photosensitive element, means for regulating the exposure time operable by said photosensitive element, a constant light source serving as an intensity reference, at least one first mirror, at least one second mirror and means for periodically moving said first mirror into said beam between the original to be copied and the photosensitive material for a short duration to direct the whole beam onto the photosensitive element and then periodically moving said second mirror to direct the light from said constant light source onto said photosensitive element so that the latter receives in turn the copying light with its whole intensity from said first mirror and then the reference light from said second mirror.

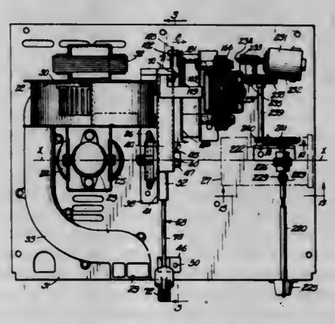
3,263,557
DOCUMENT RECORDING SYSTEMS
David R. Cunningham, Syracuse, Charles E. Cady, North Syracuse, and John D. Stone, Pennellville, N.Y., assignors to General Electric Company, a corporation of New York
Filed Feb. 26, 1963, Ser. No. 261,578
3 Claims. (Cl. 88—24)

1. In a micro image recording system employing a thermoplastic recording medium, exposure means for developing an electrostatic charge pattern corresponding to an image to be recorded on a discrete area of said medium; heating means operative in response to first and second signal conditions to generate a first or second amount of heat respectively, in the area proximate thereto, said second amount of heat exceeding said first amount of heat; projection means operative to produce a visual image corresponding to the surface impressions on areas of said recording medium that are proximate thereto; erasing control means automatically operative to successively remove the discrete area of said medium in proximity to said projection means to a position in proximity to said heating means, to apply said second



signal condition to said heating means, and to return said discrete area to a position in proximity to said projection means; a viewing screen; a transmissive mirror adapted to deflect a given portion of the light impinging thereon onto said viewing screen and to pass the remainder of said light without distortion; means for magnifying the visual image produced by said projection means and located to direct it at said transmissive mirror; and means located behind said transmissive mirror operative in response to the light passed therethrough to produce a duplicate of the image recorded in said discrete area of said medium.

3,263,558
FOCUSING MEANS FOR A SLIDE PROJECTOR
Kenneth E. Golden, Portland, Oreg., assignor to Sawyers, Inc., Portland, Oreg., a corporation of Oregon
Original application May 22, 1961, Ser. No. 111,783, now Patent No. 3,130,637, dated Apr. 28, 1964. Divided and this application Aug. 6, 1963, Ser. No. 303,981
5 Claims. (Cl. 88—24)



1. In a slide projector having a slidably mounted forwardly and rearwardly adjustable lens housing whereby to permit focusing of a projected image, the improvement

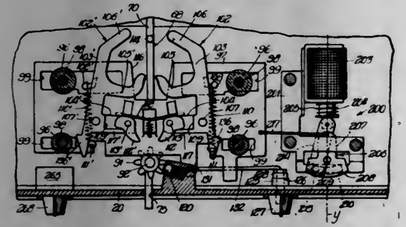
which comprises, a gear rack formed on the slidably mounted lens housing, a shaft rotatably mounted adjacent the lens housing and disposed at right angles to the direction of slidable movement thereof, a pinion gear secured on said shaft and meshed in driving engagement with the gear rack formed on the lens housing whereby rotation of said shaft in opposite directions results in forward and rearward focusing adjustment of the lens housing, one end of said shaft extending externally of the projector and having a knob thereon to permit manual focusing adjustment of the lens housing, a reversible D.C. focusing motor, a gear train operably connected between the drive shaft of said motor and a gear rotatably mounted on said shaft, a friction clutch interconnecting said shaft and said gear which is rotatably mounted thereon whereby to permit both manual and motorized focusing adjustment of the lens housing, and circuit means for said reversible D.C. focusing motor including conductors connecting an A.C. power supply and said motor in series circuit relationship across a pair of normally open forward and rearward focusing switches arranged in parallel circuit relationship with each of said pair of switches having a rectifier associated therewith, which rectifiers are connected with their polarities reversed, whereby closing the forward focusing switch actuates the focusing motor in a direction operable to shift the lens housing forwardly and closing the rearward focusing switch actuates the focusing motor in the opposite direction to shift the lens housing rearwardly.

3,263,559
SLIDE INDEXING MEANS FOR A SLIDE PROJECTOR

Kenneth E. Golden, Portland, Oreg., assignor to Sawyers, Inc., Portland, Oreg., a corporation of Oregon

Original application May 22, 1961, Ser. No. 111,783, now Patent No. 3,130,637, dated Apr. 28, 1964. Divided and this application Aug. 6, 1963, Ser. No. 303,982

6 Claims. (Cl. 88—28)



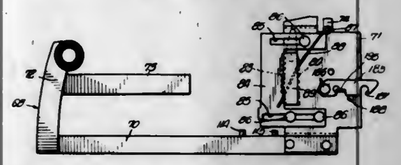
3. In a slide projector having a slide-tray-indexing mechanism characterized by a plate member adjustable between forward and rearward slide-tray-indexing positions, the improvement which comprises, a remote control handpiece electrically connected to the projector by a suitable length of conductor cord and provided with a thumb actuated switch member adapted for reversing the direction in which a slide tray is to be indexed, and a control circuit for shifting the slide-tray-indexing plate between its forward and rearward indexing positions including a solenoid and conductors connecting the solenoid, an A.C. power supply, and a normally open reversing switch in the remote control handpiece in series circuit relationship whereby said solenoid is energized each time said reversing switch is closed by said thumb actuated switch member on said remote control handpiece, the indexing plate being operably connected to an armature of said solenoid by a lost motion over-center linkage system whereby each time said solenoid is energized and then de-energized the indexing plate is shifted from one of its positions into its other position.

3,263,560
SHUTTER CONSTRUCTION FOR A SLIDE PROJECTOR

Kenneth E. Golden, Portland, Oreg., assignor to Sawyers, Inc., Portland, Oreg., a corporation of Oregon

Original application May 22, 1961, Ser. No. 111,783, now Patent No. 3,130,637, dated Apr. 28, 1964. Divided and this application Aug. 6, 1963, Ser. No. 303,984

1 Claim. (Cl. 88—28)



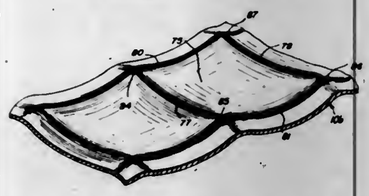
In a slide projector of the type including, a casing having a groove extending along one side thereof and adapted to receive a slide magazine, the casing portion defining the inner wall of the groove being provided with a vertically extending slide aperture intermediate the forward and rearward ends of the walls, means in the casing defining a slide viewing aperture aligned with said slide aperture and also aligned with the optical axis of the projector in a plane at a right angle thereto, the combination of a slide carrier in alignment with said slide aperture and reciprocal transversely of said groove between outer and inner positions, which carrier has an inner end always disposed within the casing and which supports a vertically extending plate disposed in parallel relation with the direction of movement of the carrier, one vertical edge of said plate being disposed adjacent said slide aperture when said carrier is in said outer position and disposed in horizontal spaced relation from the innermost vertical edge of a slide when the carrier is in said inner position, a flipper arm carried by said plate adjacent said one edge thereof and engageable with means in the casing during the final portion of outward movement of the carrier for contacting said slide edge to move the latter away from said plate edge at a greater rate of movement than the outward rate movement of the carrier, a planar shutter member parallel with said plate and mounted on the same for reciprocal movement relative thereto in a path parallel to the path of movement of the carrier, resilient means on said plate and engaging said shutter so that a portion thereof extends between said slide edge and said plate edge, when the flipper arm engages the slide edge, to block light passing along the optical axis between said slide edge and said plate edge.

3,263,561
HIGH LIGHT REFLECTING SCREENS

James G. Jackson, Port Alberni, British Columbia, Canada, assignor to Solar Projection Screens Ltd., Vancouver, British Columbia, Canada

Filed May 13, 1963, Ser. No. 279,853

8 Claims. (Cl. 88—28.9)



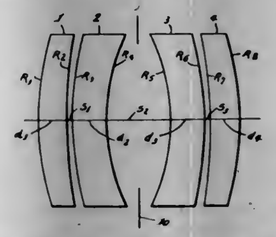
1. A light reflecting screen comprising a plurality of individual substantially rectangular main reflectors forming a reflecting surface for said screen, each of said main reflectors being curved from four sides thereof towards its centre out of the general plane of the reflecting surface, each of said main reflectors having a side reflector of similar shape at each of the four sides thereof, and each of said side reflectors being curved out of the said reflecting surface plane opposite to the main reflector in a direction perpendicular to the adjacent side of said main reflector and curved the same way as the main reflector in a direction parallel to said adjacent side of the main reflector, the curves of the main and side reflectors being such that the boundaries thereof flow into each other without flat or abrupt edges and with substantially no waste of reflecting surface, each said side reflector having a smaller radius of curvature than the main reflector in the said direction perpendicular to the adjacent side of the main reflector and a length substantially equal to the length of the said adjacent side of the main reflector.

3,263,562
FOUR ELEMENT SYMMETRICAL REPRODUCTION LENS

Herman Lowenthal, Chicago, Ill., assignor to General Scientific Corporation, Chicago, Ill., a corporation of Illinois

Filed Feb. 6, 1963, Ser. No. 256,727

2 Claims. (Cl. 88—57)



1. A four element symmetrical reproduction lens of speed substantially F:4.5 of four singlets only comprising a front portion having first and second lens elements and a rear portion having third and fourth lens elements, said second and third lens elements having greater axial thickness and higher refractive index than said first and fourth lens elements, wherein the radii of curvature of the outside surfaces of said first and fourth lens elements respectively are +0.2696 and −0.2696 times the effective focal length of the lens, the radii of curvature of the inside surfaces of said first and fourth lens elements respectively are +1.0270 and −1.0270 times the effective focal length of the lens, the radii of curvature of the outside surfaces of said second and third lens elements respectively are +0.3347 and −0.3347 times the effective focal length of the lens and the radii of curvature of the inside surfaces of said second and third lens elements respectively are +0.1870 and −0.1870 times the effective focal length of the lens, said first and fourth lens elements having a focal length of +0.6092 times the effective focal length of the lens and said second and third lens elements having a focal length of −0.7863 times the effective focal length of the lens.

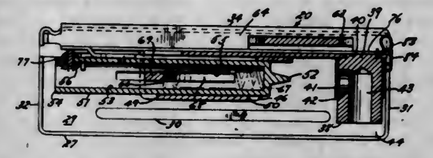
3,263,563
FLARE IGNITION DEVICE

Harvey J. Brown, Huntington, N.Y., assignor to Lundy Electronics and Systems, Inc., Nassau, New York

Filed Sept. 23, 1964, Ser. No. 398,493

10 Claims. (Cl. 89—1.5)

1. In a self-contained ignitable flare including a casing element, and ignition means disposed within said casing element, the improvement comprising: a supporting frame, a firing pin having a principal axis and slidably mounted by said frame for movement along said axis, firing pin spring means for imparting said movement, a cocking element pivotally mounted upon said casing element for movement between first and second positions, a firing pin release bar pivotally mounted externally of said casing element for movement between first and second positions thereof, said bar having means thereon engaging said firing pin to lock the same against movement when said bar is in said first position, resilient means urging said bar to said second position thereof in which said firing pin is released for movement, said cocking element in said first position overlying said bar to maintain the same in said first position thereof and in a second position moving out of engagement with said bar and compressing said firing pin spring means.

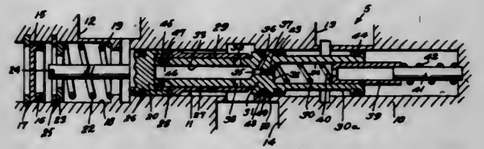


3,263,564
IMPULSE VALVE

William F. Donovan, Aberdeen, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed Dec. 22, 1964, Ser. No. 420,467

5 Claims. (Cl. 89—1.8)



2. An impulse valve for admitting pressurized propellant from a tank to the combustion chamber of a liquid propellant rocket adapted to be fired from a gun barrel comprising a valve body having a bore therein, a pair of spaced inlet conduits communicating between the tank and said bore and a discharge port communicating between said bore and said combustion chamber and a pair of valve operating elements slidable in said bore; said elements adapted to be initially moved into a bore safe position in said bore by the application of hydrostatic pressure generated by set-back forces of said gun while said rocket is in the barrel of said gun whereby said valve operating elements may be automatically moved into a position in said bore whereby said valve is fully open upon application of propellant pressure from the tank when said rocket has left the barrel of said gun.

3,263,565
ROTATING CLUSTER TYPE ROCKET LAUNCHER

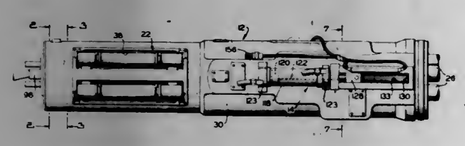
Anthony J. Dragonetti, Sunnyvale, Calif., and Rudolph E. Stern, Skokie, and Clerio Uguccioni, Chicago, Ill., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Oct. 31, 1962, Ser. No. 234,569

7 Claims. (Cl. 89—1.804)

1. In an automatic gun for discharging complete rounds linked together to form a belt, the combination including a receiver, a cluster composed of a plurality of firing tubes spaced equally apart around a central axis and a drum assembly for supporting the breech ends of said firing tubes, said drum assembly being journaled in said

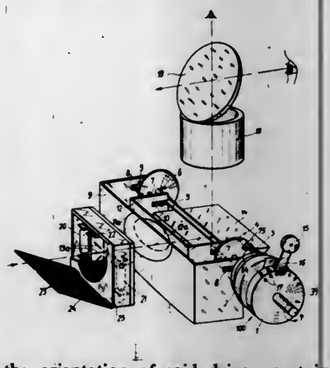
receiver for rotation around the central axis to pass said firing tubes successively through a battery station, a feeding mechanism housed in said receiver and connected to said cluster for rotation therewith for moving the belt through said receiver and positioning successive ones of the rounds relative to successive ones of said firing tubes so as to be in axial alignment therewith during passage through the battery station, a motor including a plurality of cylinders equal to the number of said firing tubes, said cylinders being disposed in said drum assembly so that the axes are parallel to the central axis of said cluster, a port extending from each of said firing tubes to a corresponding one of said cylinders for passage of discharge gases thereinto, a piston slidingly disposed in each of said cylinders for displacement by the discharge gases, a rod extending coaxially from each of said pistons, a cam follower fixed to the free end of each of said rods, a cylindrical insert fixed to said receiver at the front end, a cam groove formed inside of said insert so as to slidingly



receive said cam followers, a sloping drive section of said cam groove generated so that when one of the cam followers is driven thereagainst by discharge gases said cluster is energized for rotation, a recovery section of said cam groove generated so as to displace said followers in an opposite direction during sustained rotation of said cluster, and an electrical firing system including a firing pin corresponding to each of said firing tubes, said firing pins being arranged for primer contact with the rounds when coaxially disposed by said feeding mechanism relative to the corresponding one of said firing tubes, a plurality of electrical contacts arranged to be successively contacted by each of said firing pins during rotation with the corresponding one of said firing tubes through the battery station and during the travel of the corresponding one of said cam followers along said drive section, and an electrical fire control circuit for selectively energizing said electrical contacts to fire the gun at a selected rate and in bursts of a selected numbeir of the rounds.

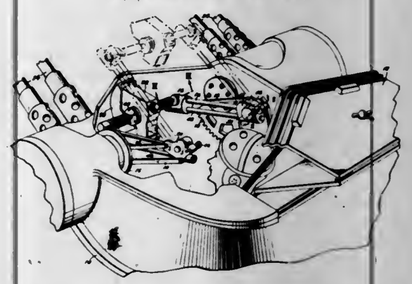
3,263,566
GUN SIGHTS PARTICULARLY FOR LIGHT DEFENSIVE WEAPONS FOR USE AGAINST MOVING AERIAL TARGETS
Hans Eglin, Geneva, Switzerland, and Alfons Dinger, Minden, Westphalia, Germany, assignors to Mathema Corporation Reg. Trust, Vaduz, Liechtenstein
Filed Oct. 1, 1964, Ser. No. 400,640
Claims priority, application Germany, Dec. 28, 1959, M 43,831
13 Claims. (Cl. 89—41)

1. A gun sight particularly for a light defensive weapon and for use against moving aerial targets, comprising a stationary transparent plate carrying a plurality of radially extending visual lines, at least one movable transparent plate having a visible lead curve defined thereon corresponding to target speed, said movable plate being located in spaced relationship to said fixed plate in a position to permit the lead curve of said movable plate to be superimposed on the image of the visual lines of said fixed plate, optical means associated with said fixed and movable plates and having an optical axis arranged at the center of the radial lines of said fixed plate and including means for viewing a moving target superimposed on the images of said lead curve and said radial lines, a coupling for transmitting changes of angle of elevation from a weapon barrel including a driving part adapted to be connected to the weapon barrel and to be rotated in proportion to the change of elevation of the weapon barrel and a driven part, said driven part being shiftable angularly in respect to said driving part for



changing the orientation of said driven part in respect to said driving part for the purpose of allowing for different angles of flight of a target, said driven part being connected to said movable transparent plate, said driven part and said movable plate with the lead curve being movable upon rotation of said driving part.

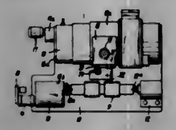
3,263,567
GUNSIGHT DRIVE LINKAGE
Carl R. Sandahl, Oakland, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 15, 1957, Ser. No. 646,505
4 Claims. (Cl. 89—41)



1. A gunsight drive linkage comprising, in combination, rotatable means including a gear sector for elevating a gun about a first center of rotation, a pivot plate spaced therefrom and adapted to rotate about a second center of rotation, a pair of arms pivotally connecting at ends thereof said rotatable means and said pivot plate at points spaced radially from the respective said first and second centers of rotation and constituting a parallelogram linkage providing corresponding rotation of said rotatable means and said pivot plate through said arms, a first gear fixed to said pivot plate, a first housing rotatably supported on said pivot plate, a rack slidably supported in said first housing in engagement with said first gear, a second housing held in connected spaced relation to said first housing by a common connecting member, a shaft rotatably journaled in said second housing, a second gear keyed to said shaft within said second housing and in engagement with said rack, rotation of said shaft thereby being responsive to rotation of said second gear which through said rack, first gear and arms is responsive

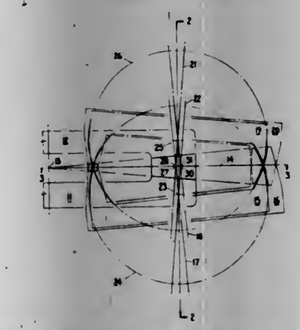
to rotation of said rotatable means, and a gunsight fixed to said shaft and thereby responsive to elevation of the gun.

3,263,568
MACHINE FOR TREATING GEARS AND SIMILAR WORKPIECES
Karl Kretzschmar, Munich-Untermenzing, and Gerd Lichtenauer, Munich, Germany, assignors to Carl Hurth Maschinen- und Zahnradfabrik, Munich, Germany
Filed June 25, 1964, Ser. No. 377,878
Claims priority, application Germany, June 26, 1963, H 49,551
15 Claims. (Cl. 90—1.6)



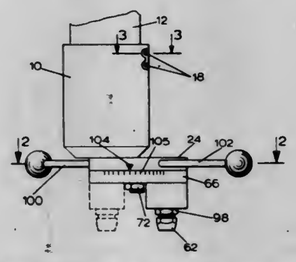
1. In a machine for treating toothed, threaded and similar workpieces, in combination, a pair of supporting means respectively arranged to carry a tool and a workpiece; drive means for moving the first of said supporting means with reference to the second supporting means so that the tool treats the workpiece whereby the supporting means are subjected to stresses which tend to change the position thereof; measuring means arranged to oppose and to determine the magnitude of stresses acting upon at least one of said supporting means; control means including means for comparing actual stresses determined by said measuring means with a preselected stress and means for regulating said drive means in response to detection of divergence between said preselected stress and actual stresses determined by said measuring means; and means for determining the minimum distance between the workpiece and the tool.

3,263,569
GEAR CUTTING METHODS
Thomas Meyrick Deakin and Geoffrey Edward Broome, London, England, assignors, by mesne assignments, to The Gear Grinding Company Limited, Warwickshire, England, a company of Great Britain
Filed Mar. 6, 1964, Ser. No. 349,991
Claims priority, application Great Britain, Mar. 16, 1963, 10,505/63
4 Claims. (Cl. 90—5)



1. A method of producing generated curved tooth bevel and hypoid gears having teeth and tooth gaps which taper both in width and in depth towards their apex point which comprises providing on parallel axes two simultaneously operable, super-imposed, intermeshing, eccentrically-mounted face-mill cutters, each adapted to sweep out a surface consisting of a zone of a sphere, positioning the axes of the face-mill cutters relative to another axis such that the face-mill cutters sweep out tooth surfaces of an imaginary basic crown wheel mounted for rotation about said other axis, and effecting relative rolling motion of the pitch plane of said imaginary basic crown wheel and the pitch cone of a corresponding gear blank in which tooth gaps are being cut.

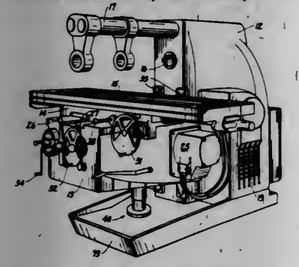
3,263,570
HOLE MILLING ATTACHMENT FOR MACHINE TOOLS
Robert E. Heffron, 603 E. 4th Ave., and Russell W. Meredith, 405 E. 10th St., both of Mesa, Ariz.
Filed Mar. 29, 1965, Ser. No. 443,603
6 Claims. (Cl. 90—15)



1. In a hole milling attachment for machine tools the combination of: a power machine tool spindle bearing housing; a first frame member; a hollow cylindrical portion of said first frame member having a bore fitted over said spindle bearing housing; first means for fixing said hollow cylindrical portion on said spindle bearing housing; a second bore portion of said hollow cylindrical portion, said second bore portion axially aligned with said first mentioned bore; a second frame member of said attachment; a circular in cross section portion of said second frame member projecting into and closely rotatably fitted in said second bore portion; an abutment portion of said first frame near a terminus of said second bore portion; an abutment shoulder of said second frame member rotatably and axially abutted to said abutment portion; radial and thrust bearing means carried and supported within said circular in cross section portion of said second frame; a power input shaft radially and axially supported by said bearing means; an extending end portion of said power input shaft projecting beyond said bearing means and said second frame member; engaging and driving means rotatably mounted in said spindle bearing housing; said engaging and driving means drivingly coupled to said extending portion of said power input shaft; a third frame member; a clamping bolt disposed axially parallel to and spaced radially from said power input shaft, said third frame member pivotally mounted on said second frame member by said clamping bolt, said clamping bolt adapted when tightened to fix said third frame member relative to said second frame member; idler bearing means concentrically surrounding said bolt; an idler gear concentrically rotatably supported by said idler bearing means; a power input gear carried by said power input shaft, said power input gear meshing with said idler gear; an output shaft; bearing means for said output shaft, said last mentioned bearing means carried by said third frame member; said output shaft being axially parallel with said bolt and said power input shaft, said output shaft being radially spaced from the axis of said bolt; a third gear on said output shaft and in mesh with said idler gear; a first recess in said second frame member in which said power input gear is contained; a second recess in said third frame member in which said third gear is contained; said idler gear being

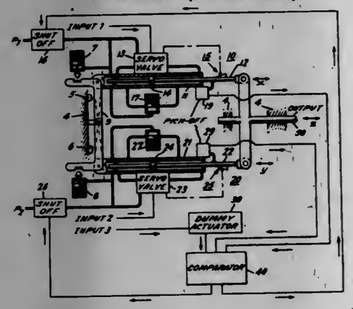
of an axial length to overlap both said first and second recesses and to thereby mesh with both said power input gear and said third gear; and a tool holding end portion of said output shaft projecting from said third frame member.

3,263,571
COUNTERBALANCE FOR A MACHINE TOOL
Frank Zankl, Milwaukee, Wis., assignor to Kearney & Trecker Corporation, West Allis, Wis., a corporation of Wisconsin
Filed Feb. 12, 1964, Ser. No. 344,283
6 Claims. (Cl. 90—58)



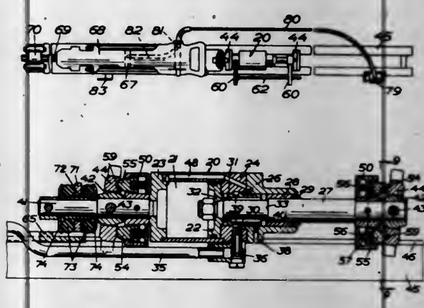
1. In a machine tool having a support on which a member is carried for vertical movement;
a screw and nut mechanism connected to effect the vertical movement of said machine member in either direction selectively;
means connected to said screw and nut mechanism to form a pressure chamber;
a source of fluid pressure connected to said chamber to apply a force directly to said screw to counterbalance the machine member to which said screw and nut mechanism is connected and thereby reduce the load on said screw and nut mechanism; and
means operable in response to an increase in the pressure in said chamber to effect a reduction in the pressure to the normal operating pressure as developed by the fluid supplied to said chamber.

3,263,572
FAILURE CORRECTING DEVICE
Luther D. Sunderland, Apalachin, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 17, 1963, Ser. No. 316,985
8 Claims. (Cl. 91—176)



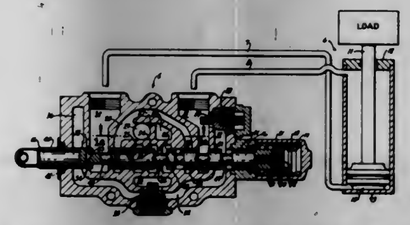
1. A failure correcting actuator wherein a final sum output element is displaced relative to a mounting platform by two actuator devices, each having a housing and an output element comprising:
(a) said first and second actuator devices responsive to control signals for displacing the device output element relative to the device housing;
(b) said final output member directly coupled to both of said device output elements;
(c) a differential device having a normal sum output element fixed relative to the mounting platform and having input elements coupled to said actuator device housings so that some differential displacements of said device output elements are normally allowed by displacement of said device housings while said final output member is displaced by the average of said device output element displacements;
(d) failure correcting means responsive to said device output element displacements for detecting actuator device failures and correcting therefor by disengagement of the failed actuator device and by locking said differential mechanism.

3,263,573
FEEDING DEVICE WORKING IN STEPWISE MANNER
Gösta E. Fogelström and Östen Erik Carlsson, Nacka, Sweden, assignors to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed Apr. 13, 1964, Ser. No. 358,996
Claims priority, application Sweden, Apr. 16, 1963, 4,113/63
10 Claims. (Cl. 91—217)



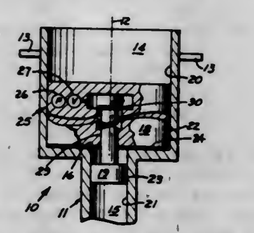
1. A feeding device for rock drills comprising an elongated feed bar for slidably supporting a rock drill therealong, a pair of locking members movably mounted on said feed bar, adjustable means on said locking members providing in a first position of adjustment uni-directional locking against said feed bar to allow forward and to prevent rearward movement of said members along said feed bar and in a second position of adjustment uni-directional locking against said feed bar to allow rearward and to prevent forward movement of said members, a pressure fluid operated extensible and contractable feed motor connected to said drill and movable therewith, said motor including cooperating cylinder and piston elements coupled one to each of said locking members for moving said members and thereby said rock drill step by step along said feed bar by successive extensions and contractions of said motor in the direction defined by the position of adjustment of said adjustable means, means for automatically controlling the delivery of pressure fluid to said motor for continuously extending and contracting said cylinder and piston elements, first and second reversing elements movably mounted on said motor each adjacent one of said locking members for movement between a forward and a rearward feed position and having means thereon for moving said adjustable means from their first to their second position of adjustment as a result of said reversing elements being moved from said forward to said rearward feed position, said first reversing element being journalled for movement from said forward to said rearward feed position independently of said second reversing element for purposes of rendering said feed motor inactive by causing opposite locking action of said members, and coupling means connected to said second reversing element and engageable with said first reversing element for moving the latter from said forward to said rearward feed position in unison with said second reversing element.

3,263,574
SPEED AND DIRECTIONAL CONTROL VALVE FOR DOUBLE ACTING LIFT CYLINDER
Francis H. Tennis, Hartland, Wis., assignor to Hydraulic Unit Specialties Company, Pewaukee, Wis., a corporation of Wisconsin
Filed Sept. 21, 1965, Ser. No. 488,989
13 Claims. (Cl. 91—436)



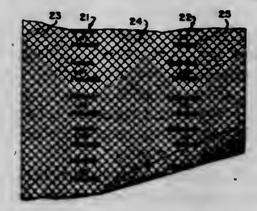
1. A control valve for a reversible fluid motor, characterized by:
(A) a body member having
(1) an inlet to receive pressure fluid from a pump,
(2) first and second service passages which are adapted to be connected with the opposite sides of a fluid motor,
(3) and an outlet common to said service passages and through which fluid can be returned to a reservoir;
(B) a valve member in the body member, movable from a neutral position to at least three working positions;
(C) cooperating means in the body member and on the valve member effective in a first working position of the valve member to direct fluid from the inlet to the first service passage and to direct exhaust fluid returning to the second service passage to said outlet, said means including flow controlling means in one of said members, which is effective in said first working position of the valve member to restrict flow of exhaust fluid to the outlet, whereby a motor then connected with the service passages will be caused to operate in one direction at a substantially slow rate, said flow controlling means being rendered ineffective in consequence of movement of the valve member to all other positions thereof including its neutral position;
(D) cooperating means in the body member and on the valve member effective in a second working position of the valve member to direct fluid from the inlet to the second service passage and to direct exhaust fluid returning to the first service passage to said outlet, all in bypass relation to said flow controlling means, so as to cause operation of the motor in the opposite direction at one speed, and effective in a third working position of the valve member to direct said exhaust flow from the first service passage to the second service passage while maintaining flow of fluid from the inlet to the second service passage, all in bypass relation to said flow controlling means, so as to cause operation of the motor in said opposite direction at a higher speed;
(E) and cooperating means in the body member and on the valve member effective in the neutral position of the valve member to close off the service passages from the inlet and to block communication between the inlet and said flow controlling means.

3,263,575
LINEAR ACCELERATOR
Jack B. Ottestad, La Jolla, Calif., assignor to Impulse Products Corporation, San Diego, Calif., a corporation of California
Filed Aug. 3, 1964, Ser. No. 387,079
7 Claims. (Cl. 92—75)



1. A linear accelerator having an axis and comprising: a first and a second body each body having a boundary wall, the first body having the greater mass and the greater normal cross-section relative to the axis; the housing having a first and a second bore, the opposite ends of said bores being exposed to atmosphere, said bores intersecting and being adapted to receive in axially freely sliding relationship the first and second bodies respectively, means for exerting an axial, separative force between the two bodies, thereby to move the bodies apart with energies and for distances inverse to their relative masses, and with the intersection of the bores between them, whereby a region of reduced fluid pressure is formed therebetween, and whereby axial motion of the first mass is resisted by a force equal to the difference in the areas of the bores times the difference of the atmospheric pressure and the reduced fluid pressure between the bodies.

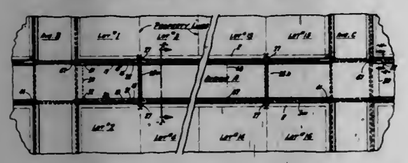
3,263,576
METHOD OF MAKING ENVELOPES
Herbert A. Ellenbogen, 10 Butternut Drive, New City, N.Y.
Filed June 18, 1963, Ser. No. 288,743
1 Claim. (Cl. 93—61)



The process for forming envelopes for packing lists or the like comprising the steps of:
(1) providing a sheet of thermoplastic film;
(2) printing a first transversely spaced series of legends along one surface of said film between the center and one side edge thereof;
(3) printing a second transversely spaced series of legends in inverted relationship to said first series of legends along said one surface of said film between the center and the opposite side edge thereof;
(4) applying a first linearly elongated pattern of self-adhering adhesive to the printed surface of said film between said one side edge and said first series of legends;

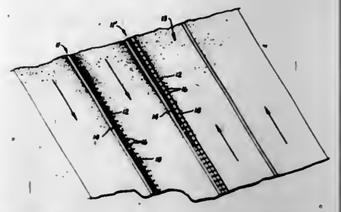
(5) applying a second linearly elongated pattern of self-adhering adhesive to the printed surface of said film between said first and second series of legends;
(6) applying a third linearly elongated pattern of self-adhering adhesive to the printed surface of said film between said second series of legends and said opposite side edge;
(7) providing backing paper strips having a coating on at least one surface thereof;
(8) applying a backing paper strip over each of said adhesive patterns with said coated surfaces being oriented toward said self-adhering adhesive to form a backed article;
(9) centrally linearly dividing said backed article to form a pair of substantially symmetrical strips, each having an intermediate zone with a series of legends and a pair of marginal side zones having adhesive patterns with backing paper strips applied thereto;
(10) folding said strip containing said first series of legends until said first adhesive pattern underlies said first series of legends;
(11) folding said strip containing said second series of legends until said third adhesive pattern underlies said second series of legends;
(12) transversely heat sealing each of said folded strips between each of the legends in a series to seal the underlying portion of each folded strip to the overlying portion thereof and to thus convert each folded strip into a series of interconnected envelopes each of which has one open end; and
(13) transversely severing each of said folded strips along each transverse heat seal to provide a plurality of individual envelopes having one open end.

3,263,577
SUBTERRANEAN UTILITY DISTRIBUTION SYSTEM
Stanley Hiller, Berkeley, Calif.
(1 Hiller Drive, Oakland, Calif.)
Filed Aug. 8, 1962, Ser. No. 215,711
9 Claims. (Cl. 94—1)



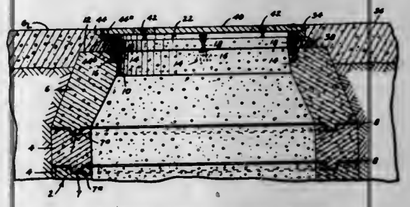
1. An underground installation for distribution of utilities services within a parcel of land having a longitudinally extending length of roadway located therein and being divided into a plurality of lots along said roadway each of which is defined at least in part by a property line transversely oriented with respect to said roadway, said installation comprising:
(a) a plurality of main conduits defining utility services and being disposed in said land below its surface and extending along a side of said roadway laterally exterior thereto; and
(b) a plurality of groups of branch conduits disposed in said land below the surface thereof and extending laterally from said main conduits in traversing relation with said length of roadway, each group of branch conduits being spaced from the next group thereof lengthwise of said main conduits and being located and oriented to extend from the vicinity of such property line on one side of said length of roadway to the vicinity of a property line on the other side of said roadway to enable a plurality of adjacent lots to be served by a single traversal of said roadway and by the group of branch conduits making the same, the branch conduits constituting each group thereof being respectively connected to said main conduits to provide such utility services at the other side of said length of roadway;
the land defining said length of roadway being essentially devoid of utility conduits below the surface thereof, other than for said branch conduits.

3,263,578
HIGHWAY DIVIDING LINE CHANGING SYSTEM
Walter R. Pilcher, 17 Ardor Drive, Orinda, Calif.
Filed Apr. 29, 1964, Ser. No. 363,455
11 Claims. (Cl. 94—1.5)



9. A highway dividing line changing system comprising a plurality of longitudinally aligned plates pivotally secured adjacent one side edge upon a roadway surface, said plates having opposite horizontal faces of respectively light and dark colors.

3,263,579
RING AND COVER CONSTRUCTION FOR UNDERGROUND VAULTS
John P. Dorris, 5301 River Ave., Newport Beach, Calif.
Filed Jan. 2, 1963, Ser. No. 249,084
13 Claims. (Cl. 94—34)



1. An underground vault having an access opening therein; a cover-support ring aligned with said opening; and means attached directly to said vault at circumferentially spaced points around said opening rigidly supporting said ring in spaced relationship therewith, said supporting means including: a plurality of vertically extending circumferentially spaced support posts fixedly anchored at their lower ends to said vault against movement in any direction; and vertically adjustable securing means carried on each of said support posts engageable with said ring for rigidly securing said ring to said posts, said ring and said supporting means being constructed and arranged to enable positioning of said ring at various distances from and at various angles to said vault.

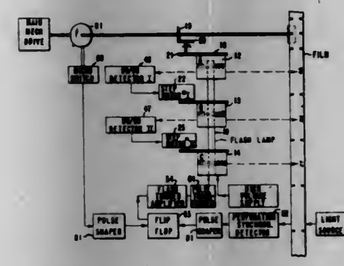
3,263,580
SAFETY ADAPTOR FOR MANHOLES
James G. MacMillan, 250 Bayard Ave., Dover, Del.
Filed May 26, 1964, Ser. No. 370,313
5 Claims. (Cl. 94—34)

1. A manhole cover for manholes in roadway or the like comprising a female fitting frame adapted to be supported within the manhole with its upper rim disposed slightly below the surface of the roadway; an inner peripheral flange within the frame disposed slightly below the upper rim thereof; a laminated cover comprising a lower metallic lamination seating upon said flange flush with the upper rim of the frame, and an upper non-metallic lamination secured to the lower lamination and extending over said upper rim and having its upper face



adapted to be disposed flush with the surface of the roadway; and a non-metallic retainer adapted to be embedded in the roadway and surrounding the upper portion of the frame and disposed closely adjacent the outer periphery of the frame and with its upper end disposed in the plane of the upper face of said non-metallic lamination.

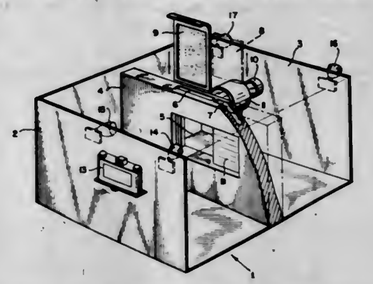
3,263,581
LATENT IMAGE PRINTER
James Stephens Linderman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 18, 1963, Ser. No. 288,767
4 Claims. (Cl. 95—1.1)



1. In a device for symbolizing a perforated film in a desired relationship with respect to the perforations comprising means for continuously moving said film past said device, and a flashing light source for projecting a series of symbols along said film, the improvement which comprises means for generating a flash impulse for actuating said light source responsive to film movement in combination with detector means for coordinating perforation passage with release of the flash impulse so as to occur only at a space between perforations.

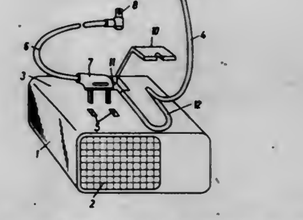
3,263,582
PHOTOGRAPHIC IDENTIFICATION APPARATUS
Vernon R. Gatley, 721 NE. 8th St., and Vernon R. Gatley, Jr., 621 NE. 8th St., both of Pompano Beach, Fla.
Filed Dec. 26, 1963, Ser. No. 333,364
1 Claim. (Cl. 95—1.1)

A self-contained identification device for simultaneously photographing an image of a person and a card, said identification device comprising a frame, means mounted on said frame for supporting in a given plane a card bearing indicia relative to a person to be photographed, said supporting means comprising a partition having one aperture for supporting said card and a second aperture for supporting a viewing screen when desired, focussing lens means and condensing lens means mounted on said frame on one side of said plane and in spaced relationship with each other and with said plane for focussing substantially at said plane an image of said person being photographed, and camera means mounted on said frame



on the other side of said plane and spaced therefrom and focussed at said plane for simultaneously photographing said card and the focussed image of said person at said plane on film in said camera means.

3,263,583
ELECTRONIC FLASH UNIT FOR PHOTOGRAPHIC PURPOSES
Walter Schmidt, Berlin-Lichterfelde, Germany, assignor to Loewe Opta G.m.b.H., Berlin, Germany, a company of Germany
Filed Aug. 17, 1962, Ser. No. 218,231
3 Claims. (Cl. 95—11)

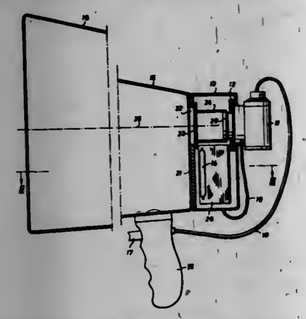


1. In an electronic flash unit for photographic purposes usable in connection with a camera comprising a casing containing the electrical components and the reflector inclusive of the flash lamp, a synchronizing cable for electrically connecting said electrical components with the synchronizing contact of the camera, and a plug socket within said casing electrically connected to said electrical components, an additional separate synchronizing cable, said first synchronizing cable being integrally attached to said casing and being supplied at its free end with a conventional plug fitting the synchronizing contact of the camera, said additional separate connection cable being supplied at its one free end with a plug fitting said plug socket within said casing and at its other free end with a plug fitting a special synchronizing contact of another camera.

3,263,584
APPLIANCE FOR ILLUMINATING AND PHOTOGRAPHING A SURFACE OF AN OBJECT WITH REFLECTING AREAS
Jean Knus, Zurich, Switzerland, assignor to Alos AG, Zurich, Switzerland
Filed Jan. 21, 1963, Ser. No. 252,809
Claims priority, application Switzerland, Jan. 22, 1962, 814/62
6 Claims. (Cl. 95—11)

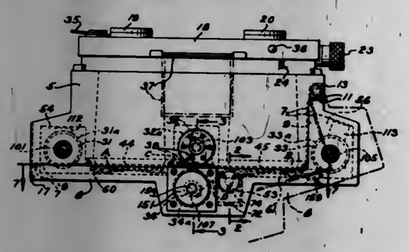
1. Appliance for illuminating and photographing reflecting flat areas as showing an object surface compris-

ing a casing, a holder in the casing, a camera removably mounted on the holder, a lighting equipment in the casing, a focussing hood secured on the casing, the focussing hood serving to fix the position of the camera and the lighting equipment with respect to the flat area to be photographed and the open and free end of the focussing hood being arranged to be placed in the plane of the flat area, a wall between the hood and the casing, a pair



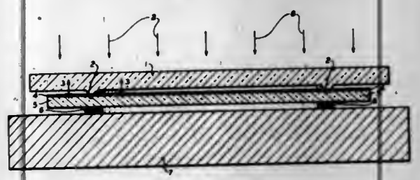
of mirrors mounted adjacent opposite sides of the casing and behind the wall, said wall having two apertures therein in spaced relation and said openings being dimensioned so that they will limit the light crossing and each intersecting light cone being directed to the respective half of the flat area as to its light cast thereon with the light cone coming from the right illuminating the lefhand half of the area only and vice versa.

3,263,585
PHOTOGRAPHIC FILM APPARATUS
Joseph J. Roubal, 5135 W. 22nd Place, Cicero, Ill.
Continuation of application Ser. No. 318,776, Oct. 22, 1963. This application Feb. 8, 1965, Ser. No. 434,168
1 Claim. (Cl. 95—18)



In a stereo camera having photographing objectives at 2½ inches or equivalent stereo viewed picture spacing and having in conjunction with stereo picture defining apertures rear-facing film-locating surfaces in the focal planes of said photographing objectives and having resilient presser plate means to urge photographic films to locate flatly at said rear facing film-locating surfaces, photographic films locating at said rear-facing film-locating surfaces, take-up means operable by winding for taking up the photographic films in take-up rolls by way of the inner ends of said rear-facing film-locating surfaces, said photographic films at their advanced terminal ends by attachment in said take-up means being coilable in the winding of said take-up means to form said take-up rolls, and said photographic films in equal lengths or substantially in equal lengths in the winding of said take-up means being movable and stoppable at said rear-facing film-locating surfaces with respect to said picture defining apertures to the end wherein in photographing by said photographing objectives and the therewith required winding of said take-up means, stereo complementary pictures will appear photographed in said photographic films successively evenly or thus substantially as to the films' advanced terminal ends, and means mounted photographic film supply rolls positioned forwardly of each of the opposite outer ends of said rear-facing film-locating surfaces and whereby said photographic films are availably supplied thus by uncoiling rearwardly and thereby to move directly to locate at said rear facing film-locating surfaces under said resilient presser plate means and whereby reliable flat location of said photographic films at said rear-facing film-locating surfaces and under said resilient presser plate means and thus in the focal planes of said photographing objectives takes place and is obtained thus in photographing with the camera requiring the winding of said take-up means upon any involved delayed time during which in the camera said photographic films are affected by atmospheric humidity.

3,263,586
CIRCULAR OR LONGITUDINAL SCALES FOR PHOTOMECHANICAL CONTACT COPYING
Walter Hampl, Traunreut, Upper Bavaria, Germany, assignor to Wenczler & Heidenhain, Traunreut, near Traunstein, Upper Bavaria, Germany, a corporation of Germany
Filed Oct. 22, 1963, Ser. No. 317,947
1 Claim. (Cl. 95—73)



A scale carrier of transparent material for photomechanical contact copying, comprising,

a first larger surface on the scale side of said carrier,

a second plane surface comprising a scale carrying portion,

said scale carrying portion being of smaller area relative to the total area of said carrier and raised relative to the general surface of said carrier, at a distance such that only the scale carrying portion of said carrier will contact a light sensitive layer of another carrier on which the copy of said scale is to be formed, and

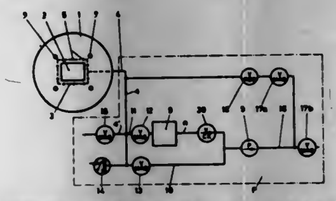
a scale formed as a thin layer of material on said raised scale carrying portion,

the thickness of said layer forming said scale being in the order of a fraction of wavelength of light.

3,263,587
HOLDER FOR ORIGINALS TO BE PRINTED, PARTICULARLY IN AUTOMATIC PHOTOGRAPHIC PRINTING MACHINES
Hansjuerg Mey, Oberengstringen, Reinhard Zeindler, Zurich, and Juergen Bertele, Regensdorf, Switzerland, assignors to Gretag Aktiengesellschaft, Regensdorf, Switzerland
Filed Mar. 13, 1964, Ser. No. 351,629
Claims priority, application Switzerland, Mar. 15, 1963, 3,283/63
7 Claims. (Cl. 95—76)

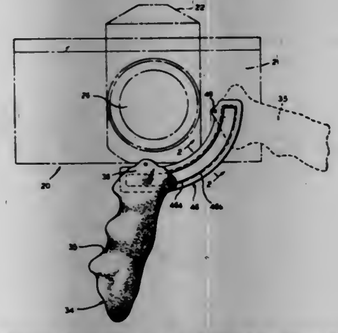
1. Means for holding a photographic original to enable the latter to be printed in an automatic photographic printing machine, comprising a plate intended to receive the original, portions in said plate defining a window aperture of a size corresponding to that of the original to be printed,

means on said plate for locating the original in register with the window, portions in said plate defining an internal manifold surrounding said window, portions in said plate defining outlet passages leading from said manifold to locations adjacent said window, portions in said plate defining an inlet passage leading to said manifold, a suction pump, first conduit means connected to said inlet in said plate, second conduit means connecting said first conduit means with said suction pump, a vacuum vessel inserted in said second conduit means, a first magnetic valve



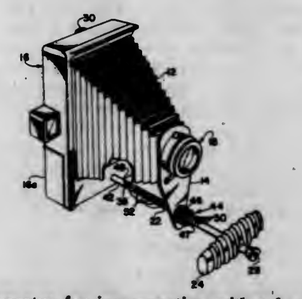
also inserted in said second conduit means between said vacuum vessel and said inlet, third conduit means connecting said suction pump and said first conduit means and by-passing said second conduit means, a second magnetic valve in said third conduit means a pressure switch connected to said first conduit means and operable to control said first and second magnetic valves in a manner such that, when a negative pressure which is preadjustable on said pressure switch is reached, said first magnetic valve is closed and said second magnetic valve is opened.

3,263,588
CAMERA ACCESSORY
David Robinson, 4750 N. Clarendon, Chicago, Ill.
Filed Apr. 17, 1964, Ser. No. 360,621
7 Claims. (Cl. 95—86)



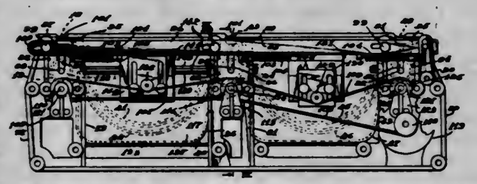
1. A camera accessory to be associated with a conventional camera having a vertical and horizontal format, comprising: a grip having a handle formed and angled to suit the anatomical features of the human hand in a comfortable holding position, adjustable means for associating said grip in a position under and proximate to said manual adjusting lens when pictures are being taken in a vertical or horizontal format, said adjustable means constraining movement of said grip between its various positions, said grip being selectably positionable in both a first grip retaining position and a second grip retaining position, said first grip retaining position designating the location of said grip as being proximately disposed and under said lens whereby it can be maintained in said hand in order that a picture with a horizontal format can be taken by focusing and supporting said camera with said hand, said second grip retaining position designating the location of said grip as being disposed in the same manner as said first grip retaining position in order that pictures with a vertical format can be taken, said grip being disposable to enable the handle of the grip to be maintained in one hand in a manner that permits the thumb and at least one finger to manipulate said manual lens adjusting means in both said first and second grip retaining positions, and means for selectably locking said grip in said first and second grip retaining positions, whereby said camera can be focused and supported simultaneously with one hand and pictures can be taken in both the vertical and horizontal formats.

3,263,589
CAMERA APPARATUS
Christopher R. Rice, Wakefield, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Aug. 13, 1964, Ser. No. 389,274
8 Claims. (Cl. 95—86)



1. Apparatus for incorporation with a hand-held camera of a type including a back element and an extensible front element, said apparatus being adapted to undergo differential arrangement relative to said camera for conveniently and rapidly serving the dual functions of providing both transportation adaptability and variation of focal characteristics, and comprising elongated shaft means, a carrying handle attached to one extremity of said shaft means, means for positioning and holding said shaft means at a first location so that it extends in a given direction outwardly from and in a principal plane of said camera back element with said handle thus located to best advantage for carrying purposes, means for positioning and holding said shaft means at a second location so that it extends outwardly from said camera back in a direction substantially at 90° to said first-named direction, and locating means attached to said camera front element adapted to slidably engage said shaft means.

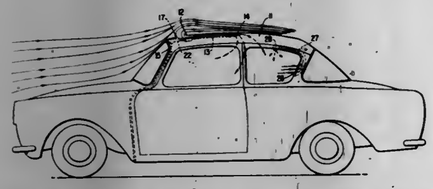
3,263,590
PROCESSOR FOR PHOTO-DIRECT MATERIAL
Walter Wanielista, Westchester, and Charles P. Sippel, Jr., Villa Park, Ill., assignors to Robertson Photo-Mechanix, Inc., Chicago, Ill., a corporation of Illinois
Filed July 9, 1963, Ser. No. 293,694
1 Claim. (Cl. 95—94)



In a device for processing photo-direct material, characterized by a loading tray, a developing tray and a stop bath solution tray arranged in series and a receiving tray

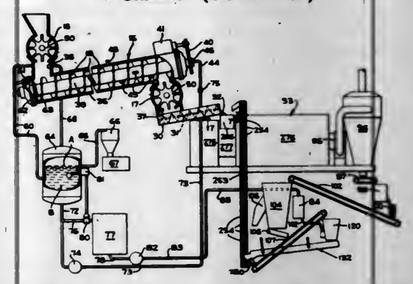
at the discharge end of said stop bath solution tray, a pair of squeegee rolls at the entering end of said developing tray pushing a sensitized printing plate into said tray and guide means in said tray maintaining the sensitized printing plate immersed in the solution therein, a pair of squeegee rolls between said trays squeegeeing the developing solution from said plate and pushing the plate through said stop bath tray and guide means in said stop bath tray in association with said squeegee rolls for immersing the printing plate in the stop bath solution, other squeegee rolls at the discharge end of said guide means, squeegeeing stop bath solution from the printing plate, each set of squeegee rolls being vertically aligned and having shafts extending from opposite ends thereof, the improvement comprising a frame having a plurality of transversely aligned longitudinally spaced upwardly opening slots therein, forming bearing and mounting means for said rolls shafts, the shafts for the lower of said rolls each having a gear thereon, a drive gear directly beneath each gear and meshed therewith, means for driving said drive gears at the same rates of speed, a separate bar slidably mounted on each side of said frame, for limited slidable movement in the direction of said frame, a plurality of bellcranks transversely pivoted on each bar, each bellcrank having a lever arm engageable with the shaft of the uppermost squeegee roll, spring means connected between said bars and bellcranks and pressurizing said squeegee rolls and maintaining said gears in driving engagement with each other, said lever arms being releasable from said shafts by movement of said bars along said frame to accommodate removal of said squeegee rolls from said slots.

3,263,591
VENTILATION OF SALOON MOTOR VEHICLES
Peter M. Finch and Alan Frank Pether, Oxford, England, assignors to Pressed Steel Company Limited, Oxford, England, a British company
Filed Apr. 30, 1964, Ser. No. 363,703
2 Claims. (Cl. 98—2)



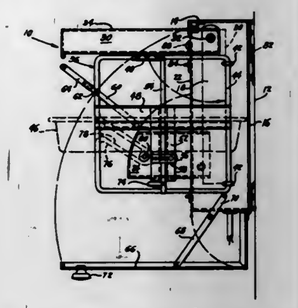
1. A vehicle body having a fixed roof panel, one edge of said panel positioned adjacent an air deflecting portion of said vehicle body, said air deflecting portion and said roof panel forming an obtuse angle, whereby upon motion of the vehicle body a region of relatively low air pressure is formed over a surface portion of said roof panel in the vicinity of the vertex of said obtuse angle, a slot in said roof panel adjacent the vertex of said obtuse angle, to thereby expose said slot to relatively low air pressure upon motion of the vehicle body, a closure flap in said roof panel, means to actuate said flap from the interior of the vehicle body, said flap lying generally in the plane of said roof panel when closing said slot, said closure panel opening said slot by movement interiorly of said vehicle body, a generally closed chamber in fluid communication with said slot, said chamber being positioned adjacent the underside of said roof panel, said chamber having an air inlet aperture therein in fluid communication with the interior of said vehicle body, an air inlet opening on at least one side of said roof panel and extending through said roof panel, a duct leading from said inlet opening to the interior of said vehicle body to direct external air to the interior of the vehicle body.

3,263,592
APPARATUS FOR PROCESSING FAT-CONTAINING SOLIDS
Frank D. Hickey and Katsuji Hirahara, San Jose, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Nov. 22, 1963, Ser. No. 325,668
9 Claims. (Cl. 99—235)



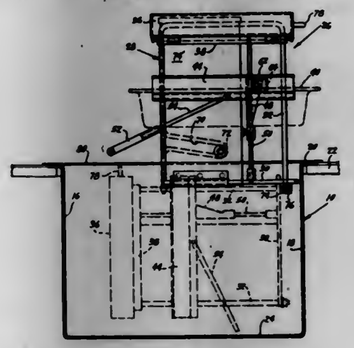
1. Apparatus for processing animal fats and similar material comprising a cooker for subjecting the material to a heating medium to effect the separation of fat, meal, and proteinaceous extract; means for separately collecting the fat, the meal, and the extract; a drier having a pair of adjacent separated inlet openings and a discharge opening; a conveyor for receiving meal from the cooker and discharging it into one of said inlet oepnings; means for receiving substantially dry product from said drier; distributing means for directing a quantity of the extract into the dry product to wet it; means for separating the wet product into separate small masses; means for coating the masses with substantially dry product to form pellets; conveying means for delivering the pellets into the other of said openings; means for effecting movement of the meal and the pellets from said inlet openings to said discharge opening and moving it through said discharge opening, and means for drawing a stream of hot gases through said drier to urge the pellets and the meal from the cooker longitudinally in said drier to dry it.

3,263,593
FOLDING BROILER AND ROTISSERIE UNIT
Kenneth Appleman, New York, N.Y., assignor to Purcarb, Inc., New York, N.Y., a corporation of New York
Filed Mar. 12, 1965, Ser. No. 439,186
6 Claims. (Cl. 99—324)



1. A broiler and rotisserie unit comprising an upright housing, a source of heat extending from said housing adjacent the upper end thereof, means connecting said heat source to said housing for swinging movement from the extended position to a nested position within said housing, a pair of vertically disposed spaced-apart parallel support members projecting perpendicularly from said housing, means connecting each of said support members to said housing for swinging movement from the perpendicular position to a position nested within said housing, means adjacent each of said support members for receivingly engaging an end portion of a food supporting rack when disposed between said support members, and means connecting each of said rack supporting means to the adjacent support member for upward and downward movement.

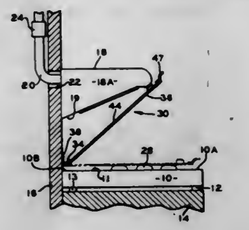
3,263,594
COMBINED BROILER AND ROTISSERIE UNIT
Kenneth Appleman, New York, N.Y., assignor to Purcarb, Inc., New York, N.Y., a corporation of New York
Filed Mar. 12, 1965, Ser. No. 439,187
7 Claims. (Cl. 99—340)



1. A broiler unit comprising a well having a front end and a rear end, spaced side walls, and an open top, means on the upper ends of said walls for supporting said well in the sides of an opening in a table top, a frame having a forward end and a rearward end, said frame in a use position being above and substantially exteriorly of said well and having the portion adjacent the rearward end connected to the sections of said side walls adjacent the rear ends of said side walls for swinging movement from the use position to a nested position within said well, said frame including spaced apart inverted U-shape side members, a housing secured to the bights of said side members, said housing having a recess therein, a source of electrically heated radiant energy seated in said recess, a base member disposed adjacent the free ends of the legs of said side members and secured thereto, a post rising from the portion of said base member between the legs of each of said side members, a horizontally disposed channel member carried by each of said posts for upward and downward movement, said channel members being in face-to-face spaced-apart relation and adapted to slidingly receive edge portions of a broiler rack for support of said rack beneath said heat source, and actuable means connected to said side members and to said channel members for effecting the upward and downward movement of said channel members, and releasable arch means cooperatively engaging the side walls of said well and frame base member for holding said frame in the use position.

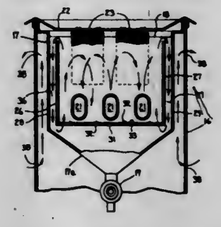
3,263,595
GRILL BOARD
Edwin C. Bower, 7710 Seneca Trail, Temperance, Mich.
Filed Feb. 20, 1964, Ser. No. 346,255
1 Claim. (Cl. 99—349)

The combination with a grill having a top heating surface for heating items placed thereon and forward and rear ends of a support means disposed rearwardly of said grill and extending vertically upwardly from the level of said top surface, a hood carried by said support means and having a portion thereof extending over said grill in a vertically spaced relationship, an elongated grill board having forward and rear ends and having a width less than the width of said grill, means pivotally securing the rearward end of said grill board to said support means at a position vertically above said grill, said grill board being pivotal from a lower position substantially parallel to said grill to a raised position with its forward end raised vertically above said grill board with substantially said entire grill board disposed below said



hood, handle means carried by the forward end of said grill board and being graspable for manually pivoting said grill board between its positions and securing means including a first portion carried by said hood and a second portion carried by said grill board for securing the latter in its raised position whereby vapors passing into said hood will move past said grill board and dry the same, one of the portions of said securing means being a magnetic element and the other portion being of a magnetically attractable material.

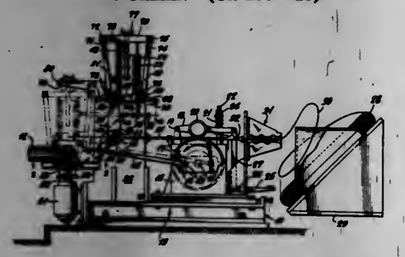
3,263,596
FILTERED DEEP FRYER
Frank P. Thomas, 504 W. 83rd St., Indianapolis, Ind.
Filed Aug. 31, 1964, Ser. No. 393,115
5 Claims. (Cl. 99—408)



1. A deep fryer vessel which is generally rectangular in cross-section over a substantial portion of its depth, heating means extending transversely across said vessel in said rectangular portion for the heating of cooking fat accommodated therein, said vessel being adapted to accommodate fry baskets for suspending food to be cooked adjacent said heating means thereby establishing a primary convection circulating path for cooking fat within the vessel, and a thermal barrier plate disposed adjacent each of two opposite side walls of said vessel but spaced from said vessel side walls, the upper margins of said barrier plates being below the normal level of cooking fat within the vessel and the lower margins of the barrier plates being spaced above the bottom of said vessel, and a fine filter element extending between said barrier plates across said vessel and below said heating means, whereby an auxiliary path for convection circulation of cooking fat is provided between said barrier plates and the adjacent faces of the vessel

side walls to the interior of said vessel with said filter element extending across said auxiliary path but leaving said primary circulating path unobstructed.

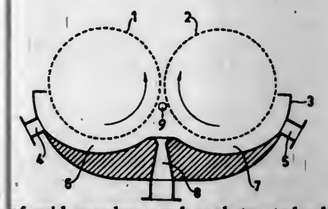
3,263,597
MACHINE FOR BINDING WIRE COILS
Leonid Pavlovich Stychinsky, Donetskoy Obl., 11 Line, 9 Prospect 49, Apt. 30; Veniamin Pavlovich Zbookarlov, Donetskoy Obl., 12 Line, 11 Prospect 13; and Valery Nicktovich Svistchenko, Donetskoy Obl., 12 Line, 11 Prospect 16/79, all of Makeievka, U.S.S.R.
Filed Jan. 7, 1963, Ser. No. 254,535
4 Claims. (Cl. 100—10)



1. A machine for binding coils of wire with a binder wire, said machine comprising a frame, means to support a coil of wire to be bound adjacent said frame, means for feeding binder wire comprising a half disk rotatably mounted on said frame, means including a drive shaft to drive said disk, and a spring pressed idler roll for holding said binder wire in frictional engagement with the surface of said disk, the circumferential length of the surface of said disk determining the length of binder wire fed during one revolution of said disk, cutting means mounted on said frame, drive means connecting said disk and said cutting means to operate said cutting means in timed relation to said feeding means to cut a length of binder wire fed during one revolution of said disk, a binder wire clamping and wrapping head movably mounted on said frame, drive means connecting said cutting means and said head for moving said head in timed relation to said feeding and cutting means from an inoperative retracted position to an operative position above and in contact with said coil, means on said head for clamping said cut wire lengths in engagement with the upper side of said coil transversely thereof, a pair of claws pivotally mounted on said head for engaging the ends of said wire length projecting on opposite sides of said coil, means for actuating said claws to bend and partially wrap said wire lengths round said coil, a windlass rotatably mounted on said frame below said coil, means to drive said windlass, and fingers on said windlass for engaging and twisting the ends of said wire lengths to secure the same on said coil in binding relationship.

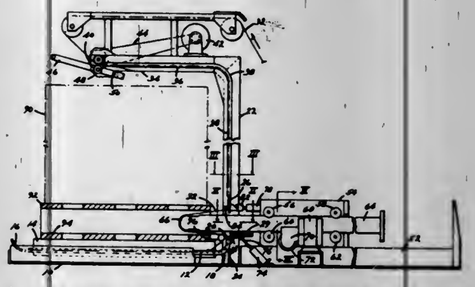
3,263,598
APPARATUS FOR DEWATERING PULP
Klaus Ferdinand Sylla, Sundsvall, Sweden, assignor to Svenska Cellulosa Aktiebolaget, Sundsvall, Sweden
Filed Apr. 2, 1964, Ser. No. 356,860
Claims priority, application Sweden, Apr. 3, 1963, 3,670/63
2 Claims. (Cl. 100—71)

1. Apparatus for dewatering fibrous pulp comprising a trough having a bottom and side walls, two parallel, substantially horizontally disposed, contiguous, roll-like, perforated press members mounted to rotate with at least their lower portions within said trough but spaced from the bottom and sides thereof, means in said side walls of said trough for supplying pulp thereto in quantity sufficient to maintain a body thereof in said trough with its upper surface in contact with said members and an outlet in the bottom of said trough positioned vertically below



the nip of said members and unobstructed relative to the nip of said members with respect to large-size pulp plugs and particles.

3,263,599
PALLETIZED LOAD STRAPPING METHOD
Charles Garth Dickens, Saratoga, Calif., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
Filed May 24, 1965, Ser. No. 458,208
3 Claims. (Cl. 100—2)

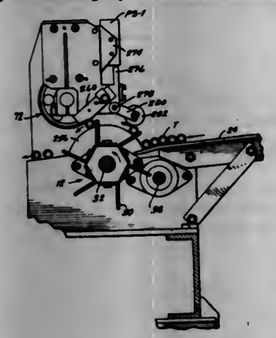


1. A method of strapping a load to a double-faced pallet having a lift truck fork receiving opening therethrough comprising training a flexible strap around the top of the load, vertically along one side of the load and beneath the double-faced pallet in such a way that an end portion of the strap is beneath the pallet and the portion at the top of the load extends to a supply, engaging the strap at a point horizontally aligned with the opening through the pallet, restraining the strap from movement above the point of engagement, shoving a loop of the strap through the pallet whereby the end portion of the strap is drawn through the pallet, and securing the strap about the load.

3,263,600
MACHINE FOR MARKING TUBE-LIKE ARTICLES
Albert C. Adams, Flushing, and Edward S. Bialor, West Hempstead, N.Y., assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed Aug. 13, 1964, Ser. No. 389,286
19 Claims. (Cl. 101—40)

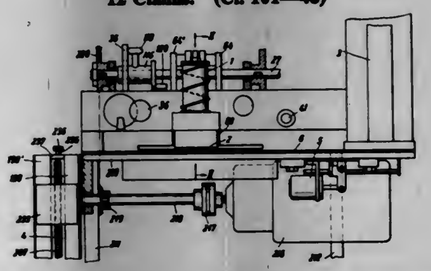
1. In a machine for marking tube-like articles, a rotatable die drum, tube marking means on the surface of said die drum, and epicyclic tube path comprising a tube marking zone defined by a contoured tube supporting surface associated with said die drum in radially spaced relation thereto, rotary means for delivering tubes to said marking zone, means for intermittently rotating said die drum to mark a tube in said tube marking zone and for providing the sole active force for continuously and freely advancing a tube through said epicyclic path, means operative to rotate said tube delivery means at a first rate of rotation, means operative to rotate said tube delivery means at a second rate of rotation, means at the entrance

to said tube marking zone for detecting the presence of a tube, and means responsive to said last-named means for initiating a marking cycle of said drum by rotation



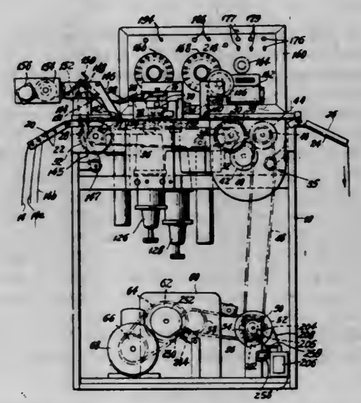
thereof under the influence of said drum rotating means and for selecting said second rate of operation of said tube delivery means.

3,263,601
ADDRESS-STENCIL PRINTING MACHINE
Gert Saeger, Hamburg-Lemsahl, Germany, assignor to John H. Stielow, Hamburg, Germany
Filed May 7, 1964, Ser. No. 365,625
Claims priority, application Switzerland, May 13, 1963, 6,063/63
12 Claims. (Cl. 101—48)



1. A printing machine for printing information on initially stacked individual substantially flat printing plates, such as stencils, said machine comprising, in combination, a frame having means forming a working surface; plate guide means extending longitudinally above said surface; a delivery magazine, for stacked plates, at one end of said guide means; a receiving magazine, for stacked plates, at the other end of said guide means; cyclically operable plate transport means reciprocable along said guide means to engage the bottom plate in said delivery magazine and move it along said guide means toward said receiving magazine; a printing ram positioned along said guide means at a printing zone intermediate the ends of the latter and reciprocable perpendicularly to said surface to engage plates in said zone of said guide means; driving means operable to reciprocate said ram; work guide means operable to feed the work along said surface transversely beneath said plate guide means at said zone for printing on the work, by said ram, the information on a plate then positioned in said printing zone; a main drive system continuously energized during operation of the machine; first transmission means connecting said main drive system to said plate transport means and to said ram driving means; said work guide means including roller means rotatably mounted on said frame and operatively engaged with work in said work guide means to advance the work towards said zone, a one-way clutch including a driven member, fixed to rotate with said roller means, and a driving member, reciprocable transmission means connected to said driving member to oscillate the latter, means connecting said reciprocable transmission means to said main drive system and operable to reciprocate said reciprocable transmission means, an adjustable control means on said frame and operatively connected to said reciprocable transmission means to adjust the stroke thereof, a second driving member rotatably mounted coaxially with said roller means, third transmission means connecting said second driving members to said drive system to rotate said second driving member, and coupling means selectively operable to couple said second driving member with such clutch driven member.

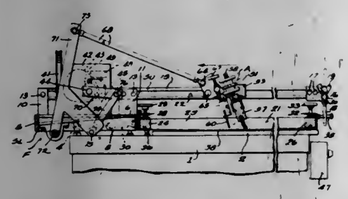
3,263,602
IMPRINTING MACHINE
Roger F. White, Paramus, N.J., assignor to Autographic Business Forms, Inc., South Hackensack, N.J., a corporation of New Jersey
Filed Aug. 31, 1964, Ser. No. 393,275
10 Claims. (Cl. 101—57)



1. Apparatus for high speed printing of identical indicia onto a plurality of forms which are connected together as a continuous strip, said apparatus comprising a frame including stationary support means upon which the strip is adapted to move, the support means having means defining a printing station, means mounted on the frame for feeding the strip along said support means to cause the individual forms to successively register with the printing station, a chase having means for removably holding a type printing element therein, means mounting the chase on said frame adjacent the printing station for movement between a printing position in which a printing element held in the chase is normally disposed in substantial alignment with the support means and an accessible position in which the printing element is disposed away from the support means and is accessible to an operator for manual removal from the chase, momentary impact producing means mounted on said frame adjacent the printing station but on the opposite side of the stationary support from the chase, said impact producing means including a striking member movable toward and away from the chase a distance sufficient respectively to strike the strip and forcibly engage it in momentary printing contact with the printing element and to release the strip from said printing contact for movement thereof by said feeding means while the printing element is held in said printing position, and means for repetitively actuating said impact producing means independently of movement of the chase and in timed

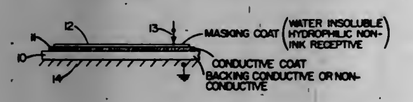
coordination with operation of said feeding means to cause the striking member to operate in synchronism with the successive registrations of the individual forms with the printing station whereby a plurality of identical forms are printed from the printing element without movement of the latter.

3,263,603
SILK SCREEN PRINTING APPARATUS
Alvin J. Fuchs, Milwaukee, Wis., assignor to M & M Research Engineering Co., Butler, Wis., a corporation of Wisconsin
Filed Jan. 3, 1964, Ser. No. 335,645
6 Claims. (Cl. 101—123)



1. In silk screen printing apparatus, a frame pivotally mounted for swinging between a printing position and an inoperative position, a squeegee and flood bar assembly mounted on said frame for reciprocation therealong, said assembly having a squeegee and also having a flood bar, actuating means on said assembly for shifting said flood bar relative to said squeegee, and drive means mounted on said frame for reciprocating said assembly and operating said actuating means; said drive means including a power driven rotatable member located above the point of pivotal connection of said frame, a lever pivotally mounted on said frame, an arm pivotally connected between said lever and said actuating means, and an intermediate link pivotally connected between said lever and said rotatable member, whereby rotation of said member swings said lever to cause said arm to operate said actuating means prior to reciprocating said assembly.

3,263,604
ELECTRO-RESPONSIVE BLANKS
Harold R. Dalton, Jenkintown, Pa., assignor to Timefax Corporation, New York, N.Y., a corporation of New York
Filed Jan. 12, 1962, Ser. No. 165,797
12 Claims. (Cl. 101—149.2)



2. An electrosensitive recording blank of the kind which is electrically conductive and which is designed to have part or all of its thickness disintegrated in signal-controlled elementally scanned areas and which tends to produce contaminating disintegration products when subjected to electric discharge at said areas, said blank including a compound chosen from the group consisting of the peroxides of the metals calcium, barium, strontium, cadmium, zinc and manganese and from which oxygen is released by the heat of the recording currents and reacts under the recording conditions with said disintegration products to neutralize their contaminating effect.

9. An electrosensitive recording blank according to claim 2 having a paper backing whose surface is hydrophilic but water insoluble and which is receptive to lithographic link only at those areas which are subjected to the recording electric discharge, and a conductive plastic film strippably attached to said hydrophilic surface, said film being perforatable by the electric discharge to render only said areas receptive to lithographic link.

3,263,605
ART MEDIUM
Arthur L. Fry, North St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Oct. 11, 1963, Ser. No. 315,688
7 Claims. (Cl. 101—170)

1. For use in art work, a novel printing sheet material which can be stored at room temperature for a year or more without impairment of its function, and which can be adhered to a suitable support, readily and cleanly cut to a desired contour or shape with a linoleum cutter, stencil knife, or scissors, and thereafter used in either relief or intaglio printing, said sheet material comprising in combination:

a self-supporting, amorphous, compliant, firm, extensible smooth thermoplastic layer on the order of .050 inch thick consisting essentially of

a binder comprising a homogeneous blend of 100 parts by weight of

10–60 parts of readily extensible waxy, low density, solid branched thermoplastic ethylene polymer,

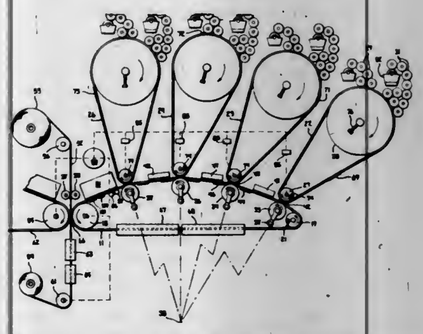
5–75 parts of soft, weak, flexible resilient elastomer,

0–50 parts of tough, strong, flexible elastomer which can be formed into a smooth sheet, and

insoluble finely divided particulate filler, constituting from about 1/20 to about 3/5 the volume of said layer, said filler further being present in amount sufficient to keep said layer from blocking but insufficient to permit said layer to break when bent back sharply against itself, and

an adhesive coated over one face of said layer.

3,263,606
MULTICOLOR PERFECTING PRESS HAVING AN OFFSET BLANKET WITH ELECTROMAGNETIC SUPPORT MEANS
William G. Poynter, 1868 Norfolk, Speedway City, Ind.
Filed May 27, 1964, Ser. No. 370,649
4 Claims. (Cl. 101—179)



4. Offset printing apparatus comprising:

first and second roller means having rotational axes in parallel spaced relation;

a first endless belt received on said roller means and moved continuously thereon, said first belt having an exterior surface adapted to receive images thereon and thereby forming an endless offset printing blanket, and said first belt having ferromagnetic means therein throughout the length thereof;

offset printing plate means engaging said endless blanket and transferring images thereto;

supply means for a print base material;

print base support means cooperating with means supporting said first belt to sandwich the print base material between said print base support means and the outer surface of said first belt as the print base is moved from said supply means, whereby images obtained from said printing plate means are transferred from said first belt to said print base as said first belt and print base pass between said belt supporting means and said print base support means;

positive drive means connecting said first roller means to a drive motor;

a first series of electro-magnets mounted on a frame extending across the interior of said first roller means in a direction generally parallel to the axes of said first roller means, said magnets having poles proximate the roller engaging face of said first endless belt, and said frame being mounted for rotation about the rotational axes of said first roller means and having means thereon extending to the exterior of said first roller means for selectively positioning said first frame and thereby said magnets of said first series inside said first roller means;

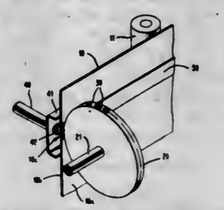
a second series of electro-magnets disposed on a second frame inside said first roller means, said second frame extending across said first roller means in a direction generally parallel to the rotational axes of said first roller means, said second frame being rotatable with respect to the rotational axes of said first roller means and said second frame having means thereon extending to the exterior of said first roller means and accommodating the selective positioning of said second frame rotationally in said first roller means;

a source of electrical energy coupled through manually operated controller means and through indicator means to said electro-magnets and supplying electrical energy thereto, said electro-magnets thereby establishing complete magnetic flux paths between their poles and through said ferromagnetic means in said endless blanket, thereby forcing said blanket into tight non-slip contact with said first roller means, said controller being manually adjustable to control the amount of magnetic force pulling said endless blanket against said first roller means and being adjustable to lower the amount of magnetic force;

the extending means of said first and second frames accommodating the provisioning of various angular relationships of said flux paths.

3,263,607
FLUID HAMMER IMPRESSION ACTUATING MEANS
Marvin Jacoby, Fort Washington, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed July 29, 1964, Ser. No. 385,853
3 Claims. (Cl. 101—407)

1. A printing device useful for forming an image on a printable substrate comprising means provided with an image-forming character thereon, means for positioning said substrate closely adjacent but spaced from said image-forming character, said substrate being positioned substantially parallel to and substantially planar with respect to said image-forming character, means having an orifice at one end for directing an impulse of fluid toward the side of said substrate opposite from said image-forming character effective to impact the other side of said substrate against said image-forming character to form said image on said substrate and spacing means fixed to said fluid impulse directing means in close adjacency to the end



having the orifice to maintain the substrate out of contact with said end of said fluid impulse directing means at all times during and between pulses.

3,263,608
ALUMINUM-AMMONIUM NITRATE EXPLOSIVE WITH NITROHYDROCARBONS AND SEISMIC PROCESS
Alday B. Andrews, Woodbury, Charles D. Forrest, Westville, and Frank A. Loving, Jr., Wenonah, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 17, 1964, Ser. No. 383,288
8 Claims. (Cl. 102—23)

1. Improved explosive compositions for seismic prospecting comprising a uniform blend of:

(a) about from 40 to 85% by weight of particulate ammonium nitrate;

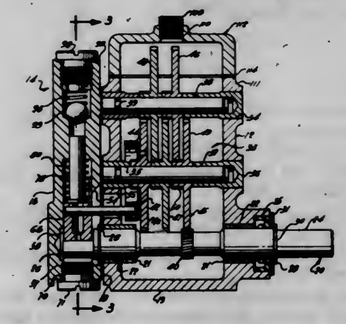
(b) about from 10 to 50% by weight of particulate aluminum;

(c) hydrocarbon present in an amount up to about 5% by weight; and

(d) about from 1 to 10% by weight of nitro compound selected from the group consisting of mononitro and dinitro benzene hydrocarbons, the sum of the weights of components (c) and (d) constituting about from 2 to 15% of the total composition,

said explosive compositions having a density of at least 1 gram per cubic centimeter and being insensitive to initiation by a No. 8 blasting cap.

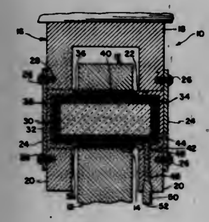
3,263,609
PUMP
Joseph C. Bystricky, Crystal Lake, and Jose L. Luna, Chicago, Ill., assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Sept. 19, 1963, Ser. No. 309,999
11 Claims. (Cl. 103—23)



1. A pump, comprising a housing, an input shaft supported to rotate within the housing, a pumping member movable to define an expansible pumping chamber, fluid inlet and outlet means for the pumping chamber, actuating means driven by the input shaft operable to actuate the

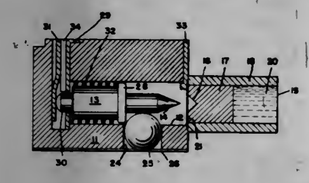
pumping member in one direction only for altering the volume of said pumping chamber to cause fluid flow through said chamber, means for driving said pumping means in the opposite direction only to hold said pumping means engaged with said actuating means, and retaining means driven by the input shaft at a different ratio than that of the actuating member operable intermittently to hold the pumping member spaced and free from the actuating member against the force of said driving means so as to prevent fluid flow through said chamber.

3,263,610
QUICK-RELEASE CONNECTOR
Kennedy F. Rubert, Yorktown, Va., assignor to the United States of America as represented by the National Aeronautics and Space Administration
Filed Mar. 20, 1964, Ser. No. 353,632
19 Claims. (Cl. 102—49)



1. An expendable release device comprising: mounting means located on respective elements to be released; tempered glass means for connecting the mounting means to provide instantaneous release thereof; and actuator means for initiating failure of the frangible means whereby uniform and instantaneous separation of the elements occurs.

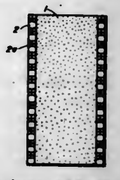
3,263,611
TIMING MECHANISM
Vern D. Loken, Minneapolis, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Sept. 14, 1964, Ser. No. 396,441
7 Claims. (Cl. 102—82)



1. A time delay mechanism for use with munitions and the like comprising,
- a fluid damping chamber closed at one end and having therein fluid and a slidable piston which is controlled by said fluid,
- means sealing the other end of said chamber adjacent said piston,
- a housing having a passage communicating with said sealing means,
- a shaft in said passage and having means extending toward said sealing means for puncturing same,
- means biasing said shaft toward said piston,
- means releasably restraining movement of said shaft from a cocked position, and
- means on said shaft for closing an electric circuit upon predetermined movement of said shaft,

so constructed and arranged that upon release of said restraining means said shaft will puncture said sealing means, move said piston toward said chamber one end and close said circuit, the movement of said piston being retarded by said fluid.

3,263,612
FRAGMENTATION TYPE WEAPON
Guy C. Throner, Jr., Glendora, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed July 22, 1963, Ser. No. 297,183
2 Claims. (Cl. 102—67)



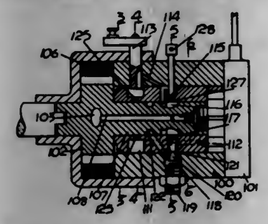
2. A fragmentation-type weapon comprising a body of explosive material, an outer casing at least partially enclosing said body of explosive material and comprising a shell of a multiplicity of discrete metallic slugs forming two groups of discrete slugs, each of said groups of slugs comprising a plurality of discrete slugs of uniform size differing from the size of the slugs comprising another group of slugs to provide relatively large slugs in one group and relatively small slugs in the other group, said discrete slugs being distributed in the ratio of about 8–16 slugs of said relatively small slugs weighing about 30 grains each to each slug of said relatively large slugs, each of said relatively large slugs weighing about 140 grains, and cementitious means comprising a plastic matrix disposed between adjacent faces of juxtaposed slugs bonding said slugs together in substantially contacting relationship for defining a pressure-tight seal extending between adjacent faces of juxtaposed slugs and providing said shell with a high compressive strength and a minimal shear strength, whereby dispersion of said slugs in a predetermined pattern upon detonation of said body of explosive material is facilitated.

3,263,613
ELASTIC SHEET
Alvist V. Rice, Springfield, Va., Myron G. De Fries, Bethesda, Md., and Roland C. Webster, Annandale, Va., assignors to Atlantic Research Corporation, Fairfax County, Va., a corporation of Virginia
Filed May 28, 1964, Ser. No. 370,954
14 Claims. (Cl. 102—98)



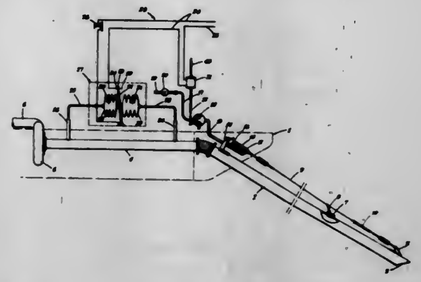
1. The combination of a combustible gas-producing shaped charge and an inhibitor for restricting combustion of said charge, said inhibitor having a preferential direction of elasticity and comprising
- (a) a sheet of substantially non-porous elastic polymer, and
- (b) means embedded in said sheet for restraining the elasticity of said sheet in one direction effecting a preferential direction of elasticity of said sheet, said means comprising a plurality of first threads having a modulus of elasticity substantially higher than the modulus of elasticity of said polymer and a plurality of second threads transverse to said first threads and having a modulus of elasticity substantially lower than the modulus of elasticity of said first threads.

3,263,614
LIQUID FUEL PUMPS
Kenneth Albert Walters Kemp, Ealing, London, England, assignor to C.A.V. Limited, London, England
Filed Dec. 5, 1963, Ser. No. 328,359
6 Claims. (Cl. 103—2)



1. A liquid fuel pump for supplying fuel to an internal combustion engine, comprising in combination a body part, a rotary distributor mounted in the body part, and arranged to be driven into timed relationship with the engine with which the pump is associated, a head supported on the distributor for rotation therewith, a bore formed in said head and accommodating a plunger, a cam mounted in the body part in a position adjacent the head, so that when the head rotates inward movement will be imparted to the plunger, a longitudinal passage formed in the distributor, said passage being in communication at one end with said bore, an outlet passage formed in the distributor, said outlet passage being in communication at one end with the longitudinal passage, a plurality of angularly spaced outlet ports formed in the body part and with which the other end of the outlet passage communicates in turn as the distributor rotates, so that as the plunger is moved inwardly by the cam fuel will be displaced to one of the outlet ports, a cylinder formed in the body part, a shuttle movable in said cylinder, a stop for limiting the movement of the shuttle in one direction, a fuel supply passage in the body part to which fuel is fed under pressure, a spill passage in the body part, a plurality of inlet passages formed in the distributor in communication with the longitudinal passage therein, an inlet port in the body and with which said inlet passages register in turn as the distributor rotates during at least part of the time the delivery passage is out of register with the delivery port, said inlet port communicating with one end of said cylinder, a groove on the periphery of the distributor, said groove communicating with the other end of said cylinder and being arranged to register in turn with the spill passage and the fuel supply passage, the registration of said groove with the supply passage taking place whilst said inlet port is in communication with an inlet passage, a plurality of angularly spaced grooves formed on the periphery of the distributor and disposed to register in turn as the distributor rotates with said inlet port and during the time when said inlet port is out of register with the inlet passages, said plurality of grooves communicating with the feed means, and a throttle valve for controlling the rate at which fuel can flow to said inlet port, the arrangement being that as fuel is fed to said inlet port the shuttle will be moved towards said stop, fuel being allowed to escape from the other end of the cylinder by way of said groove and said spill passage, and when said groove registers with said supply passage fuel will flow to the other end of the cylinder thereby moving the shuttle in a direction away from the stop and causing the fuel contained in said one end of the cylinder to be delivered to said bore.

3,263,615
RELIEF VALVE CONTROL MECHANISM FOR SUCTION DREDGES
David L. Hofer, deceased, late of El Cerrito, Calif., by Marguerite M. Hofer, administratrix, El Cerrito, Calif.; by court decree to Marguerite M. Hofer
Continuation of application Ser. No. 227,983, Oct. 1, 1962. This application Feb. 3, 1964, Ser. No. 343,910
2 Claims. (Cl. 103—11)



1. In a suction dredge having a pump, a suction pipe leading to the pump, and a normally closed underwater relief valve on the pipe; means to close the valve and hold the same closed when pumping conditions are normal and a negative pressure differential exists along the suction pipe, and means to open the valve responsive to conditions of equalized pressure existing along the suction pipe as occasioned by a stoppage in the suction pipe at the water entry end thereof; said last named means including an electrical device which when energized prevents the valve from being opened, a circuit in which the device is interposed and having a switch interposed therein, the switch including a lever swingable in one direction or the other to close or open the switch, a pair of opposed vacuum chambers between which the lever is disposed, said vacuum chambers having adjacent movable ends engaging the lever on opposite sides thereof, and a pair of standpipes mounted on the suction pipe at relatively widely spaced points in the length thereof and communicating with said suction pipe and with corresponding chambers; one standpipe being located adjacent the pump; the last named standpipe being connected to that one of the chambers which will cause the movable end thereof to be drawn away from the lever so that the latter will be moved in said one direction to a switch closing position when the negative pressure in said nearest standpipe exceeds that in the other standpipe, and will be moved in said other direction to a switch opening position when the negative pressure in both standpipes is equalized.

ERRATUM

For Class 103—23 see:
Patent No. 3,263,609

3,263,616
LIQUID RHEOSTAT
Paul E. Hyde, Corvallis, Oreg., assignor to General Services Company, Corvallis, Oreg., a corporation of Oregon
Filed Dec. 16, 1963, Ser. No. 330,865
6 Claims. (Cl. 103—35)

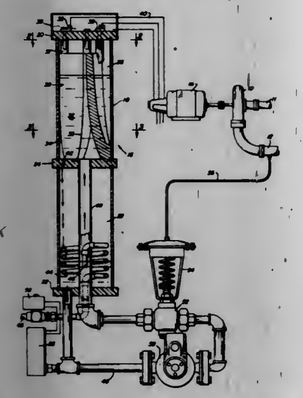
1. A recirculating liquid rheostat for controlling the speed of a variable speed electric motor in response to changes in demand on said motor,

said rheostat comprising in combination:
- (a) a housing of dielectric material defining an electrode chamber, a plurality of electrodes, means mounting said electrodes within said

chamber in direct confrontation with one another so that electrical current can flow directly between said electrodes solely through an electrolyte disposed therebetween,

(b) an electrolyte reservoir beneath said electrode chamber,

(c) constant diameter drain means in said electrode chamber for discharging electrolyte into said reservoir,

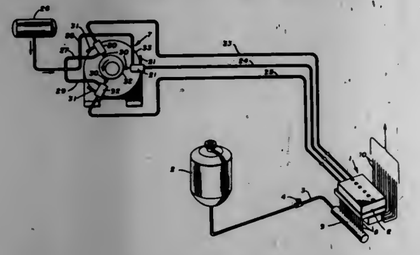


(d) a recirculation line connecting said reservoir to said electrode chamber,

(e) constant speed pump means in said recirculation line for returning electrolyte from said reservoir to said electrode chamber,

(f) and control valve means in said recirculation line between said pump means and said electrode chamber responsive to variations in demand on said motor for regulating the flow rate of electrolyte through said line.

3,263,617
METHOD AND APPARATUS FOR PUMPING FLUID
Dale R. Johnson, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed May 27, 1964, Ser. No. 370,580
3 Claims. (Cl. 103—44)



1. Pump apparatus comprising in combination,

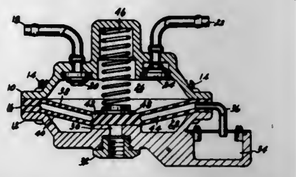
(a) casing means defining a plurality of sealed, serially arranged fluid pressure chambers therein,

(b) resilient tube means having an inlet and an outlet end and normally providing an axial opening therethrough, said resilient tube means being laced through said casing means with portions extending through the walls thereof and portions extending through each of said plurality of fluid pressure chambers continuously according to the serial arrangement of the latter and with said inlet and outlet opening exteriorly thereof,

(c) said portions of said resilient tube means extending through said fluid pressure chambers being bent reversibly to a substantially U shaped form, and

(d) means connected to said casing means for sequentially pressurizing and depressurizing said fluid pressure chambers for effecting flow of a liquid normally delivered to said inlet end of said resilient tube means.

3,263,618
WINDSHIELD WASHER PUMP
Keith H. Carpenter, Pittsford, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 21, 1964, Ser. No. 361,433
2 Claims. (Cl. 103—44)

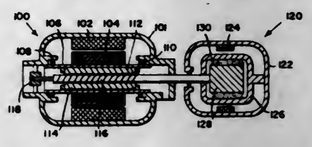


1. A pump comprising, a casing having a fluid displacing diaphragm therein with an intake stroke and a delivery stroke, power means acting constantly on said diaphragm to effect one stroke thereof, and hydraulic fluid pressure actuated means for effecting the other stroke of said diaphragm, said diaphragm being characterized by having a pair of spaced diaphragm portions and integral separator means holding said diaphragm portions in spaced relation whereby rupture of either of said diaphragm portions renders the pump inoperative and precludes intermixing of the fluid being pumped and the actuating hydraulic fluid, said integral separator means including a centrally disposed integral portion and an integral peripheral bead, said casing having two parts which clampingly embrace said bead.

ERRATUM

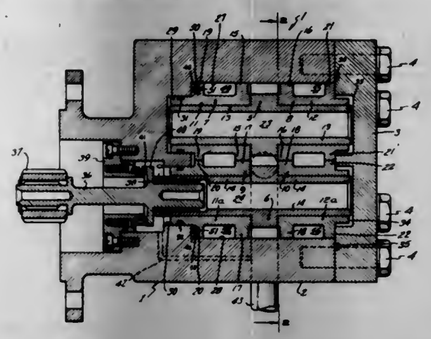
For Class 103—87 see:
Patent No. 3,264,653

3,263,619
MOTOR-PUMP UNIT
John J. Matelena, Trenton, N.J., assignor to De Laval Turbine Inc., Trenton, N.J., a corporation of Delaware
Continuation of application Ser. No. 315,042, Oct. 9, 1963. This application Oct. 4, 1965, Ser. No. 492,368
4 Claims. (Cl. 103—120)



1. In combination, an electric motor including an annular rotor, a pump housing mounted within said annular rotor so as to rotate therewith, a plurality of idler screws, means mounting said idler screws within said housing for rotation about their respective axes, a power screw positioned centrally of said idler screws in meshing engagement therewith so as to form pumping chambers, and means for restraining rotation of said power screw whereby said pumping chambers advance axially along said power screw upon rotation of said housing and planetary movement of said idler screws about said power screw.

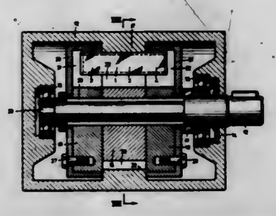
3,263,620
LIGHT WEIGHT BEARINGS FOR GEAR PUMPS
John J. Schofield, Glastonbury, Conn., assignor to Chandler Evans Inc., West Hartford, Conn., a corporation of Delaware
Filed Feb. 7, 1964, Ser. No. 343,242
6 Claims. (Cl. 103—126)



1. A gear type liquid pump, comprising: a housing containing a pair of adjoining substantially cylindrical chambers having radial end walls; a toothed gear member in each of said cylindrical chambers, said gear members meshing at the juncture of said cylindrical chambers and having oppositely extending supporting journals, said housing having an inlet and an outlet, a bushing member in each of said cylindrical chambers associated with said gear members on at least one side of said gear members, said bushing members each having a flange, each flange having selected portions thereof cutaway to provide a flange segment having an acute angular displacement extending from said outlet to said inlet with a front face cooperable with the adjacent side face of its associated gear member to form a seal therewith and a plurality of passageways extending the full axial length of said bushing, said cutaway portions forming at least one lug member extending radially from the main portion of said bushing, said lug circumferentially positioned adjacent said zone of juncture and axially displaced from the adjacent side face of said gear member to provide a passageway therebetween through which discharge pressure circumferentially flows into said cutaway portion to apply fluid at discharge pressure to the back face of said flange segment to bias the bushing toward the side face of its adjacent gear member.

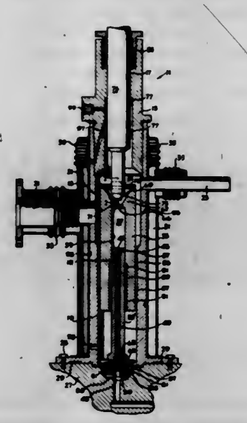
3,263,621
ROTARY VANE MACHINE
Karl Eickmann, 2420 Isshiki Hayama-machi, Miuragun, Kanagawa-ken, Japan
Filed Oct. 22, 1962, Ser. No. 232,113
Claims priority, application Germany, Nov. 10, 1961, E 21,937
15 Claims. (Cl. 103—136)

1. In a rotary machine, in combination, rotor means having a rotor axis and including a center portion having radial guide slots open at the periphery of said center portions and two side walls having radially extending closed guide slots registering in axial direction with said open guide slots to form with the same guideways, the axial and radial ends of said guideways being closed by surfaces of said side walls; housing means including an annular casing having an inner surface surrounding said center portion and having the same axial extension, said inner surface being spaced at different distances from said rotor axis, said casing being located between the radially outer portions of said side walls; and a plurality of vanes respectively mounted in said guideways, each vane having a radial extension smaller than the radial extension of said open radial guide slots and of said closed guide slots, an axial length smaller than the axial length of said guideways, and a thickness smaller than the circumferential width of said guideways so as to be movable in said guideways in radial, axial, and circumferential directions, each vane having a planar radially extending



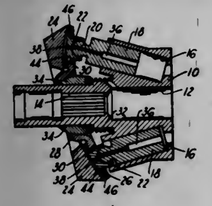
bearing face slidingly and sealing by abutting a radially extending face of the respective guideway, each vane having between the ends thereof a radially outer axially extending edge including a straight center edge portion slidingly engaging said inner surface of said casing, and of two end edge portions respectively located in said closed guide slots of said side walls sliding on the same in sealing contact.

3,263,622
PUMP
Lewis Tyree, Jr., 9955 S. Hamilton Ave., Chicago, Ill.
Filed June 1, 1964, Ser. No. 371,666
16 Claims. (Cl. 103—153)



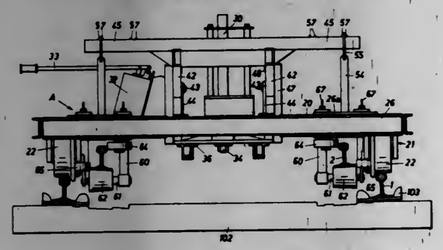
1. A positive displacement reciprocating pump for handling cryogenic liquids, which pump comprises first and second cooperating pump members which are movable relative to each other and which define a pumping chamber, means disposed between said members effective to seal said pumping chamber, said first pump member having a discharge passageway formed therein in fluid communication with said pumping chamber, and discharge valve means closing said discharge passageway, a portion of said discharge passageway being located in close thermally conducting relation to said sealing means so that heat frictionally generated by said sealing means is absorbed by the discharge stream of cryogenic liquid and carried away from said pumping chamber.

3,263,623
PISTON PUMP IMPROVEMENT
Howard A. Alexanderson and Theron R. Chamberlain, Utica, N.Y., assignors to The Bendix Corporation, Utica, N.Y., a corporation of Delaware
Filed Mar. 16, 1964, Ser. No. 351,921
5 Claims. (Cl. 103—162)



1. A piston pump comprising: a member having a plurality of annularly arranged piston cylinders, a plurality of pistons mounted in each of said piston cylinders, each of said pistons having a cylindrical portion extending slidably within said piston cylinders and a generally spherical end extending externally of said cylinders, a tiltable wobble plate member, a plurality of steel shoe members one for each of said pistons having a bearing surface in slidable contact with said wobble plate and a socket end fitted over said spherical end of said pistons, said shoes each having an axially centered recess extending inwardly from said bearing surface, each of said plurality of pistons having a first axial fluid passage, each of said shoes having a second fluid passage fluidly connecting said recess and said first fluid passage to transmit fluid from said piston cylinders to said recess, each of said shoes having an inner circular and outer circular projection of dense metal on said bearing surface formed adjacent said axially-centered recess and outer radial edge of said shoes respectively to form an annular recess therebetween; an annular ring of relatively porous bearing metal disposed in said annular recess having an upper surface flush with said inner and outer circular projections to provide a smooth bearing surface.

3,263,624
METHOD AND EQUIPMENT FOR THE LAYING OF RAILROAD TRACKS
Robert Jacques Richard Rousse, Paris, France, assignor to Matisa Materiel Industriel S.A., Lausanne, Switzerland, a corporation of Switzerland
Filed Apr. 22, 1963, Ser. No. 274,664
32 Claims. (Cl. 104—8)



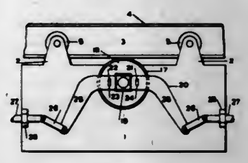
5. Installation for the laying of rails with normal track gauge including at least a first, second and third device, said first device comprising a frame member, means providing movement for said frame member along rails of larger track gauge than said normal track gauge of the rails to be laid; said second device comprising a frame member, means providing movement for said last-mentioned frame member along said rails of larger than normal track gauge; said third device comprising a frame member, means providing movement for said last-mentioned frame member along rail members of reduced track gauge with respect to the normal track gauge of the rails to be laid.

3,263,625
ELECTRICAL CONTROL SYSTEMS FOR POINT-TO-POINT TRANSIT SYSTEMS
Anthony M. Mildis, Robert Czajkowski, and Donald C. Sheldon, Chicago, Ill., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Nov. 29, 1961, Ser. No. 155,642
52 Claims. (Cl. 104—88)



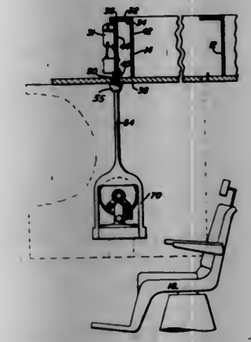
1. An electrical control system for a transportation system comprising a fixed path, electrically conductive means for effectively dividing the entirety of said path into electrical control areas, means for recurringly energizing each of said conductive means to provide time division control slots which sweep across said path, and means responsive to electrical command signals in said time division slots of at least some of said moving areas for controlling the position of objects running on said path.

3,263,626
DRIVES FOR OVERHEAD HAULAGE VEHICLES
Herbert V. Henderson, Germiston, Transvaal, Republic of South Africa, assignor to Anglo-Transvaal Consolidated Investment Company Limited, Johannesburg, Transvaal, Republic of South Africa
Filed July 6, 1965, Ser. No. 469,542
Claims priority, application Republic of South Africa, July 10, 1964, 64/3,270
6 Claims. (Cl. 105—73)



1. A locomotive adapted to be suspended from an overhead track, said locomotive comprising a rigid frame having track engaging wheels relatively positioned for engagement against opposite sides of the supporting track, bearing blocks carried by and spaced apart transversely of said frame, means mounting said blocks thereon to have up and down movement relative thereto, one of said track engaging wheels being a drive wheel which is supported by said bearing blocks for rotation, an elongate link bar extending longitudinally of said frame substantially perpendicular to the rotational axis of said drive wheel and carried by one of said bearing blocks, means on the frame cooperating with said link bar for pivotally supporting the latter, said means being offset longitudinally of the frame from and on opposite sides of the rotational axis of the drive wheel, said link bar having a terminal arm portion extending angularly therefrom, a draw bar supported on the frame for reciprocal movement in a line substantially paralleling said link bar between the bar and the free end of the arm, a coupling link having one end pivotally connected to said free end of the arm and having an opposite end pivotally connected to the draw bar at a point on the draw bar removed from the end of the arm toward the near end of the frame, and a drive for said drive wheel.

3,263,627
MOTORIZED INSTRUMENT SUPPORTING CARRIAGE AND TRACK
Barney G. Russell, Sr., P.O. Box 488, Camden, Ark.
Filed Dec. 2, 1964, Ser. No. 415,258
5 Claims. (Cl. 105—147)



1. In combination with a ceiling of a room, an instrument supporting apparatus substantially enclosed within a false ceiling depending from the ceiling of the room for supporting and transporting an optometrical instrument and the like from a generally dust-free storage position to a use position adjacent an examining chair which comprises a trackway integral with the ceiling, said trackway including an upper stabilizing track secured to the ceiling, said false ceiling being spaced downwardly from and supported by said ceiling, a lower track supported from said upper stabilizing track and integral with said false ceiling, a carriage supported by and movable along said lower track, said carriage including a carrier supported on said track by at least a pair of tracking rollers carried by said carrier, at least a pair of upper stabilizing rollers carried by said carrier and operatively engaged by said upper stabilizing track to stabilize said carrier, a motor carried by said carrier, a drive roller in driving relationship with said lower track carried by said motor to propel said carrier along said trackway, said false ceiling being provided with a slot adjacent and parallel to said lower track, a supporting member carried by said carrier and projecting downwardly therefrom through said slot in said false ceiling to provide a means of supporting an instrument adjacent an examining chair in suspended relationship to the floor of the room and resilient seal members supported by said false ceiling adjacent the slot for effectively sealing the slot in the false ceiling but allowing passage of said depending supporting member as said carriage moves along said trackway.

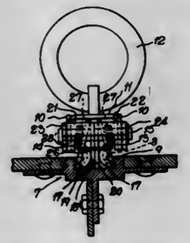
3,263,628
BOGIE SUSPENSION FOR CONVERTIBLE RAILWAY-HIGHWAY VEHICLE
John L. Grove, Greencastle, Pa., and Benjamin A. Stevens, Hagerstown, Md., assignors to Grove Manufacturing Company, Shady Grove, Pa., a corporation of Pennsylvania
Filed Apr. 1, 1964, Ser. No. 356,614
10 Claims. (Cl. 105—215)

1. In a vehicle having front and rear bogie assemblies carried by the vehicle frame for supporting the vehicle on the rails of a railway track, each bogies assembly comprising, a bolster plate operatively connected to said vehicle frame for rocking movement about an axis extending transversely to the longitudinal axis of said vehicle, axle means having at least one flanged wheel rotatably mounted on each end thereof, and a caster plate carried by said axle means and having a vertically extending shaft journaled within said bolster plate, whereby the caster plate and associated axle means are adapted to swivel in a horizontal plane relative to said bolster plate, the



front bogie axle means being pivotally connected to said caster plate for oscillatory movement about an axis parallel to the longitudinal axis of said vehicle, the rear bogie axle means being rigidly connected to its respective caster plate, whereby the bogie assemblies provide a three-dimensional movement allowing the bogie flanged wheels to follow the rails to thereby prevent derailment of the vehicle.

3,263,629
CARGO TIEDOWN FITTING
Nori Higuchi, College Point, N.Y., assignor to Davis Aircraft Products Inc., Northport, N.Y., a corporation of New York
Filed Oct. 15, 1964, Ser. No. 404,067
12 Claims. (Cl. 105—369)

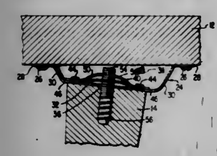


12. Cargo tiedown fitting comprising
a frame having means for attachment of a tiedown connection,
cross studs at opposite ends of said frame,
anchor plates slideably mounted in back-to-back relation on said studs and having outwardly extending flanges at the lower ends of the same for engagement behind the flanges of cargo tiedown tracks,
spreading wedges pivoted on said studs for entry between said plates,
spring means for rocking said wedges into spreading engagement between said plates and
handle means for rocking said wedges in the opposite direction.

3,263,630
FURNITURE FASTENERS
Raymond T. Carlson, Lookout Mountain, Tenn., assignor of one-half to John I. Foster, Jr., Chattanooga, Tenn.
Filed Apr. 24, 1964, Ser. No. 362,516
1 Claim. (Cl. 108—158)

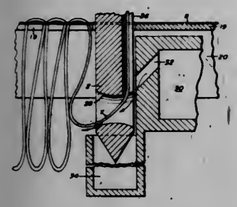
In a table having a top, demountable legs for supporting said top, decorative stretchers removably positioned within alignable apertures about the circumference of said legs, and fastening means detachably securing said legs to said top, each said fastening means comprising mounting means including a centrally apertured, dished mounting plate having an apertured flange for fixed connection to the underside of said table top, a demountable leg having a fixed screw projecting therefrom, a resilient leaf spring member, fastening means struck from said mounting plate for mounting said resilient leaf spring member there-

within, said resilient leaf spring member having opposed fingers of said resilient spring for axial-tight attachment of said leg to said mounting plate while at the same time permitting circumferential adjustment of said leg to align



decorative stretcher apertures formed in adjacent legs and permit insertion of the same thereinto, said circumferential adjustment of said leg resulting from a flexing of said opposed fingers under the strain induced by said screw of said leg.

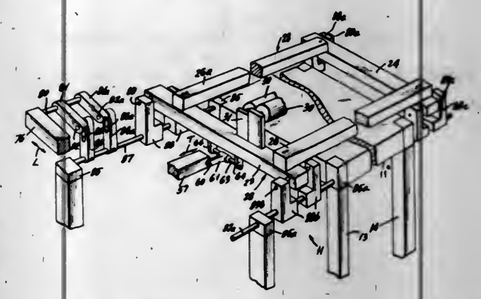
3,263,631
TUFTING MACHINE HAVING FLUID YARN FEEDING MEANS
Benjamin H. Freeman, Lafayette, Ga., assignor to Barwick Carpet Mills, Incorporated, Lafayette, Ga.
Filed Nov. 6, 1963, Ser. No. 321,775
8 Claims. (Cl. 112—79)



1. A tufting machine comprising, means for supporting a web of backing fabric, means advancing said web in a given direction, a needle having a yarn passage and a lower section with a yarn outlet therein, said yarn passage and said yarn outlet forming a fluid passage in said needle, said fluid passage having a fluid inlet in said lower portion of said needle communicating with a portion of said yarn passage, means periodically moving the lower section of said needle through said backing fabric and withdrawing said lower section therefrom, means permanently located beneath said supporting means adjacent the path of said needle for directing a jet of fluid into said fluid inlet of said needle at a point beneath said supporting means and through said yarn outlet while the lower section of the needle is beneath the means for supporting the web to cause a yarn to move through said outlet and away from said needle.

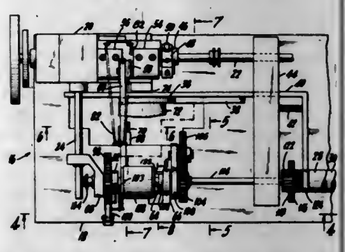
3,263,632
MULTI-NEEDLE EMBROIDERY MACHINES
Joseph Hinko, Glen Oaks, N.Y., assignor of one-third to Jack Kramer and one-third to Gus Kramer, both of Holliswood, N.Y.
Filed Nov. 23, 1962, Ser. No. 239,482
11 Claims. (Cl. 112—118)

1. An embroidery stitching machine comprising a stand, a carriage, means mounting the carriage for both longitudinal and lateral movement on the stand, material feeding means mounted on said carriage for advancing a sheet of material with respect to said carriage, means mounted on the stand for continuously controlling stitching of the advancing sheet, means actuable to reciprocate said carriage longitudinally and laterally during the advancing movement of the sheet so as to produce embroidery stitching therein, and automatic means for



periodically actuating and deactuating said reciprocating means while permitting actuation of the feeding means and of said controlling means, to produce alternating areas of embroidery stitching and straight-line stitching in the sheet as it is advanced by said feeding means.

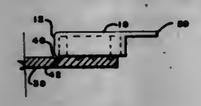
3,263,633
QUILTING MACHINE OPERATING MECHANISM FOR FEED ROLLERS
Joseph Hinko, Glen Oaks, N.Y., assignor to Kaybe Manufacturing Company, Brooklyn, N.Y., a partnership
Filed Mar. 11, 1963, Ser. No. 264,311
12 Claims. (Cl. 112—118)



1. In a quilting machine having a pair of material feed rollers for moving material longitudinally past needles for the sewing operation, means for operating said feed rollers for rotating the latter different amounts according to a predetermined pattern, said feed rollers operating means comprising a rotary drive shaft, an eccentric disc mounted on said drive shaft and rotatable therewith, a follower arm operatively adapted to be engaged with said eccentric and operated by the latter, means operatively connected to said follower arm and movable back and forth by the latter during each rotation of said drive shaft, a rotary cam in the path of movement of said last means, to control its movement according to said predetermined pattern, and rotary means controlled by said last means for rotating said feed rollers.

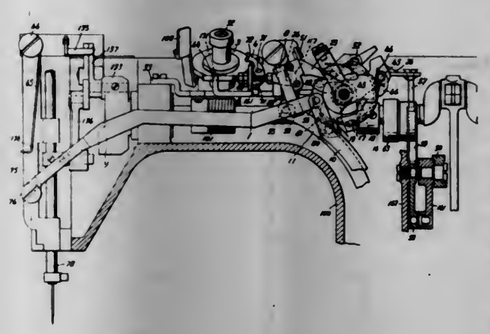
3,263,634
MAGNETIC SEWING MACHINE GUIDE
Martin Gross, East Elmhurst, N.Y., assignor to Heimlich Brothers, Inc., New York, N.Y., a corporation of New York
Filed Sept. 23, 1964, Ser. No. 398,706
6 Claims. (Cl. 112—153)

1. A separable and adjustable straight edge guide for a machine, having a main body portion with at least one straight edge portion and comprising magnetic means to releasably fasten the said guide to the said machine and comprising a tongue portion extending from the



said main body portion adapted to be selectively received by at least one grooved portion on the said machine.

3,263,635
BUTTONHOLE STITCHING APPARATUS
Yasukata Eguchi, Tokyo, Japan, assignor to Janome Sewing Machine Co., Ltd., Tokyo, Japan
Filed Apr. 17, 1963, Ser. No. 273,612
Claims priority, application Japan, Apr. 21, 1962, 37/16,396
8 Claims. (Cl. 112—158)



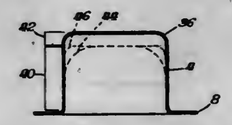
1. A buttonhole stitching apparatus for a sewing machine, comprising, in combination, a main drive shaft; needle means; transmission means connecting said main drive shaft with said needle means for moving said needle means in a lateral oscillating movement so as to make zig-zag stitches, said transmission means including adjustable means movable between a plurality of positions for varying the amplitude of the zig-zag stitches, said adjustable means including cam follower means; feed adjusting means having a plurality of positions for varying the speed at which a fabric is fed to said needle means, said feed adjusting means including other cam follower means; control shaft means having cam means cooperating with said cam follower means and other cam means cooperating with said other cam follower means, said control shaft means being turnable between a plurality of positions for simultaneously shifting said adjustable means and said feed adjusting means between said positions of the same in such a manner that zig-zag stitches of greater amplitude are made at a minimum feeding speed and zig-zag stitches of smaller amplitude are made at a selected feeding speed; and intermittently operating drive means connecting said main drive shaft with said control shaft means for stepwise turning the latter between said positions so that said needle means makes bar tack stitches of greater amplitude at the ends, and rows of smaller stitches along the sides of a buttonhole, said drive means including a drive cam on said main drive shaft, a drive member mounted for angular movement on said control shaft means and having a follower cooperating with said drive cam, pawl means mounted on said drive member, and ratchet wheel means secured to said control shaft and being stepwise turned by said pawl means.

3,263,636
CONTAINER AND METHOD OF MAKING
Clarence J. Smith, 907 23rd St., Rockford, Ill.
Original application Sept. 11, 1961, Ser. No. 137,110, now Patent No. 3,221,922, dated Dec. 7, 1965. Divided and this application Mar. 29, 1965, Ser. No. 443,340
8 Claims. (Cl. 113—80)



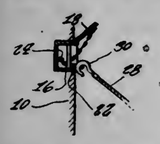
1. The method of making a container comprising forming a container body having an incipient body hook on one end thereof, stamping a container cover having a central portion encircled by and connected to the inner edge of an axially extending chuck wall and a generally flat annular seaming panel adjoined to the outer edge of the chuck wall and extending radially outward therefrom, forming a cover hook curl on the periphery of the seaming panel on the cover, swaging an annular portion of the cover seaming panel located radially outward from the chuck wall to form in the seaming panel an annular protuberance projecting axially from adjoining portions of the seaming panel in the direction of the plane of the inner edge of the chuck wall and to define an annular groove opening in the opposite direction, placing the cover in covering relation to one end of the body, and rolling the periphery of the cover and the incipient body hook on the body to form an end seam in which a body hook is completed on the body and a cover is completed on the cover and interlocked with the body hook.

3,263,637
METHOD OF DEEP DRAWING RECTANGULAR SHAPES
Darwin S. Cox, 10712 S. Bell Ave., Chicago, Ill.
Filed Dec. 23, 1964, Ser. No. 423,634
5 Claims. (Cl. 113—120)



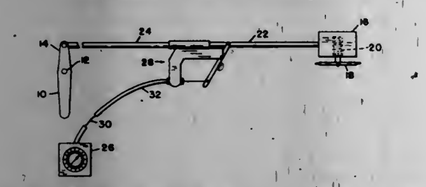
1. In a method of deep drawing rectangular parts the steps of providing a generally rectangular blank of determined dimension, first drawing the blank over a rectangular punch having an end configuration of such shape and blending radii that the lineal length measured over the middle of the end of the punch in the area of the sides is less than the lineal length measured over the end of the punch, in the same direction, near the corners; said first draw being done to determined depth and remaining outer flange width; thereafter, while tightly gripping the remaining outer flange to limit further inward movement of the material therein, reform the part so drawn by stretching to desired final shape and depth over a second punch of determined generally uniform end configuration.

3,263,638
RESCUE SAFETY RING AND SAFETY LOOP
Luther Cressman, Burke, S. Dak. 57523
Filed June 15, 1964, Ser. No. 375,072
1 Claim. (Cl. 114—53)



A vessel having a metal hull, a box secured to said hull, a prong vertically disposed within said box and welded at both ends to said box, a lid pivotally connected to the box, a ring mounted around said prong and spring loaded to remain in said box, and a buoyant pontoon adapted to be secured to said ring to raise said vessel.

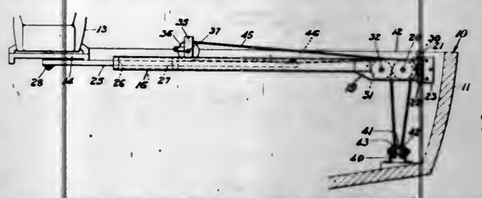
3,263,639
STEERING SYSTEM FOR A BOAT
Richard B. Wallace, Bloomfield Hills, Mich., assignor to The Oakland Corporation, Birmingham, Mich., a corporation of Michigan
Filed Aug. 24, 1964, Ser. No. 391,381
10 Claims. (Cl. 114—144)



1. A steering system for a boat comprising a rudder, a self-locking manually operated device, actuating connections between said rudder and said device including an elongated longitudinally movable motion transmitting means, said means including two aligned elongated members relatively movable longitudinally of each other to vary the effective length of said motion transmitting means, one of said members having a tubular end portion in which one end of the other member is slidable and an auto-pilot connected to both of said members and operable to effect relative longitudinal movement therebetween to move said rudder, the connection between the auto-pilot and said members comprising a Bowden wire device having a flexible sheath anchored to one of said members, and a rod extending beyond the end of and slidable relative to said sheath and connected to the other of said members.

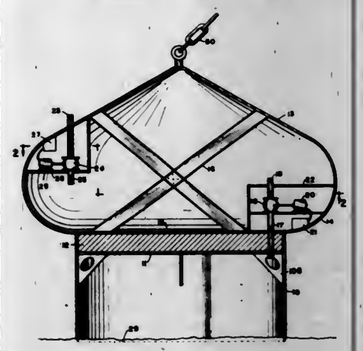
3,263,640
BOAT STEERING MECHANISM
William F. Bennett, 269 Massachusetts Ave., Buffalo, N.Y.
Filed Apr. 29, 1965, Ser. No. 451,852
10 Claims. (Cl. 114—144)

1. In combination with a boat having a laterally movable steering member, steering means comprising an arm universally pivoted adjacent to a side of said boat and extending toward said steering member, a rod slidable lengthwise of said arm and connected to said steering member, a pair of pulley members carried by said arm adjacent to its pivotal mounting each rotatable in upright plane extending lengthwise of said arm, a third pulley mounted on said arm in general alignment with said pair of pulleys and spaced therefrom toward said steering member, a second pair of pulleys mounted beneath said first pair and lying in generally fore and aft planes, and a cable extending from a forward portion of said boat to and under one of said second pair of pulleys, over one of the pulleys of the first pair, about said third pulley, over the other pulley of the first pair and under the other pulley of the second pair, thence forwardly alongside the first mentioned portion of said cable for



mutual connection with a steering control member, said cable being connected with said rod at a point between said third pulley and one of said first pair of pulleys whereby movement of said cable in opposite directions projects and retracts said rod to move said steering member laterally in opposite directions.

3,263,641
ANCHORING STRUCTURE
Homer J. Stimson, Houston, Tex., assignor of one-third to Robert F. Patterson, Houston, Tex., and one-third to Don Kahle, Saltburn by the Sea, Yorkshire, England
Filed Sept. 15, 1964, Ser. No. 396,558
9 Claims. (Cl. 114—206)



1. An anchoring structure comprising a hollow fluid-tight structure having at least one fluid-tight compartment and an open bottom compartment, sufficient ballast in said structure to sink said structure in a body of liquid when the compartments are empty, means to provide a fluid-tight seal between the open bottom of said open bottom compartment and the bottom of said body of liquid, means selectively providing communication between said open bottom compartment and said at least one fluid-tight compartment whereby the fluid in the open bottom compartment may pass into said at least one fluid-tight compartment thereby reducing the pressure within said open bottom compartment whereby the column of liquid above said anchor structure will apply a holding force on said anchor against the bottom of said body of liquid effectively maintaining said anchor on the bottom of said body of liquid.

3,263,642
BOAT ANCHOR
Johnnie L. Wilson, 802 E. Pine St., Tulsa, Okla.
Filed Nov. 2, 1964, Ser. No. 408,084
2 Claims. (Cl. 114—208)

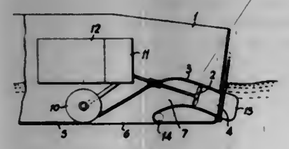
1. A boat anchor comprising:
a substantially symmetrical flat integral fluke plate defined by

(1) a substantially crescent shaped lower portion having opposed points, and
(2) a substantially circular upper portion, the lower and upper portions connected by a
(3) neck portion, the fluke plate having
(4) an elongated slot therein extending from the lower to the upper portion, the slot in the lower portion forked to two paths extending adjacent each of said points and turning near the bottom of the lower portion towards each other, the notch forked in the circular upper portion defining
(5) a small crescent shaped tongue portion substantially in the center of the circular upper portion;



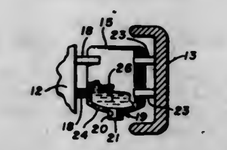
an elongated yoked shank having
(1) means at the upper end to receive a rope, and
(2) opposed aligned bolt holes adjacent the lower end, the yoked shank slidably receiving the fluke plate therebetween, the yoked shank having lower opposed stock plates extending perpendicularly of the shank plate;
a bolt extending through said aligned bolt holes in said shank and through said notch in said fluke plate; and
first and second stock arms each of a length substantially equal the length of said shank, a stock arm pivoted at one end thereof to each of said stock plates.

3,263,643
VEHICLES OPERABLE OVER WATER
Edward Gunston Tattersall, Hythe, Southampton, England, assignor to Hovercraft Development Limited, London, England, a British company
Filed Oct. 27, 1964, Ser. No. 406,704
Claims priority, application Great Britain, Oct. 28, 1963, 42,461/63
12 Claims. (Cl. 115—1)



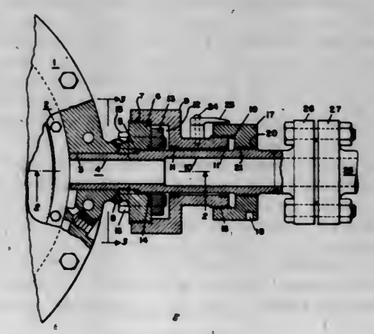
1. A propulsion system for a vehicle operable over water, the system being of the type comprising propulsion means fed with water by way of an intake opening disposed below the operating water level of the vehicle and in a plane substantially parallel to the flow of water past the vehicle in the vicinity of the opening, at least part of an edge of the opening transverse to the flow of water past the vehicle being formed by a surface movable continuously in the same general direction as the flow of water into the intake.

3,263,644
COLLISION TRACKING DEVICE
James C. Irby, 215 NE. Lafayette St., Decatur, Ala.
Filed Apr. 26, 1965, Ser. No. 450,800
2 Claims. (Cl. 116—32)



1. In combination with a vehicle for traversing a road surface having a substantially rectangular body and front and rear inwardly facing and parallel bumpers peripherially mounted on and encompassing each corner of said rectangular body, a vehicle tracking device for each corner of said rectangular body, each such device comprising a liquid container of predetermined shape defined by a flexible side wall and top and bottom surfaces, said side wall being vertically mounted and secured in a position between said body and bumper of said vehicle, said container bottom surface being tapered to form a downwardly extending integral nozzle having an orifice opening in communication with said road surface, a brilliantly colored liquid dye filling said container, and a plug securely received by said nozzle and pressure fracturably sealing said orifice opening whereby upon the exertion of a force against said bumper, said side wall is resiliently compressed between said bumper and body to cause said plug to be dislodged from said nozzle and said liquid dye to be expelled under the pressure of said force exerted on said side wall and said dye to be directed downwardly by said nozzle onto said road surface.

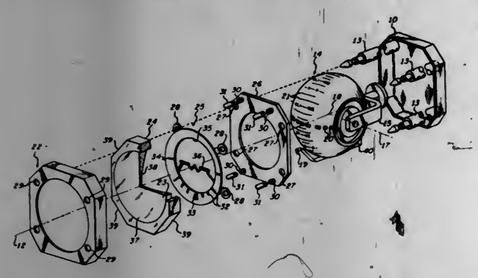
3,263,645
ADJUSTING MECHANISM
William B. Hansel, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Dec. 30, 1963, Ser. No. 334,523
2 Claims. (Cl. 116—124)



1. Mechanism for slidably adjusting a first member with respect to a second member, comprising means providing threads having a first pitch on said first member, means providing threads having a second pitch different from said first pitch, but of the same order of magnitude, on said second member, the hands of the threads having said first pitch and of the threads having said second pitch being the same; and an adjusting nut threadedly engaging

said first-mentioned threads and also said second-mentioned threads, said nut having one set of threads with said first pitch, for engaging said first-mentioned threads, and another set of threads with said second pitch, for engaging said second-mentioned threads.

3,263,646
WINDOW ASSEMBLY FOR DIRECT READING INSTRUMENTS
Frank Arnold, Locust Valley, Henry L. Bungart, Huntington Station, and Alben J. Tava, Hicksville, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Dec. 6, 1963, Ser. No. 328,654
5 Claims. (Cl. 116—129)



1. In an integrally lighted indicating instrument of the type which includes a housing having a viewing opening in a front end wall thereof, a spherically shaped indicating dial having indicia thereon universally supported in the housing adjacent said opening for indicating relative movements of said dial and housing about longitudinal and lateral axes of said housing; a window and instrument illuminating assembly fixed in the front end wall of said housing and forming a transparent front closure therefor, said assembly comprising:

(a) an opaque masking member having a circular opening exposing a portion of said spherical dial but laterally spaced from the surface thereof, and including reference indicia cooperable with the indicia on said dial,

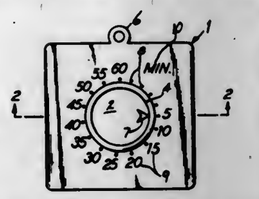
(b) a ring member of translucent material having substantial longitudinal thickness surrounding said masking member, a portion thereof extending longitudinally forward of said member and a portion extending longitudinally rearward of said member,

(c) a transparent dial cover lens of the wedge lighting type having a longitudinally thickened rim connected in light conducting relation to the forwardly extending portion of said ring member, and

(d) a light source adjacent said ring member for illuminating said exposed spherical dial and masking member through said ring and wedge lighting lens and for illuminating the said exposed spherical dial adjacent said circular opening through the rearwardly extending portion of said ring member whereby to eliminate shadows which would otherwise be cast on said spherical dial by said masking member.

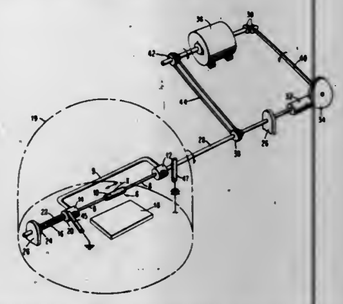
3,263,647
TIME INDICATOR
Bernard T. Murphy, Woodcliff Lake, and Daniel R. Zimmerman, Ridgewood, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 30, 1965, Ser. No. 452,088
4 Claims. (Cl. 116—133)

1. A time indicator for radiology, which comprises a plate having a disk rotationally mounted therein, said plate having impressions therein to define indicia and said disk having an impression defining a datum mark therein near the circumference thereof, and said impressions and impression being of sufficient thinness to be



relatively transparent to X-rays, and the remaining portions of said plate and disk being of sufficient thickness to be relatively opaque to X-rays.

3,263,648
COATING APPARATUS EMPLOYING ROTATING AND RECIPROCATING FILAMENT
Richard M. Chapman and John N. Ramsey, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 5, 1962, Ser. No. 242,467
5 Claims. (Cl. 118—49.1)



1. An apparatus for evaporating a film on a substrate in a vacuum atmosphere comprising:

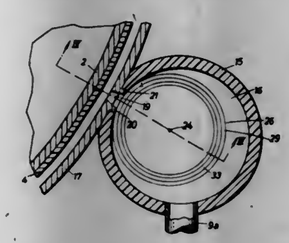
a filamentary source of vaporizable material which may have noncylindrical symmetry because of surface imperfections or departures from a circular cross section, spaced from said substrate, said source having an axis which is substantially parallel to the length of said substrate; and

means for providing relative rotation between said substrate and said source about the axis of the latter while simultaneously providing a predetermined nonuniform reciprocating relative motion between said substrate and said source along said axis, thereby producing on said substrate during the evaporation of said material from said source, a film having a desired thickness characteristic.

3,263,649
APPARATUS FOR DEVELOPING ELECTROSTATIC IMAGES
Gerhard Heyl and Otto Koch, Cologne-Stammheim, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany
Filed Apr. 19, 1963, Ser. No. 274,357
Claims priority, application Germany, Apr. 19, 1962, A 40,008, A 40,009
16 Claims. (Cl. 118—637)

1. In an apparatus for developing an electrostatic image formed in a photoconductive material, in combination, a developing electrode formed with an elongated opening of relatively small width through which aerosol developing

particles pass to the photoconductive material; and a charging electrode located adjacent said developing electrode in alignment with said opening for charging the



aerosol particles as they advance toward said opening to pass therethrough, the distance between said electrodes being great enough to prevent arcing therebetween.

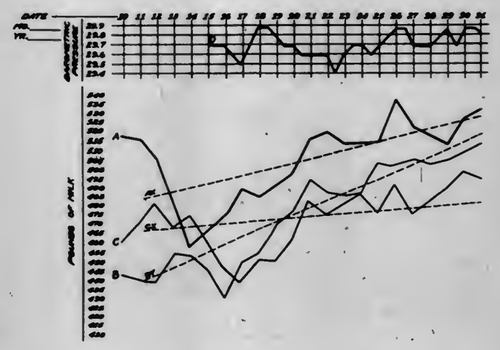
3,263,650
FARROWING APPARATUS
Philip A. Sellner, Sleepy Eye, Minn.
Filed Feb. 9, 1965, Ser. No. 431,412
3 Claims. (Cl. 119—20)



1. A farrowing pen for sows, comprising a horizontal floor, a vertical support extending upwardly from the floor, a feed pan on the floor adjacent the support, a horizontally disposed circular guide wheel concentrically and rotatably attached to the support spaced above the floor and having a radius to extend outwardly substantially beyond the feed pan to prevent a sow from approaching the floor space adjacent the support, feed dispensing means mounted on the guide wheel including a spout extending downwardly into the feed pan, and an enclosure extending upwardly from the floor surrounding the guide wheel and spaced outwardly therefrom a distance sufficient only to permit passage therebetween of a single sow.

3,263,651
METHOD OF CATTLE FEEDING
Eric C. Anderson, 304 W. Cleveland, Bozeman, Mont.
Filed Dec. 7, 1964, Ser. No. 416,463
2 Claims. (Cl. 119—51)

1. A method of feeding proteins and concentrates according to the barometric pressure for the purpose of stabilizing and increasing the production of cattle by weight and milk production by increasing the portions of said proteins and concentrate fed said cattle with the increase of barometric pressure and decreasing the proteins



and concentrate fed said cattle with decrease in barometric pressure.

3,263,652
POULTRY ACTUATED WATERING DEVICE
Kazuo Nakajima, 315 Oubegawa; Kimitada Nakajima, 315 Oubegawa; and Hideo Nakajima, 752 Fusetakada, all of Shinonoi, Japan
Filed Nov. 30, 1964, Ser. No. 414,781
6 Claims. (Cl. 119—72.5)



1. A poultry controlled watering device, comprising a horizontal water conduit having a lower opening therein at a position along the length thereof, said lower opening being downwardly and outwardly flared, a valve, said valve having a depending valve rod extending through said opening, and an annular packing around said rod, a valve seat within the pipe adjacent said downwardly flared opening against which the packing bears, resilient means engaging said valve and urging it toward said opening, and positioning means in said conduit diametrically opposite said opening and engaging said resilient means and positioning said resilient means substantially along the diameter of said conduit.

3,263,653
BATHING APPARATUS FOR DOGS AND OTHER ANIMALS
Laura G. Miller, 2553 Harrison St., Paducah, Ky.
Filed Oct. 19, 1964, Ser. No. 404,640
2 Claims. (Cl. 119—158)

1. In a bathing and massaging apparatus for small dogs, a bag shaped and dimensioned to receive said dog, which bag closely approximates the size of the dog and has an open top, means for drawing the upper portion of the bag together tightly about the neck of the dog to be bathed, the material of the bag being highly flexible

to permit it to be pressed inwardly with a massaging action against the skin of the dog, said material being waterproof and water retaining at all points below the



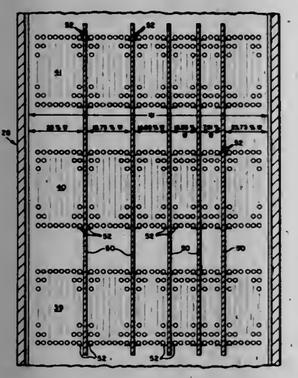
level of said drawing means, and protuberances upon the inner wall of the bag for engagement with the skin of the animal being washed.

3,263,654

APPARATUS FOR ELIMINATING DESTRUCTIVE, SELF-EXCITED VIBRATIONS IN STEAM GENERATORS

Leo J. J. Cohan, Simsbury, and William J. Deane, Hartford, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed June 17, 1964, Ser. No. 375,713
8 Claims. (Cl. 122—4)



1. In combination, a furnace wherein hot combustion gases are generated by the burning of fuel therein, a vertical gas pass having front, rear and side walls connected to the furnace through which the combustion gases flow, a plurality of tube panels positioned within the gase pass, each tube panel being made up of a plurality of parallel vertically spaced horizontal tube portions which extend in a direction running from the front to the rear wall, and vertical baffle means positioned within the gas pass which are parallel to the tube panels, the number and position of the baffle means being determined substantially in accordance with the following:

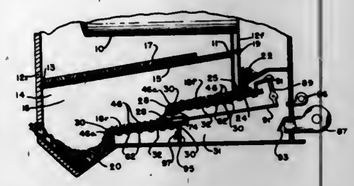
Total duct width, ft.	Number of baffles	(Side 1) Baffle location in terms of percent of total duct width					(Side 2)
		← 100 →					
22 to 29	1	25	75				
29 to 39	2	25	18.75	56.25			
39 to 52	3	25	18.75	14.06	42.19		
52 to 69	4	25	18.75	14.06	10.55	31.64	
69 to 87	5	25	18.75	14.06	10.55	7.91	23.73

3,263,655

COAL FIRED FURNACE

William W. Robson, Jr., 1621 Highland, Wilmette, Ill.

Filed Oct. 23, 1963, Ser. No. 318,362
5 Claims. (Cl. 122—376)



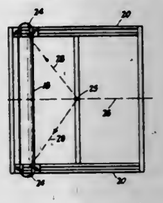
1. In combination with a boiler having a coal feed opening and a fuel combustion space therebeyond defined laterally by vertical water walls defining a water space on one side, a grate comprising two horizontally spaced header tubes in said combustion space interconnecting and extending at their opposite ends through said water walls in sealed relationship therewith and in open communication with said water space therein, the header tube adjacent to the feed opening being disposed below the level of the feed opening and the header tube remote from the feed opening being disposed below the level of the first mentioned header tube, a plurality of coplanar water pipes interconnecting said header tubes spaced from each other in a direction lengthwise of said headers and at their ends in open communication therewith, plural rows of end abutting tuyeres having legs disposed between each pair of asid pipes and abutting the edges of adjacent rows of tuyeres above the center of said pipes, said legs terminating downwardly at a planar level above the plane of the lowest sides of said pipes, transverse tie bars engaging the lowest sides of said pipes, metal clamping means flush with the top of the tuyeres extending through said legs and tie bars for clamping said tuyeres against said pipes, high heat conductive means intimately interconnecting the interfaces of said tuyeres and pipes and said tuyeres and clamping means.

3,263,656

DRUM SUPPORT FOR STEAM BOILER

John Kurek, Jr., Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Feb. 18, 1964, Ser. No. 345,611
9 Claims. (Cl. 122—510)



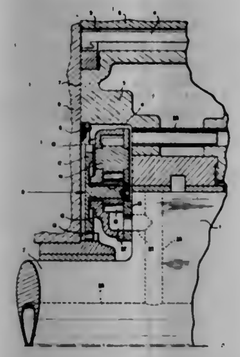
1. In combination, an elongated cylindrical vessel, a hanger for supporting said vessel, means associated with said vessel, said means when exposed to heat being subject to thermal forces tending to move said vessel in a direction which lies in the horizontal plane passing through the longitudinal axis of said vessel and is at an acute angle with respect to said longitudinal axis, said hanger comprising a lower part organized to move with said cylindrical vessel; an upper part suspended from a fixed point of support spaced above said vessel, with said vessel tending to be displaced relative to said fixed point of support, a portion of said hanger having an elongated cross section with the width of said cross section being substantially wider than the depth thereof, and with said depth extending in said direction, to provide a hanger having a low resistance against flexing in said direction, and a high resistance against flexing transversely to said direction.

3,263,657

ROTARY PISTON ENGINE

Johannes Gassmann, Altbach, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany

Filed Dec. 19, 1963, Ser. No. 331,807
Claims priority, application Germany, Dec. 19, 1962, D 40,540
10 Claims. (Cl. 123—8)



1. A rotary-piston internal combustion engine of trochoidal construction, comprising:

housing means provided with internal surface means and lateral housing parts,

eccentric shaft means provided with eccentric means,

polygonal piston means having radial and axial seal means and rotatably supported on said eccentric means, said piston means sliding with the radial seal means thereof arranged at the piston corners along the inner surface means and with the axial seal means thereof arranged at the end walls thereof, which include oil seal ring means, along the lateral parts,

oil pump means constructed as gear pump and rigidly arranged at the end surface of the eccentric means at least on one side of the piston means between the piston end wall and the corresponding lateral housing part,

a gear wheel rigidly secured to said housing means and disposed substantially concentrically to the eccentric shaft means,

and drive means for driving said pump means including a further gear wheel in meshing engagement with said first-mentioned gear wheel,

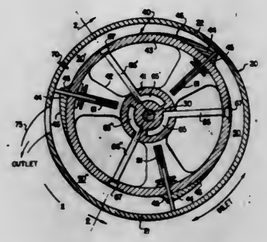
said oil pump means being operable to draw oil out of the spaces between a piston end wall and the corresponding lateral housing part within the area of the oil seal ring means and forcibly discharging the same into a discharge bore provided within said eccentric means and within said eccentric shaft means.

3,263,658

TURBOENGINE

Rudolf Bär, 22 Stockheimer Strasse, Stuttgart-Zuffenhausen, Germany

Filed Jan. 24, 1963, Ser. No. 265,572
Claims priority, application Germany, Jan. 24, 1962, B 65,626
9 Claims. (Cl. 123—16)



1. A turboengine having an axis of rotation, comprising:

housing means having a portion concentric to and a portion eccentric to said axis,

rotor means rotating within said housing means about said axis and including fixed partition wall means effectively providing a plurality of adjoining, rotating, chambers between the other surfaces of said rotor means and the inner surfaces of said housing means, said chambers being distributed over the entire circumference of the rotor means and being of substantially constant length in the circumferential direction, said chambers passing respectively through successive intake, compression and ignition as well as exhaust phases,

said rotor means being constituted by a circular column structure having a base portion mounted on said shaft, a capital portion disposed radially outwardly thereof, and at least one bearer portion connecting said base portion with said capital portion,

supply means for supplying a combustion mixture to said chambers in predetermined sequence, including slide valve means for each chamber constituted by cooperating apertures in said housing means and said base portion and operable automatically by rotation of said rotor means to selectively supply said mixture to said chambers,

the bearer portion of said circular column being provided with substantially radially extending channel means for each chamber forming part of the supply means and effectively constituting a radial precompressor, and valve means disposed near the radially outer end of a respective channel means,

each of said partition wall means including surface portions to provide a relatively large volume in each chamber in the leading portion thereof and a relatively small volume in the trailing portion thereof, as seen in the normal direction of rotation of said rotor means,

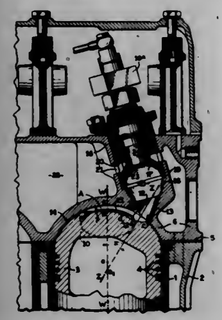
ignition means in said housing means for igniting the compressed mixture of a chamber, said ignition means being located in said housing means near the forward separating wall means of a respective chamber at the ignition moment thereof,

exhaust means in said housing means to enable exhaust of the burned fuel mixture,

an output shaft,

and means mounting said rotor means on said shaft for rotation in unison therewith to transmit the forces produced in said engine directly to shaft with a predetermined leverage corresponding to the radial distance of the chambers from said shaft.

3,263,659
INTERNAL COMBUSTION ENGINE
Marcel François, Chatenay-Malabry, France, assignor to Hotchkiss-Brandt, Paris, France, a corporation of France
Filed Dec. 17, 1963, Ser. No. 331,172
Claims priority, application France, Dec. 18, 1962, 919,031, Patent 1,350,803
4 Claims. (Cl. 123—32)



1. An internal combustion engine comprising a cylinder head, a cylinder block secured to the cylinder head, a cylinder defined by the cylinder head and cylinder block and having an axis, a piston slidable in the cylinder on said axis, means defining a precombustion chamber in the cylinder head, a dome-shaped wall in the cylinder head forming a substantially hemispherical combustion chamber in the cylinder, a transfer port provided in the cylinder head in a position offset from said axis and having an axis which is substantially radial relative to the substantially hemispherical combustion chamber and putting the precombustion chamber in communication with the combustion chamber, the transfer port having a substantially frustoconical shape which is divergent in the direction of the combustion chamber, a mouth portion connecting the dome-shaped wall to the transfer port, the mouth portion having a periphery which is radiused in the region of the mouth portion adjacent said axis of the cylinder so that the transfer port merges into the dome-shaped wall in a direction toward said axis of the cylinder, the piston having a substantially hemispherical dome-shaped upper end, and a deflecting recessed portion in said upper end which extends from a region which is in alignment with the transfer port axis in the top dead center position of the piston in the cylinder to beyond said axis of the cylinder.

3,263,660
PRESSURE REGULATOR
Arthur P. S. Hyde, Rochester, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 17, 1964, Ser. No. 375,858
17 Claims. (Cl. 123—119)

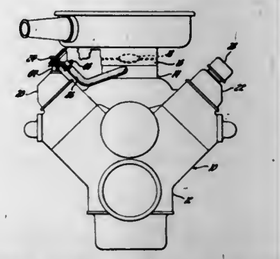
1. A valve assembly for regulating the flow of fluids between the crankcase and the induction system of an internal combustion engine and comprising:

means defining a fluid conducting passage extending through the valve assembly;

a single valve seat past which substantially all fluid flow through the passage means must pass, said seat being disposed in the passage means and separating the passage means into first and second portions, adapted to be connected to such crankcase and such induction system respectively;

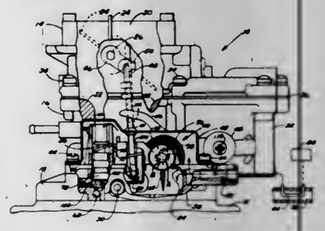
a balanced valve in the passage and adapted to be moved linearly into and out of contact with the valve seat whereby to close or open the passage to fluid flow therethrough, said valve being substantially unaffected by induction system pressures in the second portion and to which it is exposed;

and movable wall means carrying said valve and adapted to control the linear movement thereof, said



wall means being responsive to crankcase pressure in the first portion of the passage means whereby to move the valve in an opening direction upon increasing crankcase pressure and to move the valve in a closing direction upon decreasing crankcase pressure.

3,263,661
AUTOMATIC CHOKE
Frederick J. Marsee, Hazel Park, Mich., assignor to Holley Carburetor Company, Warren, Mich., a corporation of Michigan
Filed Oct. 7, 1964, Ser. No. 402,093
13 Claims. (Cl. 123—119)



1. In an internal combustion engine carburetor automatic choke mechanism of the type wherein a thermostatic force opposes a choke plate unbalance force substantially at all times during engine operation and an engine vacuum force overcomes the thermostatic force when the engine first starts, a member pivotally connected at one end thereof to said choke plate and means whereby said thermostatic and engine vacuum forces are applied to said member from opposite sides thereof, said structure being free of any pivotal connections at the point of application of said forces.

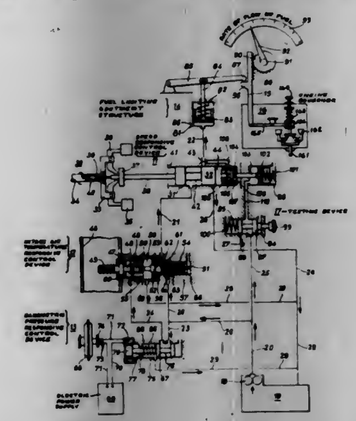
3,263,662
LIMITING THE FUEL SUPPLY TO AN INTERNAL COMBUSTION ENGINE
Walter Barth, Tettnang, Württemberg, Günter Jahn, Friedrichshafen, Erwin Oster, Immenstaad (Bodensee), and Alfons Hagmann, Friedrichshafen, Germany, assignors to Maybach-Motorenbau G.m.b.H., Friedrichshafen, Germany, a firm of Germany
Filed Mar. 2, 1964, Ser. No. 348,328
Claims priority, application Germany, Mar. 9, 1963, M 56,058
14 Claims. (Cl. 123—140)

1. In combination with an internal combustion engine driving a hydrodynamic torque converter whose input torque is approximately proportional to the square of the rotary speed of the impeller thereof:

means for regulating the rate of fuel supply to the internal combustion engine, said regulating means including a regulating member movable commensurately with the rate of fuel supply to said engine and determining the rate of fuel supply,

movable abutment means constituting a limit means for the maximum fuel supply at any given engine speed and extending into the path of said regulating member for limiting the extent of movement of said member in the direction for increasing the rate of fuel supply to the internal combustion engine,

the position of said abutment means relative to said regulating member being adjustable for varying the



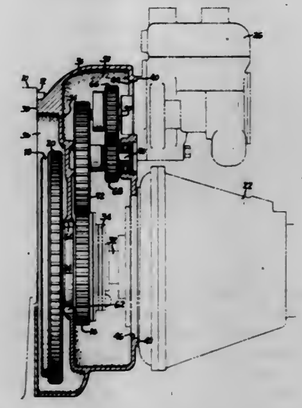
extent of the limited movement of said regulating member and therewith the maximum rate of fuel supply allowed by said abutment means,

and speed responsive control means responsive to the speed of said engine and operatively connected to said abutment means for adjusting the position thereof approximately in the same proportionality as the variations of the input torque of the hydrodynamic torque converter in order to vary the maximum rate of fuel supply at approximately said proportionality.

3,263,663
ENGINE
Calvin C. Connell, Bloomfield Hills, Mich., assignor to Crusader Marine Corporation, Warren, Mich., a corporation of Michigan
Filed Sept. 9, 1963, Ser. No. 307,432
2 Claims. (Cl. 123—195)

1. The combination with an internal combustion engine of accessories for the engine adapting the engine for marine use and means for supporting the accessories, the engine including an engine shaft and a block supporting the shaft and having an end face transverse to the shaft, the accessories including a transmission, a cranking motor and a generator, the cranking motor and generator being disposed in a group about the transmission and above the level of the engine shaft, the means for supporting the accessories including a housing having opposite parallel end faces, one of which is provided with a flange secured in sealing contact with the end face of the block, the housing including a partition wall parallel to the engine face and said housing faces and dividing the housing into a first chamber formed partly by the face having a flange and a second chamber at the opposite end of the housing, a cranking gear secured to the engine shaft and disposed in said first chamber formed by the housing having said face provided with a flange, an accessory driving gear positioned in the second chamber, driving means projecting through the partition wall connecting the accessory driving gear to the engine shaft,

there being a sealing contact between the driving means and the wall, the transmission, cranking motor, and generator being secured externally of said housing to the opposite face of the housing of the second chamber with the contact between each accessory and the latter face forming a seal to seal the second chamber, the generator shaft projecting into said second chamber, gear means in



said second chamber connecting said accessory driving gear to said generator shaft, the cranking motor shaft projecting through said wall into said first chamber, means for connecting the cranking motor shaft to the cranking gear and means in said second chamber connecting said transmission to said engine shaft, said generator shaft, said cranking shaft and said engine shaft all being axially parallel.

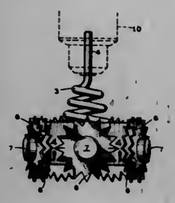
3,263,664
BB GUN LOADER
Martin G. Bauer and Betty A. Bauer, both of Rte. 1, Box 115, Bismarck, N. Dak.
Filed Dec. 29, 1964, Ser. No. 421,765
9 Claims. (Cl. 124—45)



1. An air rifle loader comprising a container for the reception of shot, a generally cylindrical closure operatively mounted on one end of the container, said closure including a reduced neck on one end, a tubular discharge nozzle slidably mounted in the neck and communicating

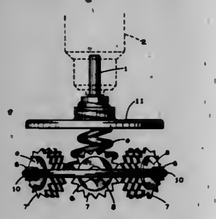
with the container, resilient means yieldingly urging the nozzle outwardly in the neck, and a cap at the discharge end portion of the nozzle.

3,263,665
POWER DRIVEN ABRADING TOOL
Robert C. Collins, 746 NE. 67th St., Miami, Fla.
Filed Jan. 22, 1964, Ser. No. 339,387
3 Claims. (Cl. 125—5)



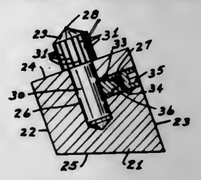
1. A rotary abrading tool comprising a body member having a bore therein for retaining a coupling means, a helical spring coupling secured by one end portion thereof in said bore coaxial therewith and the opposite end thereof terminating in a straight shank substantially coaxial with said bore, a plurality of shafts secured in and projecting from the outer periphery of said body with the axes thereof in equi-spaced radial relation to the said axis of said bore and in a plane normal thereto, releasable retaining means for holding said shafts within said body, a like plurality of like abrading discs journalled for rotation on each of said shafts whereby the latter will rotate and abrade a substantially planar surface in contact therewith when said shank is rotated.

3,263,666
ABRADING DEVICE
Robert C. Collins, 746 NE. 67th St., Miami, Fla.
Filed June 18, 1964, Ser. No. 376,042
5 Claims. (Cl. 125—5)



1. A rotary abrading device adapted to be rotated by a chuck comprising a circular body member having a coaxial bore therein,
- a plurality of axles in said member extending outward and equi-distant therefrom with the axes thereof normal and coplanar to the axis of said bore and positioned radially thereto,
- a transverse groove in the outer end of each of said axles,
- a like plurality of abrading discs journalled for rotation on each of said axles,
- a resilient ring tensioned around the ends of said axles in each of said grooves for retaining said axles and said discs thereon on said member,
- a spring means having one end portion thereof secured in said bore and terminating at the opposite end in a shank coaxial with said bore and adapted to be secured in said chuck.

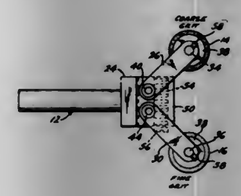
3,263,667
DIAMOND GRINDING WHEEL DRESSERS
Frederick H. Smith, 2611 Evermur Drive,
Dayton 14, Ohio
Filed July 15, 1963, Ser. No. 295,011
1 Claim. (Cl. 125—11)



A diamond grinding wheel dresser comprising a body block, a spindle aperture formed in the upper portion of the body block, a spindle set into the aperture and being capable of rotation therein with said spindle having a head portion formed on the upper end thereof with the head portion being of larger diameter than the diameter of the aperture formed in the body block with the under side of the head portion of the spindle providing means limiting the depth of the spindle into the body block, a diamond dressing point partially embedded into the head portion of the spindle and projecting upwardly therefrom, a series of index lines formed in the upper surface of the body block with said index lines being consecutively numbered about the spindle aperture, a vertically-disposed index line formed on the side of the head portion of the spindle and adapted to be aligned with the index lines of the upper surface of the body block in consecutive order, with the upper surface of the body block being out-of-parallel relation to the bottom surface of the body block and establishing an angle of inclination of the spindle with relation to the bottom surface of the body block, a threaded bore formed in one side of the body block and extending from the exterior surface of the side of the body block into the spindle aperture, a friction means located in the threaded bore, said friction means comprising a friction plug bearing against the surface of the spindle, a threaded plug fitting into the threaded bore, a compression spring located between the outer end of the friction plug and the inner end of the threaded plug with adjustment inwardly of the threaded plug providing greater pressure of the friction plug against the surface of the spindle and adjustment of the threaded plug outwardly providing a reduced pressure of the friction plug against the surface of the spindle, with the friction means providing adjustable means of pressure against the rotation of the spindle permitting manual rotation of the spindle from one index line to the next consecutively numbered index line, with the proper adjustment of the friction means preventing accidental rotation of the spindle, and with the body block being adapted to be magnetically secured in place with relation to a table member of a surface grinding machine.

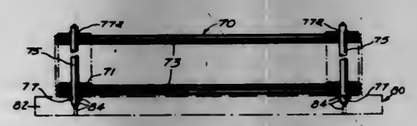
3,263,668
DRESSING TOOL FOR ABRASIVE GRINDING WHEELS
Herry L. Strauss, Jr., 183 Sterling Road,
Harrison, N.Y.
Filed Oct. 8, 1963, Ser. No. 314,721
14 Claims. (Cl. 125—11)

1. A diamond dressing tool for dressing abrasive grinding wheels, said tool comprising a tool body carrying two spaced diamond dressing wheels on parallel shafts for simultaneous application to the same surface of a grinding wheel, one of said wheels having relatively coarse



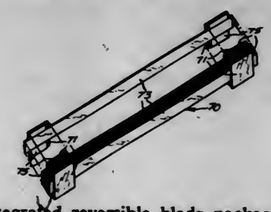
diamond grit and the other having relatively fine diamond grit, and fixed adjustable brake means localized at each wheel to inhibit rotation of said dressing wheels.

3,263,669
WAFERING MACHINE
William H. Ashley, Worcester, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Jan. 30, 1963, Ser. No. 254,996
5 Claims. (Cl. 125—16)



3. A blade head asesmbly for a multiple blade wafering machine comprising
- a generally rectangular supporting frame,
- a first blade package engaging means disposed transversely of one end of said supporting frame including a first pair of opposed releasable transverse clamp members,
- an adjustable supporting element disposed adjacent the other end of said supporting frame,
- a second blade package engaging means disposed transversely of said supporting frame and supported by said supporting element including a second pair of opposed releasable transverse clamp members,
- an elongated loosely pre-assembled multiple blade package secured transversely adjacent its opposite ends in said first pair of transverse clamping members and in said second pair of transverse clamping members respectively,
- said blade package including a plurality of flat thin annular spacer elements arrayed in first and second spaced series, and
- a multiplicity of elongated blades of thin flat strip material provided with a pair of holes through each blade adjacent the opposite ends thereof,
- each with one end disposed between adjacent spacer elements of the first series and the other end disposed between adjacent spacer elements of the second series,
- a first elongated retaining means passing through and loosely engaged by the first series of spacer elements and one end of each of said multiplicity of blades,
- a second elongated retaining means passing through and loosely engaged by the second series of spacer elements and the other end of each of said multiplicity of blades, and
- means on the respective ends of said first and said second retaining means to maintain said spacers and said blades on and loosely lengthwise of said retaining means, and
- adjustable coupling means interconnecting said supporting frame and said supporting element and operable to displace said supporting element longitudinally relative to said supporting frame to displace individual blades of said elongated multiple blade package selectively relative to adjacent spacer elements as necessary to tension the multiplicity of blades uniformly in said blade head assembly.

3,263,670
WAFERING MACHINE
Thomas D. Bushman, Holden, and George J. Seymour, Leicester, Mass., assignors to Norton Company, Worcester, Mass., a corporation of Massachusetts
Original application May 14, 1962, Ser. No. 194,356, now Patent No. 3,168,087, dated Feb. 2, 1965. Divided and this application Nov. 19, 1964, Ser. No. 412,419
4 Claims. (Cl. 125—16)

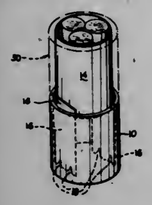


1. An integrated reversible blade package for mounting under tension in a multiple blade wafering machine comprising
- a plurality of relatively wide flat thin spacer elements of equal uniform thickness arrayed in equal first and second spaced parallel series, and
- a multiplicity of relatively narrow elongated blades of thin flat strip material of constant thickness and with opposed parallel longitudinal working edges arrayed perpendicular to and with one longitudinal edge of each blade intersecting a reference plane,
- each blade having one end disposed between and bonded to adjacent spacer elements of the first series and the other end disposed between and bonded to adjacent spacer elements of the second series so that the respective opposite edges of said spacer elements project beyond the respective longitudinal edges of said elongated blades.
- the width of said blades between the longitudinal edges thereof being selected in relation to the blade material, the blade thickness and the tension load to be applied to the blades in a wafering machine so that with substantially one third of the blade width worn away from one longitudinal edge of each blade and substantially one third of the blade width worn away from the other longitudinal edge of each blade the remaining reduced cross-section area of each blade is sufficient to withstand the tension load applied to each blade of said blade package by a multiple blade wafering machine.

3,263,671
SPACE HEATER
Jacques Filliol, Rte. 2, Box 60, Zillah, Wash.
Filed Apr. 22, 1965, Ser. No. 450,053
5 Claims. (Cl. 126—59.5)

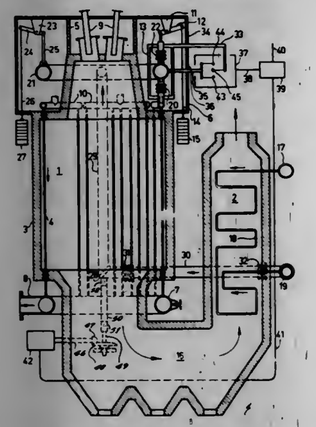
1. A solid fuel space heater, comprising:
- an imperforate cylindrical firepot having an upwardly open mouth only through which air to fuel in the pot is accessible;
- an open-ended tubular stack laterally smaller than the pot mouth and substantially coaxially disposed in said pot; and

at least two resilient plates chordally disposed in edge contact with said pot inner wall and having surface



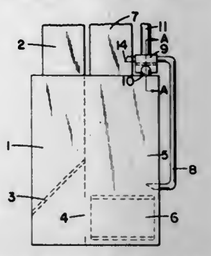
contact with the exterior of said stack to frictionally engage and maintain the same in vertically adjusted position relative the pot.

3,263,672
GAS HEATER
Konrad Oechslin, Zurich, and Paul Moser, Winterthur, Switzerland, assignors to Escher Wyss Aktiengesellschaft, Zurich, Switzerland, a corporation of Switzerland
Filed Apr. 16, 1965, Ser. No. 448,591
Claims priority, application Switzerland, May 28, 1964, 6,972/64
10 Claims. (Cl. 126—109)



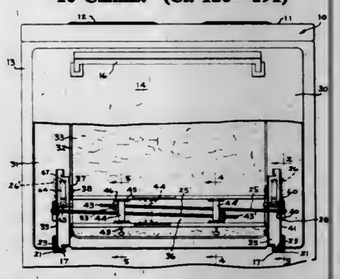
1. A tubular heater for heating the gaseous working medium of a closed-circuit gas turbine plant by heating gases comprising in combination walls confining a heating chamber for the throughflow of said heating gases and vertical heater tubes exposed to the heating gases in said chamber defining a flow path for said working medium; and immovable horizontal header, said vertical heater tubes terminating at one end in said header, the same carrying the entire stream of the working medium; a number of partial headers movable in the direction of the axis of said heater tubes, the same terminating at the other end in said partial headers, each of same carrying only part of the stream of the working medium; a horizontal header movable in the direction of the axis of said heater tubes; a number of flexible connections connecting said partial headers with said movable header, the same carrying the entire stream of the working medium; the number of flexible connections being at least equal to the number of said partial headers; at least one flexible supply pipe having a fixed end and a movable end terminating in said movable header; a measuring device for measuring the relative position of said movable header to one or more partial headers; and an adjusting device for said movable header.

3,263,673
FURNACE HUMIDIFIER
Fred I. Molzhon, 1908 Highland Ave., Burlington, Iowa,
Filed Apr. 28, 1964, Ser. No. 363,098
3 Claims. (Cl. 126—113)



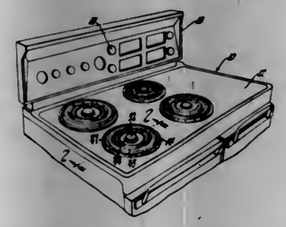
2. In combination with a hot air heating system which includes a fire box and an exhaust duct connected thereto and a cold and a hot air distribution system through which air is circulated and heated by said fire box and distributed, a humidifier for increasing the humidity of the heated air distributed through said system, said humidifier comprising walls forming an enclosed chamber, a water pan in said enclosed chamber, first air conveying means connected to said chamber and connected to said hot air distribution system near said fire box to convey heated air therefrom to said chamber, second air conveying means connected to said chamber opposite said first air conveying means and connected to said hot air distribution system downstream from said first means connection and remote from said fire box to discharge humidified air from said chamber into said hot air distribution system, means for admitting water into said pan, and means providing for the circulation of exhaust gases from said exhaust duct in contact with the walls of said enclosed chamber to heat water in said pan.

3,263,674
OVEN DOOR WITH SELF-CONTAINED COUNTER-BALANCING MEANS
Angus J. Macaulay, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 9, 1964, Ser. No. 417,141
10 Claims. (Cl. 126—191)



1. An oven assembly having walls defining an oven cavity that has an opening in a front wall thereof, and a door for closing the said opening, hinge means adjacent the bottom edge of the door for removably securing said door to the front wall for swinging movement between a vertical closed position and a substantially horizontal open position, counter-balance means for the door including at least one hinge lever having a pivotal support means on the door adjacent one side edge thereof and lying in a plane that extends generally perpendicular thereto, a roller means mounted adjacent the front wall of the oven for engagement by the hinge lever, and a torsion bar within the door and fastened at one end to the hinge lever and serving as the said pivotal support means for the lever, and a point adjacent the opposite end of the torsion bar being fastened to the door so that an opening movement of the door exerts a twisting force on the torsion bar by the act of the roller deflecting the hinge lever.

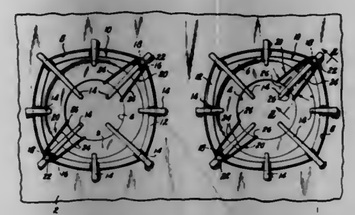
3,263,675
UTENSIL SUPPORT FOR DOMESTIC APPLIANCE
Hal H. Rice, Birmingham, and Russell B. Bennett, Rochester, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 11, 1963, Ser. No. 329,755
5 Claims. (Cl. 126—211)



1. A support element adapted to be positioned on a range top in spaced relation to the heat producing means and for supporting a cooking utensil on a range top while said cooking utensil is being heated to the cooking temperature and being characterized by an operating temperature of about 1100° F.,

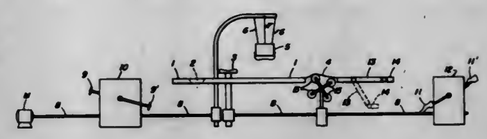
said support element being formed of a structural material having a metallic base and a fused ceramic coating bonded on the upper surface thereof, the predominant ingredients of said coating consisting of the oxides of barium, boron, and silicon, and the metallic base having a coefficient of thermal expansion substantially equivalent to that of an austenitic-steel.

3,263,676
RANGE GRATE CLIP
George W. Kamin, Arcadia, Calif., assignor to Magic Chef, Inc., Cleveland, Tenn.
Filed July 31, 1964, Ser. No. 386,512
2 Claims. (Cl. 126—215)



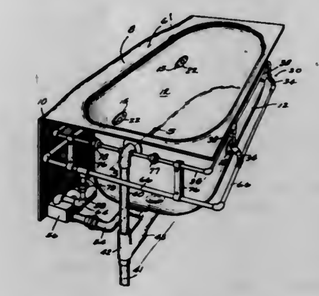
1. In combination; a range having a top provided with a burner opening therethrough; a grate comprising a generally annular portion seated loosely on said top in surrounding relation to said opening and having generally radial grate bars extending over said annular portion; at least one spring clip having a first portion releasably engaging over said annular portion and a second portion extending under one of said grate bars outwardly of said annular portion and having a resilient leg extending from said first portion toward said opening in a direction diverging from said one grate bar; said leg having hook means at its inner end releasably engaging the periphery of said opening and holding said leg in resiliently flexed condition to thereby resiliently hold said grate firmly against said range top.

3,263,677
RESUSCITATOR
Michael A. Pastrick, South Amboy, N.J.
(P.O. Box 307, Perth Amboy, N.J.)
Filed Aug. 22, 1962, Ser. No. 218,619
3 Claims. (Cl. 128—28)



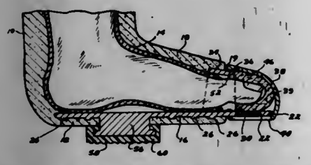
1. Apparatus for manipulation of the human body, comprising in combination means for intermittently lifting the shoulders of a prone patient, thereby removing body weight from the chest, and means for intermittently applying pressure to the back of said patient in the area overlying the lungs, thereby augmenting the normal tendency of body weight to collapse the lungs of said patient and expel air therefrom, said lifting means and said pressure means being synchronized to render said pressure means operative to apply pressure only at times when said lifting means is inoperative to lift the shoulders of said patient, and roller means for intermittently applying pressure to the abdomen of said patient, said roller means being synchronized with said shoulder-lifting means and said back-pressure means to apply pressure to the abdomen of said patient when said shoulder-lifting means is inoperative and said back-pressure means is operative, and to release said pressure to the abdomen when said shoulder-lifting means is operative and said back-pressure means is inoperative.

3,263,678
THERAPEUTIC BATHTUB HAVING PLURAL ASPIRATING FITTINGS
Joseph H. Everston, 328 N. Maple Drive, Beverly Hills, Calif.
Filed May 19, 1965, Ser. No. 456,958
14 Claims. (Cl. 128—66)



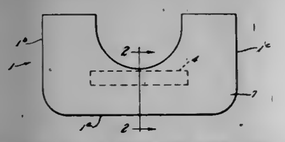
1. A therapeutic tub comprising the combination with a tub having wall portions, of means for diffusing air bubbles throughout water in the tube, said means comprising a common source of water under pressure and a plurality of water jetting nozzle means opening through said wall portions and having water supplying connections from said source and having air aspirating fittings communicating individually with respective nozzle means immediately behind respective nozzle means and in immediate proximity to the tub, the air aspirating fittings being remote from said source and directly associated with respective nozzle means whereby water entering the air nozzle means will aspirate air to be delivered in dispersed fine bubbles throughout the water of the tub.

3,263,679
SURGICAL FOOT CAST AND APPLIANCES THEREFOR
Frederick M. Hass, 209 Parkview Terrace, Minneapolis, Minn. 55416
Filed Feb. 12, 1964, Ser. No. 347,991
8 Claims. (Cl. 128—83.5)



1. In a surgical foot cast having an opening therein through which the toes can project, an elongate base member adapted to be positioned adjacent the sole of the foot and rigidly embedded within the material from which the cast is formed, an extension on said base member extending forwardly therefrom through said opening and adapted to extend beneath the toes of the user, a rigid hollow toe cover adapted to be positioned around the toes of the user and means detachably mounting said cover upon said exposed portion of said base member.

3,263,680
SURGICAL OR VAGINAL DRAPE
Burton D. Morgan, Hudson, Ohio, assignor to Morgan Adhesives Company, Stow, Ohio, a corporation of Ohio
Filed Sept. 18, 1964, Ser. No. 397,424
5 Claims. (Cl. 128—132)



1. A surgical drape, vaginal bib or the like comprising
a thin flexible plastic film,
a layer of pressure sensitive adhesive covering one face of said film,
a strip of closed cell resilient vinyl foam secured by one of its faces to said adhesive layer adjacent one margin of said film to cover a local area thereof,
a layer of pressure sensitive adhesive on the other face of said vinyl foam strip,
a cover sheet releasably attached to the said adhesive layer on the other face of said vinyl foam strip, and
a paper cover having a release layer thereon releasably attached to the exposed portion of said adhesive layer on said plastic film and extending over said cover sheet on said vinyl foam strip whereby said paper cover and said cover sheet can be removed to enable said plastic film and said foam strip to be attached to a patient.

3,263,681
TRACTION FINGER COT
Mitchell J. Nechtow, 55 E. Washington St., Chicago 2, Ill., and Walter J. Reich, 1328 Lincoln Ave. S., Highland Park, Ill.
Filed Mar. 25, 1963, Ser. No. 267,475
2 Claims. (Cl. 128—157)

1. A surgical finger cot consisting essentially of a multilayer laminate of which the inner layer is a thin-walled, waterproof, flexible, rubber tube closed at one end and open at the opposite end to resiliently encase the end of the index finger as a sheath, and an outer layer adhesively secured to said inner layer consisting of a fibrous open pore unimpregnated dry woven fabric, said layers being adhesively assembled together as a laminate, and sized and shaped to be mounted upon and to fit resiliently over the end of the index finger, said thin rubber inner



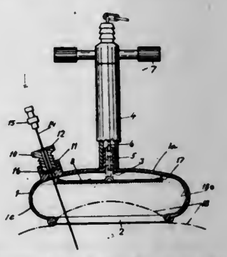
layer being flexibly distended to securely retain the open pore fabric layer in touch-sensitive contact with the finger through the thin rubber layer.

3,263,682
ROLLED FINGER BANDAGE
Benjamin Rosenfield, Rego Park, N.Y., assignor to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York
Filed Jan. 2, 1964, Ser. No. 335,063
5 Claims. (Cl. 128—157)



1. A bandage comprising
a single oppositely open ended tube of fabric twisted intermediately with a first portion on one side of the twist retroverted over a second portion on the other side of the twist and with the open ends of said portions adjacent to one another,
said twist forming a closed end for the bandage, and
said fabric having elastic strands woven therein circumferentially of the tube adjacent the open end only of at least one of said portions to automatically hold the bandage in place when applied to the body of a user.

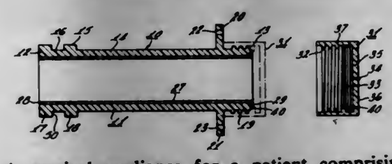
3,263,683
REMOVAL INSTRUMENTS FOR CYSTS LOCATED IN CAVITIES OF THE HUMAN BODY
Goran Uddenberg, 49 Rangeltorpsgatan, Gothenburg, Sweden
Filed Aug. 27, 1963, Ser. No. 304,898
Claims priority, application Sweden, Mar. 14, 1963, 2,776/63
3 Claims. (Cl. 128—303)



1. An instrument for use in the removal of cysts located in cavities in the human body, comprising a hollow body defined by a top wall, a peripheral wall and a suction aperture opposite the top wall adapted to be applied to a cyst, means on the top wall for connection to a source of vacuum, a contact plate within the body and having a perimetric edge located inwardly of the peripheral wall of the body, means mounting the contact plate

in substantial parallelism to the top wall for movement toward and away from the suction aperture for serving as a stop for the portions of the cyst to be treated, and needle passage defining means on the top wall of the body located exteriorly of the perimetric edge of the cover plate and directed toward the suction aperture so that a needle inserted through the needle passage defining means can reach the suction aperture by passing the perimetric edge of the plate for puncturing the cyst portion within the suction aperture of the body.

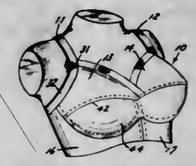
3,263,684
TRACHEOTOMY TUBE WITH ONE-WAY VALVE
Robert L. Bolton, Larson Air Force Base, Wash. (10425 W. North Ave., Milwaukee, Wis. 53226)
Filed Feb. 26, 1962, Ser. No. 175,685
5 Claims. (Cl. 128—351)



1. A surgical appliance for a patient comprising in combination: first and second axially extending tubular members, each of said members having a distal end and a proximal end, said first member having a first and a second annular flange integrally formed therewith adjacent said proximal end in spaced axial relationship to each other, said first and second flange coacting with a portion of said first member to define a groove substantially equal in width to the thickness of the patient's tracheal wall and adapted to receive and contain living trachea tissue therein, said first flange defining an annular surface adapted to engage an internal surface of the patient's trachea with minimal cilial irritation, said second flange defining an annular surface adapted to engage an external surface of the patient's trachea and coacting with said annular surface of said first flange to laterally contain the patient's trachea therebetween, said first member having radially extending securing means disposed adjacent said distal end thereof defining a surface adapted to engage an external surface of the patient's neck, said second member being telescopically inserted in said first member without said proximal end thereof penetrating the plane of said proximal end of said first member; and one-way inhalation valve means detachably secured to said first member with sufficient force to prevent the unintentional removal therefrom and coacting therewith to secure said second member in a fixed position relative thereto while permitting the ingree of air to and preventing the egree of air from said patient.

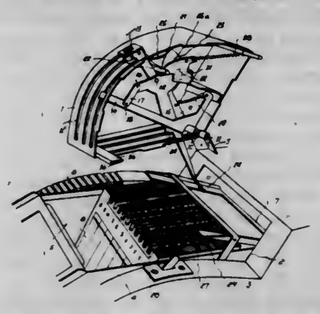
3,263,685
LIGHTWEIGHT BRASSIERE CONSTRUCTION
Isabel M. Bernfeld, Allendale, N.J., assignor to Lily of France, Inc., New York, N.Y.
Filed July 13, 1964, Ser. No. 381,984
2 Claims. (Cl. 128—489)

1. A lightweight brassiere comprising a pair of main body elements, said elements interconnected to form a body encircling band having a front and rear portion, said front and rear portions including upper and lower edges, the upper edge of the said rear portion forming a concave upwardly curved contour, a pair of bust cup elements interconnected to the upper edges of the said front portion of the body encircling band, said bust cup elements having an upper member and a lower member interconnected along a substantially horizontal line, said upper member being of inelastic material, said lower member being formed of material which is inelastic in a horizontal direction and of limited elasticity in a vertical direction, a pair of shoulder strap elements of elastic material folded longitudinally to form a two ply thickness, said two ply thickness being interconnected along a single longitudinal edge, said shoulder strap elements interconnected along the concave contour of the upper edges of the rear portion of the body encircling band and forming a continuous looped configuration having a rear



concave curved portion, a shoulder engaging portion and a front looped portion, said front looped portion interconnected to the upper member of the said bust cup elements and continuing through a lower looped portion to a point of interconnection with the rear curved portion, and an elongated non-elastic member interconnected within the said plies of elastic material along the said shoulder engaging portion so as to limit the resilient elongation thereof.

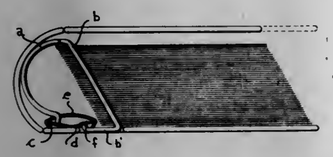
3,263,686
APPARATUS FOR SELECTING FILING CARDS
Mario Conde-Garriga, 617 Avda. Jose Antonio, Barcelona, Spain
Filed July 12, 1962, Ser. No. 209,427
5 Claims. (Cl. 129—16.1)



1. Apparatus for selecting filing cards comprising, in combination, a support; a compartment mounted on said support and having a front wall and a rear wall for holding a plurality of abutting index cards therebetween, said cards being respectively formed with a cutout defining in said plurality of abutting cards a groove and at least one of said cards having a portion extending transversely through said groove; and selector means mounted on said support above said compartment and including support means, actuator means mounted on said support means for movement from a rest position along an actuating stroke to an end position and back to said rest position, elongated card separator means mounted on said actuator means for movement therewith and for turning movement relative thereto, said card separator means having cam faces and a pointed lower end aligned with said groove, and control means mounted on said support means and including stationary means cooperating with said cam faces for causing said card separator means during movement of said actuator means along said actuating stroke to perform a composite movement so that said pointed end thereof moves first toward said front wall of said compartment to be located forwardly of said index cards to move then rearwardly through said groove

until it contacts said portion of said one index card, then downwardly along the surface of said one card facing said front wall, and finally forwardly to displace the cards located forwardly of said one card.

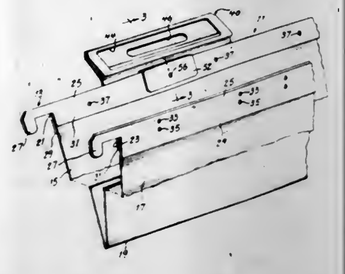
3,263,687
RING MECHANISM FOR LOOSE LEAF BINDERS
Willi Weichert, Friedhofstrasse 17, Lubbecke, Westphalia, Germany
Filed Oct. 9, 1964, Ser. No. 402,715
Claims priority, application Germany, Oct. 10, 1963, K 51,038
3 Claims. (Cl. 129—24)



1. In a ring mechanism for a loose leaf binder to be used with paper having ring holes spaced inwardly from an edge thereof to be pierced by a paper supporting post, the combination comprising at least one cover member, said cover member having a plurality of transverse grooves cut therein; a resilient cover rail secured to said cover member, said cover rail having turned side edges; a first and second carrier rail nested in side-by-side relationship between the turned side edges of said cover rail, the combined width of said carrier rail being greater than the distance between said side edges when said cover rail is unstressed whereby said carrier rail may be moved between two over-center positions; a plurality of cooperating paired ring elements, said paired ring elements being positioned adjacent to said cover member grooves, one of said paired ring elements being secured to said first carrier rail, the other of said paired ring elements being secured to said second carrier rail, one of said paired ring elements rising upwardly from its carrier rail through an aperture cut in said cover rail, the other of said paired ring elements descending from its carrier rail in a first direction to a point within the plane of said adjacent cover member groove, said other paired ring element then moving in a second direction within the plane of said cover member groove to a position beyond the cover rail, said position being at a distance from said cover rail at least equal to the distance between the ring holes and the edge of the secured paper nearest the ring holes, said other paired ring element then moving in a third direction out of the plane of said cover member groove to provide the paper securing posts, and to join said paired ring elements at a mutual juncture, said third direction being such that the paper securing post is spaced sufficiently from said cover rail such that papers secured thereon will not engage said cover rail and thus will lie in a single plane along their entire surface and all available space along said paper securing post will be utilized to secure paper.

3,263,688
FILING MEANS
Walter G. Anders, Tonawanda, N.Y., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 2, 1963, Ser. No. 327,434
2 Claims. (Cl. 129—16.7)

1. Filing means comprising in combination, a sheet of material having an upper edge portion, a reinforcement member for said upper edge portion including a pair of parallel disposed first and second vertical legs straddling and extending commensurate with said upper edge portion, a pair of parallel rows of horizontally aligned depressions formed in the first leg of the reinforcement member with each pair of adjacent depressions of said parallel rows arranged in vertical alignment, a single row of depressions formed in the second leg of the reinforcement member with each depression in said single row being associated with a pair of vertically aligned depressions on said first leg of the reinforcement member and intermediate the upper and lower depressions of said pair of vertically aligned depressions, an index tab including a plate member having a substantially upright portion having a folded over marginal portion for carrying indexing information therein, said plate member having a pair of spaced lower and parallel resilient vertical legs formed integrally with and depending from said upright portion and straddling said reinforcement member for sliding relationship therewith, the associated legs of said index tab

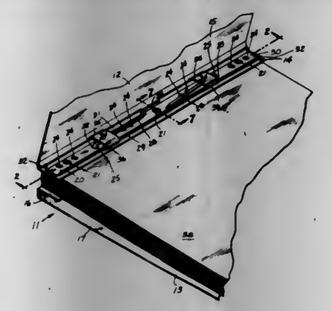


and said reinforcement member having their adjacent surfaces in sliding contact with each other, one of said legs of the index tab being struck out of the other leg of the plate member, said one leg of the index tab having an upper portion extending at right angles to the other leg of the index tab and in sliding contact with the upper edge of said reinforcement member, an inturned lower edge portion of the other leg of said index tab being in engagement with a bottom edge portion of the first leg of the reinforcement member to prevent movement of said index tab in a direction toward the upright portion of the index tab, and a single projection formed on said one leg of the index tab for engaging one of said depressions on the second leg of the reinforcement member to provide for selective and positive positioning of said index tab along the upper edge of said sheet of material.

3,263,689
POST BINDER AND COMPRESSION MECHANISM THEREFOR
Robert F. Lindgren, Aurora, Frank J. Malcik, Chicago, and Edward W. Whittemore, Elmhurst, Ill., assignors to United States Tabulating Binder Corp., Chicago, Ill., a corporation of Illinois
Filed May 25, 1964, Ser. No. 369,875
1 Claim. (Cl. 129—25)

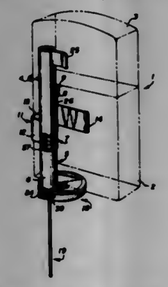
A compression mechanism for post binders comprising a longitudinal channel member having a substantially flat base provided with a pair of spaced openings therewithin each accommodating a flexible post member, a pair of laterally spaced outwardly extending obtusely angularly disposed upstanding rails disposed along said base, each of said rails having outwardly projecting end portions; an inwardly extending laterally disposed indented portion centrally located intermediate said end portions upon one of said rails, said indented portion being substantially perpendicular to said base; a pair of normally spaced compressors slidably movable along said rails each having

transversely spaced acute angularly disposed side portions overlying said rails and normally retained thereupon, each of said compressors being no greater in length than said



indented portion and being removable from said rails when said indented portion and a side portion of the respective compressor are in juxtaposition.

3,263,690
PIPE SMOKING APPARATUS
William W. Buckley, Palo Alto, Calif. (1906 E. 19th St., Santa Ana, Calif.)
Filed Aug. 5, 1964, Ser. No. 387,642
8 Claims. (Cl. 131—243)



3. Pipe smoking apparatus for use with lighters, said apparatus comprising a tubular guide member, a plunger slidably guided in said guide member, a tobacco tamper attached to said plunger outside said guide member, an operating tab attached to said plunger and extending through an elongated slot in said guide member, attachment means connected to said tubular guide member for attaching the guide member to a lighter, said attachment means comprising a hook member extending along said guide member, and a U-shaped member arranged with the plane of the U normal to said guide member.

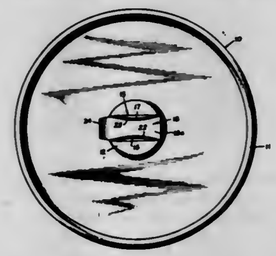
3,263,691
CIGARETTE HOLDER ASSEMBLY
Joseph J. Dorrance, 4251 Irving Park Road, Chicago, Ill.
Filed Jan. 22, 1964, Ser. No. 341,476
10 Claims. (Cl. 131—257)

10. For use in a cigarette holder defining an open ended channel of generally dovetail cross-section,

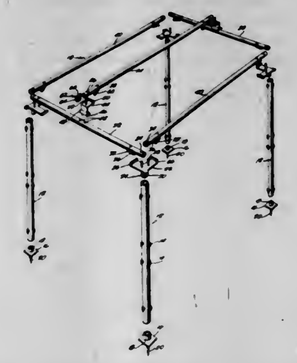
a liner comprising a base portion of a width to be received slidably in said channel; and

flexibly resiliently bendable opposite side wall flange portions on said base portion normally of a spread-apart relationship preventing insertion of the liner into the channel but compressible toward one another into a clearance relationship with respect to the space within said channel to enable insertion of the liner into the channel by endwise sliding assembly movement;

said side wall flange portions resiliently spreading apart after release from the compressed relation for resiliently biased thrusting frictional grip of liner-opposing surfaces within the channel, each of said side wall portions being of a maximum width centrally of its length, said maximum width being less than the diameter of a conventional cigarette, and each of said side wall flange portions tapering to less width toward each opposite end thereof.

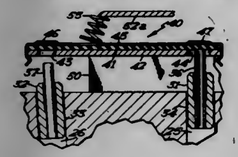


3,263,692
TENT
Charles Questi, 406 Old Hill Road, Aberdeen, Wash.; Jerry T. Kadlec, 7325 N. Smith, Portland 3, Oreg.; and Walter Edward Allen, 1035 SE. Rhone, Portland 2, Oreg.
Filed May 1, 1964, Ser. No. 364,131
3 Claims. (Cl. 135—3)



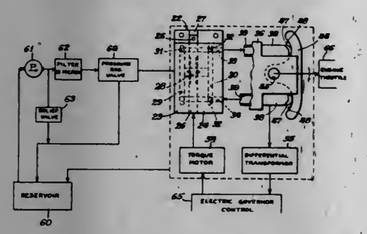
1. A tent frame for supporting a covering thereon comprising a plurality of corner posts, anchor means received in one end of each of said corner posts, a plurality of corner brackets each including a pin and an upturned flange thereon, said corner brackets each disposed for being engaged by the other end of a respective one of said corner posts, a plurality of space bars disposed between respective corner brackets and each including a hole and a slot therein for receiving said pin and upturned flange respectively, a pair of tie beams, a pitch bracket secured to each of the centers of a respective tie beam and including a pin and flange thereon, and a ridge pole disposed between each of said pitch brackets, each end of said ridge pole having a hole and a slot therein for engaging respectively a pin and an upturned flange, and a resilient clip member for engaging each end of said ridge pole to said pitch bracket adjacent thereto.

3,263,693
PILOT CONTROL VALVE AND METHOD OF MAKING SAME
Frederik J. Ages, Rolling Hills Estates, Calif., assignor to Honeywell Inc., a corporation of Delaware
Filed Dec. 31, 1964, Ser. No. 422,817
7 Claims. (Cl. 137—15)



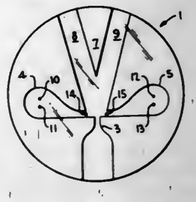
7. The method of making a pilot control valve of the type having a body with a chamber therein, a fluid nozzle in the chamber and a control member adapted to cooperate with the nozzle to control the flow of fluid therethrough comprising the steps of: forming a cylindrical opening in the body and extending from the chamber in a position adjacent the position of the control member; pressing a piece of relatively hard, thin-walled tubing with a small central opening therethrough into a hollow bushing formed of a relatively soft and deformable material so that a fluid-tight seal is obtained between the bushing and the tubing and so that an end portion of the tubing extends from one end of the bushing; and forcing said bushing into the opening in the body to accomplish a fluid-tight fit between the bushing and the body and to position said end portion of the tubing in the chamber to provide a fluid nozzle disposed in a position to be cooperable with the control member.

3,263,694
ELECTRO-HYDRAULIC ACTUATOR FOR PRIME MOVER CONTROL
Robert Rosencranz, Flossmoor, Ill., assignor, by mesne assignments, to Esterline Angus Instrument Company, Inc., Indianapolis, Ind., a corporation of Delaware
Filed June 11, 1963, Ser. No. 287,088
7 Claims. (Cl. 137—36)



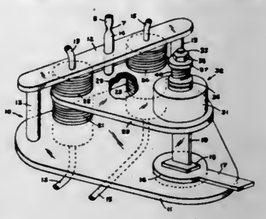
1. A actuator for controlling the speed of a prime mover comprising: a housing; a cylinder block mounted in said housing and having a pair of spaced apart parallel cylinders, a rocker arm pivotally mounted on said block and having a cam surface in the form of an involute curve, the pivot of said arm being spaced equally from said cylinders and said cam surface being positioned in alignment with said cylinders; a rotary four-way flat plate valve mounted in said housing and having discharge ports communicating with said cylinders; means for connecting said valve to a source of fluid; piston means actuable by said valve and including a piston reciprocally mounted in each cylinder, spring means urging each piston toward one cylinder end, a roller rotatably positioned at one end of each piston and engaging said rocker arm cam surface to pivot said rocker arm upon actuation of said valve; an output shaft on said rocker arm and positioned at a point substantially equally spaced between said cylinders; said shaft being adapted to be connected to the fuel supply of said prime mover to regulate the amount of fuel supplied to said prime mover; and means responsive to the speed of said prime mover for operating said valve.

3,263,695
ELECTRO-PNEUMATIC TRANSDUCER
Kenneth R. Scudder, Chevy Chase, Md., and Carl J. Campagnuolo and Leon B. Katchen, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Army
Filed Mar. 19, 1964, Ser. No. 353,305
6 Claims. (Cl. 137—81.5)



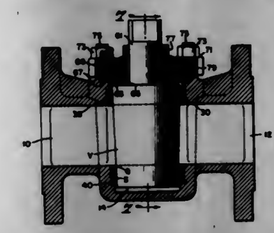
1. In a bistable fluid amplifier of the wall effect type having nozzle means connected to a source of fluid power for producing a power jet, means forming a pair of output passages for receiving said power jet, and means defining an interaction chamber interposed between said nozzle means and said output passages including a pair of boundary walls associated respectively with said output passages, improved control means for said amplifier comprising:
(a) means defining a pair of pockets associated respectively with said boundary walls each terminating in a control port of reduced dimensions adjacent said nozzle means,
(b) said ports providing fluid communication between said interaction chamber and said pockets, and
(c) means located in each of said pockets remote from said interaction chamber and said power jet for producing an electrical spark discharge operable to selectively switch said power jet from one of said output passages to the other.

3,263,696
MECHANICALLY ADJUSTABLE BALANCE PLATE ASSEMBLY
John W. Robins, Westwood, Mass., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Nov. 29, 1963, Ser. No. 326,942
21 Claims. (Cl. 137—86)



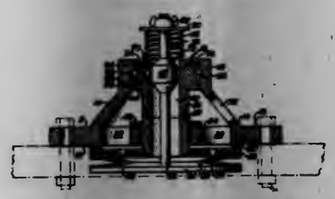
1. In a control device, a first member, a second member tiltable about an adjustably determinable axis for movement relative to the first member, a bendable element bendable most readily in response to forces applied thereto in one direction, said element rotatably engaging said second member for adjustably determining the said axis in accordance with the orientation of the element relative to the said member, and means cooperatively associated with the second member for applying tilting forces thereto to tiltably move the member about the said axis relative to the first member.

3,263,697
LINED PLUG VALVE
Charles L. Reed, Jr., and Russell G. Smith, Cincinnati, Ohio, assignors to Continental Manufacturing Company, Cincinnati, Ohio, a corporation of Ohio
Filed Apr. 26, 1961, Ser. No. 105,592
3 Claims. (Cl. 137—375)



1. A valve comprising a body member, a rotary valving member and a sealing member, each of said members including flow passages, means mounting said valving member for rotational movement and slight lateral movement relative to said body and sealing members to place the flow passages of said valving member in and out of communication with the flow passages of said body and sealing members, the flow passages of said body member including an axially extending continuation of the body member forming a continuous, circumferential lip projecting toward said valving member and terminating in a seating surface for said valving member, said sealing member comprising a Teflon sleeve encasing the valving member and interposed between said valving member and body member with the flow passages of said sleeve circumscribing the lips of said body member, said sleeve spacing the valving member from and maintaining it out of contact with the said seating surfaces of the lips of said body member, said valving member being laterally displaced by the pressure of fluid media being controlled, incident to dissipation of said sealing member, into contacting relationship with the said seating surfaces of the lips of the body member for precluding the accidental passage of fluid media through the valve when the sealing member is dissipated while the flow passages of the valving member are out of communication with the flow passages of the body member.

3,263,698
PRESSURE RELIEF VALVE
Gert K. A. Siggelin, 600 River Tower Drive, Alexandria, Va.
Filed Apr. 16, 1963, Ser. No. 273,325
7 Claims. (Cl. 137—467)



1. A pressure relief valve for limiting the pressure differential across the wall of an enclosure comprising a valve body, a valve port in said body, a bellows expandable port closure disc upon said port and a valve stem fastened to said bellows and supporting said disc for reciprocation between open and port closure positions, a groove in said valve body, a horizontal latching pin mounted to reciprocate radially of said port with an outer latching fitting within said groove for latching said disc and stem in port closure position of said disc, a shoulder upon said valve stem bearing against an opposite inner end of said latching pin retaining said pin in latched position in said groove, and adjustable resilient means biasing said stem and disc into port closure position with said valve stem shoulder securing said latching pin in latched position, said resilient means being expandable by differential pressure on said disc and bellows across said port to resiliently lower said stem and shoulder, to release said latching pin for radial reciprocation from latched position to release and lower said disc from its port closure position.

3,263,699
CRANKCASE VENTILATION CONTROL MEANS
John D. Givler, Naperville, Ill., William I. Barnes, Royal Oak, Mich., and Bernard E. Wasisco, Elmhurst, Ill., assignors to Standard Screw Company, Bellwood, Ill., a corporation of New Jersey
Filed Nov. 26, 1963, Ser. No. 326,279
9 Claims. (Cl. 137—480)

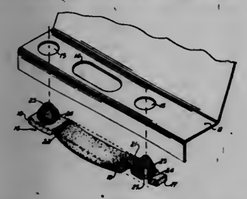


7. A flow metering valve adapted for use in an automotive crankcase ventilation system comprising a valve housing having an inlet end and an outlet end, a metering orifice of a uniform diameter disposed within the housing intermediate the ends thereof, a spring loaded metering plunger disposed in said housing, said plunger having a body portion of a lesser diameter than said metering orifice, being movable towards and away from said outlet end in response to changes in pressure in said ventilation system, and being supported by a compression spring having a plurality of coils, one of said coils engaging a portion of said plunger to urge said plunger against a wall portion of said orifice so that portions of said plunger along its length ride against said wall portion in all operative positions of said plunger to dampen oscillations of the plunger, the side of said plunger opposite from the side riding against said wall portion being spaced from all wall portions of the orifice to permit fluid flow through said space.

3,263,700
SEALING MEANS FOR A DRAIN OPENING
Thomas J. Toland, Flat Rock, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed May 31, 1963, Ser. No. 284,578
7 Claims. (Cl. 137—525)

1. A sealing means in combination with a flat wall of a troughlike structure with a drain hole in said wall, said means comprising a flexible valve portion and at least one bowed mounting portion adjoining an edge of said flexible valve portion, said flexible valve portion adapted to overlap the wall surfaces adjacent the edges of said drain hole, said bowed mounting portion being straightened when said sealing device is mounted on said wall thereby causing pressure to be exerted on said edge of the flexible valve portion to normally maintain the valve portion in a flush

relationship with the wall surface adjacent the edges of said drain hole to maintain the latter closed against entry of foreign matter into said troughlike structure from the exterior thereof, said flexible valve portion being adapted



to be flexed away from the wall surfaces adjacent the edges of said drain hole in response to pressure thereagainst exerted from the interior of said troughlike structure.

3,263,701
VALVE STRUCTURE
Eldon A. Johnson, deceased, late of St. Louis County, Mo., by Dolores Johnson, administratrix, St. Louis County, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Original application Nov. 26, 1962, Ser. No. 239,898, now Patent No. 3,182,601, dated May 11, 1965. Divided and this application Jan. 11, 1965, Ser. No. 424,862
1 Claim. (Cl. 137—533.17)



For use in a pump having an elongated valve chamber with opposed port openings including a port having a peripheral stop and an opposite port having an annular valve seat,

(A) a plastic valve assembly received in said elongated chamber for limited reciprocable movement therein including:

(1) a resilient disc having opposed surfaces,

(2) a central aperture formed through said disc, and

(3) a rim at the peripheral edge of said opposed surfaces,

(4) a valve member including an elongated valve stem having a flat body portion and an integral conical head having a maximum diameter slightly greater than the central aperture in said disc,

(5) a cylindrical section inward of and adjacent said conical head having a diameter less than said head maximum diameter, and extending coaxially from said head thereby forming a peripheral annular step,

(6) shoulders extending outwardly at diametrically opposite sides of said valve member and at the juncture of said cylindrical section and said flat body portion, said shoulders being spaced longitudinally from said step,

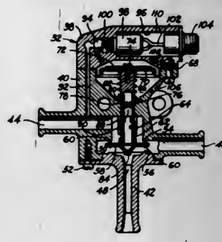
(7) an elongated slot formed in said flat body and opening at the opposite end thereof remote from said conical head, thereby defining a pair of spaced apart legs,

(8) a lateral projection formed at each outer end of each of said respective legs and extending outwardly thereof,

(9) said disc being received on said valve stem, having its central aperture in registry with said cylindrical section of said stem, whereby opposed surfaces of said disc are in abutment with said step and said shoulder to position said disc on said valve stem,

(10) said valve stem being slidably guided in said elongated valve chamber whereby said disc rim is in overlying relationship with said valve seat and said lateral projections formed at the outer surface of each respective leg, overlies the peripheral stop, thereby slidably retaining said valve assembly in said elongated valve chamber.

3,263,702
DE-ICER VALVE
Cecil V. Pullen and Frederick A. Kaiser, Utica, N.Y., assignors to The Bendix Corporation, Utica, N.Y., a corporation of Delaware
Filed Apr. 6, 1964, Ser. No. 357,583
6 Claims. (Cl. 137—625.64)

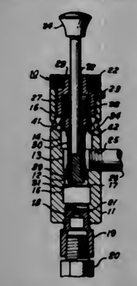


1. A de-icer valve assembly for controlling the distribution of pressurized air from a source to an inflatable de-icer boot comprising: a housing having walls defining a valve chamber, a pressurized air inlet port connected to said housing and fluidly connected to said valve chamber, an outlet port connected to said valve chamber and adapted to be connected to an inflatable de-icer boot, an exhaust port connected to said valve chamber, a movable poppet valve disposed in said valve chamber having first and second valve closure positions, said poppet valve member operative in said first closure position to block said inlet port and interconnect said outlet and exhaust ports, said poppet valve member operative in said second closure position to block said exhaust port and interconnect said inlet and outlet ports, resilient means operative to normally bias said poppet valve member in said first closure position, actuator means for moving said poppet valve member to said second position in response to an actuating control signal, forcing jet nozzle axially aligned with said exhaust port, and passage means fluidly interconnecting said inlet port and said forcing jet nozzle when said poppet valve member is in said first closure position to create a subatmospheric pressure in said exhaust port.

3,263,703
PLURAL VALVES WITH BALANCING CHAMBER
Rufus H. Musser, Graham, Tex. (Box 630, Terrell, Tex.)
Filed Sept. 3, 1963, Ser. No. 305,982
11 Claims. (Cl. 137—630.13)

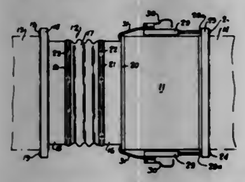
1. A valve including a body having a bore, an inlet for fluid under pressure at one end portion of the bore, an outlet at the opposite end portion of said bore, said bore having a delivery opening between and communicating with the inlet and outlet, a valve member reciprocable in said bore between the delivery opening and inlet, a tubular valve element reciprocable in said bore downstream of the valve member into and out of sealing engagement therewith and extending upstream and downstream of said delivery opening for movement between a first position establishing communication between the outlet and delivery opening while preventing communication between said inlet and opening and a second position establishing communication between said opening and inlet while preventing communication between said inlet

and outlet, means for urging said valve element upstream to its second position to prevent flow from said delivery opening to said outlet and into engagement with said valve member to prevent flow through said element, said valve element being movable downstream by the pressure fluid to its first position to premit flow from said opening to said outlet, said valve member being movable downstream with said valve element by the pressure fluid to said first position to prevent flow from said inlet to said opening in



coaction with said element, and means extending from said valve member to the exterior of the body to permit manual upstream movement of said member and disengagement thereof from said valve element to permit the flow of pressure fluid from said inlet to said outlet through said element to equalize the pressures upstream and downstream of said element and permit upstream movement thereof by the urging means to its second position and reengagement with said member to direct the flow of fluid from said inlet to said opening.

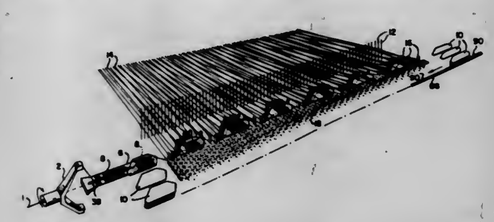
3,263,704
COLLAPSIBLE SUPPORT DUCT FOR REMOVABLE ELEMENT
Gerald F. Boisjoly, Montreal, Quebec, Canada, assignor to Farr Company Ltd., Montreal, Quebec, Canada
Filed July 16, 1964, Ser. No. 383,030
9 Claims. (Cl. 138—42)



1. In an air conditioning system or like installation, duct means having two fixed spaced apart transverse duct faces, a filter element removably positioned against one of said duct faces, a collapsible duct portion positioned between the other of said duct faces and said filter element and securely attached to said other duct face, and releasable clamp means adapted to clamp said filter element to said collapsible duct portion and to said first mentioned duct face, said collapsible duct portion adapted to collapse to provide axial clearance for the removal of said filter element when said clamp means is released.

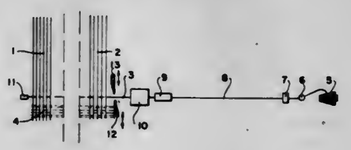
3,263,705
WEAVING METHOD AND LOOM
Rudolf H. Rossmann, Zugspitzstrasse 48, Gauting, near Munich, Germany
Filed Nov. 23, 1962, Ser. No. 239,677
33 Claims. (Cl. 139—12)

32. A method of weaving including the step of pulling a weft thread off a stationary bobbin, placing the weft thread in windings lying one behind the other, introducing a group of such windings substantially corresponding to a length of a weft thread into a shuttle, separating an end of the weft thread which protrudes from a front end of the shuttle, retaining a trailing end of said group while causing travel of said shuttle through



the warp threads by applying a constant forwardly moving pressure to said shuttle throughout the travel thereof through said warp threads, and positioning said shuttle adjacent the fell during its movement through said warp threads.

3,263,706
PROCESS AND APPARATUS FOR THE MANUFACTURE OF FABRICS
Lambertus H. de Langen, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Feb. 8, 1962, Ser. No. 171,901
Claims priority, application Netherlands, Feb. 13, 1961, 261,181
2 Claims. (Cl. 139—116)

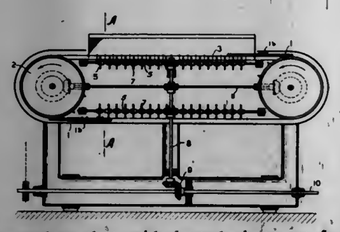


1. In a weaving process comprising the steps of forming a shed of warp threads for the reception of a weft thread, periodically feeding a section of weft thread from a supply package into the shed while simultaneously withdrawing an additional section from the supply package, and cutting said first mentioned section of weft thread from said additional section and from said supply package, the improvement which comprises the steps of twisting said first mentioned section of weft thread prior to feeding it into said warp shed, and maintaining twist in said first mentioned section during and after feeding into said warp shed, whereby a bulky woven textile fabric is produced.

3,263,707
DRIVE MEANS FOR A LOOM ELEMENT
Alois Kubelka and Václav Opatřil, Brno, and Karel Kubelka, Prague, Czechoslovakia, assignors to Elitex, Sdruzeni podniku textilniho strojirenstvi, Liberec, Czechoslovakia
Filed Mar. 9, 1964, Ser. No. 350,352
9 Claims. (Cl. 139—122)

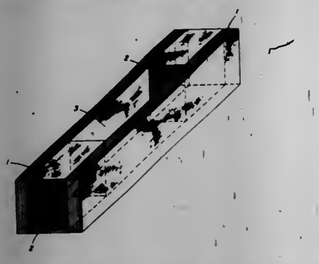
1. Weft carrier drive for a loom, comprising, in combination, a plurality of rotary drive members rotatable about an axis and spaced from each other along the same, each drive member being movable along a circular path; guide means extending parallel to said axis; and a flexible elongated weft carrier guided along said guide means for inserting a weft into a warp shed formed by the loom, said weft carrier having a plurality of abutment

faces spaced in the direction of said axis and slanted to the same, said abutment faces being located in the paths of movement of said rotary drive members and arranged



and constructed so that said slanted abutment faces are engaged in succession by said drive members whereby said weft carrier is driven along said guide means.

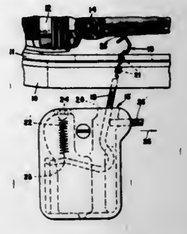
3,263,708
TEXTILE SHUTTLE BLANK
Horace Nathan Phelps, Cincinnati, Ohio, assignor to Formica Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Jan. 7, 1965, Ser. No. 423,944
2 Claims. (Cl. 139—196)



1. A textile shuttle blank having side members and end members having shoulder areas bonded into a unitary structure with a bobbin cavity having bobbin openings wherein said side members are synthetic thermosetting resin impregnated laminae and said shoulder areas are reinforced by a synthetic thermosetting resin impregnated layer of fabric rolled into the shape of a rod and flattened substantially into a rectangular figure in cross-sectional appearance, said rod having its longer axis in a plane parallel to substantially the center of the plane of the shuttle having the bobbin opening and the shorter axis of the flattened rod is perpendicular to the plane of the shuttle having the bobbin opening, wherein the side wall layers of the impregnated fabric in said flattened, rolled rod are substantially parallel to the side walls of the shuttle blank and wherein the top and bottom layers of the impregnated fabric in said flattened rolled rod are substantially parallel to the tops and bottoms, respectively, of the side walls of the shuttle blank.

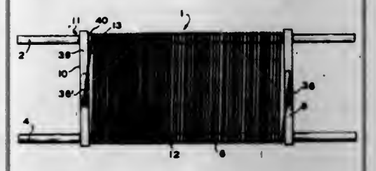
3,263,709
FILLING FEELER
George Cadorette, Hopedale, Mass., assignor to Draper Corporation, Hopedale, Mass., a corporation of Maine
Filed July 27, 1964, Ser. No. 385,207
2 Claims. (Cl. 139—281)

1. In a loom feeler mechanism having a feeler case with a slidable and pivotal stem member extending outwardly therefrom, a flexible feeler tip of flat metallic spring material having one end thereof affixed to the outer end of said stem, said tip being so disposed as to form a partial loop extending generally outwardly from said stem with the terminal portion thereof being directed angularly forwardly and generally toward said stem to form a bight portion outwardly of and adjacent said terminal portion, said bight portion being vertically disposed to provide



perpendicular line contact with a filling bobbin with which it is adapted to cooperate to detect the presence and absence of filling yarn thereon.

3,263,710
APPARATUS AND METHOD FOR FABRICATING FRAME GRIDS
John C. McGill, Utica, and Thomas H. Hoover and Lockery W. Heflin, Owensboro, Ky., assignors to General Electric Company, a corporation of New York
Original application Aug. 7, 1963, Ser. No. 300,556, now Patent No. 3,210,592, dated Dec. 7, 1965. Divided and this application June 23, 1965, Ser. No. 466,283
8 Claims. (Cl. 140—71.5)

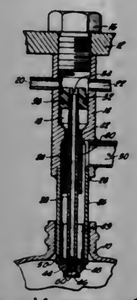


1. A method of fabricating a frame grid including a frame for supporting a lateral grid wire said frame having a first pair of spaced support members and a second pair of spaced support members transverse to said first pair of support members and attached thereto, comprising the steps of:
(a) bonding one end of said grid wire to one of said second support members at a point intermediate the ends thereof,
(b) winding said grid wire upon said first support members, and
(c) bonding the other end of said grid wire to the other of said second support members at a point intermediate the ends thereof.

3,263,711
RECEPTACLE FILLING APPARATUS
Herman Laub, 244 N. San Marino Ave., San Gabriel, Calif.
Filed Oct. 3, 1963, Ser. No. 313,548
13 Claims. (Cl. 141—40)

6. A device for filling a container with fluid comprising: a pair of hollow members, one within the other, the outer one of which has an end adapted to be inserted into a container to be filled, a piston in the outer member and secured on the inner member, a tip on said inner member for closing said above-mentioned end of the outer member, means for introducing fluid into said outer member between said piston and the above mentioned end of the outer member, a source of vacuum for withdrawing air from said outer member above said piston, and passage means providing communication between said

region above said piston and having a terminus in said container when said outer end is inserted in said container whereby fluid in said container may close said



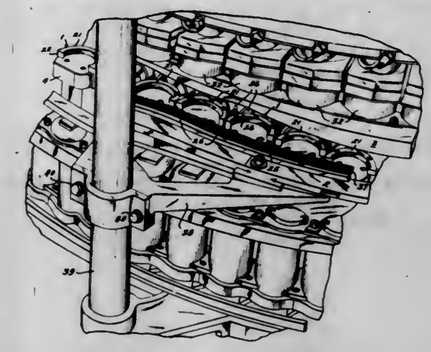
terminus to cause said source of vacuum to lower the pressure above said piston and thereby cause said piston to actuate said tip to close said end of said outer member.

3,263,712
BAG ACTUATED SWITCH MECHANISM FOR BAG FILLING MACHINE
Erwin M. Lau, Dolton, Ill., assignor to Black Products Co., Chicago, Ill., a corporation of Illinois
Filed June 10, 1963, Ser. No. 286,761
7 Claims. (Cl. 141—68)

1. A bag filling machine comprising a chamber, a bag filling spout communicating with said chamber and adapted to project into a bag to be filled, feeding means for causing material in said chamber to flow through said spout and into said bag, bag weight responsive means for rendering said feeding means inoperative when a predetermined amount of material has been fed into said bag, a bag clamp cooperating with said spout for clamping a bag in position on said spout, an operating circuit for controlling the operation of said feeding means and said bag clamp, said operating circuit including a starting relay for closing said circuit and a switch operated by said bag weight responsive means for opening said circuit, said starting relay including a start switch, switch closing means operable by the placing of a bag on said spout for closing said start switch and for causing operation of said bag clamp and said feeding means, and means for opening said start switch immediately after closing same.

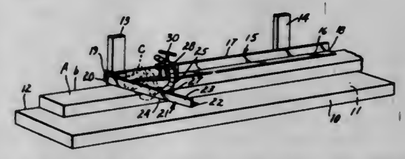
3,263,713
HIGH SPEED FILLING MACHINE FOR NON-MAGNETIC RIMLESS CONTAINERS AND INSERT THEREFOR
Fred J. Tarcza, Wood River, Ill., assignor to Anheuser-Busch, Incorporated, St. Louis, Mo., a corporation of Missouri
Filed Dec. 6, 1963, Ser. No. 328,602
8 Claims. (Cl. 141—165)

1. A high speed filling machine for cans having a plurality of fast moving platforms and a cam for causing said platforms to be lowered after said cans have been filled, each of said platforms having an upstanding flange with resilient means secured thereto, said resilient means extending circumferentially more than 180° around said platform and being adapted to receive the lower portion of a can, and stationary holding means positioned oppo-



site to said cam for applying sufficient force to retain said cans in said resilient means, said stationary holding means having a resilient face thereon for contacting said cans at their lower portion.

3,263,714
ANGLE SAW CUT GUIDE
Walter C. Martinson, 410 N. Prairie, Sioux Falls, S. Dak.
Filed Oct. 8, 1963, Ser. No. 314,698
1 Claim. (Cl. 143—6)

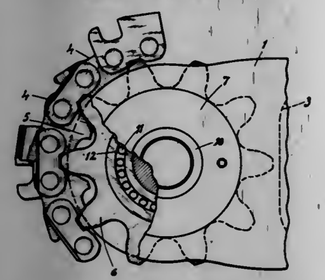


An angle guide for power-driven rotary handsaws designed for use on a horizontally disposed work table having upstanding stop means adjacent its rear longitudinal edge, said guide comprising:
(a) an elongated body including
(1) a horizontally disposed base adapted to slidably overlie a workpiece resting upon said work table, and
(2) an integral flange projecting upwardly from said base at right angles thereto for engagement with the stop means of a work table,
(b) an arm pivotally secured to one end of said body for swinging movements about a vertical axis towards and away from said body over the surface of said workpiece, said arm comprising
(1) a horizontally disposed base portion in a common plane with said base of said body and
(2) a vertically disposed guide-acting flange portion projecting upwardly from the outer longitudinal edge thereof,
(c) a horizontally disposed graduated segment carried by said arm in spaced relation to its pivotal connection to said body,
(d) the free end of said segment passing through an opening in the flange of said body, whereby to measure the angular relationship between the guide-acting flange of said arm and the flange of said body,
(e) means for locking said segment to said body at a given angular relationship of said arm with respect to said body, and

(f) means carried by the flange portion of said body and engageable with said stop means associated with said work table, limiting longitudinal movements of said body in one direction,

(g) the opposed side edges of the base portions of said body and said arm being tapered from said segment to the pivotal connections therebetween so as to facilitate maximum angular movements of said arm in the direction of said body.

3,263,715
SAW BARS FOR PORTABLE POWER DRIVEN CHAIN SAWS
Gunther Heinrich Wilhelm Dobbertin, 28, Ovra Oiskroksgatan, Goteborg, Sweden
Filed Jan. 23, 1964, Ser. No. 339,705
3 Claims. (Cl. 143—32)



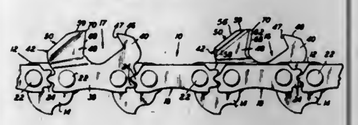
1. A saw bar for portable power driven chain saws and of the kind having a sprocket wheel at its free end around which a saw chain extends, a guide groove for the saw chain extending along the edge of the saw bar and said sprocket wheel having a thickness substantially corresponding to the width of the guide groove, said saw having spaced apart side plates at its free end provided with openings opposite one another, side members each being set in one of said side plate openings, said side members each having bevelled circumferential edges, said side plate openings each having edges defining said openings being bevelled in a manner corresponding to said side member bevelled circumferential edges which engage therewith, a member secured between said side members and providing an inner race, roller elements positioned on said inner race rotatably supporting the sprocket wheel, and said side members, the outer surfaces of which are in substantially the same plane as the outer surfaces of said side plates, surround an annular space which encloses said roller elements and the extension of which axially of the sprocket wheel, is larger than the width of the saw bar guide groove.

3,263,716
LUMBER REST TABLE AND MEASURING CONVEYOR TABLE COMBINATION FOR A CUT-OFF SAW
Archie L. Albers, Yuba City, Calif.
(6456 Larry Way, North Highlands, Calif. 95660)
Filed Feb. 3, 1964, Ser. No. 342,141
1 Claim. (Cl. 143—132)



A lumber measuring conveyor table and travelling saw cut-off combination comprising a carriage actuated cut-off saw means, a rest table, conveyor table means cooperating with said rest table, in spaced relation about said cut-off saw means, said conveyor table means including a conveyor belt and lumber measuring and abutting stop and guide means cooperating with designated sawed cut off lengths of lumber, said lumber measuring and guide means including a longitudinally extending angle iron member having a vertical leg and a horizontal leg extending parallel to and spaced above and transversely away from said conveyor belt, indicia on the upper surface of said horizontal leg of said angle iron member, a rod extending parallel to said angle iron above said horizontal leg and said indicia, a plurality of collars, slidably and swingably mounted on said rod, blades depending from said collars cooperating with said indicia and normally in the path of travel of lumber movable on said conveyor table to stop the lumber during sawing, and swingable about said rod to a position out of said path of travel to permit sawed lengths of lumber to drop from said horizontal leg onto said conveyor belt.

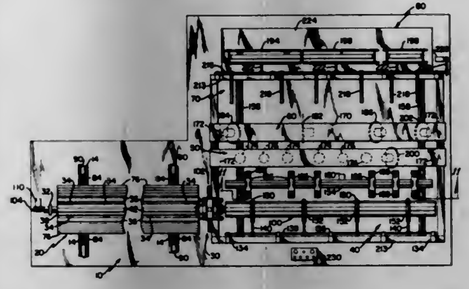
3,263,717
TOP SHARPENING SAW CHAIN
Kay Silvon, Portland, Oreg., assignor to Omark Industries, Inc., Portland, Oreg., a corporation of Oregon
Filed Sept. 23, 1963, Ser. No. 310,757
12 Claims. (Cl. 143—135)



1. A cutter link for a top sharpening chain comprising:
a cutter link body having means for pivotally connecting the cutter link to other links about forward and rearward pivotal axes,
an integral cutting element projecting outwardly from the rearward portion of the body,
said cutting element including a shank extending outwardly from the body and having a portion offset laterally with respect to the body and a top plate forming a continuation of the outer portion of the shank and bent laterally over the body and terminating on the side of the body opposite the shank and being joined to the shank by a curved portion forming a continuation of the shank,
said top plate extending longitudinally of the cutter link and being inclined forwardly and outwardly from the rearward end to the forward end of said top plate and having similarly inclined forward and rearward faces,
said top plate also having an outer surface at said forward end extending rearwardly and inwardly from said forward face to said rearward face providing a laterally extending forwardly directed kerf bottom cutting edge at the intersection of the outer surface and said forward face,
said shank having a forwardly directed kerf side cutting edge extending outwardly along the forward portion of said shank and intersecting the kerf bottom cutting edge and a sharp cutting corner,
and a depth gauge projecting outwardly from the forward end of said cutter link and having an outer edge surface extending outwardly and rearwardly from the front portion to the rear portion of the depth gauge,
said outer surfaces on the top plate and depth gauge being part of a cylindrical surface having an axis normal to the median plane of said body and in a plane normal to the line joining said pivotal axis and through said midpoint,
all portions of said outer surface on the depth gauge being positioned forwardly of said midpoint a greater distance than said cutting corner is positioned rearwardly of said midpoint,

said kerf side cutting edge being inclined inwardly and rearwardly from said cutting corner and said depth gauge having a rear edge inclined inwardly and forwardly from said outer edge surface.

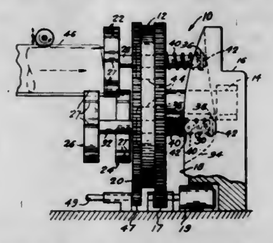
3,263,718
METHOD AND APPARATUS FOR MANUFACTURING DOOR FRAME COMPONENTS
Eldon W. Carmichael, 32 Bay Drive W., Huntington, Long Island, N.Y., and James C. Wright, Aurora, Colo.; said Wright assignor to said Carmichael
Filed Apr. 23, 1964, Ser. No. 361,972
23 Claims. (Cl. 144—3)



18. An automatic forming machine for sequentially and continuously forming finished, matched, door frame sections from unitized assemblies of appropriate moulding members, comprising: an elongate loading zone; an elongate machining zone; an elongate severing zone; and an elongate ejection zone; said machining and severing zones being closely adjacent and parallel; a supporting framework generally common to and coextensive with the latter two zones; a series of aligned and longitudinally spaced cutting tools supported by said framework and arranged to contact each assembly sequentially and for recesses therein for the reception of door hardware; a series of generally aligned and longitudinally spaced saws supported by said framework and arranged to contact each assembly sequentially and cut it into three sections of the proper length and with properly shaped ends to constitute two side sections and a head section of a complete door frame; an elongate framework at said loading zone spaced laterally from and extending generally parallel to said supporting framework; a loading rack extending along said loading zone; an elongate framework at said ejection zone spaced laterally in the opposite direction from said supporting framework and also extending generally parallel thereto; an accumulator rack extending along said ejection zone; guide tracks extending laterally between said loading zone and said ejection zone and passing through said other two zones; and a transfer carriage mounted on said guide tracks and movable therealong to accept an assembly at said loading zone and transfer it sequentially to each of the other zones.

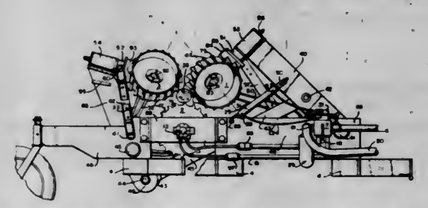
3,263,719
MULTI-HEADED WAFERIZER
Ronald Rouleau Alexander, Outremont, Quebec, Canada, assignor to Dominion Tar & Chemical Company, Limited, Montreal, Quebec, Canada
Filed Feb. 12, 1964, Ser. No. 344,307
12 Claims. (Cl. 144—176)

7. In a waferer, a drum, means to rotate said drum about a fixed axel, at least one wafering head mounted on said drum rotatable on an axis spaced radially from said fixed axel, means to rotate said head, a plurality of knives mounted on the periphery of said head, means to reciprocate said head axially toward and from one face of said drum, means to feed logs to be reduced longitudinally toward said face of said drum, said means to reciprocate said head being coordinated with said feed means to move said head toward said drum at the same



speed said log is advancing while said head is in engagement with said log, and to return said head to a position remote from said drum face during at least a portion of the remainder of the travel of said head with said drum.

3,263,720
LOG DEBARKER
George W. Brock, 10402 Kittrell St., Houston 34, Tex., and Hobart J. Merrifield, 608 Collins St., Ellisville, Tex.
Filed Sept. 11, 1963, Ser. No. 308,226
11 Claims. (Cl. 144—208)

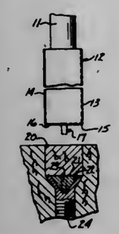


1. A single unit decorticating device comprising a plurality of rotary decorticating wheels positioned in inclined surrounding relation to an elongated object to be decorticated, said inclined wheels each being mounted at an angle to the major axis of said elongated object and being operative to rotate said object while decorticating said object, operator means for bodily moving at least a selected one of said wheels toward and away from the major axis of said object, means for automatically changing the angle of inclination of said selected wheel relative to the major axis of said object with changes in the bodily position of said selected wheel relative to the major axis of said object, and means for rotating a first one of said rotary wheels at a rate in excess of the rate of rotation of said object to be decorticated, and for rotating a second one of said rotary wheels at a rate less than the rate of rotation of said object to be decorticated, thereby to effect a differential between the peripheral velocity of said object and the peripheral velocities of each of said first and second wheels.

3,263,721
METHOD AND APPARATUS FOR REMOVING COUNTERBORE PLUGS
Eugene R. Ewaskowitz, 435 N. Hudson St., Sturgeon Bay, Wis.
Filed Oct. 18, 1963, Ser. No. 317,360
2 Claims. (Cl. 144—310)

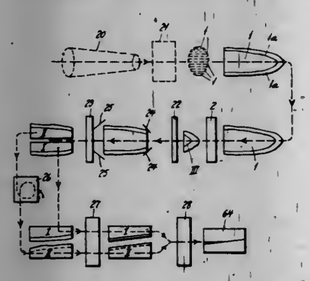
1. The method of removing a recessed slotted wood screw and superimposed plug from a counterbore of a wood structure with a blade type drill bit having a blade width slightly less than the diameter of the counterbore, a cutting end perpendicular to the bit axis and a central projection having a transverse dimension for entry in the

screw slot and a length less than the depth of the screw slot, said method comprising, placing the point of the rotating bit against the plug at the estimated center of the plug to form a shallow depression in the plug, drifting the point of the bit laterally as the cutting end approaches the plug to center the cutting end of the bit on the plug, aligning the axis of the blade with the axis of the plug, moving the blade and projection inwardly through the



plug to remove the same, continuing said inward movement of the blade until the cutting end lightly engages the head of the screw to bring the projection into the screw slot and remove solid material from the slot in response to rotation of the bit, subsequently radially ejecting additional solid material from the slot to condition the same for the reception of a screw driver and thereafter removing the screw with a screw driver.

3,263,722
PROCESS OF PRODUCING RECTANGULAR BOARDS FROM WANEY BOARDS
Jonas Waldemar Ask, Skogsvagen 10, Lahall, Sweden
Filed Oct. 10, 1963, Ser. No. 315,155
Claims priority, application Sweden, Oct. 19, 1962, 11,211/62
6 Claims. (Cl. 144—319)



1. A process for producing a rectangular board from a through-and-through sawed waney board having a flat root base, a lower surface of hyperbolic area, an upper surface of hyperbolic area less than said lower surface, an offcut top end, and two waney sides, said process comprising:

cutting a said waney board to a maximum trapezial area inscribed on said upper and lower surfaces with removal of the offcut top end;

dividing said waney board into two parts along a line perpendicular to said flat root base;

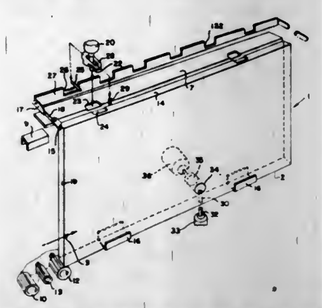
revolving one of said parts 180° about an axis parallel to said flat root base;

removing the wanes of said waney sides to form mating surfaces;

placing the divided parts with said mating surfaces in abutting relationship;

and joining the two parts to form a rectangular board.

3,263,723
MACHINE AND METHOD FOR PREPARING A DOOR AND DOOR FRAME FOR PREHANGING SUCH DOOR
Richard M. Sheffield and Robert N. Norlie, Chico, Calif., assignors to Norfield Manufacturing Co., Chico, Calif.
Filed July 22, 1963, Ser. No. 296,519
7 Claims. (Cl. 144—326)



1. The method of prehanging a door on the hinge-jamb of a door frame that includes the steps of:

(a) supporting the door to be hung on edge in a horizontally extending position with the butt-facing surface of its hinge-edge facing upwardly;

(b) stationarily supporting the hinge-jamb having a butt-facing surface and to which hinge jamb said door is to be hung in a horizontally extending position offset longitudinally of said door and parallel with said hinge-edge and with its butt-facing surface facing upwardly at substantially the same level as said butt-facing surface of said hinge-edge on said door and offset laterally of said door a distance substantially equal to the normal spacing between said butt-facing surfaces when connected by the butts of door hinges when the said butts are coplanar;

(c) moving said door longitudinally thereof to a position alongside said jamb and at the same time bevelling the longitudinally extending edge of said door that is opposite to said hinge edge according to the direction in which said door is to swing after being hung;

(d) then holding said door and said jamb stationary with their butt-facing upper surfaces coplanar and spaced apart a distance equal to the distance between the jamb and door after the door is hung and when the hinge butts are coplanar;

(e) then routing out recesses in said butt-facing upper surfaces for the hinge butts while said door and jamb are so held stationary relative to each other and finally, and while still holding said door and jamb stationary;

(f) securing said hinge butts in said recesses.

3,263,724
CONTAINER CAP FINISH AND CAP
Albert B. Mojonnier, Chicago, Ill., and Gilbert M. Schlussman, West Nyack, N.Y.; said Mojonnier assignor to Albert Mojonnier, Inc., a corporation of Illinois
Filed July 27, 1964, Ser. No. 385,185
6 Claims. (Cl. 150—.5)

1. In combination with a container having an integral spout formed of thin flexible plastic material,

a cap having a peripheral rim; a depressed mouth spanning portion offset below the peripheral rim; and an annular sealing wall connecting the mouth spanning portion to the peripheral rim;

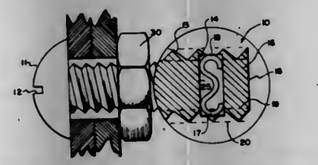
said spout having an annular outer wall and an inwardly extending rim at the upper end of the outer wall; the spout rim having a central opening therein

and a thin flexible ledge portion extending around the periphery of the opening and forming the free edge of the rim; said ledge portion being offset below the outer face of the spout rim a distance substantially less than the axial length of said sealing wall on the cap, said spout rim having an annular portion surrounding said ledge portion; said ledge portion extending angularly downwardly from said



annular portion and angularly related thereto and in gripping relation with the sealing wall of the cap; said annular portion extending downwardly and inwardly to said ledge portion when in an unstressed state, said central opening being dimensioned slightly smaller than the outer diameter on said sealing wall of said cap and said ledge portion being disposed generally perpendicular to the spout axis when in an unstressed state.

3,263,725
SCREW WITH COTTER PIN
Nat Epstein, 2 Foxhunt Lane, Lake Success, N.Y.
Filed July 2, 1964, Ser. No. 379,831
3 Claims. (Cl. 151—6)



1. A screw, comprising: a shank including external helical thread means defining thread root means and thread crest means, a first end, a second end, and a through opening having inner wall means transverse the longitudinal axis of said shank, said opening being between said ends of said screw; said opening containing a deformable insert, comprising a wire having a generally U-shaped medial bend spaced from the inner wall means of said opening, and generally U-shaped ends, each end comprising arm means and rounded bight means with said arm means of each U-shaped end in resilient engagement with opposite portions of the inner wall means of said opening and with the rounded bight means of each of the U-shaped ends extending beyond said thread root means and being radially inwardly of said threaded crest means; said screw being adapted to receive in threaded engagement at least one nut to be positioned between said opening and said first end.

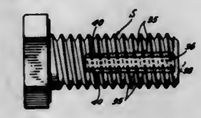
3,263,726
SELF-LOCKING FASTENER
Thomas L. McKay, Los Angeles, Calif., assignor to Long-Lok Corporation, Los Angeles, Calif., a corporation of California
Filed Feb. 12, 1964, Ser. No. 344,329
8 Claims. (Cl. 151—7)

2. A self-locking fastening assembly for cooperation with a complementary threaded element comprising:

a fastening member formed with a screw thread for engagement with the thread of the complementary element, said screw thread being a whole screw thread with no portion of the material missing; and

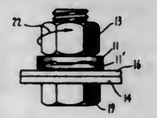
deformable resilient plastic material extending longitudinally of the fastening member wholly outside the root diameter of the screw thread,

with portions of the plastic material in the valleys of the turns of the screw thread and with portions of the crests of the successive turns of the screw thread defining a central longitudinal zone in which said portions of the crests of the turns of the screw thread penetrate the plastic material from the underside of the plastic material,



other portions of the crests of the turns of the screw thread in two additional longitudinal zones immediately adjacent the opposite sides of said central longitudinal zone being deformed with each deformation spread in opposite directions longitudinally of the screw with confronting portions of the deformations overhanging and distorting the resilient plastic material in each valley to retain the plastic material under pressure in the valley.

3,263,727
LOCK WASHER ARRANGEMENT
Arthur B. Herpolsheimer, 1240 Benedict Canyon Drive, Beverly Hills, Calif.
Filed Sept. 23, 1964, Ser. No. 398,574
1 Claim. (Cl. 151—34)

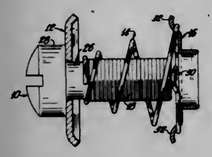


A lock fastener assembly comprising first and second joint elements having registering apertures therethrough, a bolt having a head engaging said first joint element and a threaded shank extending through said apertures, a pair of annular lock washers disposed about said shank of said bolt, and a nut threaded upon the free end of said shank, said lock washers each having a first face with a circumferential succession of alternate shallow depressions and complementary projections including interconnected inclined cam surfaces and substantially right angular stop shoulders and each having a second face with a plurality of circumferentially spaced radial teeth, said depressions each including a flat base and said projections each including a flat crest with said bases and crests being alternately connected by said inclined cam surfaces and stop shoulders, said depressions and projections of first faces of the respective washers being interengaged, said teeth of said second faces of said washers each having 30° and 60° oppositely inclined faces intersecting at a crowned cutting edge with the 30° face of the teeth being in the tightening direction of rotation, said crowned cutting edges being convexly curved in a radial direction to initially provide a point contact respectively with said nut and said second joint element, when said fastener assembly is tightened, said teeth respectively engaging said nut and said second joint element in non-slipping relation thereto, said cam surfaces each being inclined in the same direction as the threads on said shank and having an inclination angle greater than the thread lead angle of said bolt, said cam surfaces each having a rise just sufficient to hold said washers in interengagement with each other in response to working load loosening forces between said nut and bolt and insufficient to elongate said bolt beyond its yield point in response to over-riding of said cam surfaces.

3,263,728
CAPTIVE BOLT

William R. Lynch, Birmingham, Mich., assignor to Republic Industrial Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 20, 1964, Ser. No. 346,245
5 Claims. (Cl. 151—69)

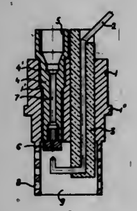


1. In a captive bolt system,
a bolt having a head and a threaded body with a reduced diameter shank between the head and body,
a washer movably mounted on said shank and having a hole of a diameter less than said thread major diameter,
a coil spring on said bolt over said threaded body and having an end embracing said shank,
said embracing end having an inside diameter greater than said shank but less than said threaded body,
said washer having a sufficient diameter to embrace said spring,
a retainer at the other end of said spring adjacent the free end of said threaded body,
said retainer being of annular configuration and having an inside diameter to allow passage of said bolt,
means on said retainer holding said retainer to said spring,
and said retainer having a tubular shank of an inside diameter to accommodate said bolt and an outer contour to be fitted into a receiving aperture for said bolt.

3,263,729
FUEL IGNITOR ARRANGEMENT FOR A HEATER

Zdeněk Fetter and Jaroslav Musil, Prague, Miroslav Kučera, Revnice, Bohus Pelikan, Jablonec nad Nisou, and Jaroslav Leimer, Zelezny Brod, Czechoslovakia, assignors to Vyzkumny ustav prislusenstvi motorovych vozidel, Prague, Czechoslovakia

Filed June 26, 1964, Ser. No. 386,807
7 Claims. (Cl. 158—28)

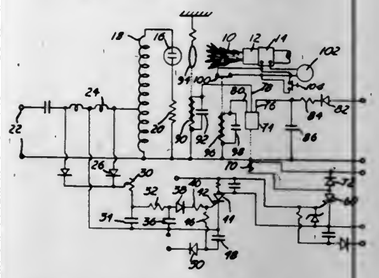


1. An ignitor unit for a fuel-burning heating apparatus comprising, in combination:
(a) a shell having an axis and being formed with an axially open cavity and with two bores passing through said shell in the direction of said axis, said bores being offset from the axis in opposite transverse directions and having respective terminal orifices axially communicating with said cavity;
(b) connecting means for connecting one of said bores with a source of fluid fuel;
(c) nozzle means in the orifice of said one bore for discharging a stream of said fuel into said cavity;
(d) an elongated conductor passing through the other bore, said conductor having an end portion in said cavity constituting an electrode and another end portion constituting a terminal;
(e) insulating means insulating said conductor from said nozzle means; and
(f) counter-electrode means mounted on said shell for passing a spark through the stream of fuel discharged from said nozzle means between said counter-electrode means and said electrode when an electric potential is applied to said counter-electrode means and said terminal.

3,263,730
CONTROL APPARATUS

Philip Giuffrida, North Andover, Mass., assignor to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts

Filed Sept. 4, 1964, Ser. No. 394,471
6 Claims. (Cl. 158—28)



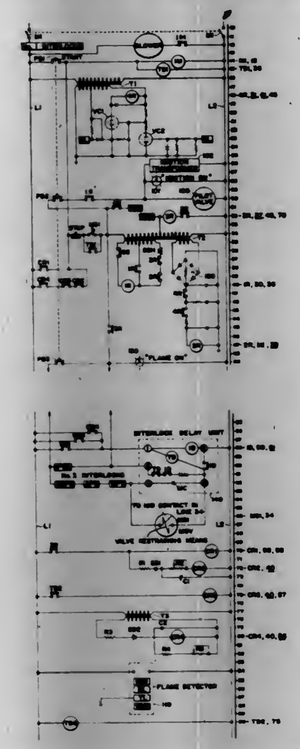
1. Condition responsive control apparatus comprising condition sensing means which produces an output signal in response to the sensing of the existence of a predetermined condition,
transient relay means having an input circuit and an output circuit closed upon an initial energization of said input circuit,
said transient relay means opening said output circuit a predetermined period after the application of an energizing signal to said input circuit independently of the continued application of said energizing signal to said input circuit,
a load and a condition absence simulator connected to said output circuit, said load and said simulator each including means for providing a cycle time of activation following deenergization of said output circuit,
said condition absence simulator having a cycle time that is a fraction of the cycle time of said load, and means to apply said sensing means output signals to the input circuit of said transient relay means such that said load and said condition absence simulator are energized simultaneously in response to the application of a signal to the input circuit of said transient relay means.

3,263,731
CONTROL APPARATUS FOR COMBUSTION EQUIPMENT

Ralph Hanna and James A. Huber, Toledo, Ohio, assignors to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio

Filed June 14, 1965, Ser. No. 463,501
19 Claims. (Cl. 158—28)

1. Control apparatus for combustion equipment or the like comprising main valve means for controlling fuel flow to a combustion chamber; means for restraining the opening of said main valve means; means responsive to a flame in said combustion chamber for producing a signal to disable said restraining means when a flame is present and for closing said main valve means when a flame is absent; starting sequence means including switching means and ignition means; said switching means being operable to connect a power supply means to said ignition means

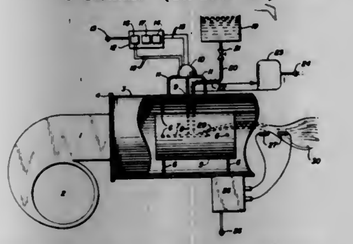


and said flame responsive means; and means responsive to failure of the power supply means for connecting an alternative signal to maintain said restraining means disabled for a predetermined period after failure of the power supply.

3,263,732
LOW FLOW LIQUID FUEL BURNER

Bernard J. Eisenkraft, 1043 E. 81st St., Brooklyn, N.Y. 11236

Filed Aug. 10, 1964, Ser. No. 388,508
5 Claims. (Cl. 158—77)

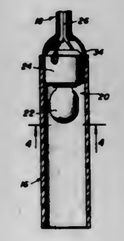


1. Liquid fuel burner apparatus comprising:
(a) a cylindrical housing,
(b) a spray concentrating cylinder mounted within said cylindrical housing, the longitudinal axes of said spray concentrating cylinder and said cylindrical housing being parallel to each other, the outer periphery of said spray concentrating cylinder being spaced inwardly of the inner periphery of said cylindrical housing,
(c) an elongated member mounted within said spray concentrating cylinder and adapted to be vibrated at a resonant flexural mode, the longitudinal axes of said member and said spray concentrating cylinder being parallel to each other,
(d) vibrating means to maintain said member vibrating at a resconant flexural mode,
(e) feed means to introduce liquid fuel to a face of said member whereby said liquid fuel is atomized,
(f) blower means mounted to one end of said cylindrical housing to pass a current of air through said cylindrical housing and through said spray concentrating cylinder and between said spray concentrating cylinder and said cylindrical housing, the current of air passing through said spray concentrating cylinder entraining atomized particles of said liquid fuel,
(g) ignition means adjacent the other end of said cylindrical housing in said current of air to ignite said atomized particles of liquid fuel.

3,263,733
PILOT LIGHT CAP

James C. Parr, P. O. Box 10141, Prichard, Ala.

Filed Nov. 1, 1963, Ser. No. 320,810
3 Claims. (Cl. 158—115)



1. In combination with a pilot light for a burner, a device for temporarily capping the pilot light during periods of non-use, said device comprising an elongated hollow cap, said cap including an open leading end receiving the pilot light therethrough when the pilot light is capped, the interior of said cap generally conforming to and snugly receiving the pilot light, means for selectively illuminating the leading end of said cap and the area forward thereof so as to assist in the positioning of the device, and handle means on said cap for use in the positioning and removal of the cap.

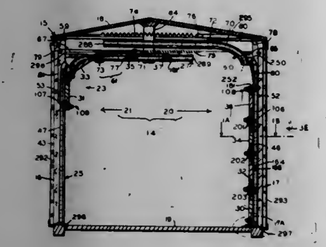
3,263,734
FREIGHT CAR GRAIN DOOR

Charles R. Lister, 4405 Cline Road, Amarillo, Tex.

Filed Aug. 17, 1964, Ser. No. 389,939
7 Claims. (Cl. 160—113)

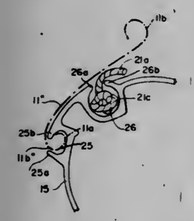
7. A grain door assembly comprising a movable door subassembly, a vertically extending track subassembly for holding said door subassembly in a vertical lowered position and a transversely extending track subassembly for holding said door subassembly in an elevated horizontal position; said movable door subassembly comprising a series of hingedly connected together horizontally extending rigid panels, a pair of front and rear outer rollers supported on and rotatably attached to the front and rear end of each said panels, said rollers each being rotatable about the same longitudinally extending axis, each front

and rear outer roller rotating in a zone exterior to the exterior surface of the panel to which attached and each said front and rear roller being longitudinally spaced inward from the front and rear end respectively of said panel, a pair of front and rear inner rollers rotatable about a common axis extending longitudinally of said panel and rotatably supported on each of said panels, each of said front and rear inner rollers rotating in a zone extending beyond the front and rear edges respectively of said panels, said panels each respectively extending forward of the forward edge of a forward frame member of a door opening and rearward of a rear frame member of that door opening and forming a grain tight sealing contact between the outer surface of each said panel and the inner surface of each said frame member; said vertically extending track subassembly comprising a vertically extending track attached to and supported by the front



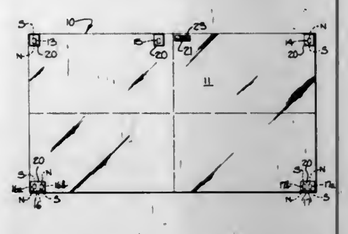
frame member of said wall opening and a vertically extending track attached to and supported by the rear frame member of said wall opening, said outer rollers of said movable door subassembly each fitting loosely in said vertical extending tracks in the lowered position of said movable door, said transversely extending track subassembly comprising a pair of transversely extending generally horizontal and parallel transverse front and rear tracks each supported adjacent to the ceiling of the car above the level of the top of said movable door subassembly when said door subassembly is in its lowered vertical position, said tracks being spaced apart the same distance as the rollers on the inner surface of the said movable door subassembly and in the same transverse plane as the plane of rotation of the inner rollers thereof.

3,263,735
ROLLER TUBE
Francis Vecchiarelli, River Edge, N.J., and Martin M. Vasas, Bridgeport, Conn., assignors, by mesne assignments, to Alcan Aluminum Corporation, New York, N.Y., a corporation of New York
Filed Apr. 22, 1964, Ser. No. 361,844
4 Claims. (Cl. 160—242)



1. A roll-up awning assembly, comprising, in combination, roller tube means, a plurality of elongated panel members forming said awning, an operating mechanism including an operating cord for rolling down said awning asesembly, wherein said tube means comprises an elongated substantially annular-shaped tube having the lowermost of said panel members operatively connected thereto; a first substantially C-shaped groove in the face of said tube parallel to the longitudinal axis thereof containing therein a knotted end of said operating cord, the lips of said C-shaped groove being adapted to engage said knot and retain the same within said C-shaped groove to control the rotation of said roller tube means; a second substantially C-shaped groove in the face of said tube parallel to the longitudinal axis thereof and circumferentially spaced from said first groove and receiving one end of the lowermost panel member adjacent said roller tube, means to pivotally secure said panel members to said roller tube; means for controlling the roll-up and roll-down operation; and an abutment within said tube adapted for driving engagement with roller rotating means within said tube.

3,263,736
PROTECTOR FOR VEHICLE WINDSHIELDS AND WINDOWS
Wistar Wright Macomson, Charlotte, N.C., assignor to Allied Plastics, Inc., Gastonia, N.C., a corporation of North Carolina
Filed Oct. 30, 1963, Ser. No. 320,038
2 Claims. (Cl. 160—368)



1. A protective cover for a windshield of a vehicle comprising

(a) an elongate, generally rectangular body of pliable, opaque, heat absorbent, plastic material of a thickness of about two (2) mils, said body being adapted to be positioned in overlying relation to the windshield of the vehicle and, when so positioned, having top and bottom edges,

(b) a permanent magnet disposed at each of the upper corners of said body in juxtaposed relation thereto, said magnets being positioned relative to each other so as to mutually attract each other when placed in juxtaposed facing relation when the body is folded transversely thereof in juxtaposed halves,

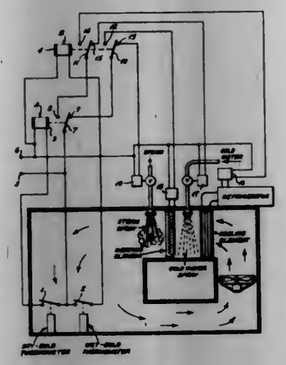
(c) a pair of permanent magnets disposed at each of the lower corners of said body in juxtaposed relation thereto, said magnets in each of said pairs being spaced a small predetermined distance apart to permit the lower corners of said body to conform to any curvature of the portion of a vehicle to which the same are to be attached, said magnets in each of said pairs being reversed so that corresponding poles thereof are oppositely directed, and said pairs of magnets being arranged relative to each other so as to mutually attract each other when placed in juxtaposed facing relation when said body is transversely folded,

(d) another permanent magnet disposed in a medial portion of and adjacent the top edge of said body,

(e) a patch of pliable plastic material of a greater thickness than said body and overlying each of said pairs of magnets and each of said individual magnets and being adhesively secured to said body on all sides of each of said magnets including said magnets in each of said pairs to maintain the positional arrangement of said magnets relative to each other and to said body and to reinforce the portions of said body at which the magnets are disposed, and

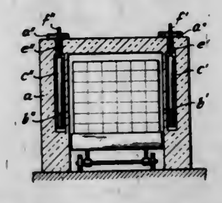
(f) visual indicating means carried by said body on the same face on which said magnets and patches are disposed and in a medial portion thereof and adjacent the top edge thereof for indicating to a user of said cover which side edge is the top edge and which face of the cover should be placed in contiguous relation to the vehicle to achieve maximum securement of the cover to the vehicle.

3,263,737
METHOD OF AUTOMATICALLY MAINTAINING THE CONDITION OF THE ATMOSPHERE WITHIN A ROOM
Ludwig Brümmendorf, Waxweiler, Eifel, Germany
Filed Nov. 29, 1963, Ser. No. 327,033
1 Claim. (Cl. 165—2)



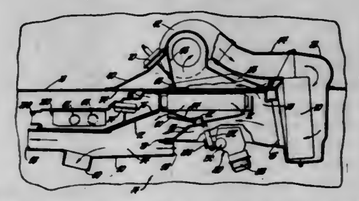
An air-conditioning apparatus for maintaining a desired condition of an atmosphere within an enclosure comprising a duct both ends of which are connected to said enclosure, impeller means in said duct for withdrawing air from the enclosure and recirculating the air back into said enclosure, a plurality of conditioning devices in said duct, a control circuit for each conditioning device, a dry-bulb thermometer and a wet-bulb thermometer within the enclosure, electrically settable switch contacts on said thermometers, an electric automatic switching circuit connecting said settable contacts to said control circuits which switching circuit responds to each combined state of the switch contacts on the thermometers to select for each condition only the one of the control circuits for energization thereby operating the appropriate one of said conditioning devices which varies the state of the recirculated air tending to restore the desired conditions of the enclosure atmosphere corresponding to the setting of the thermometer switches wherein the conditioning devices comprise a cooling element, a heating element, a cold-water spraying device, and a steam-spraying device, the automatic switching circuit including a first relay means whose coil is connected in series with the switch of the dry-bulb thermometer, and a second relay means whose coil is connected in series with the switch of the wet-bulb thermometer, the contacts of said relay means being respectively connected to the control circuits of the conditioning devices whereby the appropriate device is selected for energization to cause operation of the desired conditioning device.

3,263,738
PROCESS FOR CONTROLLING THE COOLING PROCESS IN A TUNNEL FURNACE
Peter Schwamborn, 12 Fürstenbergstrasse, Frechen-Bachem, Germany, Gottfried Cremer, 6 Steyrerweg, Junkersdorf, Germany, Heinz Behrens, 19 Am Weidenpesch, Junkersdorf, Germany, and Paul Schneider, 10 Neustadter Strasse, Oeslau, Germany
Filed Aug. 17, 1964, Ser. No. 390,136
Claims priority, application Germany, Aug. 29, 1963, F 40,617
7 Claims. (Cl. 165—2)



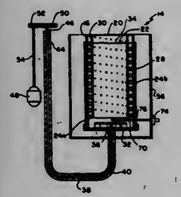
1. A process for controlling the cooling process in a tunnel furnace having a furnace channel defined by side walls, which channel is cooled indirectly by a plurality of laterally spaced rows of mutually independent cooling units arranged respectively close to said side walls, through which cooling units a fluid cooling medium flows, comprising moving selected units of one row independently of the other row in the longitudinal direction of the furnace channel behind screen means for the purpose of controlling the cooling process.

3,263,739
AUTOMOTIVE COMFORT CONTROL SYSTEM
George M. Gaskill and Thomas A. Prewitt, Kokomo, Ind., and William H. Kolbe, Birmingham, and Edward W. Yott, St. Clair Shores, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 8, 1963, Ser. No. 322,491
12 Claims. (Cl. 165—23)



1. An automotive comfort control system comprising a heater core, an evaporator core, duct work and dampers for selectively conducting air through said cores in series and solely through said evaporator core, one of said dampers being an air-mix damper for proportioning the air flow from said evaporator core through and around said heater core, a power control assembly linked to said air-mix damper to operate the latter, multiple control elements in said power assembly and operatively connected to control components of said system other than said air-mix damper, sensor means for detecting temperature conditions encountered by said system, a vacuum supply, vacuum control means influenced by said sensor means to vary the degree of vacuum available from said vacuum supply to gain a controlled vacuum, means for operating said power control assembly in accordance with said controlled vacuum, and a dash control assembly remote from said power control assembly but operatively connected to the latter and said various components of the system whereby an overriding manual control of a predetermined setting of the system may be effected.

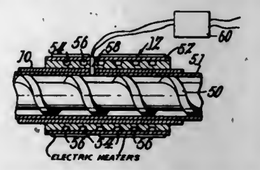
3,263,740
APPARATUS FOR MAINTAINING A TESTING FLUID AT A SELECTED TEMPERATURE
Ralph E. Bruce, 1032 Warwick Place, Dayton, Ohio
Filed Feb. 27, 1961, Ser. No. 91,985
7 Claims. (Cl. 165—26)



1. Apparatus for maintaining at a selected temperature a liquid for testing and calibrating instruments comprising in combination, a receptacle having a certain height and having an open top, liquid in said receptacle, a refrigerant conducting conduit in said receptacle adjacent to and overlying the inner surface of the wall of the receptacle, a vertically extending foraminous shield in the receptacle surrounded by said conduit, said shield being open at the top and at the bottom and enclosing an area into which an instrument may be introduced into the liquid for testing, the conduit and shield being spaced from the bottom of the receptacle, said coil being adapted to have a refrigerant circulated therethrough, a rotary impeller supported beneath said shield in the space between the shield and the bottom of the receptacle, said impeller being adapted when rotated in one direction to draw liquid down from said space through the bottom of the shield and impell it upward over said conduit between the shield and receptacle wall, electrical driving means for rotating said impeller, electrical heating means upon the outer side of the receptacle for heating the liquid, an electrical resistance sensing device extending into the receptacle to the approximate center thereof between the lower end of the foraminous shield and said impeller, electric circuitry having means for connection with a source of electric potential and having said heating means, said sensing means and said impeller driving means therein, other electric resistance heating means connected with said circuitry and positioned to heat the resistance sensing means when energized, means actuated by the sensing means for effecting actuation of the first said heating means and said other electrical resistance means when the temperature of the liquid falls below a predetermined temperature while said cooling means is functioning to prevent the temperature of said liquid rising above said predetermined temperature, whereby the temperature of said liquid is prevented from rising above said predetermined temperature an amount equal to said predetermined temperature.

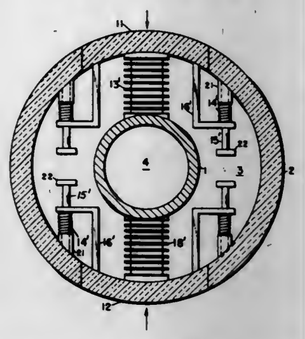
3,263,741
AUTOMATIC TEMPERATURE CONTROL SYSTEM FOR EXTRUDING MACHINES
John G. E. Williams, Islington, Ontario, Canada (% John Williams Machinery Ltd., Cooksville, Ontario, Canada)
Filed May 20, 1964, Ser. No. 368,798
4 Claims. (Cl. 165—39)

1. The combination with an extruding machine which includes a barrel, extruding mechanism therein, and heater elements on the barrel, of a cooling construction therefor wherein the cooling construction comprises a source of fluid coolant, a jacket about the barrel, means for introducing the coolant at each end of the jacket, means in the jacket providing passages leading the coolant about the barrel to the opposite ends thereof, and exit outlets at said opposite ends for the coolant after it has traversed the jacket relatively longitudinally with respect to said barrel from end-to-end of said jacket in opposite



directions, and means operatively connected with respect to said source to force the coolant through the jacket passages.

3,263,742
TEMPERATURE CONTROLLER FOR FLUIDS
Robert M. Rubin, Havertown, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed June 3, 1964, Ser. No. 372,188
7 Claims. (Cl. 165—39)

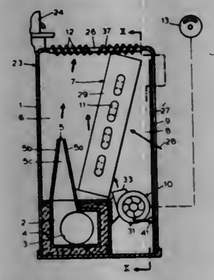


1. A temperature controller for fluid traveling through a heat-conducting pipe, comprising a hollow cylinder of heat-insulating material coaxially surrounding said pipe but spaced therefrom to leave a dead air space between said cylinder and said pipe, a portion of the wall of said cylinder being cut free from the body of said cylinder to form a pannel which is arranged for movement with respect to the body of said cylinder to bring said air space into direct communication with the ambient; and means responsive to the temperature of said fluid for causing movement of said panel.

3,263,743
AIR-CONDITIONING APPARATUS
Wilhelm Baumgarten, Neu-Isenburg, Germany, assignor to Alfred Teves Maschinen- und Armaturenfabrik Kommandit-Gesellschaft, Frankfurt am Main, Germany, a corporation of Germany
Filed Aug. 14, 1962, Ser. No. 216,927
Claims priority, application Germany, Oct. 11, 1961, T 20,935
4 Claims. (Cl. 165—40)

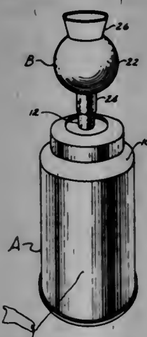
1. In an air-conditioning installation, in combination, a housing forming a plenum chamber having a top and a bottom; heat-exchanger means in said chamber subdividing it into a first compartment having a first inlet and an outlet spaced above said inlet and a second compartment communicating with said first compartment and having a second inlet remote from said first inlet; a quieting chamber in said housing and opening into said first compartment; a source of primary air communicating with said first compartment through said quieting chamber and discharging said primary air into said first compartment

through said first inlet under relatively high pressure and in the direction of said outlet, said first inlet being constituted as Venturi-nozzle means having a longitudinal array of orifices directly juxtaposed with said outlet and parallel to said heat-exchanger means for ejecting said primary air from said orifices to create a condition of lowered pressure in said first compartment, thereby inducing a flow of secondary air from the exterior into



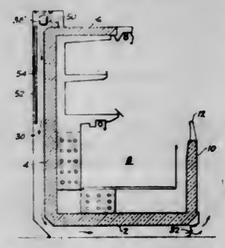
said housing through said second inlet and along a path toward said outlet; filter means at said housing disposed in said path; and blower means disposed in said second compartment below said inlets and along said path remote from said outlet for forced circulation of said secondary air through said heat-exchanger means into said first compartment and subsequent admixture therein with said primary air prior to the exit thereof through said outlet.

3,263,744
SHAVE CREAM HEATERS
Graeme J. MacKeown, Overland, Mo. (9702 Lyntown Court, St. Louis, Mo.)
Filed Mar. 8, 1965, Ser. No. 437,815
5 Claims. (Cl. 165—47)



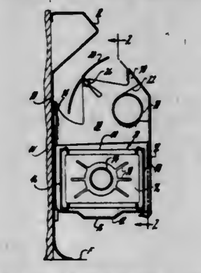
1. A heating device for use with a container provided with a post and adapted for emitting the contents of the container upon movement of the post, said heating device comprising a tubular neck portion, a hollow globe, an outwardly flaring mouth portion, said neck portion and mouth portion each being integrally connected to the globe to define a passageway through the neck portion into the globe and thereafter out of the mouth portion, attachment means integrally included in the neck portion for removable securing the device to the post, a first screen removably disposed in the passageway adjacent the juncture of the neck portion and the globe, a second screen removably disposed in the passageway adjacent the juncture of the mouth portion and the globe, heat exchange means disposed within the globe for altering the temperature of the contents of the can as said contents are urged through the globe, said heat exchange means being retained within the globe by the first and second screens, and means for selectively urging the contents of the can through the passageway, the screens and the heat exchange means.

3,263,745
OPEN-FRONT REFRIGERATED DISPLAY CASE
James Henry, Levittown, Pa., assignor to Emhart Corporation, a corporation of Connecticut
Filed June 13, 1963, Ser. No. 287,655
4 Claims. (Cl. 165—48)



2. In a refrigerated display case having a display space therein, said case having an insulated base, an insulated rear wall, a top, a lower front wall having the upper edge thereof spaced from said top and cooperating with said top to define a normally open access opening in the front of said display case, and means for refrigerating and circulating air within said display space, the combination of means for overcoming the effect of any spillage of refrigerated air from said access opening into the area in front of said case, comprising duct means for non-refrigerated air extending adjacent but on the exterior of said rear wall and base of the display case, said duct means having an inlet opening located adjacent the top of the case and an outlet opening located in front of the case beneath the upper edge of said lower front wall of the case, means for circulating air through said duct means to the area in front of said display case, and means for heating the air circulated through said duct means.

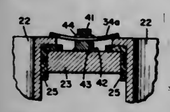
3,263,746
BASEBOARD-TYPE HEATING UNIT
Frederick W. Becher, Wethersfield, and Leon N. King, Thompsonville, Conn., assignors to Radiant Baseboard Panels, Inc., Newington, Conn., a corporation of Connecticut
Filed Mar. 10, 1964, Ser. No. 350,860
6 Claims. (Cl. 165—55)



1. A baseboard type heating unit comprising an elongated back panel adapted to be mounted on a wall, a plurality of hanger brackets secured to said back panel in longitudinally spaced apart relationship and having support portions projecting forwardly therefrom, a heating element including an elongated metal tube having a plurality of longitudinally spaced apart rectangular metal fins radiating therefrom, the said element being provided to extend between the hanger brackets and to rest on the support portions thereof, and each of the fins of the

heating element being provided with a pair of notches in its bottom edge and a pair in its top edge, as viewed with the element supported on the brackets, with each such notch adjacent to but nonetheless spaced from a side edge, and a pair of baffles of generally elongated rectangular shape having inturned longitudinal edges engaged in the notches on said fins whereby one such baffle is snapped into place at the front and another at the rear of the heating element to cover respectively the front and rear edges of the fins and the corners thereof, each said baffle having a longitudinally extending bead adjacent to each longitudinal edge thereof to provide bearing support for the heating element on the hanger brackets.

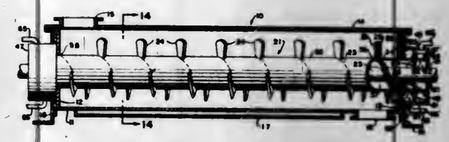
3,263,747
HEAT-EXCHANGE MEANS
Gordon McKay, Southampton, England, assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Apr. 21, 1965, Ser. No. 449,696
Claims priority, application Great Britain, Apr. 1, 1960, 11,629/60
4 Claims. (Cl. 165—76)



1. An improved heat exchanger for heating air with hot products of combustion containing corrosive gases near their dew-point comprising, in combination; a structure defining a first gas passageway for said hot combustion products, said structure including opposite wall portions, each having a plurality of apertures in substantial alignment with the apertures in the wall portion opposite thereto; a plurality of heat-and corrosion-resistant glass tubes extending transversely across said first gas passageway and through said apertures to thereby form a second passageway for the flow of gas to be heated in said heat exchanger, each of said glass tubes having a body portion of uniform outside diameter throughout its length, said diameter being substantially less than the diameter of said apertures to form an annular space therebetween and an annular end lip portion exterior of said first passageway and of outside diameter greater than the diameter of said apertures and of said body portion, and heat-resistant resilient gasket means mounted in the annular space between the tube body portion and the apertures to form a substantially gas-tight seal around each tube end while permitting relative longitudinal movement of the tubes with respect to the end plates, at least said gasket means at the lip end of said tube having an enlarged annular flange extending between the tube lip portion and the adjacent wall portion, and means exterior of said first passageway for holding the lip portion of each tube in fixed relationship with respect to the supporting adjacent wall portion while permitting relative longitudinal movement of the other end of said tube with respect to the other wall portion whereby upon release of said holding means said tubes may be readily withdrawn from said first gas passageway for cleaning and inspection.

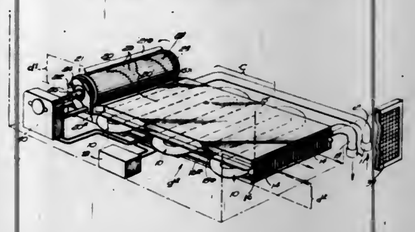
3,263,748
CONVEYOR HEAT EXCHANGER
Emile J. Jemal, Yonkers, N.Y., and Donald J. Drinkwater, Denver, Colo., assignors to Mine and Smelter Company, Denver, Colo., a corporation of Colorado
Filed Sept. 30, 1964, Ser. No. 400,501
13 Claims. (Cl. 165—87)

6. A hollow rotary conveyor heat exchanger device comprising an outer hollow shaft, an inner shaft mounted concentrically within said outer hollow shaft, thereby forming a cavity between said shafts, a plurality of hollow paddles radially mounted on the exterior surface of said outer hollow shaft and spaced circumferentially and longitudinally about the surface of said outer hollow shaft along a helical path, means between said outer and inner shafts dividing said cavity into a pair of noncommunicating helical fluid passages, one of said helical passages following along said helical path, openings through the wall of said outer shaft providing fluid communication between said one of said helical passages and each of said paddles, means within said one of said helical



passages for causing a primary heat exchange fluid flowing in said one of said helical passages to circulate through each of said paddles, means for conducting primary heat exchange fluid to one end of said one of said helical passages and removing the same from the other end thereof, means for conducting a secondary heat exchange fluid to and from the opposite ends of the other of said pair of helical passages and causing said secondary heat exchange fluid to flow in indirect heat exchange relationship with the primary heat exchange fluids in order to regulate the temperature of said primary heat exchange fluid.

3,263,749
COMPACT SPACE HEATING APPARATUS FOR USE WITH FORCED-FLOW FLUID-MEDIUM HEATING SYSTEMS AND METHOD
Herbert Spencer Dormitzer, Arlington, Mass., assignor to Beacon-Morris Corporation, Boston, Mass., a corporation of Massachusetts
Filed Mar. 6, 1964, Ser. No. 350,028
6 Claims. (Cl. 165—122)



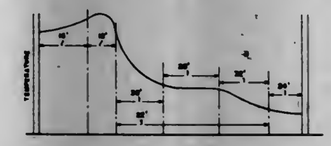
1. In the space heating of rooms wherein free-standing wall area is limited as by wall cabinets having restricted toe-space between the bottom thereof and the room floor, for use in conjunction with the fluid heating medium of an available forced-flow heating system, a compact air-flow circulatory heater unit comprising a continuous serpentine length of heat radiative fluid-heating-medium conduit tubing disposed in a common plane in a plurality of transverse straight runs connected by U-bends and having the ends connectible to the heating medium supply and return lines respectively.

a multiplicity of elongated heat-conductive sheet metal fins in closely spaced parallelism and extending perpendicularly to the transverse runs of the tubing and with the latter passed through the fins at mid-depth thereof and in intimate heat transfer contact with them said common plane extending longitudinally of said fins,

said tubing and fins together defining a rectangular core of maximum longitudinal extent corresponding to the fin length and of shallow oblong cross-sectional form with the fins defining the restricted depth thereof,

cover plates spanning the top and bottom longitudinal margins of said fins and defining the top and bottom of an elongated flat, rectangular output duct open only at the ends, a blower element comprising a shell having a scroll-like cross-section mounted at one open end of and extending the full width of said output duct; said shell having an inlet opening extending the full width of and facing in the direction of and above said core and an outlet opening proportioned similarly as and in closed communication with said one open end of said output duct; said shell interiorily formed for smooth, unimpeded passage of an air flow into the full cross-sectional width and depth of said core; a rotor of the diameter and length closely conforming to the like dimensions of said shell and mounted therein for rotation about an axis paralleling the width of said core; a plurality of vanes on the periphery of said rotor and constructed and arranged to draw cool air from above the upper cover plate into said blower element and then to accelerate said air to and through said output duct with said air passing between the fins of said core, thereby heating the air and propelling it into a positive uniform outflow of warm air in a direction opposite to that of the cool air intake; and a motor for driving said rotor at a rate to produce the desired static pressure and forced flow of said warm air.

3,263,750
IN SITU COMBUSTION METHOD FOR HIGH VISCOSITY PETROLEUM DEPOSITS
William C. Hardy, Richardson, Tex., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed May 23, 1963, Ser. No. 282,632
10 Claims. (Cl. 166—11)

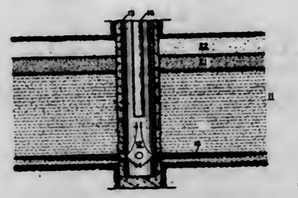


1. The method of production of hydrocarbon materials from a formation containing high viscosity, high boiling point petroleum hydrocarbon deposits, which formation is penetrated by at least two wells, comprising:

injecting through one of said wells into only a portion of said formation nearest that well low viscosity hydrocarbons having as major contents (a) hydrocarbons having a boiling range of approximately 350° F. to 650° F. at the operating elevated pressure of a condensation zone in contemplated later burning of the formation and (b) low viscosity hydrocarbons having a boiling range of approximately 100° F. to 350° F. at the operating elevated pressure of a condensation zone in contemplated later burning of the formation; and

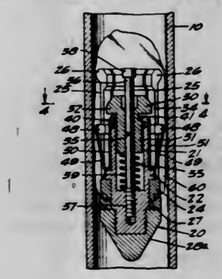
thereafter injecting into said well an oxygen-containing gas and supporting thereby combustion of carbonaceous material in said formation with continuous progression of the combustion towards the other of said wells and removal of products from the latter, said combustion being carried out under said elevated pressure conditions in the formation.

3,263,751
PROCESS FOR INCREASING OIL RECOVERY BY MISCIBLE DISPLACEMENT
Othar M. Kiel and Carroll F. Malinowsky, Tulsa, Okla., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Feb. 17, 1964, Ser. No. 345,256
7 Claims. (Cl. 166—42)



1. A process for the recovery of petroleum from a subsurface reservoir which comprises drilling a wellbore through substantially the entire oil-bearing zone, limiting communication between said zone and said wellbore to substantially the lower boundary level thereof, forming a highly conductive, horizontally oriented fracture at said level of communication, injecting through said fracture and into the reservoir a condensible gas, the liquid phase of which exhibits a substantial degree of miscibility with the reservoir oil, thereafter injecting a relatively non-condensible gas through said fracture and into the reservoir, the volume of said non-condensible gas being sufficient to raise the reservoir pressure at least 50 p.s.i. above the vapor pressure of the condensible gas, discontinuing injection of said non-condensible gas and thereafter producing oil from said reservoir through said fracture, with a controlled back pressure sufficient to permit the effects of gravity segregation to balance the tendency for the condensed layer of miscible liquid to finger through the reservoir oil.

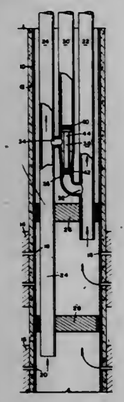
3,263,752
ACTUATING DEVICE FOR VALVES IN A WELL PIPE
Martin B. Conrad, 9326 Rives Ave., Downey, Calif.
Filed May 14, 1962, Ser. No. 194,513
7 Claims. (Cl. 166—154)



1. For use within a well pipe having a plurality of longitudinally spaced lateral ports therein each closed by a longitudinally movable cylindrical sleeve within the well pipe, the improvement comprising, in combination: a plug assembly adapted to move through the well pipe and to pass through at least one of the sleeves, said plug assembly having a body, a seal ring on the body for sliding contact with the interior of said sleeves, a series of movable parts on the body each having an element extending radially outward, an expander mounted for axial movement on said body between a retracted position in which each said element may move radially inward to permit passage through the interior of a sleeve, to an extended

position contacting said elements to prevent their movement radially inward, means on the body acting to move said expander toward extended position, latch means including interengaging parts on said body and said expander for retaining said expander in retracted position, and means on the body actuated by contact with a sleeve for releasing said latch means.

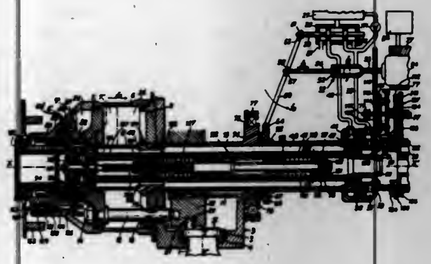
3,263,753
WELL COMPLETION METHOD AND SYSTEM
Charles B. Corley, Jr., New Orleans, La., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Nov. 20, 1963, Ser. No. 324,979
8 Claims. (Cl. 166—189)



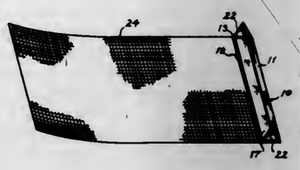
1. In a subsea well traversing a first producing subsurface formation and a second producing subsurface formation vertically separated from said first producing subsurface formation: a first tubing string extending to a point adjacent the upper producing subsurface formation; a second tubing string extending to a point adjacent the lower producing subsurface formation; upper packing means about the first tubing string and the second tubing string and above the upper producing subsurface formation; lower packing means about the second tubing string and between the upper and lower producing subsurface formations; a third tubing string; a first conduit interconnecting the first tubing string and the third tubing string; a second conduit interconnecting the second tubing string and the third tubing string; and means for directing the flow of fluid from the upper producing subsurface formation through one of said three tubing strings and directing the flow of fluid from the lower producing subsurface formation through a second of said three tubing strings, said means including a fluid pressure removable sealing and fluid directing member.

3,263,754
PRESSURE FLUID ACTUATOR SYSTEM
Pierre Alfred Belliere, Viroflay, France, assignor to Societe Anonyme dite: Ratier Figeac, Orly (Seine), France
Filed July 21, 1964, Ser. No. 384,121
Claims priority, application France, Mar. 5, 1964, 966,144, Patent 1,395,753
15 Claims. (Cl. 170—160.32)

10. A pressure-fluid control system for controlling the position of apparatus during rotation of said apparatus about an axis, comprising structure bodily rotatable with said apparatus about said axis; a pressure fluid actuator having cylinder and piston parts bodily rotatable with said structure about said axis and one of said parts being axially displaceable with respect to the other part along said axis; a relatively stationary pressure fluid source; a relatively stationary control valve connected to said source; fluid flow means connected to said valve and including rotating seal means for sealing connection with said rotatable actuator cylinder, whereby selective displacement of the control valve in one or the other direction will control the flow of fluid through said flow means to said actuator cylinder so as to displace said one actuator part in a corresponding direction relative to the other part; relatively stationary control mechanism connected to displace said control valve for commanding a desired setting of said one actuator part; a follower abutment bodily rotatable with said structure and axially displaceable relative thereto and abuttingly engageable with said one actuator part; and a drive connection from said control mechanism to said follower abutment including an output element rotatable to displace said abutment relative to said actuator parts and an input element bodily rotatable with said structure and differentially rotatable relative to said structure for rotating said output element and displacing said abutment, and differential gearing having a first input member rotated from said control mechanism, a second input member rotated from said structure and an output member connected for rotating said input element, whereby operation of the control mechanism to displace said valve and command a desired setting for said one actuator part will simultaneously impart differential rotation to said input element relative to said structure for displacing said follower abutment to a position corresponding with said desired setting, whereby to prevent substantial displacement of said one actuator part from said desired setting through engagement of said one part with the follower abutment.

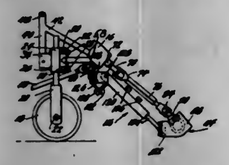


3,263,755
PEBBLE CATCHER
Harold L. Zink, 3345 Bardot Drive, Augusta, Ga.
Filed June 1, 1964, Ser. No. 371,397
5 Claims. (Cl. 171—63)



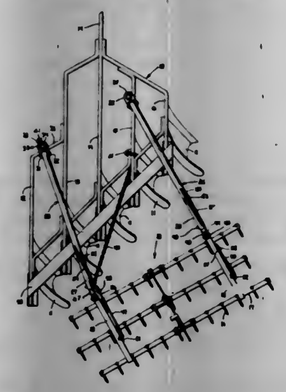
1. A pebble catcher for attachment to the trailing edge of a drag mat, including a triangular elongate receptacle having an open front defined by upper and lower flanges, a forwardly inclined rear wall, a flat horizontal ground engaging floor, and attaching hooks for securing said receptacle to the trailing edge of a drag mat secured to said lower flange and extending forwardly therefrom.

3,263,756
ROTARY TILLING DEVICE
Lloyd Q. Hines, Sr., P.O. Box 1098, Suffolk, Va.
Filed Aug. 24, 1964, Ser. No. 391,509
12 Claims. (Cl. 172—60)



1. A tilling device for cultivating crops grown in rows comprising a framework having ground contacting means for movement of said device over said crops, a central drive shaft arranged at right angles to the path of travel of said device, a plurality of elongated power take-off shafts located along said central drive shaft, and operatively connected thereto rearwardly thereof, and a corresponding plurality of rotary driven tilling implements, one each operatively connected to a respective power take-off shaft, first means adjacent said drive shaft for selectively directing each of said power take-off shafts radially and angularly with respect to the axis of said drive shaft, and second means adjacent the remote portion of said power take-off shafts for selectively directing each of said plurality of rotary driven tilling implements radially and angularly with respect to the axis of the corresponding power take-off shaft, said first and second means for selective direction being independently operable.

3,263,757
PLOW DRAWN HARROW HITCH
Paul G. Kaster, R.R. 2, Shelbyville, Ind.
Filed Apr. 19, 1965, Ser. No. 449,113
2 Claims. (Cl. 172—198)



1. A hitch between a front dirt moving unit and a rear tandem dirt conditioning unit, wherein the front unit has a frame including transversely extending members and the rear unit has forwardly and transversely extending members, which hitch comprises

a pair of draft members rising above and dropping downwardly, rearwardly on the front unit frame;

an approximately vertically disposed post for each of forward ends of said draft members and fixed to said front unit frame and spaced ahead of the rearmost of said transverse members of that unit;

means rockably securing said draft member front ends respectively to said posts;

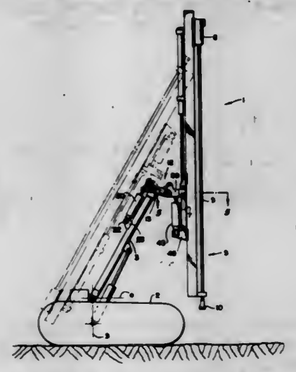
said means providing horizontal rotation of the draft members about said posts and also providing vertical travel of those draft member front ends up and down at the posts;

means vertically rockably attaching rear, lower ends of the draft members to the forward side of said second unit to be vertically supported by the forward side of that second unit;

pressure means yieldingly and hingedly interconnecting a rear portion of the second unit with each of said draft members at zones thereon spaced above the said forward side of the second unit and resisting upward rocking of the rear portion of that frame; and

means between one of said draft members and said first unit limiting lateral rotation of said draft members about said posts.

3,263,758
DRILL MOUNT CONNECTION
Alois A. Buehler, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 21, 1964, Ser. No. 346,518
12 Claims. (Cl. 173—43)



1. In a drill rig, the combination comprising:

(a) a drill member;

(b) a mount member;

(c) a crank pivoted to said mount member about a first axis and pivoted to said drill member about a second axis spaced from the first axis;

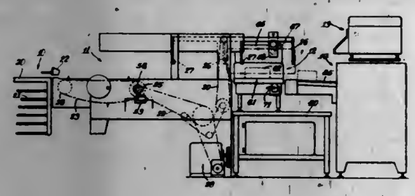
(d) power means connected between said crank and one of said members for rotating said crank through an arc of at least 90 degrees relative to said one member; and

(e) a link connected between both members and pivoted to both for forcing said crank to rotate relative to the other member through a substantial arc as it rotates relative to said one member 90 degrees.

3,263,759
PACKAGE WEIGHING AND CONVEYING SYSTEM
Bengt A. Arvidson, Villa Park, and Fritz F. Treiber, Niles, Ill., assignors, by mesne assignments, to Corley-Miller, Inc., a corporation of Ohio
Filed July 30, 1964, Ser. No. 386,331
7 Claims. (Cl. 177—52)

3. A package weighing and conveying mechanism comprising, a scale having a platform and a light which when energized indicates a package has made weight, a convey-

or for advancing a package off said platform and a succeeding package to said platform, means including a motor for intermittently cycling said conveyor, a motor control-



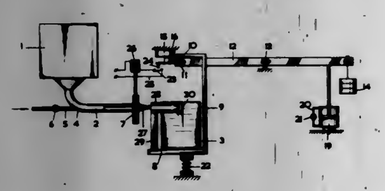
ling circuit including a limit switch openable in each conveyor cycle for opening the circuit, and a light responsive relay in parallel with said switch and responsive to said light to maintain the motor circuit closed.

3,263,760

WEIGHING MACHINE

Arnoud Waller, Rotterdam, Netherlands, assignor to Albatros Superfosfaatfabrieken N.V., a Dutch corporation

Filed Apr. 29, 1964, Ser. No. 363,493
2 Claims. (Cl. 177—60)



1. A weighing machine for automatically weighing given quantities of fluent material, which comprises a weighing mechanism

including a balance assembly having a swingable balance part;

a receptacle to which fluent material to be weighed can be fed which receptacle is supported on said balance assembly;

means for feeding such fluent material to said receptacle;

an abutment located in co-operative relation to said swingable balance part;

an adjustable damping member operatively associated with said swingable balance part; and

means controlled by said swingable balance part for interrupting flow of fluent material from said feeding means,

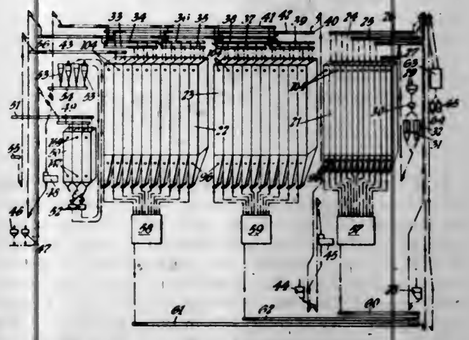
said weighing mechanism being characterized in that said swingable balance part swings with a swinging period (τ) such that the mass (Δm) which, assuming stationary equilibrium conditions, has to be added to the receptacle to bring said swingable balance part from the stationary equilibrium position in which it just fails to rest against said abutment to the stationary equilibrium position in which it operates the interrupting means, divided by said period (τ), is higher than six-tenths of the normal average filling rate (dm/dt) for which the weighing machine is designed, preferably close to nine-tenths of the said filling rate.

3,263,761

APPARATUS FOR DISPENSING PREDETERMINED WEIGHTS OF A PLURALITY OF DIFFERENT LIQUID OR GRANULAR MATERIALS

Campbell Dean Boadle, Caerleon, and David Warwick Lloyd Clamp, Guisborough, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England

Filed June 28, 1965, Ser. No. 467,575
Claims priority, application Great Britain, Mar. 16, 1962, 10,106/62
14 Claims. (Cl. 177—70)



9. Apparatus for dispensing predetermined weights of a plurality of different materials, comprising in combination a plurality of storage containers within which the different materials are stored respectively, a main container to which material from the storage containers can be fed, a plurality of discharge means controlling flow from the storage containers respectively to the main container, electrical weighing means for producing a first signal of magnitude dependent on the weight of material in the main container, a variable voltage source producing a second signal representing the required weight of a material, a difference amplifier to which said first signal and said second signal are applied, and electrical control means operable by the output from said difference amplifier for controlling opening and closing of the discharge means to successively feed different materials to the main container, said electrical control means automatically adjusting the setting of said variable voltage source after each material is delivered whereby at any time said second signal represents the sum of the weights of material delivered to the main container plus the required weight of the next material to be delivered to the main container.

3,263,762

LOAD WEIGHER INCORPORATED INTO HYDRAULIC SYSTEM OF VEHICLE WEIGHING DEVICE

Truman L. Langager, 522 N. Main, Osceola, Iowa, and Robert E. Frampton, 3100 34th Place, Des Moines, Iowa

Filed Mar. 11, 1964, Ser. No. 351,081
5 Claims. (Cl. 177—141)

1. In combination,

a vehicle having a frame and a cab,

a bed pivotally secured intermediate its length to said frame,

a hydraulic cylinder pivotally secured to said frame,

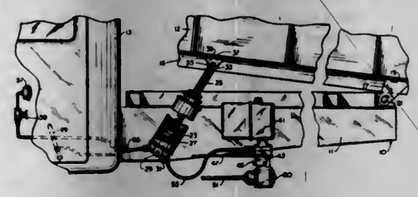
said hydraulic cylinder having an extendable piston rod secured to an interior piston, said piston rod being pivotally secured to said bed whereby its extension will raise said bed from said frame,

a hydraulic pressure responsive means in said cab,

a first conduit secured to said hydraulic cylinder at the base of said hydraulic cylinder and being hydraulically connected to said pressure responsive means in said cab,

a pump means for extending and retracting said piston rod,

a second conduit secured to said hydraulic cylinder at the base thereof and being connected to said pump means,



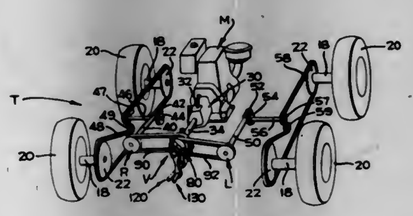
and a second pressure responsive means in said second conduit, each of said first and second pressure responsive means indicating the load carried by said bed when said hydraulic cylinder has raised said bed from said frame.

3,263,763

VARIABLE SPEED AND STEER CONTROL

William J. Adams, Jr., San Jose, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Jan. 24, 1964, Ser. No. 339,965
11 Claims. (Cl. 180—6.2)



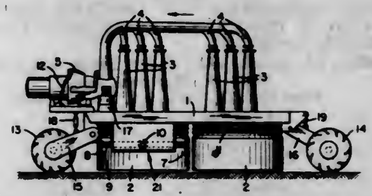
11. A driven wheel steered vehicle comprising a frame, an engine on said frame, a main variable speed drive unit having a housing mounted on said frame, a power shaft driven by said engine and extending into said housing, a dual belt pulley section fixed to said power shaft, opposed power transmission movable belt pulley sections keyed to and slidable along said power shaft and located on opposite sides of said dual pulley section, right and left power transmission belt follower units supported by said frame, a power transmission belt between said main unit and each follower unit, a control lever, a seat on said frame behind said control lever, means mounting said control lever on said vehicle frame for universal fore and aft and right and left motion, means for connecting said control lever to said opposed power transmission movable belt pulley sections for simultaneously moving said opposed pulley sections toward and away from each other when the control lever is rocked in the fore and aft directions, respectively, and means connecting said control lever to said opposed power transmission movable belt pulley sections for simultaneously shifting both of said opposed pulley sections along the shaft to move the pulley section for the right follower unit closer to, and the pulley section for the left follower section farther from, said dual fixed pulley section when the control lever is moved toward the right side of said frame, and vice versa when the control lever is moved toward the left side of said frame to effect steering of the vehicle.

3,263,764

GROUND-EFFECT HOVERING PLATFORMS WITH MULTIPLE AIR CUSHIONS AND STABILITY INCREASING MEANS THEREFOR

Jean Henri Bertin, Neuilly-sur-Seine, France, assignor to Societe Bertin & Cie, Paris (Seine), France, a company of France

Filed Jan. 11, 1962, Ser. No. 165,634
Claims priority, application France, Jan. 17, 1961, 849,877; June 30, 1961, 866,604
5 Claims. (Cl. 180—7)



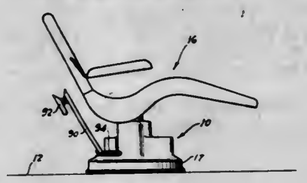
1. A ground effect vehicle comprising, first means including platform means; second means secured to and depending from the underside of said platform means and defining at least three discrete plenum chambers which in operation provide individual gaseous cushions sustaining said vehicle; third means carried by said platform means to supply a gaseous fluid under pressure to said plenum chambers individually; said third means comprising a source of gaseous pressure fluid common to said three discrete plenum chambers, and means individual to each plenum chamber and disposed between said common source and its respective plenum chamber and effective to supply a flow of gaseous fluid to each of said plenum chambers individually; fourth means in the last mentioned means effective to isolate each said plenum chamber from each other when there is a drop in pressure in the associated plenum chamber so as to preclude transmission of pressure drops and fluid flows from any one of said plenum chambers to any other of said plenum chambers.

3,263,765

MOBILE CHAIR UNIT

Charles H. Just, York, and John McCartney, Lancaster, Pa., assignors to The Dentists' Supply Company of New York, York, Pa., a corporation of New York

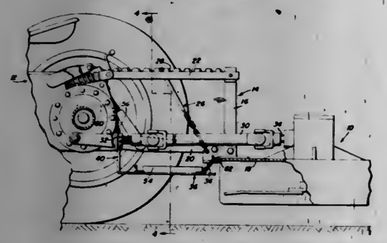
Filed Sept. 5, 1963, Ser. No. 306,753
15 Claims. (Cl. 180—19)



4. Mobile supporting means comprising a chair base having a substantially continuous bottom peripheral rim normally engageable with the floor, means on the upper portion of said base to receive and be connected to a chair seat to be supported thereby, a plurality of casters mounted for vertical movement within said base adjacent the periphery thereof and normally positioned with the rims thereof above said bottom rim, reversible power means carried within said base and interconnected to said casters, said power means being operable when moved in one direction to lower said casters simultaneously and equally for reaction against the floor to raise said base slightly above said floor, thereby rendering said base mobile with respect to said floor, and operable in the opposite direction for retracting said casters within said base, thereby permitting said bottom rim again to

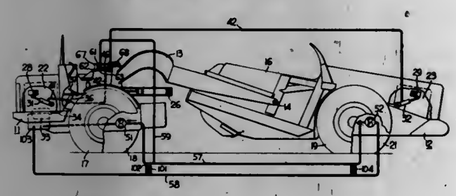
engage the floor, control means for said reversible power means for rendering said base mobile at will, a carrier mounted for vertical movement in said base, a propelling wheel journaled in said carrier, a motor for rotating said wheel, and control means including a handle for lowering and raising said carrier to bring said wheel into contact with the floor or for lifting said wheel above the floor at will.

3,263,766
PLATFORM-SHIELD FOR TRACTOR EQUIPPED WITH A POWER TAKE-OFF AND PIVOTED HITCH LINKAGE
Theodore M. Strack, 4323 Cedar Bayou and Lynchburg Road W., Baytown, Tex.
Filed Oct. 21, 1964, Ser. No. 405,482
4 Claims. (Cl. 180—53)



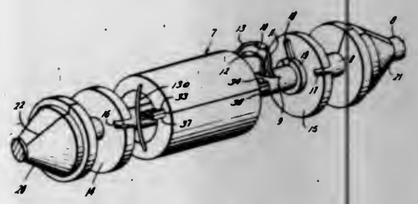
1. For use in combination with a tractor and a spaced hitch mounted trailing implement driven by a drive shaft from the power take-off thereof, a shield, said shield being orientatable between the rear of the tractor frame and the front of the implement below the drive shaft, said shield comprising a generally flat enlarged body, a vertical guard fixed along one edge of the body, said guard being positionable immediately to the rear of the tractor frame, and elongated hanger means fixed to the shield adjacent said one edge and the opposite edge, said hanger means being releasably engageable with the tractor frame and the trailing implement, said guard including a plurality of slots extending vertically inward from the upper edge thereof for the accommodation of various ones of the tractor hitch elements, said slots, through engagement with the hitch elements, limiting lateral movement of the shield.

3,263,767
VEHICLE WHEEL SPEED CONTROL MECHANISM
Harvey W. Rockwell, Cedar Rapids, Iowa, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed June 23, 1964, Ser. No. 377,186
9 Claims. (Cl. 180—77)



1. A vehicle comprising:
front ground engaging traction means,
rear ground engaging traction means,
first power means connected in driving relation to said front traction means,
second power means connected in driving relation to said rear traction means, and
means for adjusting the speed of said second power means relative to said first power means including,
a first fluid pump connected in driven relation to said front traction means,
a second fluid pump connected in driven relation to said rear traction means,
a first fluid passage connecting the input of said first pump to the output of said second pump,
a second fluid passage connecting the input of said second pump to the output of said first pump,
an adjustable speed controller on said second power unit,
means for adjusting said speed controller in reponse to variations in pressure in said first passage and,
a bypass for said first pump with a check valve permitting fluid flow therethrough from the output to the input of said first pump and preventing reverse flow, thereby permitting said first traction means to overspeed said second traction means without said first pump being subjected to cavitation.

3,263,768
DETACHABLE MOUNT FOR MAGNETOSTRICTIVE DETECTOR
Lawrence D. Zepernick, Houston, Tex., assignor, by mesne assignments, to Vector Cable Company, Houston, Tex., a corporation of Texas
Filed July 2, 1962, Ser. No. 206,776
6 Claims. (Cl. 181—.5)

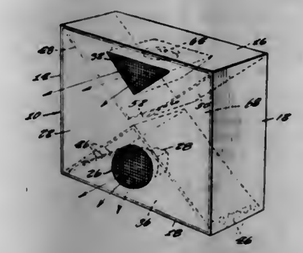


1. In combination with a continuous cable having projecting wire ends along its length, a longitudinally-split, cylindrical transducer device encompassing the cable adjacent said wire ends and connected thereto, baffle members slidably mounted on said cable and engaging the ends of said device for supporting the device on the cable, and protective casing means including end wall members lodged upon the cable outwardly of said baffle members and a cylindrical boot encompassing said device and detachably secured to said end wall members.

3,263,769
ACOUSTIC TONE CONDITIONER SOUND ENCLOSURE
Randolph P. Mercurius, Bronx, N.Y., assignor to Rectilinear Research Corporation, Brooklyn, N.Y.
Filed July 12, 1965, Ser. No. 471,146
4 Claims. (Cl. 181—31)

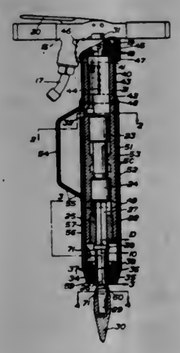
1. An acoustic tone conditioner comprising:
(a) a rectangular cabinet having parallel top and bottom walls, parallel side walls and a rear wall,
(b) a removable closure panel forming the front wall of the cabinet,
(c) a pair of partition walls within the cabinet each lying in a diagonal plane thereof and defining with the bottom wall of the cabinet a closed triangular tone chamber,
(d) outlet passage means at the lower portion of each partition wall,

(e) a pair of baffle walls within the cabinet, each coplanar with a corresponding partition wall and having their lower edges spaced therefrom and from each other to provide a horizontal gap therebetween,
(f) a hollow baffle triangular in cross-section positioned centrally between said baffle walls and with each of its inclined sides parallel to an opposed



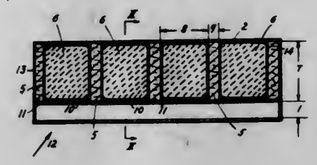
baffle wall and its horizontal wall parallel to said cabinet top wall,
(g) an opening in the horizontal wall of said baffle,
(h) a circular port in said closure panel,
(i) a cone type loud speaker mounted on the inner side of said closure panel in concentric relation to said circular port, and
(j) a triangular port in said closure panel positioned to register with the outer end of said hollow baffle.

3,263,770
NOISE DEADENING MEANS FOR PERCUSSIVE TOOLS
Karl Staffan Alm, Nacka, Sweden, assignor to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed Oct. 13, 1965, Ser. No. 495,571
Claims priority, application Sweden, Oct. 19, 1964 12,584/64
12 Claims. (Cl. 181—36)



12. Noise deadening means for percussive machines including a machine housing, a tool insertable with one end thereof into said machine housing, a pressure fluid driven hammer piston reciprocably mounted in said machine housing for delivering blows to said one end of said tool, means for delivering pressure fluid to said machine housing in a manner to reciprocate said hammer piston in said machine housing, and outlet means on said machine housing for discharging said pressure fluid therefrom, said noise deadening means comprising an exhaust noise muffling casing connected to said outlet means for receiving pressure fluid discharged therefrom, the walls of said casing being formed by laminated sheet material having an outer and an inner metallic sheet at opposite sides of an intermediate layer of vibration damping material, and exhaust openings connecting the interior of said casing to the atmosphere.

3,263,771
SOUND ABSORBING PIPE LINING HAVING PACKING WITH DIFFERENT DENSITIES
Kurt Seifert, 36 Destouchesstrasse, Munich, Germany
Filed May 21, 1964, Ser. No. 369,214
3 Claims. (Cl. 181—42)



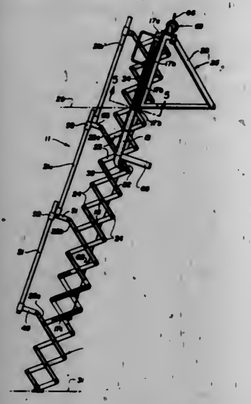
1. In a sound absorption device for damping the full spectrum of frequencies in sound bearing gas pipes, apparatus comprising: a beterogeneous packing formed of a series of porous sound absorbing materials consisting of two groups with two different resistances to flow directly adjoining each other in alternately arranged side-by-side relation with their contact surfaces extending normal to the fluid flow direction through the sound absorption device, said packings being alternately of greater and lesser density so as to be responsive to, and absorb, the full gamut of frequencies passing through said device, said greater density packings occupying less volume than said lesser density packings, the width of each said greater density packing being at least five times the wave length of the lower frequencies of the sounds which said greater density packing is designed to attenuate.

3,263,772
SOUND ATTENUATING GAS CONDUIT WITH ONE-QUARTER WAVE-LENGTH SIDE BRANCH CHAMBERS
Benjamin H. Irwin, Raymond L. Placek, and Kenneth Dow, Columbus, Ind., assignors to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana
Filed June 17, 1964, Ser. No. 375,871
13 Claims. (Cl. 181—59)



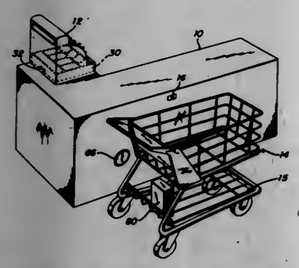
1. In a sound attenuating gas conduit, a pipe forming a main gas-flow passage, a member mounted on the pipe and having portions thereof spaced from the outer face of the pipe to form with the outer pipe face a closed cavity, said pipe having throat-forming means within the extent of said cavity whereby said throat-forming means and cavity form a silencing element acoustically connected to said gas-flow passage, the intermediate portion of said throat-forming means being spaced from one end of said pipe a distance substantially equal to an odd number multiple of the length of said cavity, and an elongated tube having one open end and once closed end carried within said pipe within at least a portion of the axial extent of said throat-forming means.

3,263,773
INCLINED COLLAPSIBLE LADDER
Werner J. Sallein, 1350 Natoma St., San Francisco, Calif.
Filed Apr. 13, 1964, Ser. No. 359,234
2 Claims. (Cl. 182—158)



1. A collapsible ladder comprising, a support, a pair of spaced parallel extendible lazy tongs mounted on said support each including a first plurality of parallel links pivotally connected with a second plurality of parallel links and a plurality of spaced rods extending transversely between said two lazy tongs to form the pivot connections between said links thereof, a plurality of generally planar tread members extending transversely between said two lazy tongs and being formed with elongated underlying slots receiving said rods adjacent the forward portions of said threads a plurality of stub shafts one secured to each link of one set of said plurality of links and extending into said slots and positioned to engage and support the rearward portions of said tread members, said tread members being mounted on said lazy tongs for generally horizontally positioning when said lazy tongs are fully expanded.

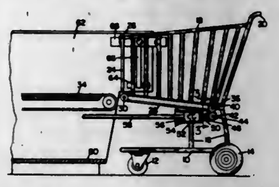
3,263,774
CONTROL APPARATUS
James E. Reese, Franklin, Ohio, assignor of one-third to Paul R. Smith, and one-third to John H. Howard, both of Franklin, Ohio
Filed June 22, 1964, Ser. No. 376,776
8 Claims. (Cl. 186—1)



7. In retail merchandising apparatus of the type having a checkout counter and a cash register, there being a basket-cart position adjacent the checkout counter, the cash register having a cash drawer,

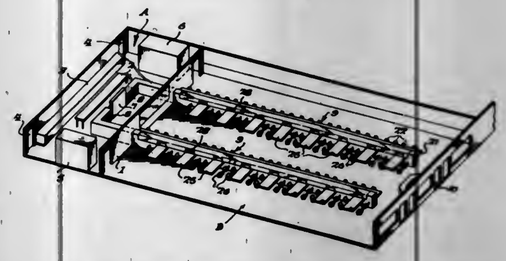
electric circuit means connecting the cash register to a source of electrical energy, the electric circuit means including means operable by movement of the cash drawer to de-energize the cash register, the electric circuit means including means adjacent the basket-cart position to energize the cash register.

3,263,775
GROCERY CART AND CHECKOUT COUNTER WITH COOPERATING CONVEYOR DRIVE MEANS
Joseph A. Lachance, Auburn, Mass., assignor to Armand A. Lachance, Auburn, Mass.
Filed Sept. 9, 1964, Ser. No. 395,142
4 Claims. (Cl. 186—1)



1. The combination with a checkout counter including a driven shaft thereon and means controlling the operation thereof; of a grocery cart or the like including a wheeled frame, a basket mounted thereon in elevated condition with respect thereto, said basket including convergent sides and an openable forward wall, an endless belt comprising the bottom of the basket, and means mounted on said cart for engaging said driven shaft to be driven thereby, said last-named means including clutching means, gearing on the cart associated therewith, said gearing being driven through the clutching means from said shaft, and being operatively connected to the belt to drive the same in a predetermined direction toward the openable front gate, said clutching means being detachable so that the grocery cart can approach and retreat from the driven shaft at the counter to become clutched and disengaged, guide means to guide the cart to a cooperative clutching position with regard to said clutching means, said control means comprising an electric switch mounted to be engaged by said guide means, the guide means being mounted to move generally freely so as to engage and impinge upon and actuate said electric switch.

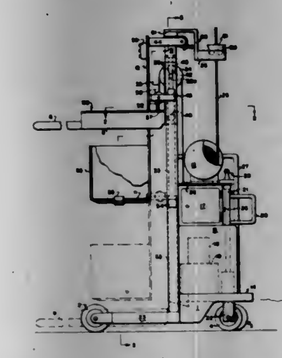
3,263,776
FOOD SERVICE SYSTEM
Robert H. Kroemer, Jr., 25 Hill Terrace, Henrietta, N.Y.
Filed Jan. 8, 1965, Ser. No. 424,229
9 Claims. (Cl. 186—1)



1. A food service system comprising a food dispatch area, a customer service area, a table at said service area, conveyor means extending from said dispatch area to said service area for conveying dishes of food from the former to the latter, and means for transferring food dishes from said conveyor means to said table including an interceptor member mounted for movement into and out of dish intercepting position relative to said conveyor

means, drive means for so moving said interceptor member, first drive control means actuated from said dispatch area for moving said interceptor member into dish intercepting position, and second drive control means responsive to engagement of said interceptor member by a dish on said conveyor means for moving said interceptor member out of said dish intercepting position, said interceptor member moving the intercepted dish from said conveyor means onto said table during its movement out of said dish intercepting position.

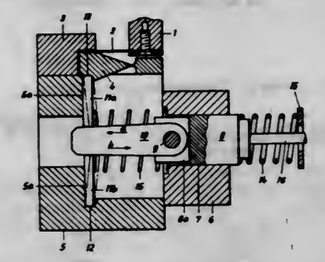
3,263,777
LIFT TRUCK CARRIER WITH A LOST MOTION OPERATOR PLATFORM
René Robichon, Birsfelden, Switzerland, assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
Filed Mar. 25, 1964, Ser. No. 354,658
Claims priority, application Switzerland, Apr. 19, 1963, 4,897/63
5 Claims. (Cl. 187—9)



1. A fork-lift truck comprising controls for driving the truck positioned on the rear portion of the truck, a load handling frame positioned on the front portion of the truck, a vertical mast disposed between the driving controls and the load-handling frame, said load-handling frame being mounted for vertical motion on said mast and extending therefrom toward the front portion of the truck, said load-handling frame comprising an open framework adjacent said mast and a load carrying portion secured to said framework and extending outwardly from the foremost portion of the framework, an operator platform on the front portion of the truck adjacent the load-handling frame and mounted for vertical motion on the said vertical mast, and a lost-motion connection between the said load handling frame and the said operator platform whereby the frame may be moved completely above the operator platform before causing vertical motion thereof.

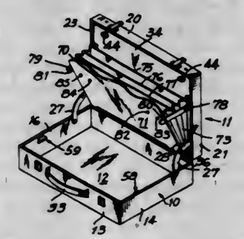
3,263,778
DEVICE FOR RELEASABLY CLAMPING AN ADJUSTABLE SLIDE TO A SUPPORT MEMBER
Hans Ernst Pfeiffer, Schlieren, Zurich, Switzerland, assignor to Roima A.G., Zurich, Switzerland
Filed Aug. 28, 1964, Ser. No. 392,959
Claims priority, application Switzerland, Aug. 30, 1963, 10,793/63
7 Claims. (Cl. 188—67)

1. In a device for releasably clamping an adjustable slide to a support member, an axially slidable holder mounted in said support member, a wedge axially movable in said support member pivotally connected to said holder, a stationary clamping element on said support having a gripping surface, a resilient clamping element on said support member movable toward and away from said surface, at least one toggle lever in said support mounted between said wedge and said resilient clamping element with its ends in abutting relation therewith, and a clamp-



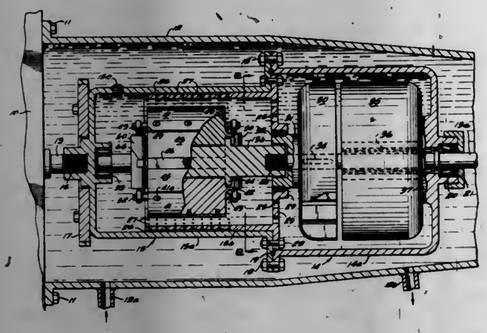
able member secured to said adjustable slide and guided between said stationary and said resilient clamping element, said clampable member being adapted to be frictionally held between said stationary clamping element and said resilient clamping element when said holder is moved axially in said support member.

3,263,779
ARTICLE OF LUGGAGE
Joseph Bisler, 1421 E. 45th St., Brooklyn, N.Y.
Filed Mar. 17, 1965, Ser. No. 440,356
4 Claims. (Cl. 190—51)



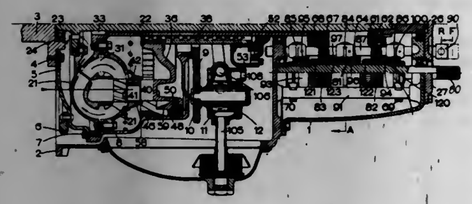
1. A dual purpose carrying case for carrying papers and articles of apparel comprising a bottom section having an open top, said bottom section including a bottom panel and rigid upstanding side walls connected to the peripheral edges of said bottom panel; a lid section having a top panel and rigid depending side walls connected to the peripheral edges of said top panel; means connecting said lid section to said bottom section for movement between a bottom closed position and a bottom open position; a substantially rigid partition pivotally mounted in said carrying case; and releasable mounting means in one of said sections for supporting said rigid partition in parallel spaced relation from the panel associated with said one of said section, whereby said panel associated with one of said sections, and said partition define a substantially rigid compartment therebetween to receive articles of apparel therein; and flap means pivotally connected to said partition along the lateral edges thereof and adapted to be superposed over portions of said partition, and panel means pivotally connected to said partition adjacent the pivotal connection of said partition to said case and adapted to be superposed over said flap means, and means for maintaining said panel in place, whereby said panel and flap means may be pivoted to expose said partition to receive articles of apparel thereon and said flap means and panel may be pivoted to be superposed on said partition and affixed in place to maintain said articles of apparel in place on said partition.

3,263,780
AUTOMATIC POWER TRANSMISSION WITH COMBINATION FLUID-TURBINE AND MECHANICAL DRIVE MEANS
Alexander A. Mellor, Lucasville, Ohio
Filed May 28, 1964, Ser. No. 370,850
12 Claims. (Cl. 192—3.2)



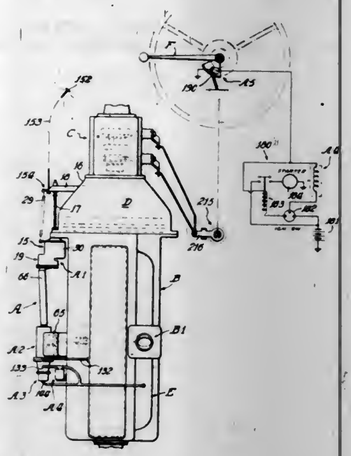
1. An automatic transmission comprising an input shaft, a fluid housing driven by said input shaft, an output shaft extending from said housing, a pump connected to and driven by said housing and located within the housing, a turbine connected to and driving said output shaft, and located within the housing, a weight shaft mechanically connected to and driven by said turbine, said weight shaft carrying flyweights located within said housing, a mechanical driving member fixed to said housing for rotation therewith, said weights being movable in accordance with rotation of said turbine into engagement with said mechanical driving member, means responsive to a predetermined number of revolutions of the driven weight shaft to control movement of the flyweights into engagement with said mechanical driving member, said flyweights being disposed around said weight shaft for radial movement relative thereto, driving lugs carried by said weight shaft and engaging said weights for driving them with the shaft, and piston and cylinder units connected to said weights for controlling the radial movement thereof.

3,263,781
TORQUE CONVERTER WITH LOCKING MEANS
Victor John Simpson, Tallyho, Onslow Road, Burwood Park, Walton-on-Thames, England
Filed Oct. 18, 1965, Ser. No. 497,432
9 Claims. (Cl. 192—3.2)



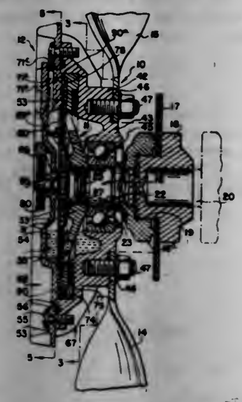
1. Transmission mechanism including a hydrokinetic torque converter having a turbine blade ring carried by and secured to a power output shaft, an impeller, a sleeve rotating about the output shaft and carrying the said impeller, a reactor blade ring, a power input rotor, means by which said reactor blade ring may be locked to the static frame of the mechanism under predetermined conditions, helical drive means connecting said power input rotor to said impeller, said impeller comprising at least two blade rings of differing characteristic forms either of which blade rings may be directed into the working fluid flow path of the converter upon relative axial movement of the impeller and turbine blade ring through the medium of said helical drive.

3,263,782
TRANSMISSION CONTROL AND CLUTCH
Richard L. Smirl, La Grange, Miczyslaw J. Waclawek, Olympia Fields, and John W. Adelman and Edward F. La Buda, Chicago, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 2, 1961, Ser. No. 128,916
16 Claims. (Cl. 192—3.5)



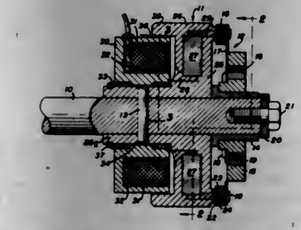
2. In a power supply system including an internal combustion engine and an intake manifold, a transmission comprising a drive member driven by said engine, a driven member, mechanism for providing a purality of speed ratios between said members and including a friction engaging device for completing a power train therethrough, a casing having control chamber therein, a pump driven by said drive member for supplying a first pressurized fluid to said chamber, a primary valve control means responsive to pressure in said control chamber for returning fluid to the intake of said pump and thereby regulate the maximum engine pressure for said device and having auxiliary means for restricting the flow of fluid back to the pump to maintain a minimum predetermined fluid pressure in said control chamber, said valve control means comprising a servo-mechanism fluidly connected to said control chamber for applying engaging force to said engaging device graduated in accordance with the first fluid pressure in said chamber, by-pass means for applying the vacuum of the intake manifold of said engine to a portion of said control means permitting said control means to move to a position for fully returning the first fluid pressure to said pump, and a manually controlled mechanism operatively associated with said vacuum applying means and with said speed changing mechanism, said manually controlled mechanism being movable to a plurality of discrete positions corresponding to a plurality of speed ratios for said power train and including a lost motion device for permitting initial movement of the mechanism between speed ratio positions to actuate said vacuum of applying means for releasing the engaging force on said engaging device in advance of effecting a different speed ratio.

3,263,783
VISCOUS DRIVE COUPLING
Alex Sutaruk, Hazel Park, Mich., assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Filed Oct. 14, 1963, Ser. No. 315,972
16 Claims. (Cl. 192—58)



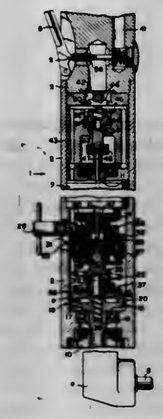
1. A fluid coupling comprising first and second relatively rotatable coupling members, said first coupling member having axially spaced surfaces each of which has a plurality of radially spaced projections extending therefrom and substantially parallel to the axis of rotation of said coupling members, said second coupling member having a plurality of projections interfitting with the plurality of spaced projections on said first coupling member, and said projections on said coupling members providing opposed substantialy parallel spaced surfaces having a shear space therebetween and cooperable with a fluid shear medium in said shear space to transmit torque between said members.

3,263,784
MAGNETIC CLUTCH
William C. Pierce, Dallas, Tex., assignor to Pitts Industries, Inc., Dallas, Tex., a corporation of Tennessee
Filed Mar. 30, 1964, Ser. No. 355,616
4 Claims. (Cl. 192—84)



1. A magnetic clutch comprising a drive shaft, a rotor mounted on said shaft and secured to turn therewith, an armature mounted for free rotation on said shaft, a stationary coil shell coaxially mounted relative to said shaft, a coil contained within said shell whereby the flux density is increased in the shell and decreased in the armature when said coil is energized, and a permanent magnet within said rotor, said rotor being comprised of inner and outer rotor members each contacting a different pole surface of said magnet, each said member having a rotor pole face on a side thereof adjacent said armature, said armature including an armature disc, spring means normally urging said disc away from said rotor, the pole face of which disc is opposite and normally engaged with said rotor pole faces, means providing an air gap between an outer circular portion of said shell and said outer rotor member, and means providing an air gap between an inner circular portion of said shell and said inner rotor member, both said air gaps being of length and width proportions to result in the largest portion of the magnetic flux from the permanent magnet to be conducted through the rotor pole faces and armature disc, and the lesser portion through the coil shell, and whereby high magnetic inductance is retained in the permanent magnet.

3,263,785
TORQUE RELEASING CLUTCH MECHANISM AND MOTOR CONTROL
John P. Krouse, Athens, and Richard C. Frisbie, Sayre, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed July 31, 1964, Ser. No. 386,592
3 Claims. (Cl. 192—150)

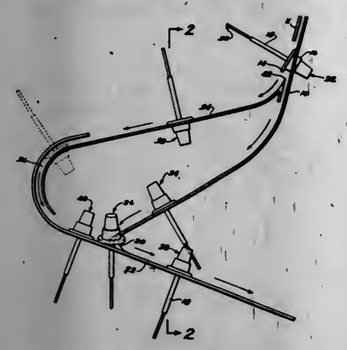


1. A fluid-powered wrench adapted to release its driving torque and shut off its motor in response to a predetermined torque load, said wrench comprising:
(a) a body containing a fluid motor and a spindle for driving fasteners;
(b) a clutch interconnected between said motor and spindle and adapted to release itself in response to a predetermined torque, said clutch including a member adapted to move axially rearward when said clutch releases;
(c) a valve located in a passage feeding pressure fluid to said motor and adapted to close said passage to shut off said motor, said valve being mounted in the rear of said body and arranged to move rearwardly as it closes, said valve including first spring means engaging it and urging it to an open position;
(d) linkage means interconnected between said valve and said axially movable clutch member adapted to force said valve rearwardly toward its closed position as said clutch opens;
(e) said valve including means for utilizing fluid pressure to close it completely after it is partly closed by said linkage means during the release of said clutch; and
(f) second spring means for normally urging said clutch member axially in a direction releasing said clutch, said second spring means acting in a direction opposite to and being weaker than said first spring means urging said valve to an open position, said second spring means being operative to force said clutch member rearwardly to its clutch releasing position after said valve is closed by fluid pressure.

3,263,786
ORIENTING APPARATUS FOR ELONGATED ARTICLES

Harold E. Hannah, Groves, and Warren J. Robicheaux, Port Arthur, Tex., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 2, 1964, Ser. No. 408,212
4 Claims. (Cl. 193—43)

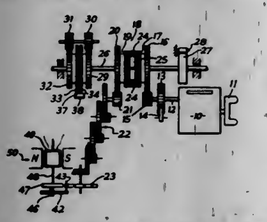


1. An apparatus for uniformly orienting randomly oriented elongated articles having a relatively broad flange with members projecting from both surfaces of said flange and one of said projecting members being an elongated member, comprising first, second and third tracks each having a slot extending longitudinally the length thereof, each having a receiving and a discharge end and each being inclined in a generally downwardly direction from its receiving end to its discharge end, said first and second tracks being downwardly inclined in opposite directions with said first track adapted to discharge articles onto said second track, said third track downwardly inclined in the same direction as the first track, the receiving end of said third track overlaying said first track in spaced-apart relationship with respect thereto, trip means in the vicinity of the receiving end of said third track adapted to contact only elongated article members projecting toward it and tilt the flanges associated with said elongated members from the first track onto the third track, a length of said third track along its discharge end and a length of said second track along its receiving end facing each other in curved spaced-apart relationship to form a U-bend adapted so that the flange of articles on said third track travels between said curved facing track portions and said articles become inverted in transit, said apparatus adapted so that oppositely oriented articles entering said first track are uniformly oriented on said second track.

3,263,787
SUBSCRIPTION TELEVISION AND LIKE SYSTEMS

Gerhart Lothar Hamburger, Hitchin, England, assignor to Sangamo Weston Limited, Enfield, England, a British company

Filed May 25, 1964, Ser. No. 369,988
13 Claims. (Cl. 194—1)

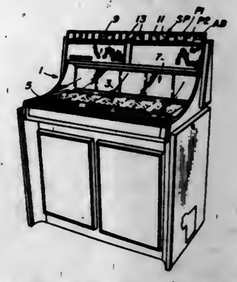


1. Metering apparatus for a subscription broadcasting system of the type defined, which comprises mechanical energy storage means, an escapement mechanism for release of energy stored in said storage means, a moving coil type instrument having a moving coil arranged to actuate said escapement mechanism, and means for receiving charge pulse signals from said system and applying said signals to said moving coil instrument to move said coil, whereby the quantity of released energy varies as the number of received signals.

3,263,788
SCAN AWARD SYSTEM

Herman G. Jensen, Chicago, and Robert Kapoun, Glenview, Ill., assignors to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware

Filed July 10, 1964, Ser. No. 381,715
24 Claims. (Cl. 194—12)



1. A scan award system for a vending installation adapted to vend award selections at a given price and comprising:

normally activated scan means adapted when activated to continuously scan a series of potential award selections one at a time pursuant to a predetermined pattern;

normally deactivated award conditioning means adapted upon activation to determine the availability of a given one of the award selections by deactivating the scan means;

start means for activating the award conditioning means;

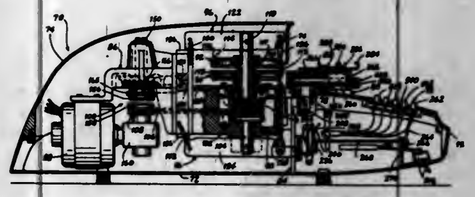
normally deactivated award selection means adapted upon activation to vend the said given one of the award selections; and

credit means responsive to the establishment of credit corresponding to the given price and responsive to the activation of the award conditioning means for activating the award selection means.

3,263,789
MARKING MACHINE WITH CHARACTER WHEELS ROTATABLE ABOUT A STATIONARY MEMBER

Roy A. Schacht, 744 Des Peres Road, Kirkwood, Mo.

Original application Sept. 17, 1962, Ser. No. 224,605, now Patent No. 3,236,352, dated Feb. 22, 1966. Divided and this application July 8, 1964, Ser. No. 381,093
7 Claims. (Cl. 197—6.6)



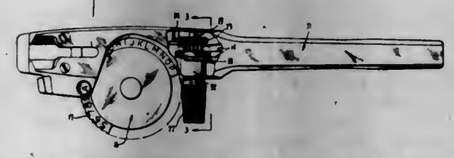
1. A marking machine comprising rotatable upper and lower character wheels supported and being relatively rotatable upon a vertical shaft fixed with respect to the

machine, said character wheels being spaced from one another and being provided with mating character elements, means for rotating said character wheels comprising a clutch mounted concentrically upon said fixed vertical shaft and cooperating with said wheels, and means for operating said character elements comprising an operating arm associated with each of said character wheels and positioned to strike a character element, each of said operating arms being pivoted upon the vertical shaft, one at the top and the other at the bottom of the shaft, and each of said arms having contact means at one end for striking the character element and reciprocating operating means at an end opposed to the contact means for reciprocating the operating arm about its pivoted support, a carriage frame provided with means for moving it horizontally across the machine and a workpiece holder mounted upon the carriage frame provided with means for advancing a workpiece toward said character wheels.

3,263,790
VARIABLE SPACER ARRANGEMENT FOR EMBOSSING TOOL

Georg F. Bremer, Albany, and Dane H. Pedersen, Moraga, Calif., assignors to Dymo Industries, Inc., Emeryville, Calif., a corporation of California

Filed Aug. 17, 1964, Ser. No. 390,156
7 Claims. (Cl. 197—6.7)



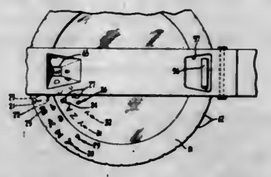
1. In a tool for embossing a continuous strip of material having a body member and die means on said body member operable to emboss said strip, the combination with said tool of variable spacer means comprising a shaft transversely journalled on said body member rearwardly of said die means and movable transversely of said body member between a plurality of transverse positions, a strip feed roll mounted upon said shaft for rotation therewith and relative transverse movement thereon, said feed roll being adapted to engage said strip and advance same a predetermined distance towards said die means upon rotation of said shaft, a plurality of juxtaposed ratchet wheels fixedly secured to said shaft, said ratchet wheels each having a different number of teeth, a feed pawl disposed within said body member to engage different ones of said ratchet wheels in different ones of said transverse positions of said shaft, and drive means for actuating said pawl upon each actuation of said die means, said ratchet wheels being coaxially juxtaposed portions of a unitary plural ratchet wheel element, said element having means coaxially positioned between said portions and engageable with said feed pawl upon movement of said element between said positions for guiding the pawl into engagement with the notches on the respective portions.

3,263,791
MULTIPLE DIE GROUP EMBOSSING ARRANGEMENT FOR EMBOSSING MACHINES

Dane Harald Pedersen, Moraga, and William A. Penaluna, Pinole, Calif., assignors to Dymo Industries, Inc., Emeryville, Calif., a corporation of California

Filed Feb. 17, 1965, Ser. No. 433,354
7 Claims. (Cl. 197—6.7)

1. An embossing device comprising a body member having means for guiding a strip of embossable material to an embossing station, a selector disc having a plurality of radially spaced groups of circumferentially spaced different embossing indicia die means on one face thereof in confronting relation to said embossing station, said groups being radially spaced a predetermined distance one from another, die actuating means carried by said body member at said embossing station in confronting relation to said disc face, strip guide means positioned to guide said strip to the embossing station between said disk and said actuating means, a bridge member carried by said body member and overlying in confronting relation the other face of said disk, said bridge member having a longitudinal slot therein extending toward and away from said embossing station, a slide member extending through said slot rotatably engaging said disk and having a manually engageable operating portion on the side of said bridge member opposite of said disk, means for releasably securing said slide member in selected lineal positions relative to said bridge member, said positions

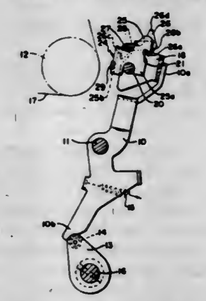


being spaced from one another said predetermined distance to allow selective positioning of each of said groups at said embossing station, means for releasably securing said selector disk at predetermined circumferential positions relative to said bridging member corresponding to the different embossing indicia of each of said groups, the face of said disc confronting said bridge member having a plurality of radially spaced groups of circumferentially spaced characters corresponding to the indicia of said die means on the other face thereof, said groups of characters being radially spaced said predetermined distance from one another and the characters of each group being spaced apart the same distance as the indicia of each group of die means, and said bridge member having a window therein through which a single character is viewable when the die corresponding to such character is positioned at said embossing station.

3,263,792
QUICK REMOVABLE TYPE CARRIER FOR BUSINESS MACHINES

Alton G. Snyder, Ithaca, N.Y., assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

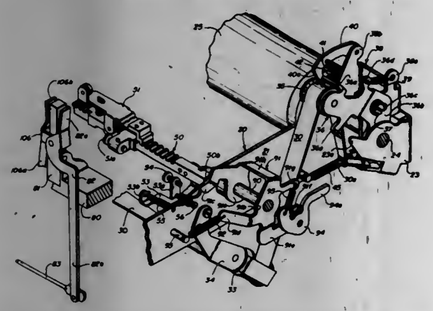
Filed Oct. 22, 1964, Ser. No. 405,653
2 Claims. (Cl. 197—36)



1. In combination with a business machine having a type mounting frame including a pair of spaced-apart and parallel shaft members, a machine-user-identifying type carrier for removable attachment with said mounting frame, comprising an indicia-bearing mounting body having its lower edge bifurcated for rockably engaging

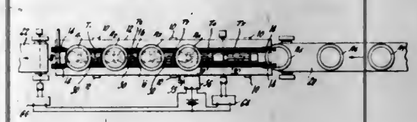
one of said shaft members and having its rear edge notched at a point such that the other of said shaft members engages said notch during rocking movement of said mounting body on said one shaft member, said notch being of a depth such that the indicia bearing portion of the mounting body is in proper printing position when said bifurcated edge engages said one shaft member and said notch engages the other of said shaft members; and latch means for automatically restraining the mounting body against movement on said mounting frame when the body bearing indicia is so positioned for proper printing; said latch means comprising a rockable latch member having a nose portion adapted to engage said other shaft member and cam thereover as the mounting body is rocked theretoward on said one shaft member, and spring means yieldingly urging said latch member for snapping said nose portion thereof behind such other shaft member immediately upon the mounting body becoming abutted thereagainst.

3,263,793
PLATEN INDEXING MECHANISM
Frederick A. Brignole, Jr., Granby, Conn., assignor, by mesne assignments, to Royal Typewriter Company, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 25, 1964, Ser. No. 347,162
5 Claims. (Cl. 197—120)



1. In an electric typewriter having a rotatable platen including a platen shaft, a constantly rotating power shaft and a traversable carriage having side frames on which the platen shaft is mounted, the combination of,
an indexing ratchet connected to said platen,
rockable pawl means mounted on said platen shaft and engageable with said ratchet to index said platen,
stop means to limit indexing movement of said pawl means,
an indexing lever rockably mounted on said platen shaft,
resilient driving means interconnecting said pawl means and said indexing lever whereby said indexing lever is operable to drive said pawl means and is also movable relative thereto when said pawl means has reached the limit of its indexing movement,
a drawband reel freely mounted on said power shaft,
a clutch associated with said reel and said power shaft,
a drawband having one end connected to said reel and frictionally coupled with said indexing lever whereby upon engagement of said clutch said drawband is wound on said reel first, to rock said indexing lever to index the platen until said pawl means reaches the limit of its indexing movement and thereafter to impart return movement to said carriage,
a margin bar resiliently mounted on said carriage side frames for limited longitudinal movement from and to a normal position relative to said carriage and having a left hand margin stop adjustably mounted thereon,
a cam member rotatably mounted on one of said side frames and engageable with said margin bar, said cam member including a by-pass arm engageable by said indexing lever upon indexing movement thereof to rotate said cam member thereby to move said margin bar longitudinally in a carriage return direction relative to said carriage,
and means operable by said left hand margin stop upon such longitudinal movement of said margin bar to disengage said clutch at the completion of platen indexing to thereby preclude return movement of said carriage during repeat indexing of said platen.

3,263,794
ARTICLE RE-GROUPING CONVEYOR SYSTEM
Richard H. Burton, Manchester, Mass., assignor to J. W. Greer Company, Wilmington, Mass., a corporation of Massachusetts
Filed Feb. 12, 1965, Ser. No. 432,232
8 Claims. (Cl. 198—34)

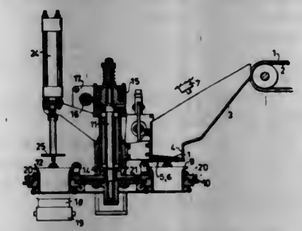


1. An article re-grouping conveyor system comprising
a conveyor adapted to advance articles by frictional engagement therewith,
means for succcessively halting a succession of articles of uniform length advancing along said conveyor to form a group of articles in longitudinally equally spaced halted formation, including
a series of barriers independently movable into the path of travel of said articles along said conveyor at equally spaced intervals greater than the length of said articles, and
means for moving the first barrier in said series into the path of travel of a first article in said group, and
means responsive to the proximate approach of any article in said group to a barrier interposed in its path of travel for moving the immediately succeeeding barrier in said series into the path of travel of the next succeeding article advancing on said conveyor, and
means for simultaneously moving all said barriers simultaneously out of said path of travel to allow a halted group of articles to resume advance along said conveyor as a group in equally longitudinally spaced formation.

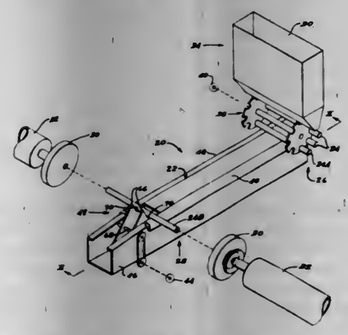
3,263,795
TURNING MECHANISM
Erik Wilhelm Asp and Rolf Siggesson Lundquist, Hamstad, Sweden, assignors to Sprinter-Pack AB, a corporation of Sweden
Filed July 24, 1964, Ser. No. 384,879
Claims priority, application Sweden, July 26, 1963, 8,315/63
7 Claims. (Cl. 198—35)

1. A turning mechanism in combination with conveyors for tea portion bags, newspapers and similar relatively flat articles of different thicknesses at their opposite end portions, characterized by a stepwise rotatable turret device comprising a plurality of carriers each of which is adapted to carry a pile of articles, said carriers being equally spaced apart along a circle around the vertical axes of rotation of the turret, said piles being transmitted to the turret one after the other at a receiving station located at the path of movement of said carriers and being deposited one after the other at a delivery station upon revolution of the turret through at least one step, every second carrier being fixed on the turret whereas

every other carrier is rotatably mounted on the turret and provided with a toothed wheel which meshes with a stationary toothed path concentric with the axis of rotation of the turret and adapted to impart rotation to the rotatable carriers in a manner such that the rotatable carriers during their movement from the receiving station to the delivery station are rotated half a revolution relative to the next succeeding fixed carrier.



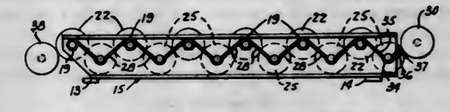
3,263,796
MAGNETIC CONVEYOR
Franklin E. Parke, 767 Colony Circle, Pittsburgh, Pa. 15216
Filed Dec. 18, 1964, Ser. No. 419,419
12 Claims. (Cl. 198—41)



1. A magnetic conveyor for conveying magnetizable, cylindrical articles, comprising in combination: a guideway; means for depositing said cylindrical articles on said guideway and transversely thereof, said articles being deposited at a first position on said guideway for conveyance to a second position which is spaced from said first position; and magnet means extending along one side of said guideway for producing a magnetic field extending between said first position and said second position, said magnet means being inclined with respect to said guideway whereby the field intensity along said guideway increases from a minimum value at said first position to a maximum value at said second position, the increasing field intensity of said magnet means producing a field intensity gradient which propels said cylindrical articles.

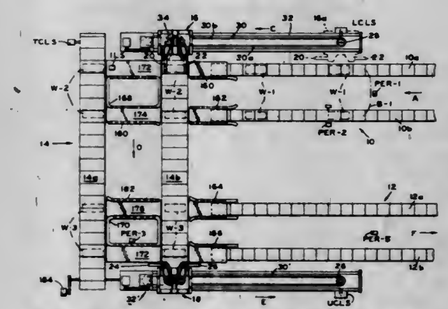
3,263,797
ROLLER CONVEYOR HAVING POWER DRIVEN ROLLERS
Harry L. Lutes, Centerville, Ohio, assignor to Kornylak Corporation, Hamilton, Ohio, a corporation of New Jersey
Filed July 20, 1964, Ser. No. 383,664
7 Claims. (Cl. 198—127)

1. In a roller conveyor having a frame and a rollerway mounted on said frame, conveying rollers spaced longitudinally of said rollerway, means for applying torque sequentially to said conveying rollers comprising idler rollers intermediate and engageable with adjacent pairs of said conveying rollers, means mounting said idler rollers for lateral movement comprising enlarged



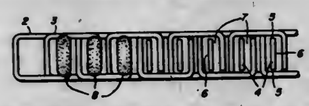
openings in said frame to permit movement of said idler rollers toward and away from said conveying rollers, means urging said idler rollers to engage said conveying rollers and means for driving at least one of said idler rollers.

3,263,798
ARTICLE TRANSFER DEVICE
Raymond A. Muirhead, Detroit, Mich., and Suren A. Varjabedian, South Windsor, Ontario, Canada, assignors to Taylor & Gaskin, Inc., Detroit, Mich., a corporation of Michigan
Filed July 27, 1964, Ser. No. 385,278
17 Claims. (Cl. 198—179)



1. An article transfer device comprising, in combination: a pair of sprockets disposed in spaced apart relation adjacent opposite ends of an intended path of article transfer, an endless chain entrained over and extending between the sprockets, drive means operatively coupled to the chain to drive it, a transfer head connected to the chain and supported for linear traverse between the sprockets upon a guideway paralleling the chain to reciprocate between the sprockets upon driving of the chain, an article engaging member for relative shiftable movement on the head toward and from the path of article transfer between, respectively, article engaging and non-engaging positions, and means connecting said member to a point on the chain to shift the member from one position to the other as said point of connection passes around each sprocket.

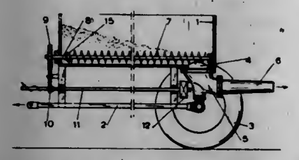
3,263,799
CONVEYOR BELT
Richard E. Bascom, Oakland, and Frederick A. Miller, Concord, Calif., assignors to United States Steel Corporation, a corporation of Delaware
Filed Feb. 27, 1964, Ser. No. 347,849
4 Claims. (Cl. 198—193)



1. A conveyor belt comprising a plurality of connected helical metal wire coils of substantially rectangular section, said coils being disposed with their axes extending

across the width of the belt and having their windings overlapping one another, flat metal strips extending across the width of said belt and each strip inserted through two of said coils in the area where said coils overlap, each strip having a width several times its edge thickness and standing on said edge with its wide surface perpendicular to the belt surfaces and its edges in close proximity to the inside of its associated coil, and means securing each strip to only one of the coils through which it passes.

3,263,800
CONVEYING SCREW, SUPPORTED IN THE END WALLS OF A RECEPTACLE OR A TROUGH
Herbert Vissers, Nieuw Vennep, Netherlands, assignor to Landbouwwerktuigen- en Machinefabriek H. Vissers N.V., Nieuw Vennep, Netherlands
Filed Oct. 6, 1964, Ser. No. 401,845
Claims priority, application Netherlands, Oct. 23, 1963, 299,652
4 Claims. (Cl. 198—213)



1. In combination, a trough-like receptacle, a conveying screw supported in the end walls of said receptacle and having a shaft with one end projecting outside the receptacle, a driving member for driving the shaft in one direction of rotation secured to said projecting end of the shaft, said shaft being interrupted in the receptacle near the driving member, and a coupling connecting the interrupted shaft portions, said coupling comprising a universal joint including a Cardan ring, at least one pintle perpendicular to the axis of the shaft secured to one of said ring and shaft for each of said interrupted shaft portions, and a bearing recess for each pintle in the other of said ring and shaft, at least one of said recesses being formed with an elongating slot in the direction opposite the driving direction and a laterally directed communicating end portion so arranged as to permit slight rotation of the Cardan ring opposite to the driving direction and subsequent axial movement of one shaft portion to uncouple the universal joint for removal of the screw from the receptacle.

3,263,801
MATERIAL DISCHARGING APPARATUS
Fred Dudte, Newton, Kans., assignor to Harper and Sauder, Inc., Eureka, Ill., a corporation of Illinois
Filed Nov. 27, 1964, Ser. No. 414,146
7 Claims. (Cl. 198—213)



1. Apparatus for discharging particulate material from a source thereof along an elongated discharge station comprising:

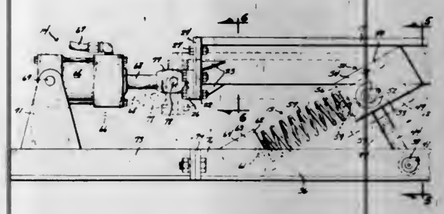
an elongated, generally horizontally disposed conveyor tube adapted to communicate with said source for receiving material therefrom into one end of the tube, said tube having an elongated opening in the side wall thereof extending longitudinally of the tube in vertically spaced relationship with the bottom of the tube;

an elongated, rotatable screw in the tube, said screw including a helical vane having a leading surface and a trailing surface, the leading surface being configured to push the material away from said opening and toward the other end of the tube when the screw is rotated in one direction and the trailing surface being configured to push the material toward the opening when the screw is rotated in the opposite direction;

reversible drive means operably coupled with the screw for driving the latter; and

impeller means on the vane for knocking the material toward the opening to facilitate discharge of the material therethrough when the screw is rotated in said opposite direction.

3,263,802
VIBRATORY CONVEYOR
Oliver A. Haley, 730 14th St. Place, Nevada, Iowa
Filed Nov. 7, 1962, Ser. No. 235,985
4 Claims. (Cl. 198—220)



1. A vibratory conveyor apparatus for conveying a material or the like comprising in combination:

a base;

pan means adapted to support the material and open at one end for discharging the material therefrom;

power means pivotally connected at one end to said pan means at one end thereof and operable to reciprocate said pan means logitudinally; said power means pivotally connected at its other end to said base;

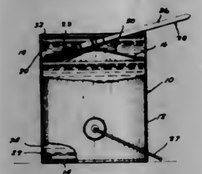
rocker arm means pivotally mounted on said base and pivotally connected to said pan means, and arcuately movable in a plane parallel to the longitudinal axis of said pan means, whereby an oscillatory movemeans of said pan means is obtained in response to operation of said power means; and

said power means including a fluid operated piston and cylinder device having a piston rod pivotally connected to said pan means, said piston rod being fluid powered to an inwardly extending position to move said pan means in one direction, a spring means operatively connected to said pan means and operable in response to the oscillatory movement thereof to resist the movement of said pan means in said one direction to prevent the movement of the material with respect to said pan means, and to move said pan means in an opposite direction to move the material longitudinally in said pan means.

3,263,803
PAINT CONTAINERS
Charles Almond, 241 Stewart St., Fall River, Mass.
Continuation of application Ser. No. 197,540, May 24, 1962. This application Nov. 10, 1964, Ser. No. 410,246
1 Claim. (Cl. 206—15.1)

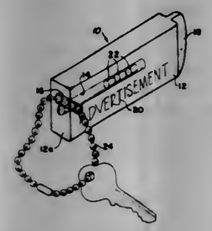
A container comprising an elongated open-ended hollow body, a removable cover closing each of the ends of said body, an impervious partition member extending

transversely across said body and located nearer one of its ends than the other of its ends thereof and secured to said body to thereby divide the body into a small compartment adapted to contain a body of paint solvent and a large compartment adapted to contain a body of paint, said body being shiftable between a position wherein it is upright with the large compartment uppermost and the small compartment lowermost and a position wherein it is upright with the large compartment lowermost and the small compartment uppermost, the face of said partition member within said small compartment being of a con-



struction such, when the body has been shifted to the position wherein it is upright with the large compartment lowermost and the small compartment uppermost and the cover of the small compartment removed, to support the side of the bristles of a paint brush with the ends thereof out of contact with the wall of the compartment and the handle of the brush in a leaning position and resting upon the one end of said body, the construction of the face of the partition member within the small compartment embodying a frustum with the top of the frustum adjacent the one end of said body.

3,263,804
KEY CHAIN ATTACHMENT
George Marenchin, Pittsburgh, Pa., assignor of thirty percent to Milton Kosanovich, Pittsburgh, Pa.
Filed Nov. 10, 1964, Ser. No. 410,187
4 Claims. (Cl. 206—38)



1. In combination, a beaded key chain and attachment comprising:

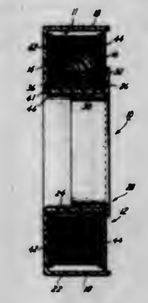
(a) a generally rectangular body portion;

(b) a flint receiving cylindrical blind passage containing at least one standard-sized cigarette lighter flint, said cylindrical blind passage being formed longitudinally in said body portion and communicating with one end surface thereof;

(c) a transverse passage with said beaded key chain positioned therethrough, said transverse passage being formed in said body portion in communication with said flint receiving passage and extending perpendicularly thereto;

(d) said transverse passage and said flint receiving passage being so inter-related that said beaded key chain holds captive said standard-sized cigarette lighter flints within said flint receiving passage.

3,263,805
DISPENSER FOR PRESSURE SENSITIVE TAPE
Jesse R. Hollins, 1059 E. 22nd St., Brooklyn, N.Y.
Filed May 26, 1964, Ser. No. 370,267
2 Claims. (Cl. 206—52)



1. A portable pressure-sensitive adhesive tape dispenser, said dispenser including a multi-convoluted wound roll of tape, the diameter of the roll being greater than the width of the roll, the roll having a pair of spaced opposed circular side faces defined by the edges of the convolutions of the tape, at least the radially inward face of the tape being covered by a layer of a pressure-sensitive adhesive, a member about which the tape is wound, a housing containing and rotatably carrying the roll of tape, said housing comprising two broad substantially flat spaced generally parallel interconnected walls, a support intermediate the walls on which the member of the tape roll is journalled for rotation about an axis generally perpendicular to the walls and a washer freely rotatable coaxially of the roll with respect to the roll and the support and interposed between a side face of the tape roll and an interior surface of the housing wall, the washer having a diameter sufficiently large to substantially cover the adjacent side face of the roll, a side face of the tape roll overlying the washer when the tape dispenser is stored with the walls of the housing substantially horizontal and after a passage of time becoming sticky by the exposure of the pressure-sensitive adhesive at said side face, and said side face adhering to the interior face of said washer, the washer thereupon adhering to and rotating with the roll of tape and thereby preventing inoperativeness of the dispenser caused by adherence of the sticky face of the roll to the housing wall, the outermost convolution of the tape being freed from edgewise adherence to the washer as it is unwound from the roll.

3,263,806
DISPENSING STORAGE CARRIER FOR CANNED BEVERAGE AND THE LIKE
Francis D. Ring, 4102 169th, Bothell, Wash.
Filed May 4, 1964, Ser. No. 364,413
2 Claims. (Cl. 206—56)

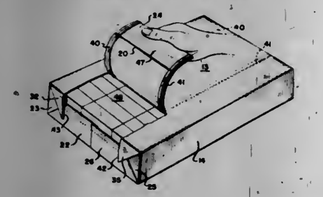
1. An enclosed dispensing carrier for a plurality of individual packages of substantially uniform weight and size, comprising a portable elongated tubular enclosure of heat-insulating material which is generally upright in use and has an internal cross section and length to receive a plurality of such packages stacked one upon another therein, said enclosure having an open top, an elongated compression spring extending lengthwise within said enclosure interposed under compression between the lowermost package and the bottom of said enclosure, said spring being of such stiffness in relation to the weight of the packages as to sustain the combined weight of such packages with the uppermost package projected by a fractional portion of its height above the tube's upper edge, in position to be grasped and lifted from the tube,

upon removal of a cover, said spring being of such recoilable length as to raise all remaining packages in the enclosure progressively by substantially the height of one package each time the uppermost package is removed, a removable cover also of heat-insulating material for the



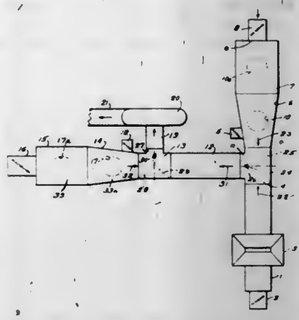
open top of the enclosure, and means to secured said cover removably in position to effectively close the open top of said enclosure and thus to hold the packages cooled and depressed within the same against the lifting force of the spring, regardless of the attitude of the carrier.

3,263,807
PACKAGE
Arthur L. Fingerhut, Livingston, N.J., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Continuation of application Ser. No. 1,211, Jan. 8, 1960. This application Mar. 14, 1963, Ser. No. 267,073
5 Claims. (Cl. 206—65)



1. A rectangular shipping bundle comprising a plurality of rectangular packages arrayed in proximate touching relation one to another and pressing against one another under forces acting along the width axis and length axis of said bundle to firmly compact said packages in the direction of each of said axes, a flexible overwrap having overlapped adhesively joined edges securing said packages in said relationship to one another and sealing the bundle at each end thereof to maintain said packages in said compacted condition under the stress of said forces, the reactive forces between said packages being of a magnitude sufficient for frictionally binding said packages one to another to preserve the integrity of the bundle and resist displacement of a package from said bundle in a direction perpendicular to the axes in which said forces are acting when the portion of said overwrap otherwise obstructing such displacement is removed, and removable tear strip means comprising a plurality of spaced apart tear tapes defining a portion of said overwrap exclusive of said overlapped edges and extending across one face of said overwrap for enabling removal of said portion of said overwrap to expose the faces of said packages lying in a plane parallel to the axes in which said forces are acting.

3,263,808
METHOD FOR THE SEPARATION OF PARTICLES OF DIFFERENT SIZES AND DENSITIES
Jerome A. Schwartz, 3520 Lake Shore Drive, Chicago, Ill.
Filed June 11, 1962, Ser. No. 201,715
4 Claims. (Cl. 209—30)



1. In a method for the upgrading of the iron content of an iron ore of dry discrete particles of various sizes and densities, the steps of:

providing a gas-suspendable feed mixture of discrete particles of such iron ore of a particle size generally less than 48 mesh, inducing a flow in opposite directions along a common horizontal axis of two confined streams of gas by a suction force acting upon the streams so induced to withdraw a third stream of gas therefrom through a confined path substantially at right angles to said axis,

thereby setting up at the confluence of said first and second streams a face of resistance,

feeding said mixture of discrete particles into one of said two streams at a point remote from said confluence to suspend said particles in said one stream,

collecting as a primary fraction that portion of said mixture that passes from said one stream through said face of resistance into said second stream,

collecting as a secondary fraction that portion of said mixture carried by said third stream,

screening said primary and secondary fractions and retaining sub-fractions each of less than about 150–mesh and each of higher iron content than that of said feed mixture, and

combining said retained sub-sections to recover an upgraded iron ore.

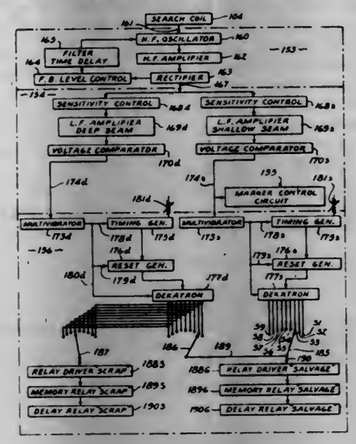
3,263,809
APPARATUS FOR DEFECT ANALYSIS AND CLASSIFICATION OF WORKPIECES
Joseph M. Mandula, Jr., Cleveland, and Tyler W. Judd, Chardon, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed May 5, 1964, Ser. No. 365,097
24 Claims. (Cl. 209—73)

1. An apparatus for examining workpieces and separating them according to defect severity, said apparatus comprising:

(a) defect detector means for sensing defects in a workpiece, said defect detector means having an output producing a defect signal for each defect detected, the level of the defect signal being proportional to the severity of the defect detected;

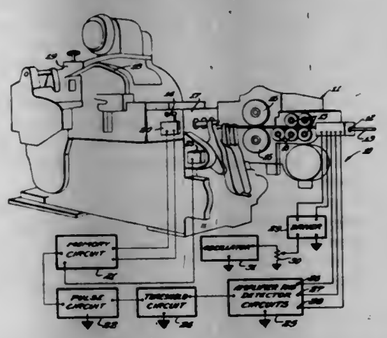
(b) classifier means having an input connected to the output of said defect detector means and an output producing a trigger signal for each defect signal of a predetermined level received at its input;

(c) trigger signal counting means having an input connected to the output of said classifier means and an output producing an energizing signal in response to a predetermined number of trigger signals received at its input; and,



(d) a workpiece separating mechanism having an input connected to the output of said counting means, and said separating mechanism acting on an examined workpiece each time it receives an energizing signal at its input.

3,263,810
MATERIAL HANDLING CONTROL SYSTEM
John J. Flaherty, Elk Grove Village, and John M. Mountz, Niles, Ill., assignors, by mesne assignments, to Magnaflux Corporation, Chicago, Ill., a corporation of Delaware
Filed Apr. 26, 1963, Ser. No. 275,920
2 Claims. (Cl. 209—74)



1. In a system for inspection of materials including testing means at a first position for measuring the physical characteristics of the material, means for moving the material to a second position spaced from said first position, means connected to said testing means for developing an output pulse in response to physical characteristics of the material outside predetermined standards,

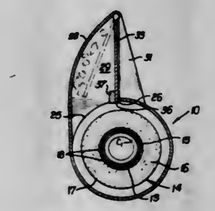
a chain of shift units connected in cascade and each adapted to store an input pulse and transfer the stored pulse to a subsequent shift unit in response to application of a shift signal thereto,

means for applying said output pulse to a first shift unit of said chain,

control rectifier means responsive to a pulse from the output of said chain for providing a control pulse,

timing means for applying shift signals to said shift units at a certain rate correlated to the rate of movement of said material and the number of shift units in said chain, means responsive to said control pulse for ejecting the material outside said predetermined standards at said second position.

3,263,811
SKIM FILTER
William O. Baker, West Covina, and Ernest A. Rodriguez, La Puenta, Calif., assignors to Shamrock Pool Equipment Company, El Monte, Calif., a corporation of California
Filed Feb. 28, 1963, Ser. No. 261,698
8 Claims. (Cl. 210—136)



1. In apparatus for skimming a body of liquid: a housing having an interior space for receiving a portion of a body of liquid, and having a skimming edge and presenting an opening, through which liquid can flow from the body to the housing said opening being defined at its bottom by said skimming edge and being disposed so that the surface of the liquid of the body is at a level which covers only part of said opening; said housing having an outlet cooperable with the suction side of a pump for withdrawing liquid from said housing space so that the liquid tends to flow into said housing through the opening; a filter in the housing below said skimming edge; and a closure plate mounted on said housing for movement relative to said edge and biased to close the opening at the area of said skimming edge to trap material behind said skimming edge, said closure having an area presented to the course of current of liquid entering said space for automatic movement away from said edge upon the existence of such current.

3,263,812
DRY CLEANING APPARATUS
Fred J. Hartley, Columbiaville, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 12, 1963, Ser. No. 301,543
5 Claims. (Cl. 210—209)

1. A disposable cartridge for use with dry cleaning solvent comprising

(a) a perforated outer shell adapted to receive solvent to be filtered and conditioned,

(b) a perforated inner tube inside of said outer shell and having one end open for dispensing conditioned solvent therethrough,

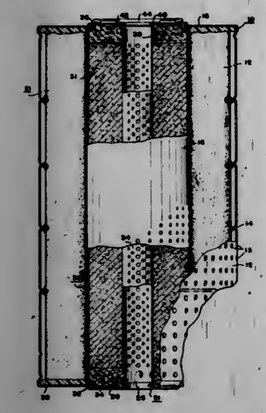
(c) a perforated support tube interposed between said outer shell and said inner tube,

(d) an imperforate end plate at each end of said cartridge connecting said outer shell and said support tube in spaced relationship respectively along the outer and inner peripheral edges of said end plates to define a solvent filtering chamber and a center cavity,

(e) a first cover engaging the inner peripheral edge of one of said end plates for partially closing one end of said center cavity and having solvent outlet means in communication with said one end of said inner tube, said inner tube being fastened at said one end to said first cover in a manner to support said inner tube in said center cavity thereby to define with said support tube a solvent conditioning chamber,

(f) a tube of longitudinally folded filter paper in said filtering chamber for removing particulate matter from solvent flowing therethrough,

(g) reactive granules in granular form in said conditioning chamber for removing nonparticulate matter from solvent flowing therethrough,

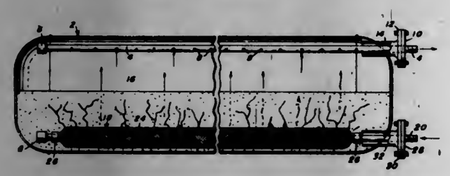


(h) a second cover engaging the inner peripheral edge of the other of said end plates for at least partially closing the other end of said center cavity,

(i) means for supporting the other end of said inner tube in fixed relation to said second cover,

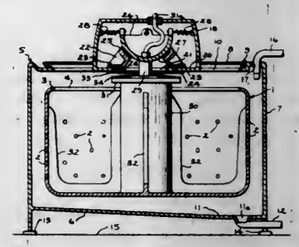
(j) and means for sealing said reactive granules in said conditioning chamber, said means including plug means at each end of said conditioning chamber extending from said support tube to said inner tube and liquid detergent individually precoated on said granules for preventing abrasive contact between said granules during handling of said cartridge and for stabilizing said granules before use of said cartridge, said detergent being dispensible from said cartridge into the solvent during use of said cartridge for conditioning said solvent.

3,263,813
FILTRATION APPARATUS
Paul A. Keller, 203 Riverside Drive, Austin, Tex.
Continuation of application Ser. No. 181,351, Mar. 21, 1962. This application Sept. 23, 1965, Ser. No. 495,013
4 Claims. (Cl. 210—232)



1. In a filtration tank having backwash regeneration, a filter bed of particulate matter gravitationally supported within said tank and filling said tank to a given level, means distributing influent to within said tank, an effluent receiver within said bed and beneath said given level having fluid connections to the outside of said tank, a flexible foraminous member covering all portions of said effluent receiver which are in fluid communication with said bed, said flexible foraminous member having a surface area materially greater than the surface area of said effluent receiver which it covers to permit substantial spacing between portions of said flexible foraminous member and said effluent receiver, means for applying regenerative fluid under pressure within said effluent receiver during regeneration to cause portions of said flexible foraminous member to inflate and flex away from said effluent receiver to mechanically disturb said filter bed and diffuse regenerative fluid through said bed without channeling, said flexible foraminous member being located entirely beneath said given level when it is so inflated.

3,263,814
WASHING MACHINE
John Bochan, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Jan. 20, 1964, Ser. No. 338,903
3 Claims. (Cl. 210—366)



1. A vertical axis washing machine comprising:

(a) an outer tub,

(1) said outer tub having an opening in the top thereof for access to the interior of said tub,

(2) a member extending across said opening,

(b) support means mounted on said member,

(1) said support means including a horizontal wall,

(2) said support means also including an intermediate having a flat lower surface slidably contacting the upper surface of said horizontal wall,

(3) said intermediate member also having an annular upper surface formed as a portion of a sphere,

(4) said support means also including a movable member having a lower surface formed as a portion of a sphere,

(5) said lower surface of said movable member slidably contacting said upper surface of said intermediate member,

(c) a clothes basket having a top opening,

(1) said basket including a central shaft extending through said basket top opening,

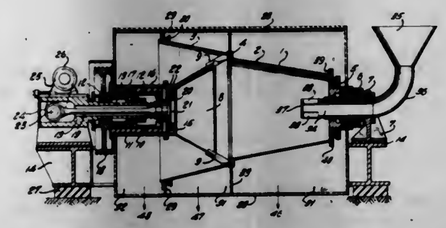
(2) said shaft being connected to said movable member for suspending said basket within said outer tub from said support means,

(3) said basket also including a sleeve coxial with and spaced from said shaft,

(4) said sleeve having an upper surface arranged for rubbing engagement with the lower surface of said horizontal wall after a predetermined tilting movement of said basket to thereby limit tilting movement of said basket,

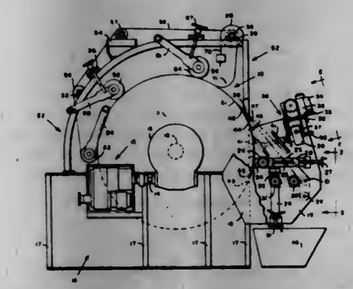
(d) said support means providing the sole support for said basket.

3,263,815
AXIALLY OSCILLATING HORIZONTAL CENTRIFUGE
Karl Golücke, Bensberg, near Cologne, and Wolfgang Gertrud Joseph Heckmann, Cologne-Dellbruck, Germany, assignors to Klöckner-Humboldt-Deutz Aktiengesellschaft, Cologne-Deutz, Germany
Filed Jan. 25, 1963, Ser. No. 253,912
Claims priority, application Germany, Feb. 17, 1962, K 45,921
3 Claims. (Cl. 210—370)



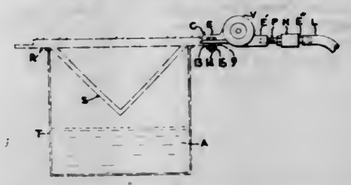
1. A centrifuge comprising a pair of coaxial mutually spaced stationary trunnions, said trunnions having a common horizontal axis, an elongated rotary perforated tapered drum extending between said trunnions and having an axis coinciding with the common axis of said trunnions, a pair of bearing means respectively surrounding and freely rotatable with respect to said trunnions and operatively connected to said drum to support the latter for rotation about its axis, said drum having in its interior an elongated completely unobstructed portion extending along its axis, and drive means for rotating said drum and for axially reciprocating the same, said drive means being connected to said drum through one of said bearing means.

3,263,816
FILTER
John E. Krynski, East Moline, Ill., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed July 30, 1962, Ser. No. 213,306
2 Claims. (Cl. 210—386)



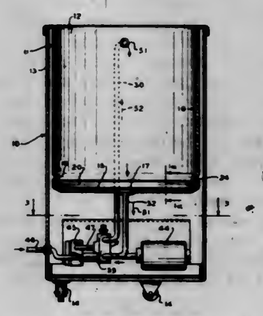
1. In a filter, a frame; an open top tank mounted within said frame and adapted to contain a slurry to be filtered; a drum mounted for rotation about a horizontal axis and such that a substantial portion thereof passes downwardly through said slurry; parallel plates mounted on said frame at opposite ends of said drum; separate aligned horizontal and vertical way bearings on said plates; roll means journalled in aligned bearings in corresponding ones of said way bearings and adapted to be moved a substantial distance therein whereby said roll means may be variably positioned relative to said drum; other roll means journalled in aligned bearings on said plates in parallel relation to said first-mentioned roll means; scraper blade means mounted between said plates; and means for moving said scraper means in scraping position relative to said drum and a substantial distance away from the periphery of said drum, whereby the variable positionability of said first-mentioned roll means and scraper blade means allows said filter to be operated as a precoat filter, a string discharge filter or a cloth discharge filter.

3,263,817
VIBRATING SIEVE
Michael J. Buckley, Brackenridge, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 6, 1963, Ser. No. 278,110
8 Claims. (Cl. 210—388)



1. A vibrating sieve screening apparatus comprising two outer coarse mesh conical screens and a fine mesh conical screen positioned in nested relationship therebetween, said fine mesh screen being substantially in contact with both said coarse mesh screens, upper and lower peripheral rings arranged exterior to said coarse mesh conical screens, fasteners to secure said rings and screens together, an access extension on one of said rings, a vibrator, and connecting means connecting said ring extension to said vibrator to transmit vibratory impulses from said vibrator to said ring to cause said screens to vibrate in unison.

3,263,818
OIL FILTERING APPARATUS
Jacob Gedrich, Short Hills, N.J., assignor to Keating of Chicago, Inc., Chicago, Ill., a corporation of Illinois
Filed Jan. 14, 1964, Ser. No. 337,647
8 Claims. (Cl. 210—416)



1. An oil filtering apparatus comprising a tank, an opening at the bottom of the tank for drainage of oil from the tank, a first pipe opening at one end into the tank above the bottom thereof and a second pipe connected at one end to said drainage opening of the tank, a pump, a third pipe connected to said pump at one end and having an opposite end for connection with a source of oil to be pumped into said tank for filtering therein and from said tank when filtered, a filter element dis-

posed in said tank above the drainage opening, valve means connected with said pump for selectively directing oil in a first direction from the third pipe and through the valve and the first pipe or for directing of oil in another direction from the second pipe and valve through the pump and through the third pipe, means including linkage means to positively operate said valve means, the opposite ends of the first and second pipes being connected with said valve, a motor reversing switch, a reversible motor means under control of said switch and connected with the pump for actuating the pump to pump oil in said directions selectively and a control means connected with said valve linkage means and switch for effecting simultaneous operation thereof.

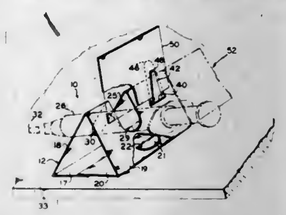
3,263,819
FILTER LEAF STRUCTURE
Irving Schmidt, New City, and Jay Frederick Taylor, Jackson Heights, N.Y., assignors to Multi-Metal Wire Cloth Company, Inc., a corporation of New York
Filed June 19, 1963, Ser. No. 288,988
3 Claims. (Cl. 210—486)



1. In a filter leaf of the type in which a rigid support is sandwiched between filtering septa, a support structure comprising:
(a) a pair of sheets of plastic material aligned in face-to-face relationship and bonded together to form an integral support,
(b) a U-shaped marginal portion peripherally surrounding each of said sheets such that the edges of the marginal portions of one sheet are secured to the marginal portions of the other sheet,
(c) an array of parallel ribs and channels formed along a major portion of each of said sheets to define a corrugated filter leaf wall, said sheets being so aligned that the respective array of ribs and channels formed in one sheet extends in a different direction than the array of ribs and channels formed in the other sheet,
(d) outlet means cut through the walls of the support at substantially the center portion thereof, and
(e) a collecting duct intersecting the ribs and channels of each sheet and leading to the outlet means.

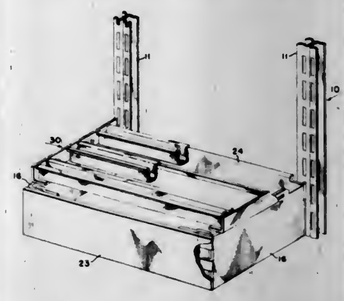
3,263,820
COLLAPSIBLE HYPODERMIC SYRINGE HOLDER
L'Etolle K. McFadden and Lois K. Sparks, both of 14180 SE. Hawthorne Court, Portland, Oreg.
Filed Aug. 17, 1964, Ser. No. 389,985
4 Claims. (Cl. 211—60)

1. In a holder,
a tubular member having a flat base side and an upper apex portion provided with an upwardly facing notch for receiving a hypodermic syringe,
a medicine card adapted to have instructions thereon, and clip means for holding the medicine card in a posi-



tion overhanging said notch such that the syringe cannot be conveniently moved without shifting the card.

3,263,821
SHELF ASSEMBLY
Kenneth W. Klene, Bedford, and Maximilian Schirmer, Goffstown, N.H., assignors to Hermsdorf Fixture Manufacturing Company, a division of Camden Industries Company, Inc., Manchester, N.H., a corporation of Delaware
Filed Dec. 11, 1964, Ser. No. 417,634
7 Claims. (Cl. 211—148)

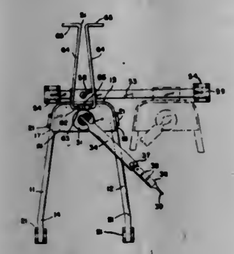


1. An assembly for store display fixtures comprising: a pair of spaced apart apertured, vertical side-posts; an end-member having a plurality of locking hooks on one end thereof which are engaged into corresponding apertured portions of each side-post; a stretcher member interconnecting the side-posts, said member carrying first and second locking tabs at each end thereof, each of said first locking tabs forcibly abutting against one of the aforesaid locking hooks on each of the end-members, and each of said second locking tabs forcibly engaged against the corresponding apertured surface of each side-post.

3,263,822
PORTABLE HOIST
Carl E. Weinman, Lake City, Minn., assignor to Valley Craft Products, Inc., Lake City, Minn., a corporation of Minnesota
Filed Jan. 14, 1965, Ser. No. 425,480
3 Claims. (Cl. 212—145)

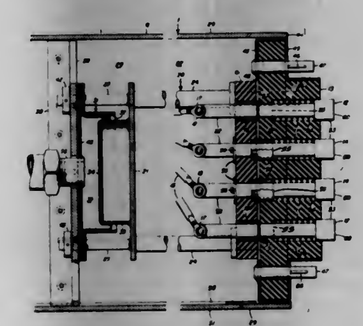
1. In a hoist comprising a base, floor engaging means for supporting said base, a boom, supporting means for the boom carried by the base and disposed toward one end thereof, means for guiding said boom for rotation about a substantially vertical axis, means for raising and lowering said boom, the combination of:
(a) a guide extending transversely of said frame and free at both ends, said guide being
(b) disposed at the end of the base at which the boom is located,

(c) a single beam longer than the guide and slideable along the guide,
(d) said beam having end portions at each end extending outwardly beyond the end said guide and



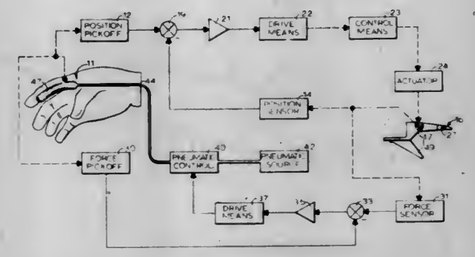
(e) separate floor engaging means attached to the beam at end portions of the beam,
(f) one of said floor engaging means moving toward the frame when the other moves away from the frame and vice versa.

3,263,823
AUTOMATIC COUPLER
George W. Gobrecht, Broomall, Pa., assignor to Walton Products Inc., Newtown Square, Pa., a corporation of Pennsylvania
Filed Oct. 20, 1964, Ser. No. 405,115
15 Claims. (Cl. 213—1.6)



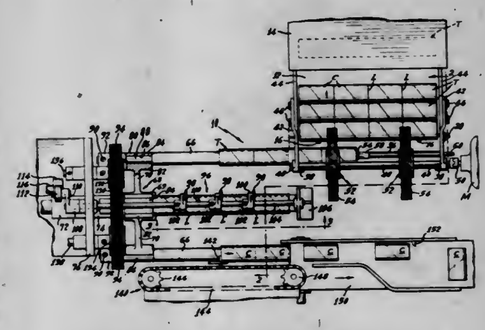
9. In a railway coupler assembly mechanically couplable to a mating assembly, an electric coupler comprising a housing, a stationary insulator block in a front end of said housing, a movable insulator block in said housing rearward of and reciprocable toward and away from said stationary block, a plurality of contacts shiftable axially and extending through said blocks and individually connected rearwardly thereof to corresponding electric lines, spring means for yieldably projecting each of said contacts forwardly from said stationary block for end contact in electric coupling position with a corresponding contact of an electric coupler of said mating assembly, certain of said first-named contacts being connected to said movable block for retraction and projection thereby from and to said coupling position, spring means in said housing and acting through said movable block for yieldably holding said certain contacts in retracted position, and fluid-actuated means in said housing and acting through said movable block and against said spring means for projecting said certain contacts to said coupling position after mechanical coupling of said assemblies.

3,263,824
SERVO CONTROLLED MANIPULATOR DEVICE
Leon Jones, Garden Grove, and John L. Thousand, Newport Beach, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Dec. 20, 1963, Ser. No. 332,221
16 Claims. (Cl. 214—1)



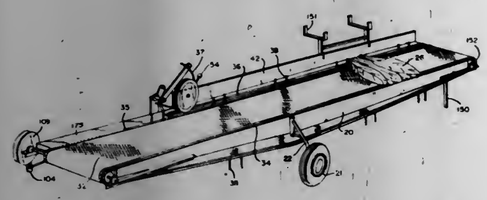
1. A servo controlled manipulator device comprising
a manipulator hand having at least one joint therein,
a control glove having at least one finger portion therein,
first servo means for rotatably positioning the joint of said manipulator hand in accordance with the position of said finger portion of said glove, said servo means including means for pneumatically actuating the joint of said manipulator hand,
said control glove having an inflatable bladder extending along the longitudinal axis of said finger portion, and
second servo means for inflating said bladder in accordance with the difference between the rotatable position of the joint of said manipulator hand and the rotatable position of said finger portion.

3,263,825
TUBE HANDLING APPARATUS
William Binford Elam, Oakland, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed June 10, 1964, Ser. No. 373,999
10 Claims. (Cl. 214—1)



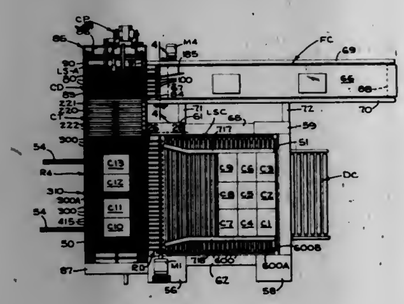
1. Apparatus for handling a tube, comprising:
a trough in which the tube is axially slidable,
means for axially moving the tube in said trough, and
a brush, said brush having elongated bristles in engagement with the tube to urge said tube against said trough to prevent it from moving in other than an axial direction when it is moved in said receptacle by said moving means.

3,263,826
TOBACCO STITCHER AND LOOPER MECHANISM
William E. Davis and Charles M. Davis, Seven Springs, N.C.
Filed Aug. 13, 1963, Ser. No. 301,862
21 Claims. (Cl. 214—5.5)



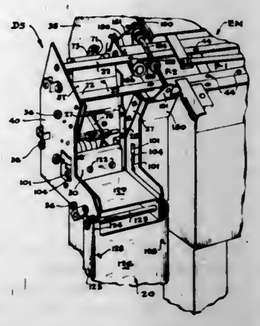
6. A looper mechanism comprising:
a frame;
conveying means associated with said frame for transporting harvested products having stems extending in a direction substantially perpendicular to the direction of travel of the conveying means;
stem looping means mounted on said frame for looping said stems into bundles and comprising
an oscillating element, an arcuate needle carried by said element, means mounting said element for oscillation about an axis spaced from the plane of said conveying means so that said needle oscillates in an arcuate path which intersects the plane of the conveying means at an acute angle, and means for cooperating with said arcuate needle to loop the stems of the harvested product into discrete bundles.

3,263,827
ARTICLE HANDLING APPARATUS
Ernest A. Verrinder, Riverside, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Sept. 20, 1963, Ser. No. 310,209
4 Claims. (Cl. 214—6)



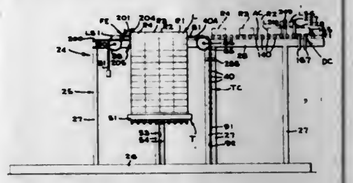
1. In a machine for palletizing articles, a support structure, a pallet elevator mounted for vertical movement in said structure, a discharge conveyor disposed at a first elevation adjacent a lower portion of said structure and adapted to receive loaded pallets from said elevator, when said elevator is stopped at said first elevation, and a pallet feed conveyor disposed at a second elevation below said discharge conveyor and arranged to deliver empty pallets to said elevator when said elevator is at said second elevation.

3,263,828
APPARATUS FOR STACKING ARTICLES ON EDGE
George Marinoff, Mentor Township, Lake County, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Nov. 20, 1963, Ser. No. 325,083
4 Claims. (Cl. 214—7)



4. In a machine wherein a final processing operation is performed on individual plates at a given position, a discharge station to which said plates are advanced from certain final operation stations in sequential fashion; said discharge station including a receiving tray located adjacent the operator of the machine to afford access to the plates stacked in sequential order and on their edges from one end of the tray to the opposite end of the tray; a guideway located in a vertical plane other than the plane of said receiving tray, said guideway guiding said plates from said final operation to said discharge station while said plates are disposed on their flat sides in said guideway; a rotatable support pivotally mounted for rotation to and from a position for receiving a plate disposed on its flat side from said guideway, and a second position where the plate is transported to an edgewise orientation; means for releasably holding a plate on its edge prior to entry into said tray means; pusher means engageable with a plate disposed between the pusher means and said releasable means for pushing the plate into said receiving tray while in an edgewise position; interruptible driving means for rotating said rotatable support to and from its respective positions, and for driving said pusher means; and timing means, coupled to said driving means, for controlling in timed relation the operation of said rotatable support and said pusher means.

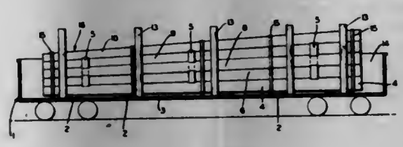
3,263,829
ARTICLE HANDLING APPARATUS
Ernest A. Verrinder, Riverside, Calif., and Donald D. Derricott, Cincinnati, Ohio, assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Continuation of application Ser. No. 41,533, July 8, 1960. This application Oct. 28, 1963, Ser. No. 320,256
14 Claims. (Cl. 214—8.5)



1. A machine for unloading articles from a pallet load formed of transversely aligned rows of articles arranged in multi-row layers, comprising a support structure having

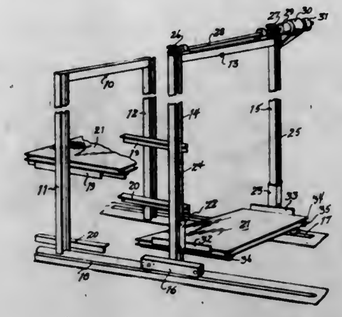
an elevated frame, an elevator mounted on said structure for receiving a loaded pallet, power means arranged when activated to raise said elevator to a predetermined position wherein the uppermost layer of articles is disposed in a horizontal plane, a transfer carriage having a plurality of transversely extending rollers mounted on said platform for movement in said horizontal plane in a first direction toward a position superposed above said elevator and in a second direction away from said superposed position, drive means for moving said carriage toward said position, a driven belt mounted on said platform and disposed in frictional engagement with selected ones of said rollers when said carriage is spaced from the position above said elevator and in engagement with substantially all of said rollers when said carriage is in said superposed position, means for moving said belt in said first direction to rotate the rollers in contact therewith, frictional article engaging means carried by the roller nearest the pallet, and control means associated with said elevator raising means for deactivating said elevator raising means when the uppermost layer of articles is elevated to said predetermined position in the path of movement of said carriage and associated with said carriage drive means for energizing said drive means to move said transfer carriage toward the articles on the pallet, said leading roller frictionally engaging the lower end of side wall portions of the articles and lifting the row of articles onto said leading roller, whereby the articles are moved onto succeeding rollers which convey the articles rearwardly while the carriage is advanced toward the next transverse row of articles.

3,263,830
PACKAGE LOADING OF POLES
W. Carl Anderson, Hartville, Ohio, assignor to The Union Metal Manufacturing Company, Canton, Ohio, a corporation of Ohio
Filed Feb. 5, 1964, Ser. No. 342,702
4 Claims. (Cl. 214—10.5)



1. In a stable packaged pile structure of poles of a type including tapered tubular metal poles and in which the packaged pile structure is capable of being transported without damage to the packaged poles and to the transportation means for the poles; a series of rows of elongated poles in a pile for shipment, strip means formed of shock absorbent rubber extending crosswise of the pile at spaced intervals along the length of the pile at least between the rows of a pair of adjacent rows of poles, the rubber strip means having top and bottom surfaces in frictional gripping contact with surface portions of poles in said adjacent rows, a series of strapping bands engridling the pile crosswise of the pile at spaced intervals under tension, and the tensioned bands acting to hold the rubber strip means under compression between and to maintain the rubber strip means surfaces in frictional gripping engagement with adjacent poles in said adjacent rows in the pile; and the compressed rubber strip means in frictional gripping engagement with adjacent poles, permitting poles in the pile to move slightly relative to one another in response to shock loading, absorbing the effects of such shock loading, and returning the poles in the pile to initial location after removal of shock loading forces.

3,263,831
PALLETIZED STORAGE DEVICE
Geoffrey Francis, 717 Sutter St., San Francisco, Calif.
Filed Oct. 19, 1964, Ser. No. 404,735
4 Claims. (Cl. 214—16.1)

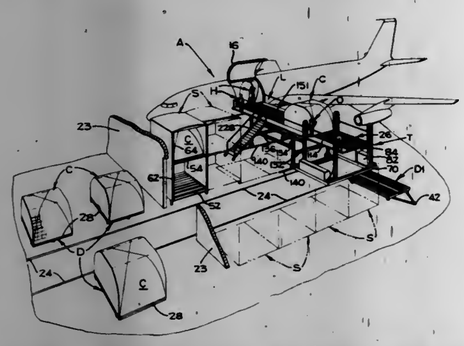


1. In a storage device of the character and for the purpose described, the combination of a pair of railway defining rails, a stanchion structure straddling said railway having vertically extending columns located inwardly with respect to the rails of said trackway, a plurality of vertically spaced horizontally extending shelf forming brackets carried by each of said columns engageable by a pallet extending horizontally therebetween, a gantry structure having trucks mounted upon the rails of said trackway, a vertical carriage supporting column carried by each of said trucks in line with the columns of said stanchion structure, vertically movable carriage mounted upon each of said latter columns having platen engaging brackets, a horizontally extending shaft extending laterally above the columns of said gantry structure having a shaft with two sprockets located one above each of said columns, a motive power means for rotating said shaft in a forward and reverse direction, chains connected at one end to each of the vertically movable carriages upon the gantry structure and hanging free at the other side of said sprockets, and a plurality of article supporting pallets having means at their ends engageable by the brackets carried by said vertically movable carriages and other means engageable with the shelf forming brackets of said stanchion structure, characterized by the fact that the shelf forming brackets of said stanchion structure and the pallet engaging means of said gantry structure are adapted and arranged to move into overlapping relationship when the columns of said stanchion structure and the columns of said gantry structure are brought into contact with each other by movement of said gantry structure along said trackway, whereby pallets engaged by the pallet engaging brackets of the vertically movable carriages of said gantry structure may be individually transported to and from the shelf forming brackets of said stanchion structure.

3,263,832
AIRCRAFT CARGO LOADING SYSTEM
Elwyn O. Williams, Jr., and Donald M. Ingham, both of Santa Clara, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of California
Filed Apr. 20, 1964, Ser. No. 360,892
19 Claims. (Cl. 214—38)

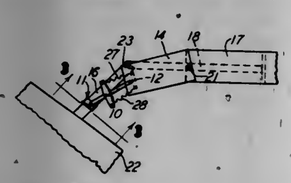
1. A system for the terminal loading and unloading of cargo pallets in a cargo aircraft of the type having a cargo deck, a cargo door, and a doorsill; said system including a transporter, reversible power means for moving said transporter in a path along the floor of the terminal, a pallet carrying transfer platform on said transporter, power means for raising and lowering said transfer platform, said transfer platform having reversible power

driven pallet conveying means for moving pallets in either direction transversely to the path of motion of said transporter on the floor; a loading assembly for transferring pallets between said transporter and the aircraft, said loading assembly comprising a loading platform



extending transversely between the path of said transporter and the sill of the aircraft, power means for raising and lowering said loading platform to level it with the aircraft sill, and reversible power driven pallet conveying means on said loading assembly platform.

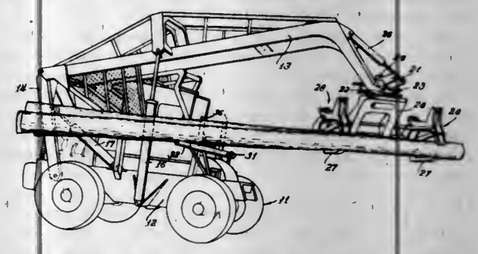
3,263,833
BALE LAUNCHER CONTROL
Thomas Evans and Boliver T. Harris, Bettendorf, and Howard D. Hadler, Davenport, Iowa, assignors to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Jan. 31, 1964, Ser. No. 341,570
12 Claims. (Cl. 214—42)



1. In a baler and bale launcher, the combination comprising a baler, a bale launcher pivotally connected to said baler, a trailing wagon which has a tongue pivotally connected to said baler, a member operatively interconnectable between both said bale launcher and said wagon tongue to be pivotally movable with the latter and to be horizontally pivotal with respect to said bale launcher, and a pair of resilient means operatively connected to said member and disposed one on each side of said member and adapted to be respectively flexed upon horizontal pivotal movement of said member and being operatively interconnectable with said bale launcher to yieldingly pivot the latter in the direction of horizontal pivot of said member and to a degree less than the simultaneous pivot of said wagon tongue.

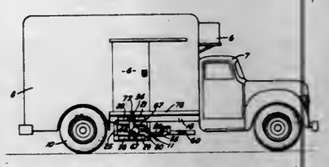
3,263,834
POLE CARRIER
Philip E. La Tendresse, Baraga, Mich.
Filed Oct. 14, 1963, Ser. No. 315,798
10 Claims. (Cl. 214—77)

2. Pole-handling apparatus including a mobile vehicle, a boom carried by the vehicle for lifting and reaching movements, a pole-gripping unit carried by the boom and rotatable with respect to it on an axis constantly approximately centered as to the vehicle width, by power, unlimitedly in either direction; and rest arms extending laterally from an upwardly extending body of the mobile



vehicle on which projecting portions of poles carried by said pole-gripping unit and turned to lie largely longitudinally of the vehicle and extending along and outside of the body may be rested for transportation.

3,263,835
LOADING APPARATUS FOR VEHICLES
Max J. Lugash, Los Angeles, Calif., assignor to Maxon Industries, Inc., Vernon, Calif., a corporation of California
Filed May 27, 1964, Ser. No. 370,422
9 Claims. (Cl. 214—77)

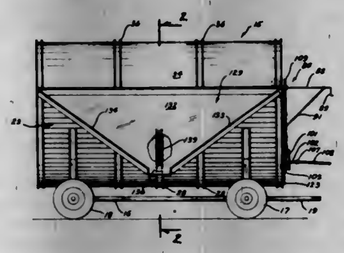


1. Loading apparatus for vehicles comprising a frame suspended under and in the central area of a vehicle, means on said frame for rotating a portion thereof approximately 90 degrees from a position under said vehicle to a position extending from said vehicle, said portion including a platform and pantograph arms pivoted adjacent one end of said platform, means for raising said platform to the level of the floor of said vehicle and for lowering said platform to the ground and means for locking said portion when under said vehicle and holding said platform in a partially raised position under said vehicle, said locking means including a pin adapted to pass through a member of said frame and a member of said rotating portion, a spring being provided for holding said pin in locking position together with a lever for raising said pin from said member of said rotating portion.

3,263,836
BULK MATERIAL HANDLING APPARATUS
Joseph B. Kucera, Traer, Iowa, assignor of one-third to Eric M. McElhinney, Jesup, Iowa, and one-third to Rudolph L. Lowell, Des Moines, Iowa
Filed Dec. 9, 1963, Ser. No. 329,027
10 Claims. (Cl. 214—83.18)

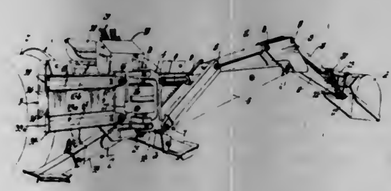
9. A bulk material handling apparatus comprising:
(a) box means having a semicircular bottom wall, upright end walls and side walls secured to the bottom wall, and a convex curved top wall having one side in alignment with and secured to one of the side walls and the opposite side positioned outwardly and laterally from the other side wall providing an opening into the box means,
(b) a flail means having a rotor extended longitudinally of the box means,

(c) means rotatably mounting opposite end portions of the rotor on the end walls,
(d) drive means mounted on one of the end walls and connected to the rotor for transmitting power to rotate the flail means in a direction to carry the bulk material in the box means along the curved top wall for discharge through the opening between the other side wall and the top wall,



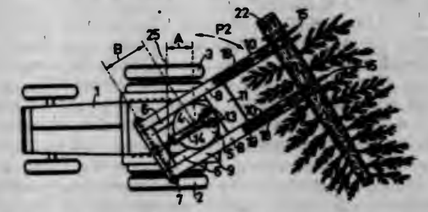
(e) door means pivotally mounted on the other side wall adjacent said opening, said door means operable to vary the size of said opening to control the rate of bulk material discharged from said box means, and
(f) means connected to the door means for holding the door means in a selected position.

3,263,837
TRANSVERSELY ADJUSTABLE BOOM MOUNTING FOR EARTHWORKING APPARATUS
Fred W. Noller, Farmington, and Roy E. Hauff, St. Clair Shores, Mich., assignors to Massey-Ferguson Inc., Detroit, Mich.
Filed Feb. 15, 1965, Ser. No. 432,719
6 Claims. (Cl. 214—138)



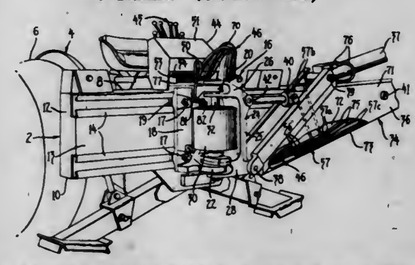
1. A boom support assembly for brackhoes and the like comprising a frame adapted to be transversely mounted on a tractor, said frame having spaced, parallel front and rear panels joined at their edges by end panels, said end panels extending beyond the upper and lower edges of said rear panel, a pair of vertically spaced, horizontal rail members mounted on said frame and extending along the upper and lower edges of said rear panel, each of said rail members having a pair of upper and lower, oppositely inclined flanges lying in converging planes and defining a track, a longitudinal recess in each of said rails, a slide member in each of said recesses having a pair of shanks projecting from said recess through the space between said inclined flanges, said slide members each having oppositely inclined surfaces complementary with the inclined flanges, a boom support bracket having a pair of vertically spaced, apertured guide members with oppositely inclined surfaces complementary to the oppositely inclined surfaces of said tracks and engaged with the track on the opposite side thereof from said slide members, said shanks being received in the apertures of said guide members, and fastening means on said shanks operable to selectively draw said slide and guide members toward each other to lock the boom support bracket in any selected position on said tracks, said fastening means being operable to permit said guide and slide members to slide along said track upon loosening thereof.

3,263,838
TRACTOR VEHICLES FOR MOVING FELLED TREES
Kjell Olof Gunnar Herolf, Sundsbruk, Sweden, assignor to Sunds Verkstader Aktiebolag, Sundsbruk, Sweden
Filed Mar. 1, 1965, Ser. No. 436,021
Claims priority, application Sweden, Mar. 2, 1964, 2,549/64
2 Claims. (Cl. 214—132)



1. A tractor vehicle for moving felled trees having front and rear axles and a structure defining an operating space for the driver, a vertical pivot mounted on said housing, a holder rotatably mounted on said pivot, a horizontal shaft mounted on said holder at a substantial distance from said pivot, a load lifting arm having a first shank and a second shank rigidly connected at an end of each to each other at a substantial angle, said first shank normally extending over said holder with its free end connected to said horizontal shaft, said second shank normally extending downwardly adjacent said housing with tree grasping means secured to the free end thereof, means for rotating said holder, means for raising and lowering said lifting arm and means for operating said tree grasping means, said pivot being in a vertical plane at a substantial distance from one of said axles on the side thereof remote from the other of said axles and said horizontal shaft being at a substantial distance from said pivot on the side thereof opposite to said second shank.

3,263,839
HYDRAULIC HOSE MOUNTING FOR MATERIAL HANDLING APPARATUS
Roy E. Hauff, St. Clair Shores, Mich., assignor to Massey-Ferguson Inc., Detroit, Mich.
Filed Apr. 5, 1965, Ser. No. 445,368
6 Claims. (Cl. 214—138)



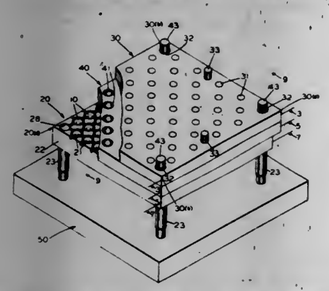
1. Material handling apparatus comprising: a supporting frame; a swing unit mounted on said support frame for horizontal sliding movement; a material handling member carried by said swing unit for side to side swing movement about a vertical axis; hydraulic control means mounted on said support frame; means defining a channel on the portion of said swing unit adjacent said material handling member with its open side facing away from the support

frame and toward the material handling member; and a plurality of flexible hydraulic hoses each having one end connected with the hydraulic control means and extending therefrom up and over the swing unit into said channel, said hoses extending from the channel into connection with the material handling member for conducting hydraulic medium between the hydraulic control means and the material handling member; and means clamping said hoses against movement in said channel; the portion of said hoses extending up and over the swing unit forming a slack portion to accommodate sliding movement of the swing unit on the support frame; said swing unit including a bracket slideably mounted on the supporting frame with a pair of vertically spaced arms, and a mast frame pivotally connected at its upper and lower ends with the upper and lower bracket arms; said channel extending vertically between the upper and lower ends of the mast frame, a horizontal ledge on said mast frame closing the lower end of said channel; said one end of said hoses being connected with said hydraulic control means for rotation about a vertical axis during horizontal sliding movement of the swing unit on said supporting frame, and said hoses extending from said one end up and over the swing unit into the upper end of said channel and extending generally along the length of said channel into said material handling member.

3,263,840
METHOD OF DISPENSING EMBOSSED BUTTER PATTIES
Leo Peters, 750 Plymouth Road SE., Grand Rapids, Mich.
Filed Mar. 20, 1963, Ser. No. 266,591
2 Claims. (Cl. 214—152)

1. A method of dispensing embossed butter patties from a unitary, thin, flexible, multiple mold sheet having formed therein a plurality of spaced embossed mold pockets projecting from the surface of said sheet and each containing a butter patty, comprising positioning said sheet with said embossed pockets uppermost, stretching said sheet until said surface becomes relatively rigid and inflexible, and pushing downwardly on said pockets to expel said patties.

3,263,841
METHODS AND APPARATUS FOR REMOVING ARTICLES FROM NESTS IN A WORK HOLDER
William R. Wanesky, Emmaus, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 1, 1964, Ser. No. 400,645
15 Claims. (Cl. 214—300)



1. The method of removing an even-numbered group of at least four articles from a plurality of nests in a work holder in two stages such that half of the articles comprising every other one are removed in the first stage and the remaining half are removed in the second stage, the nests being arranged in the work holder in a predetermined regular pattern, which method comprises:

(a) positioning a transfer plate opposite to the work holder in a first orientation, the transfer plate having a plurality of article pick-up members which are equal in number to half the number of nests and which are arranged on the transfer plate in a predetermined pattern based on the pattern of the nests so that the pick-up members are aligned with a first half of the articles comprising every other one when the transfer plate is in the first orientation;

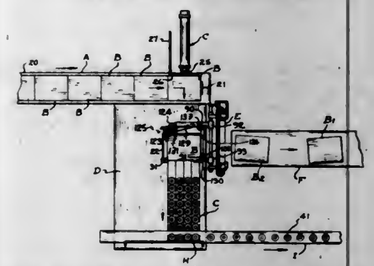
(b) moving the work holder and the transfer plate in the first orientation relatively together and then apart so that the pick-up members remove the first half of the articles from the work holder;

(c) detaching the first half of the articles from the pick-up members;

(d) positioning the transfer plate opposite to the work holder in a second orientation in which the pick-up members are aligned with the remaining half of the articles in the nests; and

(e) moving the work holder and the transfer plate in the second orientation relatively together and then apart so that the pick-up members remove the remaining half of the articles from the work holder.

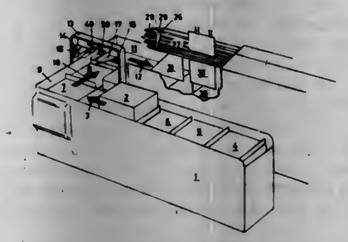
3,263,842
CASE DUMPER
John H. Holstein, Fresno, Calif., assignor to Schenley Distillers Co., Inc., New York, N.Y.
Filed Aug. 12, 1963, Ser. No. 301,324
10 Claims. (Cl. 214—304)



1. In a bottling system of the type which includes a feed means for moving cases of empty bottles toward a bottling line, a case dumper for removing the bottles from the case comprising: elevator means mounted for vertical movement adjacent the case conveyor, elevator drive means connected to reciprocally move said elevator between a lower and upper position, clamp means connected to said elevator and extending therefrom for gripping opposed sides of a case on the feed means when the elevator is in a lower position, cam means connected to tilt said clamp means when the elevator is in an upper position for releasing the case, whereby the bottles are released from the case and fed to the bottling conveyor as the case is lifted from the feed means.

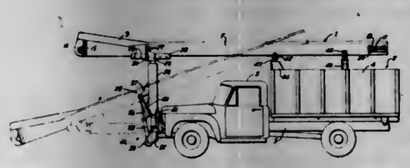
3,263,843
APPARATUS FOR REMOVING A PARALLEL-EPIPEDIC WRAPPING FROM BOTTLES, CANS AND THE LIKE, ENCLOSED IN SUCH A WRAPPING
Per Herbert Grahn and Karl Gustav Eugen Håkansson, Odakra, Sweden, assignors to Billeruds Aktiebolag, Saffle, Sweden, a company of Sweden
Filed May 28, 1964, Ser. No. 371,049
Claims priority, application Sweden, June 10, 1963, 6,382/63
4 Claims. (Cl. 214—305)

1. Apparatus for removing the wrappings from parcels of bottles comprising a first conveyor and a second conveyor positioned perpendicular to each other and having means for moving parcels along the first conveyor to the second conveyor and along the latter, two cutting members supported at the same level above said first conveyor to produce horizontal cuts in two opposite sides of the wrapping of each parcel when it passes said cutting members, a third cutting member supported above said second conveyor at the same level as said two cutting members to produce a horizontal cut in a third side of said wrapping when it passes said third cutting member, a bending-up member supported adjacent to said second conveyor to bend up the top of said wrapping released by said cuts, supporting means positioned above said second conveyor adapted to suspend the bottles of said parcels by



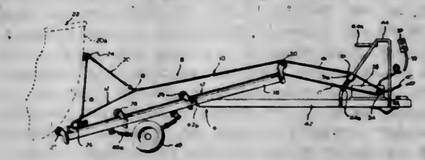
their necks when the bottles are moved forward relative to said supporting means, and means positioned adjacent to said second conveyor for removing the wrappings from the bottles while the bottles are hanging from said supporting means, said means for removing the wrappings consisting essentially of at least one plane vertically disposed plate and means for moving said plate vertically to engage the bottoms of said wrappings and a vertical knife positioned in front of said plate to produce vertical cuts in the sides of said wrappings extending from the bottoms thereof to said horizontal cuts in opposite side thereof and in line with said plate.

3,263,844
VEHICLE MOUNTED CONVEYOR
Francis T. Spellman, Jr., Rte. 1, Verona, Wis.
Filed July 24, 1964, Ser. No. 384,916
10 Claims. (Cl. 214—508)



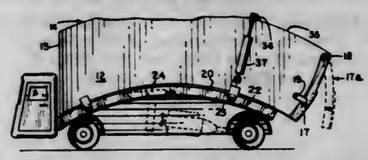
1. In combination, a truck having a pivotal dump body, an elongated conveyor disposed above the truck and extending in a fore and aft direction with respect to the truck, a boom interconnecting a forward portion of the truck to the conveyor, means for pivoting said boom in said fore and aft direction to move the conveyor from a transporting position above the truck to an inclined conveying position in which the forward end of the conveyor is at a lower level ahead of the truck and the aft end of the conveyor is at a higher level above the dump body, and guide means connected to the dump body for supporting the aft portion of the conveyor in movement when the conveyor is moved between the transporting position and the conveying position and for supporting the conveyor when the dump body is pivoted to a dumping position.

3,263,845
WINCH SYSTEM FOR BOAT TRAILER
Milton Davidson, 3735 W. Fullerton Ave., Chicago, Ill.
Filed Nov. 23, 1964, Ser. No. 413,133
8 Claims. (Cl. 214—516)



1. A boat winch system embodied in a boat trailer including a frame with roller means mounted along the longitudinal center thereof and being disposed to receive the keel of a boat thereon, comprising: a continuous rotating means, said continuous rotating means having a sling portion and a chain portion, reversible driving means engaging said chain portion to cause said continuous rotating means to selectably rotate in opposite directions, said sling portion including two flexible cable portions with each of their ends meeting together in junctures at opposite ends of said sling, one of said junctures being connected to one end of said chain and the other of said junctures being connected to the other end of said chain to form said continuous rotating means, a bridle attached to said cable portions by having each end thereof associated with a different one of said cable portions, said bridle means having a length that enables it to extend around the bow of said boat, said bridle means being disposed to receive the bow of said boat when said boat is engaged by said winch system, and strap means associated with said rotating means to be attached to said bow of said boat in order that the keel of said boat can be pulled onto said rollers of said boat trailer and each side thereof brought into engagement with one of said cable portions of said sling when said continuous rotating means is actuated in a certain direction, whereby actuating said continuous rotating means in an opposite direction from said certain direction can launch said boat by having said bridle means and sling portion frictionally engage said boat and cause it to be moved off of said boat trailer.

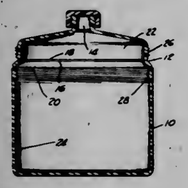
3,263,846
REFUSE COLLECTING VEHICLE
Valentino L. Balbi, 92 W. Market St., Daly City, San Mateo County, Calif.
Filed Jan. 21, 1965, Ser. No. 426,976
6 Claims. (Cl. 214—518)



1. In a refuse collecting vehicle, a supporting frame having longitudinal, arcuate, parallel tracks, a vehicle body mounted on the tracks for forward and rearward movement, the body being provided with a rear opening and having a forward storage compartment and a rearward hopper arranged in communication with each other, means for adjusting the body rearwardly to lower the rear end of the body and forwardly to raise the said rear end, a pusher plate mounted in the body for forward and rearward adjustment, the pusher plate being positioned forwardly with respect to the hopper, and such pusher plate being adapted to be urged forwardly by a predetermined forward pressure thereon, means for actuating the pusher plate rearwardly to discharge refuse through the hopper and from the vehicle body through

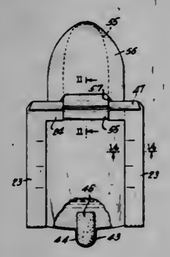
the rear opening, a rearwardly disposed top plate pivotally mounted at its forward end on the body for upwardly and downwardly swinging movement, the top plate in its downward position being adapted to close the top of the hopper substantially, a depending refuse compacting member carried at the rear portion of the top plate and arranged for forward and rearward adjustment, the said compacting member being adapted to extend into the rear end portion of the hopper when the top plate is in a lowered position, means to raise and lower the top plate and the compacting member, and means to adjust the compacting member forwardly to shift the refuse in the hopper against the pusher plate and into the storage compartment and to adjust the compacting member rearwardly.

3,263,847
RE-USEABLE CONTAINER
Charles Donald Amann, 262 Hermosita Drive, St. Petersburg Beach, Fla.
Filed Dec. 10, 1964, Ser. No. 417,334
4 Claims. (Cl. 215—1)



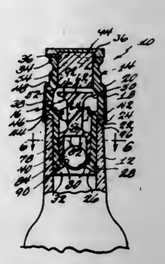
1. A container having wall portions and a discharge opening of relatively small dimension having a removable closure, said container wall portions including a first wall portion and a second wall portion, said first wall portion being of greater transverse dimension than said second wall portion, a portion of said container spaced from said opening having a parting portion for providing said container with a widemouthed opening comprising a severable wall portion disposed intermediate said first and second wall portions, and mating portions defined on said container first and second wall portions adjacent said severable wall portion adapted for mating relation with each other on separation of said severable wall portion from said first and second wall portions.

3,263,848
NURSING CONTAINER WITH SUPPORTING HANDLES
Eli A. Zackheim, Princeton, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Dec. 3, 1963, Ser. No. 327,619
2 Claims. (Cl. 215—11)



2. A laminated disposable liquid container which comprises a first panel and a second panel attached to one another adjacent opposite edges of said panels and unattached to one another centrally thereof; each of said panels comprising an inwardly facing relatively limp and thin closure sheet, relatively rigid side framing strips spaced from one another and attached to the outside of the sheet along opposite side edges of said sheet, and at least one relatively rigid end framing strip connecting said side framing strips and attached to the outside of the sheet adjacent an end edge of said sheet; the side framing strips and the end framing strip of the first panel being superimposed with the corresponding side framing strips and end framing strip of said second panel with the closure sheets of both panels between them, said closure sheets being sealed to one another along contiguous side and end edges of the container; at least one of said closure sheets being distended outwardly between the side framing strips of the individual panels to form a collapsible chamber for containing liquids; and dispensing means communicating with said chamber, said dispensing means being located in said collapsible chamber spaced from any of said framing strips and being adapted to be used for nursing purposes to dispense the liquid contents of the container by suction, said dispensing means comprising an outwardly deformed teat portion of one of said closure sheets and a resilient porous body within said teat portion to preserve its shape, said teat having an opening adequate to pass the desired amount of liquid during nursing.

3,263,849
NONREFILLABLE CLOSURE FOR CONTAINERS
Harry Hagen, 602 E. Decatur St., Decatur, Ill.
Filed Apr. 30, 1965, Ser. No. 452,236
19 Claims. (Cl. 215—22)



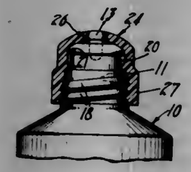
1. A nonrefillable bottle closure comprising:
a hollow casing adapted to fit at least partially within the neck of a bottle, the hollow casing having an integral ball seat formed inwardly of the lower end of the casing;
a valve member inserted within the casing, the valve member comprising a shaft having an upper and lower end, a disc integrally secured to the upper end of the shaft, a plurality of projections extending radially outwardly from the shaft intermediate the upper and lower ends thereof and defining first axial openings between each projection, a plurality of axially extending tines turned radially inwardly at their upper ends and integrally secured to the lower end of the shaft, the tines and radial portions thereof forming a cage, the radial portion of the tines defining second axial openings between each radial portion of the tines, each first opening being aligned with a tine so as to divert the liquid through the valve member in an irregular path and so as to prevent a wire from being inserted straight through the first and second openings;
a ball member positioned within the cage and retained at least partially therein by the ball seat of the hollow casing; and
means for securing the casing within the neck of the bottle.

3,263,850
BOTTLE CAP AND LINER
Douglas C. Scott, West Hartford, Conn., assignor to Scott Plastics Corporation, Hartford, Conn., a corporation of Connecticut
Filed Oct. 9, 1963, Ser. No. 314,986
4 Claims. (Cl. 215—56)



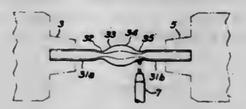
1. A closure member for covering the mouth of a container having a neck, which member permits the passage of air both into and out of the container while preventing the outward flow of the contents of the container, said member consisting of a cup-shaped cap and a generally circular liner nested in the top of said cap, said cap having a cover portion and an annular skirt portion depending therefrom and integral therewith, means for detachably connecting said cap to said neck, said circular liner abutting the inner surface of said cover portion and comprising a first disclike gasket having a pair of slots located substantially within a semicircle of said gasket and having their inner ends disposed inwardly of the inner periphery of said neck, a second disclike porous gasket, and a layer of liquid and air impermeable material located on the surface of said second gasket towards the interior of said container, said layer and second gasket having therein a plurality of small punctures which extend from the interior of said container completely through said layer and only partially through said second gasket so as to communicate directly only with the inside of said container and said disclike gasket members, said first gasket being located between said second gasket and the inner surface of said cover portion, said slots permitting yielding of said second gasket in response to excess pressure in said container so as to permit outward release of such excess pressure between said layer and the rim of said neck, and the spaces within the slot portions inward of said neck facilitating inward diffusion of air through said liner by shortening the passage through said liner over which the material of said liner offers resistance to the flow of said air.

3,263,851
CONTAINER CLOSURE
Arvid Kjellsen Grimsley, Rockaway, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed May 14, 1964, Ser. No. 367,419
6 Claims. (Cl. 215—74)



1. A closure for a container comprising a hollow neck of resilient deformable thermoplastic material having a top central closure plug and discharge passages surrounding said plug. said neck having integral exterior threads and an annular integral bead spaced above said threads a predetermined distance, and a captive cap having a central aperture cooperable with said plug on said neck, interior integral threads cooperable with the exterior threads on said neck and an interior integral annular bead spaced above said cap threads a predetermined distance cooperable with said neck bead to limit outward displacement of said cap, said threads being in a position of maximum engagement when said cap is turned down on said neck with said plug sealing said aperture and in a position of minimum engagement when said cap is turned up on said neck with said beads in interlocked engagement so that said threads engage each other for a small portion of their respective lengths, said beads and said threads being configurated and relatively dimensioned so that said threads in said position of minimum engagement deform and override each other and remain in said position of minimum engagement to permit continued rotation of said cap in its open position without disengaging said beads and said cap from said neck.

3,263,852
METHOD OF GLASS BULB MANUFACTURE AND GLASS BULB
Elmer G. Fridrich, South Euclid, Ohio, assignor to General Electric Company, a corporation of New York
Filed May 9, 1963, Ser. No. 279,229
7 Claims. (Cl. 220—2.1)



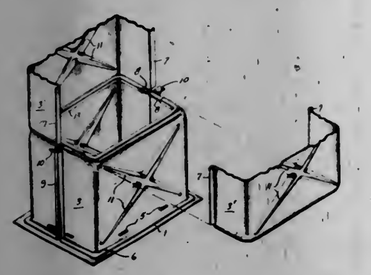
1. A one-piece quartz envelope for an electric lamp comprising a pair of relatively thin-walled opposed neck portions of quartz tubing merging through constricted throats into a relatively thick-walled central bulb portion, the walls of said bulb portion consisting of a build-up of quartz resulting from the controlled necking and upset of tubing corresponding to the neck portions.

4. The method of making a one-piece quartz envelope for an electric lamp which comprises:
heat-softening a short section of relatively thin-walled quartz tubing such that it necks down to form a throat;
heat-softening a short section adjacent to the throat in order to make it tend to neck down and pressing the ends of the tubing together in order to upset the quartz at the heat-softened section and make the wall thicken and expand radially outward at said section;
displacing the region of heat-softening along the tubing while continuing to press the tubing into it in order to build up a relatively thick-walled bulb portion;
and heat-softening a section beyond the bulb portion such that it necks down to form a throat;
whereby a thick-walled bulb portion results separated from thin-walled neck portions by constricted throats.

3,263,853
UNDERGROUND METER BOX
Grover H. Smith, 4609 6th Ave. S., Seattle, Wash.
Filed Oct. 8, 1962, Ser. No. 229,106
1 Claim. (Cl. 220—18)

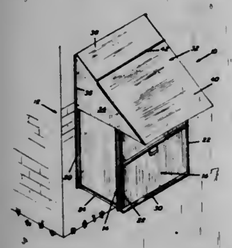
An underground meter box comprising a continuous generally planar rim, and a casing separate from said rim of thin, strong, stiff sheet material and including an upper section and a lower section each of generally rectangular cross section and having at least one openable upright joint extending between its upper and lower edges, the upper edge of said upper casing section and said rim having projection and socket elements interengageable to inter-

lock the rim and the casing by movement of the upper portion of said upper casing section wall relative to said rim substantially parallel to the plane of said rim, the lower edge of said upper section and the upper edge of said lower section having complemental internal flanges disposed in adjacent registry, a continuous internal yoke ring of channel, generally rectangular cross section receiving said upper and lower section flanges by movement of



said flanges into the ring channel substantially parallel to the plane of said ring when said upright joints are open, and means holding said joints closed for securing said rim and casing projection and socket elements in interengagement and said flanges in said yoke ring channel with said channel securing together said upper and lower section flanges.

3,263,854
GARBAGE RECEPTACLE
Samuel T. Powers, P.O. Box 882, Tijeras, N. Mex.
Filed May 28, 1964, Ser. No. 370,875
7 Claims. (Cl. 220—18)



1. For use with a building having a garbage-dispensing opening formed in a wall thereof, a garbage receptacle surrounding said opening and comprising:

a supporting frame having rear legs adapted to be affixed to said wall, front legs in spaced alignment forwardly of said rear legs, and upper and lower cross-legs interconnecting said aligned front and rear legs;

a hood member overlying said supporting frame and surrounding said garbage dispensing opening in said wall;

an imperforate bottom member mounted beneath said supporting frame and enclosing the lower end thereof;

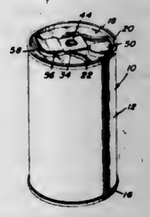
a hollow tubular canister having an open upper and open lower end with a peripheral flange surrounding said upper end;

said canister being mounted within said supporting frame with said open lower end juxtaposed to said bottom member and said peripheral flange at least partially overlying said upper cross-legs whereby garbage can be introduced into said canister through said opening in said wall;

means reacting between said peripheral flange and said upper cross-legs to permit slidable movement of said canister; and

handle means affixed to said canister to permit said canister to be slid forwardly of said supporting frame to permit garbage to empty from said canister through its open lower end.

3,263,855
METAL CONTAINER WITH TEAR OUT METAL TAB AND STRAW
William A. Pugh, Sr., 5200 S. Harper Ave., Chicago, Ill.
Filed Mar. 13, 1964, Ser. No. 351,665
8 Claims. (Cl. 220—54)



1. A container including a peripheral wall, a lid having a tear out strip therein, handle means attached to said strip for enabling removal thereof, and a straw disposed within the container with the straw including an upper portion disposed generally perpendicular to a lower portion, and means connecting the upper portion of the straw to the undersurface of the tear out strip so that when the tear out strip is removed from the lid, the upper end portion of the straw will be guided and moved through the opening defined by the removal of the tear out strip, said means connecting the straw to the tear out strip including a member at least partially encircling the straw, and a socket formed in the undersurface of the tear out strip, and projecting means on the encircling member for securing the encircling member to the tear out strip for movement therewith during the arcuate bending of the tear out strip thereby pulling the upper end portion of the straw outwardly through the opening and guiding it to the straight line condition.

3,263,856
DISPENSING APPARATUS HAVING ICE BREAKING MEANS AND ARTICLE MAGAZINE SIZE ADJUSTING MEANS
Francis A. Gasparini, Longmeadow, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 4, 1964, Ser. No. 415,921
4 Claims. (Cl. 221—67)

1. In a bottle dispensing machine, the combination of

a magazine structure providing a compartment adapted to contain two columns of bottles in corded or vertically staggered, horizontally-overlapping relation,

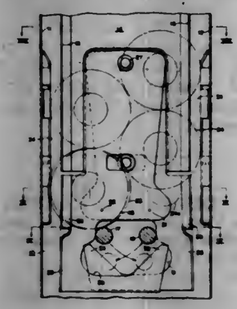
bottle supporting and releasing mechanism at the bottom of the compartment,

means for operating said mechanism to release the lowermost bottle and to retain the second lowermost bottle,

a first ice breaker member disposed on the outer side of the neck of the lowermost bottle when it is in the first column and a second ice breaker member disposed on the outer side of the lowermost bottle in the second column when the lowermost bottle is in the second column,

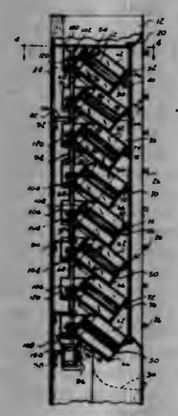
means operative during a dispensing operation to move that ice breaker member which is adjacent the lowermost bottle being dispensed, and

spacer plates at the sides of the compartment adjacent the lower end thereof, said spacer plates having a



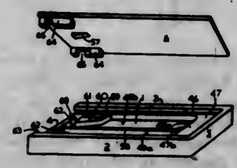
cut-out portion in the area against which the bottles are confined at the shoulder of the lowermost bottle so as to permit the neck end of the lowermost bottle to move outwardly towards its adjacent ice breaker member.

3,263,857
MULTILEVEL FIRST-IN FIRST-OUT MERCHANDISING MACHINE
Merrill Krakauer and Peter Katz, Livingston, N.J., assignors, by mesne assignments, to Automatic Canteen Company of America, Chicago, Ill., a corporation of Delaware
Continuation of application Ser. No. 112,620, May 25, 1961. This application Sept. 8, 1964, Ser. No. 396,797
4 Claims. (Cl. 221—85)



1. A machine for dispensing articles of merchandise including in combination a housing having a window, a conveyor having an upper article supporting surface adapted to support a plurality of articles to be dispensed and a lower portion below said upper article supporting surface, said conveyor having a discharge end, means forming a delivery chute adjacent said discharge end of said conveyor, means mounting said conveyor in said housing with the length of said upper article supporting surface extending generally transversely of said housing adjacent to said window for movement in a direction to deliver articles to said chute with said conveyor upper surface being inclined toward said window to form an acute angle with the plane of said window to permit said articles to be viewed clearly through said window, means for retaining articles along said lower portion of said conveyor between its other end and said discharge end and means for driving said conveyor to cause it to deliver an article to said chute.

3,263,858
PELLET DISPENSER
Frederick Malcolm Needham, Killara, New South Wales, John F. C. Close, Lane Cove, New South Wales, and Roy Arnold Williams, Wentworthville, New South Wales, Australia, assignors to Boots Pure Drug Company (Australia) Pty. Limited, Roseville, New South Wales, Australia, a company of New South Wales
Original application Oct. 14, 1963, Ser. No. 315,927. Divided and this application Sept. 13, 1965, Ser. No. 486,847
5 Claims. (Cl. 221—93)



1. A pellet dispenser for holding and dispensing pellets of uniform shape and size, said dispenser comprising:

(a) a rectangular case having a floor with peripheral side and end walls fixed thereto and extending upwardly therefrom, one of said end walls having a first slot formed therethrough adjacent one of said side walls and a second slot formed therethrough adjacent the other of said side walls;

(b) first and second partition members joined to said side walls adjacent the respective first and second slots in said one end wall, said partition members each comprising:

(1) a first limb extending inwardly from the side wall joined thereto in spaced substantially parallel relationship to said one end wall; and,

(2) a second limb extending from said first limb towards said one end wall in spaced substantially parallel relationship to the side wall joined thereto to define with said side wall, said first limb and the floor a slide channel aligned with and of substantially the same width as the slot adjacent thereto, said second limb terminating short of said one end wall to define therewith a duct extending into said slide channel of sufficient width to permit the passage of pellets therethrough in single file relationship;

(c) a lid slidable on said side and end walls and said partitions to define therewith and with said floor a pellet storing chamber;

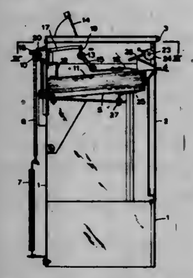
(d) first and second gates fixed to said lid and extending downwardly therefrom slidably into the respective slide channels defined by said first and second partition members, said gates each having therein a pellet receiving chamber;

(e) stop means cooperating between said lid and case to limit sliding movement of said lid; and wherein:

(1) said lid is movable to move the pellet receiving chamber in each of said gates from a normal position aligned and in communication with the duct in the slide channel therefor to and through the slot aligned with said slide channel to an exposed position to the exterior of the case; and,

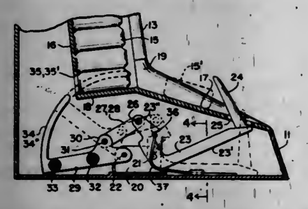
(2) each of said gates in the latter position functions to close the duct in the slide channel therefor.

3,263,859
NEWSPAPER VENDING MACHINE WITH A FOLLOWER PRESSURE RELIEVING ASSEMBLY
Ronald William Searle, 6 Kim Place, Dallington, Christchurch, Canterbury, New Zealand
Filed May 18, 1964, Ser. No. 373,124
Claims priority, application New Zealand, May 17, 1963, 134,153/63
3 Claims. (Cl. 221—227)



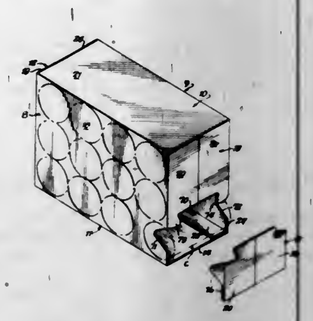
1. A vending machine comprising a housing for a stack of articles and having a discharge opening through which the articles may be dispensed from the top of the stack, a vertically movable support for the articles stacked in the housing, the said vertically movable support including an article supporting platform inclined toward the discharge end thereof, means for transmitting an upward force to the vertically movable support, a stop engageable with the top article in the stack for limiting the upward movement of the support by said force-transmitting means actuatable article discharging means engageable with the top article in the stack and moving the said article toward the discharge opening, pressure relieving means operatively connecting said article discharging means and said force-transmitting means so as to lower the platform slightly to disengage the top article in the stack from the stop before actuation of the article discharging means and thereby free the upper article in the stack for movement toward said discharge opening, and means for adjusting the angle of inclination of said supporting platform.

3,263,860
ARTICLE DISPENSER INCLUDING A RECIPROCATING EJECTOR
Eduard Haas, Attersee, Austria, assignor to Centromint Co., Vaduz, Liechtenstein, a corporation of Liechtenstein
Filed July 7, 1964, Ser. No. 380,753
3 Claims. (Cl. 221—274)



1. A dispenser for substantially flat packages, comprising: a stand having a hopper and a hollow base, said hopper having an inclined rear wall, said base having a closure forming a bottom for said hopper upon which said packages are stacked and a slide for said packages, a bracket attached to said base, a first shaft mounted in said bracket, at least two curved ejector arms swingably mounted on said first shaft, said rear wall having openings adjacent said bottom, a second shaft mounted in said bracket substantially parallel to said first shaft, a bell crank lever rotatably mounted on said second shaft, said lever having two arms, one of said arms carrying a push member and the other of said arms carrying a third shaft, a hook member on said other of said arms, a spring attached to said base and engaging said hook member, and linkage members connecting said third shaft with said ejector arms, said ejector arms being arranged during their swinging movement when said push member is depressed to project through said openings and push forward the lowermost of said packages onto said slide, said spring being adapted to return said ejector arms and said push member to normal inoperative positions upon release of said push member.

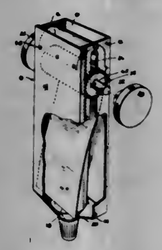
3,263,861
DISPENSING CARTON
Harold James Carr, Rochester, N.Y., assignor to Lawless Bros. Container Corp., North Tonawanda, N.Y., a corporation of New York
Filed June 9, 1964, Ser. No. 373,727
6 Claims. (Cl. 221—302)



1. A dispensing carton for rigid cylindrical objects, comprising a pair of spaced side walls, a bottom wall joining the lower edges of said side walls, an end wall joining the end edges of said bottom and side walls, a bottom tear line along the juncture between said bottom and end walls, a side tear line on each of said side walls beginning and ending on the upright juncture between such side wall and said end wall and including a recessed portion intermediate its ends, the upper ends of said side tear lines being above said bottom wall a distance corresponding to about the diameter of one of said cylindrical objects to be dispensed from the carton, the lower ends of said side tear lines terminating adjacent the ends of said bottom tear line, and an upper tear line on said end wall connected at opposite ends to said upper ends and contoured to form a finger having a portion which extends below the level of said upper ends, whereby the structure outlined by said tear lines is adapted to be removed leaving an opening through which said cylindrical objects may be pulled singly against the yielding restraint of said finger which acts as a detent.

3,263,862
DISPENSING CONTAINERS FOR COLLAPSIBLE TUBES
James Phillip Tazzeo, 351 E. 36th St., Hamilton, Ontario, Canada
Filed Mar. 15, 1965, Ser. No. 439,815
6 Claims. (Cl. 222—101)

1. A dispensing container for a collapsible tube, said container enclosing said tube and having opposite walls between which said tube freely extends, one of said walls being a bottom wall against which said tube is flattened and the other said wall being a passage-defining wall for a roller which is guidably sustained for movement through said passage to flatten said tube and is supplied with manually operable means; said container comprising a thin flexible spring-metal plate extending through said passage and under said roller for more effectively transmitting the flattening action of said roller to the tube, said plate having a free forward end and a rear end secured to said passage-



defining wall, said plate having a transverse fulcrum adjacent its rear end beyond the bottom end of said tube whereby reverse movement of the roller beyond said fulcrum induces upward flexing of the portion of the plate beyond said fulcrum to facilitate removal of the flattened tube and insertion of a new tube.

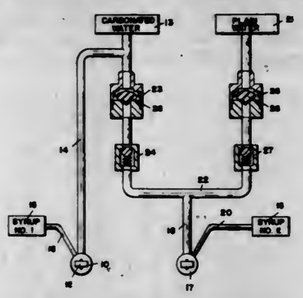
3,263,863
CONTAINER FOR GRANULAR MATERIAL
Roderick W. Hoag, Melrose, Mass., (19 Lupine Road, Andover, Mass.)
Filed Mar. 23, 1965, Ser. No. 442,028
7 Claims. (Cl. 222—107)



1. A container for granular material comprising, an outer tubular cover, an inner tubular liner of fluid impervious plastic film which will stretch when placed in tension, the ends of said cover being sealed, the inner liner when torn in two generally transverse to the longitudinal axis of the container stretching into material restraining tentacles.

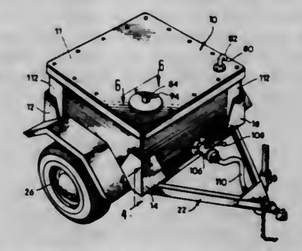
3,263,864
APPARATUS FOR SUPPLYING CARBONATED WATER TO SOFT DRINK BARS
Frank Welty, 4962 Lockwood Blvd., and Raymond D. Welty, 4307 Lake Road, both of Youngstown, Ohio
Continuation of application Ser. No. 87,164, Feb. 6, 1961. This application Sept. 15, 1965, Ser. No. 487,417
5 Claims. (Cl. 222—129)

1. Apparatus for supplying low carbonated water to a mixing and dispensing faucet of a soft drink bar and the like comprising a source of plain water under pressure, conduit means including a flow control device interconnecting said source with said faucet, second conduit means including a valve for discharging carbonating gas into the first mentioned conduit means, a source of carbonating gas for said second conduit means, and means to control the proportion of gas discharged into the water contained in said first mentioned conduit means, said flow



control device being of the kind which passes a predetermined quantity of liquid per unit of time regardless of the incoming pressure of the liquid.

3,263,865
VEHICLE FOR TRANSPORTING FLUIDS
Joseph E. Kachnik, Fort Wayne, Ind., assignor to Hendrickson Tandem Corp., Butler, Ind., a corporation of Indiana
Filed Mar. 18, 1964, Ser. No. 352,827
1 Claim. (Cl. 222—159)

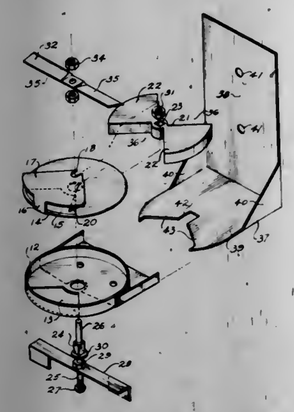


A portable apparatus for transporting liquid comprising, in combination: a chassis having a tow connection and ground supporting wheels providing mobility to the apparatus, a plastic tank mounted on said chassis for transportation thereon, said plastic tank having a translucent corner portion to serve as a visible gage of the fluid control of the tank, bumper means spaced from each corner of said tank to protect the tank against damage, outlet means including a cylindrical member having small orifices disposed in the lower portion of the tank for receiving an outflow of liquid therein, a hand-operated valve cooperating with the outlet means for controlling the flow of liquid from said tank, means for venting atmosphere into said tank above the fluid level, inlet means including an expandable ring adapted to provide a seal for charging replacement fluid into said tank, baffle means disposed within said tank to prevent liquid surging, and adjustment means for mounting and leveling said tank on the chassis.

3,263,866
INSTANT COFFEE DISPENSING DEVICE
Walter E. Proctor, 2656 County Line Road SW., Atlanta 11, Ga.
Filed Sept. 14, 1964, Ser. No. 396,071
5 Claims. (Cl. 222—181)

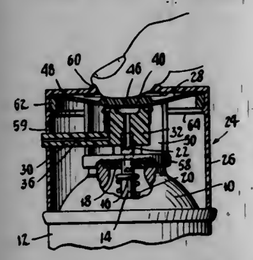
1. In a device of the character described, an air-tight receptacle, a cap therefor, a discharge aperture in said cap, a sealing element securely disposed in said cap, said sealing element having a discharge opening registering with

the aperture of the cap and a pie-shaped roof element spacedly mounted above said discharge opening; a measuring or control element rotatably mounted between said seal and the roof thereof, an operating lever spacedly mounted with relationship to said cap, bolt means passed through said lever and said cap, said bolt having an angular shank engaging said measuring element, said meas-



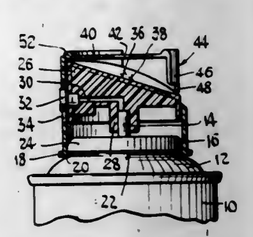
uring element being spaced from the roof of said seal which the bolt also engages, and a coffee agitating blade spacedly mounted above said roof element, whereby when the lever is actuated, instant coffee is dispensed through the openings in the cap and the seal by rotation of the measuring plate, and at the same time, coffee in the receptacle is agitated and kept loose preparatory to dispensing by the rotation of said blade.

3,263,867
METERING BUTTON-TYPE AEROSOL ACTUATOR
Herbert G. Lehmann, Easton, Conn., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware
Filed Dec. 26, 1963, Ser. No. 333,560
12 Claims. (Cl. 222—182)



1. A metering actuator button construction for an aerosol dispenser, comprising in combination:
(a) a valve-seat member adapted to receive and to be carried by the upper portion of the depressible hollow valve stem of an aerosol dispenser, said member having a bore for communication with the bore of the hollow valve stem, and further having a continuous and endless valve seat extending around the said bore and disposed in the upper portion of the member,
(b) a flexible valve diaphragm of paper-thin walls, carried by the valve seat member, said paper-thin walls spanning the area encompassed by the said valve seat, and
(c) a finger-engageable valve actuator member comprising a relatively inflexible portion disposed above and engageable with the valve diaphragm and adapted to press the latter in full and firm contact with the valve seat, said finger-engageable member including thin-walled flexible support portions by which it is mounted in juxtaposition to the valve diaphragm, said support portions enabling the finger-engageable member to be shifted toward the valve diaphragm with relatively little restraint.

3,263,868
SAMPLER-TYPE TAMPER-PROOF ACTUATOR CAP
Philip H. Sagarin, Bridgeport, Conn., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware
Filed Sept. 18, 1964, Ser. No. 397,530
6 Claims. (Cl. 222—182)

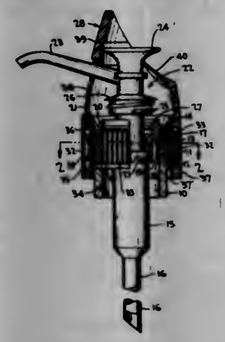


1. A sampler-type tamper-proof actuator cap for small hand-held dispensers, comprising in combination:
(a) a stationary hollow cap body adapted to be mounted on a dispenser-type container having a movable valve stem,
(b) an actuator button movable in the body between discharge and non-discharge positions,
(c) said button having means engageable with the dispenser valve stem to actuate the same
(d) a substantially rigid and inflexible disposable tab carried by and completely separable from the cap body in response to force applied thereto, said tab having frangible edge portions connected to and integral with the cap body to effect temporary support of the tab thereby, and having central portions free from the cap body except for the connection of said edge portions,
(e) said central portions of the tab overlying the actuator button and normally preventing finger pressure thereon, thereby to discourage unauthorized or inadvertent operation of the button,
(f) said tab having an aperture in its central portions, through which a slender instrument may be passed to engage and actuate the button for the purpose of enabling samplings to be made of the substance of the dispenser.

3,263,869
LIQUID DISPENSER WITH OVERCAP
Douglas F. Corsette, Los Angeles, Calif., assignor to Calmar, Inc., City of Industry, Calif., a corporation of California
Filed Nov. 3, 1964, Ser. No. 408,693
15 Claims. (Cl. 222—182)

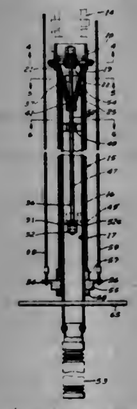
1. The combination comprising an internally threaded container cap of generally cylindrical configuration for connection to an externally threaded container neck, and a protective overcap of generally tubular conformation having a depending generally cylindrical skirt encircling and normally substantially coaxial with said closure cap, the inner and outer peripheries of said skirt and said cap normally being substantially coaxially re-

lated and relatively rotatable, said skirt having a portion disposed for radial movement toward the outer periphery of said cap, and normally disengaged clutch means carried by the inner periphery of said skirt portion and



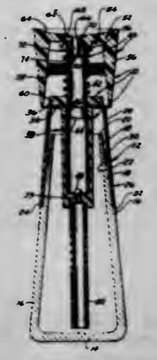
the outer periphery of said container cap for interlocking engagement to interconnect the said cap and overcap for rotary movement together incident to radial movement of said portion.

3,263,870
EXTENSIBLE FILLING APPARATUS
Frank E. Hesford, Lakewood, Ohio, assignor to Cleveland Technical Center, Inc., Cleveland, Ohio, a corporation of Delaware
Filed Jan. 29, 1965, Ser. No. 429,076
15 Claims. (Cl. 222—185)



1. Material-dispensing apparatus comprising two tubular members disposed in telescoping relation, the first of said tubular members being non-rotatable, and the second of said tubular members being rotatable and extensible and retractable with respect to said first tubular member; a first valve member having at least one port through which material may pass when the port is unobstructed, said valve member being fixed inside said first tubular member; a second valve member having at least one port through which material may pass when the port is unobstructed, said second valve member being disposed in operative relation adjacent said first valve member and rotatable with respect to said first valve member from a position in which said valve member ports are open to a position in which said ports are closed; means operatively connecting said second tubular member to said second valve member to cause said second valve member to be rotated upon rotation of said second tubular member throughout a range of extended and retracted positions of said second tubular member relative to said first tubular member; and means for holding said first and second valve members in operative relation to each other while said second tubular member is in various positions in said range.

3,263,871
DISPENSING PUMP FOR A CONTAINER
Arnold M. Thompson, Box 172A, Gary Ave., Wheaton, Ill.
Filed Nov. 23, 1964, Ser. No. 413,221
2 Claims. (Cl. 222—205)

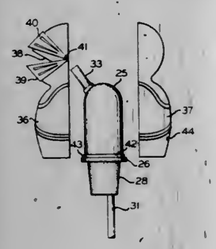


1. A dispensing pump for threaded application to the threaded neck portion of a liquid container, said pump comprising a pump barrel adapted for vertical projection into the container through the neck portion thereof in sealed relationship, said barrel being provided with a pump inlet in the lower region thereof, a check valve normally closing said pump inlet, a tubular plunger slidable vertically within said barrel between a raised and a lowered position and projecting upwardly and outwardly through the upper end thereof, the lower end of said plunger being in open communication with the interior of the barrel, the upper end of said plunger being provided with a pump outlet, a dip tube in communication with the pump inlet, a tubular pump actuator on the upper end of said plunger and movable bodily therewith, said actuator being provided with a shallow upwardly facing frusto-spherical concavity in the upper surface thereof, there being a vertical passage in said pump actuator establishing communication between the frusto-spherical concavity and the pump outlet, the upper rim region of said passage being provided with a shallow recess providing an annular valve seat, a lift valve mounted on said actuator for cooperation with said valve seat and normally closing the passage, said lift valve substantially filling and lying wholly within the confines of said recess when the valve is in its passage-closing position, spring means yieldingly urging the plunger and actuator toward its raised position, and releasable interengaging means on the exterior of the barrel and the interior of the actuator for maintaining said actuator and plunger in their lowered position.

3,263,872
DISPENSER WITH A MEASURING DEVICE
Salvadore J. Verona, 3369 S. Howell Ave., Milwaukee, Wis.
Filed Mar. 16, 1965, Ser. No. 443,764
4 Claims. (Cl. 222—416)

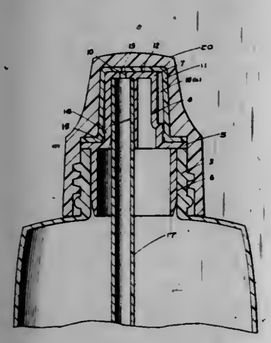
1. In a dispensing assembly, a liquid containing inner shell upstanding from a base with a stopper depending therefrom and adapted to fit within the neck of a container in a sealing relation and wherein a liquid passage

is formed through the stopper for supply of liquid to the inner shell so that liquid supplied to the inner shell may flow from the shell through a discharge pipe extending outwardly from and inwardly within the shell and wherein a suction pipe is passed through the stopper for extension within the container and with the suction pipe extended within the inner shell and terminating in a cup-like member surrounding the inner end of said outlet pipe and wherein the inner shell has an air vent therein to supply air through said cuplike member and through said suction pipe all to effect a measured flow of liquid through the outlet pipe upon inversion of the assembly and container, a separate outer shell having an artistic external



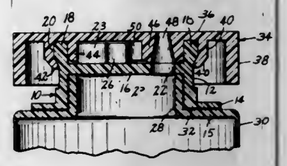
surface configuration fitted over said first named inner shell and fixed with respect thereto, said outer shell being comprised of complementary plural sections having hollowed portions receiving said inner shell in a matching interfitting relation, one section of said outer shell including an outwardly facing pouring lip, said one section receiving said discharge pipe with the outer portion of said discharge pipe terminating at said pouring lip, and closure means movably connected to said outer shell, said closure means being adapted to swing by gravity against said pouring lip when said assembly is in the upright position and being adapted to swing away therefrom when said assembly is inverted.

3,263,873
SPRAY DISPENSING DEVICE
Donald F. Armour, Bloomfield, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Sept. 16, 1964, Ser. No. 396,908
1 Claim. (Cl. 222—484)



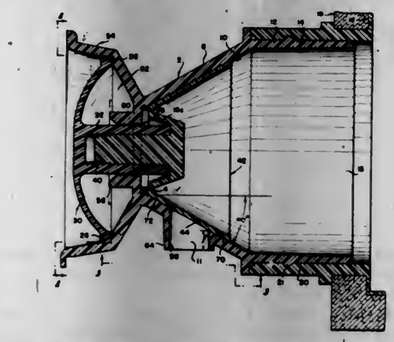
A spray dispensing device comprising: A material reservoir having an opening therein; a plug associated with said opening and having a mixing orifice in its uppermost end; said plug also having a plurality of air passageways in its upper end; said passageways being rectangular continuations of said mixing orifice that extend laterally outwardly therefrom; said orifice and said passageways providing an area for mixing air and material to be dispensed to produce a spray; said air passageways further being provided to admit air into said reservoir via said plug; said plug further being defined by having a vertical indentation partially around its periphery; and a closure adapted to telescope over at least a portion of said plug and rotatably engage said plug; said closure having a plurality of perforations in its upper end, each of which is adapted to be individually aligned with said mixing orifice by rotation of said closure and each of which when aligned, is capable of delivering a different intensity spray; said closure further having abutment means extending laterally inwardly from the inner cylindrical surface of said closure; said laterally extending means co-acting with the terminal ends of the vertical indentation in said plug to limit rotational movement of said closure and to align said perforations with said mixing orifice.

3,263,874
CONTAINER CAP HAVING FRANGIBLE SEALING MEANS
Alvin J. Porter, Excelsior, and Donald W. Mathison, Minneapolis, Minn., assignors to Product Design & Engineering, Inc., Minneapolis, Minn.
Filed Sept. 14, 1964, Ser. No. 396,070
8 Claims. (Cl. 222—498)



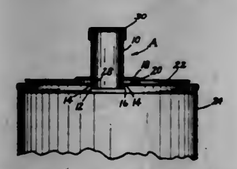
1. A cap for a container comprising:
(a) a base member having
(b) a collar portion for connection with the neck of a container,
(c) said collar portion having a circular wall formed internally thereof and
(d) an annular bead on the outer surface thereof,
(e) said circular wall having an outlet passage extending therethrough offset from the axis thereof,
(f) a plug connected to the upper surface of said circular wall and sealing off said outlet passage,
(g) an overcap including
(h) a circular top wall having
(i) a collar depending from the underside thereof,
(j) said collar having an inturned flange for gripping engagement with said bead of said base collar portion thereby mounting said overcap axially rotatable and captive on said base,
(k) said top wall of said overcap having a projection depending from the underside thereof,
(l) said projection and top wall having an outlet hole extending therethrough which is offset from the axis of said overcap and said base,
(m) said outlet hole and said passage being equidistant from the axis of said overcap and said base member,
(n) the initial rotation of said overcap causing said projection to contact said plug and sever it from said circular wall of said base member thereby exposing said outlet passage hole for alignment with said outlet hole of said overcap by further rotation of said overcap, said outlet passage hole being closed by additional rotation of said overcap whereby said outlet hole is out of alignment with said outlet passage.

3,263,875
DISPOSABLE DRIP-FREE DISPENSING VALVE
Clyde A. Lofdahl, San Pablo, Calif., assignor to Boise Cascade Corporation, Boise, Idaho, a corporation of Delaware
Filed July 26, 1965, Ser. No. 474,621
12 Claims. (Cl. 222—518)



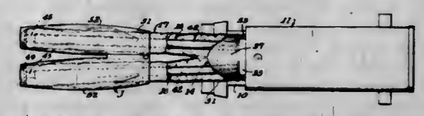
1. A disposable drip-free dispensing valve adapted for connection with a container to control the gravity discharge of a fluid therefrom, comprising
a rigid valve body including a normally vertical transverse wall, and a frustoconical valve seat diverging outwardly relative to said transverse wall and cooperating therewith to at least partially define a valve chamber, said transverse wall containing a centrally arranged opening and said valve seat containing a downwardly directed discharge passage the upper end of which communicates with said valve chamber;
a resilient frustoconical valve element arranged in said valve chamber for seating engagement with said valve seat to close said discharge passage, said valve seat and said valve element having a common horizontal axis;
and means biasing said valve element toward a closed position relative to said seat, comprising a resilient diaphragm connected with said valve body on the opposite side of said transverse wall from said valve element, and connecting means extending through said wall opening for rigidly connecting said valve element with said diaphragm, said diaphragm being secured to said valve body in spaced relation to said transverse wall to define therebetween an auxiliary chamber, said valve body containing means affording continuous communication between said valve chamber and said auxiliary chamber.

3,263,876
POUR SPOUT FOR CANS
Michael P. Perfetto, 2233 Diamond St., Duluth, Minn.
Filed Dec. 7, 1964, Ser. No. 416,486
1 Claim. (Cl. 222—569)



A pour spout for cans comprising:
(a) a single tubular portion for extension through and securement in an opening formed in the lid of a can,
(b) said tubular portion having a constant inside diameter throughout the length thereof,
(c) said tubular portion terminating at its lowermost end in an annular bead for engagement with the underside of the lid of a can,
(d) an annular flange formed on said tubular portion extending normal to the longitudinal axis of said tubular portion and spaced from said annular bead,
(e) said annular flange having a radial width equal to or greater than the inside radius of said tubular portion,
(f) said annular flange having a peripheral lip formed at a right angle thereto for contact with the outer top surface of the lid of a can,
(g) the longitudinal extent of the width of said lip being less than the longitudinal extent of the lower end of said tubular portion whereby said lip is in pressing engagement with the lid of a can when said annular bead is in engagement with the underside of the lid.

3,263,877
HORIZONTAL BAG LEGGER
David L. Radford, Salt Lake City, Utah, assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed June 21, 1965, Ser. No. 465,691
11 Claims. (Cl. 223—73)



1. A machine for pressing jean-type pants comprising:
(a) means in the form of a collar adapted to mount the waistband of such a pair of pants,
(b) a pair of leg forms mounted on pivots within said collar and extending substantially horizontally therefrom, said forms being approximately parallel in the positions thereof during dressing of a pair of pants thereon,
(c) an air-pervious bag shaped in simulation of a pair of pants and extending from said collar, enclosing the leg forms, and terminating in closed ends at the ends of the leg forms,
(d) means to angularly spread the leg forms to, thereby, spread the legs of a pair of pants dressed thereon, and
(e) means to inflate said bag and heat the interior thereof to inflate and heat the pants dressed thereon.

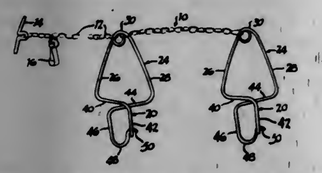
3,263,878
ADAPTABLE UMBRELLA CARRIER
Ray E. Pratt, 3568 Cimarron St., Los Angeles, Calif.
Filed June 29, 1964, Ser. No. 378,660
1 Claim. (Cl. 224—5.1)



In combination with an umbrella having a shaft and a projecting spring latch at the terminal end to lock the slidable frame portion of the umbrella, a plate, straps securing the plate to the chest of a person, a vertically

extending barrel type holder secured to the plate, said barrel having a vertical slot in its wall, said slot having a top opening, a horizontal slot in said barrel wall opening into the vertical slot whereby the shaft may be vertically placed in the barrel while at the same time the spring latch is moved vertically down the vertical slot and then rotated in the horizontal slot to secure the shaft in place.

3,263,879
HOOK FOR FISH STRINGERS
Archie M. Sanderson, 3044 Lincoln, Dearborn, Mich.
Filed Oct. 28, 1964, Ser. No. 407,169
2 Claims. (Cl. 224—7)



1. A hook for fish stringers comprising a resilient wire bent to form a flexible body portion, a looped keeper extending from one end of said body portion, a curved hook portion extending from an opposite end of said body portion, said curved hook portion terminating in an arcuate locking lip, said lip and keeper being biased by the resilient wire to a closed position wherein the lip is within the keeper without locking engagement therewith, the resiliency and shape of the wire permitting a load placed on the hook portion to weigh down the lip into a hooked locking engagement with the keeper.

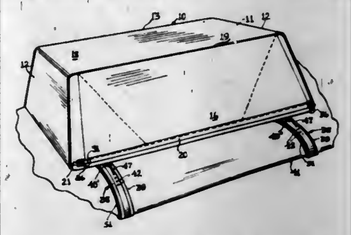
3,263,880
PURSE RETAINER
Clyde H. Clement, Phoenix, Ariz., assignor of fifty percent to Stanley E. Felix
Filed Mar. 15, 1965, Ser. No. 439,877
7 Claims. (Cl. 224—29)



1. A purse retainer comprising, in combination with a grocery cart, a frame member, a plurality of yieldable retainer members, and a least one tension member, the bottom portion of said frame member rotatably joined to said grocery cart, said retainer members defining a purse-retaining grid within the periphery of said frame member, and said tension member joining the top portion of said frame member to said grocery cart, whereby a purse positioned between said retainer member and said cart is securely held.

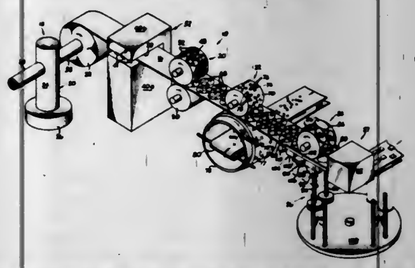
3,263,881
LUGGAGE AND ARTICLE CARRIER ADAPTED TO BE DETACHABLY MOUNTED UPON AN AUTOMOBILE ROOF
Dupree Wooten, 9401 W. William St., Rosemont, Ill.
Filed May 24, 1965, Ser. No. 458,192
3 Claims. (Cl. 224—42.1)

1. A luggage carrier for an automobile including
(a) a storage bag carried on the roof of said automobile and formed of substantially heavy vinyl material and having an open side,
(b) a flexible closure flap having one edge portion providing a hinge connection with said bag and having an opposite edge portion providing a sleeve,
(c) a bar slidably positioned in said sleeve,
(d) means for detachably connecting one end portion of the bar to a corner of the bag, said means comprising a head-bearing bolt fixedly connected to said



corner portion of the bag and a bifurcation formed in said bar for the reception of said bolt to the rear of the head thereof,
(e) and lock means for detachably connecting the opposite end portion of the bar to an opposite corner portion of the bag.

3,263,882
FORMING APPARATUS
William W. Nugent, Kenilworth, and Andrew W. Petri, Morton Grove, Ill., assignors to Wm. W. Nugent & Co. Inc., Skokie, Ill., a corporation of Illinois
Filed Mar. 9, 1965, Ser. No. 438,222
13 Claims. (Cl. 225—2)

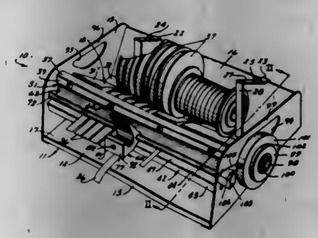


1. A method for the continuous manufacture of stacks of disc-like elements with elements in each stack being disposed in predetermined non-identical rotational orientation with respect to an adjacent element, said method comprising the steps of continuously imparting cuts to a moving web to outline a series of longitudinally spaced elements in the web which are readily separable from the web, elements of the web being disposed in predetermined non-identical rotatative orientation relative to an adjacent element in the web in accordance with a predetermined pattern, continuously and sequentially separating the elements from the remaining portions of the moving web without appreciably disturbing the relative orientations of the elements, and continuously and sequentially stacking the elements without appreciably disturbing the relative orientations thereof.

3,263,883
PORTABLE DISPENSER
Edward Waltz, Grand Rapids, Mich., assignor to The E. O. Bulman Manufacturing Company, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Feb. 26, 1965, Ser. No. 435,208
4 Claims. (Cl. 225—36)

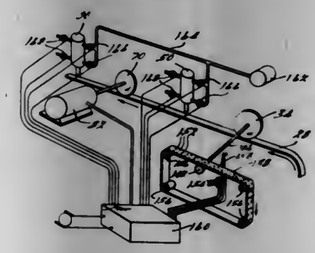
1. A device for dispensing a piece of strip material from a roll thereof, comprising:
a frame structure having an upwardly opening trough for supporting said roll;

an elongated guide member mounted upon said frame structure and extending substantially parallel with the lengthwise axis of said trough, said guide member being near one side of said trough for supporting a portion of said material;
flexible means supported upon said frame structure and engageable with said guide member for holding said portion of material thereagainst;
rod means mounted upon said frame structure substantially parallel with and spaced upwardly from said guide member; and



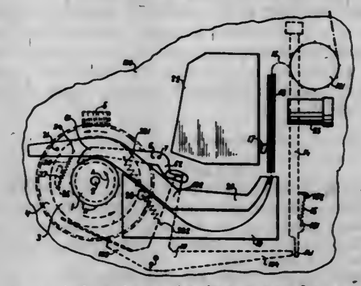
a cutting head supported upon said rod means for movement lengthwise thereof, said cutting head having a cutting edge thereon located on the opposite side thereof from said trough and engageable by said strip material for severing a piece thereof from said roll, said cutting head being movable around said rod means into and out of engagement with said guide member to hold said material thereagainst when said piece is being severed.

3,263,884
STRIP PROCESSING MACHINE
Ralph G. Doerfling, Walled Lake, Mich., assignor to Detroit Gasket and Manufacturing Company, New York, N.Y., a corporation of Delaware
Filed June 29, 1964, Ser. No. 378,705
8 Claims. (Cl. 226—9)



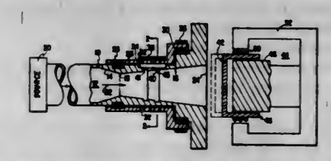
1. A machine for automatically performing work operations on a strip comprising a frame, guide means on said frame for guidably and movably supporting a work strip, drive means operatively connected to said strip and selectively energizable for advancing said strip along said guide means, a tool positioned along said guide means adjacent to the path of travel of said strip, means for selectively actuating said tool for performing a work operation on said strip, rotatable means disposed with the periphery thereof in contact with and in driven relationship with said strip and movable in response to advancement of said strip along said guide means, and control means drivingly coupled to said rotatable means and operable to selectively energize and deenergize said drive means and to actuate said tool in response to preselected advancements of said strip.

3,263,885
CINÉ PROJECTOR WITH AUTOMATIC INSERTION OF THE FILM STRIP
Slavomir Chytil, Prerov, Czechoslovakia, assignor to Meopta, narodni podnik, Prerov, Czechoslovakia
Filed Jan. 22, 1964, Ser. No. 339,541
3 Claims. (Cl. 226—91)



1. A ciné projector having means for automatic insertion of the film strip onto a feeding sprocket disposed behind the film gate, the said feeding sprocket being driven by driving mechanism of the ciné projector and provided along its circumference with a radial groove into which an arm of a control lever engages so that prior to insertion of the film strip at least a portion of the said arm is disposed below the level of the cylindrical outer surface of the feeding sprocket, coupling of the feeding sprocket to the driving mechanism of the ciné projector being effected so that the feeding sprocket may assume, relative to the driving mechanism, two angularly different positions determined by the position of the arm of the control lever relative to the radial groove on the circumference of the feeding sprocket.

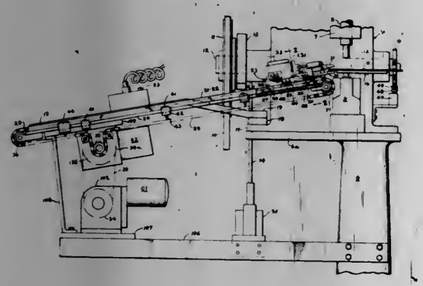
3,263,886
FLUID SHOCK FRONT SHEET MATERIAL ENGAGING MEANS
Robert T. Smith, Jr., Hatboro, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 20, 1963, Ser. No. 325,035
15 Claims. (Cl. 226—95)



1. A sheet material engaging device which comprises:
(a) a member having an outer surface adapted for contact with sheet material situated adjacent to said outer surface in an environment of some particular pressure, said outer surface having at least one aperture therein which extends through to an inner surface of said member;
(b) a nozzle-like fluid flow conduit including a converging input section smoothly faired with a diverging output section;
(c) first means supplying compressible fluid at a particular entrance pressure to the inlet of said converging section, said entrance pressure being greater than the environmental pressure;
(d) second means selectively actuable to establish either a first or a second exit pressure at the outlet of said diverging section, both of which are less than said entrance pressure but greater than the environmental pressure and the nozzle critical pressure for said fluid so that a shock wave front is generated in

the fluid at either a first or a second predetermined longitudinal location, respectively, in said diverging section, with the static fluid pressure immediately upstream from said wave front being less than the environmental pressure and the static pressure immediately downstream from said wave front being greater than the environmental pressure;
(e) at least one port in the side wall of said diverging section at a longitudinal location between said first and second predetermined shock wave locations; and
(f) third means for transmitting the static fluid pressure at said port to the aperture in the inner surface of said member.

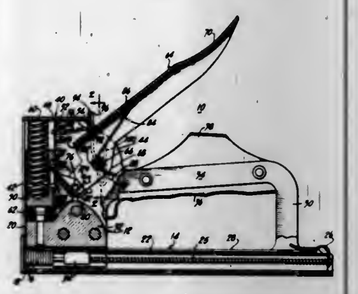
3,263,887
AUTOMATIC FASTENER SETTING MACHINE
Arnold E. Demerest and Samuel Wulwick, Middletown, and Salvador Martinez, Cedarhurst, N.Y., assignors to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Feb. 17, 1965, Ser. No. 433,412
11 Claims. (Cl. 227—3)



1. In a machine for attaching a plurality of fasteners to a garment or the like, the combination of
(a) a machine head and means including a reciprocable ram co-operable therewith at a setting station to set a fastener when the ram descends;
(b) a one-revolution clutch arranged to operate said ram through one complete down and up cycle each time the clutch is activated;
(c) means for gripping said garment;
(d) power-operated means for moving said gripping means to move the garment relative to said setting station;
(e) means operating in timed relation to the movement of said ram for setting said power-operated means in motion immediately after the setting of a fastener;
(f) means for automatically stopping said gripping means after it has moved a pre-determined distance to advance the garment into proper position for the setting of the succeeding fastener; and
(g) means automatically responsive to movement of said gripping means to the position for setting of such succeeding fastener, for re-activating said clutch.

3,263,888
HANDLE HOLD DOWN LATCH FOR COMPRESSION TACKER
Oscar A. Wandel, Mundelein, Ill., assignor to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois
Filed Oct. 1, 1964, Ser. No. 400,791
6 Claims. (Cl. 227—132)

1. A fastener driving tool comprising a frame member and a handle element pivotally mounted for angular movement about a pivot pin carried by said frame member, resilient means normally urging said handle element in a given direction of angular rotation about said pivot pin relative to said frame member and a U-shaped latch member mounted on said pin including a bight portion reciprocally movable toward and away from said pin between a latched position wherein said bight portion projects into the path of movement of said



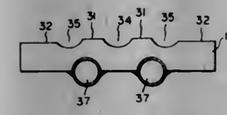
handle element for engagement therewith to selectively fix the position thereof against the action of said resilient means and an unlatched position out of the path of movement of said handle element, said latch member including means on said bight portion engageable with said frame member for positively holding said latch member in said unlatched position.

3,263,889
SOLDER REMOVAL APPARATUS
William S. Fortune, 14100 Jouett St., Pacoima, Calif.
Filed Oct. 9, 1964, Ser. No. 402,729
7 Claims. (Cl. 228—20)



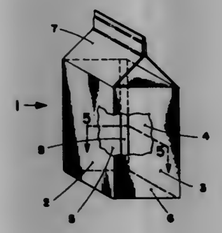
1. Solder removing apparatus comprising:
thin walled hollow cylindrical body member having tip and bushing ends;
piston assembly including a piston member and an alignment shaft member coupled thereto, the piston member being disposed in said cylindrical body member and adapted for axial movement therealong;
vacuum stroke producing spring means disposed within said body member and coupled to said piston member for urging it toward said bushing end;
bushing supporting means disposed contiguously to and in a partially closing relation with said bushing end and defining an axial aperture therealong, said alignment shaft member being disposed therethrough;
piston cocking shaft means extending with axial freedom of movement through said aperture and having a piston member engaging end disposed within said body member and an external end disposed outside thereof;
return spring means disposed axially compressively between said external and piston engaging end of said cocking shaft means; and
trigger means actuable externally of and carried by said body member in abruptly releasable engagement relationship with said piston assembly for holding said piston member toward said tip end against the axial force of said vacuum stroke producing spring means.

3,263,890
BACKING STRIP FOR AUTOMATIC SINGLE-SIDE WELDING
Kazutada Togo, Nagasaki-shi, Japan, assignor to Mitsubishi Shipbuilding & Engineering Co., Ltd., Tokyo, Japan
Filed Apr. 28, 1964, Ser. No. 363,151
Claims priority, application Japan, May 9, 1963, 38/24,662
1 Claim. (Cl. 228—50)



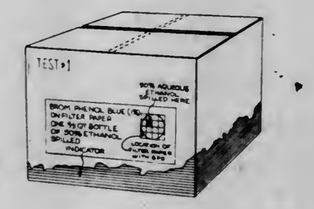
A backing strip for automatic single-side welding comprising, at least three solid backing surfaces, each surface being separated from the next adjacent surface by a grooved portion adapted to receive the molten metal of a back bead, at least one of said surfaces being in a different plane from at least one other of said surfaces so as to accommodate two or more members of different thickness which are to be welded together.

3,263,891
LOW DENSITY CONTAINER FOR LIQUIDS
Latane D. Brugh, Jr., Rte. 1, Covington, Va.
Filed Mar. 25, 1964, Ser. No. 354,551
7 Claims. (Cl. 229—3.1)



1. A liquid-proof container comprising:
(a) An upright side wall portion,
(b) a bottom wall portion attached to said side wall portion at its lower edge,
(c) at least said side wall portion including a paperboard core,
(d) the ratio of the basis weight of said core in pounds per 3,000 square feet to the thickness of said core in thousandths of an inch being appreciably less than 13, and
(e) a moisture resistant coating laminated to both sides of said core.

3,263,892
SHIPPING CONTAINERS WITH ASSOCIATED INDICATOR MEANS
Michael D. Danyi, Oregon, and Karel Frantisek Sporek, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Illinois
Filed June 11, 1964, Ser. No. 374,463
12 Claims. (Cl. 229—6)



1. A shipping carton having a fiberboard wall and having a colorant positioned adjacent to the interior of said wall in exposed relation and in dry form and said colorant being selectively soluble in aqueous alcohol and of relatively low solubility in water.

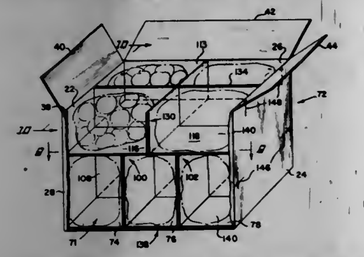
3,263,893
SEPARATOR FOR BOTTLES
Arthur J. Weiss, Bergenfield, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 8, 1962, Ser. No. 178,481
18 Claims. (Cl. 229—15)



1. A separator for use in a bottle carrier of the wrap-around type for maintaining bottles arranged in rows out of contact with one another, said separator comprising an elongated body panel having at least two dividers struck therefrom, each of said dividers being hingedly connected to said body panel along two aligned hinge lines for swinging movement from the plane of said body panel to a position generally transverse of said body panel with a portion thereof projecting to each side of said body panel, each of said dividers having two upper and two lower projecting corner portions for engagement be-

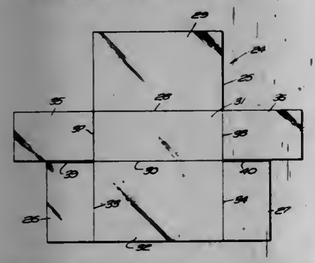
tween adjacent bottles, and said body panel having upper and lower sets of projecting bottle contacting surfaces for engagement with bottles, the number of bottle contacting surfaces in each set being one more than the number of said dividers.

3,263,894
SHIPPING CONTAINER
Frederic C. Matson, P.O. Box 498, Martinsburg, W. Va.
Filed Aug. 27, 1963, Ser. No. 304,864
7 Claims. (Cl. 229—15)



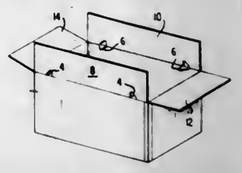
1. A corrugated paperboard container constructed for stacking on one of its side walls with similarly formed containers similarly stacked comprising a pair of opposed side walls, a pair of opposed end walls, a first pair of bottom flaps respectively hingedly connected to said side walls, a second pair of bottom flaps respectively hingedly connected to said end walls, said bottom flaps being overlapped and secured together to form a bottom wall, and a partition member insertable into the container having at least a pair of flat bottom panels engaging substantially the entire interior surface of said bottom wall, and also having at least one vertically extending partition panel formed of a pair of walls in contact with each other, said partition panel being slotted intermediate its edges for receiving a half-slotted vertically positioned divider to provide at least four separated compartments for the reception of goods, said divider and said partition panel being of substantially equal height, the marginal portions of said bottom panels engaging the side and end walls, the vertically extending edges of the divider engaging the end walls, and the vertically extending edges of the partition panel engaging the side walls to respectively provide rigid braces between said opposed end walls and said opposed side walls to support similarly formed containers stacked thereon.

3,263,895
BOX
Lewis Douglas Young, Providence, R.I., assignor to Douglas Young Inc., Pawtucket, R.I., a corporation of Rhode Island
Filed May 22, 1964, Ser. No. 369,370
4 Claims. (Cl. 229—16)



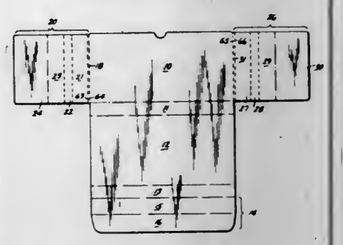
1. In a rectangular box cover formed by folding a blank, an elongated rectangular top, and four vertical sides extending upwardly at right angles to the perimeter of said top, the two opposed longer sides being integral with said top, the two opposed shorter sides extending integrally from each side edge of one of said longer sides and having their free edges abutting the edges of the other of said longer sides, the abutting edges being held together with adhesive tape, said blank being covered with an ornamental paper to conceal said tape and further lock said blank in erected position.

3,263,896
CARTON WITH TABS FOR SUPPORTING INNER FLAPS
Curtis L. Woolsey, Upper Montclair, N.J., assignor to Union Bag-Camp Paper Corporation, New York, N.Y., a corporation of Virginia
Filed Oct. 21, 1965, Ser. No. 499,399
1 Claim. (Cl. 229—37)



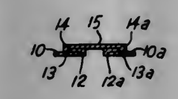
A closure for a carton having a pair of end walls and a pair of side walls, comprising: end closure flaps connected to each of said end walls which fold inwardly; side closure flaps connected to each of said side walls which fold inwardly to meet at their edges and to overlie the infolded end flaps; score lines between said side walls and said end walls; tabs integral with the side flaps along said score lines, said tabs being bendable outwardly from said side flaps to engage the undersides of said end flaps in the closing of the carton and thereby restrain the further inward movement of the end flaps.

3,263,897
PACKAGE WRAPPER
Alexander L. Giroux, Audubon, N.J., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Filed Mar. 3, 1964, Ser. No. 349,091
2 Claims. (Cl. 229—40)



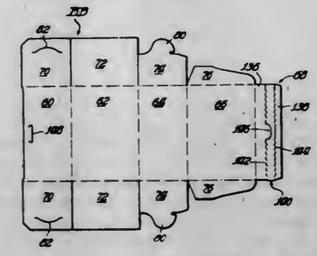
1. A self locking package wrapper formed from a one piece paperboard blank comprising:
(a) a bottom panel;
(b) cushion end webs attached at opposite ends of the bottom panel and forming, when folded, a pair of inwardly recessed ends, each of such cushion end webs including
(i) a relatively narrow intermediate panel foldably attached to the bottom panel and extending upwardly therefrom,
(ii) a cushion bottom panel foldably attached to the intermediate panel and extending inwardly therefrom and spaced above the bottom panel by about the thickness of the paperboard blank,
(iii) a cushion wall bumper panel foldably attached to the cushion bottom panel and extending upwardly therefrom at substantially a right angle to the bottom panel and offset from and substantially parallel to the said intermediate panel,
(iv) a cushion top panel foldably attached to the cushion wall bumper panel and extending outwardly therefrom and at a substantial right angle thereto, and
(v) an overlie flap foldably attached to the cushion top panel and extending inwardly of the wrapper and over the said cushion top panel;
(c) a first side wall panel foldably attached to another edge of the bottom panel and extending upwardly therefrom;
(d) a top panel foldably attached to the first side wall panel and overlying the said overlying flaps;
(e) a second side wall panel foldably attached to the top panel and extending downwardly therefrom; and
(f) a tuck tab web foldably attached to the second side wall panel and including a tuck tab tongue, the said tuck tab tongue and the remainder of the said tuck tab web entering into and being disposed in the space between the said bottom panel and the said cushion bottom panels to form a closed self locking package wrapper.

3,263,898
PACKAGING TAPE OR THE LIKE
Matthew B. Blish, Box 151, Oak Park, Ill.
Filed Nov. 1, 1962, Ser. No. 234,790
4 Claims. (Cl. 229—49)



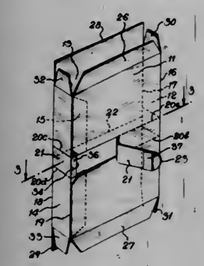
1. A longitudinally flexible tape or the like comprising an integrally formed portion disposed longitudinally of the tape defining a first base portion, said first base portion having an outer side edge forming a peripheral side edge of the tape and an opposing inner side edge disposed contiguous to a first fold line formed parallel of said inner side edge, an integrally formed portion disposed longitudinally of the tape defining a second base portion having an outer side edge forming an opposing peripheral side edge of the tape and an opposing inner side edge contiguous to a second fold line formed parallel of said inner side edge, each of the base portions having an adhesive coating extended lengthwise of the tape on one face side defining a base portion rear face side opposing a front face side of each base portion, a portion formed longitudinally of the tape and parallel of the first base portion having an inner side edge contiguous to said first fold line and an opposing outer side edge contiguous to a third fold line defining a first intermediate portion disposed foldably overlying the front face side of said first base portion, a portion formed longitudinally of the tape and parallel of the second base portion having an inner side edge contiguous to said second fold line and an opposing outer side edge contiguous to a fourth fold line defining a second intermediate portion disposed foldably overlying the front face side of said second base portion, a portion formed longitudinally of the tape having one side edge contiguous to said third fold line and an opposing side edge contiguous to said fourth fold line defining a central portion disposed foldably overlying the intermediate portions, whereby upon bonding the rear face sides of the base portions juxtapositioned to a plane surface the outer side edges of the intermediate portions are secured above the horizontal plane of the base portions thereby raising the central portion above the intermediate portions and facilitating elevating movability of the central portion.

3,263,899
CARTON TEAR STRIP ARRANGEMENT WITH RECLOSURE FEATURE
Peter C. Collura, Waltham, and Robert M. Hurley, Lexington, Mass., and Morton H. Robinson, Devon, Pa., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Oct. 23, 1962, Ser. No. 232,415
1 Claim. (Cl. 229—51)



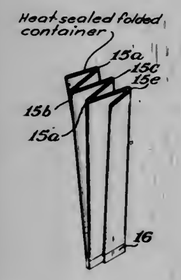
An unlined, end-loading, top-opening, reclosable carton formed from a unitary blank of foldable paperboard, comprising in combination:
(a) a bottom wall;
(b) front and rear side walls hinged to and upstanding from front and rear edges of said bottom wall;
(c) a pair of opposed end walls each including end closure flaps hinged to the bottom and side walls and secured in overlapped relation;
(d) a top wall hinged at its rear edge to an upper edge of said rear side wall;
(e) a pair of end closure panels hinged to and depending from opposite end edges of said top wall for engagement with respective end walls;
(f) a front closure panel hinged to and depending from a front edge of said top wall and disposed to overlie at least a portion of said front side wall, and including:
(i) an upper tuck section disposed adjacent an upper hinged edge of said front closure panel;
(ii) a lower retaining section disposed adjacent a lower free edge of said front closure panel;
(iii) an intermediate section disposed between and contiguous to said tuck and retaining sections;
(iv) each of said sections extending substantially the entire length of said front closure panel;
(v) said intermediate section comprising a removable tear strip formed by a pair of spaced, first and second weakened lines of tear extending substantially the entire length of said front closure panel adjacent the tuck and retaining sections, respectively, of said front closure panel;
(vi) said retaining section being adhesively secured to said front side wall;
(vii) said first weakened line of tear having a medial portion offset toward said second weakened line of tear to form a tuck tab disposed to project from the free edge of said tuck section, after the tear strip has been removed, for insertion, upon reclosure of carton, into a tuck receiving opening formed in said front side wall under said removable tear strip.

3,263,900
TEAR STRIP CARTON
Martin Link, Wayne, and Bruce R. Powell, Parsippany, N.J.; said Link assignor to Union Bag-Camp Paper Corporation, New York, N.Y., a corporation of Virginia, and said Powell assignor to Hoffman-La Roche Inc., Nutley, N.J., a corporation of New Jersey
Filed Feb. 12, 1965, Ser. No. 432,087
4 Claims. (Cl. 229—51)



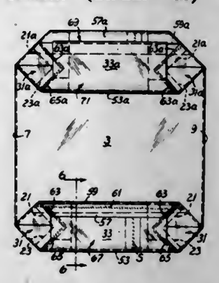
1. A blank for a tear strip carton comprising first, second, third and fourth substantially rectangular panels, connected along fold lines, representing the top, side, bottom and side of said carton respectively; and a fifth panel connected along a fold line to the fourth panel; said first, second, fourth and fifth panels having transverse, aligned, parallel tear lines; said fifth panel being longitudinally cut along a line between the tear lines and spaced from the free longitudinal edge of the panel to provide area between such edge and the cut for a glue line along the length of the panel to secure the fifth panel to the first panel and form a tube; a transverse fold line in said third panel in general parallel alignment with and between the tear lines of the second panel; said tear lines in the first panel ending near the free longitudinal edge of the panel and having cuts to form a tab which can be lifted.

3,263,901
CONTAINER OF FLEXIBLE FILM
Russell L. Hoelzer, Fairview Park, Ohio, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Dec. 23, 1964, Ser. No. 420,556
2 Claims. (Cl. 229—53)



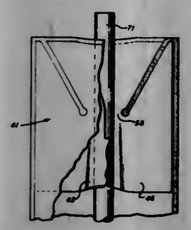
1. A flattened tubular container of flexible film material having one end folded along the longitudinal axis of said flattened container to form at least five alternating essentially parallel folds said folds dividing said film material into individual superimposed panels, wherein the interior panels of said container are of essentially equal width and the two outermost panels of said container have a width which is at least about 10 percent less than the width of said interior panels, all of said panels being transversely sealed together along one end of said container.

3,263,902
BAGS
Thomas B. Ludlow and Donovan D. Wendt, St. Paul, Minn., assignors to Bemis Company, Inc., a corporation of Missouri
Filed Jan. 28, 1965, Ser. No. 428,697
3 Claims. (Cl. 229—60)



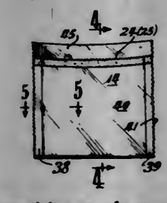
1. An open-mouth plastic bag adapted when filled to have a rectangular bottom and a rectangular top, said bag being formed from a flat tube of heat-sealable sheet plastic material and having a bottom closure formation at one end thereof and a top closure formation at the other end, each of said closure formations comprising a folded-back end portion of one of the walls of the tube which is folded over on the outside of said one wall on a first fold line extending transversely across said one wall, an unfolded end portion of the other wall of the tube extending outward beyond said first fold line oppositely to said folded-back end portion, and inwardly directed end flaps at the corners of the tube, each end flap having a triangular portion with its apex at a respective end of said first fold line, a part of one of said end portions constituting a main closure flap which is folded back on a second fold line extending parallel to said first fold line and spaced therefrom half the width of the closure formation to overlie the end flaps and the other of said end portions, said second fold line defining one side of the closure formation and said flap extending therefrom to the other side of the closure formation, each of said closure formations having heat seals securing the main flap thereof to the respective end flaps, the main flap of the bottom closure formation being joined to the respective other of said end portions along the said other side of the bottom closure formation by a lip of plastic material extending from one end portion around the edge of the other end portion and lying on the outside of the latter, and a heat seal for the lip along a line extending adjacent said other side of the bottom closure formation from one end flap to the other, the main flap of the top closure formation being initially free of the respective other of said end portions along the said other side of the top closure formation to provide an open mouth and adapted, after filling of the bag, to be joined to the respective other of said end portions by a lip of plastic material and a heat seal for the lip along a line extending adjacent said other side of the top closure formation from one end flap to the other, a stripe of heat-seal-inhibiting material extending across one of said end portions of the bottom closure formation between the end portions of the bottom closure formation along the line of the heat seal for the lip of the bottom closure formation and inhibiting blocking of the bottom closure formation along the heat seal for the lip thereof, and a stripe of heat-seal-inhibiting material extending across one of said end portions of the top closure formation between the end portions of the top closure formation along the line of the heat seal for the lip of the top closure formation to inhibit blocking of the top closure formation along the subsequently made heat seal for the lip thereof.

3,263,903
VALVED CONTAINER
Robert J. Waller, Costa Mesa, and Carl G. Lindquist, Glendora, Calif., assignors, by direct and mesne assignments, of sixty-six and two-thirds percent to Waller-Lindquist, Inc., Los Angeles, Calif., a corporation of California, and thirty-three and one-third percent to Byron V. Curry, Arcadia, Calif.
Filed May 21, 1964, Ser. No. 369,222
4 Claims. (Cl. 229—62.5)



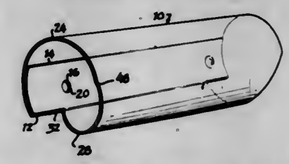
4. A valved container comprising a first wall panel of fluid-impervious material, a second like wall panel, said first and second wall panels being sealed to each other about their respective peripheries to form a substantially flat bag adapted to contain fluids and solids, a first valving sheet disposed within the bag so formed adjacent an end thereof, a second valving sheet disposed within the bag adjacent the first valving sheet and in substantial parallel relationship thereto, the adjacent obverse surfaces of said valving sheets having a greater affinity for each other than do the reverse surfaces of the first and second valving sheets for the panels, a first sealing area extending from the exterior of the bag toward the central portion thereof and sealing together the wall panels and the first and the second valving sheets, a second sealing area extending from the exterior of the bag toward the interior thereof and terminating at a point spaced from the inward termination of the first sealing area, said second sealing area joining the wall panels and the first and the second valving sheets, a mouth opening exteriorly of the bag between the two sealing areas, and a port at the inward terminus of the sealing areas opening between the first and the second valving sheets.

3,263,904
TEAR-OFF BAG SUPPLY
Harold Warp, Chicago, Ill., assignor to Flex-O-Glass, Inc., a corporation of Illinois
Original application Nov. 17, 1961, Ser. No. 153,006, now Patent No. 3,194,124, dated July 13, 1965. Divided and this application May 4, 1964, Ser. No. 364,615
5 Claims. (Cl. 229—68)



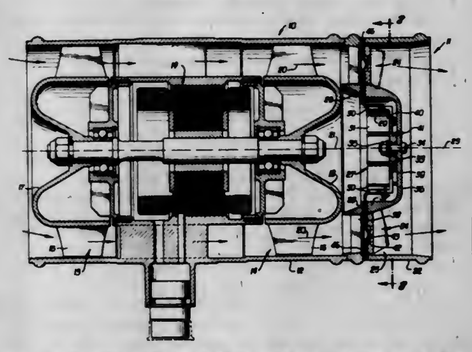
1. A bag comprising a sheet of transparent plastic material folded along a line extending longitudinally of the sheet and closely spaced from the longitudinal centerline of the sheet to define first and second facially juxtaposed portions, said portions being joined along their side edges, said bag being open at the end opposite said line, the end edge of the first of said portions of the sheet at said open end being spaced from said line less than the spacing of the end edge of the second of said portions at said open end, one of said end edges being arranged to be juxtaposed to the sheet portion carrying the other of said end edges, the transparency of said sheet material being such as to make the juxtaposed sheet edge substantially invisible when viewed against the sheet portion to which it is juxtaposed, and opaque means on said sheet at said open end for visually indicating the location of one of said edges to facilitate the manipulation of said indicated edge for spacing the sheet portions apart at said open end of the bag.

3,263,905
OUTDOOR RECEPTACLE FOR NEWSPAPERS AND THE LIKE
Frank P. Kucka and Michael J. Kucka, both of 25141 Riverdale, Dearborn, Mich.
Filed Feb. 10, 1964, Ser. No. 343,580
4 Claims. (Cl. 229—93)



4. A tubular receptacle formed of a blank, said blank being fabricated of a sheet of flexible, transparent plastic material, said blank being rolled into a tubular shape and having first oppositely disposed marginal portions which overlap, said first marginal portions each having spaced openings therethrough in registry for the reception of mounting means, mounting means inserted through said registering openings, the ends of the tubular receptacle being formed of second oppositely disposed marginal edges of the blank, said second marginal edges each including a first elongated relatively straight portion and a second substantially V-shaped portion, the first relatively straight portion forming the upper end edges of the tubular receptacle and the second V-shaped portions forming undercut portions beneath said upper edges.

3,263,906
STATOR VANE CHECK VALVE
Elmer F. Ward, Santa Ana, Calif., assignor to Task Corporation, Anaheim, Calif., a corporation of California
Filed July 22, 1963, Ser. No. 296,741
7 Claims. (Cl. 230—114)

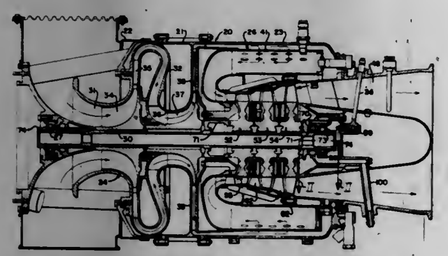


1. In a check valve, a flow conduit having an axis, a series of flow control vanes arranged within an annular zone in the conduit, the vanes having

(a) forward flow controlling open positions in which the vanes are disposed in generally forwardly and axially extending planes spaced about said axis.

(b) reverse flow blocking closed positions in which the vanes are disposed in a transverse plane extending generally normal to said axis, and
(c) intermediate positions between said open and closed positions,
the vanes being simultaneously rotatable between said positions, and means for controlling said vane rotation so that the vanes must rotate as a group between said positions in response to change in said flow and so that the vanes seek said intermediate positions under no-flow conditions.

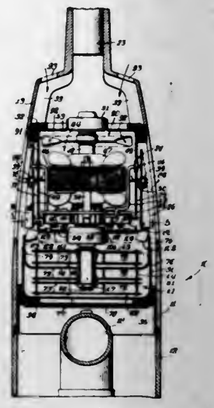
3,263,907
GAS TURBINE
Robert R. Van Nimwegen, Montgomerie C. Steele, and Curtis E. Bradley, all of Phoenix, Ariz., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Original application Dec. 24, 1962, Ser. No. 246,687. Divided and this application Apr. 28, 1965, Ser. No. 451,586
8 Claims. (Cl. 230—116)



1. In a gas turbine engine:
(a) a casing portion provided with an annular recess having peripheral and end walls;
(b) a rotating assembly in said casing portion, said rotating assembly having a shaft with compressor rotor and turbine wheel mounted thereon;
(c) antifriction bearing means disposed in said casing portion to rotatably support said rotating assembly, said bearing means having a race with an annular recess in radial registration with the recess in said casing portion; and
(d) means resiliently retaining said bearing means in said casing portion for limited lateral movement, said retaining means being formed of strip material bent into a polygon with rounded corner and flat side portions, the corner portions engaging the bottom wall of one recess and the flat side portions engaging the bottom wall of the other recess, the edges of said corner and side portions engaging the end walls of the respective recesses.

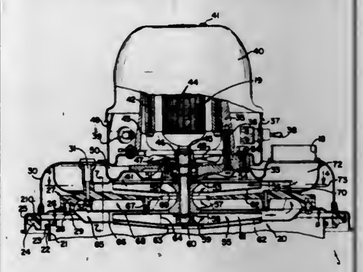
3,263,908
COOLING ARRANGEMENT FOR A VACUUM CLEANER MOTOR OR THE LIKE
Raymond G. Kroker, Normal, and Richard E. Kronmiller, Heyworth, Ill., assignors to National Union Electric Corporation, Stamford, Conn., a corporation of Delaware
Filed May 15, 1964, Ser. No. 367,672
11 Claims. (Cl. 230—117)

1. A motor-fan unit comprising a motor portion and a fan portion, said motor portion including a generally cylindrical casing having an annular side wall, an end wall and a motor mounted therein, said fan portion including a generally cup-shaped casing having an annular side wall of greater diameter than said motor casing side wall and an end wall having a main air inlet therein, said fan casing being secured to one end of said motor casing so that the open end of said fan casing and said one end of said motor casing define an annular axially opening main air outlet for said fan portion adjacent said motor casing end wall, said outlet being unobstructed downstream therefrom, a fan in said fan casing connected to said motor and operable when driven



to provide a main air flow through said fan portion, and a combined fan guard and stator means including a plurality of inclined blades disposed in said main air outlet of said fan portion for increasing the flow of air therethrough, said blades spanning said outlet and also serving as a guard for said fan.

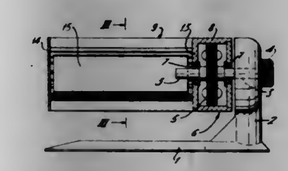
3,263,909
HIGH-EFFICIENCY FAN ASSEMBLY FOR VACUUM CLEANER
Robert Mazepa, Baltimore, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed July 30, 1964, Ser. No. 386,128
5 Claims. (Cl. 230—117)



5. In a vacuum cleaner having a receptacle tank and a cover for the tank, the combination of:
(A) An integrally-molded stator supported on top of the cover and secured thereto;
(B) A motor housing supported on top of the stator and secured thereto;
(C) A motor in the motor housing, the motor having a shaft extending coaxially through the stator;
(D) Said stator having a plurality of return-channel blades formed on one side and a plurality of diffuser vanes formed on its opposite side;
(E) First and second axially-spaced impellers mounted on the motor shaft with the stator therebetween, each of the impellers having respective inlets and discharges;

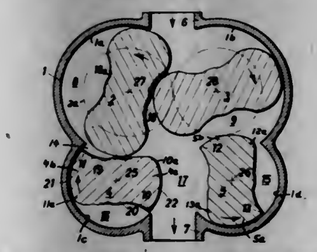
(F) Means directing the air flow of the first impeller discharge reversely back towards the axis of rotation and into the return channels of the stator, thence into the inlet of the second impeller; and
(G) Means directing the air flow of the second impeller discharge radially into the diffuser blades of the stator.

3,263,910
CROSS-FLOW FANS
Bruno Eck, Geisbergstrasse 24A, Cologne-Klettenberg, Germany, and Nikolaus Laing, 7141 Aldingen B, Stuttgart, Germany
Filed Sept. 24, 1965, Ser. No. 489,817
Claims priority, application Germany, July 7, 1956, L 25,261
10 Claims. (Cl. 230—117)



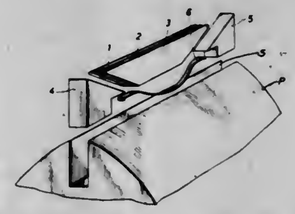
1. A domestic cross-flow fan comprising a support, a motor mounted on the support and comprising a fixed part and a rotating part co-operating therewith, a cylindrical bladed rotor defining an interior space and having one end secured to the rotating part of the motor coaxially therewith, and a single guide element mounted on the support to be held against rotation with the rotor extending substantially the length of the rotor within said interior space thereof the guide element as seen in cross-section being smoothly curved without interruption or inflection, the rotor and guide element co-operating on rotation of the rotor by said motor in a predetermined direction to induce a flow of air from an entry region through the path of the rotating blades to the interior of the rotor and thence again through the path of the rotaing blades to a discharge region.

3,263,911
ROTARY PISTON BLOWER WITH MECHANICAL AND PNEUMATIC COMPRESSION
Christoph Hubrich, Offenbach (Main)-Bieber, Germany, assignor to Polystus G.m.b.H., Neubeckum, Germany
Filed Nov. 1, 1963, Ser. No. 320,895
3 Claims. (Cl. 230—138)



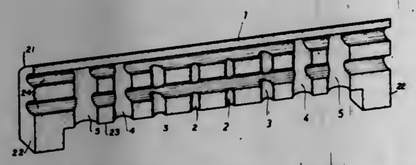
1. In a rotary blower: housing means having fluid inlet means and fluid outlet means, two main piston means rotatable within said housing means, and two auxiliary piston means rotatable within said housing means in axially spaced relationship to said main piston means and at the same speed as the latter for respective cooperation with said main piston means, said main piston means being rotatable in opposite direction with regard to each other, and each auxiliary piston means being rotatable in a direction opposite to the direction of rotation of the respective main piston means cooperating therewith, each of said rotatable main piston means being adapted with a respective first section of said housing means to form main chamber means adapted to receive and entrap fluid from said inlet means, each of said auxiliary piston means being operable in response to a first position thereof relative to the respective main piston means cooperating therewith to form with said main piston means and with a respective adjacent second section of said housing means first auxiliary chamber means adapted to receive fluid from said outlet means, each of said auxiliary piston means also being operable with a respective adjacent third section of said housing means to form second auxiliary chamber means adapted to receive and entrap fluid from said outlet means, each of said auxiliary piston means being operable in response to a second relative position thereof with regard to the respective main piston means cooperating therewith to release fluid from the respective first auxiliary chamber means to the respective main chamber means pertaining thereto to thereby effect a pneumatic compression of said fluid in said main chamber means and then to enter said main chamber means for mechanically increasing the fluid pressure therein, each of said main and auxiliary piston means having rounded end portions for substantially sliding engagement with respective adjacent sections of said housing means, and each of said main and auxiliary piston means having flank sections interconnecting said rounded end portions and being arranged on opposite sides of the axes of rotation thereof, the flank sections of said auxiliary piston means partially corresponding as to their contour to portions of the flank sections of said main piston means and being operable alternately to substantially rollingly engage the rounded end portions of the respective main piston means cooperating therewith, and the flank sections of each of said main piston means being operable alternately to substantially rollingly engage the rounded end portions of the other main piston means.

3,263,912
RADIAL SEAL
Manfred Frenzel, Burscheid, Germany, assignor to Goetzewerke Friedrich Goetze A.-G., Burscheid, Bezirk Dusseldorf, Germany
Filed June 8, 1964, Ser. No. 373,293
Claims priority, application Germany, July 23, 1963, G 38,263
7 Claims. (Cl. 230—145)



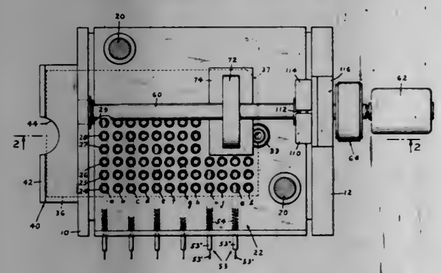
1. A radial seal for being disposed in the axial slot of a rotary piston and comprising a plurality of individual strips in face-to-face engagement and substantially as long at their outer edge as said slot, and having their ends beveled so as to be convergent toward the center of the strips, end members having inclined upper surfaces engageable with the bevelled ends of said strips and each thereof as wide as the plurality of strips so as to bear across the entire width of the assembled strips, and spring means at the radially inner side of said seal for biasing the said seal radially outwardly of the piston slot in which it is mounted.

3,263,913
SEAL
Ernst Fuhrmann and Manfred Frenzel, both of Burscheid, Germany, assignors to Goetzewerke Friedrich Goetze Aktiengesellschaft, Burscheid, Germany
Filed Sept. 21, 1965, Ser. No. 488,871
Claims priority, application Germany, Sept. 24, 1964, G 41,597
10 Claims. (Cl. 230—145)



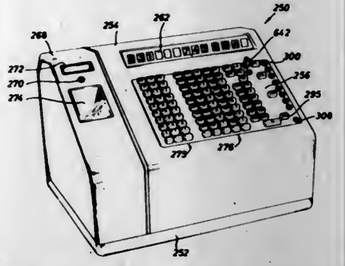
1. A radial seal for rotary piston internal combustion engines which is positioned in a groove formed in the piston, said radial seal comprising, in combination: a packing strip; a plurality of radial bores provided within said strip, said bores being open only at the side of said strip facing the groove, said bores being spaced to define sections of said strip between adjacent ones thereof, and said defined sections being smaller in size at the end portions of said strip than in the center portion thereof.

3,263,914
PUNCHING DEVICE
Roy L. Huber, Plymouth, Mich., assignor to Electronic Assistance Corporation, Red Bank, N.J., a corporation of New York
Filed Jan. 3, 1964, Ser. No. 335,586
4 Claims. (Cl. 234—30)



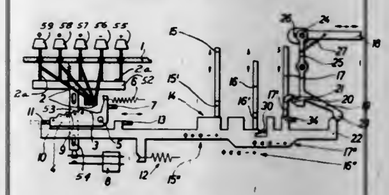
1. In a punching device for simultaneously perforating a web at a plurality of predetermined locations having a punch pin carrier, a die member mounted below said carrier, means defining a chamber between said carrier and said die member and means for moving said carrier said element being connected to said interposer bar, and toward and away from said die member, the combination therewith of a plurality of punch pins slidably mounted for axial movement in said carrier, means for limiting the downward movement of said punch pins relative to said carrier so that they project into said die member when the carrier is in its lowermost position and do not project into said chamber when said carrier is in its uppermost position, said pins being arranged generally in at least two rows and at least two columns, interposer bars slidably mounted in said carrier at an angle to said pins and operable to block the upward movement of said pin, means for actuating said interposer bars between blocking and non-blocking positions, said interposer bars for each column of pins arranged in tiers so that the lowermost of said bars operates the pins in the first row and each adjacent bar moving successively upward in the tier operates each successive pin in the column, and the successive pins in each column being longer than the preceding pins, said means for actuating the interposer bars including for each of said bars a flexible cable having a longitudinally movable element extending the length thereof, one end of means for moving said element coupled to the other end thereof, said moving means including a cam follower coupled to the other end of said element and a rotating cam for actuating said cam follower.

3,263,915
PROGRAM CONTROLLED ACCOUNTING MACHINE
Gosta R. Englund, Stockholm, and Mats E. Mattsson, Sollentuna, Sweden, assignors to Svenska Dataregister AB, Stockholm, Sweden, a corporation of Sweden
Filed Mar. 14, 1962, Ser. No. 179,595
78 Claims. (Cl. 235—60)



18. In an accounting machine, a bank of manually operable keys for controlling the operation of said machine, a group of automatically operable keys in said bank, memory means actuated by the operation of selected ones of said manually operable keys to store a representation of each of the manually operable keys that is operated, and means controlled by said memory means for subsequently operating the automatically operable keys in said group corresponding to each of the previously operated keys in said bank.

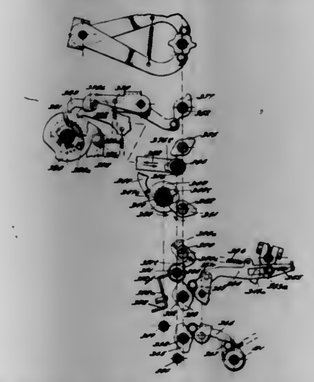
3,263,916
FUNCTION CONTROL APPARATUS FOR CALCULATORS
Hugo Baldus, Wilhelmshaven, and Berthold Hajen, Sande, Germany, assignors to Olympia Werke AG, Wilhelmshaven, Germany
Filed June 19, 1964, Ser. No. 380,116
Claims priority, application Germany, June 20, 1963, O 9,486
9 Claims. (Cl. 235—60)



1. Function control apparatus for calculators and accounting machines, comprising, in combination, control means movable between an inoperative position and a series of successive control positions respectively correlated with different functions of a counting unit; operating means for moving said control means first to said inoperative position and then toward successive control positions; a stop member having a plurality of stop portions and being movable in said inoperative position of said control means between a plurality of stop positions respectively correlated with said functions, said stop portions being respectively located in the path of movement

of said control means from said inoperative position to said control positions, and blocking in each of said stop positions movement of said control means in the control position correlated with the same function; a plurality of function keys for selectively moving said stop member to different stop positions; and a plurality of function selecting means operable in a sensing movement toward said control means and being stopped in different function selecting positions by said control means in said control positions, respectively, said function selecting means in said function selecting positions being adapted to set a counting unit to perform selected functions.

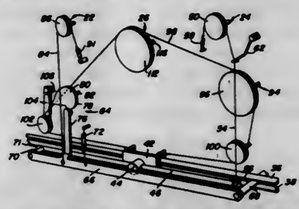
3,263,917
NORMALIZING MEANS FOR CALCULATING MACHINES
Herman Gang, Morris Plains, N.J., assignor to Monroe International Corporation, Orange, N.J., a corporation of Delaware
Filed June 29, 1964, Ser. No. 378,537
11 Claims. (Cl. 235—60.41)



1. In a motor driven calculating machine:
means for controlling said machine to perform a program of operations including a repeated sequence of different operations;
said program control means including
normally disabled means for terminating a given operation of each sequence and initiating the next operation;
a first means operable in the performance of said given operation for enabling said normally disabled means;
a second means operable in the performance of said given operation and normally superseded in operation by said first means for enabling said normally disabled means; and
means alternately operable to enable and to disable said second means.

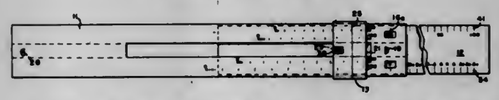
3,263,918
POWER FACTOR CALCULATOR
Glen R. Beachler, 829 E St., and Ernest C. Pavlicek, 1005 West St., both of Fairbury, Nebr.
Filed Oct. 6, 1964, Ser. No. 401,950
16 Claims. (Cl. 235—61)

1. A calculator for determining power factor from readings of wattage and reactive volt-amperes comprising a frame, a lever having spaced displacing portions, a pair of indicators mounted by the frame means connecting one of the indicators to one of said spaced displacing portions of the lever for registering power loss readings, first input means drivingly connected to the lever at the other of said spaced displacing portions and to the other of said indicators to register power readings, movable fulcrum means pivotally mounting said lever, linear displacing means operatively connected to the fulcrum means for movement thereof relative to the frame, second input means operatively engageable with the linear displacing means for movement of the fulcrum means to a position



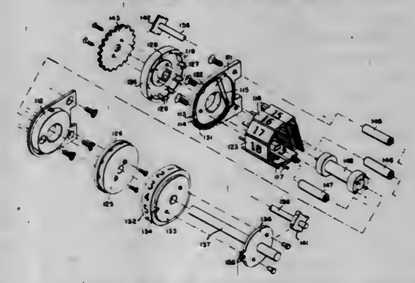
causing displacement of said one of the spaced displacing portions, and output registering means operatively engageable with the linear displacing means for registering the percentage of useful power to total power coresponding to said position of the fulcrum means.

3,263,919
AVERAGE CALCULATOR
Anthony F. Silvano, 25 Chestnut St., West Springfield, Mass.
Filed Oct. 22, 1965, Ser. No. 500,685
4 Claims. (Cl. 235—70)



1. A slide rule calculating device having a slide receiving body, a plurality of apertures formed in said body, a slide, said slide movable to and fro within, and along the longitudinal axis of, said body, a cursor movable to and fro along said body, said slide having a first scale thereon, said body having a plurality of scales thereon, each of said scales being divided along its length into a plurality of units, the length of each of the units of said plurality of scales being an aliquot portion of the length of each unit on said slide, said slide being engageable by said cursor for movement simultaneously with said cursor to cause segments of said scale on said slide to be exposed through at least one of said apertures.

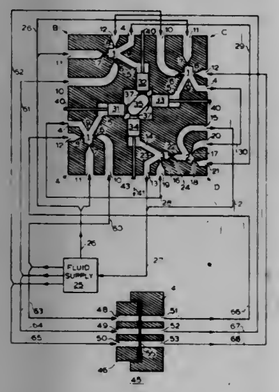
3,263,920
STORAGE AND TRANSFER DEVICE
Donald E. Reed, Upper Providence Township, Delaware County, Pa., assignor, by mesne assignments, to Litton Industries Inc., Beverly Hills, Calif., a corporation of Delaware
Filed July 11, 1963, Ser. No. 294,366
17 Claims. (Cl. 235—117)



1. A reversible storage and transfer device and the like which operates at all attitudes, comprising a pair of spaced-apart guide groove plates each having a continu-

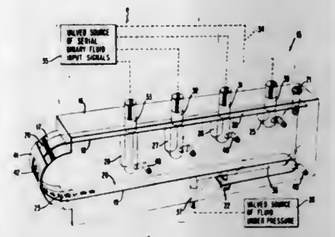
ous guide groove formed therein, said grooves including a transfer run and a storage run, a series of elements each having support lugs extending laterally therefrom into said guide grooves, and reversible drive means including a member having a series of cammed notches for continuously engaging the elements in the transfer run and continuously engaging the end elements in the storage run for holding said elements together in said storage run and picking up the lugs of each element and holding them captive in the transfer run and moving said captive elements to a desired position.

3,263,921
BINARY TO DECIMAL CONVERTER
Joseph T. McNaney, 8548 Boulder Drive, La Mesa, Calif.
Filed July 30, 1965, Ser. No. 476,016
4 Claims. (Cl. 235—201)



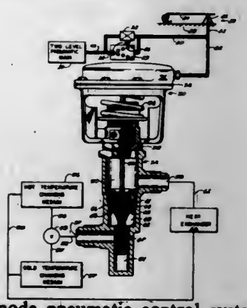
1. The combination comprising:
(a) at least first, second and third fluid amplifiers, each having first and second output channels, and first and second signal inlets through which fluid signals may be applied to selectively switch its power stream between said first and second output channels;
(b) an additional fluid amplifier, having an output channel, and first, second and third signal inlets through which fluid is applied, respectively, from the first output channel of said first, second and third amplifiers;
(c) a coupling mechanism presenting at least four bearing surfaces;
(d) first, second and third fluid-displaceable members, each presenting a bearing surface for contacting a bearing surface of said mechanism, with fluid conveying means interconnecting said members, respectively, with the second output channel of said first, second and third amplifiers;
(e) an output fluid-displaceable member, presenting a bearing surface for contacting a bearing surface of said mechanism, with fluid conveying means interconnecting the output channel of said additional amplifier therewith;
(f) means for applying a fluid power stream to said first, second and third amplifiers;
(g) first, second and third amplifier input signal means;
(h) means for extending the influence of said power stream to said output fluid-displaceable member upon the application of signals from said input signal means, simultaneously, to the first signal inlet of said first, second and third amplifiers; and
(i) means for interrupting said influence upon interrupting the application of said signals to either one, two or all of said first signal inlets of the first, second and third amplifiers thereby switching said power stream from the first output channel to the second output channel thereof.

3,263,922
FLUID DISPLAY AND CONVERTER DEVICE
William F. Volt, Jr., Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 24, 1964, Ser. No. 420,929
16 Claims. (Cl. 235—201)



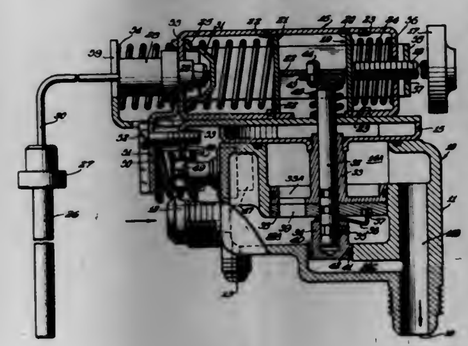
1. A device for providing output indications corresponding to input signals comprising:
a housing having an elongated thin slot therein;
a flexible tape movably received in said slot and having at least one end stationarily mounted relative to said housing;
a plurality of actuating cavities in said housing disposed adjacent said slot for receiving portions of said tape;
a source of coded input signals wherein each signal represents a different value;
means responsive to each of said input signals for creating a pressure gradient extending transversely of said tape for deflecting said tape into the associated one of said actuating cavities and causing movement of said tape; and
each of said actuating cavities having a size corresponding to the value of the associated input signal.

3,263,923
TWO MODE PNEUMATIC CONTROL SYSTEM
Roland A. Gladstone, Chicago, Ill., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Jan. 12, 1965, Ser. No. 424,969
11 Claims. (Cl. 236—1)



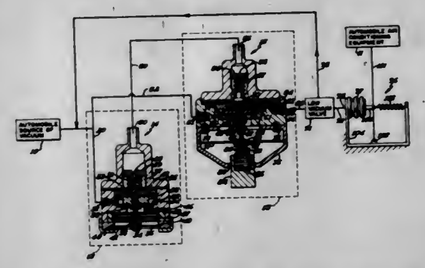
3. A two mode pneumatic control system, including: a two level pneumatic source having a first pressure level for operating said system in a first mode, and a second pressure level for operating said system in a second mode; pressure differential valve means including a continuously open restriction connected to said source to receive said pressure levels; said differential valve means operating to bypass said restriction when a predetermined pressure differential exists across said restriction to maintain said system in a selected mode of operation; said pressure differential valve means further connected to bleed type pneumatic condition responsive means and pneumatic actuator means to supply said last two named means with an operating pressure; and reversible valve means operatively driven by said pneumatic actuator means wherein said reversible valve means reverses its operation from said first mode to said second mode upon a change in level of pressures from said pressure source.

3,263,924
HEATING AND COOLING ZONE VALVE
Lawrence A. Kolze, Bensenville, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed Sept. 13, 1963, Ser. No. 308,896
6 Claims. (Cl. 236—1)



1. In a fluid control valve:
(a) a valve body including an inlet and an outlet and a flow port communicating said inlet with said outlet,
(b) a carriage mounted on said valve body and having a slider member mounted thereon,
(c) a first thermally sensitive element in said valve body adjacent said inlet and having an operating piston movable in response to changes in the temperature of the fluid flowing through said inlet,
(d) said carriage coupled to said operating plunger for movement therewith,
(e) a shaft journaled for rotary movement within said body having a valve disc mounted thereon and rotatable therewith and overlying said port,
(f) an aperture in said disc positionable in registry with said port to permit maximum fluid flow through said valve, whereby rotation of said disc to move said aperture out of registry with said port will decrease the flow of fluid through said valve,
(g) a radially extending lever connected to said shaft for rotation therewith,
(h) a rectilinearly movable element pivotally connected to a free end of said lever, whereby rectilinear movement of said element will effect rotary movement of said shaft,
(i) a second thermally responsive element mounted on said body and having an operating piston extensible therefrom in response to changes in temperature ambient said second element,
(j) said rectilinearly movable element coupled to said operating piston for movement therewith,
(k) whereby said shaft is rotated in response to the temperature ambient said second element.

3,263,925
CONDITION CONTROL SYSTEM
Frederick D. Joesting, Park Ridge, Ill., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Dec. 14, 1964, Ser. No. 417,925
9 Claims. (Cl. 236—9)



1. A vacuum operated automobile temperature control system, comprising: an automobile including vacuum source means supplying a vacuum to operate said temperature control system; said automobile including air conditioning means supplying a tempered air flow to a passenger compartment of said automobile; a three-way thermostatic valve having an inlet, an outlet, and an atmospheric bleed port with said inlet connected to said vacuum source means; said valve including temperature rate responsive means comprising a pair of oppositely disposed bimetal members with a first of said bimetal members insulated from the second of said bimetal members; said bimetal members adjusting said valve in response to a temperature of said tempered air flow to which said rate responsive means is exposed; a three-way regulating valve including a regulating inlet, an outlet, and an atmospheric bleed port with said last named regulating inlet connected in a series vacuum circuit to said outlet of said thermostatic valve to receive a controlled vacuum therefrom; said regulating valve including an adjustable temperature responsive bimetal element exposed to an ambient temperature within said passenger compartment; said adjustable temperature responsive bimetal element biasing said regulating valve against said controlled vacuum to regulate a vacuum output with respect to temperature in response to the setting of said adjustable temperature responsive bimetal element; and vacuum actuator means connected to the outlet of said regulating valve to receive said vacuum output to operate said air conditioning means in response to the temperatures of said tempered air flow and said ambient temperature within said passenger compartment.

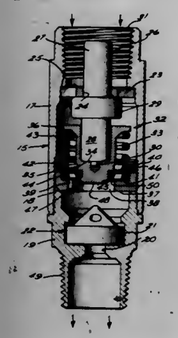
3,263,926
ANTI-SCALD SHOWER CONTROL
Robert W. Couffer, Deerfield, and Joseph M. Algino, Chicago, Ill., assignors to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed Nov. 6, 1963, Ser. No. 321,957
3 Claims. (Cl. 236—93)

1. A shower spray temperature controlled rate of flow control device comprising:
an elongated tubular fitting having an inlet at one end thereof and an axially aligned outlet leading from the opposite end thereof,
a spider seated in said fitting adjacent the inlet end thereof and having a central opening leading axially therethrough and flow openings spaced around said central opening,
a transverse wall mounted in said fitting adjacent the outlet end thereof and having a central port leading axially therethrough and a by-pass port disposed eccentrically of said central port,

a temperature sensitive power unit seated on said spider and having a temperature sensing casing extending through said central opening into said inlet and also having a power element extensible from the opposite end thereof toward said port,

a valve member seated on said element and having a flange spaced from said element toward said inlet and extending radially of said element,

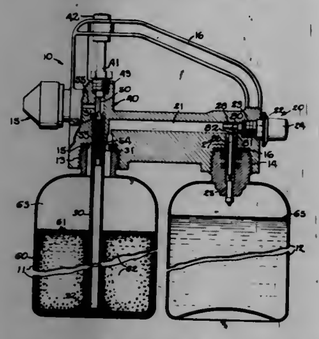
a spring seated on said transverse wall and said flange and retractibly moving said power element,



said valve member having a tapered advance end and a cylindrical wall extending therefrom toward said temperature sensitive power unit,

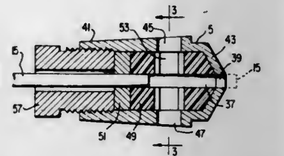
whereby hot water flowing about said sensing portion of said power unit will effect movement of said cylindrical wall of said valve element along said central port to block the flow of hot water through said central port, but accommodate the bleeding of water through said by-pass port.

3,263,927
METHOD FOR SPRAYING THIXOTROPIC GLASS BEAD MIXTURES AND THE LIKE
Harold D. Johnson, Emmetsburg, Iowa, assignor to Aero-Dyne Corporation, Emmetsburg, Iowa, a corporation of Iowa
Filed May 19, 1964, Ser. No. 368,467
2 Claims. (Cl. 239—1)



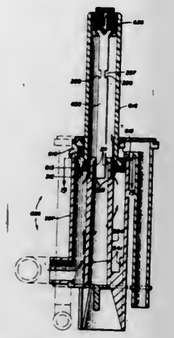
1. The method of spraying a thixotropic mixture of a viscous binder having dispersed therein a mass of glass beads or the like in compact relation which comprises the steps of injecting into a closed vessel only partly filled with the mixture liquefied gas of a type which is miscible with the binder, with the liquefied gas being injected under pressure at the bottom of the settled mass so that it percolates through the mass separating the beads and mixing with the viscous binder to lower the viscosity of the mixture, continuing the injection until the vessel is substantially full, and then discharging the mixture from the bottom of the vessel through a nozzle to the atmosphere before the beads have had an opportunity to settle back into compact relation.

3,263,928
APPARATUS FOR EJECTING A MIXTURE OF LIQUIDS
Frederick E. Gusmer, 224 Watchung Fork, Westfield, N.J.
Filed Nov. 19, 1964, Ser. No. 412,423
12 Claims. (Cl. 239—123)



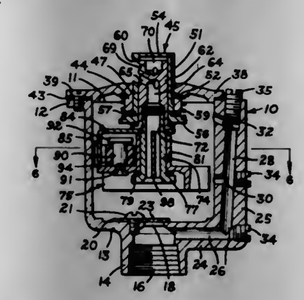
1. Apparatus for ejecting a mixture of liquids, comprising means defining a mixing chamber having an open outlet end, means defining a plurality of spaced inlets opening into the chamber for separately introducing different liquids into the chamber, said inlets being spaced from said open outlet end, the chamber adjacent said inlets having an inside diameter substantially the same as said open outlet end, and a plunger reciprocable in said chamber, the plunger having a free end in sliding contact with the side walls of the chamber, the plunger being reciprocable rearwardly to a position in which said free end is disposed to the rear of said inlets and forwardly to a position in which said free end is disposed in said outlet opening.

3,263,929
SPRINKLER HEAD AND SYSTEM
Wendell Seablom, 3712 Texas Road, Santa Rosa, Calif.
Filed Oct. 28, 1964, Ser. No. 407,255
10 Claims. (Cl. 239—204)



1. A sprinkler head comprising means forming a body including an elongate cylinder, a piston within the cylinder movable between retracted and advanced positions, said piston including a hollow portion disposed to be extensible from one end of the cylinder, fluid discharge means carried at the outer end of said extensible portion, said piston being formed with a flow passage to pass liquid from one side thereof to be discharged on the other via said fluid discharge means when said piston is in said advanced position, an elongate valve member carried by said cylinder and telescopically coacting with said piston to block said flow passage when said piston is in said retracted position and to open said flow passage when said piston is in said advanced position, alignment means serving to maintain radial positioning of said fluid discharge means with respect to said body, said alignment means comprising a tongue member fixed with respect to said extensible portion and continuously engaged by said elongated valve member to preclude rotation between said valve member and said extensible portion, and detent means disposed within said cylinder to engage said piston in its retracted position and preclude rotation thereof with respect to said cylinder to transfer applied torque from said extensible portion to said body, the tolerance of the engagement between said tongue member and said extensible portion being greater than the tolerance of the engagement between said detent means and said piston so as to protect said tongue member against receipt of said applied torque, and fluid passage means for passing liquid into and out of said cylinder at opposite ends thereof to move said piston between said retracted and advanced positions to open said flow passage and discharge said liquid therethrough and out said fluid discharge means.

3,263,930
IRRIGATION SPRINKLER
Anton R. J. Friedmann and Michael Demkio, Troy, Ohio, assignors to The Skinner Irrigation Company, a corporation of Ohio
Filed Sept. 11, 1964, Ser. No. 395,814
9 Claims. (Cl. 239—206)



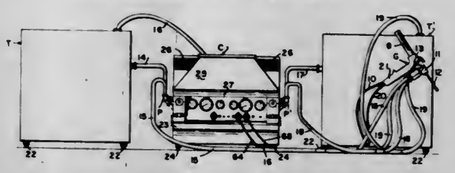
1. An irrigation sprinkler adapted to be installed within the ground and including a rotary pop-up nozzle and a mechanism for easily adjusting the speed of rotation of the nozzle, comprising a housing having an open top and a bottom including means defining an inlet coupling adapted to be connected to a liquid supply line, a cover for the top of said housing and including a central opening therein, a tubular nozzle stem rotatably mounted within said opening and adapted to pop upwards in response to water pressure within said housing, an impeller, means for mounting said impeller on said stem for free rotation in relation thereto, an arm member rigidly connected to said stem and extending outwardly therefrom, striker means mounted for rotation with said impeller and for imparting successive impulses to said member for intermittently rotating said stem in a step-by-step manner, passageway means for directing liquid from said inlet coupling through a driving port in said housing and towards said impeller for causing rotation thereof, and control means adjustably mounted within said passageway means and having a part accessible from the top of said sprinkler for controlling the flow of liquid through said passageway means and through said driving port toward said impeller for determining the speed of rotation of said impeller.

3,263,931
SILENCERS FOR JET ENGINES
Joseph Bartek, Moissy Cramayel, Anton F. Nagelschmidt, Vaux-le-Penil, Gaston Jean-Louis Ranvier, Issy-les-Moulineaux, and Gerhard Richter, Dammarie-les-Lys, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed July 30, 1964, Ser. No. 386,194
Claims priority, application France, Aug. 2, 1963, 943,655
9 Claims. (Cl. 239—265.11)



1. A device for reducing noise arising from a supersonic jet emitted by a nozzle, comprising a plurality of tubes the each having an inlet end which is subjected to the ambient pressure adjacent to the external periphery of the nozzle, and an outlet end which opens into the jet at a point substantially spaced downstream of the nozzle, and retracting means for moving said tubes away from the axis of the jet at will, at least at their outlet end portions.

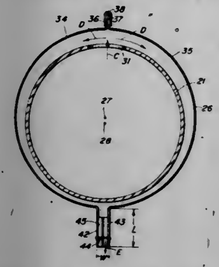
3,263,932
LIQUID PROPORTIONING APPARATUS
Robert R. Ruland, Lakewood, Colo., assignor, by mesne assignments, to Timpte, Inc., Denver, Colo., a corporation of Colorado
Filed Dec. 23, 1963, Ser. No. 332,763
4 Claims. (Cl. 239—304)



1. An apparatus for spraying two liquids including:
first and second tanks;
a control unit disposed adjacent said tanks;
a first cross support in said control unit;
first and second motors mounted in adjacent positions on said first cross support;
a second cross support in said control unit spaced from said first cross support;
first and second speed reducers mounted in adjacent positions on said second cross support and respectively operatively connected to said first and second motors;
first and second pumps mounted within said control unit and respectively operatively connected to said first and second speed reducers;
hoses connecting said first and second pumps with said first and second tanks, respectively;
a spray gun;
hoses connecting said spray gun to said first and second pumps;
first and second temperature gages mounted on said control unit and operatively connected to said first and second tanks for indicating the temperature of the respective liquids in said tanks;
first and second tachometers mounted on said control unit and respectively operatively connected to said first and second speed reducers for indicating the speed of said motors; and

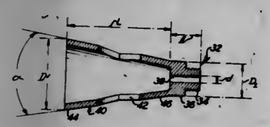
first and second speed control devices mounted in said control unit and respectively operatively connected to said first and second motors for varying the speed thereof and thereby varying the rate at which said pumps pump liquid from said tanks.

3,263,933
DUCT SYSTEMS
Samuel R. Porwancher, Chicago, and Kenneth W. Patterson, Skokie, Ill., assignors to Michigan Oven Company, Detroit, Mich., a corporation of Michigan
Filed July 29, 1964, Ser. No. 385,864
12 Claims. (Cl. 239—552)



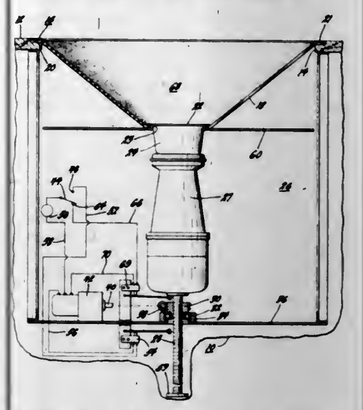
1. A duct system for developing a high-velocity stream of fluid of uniform velocity comprising:
an elongated supply duct;
means for supplying fluid under pressure at moderate velocity into one end of said supply duct;
an elongated acceleration duct, having an inlet portion along one side and an outlet portion along the opposite side, said acceleration duct progressively decreasing in width from said inlet portion to said outlet portion to progressively increase the velocity of fluid flowing therethrough;
one of said ducts being mounted within the other, the innermost duct having opening means interconnecting said supply duct with the inlet portion of said acceleration duct;
and discharge means affording an elongated narrow delivery slot connected to said outlet portion of said acceleration duct to deliver a uniform high-velocity stream of fluid outwardly of said acceleration duct along the length of that duct.

3,263,934
SAFETY TIP FOR PNEUMATIC GUN
Herbert W. Hope, Jr., Huntington-Shelton, and John J. Shuk, Bridgeport, Conn., assignors to Jenkins Brothers, Bridgeport, Conn.
Filed June 2, 1965, Ser. No. 466,501
5 Claims. (Cl. 239—556)



1. A safety tip for a gun having a discharge opening for a high pressure fluid medium, said safety tip comprising a frusto-conical shell having an inlet extending in continuing relationship with said opening to directly receive the fluid medium therefrom, said shell having a flat planar edge at the end of larger diameter which constitutes an outlet opening for the fluid medium, said shell being of a rigid material and being provided, approximately midway of the length thereof, with a pair of diametrically opposed openings, each having a cross-sectional area between 5 and 75 times the area of the inlet to permit free discharge of said fluid medium with said outlet opening blocked, said shell having a cone angle between 12° and 25° and a length which is between 1½ and 2½ times the diameter of the shell at the end of larger diameter, such that the larger diameter is at least about 1.5 times as large as the smaller diameter, the cross-sectional area of the openings being between 0.4 and 0.6 times the area of the shell at the end of larger diameter.

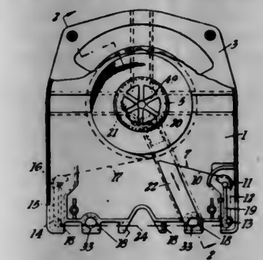
3,263,935
SINK AND DISPOSAL COMBINATION
George B. Long, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 13, 1963, Ser. No. 308,704
1 Claim. (Cl. 241—100.5)



In combination, a fixed member, a layer of elastic material, means for fastening the outer periphery of said layer to said fixed member for locating said layer of elastic material in a horizontal work surface plane, a receptacle depending from said layer having an open end portion communicating through said layer forming access to a small capacity sink region contiguous with the horizontal work surface formed by said layer of elastic material, a garbage disposal unit communicating with said receptacle, means including said garbage disposal unit for moving said receptacle relative to said fixed member to stretch said layer of elastic material from its horizontal disposition to form a sink cavity having a larger capacity than the above-mentioned sink region.

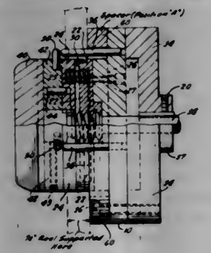
3,263,936
TAPE CASSETTE
Raymond G. H. Williams, Guildford, Surrey, England, assignor to Constance & Williams Limited, Hayes, Middlesex, England
Filed Nov. 29, 1963, Ser. No. 327,019
Claims priority, application Great Britain, Nov. 30, 1962, 45,364/62
2 Claims. (Cl. 242—55.13)

1. A cassette for magnetic tape which includes a housing, first and second spool means mounted within said housing for independent rotation about a common axis, magnetic tape extending over a path between and in front of said spool means, first and second guide surface means positioned in spaced relationship in said path of said magnetic tape, each of said guide surface means being inclined in an upward direction outwardly and rearwardly when its associated spool means is uppermost and both of said guide surface means being aligned midway between the first and second spool means whereby said magnetic tape extends between said first and second guide surface means over an operative run in a direction at right angles to said common axis in a plane parallel to that axis, and third and fourth guide surface means positioned one between said first spool means and said first guide surface means and one between said second spool



means and said second guide surface means, respectively, said third and fourth guide surface means being disposed in alignment with the adjacent spool means and guiding the magnetic tape between the adjacent spool means and guide surface means.

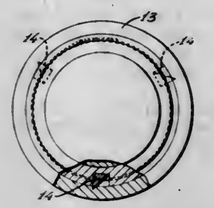
3,263,937
REEL HOLDING UNIT
Albert C. Kiriloucas, Granada Hills, Calif., assignor to Winston Research Corporation, Los Angeles, Calif., a corporation of California
Filed Dec. 21, 1964, Ser. No. 419,796
6 Claims. (Cl. 242—68.3)



1. A hold-down unit for a reel, or the like, including: a base; a cam member mounted on said base and supported thereby for limited longitudinal movement and restrained thereby for relative rotation with respect thereto; a retaining disc member mounted on said base adjacent the side of said cam member remote from said base; a resilient ring member supported in engagement with said cam member between said disc member and said base and adapted to expand and contract radially upon the aforesaid limited longitudinal movement of said cam member, said ring serving to clamp against the inner peripheral surface of the bore of a tape reel, or the like, supported on the unit; and a knob member having a shaft extending through said retaining disc and coupled to said cam to produce said limited longitudinal movement of said cam upon rotation of said knob member.

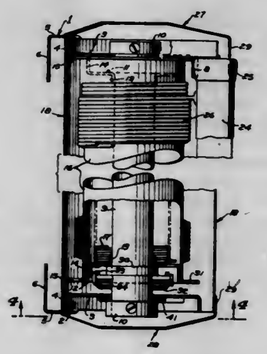
3,263,938
CORE CLUTCH
Herbert F. Dalglish, 284 Cherokee Ave., St. Paul, Minn.
Filed June 30, 1964, Ser. No. 379,097
10 Claims. (Cl. 242—72)

1. A core locking device for use in connection with a tubular core including:
a rotatable member adapted to fit snugly within the core,
an elongated groove in the outer surface of said rotatable member and extending parallel to the axis thereof,
said groove being formed of a plurality of surfaces in angular relation to provide a line of juncture therebetween,
a locking bar of substantially triangular cross-section positioned within said groove and including a pair of bar surfaces in angular relation to provide a fulcrum edge engageable with said line of juncture, one of the bar surfaces of said pair normally engaging one of said angularly related surfaces of said groove,



the other bar surface of said pair diverging away from, and being wider than, the other of said angularly related surfaces of said groove and extending beyond the periphery of said rotatable member, whereby
when said core encircles said rotatable member and rotates relative thereto in one direction, said locking bar will pivot about said fulcrum edge to swing said other bar surface toward the other of said angularly related surfaces of said groove.

3,263,939
RETRACTABLE CLOTHESLINE
Richard K. Menkin, 1618 Thompson Ave., Glendale, Calif.
Filed July 14, 1964, Ser. No. 382,454
8 Claims. (Cl. 242—100.1)



2. A retractable clothesline, comprising:
(a) a pair of mounting brackets;
(b) a shaft journalled therebetween;
(c) a reel drum journalled on said shaft;
(d) a cable wrapped on said drum for withdrawal therefrom and having an extended end adapted to be secured at a distant point;
(e) a clutch secured with respect to said shaft and engageable with said drum to provide a drive connection between said shaft and drum;
(f) a ratchet means for securing said shaft in a series of positions relative to said brackets;

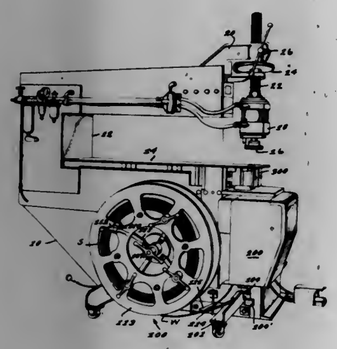
(g) and a handle structure having a first position engageable with said clutch and engageable with said ratchet means to hold said clutch and ratchet means disengaged, to permit withdrawal of said cable and securing of its extended end;

(h) said handle structure being movable from said first position to cause interengagement of said shaft and drum through said clutch, and tensioning of said cable, when its extremity is secured, and to permit securing of said shaft by said ratchet means thereby to hold said cable under tension.

3,263,940
MEANS FOR SUPPORTING COILED WIRE FOR DISPENSING

John G. Wright and Roy E. Smith, Atlanta, Ga., assignors to The Auto-Soler Company, a corporation of Georgia

Original application Jan. 29, 1963, Ser. No. 255,155. Divided and this application Apr. 15, 1965, Ser. No. 448,434
6 Claims. (Cl. 242—103)



1. Means for supporting a supply of relatively heavy coiled wire for dispensing, said means comprising a first shroud plate for supporting said coiled wire supply sidewise, said shroud plate being fitted with a hub portion at which it may be mounted for rotation and having core means arranged thereon for supporting said wire supply concentrically about said hub portion, a second shroud plate for opposing sidewise support of said wire supply, and clamping means cooperating with said core means at a plurality of spaced locations for positioning said second shroud plate on said core means to provide said opposing sidewise support and for tightening said second shroud plate with respect to said first shroud plate sufficiently to clamp said wire supply securely against relative bodily movement therebetween.

3,263,941
STRUCTURE FOR A REEL

William K. Becker, Ross Township, Kalamazoo County, Mich., assignor to Aero-Motive Manufacturing Company, Kalamazoo, Mich., a corporation of Michigan

Filed May 21, 1964, Ser. No. 369,058
3 Claims. (Cl. 242—107)

1. A structure for pivotally connecting a balance reel between a support and a load, comprising:

a balance reel;

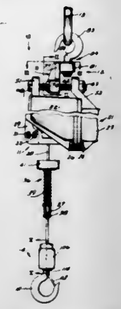
a pair of horizontally spaced abutments affixed to the upper end of said balance reel;

a screw supported on and extending between said abutments for rotation with respect thereto;

a rod connected to and extending between said abutments, said rod being parallel with and spaced from said screw;

a substantially L-shaped member having first and second, substantially perpendicular flange means, the first flange means having a pair of parallel openings slideably receiving said rod and threadedly engaging said screw, whereby said L-shaped member is moved axially of said rod in response to rotation of said screw;

wall means defining a pivot opening extending through said other flange means in a direction substantially perpendicular to a plane defined by said rod and said screw, the end of said pivot opening nearest said reel having an enlarged portion diverging toward said reel;



connection means engageable with said support and including element means extending through and and spaced from said wall means defining said pivot opening;

a pivot member having a surface defining a spherical segment and movably engageable with said wall means of said pivot opening defining said diverging portion, said pivot member being removably connected to said element means;

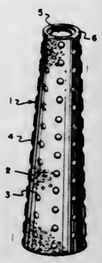
a cable extending from and operably controlled by said balance reel; and

load engaging means including a swivel member connected to said cable and rod means pivotally connected to said swivel member and connectible to a load.

3,263,942
PLASTIC ARTICLES

Robert H. Elwell, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware

Filed Oct. 3, 1961, Ser. No. 142,603
8 Claims. (Cl. 242—118.32)

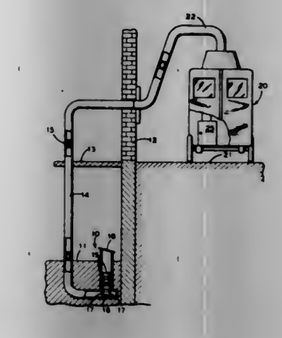


1. A shaped article of manufacture, formed of a thermoplastic yieldable and essentially non-frangible resilient polymer which has in smooth surfaced form a waxy slippery texture, having at least one face whose surface is substantially uniformly roughened by the presence of minute irregular indentations therein and interspersed random minute elongated ragged flexible protuberances thereon to provide an essentially non-skid, soft, suede-like quality to the surface.

3,263,943
VALUABLES COLLECTION SYSTEM

Jack H. Share, 219—21 Stewart Road, Bayside, N.Y.; Stanley Share, 132 Greenway, Albertson, N.Y.; and Barnett Share, 67 Hickory Lane, Roslyn Heights, N.Y.

Filed Apr. 8, 1964, Ser. No. 358,353
10 Claims. (Cl. 243—1)

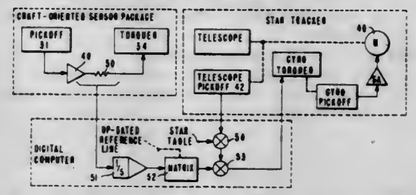


1. A valuables collection system comprising, in combination, at least one cylindrical container; a storage vault for such cylindrical container, said vault being formed with a substantially rectangular cross section storage space including parallel side walls spaced by substantially the diameter of said container and interconnected by end walls, one of said side walls being apertured for flow of air into said storage space; a guiding track extending laterally and upwardly from said storage space and including parallel side walls spaced by substantially the diameter of said container and interconnected by end walls; an elongated tubular conduit having an inner end opening through an end wall of said track at a point spaced from said storage space, said conduit having a diameter substantially equal to that of said container and the axis of said inner end being parallel to the side walls of said guiding track; the opposite end wall of said guiding track being apertured in alignment with said conduit inner end for flow of air into said conduit; the outer end of said conduit being formed for connection to a source of high vacuum; a door securing the outer end of said conduit; a lock for said door; a collection vehicle having a sealed transport vault for said container; a flexible conduit having an inner end sealingly communicated with said transport vault and an outer end formed for coupling to the outer end of said tubular conduit following opening of said door; and a source of vacuum on said vehicle connected to said transport vault and effective to apply therein a vacuum of a preselected negative pressure value and a preselected air flow rate to force air to flow through said flexible conduit to said transport vault; whereby, air flowing through the apertures in said one side wall into said storage space will agitate a container therein to move said container upwardly and along said guiding track and into alignment with said elongated tubular conduit; air flowing through said opposite end wall of said guiding track forcing said container to move into said tubular conduit and thence into said flexible conduit and into said transport vault.

3,263,944
SPACE CRAFT NAVIGATION SYSTEM

Robert A. Watson, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed July 2, 1962, Ser. No. 206,771
2 Claims. (Cl. 244—14)



1. A craft guidance system comprising in combination a craft-oriented sensor package having

single-axis gyroscopic first means directly mounted to said craft for monitoring angular changes in craft position with respect to a predetermined inertial reference frame, said gyroscopic first means having a predetermined orientation with respect to said reference frame when said angular changes are absent,

angle pick-off first means associated with said gyroscopic first means for providing a first output signal proportional to said angular changes,

and torquing first means associated with said gyroscopic means and responsive to said first output signal to reorient said gyroscopic first means to said predetermined orientation,

a gyroscopically stabilized optical tracker for determining the direction of a preselected celestial body with respect to said craft, said optical tracker having

telescope means for observing said preselected celestial body,

light responsive signal generating means for providing a second output signal proportional to the position of said observed body with respect to the optical viewing center of said telescope means, said second signal being utilized to supplement the navigational information of said system,

multiple-axis tracker mounting means affixed to said craft at a location remote from said sensor package and adapted to carry said telescope means for rotation about each of the multiple axes of said mounting means, said axes being aligned in a preselected relationship with the axes of said reference frame to provide a predetermined correlation between the movement of said telescope means and said sensor package, respectively,

angle pick-off second means associated with said mounting means for providing a third output signal proportional to the indicated pointing angle of the telescope means with respect to the craft,

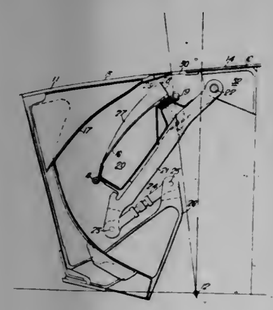
a gyro stabilizer for stabilizing said telescope means, said gyro stabilizer having gyroscopic second means, torquing second means for torquing said gyroscopic second means, and angle pick-off third means for providing a fourth output signal proportional to the torque induced in said gyroscopic second means by said torquing second means,

and servo means responsive to said fourth output signal for driving said telescope means about the axes of said multiple-axis tracker mounting means,

and a computer for determining the position of said craft with respect to said inertial reference frame, said computer comprising

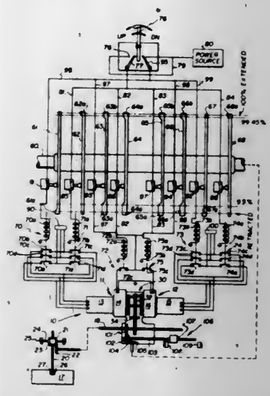
matrix means having stored therein information representing said inertial reference frame,
and integrating means coupled to said matrix means for integrating said first output signal with the information contained in said matrix means, said matrix means providing a fifth output signal representing the computed angle of said craft with respect to said inertial reference frame,
said computer further comprising
first mixer means for adding said third output signal with star-table information pertaining to the preselected celestial body being tracked to provide a sixth output signal representing the indicated angle of said craft with respect to said inertial reference frame,
and a second mixer means for comparing said fifth and sixth output signals to provide an error signal whenever there is a difference between said fifth and sixth output signals, said torquing second means being responsive to said error signal to torque said gyroscopic second means and provide said fourth output signal in said angle pick-off third means, said servo means in response to said fourth signal driving said telescope means about the axes of said multiple-axis tracker to null said error signal and align the optical viewing center of said telescope means with said observed body.

3,263,945
AIRCRAFT
John Cecil Wimpenny, St. Albans, England, assignor to Hawker Siddeley Aviation Limited, London, England
Filed Jan. 14, 1964, Ser. No. 337,595
Claims priority, application Great Britain, Jan. 16, 1963, 2,067/63
7 Claims. (Cl. 244—42)



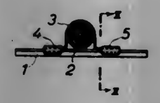
1. An aircraft wing comprising a main section and a drooping nose section having a pivotal mounting on the main section, said main section and nose section having respective upper surfaces which possess a substantially continuous common chord line when said sections are in a first positional relationship, said nose section pivoting on said pivotal mounting relative to said main section to a second positional relationship in which said upper surfaces are separated by a gap, at least one sealing plate pivotally mounted on said main section and lying in a retracted position wholly inward of said upper surfaces when said main and nose sections are in said first positional relationship, means moving said sealing plate into said gap to close it when said main and nose sections are brought into said second positional relationship, and a series of blades upstanding on said sealing plate and constituting vortex generators, said blades lying retracted wholly inward of said upper surfaces of said main and nose sections when said sections are in said first positional relationship, and projecting out above said upper surfaces when said sections are in said second positional relationship and the sealing plate is in the gap.

3,263,946
DRIVE MECHANISM
Phillip H. Roberts, New Orleans, La., and William R. Snook, Jr., Wichita, Kans., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Aug. 19, 1964, Ser. No. 390,627
12 Claims. (Cl. 244—75)



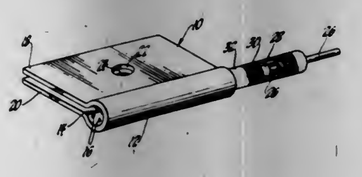
1. In an aircraft, a wing, a flap operatively connected to a trailing portion of said wing, means for extending and retracting said flap comprising, reversible constant speed electrical drive motor means, two-speed reversible mechanical power transmission means having first and second drive transmission means respectively forming first and second power paths, said power transmission means being drivingly connected to said flap, clutch means and brake means in said second power path having an input directly connected to and driven by said drive motor means and an output directly connected to and driving said second drive transmission means when said clutch means is engaged, said first drive transmission means being continuously drivingly connected to and driven by said drive motor means and continuously connected to and driving said flap when said drive motor means is energized, said drive motor means driving both said first and second drive transmission means for driving said flap at an increased speed when said brake means is released and said clutch means is engaged, third drive transmission means and electrical control means having a manually operable flap control switch and means connected to and driven by said power transmission means for controlling the extension and retraction of said flap and for causing said drive motor means to turn in one direction when said flap control switch is closed in one direction so as to extend said flap and for causing said drive motor means to turn in another direction when said flap control switch is closed in another direction so as to retract said flap, said electrical control means including means for controlling the engagement of said clutch means and release of said brake means for causing said flap to be extended and retracted at the increased speed when said flap is extended beyond a predetermined point between the fully extended and fully retracted flap positions, and said electrical control means comprising a plurality of cams ganged on a drum mechanically driven by said third drive transmission means having first cam means operating a first limit switch for automatically stopping said drive motor means when said flap has been completely extended, second cam means operating a second limit switch for stopping said drive motor when said flap has been completely retracted, third cam means operating a third limit switch for disengaging said brake means and engaging said clutch means when said flap has reached said predetermined point on being extended, and fourth cam means operating a fourth limit switch for disengaging said clutch means and engaging said brake means when said flap has reached said predetermined point on being retracted.

3,263,947
CLAMP FOR CONDUCTORS OR THE LIKE
Tuomas Kerttunen, Kauppakatu 23, Jyvaskyla, Finland
Filed Mar. 16, 1965, Ser. No. 440,215
Claims priority, application Finland, Mar. 20, 1964, 607/64
10 Claims. (Cl. 248—68)



1. A device for clamping electrical conduits, cables and the like comprising a foundation bar, a wire to be clamped positioned across said bar, a band of pliant material extending along said bar and around said wire and having its ends extending away from said wire along said bar, and at least one clamp extending across said band adjacent its ends and around each edge of said band and around said bar and clamped to said bar.

3,263,948
FITTING FOR A FLEXIBLE CONDUIT
Winthrop B. Conrad, Franklin, Mich., assignor to Teleflex, Inc., North Wales, Pa., a corporation of Delaware
Filed Dec. 18, 1964, Ser. No. 419,382
22 Claims. (Cl. 248—74)



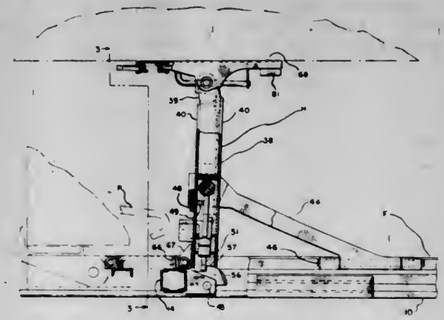
1. A fitting for supporting a portion of a conduit of the type having a plastic casing and surrounding a movable core element, said fitting comprising; a pair of conduit engaging members, hinge means hinging said conduit engaging members together for movement relative to each other to engage such a conduit therebetween, a plurality of spikes disposed on said conduit engaging members for penetrating such a plastic casing to secure such a conduit in said conduit engaging members to prevent relative axial movement between the conduit and said conduit engaging members; and for maintaining the conduit substantially free of radial forces to prevent the conduit from interfering with the movement of the core element, and positioning means for maintaining said conduit engaging members in engagement with such a conduit.

3,263,949
SCREW RETAINING FITTING FOR A REMOTE CONTROL ASSEMBLY
Winthrop B. Conrad, Franklin, Mich., assignor to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware
Filed May 17, 1965, Ser. No. 456,182
32 Claims. (Cl. 248—74)



1. A plastic member of the type secured to another member by threaded fastening means, and the like, said member having at least one hole threthrough, and a flexible membranous rib formed integrally with said member and disposed in said hole.

3,263,950
TRAILER HITCH
Boris Terlecky, New York, N.Y., and Richard Krause, New Brunswick, N.J., assignors to ACF Industries, Inc., New York, N.Y., a corporation of New Jersey
Original application Oct. 10, 1960, Ser. No. 61,500, now Patent No. 3,183,853, dated May 18, 1965. Divided and this application Aug. 27, 1964, Ser. No. 399,122
20 Claims. (Cl. 248—119)

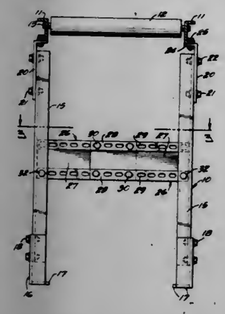


1. In a flat car trailer hitch, a strut pivotally mounted at one end on the car for upward and downward swinging movement longitudinally of the car, a wear plate pivotally mounted at the other end of said strut and defining a slot operable to receive a trailer king pin, braces pivotally connected to the car and overlapping said strut when the latter is in its lowered position, whereby said braces swing upwardly and outwardly transversely of the car during upward movement of said strut, and means for connecting the free ends of said braces to said strut to hold said strut in a raised position.

3,263,951
ADJUSTABLE WIDTH CONVEYOR SUPPORTING STAND
William Kenneth Stokes, Cincinnati, Ohio, assignor to The Alvey-Ferguson Company, Cincinnati, Ohio, a corporation of Ohio
Filed May 19, 1964, Ser. No. 368,469
4 Claims. (Cl. 248—172)

1. A supporting structure comprising opposed transversely spaced upstanding legs of channel-like cross-sectional form having inturned flanges disposed in spaced

parallel planes with a connecting web therebetween, an elongated brace extending transversely between said legs and having oppositely extending ends projecting within said inturned flanges of the respective legs, said brace having an elongated web tilted relative to the planes of the inturned flanges of said legs and having upper and



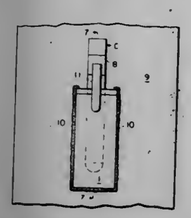
lower flanges projecting respectively upwardly and downwardly therefrom and extending therealong, said upper and lower brace flanges being in parallel spaced planes adjacent to and directly inwardly of said leg flanges so that the respective leg and brace flanges are substantially in cooperating contact, and means for connecting the cooperating flanges structurally together.

3,263,952

THERMOCOUPLE MOUNTING ASSEMBLY

William J. Fisher, Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Oct. 5, 1964, Ser. No. 401,508
5 Claims. (Cl. 248—309)



1. A mounting assembly for thermocouples, comprising a first elongated member adapted to be secured to a support, said member having in one face thereof an elongated groove extending in a direction parallel to the length of said member and opening at one end thereof; and a second member removably positioned in said groove, said second member having an opening therethrough providing a thermocouple well; said first member also having therein a slot extending into said groove from that face of said first member opposite to said one face thereof, the closed end of said slot being aligned with said opening when said second member is positioned in said groove.

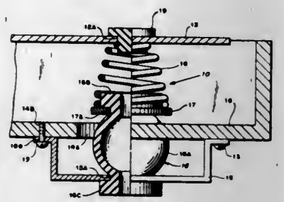
3,263,953

VIBRATION ISOLATION MOUNT

Richard Shottenfeld, Jamaica, and Solomon Ablock, Brooklyn, N.Y., assignors to Pilot Radio Inc., Yonkers, N.Y., a corporation of New York

Filed Apr. 30, 1963, Ser. No. 276,819
4 Claims. (Cl. 248—358)

1. A vibration isolation mount comprising: a hollow elastic member having a wall, a major portion of said wall being solid, said major portion having a generally spherical configuration, upper and lower mounting means on said member, said upper mounting means including an upper short cylindrical extension, a seat around said extension, and an upper flange retaining said seat, said lower mounting means including a lower short cylindrical extension, and a lower flange on said lower extension, a rigid bracket to support said vibration isolation mount,



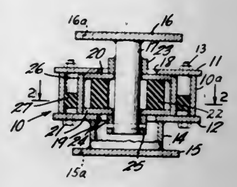
said rigid bracket having a hole therethrough, said hole fitting around said lower short cylindrical extension above said lower flange and below said major portion of said wall, a conical helical spring having a lower end and an upper end, said lower end being seated on said upper mounting means, securing means on said upper end of said spring, said securing means being adapted to attach said spring to a mass to be isolated.

3,263,954

ALL-DIRECTIONAL SHOCK MOUNT

Paul Baratoff, Jackson Heights, N.Y., assignor to Korfund Dynamics Corporation, Long Island City, N.Y., a corporation of New York

Original application Nov. 15, 1963, Ser. No. 323,978. Divided and this application Oct. 11, 1965, Ser. No. 494,802
2 Claims. (Cl. 248—358)



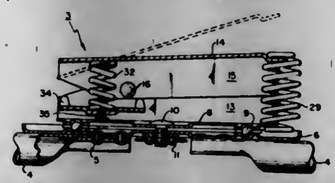
1. A shock mount comprising a housing, a support plate spaced vertically from the housing, a shaft extending from the support plate into the housing, spaced upper and lower plates slidably mounted on the shaft in the housing, a first resilient shock absorbing ring to attenuate vertical shock loads disposed between and engaging the upper and lower plates, stops on the shaft limiting the upward movement of the upper plate and the downward movement of the lower plate with respect to the shaft, a slidable collar surrounding and engaging the peripheries of the upper and lower plates, a second resilient shock absorbing ring to attenuate horizontal shock loads effectively disposed between and engaging the collar and the housing, whereby the first resilient shock absorbing ring attenuates by compression thereof all vertical shock loads between the support plate and the housing, and the second resilient shock absorbing ring attenuates by compression thereof all horizontal shock loads between the shaft and the housing.

3,263,955

UNDERCARRIAGE FOR A ROCKING CHAIR

Howard S. Hunt, Louisville, and Roy F. McMahan, Jr., Harrods Creek, Ky., assignors, by mesne assignments, to American Metal Products Company, Detroit, Mich., a corporation of Michigan

Continuation of application Ser. No. 379,431, June 22, 1964, which is a continuation of application Ser. No. 282,188, Apr. 22, 1963, which is a continuation of application Ser. No. 58,608, Sept. 22, 1960. This application Sept. 30, 1965, Ser. No. 491,783
19 Claims. (Cl. 248—385)



1. A rocker assembly for the undercarriage of rocking chairs and the like, comprising:

a base member;

a horizontal rocker member having first and second ends and positioned over and spaced upwardly from said base member;

means mounting said rocker member on said base member for relative forward-backward rocking movement of both of said first and second ends of said rocker member

about a transversely-extending horizontal rocking axis,

which is offset a substantial distance rearwardly from a vertical center plane passing transversely through the mid-portion of said rocker member; and

double action spring means other than said first-named means

located on the front side of said rocking axis, vertically arranged between the rocker member and the base member, and

secured to both so as to be operative to cushion at least the extreme portion

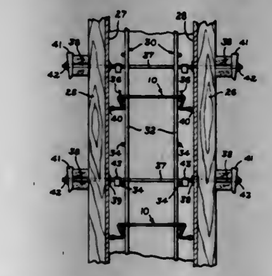
of the forward rocking movement by compression and of the backward rocking movement by tension.

3,263,956

CONCRETE ACCESSORY

Robert P. Hawkins, Birmingham, Ala., assignor to The Dayton Sure Grip and Shore Company, Birmingham, Ala., a corporation of Alabama

Filed Sept. 14, 1964, Ser. No. 396,219
5 Claims. (Cl. 249—40)



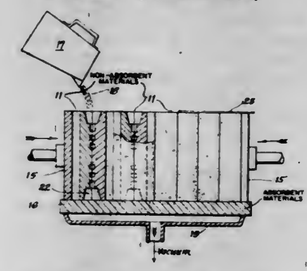
1. In combination with a pair of forms having inner surfaces positioned in predetermined parallel spaced relation to define a concrete wall having a corresponding predetermined thickness, and a pair of reinforcing means positioned between said surfaces for reinforcing the wall, an improved spacer for positioning said reinforcing means in predetermined spaced relation with each other and with said inner surfaces, comprising a central portion having a length establishing the predetermined spacing of said reinforcing means, an intermediate leg portion extending from each end of said central portion and defining a hook for engaging and retaining one of said reinforcing means, an end leg portion extending outwardly from each said intermediate leg portion, and said end leg portions defining an overall length of said spacer no greater than said spaced relation of said inner form surfaces.

3,263,957

APPARATUS FOR THE PRODUCTION OF CERAMIC, CERMET, AND METAL COMPONENTS

Nick G. Lirones, North Muskegon, Mich., assignor to Howe Sound Company, New York, N.Y., a corporation of Delaware

Filed Feb. 9, 1961, Ser. No. 88,046
1 Claim. (Cl. 249—134)



A mold for the production of articles of ceramic, metal and cermet materials from slip compositions, the articles to be formed including thin sections extending to progressively thicker sections whereby the mold includes thin sections extending to progressively larger thicker sections, said mold comprising a substantially horizontally disposed base portion and a substantially vertically disposed mold section situated on top of said base portion and extending upwardly therefrom, said mold section comprising first and second opposed side walls defining the configuration of the article to be formed therebetween, said base portion being formed of absorbent material adapted to absorb the liquid portion of said slip compositions, said side walls defining forming surfaces comprised of areas of absorbent material and non-absorbent material, whereby the mold is adapted to absorb liquid through said base portion and through absorbent areas of said mold section, said first side wall being formed of substantially non-absorbent material, and said second side wall being formed of selectively alternating absorbent and non-absorbent areas, the absorbent areas in said second side wall being dimensioned to be progressively larger from the thinnest sections of said mold to the thicker sections thereof and from the top of the mold to the bottom thereof.

3,263,958

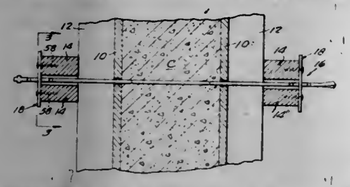
TIE FOR CONCRETE FORMS

Monroe J. Cox, Louisville, Ky. (201 Meridan Road, St. Matthews, Ky.), and Charles G. Steier, 3800 Youngwood Road, Louisville 18, Ky.

Filed Sept. 18, 1964, Ser. No. 397,466
1 Claim. (Cl. 249—213)

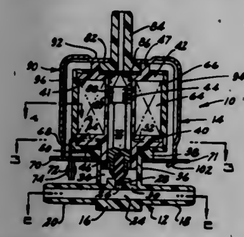
A concrete form tie comprising a round rod having a substantially straight middle portion of uniform cross-section, one end portion of said rod being formed with engager means adapted for operative engagement with the

chuck of an electric drill, the other end of said rod terminating in a drill bit larger in diameter than said middle portion, said engager means comprising a pair of diametrically-opposed wings and a chuck having a shank adapted



to be engageable in the chuck of an electric drill, said rod being formed adjacent to said engager and adjacent to the boring drill bit with rows of spaced pairs of opposed squared notches adapted to be lockingly engaged with retaining means on opposite sides of a concrete form.

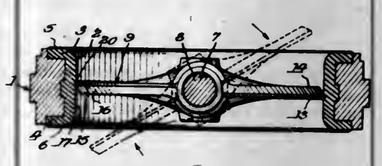
3,263,959
SOLENOID VALVE
Arthur J. Wisniewski, Southfield, Mich., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 23, 1964, Ser. No. 420,598
8 Claims. (Cl. 251—141)



3. A solenoid valve comprising a one piece valve body which includes an externally flanged hollow central portion defining a pair of chambers and a valve seat therebetween, and three outwardly radiating tubular conduits connected with said central portion, two of said hollow tubular conduits having unrestricted fluid communication with one of the chambers, and the other tubular conduit having unrestricted communication with the other chamber; said tubular conduits occupying planes normal to the axis of the hollow central portion a solenoid coil positioned on the exterior flange of said valve body; a solenoid armature disposed within the coil and registering with said seat for controlling flow between the two chambers and magnetically permeable field means for the coil comprising a flat plate and a U-shaped frame having a web portion and end walls; said plate and the frame web portion being disposed parallel to one another at right angles to the armature axis and operatively sandwiching the valve body flange and coil therebetween; the frame end walls having interlocking connections with the plate to draw the coil tightly against the valve body flange.

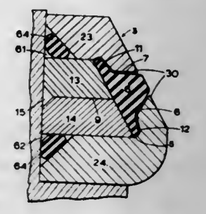
3,263,960
SQUEEGEE DISC CONSTRUCTION FOR BUTTERFLY VALVES OR THE LIKE
James Trefil, Berwyn, and Hubert L. Williams, Hinsdale, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois
Filed Aug. 2, 1963, Ser. No. 299,661
2 Claims. (Cl. 251—306)

1. A butterfly valve disc closure member unsymmetrical when viewed in plan on its vertical axis, the closure member being substantially plate-like and having discontinuous thin transverse annular land surfaces at its peripheral semi-circular portions formed by a substantially square lead edge and by an edge of annular relieved inclined surfaces extending rearwardly of the said transverse land,



the extent of the discontinuity of said transverse land being defined by spaced-apart upper and lower flattened outer portions on said closure member.

3,263,961
SEALING MEANS FOR VALVES
Otto Herman Varga, Bradford-on-Avon, England, assignor to Seetru Limited, Bristol, England, a British company
Filed Jan. 8, 1964, Ser. No. 336,573
8 Claims. (Cl. 251—332)

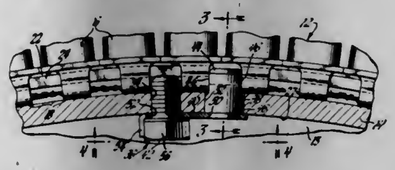


1. A valve for controlling the flow of fluid under pressure through a passage comprising a valve closure member and a valve seat member, said members having sealing surfaces, means for moving the sealing surfaces of said members into cooperating abutting relation to close said valve, sealing means carried in one of said sealing surfaces comprising an annular groove in one of said surfaces, said groove having a curved bottom surface which is conical, a resilient sealing ring in said groove, said ring having a main body portion and a base having a curved surface cooperating with said curved bottom surface, said ring having a pair of peripherally continuous flexible lips projecting on opposite sides of said base; the side walls of the groove being spaced from the side surfaces of said body portion and side surfaces of said lips throughout their entire side surfaces when said ring is in an intermediate position, to loosely position said ring in said groove; said lips having curved conical surfaces forming a continuation of the curved surfaces of said base and contacting said curved bottom surface of the groove and in sealing engagement therewith and the opposed side walls of the groove being undercut and receiving said oppositely projecting flexible lips.

3,263,962
ROTOR BLADE LOCK
Gilbert J. Dickey, Plainfield, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 22, 1965, Ser. No. 450,039
4 Claims. (Cl. 253—77)

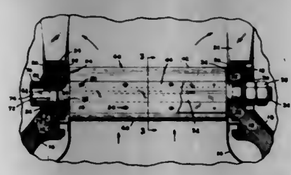
1. A bladed rotor comprising:
an annular support rim,
a dovetail circumferential groove in the periphery of said rim, said circumferential groove including a loading slot,

a plurality of blades having roots adapted to be inserted radially into said loading slot slidably retained in said groove, said blades having circumferentially extending platforms which abut adjacent platforms to provide circumferential spaces between said roots,
the circumferential length of said loading slot, said roots and said spaces being substantially equal, said blades being disposed in said groove so that one of said spaces is aligned with said loading slot,
an aperture extending through said rim in alignment with said loading slot,
a plug disposed in said aperture and extending into said loading slot and said one space,



axial flats on the portion of said plug extending into said loading slot, said flats abutting the axial walls of the roots adjacent said one space,
a support adjacent the inner circumferential wall of said rim, said support engaging said plug to retain it in said aperture, and
bolt means threadedly received by said rim and extending into the circumferential space adjacent said one space to secure said support to said rim whereby said blades are restrained from circumferential movement.

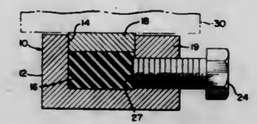
3,263,963
NOZZLE BLADE ASSEMBLY COMPRISING REPLACEABLE AND ADJUSTABLE NOZZLE BLADES
Albert F. Hanschke and William W. Browning, Wellsville, N.Y., assignors to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Nov. 5, 1964, Ser. No. 409,229
8 Claims. (Cl. 253—78)



1. In a nozzle blade assembly for use in turbines, casing means forming a fluid passage, a support element extending across said fluid passage, a plurality of nozzle blade means adapted to be fixedly joined around said support element to form a nozzle blade removable means for fixedly joining said nozzle blade means around said support element to form a nozzle blade within said fluid passage, whereby said nozzle blade means may be fixedly joined around or removed from said support element in situ within said fluid passage.

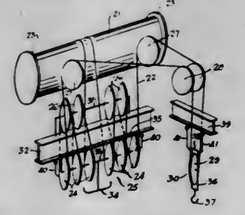
3,263,964
LIFTING AND LEVELING DEVICE
Eugene W. Hines, 4292 Esta Drive, Flint, Mich.
Filed Nov. 9, 1964, Ser. No. 409,738
8 Claims. (Cl. 254—98)

1. In a lifting and leveling device
a supporting body having a bore therein,
a solid elastic resilient relatively incompressible material in block form disposed in said bore at the bottom thereof, a load-supporting pad disposed upon said solid elastic block and in intimate contact therewith within said bore, making a close fitting freely movable fit with said body in said bore and terminating at its upper surface in a plane substantially flush with the surface of said supporting body adjacent said bore,



and a screw threadedly engaged through a wall of said supporting body into the plane of said solid elastic block for pressure bearing contact with a surface portion of said solid elastic block upon threaded advance of said screw and for compression of said solid elastic block within said bore to effect a flow of said solid elastic block against said load-supporting pad and to displace said pad in said bore.

3,263,965
DUAL-SPEED, DUAL-LOAD HOIST ARRANGEMENT
Robert D. Mutch, Baie d'Urfe, Quebec, Canada, assignor to Dominion Bridge Company, Limited, Montreal, Quebec, Canada
Filed Aug. 31, 1964, Ser. No. 393,116
13 Claims. (Cl. 254—144)

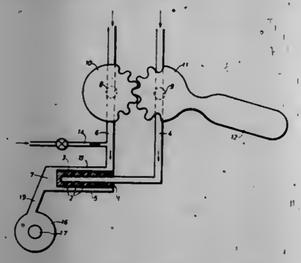


1. A hoist arrangement including a support frame structure, a main hook block having a plurality of rope sheaves rotatably mounted therein, an auxiliary hook block having a rope equalizing means mounted therein, a plurality of fixed rope sheaves rotatably mounted on said support frame structure, a hoist drum rotatably mounted on said support frame structure, a hoist rope operatively engaging said rope equalizing means and reeved around said rope sheaves and anchored to said hoist drum, and means for selectively clamping said main or auxiliary hook blocks against said support frame structure for independent operation of the unclamped hook block.

3,263,966
MIXING APPARATUS
Karl Breer, Cologne-Flittard, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Nov. 3, 1964, Ser. No. 408,586
Claims priority, application Germany, Nov. 5, 1963, F 41,188
1 Claim. (Cl. 259—4)

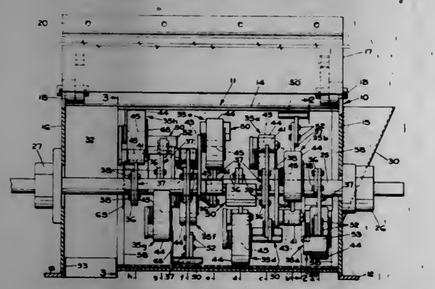
A mixing apparatus for intimately combining reactive components which comprises a mixing chamber, said chamber having an inlet means for a plurality of components and a discharge means, said inlet means including a first tubular conduit and a second tubular conduit in fluid-flow relationship with said chamber, said first conduit being concentric with said second conduit and disposed within said second conduit, said first conduit having

a sealed end, a plurality of apertures through the tubular wall thereof, a tightly fitting elastic sleeve surrounding said tubular conduit and covering said apertures, a means provided in said inlet means for simultaneously causing



fluid-flow to said first and second tubular conduits, an after-mixing chamber wherein circular motion is imparted to the mixed reactive components and an outlet from said aftermixing chamber.

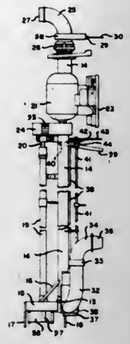
3,263,967
CONTINUOUS MULLER
Cecil E. Simmons, Durham County, Ontario, Canada, assignor, by mesne assignments, to Jeffrey Galion Manufacturing Company, a corporation of Ohio
Filed July 30, 1964, Ser. No. 386,124
14 Claims. (Cl. 259—9)



1. Apparatus for continuously mulling material comprising, a receptacle disposed on a laterally extending axis, said receptacle extending along said axis to define a path of flow for material through the receptacle in a longitudinal direction from one end of the receptacle to the other end of the receptacle, said receptacle comprising a wall having an inwardly facing mulling surface on which the material is to be mulled, said mulling surface being disposed about said axis, mulling means in said receptacle to mull the material between the mulling means and said mulling surface as the material flows through the receptacle, longitudinally extending plow means movable about the axis to engage the material as it flows through the receptacle and to disperse the material about the axis on the mulling surface, and deflector means disposed adjacent to said plow means to deflect the material as it is dispersed by the plow means.

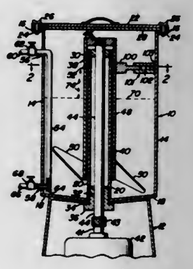
3,263,968
SLURRY HANDLING APPARATUS
Nils Johan Sahlstrom, Suntetorp, Skovde, Sweden
Filed Feb. 19, 1964, Ser. No. 345,989
7 Claims. (Cl. 259—96)

1. Slurry handling apparatus comprising a slurry receiving tank, slurry pump means including a housing and an impeller and having intake means in the housing for slurry, said intake means being positioned below the normal level of slurry in the tank and having an intake opening of a size comparable to that of the pump impeller, drive means for said pump in driving connection with said impeller, said pump housing being fixed against rotation with the impeller, a first outlet conduit extending upwardly from said pump and terminating above said



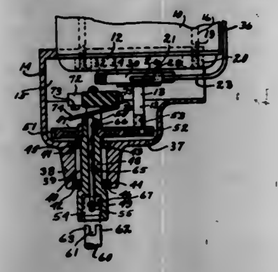
slurry level, said first conduit being disposed to discharge slurry within said tank and above said slurry level to a remote part thereof so that solid and liquid constituents within the tank can be effectively blended, a second outlet conduit extending from said pump and disposed to discharge blended slurry to a point outside of said tank, and means for selectively controlling the discharge of slurry from said first and said second outlet conduits.

3,263,969
SPINDLE STABILIZER
Milton Adam Frank, Sr., 508 N. Market, Frederick, Md.
Filed Sept. 2, 1964, Ser. No. 394,089
4 Claims. (Cl. 259—108)



1. A blender comprising the combination of: a closed container; a spindle assembly centrally located within said container and comprised of an inner fixed sleeve, an outer rotatable sleeve carrying mixer blades thereon, a plurality of port holes located at the upper end of said outer sleeve, a drive shaft connected to said outer sleeve and extending down through said inner sleeve and through the bottom of said container and connectable to an exterior power source; and at least one plunger means urged against said outer rotatable sleeve of the spindle assembly at a point opposite said port holes in said outer sleeve to reduce vibration of the spindle assembly.

3,263,970
POWER MIXER
Edmund A. Steinbock, Jr., Louisville, Ky., assignor to Whip-Mix Corporation, Inc., Louisville, Ky., a corporation of Kentucky
Filed Nov. 10, 1959, Ser. No. 852,093
5 Claims. (Cl. 259—108)

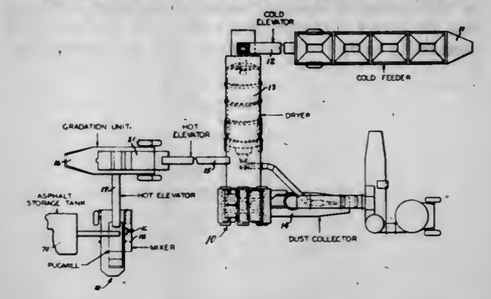


1. In a power mixer the combination of a motor including a motor housing closed at one end, a motion transmitting housing secured to the closed end of said motor housing to be external thereof, a motor shaft carried by said motor having its one end beyond the motor closed end and within the motion transmitting housing, a driving shaft carried by said motion transmitting housing having one end within the said motion transmitting housing and the other end projecting exteriorly of the motion transmitting housing, motion transmitting means within the housing operatively connecting said motor shaft and driving shaft for rotating the driving shaft by the motor shaft, said driving shaft exteriorly projecting end having formed therein a socket, a mixing container including a driven mixer shaft having an end adapted to be telescoped with the driving shaft socket, driving means carried by said driving shaft socket, interconnected driven means carried by the driven mixer shaft telescoped end for operatively connecting the same, said mixing container being adapted to be manually held while effecting and during the operative connection of the driving shaft and driven mixer shaft, a normally open control switch for said motor within the motion transmitting housing, said driving shaft having a bore substantially axially thereof upwardly of the socket, an actuator for the switch in alignment with the driving shaft bore, a vertically reciprocal plunger in said driving shaft bore in alignment with the switch actuator normally inoperatively positioned by the driving shaft socket driving means, and means associated with said mixer shaft driven means operative during and after the interconnection of said socket driving and mixer shaft driven means vertically reciprocating the plunger closing the switch and effecting the motor operation.

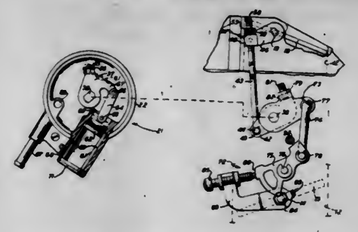
3,263,971
AUTOMATIC SAMPLING MEANS FOR ASPHALT PLANTS
Robert E. Farnham, Naperville, Ill., assignor to Barber-Greene Company, Aurora, Ill., a corporation of Illinois
Filed Mar. 21, 1962, Ser. No. 181,259
17 Claims. (Cl. 259—154)

15. In a bituminous mixing plant of the continuous type including a pug mill and an aggregate supply system for supplying aggregate to the pug mill and an asphalt supply system for supplying asphalt to the pug mill as well as a reference shaft interlocked with both systems, the improvement of

means connected with the aggregate and asphalt supply systems and with the reference shaft for selectively diverting asphalt and aggregate flow from the pug mill to sample hoppers for a selected number of revolutions of the reference shaft so that the number of units of aggregate and asphalt being delivered to the pug mill may be ascertained per revolution of the reference shaft.



3,263,972
AUTOMATIC CHOKE MECHANISM
Paul E. Braun, Birmingham, and Albert A. Pruckno, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed June 20, 1963, Ser. No. 289,258
6 Claims. (Cl. 261—39)

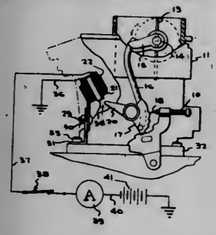


1. A carburetor for an internal combustion engine comprising an induction passage, a throttle valve and a choke valve rotatably supported in said induction passage, a temperature responsive element, an adjustable length link operably connecting said temperature responsive element to said choke valve for moving said choke valve between an opened and a closed position in response to temperature changes, a lever rotatable with said throttle valve, a fast idle cam adapted to be engaged by said lever to establish a fast idle position for said throttle valve, and an operative connection between said temperature responsive element and said fast idle cam for positioning said fast idle cam to be engaged by said lever at low temperatures, said last named operative connection comprising an adjustable abutment screw to permit adjustment of the relative positions of said temperature responsive element and said fast idle cam independent of adjustment of the relative positions of said temperature responsive element and said choke valve.

3,263,973
CHOKE RELEASE
James M. Purcell, 1118 N. 5th St., Grand Forks, N. Dak.
Filed Nov. 22, 1963, Ser. No. 325,546
4 Claims. (Cl. 261—39)

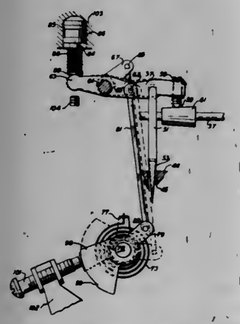
1. In a motor vehicle having an internal combustion engine provided with a carburetor including an automatic choke, said automatic choke being of the type comprising a pivotally mounted fast idle cam connected by a link to the choke plate of the carburetor, said cam being adapted to rotate to a position substantially closing the

choke plate when the engine is cold, an arm of magnetic material rigidly secured to and projecting from said cam, an electromagnet mounted adjacent said cam in a position to attract said arm and rotate said cam toward a position opening the choke plate, and a manually con-



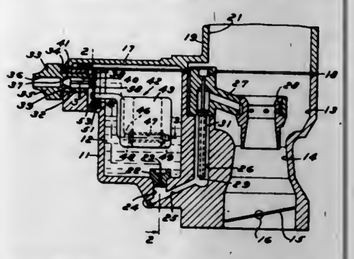
trolled energizing circuit connected to said electromagnet, whereby said electromagnet can be at times energized to rotate said cam toward said last-named position and open the choke plate to prevent loading the engine with unvaporized fuel.

3,263,974
CONSTANT METERING FORCE CARBURETOR
Paul E. Braun, Birmingham, Richard J. Freismuth, St. Clair Shores, and Albert A. Pruchno, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Mar. 30, 1964, Ser. No. 355,622
6 Claims. (Cl. 261—39)



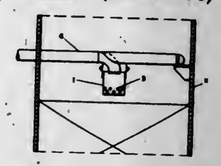
6. A carburetor for an internal combustion engine comprising an induction passage, a throttle valve for controlling the flow of combustible mixture through said induction passage, air valve means in said induction passage anterior to said throttle valve, said air valve means being movable in response to pressure variations in said induction passage for maintaining a substantially constant pressure between said air valve means and the said throttle valve, a fuel source, a fuel discharge circuit for discharging fuel from said fuel source into the portion of said induction passage between said air valve means and said throttle valve, a fuel metering valve for controlling the rate of fuel flow through said fuel discharge circuit, a metering cam, means interconnecting said metering cam and said air valve means for simultaneous movement of said air valve means and said metering cam, a first lever, a second lever pivotally supporting said first lever for pivotal movement about a first pivot axis, follower means upon said first lever coacting with a cam surface of said metering cam for pivotal movement of said first lever about said first pivot axis upon movement of said air valve means, means interconnecting said first lever with said fuel metering valve for operation of said fuel metering valve upon pivotal movement of said first lever, means supporting said second lever for pivotal movement about a second pivot axis, temperature responsive means operatively connected to said second lever for pivotal movement of said second lever about said second pivot axis upon variations in temperature for altering the location of said first pivot axis and the relationship between said fuel metering valve and said air valve means, a vacuum motor, a vacuum passage extending from said vacuum motor to said induction passage posterior to said throttle valve for operating said vacuum motor in response to variations in engine intake manifold vacuum, and means operatively connecting said vacuum motor to said second lever for moving said second pivot axis upon variations in intake manifold vacuum for altering the location of said first pivot axis and the relationship between said air valve means and said fuel metering valve.

3,263,975
CHARGE FORMING DEVICE HAVING A CONSTANT LEVEL DEVICE
Tao-Yuan Wu, Ann Arbor, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 30, 1963, Ser. No. 334,268
2 Claims. (Cl. 261—70)



1. A charge forming device comprising
a body having a fuel bowl and an induction passage,
a fuel inlet into said fuel bowl,
valve means movably positioned in said fuel inlet,
a float adapted to be buoyantly supported by fuel in said fuel bowl,
a lever positioning said valve means to control fuel flow through said fuel inlet, said lever being pivotally connected to said float about a substantially horizontal first axis below the center of buoyancy of said float, means pivotally mounting the lever about a second axis at a right angle to the first axis for moving the valve means, and
a fuel outlet from said fuel bowl for discharging fuel into said induction passage.

3,263,976
APPARATUS FOR DISTRIBUTING LIQUID IN PACKED TOWERS
Leo S. Hilinski, Plainview, Tex., assignor to W. R. Grace & Co., a corporation of Connecticut
Filed Apr. 9, 1964, Ser. No. 358,485
4 Claims. (Cl. 261—98)

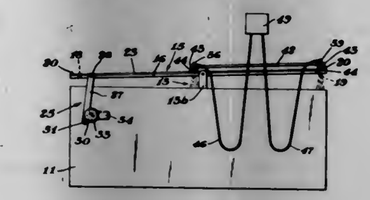


1. Apparatus for distributing liquid in a packed tower comprising at least one bucket, filled to about one-half its depth with packing, positioned within said tower, above said tower's packing, with the number of buckets in a tower determined by the following schedule based upon tower diameter;

Tower diameter, feet:	Number of buckets
1.0–3.5	1
3.6–9.0	7
Above 9.0	19

each bucket; (a) having an open top in liquid communication with a liquid feed line; (b) having a closed bottom with at least one orifice about 0.4 inch in diameter positioned therein; and (c) having a plurality of orifices, each at least about 0.4 inch in diameter positioned in the bucket's side wall below the midpoint of said wall and so positioned as to provide spaced-apart flow with the streams of flow being substantially equidistant from each other.

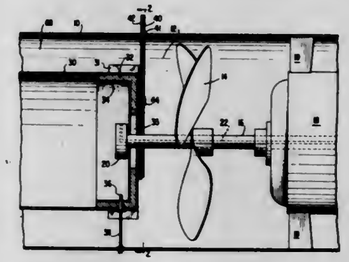
3,263,977
RECTANGULAR GAS AND LIQUID CONTACT BED HAVING A LIQUID DISTRIBUTOR
Melvin David Rickard, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Sept. 23, 1963, Ser. No. 310,538
6 Claims. (Cl. 261—112)



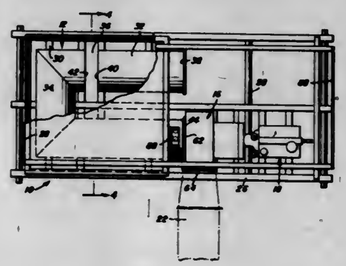
1. In cooperative combination with a rectangular bed having therein a gas-liquid contact medium and an open top to receive a falling liquid, a liquid distributor comprising means to provide a source of liquid to be distributed, a frame generally coextensive with the rectangular bed to receive the liquid, said frame being pivotally mounted above the open top of the rectangular bed, means to oscillate said frame about said pivot in such a manner that the plane of the frame passes through a horizontal plane and is displaced therefrom by about an equal angular displacement above and below a horizontal plane, at least one means adapted to provide a generally linear spray supported upon said frame, said means to provide the spray being slidably mounted on the frame and adapted to move to and fro under the influence of gravity as the frame is oscillated about the pivot, means to provide liquid from the liquid source to the means to provide a spray, means to provide a path for the liquid from the liquid source to the means to provide a liquid spray.

3,263,978
COMBUSTION APPARATUS
Donald E. Safford, Park Forest, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 10, 1964, Ser. No. 358,740
5 Claims. (Cl. 263—19)

1. Combustion apparatus adapted for efficiently burning liquid fuel which may be supplied at low pressure without objectionable smoke and/or odor, comprising means defining a combustion chamber, a fire box in said chamber formed of an insulating low-heat-sump refractory material having a surface coating thereon of a non-absorbent, relatively low porosity material, a centrifugal fuel supply unit projecting into said chamber including a slinger arranged within said chamber and mounted on a rotatable shaft, means for rotating said shaft and means adapted to supply fuel to said slinger, said fuel being thrown from the rim of said slinger by centrifugal force to impinge upon said surface coating of the firebox, the heat from combustion within said chamber being adapted to heat said fire box surface whereupon said fuel is rapidly vaporized when the same impinges upon said surface coating, means defining an air intake for said combustion chamber adjacent said slinger and surrounding said shaft and an air control means for said air intake adapted to be operated from without said combustion chamber consisting of a pair of washer-like closure elements pivotally connected together in a scissors-type linkage and surrounding said shaft outside of said combustion chamber and adjacent to said one end of the combustion chamber.



3,263,979
SKID MOUNTED HEATER
Ernest R. Muckelrath, Tioga, N. Dak., assignor to Air Heaters, Inc., a corporation of North Dakota
Filed June 3, 1965, Ser. No. 461,072
8 Claims. (Cl. 263—19)

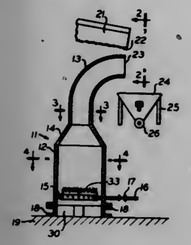


1. A heater assembly comprising an elongated heat-conveying duct means, said duct means including a first inlet end, a second outlet end, a primary air intake formed in said duct means at the first inlet end, a secondary air intake to said duct formed between the inlet end and the outlet end in substantial spaced relation to both, blower means mounted adjacent the duct means outlet end and communicated therewith for drawing heated air from the duct means, said duct means including a substantial angular bend therein between the secondary air intake and the outlet end, said duct means having substantially the same cross-sectional area on both sides of said bend and along the full length thereof, and fuel injection means disposed in said duct means between the inlet end and the secondary air intake.

3,263,980
APPARATUS FOR TREATING THERMOPLASTIC MATERIAL TO IMPROVE FLOWABILITY THEREOF

Friedhelm R. Feder, Westfield, and Richard S. Hoyt, South Bound Brook, N.J., assignors to Wedco Inc., Garwood, N.J., a corporation of New Jersey

Filed Feb. 19, 1963, Ser. No. 259,704
4 Claims. (Cl. 263—21)



1. Apparatus suitable for the treatment of thermoplastic resin in finely divided form to improve the flowability thereof, which comprises:

(a) dispersing means for dispersing finely divided particles as a falling dispersion thereof in the form of a sheet;

(b) hot gas dispensing means disposed below said supply means for delivering a stream of hot gas for passage transversely through the plane of said sheet to simultaneously heat and expand the dispersion of particles, said hot gas dispensing means comprising a natural draft heater including a heating chamber, a heater within said heating chamber, means defining an opening for passage of gas into said chamber for the heating thereof and conduit means communicating with the heating chamber and having a horizontally elongated outlet disposed for delivery of hot gas over the width of said sheet for said passage through the body of finely divided particles;

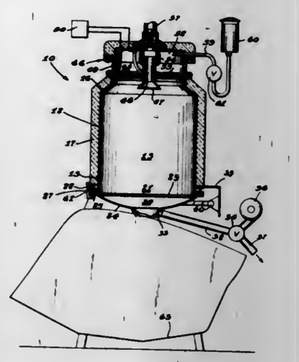
(c) collecting means for collecting the finely divided particles together into a mass thereof, said collecting means having an open top for passage of the particles thereinto, and being disposed substantially directly below and spaced from the locus of passage of gas through the dispersion of finely divided particles.

3,263,981
APPARATUS FOR TREATING EXPANDABLE THERMOPLASTIC RESINOUS PARTICULATE MATERIAL

Ronald P. Lowry, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 23, 1964, Ser. No. 384,642
5 Claims. (Cl. 263—21)

1. An apparatus for the foaming of expandable plastic particles comprising in cooperative combination a vessel having a top portion and a bottom portion, the vessel having a cavity therein of generally constant cross sectional configuration, the bottom portion of the vessel defining an opening generally commensurate in size with that of the cavity within the vessel, a closure in sealing engagement with the bottom of the vessel and so constructed and arranged so as to be readily removable therefrom, the closure comprising a housing, the housing and a foraminous sheet defining a chamber, a passageway in communication with the chamber, the housing and foraminous sheet so constructed and arranged that the chamber is in communication with the cavity within the vessel by means of openings in the foraminous sheet, means defining a passageway in communication with the chamber, the passageway having means to selectively place it in communication with an air source and a vent passageway, a steam source disposed in cooperative combination with the top portion of the vessel, means defining a vent disposed in the top portion of the vessel and so constructed and arranged so as to permit the flow of gaseous material from the cavity within the vessel.



3,263,982
BEAM SPRING

Joseph A. Kersavage, New Orleans, La., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed June 3, 1964, Ser. No. 372,185
17 Claims. (Cl. 267—1)



1. A spring assembly comprising a first plurality of first relatively straight spring beam members being serially joined in overlapping end-to-end relationship, a second plurality of second relatively straight spring beam members being serially joined in overlapping end-to-end relationship, said first plurality of first relatively straight spring beam members collectively forming a first generally segmental spiral with each of said first beam members forming a segment of said first spiral, and said second plurality of second relatively straight spring beam members collectively forming a second generally segmental spiral with each of said second beam members forming a segment of said second spiral, said first and second spirals being arranged with respect to each other so as to cause each of said first beam members to be intersected at a point intermediate the ends thereof and in overlapping fashion by at least one of said second beam members.

3,263,983
SHOCK ABSORBER AND AUXILIARY SPRING UNIT

Charles V. Bliven, Wayne, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Dec. 30, 1963, Ser. No. 334,499
4 Claims. (Cl. 267—8)

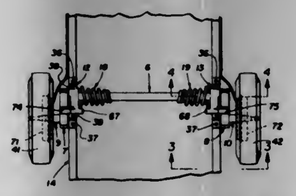


1. A vehicle suspension system having sprung and unsprung parts, a suspension spring interposed between said parts and constructed for resiliently supporting said sprung parts on said unsprung parts, a direct acting telescopic shock absorber interposed between said parts, said shock absorber having a body portion connected to one of said parts and a piston rod portion connected to the other of said parts, a spring seat secured to said body portion, a coil spring disposed concentrically about said body portion and having one end secured to said spring seat, a cup-shaped rubber retaining member connected to the other end of said coil spring and slidably receiving said piston rod portion, a rubber spring surrounding said piston rod portion and situated within said coil spring between said retaining member and said body portion, a stop member secured to the end of said piston rod portion, said stop member being spaced apart from said retaining member when said shock absorber is in an extended rebound position but engaging said retaining member when in a jounce position.

3,263,984
WHEEL SUSPENSION FOR VEHICLES

Frank F. Linn, 2654 Fruitvale Ave., Oakland, Calif.

Filed Nov. 2, 1964, Ser. No. 407,979
6 Claims. (Cl. 267—58)

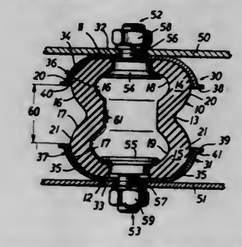


1. A wheel suspension for vehicles comprising a shaft;
a radially projecting arm mounted on said shaft adjacent an end thereof;
a wheel spindle secured to said arm in offset parallel relation to said shaft;
a bearing formed and adapted for connection to a vehicle body, and having an annular wall forming a bore therethrough, and journalling said shaft therein;
a helical spring surrounding said shaft with one end connected to said bearing and the other end connected to said shaft and;
a resiliently distortable means connected to said shaft and having an annular peripheral wall in frictional contact with said bearing wall so as to rotate relative thereto under static loading and to grip said wall under dynamic loading to provide resilient torsional coupling between said bearing and axle.

3,263,985
SHOCK ABSORBER

Kurt Planta, Wildenburgstrasse 22, Cologne-Lindenthal, Germany

Filed Aug. 4, 1964, Ser. No. 387,282
Claims priority, application Germany, Aug. 7, 1963, P 22,013
6 Claims. (Cl. 267—63)



1. A shock absorber, comprising a tubular compression spring of elastomeric material, said spring having two annular end faces and end portions adjacent to said end faces, said end portions being bounded by external surfaces whose diameters first increase in directions away from the respective end faces to provide respective sections of maximum external diameter, and then decrease to provide at least one section of an external diameter less than said maximum external diameter; and a pair of substantially cup-shaped rigid stress transmitting members each having a bottom wall adjacent to one of said end faces and a mantle diverging outwardly from the respective bottom wall and surrounding with clearance the corresponding external surface to define therewith an annular gap of predetermined depth and of a width which increases in a direction away from the respective end face in uncompressed condition of said spring, said mantles extending at least to and surrounding the maximum-diameter sections of the respective external surfaces and said members being movable toward each other to compress the spring whereby said end portions expand radially to reduce the width and the depth of said gaps and to move their external surfaces into increasing face-to-face abutment with the corresponding mantles.

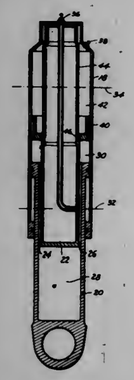
3,263,986
SHOCK ABSORBER

Raymond P. Tollar, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed Mar. 2, 1964, Ser. No. 348,377
2 Claims. (Cl. 267—64)

1. In a shock absorber having telescoping portions with provisions for a metering fluid to dissipate energy, a means to provide said shock absorber with a high and low energy air-spring rate comprising:
an inner cylinder having inner and outer walls;
an outer cylinder supporting said inner cylinder and permitting said inner cylinder to telescope therewithin with provisions to affix said outer cylinder to surrounding vehicular structures;
a central tubular member slidably engaging the inner walls of said inner cylinder, said tubular member hav-

ing a peripheral flange in sliding engagement with said inner walls, which flange separates a first variable volume chamber from a second variable volume chamber in said inner and outer cylinders, said inner tubular member also having means to meter a passage of hydraulic fluid between said first variable volume chamber and said second variable volume chamber as said inner and outer cylinders telescope, said central tubular member further having drilled openings at an end thereof opposite that containing the peripheral flange to provide communication of the interior of said central tubular member with said second variable volume chamber, said central tubular members still further having a stepped construction such that said tubular member has a lesser diameter adjacent said openings and a greater diameter below said opening towards said peripheral flange; and



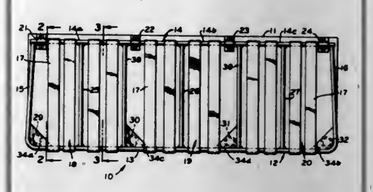
a pressure responsive means in said second variable volume chamber culling out a third variable volume chamber from said second variable volume chamber which pressure responsive means normally rests on a shoulder created by the stepped construction of said central tubular member to provide a differential effective area of said pressure responsive means on one side as respects the other side thereof;

a means to introduce a hydraulic fluid and a first pneumatic pressure to said second variable volume chamber with the hydraulic fluid flowing through said means to meter fluid into said first variable volume chamber; and

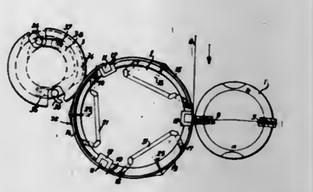
a further means to introduce a second pneumatic pressure of greater magnitude than said first pneumatic pressure to said third variable volume chamber behind said pressure responsive means to maintain said pressure responsive means abutting the shoulder of said central tubular member between the lesser and greater diameters thereof during the normal rest position for said shock absorber.

3,263,987
SPRING SEAT SUSPENSION
Alan E. Rathbun, 3135 Highland Drive, Cuyahoga Falls, Ohio
Filed Aug. 28, 1964, Ser. No. 392,762
6 Claims. (Cl. 267—103)

4. A spring seat suspension comprising, a base, a resilient rod rectangular spring frame having a front, back and opposed side portions, at least one seating area on said spring frame, said spring frame supported on said base by hinge means connecting the back of said spring frame to said base and resilient means interposed between the front of said spring frame and said base to permit said spring frame to swing through a limited arc about said hinge means, said hinge means being located laterally of said seating area, strap means extending between the front and back of said spring frame, and a bowed spring rod positioned generally medially of said seating area under compression and having ends abutting the front and back of said spring frame.



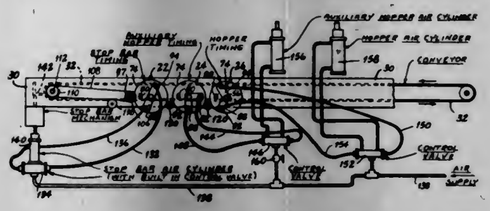
3,263,988
FOLDING KNIFE- AND BUNDLING CYLINDER FOR SHEET FOLDING APPARATUS
Paul Heimlicher, Bolligen, Switzerland, assignor to Maschinenfabrik Winkler, Fallert & Co. A.G., Bern, Switzerland
Filed May 22, 1964, Ser. No. 369,462
Claims priority, application Sweden, May 24, 1963, 5,778/63
6 Claims. (Cl. 270—50)



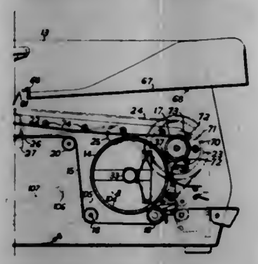
1. Apparatus for folding and bundling sheets comprising, in combination, a rotatably mounted folding knife- and bundling cylinder; means for feeding sheets to said cylinder for stacking and folding thereon; plural radially displaceable stack support means positioned circumferentially around the periphery of said cylinder and each supporting a respective stack of sheets; and means operatively connected with said cylinder and said support means and operable, during each revolution of said cylinder, to reciprocate said support means radially of said cylinder between positions corresponding respectively to the minimum and maximum radii of the associated stack of sheets supported thereby; said last-named means comprising a cam and cam followers engaged with said cam and each connected to a respective one of said stack support means.

3,263,989
CONTROL MECHANISM FOR THE HOPPER RELEASE MEANS AND STOP BAR OF PARTITION STRIP FEEDER MECHANISM
David W. Mauger, Mequon, Wis., assignor to U.S. Partition & Packaging Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 12, 1963, Ser. No. 322,783
9 Claims. (Cl. 271—8)

8. In combination, control mechanism for hopper release means of a partition feeder comprising pneumatic means for releasing and closing a hopper release means including a control valve, means for cyclically actuating said control valve to release and close the hopper release means, and means for altering the actuation cycle to change the timing of the hopper release means without shutting down the feeder.

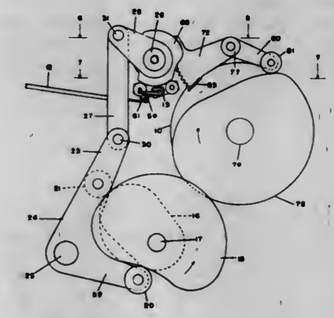


3,263,990
PHOTO COPYING MACHINES
Denis V. Baglow, Weybridge, Surrey, Reginald William Johnson, Middlesex, and Alfred Ernest Block, London, England, assignors to Block & Anderson Limited, London, England, a British company
Original application June 11, 1959, Ser. No. 819,760, now Patent No. 3,120,793, dated Feb. 11, 1964. Divided and this application Nov. 13, 1963, Ser. No. 323,365
Claims priority, application Great Britain, June 16, 1958, 19,198/58
10 Claims. (Cl. 271—51)



1. In a document copying machine including a stationary framework, first drive means, a horizontally, disposed exposure cylinder rotatable in said framework by said first drive means, sheet feed-in means at the front of said framework adjacent the lower region of said cylinder and a copy sheet delivery tray for receiving the produced document copies located also at the front of said framework at a position spaced vertically above said sheet feed-in means, the provision of a copy sheet delivery arrangement comprising copy sheet conveying and guiding means for directing each produced copy sheet over a path extending towards the rear of said framework, a horizontal sheet support roller disposed parallel with said cylinder, pivotal support means for each end of said sheet support roller to effect movement of said sheet support roller bodily from a lower position where it is beneath said rearward copy sheet path to a higher position above said path, a horizontal sheet delivery roller mounted in said framework at a position above said sheet support roller where it is engaged by the latter when in its higher position, timed operating means coupled to said drive means and said cylinder for raising said sheet support roller to its higher position when the trailing edge of each produced copy sheet overlies said support roller thereby to grip said copy sheet between said support roller and said delivery roller, second drive means for continuously rotating said delivery roller in a direction to cause movement of said gripped copy sheet towards the front of said framework over a path above said cylinder and sheet delivery guide means for directing said forward moving copy sheet into said sheet delivery tray.

3,263,991
CONTROL AND TRIP MEANS FOR INFEED GRIPPER MECHANISM
Mahendra Vir Singh, Chicago, Ill., assignor to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware
Filed Apr. 24, 1964, Ser. No. 362,446
9 Claims. (Cl. 271—51)



1. In a sheet transfer device for feeding sheets from a support to a continuously rotating member, in combination, a gripper shaft adapted to have bodily oscillating movement in an arcuate path between said support and said member, gripper fingers and gripper pads carried by said shaft and mounted thereon for opening and closing movements relative to said support and member, a gripper supporting shaft for supporting said gripper shaft, and means for actuating said gripper fingers and said gripper pads to cause said opening and closing movements thereof, said actuating means including respective cams mounted on said gripper supporting shaft for oscillating rotation independently of the gripper supporting shaft.

3,263,992
SHEET HANDLING DEVICE
Ernst Schrempp, Norwalk, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Apr. 13, 1964, Ser. No. 359,213
1 Claim. (Cl. 271—53)

In a machine of the class described:

a frame;

supporting means on said frame for supporting a work sheet at a printing station;

a sheet locating stop for determining the operative position of said sheet at said printing station, said locating stop being movable between operative and inoperative positions;

a first spring means for yieldably retaining said sheet locating stop in a normal operative position;

a sheet ejecting roller rotatably mounted on said frame and operatively positioned between said printing station and said sheet locating stop;

a lever swingably mounted on said frame;

a pressure roll rotatably mounted on said lever whereby said pressure roll is movable between operative and inoperative positions relative to said sheet ejecting roller;

a second spring means biasing said pressure roll toward an operative position against said sheet ejecting roller;

cam means for normally retaining said pressure roll in an inoperative position against the action of said

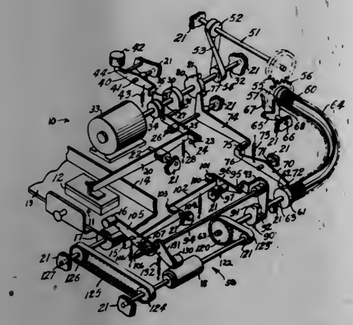
second spring means whereby the leading edge of said work sheet may, preparatory to a printing operation, be advanced between the pressure roll and said ejecting roller and into engagement with said operatively positioned sheet locating stop;

a first drive linkage operative to move said sheet locating stop from its normal operative position to an inoperative position;

a second drive linkage operative to actuate said cam means so as to permit said second spring means to move said pressure roll into operative position against said positioned work sheet and ejecting roller;

a third drive linkage operative to rotate said sheet ejecting roller;

cyclically operable drive means operative during each cycle of its operation to actuate said first, second and third drive linkages whereby said sheet locating



stop is moved to an inoperative position, said pressure roll is moved to an operative position and said sheet ejecting roller is rotatably driven so that said sheet is thereby driven away from said printing station;

said cyclically operable drive means comprising an energy storage spring adapted to be incrementally wound and released during each cycle of operation of said drive means;

latch release means operatively connected to the output end of said spring and operable to permit an incremental unwinding of said spring;

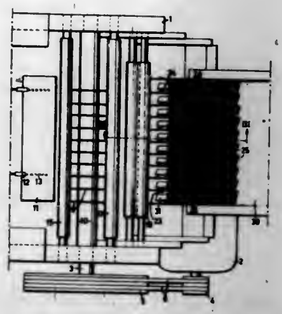
ratchet means preventing unwinding movement of the other end of said spring;

control means for cyclically operating said latch release means; and

acuating means for imparting a cyclic winding movement to said other end of said spring.

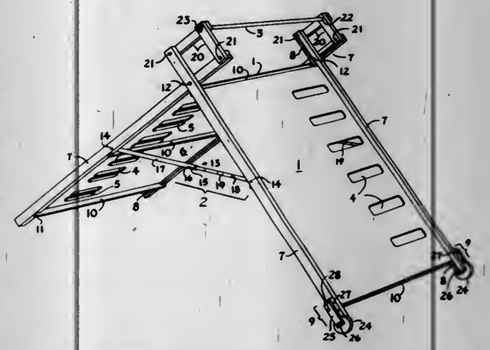
3,263,993
METHOD AND APPARATUS FOR ARRANGING BLANKS INTO SEPARATE STACKS
Lennart Hedborg, Grammont, Belgium, assignor to Aktiebolaget Siefvert & Fornander, Kalmar, Sweden
Filed Apr. 6, 1964, Ser. No. 357,452
Claims priority, application Sweden, Apr. 24, 1963, 4,465/63
6 Claims. (Cl. 271—64)

1. A method in arranging blanks into separate stacks, comprising the steps of cutting each one of a series of sheets into a group of blanks, without interspaces between adjacent blanks of each sheet, advancing the blanks of each group substantially parallel to each other, rotating said blanks of each group individually on axes substantially parallel to the feed direction of said blanks, thereby creating interspaces between adjacent blanks of each group, dividing said blanks thus cut, into stacks corresponding in number to the number of blanks per group, from each other by feeding all blanks having occupied one and the same position on its respective sheet into a separate channel, individual to its respective stack thus



formed and extending substantially parallel to the channels of adjacent stacks from which is it separated by thin partitions arranged in the interspaces created by the rotation of the blanks.

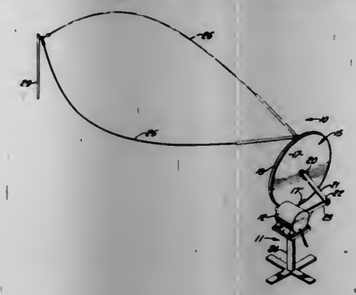
3,263,994
ADJUSTABLE CHILD'S SLIDE
Richard E. Londgren, 3101 N. 29th, Tacoma, Wash. 98407
Filed May 27, 1964, Ser. No. 370,426
4 Claims. (Cl. 272—56.5)



1. An adjustable slide, comprising: a pair of slide units each provided with a smooth flat panel having a plurality of openings formed therein with side rails and cross braces fixed to each of said panels; means pivotally connecting said slide units together at one end thereof; telescoping braces connected to the side rails of said slide units adjustable to vary the steepness of said slide units; a grab bar supported adjacent the pivotal connection between said slide units; and a parallelogram support means for said grab bar that changes the height of said grab bar when the steepness of said slide units is varied.

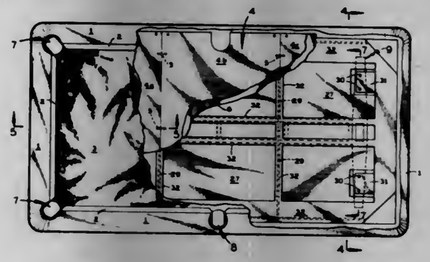
3,263,995
AUTOMATIC JUMP ROPE
Dean K. Morrow, 1050 W. Kensington Road, Los Angeles, Calif.
Filed Aug. 31, 1964, Ser. No. 393,151
4 Claims. (Cl. 272—75)

4. An automatic jump rope comprising: a wheel mounted about an axis of rotation, said wheel being mounted to rotate in an approximately vertical plane; a fixed post spaced from said wheel in an approximately vertical plane, said vertical planes being mutually perpendicular; cord connecting means including a swivel and jump rope means, said cord connecting means being attached between said wheel and said post, said cord connecting means being connected to said wheel at a position spaced radially from the axis thereof, said jump rope means having a first portion adjacent said wheel



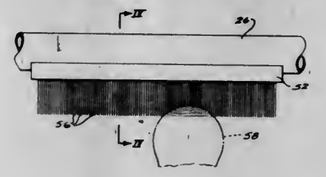
of a length substantially less than the length of the remaining portion thereof, said first portion of said jump rope means being less flexible than the said remaining portion thereof and being pivotally connected to said wheel about an axis parallel to said first mentioned plane, said pivotal connection rendering said first portion pivotable in a plane perpendicular to said first mentioned plane; and power means to rotate said wheel.

3,263,996
BILLIARD AND POOL TABLE CONSTRUCTION
David H. Braun, Miami, Fla., assignor to All Tech Industries, Inc., Hialeah, Fla., a corporation of Florida
Filed Oct. 2, 1963, Ser. No. 313,284
5 Claims. (Cl. 273—3)



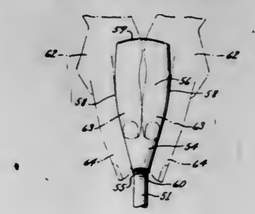
1. A pool table comprising a base assembly including a longitudinal beam means centrally secured between a pair of end support members forming like legs, a rectangular bed having a rigid bottom and a pair of like sides and ends of equal height symmetrically secured to the upper side of said base assembly, a pair of spaced longitudinal support members positioned in said bed parallel to and equi-spaced from said sides with the upper edges thereof co-planar with the upper edges of said sides, a pair of spaced transverse support members intersecting said first mentioned support members and positioned parallel to and equi-spaced from said ends with the upper edges thereof co-planar with the upper edges of said ends, a frame means of uniform thickness secured on the upper edges of said sides and said ends and said support members for rigidizing said bed, a floor of uniform thickness superposed on and secured to said frame means, a plurality of stone slabs of uniform thickness doweled together in edge to edge relation on said floor whereby said base assembly and said bed assembly and said floor assembly provide a rigid support for holding said stone slabs in co-planar relation against bending and torsional forces applied to said table.

3,263,997
AUTOMATIC PINFALL DETECTING APPARATUS FOR BOWLING GAME
Ernest C. Webb, Bay Village, Ohio, assignor to Cleveland Trust Company, Cleveland, Ohio, as trustee
Filed Aug. 30, 1963, Ser. No. 305,593
3 Claims. (Cl. 273—54)



2. In combination, a bowling pin standing on a bowling alley pin deck, a member movable along a substantially horizontal path past an end of said pin, parallel rows of vertically-disposed wire-like elements carried on said member such that the wire-like elements in one row will engage the end of said pin and be deflected to contact those in the other row when the member passes the end of the standing pin, the wire-like elements in the respective rows being of equal vertical length, and electrical circuit means connected to said parallel rows such that an electrical circuit will be completed to indicate the existence of the standing pin when the wire-like elements in one row contact those in the other row upon passage past the end of the pin, said wire-like elements which contact the pin acting as switch contacts in said electrical circuit.

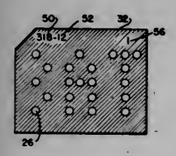
3,263,998
METHOD OF USING A GOLF CLUB
Frank U. Fanning, 793 Lovetta Drive, Kettering 29, Ohio
Filed Feb. 3, 1964, Ser. No. 342,863
1 Claim. (Cl. 273—81.4)



A method of using a golf club to strike a golf ball, said club having a handle of substantially a triangular configuration with an apex thereof connected to the top of the shaft of the club and of a substantially elliptical cross-sectional configuration throughout substantially the entire length of said handle, the head of such club having a substantially flat striking face, said method comprising the steps of grasping said handle of said club with both hands placed in side-by-side relation, with the thumbs extending down along the front surface of said handle in parallel side-by-side relation, with the index fingers extending down along the opposed sides of said handle in side-by-side relation and converging toward each other as they approach the bottom end of said handle, and with

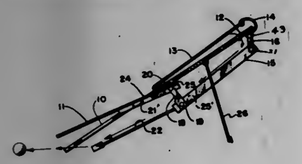
the remaining fingers being placed at the rear surface of said handle so that said handle is received in the palms of the side-by-side hands of the user, and swinging the club as thus grasped in such a manner that the striking face of the club is perpendicularly positioned relative to the plane in which the club head is swung and thereby propelling the ball.

3,263,999
CARDS WITH SELECTED WINDOW PATTERNS AND PACK DISTINGUISHING INDICIA
Howard M. McCoy, 3 Evergreen Trail, Severna Park, Md.
Filed Aug. 26, 1963, Ser. No. 304,404
10 Claims. (Cl. 273—152.1)



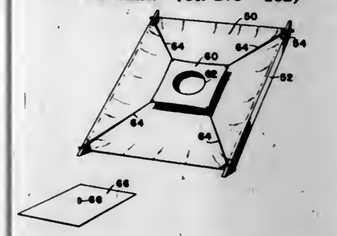
1. A game comprising a plurality of packs of cards, each card containing a relatively large number of light transmitting windows differing from a master pattern by the absence of a relatively small number of windows, each card of each pack containing a pattern of windows different from each other card in said pack but identical with one card in each of the other packs, whereby superimposition of all cards of one of said packs will reduce the transmission of light throughout said pattern, each card in each pack bearing indicia distinguishing it from each other card in the same pack, cards containing similar patterns of windows bearing dissimilar indicia, and the cards of each pack bearing similar indicia distinguishing them from the cards of each other pack.

3,264,000
GOLF PUTTING TARGET WITH BALL RETURN MEANS
Andrew Brown, 708 Peach St., Erie, Pa.
Filed Oct. 23, 1963, Ser. No. 318,344
5 Claims. (Cl. 273—179)



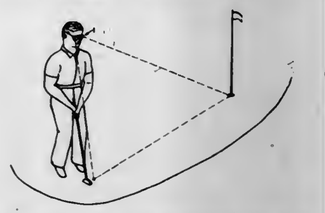
2. A game device comprising
a rigid plate-like member adapted to be supported on a floor and disposed at an acute angle thereto,
a hole in said plate-like member at an intermediate part thereof,
an opening in said plate-like member adjacent the lower edge thereof,
a gate closing said opening,
said gate, when closed, having a top surface flush with the top surface of said plate-like member,
said gate being hinged at its upper edge and having an extension extending under said plate-like member and above said hinge point,
and a mechanical linkage connected to said gate adapted to be moved by the weight of a ball falling through said hole to open said gate.

3,264,001
GOLF CHIPPING TARGET WITH BALL RETURN
Edward G. Urban, 6673 Orchard Blvd., Parma Heights 30, Ohio
Filed July 3, 1962, Ser. No. 207,211
4 Claims. (Cl. 273—182)



4. A game apparatus comprising a sloping panel, a rectangular frame supporting the marginal edges of said sloping panel, said panel sloping downwardly and forwardly toward a player, and a sheet-like target panel having at least one target opening therein, said target panel being supported above and substantially parallel to the sloping panel, a plurality of rubber-like extensible members, each joining a corner of the frame to the target panel, means holding such frame and panels in a sloping position whereby a ball passing through the target opening is directed back to the player as it rolls beneath the target panel and down the incline of the sloping panel.

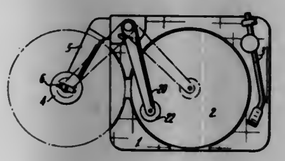
3,264,002
GOLF PUTT ALIGNMENT DEVICE
Dominick Palumbo, Oakdale, N.Y.
(82 Boulevard Ave., West Islip, Long Island, N.Y.)
Filed Oct. 15, 1963, Ser. No. 316,237
1 Claim. (Cl. 273—183)



A putt alignment device for assisting a golfer in aligning the golf ball with respect to the cup of the green, comprising a transparent member at least a portion of which extends between the lines of vision of both eyes of the user when said member is positioned in front of the eyes, said transparent member having top, bottom and side edges, the transparency of said at least a portion of said transparent member being uninterrupted except for a linear element disposed contiguously and continuously thereacross, said linear element being in substantial parallelism with respect to said top edge, spaced with respect thereto, and extending at least the distance between both eyes of the user.

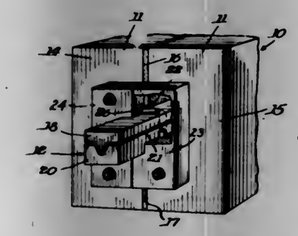
3,264,003
AUTOMATIC RECORD CHANGER
Louis Thevenaz, Les Rasses, Vaud, Switzerland, assignor to Thorens S.A. Vaud, Switzerland, a corporation of Switzerland
Filed July 15, 1963, Ser. No. 295,051
Claims priority, application Switzerland, Aug. 24, 1962, 10,078/62
11 Claims. (Cl. 274—10)

1. In an automatic record changer, in which each record to be played is brought from a storage position to a playing position then, after the hearing of the record has ended, moved from its playing position to a stocking position for played records, including a frame, a motor, a turntable drivingly connected to said motor for its driving in rotation, a pick-up arm and a cycle control mechanism actuated by the said motor and controlling all the movements of the various members of the changer, the combination of a server arm movable angularly and linearly along a vertical axis with respect to said frame, an actuating mechanism for the angular and linear displacements of said server arm and a record gripping device comprising two pairs of noses disposed each on a diameter corresponding respectively to the small and large central



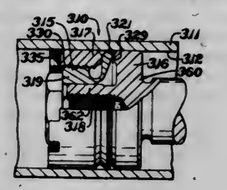
holes of records, said server arm, actuating mechanism and gripping device constituting a transfer device, a first supporting surface adapted to carry a storage pile of records disposed outside the periphery of the turntable, a second supporting surface adapted to carry a stocking pile of played records disposed outside of the periphery of the turntable below the said first supporting surface, said transfer device bringing each record of said storage pile carried by said first supporting surface on to the said turntable, then after the hearing, transferring the said record on the stocking pile carried by said second supporting surface.

3,264,004
VACUUM CHAMBER SEALING MEANS
David Sciaky, Chicago, Ill., assignor to Welding Research, Inc., Chicago, Ill., a corporation of Illinois
Filed Feb. 25, 1964, Ser. No. 347,195
8 Claims. (Cl. 277—5)



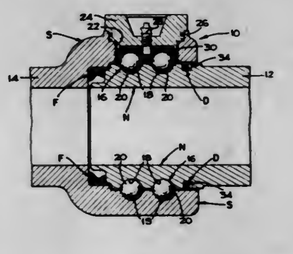
1. In sealing structure of the character described, the combination with a supporting wall consisting of two component sections, of a two-part object extending through an opening in the wall, said opening being located in substantial alignment with the parting line between the sections, elastic sealing material interposed between the sections on the parting line, an elastic sealing member between the parts of the object, an O-ring seal having encircling relation with the two-part object, and a plate member secured to each component section of the wall and disposed adjacent respective sides of the object, said plate members having coacting relation with each other and with the O-ring whereby to compress the O-ring and simultaneously apply a radial and axial pressure to the same.

3,264,005
FLUID PRESSURE SEALS
Ludwik S. Bialkowski, Troy, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Continuation of applications Ser. No. 10,492, Feb. 23, 1960, Ser. No. 223,562, Sept. 13, 1962, and Ser. No. 223,565, Sept. 13, 1962. This application Jan. 11, 1965, Ser. No. 424,678
31 Claims. (Cl. 277—102)



1. A seal assembly comprising:
(A) two machine parts, one of which presents a cylindrical surface to the other,
(B) an annular rigid sealing ring concentric with said surface and having
(1) a stiff annular body, and
(2) a stiff annular diaphragm integral with the body which
(a) is resiliently deflectable axially of the body, and
(b) has an annular margin on which there is a circumferentially continuous sealing edge;
(C) a sleeve engaged with the body of said ring for adjustment axially of the body toward a position in which one end of said sleeve is engageable with said diaphragm to regulate the extent of the diaphragm's deflection axially of the body and therefore the sealing contact of said sealing edge with said cylindrical surface of said machine part, and
(D) means for engaging the body of said sealing ring to the other of said machine parts.

3,264,006
ANTI-DUST RING
Kenneth J. Downs, Yorba Linda, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Continuation of application Ser. No. 187,676, Apr. 16, 1962. This application Apr. 23, 1965, Ser. No. 453,871
10 Claims. (Cl. 277—201)



1. A swivel joint comprising two pipe sections, one of said sections terminating in a nipple and the other section terminating in a sleeve closely surrounding said nipple, said nipple having therein an annular recess disposed within the outer end portions of said sleeve, said recess having axially and oppositely facing inner and

outer walls and having a base, a combined internal fluid pressure relieving and dust excluding sealing ring in said recess, said sealing ring comprising a body of rubber-like material having an axially inner sealing face and an axially outer seating face, said body having a free axial width that is slightly greater than the axial width of said recess so that said faces of the body are in initial light pressure engagement with respectively said axially and oppositely facing walls of the recess, a relatively thin dust sealing lip extending outwardly from the periphery of said body, said dust sealing lip being in resilient sealing engagement with said sleeve, said body being formed with an internal generally annular groove, said groove having a generally conical wall facing away from said sealing face of the body such that the mass of said material contained generally between said groove and said seating face is less than the mass of said material contained generally between said conical wall and said sealing face, said body having a plurality of fluid drain notches formed at the seating face thereof for conducting fluid from said groove and through said body, the inner periphery of said body adjacent said sealing face of the body forming a seating lip that is in initial light pressure engagement with the base of said recess.

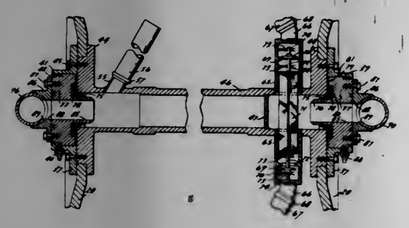
3,264,007

ROLLING FLUID TRANSPORTERS

Russell A. Rill, William F. Elliott, Horace J. Homrig, Arne V. Larson, Waldemar J. Meldahl, Leveret C. Russler, and George Douglas Simonds, Clintonville, Wis., assignors to The Four Wheel Drive Auto Company, Clintonville, Wis., a corporation of Wisconsin

Original application Sept. 25, 1958, Ser. No. 763,371. Divided and this application May 17, 1962, Ser. No. 202,339

6 Claims. (Cl. 280—5)



1. A rolling fluid transporter comprising in combination, a pneumatic tire having tire beads, a wheel having a tire bead engaging flange, and an annular tire bead clamp ring having a radial portion bolted to said wheel to clampingly engage said tire bead to seal it against said wheel flange, a bearing for said wheel, a towing frame fixedly secured to said bearing, said tire bead clamp ring having an axially extending tube integral with the radially innermost portion of said ring, said tube being in bearing engagement with said bearing member, and a radially inwardly directed shoulder at the outer end of said tube to secure said wheel against axial movement with respect to said bearing member, said wheel further comprising an axially extending hub tube, a plug between the ends of said hub tube preventing communication between said ends, a T at each end of said hub tube extending radially outwardly therefrom, at least one said T being axially inclined toward the center of said hub tube, and a flexible hose secured to each said T and extending to a point adjacent the periphery of said tire, being bent at their outer ends to extend approximately axially, said outer end being in contact with the periphery of the tire.

3,264,008

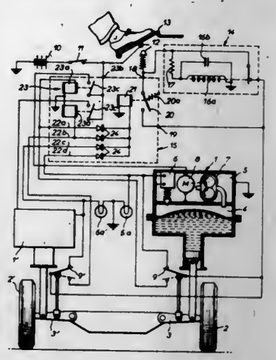
VEHICLES HAVING ELECTRICALLY CONTROLLED AUTOMATIC LEVEL-CORRECTING SUSPENSION

Fernand Stanislas Allinquant, 53 Ave. Le Notre, Sceaux, France

Continuation of application Ser. No. 326,952, Nov. 29, 1963. This application Sept. 28, 1965, Ser. No. 490,790

Claims priority, application France Dec. 5, 1962, 917,637, Patent 1,379,617

5 Claims. (Cl. 280—6)



1. In a vehicle having a body, an accelerator pedal, wheels and a fluid suspension system, at least one suspension element associated with each wheel for supporting said body, electrically actuated transfer means for controlling an active fluid mass enclosed within said element, an electrical level-correcting device comprising, in combination, a wheel-switch associated with each wheel for detecting the position thereof relative to said body and for controlling thereby the actuation of said transfer means, impulse-producing means comprising switching means and an electric power source, said impulse-producing means connecting said wheel switch to said electric power source only at selective intervals, a re-feed relay of the normally open type having an energizing coil and a mobile armature actuatable by said coil, said armature in its closed position by-passing said impulse-producing means by closing a circuit between said power source and said wheel switch, at least one unidirectional current flow means connecting said energizing coil to each and every one of said transfer means for providing energiaztion of said coil at the same time as any one of said transfer means but preventing stray simultaneous energization of several transfer means.

3,264,009

REAR LOADING ROAD VEHICLE

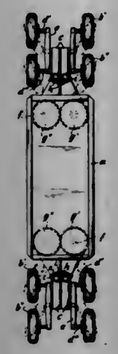
Heinrich Langendorf, 115 Bahnhofstr., Waltrop, Westphalia, Germany

Filed Jan. 15, 1964, Ser. No. 337,888

Claims priority, application Germany, Jan. 21, 1963, L 43,939

4 Claims. (Cl. 280—81)

1. A rear loading vehicle including a substantially horizontally disposed load bearing surface; ground engaging rear wheel sets; a longitudinal beam member for each of said wheel sets, one end of each of said beam members being interconnected with the respective end of the other of said beam members for coordinate relative movement, said one end of each of said beam members pivotally connected through first pivot means to the rear end of the vehicle, the other end of each of said beam members pivotally connected through second pivot means to respective wheel sets, each of said longitudinal beam members including at least two elements pivotally interconnected through third pivot means for articulation; and locking means for limiting relative pivotal movement of the elements of said beam members whereby no relative movement of the elements of each of said beam members is effected upon rearward movement of the vehicle, the arrangement being such that during rearward movement of the vehicle each of said beam members



can pivot about said first pivot means with said second pivot means locked by said locking means from a normal travelling position to a position in which the wheels are disposed laterally outwardly of said load bearing surface, and during forward movement of the vehicle, each of said beam members can pivot about said first pivot means and the elements of each of said beam members can pivot about said second pivot means whereby said wheels move laterally inwardly to a position of normal travel.

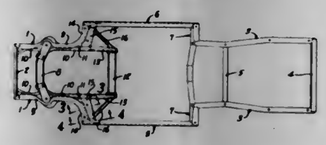
3,264,010

TORQUE BOX FRAME WITH PHEASANT TAIL SUPPORT

William G. Pierce, Whitefish Bay, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed Apr. 17, 1964, Ser. No. 360,611

6 Claims. (Cl. 280—106)



1. In a vehicle frame having narrow end portions and a wider central portion joining said narrow portions, structure comprising:

(a) a pair of transversely spaced generally parallel side rails forming the forward narrow end portion of said frame;

(b) each said rail comprising an inner and an outer channel member with the flanges of said members in facing relationship and secured together to form a box-like section,

(c) said inner and outer members diverging forwardly of the forward end terminus of said wider central frame portion,

(d) said inner members extending integrally and rearwardly from the point of divergence to substantially rearwardly of the forward end of said wider central frame portion to form a pheasant tail and terminating in free end portions inboard of said wider portion,

(e) a cross member of relatively short length extending between said inner members, the ends of said cross member being secured to the rearward free ends of said inner members,

(f) each of said outer side rail member being splayed abruptly outwardly rearwardly from the point of said divergence to form a front torque box portion secured to the forward end terminus of said wider central frame portion,

(g) and a short channel member extending between said pheasant tail and said forward end of said wider central frame portion and secured thereto, the flanges of said short channel member facing the flanges of said splayed portion of said outer member and being secured thereto to form the rear torque box portion, so that a closed torque box is provided.

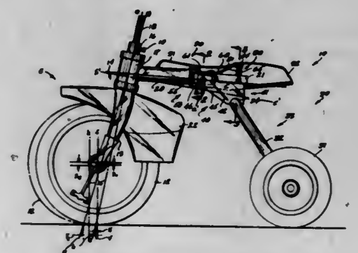
3,264,011

ADJUSTABLE TRICYCLE

John W. Ryan, Bel Aire, Calif., assignor to Mattel, Inc., Hawthorne, Calif., a corporation of California

Filed Aug. 4, 1964, Ser. No. 387,395

10 Claims. (Cl. 280—275)



1. A velocipede having an adjustable length and giving a ride related to the adjusted size of the velocipede comprising:

a front wheel assembly including at least one longitudinal, rearwardly extending tube; and

a rear wheel assembly including spring connection means for selectively connecting said rear wheel assembly to different positions along the length of said front wheel assembly tube to increase or decrease the length of the velocipede, said spring connection means being constructed and arranged to increase the softness of the ride as the length of the velocipede is so increased.

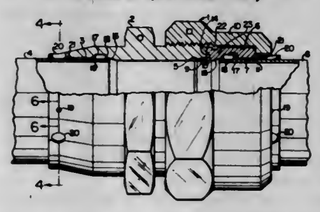
3,264,012

TUBE COUPLING

John H. Giovanazzi, Los Angeles, and Donald F. Collins, Pacific Palisades, Calif., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Aug. 11, 1961, Ser. No. 130,878

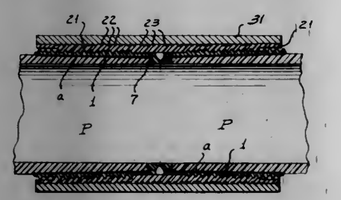
2 Claims. (Cl. 285—22)



1. A tube coupling comprising interengaged male and female tubular coupling parts, of which said male part has a bore for receipt for a tube therein for fuse-bonding together of said male part and the tube; said bore hav-

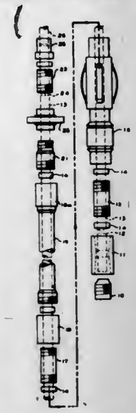
ing a tapered tube-end centering seat, and a circumferential series of radial inward projection means axially spaced a substantial distance from such tube-end centering seat for non-biting engagement with the outer surface of the tube to maintain a uniform radial clearance between the tube and the bore for flow of bonding material from the end of the tube at least to said projections; and means for clamping said parts together in fluid-tight relation; said male part comprising a body portion from the axially inner end of which projects a relatively thin axial lip of axial length about four times its maximum thickness at the junction with said male part, of substantially uniform inside diameter, and of progressively decreasing radial thickness toward its free end with its outer face being a portion of a torus, said axial lip defining an axially inwardly extending heat sensitive sealing means of a cross-sectional thickness considerably less than the given cross-sectional thickness of said body portion, said body portion being divided by a peripheral groove formed adjacent the axially inner end of the tube-end receiving bore into adjacent body sections having susbtantial cross-sectional areas, said groove providing an area of reduced cross-section which separates said adjacent body sections and forms a restriction which reduces the flow of heat in a direction axially away from said groove toward said sealing means during the bonding operation; said female part having a tapered seat against which the outer face of said lip at a zone close to said free end which is tangent to said tapered seat is axially pressed and thereby radially inwardly flexed to establish a resilient fluid-tight connection between said parts, said parts having abutting stop shoulders to limit deformation of said lip within its elastic limit when said parts are clamped together.

3,264,013
COUPLING FOR PIPE SECTIONS
Henry M. Richardson, Somers, and Wesley S. Larson, Hazardville, Conn., and Alfred C. Alberghini, Springfield, Mass., assignors, by mesne assignments, to The Youngstown Sheet and Tube Company, Youngstown, Ohio, a corporation of Ohio
Filed Sept. 30, 1963, Ser. No. 312,454
4 Claims. (Cl. 285—22)



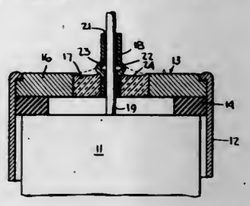
1. An article of manufacture comprising,
a plastic pipe,
an external taper on at least one end of said pipe,
a tubular pipe shell fitting over said tapered pipe end,
threads on the exterior of said shell,
alternate ribs and grooves on the interior of said pipe shell extending longitudinally of the pipe,
said ribs in engagement with said pipe to center the pipe and define passageways between the pipe and shell,
an internal ring at the small end of said pipe shell in abutment with said pipe,
an annular groove in said ring communicating with said passageways,
at least one opening between said groove and the exterior surface of said ring,
and an adhesive in said passageways and grooves securing said shell to said pipe.

3,264,014
PLASTIC-LINED CONDUIT
Harry M. Brown, Shidler, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 9, 1964, Ser. No. 336,698
4 Claims. (Cl. 285—55)



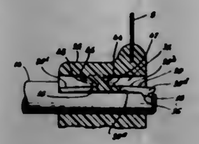
1. A thermoplastic lined steel tubing assembly positioned in a well bore comprising
a plurality of threaded steel tubing sections connected together by threaded steel couplings and terminating at the bottom with a threaded steel terminal coupling;
a plurality of thermoplastic tubing sections positioned in said steel tubing and welded together and terminating at the bottom with a thermoplastic reducing nipple threaded into the open end of the threaded steel terminal coupling with the smaller end of said nipple extending through said coupling and welded to said plurality of thermoplastic sections;
a steel combination coupling attached to the upper end of said plurality of steel tubing sections, said combination coupling having in one end thereof a theaded bore and a threaded counter bore, the upper terminal end of said thermoplastic tubing threadedly secured in said bore and the upper terminal end of said threaded steel tubing being threadedly secured in said counter bore.

3,264,015
GLASS-TO-METAL SEAL
Karl F. Mayers, Somerville, N.J., assignor to Philips Electronics and Pharmaceutical Industries Corp., New York, N.Y., a corporation of Maryland
Filed Mar. 31, 1961, Ser. No. 99,886
6 Claims. (Cl. 285—189)



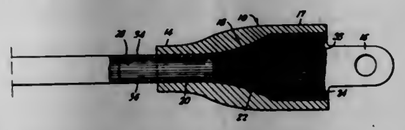
1. A glass-to-metal hermetic seal comprising: an outer metal ring; a glass member within said ring, the periphery of said glass member bearing against the inner surface of said ring and being held thereby and fused thereto; and a hollow, metal, inner member open at both ends extending through and held by said glass member and fused thereto to provide a channel therethrough, said inner member having an outward circumferential bulge in a limited area adjacent to one surface of said glass member with the glass extending less than approximately half way over said bulge in the axial direction thereof, said bulge having a U-shaped cross-section with the sides of said U at an angle to each other.

3,264,016
HUB AND SHAFT COUPLING
George J. Reisch, Shelton, Conn., assignor to General Electric Company, a corporation of New York
Filed Sept. 10, 1963, Ser. No. 307,888
7 Claims. (Cl. 287—53)



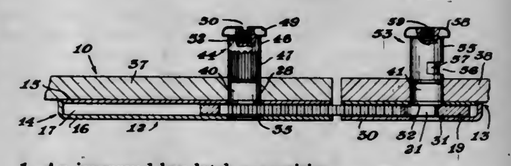
1. A hub and shaft coupling comprising a shaft of circular cross section having an elongated recess removed from one end of the shaft leaving a flat exterior surface on one side of the shaft, a molded hub having a bore for receiving said shaft end, a flat elongated flexible latch extending axially within the hub bore, a strut integrally connecting said latch approximately at its midsection to an inner wall of said bore, said strut having a radial dimension such that the ends of the latch are spaced from the walls of said bore and thus are free to flex with the strut serving as a fulcrum, said hub and said latch being molded such that one end of the latch extends radially inwardly so that when the shaft is inserted within the hub the flattened surface of the shaft will be forced into engagement with said one latch end thereby causing the latch to pivot and the opposite end of the latch to be also moved into engagement with said shaft flat surface, rib and groove means formed on said shaft and said one end of said latch to resist axial movement between said hub and said shaft, said rib and groove means being urged into engagement by the interference between said one latch end and the shaft.

3,264,017
ANCHORING MEANS FOR FLEXIBLE TENSION MEMBER
Roe Howe Lagarde, Oxford, Md., assignor, by mesne assignments, to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Continuation of application Ser. No. 279,672, May 9, 1963. This application Sept. 10, 1965, Ser. No. 492,973
3 Claims. (Cl. 287—82)



1. A combination fastening means formed with the end of a multiple syntbetic organic fiber strand flexible tension member wherein the strands at the end of the tension member are separated into individual strands extending outwardly from the unseparated portion of the tension member comprising:
(a) a substantially rigid lug formed about the separated individual strands;
(b) said lug formed of a hardened resin plastic having a high degree of memory and a minimum amount of cold flow, wherein the resin in a liquid state is placed about the strands and cure-hardened;
(c) the cured hardened resin being compounded to harden to a point to give the lug a slight amount of compressibility and elasticity without stress cracking when the tension member is approaching its substantially maximum tension;
(d) the outer end of the lug being substantially larger than the inner end thereof and having a concave tapered face, said face being tapered inwardly from a point substantially adjacent the outer larger end to a thickness of the tension member;
(e) the separated individual strands of the tension member being extended outwardly from the unseparated portion and through the area of the tapered section of the lug;
(f) a rigid lug supporting element having means for receiving the lug;
(g) the lug receiving means being in the form of a cavity being larger at one end than at the opposite end and of such dimensions and configuration as to closely receive the lug and having an opening at the smaller end substantially the size of the tension member, the compressibility and elasticity of the lug being such that the lug cannot be drawn through the small opening in the cavity when tension on the tension member has approachced substantially its tensile strength;
(h) means carried by the lug supporting element for securing the same to a supporting object.

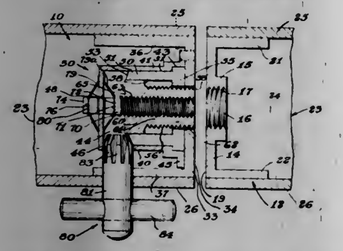
3,264,018
BAR LATCH
Irving S. Houvener, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Nov. 7, 1963, Ser. No. 322,087
4 Claims. (Cl. 287—189.35)



1. An improved bar latch comprising;
a catch portion and a latch portion,
the latch portion comprising a housing slidably containing therein a generally flat bar-like latch member,
the latch member defining a pin engaging aperture and an internal longitudinal slot,
the longitudinal slot having on one of its longitudinal edges a rack,
the housing adapted to mount on the surface of a member to be joined,
the housing having an aperture providing access to the slot when the latch member is disposed within the housing,
a pinion member having rotating means and teeth adapted to engage the rack when positioned within the aperture and the slot,
the catch portion comprising a housing engaging the terminal portion of the latch member having said pin engaging aperture in latched position,
the catch portion housing defining at least one aperture adjacent to the engaging aperture when in the latched position of the latch member,
a pin adapted to pass through the apertures in the catch portion housing and engage the pin engaging aperture in the latch member, the latch portion housing is provided with a pinion receiving aperture disposed oppositely to the aperture adapted to provide access to the slot, the pinion receiving aper-

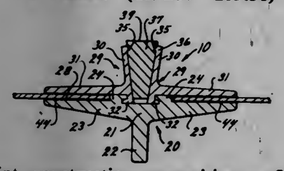
ture being of a lesser cross-sectional dimension than the pinion and adapted to restrain the pinion from rotatable motion when forced therein.

3,264,019
JOINING DEVICE FOR STRUCTURES
Irving S. Houvener and Albert J. Palfey, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 6, 1964, Ser. No. 335,834
3 Claims. (Cl. 287—189.35)



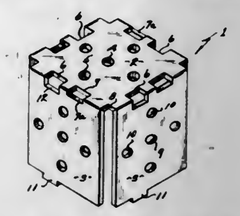
1. A fastener assembly for joining two members together, the fastener assembly comprising;
(a) a strike portion defining an internally threaded aperture,
(b) a latch portion comprising a body,
the body having a surface adapted to engage the strike,
a sleeve retainer oppositely disposed from the strike engaging surface and rigidly mounted to the body,
the sleeve retainer defining an access aperture and a retaining means remotely disposed from said strike retaining surface,
a sleeve disposed within said sleeve retainer said sleeve defining a generally centrally disposed aperture, the walls of said centrally disposed aperture having a configuration adapting to engage a screw head, the sleeve having a body engaging surface and being rotatably retained within the sleeve retainer and adapted to rotate about an axis normal to the strike engaging surface, a sleeve rotating means operable from a direction generally perpendicular to the axis of rotation of the sleeve,
a screw disposed within the sleeve, the screw having an end portion disposed remotely from the strike engaging surface, the head portion adapted to slide within and be rotated by the sleeve,
and means to resiliently urge the screw in the direction of the strike engaging surface.

3,264,020
JOINT CONSTRUCTION
Ernst J. De Ridder, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed May 4, 1961, Ser. No. 107,738
10 Claims. (Cl. 287—189.36)



1. A joint construction comprising a first member having a pair of sheet-receiving channels provided therein to define flat surfaces throughout the widths of said channels and a pair of spaced flanges disposed between said channels, a pair of sheets respectively disposed in said channels and respectively having one side thereof disposed in engagement with said flat surfaces of said first member and having the ends thereof disposed in engagement with said flanges, a pair of second members defining a slot therebetween and respectively having flat surfaces engaging the other sides of said sheets to prevent pivotal movement of said sheets relative to said members, said second members respectively being operatively interconnected to said flanges of said first member, adhesive means disposed between said sheets and said members, and a wedge-like member disposed in said slot and causing said second members to compress said sheets against said first member whereby said adhesive means is placed in double shear.

3,264,021
CONNECTING MEMBER FOR STRUCTURAL UNITS
John R. Artman, 142 Harmon Road, Aurora, Ohio
Filed Nov. 26, 1963, Ser. No. 326,274
26 Claims. (Cl. 287—189.36)



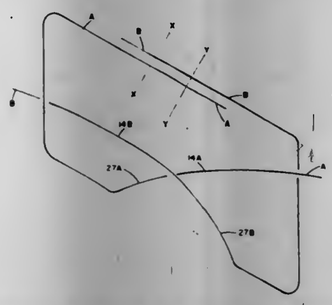
1. A modular device for connecting structural units comprising a cubiform member having a bottom wall, an opposite open side, and four side walls connected to said bottom wall along a lower edge of each said side wall; said side walls separated from each other along portions of their lateral edges in such manner that any one of said walls can be projected into another like modular device in lapping, contiguous relation to any side wall of said other modular device by inverting said first mentioned modular device; each of said side walls having a like tongue projecting from the upper edge thereof positioned in a like manner with the tongue of every other side wall; said bottom wall being apertured in like manner adjacent the connected edge of each said side wall in such manner that a tongue of any wall of a like modular device interfits the aperture associated with the connected portion of the wall of said first mentioned modular device which it overlaps.

3,264,022
METHOD OF FORMING A KNOT
James E. Talbot, Wynnewood, Pa., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Mar. 27, 1963, Ser. No. 268,232
3 Claims. (Cl. 289—1.5)



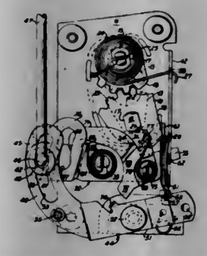
1. A method of forming a knot in two end portions of a relatively stiff ribbon-like material comprising the steps of wrapping a first end portion about the second end portion at least twice while simultaneously twisting the said first end portion about its longitudinal axis, and then tying said end portions together.

3,264,023
METHOD FOR JOINING TEXTILE THREADS
Clarence H. Porter, 295 North St., Hingham, Mass.
Filed Mar. 25, 1964, Ser. No. 354,698
7 Claims. (Cl. 289—1.5)



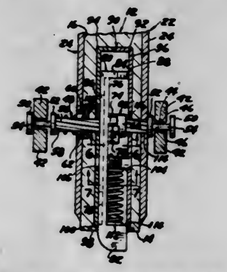
1. Method of joining two threads comprising the operations of bringing the two unjoined threads into a configuration having crossings corresponding to the crossings of an overhand knot with the end parts of the two threads substantially free from twist, putting the two twist-free parts together, and applying twist to at least portions of the put-together end parts and reducing the configuration to an overhand knot inclusive of fibers of both initially unjoined threads.

3,264,024
DOOR LATCH MECHANISM
Anthony J. Di Salvo, Allen Park, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Feb. 14, 1964, Ser. No. 344,859
11 Claims. (Cl. 292—48)



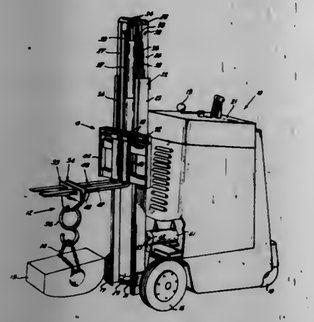
1. A latch mechanism comprising a support plate for disposition at a free edge wall of a vehicle door,
pivoted latch device means mounted on said support plate for movement between door latched and door unlatched positions,
detent means pivotally mounted on said support plate and biased into engagement with said latch device means in door latched and door unlatched positions thereof,
said detent means in door latched position of said latch device means restraining unlatching movement and in door unlatched position lying in abutting relation to a camming surface on said latch device means,
outer manually operable means including a member coupled to said detent means and selectively positionable thereon in detent means actuating and nonactuating positions,
a locking lever means pivotally mounted on said support and coupled to said member,
said locking lever means being positionable in either an unlocked position in which it positions and guides said member for detent means actuating movement or in a locked position in which it positions and guides said member for detent means nonactuating movement,
and a transmitting member pivotally mounted on said detent means,
said transmitting member being bodily shiftable by said detent means upon movement of the latter independently of actuation by said outer manually operable means,
said locking lever means when in locked position being engaged by said transmitting member upon such bodily shiftable movement thereof whereby said locking lever means is pivoted to unlocked position,
said transmitting member having a part thereof in abutting relation to said outer manually operable means member whereby movement of the latter when in detent nonactuating position causes pivotal movement of said transmitting member on said detent means to a locking lever means bypassing position,
said transmitting member in said bypassing position being ineffective to shift said locking lever means from locked to unlocked position.

3,264,025
PUSH-PULL DOOR LATCH CONSTRUCTION
Edward M. Hawes, 32418 Birkshire Road, St. Clair Shores, Mich.
Filed Apr. 14, 1964, Ser. No. 359,612
12 Claims. (Cl. 292—166)



1. A push-pull door latch construction, comprising
a latch bolt support,
a latch bolt slidably mounted in said support and having a cam follower portion thereon,
a cam nut rotatably mounted adjacent said latch bolt support and having a cam portion operatively engageable with said cam follower portion and effecting sliding motion of said latch bolt in response to rotation of said cam nut,
said cam nut having an internally-threaded bore therethrough,
a slidably-mounted threaded operating shaft threadedly engaging said bore in approximately perpendicular relationship to said latch bolt,
the portion of the thread of said shaft engageable with said cam nut bore being a fast-pitch thread extending less than halfway therearound,
means engageable with said shaft for preventing rotation thereof, and a handle structure operatively connected to said shaft for effecting sliding motion thereof transversely to said bolt.

3,264,026
HOOK ATTACHMENT FOR A FORK LIFT VEHICLE
Elmer K. Hansen, 801 S. Martha, Sioux City, Iowa
Filed Apr. 27, 1964, Ser. No. 362,743
3 Claims (Cl. 294—2)

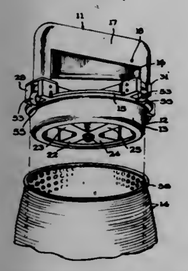


1. A hook attachment for an article lift vehicle having a pair of forwardly projected fingers movable in up and down directions comprising:

(a) a pair of plate members, each plate member having an upper section formed with a pair of first holes for accommodating the forwardly projected fingers and a lower section formed with a second hole, said upper section being angularly disposed with respect to said lower section to form an apex section extended substantially parallel to the plane of the pair of first holes, said plate members when mounted on the fingers being positioned in a back-to-back relationship, and

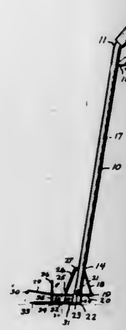
(b) hook means having a ring section and a hook section, said ring section extended through the second holes in the lower sections of the plate members whereby when a load is placed on the hook section the adjacent apex sections of the plate members function as complementary fulcrums for the respective plate members for moving the upper sections thereof in opposite directions thereby locking the plate members on the fingers.

3,264,027
DOFFING TOOL
Herbert L. Luther, Elizabethton, Tenn., assignor to Beaunit Corporation, New York, N.Y., a corporation of New York
Filed Sept. 2, 1964, Ser. No. 393,981
4 Claims. (Cl. 294—16)



1. A doffing tool for spools having beaded ends comprising a handle having a grip portion, a circular casing attached to said handle, said casing having an outwardly extending shoulder, at least three tongs pivotally mounted on said shoulder, each of said tongs having an inwardly facing curved portion terminating in a hook-like portion, a linkage comprising a trigger pivotally mounted below said grip, a tong holder slidably mounted on a guide disposed within said casing, said tong holder having arms rigidly secured thereto and extending outwardly toward each of said tongs, a link connecting said trigger and said tong holder, and a link connecting each of said tong holder arms and said pivotally mounted tongs, and a spring member urging said linkage to a desired position.

3,264,028
LITTER PICK-UP DEVICE
Christian B. Rasmussen, Box 303, Sanborn, Iowa
Filed Feb. 14, 1964, Ser. No. 344,847
1 Claim. (Cl. 294—19)



A litter pick up device comprising a vertical lengthened tube, a handle attached at one end of said tube, a horizontal single fixed bar attached at the lower end of said tube, a further single bar pivotally attached to said tube and spaced from said single bar and being generally parallel thereto throughout its range of operation, said further single bar being adapted to move towards said bar during a pick up action, said single fixed bar having a pointed end, said single fixed bar including a substantially U-shaped guide member attached thereto in which said further single bar moves, said further single bar having an outwardly bent end portion, said end portion having a bent-over end portion adapted to lie exteriorly of, and closely adjacent to said pointed end when said further single bar approaches said single fixed bar, a spring attached to said further single bar and said handle for retracting said further single bar from said single fixed bar, a lengthened wire received in said tube, including an upper finger grip portion and being connected to said further single bar.

3,264,029
CLAMPING DEVICES FOR CRANES FOR ROLLING MILL SERVICE
Friedhelm Bellmann, Hagen, Westphalia, Germany, assignor to Maschinenfabrik Eugen Bellmann G.m.b.H., Hagen-Haspe, Germany
Filed Sept. 14, 1964, Ser. No. 396,429
Claims priority, application Germany, Sept. 26, 1963, M 58,340
10 Claims. (Cl. 294—88)

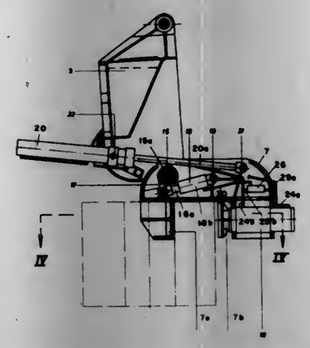
1. A clamping device adapted to be suspended from a hook of a crane comprising in combination:

(a) a first frame structure adapted to be cooperatively engaged and supported by the hook of a crane;

(b) a second frame structure having substantially the shape of a C-clamp including a pair of clamping jaws, said pair including at least one movable jaw;

(c) a hydraulic motor for operating said movable jaw supported by said second frame structure;

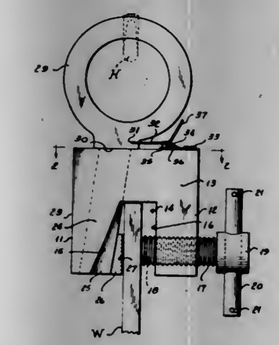
(d) a pressure booster comprising a piston and a cylinder hydraulically connected to said hydraulic motor;



(e) a crank mechanism to operate said pressure booster to supply said hydraulic motor with an operating liquid under high pressure, said crank mechanism including a crank-shaft; and

(f) a pair of links each having one end fixedly mounted on said crank-shaft and another end pivotally supported on said first frame structure.

3,264,030
CLAMPS
Herman Albert, 4 Manor Road, Paterson, N.J.
Filed Aug. 11, 1964, Ser. No. 388,861
4 Claims. (Cl. 294—102)



1. A clamp comprising a housing provided with a work receiving opening, rotatable and slidable jaws extending through said housing and into said opening for engaging work disposed in said opening between said jaws, said sliding jaw being movable towards said rotatable jaw at an angle relative to the axis of said rotatable jaw for coaction therewith to clamp the work between said jaws, said slidable jaw being effective to increase the clamping pressure on the work upon raising of said clamp by said slidable jaw and movement of the latter relative to said housing.

3,264,031
INSIDE DOOR HANDLE AND ARMREST ASSEMBLY
Charles Belsky, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Aug. 7, 1964, Ser. No. 388,183
2 Claims. (Cl. 296—153)



1. An armrest and latch mechanism assembly comprising:

an armrest having a reinforcing and attaching insert covered by cushioning material,

said insert having a platform portion terminating at one end in a plurality of flanges forming a pocket extending beneath the level of said platform portion,

a shield portion secured to said platform portion on the upper surface thereof forming a recess extending longitudinally into said armrest from said pocket;

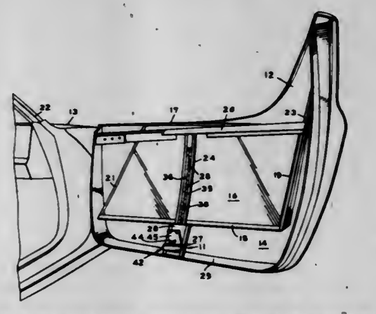
a latch mechanism actuator,

means within said pocket mounting said actuator for swinging movement in latch mechanism operating direction,

said actuator being manually accessible at said one end of said armrest and upon being swung in latch mechanism operating direction having a portion retractable into said recess,

and means on said actuator adapted to couple the latter to a latch mechanism operator upon said armrest being attached to a panel through which said operator projects.

3,264,032
WINDOW REGULATOR
Raymond P. Smith, Huntington Woods, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 16, 1964, Ser. No. 396,889
4 Claims. (Cl. 49—375)



1. In a vehicle body structure having a window opening and a window well therebeneath,

a window panel,

and window positioning means for holding said window panel in partially or fully raised position in said window opening,

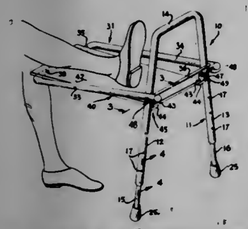
said window positioning means comprising:

an elongated upstanding guide track within said window well,

said guide track having longitudinally extending bearing means receiving grooves in the sides thereof,

a carriage means attached to said window panel and spanning said guide track for movement therealong,
bearing means on said carriage means and engaged with said guide track grooves retaining said carriage means against lateral displacement from said guide track,
longitudinally extending ratchet means on said guide track,
detent means on said carriage means engageable with said ratchet means to hold said carriage means and thereby said window panel against movement in window opening direction,
and detent operating means on said carriage means for disengaging said detent means from said ratchet means to permit lowering movement of said window panel.

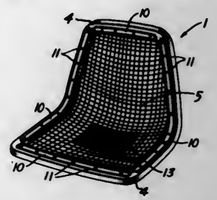
3,264,033
LEG SUPPORT
George B. Hansburg, Hansburg Acres, Walker Valley, N.Y.
Filed Apr. 8, 1965, Ser. No. 446,604
1 Claim. (Cl. 297—438)



A leg rest comprising a substantially U-shaped strut member having a pair of legs and a base, a substantially U-shaped frame member having pair of legs and a base, a support member comprising a rectangular panel having one end rigidly connected to the base of said U-shaped frame, the other end of said panel having a pair of L-shaped brackets secured to the respective edges thereof, said brackets being respectively pivotally connected to the legs of said strut member, each of said pivot connections comprising a pin, said brackets being positioned on the inner sides of the legs of the strut member with the pins extending laterally outward beyond the outer sides of the legs of the strut member, the extending ends of said pins defining stops, the legs of said frame straddling the legs of said strut member and being movable with respect thereto, said frame legs being adapted to abut against said stops thereby limiting the movement of said frame member, a cross bar connecting the free ends of the legs of said frame and adapted to abut against the legs of said strut member to retain said support in fixed position with respect to said strut member, said strut member having hollow legs, a hollow foot member slidably mounted in each of the legs of said strut member, each of said legs having spaced openings along the length thereof and a detent carried by each of said foot members movable into an associated opening in said legs thereby to permit adjustment of the length of the legs of said strut member.

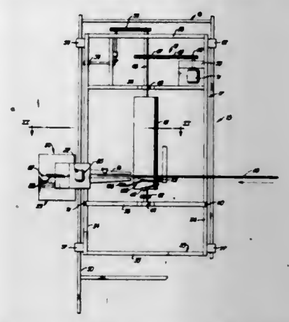
3,264,034
LOAD BEARING STRUCTURE
David E. Lawson, 553 McIntyre Lane, Maumee, Ohio
Filed Mar. 25, 1964, Ser. No. 354,720
10 Claims. (Cl. 297—456)

1. A load bearing unit, comprising a layer of foam plastic having a load bearing surface, and a sheet of reinforcing material embedded within the layer and bonded to the foam plastic, the portion of said sheet disposed in alignment with said load bearing surface being cut and the portions of said sheet bordering said



cut arranged to spread apart laterally when a load is applied to the load bearing surface to thereby stretch and distort the portion of the foam plastic located within the cut to resist the force of said load.

3,264,035
APPARATUS FOR MAKING HELICAL BRUSH MEANS
Lloyd E. Jones, Arcadia, Calif., assignor to Industrial Brush Company, Arcadia, Calif., a corporation of California
Original application June 27, 1961, Ser. No. 119,869, now Patent No. 3,193,865, dated July 13, 1965. Divided and this application Mar. 26, 1965, Ser. No. 442,926
11 Claims. (Cl. 300—2)

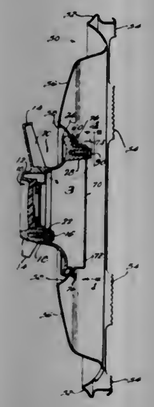


1. An apparatus for continuously forming a brush means including helically disposed brush strip means comprising: a rotatable mandrel means adapted to be fed a preformed brush strip means for winding of the brush strip means therearound; indentation forming means at one side of said mandrel means and including a pair of opposed jaw elements adjacent said brush strip means and spaced from the initial point of contact of said brush strip means with said mandrel means; means pivotally mounting said jaw elements for crimping movement in a longitudinal direction with respect to said mandrel means; means pivotally mounting the jaw elements for movement in unison in the direction of travel of the brush strip means; and means for intermittently actuating said jaw elements for indenting said brush strip means at spaced intervals.

3,264,036
WHEEL COVER ASSEMBLY
Jack L. Wise, Rochester, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Oct. 5, 1964, Ser. No. 401,536
7 Claims. (Cl. 301—37)

5. A wheel cover assembly comprising:
(A) a first generally circular member having
(1) an axial inner face presenting a generally annular contact surface and

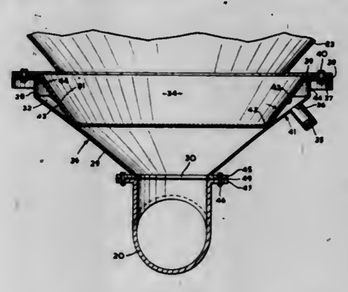
(2) means projecting inwardly from said inner face to define a mounting surface spaced inwardly from said face;
(B) a ring member lanced at spaced locations around its inner periphery to provide a plurality of prongs
(1) said prongs being bent axially inwardly out of the general plane of said ring member;
(C) a second generally circular member including
(1) an annular main body portion having
(a) an axially outer face presenting an annular surface adapted to be pressed against said mounting surface and
(b) an aperture passing axially therethrough, and



(2) a rim portion projecting axially outwardly from the main body portion of said second member; and
(D) at least one fastener member having a shaft portion adapted to be passed through said aperture and outwardly into said projecting means on said first member to engage at its head with said second member adjacent said aperture and draw said second member outwardly, whereby to press the annular surface on said second member against said mounting surface and press said rim portion against said prong to press said ring member yieldably against said annular contact surface.

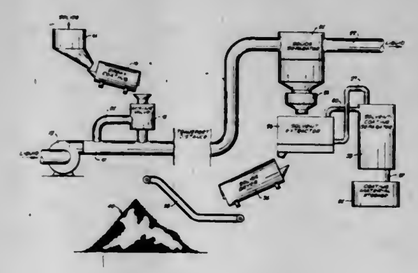
3,264,037
AERATION CONE ASSEMBLY
Kenneth C. Smith, Woodstock, Ontario, Canada, assignor to Pneuveyor Systems Limited, Woodstock, Ontario, Canada
Filed Feb. 11, 1965, Ser. No. 431,960
Claims priority, application Canada, Dec. 26, 1964, 919,621
1 Claim. (Cl. 302—52)

An aeration assembly comprising a funnel which includes a cylindrical upper portion and a conical lower portion, the conical lower portion converging downwardly from the cylindrical upper portion to an opening through which flowable material can be funnelled, a downwardly converging cone frustum of resilient material fixed within the funnel upstream of said opening and defining with said funnel an annular space partitioned from the funnel interior, the annular space being substantially triangular in cross-section and bounded by part of the conical lower portion, at least a part of the cylindrical upper portion and all of the cone frustum, an inlet passage opening into the annular space for the entry of fluid, the cone frustum being fixed securely at its upper edge to the cylindrical portion of the funnel and resting resiliently at its lower edge against the conical lower portion of the funnel, the core frustum forming with the conical portion of the funnel an acute angle, such that if the aeration fluid pressure within the annular space is sufficiently greater than the pressure within the funnel interior aeration fluid escapes beneath said lower edge from the annular space into the funnel interior to aerate



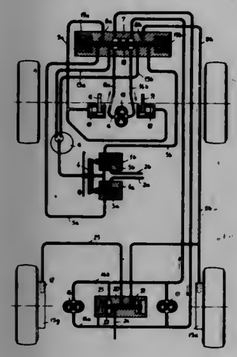
the contents thereof, and such that if the pressure within the funnel interior is greater than that within the annular space the lower edge is pressed against the funnel to prevent fluid from passing beneath the lower edge from the funnel interior into the annular space, and a rigid, imperforate, frusto-conical backing member complementary with the cone frustum being fixed within the annular space to support the cone frustum against distention outwardly towards the funnel in the event of high pressure within the funnel interior.

3,264,038
PROCESS FOR TRANSPORTING SOLIDS IN PIPELINES
D'Arcy A. Shock and John M. Crawford, both of Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma
Filed July 8, 1964, Ser. No. 381,168
6 Claims. (Cl. 302—66)



1. A process for transporting a liquid and a comminuted solid, said solid being unstable in said liquid, simultaneously through a common pipeline comprising:
coating the solid particles with a coating material which is solid and insoluble in and unreactive with said liquid under the conditions of transportation;
intimately mixing the coated solid particles with said liquid to form a pumpable slurry;
pumping said slurry through said pipeline to a destinaton; and
removing the coated solid particles from the liquid.

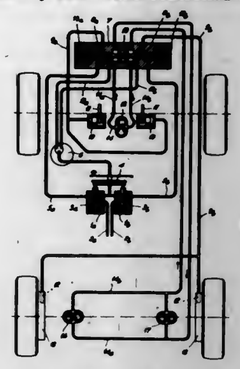
3,264,039
DEVICES FOR LIMITING THE SLIPPING OF VEHICLE WHEELS DURING BRAKE APPLICATIONS
Jean Cadiou, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France
Filed May 19, 1965, Ser. No. 457,039
Claims priority, application France, May 22, 1964, 975,591, Patent 85,797
1 Claim. (Cl. 303—6)



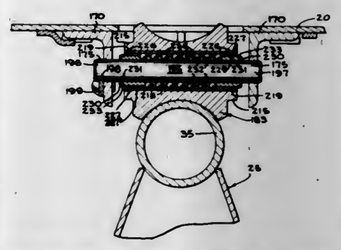
Improvement in the device for limiting the slipping of the wheels of a vehicle during a brake application, which device incorporates, in addition to the brake circuits feeding respectively the front and rear brake cylinders, a closed circuit comprising one or more pumps driven from the front wheels and one or more pumps driven from the rear wheels, said closed circuit passing through a distributor which, in case of pressure differential between the branch sections of said closed circuit, is adapted to connect to the return line leading to the fluid reservoir, by means of a slide valve system controlled by a central piston, either the front wheel brake circuit or the rear wheel brake circuit, according to the direction in which this pressure differential takes place, this improvement being characterized in that a valve having its slide member responsive to a difference in pressure between the suction and delivery side of the pump driven from one of said wheels operates to exhaust the fluid circuit feeding the brake cylinder of said one wheel, whereby when said pressure differential is inferior to a predetermined value that section of said circuit which feeds the brake cylinder or said wheel is connected to said return line.

3,264,040
ANTI-SKID BRAKE SYSTEM
Antoine Brueder, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France
Filed Mar. 26, 1963, Ser. No. 268,025
Claims priority, application France, May 11, 1962, 897,328, Patent 1,330,329
1 Claim. (Cl. 303—21)

An anti-skid braking system for a four wheeled vehicle, comprising a hydraulic braking circuit controlling the front and rear brakes, a closed auxiliary hydraulic circuit comprising a front and rear pair of pumps connected to said front and rear wheels respectively, wherein each pair of pumps is connected in parallel and the two parallel set of pumps are connected in a series circuit, a distributor in said braking circuit for controlling said braking, said distributor comprising a piston and brake controlled means connected thereto. each face of said piston being connected to one of the two sides of said series circuit respectively, so that a reduction in velocity of rotation of a pump which is caused by the skidding of a driving wheel produces a pressure differential in said auxiliary circuit, whereby said brake controlled means operates in response to said pressure differential to disconnect said braking pressure delivered to the front or rear wheel brakes.

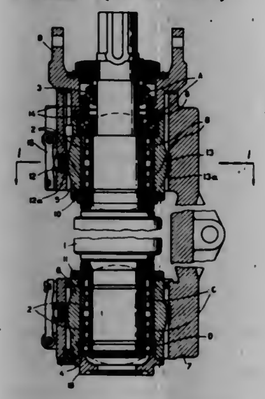


3,264,041
ROLLER BEARING ARRANGEMENT
Melvin H. Lill, Lansing, Mich., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Original application Aug. 18, 1961, Ser. No. 132,473, now Patent No. 3,190,395. Divided and this application Oct. 13, 1964, Ser. No. 403,622
3 Claims. (Cl. 308—6)



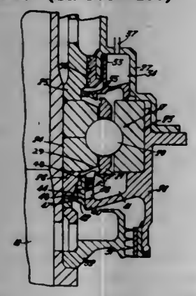
1. In combination, an annular roller having an axial bore extending through opposite ends thereof and an internal wall circumscribing said bore, a tubular race fitted in said bore against said wall, an elongated shaft extended through said bore in circumferentially spaced relation to said race, said shaft having opposite end portions projecting from the opposite ends of the roller when the roller is centered on the shaft, said shaft having a uniform diameter from one of said end portions to the other of said end portions, a tubular cage rotatably circumscribing said shaft within said race and having opposite ends, said cage being movable lengthwise of said shaft into positions adjacent one or the other of said end portions of the shaft, said cage providing a plurality of pockets radially extended therethrough, spherical balls individually fitted in said pockets and rollably engaging said shaft, said cage and said race, first abutment means secured to opposite ends of said roller and spaced a predetermined distance apart, and second abutment means secured to opposite ends of said cage in confronting relation to the respectively adjacent first abutment means and being spaced apart a greater distance than said predetermined distance, said roller and race being movable axially of said cage in opposite directions between limiting positions wherein the respectively adjacent abutment means are in engagement said roller and race being rotatable relative to said cage and shaft, said balls facilitating said axial and rotatable movement.

3,264,042
DEVICE PERMITTING AN EQUAL DISTRIBUTION OF THE PRESSURE
Ladislav Malý, Jan Fröhlich, and Jan Staněk, Prague, and František Švačina, Ostrava, Czechoslovakia, assignors to Vitkovicke zelezarny Klementa Gottwalda, narodni podnik, Ostrava, Czechoslovakia
Filed May 13, 1964, Ser. No. 366,982
Claims priority, application Czechoslovakia, May 17, 1963, 2,816/63
1 Claim. (Cl. 308—177)



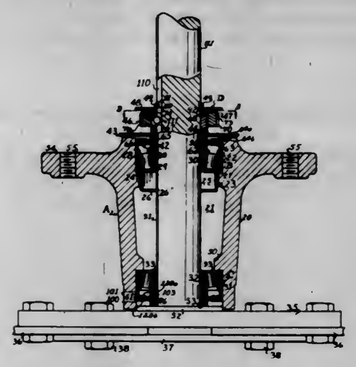
A device permitting an equal distribution of the pressure on each of the simultaneously loaded antifriction bearings in vertical mechanical equipments, especially vertical rolling stands provided with pairs of bearing bushings located in the eyes of a common carrying shackle, and consisting of bearing bushings provided, each of them, in the middle of its outer cylindrical surface with a spherical area, further of rings fitted in the recesses of the carrying shackle eyes the rings having a diameter corresponding to that of the aforesaid spherical surfaces with which they come in contact on their peripheries and being provided with openings, and finally of hollow supporting shoes passing through the aforesaid ring openings and resting against the aforesaid bearing bushing spherical areas, the supporting shoes being urged back by adjustable springs.

3,264,043
BEARING ASSEMBLY
John Michael Storer Keen, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed Jan. 20, 1964, Ser. No. 338,681
Claims priority, application Great Britain, Jan. 31, 1963, 4,125/63
4 Claims. (Cl. 308—187)



1. A bearing assembly comprising: a bearing; means for feeding a lubricant to said bearing; means for receiving lubricant passing from said bearing; two members respectively provided with closely adjacent faces, at least one of said members being rotatable about a given axis, and said faces of said members being inclined with respect to said given axis; and at least one of said faces having a helical groove, said helical groove having opposite ends respectively disposed closer to and further from said given axis, said closer end of said helical groove being in communication with said lubricant receiving means for receiving a lubricant therefrom which has passed through said bearing, and said further end of said helical groove being in communication with said bearing and delivering lubricant from said helical groove back to said bearing for recirculation therethrough independent of said lubricant feeding means.

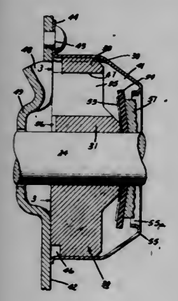
3,264,044
ADJUSTABLE SHAFT SUPPORT
Marc C. Davenport, Macon, Ga., and George B. Hammond, Rockford, Ill., assignors to Lilliston Implement Company, Albany, Ga., a corporation of Georgia
Filed Nov. 22, 1963, Ser. No. 325,726
9 Claims. (Cl. 308—227)



1. A device supporting a shaft for rotation about its center line while adjustably restricting motion of the shaft along its center line, said shaft having a disc fixedly attached to one end and said device comprising, in combination, a hub enclosing the shaft with its first end adjacent to said disc and its second end remote from said disc; a first washer encircling the shaft more remote from the disc than the second end of the hub; an annular ridge concentric with the shaft and fixedly positioned within the hub adjacent to the first end of the hub; a shoulder concentric with the shaft and fixedly positioned within the hub adjacent to the second end of the hub; a first bearing cone concentric with the shaft within the hub, said first bearing cone having an outer ring engaging the annular ridge, an inner ring engaging the disc and rotatable with the shaft, and a plurality of roller bearings rotatably positioned between the inner ring and the outer ring with their axes of rotation inclined toward the center line of the shaft and the second end of the hub; a second bearing cone concentric with the shaft within the hub, said second bearing cone having an outer ring engaging the said shoulder, an inner ring engaging and rotatable with the first washer, and plurality of roller bearings rotatably positioned between the inner ring and the outer ring with their axes of rotation inclined toward the center line of the shaft and the first end of the hub; an adjusting collar encircling the shaft, said collar having a threaded outer surface, a first edge engaging the first washer, a second edge more remote from the hub than its first edge and the first washer, and a slot extending

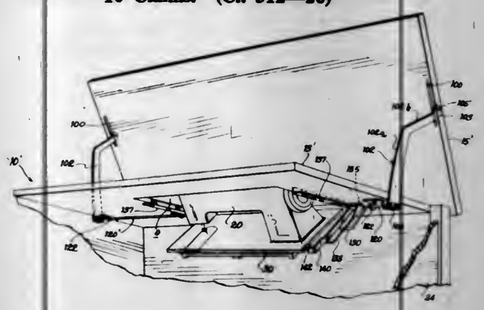
through its side from its second edge for a portion of its length; an adjusting nut threadably engaging the outer surface of the adjusting collar, said adjusting nut being movable along the center line of the shaft relative to the adjusting collar by rotation about the adjusting collar and said adjusting nut having a plurality of channels extending the length of its outer surface; a retaining ring in a groove encircling the shaft, said retaining ring having a portion of its diameter extending beyond the surface of the shaft and being more remote from the hub than the adjusting nut; a thrust washer encircling the shaft between the adjusting nut and the retaining ring, said thrust washer having its inner edge adjacent to the shaft inclined toward the first end of the hub to form a channel adapted to receive the extending portion of the retaining ring; a lock washer encircling the shaft between the adjusting nut and thrust washer, said lock washer having an inner tab bent into the slot in the adjusting collar and having a plurality of outer tabs deflectable into the channels of the adjusting nut; a cylindrical slug positioned in the slot of the adjusting collar and in a channel extending along the side of the shaft parallel to its center line; a first seal within the hub between the disc and the roller bearings of the first bearing cone; and a second seal within the hub between the first washer and the roller bearings of the second bearing cone.

3,264,045
LUBRICATION SYSTEM FOR DYNAMO-ELECTRIC MACHINES
Myron D. Tupper, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Jan. 2, 1964, Ser. No. 335,282
12 Claims. (Cl. 308—240)



1. A bearing and reservoir unit for use in a dynamoelectric machine comprising a bearing section having a bore for journalling a shaft, a lubricant reservoir section generally surrounding said bearing section, said lubricant reservoir section including a plurality of angularly spaced apart and axially elongated capillary slots having their inner regions disposed adjacent said bearing section, said slots extending outwardly from said bearing section with the side walls forming each slot projecting in an axial direction and being sufficiently close together to hold lubricant in the slots by capillary attraction between the walls thereof, feeding means communicating between the inner regions of each slot and said bore for transferring lubricant therebetween, at least one circumferentially extending and non-lubricant retaining channel interconnecting the outer regions of the individual slots, said channel being dimensionally greater than that which sustains capillary transfer of lubricant across the channel to form a capillary barrier for preventing the radial transfer of lubricant outwardly from said slots at that location.

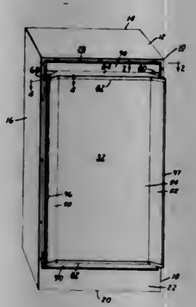
3,264,046
APPLIANCE SUPPORTING CABINET
Frederick W. Preuss, Terry, Miss., assignor to MPI Industries, Inc., Jackson, Miss., a corporation of Illinois
Filed Oct. 31, 1963, Ser. No. 320,382
10 Claims. (Cl. 312—26)



1. A cabinet having
(a) a fixed top with an aperture therein for passage of a machine housed in said cabinet,
(b) a panel having a first position of rest normally overlying said top and movable therefrom to a second position of rest substantially behind and beyond the back of said cabinet,
(c) a leaf for supporting the machine hingedly secured to said top and normally disposed below said aperture, permitting said panel directly to overlie said top, said leaf being rotatable through the aperture to a position above said top,
(d) a lever arm pivotally attached to said panel adjacent a side thereof and disposed below said top when the panel is in said first position,
(e) an axially-rotatable shaft secured below said top and operably connected to said arm, whereby swinging of said arm by said panel serves to rotate said shaft, and reverse rotation of the shaft reacts on said arm,
(f) means for transmitting rotary movement of said shaft to said supporting leaf, so that movement of the panel from said first position to said second position will result in movement of said supporting leaf to a position of access adjacent said aperture,
(g) connecting means between the leaf and the transmission means whereby, after the panel has reached said second position, said leaf may be freely rotated from said position of access to a position above said top and then reversely rotated to a position substantially flush therewith, where a machine mounted thereon will be in operative position, and
(h) an auxiliary leaf hinged to said top and normally substantially flush therewith, where it is adapted to support said supporting leaf.

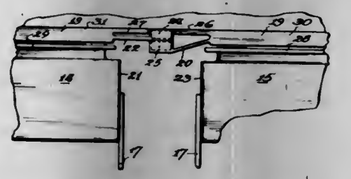
3,264,047
DOMESTIC APPLIANCE DOOR
William R. Steiner, Rochester, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 23, 1965, Ser. No. 450,354
7 Claims. (Cl. 312—214)

4. A refrigerator cabinet construction comprising, enclosure means including top, bottom, rear and side walls forming a food storage compartment having a front access opening thereto, a door closure for closing said access opening, means on one side of said closure for pivotally connecting said closure on said enclosure for outward pivotal movement with respect to said enclosure for opening said access opening, said door closure including a front panel, a rear panel and first and second side portions joined to said front and rear panels to form an open-ended space therebetween, insulation means filling said space for limiting heat transfer across said closure, end caps fitted over the edges of said panels and side portions for closing the end openings to said space, said front panel having one side thereof bent outwardly thereof, one of said side portions being directed inwardly of said space to form a pocket behind said outwardly



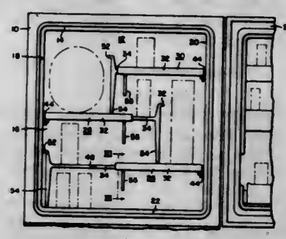
bent one side of said front panel throughout substantially the full vertical height of said door closure, said outwardly bent one side of said front panel in conjunction with said inwardly directed side portion forming a hand grip on said door closure available throughout the vertical height of said door closure at one side thereof for applying a manual force to said door for moving it between its open and closed positions.

3,264,048
MAGNETIC GASKET
Alan J. Koch and Marion J. Weis, Evansville, Ind., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Mar. 23, 1964, Ser. No. 353,759
6 Claims. (Cl. 312—296)



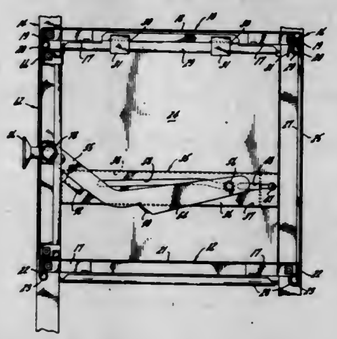
1. A cabinet, comprising: a frame member having an access opening; a door normally closed against said frame member across said opening; a cabinet member having an edge portion spaced from an edge portion of said closed door; a first thin flange member extending from said closed door edge portion toward said cabinet member edge portion; a second thin flange member extending from said cabinet member edge portion toward said first flange member, said flange members having adjacent edges when said door is closed; and cooperating magnetic means on said first and second flange members edges for holding said flange members in sealed relationship spanning said space between said edge portions when the door is closed, at least one of said flange members being distortable to accommodate itself to intimate contact of said cooperating magnetic means.

3,264,049
REFRIGERATOR CABINET
Carl A. Peterson, Columbus, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 11, 1964, Ser. No. 374,402
4 Claims. (Cl. 312—304)



1. A cabinet including a bottom wall and opposite side walls defining a storage compartment having a front access opening thereto,
a series of extensible shelves arranged within said compartment in vertically spaced relationship with said bottom wall and in alternating side-to-side relation, said bottom wall and said shelves each providing a horizontal deck for storage of articles,
each said shelf including a stationary portion connected to one of said side walls and extending rearwardly of said front access opening in spaced relation to the opposite of said side walls, and
a movable portion carried by each said stationary shelf portion and movable transverse of said access opening in a horizontal direction for adjustably extending or shortening the length of said shelf in said transverse direction and for varying the space between said stationary shelf portion and said other side wall, said movable portion including leg structure resting on the storage deck therebelow.

3,264,050
SHELF STRUCTURE
David H. Porter, Fort Atkinson, Wis., assignor to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Apr. 30, 1964, Ser. No. 363,769
10 Claims. (Cl. 312—325)

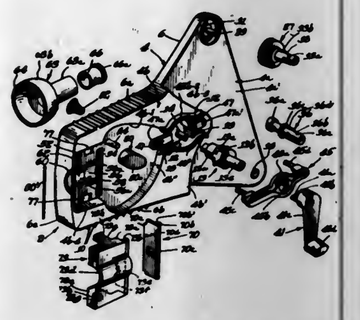


10. In a shelf structure,
(a) a pair of upper and lower shelves,
(b) means interconnecting said shelves retaining them in vertically spaced relation,
(c) a pair of guides interposed between said upper and lower shelves,
(d) a pair of slides each having one of its ends slidably and pivotally connected to said guides,

(e) a third shelf pivotally connected to the other ends of said guides for movement with and with respect to said slides between a retracted vertical position in which its upper edge is disposed adjacent the upper shelf and an operative position in which said upper edge is disposed adjacent the lower shelf and said third and lower shelves are generally coplanar, and
(f) means for releasably retaining said third shelf in its retracted and operative positions.

3,264,051
MOTION PICTURE FILM VIEWING APPARATUS
Charles C. Melton, Prescott, Ariz., assignor to Argus Incorporated, Chicago, Ill., a corporation of Delaware
Filed Aug. 9, 1963, Ser. No. 301,704
7 Claims. (Cl. 352—129)

3. A manually operable movie film viewer comprising: a body member having a vertical support wall having a rear reel support section with a supply of reel-receiving post extendings horizontally from the right side of the wall and a take-up reel-receiving post spaced from said supply reel-receiving post and extending horizontally from said right side of the support wall, a pair of spaced confronting guide wall surfaces extending horizontally from said right side of the wall, and acting as guides for holding spaced sections of the film leaving the supply reel and approaching the take-up reel in confronting relation, a sprocket wheel mounted between said guide wall surfaces, the sprocket wheel having teeth for engaging with the defining edges of the perforations of said confronting sections of the film, manually operable means for selectively rotating said supply reel-receiving post alone or said sprocket wheel and take-up reel-receiving post together, said support wall having an outwardly expanding recess on the right side thereof communicating with the space between said guide wall surfaces and accommodating a loop formed in the sections of the film leaving said confronting guide wall surfaces, a film track wall at the front end of said recess for receiving the end of said loop and having a film inlet and a film outlet end, a window formed in said film track wall for viewing a frame of the film passing along said wall, a viewing lens



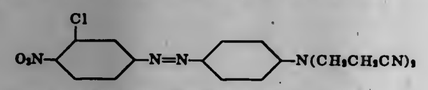
on the front of said body for viewing the frame visible in said window, means for directing light through the film into said viewing window, said means being located within said recess in said support wall for directing light through said viewing window, and means constraining the movement of the film along said film track wall to an intermittent frame-by-frame movement past said viewing window.

CHEMICAL

3,264,052
PROCESS FOR DYEING POLYESTER FIBERS
Paul Rhyner, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed Dec. 7, 1962, Ser. No. 242,931
Claims priority, application Switzerland, Jan. 5, 1962, 121/62
5 Claims. (Cl. 8—26)

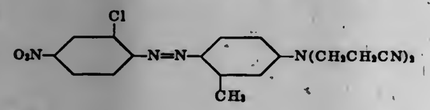
1. A process for dyeing polyester fibers by the dispersion dyeing method, wherein a dyestuff mixture consisting of 65 to 75% of the dyestuff of the formula

(1)



and 35 to 25% of the dyestuff of the formula

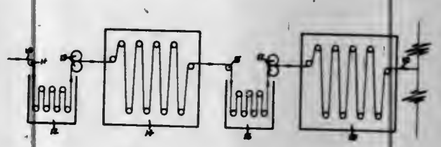
(2)



is used.

3,264,053
PROCESS FOR DYEING TEXTILE FIBERS WITH AZO-DISULFIDE AND SULFUR DYESTUFFS AND DYED PRODUCTS THEREOF
Charles R. Holtzclaw, Mount Holly, and James H. Benson, Charlotte, N.C., assignors to Martin-Marietta Corporation, a corporation of Maryland
Filed Mar. 11, 1963, Ser. No. 264,413
9 Claims. (Cl. 8—27)

1. A method for dyeing textile fibers comprising the steps of padding onto the fibers an aqueous dye composition comprising azo-disulfide dyestuff pigment, reducing the dyestuff whereby the azo-disulfide dyestuff pig-



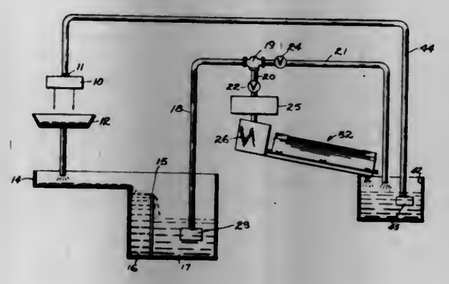
ment is reduced at the disulfide bond, oxidizing the dyestuff, scouring and drying the fibers.

3,264,054
PROCESS FOR CROSSLINKING CELLULOSIC TEXTILE AND PAPER MATERIALS WITH GASEOUS FORMALDEHYDE
Robert M. Reinhardt, New Orleans, Reginald A. Fujimoto, Metairie, and John D. Reid, New Orleans, La., and Richard L. Arceneaux, deceased, late of New Orleans, La., by Jean D. Park, administratrix, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Feb. 8, 1963, Ser. No. 257,344
5 Claims. (Cl. 8—115.7)

1. A process for crosslinking a cellulose textile or a cellulosic paper material with formaldehyde which process consists of exposing at atmospheric pressure a cellulosic textile or a cellulosic paper material that contains about from 6% to 10% by weight of moisture to an atmosphere containing about from 0.004 to 0.016 mole of gaseous formaldehyde per liter and about from 0.25% to 8% by weight, based on the weight of the material being treated,

of gaseous hydrogen chloride at a temperature of about from 20° C. to 80° C. for a period of from about one minute to three hours with the concomitant proviso that during exposure of the said cellulosic material to the gaseous formaldehyde atmosphere, additional gaseous formaldehyde be furnished at the rate of about from 0.006 to 0.003 mole per liter per hour.

3,264,055
TREATMENT OF METALWORKING FLUIDS
George E. Barker, Glencoe, Ill., assignor to Van Straaten Chemical Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 3, 1963, Ser. No. 270,368
2 Claims. (Cl. 21—54)



1. In a system wherein a metalworking fluid comes into contact with a metal being worked and is thereafter collected and recycled and in the course of use and recycling is subjected to contamination by the random introduction therein of microorganisms from an exterior source, the improvement which consists in subjecting at least part of said metalworking fluid to the action of ultraviolet radiation to prevent an increase in microorganism population, said radiation being supplied at a rate such that the product of the ultraviolet power supplied at the liquid surface (watts) times the depth of fluid required to absorb 90% of the incident ultraviolet radiation (feet) times the average generation time of the microbiological species (seconds) all divided by the volume of fluid contained in the system (cubic feet), when all factors are expressed in consistent units, will be at least about 1 watt second per square foot.

3,264,056
METHOD OF GAS PURIFICATION AND REMOVAL OF FERROUS CARBONATE FROM THE ABSORPTION SOLUTION
Paul R. Konz, Newark, N.J., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed June 10, 1965, Ser. No. 462,997
13 Claims. (Cl. 23—2)

1. In a process for absorbing an acid gas in an absorption zone, with the acid gas selected from a group consisting of carbon dioxide and hydrogen sulfide and mixture of the foregoing, from a gas stream, with an alkali metal carbonate solution serving as the absorption liquid, with regeneration of the carbonate absorption liquid in a regeneration zone, and with the carbonate absorption liquid having ferrous carbonate in an aqueous solution as an impurity therein; the bicarbonate concentration in the carbonate absorption liquid being less than that at which ferrous carbonate precipitates; an improvement for removing the ferrous carbonate comprising the steps of

passing a portion of the carbonate absorption liquid directly from the absorption zone to a removal zone apart from the absorption zone and the regeneration zone,
maintaining the temperature of the carbonate absorption liquid in the removal zone at approximately the temperature of the liquid in the absorption zone;

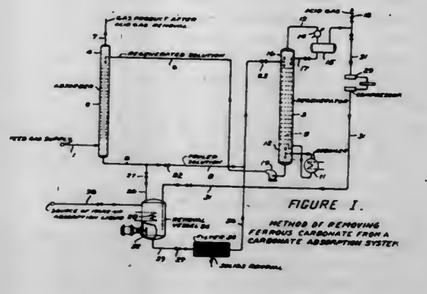


FIGURE I.
METHOD OF REMOVING FERROUS CARBONATE FROM A CARBONATE ABSORPTION SYSTEM

increasing the bicarbonate ion concentration of the carbonate absorption liquid in the removal zone to precipitate ferrous carbonate therein;
physically separating the precipitated ferrous carbonate from the carbonate absorption liquid;
passing the separated carbonate absorption liquid to the regeneration zone.

3,264,057
PREPARATION OF SODA ASH INCLUDING THE LEACHING OF TRONA WITH STEAM
Warren Standish Miller, Fullerton, Calif., assignor, by mesne assignments, to Intermountain Research & Development Corporation, Cheyenne, Wyo., a corporation of Wyoming
Filed Mar. 7, 1963, Ser. No. 263,524
6 Claims. (Cl. 23—63)

1. A process for the preparation of soda ash from crude trona which comprises leaching the carbonate values from the crude trona with an aqueous solvent, decomposing the major fraction of the sodium bicarbonate in the resulting solution to sodium carbonate by steam stripping, crystallizing anhydrous sodium carbonate from the said solution, drying the anhydrous sodium carbonate crystals to form soda ash and recovering soda ash having a high bulk density.

3,264,058
PRODUCTION OF CALCIUM PHOSPHATES
Karl Gelersberger, Cologne-Deutz, and Ulrich Böhm, Cologne-Hohenhaus, Germany, assignors to Chemische Fabrik Kalk G.m.b.H., Cologne-Kalk, Germany
No Drawing. Filed Oct. 26, 1964, Ser. No. 406,536
2 Claims. (Cl. 23—108)

1. In a process for producing calcium orthophosphates of a bulk density between about 0.7 and 1.3 from a solution containing phosphoric acid and a calcium salt selected from the group consisting of calcium chloride and calcium nitrate, the steps of mixing a sufficient quantity of recycled dry calcium orthophosphate with the starting solution containing the phosphoric acid and the calcium salt to form a crumbly dry mass and heating such crumbly mass while maintaining it in motion to a temperature not in excess of 250° C. for a period of 5 to 20 minutes to drive off the volatile acid formed from the anion of the calcium salt.

3,264,059

PROCESS FOR THE PREPARATION OF SYNTHETIC FAUJASITE

Carl V. McDaniel, Laurel, and Philip K. Maher, Baltimore, Md., assignors to W. R. Grace & Co., a corporation of Connecticut

No Drawing. Filed Jan. 13, 1964, Ser. No. 337,132
2 Claims. (Cl. 23—113)

1. A process for preparing synthetic faujasite having the approximate gross composition $Na_2O:Al_2O_3:3.2$ to $5.8\ SiO_2:nH_2O$ wherein n has a value less than 9 having an effective pore size of about 13 Angstrom units, and capable of being converted to the hydrogen form without collapse of the crystal structure wherein an amorphous fine-sized silica containing from 4.5 to 11 weight percent water is one of the principal reactants, which consists essentially of:

(a) dehydrating and activating said silica by calcining the silica at a temperature of 310 to 1100° F. for a period of 0.1 to 72 hours, wherein the water content is reduced to 0.5 to 4.2%,

(b) preparing a solution of sodium hydroxide,

(c) dissolving alumina in said solution,

(d) preparing a sodium hydroxide-alumina-calcined silica slurry by rapidly mixing a slurry of the calcined fine sized silica with the solution of sodium hydroxide and alumina,

(e) aging said slurry at a temperature of 20 to 60° C. for about 3 to 300 hours,

(f) heating the aged mass at a temperature of 75 to 100° C. for 3 to 72 hours, the mole ratio of reactants being:

0.17 to 0.60 mole of sodium oxide per mole of silica,

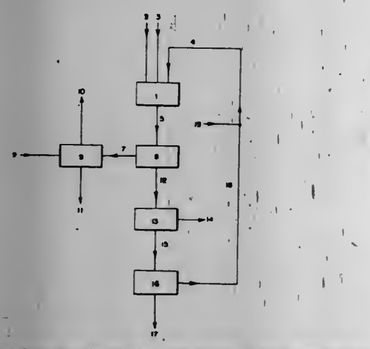
6 to 12 moles of silica per mole of alumina, 25 to 75 moles of water per mole of sodium oxide.

3,264,060

SIMULTANEOUS RECOVERY OF PURE AMMONIUM SULFATE AND PURE LACTAMS FROM REARRANGEMENT MIXTURES OF ALICYCLIC KETOXIMES

Werner Nieswandt, Weinheim, Hugo Strehler and Guenther Rapp, Ludwigshafen (Rhine), and Kurt Kahr, Hambach, Weinstrasse, Germany, assignors to Badische Anilin & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed Apr. 24, 1962, Ser. No. 189,831
Claims priority, application Germany, Apr. 27, 1961, B 62,294
5 Claims. (Cl. 23—119)



1. A process for the simultaneous recovery of pure ammonium sulfate and pure lactam having from seven to eleven ring members from a mixture which has been obtained by Beckmann rearrangement of a cycloalkanone oxime having from six to ten ring carbon atoms with a compound selected from the group consisting of sulfuric acid containing from 98 to 100% by weight of H_2SO_4 and oleum containing from 0 to 35% by weight of free SO_3 and which contains from 30 to 50% by weight of lactam, which process comprises neutralizing the rearrangement mixture with ammonia in the presence of five to fifty times the amount (with reference to the weight of rearrangement mixture) of a 25 to 45 weight percent ammonium sulfate solution at a neutralization temperature of 30° to 100° C. forming two liquid phases composed of crude aqueous lactam and ammonium sulfate solution separating the crude aqueous lactam phase from the ammonium sulfate solution phase, concentrating the separated ammonium sulfate solution by evaporation until such an amount of ammonium sulfate has precipitated as corresponds to the amount of sulfuric acid introduced with the reaction mixture, separating the crystallized ammonium sulfate in the form of pure ammonium sulfate crystals, diluting all of the mother liquor with such an amount of water as is necessary to restore the ammonium sulfate solution to a 25 to 45 weight percent ammonium sulfate solution, recycling all of the diluted mother liquor to the neutralization zone, extracting the separated crude lactam phase with from three to twelve times its weight of an aromatic hydrocarbon selected from the group consisting of benzene, toluene and xylene, separating the resultant aqueous phase, which is a water solution of the impurities in said separated crude lactam, and distilling the lactam solution obtained to recover the pure lactam.

3,264,061

ALUMINA PRODUCT AND ITS METHOD OF PREPARATION

William L. Kehl, Indiana Township, Allegheny County, and Meredith M. Stewart, Penn Hills Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Dec. 21, 1962, Ser. No. 246,331
11 Claims. (Cl. 23—141)

1. A process for the preparation of alumina comprising adding an aqueous solution of an acidic aluminum salt which is substantially free of metals other than aluminum to a substantially metal free aqueous solution of ammonium bicarbonate, maintaining the mixture at a pH between 7 and 9 throughout substantially the entire procedure and substantially preventing any pH in the mixture below 7 or above 9, precipitating alumina hydrate, heat treating said alumina hydrate to a temperature above about 350° F. but below about 1400° F., and contacting said alumina with liquid water to accomplish chemical rehydration thereof.

8. A process comprising heat treating an alumina hydrate having about 1.2 to 2.6 moles of water of hydration per mole of alumina and the approximate crystalline configuration as determined by X-ray diffraction of a cube 8.2 A. on edge at a temperature between 350° F. and 1400° F., contacting said heat treated alumina with water to accomplish rehydration thereof, and calcining said rehydrated alumina at a temperature between about 750° F. and 1500° F.

9. The alumina prepared by the method of claim 8.

3,264,062

ALUMINA PRODUCT AND ITS METHOD OF PREPARATION

William L. Kehl, Indiana Township, Allegheny County, and Meredith M. Stewart, Penn Hills Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Dec. 21, 1962, Ser. No. 246,460
11 Claims. (Cl. 23—141)

1. A process for the precipitation of alumina hydrate comprising adding an aqueous solution of an acidic aluminum salt which is substantially free of metals other than aluminum to a substantially metal free aqueous solution of ammonium bicarbonate, maintaining the resulting mixture at a pH between 7 and 9 throughout substantially the entire procedure and substantially preventing any pH in the mixture below 7 or above 9, and precipitating alumina hydrate.

9. Alumina hydrate having about 1.2 to 2.6 moles of water of hydration per mole of alumina and the approximate crystalline configuration as determined by X-ray diffraction of a cube 8.2 A. on edge.

10. Alumina prepared by calcining at a temperature between 750° F. and 1500° F. an alumina hydrate having about 1.2 to 2.6 moles of water of hydration per mole of alumina and the approximate crystalline configuration as determined by X-ray diffraction of a cube 8.2 A. on edge.

3,264,063

PREPARATION OF ETA ALUMINA BY WATER HYDROLYSIS

William B. Carter, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma

No Drawing. Continuation of application Ser. No. 41,757, July 11, 1960. This application Nov. 5, 1964, Ser. No. 409,287
7 Claims. (Cl. 23—143)

1. A process for the preparation of eta alumina which comprises atomizing aluminum alcoholate with an inert atomizing gas, introducing said atomized aluminum alcoholate to the surface of an agitated body of heated water maintained at a temperature above about 50° C., thereby forming hydrated alumina and alcohols, separating hydrated alumina from said alcohols, drying, and calcining said dried hydrate at a temperature between about 600 and 1200° F. to provide eta alumina.

3. A process for the preparation of eta alumina which comprises atomizing with an inert atomizing gas an aluminum alcoholate prepared by reacting aluminum triethyl with ethylene at a temperature between about 65 and about 150° C. and a pressure between about 200 and about 5000 p.s.i.g. and oxidizing the reaction product with the air at a temperature between 20 and 50° C. and a pressure between about 10 and about 60 p.s.i.g., introducing said atomized aluminum alcoholate to the surface of an agitated body of water, said water being maintained at a temperature between about 80 and about 100° C., thereby forming hydrated alumina and alcohols, separating hydrated alumina from said alcohols, drying, and calcining said dried hydrate at a temperature between about 600 and 1200° F. to provide eta alumina.

3,264,064

COMPOUNDS CONTAINING THE VANADIUM HEXACARBONYL GROUP AND PROCESS FOR PREPARING THE SAME

Giulio Natta, Milan, Raffaele Ercoli, Monza, and Fausto Calderazzo, Milan, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, Milan, Italy

No Drawing. Filed Apr. 19, 1960, Ser. No. 23,147
Claims priority, application Italy, Apr. 23, 1959, 6,707/59
11 Claims. (Cl. 23—203)

1. The compound vanadium hexacarbonyl, $V(CO)_6$.

2. A method of preparing vanadium hexacarbonyl, $V(CO)_6$, this method comprising reacting with carbon monoxide a vanadium compound selected from the group consisting of vanadium halides, vanadium acetylacetonates, vanadium alkoxides, vanadyl halides, and vanadyl acetylacetonates, in the presence of a reducing system comprising: (1) a component selected from the group consisting of the metals sodium, potassium, lithium, beryllium, magnesium, calcium, zinc, and aluminum, hydrides of said metals, alkyl hydrides of said metals, and mixtures thereof; (2) an amine selected from the group consisting of pyridine, quinoline, and tertiary amines; and (3) when said vanadium compound does not contain a halogen, a compound selected from the group consisting of elementary halogens, halides of metals of Groups IV–VIII of the Periodic Table, alkyl halides, cycloalkyl halides, and aryl halides; at a temperature of from about 50 to 250° C. and a pressure of at least 10 atmospheres, concentrating the resulting reaction products by evaporation, acidifying with a non-oxidizing acid to a pH not exceeding 4 to liberate vanadium hexacarbonyl, and separating said liberated vanadium hexacarbonyl.

3,264,065

PROCESS AND APPARATUS FOR PRODUCING CARBON BLACK

Robert M. Schirmer and Ellsworth H. Fromm, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed May 18, 1962, Ser. No. 195,764
14 Claims. (Cl. 23—209.6)

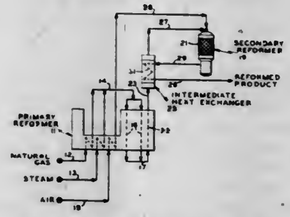
1. A method for producing carbon black comprising:
continuously feeding a fluid hydrocarbon fuel into a generally cylindrical zone;
passing said fuel through said zone in an annular mass adjacent the periphery thereof;
continuously feeding a free oxygen containing fluid oxidation agent into said zone;
passing said agent through said zone in a rotating axial core in contact with said fuel and maintaining conditions of pressure, temperature and residence time to produce carbon black from said fuel.

3,264,066

PRODUCTION OF HYDROGEN

Orlando J. Quartulli, Bronx, and Shou Kao, Whitestone, N.Y., assignors to Pullman Incorporated, a corporation of Delaware

Filed May 1, 1962, Ser. No. 191,565
14 Claims. (Cl. 23—212)



1. A method for the production of hydrogen which comprises contacting a vaporized hydrocarbon with steam in the presence of reforming catalyst in a first indirectly heated reforming zone to partially reform said hydrocarbon, further heating effluent of the first reforming zone by heat exchange with a second effluent to be described, contacting further heated effluent of the first reforming zone with steam and an oxygen-containing gas in the presence of reforming catalyst in a second unheated reforming zone to substantially complete the reforming of said hydrocarbon, and cooling effluent of the second reforming zone constituting said second effluent by said heat exchange with effluent of the first reforming zone.

3,264,067

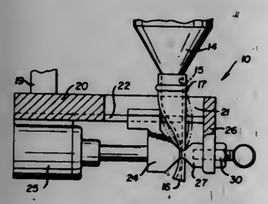
APPARATUS FOR CONTROLLING THE CHARGING OF MOLDS WITH URETHANE FOAM

Sterling W. Alderfer, 464 N. Portage Path, Akron, Ohio

Filed Nov. 20, 1962, Ser. No. 238,965
1 Claim. (Cl. 23—252)

In apparatus for controlling the charging of molds with one-shot urethane foams, said apparatus having

a frame means, high-shear mixing head means mounted on said frame means for continuously combining reactants and producing a urethane foam,
discharge cone means positioned below and having its inlet end communicating with said high-shear mixing head means;
valve means selectively controlling the charging of molds with urethane foam from said discharge cone means, said valve means comprising;
block means carried by said frame means and having an opening therethrough,
an elongate radially expansible resilient hollow tube connected to the outlet end of said discharge cone means and extending through the opening in said block means toward the molds, said tube having recovery characteristics after periods of radial deformation by expansion of said urethane foam therein during shut-off of said valve means,



pinch stop means attached to said block means on one side of said opening and having a flat rectangular surface,
pinch clamp means movably mounted on said block means in opposing relation to said pinch stop means and having a flat rectangular surface adapted to engage the said flat rectangular surface of said pinch stop means, and
actuating means to selectively move said pinch clamp means toward said pinch stop means to compress said tube between said rectangular surfaces and close the conduit therethrough for predetermined shut-off periods thereby radially distending said tube under the influence of discharge pressure of said high-shear mixing head means and reaction pressure of the accumulated foamed mass of said continuously combining reactants therein above said clamp means whereby release of said pinch clamp means at the end of said shut-off period produces a sudden release of said accumulated foam mass and a pressure purge of said tube.

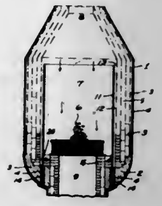
3,264,068

HIGH TEMPERATURE VESSEL INTERNALS

Kenneth A. De Ghetto, Livingston, and William P. Long, Chestertownship, N.J., and Shih-Yaun Yeh, Bronx, N.Y., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 197,353, May 24, 1962. This application June 1, 1964, Ser. No. 371,721
2 Claims. (Cl. 23—288)

1. A vessel comprising in combination:
an outer shell defining a chamber, said shell having a reduced upper end portion forming an upper fluid opening and a reduced lower end portion forming a lower fluid opening,
a refractory insulating lining attached to the interior of said shell,
a refractory insulating collar extending upwardly into said chamber from said lower fluid opening to form a groove between said collar and said lining,
a heat-resistant metallic shroud within said chamber and spaced slightly from said lining with the lower portion of said shroud against said collar whereby fluid pressure within said chamber is exerted both on the inside of said shroud and on the outside of said shroud substantially to the bottom of said shroud, said shroud having a lower edge located in said groove,



a bearing plate extending from said shroud into said collar to support said shroud, and
a bellows embedded in said refractory lining and having an upper edge and a lower edge, said upper edge being welded to said shroud and said lower edge welded to said shell, said bellows being substantially thinner than said shroud and corrugated to limit heat conduction between said shroud and said shell and to permit expansion and contraction.

3,264,069

AGGLOMERATING ALUMINA

Robert J. Getty, Webster Groves, Mo., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Sept. 27, 1965, Ser. No. 490,622
8 Claims. (Cl. 23—313)

1. The process of producing alumina agglomerates comprising tumbling a mass of finely divided activated alumina particles in a rotating drum while mixing a binder therewith, whereby the particles agglomerate into pellets, said alumina having a loss on ignition of between 5–14%, by weight, and having a particle size distribution of at least 88% less than 45 microns in maximum dimension, 20–35% less than 5 microns in maximum dimension and a median particle size of 8–17 microns, and thereafter heating the resultant agglomerates.

3,264,070

REMOVAL OF ACTINIDE HALIDES FROM ALUMINA

Devabhaktuni Ramaswami, Westmont, Norman M. Levitz, Bellwood, and Albert A. Jonke, Elmhurst, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed June 30, 1964, Ser. No. 379,410
2 Claims. (Cl. 23—326)

1. A process of removing adsorbed actinide halide from refractory material, comprising reacting said material with a gas containing 5 to 10 volume percent fluorine and 95 to 90 volume percent nitrogen at between 225 and 275° C. and thereafter reacting said material with a gas containing 90 to 100 volume percent fluorine and 10 to 0 volume percent nitrogen at between 475 and 575° C., whereby the bulk of the actinide halide is volatilized as hexafluoride.

2. The process of claim 1 wherein the fluorine concentration is increased gradually from between 5 and 10 volume percent to between 90 and 10 volume percent within the two heating steps.

3,264,071

BIS(AMMONIO) DECABORANE

William V. Hough, Valencia, Pa., assignor to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 21, 1959, Ser. No. 863,048
3 Claims. (Cl. 23—358)

1. A method of producing bis(ammonio)decaborane, $(NH_3)_2B_{10}H_{12}$, which comprises reacting ammonia with decaborane at a temperature of at least about 25° C. in the presence of a lower alkyl ether in which up to about 2 mols of ammonia are used for each mol of decaborane and recovering the bis(ammonio)decaborane thus formed.

3,264,072

PRODUCTION OF DICHLOROBORANE

Joseph Arthur Bergantz, Buffalo, N.Y., Norris James Brunsvold, Trenton, N.J., and Michael Robert Schmid, Rockville, Ind., assignors to FMC Corporation, a corporation of Delaware

No Drawing. Filed Oct. 7, 1960, Ser. No. 61,325
1 Claim. (Cl. 23—361)

In the process of producing dichloroborane wherein hydrogen and vaporized boron trichloride are passed through a conduit zone to a reaction zone maintained at temperatures between about 900° to 1550° F., and wherein said boron trichloride is hydrogenated to form said dichloroborane, the improvement which comprises employing metallic silver surfaces in all of said zones whose interior walls contact said initial reactants and their reaction products at temperatures from about 500° to 1550° F. thereby preventing excessive corrosion of said conduit zones and said reaction zones.

3,264,073

NOVEL METAL MICROSPHERES AND THEIR MANUFACTURE

Charles R. Schmitt, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed June 9, 1965, Ser. No. 462,766
7 Claims. (Cl. 29—182)

1. A method for preparing unitary, hollow, metal microspheres comprising the steps of heating phenolic microballoons under an inert atmosphere to a temperature sufficient to coke said microballoons thereby forming carbon microspheres, applying a metal coating to said carbon microspheres and thereafter removing the carbon to form metal microspheres.

7. A low density, high strength, tungsten cellular structure comprising bonded tungsten metal microspheres, said structure having a sintered density of between 1.9 and 4.2 grams/cc.

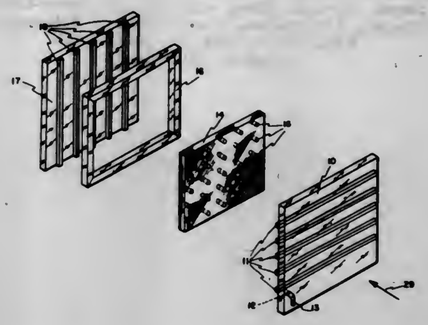
3,264,074

THIN FILM ELECTRON EMISSIVE ELECTRODE

William H. Jones, Santa Monica, Calif., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

Filed Apr. 4, 1962, Ser. No. 185,015
8 Claims. (Cl. 29—183.5)

1. A thin film, electron-emissive electrode with good adherence characteristics on an insulating base comprising:
a glass substrate,
a first thin film layer of a beryllium-copper alloy containing from about 0.3 to about 10 weight percent beryllium, deposited on said substrate, and
a second thin film layer of an electron-emissive iron and nickel composition containing from about 33



weight percent to about 55 weight percent nickel deposited on said first thin film layer.

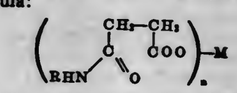
3,264,075

METAL SALTS OF SUCCINAMIC ACIDS IN DISTILLATE FUEL OIL

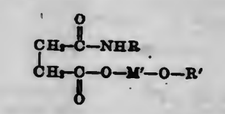
Paul Y. C. Gee, Woodbury, and Harry J. Andress, Jr., Pitman, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed July 6, 1962, Ser. No. 208,127
The portion of the term of the patent subsequent to Apr. 24, 1979, has been disclaimed
4 Claims. (Cl. 44—68)

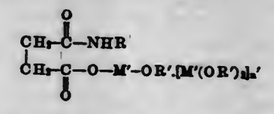
1. A petroleum distillate fuel oil containing a small amount, sufficient to inhibit said oil against sedimentation, screen clogging, emulsification and rusting of ferrous metal surfaces in contact therewith, of a compound from the group consisting of (1) a metal salt of the formula:



wherein R is a monovalent aliphatic hydrocarbon group having between 4 and 30 carbon atoms and a tertiary carbon atom linked to the nitrogen atom; M is a metal from the group consisting of divalent copper and metals from Groups IIA, IIB, IIIA, IVA and VIII, and n is a whole number equal to the valence of M; (2) an alkoxy metal salt of the formula:

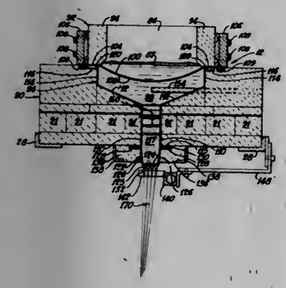


wherein R' is a saturated aliphatic hydrocarbon group, M' is a divalent metal and R has the aforesaid significance, and (3) a complex alkoxy metal salt of the following formula:



wherein R, R' and M' have the aforesaid significance, and n' is an integer of 1 to 10.

3,264,076
METHOD AND APPARATUS FOR PROCESSING HIGH TEMPERATURE BATCH MATERIALS
Folsom M. Veazie, Granville, and Raymond C. Womeldorph, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Nov. 5, 1962, Ser. No. 235,486
7 Claims. (Cl. 65—2)



4. The method of processing high temperature fusing mineral material including delivering the material in batch form into an open receptacle, heating the material in an upper region of the receptacle by electric energy independently of the receptacle to melt the material under conditions avoiding contamination of the molten material by refractory, continuously distributing the batch material over the open area of the receptacle to maintain a layer of the batch material of uniform thickness on the molten material, continuously discharging the molten material from a lower region of the receptacle, and transferring heat from the molten material to progressively reduce the temperature of the molten material in its downward movement through the receptacle.

7. Apparatus for processing high temperature fusing mineral material including, in combination, a walled melting chamber having an open upper region, a current conducting element extending across an upper zone of the chamber and electrically insulated from the walls of the chamber, means for feeding batch mineral material into the open region of the chamber and distributing the material in comminuted form substantially uniformly over the entire area of the open region of the chamber, means for supplying electric energy to said element to reduce the batch material to a molten state, a stream feeder in communication with the melting chamber arranged to discharge streams of the molten material, control means for regulating electric energy flow to the current conductive element, and means associated with said chamber for transferring heat from the molten material as it moves through the chamber.

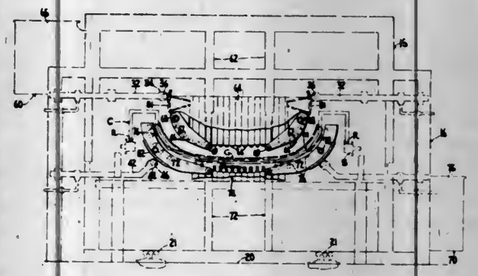
3,264,077
METHOD AND APPARATUS FOR SEVERING MOLD CHARGES OF MOLTEN GLASS
Frederic L. Bishop, Toledo, Ohio, assignor, by mesne assignments, to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Apr. 18, 1962, Ser. No. 188,375
4 Claims. (Cl. 65—24)

1. A shear mechanism for severing molten material at elevated temperatures such as molten glass and the like comprising a pair of shear blades mounted for movement in a shearing plane to a closed position in which said shear blades overlap and to an open position in which said shear blades are separated, each of said shear blades having a thin shearing edge portion comprised of heat-resistant solid material and a body portion comised of porous material extending adjacent said edge portion and having at least partially exposed surfaces, and means for internally introducing a fluid lubricant



into the porous body portion of each of said shear blades for its distributed discharge from said exposed surfaces.

3,264,078
METHOD OF TEMPERING GLASS SHEETS SUPPORTED ON A BENDING MOLD
George W. Stilley, Freeport, and James H. Cypher, New Kensington, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 29, 1965, Ser. No. 443,213
6 Claims. (Cl. 65—25)

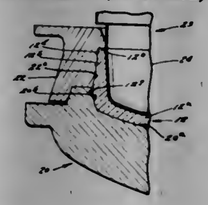


1. In the method of fabricating a bent, tempered glass sheet from a heated bent glass sheet supported at its marginal portion on a curved, outline shaping mold which absorbs sufficient heat to retard the cooling rate of the portion of the heated, bent glass sheet in contact therewith, wherein relatively cold fluid blasts are simultaneously directed upwardly and downwardly against the lower and upper glass sheet surfaces, respectively, to chill said surfaces rapidly and temper the bent glass sheet, the improvement comprising:
applying said upwardly directed tempering fluid to the lower surface of the glass sheet to be tempered inwardly of said shaping mold to exert a relatively large force on said lower surface,
applying said downwardly directed tempering fluid to the upper surface of the glass sheet to be tempered to exert a relatively small force on said upper surface,
controlling the difference in force applied against said upper and lower glass sheet surfaces to provide a total force exerted on the lower surface of said glass sheet greater than a force equal to the sum of the total force exerted on the upper surface of said glass sheet and the weight of said glass sheet to elevate said glass sheet above said shaping mold a distance sufficient to permit the escape of said tempering fluid from beneath said glass sheet in a region at the edge thereof,
whereby the total force applied by the tempering fluid to the lower surface of the glass sheet is reduced to permit said glass sheet to approach said shaping mold to a position ranging from one spaced slightly from said shaping mold to one engaging said shaping mold.

3,264,079
METHOD OF INSPECTING TEMPERED GLASS SHEETS
Harold E. McKelvey, New Kensington, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Apr. 9, 1962, Ser. No. 185,837
4 Claims. (Cl. 65—29)

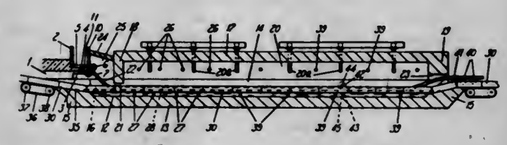
1. In the process of tempering glass sheets by first heating the glass sheets in a relatively hot atmosphere to an elevated temperature sufficient for tempering and suddenly quenching the heated glass sheets with a chilling fluid in a relatively cold atmosphere for sufficient time to impart a temper thereto under normal operating conditions, the improvement comprising sensing the temperature of each said treated glass sheet at the end of said time but before the sheet cools to room temperature to determine whether the temperature of said treated glass sheet is above or below the temperature of properly tempered glass at that time, and marking only said treated glass sheets whose measured temperature is above said temperature of properly tempered glass to distinguish said treated glass sheets whose temperature is above said temperature of properly tempered glass from those whose temperature is that of properly tempered glass.

3,264,080
METHOD FOR FORMING RECTANGULAR FACE PLATE
Ray W. Mayhew and Rol L. Vogelpohl, Columbus, Ohio, assignors to Owens-Illinois Inc, a corporation of Ohio
Original application Apr. 18, 1960, Ser. No. 22,865, now Patent No. 3,071,280, dated Jan. 1, 1963. Divided and this application Apr. 19, 1962, Ser. No. 197,809
3 Claims. (Cl. 65—72)



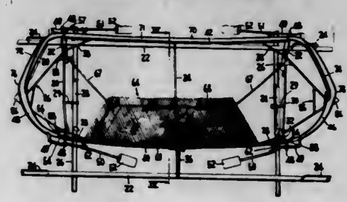
1. The method of forming a hollow rectangular glass face plate of a cathode ray television picture tube envelope, said face plate having a concavo-convex light-transmitting viewing screen portion and flaring, outwardly-convex non-viewing sidewalls integral with and surrounding said screen portion, the exterior surfaces of said sidewalls adjacent said screen portion of essentially maximum cross-sectional dimensions having a juxtaposed series of integral projections extending at least partially around the flattened sidewalls surrounding said screen portion, comprising the steps of introducing a charge of molten glass into a mold cavity having a configuration complemental to the external configuration of said viewing portion and sidewalls of said face plate and having a specific rate of contraction in the glass cooling temperature range, press forming said charge of molten glass into intimate contact with the bottom and sidewalls of said cavity and cooling said pressed glass while maintaining said glass in said cavity for a period of time sufficient to at least partially set said glass in its pressed, shaped form and to permit the flattened sidewalls of the shaped glass to move inwardly by differential contraction relative to the mold side walls to separate said sidewalls from the complemental wall surfaces of said cavity a distance sufficient to permit the juxtaposed series of integral projections formed in said sidewalls of said face plate to clear the walls of said cavity, and removing said formed face plate from said cavity without said projections contacting the walls of said cavity.

3,264,081
MANUFACTURE OF FLAT GLASS
Lionel A. B. Pilkington, Rainhill, England, assignor to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain
Filed Mar. 26, 1962, Ser. No. 182,282
Claims priority, application Great Britain, Mar. 29, 1961, 11,587/61
2 Claims. (Cl. 65—99)



1. A method of manufacturing flat glass in ribbon form by delivering glass at a controlled rate to a bath of molten metal confined against longitudinal movement to establish a buoyant layer of molten glass on the bath, confining said buoyant layer of molten glass between surfaces extending longitudinally of the bath, the molten glass engaging said surfaces, advancing the buoyant layer along and relative to the surface of the bath, simultaneously advancing the confining surfaces with the glass along the bath at the same speed as the glass to maintain a uniform velocity across the whole width of the layer, and then cooling the layer sufficiently to enable it to be taken in ribbon form unharmed from the bath.

3,264,082
GLASS SHEET BENDING MOLD WITH HEAT ABSORBER
James S. Golightly, Fox Chapel, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 22, 1965, Ser. No. 451,691
The portion of the term of the patent subsequent to Aug. 24, 1982, has been disclaimed
4 Claims. (Cl. 65—288)



1. In a glass bending mold adapted to bend a glass sheet in a hot atmosphere to a complex shape including a transverse bend about an axis extending longitudinally of said sheet and comprising an outline shaping surface into conformity with which the glass sheet is to be bent, said shaping surface having a given length and width, a heat absorbing member having a dimension in a direction transverse of said outline less than the width of said outline shaping surface spaced from said shaping surface and positioned so as to face a surface of the glass sheet when supported on said shaping surface, said heat absorbing member comprising a relatively massive portion composed of air impervious material adjacent a portion of said outline shaping surface and a relatively light portion composed of a perforated material located beyond and immediately adjacent to a portion of the periphery of said relatively massive portion spaced from said portion of said outline shaping surface, said relatively light portion having a smaller effective surface area than that of a solid member of the same area and thickness by virtue

of its open mesh configuration, said outlying shaping surface comprising a pair of elongated shaping side rails, and said heat absorbing mass being adjacent a side rail of the mold.

3,264,083
PLANT GROWTH STIMULATING METHOD AND COMPOSITIONS

William Harris Davies, Blackley, Manchester, Roy Cotterell, Bracknell, and Dyfrig Gruffydd Morgan, Histon, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Oct. 4, 1961, Ser. No. 142,787
Claims priority, application Great Britain, Oct. 5, 1960, 34,130/60
4 Claims. (Cl. 71—2.3)

1. A plant growth stimulating composition which comprises, as an essential component, at least one compound of the formula:

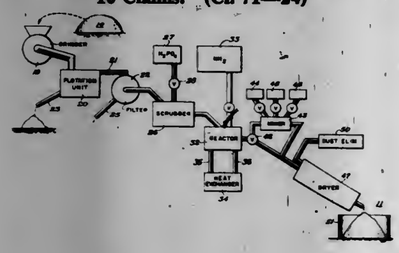
$$RO.CO.N(NO_2)\text{—}X\text{—}N(NO_2).CO.OR^1$$

wherein R and R^1 are selected from the group consisting of alkyl and cycloalkyl containing up to 11 carbon atoms each and X is selected from the group consisting of ethylene, trimethylene, propylene and tetramethylene, a plant growth regulant carrier for said compound and a surface active agent, said compound being present in an amount sufficient to effectively stimulate plant growth.

3,264,084
PRODUCTION OF A SOIL NUTRIENT IN A MINIMAL LIQUID ENVIRONMENT

John C. Karcher, Dallas, Tex., assignor to Concho Petroleum Company, Dallas, Tex., a corporation of Delaware

Filed Feb. 5, 1964, Ser. No. 342,678
10 Claims. (Cl. 71—24)



1. The method of producing a fertilizer from leonardite ore which comprises:
(a) grinding the ore substantially to reduce particle size,
(b) adjusting the moisture content of the ore of reduced particle size to a relatively dry state of the order of about 20 to 60 percent of the dry weight of the solids,
(c) scrubbing the ore with orthophosphoric acid to produce acids including humic acid and fulvic acid while maintaining said relatively dry state, and
(d) reacting said acids with ammonia in said relatively dry state to form ammonium humate and ammonium fulvate while agglomerating the same into pellets.

8. A system for producing a fertilizer from leonardite ore which comprises:
(a) a grinder for reducing the particle size of the ore for subsequent reaction of constituents therein,
(b) a separator flow-connected to said grinder having a liquid body therein to remove non-leonardite constituents,
(c) a filter for reducing the moisture content of the leonardite constituents issuing from the separator to the relatively dry state of about 20 to 60 percent of the dry weight of the solids,
(d) a scrubber for receiving the solids from said filter and having a source of orthophosphoric acid for treatment of said solids while maintaining said relatively dry state,
(e) a reactor for receiving the output from said scrubber and having a source of anhydrous ammonia and a heat exchanger for ammoniating said solids in said dry state while maintaining the temperature at a level not to exceed 90° C., and
(f) means for drying the ammoniated solids.

3,264,085
HIGH ANALYSIS AMMONIUM PYROPHOSPHATE PROCESS AND PRODUCT

Travis P. Hignett, Sheffield, and John G. Getsinger, Florence, Ala., assignors to Tennessee Valley Authority, a corporation of the United States

Filed Feb. 1, 1965, Ser. No. 429,687
2 Claims. (Cl. 71—34)

1. A process for the production of reagent grade ammonium pyrophosphate from anhydrous ammonia and highly concentrated phosphoric acid, which process comprises the steps of maintaining in a closed reaction vessel at a temperature in the range from about 300° F. to about 500° F. and under a constant positive pressure in the range from about 10 p.s.i.g. to about 1000 p.s.i.g. a mass of molten material of low viscosity previously formed by combining in said closed reaction vessel said anhydrous ammonia with said highly concentrated phosphoric acid, said highly concentrated phosphoric acid containing in the range from about 78 percent by weight P_2O_5 to about 80 percent by weight P_2O_5; continuously combining relatively small streams of said anhydrous ammonia and said highly concentrated phosphoric acid into said mass; continuously vigorously agitating said mass thereby keeping substantially the entire mass well agitated and effecting immediate ammoniation of said inflowing acid; withdrawing from the bottom of said mass surplus molten ammonium phosphate material; combining said withdrawn ammonium polyphosphate material with aqueous medium to form a slurry therewith; subsequently adjusting the pH of said slurry by the ammoniation thereof to a final pH in the range from 5.0 to 6.3 thereby effecting a recrystallization of the diammonium pyrophosphate phase to the triammonium pyrophosphate monohydrate in the form of easily filtrable crystals thereof; and separating said crystals of triammonium pyrophosphate monohydrate as product.

2. A new composition of matter containing a total plant food content ($N+P_2O_5$) in the range from about 78 percent to about 80 percent by weight and consisting essentially of a solid mixture of solid water-soluble salts containing about 14 percent to about 16 percent monoammonium orthophosphate, $NH_4H_2PO_4$; from about 76 percent to about 84 percent ammonium pyrophosphate, $(NH_4)_x(H_{4-x})P_2O_7$; and from about 2 percent to 8 percent of the more highly condensed acyclic ammonium polyphosphates in the group comprising ammonium tripolyphosphate through ammonium nonapolyphosphate.

3,264,086
SILICOPHOSPHATIC PRODUCT AND METHOD OF MAKING SAME

Clinton A. Hollingsworth, Lakeland, Fla., and Billy J. Phillips, Virginia Beach, Va., assignors, by mesne assignments, to The Borden Company, a corporation of New Jersey

No Drawing. Filed Aug. 9, 1963, Ser. No. 301,172
13 Claims. (Cl. 71—41)

1. Process for producing a stable, free flowing, relatively non-hygroscopic phosphatic composition of matter having high phosphate availability and a high phosphorus to alkaline earth metal weight ratio which comprises: reacting a phosphatic material composed predominantly of a solid solution of at least one silicophosphate selected from the group consisting of alkaline earth metal silicophosphates and alkaline earth metal-alkali metal silicophosphates with a quantity of phosphoric acid sufficient to form a reaction product having a phosphorus to alkaline earth metal (calculated as equivalent P/Ca) weight ratio of between about 0.7, 2.5 and containing up to 27% by weight phosphorus and capable of containing up to about 9% by weight free, acetone soluble) phosphoric acid, said phosphatic material having a phosphorus content of not more than about 18% P and being in the form of particles substantially all of which have a particle size of minus 10 mesh (Tyler Standard); drying the product of said reaction to obtain a phosphatic composition of matter containing not more than 5% by weight of moisture; and recovering said dry, free flowing, relatively non-hygroscopic composition of matter.

6. A stable, free-flowing, relatively non-hygroscopic silicophosphate-containing composition of matter having high phosphate availability, having a phosphorus to alkaline earth metal (calculated as equivalent P/Ca) weight ratio of between about 0.7 and 2.5, containing up to about 27% by weight of phosphorus and capable of containing up to about 9% by weight of free (acetone soluble) phosphoric acid, said composition of matter comprising the reaction product of phosphoric acid and a phosphatic raw material, said phosphatic raw material comprising predominantly at least one silicophosphate selected from the group consisting of alkaline earth metal silicophosphates and complex alkaline earth metal-alkali metal silicophosphates, the proportion of said phosphoric acid and phosphatic raw material being such that the reaction product thereof has the phosphorus to alkaline earth metal ratio and the phosphorus content herein set forth.

3,264,087
LIQUID FERTILIZER FROM BATCHWISE AMMONIATION OF WET-PROCESS PHOSPHORIC ACID

Archie V. Slack and Donald W. Rindt, Sheffield, Ala., assignors to Tennessee Valley Authority, a corporation of the United States

Filed June 24, 1963, Ser. No. 290,266
3 Claims. (Cl. 71—43)

1. In a process for the production of fertilizer from wet-process phosphoric acid and the batch ammoniation thereof comprising the steps of adjusting the concentration of said wet-process phosphoric acid to the range of about 20 to 28 percent P_2O_5; introducing ammonia into said acid; raising the temperature of the acid solution to about its boiling point before rapid precipitation of congeneric impurities in said wet-process phosphoric acid occurs; discontinuing introduction of ammonia when the pH of the resulting suspension is in the range from about 6.0 to 6.6; and separating the resulting easily separable precipitate from the solution without strong agitation, the improvement therein which comprises introducing said ammonia to said acid at a relatively high rate in the range from about 15 pounds to about 50 pounds of ammonia per hour per cubic foot of acid solution until the pH of said acid is about 2.8; subsequently introducing ammonia into said acid at a relatively low rate in a range from about 2 pounds to about 5 pounds per hour per cubic foot of acid solution until the pH of the acid reaches about 4.2, said introduction of ammonia at said relatively low rate causing the formation of a granular, easily separable precipitate, which precipitate is separated from said acid solution in a later-mentioned separation step; subsequently adding the remaining ammonia at a relatively high rate in the range from about 15 pounds to about 50 pounds of ammonia per hour per cubic foot of acid solution to said acid solution during the final adjustment of pH from about 4.2 to the range of about 6.0 to 6.6; and subsequently separating the resulting granular, easily separable precipitate from said acid solution, said solution, after removal of said precipitate, being the clear liquid fertilizer product.

3,264,088
SLOW RELEASE FERTILIZER GRANULE HAVING A PLURALITY OF EPOXY RESIN COATINGS

Louis I. Hansen, Minneapolis, Minn., assignor to Archer-Daniels-Midland Company, Minneapolis, Minn., a corporation of Delaware

No Drawing. Filed Dec. 8, 1965, Ser. No. 512,524
7 Claims. (Cl. 71—64)

1. A coated fertilizer comprising:
(a) a core of granular fertilizer containing at least one water soluble plant nutrient;
(b) a plurality of cured coatings of epoxy resin surrounding said core, said epoxy resin having terminal epoxide groups before curing; and
(c) the total weight of coatings being from 2 to 20% based on the weight of the core.

3,264,089
SLOW RELEASE FERTILIZER GRANULE HAVING A PLURALITY OF URETHANE RESIN COATINGS

Louis I. Hansen, Minneapolis, Minn., assignor to Archer-Daniels-Midland Company, Minneapolis, Minn., a corporation of Delaware

No Drawing. Filed Dec. 10, 1965, Ser. No. 513,071
8 Claims. (Cl. 71—64)

1. A coated fertilizer comprising:
(a) a core of granular fertilizer containing at least one water-soluble plant nutrient;
(b) a plurality of cured coatings of urethane resin surrounding said core; and
(c) the total weight of coatings being from 2 to 20% based on the weight of the core.

3,264,090
METHOD OF FORMING NON-FRANGIBLE METALLURGICAL BRIQUETTES

Edwin H. Swartz, P.O. Box 1033, Sanford, N.C.

No Drawing. Filed Apr. 26, 1965, Ser. No. 451,035
11 Claims. (Cl. 75—3)

1. A method for preparing a briquette from particulate material comprising the steps of: mixing said particulate material with a binder in an inactive state; compressing the mixture of particulate material and inactive binder into a coherent mass; submerging said coherent mass within a liquid for activating said binder; introducing an accelerating material for contact with the liquid and the binder when submerged therein to regulate the rate at which the binder is activated; withdrawing said coherent mass from the liquid as soon as the binder within an outer portion of the coherent mass is activated; and curing the binder activated to form a protective crust rendering the mass non-frangible.

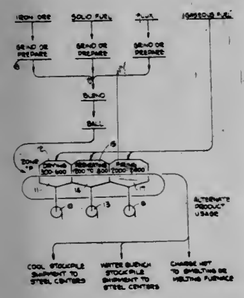
3,264,091
PROCESS FOR PRODUCING HIGHLY METALLIZED PELLETS

Thomas E. Ban, Cleveland Heights, Ohio, assignor to McDowell-Wellman Engineering Company, Cleveland, Ohio, a corporation of Ohio

Filed June 20, 1963, Ser. No. 289,221
7 Claims. (Cl. 75—5)

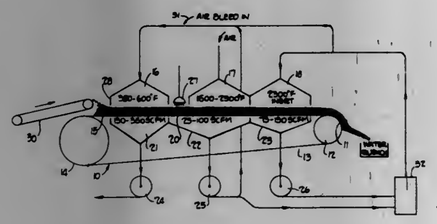
1. A process for making highly metallized pellets, comprising the steps of:
(a) forming a mixture of fines of iron ore, a carbonaceous material, and a fluxing material, the carbonaceous material containing available carbon in amount sufficient to reduce 100% of the iron oxide in said ore to free metal,

(b) forming moistened pellets of said mixture having an average diameter of about −1.5 inch, +⅜ inch,
(c) charging said moistened pellets on an endless conveyor at a depth of from 3 to 20 inches, to form a burden of moist pellets,
(d) drying said burden by passing substantially neutral gases ranging in temperature from 300° F. to 600° F. through the burden,
(e) heating said burden by passing preheated, non-reactive gases containing not more than 15% of



oxygen, by weight, through the burden to raise its temperature to between 1000° F., and 2000° F. and
(f) subsequently heat-soaking and metallizing said burden by passing non-reactive gases containing not more than 15% of oxygen, by weight, through the burden to raise its temperature to a maximum of 2400° F., for a period of time sufficient to reduce from 60% to no more than 90% of the chemically-combined iron in said mixture to metallic iron and form metallized pellets.

3,264,092
SYSTEM FOR PRODUCING CARBONIZED AND METALLIZED IRON ORE PELLETS
Thomas E. Ban, Cleveland Heights, Ohio, assignor to McDowell-Wellman Engineering Company, Cleveland, Ohio, a corporation of Ohio
Filed June 20, 1963, Ser. No. 289,223
4 Claims. (Cl. 75—5)

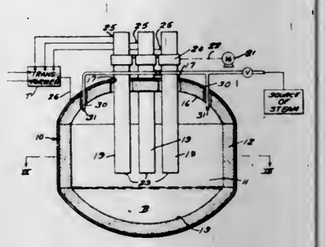


1. The process of making discrete metallized pellets which includes the steps of:
(a) forming a mixture of fines of iron oxide, a carbonaceous material, and a fluxing material, the carbonaceous material containing carbon in amount sufficient to reduce 100% of the iron oxide to free metal,
(b) forming moistened pellets of said mixture having an average diameter of about −1.5, +⅜ inch,
(c) charging said moistened pellets to an endless conveyor at a depth of from 3 to 20 inches, to form a bed of moist pellets,
(d) drying said bed gases by passing preheated gases therethrough at a temperature of from about 300° F. to about 600° F.,
(e) heating said bed by passing oxidizing gas therethrough to raise the temperature of said bed to between 1000° F. and 2000° F., and
(f) subsequently heat soaking and metallizing said bed by passing non-reactive gases containing not more than 5% of oxygen by weight, through the burden to raise its temperature to a maximum of about 2400° F. for a period of time sufficient to reduce from 60% to no more than about 90% of the chemically combined iron in said mixture to metallic iron.

3,264,093
METHOD FOR THE PRODUCTION OF ALLOYS
Cord H. Sump, Chattanooga, Tenn., assignor, by mesne assignments, to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed June 24, 1963, Ser. No. 290,214
7 Claims. (Cl. 75—10)

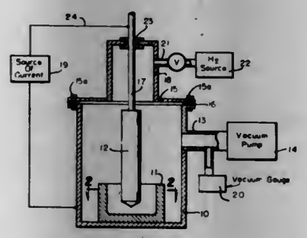
1. A method of manufacturing an alloy which comprises fusing a reducible rare earth compound with a member selected from the group consisting of silicon and silicon-containing materials in the presence of at least about 3% by weight of silica sufficient to protect the operating equipment from attack by the rare earth metals, the fusion being carried out in an electric arc furnace using a graphite crucible and graphite electrode.

3,264,094
METHOD AND MEANS FOR MELTING METAL AND INCREASING THE LIFE OF THE REFRACTORY LINING OF A MELTING VESSEL
Charles G. Robinson, Sterling, Ill., assignor to Northwestern Steel & Wire Company, Sterling, Ill., a corporation of Illinois
Filed Mar. 23, 1964, Ser. No. 353,879
6 Claims. (Cl. 75—11)



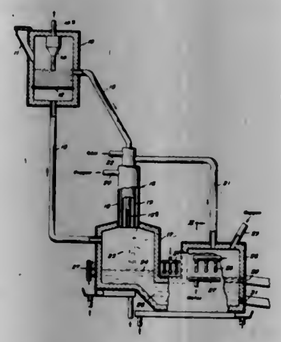
1. In a method of melting ferrous metals in a direct arc three phase electric melting vessel having a refractory lined wall and having three equally spaced delta arranged electrodes spaced equal distances inwardly from the refractory lined wall of the vessel and creating hot spot regions along the refractory lined wall of the vessel in general radial alignment with electrodes, in which a ferrous charge is melted to produce a molten bath by the propagated heat attained by the high density arcs between the electrodes and the charge in the vessel, the improvements comprising the steps of:
protecting the refractory lined wall of the vessel by creating and maintaining steam blankets within the vessel in each hot spot region in the vessel and holding the heat downwardly by the steam blankets and breaking up the normal gas flow patterns by the steam force and absorbing and diffusing some of the heat energy by the steam blankets to effect a temperature drop along the side wall of the vessel.

3,264,095
METHOD AND APPARATUS FOR MELTING OF METALS TO OBTAIN UTMOST PURITY
Friedrich W. Ackermann, Cherry Hill, N.J., assignor to Magnetic Metals Company, Camden, N.J., a corporation of New Jersey
Filed Oct. 29, 1962, Ser. No. 233,535
3 Claims. (Cl. 75—12)



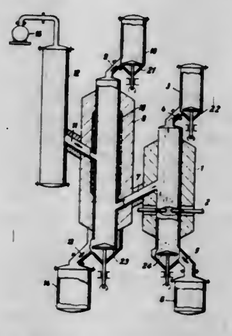
1. The method of purifying a magnetic metal to reduce to a minimum its impurities particularly metallic oxides and thereby increase its permeability to a maximum comprising the steps of, forming an elongate electrode of the metal to be purified, melting said electrode at a temperature of at least 4000° F. in a reducing atmosphere of hydrogen and with a pressure of about five to fifteen microns, and freezing the molten metal in a crucible.

3,264,096
METHOD OF SMELTING IRON ORE
Jagdish Chandra Agarwal, Penn Hills Township, Allegheny County, and William Landon Davis, Jr., Monroeville Borough, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Dec. 19, 1963, Ser. No. 331,830
6 Claims. (Cl. 75—40)



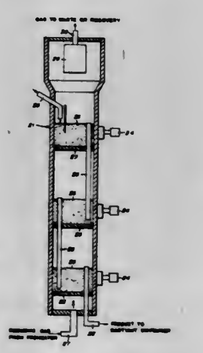
1. In a method of smelting iron ore, the steps comprising firing an oxy-fuel flame into a melting chamber, introducing ore and flux in a size range generally less than ¼", into said flame in the direction thereof and collecting molten material therebelow draining the molten material to a separate reducing chamber, introducing a granular, solid carbonaceous reductant into said reducing chamber below the surface of the molten contents thereof, introducing oxygen into the reducing chamber thereby maintaining an oxidizing condition above said surface and, after separation of molten slag and molten metal, tapping them separately.

3,264,097
METHOD FOR PRODUCING MAGNESIUM
Paul Weiss, Bonn, Germany, assignor to Vereinigte Aluminium-Werke A.G., Bonn, Germany
Filed Feb. 27, 1963, Ser. No. 261,387
Claims priority, application Germany, Feb. 28, 1962, V 22,106
12 Claims. (Cl. 75—67)



1. A method of producing magnesium, comprising the steps of subjecting calcium carbide to a temperature sufficiently high to decompose said calcium carbide under formation of calcium vapor; contacting magnesium oxide-containing material with the thus-formed calcium vapor at a temperature sufficiently high to react said calcium vapor with said magnesium oxide under formation of magnesium vapor; substantially separating the thus-formed magnesium vapor from the reaction mixture; and condensing said separated magnesium vapor.

3,264,098
FLUIDIZED BED PROCESS FOR THE PRODUCTION OF MOLYBDENUM
Herman R. Heytmeijer, Belleville, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 19, 1963, Ser. No. 302,940
8 Claims. (Cl. 75—84)



1. The process of producing free-flowing, finely divided molybdenum metal from a starting finely divided molybdenum compound of one of the group consisting of molybdenum oxide and ammonium paramolybdate, which process comprises:
(a) placing said finely divided molybdenum compound into a reaction chamber;

(b) forcing a reducing gas heated to a first predetermined temperature, sufficient to reduce said starting molybdenum compound to molybdenum dioxide, into said reaction chamber and upwardly through said finely divided molybdenum compound and simultaneously vibrating said reaction chamber to cause said finely divided molybdenum compound to assume a fluidized status of constant agitation;

(c) continuing to force said heated reducing gas upwardly through said finely divided molybdenum compound as maintained in a fluidized status of constant agitation until said starting molybdenum compound has been reduced to finely divided molybdenum dioxide;

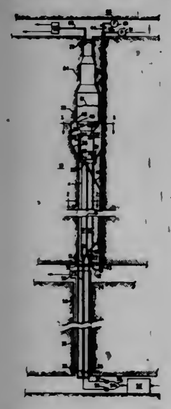
(d) forcing a reducing gas heated to a second predetermined temperature, sufficient to reduce said molybdenum dioxide to molybdenum metal, into said reaction chamber and upwardly through said finely divided molybdenum dioxide and simultaneously vibrating said reaction chamber to cause said finely divided molybdenum dioxide to assume a fluidized status of constant agitation; and

(e) continuing to force said reducing gas heated to said second predetermined temperature upwardly through said finely divided molybdenum dioxide as maintained in a fluidized status of constant agitation until said molybdenum dioxide has been reduced to free-flowing, finely divided molybdenum metal.

3,264,099
HYDRO-METALLURGICAL METHOD AND APPARATUS

Paul H. Johnson, Salt Lake City, Utah, assignor to Howard E. Johnson & Associates, Oakland, Calif., a partnership

Filed Jan. 28, 1964, Ser. No. 340,646
16 Claims. (Cl. 75—101)



1. Apparatus for leaching metal bearing material to recover metal values comprising,

a substantially vertical elongated reaction vessel capable of withstanding high temperatures and pressures,

a substantially vertical partition within said vessel, said partition extending upwardly from the bottom of said vessel and terminating at a point below the top of said vessel, said partition serving to divide the lower portion of said vessel into at least two separate sections,

means for introducing a slurry of particles of said metal bearing material into said vessel,

means in the bottom part of said vessel for introducing a mixture of gas and liquid leaching agents and for directing said mixture upwardly through said slurry in said vessel to agitate, to leach and to lift up said particles in said vessel,

means above the partitioned section of said vessel for separating said particles from said liquid leaching agents, after said liquid has passed upwardly through said slurry, thus producing a clarified pregnant leaching liquid,

means for recirculating said clarified pregnant leaching liquid upwardly through said slurry in said vessel,

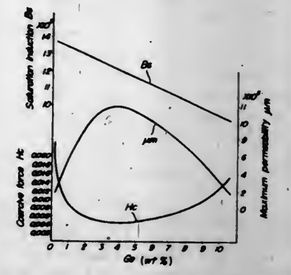
means for withdrawing said slurry from said vessel after leaching of said particles,

and means for venting excess gas from said vessel.

3,264,100
MAGNETIC MATERIALS WITH HIGH PERMEABILITY

Yukio Ichinose and Ichiro Fukumoto, Tokyo, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Nov. 1, 1963, Ser. No. 320,714
Claims priority, application Japan, Nov. 7, 1962, 37/48,745
2 Claims. (Cl. 75—123)



1. A soft magnetic material of the Ni-Fe alloy type consisting essentially of 40 to 90% by weight of nickel, 0.1 to 10% by weight of germanium and the balance essentially iron.

3,264,101
METHOD OF MANUFACTURING SINTERED MATERIALS

Yoshiaki Takeya, Kodaira-shi, and Mikio Hirano and Nobuhiro Hara, Tokyo, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Aug. 13, 1963, Ser. No. 301,793
Claims priority, application Japan, Aug. 18, 1962, 37/35,772
4 Claims. (Cl. 75—204)

1. A process for manufacturing molybdenum, tungsten and tungsten carbide sintered materials which comprises mixing an element selected from the group consisting of zinc, cadmium and mixtures thereof with a sinterable material consisting essentially of one of the substances molybdenum, tungsten and tungsten carbide, pressing the resultant mixture into a compact, heating said compact to a temperature above the melting point of said element but below the boiling point thereof, and then further heating the compact to a temperature above the boiling point of said element until the content of said element is essentially reduced to zero.

3,264,102
METHOD OF SINTERING

David M. Scruggs, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed Mar. 23, 1962, Ser. No. 182,073
8 Claims. (Cl. 75—212)

1. An improved method of sintering finely divided metals, said method comprising: determining the vapor pressure of the metal at the sintering temperature, selecting a metal oxide that does not melt at the sintering temperature of the metal; forming a porous coating on the metal to be sintered with said metal oxide, and sintering the metal in a vacuum whose absolute pressure is below the vapor pressure of the metal.

3,264,103
PHOTOPOLYMERIZABLE RELIEF PRINTING PLATES DEVELOPED BY DRY THERMAL TRANSFER

Abraham Bernard Cohen, Springfield, and Vincent Joseph Webers, Red Bank, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 27, 1962, Ser. No. 205,566
6 Claims. (Cl. 96—28)

1. A process for preparing a relief printing plate which comprises: (1) exposing to actinic radiation through an image-bearing transparency, a solid photopolymerizable thermoplastic stratum, of at least about 0.001 inch in thickness, attached to a support; (2) heating said stratum to a temperature between the flow temperatures of the exposed and the underexposed stratum materials; and (3) pressing a porous matrix into contact with said heated stratum to transfer at least about 80% of the molten unexposed material by absorption and leaving a relief image on said support, said matrix having at least a 0.002 inch thickness and having at its surface a maximum pore size of about 0.003 inch.

3,264,104
REVERSAL-DEVELOPMENT PROCESS FOR REPRODUCTION COATINGS CONTAINING DIAZO COMPOUNDS

Maximilian Karl Reichel, Wiesbaden-Biebrich, Germany, assignor, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J.

No Drawing. Filed July 25, 1962, Ser. No. 212,437
Claims priority, application Germany, July 28, 1961, K 44,366
12 Claims. (Cl. 96—33)

1. A reversal-development process which comprises exposing to a light image a supported layer comprising at least one naphthoquinone-(1,2)-diazide compound and at least one film-forming thermoplastic material of high molecular weight selected from the group consisting of water-insoluble cellulose ethers, polyvinyl esters, and polyvinyl acetals, treating the exposed layer with a member of the group consisting of water and an alkaline solution, exposing the entire layer to light, and treating the exposed layer with an alkaline developer, whereby those portions thereof which were not struck by light during the first exposure are removed.

3,264,105
METHOD OF USING A MASTER ART DRAWING TO PRODUCE A TWO-SIDED PRINTED CIRCUIT BOARD

Fred W. Houtz, Jr., Greensboro, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed May 31, 1962, Ser. No. 199,575
5 Claims. (Cl. 96—36.2)

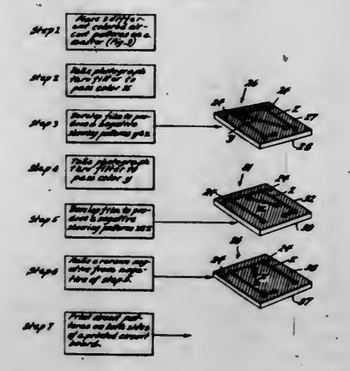
1. A method for photographically reproducing circuit patterns on a two-sided printed circuit board wherein the circuits on both sides are accurately aligned with respect to each other, comprising the following steps:

applying a first translucent pattern of a first color onto a translucent master in accordance with a common circuit pattern desired to be produced on both sides of the printed circuit board;

applying a second translucent pattern of a second color onto the master in accordance with a circuit pattern desired to be produced only on a first side of the printed circuit board;

applying a third translucent pattern of a third color onto the master in accordance with a circuit pattern desired to be produced only on the second side of the printed circuit board;

exposing a first photosensitive photographic film to light passing through the master, the patterns, and a first color filter which precludes light of the first and third colors;

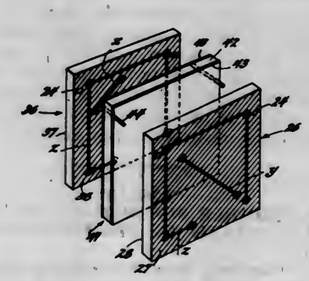


developing the first film to produce a first negative having an image representative of the first and third patterns desired for the second side of the printed circuit board;

exposing a second photosensitive photographic film to light passing through the master, the patterns, and a second color filter which precludes light of the first and second colors;

developing the second film to produce a second negative having an image representative of the first and second patterns desired for the first side of the printed circuit board;

placing the first and second negatives in alignment on opposite sides of a board which have metal surface layers covered by a photosensitive emulsion;



exposing the emulsion coated sides of the board to light passing through the respective first and second negatives; and

developing and etching the exposed board to produce a two-sided printed circuit board.

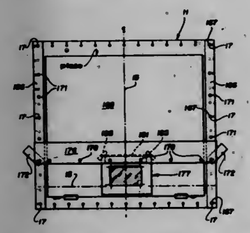
3. The method as defined in claim 1 which includes the following step:

photographically reproducing the first negative to produce a reverse negative depicting the total circuit pat-

tern in a developed emulsion which is on the opposite side of the reverse negative with respect to the emulsion side on the first negative; and

in which the second and the reverse negatives are placed in alignment on opposite sides of the board prior to exposing, developing, and etching the board.

3,264,106
PIN REGISTRATION BOARD AND METHOD
Harold H. Alldis, 3066 Stelling Drive, Palo Alto, Calif.
Filed Nov. 13, 1961, Ser. No. 151,839
4 Claims. (Cl. 96—41)



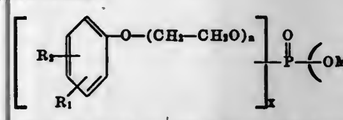
1. In a method for preparing a photosensitive plate with multiple exposures thereon utilizing a substantially transparent, dimensionally stable mask forming a registration member having precisely positioned holes with a predetermined spacing between the same, adjacent opposite side edges of the member, a plurality of pins, a mask having an image carried thereby, and a pair of mask control strips, placing the photosensitive plate on the member and securing the same thereto, placing pins in the holes in the member so that there is a uniform predetermined spacing between the pins, placing at least a pair of spaced holes in each mask control strip, the spacing between the holes on each of the mask control strips being identical but being different from the spacing between the pins in the registration member, securing the mask control strips at spaced points on the mask so that the mask control strips can be positioned so that one of the pins on each of the said two sides of the member extends through one of the holes in one of the mask control strips whereby the mask control strips are retained by pins to precisely position the mask and the image carried thereby, successively positioning the mask bearing the image to be reproduced on the plate upon successive pins of the registration member utilizing successive holes of the mask control strips, and exposing the plate to the image after each step of the mask.

3,264,107
BATHS SUITABLE FOR REHALOGENATING METALLIC SILVER IN PHOTOGRAPHIC MATERIALS
René von Wartburg, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed Aug. 29, 1962, Ser. No. 220,156
Claims priority, application Switzerland, Sept. 8, 1961, 10,465/61
10 Claims. (Cl. 96—60)

1. A bath suitable for rehalogenating metallic silver in a photographic material, which bath is substantially free from alkali metal ions and sulfate ions and which comprises a cupric salt, a hydrohalic acid and a water soluble aliphatic carboxylic acid composed exclusively of carbon, hydrogen and oxygen.

3,264,108
ANTISTATIC PHOTOGRAPHIC FILM
E. Scudder Mackey and Aaron Ben-Ezra, Binghamton, N.Y., and Fred E. Woodward, Watchung, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 19, 1963, Ser. No. 266,175
4 Claims. (Cl. 96—85)

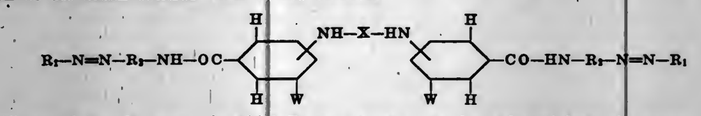
1. A photographic material comprising a support carrying a photographic silver halide emulsion layer and an anti-static layer comprising a salt of a phosphate ester having the formula:



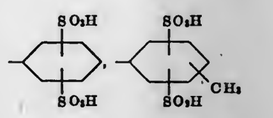
wherein R_1 represents an alkyl group of from 4 to 27 carbon atoms; R_2 is a member of the group consisting of hydrogen and an alkyl group of from 4 to 27 carbon atoms; M represents a radical derived from a salt-forming compound; n represents the degree of oxyethylation ranging from 1 to 40; x and y are positive integers ranging from 1 to 2, x being 2 when y is 1 and y being 2 when x is 1.

3,264,109
PHOTOGRAPHIC MATERIALS FOR THE SILVER DYESTUFF BLEACHING PROCESS
Walter Anderau, Aesch, Basel-Land, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed Oct. 25, 1962, Ser. No. 233,154
Claims priority, application Switzerland, Nov. 2, 1961, 12,705/61
5 Claims. (Cl. 96—99)

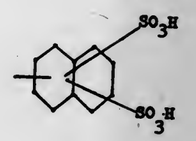
1. Photographic material suitable for use in the silver dyestuff bleaching process, which contains on a support a gelatine silver halide layer containing at least one dyestuff of the formula

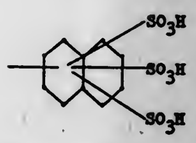


in which R_1 represents a member selected from the group consisting of the radicals of the formulae



and





R_2 represents a benzene radical bound to the —N=N— group and —NH— group in para-position, W represents a member selected from the group consisting of a hydrogen atom and a methyl group and X represents a member selected from the group consisting of the radicals of the formulae

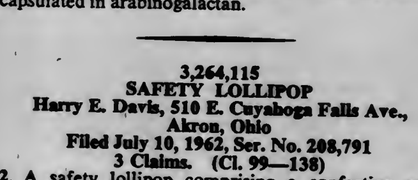


and

salts thereof, said additive being present in an amount within the range of 0.01% to 0.1% based upon the weight of the feedstuff.

3,264,112
COMPOSITION FOR STIMULATING GROWTH OF DOMESTIC ANIMALS
Yutaka Kodama, Toyama-shi, Toyama, Tsutao Fujiwara, Tokyo, and Tatsumi Inagaki, Toyama-shi, Toyama, Japan, assignors to Toyama Kagaku Kogyo Kabushiki Kaisha, Chuoku, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Jan. 24, 1963, Ser. No. 253,763
5 Claims. (Cl. 99—2)

1. An animal feed for young domestic animals containing from 5 to 500 p.p.m. of a compound having the formula:



in which R_1 is selected from a group consisting of hydrogen, lower alkyl and halogen, R_2 is selected from a group consisting of hydrogen and lower alkyl, X is selected from the group consisting of a mono-, di- and tribasic acid, and n is a member of the group consisting of 1, 2, and 3 with the proviso that when X is monobasic n is 1; when X is dibasic n is selected from the group consisting of 1 and 2 when X is tribasic n is selected from the group consisting of 1, 2 and 3.

3,264,113
METHODS OF PEELING WHEAT
Edward J. Barta, Albany, and Paul W. Kilpatrick and Arthur I. Morgan, Jr., Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture
Filed Jan. 8, 1964, Ser. No. 336,603
9 Claims. (Cl. 99—80)

8. A process for peeling wheat which comprises contacting the wheat with hot aqueous sodium hydroxide in a concentration of about 15 to 25% to loosen the bran on the wheat kernels, washing the treated wheat, pumping a slurry of the treated wheat and water through a constriction providing a zone of turbulent flow to strip the loosened bran from the wheat kernels while retaining the aleurone layer thereon, and separating the stripped bran and water from the wheat kernels.

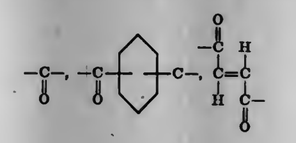
3,264,114
GELATIN-TYPE JELLY DESSERT MIX
Martin Glicksman, Valley Cottage, N.Y., and Ralph E. Schachat, Bloomfield, Conn., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Filed July 12, 1963, Ser. No. 294,735
1 Claim. (Cl. 99—130)

A gelatin-type jelly dessert mix containing gelatin, sugar, fruit acid, color and flavor, said flavor comprising a normally liquid, volatile, and unstable flavoring material encapsulated in arabinogalactan.

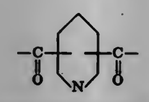
3,264,115
SAFETY LOLLIPOP
Harry E. Davis, 510 E. Cuyahoga Falls Ave., Akron, Ohio
Filed July 10, 1962, Ser. No. 208,791
3 Claims. (Cl. 99—138)

2. A safety lollipop comprising a confection and a hollow tubular handle of plastic material, said handle

selected from the group consisting of the radicals of the formulae

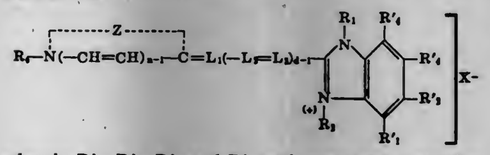


and



3,264,110
POLYMETHINE DYES
Henri Depoorter, Marcel Jan Libeer, Gerrit Godfried van Mierlo, and Jean Marie Nys, all of Mortsel-Antwerp, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a Belgian company
No Drawing. Continuation of abandoned application Ser. No. 62,107, Oct. 12, 1960. This application Jan. 30, 1964, Ser. No. 341,445
Claims priority, application Great Britain, Oct. 13, 1959, 34,641/59
12 Claims. (Cl. 96—106)

1. A light-sensitive silver halide photographic emulsion containing as a sensitizing dye a cyanine dye salt having the formula:

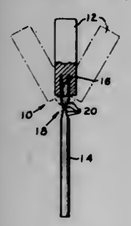


wherein R'_1, R'_2, R'_3 and R'_4 each represents a member selected from the group consisting of a hydorgen atom, a chlorine atom, a bromine atom, a fluorine atom and a cyano group, at least one of R'_1, R'_2, R'_3 and R'_4 being a member selected from the group consisting of a fluorine atom and a cyano group; R_1, R_3 and R_4 each represents a member of the group consisting of alkyl, phenyl, carboxyphenyl and cyclohexyl; L_1, L_2 and L_3 each represents a methine group; n represents a positive integer from 1 to 2; d represents a positive integer from 1 to 4; Z represents the non-metallic atoms necessary to complete a nitrogenus heterocyclic nucleus selected from the group consisting of a thiazole nucleus, a benzothiazole nucleus, a naphthothiazole nucleus, a thionaphthenothiazole, an oxazole nucleus, a benzoxazole nucleus, naphthoxazole nucleus, selenazole nucleus, benzoselenazole nucleus, naphthoselenazole nucleus, thiazoline nucleus, thiazolidine nucleus, oxazoline nucleus, oxazolidine nucleus, selenazoline nucleus, quinoline nucleus, isoquinoline nucleus, dialkylindolenine nucleus, pyridine nucleus and benzimidazole nucleus; and X represents an acid radical of the type used in cyanine dyes.

3,264,111
DIAMINO DIPHENYL ARSINIC ACID FEED COMPOSITION AND METHOD FOR ACCELERATING GROWTH
James Ross Wiley and Timothy Scott Chang, Myerstown, Pa., assignors, by mesne assignments, to Whitmoyer Laboratories, Inc., a corporation of Delaware
No Drawing. Filed Dec. 10, 1962, Ser. No. 243,604
10 Claims. (Cl. 99—2)

1. An animal feedstuff for accelerating the growth of poultry and swine which compriess a feedstuff, nutritionally adequate per se having incorporated therein as a growth-promoting additive, a compound selected from the class consisting of diamino diphenyl arsinic acid and the

having a continuous outer surface throughout its length, one end of said handle being embedded in the confection, and said handle having a weakened, flattened and corrugated area below the confection, said area including a plurality of parallel corrugations on opposed walls of



the handle arranged in a direction transverse to the axis of the handle, said area having a width in excess of the diameter of the handle and a thickness less than said diameter said weakened area enabling bending of the handle upon the application of a relatively slight endwise pressure to the lollipop.

3,264,116
PROCESS FOR PREPARING DRY FLAVORING MATERIALS FROM CRUSTACEANS

Robert D. Gray, 6 Clarendon St., Gloucester, Mass.

No Drawing. Filed Nov. 3, 1964, Ser. No. 408,687
4 Claims. (Cl. 99—140)

1. A process for conversion of by-products into food flavoring materials suitable for human consumption which comprises the steps of cooking an edible crustacean, separating at least a portion of the edible meat portion therefrom, separating and discarding inedible parts, wet milling the remaining portion including shells to yield at least a 5% solids slurry of particles in the size of 10 to 100μ, acidifying the resulting slurry to a pH in the range of 4.5 to 8.0 by addition of a food grade acid, and spray drying the resulting acidified slurry to yield a dry, particulate edible food material.

3,264,117
FREE-FLOWING, NON-CAKING BROWN SUGAR

Charles P. Graham, Hicksville, and Augustino S. Agate, Ozone Park, N.Y., assignors to American Sugar Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 17, 1963, Ser. No. 317,082
12 Claims. (Cl. 99—141)

1. A free-flowing, non-caking brown sugar consisting essentially of about 2% by weight of a polyol selected from the group consisting of glycerol and propylene glycol and from about 0.5–2% by weight of an additive selected from the group consisting of cellulose crystallite aggregates, alginates, hydrated aluminum silicates, glycerol monostearate and methylcellulose, the remainder being brown sugar, said free-flowing, non-caking brown sugar having been prepared by first adding and mixing said additive to granulated brown sugar followed by adding to the admixture said polyol and blending the resulting admixture.

3,264,118
PROCESS FOR THE TREATMENT AND PRESERVATION OF GRAIN QUALITY DURING STORAGE

Jack W. Kilcrease, 1621 Lipscomb St., and Samuel A. Thomas, Jr., 1504 Bowie St., both of Amarillo, Tex., and Dooley Doone Whitlow, P.O. Box 398, Happy, Tex.

Filed Dec. 17, 1962, Ser. No. 245,016
7 Claims. (Cl. 99—153)

1. A process of storing in a bin a mass of grain, said mass comprising grain and interseed spaces between said grain, and said grain having an initial temperature of between 85° F. and 107° F. and a water content between 14% and 20% by weight and having a seed coat and an endosperm therein, said seed coat having a micropyle and being relatively imperivous to moisture, said seed coat having a substantial oil content and said endosperm having a smaller oil content, said process comprising a first step of gelling the constituents of the micropyle zone to a substantially water-impervious mass by rapidly cooling and removing water from said grain in from one to three days by passing into said mass air having a temperature of between 30° F. and 70° F. and, respectively, relative humidities of between 100 and 60 percent and so removing water from said grain at an initial rate of from three to five gallons per hour per 1,000 bushels of said grain during the first ten hours of said process, said air being passed thereinto at the rate of from 0.5 to 0.05 cubic feet per minute per bushel, while reducing the average temperature of all the grain to below 55° F. in 72 hours, thereafter maintaining the temperature of the grain below 50° F. for at least 100 days while removing less than 0.75% moisture therefrom per 90 days of storage.

3,264,119
METHOD OF FORMING A CITRUS FRUIT SHELL CONTAINER

Hubert A. McIlvaine, 418 Austin St., Geneva, Ill.

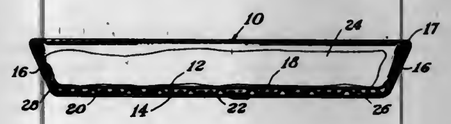
Filed Jan. 4, 1963, Ser. No. 249,468
2 Claims. (Cl. 99—171)

1. A method of forming a food container from the shell of citrus fruit comprising cooking the shell in a sugar solution to an extent that will conserve the fruit, thereafter introducing the shell into a mold and expanding the shell in the mold to conform thereto.

3,264,120
MEAT PACKAGE

Robert F. Westcott, Findlay, Ohio, assignor to Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed May 1, 1963, Ser. No. 277,181
5 Claims. (Cl. 99—174)



1. A meat package comprising a piece of meat which exudes excess quantities of fluid, a plastic tray containing said meat and permitting recovery of said fluid, said tray having a bottom wall, a side wall extending upwardly about the periphery of said bottom wall, said bottom wall comprising substantially non-liquid absorbing upper and lower layers, said upper and lower layers being spaced from one another, non-fluid absorbing indentation means extending from said lower layer towards and supporting said upper layer and of a height sufficient to form in said bottom wall a void-like reservoir means containing the entire amount of said excess quantities of fluid, perforations extending through said upper layer, a plurality of said perforations communicating with the aforementioned reservoir means whereby said fluid can flow into said reservoir means and air in said reservoir means can be utilized.

3,264,121
PRODUCTION OF DEHYDRATED MEAT AND VEGETABLE SALADS

Justin M. Tuomy, Framingham, Mass., and Raymond G. Young, Chicago, Ill., assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Nov. 6, 1963, Ser. No. 321,980
2 Claims. (Cl. 99—204)

1. Process of preparing a dehydrated salad product comprising mixing an emulsion type food dressing selected from the group consisting of mayonnaise and salad dressing with an edible material selected from the group consisting of meat, vegetable, and a mixture of meat and vegetable to form a salad mixture, said edible material being subdivided, said meat being precooked and said vegetable having been heated sufficiently at last to inactivate the enzymes therein, said emulsion type food dressing comprising from about 4% to about 20% by weight of said salad mixture, freezing said salad mixture, and vacuum-dehydrating said salad mixture in its frozen state to a moisture content not exceeding about 6% by weight; whereby a readily rehydratable storage-stable salad product is obtained, which is rehydratable with cold water to produce a rehydrated salad comprising said food dressing in emulsified form capable of being eaten without being cooked after rehydration and having substantially the consistency and flavor of said salad mixture prior to dehydration.

3,264,122
INSULATING COATING COMPOSITIONS FOR ELECTRICAL CONDUCTORS

John A. Earl, Alhambra, Calif., assignor, by mesne assignments, to Physical Sciences Corporation, a corporation of California

Filed Aug. 22, 1960, Ser. No. 51,071
9 Claims. (Cl. 106—49)

1. A ceramic frit, of the type comprising glass and enamel for coating metallic wire to provide electrical insulation for the wire where the electrical insulation has a value of approximately 1×10^{14} ohms at a temperature of approximately 70° F. and a value of approximately 4×10^{7} ohms at a temperature approximately 1000° F., the frit consisting of: the oxide of silicon having a weight of approximately 10%, the oxide of bismuth having a weight of approximately 6% to provide a low thermonuclear capture effect, the oxide of lead having a weight of approximately 81.3%, the oxide of cerium having a weight of approximately 2%, and the oxide of aluminum having a weight of approximately 0.7%.

2. An electrically insulating, low-thermoneutron-capture wire coating composition, of the type comprising glass and enamel, where the electrical insulation approaches approximately 1×10^{14} ohms at a temperature of approximately 70° F. and approaches approximately 4×10^{7} ohms at a temperature of approximately 1000° F., the coating composition consisting of: a frit of lead oxide about 70 to 76 parts by weight, silicon dioxide about 10 to 14 parts by weight, bismuth trioxide about 6 to 14 parts by weight, and from 4 to 6 parts by weight of at least one of the oxides of barium, lanthanum, magnesium, calcium, zinc, strontium and beryllium.

3,264,123
FUSED CAST REFRACTORY

Allen M. Alper, Corning, and Robert N. McNally, Horseheads, N.Y., assignors to Corhart Refractories Company, Louisville, Ky., a corporation of Delaware

No Drawing. Filed June 7, 1962, Ser. No. 200,653
6 Claims. (Cl. 106—65)

1. A fused cast refractory article composed of a fused mixture consisting essentially of, analytically in weight percent, 0.05% to 2% fluorine, 1.5% to 25% SiO_2 and at least 92% total of fluorine plus SiO_2 plus Al_2O_3.

3,264,124
PRODUCTION OF ULTRA-FINE ALPHA ALUMINA AND SUCH ALPHA ALUMINA

William B. Lauder and Raymond L. Copson, Syracuse, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Nov. 21, 1963, Ser. No. 325,412
8 Claims. (Cl. 106—65)

5. The process of producing alpha alumina which comprises reacting aluminum chloride in the vapor phase under anhydrous conditions with nitrogen dioxide at a temperature within the range of from 175° to 500° C. in at least about the stoichiometric proportions for the reaction between the aluminum chloride and nitrogen dioxide to form aluminum oxide, separating the solid reaction product consisting essentially of a mixture of aluminum oxide and aluminum oxychloride from the gaseous reaction products, and heating the separated solid reaction product to a temperature of at least about 1100° C. to produce alpha alumina.

8. The alpha alumina produced by the process of claim 5 having a particle size not exceeding 5 microns, a surface area of about 6.2 square meters per gram, a bulk density of about 0.208 g./cc. and being capable of adsorbing dyestuffs from aqueous solutions.

3,264,125
MANUFACTURE OF LIGHTWEIGHT CONCRETE PRODUCTS

Gabriel P. Bourlin, Honolulu, Hawaii; Ludmilla I. Bourlin, L. L. Gowans, and Robert E. Brown, executors of Gabriel P. Bourlin, deceased, assignors to Versicrete Industries, Honolulu, Hawaii, a limited partnership

Filed Dec. 4, 1962, Ser. No. 242,124
15 Claims. (Cl. 106—76)

1. A process for the preparation of a lightweight concrete product which comprises the steps of:

(1) neutralizing cellulosic fibrous materials by contacting them with an aqueous sodium hydroxide solution at an elevated temperature to extract unstable and soluble substances which would interfere with the setting of hydraulic cement mixed therewith in the presence of water, washing the fibrous materials to remove the neutralizing solution, and drying the fibrous materials to remove moisture and provide neutralized and dried fibers consisting essentially of true and stable cellulose;

(2) mixing together about 26 to about 70 parts by weight of Portland cement with about 6 to about 56 parts by weight of calcium carbonate, mixing therewith an aqueous solution containing about 1 to about 3 parts by weight of calcium chloride, then mixing therewith an aqueous solution containing from about 0.2 to about 1.58 parts by weight of sodium silicate to provide a hydraulic cement slurry having sufficient water from said aqueous solutions for proper consistency and curing;

(3) mixing about 8 to about 16 parts by weight of the neutralized and dried cellulosic fibers with the hydraulic cement slurry to coat and completely impregnate the cellulosic fibers and provide a thick molding paste; and then

molding and curing said molding paste to provide a lightweight concrete product.

3,264,126
PIGMENTED PAPER COATINGS CONTAINING PROTEIN AND A DI(LOWER ALKOXYMETHYL) URON

Daniel Dickerson Ritson, Riverside, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 24, 1963, Ser. No. 290,217
6 Claims. (Cl. 106—146)

1. A fluid aqueous paper coating composition consisting essentially of a pigment, a water-soluble protein ad-

hesive for said pigment, and a di(lower alkoxymethyl)uron as latent insolubilizing agent for said protein.

3,264,127
ASPHALT COMPOSITION AND PROCESS
John P. Conley, 50 Rosemont St., Dorchester, Mass.
No Drawing. Filed May 24, 1963, Ser. No. 282,889
2 Claims. (Cl. 106—160)

1. The process of making a sizing for paper stock which consists in mixing 90–31% of asphalt of approximately 160–170 ring and ball test with about 10–69% linseed meal and powdered anthracite of the following formula:

	Percent
Moisture	.45
Volatile matter	9.00
Fixed carbon	79.6
Ash	11.4

and then grinding the mixture thus prepared thereby producing a sizing that will flow at the usual spreading and drying temperatures employed in the paper making industry.

3,264,128
COMPOSITION FOR PREPARING THIN-WALLED CORED OBJECTS PREPARATORY TO PERFORMING MACHINING OPERATIONS THEREON
Luis M. Argueso, Jr., White Plains, and Cyril S. Treacy, Scarsdale, N.Y., assignors to M. Argueso & Co., Inc., Mamaroneck, N.Y., a corporation of New York
Original application Dec. 13, 1961, Ser. No. 159,079, now Patent No. 3,176,387, dated Apr. 6, 1965. Divided and this application July 24, 1964, Ser. No. 384,850
3 Claims. (Cl. 106—287)

1. A composition consisting essentially of 14 parts by weight of polyethylene glycol having a molecular weight of about 20,000, 56 parts by weight of polyethylene glycol having a molecular weight of about 6,000, 10 parts by weight of finely divided mica, and 20 parts by weight of precipitated calcium carbonate ($CaCO_3$).

3,264,129
NON-LEAFING METALLIC PIGMENTS
Rolf Rolles, Allegheny Township, Westmoreland County, and John C. Edmunds, Lower Burrell, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed May 15, 1963, Ser. No. 280,718
7 Claims. (Cl. 106—290)

5. A metallic flake pigment consisting essentially of a flake particle size distribution of 60 to 80 percent of the number of flakes within 10 to 50 microns, a film coating on the individual flakes of at least one higher molecular weight non-leafing aliphatic amine selected from the group consisting of the straight chain secondary and tertiary amines characterized by an aliphatic group containing an even number of carbon atoms within the range 8 to 22 and a molecular weight within the range 225 to 795, and the amount of the straight chain amine being present between 1 to 20 percent by weight of the metallic flakes.

3,264,130
PIGMENT AND PROCESS OF PRODUCING SAME
Robert K. Mays, Havre de Grace, Md., assignor to J. M. Huber Corporation, Monmouth, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 27, 1962, Ser. No. 219,713
30 Claims. (Cl. 106—292)

30. A finely divided metal silicate produced by the reaction of a metal compound selected from the group consisting of metal oxides and hydroxides of barium, lead, magnesium, calcium, zinc and mixtures thereof with a finely divided reactive silica selected from the group consisting of phylloidal silica containing a concentration of silanol groups of at least 1 micromol per square meter of their flat surface area and a BET surface area of 40 to 130 square meters per gram, and phylloidal silica containing a concentration of silanol groups of at least 20 micromols per square meter of their flat surface area and a BET surface area of 300 to 500 square meters per gram, said metal silicates characterized by a polymorphic particle shape, a particle size of from 0.025 to 5 microns, a BET surface area of from 5 to 500 square meters per gram of which from 0% to 40% is pore area, and having a metal oxide to silica molar ratio from about 1 to 4 to about 4 to 1.

3,264,131
PROCESS FOR FUSION COATING AND MATERIALS USED THEREIN
Fritz J. Nagel, Reiffton, Reading, Pa., assignor, by mesne assignments, to The Polymer Corporation, a corporation of Pennsylvania
No Drawing. Continuation of application Ser. No. 28,208, May 11, 1960. This application May 11, 1964, Ser. No. 366,587
5 Claims. (Cl. 117—21)

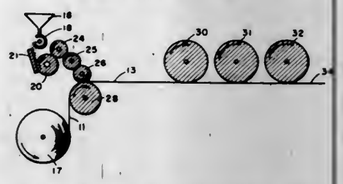
1. In a method for applying a strongly adherent coating layer of a pulverulent vinyl coating composition to a substrate in heat fusion coating processes conducted at temperatures generally in excess of about 450° F. comprising the steps of

applying to the substrate a primer for vinyls comprised of heat reactive synthetic resins contained in a volatile liquid carrier, which primer is effective to bond said vinyl coating composition to said substrate;

heating said substrate to above the fusion temperature of said vinyl coating composition; and

contacting said heated and primed substrate with said vinyl coating composition and fusing said coating composition into a continuous layer over said substrate; the improvement comprising using as the primer one that has a solids concentration of less than 12.5% by weight and forming a primer layer therefrom over said substrate that has a dry film thickness of less than about 0.2 mil.

3,264,132
METHOD FOR APPLYING METALLIC FLAKE MATERIAL TO A SUBSTRATE
Richard E. Merrill, Wakefield, and Donald B. Rising, Stow, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Feb. 6, 1962, Ser. No. 171,792
1 Claim. (Cl. 117—31)



Method of depositing finely-divided flake material onto a glossy, dry, nontacky, thermoplastic film surface, comprising the steps of:

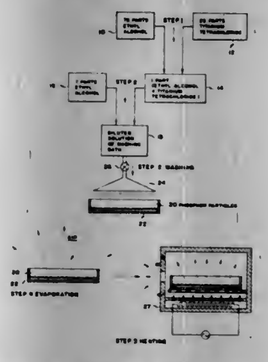
(a) uniformly depositing a controlled amount of said finely-divided flake material onto a soft pickup roll;

(b) transferring said flake material to a printing roll;

(c) contacting said printing roll with said film surface thereby to apply said flake material uniformly over said film surface to the extent that from about 10 percent to about 98 percent of said film surface is covered; and

(d) buffing the resulting flake-covered film by contacting said flake-covered film first with a soft surface moving in a direction opposite to the direction in which said film is moving and then with a soft surface moving in the same direction as said film whereby substantially all of the said flakes contact said film through their maximum surface area and form a single layer of flakes on said surface suitable for heat bonding thereto.

3,264,133
ELECTROLUMINESCENT PHOSPHORS AND METHOD FOR MAKING SAME
William Brooks, Sunnyvale, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed May 2, 1962, Ser. No. 191,882
15 Claims. (Cl. 117—33.5)



1. A method for making high-brightness electroluminescent phosphors which comprises washing a plurality of phosphor particles with an alcoholic solution including ethyl alcohol and titanium tetrachloride, drying the washed phosphor particles in air, and heating the air-dried phosphor particles to a temperature between 200° C. and 500° C. range for at least a five minute interval to produce a thin film of titanium dioxide having high dielectric properties encasing the phosphor particle.

3,264,134
POLYURETHANE LATEX CONTAINING A WATER SOLUBLE ALCOHOL
John J. Vill, Wheaton, and Stuart P. Suskind, Laurel, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed Apr. 13, 1964, Ser. No. 359,477
10 Claims. (Cl. 117—63)

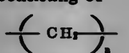
1. A polyurethane latex composition comprising:

(1) a polyurethane polymer characterized by containing at least 0.1% by weight of tertiary amino nitrogen, said tertiary amino nitrogen being substantially neutralized with an acid, and,

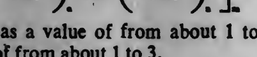
(2) from about 1 to about 20 parts by weight of a polyhydroxy compound having the formula

$$R—(OH)_x$$

wherein x has a value of from 2 to 6 and R is selected from the group consisting of



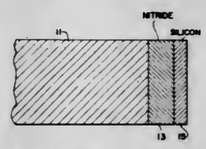
and



wherein n has a value of from about 1 to 4 and m has a value of from about 1 to 3.

7. A method for preparing a moisture permeable polyurethane coated flexible sheet material, which comprises coating a flexible substrate with a composition of claim 1, drying said coating to obtain continuous substantially solid polymeric film on said substrate, and extracting said film with water to remove the polyhydric alcohol therefrom and form a moisture permeable film.

3,264,135
METHOD OF COATING CARBONACEOUS BASE TO PREVENT OXIDATION DESTRUCTION AND COATED BASE
Noel T. Wakelyn and Robert A. Jewell, Hampton, Va., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Nov. 28, 1962, Ser. No. 240,760
9 Claims. (Cl. 117—69)

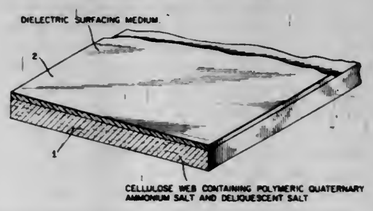


1. A coated base having an oxidation protective coating thereon comprising: a carbonaceous member, a coat of a high melting point high stability nitride integrally formed on an exposed surface of said carbonaceous member, said nitride coating being selected from the group consisting of the nitrides of titanium, zirconium, hafnium, niobium, tantalum and beryllium, and an overcoat of silicon covering said nitride coating.

3,264,136
POLYETHYLENE TEREPHTHALATE FILM WITH FINELY DIVIDED POLYMETHYL METHACRYLATE COATING
Derek Gordon Hedge, Welwyn Garden City, England, assignor to Imperial Chemical Industries, Limited, London, England, a corporation of Great Britain
No Drawing. Filed Nov. 5, 1962, Ser. No. 239,392
Claims priority, application Great Britain, Nov. 8, 1961, 40,030/61
3 Claims. (Cl. 117—138.8)

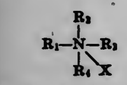
1. Polyethylene terephthalate film having coated upon its surface finely divided particles of polymethyl methacrylate in which the bulk of said particles have a size in the range of 0.1 to 2 microns, said coated film having a static coefficient of friction of film sliding on film of no greater than 0.6 and a haze value measured according to A.S.T.M. Tests D1003–52 of less than 2%.

3,264,137
ELECTROSTATIC CONDUCTIVE PAPER AND PROCESS OF MANUFACTURE THEREOF
Jerome M. Gess, Drexel Hill, Pa., assignor to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 4, 1962, Ser. No. 192,572
6 Claims. (Cl. 117—201)



1. As an electrostatic image-recording medium: a cellulose web having a dispersed polymeric quaternary am-

monium salt at least one precursor of which has the formula



wherein R_1 and R_2 are lower alkyls, R_3 is a benzyl radical, R_4 is an alkyl ester of an unsaturated acid and X is an anion; a deliquescent salt in admixture with said polymeric salt, and on one surface of said cellulose web a layer of a dielectric material said quaternary ammonium and deliquescent salt containing cellulose web having a specific conductivity of from 10^7 to 10^{10} ohms.

3,264,138
DE-SCALING PROCESS
Carl I. Messelt, Pebble Beach, Calif., assignor to Scale Down, Inc., Los Angeles, Calif., a corporation of California
No Drawing. Filed Oct. 8, 1964, Ser. No. 402,620
4 Claims. (Cl. 134—2)

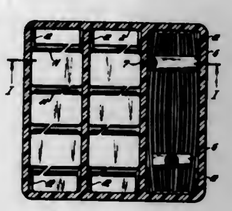
1. A process for reducing the amount of scale of deposition in a water system, said process comprising: adding to said water system a water-soluble iodide to maintain a total concentration of iodide in excess of 5 parts per million and also adding to said water system a chloride-yielding substance to maintain a molar ratio of chlorine to iodine in excess of 9:1.

3,264,139
ELECTRICAL ACCUMULATOR OF THE SILVER-ZINC ALKALINE TYPE
Frank Solomon, Lake Success, N.Y., and Robert F. Enters, Hackensack, N.J., assignors to Yardney International Corp., New York, N.Y., a corporation of New York
Filed May 31, 1962, Ser. No. 198,887
2 Claims. (Cl. 136—30)



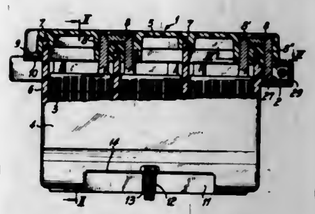
1. An alkaline accumulator comprising a housing which forms a chamber for an electrolyte, an electrolyte in said chamber, an electrode assembly in said chamber including at least one upright zinc/zinc-oxide electrode soluble in said electrolyte and at least one further upright silver-oxide/silver electrode, a semipermeable separator means between the electrodes forming part of said assembly, an electrolyte-impermeable wrapper surrounding said assembly while defining a compartment for excess electrolyte between said wrapper and said housing, said wrapper extending upwardly beyond at least one of said electrodes and being open thereabove and above the normal electrolyte level in said chamber, and limited-circulation means including an inflatable element in said compartment for intermittently displacing electrolyte therefrom into the interior of said wrapper across the top thereof.

3,264,140
ELECTRIC STORAGE BATTERY
Ernst Göhle, Hildesheim, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Nov. 27, 1963, Ser. No. 326,528
Claims priority, application Germany, Dec. 7, 1962, B 69,902
6 Claims. (Cl. 136—81)



1. In a storage battery, in combination, a thermoplastic housing having in its interior at least two cells and including an intermediate transverse partition situated between and separating said cells from each other, said cells being adapted to respectively receive plate assemblies which respectively have pole pieces operatively connected thereto and located adjacent said partition and extending beyond an upper edge thereof; an electrically conductive bridging member extending between and connected to said pole pieces for electrically interconnecting the latter and located over said upper edge of said partition; and a body of casting resin located between said partition and said pole pieces and bridging member for fluid-tightly sealing the battery at the region where the assembly of pole pieces and bridging member extends over said partition between said cells, said casting resin also fixing said pole pieces and bridging member to said partition.

3,264,141
STORAGE BATTERIES
Emil Blaich and Gert Niemann, Hildesheim, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Nov. 18, 1963, Ser. No. 324,383
Claims priority, application Germany, Nov. 21, 1962, B 69,708
12 Claims. (Cl. 136—134)



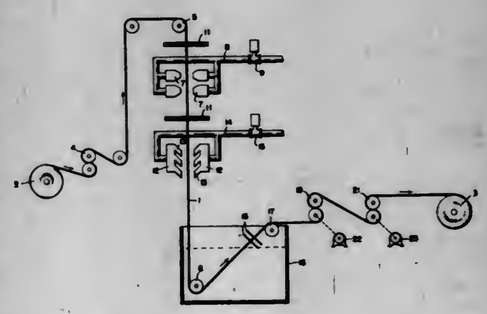
1. In a storage battery, in combination, a housing having a bottom wall and two pairs of opposed side walls extending upwardly from said bottom wall and a partition extending upwardly from said bottom wall parallel to and located between one of said pairs of opposed side walls for dividing the interior of said housing into at least two cells, said one pair of opposed side walls and said partition having upper edge portions respectively formed with notches; at least two groups of plates respectively located in said cells; three pairs of pole pieces between

which said one pair of opposed side walls and said partition are respectively located with said notches thereof situated between said pairs of pole pieces, respectively, said pole pieces including two outer pole pieces respectively carried by said one pair of opposed side walls at the exterior thereof and two inner pole pieces respectively located adjacent said one pair of opposed side walls in the interior of said housing and operatively connected to the groups of plates respectively located in said cells, said pole pieces including two additional inner pole pieces respectively located on opposite sides of and adjacent to said partition and also operatively connected to said groups of plates in said cells, respectively; a cover located on and covering said housing, said cover having an underside formed with a continuous groove receiving upper edge portions of said opposed pairs of side walls of said housing and with an additional uninterrupted groove communicating with said continuous groove and receiving the upper edge portion of said partition, said upper edge portions of said side walls and partition being fluid-tightly connected along their entire length to said cover in said grooves thereof and said cover having grooved portions extending downwardly into said notches respectively between said pairs of pole pieces so that the connection of said cover to said housing extends uninterruptedly between said pole pieces, said cover being formed in its upper face with at least three recesses extending downwardly below said upper face of said cover, and said cover also being formed with three pairs of openings respectively extending from said recesses through said cover, said pole pieces respectively extending upwardly through and filling said openings and terminating in free end portions situated within said recesses of said cover beneath said upper face thereof; and three bridging members respectively located in said recesses beneath said upper face of said cover and bridging said three pairs of pole pieces, respectively, for electrically interconnecting said pairs of pole pieces.

3,264,142
COLORING OF ANODIZED ALUMINUM
Eugene Wainer, Shaker Heights, Ohio, assignor to Horizons Incorporated, Cleveland, Ohio, a corporation of New Jersey
No Drawing. Filed Feb. 19, 1963, Ser. No. 259,729
1 Claim. (Cl. 148—6.1)

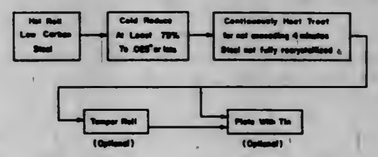
In a method of coloring anodized aluminum in which a coloring composition consisting essentially of a water soluble organic hydroxy compound having a boiling point greater than 100° C., a coloring material dissolved therein, a polyethylene glycol having a molecular weight between 4000 and 6000 as a viscosity control agent compatible with and chemically inert toward the remaining constituents in the composition, and a finely divided fulling agent consisting of porous solid inorganic pigment chemically inert toward the remaining constituents in the composition, and wherein the relative proportion of fulling agent in the printing composition comprises between 60 and 150 parts by weight of fulling agent per 100 parts by volume of the solution of the coloring material in the water soluble organic hydroxy compound and the concentration of coloring material constitutes between 0.5% and 10% by weight of the water soluble organic hydroxy compound is applied to a porous anodized aluminum surface and thereafter the resulting article is heated to a temperature sufficient to eliminate all liquid from said composition, but below that at which the tinctorial power of the coloring material is adversely affected, and the article is maintained at said temperature while the coloring material is desorbed from the inert solid pigment and is adsorbed into the pores of said porous anodized aluminum surface, and the remaining solid is then wiped off leaving an anodized article colored in the areas in which said composition was applied; the improvement which comprises applying a coating of a linseed oil based lithographic ink containing up to 10% by weight of a motor oil and up to 1% by weight of an oil soluble metal stearate, said coating being applied as a resist to said porous anodized surface, removing a portion of said coating thereby exposing some of the original substrate; and thereafter applying coloring material to said partly coated partly exposed article in the manner described.

3,264,143
HEAT TREATING STRIP MATERIAL
Charles A. Turner, Jr., Flourtown, Pa., assignor to Selas Corporation of America, Dresher, Pa., a corporation of Pennsylvania
Filed July 16, 1962, Ser. No. 209,872
7 Claims. (Cl. 148—11.5)



1. The method of continuously annealing non-heat-treatable aluminum base alloys in strip form which comprises moving the strip downwardly between a pair of upper and lower guide rolls, at a first upper location between said rolls heating the strip by application of open flames to opposite sides thereof to a temperature within the range of 800° F. to 1000° F., at a second and lower location cooling the strip to below 550° F. by jets of air directed against opposite sides thereof, at a still lower point in the path of travel of the strip between said rolls quenching it in water to a temperature of less than 200° F., removing the strip from the water, removing the water from the surface of the strip and stretching the strip between 1% and 6% as soon as it is removed from the quench water.

3,264,144
METHOD OF PRODUCING A ROLLED STEEL PRODUCT
Robert H. Frazier and Robert G. Toth, Poland, Ohio, assignors to The Youngstown Sheet and Tube Company, Boardman, Ohio, a corporation of Ohio
Filed Aug. 21, 1963, Ser. No. 303,540
6 Claims. (Cl. 148—12)



1. A method of producing a rolled steel product comprising hot rolling low carbon steel to form hot rolled strip, continuously cold rolling the hot rolled strip without

intermediate anneal to reduce its thickness at least 75% to a thickness not greater than .025" and continuously heat treating the cold rolled strip at a temperature and for a time, not exceeding four minutes, such that the steel is recrystallized 0–95%.

3,264,145
METHOD OF HEAT TREATING HEAVY ALLOY STEEL FORGINGS
John E. Steiner, Churchill Borough, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of Delaware
No Drawing. Filed Sept. 3, 1963, Ser. No. 306,316
2 Claims. (Cl. 148—12.3)

1. In the production of large rotor forgings, the method comprising forging a rotor from steel containing essentially iron and

	Percent
Carbon	.25/.40
Manganese	.25/1.25
Silicon	.40 max.
Nickel	1.25 max.
Chromium	.75/1.75
Molybdenum	.90/2.25
Vanadium	.20/.70

air cooling the forging to between 300 and 650° F. and hold at this temperature for at least sufficient time to bring the center of the forging to approximately the same temperature as the surface, heating the forging to a tempering temperature of 1225 to 1325° F. and air cool, heating to an austenitizing temperature of about 1750° F. and hold at such temperature for at least about 30 hours, air cool to at least 600° F. and hold at a temperature between 200 and 600° F. for up to 30 hours and then heat to a tempering temperature of 1200 to 1300° F., hold at such temperature for at least 30 hours and thereafter slow cool to room temperature.

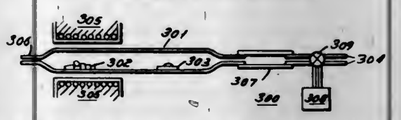
3,264,146
ORGANIC FLUX COMPOSITIONS AND METHOD OF USING SAME
Burton S. Marks, Palo Alto, Calif., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Sept. 10, 1965, Ser. No. 486,540
14 Claims. (Cl. 148—23)

1. In a method of soldering metal, the step which comprises applying thereon an effective amount of a soldering flux selected from the group consisting of the saturated aliphatic polycarboxylic acids and their anhydrides having 9 to 10 carbon atoms with at least 4 carbon atoms between the carboxyl groups, trimellitic acid and the anhydrides and esters thereof, and the hydroxybenzophenones.

3,264,147
BERYLLIUM ALLOY AND PROCESS
William Bonfield, St. Louis Park, and Jack A. Sartell, Hopkins, Minn., assignors to Honeywell Inc., a corporation of Delaware
No Drawing. Filed Oct. 16, 1963, Ser. No. 316,516
7 Claims. (Cl. 148—126)

3. The method of preparing a beryllium-silver alloy exhibiting improved microscopic yield stress comprising: mixing finely divided silver and beryllium powders, the composition being from about 1% to about 8% silver, balance beryllium; hot pressing the mixture for at least one hour at a temperature of about 865° C. and a pressure of about 13,000 p.s.i. to form an alloy; annealing said alloy for about two hours at a temperature of about 1000° C.; cooling said alloy; and low temperature aging said alloy for about four hours at a temperature of about 300° C.

3,264,148
METHOD OF MANUFACTURING HETERO-JUNCTION ELEMENTS
Jyoji Oda, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed Dec. 27, 1962, Ser. No. 247,693
Claims priority, application Japan, Dec. 28, 1961, 36/47,950
5 Claims. (Cl. 148—177)



1. A method for the manufacture of a hetero-junction semiconductor device, which comprises
(a) alloying a Group III element selected from the group consisting of indium, gallium and aluminum with a doped semiconductor wafer constituted of a material selected from the group consisting of silicon and germanium;
(b) heating of the resulting alloy in the presence of the vapor of a Group V element selected from the group consisting of phosphorus, arsenic, and antimony, said vapor being maintained at a pressure of approximately 1 atmosphere; and
(c) slow cooling the resulting alloy composition to produce a product having a first semiconductive region constituted of an intermetallic compound of one of said Group III and of said Group V elements and a second semiconductive region constituted of said doped semiconductor wafer, said regions defining a heterojunction therebetween.

3,264,149
METHOD OF MAKING SEMICONDUCTOR DEVICES
Robert L. Batdorf, Berkeley Heights, Charles A. Lee, New Providence, and William Wiegmann, Middlesex, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 19, 1963, Ser. No. 331,881
4 Claims. (Cl. 148—186)



1. The method of making microplasma-free junctions in semiconductor material comprising the steps of
etching and cleaning a sample of the material,
copper plating the sample by copper displacement plating,
agitating and boiling the sample in nitric acid to remove the copper plating and impurities,
diffusing the diffusant metal into the sample in a vacuum chamber while maintaining the appropriate vapor pressure for the diffusant,
cooling the sample to room temperature,
masking the sample and etching to form mesas on the sample, and
cleaning the sample.

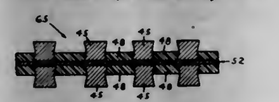
3,264,150
EXPLOSIVE LEAD AZIDE PROCESS
James Paterson McNicol Leslie, Stevenston, Scotland, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed June 24, 1963, Ser. No. 290,252
Claims priority, application Great Britain, June 28, 1962, 24,941/62
11 Claims. (Cl. 149—35)

1. In the process of manufacturing lead azide for use as a primary initiating explosive in a detonator by precipitating lead azide from an aqueous solution containing a water-soluble azide and a water-soluble lead salt the improvement which comprises providing in said aqueous solution at least 0.4 percent by weight of collodial material of which at least a portion is gelatin treated with an anti-foaming agent, the material being present in an amount sufficient to provide at least 0.015 by weight percent gelatin in said solution.

3,264,151
EXPLOSIVE COMPOSITION COMPRISING ALKALI METAL NITRATE, AMMONIUM NITRATE AND HALOGENATED HYDROCARBON
Oliver Osborn, Charles F. Schrieber, and James R. Minderhout, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 26, 1964, Ser. No. 355,089
6 Claims. (Cl. 149—41)

1. An inorganic nitrate explosive composition comprising;
from about 95 to about 75 weight percent of a mixture of alkali metal nitrate and ammonium nitrate, said mixture containing from about 12 to about 65 weight percent of said alkali metal nitrate and from about 10 to about 83 weight percent of ammonium nitrate based on the total composition weight, and from about 5 to about 25 weight percent of a substantially water immiscible halogenated aliphatic hydrocarbon having a density of at least about 1.2 grams per cubic centimeter.

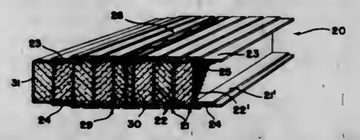
3,264,152
METHOD FOR FABRICATING ELECTRICAL CIRCUIT COMPONENTS
Arthur W. Haydon, Milford, Conn., assignor to Tri-Tech, Inc., a corporation of Connecticut
Filed Mar. 26, 1963, Ser. No. 267,982
1 Claim. (Cl. 156—3)



In a method of making a printed circuit component by forming a resist pattern of an etch-resistant medium in registration on both sides of a metallic sheet and etching said sheet to form circuit paths of those areas on said sheet which are protected by said resist pattern, the steps of first etching both surfaces of said metallic sheet simultaneously until substantially more than one-half of the thickness of the metallic sheet in areas not protected by said resist pattern is removed and only sufficient web thickness remains after said first etching step to provide a temporary mechanical support for protected areas on said sheet, next affixing an insulating support member of etch-resistant material to one surface of said partially-etched sheet, and then further etching the other, exposed surface of said sheet until the remainder of the thickness of the sheet in said unprotected areas is removed.

3,264,153
METHOD OF PRODUCING COMPOSITE COREBOARD
Clarence J. Rodman and Thorne K. Broome, Alliance, Ohio, assignors of one-half to C. J. Rodman, doing business as Alliance Tool Company, and one-half to Thorne K. Broome
Original application Jan. 14, 1963, Ser. No. 251,096, now Patent No. 3,185,611, dated May 25, 1965. Divided and this application Feb. 23, 1965, Ser. No. 440,986
6 Claims. (Cl. 156—79)

6. A method for producing composite coreboard comprising the steps of folding one edge portion of a plurality of flat, ribbon-like, flexible strips until the edge portion extends substantially vertically from the remainder of each said strip, positioning said folded strips with the folded edge portion of the successive strips in overlapping relation and the remainder of said strips in spaced apart, substantially parallel relation, depositing a metered amount of foamable core material between



said spaced apart parallel portions of said successive strips, folding the other edge portion of said strips into overlapping relation in opposition to and spaced apart from said first folded edge portions, bonding said overlapping edge portions together and foaming said foamable material to fill the enclosed portion between the opposed folded portions of said strips.

3,264,154
METHOD OF MAKING A PICTURE SLIDE
Paul G. Kiehl, St. Louis, Mo., assignor to Church-Craft, Inc., St. Louis, Mo., a corporation of Missouri
Filed Jan. 28, 1963, Ser. No. 254,101
2 Claims. (Cl. 156—108)



1. The method of making a picture slide comprising the steps of providing pre-printed pre-windowed material having pressure-sensitive adhesive on one side protected by a mask, the material being scored along a central line to provide a fold line and to divide the material into complementary halves, feeding the masked material towards a film segment applying area, cutting the material into pieces of predetermined size while the material is protected by the mask and prior to reaching said film segment applying area, stripping the mask from the pieces prior to passage thereof into the film segment applying area, depositing a predetermined number of film segments on the pressure-sensitive adhesive of one of the halves of the material for viewing through the windows, and folding each piece along the score line into slide form with film segments trapped between the two halves.

3,264,155
METHOD OF MAKING EXTENSIBLE FABRIC
Daniel Rhee, Warren, R.I., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
Filed May 5, 1961, Ser. No. 110,297
2 Claims. (Cl. 156—160)



1. The method of making a rubber-coated fabric material which comprises continuously feeding in a longitudinal direction a web of fabric material which in a relaxed state is extensible at least about 80% beyond any normal relaxed flatwise dimension, continuously feeding and pressing in a longitudinal direction into face-to-face adhering relationship with said fabric a freshly calendered web of uncured vulcanizable rubber, applying tension to

sad fabric web as it is pressed against the freshly calendered web of uncured vulcanizable rubber, completely relaxing the resulting two-ply web in the longitudinal direction prior to vulcanization, controlling said tension in relation to the contraction of the rubber, so that, while relaxed, said fabric and web returns to its unstretched dimensions, and vulcanizing said rubber to form a strongly adhering composite material resiliently extensible at least 80% beyond any flatwise relaxed dimension of said composite material without substantial penetration of the rubber into the fabric.

3,264,156

METHOD OF PRODUCING A POLYDIOLEFIN SIZED GLASS FIBER REINFORCING ELEMENT

Byron M. Vanderbilt, Westfield, and Hadden Clark, Plainfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 7, 1958, Ser. No. 733,497
6 Claims. (Cl. 156—169)

5. In a process for preparing thermosetting composite pipe by forming a cylinder of glass fiber rovings embedded in a resinifiable mix comprising a normally liquid polymer of a C_4 to C_8 diolefin; the improvement which comprises applying a size to said glass fiber rovings comprising a minor portion of a silane and a normally liquid polymer of a conjugated diolefin having 4 to 6 carbon atoms per molecule containing 1 to 7% of a free radical type peroxide catalyst based on the amount of polymer with subsequent drying for 1/60 to 10 hours between 60° and 300° F. to provide a coating thereon; saturating the coated fiber rovings with the resinifiable mix and winding the saturated glass fibers about a mandrel to form the cylinder; curing the wound fiber rovings with the mix thereon in the presence of 0.2 to 10 percent of a free radical type peroxide catalyst at a temperature between 250° and 400° F. to provide a unitary product therefrom with improved strength.

3,264,157

CATHODE RAY TUBE FABRICATION

Charles T. Lattimer, Marion, Ind., assignor to Radio Corporation of America, a corporation of Delaware

Filed Nov. 13, 1961, Ser. No. 151,658
6 Claims. (Cl. 156—212)

1. The method of applying a plastic sheet to a portion of a cathode ray tube comprising the steps of disposing said sheet in spaced relation with said tube portion, heating said sheet to soften it, creating a partial vacuum on the tube side of said sheet while said sheet is spaced from said tube to sag said sheet toward said tube, and then moving said tube and sheet together to contact approximately the central part of said tube portion with the closest part of the sagged portion of said sheet in a small initial area and then to outwardly expand said contact in a rolling-like action over said tube portion.

3,264,158

PROCESS OF MULTICOLORING AN ANODIZED ALUMINUM SURFACE

Albert E. Howe, New Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Dec. 1, 1961, Ser. No. 156,483
6 Claims. (Cl. 156—230)

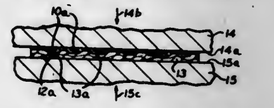
1. The method of multicoloring an anodized aluminum surface comprising the steps of providing a relatively thin porous flexible support sheet, directly applying an adherent transfer medium bearing oil soluble coloring agents to a surface of said support sheet, disposing said transfer medium in intimate contact with said anodized surface, maintaining said intimate contact through the agency of said adherent transfer medium, and treating said surface of said support sheet and said anodized surface to transfer said coloring agents to said anodized surface and to fix them therein.

3,264,159

METHOD OF LAMINATING METAL TO WOOD

David Kend, Kings Point, and Anthony Chiesa, Flushing, N.Y., assignors to Park Electrochemical Corporation, Flushing, N.Y., a corporation of New York

Filed Jan. 18, 1963, Ser. No. 252,489
2 Claims. (Cl. 156—298)



1. Method of applying a plurality of discrete metal design elements to a base of wood and the like, comprising:

(a) adhering a thin thermoplastic film over the entire back of a metal foil sheet having a thickness of approximately 0.002 inch to 0.020 inch;

(b) removing portions of the metal foil sheet so as to leave only the discrete metal design elements on the thermoplastic film; and

(c) applying the thermoplastic film with metal design elements uppermost to the top of the base and pressing the assembly under heat and pressure to adhere the film to the base and to force the design elements and film under them into the base with corresponding compression of the base under the design element.

3,264,160

METHOD FOR FABRICATING ASSEMBLIES OF FOAMED PLASTIC

Alfonso M. Donofrio, 1828 Parkside Blvd., Toledo, Ohio

Filed Mar. 26, 1962, Ser. No. 182,272
2 Claims. (Cl. 156—306)



1. A method for fabricating an assembly of two foamed polystyrene resin pieces, said method comprising engaging the apparent surface of at least one of said pieces with an iron having a heated surface conforming in contour to the apparent surface contour of the other of said pieces in the area of engagement of the assembled pieces, said heated iron surface being maintained at a temperature of from about 250° F. to about 325° F. higher than the melting temperature of said polystyrene resin, maintaining said piece in contact with said heated iron surface for a period only sufficient to fuse the surface of said piece to said contour and to form a liquid resin layer on said piece and, before said liquid resin layer solidifies, pressing said piece into engagement with the other one of said pieces.

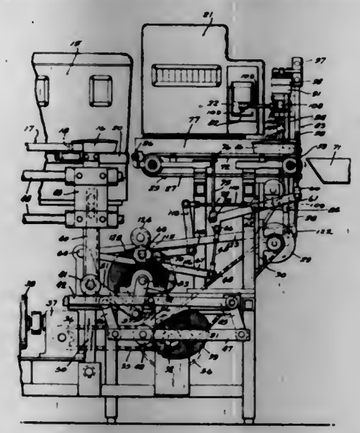
3,264,161

AUTOMATIC LABELLING MACHINES

William F. Stremke, Jr., 3329 S. Springfield, Milwaukee, Wis.

Filed Apr. 30, 1962, Ser. No. 191,046
7 Claims. (Cl. 156—360)

2. In package labelling mechanism having a scale to weigh a package, a label issuing machine responsive to the scale to issue a label with information based on package weight, said label issuing machine having a label discharge apron, the improvement to automate the operation of said mechanism and comprising: a package conveyor to advance a weighed package from the scale to a label receiving position adjacent the label issuing machine, label transport mechanism to transfer said label from the discharge apron to the weighed package and including a transfer nozzle, means for moving said nozzle from said apron toward said package, a source of vacuum for said nozzle by which the nozzle is actuated to hold the label on the nozzle, vertically movable pressure means for pressing said label against said package, and timing means to lift and lower said vertically movable pressure means in time with said package conveyor so that the pressure means is elevated when the package conveyor advances the said package therebeneath.

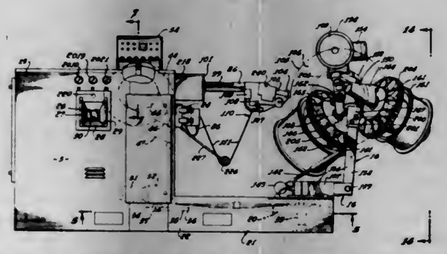


3,264,162

RIBBON WINDING MACHINE WITH INDEXABLE HUBS

Rudolph G. Holman, Santa Ana, Calif., assignor to W. J. Volt Rubber Corp., a corporation of California

Filed Apr. 18, 1963, Ser. No. 274,005
6 Claims. (Cl. 156—397)



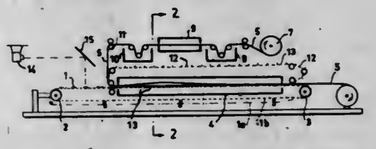
1. In a machine for winding an elastomeric ribbon on the surface of a curved tire casing, the combination comprising, a frame, a base mounted on said frame for rotation about a fixed substantially vertical axis, a substantially vertical column pivotally mounted on said base eccentrically of said fixed vertical axis, said column being angularly positionable in a vertical plane with respect to said base, means located on said column supporting said tire casing for rotation about its normal axis, means mounted on said frame for applying said elastomeric ribbon to the surface of said tire casing, said applying means feeding said ribbon to said tire casing surface substantially perpendicular to said vertical axis, motor means for rotating said tire casing about its normal axis so as to cause said ribbon to be wound around said tire, motor means for rotating said base around its fixed vertical axis to cause said tire to angularly change the relative position of its surface with respect to said means for applying said ribbon and means for pivoting said column to vary said angular position of said column with respect to said base whereby said ribbon may be wound across the face of the tire.

3,264,163

MACHINE FOR MANUFACTURING CAMOUFLAGE NETS

Karl Per Frisk, Gamleby, Sweden, assignor to Firma Licentia, Ekman & Brundin, Stockholm, Sweden, a corporation of Sweden

Filed Oct. 9, 1962, Ser. No. 229,302
Claims priority, application Sweden, Oct. 13, 1961, 10,177/61
3 Claims. (Cl. 156—496)



1. Machine for manufacturing camouflage nets by gluing a plurality of foil-like leaves to a net, comprising

an endless conveyor belt having a substantially horizontal upper part; an adhesive bath; means for moving said net through said adhesive bath; means for moving a net from a supply roll into engagement with two endless conveyor chains provided on either side of said horizontal part of the cnoveyor belt and driven at the same speed as said conveyor belt;

said chains being provided with a plurality of dog-like members for engaging the side edges of said net and stretching it transversely over said conveyor belt;

means for feeding foil-like leaves onto the upper portion of said conveyor belt;

said upper part of the conveyor belt having a free entrance end portion for receiving said leaves thereon in a predetermined pattern which they are to form on the net;

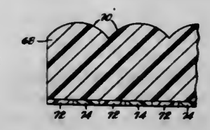
a hump located in the path of movement of said upper conveyor part and net to produce contact pressure between said net and leaves against said conveyor belt, said hump consisting of an arched member having two side legs extending obliquely upwardly and inwardly in the direction of movement and meeting each other above the middle of the conveyor belt said arched member giving in each cross section of the web and net along the hump a maximum contact pressure at the two breaking points formed by the legs of the hump.

3,264,164

COLOR DYNAMIC, THREE-DIMENSIONAL FLEXIBLE FILM AND METHOD OF MAKING IT

Rudolph A. Jerothe, Wayne, N.J., and Norman Forrest, White Plains, N.Y., assignors to Toscony, Inc., Passaic, N.J.

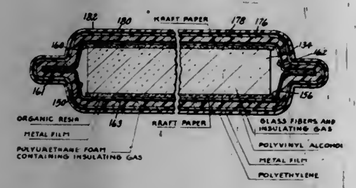
Filed Apr. 30, 1962, Ser. No. 190,956
5 Claims. (Cl. 161—33)



1. A flexible, relatively thin, plastic material possessing striking characteristics of color and depth and comprising transparent sheet means of flexible plastic having a thickness between about eight mils and about forty mils, con-

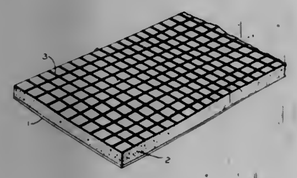
tiguous segments of elongated substantially cylindrical lenses formed on the outer surface of the sheet means with between about 50 and about 200 of segments per inch, a plurality of printed selected color lines slightly different in number to the number of lens segments per inch and extending in a position of selected alignment with said lens segments in laminated relation to the side of the transparent sheet means opposite the lens segments, said printed lines being turned to be out of line at a small angle with the lens segments so that the moire effect becomes a plurality of angularly positioned repetitive bands of interference patterns, the bands being of the color of the printed lines, the printed lines being in the form of a plurality of sets of printed lines, each set being at a different spaced relation to the lens segments and producing a moire effect with the lens segments, and each set being of a different color and making a different angle with the lens segments and having a different count per inch than the lens segments.

3,264,165
INSULATING MEANS
Carl A. Stickel, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 25, 1964, Ser. No. 413,852
8 Claims. (Cl. 161—43)



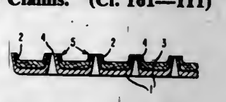
1. Insulation comprising a resilient permeable insulating material containing a gas having god insulating properties, a sealed bag of thin flexible material enclosing said insulating material and sealing said gas in the insulating material, and a resilient foam material bonded to the entire outer surfaces of said bag and completely enclosing the outer surfaces of said bag.

3,264,166
LAMINATED WEB AND METHOD FOR MAKING SAME
William E. Lowery, Costa Mesa, Calif., assignor, by mesne assignments, to Califoam Corporation of America, Compton, Calif., a corporation of California
Filed Mar. 28, 1962, Ser. No. 183,309
4 Claims. (Cl. 161—89)



4. A composite laminated web comprising a flexible resilient web of polyurethane foam, a fabric mesh web having openings between the strands thereof in face to face engagement with one surface of said polyurethane web, and a polyurethane skin coating encapsulating said strands and adhering to adjacent portions of the surface of said polyurethane web bonding the fabric web to said polyurethane web.

3,264,167
CARPET BACKING LAMINATE
Seymour Sands, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 17, 1962, Ser. No. 231,154
9 Claims. (Cl. 161—111)



1. A cohesive laminar sheet material suitable for use as a secondary carpet backing, said sheet material comprising at least three adjacent layers including (a) a heat softenable polymeric film of 0.3 to 1.2 oz./yd.^{2}, (b) adjacent one surface of said polymeric film a non-woven layer of randomly arranged oriented fibrous elements of a crystalline organic polymer, said non-woven layer having a weight of 0.5 to 3 ounces/yd.^{2} and a tear strength of at least 0.3 pound/in./oz./yd.^{2}, and (c) adjacent the other surface of said polymeric film a cellulosic paper web having a weight of 1 to 6 oz./yd.^{2}, said laminar sheet material being provided with 30 to 500 holes/inches^2, the total open area of the holes comprising 2 to 10% of the said laminar sheet material, one surface of said laminar sheet material having 30 to 500 projections/inches^2 with a height from trough to crest of 5 to 75 mils.

3,264,168
ETHYLENE-PROPYLENE COPOLYMER RUBBER-FABRIC LAMINATES AND METHOD OF MAKING SAME
Loy D. Sneary, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed June 27, 1960, Ser. No. 38,771
7 Claims. (Cl. 161—227)

6. A laminate comprising fabric selected from the group consisting of rayon, nylon and cotton and an ethylene-propylene copolymer rubber bonded together at a rubber curing temperature with an intermediate layer of partly hydrogenated polybutadiene wherein said partly hydrogenated polybutadiene is about 50 to 95 percent saturated.

3,264,169
METHOD OF DE-COATING PAPER
Norman A. Altmann, 509 Forest Ave., Wilmette, Ill., and William H. Bureau, 546 Park Blvd., Glen Ellyn, Ill.
Filed Aug. 29, 1960, Ser. No. 52,479
1 Claim. (Cl. 162—4)

The method of de-coating coated wastepaper having a coating loosenable in cool or cold water which comprises subjecting a mass of coated wastepaper in strip form and suspended in cool or cold water to the action of at least one vertically reciprocating down-turned plunger for a time sufficient to loosen the coating so that a substantial portion thereof can be washed off but not long enough for substantial defibering to occur, and removing said loosened coating with water.

3,264,170
POLYACRYLONITRILE PAPER AND METHODS FOR THE MANUFACTURE THEREOF
John K. Magrane and Walter F. Reynolds, Jr., Stamford, and David H. Rakowitz, Cos Cob, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Feb. 1, 1963, Ser. No. 255,476
7 Claims. (Cl. 162—157)

1. In a continuous process for the manufacture of paper wherein an aqueous suspension of wet-spun wet-gel fibrillated polyacrylonitrile paper-making filaments of a polymer predominantly composed of acrylonitrile is continuously sheeted to form a water-laid web, and said web

containing at least about 40% by weight of free and combined water and being composed of filaments having a gel structure is continuously dried at a temperature between about 150° F. and the decomposition point of the polymer of which said filaments are composed, the improvement which comprises substantially continuously maintaining said web in an atmosphere having at least 20% relative humidity during said drying until said gel structure has substantially completely collapsed.

3,264,171
METHOD OF FORMING FIBER-RESIN MOLD PRODUCTS WHEREIN THE RESIN IS AN INTERMEDIATE STAGE THERMOSETTING RESIN
C. Roy Gleason, Chicago, Ill., assignor to Sealkote & Chemical Corporation, Chicago, Ill., a corporation of Delaware
No Drawing. Filed July 18, 1962, Ser. No. 210,858
8 Claims. (Cl. 162—159)

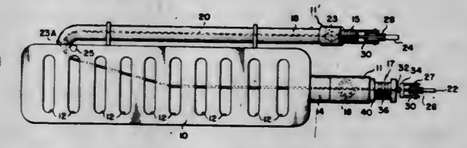
1. In the method of producing a moldable pulp-resin product wherein the resin is capable of advancement to a cured stage during molding consisting of the steps of dispersing the pulp fibers in an aqueous system uniformly to distribute the pulp fibers and open the pulp for receipt of the resinous material, introducing a thermosetting resinous material in an intermediate stage of polymeric growth and in a water soluble state for solution in the aqueous material without noticeable increase in viscosity and adhesiveness of the resulting aqueous system, and then drying the mixture at a temperature below 200° F. to a crumbly, flocculent mass of pulp fibers without advancement of the resinous material beyond an intermediate stage of polymeric growth with the resin uniformly distributed therein and in which the resinous material is introduced in an amount within the range of 3 parts by weight of resin to 97 parts by weight of pulp fibers as a minimum to 60 parts by weight of resin and 40 parts by weight of pulp fibers as a maximum.

3,264,172
BACTERIOSTATIC PAPER CONTAINING A GUANIDINE SALT AND METHOD OF MAKING THE SAME
Carl W. Regutti, Glenshaw, Pa., assignor to Calgon Corporation, a corporation of Pennsylvania
No Drawing. Filed May 8, 1964, Ser. No. 366,186
14 Claims. (Cl. 162—161)

3. In a method of making bacteriostatic tissue paper the step of forming a tissue paper stock suspension having therein an effective amount to about 3% of a guanidine salt on the dry weight of the stock and thereafter forming a paper sheet from said stock.

3,264,173
CLEANER FOR FELT CONDITIONER IN PAPER MAKING
Douglas Frick, International Falls, Minn., assignor to Boise Cascade Corporation, Boise, Idaho, a corporation of Delaware
Filed Dec. 2, 1963, Ser. No. 327,461
2 Claims. (Cl. 162—274)

1. A felt conditioning shoe, comprising, in combination:
- a shoe body defining a suction chamber and containing a pair of longitudinally spaced openings communicating with said chamber;
- a pair of vacuum conduits each connected at one end with one of said body openings, respectively;
- closure means including a pair of packing gland seal means for closing the other ends of said conduits, respectively, said conduits containing lateral openings for affording connection with vacuum producing means;
- a cable extending successively through one of said packing gland seal means, the vacuum conduit associated therewith, the suction chamber, the other vacuum conduit, and the other of said packing gland seal means;
- a pair of guide pulley means carried by said closure means externally of said conduits, respectively, for supporting the free ends of said cable;
- a pair of stop handles secured to the extremities of said cable, respectively;



- and a cleaning member within at least one of said conduits, said cleaning member being carried by and fixed against longitudinal movement relative to said cable, said cleaning member having in transverse cross-section a circular configuration the maximum diameter of which is slightly less than the internal diameter of said one conduit to permit free longitudinal travel of said cleaning member through said conduit, thereby to effect removal of the fibers accumulated therein.

3,264,174
ALKALI METAL ALUMINATE MODIFIED STARCH AND PROCESS OF PREPARING PAPER THEREWITH
Thomas Aitken, Chicago, Ill., and William V. Cross, Lake Oswego, and Fred W. Webking, Eugene, Oreg., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
Filed Jan. 29, 1964, Ser. No. 341,054
6 Claims. (Cl. 162—175)

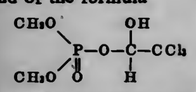
1. A process for the production of paper having improved dry strength and other improved properties which comprises the sequential steps of forming an aqueous cellulosic fiber suspension, adding to said suspension at a point prior to its formation into a sheet, an alkali metal aluminate modified starch, said modified starch having been prepared by cooking an aqueous suspension of a starch with from 1–30% by weight of an alkali metal aluminate based on the weight of the starch in said suspension at a temperature of at least 60° C. and less than 100° C., for at least sufficient time for the viscosity of said suspension to reach 75% of its maximum, adjusting the pH of the thus treated cellulosic fiber suspension to between 4.5 and 7.0, and then forming said aqueous cellulosic fiber suspension into a sheet.

3. A modified starch comprising 70–98% by weight of starch, and 1–30% by weight of an alkali metal aluminate, said starch having been prepared by cooking an aqueous suspension of said starch with the alkali metal aluminate at a temperature of at least 60° C. and less than 100° C., for at least sufficient time for the viscosity of said suspension to reach 75% of its maximum.

3,264,175
PREPARATIONS FOR COMBATTING COTTON PESTS
Gerold Heim, Gelterkinden, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed Jan. 14, 1964, Ser. No. 337,529
Claims priority, application Switzerland, July 17, 1963, 8,920/63
2 Claims. (Cl. 167—22)

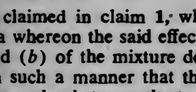
1. The method for combatting cotton pests which comprises applying to the cotton plants whereon the said effect is desired as active principle a mixture of

(a) the compound of the formula



with

(b) the compound of the formula



2. A method as claimed in claim 1, which comprises applying to the area whereon the said effect is desired the components (*a*) and (*b*) of the mixture defined in claim 1 separately and in such a manner that there is only an interval of at most one day between the two applications.

3,264,176
ULTRAVIOLET LIGHT STABLE SYNERGISTIC PYRETHRUM COMPOSITIONS

Arthur Rapport, Glencoe, Ill., assignor to Leeco Chemical Company Division of Leeco Gas and Oil Co., Miami Beach, Fla., a corporation of Florida

No Drawing. Filed Feb. 11, 1963, Ser. No. 257,790
5 Claims. (Cl. 167—24)

1. An ultraviolet light resistant pyrethrum insecticidal composition comprising

(A) as its active ingredient from about 10% to about 20% by weight of pyrethrum and from about 90% to about 80% by weight of a member selected from the group consisting of piperonyl butoxide, 2-(3,4-methylene dioxy phenoxy)-3,6,9-trioxaundecane, n-octylsulfoxide of isosafrol, and N-octyl bicycloheptene dicarboximide and

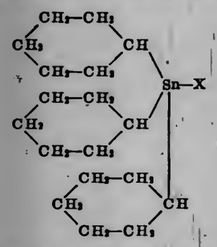
(B) activated charcoal upon which said active ingredient has been adsorbed.

3,264,177
METHODS FOR THE CONTROL OF ARACHNIDS

Eugene E. Kenaga, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 17, 1964, Ser. No. 345,131
6 Claims. (Cl. 167—30)

1. Method which comprises the step of killing an arachnid by contacting the arachnid with an amount lethal thereto of a compound of the formula



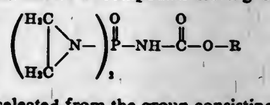
wherein X represents a member of the group consisting of hydroxyl, bromo, chloro, fluoro, iodo, alkenyl, alkanoyloxy, tricyclohexylstannyloxy, tricyclohexylstannylthio, tricyclohexylstannyl, (tricyclohexylstannyloxy)alkoxy, bis(tricyclohexylstannyloxy) - boryloxy, tricyclohexyltin sulfinyl, tricyclohexyltin sulfonyl, alkylsulfonylthio, phenylsulfonylthio, halophenylsulfonylthio, alkanoylthio, benzoylthio, halobenzoylthio, and formyloxy.

3,264,178
STERILIZING INSECTS WITH [BIS-(ETHYLENIMIDO)PHOSPHORO]CARBAMATES

James B. Lesh, Flossmoor, and Charles W. Damaskus, La Grange, Ill., assignors to Armour Pharmaceutical Company, Chicago, Ill., a corporation of Delaware

No drawing. Filed July 26, 1963, Ser. No. 297,975
21 Claims. (Cl. 167—33)

1. The method of treating an insect to render it substantially incapable of reproduction comprising administering to said insect a compound having the formula



wherein R is selected from the group consisting of methyl, ethyl, benzyl and nitrobenzyl.

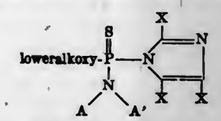
5. A composition of matter for rendering an insect incapable of effective reproduction comprising a non-sterilizing insect food and at least 0.05% up to about 2.5%, by weight, of at least one compound selected from the group consisting of ethyl [bis(ethylenimido) phosphoro] carbamate, methyl [bis(ethylenimido)phosphoro] carbamate, benzyl [bis(ethylenimido)phosphoro] carbamate, and nitrobenzyl [bis(ethylenimido)phosphoro] carbamate.

3,264,179
FUNGICIDAL PHOSPHONAMIDOTHIOATES

Paul B. Budde and Henry Tolkmith, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 29, 1965, Ser. No. 452,004
5 Claims. (Cl. 167—33)

1. The method which comprises contacting a fungal organism with a fungicidal amount of an imidazolyl phosphonamidothioate compound of the formula:



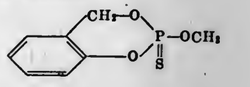
wherein each X substituent independently represents a member selected from the group consisting of hydrogen, loweralkyl, and phenyl, the total number of carbon atoms in all X substituents being an integer of from 0 to 15, both inclusive; A represents a member selected from the group consisting of loweralkyl and A'; and each A' independently represents a member selected from the group consisting of benzyl, furfuryl, and tetrahydrofurfuryl.

3,264,180
METHOD FOR CONTROLLING PESTS

Fritz Bachmann, Riehen, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed June 8, 1965, Ser. No. 462,400
Claims priority, application Switzerland, June 18, 1964, 8,019/64
1 Claim. (Cl. 167—33)

The method for combating insects that are harmful to cotton plants, wherein there is applied to the area where said effect is desired, an insecticidal amount of the compound of the formula

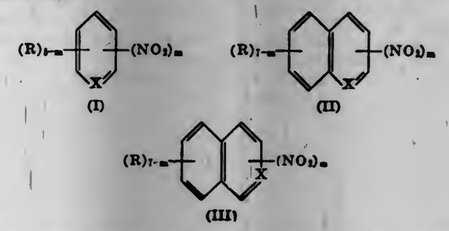


3,264,181
BIRD MANAGEMENT PRODUCTS, PREPARATION, AND USE

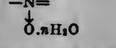
Lyle D. Goodhue, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed June 17, 1963, Ser. No. 288,476
7 Claims. (Cl. 167—46)

1. A process for the preparation of a bird management product, comprising the steps of impregnating a particle of bird food with a heterocyclic nitrogen containing compound having a structural formula selected from the group consisting of:



where X is selected from the group consisting of —N= and



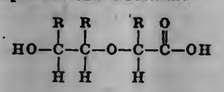
n is 0, 1 or 2; R is selected from the group consisting of hydrogen, methyl and ethyl, and *m* is 1 or 2, said compound being dissolved in a solvent for said compound which penetrates readily into said particle thereby dispersing said compound throughout said particle; and drying the thus impregnated particle; and thereafter washing the impregnated particle to remove said heterocyclic nitrogen containing compound substantially only from the outer portion of said particle to prevent a change in color in the outer portion of said particle which would otherwise result upon exposure to sunlight from the presence of said heterocyclic nitrogen containing compound in said outer portion.

3,264,182
PRESERVATION OF ANIMAL SPECIMENS

Ralph R. Langner, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

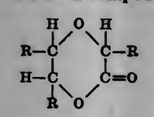
No Drawing. Filed Sept. 23, 1963, Ser. No. 310,872
16 Claims. (Cl. 167—49.5)

1. A process for the preservation of specimens of the animal kingdom which comprises contacting said specimens with a compounds of the formula



wherein each R is independently selected from the group consisting of the hydrogen atom and an alkyl group of from 1 to 2 carbon atoms.

7. A method for the preservation of specimens of the animal kingdom in lifelike form which comprises contacting said specimens with a compound of the formula



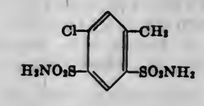
wherein each R is selected from the group consisting of the hydrogen atom, methyl and ethyl.

3,264,183
PROCESS FOR EFFECTING DIURESIS

Carl Ziegler, Glenside, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 804,116, Apr. 6, 1959. This application Oct. 26, 1964, Ser. No. 406,572
1 Claim. (Cl. 167—51.5)

The process of effecting diuresis which comprises administering to a host amenable to diuretic therapy a diuretic amount of the compound represented by the formula

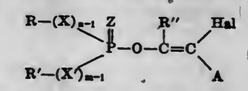


3,264,184
REDUCING THE TOXICITY OF AND EXTENDING THE ACTIVE PERIOD OF ORGANIC PHOSPHOROUS COMPOUNDS

Max Geiger, Riehen, Friedrich Kradolfer and Ladislaus Pinter, Basel, Robert Wyler, Sankt Gallen, and Ernst Beriger, Allschwil, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

Filed June 21, 1963, Ser. No. 289,491
Claims priority, application Switzerland, June 25, 1962, 7,624/62; Feb. 12, 1963, 1,725/63
9 Claims. (Cl. 167—53)

1. A preparation for combating insects, acarides and nematodes which comprises a pesticidal amount of a mixture of (a) a compound of the formula



wherein R and R' each represents a member selected from the group consisting of alkyl containing at most 5 carbon atoms, and phenyl, R'' represents a member selected from the group consisting of hydrogen and methyl, X, X', and Z each represents a member selected from the group consisting of oxygen and sulfur, A represents a member selected from the group consisting of chlorine, bromine, lower alkyl and lower chloroalkyl, and Hal represents a member selected from the group consisting of chlorine and bromine, and *n* and *m* each represents as integer of at most 2, with (b) active carbon.

3,264,185
ANTIBIOTIC PA 166 AND METHOD OF PREPARING

William S. Marsh, Ringwood, and Koppaka V. Rao, Pinebrook, N.J., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 5, 1957, Ser. No. 644,168
10 Claims. (Cl. 167—65)

1. A process for producing PA 166, which comprises cultivating *Streptomyces glaucus* No. ATCC 12,730 in an aqueous nutrient medium containing a carbohydrate and a source of organic nitrogen, under submerged aerobic conditions until substantial antibacterial activity is imparted to said medium.

3,264,186
PROCESS FOR THE PURIFICATION OF GROWTH HORMONE

Alan J. Parcells, Portage, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Feb. 26, 1964, Ser. No. 348,323
2 Claims. (Cl. 167—74)

1. In a process of preparing growth hormone the steps of reacting a somatotrophic factor of mammalian pituitary with from about 2.5 to about 10 parts by weight of cyanogen bromide in aqueous solution at a pH of from about 1 to about 3 for from about ½ to about 16 hours at a temperature of from about 20° to about 30° C. and recovering the growth hormone from the reaction mixture.

3,264,187

PREPARING ATTENUATED CANINE DISTEMPER VIRUS VACCINES BY REPEATED VIRUS SERIAL PASSAGES THROUGH RACCOONS

Eben A. Slater, St. Joseph, Mo., assignor to Research Laboratories, Inc., St. Joseph, Mo., a corporation of Missouri

No Drawing. Filed May 18, 1960, Ser. No. 29,798
1 Claim. (Cl. 167—78)

In the method of preparing a distemper vaccine the improvement which consists essentially of the following steps:

(1) injecting, into an initial raccoon, of a series of serial passaging raccoons,

(2) an injection of a live virulent donor virus strain of the canine distemper virus complex which has previously been obtained from infected donor animals, which are

(3) members of a pre-selected species of a family of animals susceptible to the canine distemper virus complex pre-selected from other than a species of the Procyonidae family of animals,

(4) killing this initially injected raccoon (1) twenty days after the injection of (2);

(5) removing the spleen, heart and liver tissues,

(6) grinding the removed spleen, heart and liver tissues,

(7) emulsifying the ground spleen, heart, and liver tissues into a 5% aqueous emulsion,

(8) injecting emulsion (7) intraperitoneally into another raccoon, said raccoon constituting another raccoon serial passage level of a series of successive raccoon serial passage levels,

(9) killing each raccoon twenty days after injection (8),

(10) repeating steps (5) (6) (7) (8) (9), for successive raccoon serial passage levels,

(11) inoculating (3) with inoculums of successive serial passage levels of raccoon-passage virus,

(12) challenging the inoculated (3) with challenges of (2),

(13) harvesting, for vaccine preparation, the spleen, heart, and liver tissues selected from those serial passage levels of raccoons wherein, in steps (11) (12), the inoculated (3) successfully withstand challenges of (2),

(14) preparing injectable dosage unit forms containing a 5% aqueous emulsion of harvest (13), as a distemper vaccine for immunizing (3) against the canine distemper virus complex.

3,264,188

SANITARY IMPREGNATED SKIN WIPER

James T. Gresham, Appleton, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

No Drawing. Filed Jan. 16, 1963, Ser. No. 251,758
2 Claims. (Cl. 167—84)

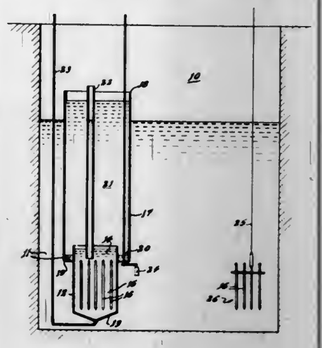
1. A sanitary impregnated tissue of improved softness especially adapted for proctological use comprising a base sheet of at least one ply of absorbent creped cellulosic tissue in the basis weight range of 7 to 11 pounds per 24 x 36 480 sheet ream, said tissue having completely dispersed therethrough from 25% to 35% by weight of a pure pharmaceutical grade mineral oil of low viscosity, said mineral oil containing in the amount of 2% to 10% by weight of a non-toxic, non-allergenic emulsifier in the form of a fatty acid soap of an organic base selected from the group consisting of triethanolamine oleate, triisopropanol amine laurate, monoethyl amine stearate and diethanol amine palmitate, said tissue being characterized by the ability, when used as a wipe, to pick up, absorb, and hold fecal matter from the skin in wiped areas while transferring a thin film of said emulsifier-containing mineral oil thereto.

3,264,189

POOL-TYPE NUCLEAR REACTOR WITH IMPROVED LIQUID SHIELD ARRANGEMENT

James J. Regimbal, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed June 4, 1965, Ser. No. 461,563
3 Claims. (Cl. 176—30)



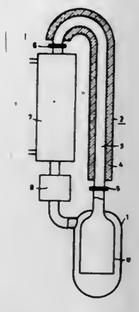
1. A nuclear reactor comprising a compartment containing a pool of light water, an open-top tank containing heavy water submerged in said pool of light water, a nuclear reactor core consisting of a plurality of vertically disposed fuel assemblies disposed in said open-top tank, and a cylindrical baffle containing a hydrocarbon liquid as top shield having a greater diameter than the open-top tank and being vertically disposed in the pool of water with its top above the top of the pool of water and its bottom surrounding and overlapping the open-top tank.

3,264,190

METHOD AND MEANS FOR PURIFYING A NUCLEAR REACTOR FUEL SOLUTION

Karl Janner, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt and Erlangen, Germany

Filed June 4, 1963, Ser. No. 285,321
Claims priority, application Germany, June 9, 1962, S 79,868
8 Claims. (Cl. 176—37)



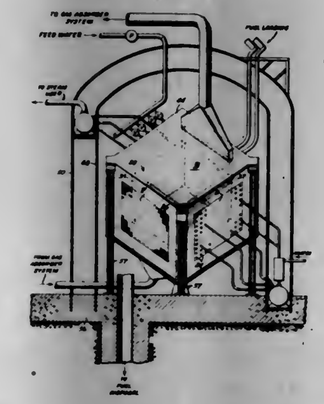
4. Apparatus for clearing corrosion and fission products from a fuel solution of a homogeneous nuclear reactor, comprising conduit means of heatable material forming part of the circulatory system of the reactor, said heatable material including a fissionable material, and heat-insulating means surrounding said conduit means and insulating said conduit means against substantially all heat losses, said conduit means being heatable by excitation of said fissionable material to nuclear fission with delayed neutrons in the fuel solution to an inner surface temperature higher than the temperature of the fuel solution when the fuel solution containing corrosion and fission products circulates through said conduit means, whereby the corrosion and fission products are heated by and are deposited in said conduit means.

3,264,191

REACTOR CORE AND SUPPORT THEREFOR

Morgan G. Huntington, Galesville, Md., assignor to RNB Corporation, Salt Lake City, Utah

Original application Nov. 14, 1963, Ser. No. 325,204, now Patent No. 3,210,253, dated Oct. 5, 1965. Divided and this application Aug. 20, 1964, Ser. No. 397,356
2 Claims. (Cl. 176—84)



1. A moderator structure for a water cooled nuclear reactor comprising: a plurality of graphite moderator blocks having sets of separate fuel passages and separate coolant passages therein, said moderator blocks being assembled in a block shaped pile such that said water and fuel passages are continuous therethrough, and means supporting three sides of said pile composed of said moderator blocks with one corner point of said block shaped pile intermediate the supported sides pointing downward, and in which two of the supported sides are parallel to one of said sets of passages.

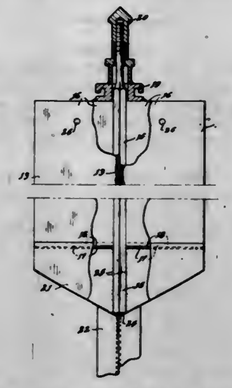
3,264,192

MULTI-SECTION CONTROL ROD WITH THERMAL EXPANSION JOINT

Edward A. Wimunc, Downers Grove, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed June 4, 1965, Ser. No. 461,561
7 Claims. (Cl. 176—86)

1. A control rod comprising two long sections having markedly different coefficients of thermal expansion, one section being a good neutron absorber, the other being a poor neutron absorber, the sections being arranged with their ends in engagement, the end of one section having a groove transverse to the length of the said one section, the end of the other section having a tongue transverse to the length of the said other section, the tongue being received in the groove, and means urging the sections longitudinally together to keep the tongue in the groove, the sections being free of restraint in the direction in which



the tongue and groove extend so as to accommodate differential expansion of the sections.

3,264,193

PROCESS FOR CONVERTING AMYLACEOUS MATERIALS TO DEXTROSE

Earl R. Kooi, La Grange, Robert Ladd Bruner, Hinsdale, and Timothy H. Newkirk, Westchester, Ill., assignors to Corn Products Company, New York, N.Y., a corporation of Delaware

Filed Dec. 17, 1963, Ser. No. 331,276
7 Claims. (Cl. 195—31)

1. A process for the conversion of starch to dextrose comprising thinning the starch at a pH in the range of about 3 to 5 with a fungal enzyme preparation and converting the thinned starch to dextrose at a pH in the range of about 3 to 5 with a fungal enzyme preparation.

3,264,194

PROCESS FOR THE TRANSFORMATION OF STEROIDS USING A MUTANT STRAIN OF *ARTHROBACTER* (*CORYNEBACTERIUM*) *SIMPLEX*

Carlos Casas-Campillo, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Sept. 16, 1963, Ser. No. 309,291
Claims priority, application Mexico, Nov. 16, 1962, 69,786
7 Claims. (Cl. 195—51)

1. A process for preparing $\Delta^{1,4}$-pregnadiene-17α,21-diol-3,20-dione and $\Delta^{1,4}$-pregnadiene-17α,20β,21-triol-3-one which comprises incubation of the 3,21-diacetate of Δ^{5}-pregnene-3β,17α,21-triol-3,20-dione with a culture of a mutant strain of *Arthrobacter* (*Corynebacterium*) *simplex* ATCC 6946 in an adequate aqueous medium, followed by separation of the reaction products by chromatography.

3,264,195

PROCESS FOR THE PREPARATION OF SEPTACIDIN AND DERIVATIVES

James D. Dutcher, New Brunswick, Felix E. Pansy, Jamesburg, and Malcolm H. von Saltza, Millstone, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

Original application July 24, 1963, Ser. No. 297,446, now Patent No. 3,155,647, dated Nov. 3, 1965. Divided and this application Mar. 16, 1964, Ser. No. 356,686
3 Claims. (Cl. 195—80)

1. A process for producing a new antibiotic, Septacidin, which comprises cultivating the microorganism *Streptomyces fimbriatus* ATCC 15051 in an aqueous nutrient

medium under aerobic conditions extracting the fermentation broth with an organic solvent and evaporating off said organic solvent to obtain the said Septacidin.

3,264,196

PURIFICATION OF MICRO-ORGANISMS CULTIVATED ON HYDROCARBON FEEDSTOCK

Jean Antoine Filosa, Lavera, France, assignor to The British Petroleum Company Limited of Britannic House, London, England, a British joint-stock corporation

No Drawing. Filed Dec. 16, 1963, Ser. No. 330,527
Claims priority, application Great Britain, Dec. 31, 1962, 49,057/62
13 Claims. (Cl. 195—82)

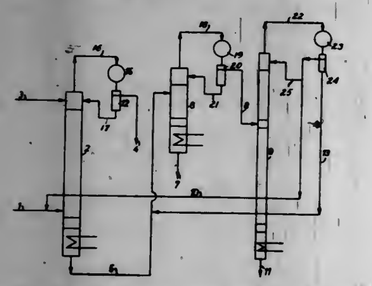
1. A process which comprises, in a growth stage, cultivating a straight chain hydrocarbon consuming micro-organism in the presence of a hydrocarbon feedstock comprising at least in part straight chain hydrocarbons; in the presence of an aqueous nutrient medium; and in the presence of a gas containing free oxygen and subsequently recovering a micro-organism free of a substantial amount of hydrocarbon but containing a small amount of hydrocarbon as contaminant, and thereafter in a purification-starvation stage maintaining said micro-organism with an aqueous nutrient medium and a gas containing free oxygen in the absence of an extraneous carbon source, whereby the hydrocarbon contaminating the micro-organism is reduced in quantity.

3,264,197

PROCESS FOR THE CONTINUOUS RECOVERY OF ACRYLONITRILE AND ACETONITRILE BY PLURAL DISTILLATION AND THE ADDITION OF WATER

Rupert Schönbeck, Leonding, near Linz, and Kazimierz Krzemicki, Linz, Austria, assignors to Osterreichische Stickstoffwerke Aktiengesellschaft, Linz, Austria

Filed May 18, 1962, Ser. No. 195,808
Claims priority, application Austria, May 27, 1961, A 4,152/61
4 Claims. (Cl. 203—84)



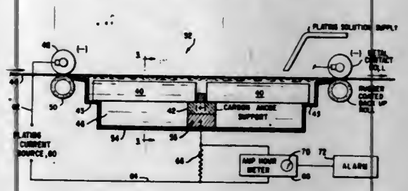
1. A process for the continuous recovery of acrylonitrile and acetonitrile from the reaction products of an acrylonitrile synthesis by reaction of propylene with ammonia and oxygen which comprises subjecting a liquid mixture of water and the said reaction products wherein the acetonitrile content is 2 to 20% by weight based on the acrylonitrile to a three-stage fractional distillation, the liquid mixture being introduced, in the first stage, into the bottom portion of a distillation column at the top of which is introduced 150 to 400 times the quantity by weight of water based on the acetonitrile, the top three-quarters of the column being maintained at a temperature just below 71° C. so that an acetonitrile-free azeotrope of acrylontrile and water is obtained at the top of the column while at the lower end of the column there is obtained a mixture of acetonitrile, water and acrylonitrile, the acrylonitrile being in an amount by weight not exceeding the acetonitrile, in the second stage, subjecting said mixture of acetonitrile, water and acrylonitrile to azeotropic distillation in a stripper column to distill off the nitriles from the major portion of the water contained in such mixture, condensing the acrylonitrile-acetonitrile-water vapors leaving the head of such stripper column, separating the organic layer from the condensation product in a decanter to obtain a lower water content acrylonitrile-acetonitrile mixture, said latter mixture being fed in the third stage to the top of a distillation column, wherein the top is maintained at a temperature between about 72° C. and just below 73° C. and the upper four-fifths of this column passes through a temperature gradient from such temperature at the top to 76° C., and in the bottom of which column substantially anhydrous pure acetonitrile is obtained while at the top of said column vapors containing acrylonitrile and acetonitrile are obtained, condensing such vapors, separating the organic layer from the latter condensation product in a decanter and recycling the acrylonitrile-acetonitrile-water content of such organic layer to the first stage of the process.

3,264,198

CONTINUOUS ELECTROPLATING METHOD

Arthur Forest Wells, Chesterton, Ind., assignor to National Steel Corporation, a corporation of Delaware

Filed May 31, 1962, Ser. No. 199,051
2 Claims. (Cl. 204—28)



1. Continuous strip electroplating process in which plating metal supply is continuously maintained within a plating cell comprising the steps of

passing continuous strip longitudinally through a plating cell having an anode made up of a plurality of individual elongated anode elements arranged in side by side relationship with predetermined spacing between the anode elements and the continuous strip across its full width,

supplying plating current to the plating cell,

quantitatively measuring plating current delivered to the cell as a measure of anode erosion, and

adding a new anode element to the cell and progressively moving partially eroded anode elements in a direction across the width of the continuous strip responsive to the quantitative measurement of plating current delivered to the cell to maintain the predetermined spacing between the anode elements and the continuous strip.

3,264,199

ELECTROLESS PLATING OF METALS

Wayne Martin Fassell, Jr., Newport Beach, Hugh C. Boyd, Capistrano Beach, and Albert M. Saul, Los Alamitos, Calif., assignors to The Ford Motor Company, Dearborn, Mich., a corporation of Delaware

No Drawing. Filed June 25, 1962, Ser. No. 205,115
7 Claims. (Cl. 204—38)

1. In the process for depositing a nickel-containing coating onto a surface of a metallic object, which process comprises applying an aqueous solution containing nickel ions and hypophosphite ions to said surface for a time sufficient to permit deposition of nickel onto said surface

by the reduction thereat of some of said nickel ions of said solution by some of said hypophosphite ions thereof, the improvement comprising

supplying a succession of pulses of unidirectional current through said applied solution to said surface of said metallic object, said metallic object being poled cathodically during each of said current pulses, the current density at said surface during each of said current pulses being between about 0.1 ampere per square foot and about 10 amperes per square foot, the duration of each of said current pulses being between about one second and about ten seconds, and the interval between the inception of successive ones of said pulses being about one minute, and

continuing said application of said solution and said supplying of said current pulses for a time greater than that required for two successive ones of said pulses to be supplied to said surface.

3,264,200

ELECTRODEPOSITION OF NICKEL

Richard J. Clauss, Allen Park, and Henry Brown, Huntington Woods, Mich., assignors to The Udylite Corporation, Warren, Mich., a corporation of Delaware

No Drawing. Filed Jan. 16, 1964, Ser. No. 338,026
8 Claims. (Cl. 204—49)

1. A bath for the electrodeposition of ductile low-stress nickel plate from an aqueous acidic nickel plating bath containing at least one nickel salt selected from the group consisting of nickel sulfate, nickel sulfamate, nickel fluoborate, nickel bromide, and nickel chloride up to about 100 grams/liter of $NiCl_2.6H_2O$ and containing dissolved therein about 0.1 to about 10 grams/liter of metasulfobenzoic acid.

3,264,201

METHOD OF PRODUCING A SILICON SEMICONDUCTOR DEVICE

Norbert Schink and Rupert Stoiber, Erlangen, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany and at Erlangen, Germany, a corporation of Germany

Filed Aug. 15, 1962, Ser. No. 217,011
Claims priority, application Germany, Aug. 19, 1961, S 75,370
2 Claims. (Cl. 204—56)

1. In the method of treating a substantially monocrystalline silicon semiconductor body having at least one p-n junction and having a surface at which a p-n junction emerges, the improvement which comprises anodically treating the semiconductor in an electrolyte prepared by boiling a mixture of substantially equal moles of boric acid, ethylene glycol and aqueous ammonia, to form a dense protective insulating coating.

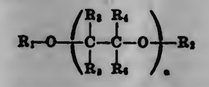
3,264,202

IONIZING RADIATION OF WATER SOLUTION OF POLYALKYLENE OXIDE AND PRODUCT THEREOF

Paul A. King, Warwick, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 13, 1961, Ser. No. 116,671
6 Claims. (Cl. 204—159.14)

1. A process comprising preparing a homogeneous water solution containing at least one of the following water soluble solutes:



wherein R_1 and R_2 are selected from the group consisting of hydrogen, alkyl radicals and alkyl substituted aryl radicals, and wherein R_3 is hydrogen when R_4 is selected from the group consisting of hydrogen and methyl radicals, R_4 is hydrogen when R_3 is selected from the group consisting of hydrogen and methyl radicals, R_5 is hydrogen when R_6 is selected from the group consisting of hydrogen and methyl radicals, and R_6 is hydrogen when R_5 is selected from the group consisting of hydrogen and methyl radicals, and n is greater than one; and submitting said solution to ionizing radiation for a period of time sufficient to cause formation of a gel-like material.

3,264,203

METHOD OF POLYMERIZING VINYL ETHERS

George J. Atchison, Midland, and Raymond M. Narlock, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 10, 1963, Ser. No. 271,885
4 Claims. (Cl. 204—159.24)

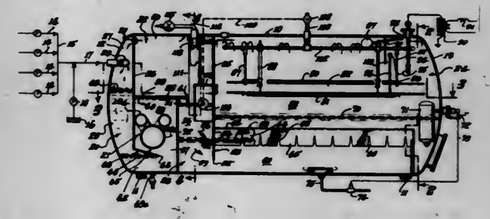
1. In a process for polymerizing a vinyl ether the improvement which consists in subjecting the ether in contact with sulfur dioxide to the action of high energy ionizing radiation in a field having an intensity of at least 10,000 rads per hour.

3,264,204

PROCESS FOR RESOLVING GAS-CONTAINING EMULSIONS

Howell R. Jarvis and William L. Shirley, Houston, Tex., assignors to National Tank Company, a corporation of Nevada

Original application Mar. 7, 1962, Ser. No. 178,091, now Patent No. 3,207,286, dated Sept. 21, 1965. Divided and this application Apr. 16, 1965, Ser. No. 448,808
21 Claims. (Cl. 204—188)



1. A process for the resolution of a gas-containing water-in-oil type emulsion in a closed container having gas-separating and treating zones therein spaced from each other, which process includes the steps of:

(a) establishing an electric field in a horizontal stratum of said treating zone throughput substantially the entire horizontal cross-section of such treating zone;

(b) maintaining bodies of gas and liquid in said gas-separating zone contacting at a gas-liquid interface;

(c) discharging a stream of said emulsion into said gas-separating zone while containing gas;

(d) separating gas from said emulsion while in said gas-separating zone, the separated gas joining said body of gas leaving a degasified emulsion continuously augmenting the volume of said liquid body;

(e) withdrawing gas and degasified emulsion respectively from said gas and liquid bodies in said gas-separating zone at a rate to maintain substantially constant the level of said gas-liquid interface therein;

(f) dividing the thus-withdrawn degasified emulsion between a plurality of discharge passages all in the same horizontal plane below said horizontal stratum and exuding the emulsion into said treating zone through such discharge passages to move upward in

said treating zone to said electric field, said electric field coalescing the dispersed material of said emulsion to produce coalesced masses of the dispersed material settling through the upwardly moving emulsion to the bottom of said treating zone and leaving a treated oil in the top of said treating zone, said discharge passages being openings of significant vertical dimension;

(g) maintaining in the lower portion of said treating zone a body of the separated dispersed phase material having one portion thereof contacting said degasified emulsion at an interface;

(h) maintaining such interface relative to the discharge passages while said distributed and degasified emulsion exudes into said horizontal plane preparatory to said upward movement in said treating zone to said electric field;

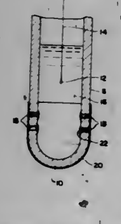
(i) withdrawing dispersed phase material from the bottom of said treating zone;

(j) and withdrawing electrically treated oil from the top of said treating zone.

3,264,205
LEAK STRUCTURE FOR ELECTROCHEMICAL ELECTRODES

Lynn B. Leonard and Hideo Watanabe, Fullerton, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Continuation of application Ser. No. 204,770, June 25, 1962. This application July 30, 1963, Ser. No. 298,655
10 Claims. (Cl. 204—195)



5. In an electrochemical electrode assembly including a glass salt bridge tube having an opening therein adjacent one end of the tube, a liquid junction comprising:

a first coating of porous ceramic material bonded to and covering the exterior of said one end of the tube and extending over said opening;

a second coating of porous ceramic material bonded to the interior of said tube and surrounding said opening; and

a bridge of porous ceramic material filling said opening and being integral with said first and second ceramic coatings.

3,264,206
CROSS-LINKED ASPHALTENES

Seymour W. Ferris, Mount Holly, N.J., and Ernest P. Black, West Chester, and James B. Clelland, Newtown Square, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Dec. 22, 1961, Ser. No. 161,375
7 Claims. (Cl. 208—44)

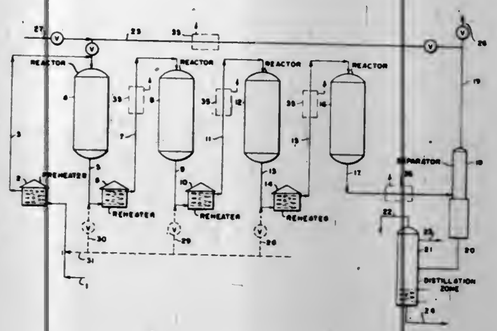
1. A composition consisting essentially of cross-linked asphaltene molecules characterized by a melting point of at least 600° F., and a solubility in carbon disulfide of not more than 50 wt. percent.

6. A process for the preparation of cross-linked asphaltenes which comprises chlorinating a bituminous feed material containing 50–100 percent asphaltenes at a temperature in the range of 50–100° F. until the asphaltenes contain 5–30 wt. percent chlorine and dechlorinating the intermediate product in an inert atmosphere at a temperature in the range of 200–700° F. until the product contains from 1–10 wt. percent chlorine.

3,264,207
CONTROLLING HYDROGEN PARTIAL PRESSURE IN A REFORMING PROCESS

William C. Pfefferle, Middletown, N.J., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 8, 1961, Ser. No. 136,950
6 Claims. (Cl. 208—65)



1. In a process for reforming naphtha hydrocarbon stocks in the presence of hydrogen-containing recycle gas consisting essentially of hydrogen and at least one C_1 to C_3 alkane with a platinum metal on alumina reforming catalyst in a reforming reaction system including a successive series of reaction zones under reforming conditions producing a net hydrogen make of at least about 250 standard cubic feet of hydrogen per barrel of naphtha hydrocarbon charge stock including temperatures within the range of about 875° to about 990° F., a weight hourly space velocity of 1 to 20, a ratio of about 3 to 50 moles of hydrogen per mole of hydrocarbon charge stock and a total pressure of about 300 to 1000 p.s.i.g., the improvement which comprises separating substantially pure hydrogen from the reforming reaction system at a point intermediate the first and last reaction zones in an amount of at least about 250 standard cubic feet of hydrogen per barrel of naphtha hydrocarbon charge stock.

3,264,208
CATALYTIC HYDROCARBON CONVERSION WITH THE USE OF A CRYSTALLINE ZEOLITE CONTAINING MANGANESE IONS

Charles J. Plank, Woodbury, and Edward J. Rosinski, Deptford, N.J., assignors to Mobil Oil Corporation, a corporation of New York

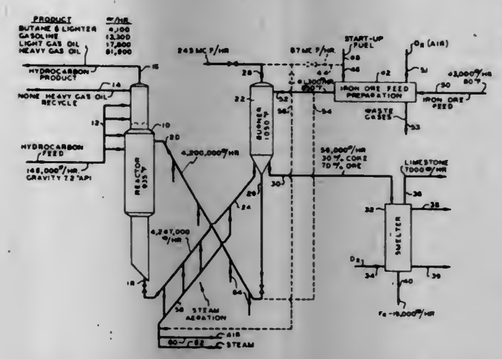
No Drawing. Filed June 30, 1964, Ser. No. 379,370
The portion of the term of the patent subsequent to July 7, 1981, has been disclaimed
15 Claims. (Cl. 208—120)

13. In the catalytic cracking of a hydrocarbon oil to produce hydrocarbons of a lower boiling range, the improvement of contacting said oil under cracking conditions with discrete particles of a crystalline aluminosilicate having from 0.5 to 1.0 equivalent per gram atom of aluminum of ions of positive valence of which no more than 0.25 equivalent are represented by alkali metal cations with the remaining equivalents being represented by both manganese cations and hydrogen ions.

3,264,209
SIMULTANEOUSLY COKING IRON ORE AND CRACKING HYDROCARBONS

Francis M. Files II and Orvill Horton, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 22, 1962, Ser. No. 232,008
4 Claims. (Cl. 208—124)



1. A process for simultaneously upgrading hydrocarbons, producing coke, and coking iron ore which comprises the steps of:

(1) comminuting said iron ore to a particle size suitable for fluidizing with a gas;

(2) passing comminuted ore from step (1) to at least one of a fluidized-bed hydrocarbon cracking zone and a fluidized bed burning zone;

(3) passing separate streams of heavy, coke-forming hydrocarbon oil and hot iron ore into said cracking zone and contacting said oil and iron ore therein under cracking and coking conditions including a temperature in the range of 900 to 1000° F. so as to crack said oil and lay down coke on said iron ore;

(4) recovering cracked hydrocarbons from step (3) as a product;

(5) passing coke-ore from step (3) to the burning zone of step (2) and burning a portion of the coke therefrom with O_2-containing gas to raise the temperature of said ore to the range of 1000 to 1200° F. and substantially above said cracking temperature and to partially reduce same;

(6) passing a portion of the hot ore from step (5) to step (3) to maintain said cracking temperature and catalyze the cracking reaction;

(7) contacting ore from step (1) with a substantial portion of the hot off-gas from step (5) to substantially preheat same prior to step (2); and

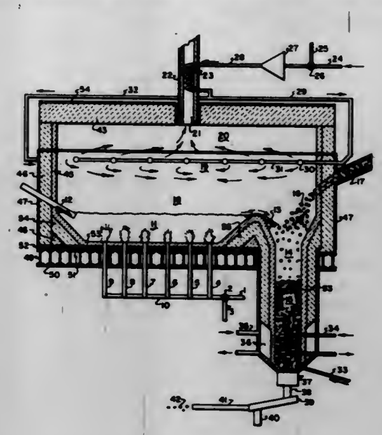
(8) passing a portion of the coked and partially reduced ore from step (5) to an ore reduction furnace to produce pig iron.

3,264,210
FLUID BED PROCESS TO PRODUCE COKE AND HYDROGEN

Robert Harry Waghorne and Byron Victor Molstedt, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Dec. 27, 1963, Ser. No. 333,897
10 Claims. (Cl. 208—127)

1. A process of heating and calcining coke agglomerates which comprises introducing a hydrocarbon feed into a fluid bed of coke at elevated temperatures to crack the feed to coke and hydrogen, said hydrogen providing the fluidizing gas for said fluid coke bed, building up the bed level of said coke bed, allowing the coke to overflow into an elongated vessel, wherein the upper portion of said vessel contains a fluidized bed of fine coke particles, an intermediate portion of said vessel contains a moving bed of fine coke particles, and the lower portion of said vessel contains a moving bed of coke particles and comprises a cooling section, both said fluid bed in which hydrocarbon feed is cracked and said elongated vessel being housed in a refractory lined chamber, introducing an oxygen-containing gas into an upper level of said chamber, burning said hydrogen to produce a combustion flame in the upper portion of said vessel above and out of contact with both said fluid beds, heating said fluid coking bed by radiant heat from said combustion flame, and from



the walls and roof of said refractory lined chamber, introducing coke agglomerates into the fluid bed in said elongated vessel, heating said agglomerates by radiant heat from said combustion flame, and from the walls and roof of said chamber, further heating said agglomerates by direct contact with the hot coke product which flows into said fluid bed of said elongated vessel by direct contact of the fluid coke with said agglomerates in said fluid bed, said fluid coke surrounding and cushioning said agglomerates, said agglomerates descending through said fluid bed into a moving bed of coke agglomerates and fine coke, calcining and cooling said agglomerates, and product coke in a cooling zone and separating calcined, cooled agglomerates and fine product coke.

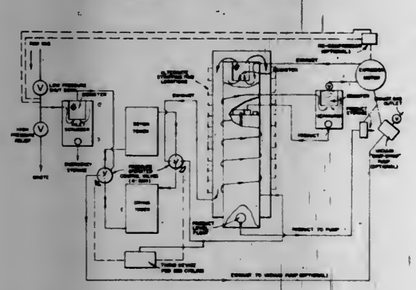
3,264,211
POUR POINT REDUCTION PROCESS

Maxwell Nager, Pasadena, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 31, 1962, Ser. No. 234,539
9 Claims. (Cl. 208—264)

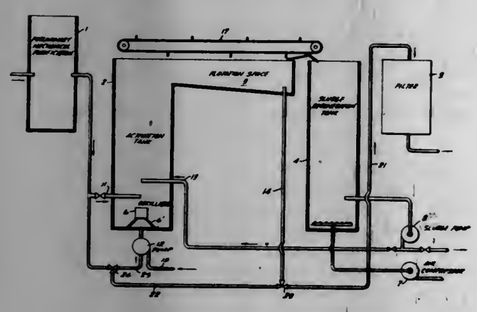
1. A process for reducing the pour point of hydrocarbon distillate which comprises passing a hydrocarbon distillate together with hydrogen and in the presence of from about 50 to about 600 p.p.m. total nitrogen over a catalyst comprising the sulfides of nickel and tungsten supported on an acid-acting cracking catalyst at a temperature of about 650 to 850° F., a pressure of about 450 to 1,500 p.s.i.g., a liquid hourly space velocity of 0.5 to 5, and a hydrogen to oil mole ratio of 1 to 10, and recovering a hydrocarbon fraction boiling in the temperature range between about 240° F. and 675° F. and having a pour point of at least 5° F. below that of the corresponding hydrocarbon fraction in the feed.

3,264,212
NATURAL GASOLINE PROCESS AND APPARATUS
O. J. King and Ray E. Hudson, Odessa, Tex., assignors to Basin Recovery Corporation, Midland, Tex., a corporation of Texas
Filed Sept. 28, 1965, Ser. No. 490,864
8 Claims. (Cl. 208—340)



1. Process for recovering natural gasoline from raw natural gas, comprising:
(A) dehydrating raw natural gas under pressure in a first tank;
(B) channeling dehydrated raw natural gas upwardly within a cooling tower from the bottom thereof;
(C) channeling dry natural gas of reduced mperature downwardly within said cooling tower in heat exchange relationship with respect to said upwardly channeling dehydrated raw natural gas;
(D) separating condensed heavier hydrocarbons as natural gasoline from uncondensed dry natural gas in said dried raw natural gas;
(E) expanding said dry natural gas to reduced temperature for downward introduction within said cooling tower; and
(F) regenerating desiccant with said downwardly channeling dry natural gas at reduced pressure and without the use of heat in a second tank after passage through said cooling tower.

3,264,213
METHOD AND APPARATUS FOR CONTINUOUS BIOLOGICAL DEGRADATION OF METABOLISABLE SUBSTANCES
Jarmil Pav, 34 Nad Mazankou, and Lubomir Brany, 42 Ujezd, both of Prague, Czechoslovakia
Filed Oct. 27, 1964, Ser. No. 406,834
11 Claims. (Cl. 210—6)



6. A method for continuous biological degradation of metabolisable substances contained in a liquid medium including sludge-forming constituents thereby purifying said liquid medium, comprising the steps of introducing said liquid medium into the lower portion of an activation vessel so that the same flows in upward direction; introducing activated sludge into said activation vessel at a point spaced above the point of introduction of said liquid medium so that said activated sludge and said liquid medium become intermixed and the sludge-forming constituents of said liquid medium will be subjected to activation in contact with said activated sludge; introducing into said activation vessel at a point located not higher than the point of introduction of said liquid medium an oxygen-containing gaseous medium adapted to rise in the form of bubbles in the mixture of liquid medium and activated sludge mixture in said activation vessel further aerating and thus activating said sludge-forming constituents; subjecting the mixture of liquid medium, activated sludge and oxygen-containing medium to mechanical oscillations generated below the point of introduction of said activated sludge into said activation vessel thereby furthering activation of the sludge-forming constituents of said liquid medium; and separating in the upper portion of said activation vessel activated sludge from the thus purified liquid medium.

3,264,214
DRILLING FLUID
Charles A. Stratton, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 19, 1962, Ser. No. 231,846
8 Claims. (Cl. 252—8.5)

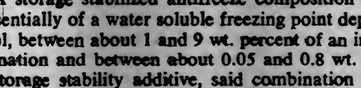
1. A composition consisting essentially of a drilling fluid selected from the group consisting of oil, water, and emulsions of oil and water, said fluid containing a constituent in an amount sufficient to reduce the filtration rate of said drilling fluid selected from the group consisting of sulfonated asphalts and hydroxylated asphalts, and said fluid further containing a metal petroleum sulfonate prepared from a refined petroleum oil having a viscosity in the range of 140–700 SUS at 210° F., the concentration of said metal petroleum sulfonate in the range of 1–30 weight percent of the combination of said constituent and said metal petroleum sulfonate.

3,264,215
ANNULAR DISC LUBRICANT
Edward Payson Smith, Winnetka, and Finn Jensen, Riverdale, Ill., assignors to Illinois Railway Equipment Co., Chicago, Ill., a corporation of Illinois
Filed July 18, 1963, Ser. No. 295,964
8 Claims. (Cl. 252—12)

3. For installation between the center plates of a railway car relatively rotatable in normal operation through about 5° under pressure of about 1000 lbs. per square inch and having a center pin extending therethrough, a lubricating medium in the form of an annular disc composed of:
a normally stable resinous carrier material subject to frangible disintegration when in use between said plates, and
a lubricating mixture of lead, brass and graphite dispersed through said carrier material.

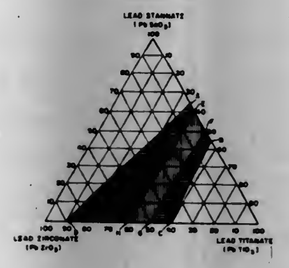
3,264,216
MULTIFUNCTIONAL VISCOSITY INDEX IMPROVERS FOR LUBRICATING OILS
Jack Rockett, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Sept. 26, 1962, Ser. No. 226,470
4 Claims. (Cl. 252—56)

1. A hydrocarbon oil composition comprising a major proportion of a hydrocarbon oil and from about 0.002 to about 10 wt. percent of an ash-free, oil-soluble multifunctional additive having V.I. improving and detergency properties comprising a copolymerization product having a molecular weight within the range of about 5,000 to about 600,000, of about 70 to 80 mole percent of vinyl alcohol ester of C_2 to C_4 fatty acid, about 20 to 30 mole percent of diester of alpha, beta-unsaturated C_4 dicarboxylic acid and C_8 to C_{20} saturated aliphatic alcohol, and about 2 to 5 mole percent of ether selected from the group consisting of alkylene ethers of the formula:



wherein m is 0 to 1, and n is 1; and hydrolysis products of said alkylene ethers.

3,264,217
FERROELECTRIC CERAMIC COMPOSITIONS
Frank Kulcsar, Cleveland, Ohio, assignor to Clevite Corporation, a corporation of Ohio
Filed Sept. 21, 1962, Ser. No. 225,201
20 Claims. (Cl. 252—62.9)



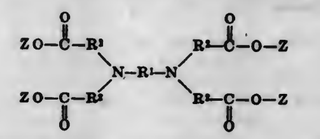
1. A polarizable ferroelectric ceramic composition consisting essentially of a material selected from the area ABCD of FIGURE 3 modified by the addition of at least one element from the group consisting of thorium and tungsten, thorium in an amount of from 0.1 to 8 atom percent being selectively added as a substituent for part of the lead and tungsten being selectively added in a quantity equivalent to from 0.1 to 5.0 weight percent WO_3.

3,264,218
CORROSION INHIBITED ANTIFREEZE COMPOSITIONS
Louis G. Daignault and Michael P. Antalek, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 26, 1963, Ser. No. 267,923
6 Claims. (Cl. 252—75)

1. A storage stabilized antifreeze composition consisting essentially of a water soluble freezing point depressant alcohol, between about 1 and 9 wt. percent of an inhibitor combination and between about 0.05 and 0.8 wt. percent of a storage stability additive, said combination consisting essentially of between about 24 and 27 wt. percent alkali metal tetraborate, between about 36 and 45 wt. percent alkali metal metaborate, between about 4 and 5 wt. percent alkaline earth tetraborate, between about 6 and 10 wt. percent alkaline earth metal metaborate, between about 13 and 22 wt. percent alkali metal arsenite and between 3 and 4 wt. percent alkali metal mercaptobenzothiazole, and said additive consisting essentially of an alkanolamine of the formula:

$$(HO—R—)_yNH_{3-y}$$

where R is an alkylene radical of from 2 to 3 carbons, and y is a whole integer from 1 to 3, inclusively, and an alkylenediamine tetraalkanoic acid material of the formula:



where R^1 is an alkylene radical from 2 to 3 carbons, R^2 is an alkylene radical from 1 to 3 carbons, and Z is a member selected from the group consisting of hydrogen, alkali metal and mixtures thereof, and said alkanolamine to said acid material being present in a weight ratio of between about 1:1 and 1:2.

3,264,219
METHOD OF PICKLING AND CHEMICALLY MILLING ZIRCONIUM AND ZIRCONIUM ALLOYS
John W. McGrew, Westminster, and Kurt Jakobsen, Annapolis, Md., assignors to Martin Marietta Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Feb. 14, 1963, Ser. No. 258,638
4 Claims. (Cl. 252—79.3)

1. A controlled chemical milling process for the surface treatment of zirconium and zirconium alloys to remove precise amounts of metal and scale therefrom which comprises immersing and chemically milling the metal to a desired smaller dimension in a treating bath consisting essentially of an aqueous solution containing between about 5% and about 25% by weight of a member of the group consisting of sulfamic acid and its alkali metal salts and between about 1% and about 6% by weight of an alkali metal fluoride, the amount of sulfamic acid present being in excess of the amount of alkali metal fluoride.

3,264,220
PHOTOENGRAVING
Stanley E. Kallenbach, Roslyn Heights, N.Y., assignor to Powers Chemco, Inc., Glen Cove, N.Y., a corporation of New York
No Drawing. Filed Dec. 16, 1963, Ser. No. 330,657
5 Claims. (Cl. 252—156)

1. A process for removing the exposed photosensitized resist layer from a metal photoengraved plate which comprises immersing the exposed, photosensitive resist-coated plate in a hot bath consisting essentially of a saturated aqueous solution of potassium carbonate and from 4% to 10% by weight of potassium hydroxide, allowing the plate to remain in said heated solution for a short period of time, removing the plate and rinsing it in water to remove the exposed resist layer.

3,264,221
CHEMILUMINESCENCE
Hilmer E. Winberg, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 11, 1960, Ser. No. 41,756
9 Claims. (Cl. 252—188.3)

1. A chemiluminescent composition consisting essentially of tetrakis(dimethylamino)ethylene, an oxidizing agent for the same selected from the group consisting of oxygen and peroxides, and a liquid which is immiscible with tetrakis(dimethylamino)ethylene but which is a solvent for tetramethylurea and tetramethyloxamide.

3,264,222
REFRACTORY MATERIAL
Frederick D. Carpenter, San Diego, and Ling Yang, La Jolla, San Diego, Calif., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 26, 1962, Ser. No. 182,617
9 Claims. (Cl. 252—301.1)

1. A method of fabricating a high temperature refractory product which method comprises mixing together particles of carbon and particles of a member selected from the group consisting of refractory metals, compounds of said metals which are heat decomposable below the melting point of said metals and below the carbide-forming temperature of said metals and which yield said metals and oxygen-free gas on decomposition, and mixtures of said metals and said compounds, sufficient carbon being provided to form a matrix and to carburize said refractory metal, compressing the resultant mixture to form a porous carbon matrix and sufficiently rapidly heating to a temperature above the melting temperature of the refractory metal to melt said refractory metal and cause the molten refractory metal to flow into the pores of the carbon matrix before substantial carburization of said refractory metal occurs, and retaining said mixture at sufficient temperature and pressure so that substantially all of said molten refractory metal reacts with said carbon to form refractory metal carbide, sufficient refractory metal carbide being formed to provide substantial reduction of gas permeability of said carbon matrix and to substantially increase the strength thereof.

3,264,223
URANIUM MONOSULFIDE-URANIUM MONOPHOSPHIDE SOLID SOLUTIONS
Yehuda Baskin, Chicago, and Peter D. Shalek, Champaign, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed June 25, 1964, Ser. No. 378,490
4 Claims. (Cl. 252—301.1)

1. As a new composition of matter, a sintered product formed of a solid solution of uranium monosulfide and uranium monophosphide.

3,264,224
RARE EARTH ACTINIDE METAL SOLS
Frederick T. Fitch and Jean G. Smith, Baltimore, Md., assignors to W. R. Grace & Co., a corporation of Connecticut
No Drawing. Original application Feb. 27, 1962, Ser. No. 176,153, now Patent No. 3,148,151, dated Sept. 8, 1964. Divided and this application Dec. 2, 1963, Ser. No. 332,990
8 Claims. (Cl. 252—301.1)

1. As compositions-of-matter, stable sols of rare earth-actinide metal oxides comprising 10–99.5 mole percent rare earth, 0.5–90 mole percent actinide metal oxides, consisting of particles of about 10 to 100 millimicrons in diameter.

3,264,225
MIXED ANTIMONY OXIDE-THORIUM OXIDE OXIDATION CATALYST
James L. Callahan, Bedford, Ohio, and Berthold Gertisser, New York, N.Y., assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Oct. 15, 1962, Ser. No. 230,741
6 Claims. (Cl. 252—461)

1. A catalyst composition consisting essentially of oxides of antimony and thorium as essential catalytic ingredients, the Sb:Th atomic ratio being within the range from about 1:50 to about 99:1; the antimony and thorium each being in a valence oxidation state of at least three and four, respectively, resulting from heating of the mixed oxides in the presence of oxygen at an elevated temperature above 500° F. but below their melting point.

3,264,226
PLASMA ARC SPRAYED CATALYSTS
Marvin M. Johnson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed June 7, 1962, Ser. No. 200,655
5 Claims. (Cl. 252—465)

1. A process for manufacturing a supported active catalyst which comprises producing a plasma jet having a temperature within the range of about 5000 to about 30,000° F., introducing a catalytic material selected from the group consisting of chromium, molybdenum, tungsten, vanadium, iron, cobalt, nickel, copper, manganese, silver, types 4F and 5F rare earths, the oxides of each of the mentioned elements, and mixtures thereof into said plasma jet, directing the plasma jet containing said catalytic material against a support material selected from the group consisting of alumina, silica, steel, iron, asbestos, pumice, bentonite, boria, thoria, titania, natural earth and mixtures thereof to deposit said catalytic material on said support material.

3,264,227
MANUFACTURE OF A SILICA-ZIRCONIA-ALUMINA CATALYST
Robert H. Cramer, Woodbury, and Abbott F. Houser, Delaware Township, Camden County, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Mar. 13, 1961, Ser. No. 95,280
13 Claims. (Cl. 252—452)

1. A method of preparing a solid porous catalyst of silica-zirconia-alumina which comprises intimately contacting an aqueous acidic solution of a zirconium salt with an aqueous alkali metal silicate solution to form a hydrosol having a pH of from about 7 to 10 which subsequently sets to a hydrogel containing from 0.5 to 25 percent zirconia and from 75 to 99.5 percent silica based on cogelled oxides only, permitting said hydrosol to set to said hydrogel, treating said hydrogel for from about 1 to 24 hours with a hot aqueous solution of an aluminum salt at a temperature of from about 125 to 200° F. to induce base exchange between said aluminum salt and said hydrogel and form a silica-zirconia-alumina hydrogel containing, on a dry basis, from about 0.5 to 5 percent alumina, washing said hydrogel free of water-soluble material, drying and calcining.

3,264,228
METHOD OF PREPARING ALUMINA COATED CATALYST COMPOSITIONS
Bernard Whiting Burbidge, Sunbury-on-Thames, England, assignor to The British Petroleum Company Limited, Britannic House, London, England, a British joint-stock corporation
No Drawing. Filed Aug. 31, 1962, Ser. No. 220,869
Claims priority, application Great Britain, Sept. 27, 1961, 34,654/61
6 Claims. (Cl. 252—463)

1. A method of preparing alumina-containing catalysts, comprising: forming an alumina hydrate hydrogel, drying the hydrogel at a temperature of from 15 to 40° C. to a water content, including combined water, of less than 70% weight of the dried alumina hydrate, and dispersing said dried alumina hydrate in water to give a colloidal suspension stable at ambient temperature and containing only particles of alumina hydrate of not more than two microns diameter, forming a catalyst structure from said colloidal suspension by applying said suspension as a thin film to a catalytically inactive support and drying the thin film so produced, and calcining the alumina hydrate to alumina.

3,264,229
METHOD OF MAKING CONDUCTIVE ZINC OXIDE
Otto C. Klein, Collinsville, Ill., assignor to American Zinc, Lead and Smelting Company, St. Louis, Mo., a corporation of Maine
Filed Feb. 10, 1964, Ser. No. 343,863
13 Claims. (Cl. 252—518)

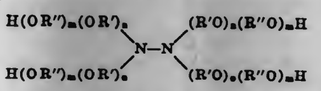
1. The method of making electrically conductive zinc oxide comprising mixing with a pigment zinc oxide of a purity of at least 96% and a specific resistivity of at least 10^8 ohm-cm., a salt the cation of which is taken from the group consisting of sodium, potassium and lithium and the anion of which is taken from the group consisting of cyanate, cyanide, thiocyanate, hydroxide, formate, carbonate and bicarbonate, said salt being present in an amount less than ten percent by weight of said zinc oxide; subsequently heating the mixture to a temperature above 650° C. and below the sintering temperature of the zinc oxide, in an atmosphere within the range from mildly reducing to oxidizing until at least partial decomposition of said salt has occurred, and cooling said zinc oxide.

3,264,230
EPOXIDE COMPOSITIONS CONTAINING TIN CURING CATALYSTS
William R. Proops, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 29, 1961, Ser. No. 163,049
17 Claims. (Cl. 260—2)

1. A curable composition comprising:
(1) a polyepoxide compound selected from the group consisting of cycloaliphatic polyepoxides containing at least one oxirane group which is bonded to two vicinal cycloaliphatic carbon atoms which form a portion of a cycloaliphatic hydrocarbon nucleus containing from 4 to 8 carbon atoms, a bis(vicinal epoxyhydrocarbyl) substituted aromatic hydrocarbon, and epoxidized homopolymers of conjugated dienic hydrocarbons and epoxidized copolymers of said dienic hydrocarbon monomers with vinyl hydrocarbon monomers, said epoxide homopolymers and copolymers containing below about 23 percent oxirane oxygen, and
(2) a stannic mercaptide.

3,264,231
HYDROXY(POLYALKYLENOXY)ALKYL HYDRAZINE BASED POLYURETHANES
Arthur Ibbotson, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Dec. 10, 1962, Ser. No. 243,622
Claims priority, application Great Britain, Dec. 11, 1961, 44,187/61
3 Claims. (Cl. 260—2.5)

3. A process for the preparation of cellular polyurethanes which comprises reacting an organic polyisocyanate, and a polyether polyol, in the presence of a blowing agent selected from the group consisting of water and fluoroalkanes said polyether polyol being of the formula—



wherein
R′ is an alkylene radical of 2–4 carbon atoms,
R″ is an alkylene radical of 2–4 carbon atoms,
m is an integer including 0 but not more than 20,
n is a positive integer of from 2–20, the sum of $m+n$ being in the range from 2–20.

3,264,232
BUTYL RUBBER LATEX FOAM
Robert V. Lucke, Fanwood, N.J., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
No Drawing. Filed Feb. 21, 1963, Ser. No. 260,301
8 Claims. (Cl. 260—2.5)

1. A method of forming cellular structures of latices of a vulcanizable elastic copolymer of 80–99% by weight of an isoolefin of 4 to 7 carbon atoms and 1–10% by weight of a conjugated multiolefin of 4 to 10 carbon atoms, said latex being prepared by the aid of an anionic emulsifier chosen from the group consisting of an alkali metal, an alkaline earth metal, amine and ammonium salts of a C_8 to C_{21} organic sulfate, which comprises incorporating 5 to 15 wt. percent of an agglomerated latex of a rubbery copolymer of butadiene and styrene, a frothing agent and a gelling agent into a dispersion of such material, forming said dispersion into a froth, and setting said froth to an irreversible gel.

3,264,233
POLYURETHANES FROM HALOGENATED BRANCH POLYETHERS
Viktor Trescher, Leverkusen, Gunther Braun, Cologne-Flittard, and Manfred Dahm, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed Mar. 20, 1963, Ser. No. 266,518
Claims priority, application Germany, Mar. 31, 1962, F 36,435
8 Claims. (Cl. 260—2.5)

1. A polyurethane plastic prepared by a process which comprises reacting an organic polyisocyanate with a polyhydric polyalkylene ether containing at least one

$$—O—R—(X)_n$$

group as a branch chain substituent on an alkylene group of said polyhydric polyalkylene ether, wherein R is a member selected from the group consisting of arylene and alkylene, X is a member selected from the group consisting of bromine, chlorine and iodine, and n is a positive integer.

3,264,234
DISPERSION POLYMERISATION OF MONOMER IN PRESENCE OF POLYMERIC SOLVATED CONSTITUENT
Desmond Wilfrid John Osmond, Iver Heath, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Dec. 4, 1961, Ser. No. 157,015
Claims priority, application Great Britain, Dec. 7, 1960, 42,103/60
8 Claims. (Cl. 260—4)

1. In a process for producing a dispersion of a solid synthetic polymer in an inert organic liquid in which the polymer is insoluble, by polmerizing at least one ethylenically unsaturated monomer which is polymerizable by addition polymerization in solution in said organic liquid in the presence, in solution, of a polymeric solvated constituent which will react with said monomer to form a member of the group consisting of block and graft copolymers; the improvement which comprises first copolymerizing a minor proportion of said monomer with said solvated constituent in the presence of an initiator for inducing formation of said member of the group consisting of block and graft copolymers to form a fine dispersion containing said member of the group consisting of block and graft copolymers, destroying the residual initiator and then polymerizing the remainder of said monomer in the presence of an initiator which predominantly initiates addition polymerization of said monomer and has only little tendency to initiate formation of said member of the group consisting of block and graft copolymers, said minor proportion of monomer being at least about equal in weight to said solvated constituent but not exceeding 25% by weight of the total monomer.

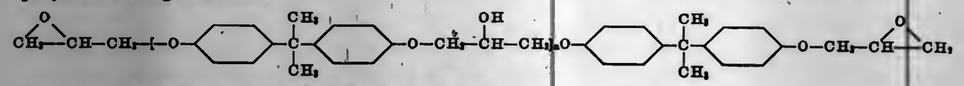
3,264,235

PROCESS FOR PREPARING SOLUBLE REACTION PRODUCTS OF EPOXY RESINS AND VARNISHES AND PAINT MADE THEREFROM

Edmond Hustinx, Loojersgracht 4, Maastricht, Netherlands

No Drawing. Filed June 1, 1961, Ser. No. 120,855
10 Claims. (Cl. 260—18)

1. Process for preparing soluble reaction products of epoxy resins having the formula



comprising heating epoxy resins of the above formula at a temperature of between 100° and 200° C. with precipitated silicates of polyvalent metals selected from the group consisting of aluminum silicate, calcium silicate, zinc silicate, lead silicate, magnesium silicate, titanium silicate, cobalt silicate and mixtures thereof, said precipitated silicates containing hydroxy groups and the ratio of epoxy resins to precipitated silicates being from 1–2 parts by weight epoxy resins to 1 part by weight silicate.

3,264,236

p-TOLYLENE DIISOCYANATE MODIFIED POLYESTER POLYMER AND METHOD OF MAKING THE SAME

Anthony F. Santaniello, Trenton, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed June 22, 1959, Ser. No. 821,634
4 Claims. (Cl. 260—22)

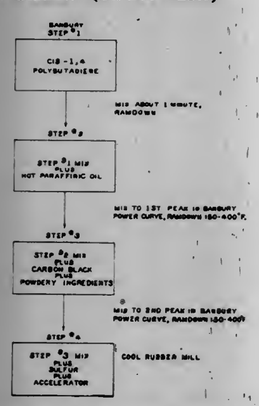
1. The method of making an isocyanate-terminated prepolymer which comprises reacting with a molar excess of diethylene glycol a polybasic acid which is essentially a mixture of the dimer and trimer of an unsaturated C_{18} fatty acid which is predominately oleic acid to form a polyester having free hydroxyl terminals, and then reacting said polyester with a molar excess of p-tolylene diisocyanate to form said prepolymer.

3,264,237

MODIFICATION OF CIS-POLYBUTADIENE WITH A HYDROCARBON OIL, A FATTY ACID AND A TACKIFIER

Donald V. Sarbach, Hinckley, Robert J. Ettinger, Cleveland, Joseph Hugh Macey, Akron, and J. C. Gipson, Lorain, Ohio, assignors to Goodrich-Gulf Chemicals, Inc., a corporation of Delaware

Filed Sept. 28, 1960, Ser. No. 59,072
6 Claims. (Cl. 260—23.7)



6. A vulcanizable plastic rubber composition of normalized processing behavior comprising a rubbery homopolymer of butadiene-1,3 in which at least about 80% of the butadiene units are joined cis-1,4 and characterized by a four-minute ML Mooney viscosity at 212° F. in the range of 35 to 120 which has been combined with (1) from about 1 to about 25 parts by weight per 100 parts by weight of said rubbery homopolymer of a normalizing hydrocarbon oil having a Viscosity-Gravity-Constant above about 0.79 and below about 1.0; (2) from about 0.5 to about 10 parts by weight per 100 parts by weight of rubbery homopolymer of a fatty acid; (3) from about 0.5 to about 15 parts by weight per 100 parts by weight of rubbery homopolymer of a rubber tackifying agent; (4) from about 25 to about 125 parts by weight per 100 parts by weight of said rubbery homopolymer of carbon black and (5) a vulcanizing agent, said components (1) through (3) totalling not more than about 25 parts by weight per 100 parts by weight of rubbery homopolymer.

3,264,238

COATING COMPOSITIONS COMPRISING LATEX PAINT, HYDROCARBON AND PLASTIC-SURFACED PARTICLES

Alphonse Raymond Wallen, Chicago, Ill., assignor to United States Gypsum Company, a corporation of Illinois

No Drawing. Filed Aug. 29, 1963, Ser. No. 305,528
7 Claims. (Cl. 260—23.7)

7. The method of preparing a coating composition comprising the steps of first preparing an additive by mixing about 20 parts by weight of decorative plastic surfaced particles with about 80 parts by weight of a hydrophobic hydrocarbon liquid, thickening the mixture by adding from 1 to 3 parts by weight aluminum stearate and dispersing about 1% by weight, based on the total coating composition, of the prepared additive in a separately prepared water thinned latex paint.

3,264,239

VULCANIZING AGENT PREPARED FROM SULFUR, LINSEED OIL AND DICYCLOPENTADIENE

George Rosen and Warren D. Helmer, Levittown, Pa., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Oct. 8, 1963, Ser. No. 314,635
14 Claims. (Cl. 260—23.7)

5. A process for making a vulcanizing agent which comprises preparing a mixture of sulfur, linseed oil and dicyclopentadiene containing from 20 to 100 atoms of sulfur per molecule of dicyclopentadiene and having a weight ratio of dicyclopentadiene to linseed oil of about 1:2 to 3:1, heating the resulting mixture at 125° to 135° C. for at least 5 hours to form an interpolymer, and cooling and comminuting the interpolymeric product.

3,264,240

COKE FILLED POLYOLEFIN COMPOSITIONS

Marnell A. Segura, Atlantic Highlands, and Ora Lee Reedy, North Plainfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Nov. 30, 1961, Ser. No. 156,118
1 Claim. (Cl. 260—28.5)

A moldable composition of matter consisting essentially of polypropylene admixed with about 200 to 400 parts by weight, per 100 parts by weight of said polypropylene, of comminuted petroleum coke having a volatile content of no more than about 10 wt. percent, at least 60 wt. percent of said coke having a particle size distribution between about 0.75 and about 50 microns and wherein the remainder of said coke above said 50 micron size has particle size sufficiently small to permit complete incorporation into said polypropylene.

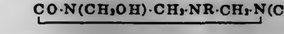
3,264,241

URON RESIN-TRIAZONE COMPOSITIONS

David H. Abrahams, New Rochelle, and Leo Goldberg, Bayside, N.Y., assignors to Dexter Chemical Corporation, a corporation of New York

No Drawing. Filed June 19, 1963, Ser. No. 288,911
12 Claims. (Cl. 260—29.4)

1. A composition for treatment of textile fabric consisting essentially of from about 95 to about 20 parts of a N,N'-bis(alkoxymethyl) uron resin and from about 5 to about 80 parts of a triazone compound having the formula:



wherein R is selected from the group consisting of alkyl, alkanol, alkoxyalkyl, cycloalkyl and alkylene radicals having from one to six carbon atoms.

3,264,242

AQUEOUS DISPERSIONS CONTAINING ALKYLATED DIPHENYLOXIDEDISULFONIC ACID AND A NON-IONIC SURFACE ACTIVE AGENT

Arthur S. Teot, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 3, 1961, Ser. No. 142,484
8 Claims. (Cl. 260—29.6)

1. An aqueous dispersion of solids containing a composition comprising one part by weight of an alkali metal salt of alkylated diphenyl oxide disulfonic acid having from 8 to 18 carbon atoms in each alkyl moiety and an average of from 1.8 to 2.2 sulfonic acid moieties per diphenyl oxide radical and from 1/9 to 9 parts by weight of a nonionic surface-active agent.

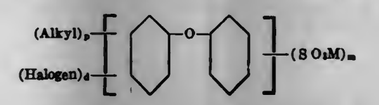
3,264,243

VINYL BASE ADHESIVE COMPOSITIONS WITH IMPROVED WATER RESISTANCE

Herman Knieriem, Jr., Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 14, 1962, Ser. No. 179,764
6 Claims. (Cl. 260—29.6)

1. An improved, water resistant system comprising vinyl base adhesive and an amount of an alkyl aryl sulfonate having the formula



wherein "alkyl" represents an alkyl radical having from 8 to 18 carbon atoms, p represents an integer from 1 to 2, "halogen" represents a halogen atom having an atomic number from 17 to 35, d represents an integer from 0 to 1, M represents a member selected from the group consisting of alkali metal and alkaline earth metals and m represents an integer from 1 to 3 effective to improve the water resistance of the adhesive when set.

3,264,244

SOLID LOW MOLECULAR WEIGHT VINYL TOLUENE POLYMERS

Arnold Edwin Ambler and Arthur Topham, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed June 3, 1963, Ser. No. 284,853
Claims priority, application Great Britain, Dec. 19, 1960, 43,565/60
6 Claims. (Cl. 260—29.6)

1. Normally solid polymers having a number average molecular weight in the range 1000 to 3200 and being essentially the product obtained by the free radical emulsion polymerization of monomeric material selected from the group consisting of meta-vinyltoluenes, para-vinyltoluenes and mixtures thereof.

3. Normally solid polymers having a number average molecular weight in the range 1000 to 3200 and being essentially the product obtained by free radical emulsion polymerizing a first monomeric material selected from the group consisting of meta-vinyltoluenes, para-vinyltoluenes and mixtures thereof and mixtures of the first monomeric material with up to 10% of a second monomeric material selected from the group consisting of styrene, halogenostyrenes, alkoxystyrenes, acrylonitrile, butadiene, methacrylonitrile, alkylacrylates, alkyl methacrylates, alkyl fumarates and methylvinylketone.

3,264,245

PREPARATION OF AN AQUEOUS POLYVINYL ALCOHOL COMPOSITION

Harold King Sinclair, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 27, 1964, Ser. No. 370,720
3 Claims. (Cl. 260—29.6)

1. The process of preparing an aqueous polyvinyl alcohol solution which remains fluid for at least a few seconds after preparation and spontaneously gels thereafter, which process comprises contacting a gelable fluid aqueous polyvinyl alcohol solution at a pH of from about 3 to 8 with a pentavalent vanadium compound dissoluble therein to provide at least about 1×10^{-4} gram atom of pentavalent vanadium per gram of polyvinyl alcohol, and a reducing agent dissoluble therein in amount at least effective to reduce said amount of pentavalent vanadium to a valence below 5 but ineffective alone to gel said polyvinyl alcohol solution.

3,264,246

NON-WATERSPOTTING BACKING OF N,N-DIETHYLAMINOETHANOL SALT

Raymond E. Donaldson and Charles C. White, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 15, 1963, Ser. No. 302,469
7 Claims. (Cl. 260—29.7)

1. A backing composition for tufted and woven carpets comprising (a) rubber latex, (b) from about 0.5 part to 10 parts by weight of filler material for each part by weight of rubber solids in said rubber latex, and (c) a waterspotting-preventing compound selected from the group consisting of N,N-diethylaminoethanol salt of formic acid, N,N-diethylaminoethanol salt of acetic acid, and N,N-diethylaminoethanol salt of oleyl acid phosphate, said waterspotting-preventing compound being present in an amount equal to from about 10 to 20 parts based on the dry weight for each 100 parts by dry weight of backsizing composition.

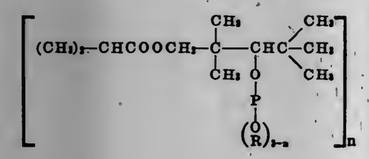
3,264,247
PENTYL ISOBUTYRATE PHOSPHITE PLASTIZER-STABILIZER

Lester Friedman, Beachwood Village, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

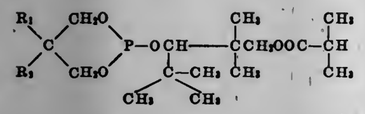
No Drawing. Original application Sept. 7, 1962, Ser. No. 222,171. Divided and this application July 8, 1965, Ser. No. 478,788
11 Claims. (Cl. 260—30.6)

1. A member of the group consisting of polymers of a conjugated diene hydrocarbon, a halogen containing polymer of an ethylenically unsaturated monomer, a linear polyester nylon and a polymer of a monoolefin having 2 to 4 carbon atoms together with a compound having one of the formulae

(1)

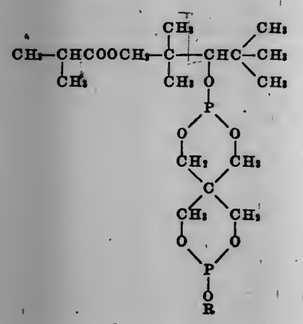


(2)



and

(3)



where *n* is an integer form 1 to 3, R is selected from the group consisting of alkyl, aryl and haloaryl when *n* is 1 or 3, and R is selected from the group consisting of alkyl, aryl, haloaryl and hydrogen when *n* is 2, and R_1 and R_2 are alkyl.

3,264,248
ENCAPSULATING COMPOSITIONS CONTAINING AN EPOXY RESIN, METAXYLYLENE DIAMINE, AND TRIS-BETA CHLORETHYL PHOSPHATE, AND ENCAPSULATED MODULES

Harold R. Lee, Auburn, N.Y., assignor to General Electric Company, a corporation of New York

Filed Aug. 22, 1963, Ser. No. 304,722
5 Claims. (Cl. 260—30.6)

1. A substantially clear, self-extinguishing encapsulating resinous composition consisting essentially of by weight, 100 parts epoxy resin, said resin having more than one epoxy group per molecule and having an epoxide equivalent from 173 to 205, 13.5 to 15.5 parts metaxylylene diamine and 7 to 9 parts tris-beta chlorethyl phosphate.

3,264,249
ADHESIVE COMPOSITIONS OF BUTADIENE POLYMERS USED IN MEDICAL APPLICATIONS

Chisato Araki, Hajime Handa, Tomio Ohta, Junji Furukawa, and Shinzo Yamashita, Sakyoku, Kyoto, and Rokuro Chihara, Nakatsu, Oita, Japan, assignors to Yoshitomi Pharmaceutical Industries, Ltd., Osaka, Japan

No Drawing. Filed Apr. 2, 1962, Ser. No. 184,573
Claims priority, application Japan, Apr. 20, 1961, 36/14,371
8 Claims. (Cl. 260—32.4)

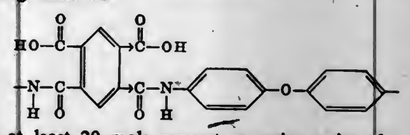
1. A composition consisting essentially of (1) a compound selected from the group consisting of acrylonitrile, cyanoacrylic acid, cyanoacrylic acid lower alkyl esters wherein the alkyl group contains from 1 to 2 carbon atoms, cyanoacrylonitrile, methacrylonitrile, cyanomethacrylic acid, cyanomethacrylic acid lower alkyl esters wherein the alkyl group contains from 1 to 2 carbon atoms and cyanomethacrylonitrile; (2) a diene-type polymer selected from the group consisting of butadiene-acrylonitrile copolymer, natural rubber, butadiene-styrene copolymer, chloroprene polymer, isoprene polymer and isoprene-isobutylene copolymer; (3) a member selected from the group consisting of diisocyanate compounds and triisocyanate compounds, and (4) a member selected from the group consisting of nitromethane, trichloroethylene and mixtures thereof, the composition being homogeneous and anhydrous, the relation between the component (1) and the component (2) being 1:0.7–1.8 by weight and the amount of polyisocyanate compound being from about 0.3% to about 3% of the total amount of the composition.

3,264,250
COPOLYMERIC POLYAMIDE-ACIDS AND POLYIMIDES

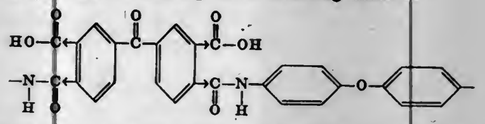
Walter G. Gall, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 18, 1963, Ser. No. 331,353
6 Claims. (Cl. 260—32.6)

5. A shapeable composition comprising a copolymer consisting essentially of at least 30 mole percent recurring units of



and at least 20 mole percent recurring units of



in a solvent, said copolymer having an inherent viscosity of at least 0.5 when measured at 30° C. as an 0.5% by weight solution in N,N-dimethylacetamide.

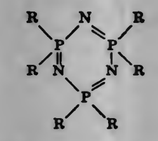
6. A shapeable composition as in claim 5 wherein the solvent is N,N-dimethylacetamide.

3,264,251
LOW MODULUS RUBBER MATERIALS AND THE PREPARATION THEREOF

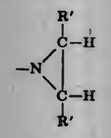
Jerry T. Gruver, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed July 31, 1961, Ser. No. 127,871
14 Claims. (Cl. 260—41)

1. A process which comprises reacting a polymeric material selected from the group consisting of rubbery homopolymers of conjugated diene monomers having from 4 to 12 carbon atoms, and rubbery ethylene/propylene copolymers with an acidic carbon black and a combination of an organic peroxide and a reactant material selected from the group consisting of compounds having the formula



wherein R is a radical selected from the group consisting if 1-aziridinyl radicals which can be represented by the formula



hydrogen, an alkyl, cycloalkyl, aryl, aralkyl, and alkaryl radical, each hydrocarbon radical containing from 1 to 12 carbon atoms, the R′ radicals are selected from the group consisting of hydrogen, alkyl, cycloalkyl, aryl, aralkyl and alkaryl radicals, the R's in each aziridinyl radical containing up to and including a total of 20 carbon atoms, and where at least two of the R groups are 1-aziridinyl radicals and P is phosphorus.

3,264,252
CURING A MONO-OLEFIN POLYMER-FILLER MIXTURE WITH A COMPOUND HAVING A QUINOID STRUCTURE

Donald B. Smith, Reading, and James C. MacKenzie, Wellesley Hills, Mass., assignors, by mesne assignments, to Polymer Dispersions, Inc., New York, N.Y., a corporation of Ohio

No Drawing. Filed Dec. 26, 1962, Ser. No. 247,374
20 Claims. (Cl. 260—41)

10. A process for improving the high temperature properties of a polymeric material chosen from the group consisting of the homopolymers of the aliphatic monoolefinic hydrocarbon monomers and mixtures thereof, copolymers formed from the aliphatic mono-olefinic hydrocarbons, and mixtures thereof, so as to produce a material having exceptional flexibility and strength, which process comprises compounding said polymeric material with a filler and a curing agent consisting of above about 0.1% by weight of said polymeric material of a compound having the formulation

$$R(NOR_1)_2$$

wherein R is an organic group having a quinoid structure, and R_1 is chosen from the group consisting of hydrogen, a metal which permits curing activity by said compound upon heating, and an organic grouping chosen from the group consisting of alkyl, aryl, arylalkyl, acyl, or aroyl, and curing the resulting mixture at a temperature above about 210° C.

3,264,253
POLYMER COMPOSITIONS

William John G. McCulloch, Plainfield, Walter E. Heumann, Jersey City, and Philip L. Mercier, Plainfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 28, 1956, Ser. No. 631,039
6 Claims. (Cl. 260—41)

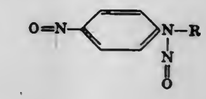
5. A flexible composition of matter consisting essentially of 100 parts by weight of polypropylene having a tensile strength of at least 800 p.s.i. and a density between 0.875 and 0.885 and about 25 to 50 parts by weight of an inert filler selected from the group consisting of carbon black and silica.

3,264,254
REACTING VULCANIZABLE ELASTOMERS WITH DINITROSOANILINES

Ching C. Tung, Nitro, W. Va., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed June 11, 1956, Ser. No. 590,397
24 Claims. (Cl. 260—41.5)

17. The process which comprises heating within the range of 250° F.–370° F. for a time within the range of about one minute to sixteen hours butyl rubber which is a copolymer of at least 85% isobutylene and a small amount, not more than 15%, of diolefin, said copolymer having incorporated therein carbon black within the range of 25–60 parts per 100 parts by weight of copolymer and a compound within the range of 0.01–3.0 parts per 100 parts by weight of copolymer which increases the resilience of the vulcanizate prepared from the copolymer treated as aforesaid, represented by the general formula



where R represents an aliphatic radical, any vulcanizing ingredients, if present, being present in amounts insufficient to cause vulcanization whereby the resilience of the subsequently cured product is improved.

3,264,255
COLOR STABILIZATION OF POLYETHYLENE TEREPHTHALATE WITH FINELY DIVIDED METALS

George Wright Taylor, Harrogate, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed May 3, 1962, Ser. No. 192,061
3 Claims. (Cl. 260—45.75)

1. A method of reducing degradation and tendency to color formation of fiber forming polyethylene terephthalate formed by a polycondensation reaction when the polymer is subjected to heating at an elevated temperature which comprises adding to said polyethylene terephthalate, after polycondensation, at least about 0.2% of at least one metal selected from the group consisting of nickel, copper, aluminum, manganese, and iron, said metal having a particle size in the range 0.25 to 10 mm., and maintaining said metal in contact with the polymer, while it is heated to a temperature sufficient to cause degradation.

3,264,256
VINYL CHLORIDE POLYMERS CONTAINING EPOXIDIZED ORGANOTIN COMPOUNDS AS STABILIZERS

Gerry P. Mack, Jackson Heights, N.Y., assignor, by mesne assignments, to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application July 20, 1956, Ser. No. 599,003, now Patent No. 3,147,285, dated Sept. 1, 1964. Divided and this application May 1, 1964, Ser. No. 381,276
24 Claims. (Cl. 260—45.75)

1. Vinyl chloride polymers having incorporated therein a stabilizing amount of an organometallic compound wherein the metal consists of tetravalent tin, said compound containing at least one vic-epoxy group.

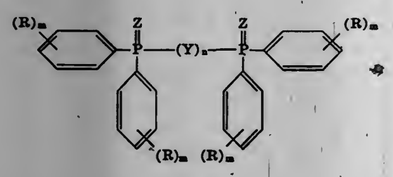
3,264,257

POLY-α-OLEFIN COMPOSITIONS CONTAINING ORGANOPHOSPHORUS COMPOUNDS AS STABILIZERS

Silvio L. Giolito, Whitestone, and Sheldon Herbstman, Bronx, N.Y., and Adam F. Kopacki, Westwood, N.J., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 10, 1963, Ser. No. 294,159
7 Claims. (Cl. 260—45.95)

1. A stabilized poly-α-olefin composition comprising a solid poly-α-olefin formed from an α-monoolefinic aliphatic hydrocarbon having from 2 to 10 carbon atoms and as a stabilizer therefor a stabilizing quantity of an organic phosphorus compound of the formula:



wherein R is selected from the class consisting of hydrogen, hydroxyl, chlorine, lower alkyl and lower alkoxyl, Z and Y are chalcogens selected from the class consisting of oxygen and sulfur, and *n* is unity when Y is oxygen and *n* is an integer of from 1 to 5 when Y is sulfur, and *m* is an integer of from 1 to 5.

3,264,258

VULCANISABLE ORGANOPOLYSILOXANE COMPOSITIONS AND VULCANISED PRODUCTS OBTAINED THEREFROM

Louis Ceyzeriat, Lyon, France, assignor to Rhone-Poulenc S.A., Paris, France, a corporation of France

No Drawing. Filed Dec. 6, 1962, Ser. No. 242,623
Claims priority, application France, Dec. 7, 1961, 881,278
7 Claims. (Cl. 260—46.5)

1. A vulcanisable, moisture-free liquid composition comprising a linear hydroxy-terminated diorganopolysiloxane cross-linked both by an organic peroxide and by an organotriacyloxysilane.

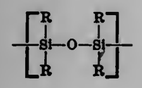
3,264,259

ORGANOPOLYSILOXANES

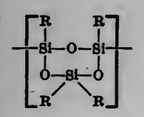
Tse C. Wu, Waterford, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Aug. 1, 1963, Ser. No. 299,195
7 Claims. (Cl. 260—46.5)

1. A polymeric material consisting essentially of from about 3 to 50 recurring units selected from the class consisting of:



and



where R is a member selected from the class consisting of phenyl, tolyl, xylyl, biphenyl, phenoxyphenyl, halogenated phenyl, methyl, and ethyl radicals.

3,264,260

CATALYZED PHENYLSILOXANE RESINS

Robert W. Muller and Gust J. Kookootsedes, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Apr. 2, 1964, Ser. No. 356,938
11 Claims. (Cl. 260—46.5)

1. A thermosetting transfer molding resin composition comprising an intimate mixture of

(a) an uncured phenylsiloxane resin containing at least 0.25 percent by weight silicon-bonded hydroxyl groups and a catalytic amount of

(b) a composition consisting of from 45 to 70 mol percent of a hydroxylated compound selected from the group consisting of aliphatic alcohols, cycloaliphatic alcohols, and hydroxylated aromatic compounds, where, in any hydroxylated aromatic compound, any two ≡COH groups present in the same molecule are separated by at least one carbon atom, said hydroxylated compound being in a nonsolid phase at the thermosetting temperature, and from 30 to 55 mol percent of a compound selected from the group consisting of lead carbonate and the oxides of lead.

3,264,261

HARDENABLE EPOXY RESIN COMPOSITIONS

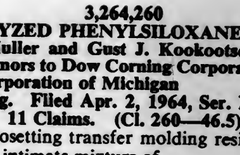
Bernard Peter Stark, Stapleford, England, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Nov. 29, 1961, Ser. No. 155,837
Claims priority, application Great Britain, Dec. 1, 1960, 41,440/60
2 Claims. (Cl. 260—47)

1. A heat-hardenable 1,2-epoxy compound having a 1,2-epoxy equivalency greater than 1 composition comprising a 1,2-epoxy resin and, as hardener therefor, a mixture of the compound of the formula



with the compound of the formula



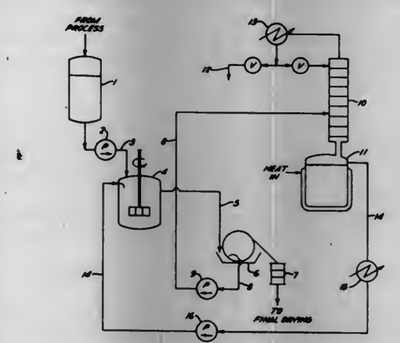
3,264,262

POLYCARBONATE RECOVERY SYSTEM

Peter J. Baker and John V. Bailey, New Martinsville, W. Va., assignors to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

Filed May 22, 1963, Ser. No. 282,288
11 Claims. (Cl. 260—47)

1. A continuous process for separating polycarbonate from its solvent in a solution thereof which comprises continuously mixing in a mixing means a polycarbonate solution and a precipitating solution, said precipitating solution comprising a polycarbonate solvent and a polycarbonate non-solvent, said solvent being miscible with and having a boiling point lower than the boiling point of said non-solvent to form a mixture containing from about 1 to about 15 parts by weight of precipitated polycarbonate, from about 35 to about 65 parts by weight of polycarbonate solvent and from about 35 to 65 parts by weight of polycarbonate non-solvent, removing from the resulting mixture said pricipitated polycarbonate and that amount of polycarbonate solvent which was initially added via said polycarbonate solution, and continuously recycling the remaining solution to said mixing means where it is mixed with fresh polycarbonate solution.

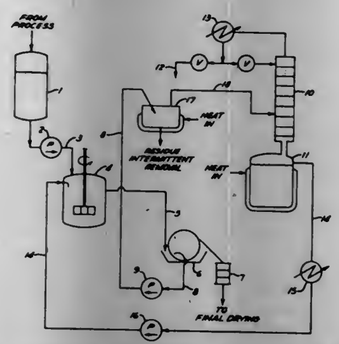


3,264,263

POLYCARBONATE RECOVERY SYSTEM

Peter J. Baker, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

Filed May 22, 1963, Ser. No. 282,289
10 Claims. (Cl. 260—47)



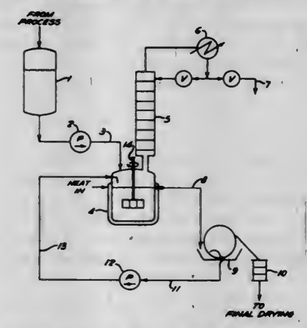
1. A continuous process for separating polycarbonate from its solvent in a solution thereof to form polycarbonate having high impact strength which comprises continuously mixing in a mixing means a polycarbonate solution and a precipitating solution, said precipitating soluton comprsng a polycarbonate solvent and a polycarbonate non-solvent, said solvent being miscible with and having a boiling point lower than the boiling point of the non-solvent, to form a mixture comprising from about 1 to 15 parts by weight of precipitated polycarbonate, from about 35 to 65 parts by weight of polycarbonate solvent and from about 35 to 65 parts by weight polycarbonate non-solvent, separating the precipitated polycarbonate from the resulting mixture, removing from the remainder of the mixture the unprecipitated polycarbonate and subsequently removing the remainder of the mixture that amount of polycarbonate solvent which was initially added to said mixing means via said polycarbonate solution and continuously recycling the resulting solution to said mixing means where it is mixed with fresh polycarbonate solution.

3,264,264

POLYCARBONATE RECOVERY SYSTEM

Peter J. Baker, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

Filed May 22, 1963, Ser. No. 282,290
11 Claims. (Cl. 260—47)



1. A continuous process for separating polycarbonate from its solvent in a solution which comprises continuously mixing in a mixing means a polycarbonate solution and a precipitating solution, said precipitating solution comprising a polycarbonate solvent and a polycarbonate non-solvent, said solvent being miscible with and having a boiling point lower than the boiling point of said non-solvent, maintaining a temperature during said mixing of at least above the boiling point of said polycarbonate solvent, while concurrently removing from said mixing vessel substantially that amount of solvent which is introduced to said mixing vessel via said polycarbonate solution to form a mixture containing from about 1 to about 15 parts by weight of precipitated polycarbonate, from about 35 to about 65 parts by weight of solvent and from about 35 to about 65 parts by weight of polycarbonate non-solvent, separating from the resulting mixture said precipitated polycarbonate and continuously recycling the remaining solution to said mixing means where it is mixed with fresh polycarbonate solution.

3,264,265

PROCESS FOR PRODUCING FORMALDEHYDE POLYMERS FROM TRIOXANE AND THEIR STABILIZATION

Silvio Bezzi, Padova, Italy, assignor to Montecatini Societa Generale per l'Industria Mineraria e Chimica, a corporation of Italy

No Drawing. Filed Feb. 10, 1961, Ser. No. 88,273
Claims priority, application Italy, Feb. 24, 1960, 3,090/60
8 Claims. (Cl. 260—67)

1. A process for converting trioxane into a thermoplastic resin, comprising subliming anhydrous trioxane under vacuum in the presence of oxalic acid.

3,264,266

POLYMER PREPARED BY REACTING AN ACETAL, PROPYLENE OXIDE AND STYRENE WITH BORON TRIFLUORIDE DIETHYL ETHERATE CATALYST

Rüdolf Merten, Cologne-Mulheim, and Küno Wagner, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 27, 1959, Ser. No. 802,311
Claims priority, application Germany, Apr. 3, 1958, F 25,413
1 Claim. (Cl. 260—73)

A method for making a polymer which comprises reacting an acetal prepared by reaction between triethyl-

ene glycol and formaldehyde, propylene oxide and styrene in the presence of a catalytic amount of a boron trifluoride diethyl etherate catalyst.

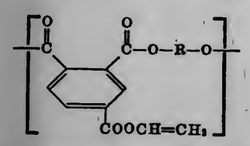
3,264,267
4-CARBOXY POLYESTERS AND METHOD OF MAKING THEM

James R. Stephens, Gary, and Richard E. Van Strien, Griffith, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Sept. 10, 1962, Ser. No. 222,670
7 Claims. (Cl. 260—75)

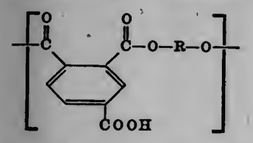
1. A method for preparing resinous linear 4-carboxy polyesters which comprises:

(a) reacting at a temperature below 70° C. 4-vinyl trimellitate anhydride with a member selected from the group consisting of a mono-epoxide and a mixture of a mono-epoxide with a glycol, said epoxide and glycol each having from 2 to 9 carbon atoms, to obtain a resinous linear polyester having the repeating unit



wherein the —COOCH=CH_2 moiety is more rapidly hydrolyzable than the —COORO— moiety, and wherein R represents a hydrocarbon radical having from 2 to 9 carbon atoms,

(b) Hydrolyzing said polyester to obtain a resinous linear 4-carboxy polyester having the repeating unit



wherein R represents a hydrocarbon radical having from 2 to 9 carbon atoms.

ERRATUM

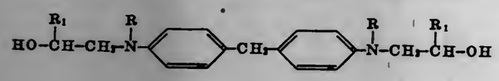
For Class 260—77.5 see:
Patent No. 3,264,368

3,264,268
POLYURETHANES FROM HYDROXY ALKYLATED AROMATIC AMINES

Erwin Muller and Otto Bayer, Leverkusen, and Julius Peter, Buchmühle, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen Germany, a German corporation

No Drawing. Filed June 21, 1962, Ser. No. 204,083
Claims priority, application Germany, June 22, 1961, F 34,243
6 Claims. (Cl. 260—77.5)

2. Non-porous elastomeric polyurethanes prepared by the process which comprises preparing an isocyanate modified active hydrogen terminated intermediate by reacting an organic compound containing active hydrogen atoms which are reactive with —NCO groups and having a molecular weight of at least 800 with an organic polyisocyanate and an hydroxy alkylated aromatic amine having the formula



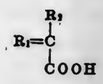
wherein R is a radical selected from the group consisting of alkyl, cycloalkyl and aralkyl and R_1 is a member selected from the group consisting of hydrogen and alkyl, said active hydrogen terminated compounds being present in an amount in excess of the isocyanate present and reacting the intermediate thus formed with a member selected from the group consisting of formaldehyde and sulfur.

3,264,269
PROCESS FOR CROSS-LINKING POLYMERS CONTAINING CARBOXYL GROUPS WHICH COMPRISES IMBIBING A SHAPED ARTICLE OF THE POLYMER IN A DIISOCYANATE

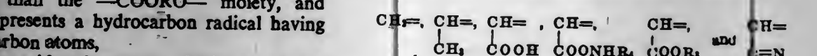
Richard Watkin Rees, Graylyn Crest, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del.

No Drawing. Filed Aug. 3, 1962, Ser. No. 214,480
13 Claims. (Cl. 260—77.5)

1. A process of cross-linking a shaped article formed of a random addition copolymer consisting essentially of from 0.1 to 25 mole percent of an α,β-unsaturated carboxylic acid of the structure



wherein R_1= is selected from the group consisting of



and —R_2 is selected from the group consisting of —H, —CH_3, —C_2H_5, —CONHR$_4$, —COOR$_3$, —C≡N, —CH_2COOH, —CH_2CONHR$_4$, and —CH_2C≡N, wherein —R_3 is an alkyl containing from 1 to 10 carbon atoms, and —R_4 is selected from the group consisting of —R_3 and —H; at least 50 mole percent of an α-olefin containing from 2 to 10 carbon atoms; and the remainder of the copolymer being formed of vinyl acetate, and monomers having the structure



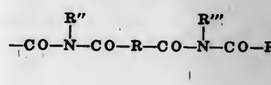
wherein —R_5 is selected from the group consisting of —H, —CH_3, and —Cl, and —R_6 is selected from the group consisting of —R_5, phenyl, —C≡N, —OR$_7$, and —COOR$_7$, wherein —R_7 is an alkyl radical having up to 10 carbon atoms; which comprises the step of imbibing said shaped article with a diisocyanate free of steric hindrance, and containing up to 20 carbon atoms, at a temperature of from 25° C. to the melt temperature of the copolymer whereby the copolymer is cross-linked and the shaped article retains substantially its original shape.

3,264,270
POLYIMIDES

James Eric McIntyre, Harrogate, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Feb. 20, 1963, Ser. No. 260,042
Claims priority, application Great Britain, Feb. 20, 1962, 6,549/62
3 Claims. (Cl. 260—78)

1. A polyamide consisting of repeat units of the formula:



where R and R′ are taken from the group consisting of saturated aliphatic hydrocarbon and aromatic hydrocarbon divalent radicals and R″ and R‴ are taken from the group consisting of monovalent alkyl and aryl radicals.

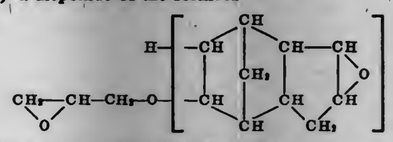
3,264,271
HEAT-CURABLE MIXTURES OF EPOXY DERIVATIVES AND POLYCARBOXYLIC ACID ANHYDRIDES

Daniel Porret, Basel, Otto Ernst, Pfeffingen, Basel-Land, Erwin Nikles, Allschwil, and Fritz Kugler, Muttenz, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

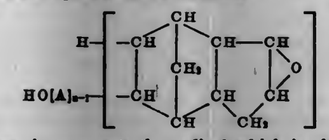
No Drawing. Filed Mar. 7, 1962, Ser. No. 177,993
Claims priority, application Switzerland, Mar. 27, 1961, 3,617/61; Apr. 12, 1961, 4,306/61
5 Claims. (Cl. 260—78.4)

1. Thermocurable mixtures comprising

(a) a diepoxide of the formula



(2) a monoepoxide of the formula



where A represents the radical which is obtained by removing the terminal hydroxyl groups from a member selected from the class consisting of aliphatic saturated dialcohols and polyalkylene glycols, and *n* is an integer of at least 1 and at the most 2 and

(3) a polycarboxylic acid anhydride.

3,264,272
IONIC HYDROCARBON POLYMERS

Richard Watkin Rees, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 8, 1963, Ser. No. 271,477
35 Claims. (Cl. 260—78.5)

1. Ionic copolymers of α-olefins having the formula R—CH=CH_2, where R is a radical selected from the class consisting of hydrogen and alkyl radicals having from 1 to 8 carbon atoms, and α,β-ethylenically unsaturated carboxylic acids having from 3 to 8 carbon atoms, said copolymers having from 10% to 90% of the carboxylic acid groups ionized by neutralization with metal ions uniformly distributed throughout the copolymer, said copolymer being a direct copolymer of the α-olefins and the unsaturated carboxylic acid in which the carboxylic acid groups are randomly distributed over all molecules and in which (1) the α-olefin content of the copolymer is at least 50 mol percent, based on the α-olefin-acid copolymer, (2) the unsaturated carboxylic acid content of the copolymer is from 0.2 to 25 mol percent, based on the α-olefin-acid copolymer, and (3) any other monomer component optionally copolymerized in said copolymer is monoethylenically unsaturated, and said metal ions having an ionized valence of from one to three inclusive when the unsaturated acid is a monocarboxylic acid and an ionized valence of one when the unsaturated acid is a dicarboxylic acid and said metal ions being selected from the group consisting of uncomplexed and complexed metal ions, said ionic copolymers having solid state properties characteristic of crosslinked polymers and melt-fabricability properties characteristic of uncrosslinked, thermoplastic polymers.

3,264,273
PROCESS FOR REACTING A POLYEPOXIDE WITH A POLYACID

Sylvan O. Greenlee, Lafayette, Ind., assignor to Johnson & Johnson, a corporation of New Jersey

No Drawing. Filed Oct. 12, 1962, Ser. No. 230,250
7 Claims. (Cl. 260—79.5)

1. A process for preparing a polyepoxide conversion product which comprises reacting, in the presence of phosphoric acid, a polyepoxide having a functionality of greater than one vicinal epoxy group per molecule with a polyacid of the formula



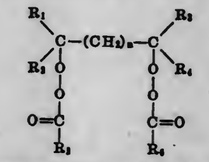
wherein X is a alkylene group; and wherein R is an *n*-valent group selected from the group consisting of: (1) *n*-valent groups selected from the group consisting of hydrocarbons, monoethers, monoesters, polyethers and polyesters each having *n* hydrogen atoms replaced by *n* free valence bonds, and (2) *n*-valent substituted derivatives of such *n*-valent groups; wherein the *n* free valence bonds are attached to *n* different carbon atoms, each of said carbon atoms having an attached carbon atom having an attached hydrogen atom and having all four valences satisfied, each such pair of carbon atoms being a part of a group selected from the group consisting of aliphatic and non-aromatic carbocyclic groups; and wherein *n* is at least one; and wherein when *n* is one then R has at least one carboxyl group as a substituent.

3,264,274
DIPERESTERS OF POLYOLS

Newton G. Leveskis, Richmond, Calif., assignor to U.S. Peroxygen Corporation, Richmond, Calif.

No Drawing. Filed Nov. 18, 1963, Ser. No. 324,244
17 Claims. (Cl. 260—80)

1. An alkyl diperester of a dihydric alkanol of the formula:



wherein *n* is a positive integer from about 1 to 5, wherein R_1, R_2, R_3, and R_4 are individually selected from the group consisting of the hydrogen atom and alkyl radicals having from about 1–5 carbon atoms, and wherein R_5 and R_6 are individually selected from alkyl radicals branched at the alpha position having from about 3–20 carbon atoms.

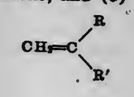
11. A method for preparing a vinyl resin having minimum discoloration comprising subjecting a free radical catalyzable vinyl monomer to free radical polymerization conditions in the presence of a catalytic amount of the compound of claim 1.

3,264,275
ELASTOMERIC INTERPOLYMERS COMPRISING ETHYLENE AND ACRYLONITRILE

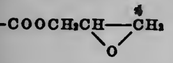
Dexter B. Pattison, Wilmington, and Herman E. Schroeder, Hockessin, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 15, 1965, Ser. No. 432,846
3 Claims. (Cl. 260—80.5)

1. A uniform, amorphous, elastomeric copolymer consisting of statistically distributed monomer units of (a) ethylene, (b) acrylonitrile, and (c)



in the molar proportions of (1.7 to 5 (a):[m(b)+n(c)], wherein n is from 0 to 0.1 and (m+n) equals 1.0, the ratio of (a):(b)+(c) ranging from 1.7 to 5.0:1; R is selected from the group consisting of hydrogen and a methyl radical and R' is a radical selected from the group consisting of —COOH, —$CONH_2$, —$COOCH_2CH_2OH$,



—$COOCH_2CH{=}CH_2$, —$COOCH_2CH_2Cl$ and

—$CONHCH_2CH{=}CH_2$

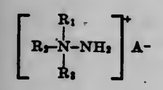
3,264,276

POLYOLEFIN MODIFIED WITH A HYDRAZINIUM HYDROXIDE

Paul R. Steyermark and Rajendra N. Chadha, Silver Spring, Clifton L. Kehr, Ednor, and Richard W. Bush, Takoma Park, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Jan. 28, 1963, Ser. No. 254,445
9 Claims. (Cl. 260—88.2)

1. A modified polyolefin formed by the reaction of an oxidized polyolefin selected from the group consisting of oxidized polyethylene and oxidized ethylene-alpha-olefin copolymers containing at least 50% by weight ethylene, and a hydrazinium having the formula



wherein R_1, R_2 and R_3 are selected from the group consisting of alkyl having 1 to 24 carbons, alkenyl having 2 to 24 carbon atoms, cycloalkyl having up to 6 carbon atoms, phenyl, alkyl phenyl, wherein the alkyl substituent possesses 1 to 12 carbon atoms, hydroxy alkyl wherein the alkyl group possesses 2 to 12 carbon atoms, hydroxy polyethoxy ethyl wherein the radical possesses up to 25 ethoxy groups, and R_1 and R_2 when combined form a heterocyclic ring having from 3 to 8 members comprised of carbon and oxygen, and A^- is selected from the group consisting of hydroxide, halogen, and sulfate.

3,264,277

OLEFIN POLYMERIZATION PROCESS IN THE PRESENCE OF A ZIEGLER-NATTA TYPE CATALYST MODIFIED WITH TRIBUTYL PHOSPHITE

De Loss E. Winkler, Orinda, and George W. Hearne, Lafayette, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 27, 1964, Ser. No. 362,988
3 Claims. (Cl. 260—93.7)

1. In the process of polymerizing propylene which comprises contacting propylene with a catalyst prepared by the sequence of steps comprising (1) reacting hydrocarbon solutions of aluminum triethyl and titanium tetrachloride in a mole ratio ranging from about 0.1:1 to less than 0.4:1 at elevated temperatures until the aluminum triethyl is completely oxidized and (2) thereafter reacting the total product of (1) with a hydrocarbon solution of aluminum triethyl or aluminum diethyl chloride, in an amount to give a total aluminum to titanium mole ratio of at least 1:1; the improvement which comprises carrying out said contact in the presence of an effective amount in the range from 2 to 10 mole percent, based on the combined atomic proportions of metal in the catalyst of tributyl phosphite.

3,264,278

POLYMERIZATION CATALYSTS AND PROCESSES THEREFOR

Karl Nützel, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Mar. 29, 1963, Ser. No. 269,144
Claims priority, application Germany, Apr. 7, 1962, F 36,496
8 Claims. (Cl. 260—94.3)

7. A process for polymerizing a conjugated diolefin in contact with a metal-organic catalyst, which comprises conducting the poylmerization in the presence of the reaction product of (a) an organic chromium complex compound of the formula $M_x[Cr(phenyl)_6]_y$, wherein M is selected from the group consisting of lithium, magnesium, aluminum, and zinc, x is a whole number from 1 to 3 and y is a whole number from 1 to 2, and (b) a metal halide, the metal of said halide being selected from the group consisting of a metal in Groups IVa-VIa of the Mendeléeff Periodic Table, the chromium complex compound being reacted with the said metal halide in an amount ranging from 0.05 to about 1 part by weight for about 1 to about 5 parts by weight, said polymerizing being carried out in an inert medium at a temperature of between —15° C. to +90° C.

3,264,279

PROCESS FOR THE TEMPORARY PROTECTION OF AMINO GROUPS IN AMINO-CARBOXYLIC ACIDS AND THEIR DERIVATIVES

Robert Schwyzer, Riehen, and Werner Rittel, Basel, Switzerland, assignors to Ciba Corporation, a corporation of Delaware

No Drawing. Filed Aug. 2, 1960, Ser. No. 46,893
Claims priority, application Switzerland, Aug. 24, 1959, 77,291
10 Claims. (Cl. 260—112.5)

1. In a process for the temporary protection, in peptide synthesis of the amino group of the aminoalkyl radical of a member selected from the group consisting of α-(aminoalkyl)-α-amino acetic acids and their derivatives, in which the α-amino group is blocked by a blocking group which may be eliminated by hydrogenolysis and the carboxyl group is in the form of a member selected from the group consisting of free carboxyl, lower alkyl ester, unsubstituted hydrazide and unsubstituted amide, which comprises acylation and subsequent splitting off of the acyl group, the improvement wherein the said amino group is acylated by the azide of carbonic acid tertiary butylsemiester.

3,264,280

TRICOSAPEPTIDES AND INTERMEDIATES FOR THE PREPARATION THEREOF

Klaus H. Hofmann and Haruaki Yajima, Pittsburgh, Pa., assignors to the United States of America as represented by the Secretary of the Department of Health, Education, and Welfare

No Drawing. Filed Nov. 28, 1961, Ser. No. 155,476
3 Claims. (Cl. 260—112.5)

1. Seryl - tyrosyl - seryl - methionyl - glutamyl - histidyl - phenylalanyl - arginyl - tryptophyl - glycyl - lysyl-prolyl - valyl - glycyl - lysyl - lysyl - arginyl - arginyl-prolyl-valyl-lysyl-valyl-tyrosine amide.

3,264,281

PREPARATION OF AMIDES

Thomas H. Applewhite, Concord, and Jane S. Nelson, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Apr. 23, 1963, Ser. No. 275,170
11 Claims. (Cl. 260—112.5)

1. In the process of preparing a peptide wherein a salt of an optically-active N-acylated amino acid and a tertiary amine is reacted with a lower alkyl chloroformate to produce a carboxylic-carbonic anhydride and this anhydride is reacted with the amine function of an amino acid to produce a peptide, the improvement which comprises reacting said salt and said chloroformate while providing an excess of said chloroformate during the entire period of the reaction whereby to ensure formation of an optically-active peptide product.

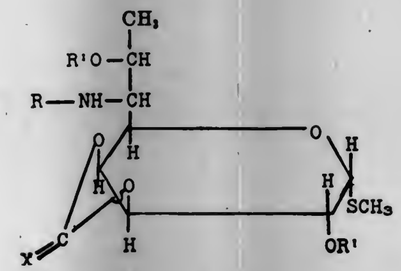
3,264,282

LINCOMYCIN CYCLIC CARBONATE ESTERS AND PROCESS FOR PREPARING THE SAME

William Schroeder, Scotts, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Apr. 13, 1964, Ser. No. 359,420
12 Claims. (Cl. 260—210)

1. A compound of the formula:



wherein X is O or S; wherein R is trans-4-propyl-L-hygroyl and R' is selected from the group consisting of hydrogen and hydrocarbon carboxylic acid acyl radical containing from 2 to 12 carbon atoms.

3,264,283

PREPARATION OF AMIDOETHYL STARCH ETHERS BY ALKALINE HYDROLYSIS OF CYANOETHYL STARCH ETHERS

Wadym Jarowenko, Plainfield, N.J., assignor to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 28, 1964, Ser. No. 392,901
1 Claim. (Cl. 260—233.3)

A method for improving the dispersibility, in water, of intact granule cyanoethyl starch ethers, said method comprising the steps of suspending an intact granule cyanoethyl starch ether in an aqueous alkaline medium so that the intact granule cyanoethyl starch ether comprises the dispersed solid phase of a heterogeneous system wherein the water is the continuous phase; adding an aqueous hydrogen peroxide solution to the alkaline suspension of said intact granule cyanoethyl starch ether so that the hydrogen peroxide is present in a concentration of from about 1.0 to 2.2 moles per mole of nitrile groups in said intact granule cyanoethyl starch ether; reacting the resulting mixture at an alkaline pH level in the range of from about 9.0 to 12.0 and at a temperature which does not exceed 40° C. and for a period which does not exceed 20 hours; thereafter separating the resulting intact granule starch product from the aqueous reaction medium wherein it comprises the solid phase of a heterogeneous system wherein the water is the continuous phase; the latter intact granule starch product being a starch ether containing substituent groups selected from the class consisting of amidoethyl groups and combinations of amidoethyl and cyanoethyl groups.

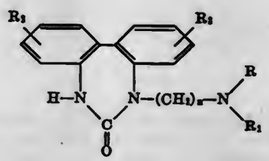
3,264,284

5-AMINOALKYL-5,7-DIHYDRO-6H-DIBENZO[d,f][1,3]DIAZEPIN-6-ONE COMPOUNDS

John Davoll, Shepperton, Middlesex, England, assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Jan. 15, 1964, Ser. No. 337,726
Claims priority, application Great Britain, Jan. 18, 1963, 2,410/63
7 Claims. (Cl. 260—239.3)

1. A member of the class consisting of 5-amino-alkyl-5,7-dihydro-6H-dibenzo[d,f][1,3]diazepin - 6 - one compounds having the formula



and non-toxic acid-addition salts thereof; where n is chosen from between 2 and 3; R is a member of the class consisting of hydrogen, methyl, ethyl, and benzyl; R_1 is a member of the class consisting of methyl and ethyl; and R_2 and R_3 are the same and are both chosen from the class consisting of hydrogen, methyl, or halogen.

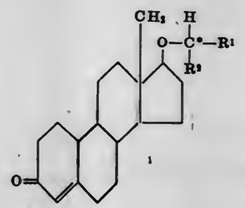
3,264,285

NOVEL 19-NOR-TESTOSTERONE-17-HEMIACETALS AND -HEMIACETAL ESTERS

Poul Borrevang, Copenhagen, Denmark, assignor to Lovens Kemiske Fabrik ved A. Kongsted, Ballerup, Denmark, a firm

No Drawing. Filed July 3, 1961, Ser. No. 121,334
Claims priority, application Great Britain, July 13, 1960, 24,462/60
13 Claims. (Cl. 260—239.5)

13. A compound selected from the group consisting of novel 19-nor-testosterone-17-hemiacetals and -hemiacetal esters with an acid group selected from the group consisting of formyl, acetyl, propionyl, butyryl, isobutyryl, cyclopentyl-propionyl, phenyl propionyl, enanthyl, furoyl-, glycyl, succinyl, and glutaryl groups, having the general structural formula



in which R^1 is pyridine, and R^2 is a member of the class consisting of a hydroxy group and ester groups, the asterisk in the formula indicating that the carbon atom of the hemiacetal group thus marked is an asymmetrically substituted carbon atom.

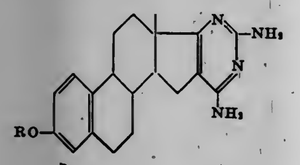
3,264,286

NOVEL STEROIDAL [17,16-d]-2',6'-DIAMINO-PYRIMIDINES

Theodore J. Foell, King of Prussia, and Leland L. Smith, Malvern, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 11, 1962, Ser. No. 230,008
5 Claims. (Cl. 260—239.5)

1. A compound selected from the group consisting of those having the structural formula:



and the pharmaceutically acceptable acid addition salts thereof wherein R represents a substituent selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, cycloalkyl of not more than 6 carbon atoms, phenyl, benzyl and lower alkanoxyl.

3,264,287

Δ^1-7α-METHYL-5α-ANDROSTENES

Albert Wettstein, Riehen, and Georg Anner, Ludwig Ehmann, and Peter Wieland, Basel, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 26, 1964, Ser. No. 355,099
Claims priority, application Switzerland, May 6, 1963, 5,675/63
3 Claims. (Cl. 260—239.55)

3. Δ^1 - 3β - hydroxy - 7α - methyl - 17 - ethylenedioxy-5α-androstene.

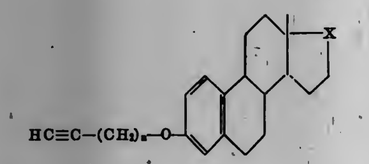
3,264,288

3-ω-ALKYNYL ETHERS OF ESTRONE AND ESTRONE 17-KETALS

James F. Fisher, Winter Haven, Fla., and Leland L. Smith, Malvern, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 4, 1964, Ser. No. 372,680
3 Claims. (Cl. 260—239.55)

1. A compound of the structure:



wherein X represents a member selected from the group consisting of lower alkylenedioxymethylene, lower alkylenethioxymethylene and lower alkylenedithiomethylene and *n* represents a positive integer from 1 to 3.

2. 3-(2-propynyloxy)estra - 1,3,5(10) - trien - 17 - one cyclic ethylene ketal.

3,264,289

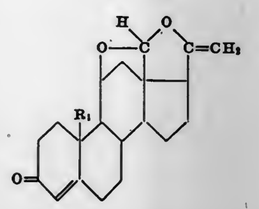
Δ^{20}-11:18;18:20-BISOXIDO-PREGNENES AND PROCESS THEREFOR

Julius Schmidlin, Basel, Switzerland, assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 25, 1964, Ser. No. 399,400
Claims priority, application Switzerland, Oct. 3, 1963, 12,173/63
20 Claims. (Cl. 260—239.55)

1. Process for the manufacture of Δ^{20}-11:18;18:20-bisoxido-pregnenes unsubstituted in 21-position wherein a Lewis acid is caused to react in an inert anhydrous medium, with a member selected from the group consisting of an 11β:18-oxido-18-hydroxy-20-oxo-5α- and 5β-pregnane, a 20-ketal, 20-enolether and 20-enolester thereof, a 19-nor-derivative thereof and a derivative of these compounds unsaturated in the ring system.

17. A member selected from the group consisting of a compound of the formula



wherein R_1 is a member selected from the group consisting of hydrogen and methyl, its 3 lower alkylene ketals and corresponding Δ^5-3-hydroxy-pregnene compounds.

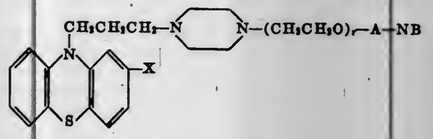
3,264,290

BASIC ETHERS OF HYDROXYETHYLPIPERAZINO-PROPYLPHENOTHIAZINES

Jack Bernstein and Harry Louis Yale, New Brunswick, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 28, 1963, Ser. No. 261,866
10 Claims. (Cl. 260—243)

1. A compound selected from the group consisting of bases of the formula



wherein *r* is a positive integer less than three, A is lower alkylene of at least two carbon atoms, NB is selected from the group consisting of amino, (lower alkyl)amino, di(lower alkyl)amino, (hydroxy-lower alkyl)amino, di-(hydroxy-lower alkyl)amino, and basic saturated 5 to 7 membered monocyclic N-heterocyclic radicals of less than seventeen carbon atoms, and X is selected from the group consisting of hydrogen, halogen, trifluoromethyl, lower alkyl, lower alkoxy, lower alkanoyl, lower alkylmercapto, trifluoromethylmercapto, trifluoromethoxy, N,N-dimethylaminosulfonyl and lower alkylsulfonyl; and non-toxic acid-addition salts thereof.

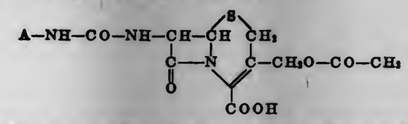
3,264,291

7-UREIDOCEPHALOSPORANIC ACID DERIVATIVES

Karl Schenker, Basel, Erwin Friedrich Jenny, Riehen, and Max Wilhelm, Allschwil, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 18, 1964, Ser. No. 352,965
Claims priority, application Switzerland, Apr. 3, 1963, 4,245/63; Oct. 4, 1963, 12,273/63; Feb. 27, 1964, 2,405/64
12 Claims. (Cl. 260—243)

1. A compound of the Formula I



(I)

in which A represents an alkyl radical which contains at most 6 carbon atoms, and is substituted by a member selected from the group consisting of a lower alkoxy, a halogen-lower alkoxy a halogen-cycloalkyl group in which cycloalkyl has 3 to 8 ring carbon atoms and one or more halogen atoms.

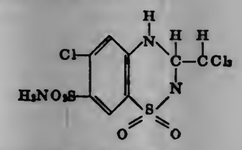
3,264,292

DIHYDROBENZOTHIADIAZINE DERIVATIVES

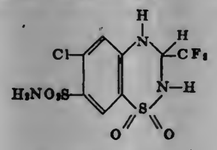
Warren J. Close, Waukegan, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Filed Nov. 3, 1958, Ser. No. 771,252
2 Claims. (Cl. 260—243)

1. A compound of the formula



2. A compound of the formula



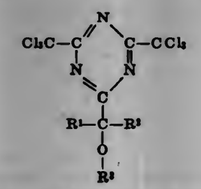
3,264,293

UNSYMMETRICALLY SUBSTITUTED 1,3,5-TRIAZINES AND THEIR PRODUCTION

Werner Heimberger, Hanau am Main, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed June 7, 1963, Ser. No. 286,188
Claims priority, application Germany, June 8, 1962, D 39,115
2 Claims. (Cl. 260—248)

1. A 2,4-bistrichloromethyl substituted triazine of the formula



wherein each of R^1 and R^2 is selected from the group consisting of hydrogen, lower alkyl and lower halo alkyl and R^3 is an acyl group selected from the group consisting of lower alkanoic acid acyl groups and carbo loweralkoxy groups.

3,264,294

DERIVATIVES OF PYRAZINE

Dennis Joseph McHugh, Gymea, New South Wales, and Russell Johnstone, Cronulla, New South Wales, Australia, assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Apr. 21, 1964, Ser. No. 361,559
Claims priority, application Australia, Apr. 23, 1963, 30,074
5 Claims. (Cl. 260—250)

1. A member of the class consisting of 2-(2'-pyrazinyl))benzimidazole and acid-addition salts thereof.

3,264,295

4-AMINO-7-HEXYLAMINO-N-HEXYL-2-PHENYL-6-PTERIDINETHIOCARBOXAMIDE

Thomas S. Osdene, Berwyn, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 5, 1965, Ser. No. 437,598
1 Claim. (Cl. 260—251.5)

4-amino-7-hexylamino - N - hexyl-2-phenyl-6-pteridinethiocarboxamide.

3,264,296

PYRIMETHAMINE SALT WITH 4,4'-THIOBIS (3-HYDROXY-2-NAPHTHOIC ACID)

Edward F. Elslager and Donald F. Worth, Ann Arbor, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Original application Apr. 20, 1962, Ser. No. 188,984, now Patent No. 3,161,641, dated Dec. 15, 1964. Divided and this application Apr. 24, 1964, Ser. No. 362,472
1 Claim. (Cl. 260—256.5)

A salt of 2,4-diamino-5-(p-chlorophenyl)-6-ethylpyrimidine with one-half formula weight of 4,4'-thiobis(3-hydroxy-2-naphthoic acid).

3,264,297

PROCESS FOR THE MANUFACTURE OF LINEAR QUINACRIDONES

Henri Streiff, Birsfelden, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed May 31, 1961, Ser. No. 113,956
Claims priority, application Switzerland, June 7, 1960, 6,460/60
7 Claims. (Cl. 260—279)

1. A process for the production of 7,14-dioxo-5,7,12,14-tetrahydroquinolino-[2,3-b]-acridines which comprises heating a 2,5-dianilinoterephthalic acid which must be unsubstituted in a position ortho to the amino group of each aniline radical and which is selected from the group consisting of unsubstituted 2,5-dianilinoterephthalic acid, 2,5-dianilinoterephthalic acids bearing halogen atoms on the aniline radical, 2,5-dianilinophthalic acids bearing lower alkoxy groups on the aniline radical, 2,5-dianilinophthalic acids bearing nitro groups on the aniline radical and 2,5-dianilinoterephthalic acids bearing lower alkyl groups on the aniline radical, with benzoyl chloride in the presence of a high boiling inert diluent.

3,264,298

QUINACRIDONE PIGMENTS

William L. Berry, Somerville, and James J. Kelly, Bridgewater Township, Somerset County, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Feb. 26, 1962, Ser. No. 175,816
2 Claims. (Cl. 260—279)

1. The compound 2,9-dimethylquinacridone in a crystalline form characterized by being colored a yellow shade of red and having an X-ray diffraction pattern with a line of maximum intensity corresponding to an interplanar spacing of 16.0 A., a second most intense line corresponding to a spacing of 3.35 A. and a third most intense line corresponding to a spacing of 6.43 A.

with lines of minor intensity corresponding to 3.51, 8.0, 3.74 and 7.97 A.

3,264,299
QUINACRIDONE PIGMENT PROCESS

Daniel W. Thomas and William L. Berry, Somerville, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

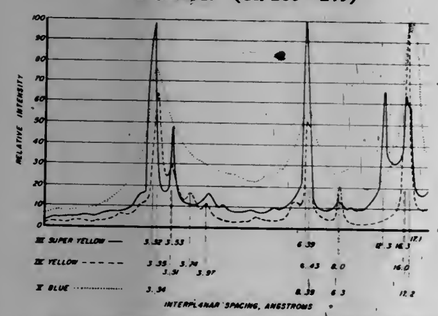
No Drawing. Filed Feb. 27, 1962, Ser. No. 176,089
7 Claims. (Cl. 260—279)

1. An improved process of preparing the yellow shade crystalline form of 2,9-dimethylquinacridone which comprises treating about one part by weight of a member selected from the group consisting of the di-lower alkyl esters of 2,5-di-p-toluidinoterephthalic acid with from 0.2 to 1.5 parts by weight of a benzene sulfonic acid catalyst in at least 5 parts by weight of a liquid chlorinated benzene solvent at a temperature between about 175° and 220° C. and separating the yellow shade red pigment thus formed.

3,264,300
2,9-DIMETHYLQUINACRIDONE IN A "YELLOW" CRYSTALLINE FORM

James Joseph Kelly, Bridgewater Township, Somerset County, and Vito Albert Giambalvo, Middlesex, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Sept. 15, 1964, Ser. No. 396,659
8 Claims. (Cl. 260—279)



1. The crystalline polymorph of 2,9-dimethylquinacridone characterized by a "very yellow shade" of red color designated Form III and having in its X-ray diffraction pattern a distinctive moderate peak corresponding to an interplanar spacing of about 12.3 A.

3. The method of preparing the crystalling polymorph of 2,9-dimethylquinacridone defined in claim 2, which comprises grinding a mixture of (a) one part of a 2,9-dimethylquinacridone in other polymorphic form; (b) 2.25 to 15.00 parts of a grinding aid consisting of at least one part by weight of micro-atomized salt, the remainder of said grinding aid being extra-fine flake salt; and (c) about 0.50 to 2 parts by weight of a glycol liquid at the grinding temperature having a molecular weight not higher than about 600;

said grinding being conducted for 10 to 25 hours at a temperature of 30° to 125° C. in a device capable of producing high shear conditions;

and isolating the crystalline Form III polymorph thus formed.

3,264,301
SUBSTITUTED-4-AZASTEROIDS

Norman J. Doorenbos, 211 Regency Circle, North Linthicum, Md., and Kenneth A. Kerridge, Kankakee, Ill. (P.O. Box 12, Bourbonnais, Ill.)

No Drawing. Filed Aug. 22, 1963, Ser. No. 303,955
9 Claims. (Cl. 260—286)

1. 3,4-dimethyl-4-aza-5α-cholest-2-ene.

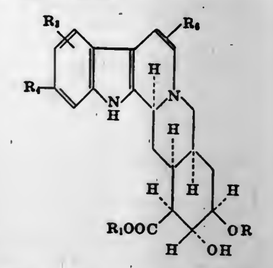
8. 3-benzyl-4-methyl-4-aza-5α-cholestane methiodide.

3,264,302
PSEUDORESERPIC ACID DERIVATIVES

Johannes Mueller, Arlesheim, Switzerland, assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 23, 1963, Ser. No. 304,205
Claims priority, application Switzerland, Aug. 28, 1962, 10,170/62; July 12, 1963, 8,733/63
12 Claims. (Cl. 260—287)

1. A member selected from the group consisting of a compound of the formula



in which R stands for the acyl radical of an acid selected from the group consisting of lower alkanecarboxylic acids, phenyl-lower alkane carboxylic acids, unsubstituted benzoic acid and benzoic acids substituted by a member selected from the group consisting of lower alkyl, hydroxy, lower alkoxy, methylenedioxy, lower alkanoyloxy, amino, mono-lower alkylamino, di-lower alkylamino, lower alkanoylamino, lower alkoxycarbonylamino, nitro, carboxyl, mono-lower alkylaminocarbonyloxy, di-lower alkylaminocarbonyloxy, phenylaminocarbonyloxy, carbo-lower alkoxy, halogen and trifluoromethyl, R_1 for a member selected from the group consisting of lower alkyl, lower alkoxy-lower alkyl, di-lower alkylamino-lower alkyl, alkyleneimino-lower alkyl and alkyleneimino-lower alkyl interrupted by a member selected from the group consisting of oxygen, sulfur and nitrogen, said heterocyclic substituents being selected from the group consisting of piperidino, pyrrolidino, morpholino, thiamorpholino and piperazino, R_4 and R_5 each stands for a member selected from the group consisting of hydrogen, hydroxyl, lower alkoxy, lower alkyl, lower alkylmercapto, phenyl-lower alkoxy, amino, mono-lower alkylamino, di-lower alkylamino and halogen and, when taken together and standing in vicinal positions, methylenedioxy and R_6 stand for a member selected from the group consisting of hydrogen and lower alkyl, the N-oxide thereof and the salts of these compounds.

3,264,303
PROCESS FOR THE MANUFACTURE OF YOHIMBANE-18-O-ETHERS

John Benjamin Ziegler, Summit, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 27, 1965, Ser. No. 428,527
16 Claims. (Cl. 260—287)

1. Process for the preparation of a member selected from the group consisting of 18α-(R—CH_2—O)-17α-R_2-3-epi-20α-yohimbane-16β-carboxylic acid esters, 18β-(R—CH_2—O)-17α-R_2-3-epi-20α-yohimbane - 16β - carboxylic acid esters, in which R is a member selected from the group consisting of hydrogen and an organic radical and R_2 is a member selected from the group consisting of lower alkoxy, cyano, and N-lower alkanoyl-N-lower alkylamino, which comprises reacting a member selected from the group consisting of an 18α-(R—CO—O)-17α-R_2-3-epi-20α-yohimbane-16β-carboxylic acid ester and an 18β-(R—CO—O)-17α-R_2-3-epi-20α-yohimbane-16β - carboxylic acid ester with a metal hydride reducing reagent in the presence of boron trifluoride.

3,264,304
PREPARATION OF PHENANTHROLINE-QUINONES

Balthasar Fischer and Hansjakob Schmid, Basel, and Klemens Scholz, Arlesheim, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 13, 1963, Ser. No. 301,907
Claims priority, application Switzerland, Sept. 7, 1962, 10,631/62
10 Claims. (Cl. 260—289)

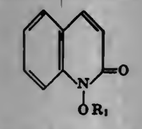
9. A process for the preparation of 4:7-phenanthroline-5:6-quinone characterized by splitting the methoxy group in 5-methoxy-phenanthroline with a concentrated aqueous hydrohalic acid selected from the group consisting of hydrochloric, hydrobromic and hydroiodic acid in the presence of about 0.1 mol of lithium bromide for each mol of the phenanthroline compound and separating, then oxidizing the product so obtained with concentrated nitric acid in the presence of sulfuric acid.

3,264,305
1-(2-ALKENYLOXY)CARBOSTYRILS

Leo A. Paquette, Portage Township, Kalamazoo County, Mich., assignor to the Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Sept. 16, 1963, Ser. No. 309,307
2 Claims. (Cl. 260—289)

1. A compound of the formula:



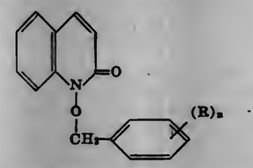
wherein R_1 is 2-alkenyl of 3 to 8 carbon atoms, inclusive.

3,264,306
1-ARALKOXYCARBOSTYRILS

Leo A. Paquette, Portage Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Sept. 16, 1963, Ser. No. 309,311
2 Claims. (Cl. 260—289)

1. A compound of the formula:



wherein R is selected from the group consisting of lower alkyl, lower alkoxy, and halogen, and wherein *n* is an integer from zero to 3, inclusive.

3,264,307
PRODUCTION OF PYRIDINES

Daniel G. Jones, Cherry Hill, and Phillip S. Landis, Woodbury, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Apr. 9, 1963, Ser. No. 271,565
10 Claims. (Cl. 260—290)

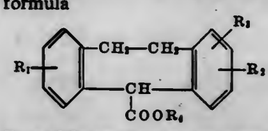
1. A process for producing pyridine compounds selected from the group consisting of pyridine and alkyl and aryl derivatives thereof, which comprises effecting reaction of ammonia and an acetylenic compound selected from the group consisting of acetylene and its homologs containing up to 8 carbon atoms per molecule at a temperature from about 120° to about 750° F. in the presence of a catalyst consisting essentially of an aluminosilicate having an ordered internal structure and a pore size of from about 6 A. to about 15 A. in diameter and recovering a product containing at least one of the said pyridine compounds.

3,264,308
DIHYDRODIBENZOCYCLOHEPTENE CARBOXYLIC ACID ESTERS

Cornelis van der Stelt, Haarlem, Netherlands, assignor to N.V. Koninklijke Pharmaceutische Fabrieken v/h Brocades Stheeman en Pharmacia, Amsterdam, Netherlands, a corporation of Dutch law

No Drawing. Filed June 24, 1964, Ser. No. 377,520
Claims priority, application Great Britain, Apr. 27, 1961, 15,355/61
7 Claims. (Cl. 260—292)

1. A compound selected from the group consisting of esters of the formula



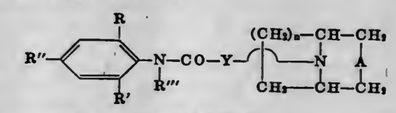
wherein R_1, R_2 and R_3 are each selected from the group consisting of hydrogen, halogen and lower alkyl, R_4 is selected from the group consisting of di(lower alkyl) amino (lower alkyl), 1-(lower alkyl)-2,3 and 4-piperidyl, 1-(lower alkyl)-2, and 3-pyrrolidyl, tropinyl and pseudotropinyl; and non-toxic acid-addition salts of the basic esters.

3,264,309
N'[N-(MONOCARBOCYCLIC ARYL) CARBAMYL-LOWER-ALKYL]-1,5-IMINOCYCLOALKANES, -IMINOCYCLOALKENES AND RELATED COMPOUNDS

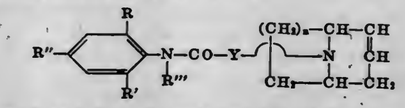
Bernard L. Zenitz, Colonie, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 24, 1959, Ser. No. 835,405
22 Claims. (Cl. 260—292)

1. A member of the group consisting of (A) compounds having the formula

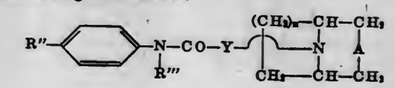


and compounds having the formula

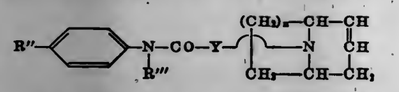


where R and R' each are a member of the group consisting of lower-alkyl, lower-alkoxy, and halogen; R'' is a member of the group consisting of hydrogen, lower-alkyl, lower-alkoxy, and halogen; R''' is a member of the group consisting of hydrogen and lower-alkyl, Y is lower-alkylene, *n* is an integer from 1 to 2, and A is a member of the group consisting of CH_2, CH(OH), C═O, CHCl, CHBr, CH(OAcyl) wherein Acyl is a carboxylic acyl group conventionally used in the tropine alkaloid art and having a molecular weight less than about 250, C(OH)(COO-lower-alkyl), and C(OH)(lower-alkyl); (B) pharmacologically acceptable acid-addition salts thereof; and (C) pharmacologically acceptable lower-alkyl, lower-alkenyl and monocarbocyclic aryl-lower-alkyl quaternary ammonium salts thereof.

2. A member of the group consisting of (A) compounds having the formula:



and compounds having the formula



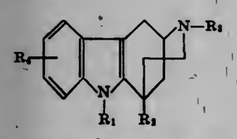
where R'' is a member of the group consisting of hydrogen, lower-alkyl, lower-alkoxy, and halogen; R''' is a member of the group consisting of hydrogen and lower-alkyl, Y is lower-alkylene, *n* is an integer from 1 to 2, and A is a member of the group consisting of CH_2, C=O, CHCl, CHBr, CH(OAcyl) wherein Acyl is a carboxylic acyl group conventionally used in the tropine alkaloid art and having a molecular weight less than about 250, C(OH)(COO-lower-alkyl), and C(OH)(lower-alkyl); and (B) pharmacologically acceptable acid-addition salts thereof.

3,264,310
INDOLOMORPHANS AND PROCESS FOR THEIR PRODUCTION

John Shavel, Jr., Mendham, and Glenn C. Morrison, Dover, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

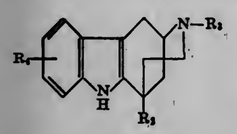
No Drawing. Filed Dec. 9, 1963, Ser. No. 329,219
6 Claims. (Cl. 260—293)

1. A compound selected from the group consisting of those having the formula:

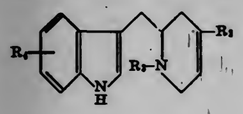


wherein R_1 is a member of the group consisting of hydrogen, lower alkyl of 1 to 6 carbons, cycloalkyls, aralkyl, substituted aralkyl, cycloalkylmethyl and acyl, R_2 is a member of the group consisting of lower alkyl of 1 to 6 carbons, cycloalkyl, aralkyl, substituted aralkyl, phenyl and substituted phenyl, R_3 is a member of the group consisting of lower alkyl of 1 to 6 carbons, cycloalkylmethyl, aralkyl, alkenyl, and R_4 is a member of the group consisting of hydrogen, halogen such as fluorine, chlorine and bromine, lower alkyl of 1 to 6 carbons, lower alkoxy such as methoxy and ethoxy, nitro, amino, and hydroxyl, and the nontoxic pharmaceutically acceptable acid addition and quaternary ammonium salts thereof.

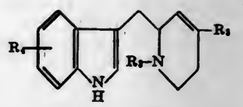
6. Process for the production of a compound of the formula:



wherein R_2 is a member of the group consisting of lower alkyl of 1 to 6 carbons, cycloalkyl, aralkyl, substituted aralkyl, phenyl and substituted phenyl, R_3 is a member of the group consisting of lower alkyl of 1 to 6 carbons, cycloalkylmethyl, aralkyl and alkenyl and R_4 is a member of the group consisting of hydrogen, halogen, lower alkyl of 1 to 6 carbons, lower alkoxy, nitro, amino, and hydroxyl, which comprises contacting a compound selected from the group consisting of those having the formulae:



and



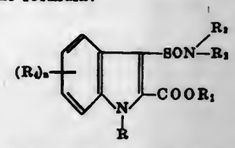
with an acid.

3,264,311
ESTERS OF 3-(AMINOSULFINYL)INDOLE-2-CARBOXYLIC ACIDS

Jacob Szmuszkovicz, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Original application May 2, 1963, Ser. No. 277,455. Divided and this application Sept. 13, 1965, Ser. No. 487,088
6 Claims. (Cl. 260—293.4)

1. An ester of 3-(aminosulfinyl)indole-2-carboxylic acids having the formula:



wherein R is selected from the group consisting of hydrogen, phenyl, benzyl, p-alkoxybenzyl of 8 to 11 carbon atoms, inclusive, and alkyl of 1 to 6 carbon atoms, inclusive, R_1 is selected from the group consisting of phenyl, benzyl, and alkyl of 1 to 6 carbon atoms, inclusive, R_2 and R_3 are selected from the group consisting of hydrogen and alkyl of 1 to 6 carbon atoms, inclusive, and R_2 and R_3 when taken together with —N< also represent heterocyclic amino of 4 to 6 carbon atoms, inclusive, selected from the group consisting of morpholino, piperidino, pyrrolidino, thiomorpholino, and hexamethylenimino, R_4 represents alkyl of 1 to 4 carbon atoms, inclusive, and *n* is an integer from zero to 4.

5. Methyl 1-methyl-3-(piperidinosulfinyl)indole-2-carboxylate.

3,264,312
PROCESS FOR MAKING ISOMERIC FORMS OF 5-(α-HYDROXY-α-2-PYRIDYLBENZYL)-7-(α - 2 - PYRIDYLBENZYL) - 5 - NORBORNENE-2,3-DICARBOXIMIDE

Lawrence G. Stevenson, Merriam, and Frank P. Welkner, Jr., Shawnee, Kans., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 24, 1965, Ser. No. 442,471
2 Claims. (Cl. 260—295)

1. In a process for manufacturing 5-(α-hydroxy-α-2-pyridylbenzyl) - 7 - (α - 2 - pyridylbenzylidene) - 5 - norbornene-2,3-dicarboximide comprising the steps:

(a) reacting 2-benzoylpyridine with cyclopentadiene under an inert atmosphere in the presence of a solution of an alkali metal hydroxide selected from the group consisting of sodium hydroxide and potassium hydroxide in a lower alkanol to yield a product of reaction of two mols of 2-benzoylpyridine per mol of cyclopentadiene consisting essentially of 2-(α-hydroxy-2-pyridylbenzyl) - 6-phenyl-6-(2 - pyridyl) fulvene, and

(b) reacting maleimide with the product of step (a) in an inert liquid reaction medium under an inert atmosphere to yield a solid product consisting essentially of isomeric forms of 5-(α-hydroxy-α-2-pyridylbenzylidene) - 7 - (α - 2 - pyridylbenzylidene) - 5-norbornene-2,3-dicarboximide, the improvement consisting of

(c) forming an aqueous slurry of the solid product of step (b), removing impurities from the aqueous slurry by steam distillation and mechanically reducing the size of crystalline aggregates of solid product in the aqueous slurry, and

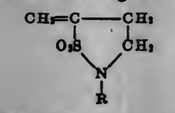
(d) recovering the solid product from the aqueous slurry of step (c) and drying the recovered material under subatmospheric pressure until substantially free of the inert liquid reaction medium employed in step (b).

3,264,313
1-BUTENE-2,4-SULTAMS

Arthur D. Bliss, Guilford, Conn., assignor to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia

No Drawing. Filed May 21, 1965, Ser. No. 457,851
2 Claims. (Cl. 260—301)

1. 1-butene-2,4-sultams having the formula



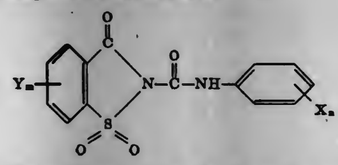
where R is selected from the class consisting of hydrogen, lower alkyl and phenyl.

3,264,314
HALOGENATED PHENYLCARBAMOYL SACCHARIN

Joseph Willard Baker, Kirkwood, and Raymond Eugene Stenseth, Webster Groves, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 28, 1965, Ser. No. 467,734
6 Claims. (Cl. 260—301)

1. A compound of the formula



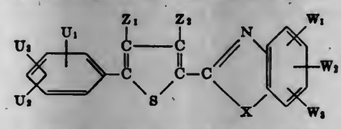
wherein X and Y are each selected from the group consisting of chlorine and bromine, *m* is an integer from zero to three, *n* is an integer from one to three, and the sum of *m* and *n* is at least two.

3,264,315
AZOLYL-THIOPHENE COMPOUNDS

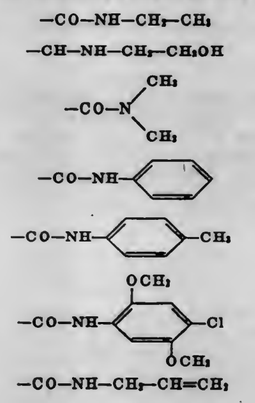
Erwin Maeder, Aesch, Basel-Land, Peter Liechti, Binningen, and Adolf Emil Siegrist, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Dec. 4, 1963, Ser. No. 328,112
Claims priority, application Switzerland, July 19, 1961, 8,481/61; Dec. 21, 1962, 15,058/62
27 Claims. (Cl. 260—304)

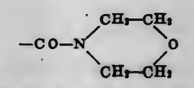
1. An azolyl-thiophene compound of the formula



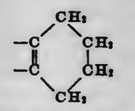
wherein U_1 and U_2 each represents a member selected from the group consisting of hydrogen, halogen, an alkyl group with 1 to 4 carbon atoms and an alkoxy group with 1 to 4 carbon atoms, U_3 is selected from the group consisting of hydrogen and an alkoxy group of from 1 to 4 carbon atoms, W_1 is a member selected from the group consisting of alkyl, phenylalkyl, alkoxy, cyanoalkyl, carboxyalkyl, carboalkoxyalkyl, each of which contains up to 12 carbon atoms, hydrogen, halogen, phenyl, cyclohexyl, carboxyl, carboxylic acid alkyl ester with 1 to 16 carbon atoms in the alkyl group, carboxylic acid benzyl ester group, carboxylic acid allylester, a carboxylic acid phenylester group, carboxylic acid amide group,



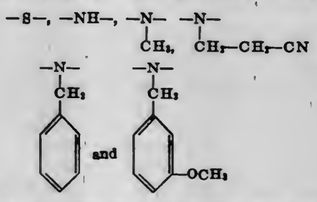
and



W_2 and W_3 together are members selected from the group consisting of (a) two hydrogen atoms, (b) two alkyl groups with 1 to 4 carbon atoms, (c) a hydrogen atom and an alkyl group with 1 to 4 carbon atoms and (d) with two vicinal carbon atoms of the benzene ring the group of the formula



X is a member selected from the group consisting of



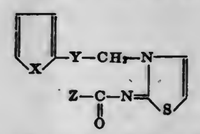
Z_1 and Z_2 each is a member selected from the group consisting of hydrogen, alkyl with 1 to 7 carbon atoms and phenyl.

3,264,316
CERTAIN 2-ACYLIMINO-3-SUBSTITUTED-THIAZOLINE-4 COMPOUNDS

Cornelis Van De Westeringh, Breda, Netherlands, and Alfons Herman Margaretha Raeymaekers, Beerse, near Turnhout, Belgium, assignors to Research Laboratorium Dr. C. Janssen N.V., a corporation of Belgium

No Drawing. Filed Sept. 18, 1963, Ser. No. 309,854
17 Claims. (Cl. 260—306.7)

1. A compound selected from the group consisting of



and the therapeutically active non-toxic acid addition salts thereof, wherein X is selected from the group consisting

of oxygen and sulfur atoms; Y is selected from the group consisting of —CO—, —CH(OH)— and

—CH(O—CO—lower alkyl)—

radicals; and Z is selected from the group consisting of lower alkyl, cyclopropyl and lower alkoxy radicals.

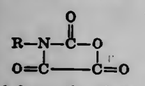
3,264,317

1-SUBSTITUTED TRIAZOLIDINETRIONES AND THEIR PREPARATION

Paul J. Stoffel, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware

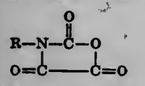
No Drawing. Filed Sept. 23, 1963, Ser. No. 310,854
18 Claims. (Cl. 260—307)

1. A compound of the formula:

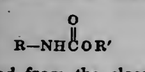


wherein R is selected from the class consisting of hydrocarbon of tthe group consisting of alkyl having up to twelve carbon atoms, phenyl, alkenyl of up to 12 carbon atoms, cycloalkyl having from 4 to 7 carbon atoms and benzyl; and the said hydrocarbon having up to four substituents of the class consisting of chlorine, bromine, alkyl of up to four carbon atoms, alkoxy of up to four carbon atoms and phenyl.

2. A method of preparing a compound of the formula:



wherein R is selected from the class consisting of hydrocarbon of the group consisting of alkyl having up to twelve carbon atoms, phenyl, alkenyl of up to 12 carbon atoms, cycloalkyl having from 4 to 7 carbon atoms and benzyl; and the said hydrocarbon having up to four substituents of the class consisting of chlorine, bromine, alkyl of up to four carbon atoms, alkoxy of up to four carbon atoms and phenyl; which comprises contacting oxalyl chloride with a compound of the formula



wherein R' is selected from the class consisting of secondary alkyl having from three to eight carbon atoms, tertiary alkyl having from four to eight carbon atoms, and cycloalkyl having from four to eight carbon atoms; and heating the said compounds at a temperature between 30° C. and 180° C. in an inert liquid medium.

3,264,318

PROCESS FOR THE PRODUCTION OF SUBSTITUTED OXADIAZOLES

Fernand Eloy, Rhode-Saint-Genese, Belgium, assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 29, 1964, Ser. No. 363,622
5 Claims. (Cl. 260—307)

1. A process for producing 3,5-disubstituted-1,2,4-oxadiazoles which comprises simultaneously contacting at a temperature between about 0° C. and 150° C. (a) a primary nitro compound represented by the formula RCH_2NO_2, wherein R is a monovalent hydrocarbon group free of aliphatic unsaturation and containing from one to about 18 carbon atoms, (b) a nitrile represented by the formula GCN, wherein G is selected from the class consisting of trichloromethyl, para-nitrophenyl and 5-nitro-2-furyl groups, (c) an organic isocyanate represented by the formula R'NCO, wherein R' is a monovalent hydrocarbon group free of aliphatic unsaturation and containing from one to about 18 carbon atoms, and (d) as a catalyst a tertiary amine represented by the formula $(R'')_3N$ wherein R'' is an alkyl group containing from 1 to about 4 carbon atoms and two R'' groups can together form an alkylene group.

3,264,319

1 - OXA - 4 - HYDROXYETHYLAZASPIRO (4.4),6,7,8, 9 - TETRACHLORO - NONA - 6,9 - DIENE AND ITS SYNTHESIS

Marwan R. Kamal, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed May 27, 1964, Ser. No. 370,688
8 Claims. (Cl. 260—307)

1. 1-oxa - 4 - hydroxyethylazaspiro (4.4),6,7,8,9-tetrachloro-nona-6,9-diene.

2. A process of preparing 1-oxa-4-hydroxyethylazaspiro (4.4),6,7,8,9-tetrachloro-nona-6,9-diene comprising reacting diethanolamine and hexachloropentadiene.

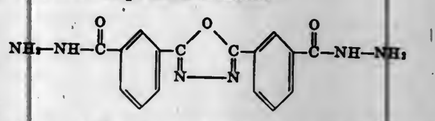
3,264,320

1,3,4-OXADIAZOLE-2,5-DIYL-BIS-BENZHYDRAZIDE AND ITS PREPARATION

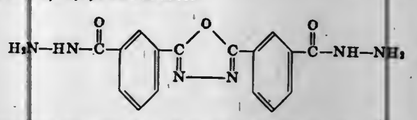
Jack Preston, Raleigh, N.C., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Original application July 19, 1963, Ser. No. 296,397. Divided and this application Nov. 8, 1965, Ser. No. 506,848
2 Claims. (Cl. 260—307)

1. As a new composition of matter



2. A process for the preparation of 2,5-bis(m-benzoylhydrazine)-1,3,4-oxadiazole



comprising adding with stirring a solution of 9 g. of m-carboethoxybenzoyl chloride in tetrahydrofuran to 2.6 g. of aqueous hydrazine sulfate containing 8 g. sodium carbonate to form N,N'-bis(m-carboethoxybenzoyl)hydrazide, dehydrating said hydrazide to form 2,5-bis(m-carboethoxyphenyl)-1,3,4-oxadiazole, subjecting 2,5-bis(m-carboethoxyphenyl)-1,3,4-oxadiazole to the reaction of hydrazine to form 2,5-bis(m-benzoylhydrazine)-1,3,4-oxadiazole.

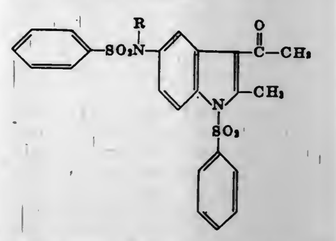
3,264,321

N-ALKYL AND N-ALKANOYL DERIVATIVES

David R. Herbst, King of Prussia, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 1, 1963, Ser. No. 320,855
5 Claims. (Cl. 260—326.12)

1. A compound of the formula:



wherein R is a member of the group consisting of lower alkenyl and lower alkanoyl.

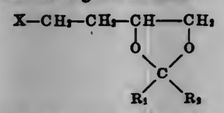
3,264,322

NOVEL HALOGENATED KETONIDES

Daniel Bertin, Montrouge, and Jacques Perronnet, Paris, France, assignors to Roussel-Uclaf, S.A., Paris, France, a corporation of France

No Drawing. Filed Apr. 11, 1963, Ser. No. 272,230
Claims priority, application France, Apr. 18, 1962, 894,924
6 Claims. (Cl. 260—340.9)

1. A compound having the formula



wherein R_1 and R_2 are alkyl radicals having 1 to 10 carbon atoms and X is a halogen.

3,264,323

COUMARIN DERIVATIVE

Daniel Kaminsky, East Paterson, and Robert I. Meltzer, Rockaway, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Dec. 17, 1963, Ser. No. 331,112
1 Claim. (Cl. 260—343.2)

3-(β-acetylphenethyl)-4-hydroxy-8-phenylcoumarin.

3,264,324

PHOSPHONITES

Henry Gould, West Orange, N.J., and Lester Friedman, Whitestone, N.Y., assignors, by mesne assignments, to Union Carbide Corporation, a corporation of New York

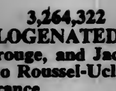
No Drawing. Filed Sept. 15, 1960, Ser. No. 56,118
15 Claims. (Cl. 260—347.8)

1. A compound having the formula



where R_1 is selected from the group consisting of phenyl, halophenyl and alkylphenyl, R_2 is tetrahydrofurfuryl and R_3 is selected from the group consisting of phenyl, halophenyl, alkylphenyl, alkyl and tetrahydrofurfuryl.

5. A compound having the formula

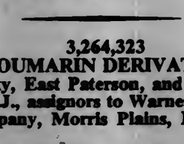


where R_1 is selected from the group consisting of phenyl, halophenyl and alkylphenyl, R_2 is selected from the group consisting of aryloxyethyl, and alkoxy $(C_2H_4O)_x$ ethyl where X is an integer of at least one and R_3 is selected from the group consisting of R_1, R_2 and alkyl.

7.

where R is selected from the group consisting of phenyl, alkylphenyl and halophenyl.

9.



where R_1, R_2, R_3, R_4, R_5 and R_6 are selected from the group consisting of hydrogen and lower alkyl and R_7 is selected from the group consisting of phenyl, alkylphenyl and halophenyl.

3,264,325

1-AMINO-2-[2-(2-CYANOETHOXY)ETHOXY]-4-HYDROXYANTHRAQUINONE

Charles Edward Lewis, Somerville, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed May 11, 1965, Ser. No. 454,980
1 Claim. (Cl. 260—380)

The compound 1-amino-2-[2-(2 - cyanoethoxy)ethoxy]-4-hydroxyanthraquinone.

3,264,326

17β-SUBSTITUTED-3α-AMINO-5α-ANDROSTANES

Donald E. Clark, Norristown, and Norman H. Grant, Wynnewood, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 29, 1964, Ser. No. 363,633
4 Claims. (Cl. 260—397)

1. 17β-acetamido-3α-amino-5α-androstane.

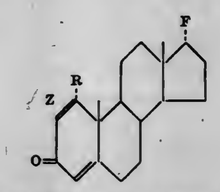
3,264,327

17α-FLUORO-, 17β-CHLOROFLUOROACETOXY- AND 17β-METHYL-Δ^4- AND Δ^5-ANDROSTENE DERIVATIVES

Lawrence H. Knox, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Mar. 19, 1964, Ser. No. 353,263
Claims priority, application Mexico, July 27, 1962, 68,398
22 Claims. (Cl. 260—397)

1. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and lower alkinyl, and Z is selected from the group consisting of a double bond and a saturated linkage between C–1 and C–2.

16. 3β,17α-difluoro-Δ^5-androstene.

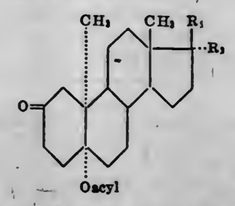
3,264,328

10α-STEROIDS AND PROCESS FOR THEIR MANUFACTURE

Oskar Jeger and Kurt Schaffner, Zurich, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 9, 1963, Ser. No. 293,888
Claims priority, application Switzerland, July 10, 1962, 8,298/62; Aug. 17, 1962, 9,845/62; Mar. 18, 1963, 3,365/63
10 Claims. (Cl. 260—397.3)

1. A compound of the formula



wherein R_1 is a member selected from the group consisting of hydroxy and acyloxy, said acyloxy being derived from a carboxylic acid having 1 to 15 carbon atoms, and

R_2 is a member selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and lower alkinyl, and R_1 and R_2, taken together, is oxo.

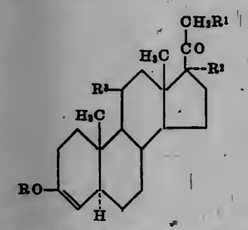
3,264,329

PROCESS FOR PREPARING 4-HYDROXY-3-KETO-5α-STEROIDS AND ETHERS OF 3-HYDROXY-Δ³-5α-STEROIDS INTERMEDIATES THEREIN

Alberto Ercoli and Rinaldo Gardi, Milan, Italy, assignors to Francesco Vismara S.p.A., Casstenovo (Como), Italy

No Drawing. Filed Nov. 26, 1962, Ser. No. 240,143
Claims priority, application Italy, Nov. 27, 1961, 21,283/61
8 Claims. (Cl. 260—397.4)

5. Ethers of 3-hydroxy-Δ³-5α-steroids having the formula:



where R represents a hydrocarbon radical selected from the group consisting of alkyl of from one to ten carbon atoms, cycloalkyl of from four to seven carbon atoms, benzyl and phenyl, R^1 is a member selected from the group consisting of hydrogen, hydroxy and lower alkanoyloxy, R^2 is a member selected from the group consisting of hydrogen, hydroxy and acetoxy and R^3 is a member selected from the group consisting of hydrogen, β-hydroxy and ketonic oxygen.

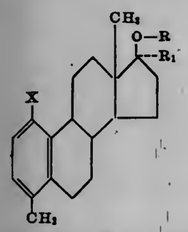
3,264,330

1-HALO-4-METHYLESTRA-1,3,5(10)-TRIENES AND PROCESS THEREFOR

George W. Moersch and Duane F. Morrow, Ann Arbor, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Apr. 22, 1963, Ser. No. 274,838
10 Claims. (Cl. 260—397.5)

1. 4-methylestra-1,3,5(10)-triene compounds having the formula



where X is a halogen atom; R is a member of the class consisting of lower alkanoyl, phenyl-substituted lower alkanoyl, and carboxy-substituted lower alkanoyl; and R_1 is a member of the class consisting of hydrogen, lower alkyl, lower alkenyl, and ethinyl.

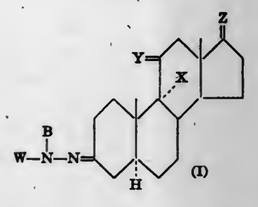
3,264,331

ANDROSTANE HYDRAZONE DERIVATIVES AND METHODS FOR THEIR MANUFACTURE

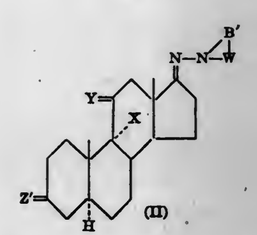
Cecil H. Robinson, Timonium, Md., and Lawrence E. Finckenor, Wayne, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Filed July 23, 1964, Ser. No. 384,791
7 Claims. (Cl. 260—397.5)

1. A member selected from the group consisting of androstanes of Formulae I and II, the 4-dehydro-, 1,4-bis-dehydro-, and 19-nor-4-dehydro analogs thereof; and the 19-nor-5(10)-dehydro analogs of Formula I:



and



wherein W is lower alkanoyl; B is lower alkanoyl; B′ is a member selected from the group consisting of hydrogen and lower alkyl; X is a member selected from the group consisting of hydrogen and fluorine; Y is a member selected from the group consisting of hydrogen and (H, βOH), and when Y is hydrogen, X is hydrogen; Z is a member selected from the group consisting of



R being a member selected from the group consisting of hydrogen and an acyl radical of a hydrocarbon carboxylic acid having up to 8 carbon atoms, and A being a member selected from the group consisting of hydrogen, ethinyl, and lower alkyl; and Z′ being a member selected from the group consisting of keto and lower alkanoylhydrazone, and when Z′ is lower alkanoylhydrazone B′ is hydrogen.

2. A compound of claim 1 wherein B and W are acetyl, X and Y are hydrogen, and Z is (H, βOH), said compound having the name androstan-17β-ol-3-one 3-diacetylhydrazone.

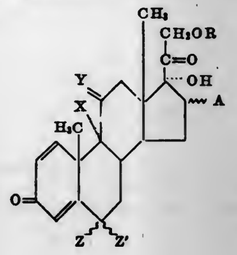
3,264,332

6-HALOGENO-1,4,6-PREGNATRIENES AND THE 1,2-DIHYDRO ANALOGS THEREOF

David H. Gould, Leonia, and Elliot L. Shapiro, Irvington, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 7, 1959, Ser. No. 785,326
21 Claims. (Cl. 260—397.45)

1. Compounds of the group consisting of 6,6-dihalogeno-1,4-pregnadienes of the following formula and the 1,2-dihydro analogs thereof:



wherein X is a member of the group consisting of H and halogen of atomic weight less than 126; Y is a member of the group consisting of O and (H, βOH); Z and Z′ are halogens of atomic weight less than 126; A is a member of the group consisting of H and lower alkyl; and R is a member of the group consisting of hydrogen and the acyl radical of a hydrocarbon carboxylic acid containing from 1 to 12 carbon atoms, inclusive.

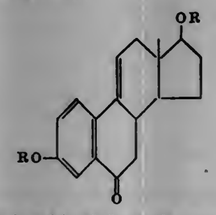
3,264,333

6-KETO-Δ⁹⁽¹¹⁾-DEHYDRO-ESTRADIOL AND DERIVATIVES THEREOF

Le Roy B. High, Cranbury, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 5, 1964, Ser. No. 387,780
2 Claims. (Cl. 260—397.45)

1. A compound selected from the group consisting of the steroid of the formula



wherein each R is selected from the group consisting of hydrogen and acyl, wherein the acyl radical is of a hydrocarbon carboxylic acid of less than twelve carbon atoms.

3,264,334

CYCLOHEPTATRIENYL VANADIUM TRICARBONYL

Robert P. M. Werner, Binningen, Basel-Land, Switzerland, assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Apr. 23, 1962, Ser. No. 189,293
2 Claims. (Cl. 260—429)

1. Cycloheptatrienyl vanadium tricarbonyl compounds having the formula

$$QV(CO)_3$$

wherein Q is a cycloheptatrienyl radical having from 7 to about 15 carbon atoms.

3,264,335

COMPLEX BENZOPHENONES

Harold T. Smallwood, Media, Pa., and Sager Tryon, Claymont, Del., assignors, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware

No Drawing. Original application Nov. 17, 1961, Ser. No. 153,190. Divided and this application June 1, 1965, Ser. No. 470,288
8 Claims. (Cl. 260—439)

1. A metal-phenol-phenolate of a 2,2′-dihydroxy-4-alkoxy-benzophenone wherein said metal is selected from the group consisting of nickel and cobalt, said alkoxy group contains between 6 and 20 carbon atoms, and the mol ratio of metal to benzophenone is about 1:2.

3,264,336

PURIFICATION OF ISOCYANATES BY REDUCTION OF THE HYDROLYZABLE CHLORINE AND ACID CONTENT

Eugene L. Powers, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Sept. 11, 1964, Ser. No. 395,952
7 Claims. (Cl. 260—453)

1. A method of reducing the hydrolyzable chlorine and acidity content of organic isocyanates which comprises mixing with the organic isocyanate, an effective amount of a compound selected from the group consisting of cadmium laurate, cobaltic benzoate and ferric naphthenate to reduce the hydrolyzable chlorine and acidity content and distilling the mixture to separate the isocyanate.

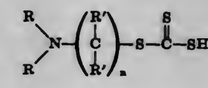
3,264,337

ALKYLAMINOALKYL TRITHIOCARBONIC ACIDS

Rector P. Louthan, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Oct. 12, 1962, Ser. No. 230,240
3 Claims. (Cl. 260—455)

1. A composition of a matter consisting essentially of an alkylaminoalkyl trithiocarbonic acid having the structural formula



wherein each R is selected from the group consisting of alkyl and cycloalkyl radicals containing from 1 to 10 carbon atoms, inclusive, each R′ is selected from the group consisting of hydrogen, alkyl and cycloalkyl radicals containing from 1 to 10 carbon atoms, inclusive, *n* is an integer from 1 to 10, inclusive, and wherein the total carbon atoms in said molecule does not exceed 30.

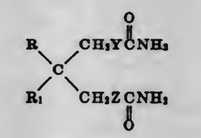
3,264,338

2-SUBSTITUTED - 1,3 - PROPANE DITHIOL-DICARBAMATES AND 2 - SUBSTITUTED-3-CARBAMOXY-PROPYLTHIOL CARBAMATES

Bernard J. Ludwig, North Brunswick, N.J., Julius Diamond, Plymouth Meeting, Pa., and Wilfred A. Skinner, Jr., Portola Valley, Calif., assignors to Carter Products, Inc., New York, N.Y., a corporation of Maryland

No Drawing. Filed Apr. 29, 1963, Ser. No. 276,197
7 Claims. (Cl. 260—455)

1. Compounds having the following general structure



where R and R_1 represent hydrogen and hydrocarbon radicals selected from the group consisting of lower alkyl and phenyl radicals with at least one of said groups being a hydrocarbon radical, and Y and Z represent oxygen and sulfur with at least one of said groups being sulfur.

3,264,339

PROCESS FOR THE PREPARATION OF S-(2-HYDROXYALKYL) AND S-(2-MERCAPTOALKYL) ESTERS

Edward A. Swakon, Hammond, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed May 5, 1964, Ser. No. 365,206
6 Claims. (Cl. 260—455)

1. A method of preparing S-(2-mercaptoalkyl) esters of a N,N-disubstituted monothiolcarbamic acid which comprises reacting an olefin sulfide with a N,N-disubstituted monothiolcarbamic acid wherein said ester and said

acid the substituents on the respective nitrogens are hydrocarbon substituents.

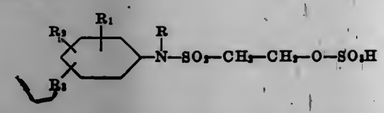
3,264,340

PROCESS FOR PREPARING COMPOUNDS CONTAINING AN ETHIONYLAMINO GROUP

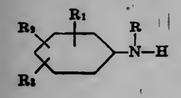
Rudolf Kühne and Fritz Meininger, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 3, 1962, Ser. No. 192,069
Claims priority, application Germany, May 6, 1961, F 33,864
4 Claims. (Cl. 260—458)

1. A process for preparing ethionylamino compounds corresponding in the form of their free acids with the formula



wherein R is a member selected from the group consisting of hydrogen, phenyl, and lower alkyl, R_1 is a member selected from the group consisting of hydrogen, chlorine, nitro, hydroxy, di-(lower alkyl)-amino, phenyl azo, benzoyl, phenoxy, lower alkyl, and lower alkoxy, R_2 is a member selected from the group consisting of hydrogen, chlorine, nitro, lower alkyl, and lower alkoxy, R_3 is a member selected from the group consisting of hydrogen and nitro, and, when R_1 is hydrogen, R_2 and R_3 taken with the phenyl radical of the formula may be naphthyl, which process comprises reacting carbyl sulfate in nitrobenzene with an amine of the formula



wherein R, R_1, R_2, and R_3 have the meanings given above, at a temperature between 0° and 100° C., mixing the resultant reaction mixture at room temperature with water while neutralizing the aqueous phase by adding an acid binding agent selected from the group consisting of sodium carbonate, potassium carbonate, sodium hydrogen carbonate, potassium hydrogen carbonate, lithium carbonate, and magnesium oxide, whereby the corresponding metal salts of said ethionylamino compounds are formed in the aqueous phase, separating the aqueous phase from the nitrobenzene phase, and salting out the ethionylamino compound from the aqueous phase.

3,264,341

PREPARATION OF DICYANOETHYLATED FATTY AMINES

Murray C. Cooperman, Chicago, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 3, 1961, Ser. No. 121,326
7 Claims. (Cl. 260—465.5)

1. In a process for the preparation of dicyanoethyl fatty amines, wherein said fatty group contains from 8 to 22 carbon atoms, in which primary fatty amines containing from 8 to 22 carbon atoms are dicyanoethylated; the improvement of forming said dicyanoethyl amine by heating at autogenous pressure a primary fatty amine containing from 8 to 22 carbon atoms with an excess of the stoichiometric amount of acrylonitrile and a proton transfer catalyst selected from the group consisting of water, methanol, morpholine, and mixtures thereof, said proton transfer catalyst being present in from 1 to 10 percent by weight based on the total weight of the reactants, and said heating being carried out in two stages, the first stage of maintaining temperatures of about 100° to 130° C. for about 1 hour and the second stage of maintaining temperatures of about 135° to 180° C. for about 3 to 40 hours.

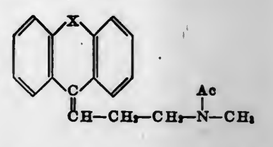
3,264,342

DERIVATIVES OF 5H-DIBENZO[a,d] CYCLOHEPTENE

Walter Schindler, Riehen, near Basel, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Original application May 24, 1963, Ser. No. 282,874. Divided and this application Jan. 21, 1965, Ser. No. 432,931
Claims priority, application Switzerland, Mar. 14, 1961, 3,054/61
4 Claims. (Cl. 260—471)

1. A compound of the formula



wherein X is a member selected from the group consisting of

$$-CH_2-CH_2- \text{ and } -CH=CH-$$

and Ac is a member selected from the group consisting of lower alkoxy carbonyl, benzyloxy carbonyl, chlorocarbonyl and lower alkanoyl.

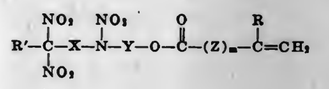
3,264,343

POLYNITROESTERS OF ETHYLENICALLY UNSATURATED CARBOXYLIC ACIDS

Gustave B. Linden, Short Hills, N.J., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Apr. 9, 1962, Ser. No. 186,273
4 Claims. (Cl. 260—486)

1. As a composition of matter, compounds having the formula:



wherein R is selected from the group consisting of hydrogen and lower alkyl, R' is selected from the group consisting of lower alkyl and lower nitroalkyl, X, Y and Z are lower alkylene radicals, and *m* is selected from the group consisting of 0 and 1.

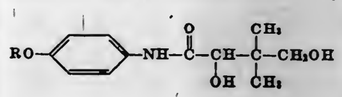
3,264,344

ARYLAMIDES OF BETA,BETA-DIMETHYL-ALPHA, GAMMA-DIHYDROXY BUTYRIC ACID AND THEIR ALKANOYL ESTER DERIVATIVES

André Grüssner and Otto Schnider, Basel, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 9, 1963, Ser. No. 307,360
Claims priority, application Switzerland, Sept. 13, 1962, 10,852/62
8 Claims. (Cl. 260—490)

1. A compound of the formula



wherein R is selected from the group consisting of hydrogen and lower alkyl.

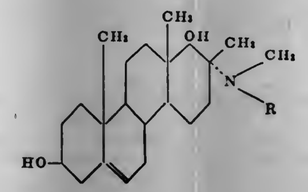
3,264,345

17α-AMINO-17β-METHYL-D-HOMOANDROST-5-ENE-3β,17a-DIOL DERIVATIVES AND SALTS THEREOF

George W. Moersch and Duane F. Morrow, Ann Arbor, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Oct. 7, 1964, Ser. No. 402,350
6 Claims. (Cl. 260—501)

1. A member of the class consisting of D-homoandrost-5-ene-3β,17a-diol compounds, having the formula



and acid-addition salts thereof, where R is chosen from the class consisting of hydrogen and lower alkyl radicals containing fewer than 4 carbon atoms.

3,264,346

PROCESS FOR THE PRODUCTION OF AQUEOUS SOLUTIONS OF PURE LOWER ALIPHATIC PERCARBOXYLIC ACIDS

Otto Welberg, Frankfurt am Main, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed Jan. 24, 1963, Ser. No. 253,739
Claims priority, application Germany, Aug. 6, 1960, D 33,967; Feb. 1, 1962, D 38,047
6 Claims. (Cl. 260—502)

1. In a process for producing an aqueous solution of a lower aliphatic monopercarboxylic acid including the reaction of the corresponding aliphatic monocarboxylic acid and hydrogen peroxide in the liquid phase in the presence of water and an acid catalyst, the steps of reacting the monocarboxylic acid and hydrogen peroxide in the presence of water and the catalyst at a temperature between about 20 and 80° C. while maintaining a molar ratio of hydrogen peroxide to monocarboxylic acid in the reaction mixture between about 5:1 and 15:1 and distilling the monopercarboxylic acid produced off from the reaction mixture together with water at a temperature between about 20 and 80° C. to obtain an aqueous solution of the pure monopercarboxylic acid.

3,264,347

PROCESS FOR MAKING ACRYLIC ACID

Kurt Sennewald and Wilhelm Vogt, Knapsack, near Cologne, Klaus Gehrmann, Efferen, near Cologne, and Stefan Schäfer, Bruhl, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

Filed Jan. 9, 1962, Ser. No. 165,208
Claims priority, application Germany, Jan. 26, 1961, K 42,735
4 Claims. (Cl. 260—533)

1. A process for the manufacture of acrylic acid which comprises reacting a gas mixture consisting essentially of up to about 8% by volume each of propylene and oxygen, and the balance being carbon monoxide, carbon dioxide, acrolein, hydrogen and steam at temperatures within the range of about 280° C. and 450° C. and under a pressure of between about 0.1 atmosphere absolute and 10 atmospheres gauge in the presence of a catalyst consisting of a mixture of oxides of elements of the general composition $Fe_aBi_bP_cMo_d$, wherein *a* and *b* each represent a value between about 0.1 and 12, *c* represents a value between about 0.08 to 10 and *d* represents a value of about 12, the residence time of the gas-mixture on the catalyst being within the range of between about 0.1 and 20 seconds, separating the initially aqueous acrylic acid continuously from the reaction mixture by cooling said mixture to a temperature of about +10° C. whereby a mixture of water included in the reacted gas together with acrylic acid, acetic acid and a portion of the acrolein formed condense, expelling the dissolved portion of acrolein by injecting steam into said mixture, separating acrylic acid from said acetic acid and water, and returning the expelled acrolein together with the cycle gas consisting essentially of carbon monoxide, carbon dioxide, hydrogen, propylene and acrolein, and with the starting components propylene, oxygen and steam, about 1.5 to 3 mols oxygen and about 3 to 10 mols water in the form of steam being added per mol added propylene, to the reaction zone.

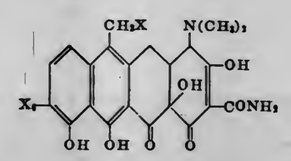
3,264,348

6-DEMETHYL-6-HALOMETHYL-5a,6-ANHYDRO-TETRACYCLINES

Robert K. Blackwood, Gales Ferry, Hans H. Rennhard, Lyme, John J. Beereboom, Waterford, and Charles R. Stephens, Jr., Niantic, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Sept. 6, 1962, Ser. No. 221,870, now Patent No. 3,183,267, dated May 11, 1965. Divided and this application Oct. 9, 1964, Ser. No. 410,840
5 Claims. (Cl. 260—559)

3. A compound selected from the group consisting of compounds of the formula:



wherein X is selected from the group consisting of chloro, bromo and iodo and X_8 is selected from the group consisting of hydrogen, chloro, bromo, iodo, nitro and amino; the acid addition salts thereof and the pharmaceutically acceptable metal salts thereof.

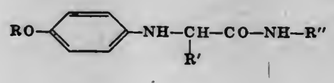
3,264,349

N-MONOALKYL-ALPHA-(ALKOXY-PHENYL-AMINO)-ACYLAMIDES

Angelo Larizza and Giovanni Brancaccio, Naples, Italy, assignors to Farmochimica Cutolo-Calosi, a corporation of Italy

No Drawing. Filed Apr. 4, 1963, Ser. No. 270,519
Claims priority, application Italy, Apr. 10, 1962, 7,087
3 Claims. (Cl. 260—559)

1. An N-monoalkyl-α-(alkoxy-phenyl-amino)-acylamide of the formula

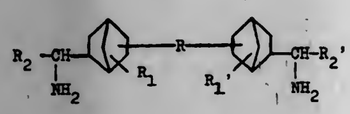


wherein each of R, R' and R'' is lower alkyl of from 1 to 4 carbon atoms.

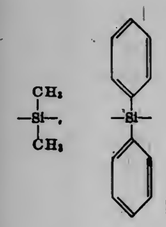
3. N - n - propyl - α - (p - ethoxy - phenyl - amino)-α-phenyl-acetamide.

3,264,350
BIS(AMINOMETHYL-BICYCLO[2:2:1]HEPTYL) COMPOUNDS
Alfred Renner, Allschwil, and Alex Von Schulthess, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed June 17, 1963, Ser. No. 288,493
Claims priority, application Switzerland, June 21, 1962, 7,464/62; Dec. 11, 1962, 14,491/62
5 Claims. (Cl. 260—563)

1. A diamine of the formula



where R is a divalent radical selected from the group consisting of



alkylene radical with at the most 5 carbon atoms, -alkylene-O-alkylene-, wherein alkylene has the same meaning as above, and a radical —CH_2—A—CH_2—, where A is a member selected from the group consisting of the phenylene radical and phenylene radical substituted by at the most 4 methyl groups, and where R_1, R_1', R_2 and R_2' each is selected from the group consisting of hydrogen atom and the methyl group.

3,264,351
1,4-DIAMINOBICYCLO[2.2.2]OCTANES
Leslie G. Humber, Montreal, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 8, 1964, Ser. No. 381,236
2 Claims. (Cl. 260—570.5)

1. 1,4-bis-(o-chlorobenzylamino)-bicyclo-[2.2.2]-octane.

3,264,352
PREPARATION OF N,N'-DIARYLBENZIDINES
Cecil C. Chappelow, Jr., and Richard L. Elliott, Kansas City, Mo., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Feb. 10, 1964, Ser. No. 343,496
6 Claims. (Cl. 260—576)

1. A process for the preparation of N,N'-diarylbenzidines comprising (a) forming a solution of a symmetrical diaryldiphenylsulfamide compound with sulfuric acid, and (b) diluting said solution with water until a precipitate is formed.

3,264,353
TOLYLENE DIAMINE COMPOSITIONS STABILIZED WITH N-BUTYL ACID PHOSPHATE
Eugene L. Powers, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Mar. 22, 1965, Ser. No. 441,889
6 Claims. (Cl. 260—578)

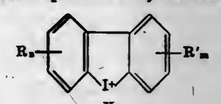
1. A composition having improved stability against discoloration comprising tolylene diamine and containing from about 0.1% to about 5.0% by weight of a member selected from the group consisting of an alkyl acid phosphate and a dialkyl acid phosphate, said alkyl group in each instance having from 1 to 10 carbon atoms.

3,264,354
METHOD FOR PRODUCTION OF TRI-ALKYL TERTIARY AMINES
Edward J. Sawyer, Jr., Springboro, Pa., assignor to Archer-Daniels-Midland Company, Minneapolis, Minn., a corporation of Delaware
No Drawing. Filed Aug. 4, 1961, Ser. No. 130,455
6 Claims. (Cl. 260—583)

1. In a process for producing tri-alkyl tertiary amines having from 8 through 22 carbon atoms in each alkyl group wherein said tertiary amines are derived from a nitrogen-containing material selected from the group consisting of aliphatic nitriles, primary aliphatic and secondary aliphatic amines, and mixtures thereof, the improvement which comprises the steps of forming a mixture of said nitrogen-containing material and a catalytic amount of from about 0.05% to 5% by weight of non-pyrophoric, finely divided, reduced and stabilized form of nickel supported on kieselguhr; heating this mixture at a temperature of from about 400° to about 450° F. while sparging the mixture with hydrogen; maintaining the heated mixture under a pressure of from about 0 to about 100 p.s.i.; and removing ammonia as said tertiary amine is formed until the reaction is substantially completed.

3,264,355
HALOGEN-SUBSTITUTED DIBENZ-IODOLIUM SALTS
William N. Cannon, Greenwood, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
No Drawing. Filed Dec. 28, 1964, Ser. No. 421,607
6 Claims. (Cl. 260—606.5)

1. A compound represented by the following formula:



wherein R and R' are members of the group consisting of chlorine and bromine; n is a number from 1 to 3; m is a number from 0 to 3; and X^- is an anion of an acid having an acidic dissociation constant greater than 10^{-13}.

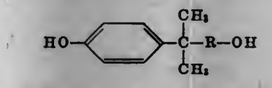
3,264,356
DICHLORO-DIFLUORO ETHER
Eric R. Larsen, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 3, 1965, Ser. No. 430,189
3 Claims. (Cl. 260—614)

1. 2,2-dichloro-1,1-difluoroethyl methyl ether being substantially free from 2,2-dichloro-1-fluorovinyl methyl ether, and having a boiling point of 47.24° C. ±0.3° C.

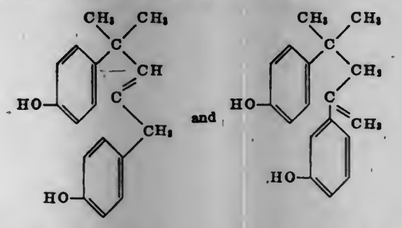
at 90.3 mm. pressure, a refractive index 20°/D of 1.3858, a refractive index 25°/D of 1.3843; a specific gravity 20°/4° of 1.4279, a specific gravity 25°/4° of 1.4184, and stability characteristics that permit standing at room temperature without significant decomposition.

3,264,357
PROCESS FOR THE MANUFACTURE OF BISPHENOLS AND POLYPHENOLS
Reginald Francis Webb, Cambridge, and Ian Geoffrey Hinton, Great Chesterford, near Saffron Walden, England, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland
No Drawing. Filed Nov. 18, 1960, Ser. No. 70,138
Claims priority, application Great Britain, Dec. 24, 1959, 43,873/59
7 Claims. (Cl. 260—619)

1. Process for the manufacture of phenols of the general formula

I 

wherein R is a radical selected from the group consisting of phenylene, hydroxyphenyloxy, monoalkylphenylene, dialkylphenylene, trialkylphenylene, tetraalkylphenylene, alkenylphenylene, cycloalkylphenylene, aryl-phenylene, naphthylene, hydroxynaphthylene, and (hydroxyphenyl alkyl)-phenylene radical with the proviso that said radical R is free from substituents selected from the group consisting of halogen and nitro, wherein a product which is a mixture of the isomeric forms having the formulae

II 

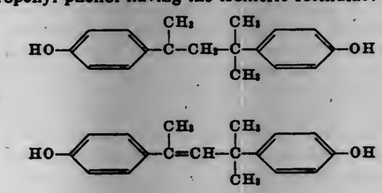
is condensed in the presence of a strong acidic catalyst with a phenol of the formula

III H—R—OH

wherein R has the same meaning as above, with the proviso that the H atom and the —OH group are bound to the same benzene nucleus and are in a position selected from the group consisting of ortho and para relative to each other.

3,264,358
BISPHENOLS
Reginald Francis Webb, Cambridge, and Ian Geoffrey Hinton, Great Chesterford, near Saffron Walden, England, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland
No Drawing. Filed Nov. 18, 1960, Ser. No. 70,137
Claims priority, application Great Britain, Nov. 25, 1959, 40,084/59
3 Claims. (Cl. 260—619)

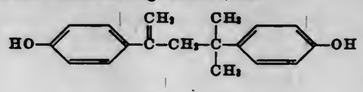
1. A process for the production of dimeric p-isopropenyl phenol having the isomeric formulae:



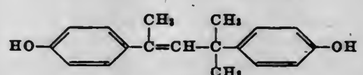
and

which consists essentially of heating p-isopropenylphenol in an inert organic diluent medium and separating the product from the reaction mixture.

3. The product of the process of claim 1 consisting of the isomeric forms having the formulae



and



3,264,359
DIHALOCARBENE PROCESS
Richard T. Dickerson, Midland, Mich., and Harry M. Walborsky, Tallahassee, Fla., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 25, 1961, Ser. No. 133,788
3 Claims. (Cl. 260—648)

1. In the method for making 2,2-dihalocyclopropyl compounds by the reaction of one mole of a haloform of the formula CHX_3 wherein X is a halogen of atomic number from 17 to 35 with about one molar equivalent of an olefinic compound selected from the group consisting of acyclic and alicyclic olefinic hydrocarbons, vinyl aromatic hydrocarbons, and vinyl haloaromatic hydrocarbons in the presence of an alkali metal alkoxide of 1–5 carbon atoms, said alkali metal having an atomic number from 11 to 19, the improvement of carrying out said reaction in the additional presence of at least about one mole of an alkali metal hydride, said alkali metal having an atomic number from 11 to 19.

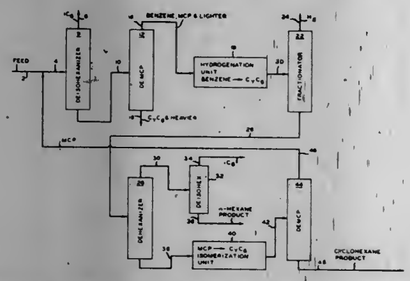
3,264,360
PREPARATION OF ORGANOMAGNESIUM COMPOUNDS
Walter Nudenberg, West Caldwell, William J. Heintzelman, Basking Ridge, and Vincent A. Rolleri, Parsippany, N.J., assignors to Texas-U.S. Chemical Company, Parsippany, N.J., a corporation of Delaware
No Drawing. Filed Jan. 31, 1963, Ser. No. 255,196
17 Claims. (Cl. 260—665)

1. The process for preparing organomagnesium compounds consisting essentially of reacting in the absence of a solvate forming solvent and in an oxygen-free atmosphere, an active hydrocarbon halide dissolved in solvent selected from the class consisting of chlorinated mono- and bicyclic aryls, with magnesium; said active hydrocarbon halide being more reactive with magnesium than is said solvent.

3,264,361
NORMAL HEXANE AND CYCLOHEXANE PRODUCTION
Walter O. Schellenberg, Sweeny, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 13, 1963, Ser. No. 279,776
1 Claim. (Cl. 260—666)

A process for the recovery of n-hexane from a feed containing methylcyclopentane, benzene, isohexanes, n-hexane, and cyclohexane comprising recovering a first fraction containing isohexane from said feed in a deisohexanizing zone leaving a second fraction containing methylcyclopentane, benzene, n-hexane and cyclohexane, recovering a third fraction containing cyclohexane from said second fraction leaving a fourth fraction containing n-hexane, methylcyclopentane and benzene, passing said fourth fraction through a hydrogenation zone under hydrogenation conditions sufficient to hydrogenate said benzene to cyclohexane, recovering a fifth fraction containing n-hexane and isohexane from the effluent from said hydrogenation zone and leaving a sixth fraction containing

methylcyclopentane, recovering n-hexane product from said fifth fraction, passing said sixth fraction through an isomerization zone maintained under isomerization conditions sufficient to isomerize methylcyclopentane to cyclohexane, recovering cyclohexane product from the isomerization zone effluent leaving a seventh fraction containing methylcyclopentane, and recycling said seventh fraction to said deisohexanizing zone.



3,264,362
CONVERSION OF ALPHA TO BETA PINENE USING DMSO-KOH CATALYST

Robert L. Webb, Orange Park, Fla., assignor to Union Bag-Camp Paper Corporation, New York, N.Y., a corporation of Virginia

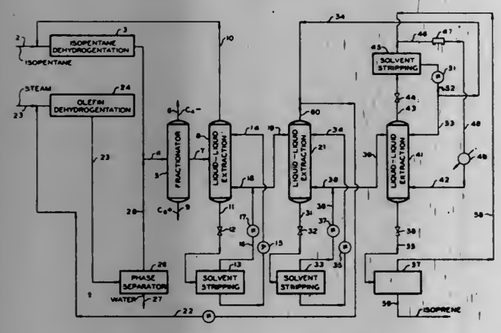
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,628
5 Claims. (Cl. 260—675.5)

1. A method for the conversion of alpha pinene to beta pinene comprising heating alpha pinene mixed with a dimethyl sulfoxide solution of an alkali metal hydroxide to a temperature of 110–125° C. to form beta pinene in the reaction mixture, separating the lower liquid phase containing the dimethyl sulfoxide and dissolved alkali metal hydroxide from the upper phase containing the beta pinene and the starting pinene material, and fractionally distilling the beta pinene to separate it from the products in the upper liquid phase.

3,264,363
RECOVERY OF A DIOLEFIN WITH LIQUID METHANE

William C. McCarthy and Glenn H. Dale, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 16, 1964, Ser. No. 411,467
15 Claims. (Cl. 260—681.5)



1. A process for the separation of a diolefin from a monoolefin which comprises contacting a stream containing said diolefin and said monoolefin with liquid methane to produce an extract phase containing liquid methane and said monoolefin and a raffinate phase containing said diolefin.

3,264,364
HYDROGENATION PROCESS

William A. Hewett, Oakland, and Alfred J. Canale, Orinda, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

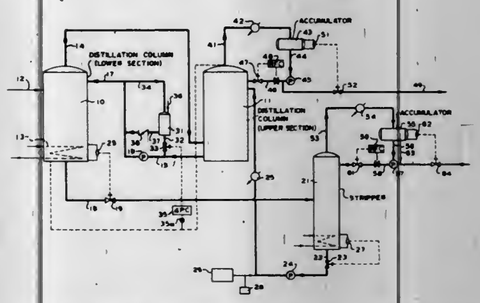
No Drawing. Filed Aug. 27, 1962, Ser. No. 219,745
4 Claims. (Cl. 260—683)

1. A hydrogenation process utilizing a liquid catalyst system comprising contacting a C_2 to C_{20} olefinically unsaturated hydrocarbon with hydrogen in the presence of water containing a catalytic dissolved amount of an equimolar mixture of cobalt fluoride and alkali metal fluoride, said contact being effected at a temperature from 25° to 150° C. and at a pressure from 50 to 10,000 p.s.i.g.

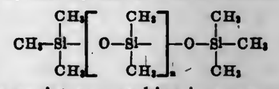
3,264,365
FOAM CONTROL IN SEPARATION OF HYDROCARBONS

Robert E. Luken, Borger, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed June 7, 1965, Ser. No. 467,809
12 Claims. (Cl. 260—683.3)



4. In a process for the manufacture of olefins from normal butane which comprises, catalytically dehydrogenating normal butane to said olefins, subjecting the C_4 hydrocarbon content of the reaction effluent to fractional distillation so as to remove the butene-1 content thereof as an overhead product and produce a bottoms product containing principally the n-butane and butene-2 content thereof, subjecting the resulting mixture of n-butane and butene-2 to extractive distillation with a solvent comprising essentially a mixture of furfural, 1 to 60 weight percent of C_5–C_{10} hydrocarbons formed in said process and comprising principally butadiene dimer, and liquid polydimethyl siloxane of the formula



wherein n is an integer resulting in a compound having a viscosity of at least 40 centistokes at 25° C. in a concentration of about 1 to 2 p.p.m. by volume per pass of furfural so as to selectively dissolve butene-2, and stripping the dissolved butene-2 from the rich solvent, the improvement comprising continuously determining the pressure drop across the distillation, and adding to the lower part of the distillation a single increment of said polydimethyl siloxane equivalent to about 5 to 10 p.p.m. by volume based on the per pass of furfural through said distillation when the pressure drop across the distillation indicates a state of unbalance which will result in flooding in the distillation.

3,264,366
PROCESS FOR PREPARING 3,4-DIMETHYLENE-1,5-HEXADIENE

Carl Albert Aufdermarsh, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 18, 1963, Ser. No. 288,606
5 Claims. (Cl. 260—683.15)

1. A process for the preparation of 3,4-dimethylene-1,5-hexadiene, comprising contacting and reacting a compound selected from the group consisting of 4-chloro-1,2-butadiene and 4-bromo-1,2-butadiene with magnesium in the presence of an ethereal solvent selected from the group consisting of tetrahydrofuran; tetrahydropyran, open-chain aliphatic polyethers of the formula

$$R—(O—CH_2—CH_2)_x—O—R$$

wherein R is C_1–C_4 alkyl and x is an integer selected from the group consisting of 1, 2, and 3, and mixtures thereof and recovering the 3,4-dimethylene-1,5-hexadiene thereby formed.

3,264,367
POLYMERIZATION CATALYST AND PROCESS OF POLYMERIZATION USING SAID CATALYST

Robert Chalmers Pitkethly and Anthony George Goble, both of Sunbury-on-Thames, Middlesex, England, assignors to The British Petroleum Company Limited, London, E.C. 2, England, a British joint-stock corporation

No Drawing. Filed Oct. 15, 1963, Ser. No. 316,455
Claims priority, application Great Britain, Nov. 2, 1962, 41,359/62
8 Claims. (Cl. 260—683.15)

6. A catalyst suitable for use in effecting polymerization reactions comprising the reaction product of (a) a metal reducing agent selected from the group consisting of aluminum, zinc, iron and magnesium and (b) a product obtained by contacting at a temperature in the range of 93–593° C. a chlorinated compound of methane selected from the group consisting of methylene dichloride, chloroform and carbon tetrachloride with an oxide of a metal selected from the group consisting of titania and mixtures of titania and alumina such that chloride is taken up by the oxide in an amount of 1–15% by weight without the production of free chloride.

7. A process which comprises polymerizing an alpha mono-olefinic hydrocarbon by contacting said hydrocarbon at a temperature in the range of ambient–200° C. with a catalyst as claimed in claim 6.

3,264,368
AZIRIDINYLFORMATE BASED POLYURETHANES

Robert E. Lane, Jr., and George E. Ham, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 6, 1964, Ser. No. 387,992
12 Claims. (Cl. 260—77.5)

1. A polyurethane consisting essentially of units having the formula



wherein each R is independently selected from the group consisting of H and alkyl, aralkyl and cycloalkyl radicals containing up to 8 carbon atoms and R′ is a monovalent organic radical selected from the group consisting of alkyl, aralkyl and cycloalkyl radicals containing up to 8 carbon atoms and alkyl—(O-alkylene)$_n$—radicals wherein the alkyl portion contains up to 8 carbon atoms, each alkylene group contains 2 to 4 carbon atoms and n is an integer from 1 to 10.

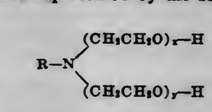
3,264,369
RESINOUS COMPOSITION OF EPOXIDIZED p,p′-DIHYDROXY, DIPHENYLDIMETHYLMETHANE, A PHENOL-FORMALDEHYDE NOVOLAC AND AN ALKANOL-AMINE CATALYST

Salim N. Ephraim, Forest Hills, N.Y., assignor to Reichhold Chemicals, Inc., White Plains, N.Y.

No Drawing. Original application Nov. 23, 1959, Ser. No. 854,589. Divided and this application Dec. 8, 1964, Ser. No. 422,881
4 Claims. (Cl. 260—831)

1. A stable thermohardenable resin composition comprising a blend of (A) an epoxide resin containing 1,2-epoxy groups, obtained by etherification of 4,4′-dihydroxydiphenyldimethylmethane, with epichlorohydrin in an alkaline medium; (B) a fusible novolac-type phenolic resin obtained by reacting formaldehyde in an acidic medium, with monohydric phenols having at least one hydrogen formaldehyde-reactive atom attached to the benzene ring thereof, in a ratio of about 0.5 to 0.85 mol formaldehyde per 1.0 mol phenol, and, thereafter, removing at least substantial portions of the volatiles and the unreacted portion of the phenol by distillation, wherein the weight ratio of (A) to (B) is from about 1 to 5 to about 5 to 1; and (C) a small, catalytically effective amount of N,N,N′,N′-tetrakis(hydroxypropyl) ethylenediamine.

2. A stable thermohardenable resin composition comprising a blend of (A) an epoxide resin containing 1,2-epoxy groups, obtained by etherification of 4,4′-dihydroxydiphenyldimethylmethane, with epichlorohydrin in an alkaline medium; (B) a fusible novolac-type phenolic resin obtained by reacting formaldehyde, in an acidic medium, with monohydric phenols having at least one hydrogen formaldehyde-reactive atom attached to the benzene ring thereof, in a ratio of about 0.5 to 0.85 mol formaldehyde per 1.0 mol phenol, and, thereafter, removing at least substantial portions of the volatiles and the unreacted portion of the phenol by distillation, wherein the weight ratio of (A) to (B) is from about 1 to 5 to about 5 to 1; and (C) a small, catalytically effective amount of ethoxylated fatty acid amines represented by the formula



wherein R is a straight chain alkyl group having between 12 and 18 carbon atoms and wherein the sum of x and y is between about 2 and about 15.

3,264,370
STOVING FINISHES CONTAINING AN ALKYLOLATED ACRYLAMIDE INTERPOLYMER WITH A POLYEPOXIDE ETHERIFIED WITH PHENOL AND ESTERIFIED WITH A MONOCARBOXYLIC ACID

Gustav Ott, Arlesheim, Hans Gempeler, Muttenz, and Eduard Knecht, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed Mar. 13, 1963, Ser. No. 264,757
Claims priority, application Switzerland, May 7, 1962, 5,454/62
3 Claims. (Cl. 260—834)

1. A stoving coating composition comprising

(a) an interpolymer of a member selected from the class consisting of acrylamide and methacrylamide with at least one other monomer having a $CH_2{=}C<$ group, said interpolymer having amido hydrogen atoms replaced by the structure

$$—CH_2O—R_1$$

wherein R_1 is a member of the class consisting of hydrogen and lower alkyl with 1 to 4 carbon atoms, and

(b) 5 to 40% by weight calculated on the total weight of the resinous portion of the coating composition of a polyether-ester which is obtained by partially etherifying, in a 1:2-epoxy compound having a 1:2-epoxy equivalency greater than 1, the 1:2-epoxide groups with a monophenol in a first stage, and by esterifying in the obtained reaction product the residual 1:2-epoxy groups with a monocarboxylic acid in a second stage.

3,264,371

FLUIDIZED BED COATING PROCESS AND PRODUCT

Harold M. Gruber and Laurence Haag, Reading, Pa., assignors to The Polymer Corporation, a corporation of Pennsylvania

No Drawing. Filed Mar. 13, 1959, Ser. No. 799,122
10 Claims. (Cl. 260—857)

1. A process for applying to an article a coating of a thermoplastic resin selected from the group consisting of (1) plasticized polyvinyl chloride, (2) plasticized vinyl chloride-vinyl acetate copolymers, (3) plasticized vinyl chloride-vinylidene chloride compolymers, (4) a long chain synthetic polymeric amide which has recurring amide groups as an integral part of the main polymer chain, and which is capable of being formed into a filament in which the structural elements are oriented in the direction of the axis, and (5) polyethylene, said process comprising immersing the article in a fluidized bed comprising the thermoplastic resin having a particle size of from about 40 to about 325 mesh, and from about 0.5 to about 10% by weight of polyvinyl chloride having a particle size of less than 5 microns in diameter which is intimately dispersed among the particles of the thermoplastic resin.

3,264,372

POLYESTER RESIN COMPOSITION

William George Deichert, Flushing, N.Y., and Richard Lansing Webb, Darien, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 10, 1963, Ser. No. 307,812
15 Claims. (Cl. 260—872)

1. A substantially linear, water-insoluble non-gelled unsaturated polyester resin composition consisting essentially of a blend of (1) the esterification reaction product of reactants consisting essentially of fumaric acid and a polyethylene glycol wherein said glycol has between 6 and 26 carbon atoms, said product has an acid number below about 30 and (2) a glycol diacrylate which is the reaction product of a glycol selected from the group consisting of polyglycols having from 4 to 8 carbon atoms and monoglycols containing from 2 to 4 carbon atoms, inclusive, and an acid selected from the group consisting of acrylic acid and methacrylic acid wherein (2) is present in an amount varying between about 10% and 40% by weight based on the total weight of (1) and (2).

11. A sheet of polymethyl methacrylate having bonded thereto a hard mar-resistant cross-linked unsaturated polyester resin composition consisting essentially of the cured reaction product of (1) the esterification reaction product of reactants consisting essentially of fumaric acid and a polyethylene glycol wherein said glycol has between 6 and 26 carbon atoms and said product has an acid number below about 30 and (2) a glycol diacrylate which is the reaction product of a glycol selected from the group consisting of polyglycols having from 4 to 8 carbon atoms and monoglycols containing from 2 to 4 carbon atoms, inclusive, and an acid selected from the group consisting of acrylic acid and methacrylic acid wherein (2) is present in an amount varying between about 10% and 40% by weight based on the total weight of (1) and (2).

3,264,373

GRAFT COPOLYMERS OF METHYL METHACRYLATE ONTO BUTADIENE-ALKYL ACRYLATE COPOLYMERS AND VINYL CHLORIDE RESINS CONTAINING SAME

Clyde J. Whitworth, Jr., Nathan L. Zutty, and Frederick P. Reding, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 17, 1962, Ser. No. 244,924
14 Claims. (Cl. 260—876)

1. A composition of matter comprising a uniform admixture of a vinyl chloride polymer containing at least 80 weight percent polymerized vinyl chloride with from 0.5 to 50 weight percent, based on the weight of said vinyl chloride polymer, of a graft polymer consisting of a copolymer of butadiene and an alkyl acrylate whose homopolymer has a heat distortion temperature of less than 0° C., said copolymer containing from 1 to 20 weight percent polymerized butadiene, the balance being polymerized alkyl acrylate, and from 10 to 185 weight percent based on the weight of said copolymer, of methyl methacrylate grafted onto said copolymer.

11. A graft polymer consisting of (1) a copolymer of (a) butadiene and (b) an alkyl acrylate whose homopolymer has a heat distortion temperature of less than 0° C. having (2) methyl methacrylate grafted thereon, said graft polymer containing from 9 to 65 weight percent polymerized methyl methacrylate, from 0.5 to 18 weight percent polymerized butadiene, and from 30 to 90 percent polymerized alkyl acrylate.

3,264,374

GRAFT COPOLYMER FORMED BY POLYMERIZING BUTADIENE IN STYRENE WITH AN ALKYL-Li CATALYST, DEACTIVATING THE CATALYST AND ADDING AN ORGANIC PEROXIDE

Robert W. Jones, Wilbraham, Mass., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Jan. 2, 1963, Ser. No. 248,891
19 Claims. (Cl. 260—880)

1. A process which comprises the steps of contacting a conjugated 1,3-diene hydrocarbon with a lithium catalyst of the group consisting of lithium and a hydrocarbyl lithium, maintaining it in contact with the lithium catalyst in the presence, as the sole diluent, of a total of at least 3 parts by weight of a monovinylidene aromatic hydrocarbon/part of the conjugated 1,3-diene hydrocarbon until a rubbery polymer containing not more than about 75% by weight of chemically-combined monovinylidene aromatic hydrocarbon is obtained, deactivating the rubbery polymer to terminate the activity of the lithium catalyst to produce a polymerizable material comprising a rubber in monomer solution; adding an organoperoxy catalyst to said polymerizable material and heating said polymerizable material in the presence of said organoperoxy catalyst to produce polymerization thereof and grafting of at least a portion of said monovinylidene aromatic hydrocarbon onto said rubbery polymer.

3,264,375

PROCESS FOR THE GRAFT POLYMERIZATION OF STYRENE ON ALKYL LITHIUM CATALYZED POLYBUTADIENE USING A PEROXIDE CATALYST

Robert W. Jones, Wilbraham, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 16, 1963, Ser. No. 251,762
17 Claims. (Cl. 260—880)

1. A process which comprises the steps of contacting a conjugated 1,3-diene hydrocarbon with a lithium catalyst of the group consisting of lithium and a hydrocarbyl

lithium in the presence of a diluent having a boiling point lower than 130° C. and selected from the group consisting of a conjugated 1,3-diene hydrocarbon, an alkane, a cycloalkane, an aromatic hydrocarbon, and mixtures thereof, maintaining the conjugated 1,3-diene hydrocarbon in contact with the lithium catalyst at least until a rubbery polymer is formed, adding at least 3 parts by weight of a monovinylidene aromatic hydrocarbon/part of rubbery polymer, deactivating the rubbery polymer to terminate the catalytic activity of the lithium catalyst at a stage after a rubbery polymer has been formed and before sufficient monovinylidene aromatic hydrocarbon has block copolymerized with the rubbery polymer to form a polymer containing more than 75% by weight of combined monovinylidene aromatic hydrocarbon, stripping the reaction mixture of ingredients having lower boiling points than the monovinylidene aromatic hydrocarbon by distillation to produce a rubber in monomer solution providing a polymerizable material, adding an organoperoxy catalyst to the polymerizable material and heating said polymerizable material in the presence of said organoperoxy catalyst to produce polymerization of the monovinylidene aromatic hydrocarbon and grafting of at least a portion thereof upon said rubbery polymer.

3,264,376

OIL DISPERSANT GRAFT COPOLYMERS OF VINYL ACETATE ONTO A POLYMERIC ALKYL ACRYLATE BACKBONE

La Verne N. Bauer, Cheltenham, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Mar. 30, 1962, Ser. No. 183,720
14 Claims. (Cl. 260—885)

1. A process for preparing oil-soluble copolymers having dispersing activity which comprises first polymerizing under the influence of a free radical polymerization initiator at least one acrylic ester until about 50% to about 90% has polymerized to form a mixture of base polymer and monomer, said ester supplying solubility to the final copolymer in hydrocarbon oils and having the formula

$$CH_2{=}C(R^*)COOR$$

wherein R* is a member of the class consisting of hydrogen and methyl and R is an alkyl group of 8 to 24 carbon atoms, mixing at least one vinyl ester with said base polymer and monomer, said vinyl ester being of the formula

$$CH_2{=}CHOOCR'$$

wherein R' is an alkyl group of 1 to 3 carbon atoms, and copolymerizing the resultant mixture under the influence of a free radical polymerization initiator, the vinyl ester providing about 25% to 45% of the final copolymer.

3,264,377

BLENDS OF POLYVINYL CHLORIDE WITH HOMOPOLYMERS AND COPOLYMERS OF ALKYL β-VINYLPROPIONATE

James E. Masterson, Moorestown, N.J., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed June 22, 1962, Ser. No. 204,602
8 Claims. (Cl. 260—897)

1. A blend of (a) a member of the group consisting of polyvinyl chloride and copolymers of vinyl chloride with a minor amount of another monomer copolymerizable therewith and (b) a member of the group consisting of homopolymers of an alkyl β-vinylpropionate in which the alkyl group contains one to four carbon atoms and copolymers thereof with another monomer copolymerizable therewith.

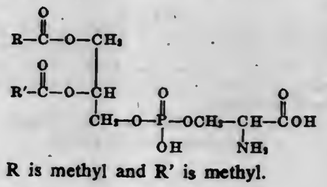
3,264,378

SERINE ESTER OF DIACYL GLYCEROL PHOSPHATE

Joseph P. Dailey, Kankakee, and Robert L. Colescott, Bourbonnais, Ill., assignors to Armour Pharmaceutical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Apr. 9, 1962, Ser. No. 185,856
3 Claims. (Cl. 260—941)

1. A serine ester of 1,2-diacyl glycerol 3-phosphate having the formula



in which R is methyl and R' is methyl.

3,264,379

METHOD OF ROUNDING ACTINIDE OXIDE GEL PARTICLES

Robert L. Hamner, Oak Ridge, and William H. Smith, Jr., Knoxville, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Aug. 27, 1963, Ser. No. 305,008
8 Claims. (Cl. 264—.5)

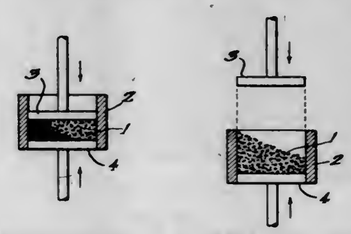
1. The method of rounding irregularly shaped, slightly water-soluble oxide gel particles which comprises wetting the surface of said particles with a solution comprising 25 to 75 volume percent water and the balance a water-miscible inert organic liquid and tumbling the resulting wetted particles whereby irregular projections on said particles are removed.

3,264,380

POWER PRESS PROCESS FOR FORMING LIGHTWEIGHT REFRACTORY ARTICLES, AND ARTICLES SO MADE

Joseph R. Parsons, Park Forest, Ill., assignor to Chicago Fire Brick Company, Chicago, Ill., a corporation of Illinois

Filed Feb. 11, 1964, Ser. No. 343,982
13 Claims. (Cl. 264—43)



1. The method of forming a lightweight refractory shaped article which comprises mixing together a first lightweight refractory aggregate having a density of less than 50 pounds per cubic foot, water, and a second refractory aggregate which is crushable at a pressure below that at which said first aggregate is crushable, and pressing the mixture into a shaped article at a pressure such as to crush said second aggregate.

11. The method of forming a lightweight refractory shaped article having a portion of said article of greater strength than the remainder of said article which method comprises mixing together a lightweight refractory aggregate, a minor amount of water, and a second aggregate which is crushable at below the pressure at which said first aggregate is crushable to form a mixture, pressing

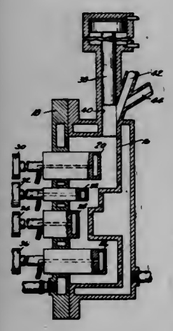
the mixture into a shaped article by subjecting one surface portion of the mixture to a higher pressure than the pressure on an adjacent surface portion, the higher pressure being sufficient to crush both the first and second aggregates in the underlying portion where the higher pressure is applied, and the lower pressure being such as to crush the second aggregate without crushing the first aggregate.

3,264,381

METHOD OF MANUFACTURING LOW DENSITY PRODUCTS OF MOLDED SYNTHETIC RESIN

Donald E. Stevens, Sheboygan Falls, Wis., assignor to Kohler-Joa Corporation, Sheboygan Falls, Wis., a corporation of Wisconsin

Filed Apr. 18, 1963, Ser. No. 274,049
10 Claims. (Cl. 264—45)



1. A method of manufacturing a molded product from beads of synthetic resin impregnated with a blowing agent, which method comprises the steps of: confining the beads in a space of limited volumetric capacity; heating the beads to effect expansion thereof to fill such space under pressure and to agglomerate and fuse the beads together; thereafter increasing the capacity of such space in an amount less than the residual capacity of the beads to expand, and maintaining the beads confined while using latent heat retained in the beads for effecting continued expansion while the beads retain sufficient heat to bring about additional expansion thereof to fill the increased space, such continued expansion of the beads and use of latent heat retained therein further serving inherently to reduce the heat of the fused beads, and removing the molded product from the mold only after the temperature thereof has been reduced and the capacity for expansion has been terminated and the form of the product has been determined.

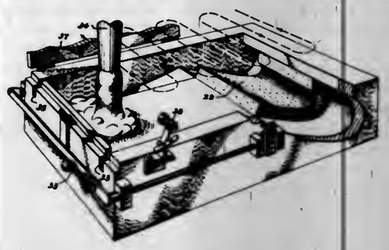
3,264,382

METHOD FOR MAKING FOAM BACKRESTS FOR VEHICLE RECLINING CHAIRS

Robert C. Angell and Stephen B. Kolk, Grand Rapids, Mich., assignors to American Seating Company, Grand Rapids, Mich., a corporation of New Jersey

Filed Sept. 18, 1963, Ser. No. 309,813
4 Claims. (Cl. 264—46)

1. In a method for forming a chair foam backrest having an outwardly-contoured headrest of greater resilience than the body of the backrest, the steps of preforming a rectangular resilient thick foam headrest cushion of low-density type foamable plastic material with the butt ends of the cushion facing in opposite directions, flexing said cushion to bend it into a curved body with said butt ends facing substantially in the same direction, securing said body while in said flexed and curved position within a mold conforming generally to the shape of the finished backrest, introducing a high-density type foamable plastic material into the mold to



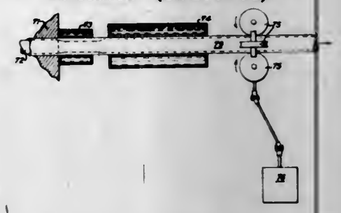
fill the mold and to unite with the butt ends of said headrest cushion, and removing said united backrest and headrest from said mold.

3,264,383

EXTRUSION METHODS

Rudolf Niessner, Bogen, Max Sonnleitner, Oberaltaich, near Bogen, Karl Hermann Wolf, Regenhütte, near Zwiesel, and Johann Gutlhuber, Iribach, near Straubing, Germany, assignors to Kunstoffwerk Gebruder Anger G.m.b.H. & Co., Munich, Germany, a firm

Original application Feb. 23, 1962, Ser. No. 176,179, now Patent No. 3,205,535, dated Sept. 14, 1965. Divided and this application Aug. 28, 1963, Ser. No. 310,186
Claims priority, application Germany, Feb. 25, 1961, K 43,015; Nov. 22, 1961, K 45,267
11 Claims. (Cl. 264—95)



1. A process for the production of plastic tubes which have at least at one end thereof an increased wall thickness for a predetermined length, said process comprising continuously advancing plastic material through an extruder to produce a continuous extruded cylinder, cooling the extruded cylinder as it is discharged from the extruder whereby the plastic material is hardened thereat, engaging the thus cooled cylinder to draw the same through the extruder and past the region where the cylinder is cooled, periodically increasing the ratio of the speed at which the material is fed to the extruder relative to the speed at which the cylinder is drawn from the extruder to upset the tube where it is discharged from the extruder to form periodic increases in thickness in the cylinder and dividing the cylinder thus formed with the periodic increases in thickness to produce tubes which have increased wall thickness at least at one end thereof.

3,264,384

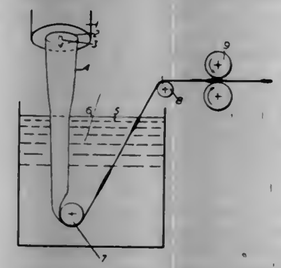
PROCESS FOR PRODUCING A SYNTHETIC BAST

Walter Settele, Lucerne, Switzerland, assignor to Societe de la Viscose Suisse, Emmenbrucke, Switzerland, a Swiss body corporate

Filed Mar. 26, 1962, Ser. No. 182,283
Claims priority, application Great Britain, Apr. 5, 1961, 12,279/61
5 Claims. (Cl. 264—95)

1. In a process for the production of a synthetic material having the appearance of a bast fibre including the steps of extruding a molten synthetic fibre-forming

polymer through an annular orifice to form a tubular filament, maintaining a slight superatmospheric and pulsating pressure with inert gas inside the tubular filament, passing the filament while in the plastic state into a cooling liquid and then, while still in an agglutinative state, drawing it past a deflector placed in the cooling liquid asymmetrically to the tubular filament so that it is flattened and irregularly creased and folded and the



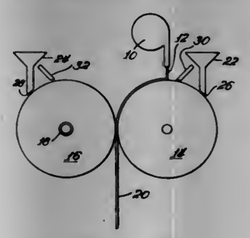
opposite sides are at least partly agglutinated, the improvement which comprises the further step of irregularly varying the distance between the surface of the cooling liquid and the annular orifice to irregularly vary the volume of said inert gas within the filament and thereby irregularly vary the width and denier of the filament such that the flattened filament will also have a varying titre and varying width at irregular intervals, and finally withdrawing the flattened filament under tension.

3,264,385

METHOD OF CASTING A PRINTED PATTERN ON A PLASTIC SHEET

Stanley F. Reed, McLean, Va., assignor to American Scientific Corporation, Alexandria, Va., a corporation of Virginia

Filed Jan. 14, 1963, Ser. No. 252,016
5 Claims. (Cl. 264—104)



1. A method of producing an article having a pattern of predetermined configuration arranged therein, comprising the steps of

applying finely divided, solid particles to preselected portions only of at least one face of a base material while said base material is in a moldable state, said preselected portions of said base material defining the said pattern,

causing said base material to completely enclose said particles,

and thereafter solidifying said base material while maintaining the enclosed particles in said pattern,

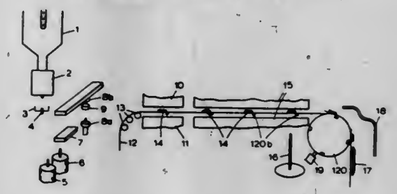
whereby said particles are held in said pattern by said base material.

3,264,386

AUTOMATIC PRODUCTION OF GRAMOPHONE RECORDS

Walter Leslie Rand, Gerrards Cross, and Leslie Eric Zouch, Hayes, Middlesex, England, assignors to Electric & Musical Industries Limited, Middlesex, England, a company of Great Britain

Filed Oct. 9, 1962, Ser. No. 229,332
14 Claims. (Cl. 264—107)



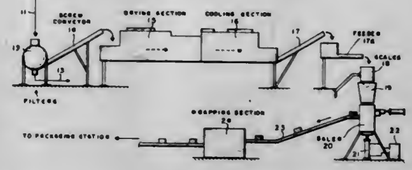
1. A method for the production of gramophone records which comprises the steps of causing a quantity of mouldable material to adhere to a label, transferring the label and the adhering material to a moulding press by contact only with the label, and pressing a record groove in the material in the moulding press.

3,264,387

BALING OF BUTYL RUBBER

Arnold R. Zubik, Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

Filed Oct. 29, 1962, Ser. No. 233,598
6 Claims. (Cl. 264—123)



1. A method for baling butyl rubber which comprises subjecting a confined body of particles of butyl rubber having a particle size within the range from about 1/16 to about 2×6×10 inches and having a density within the range from about 18 to about 25 pounds per cubic foot to mechanical pressure within the range from about 800 to about 3500 p.s.i. at a temperature within the range from about 140° F. to about 250° F. for a time within the range from about 5 to about 60 seconds to form a butyl rubber mass having a density from about 40 to about 54 pounds per cubic foot and which maintains its shape and is free of substantial distortion.

3,264,388

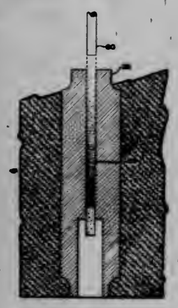
METHOD OF CONTINUOUSLY HOT PRESSING POWDERED REFRACTORY MATERIAL

George H. Roach, Santa Clara, Calif., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

Filed Feb. 2, 1962, Ser. No. 170,725
3 Claims. (Cl. 264—125)

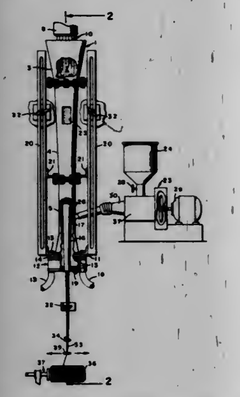
1. A continuous method of hot pressing powdered refractory material into an elongated body having a high modulus of rupture comprising the steps of periodically charging increments of powdered refractory material into an open end elongated die, subjecting the powdered material to progressively increasing pressure while progressively raising the temperature of the material to the sintering temperature, maintaining the powdered material at said sintering temperature while further subjecting the

material to pressure for a time sufficient to obtain a solid compacted body, and releasing said pressure periodically for the charging of additional increments of powdered



material thereby causing the powder to move progressively in said die and the solid body compacted therefrom to progressively emerge from said die.

3,264,389
METHOD FOR SPINNING SPECIAL YARNS
James G. Sims, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Original application Dec. 26, 1962, Ser. No. 247,006. Divided and this application May 3, 1965, Ser. No. 452,668
2 Claims. (Cl. 264—131)



1. A fluidized bed filament yarn spinning method comprising the steps of,
(a) extruding a group of molten filaments of thermoplastic material,
(b) passing said filaments longitudinally in one direction through a quenching zone,
(c) converging said filaments to form a yarn after they pass out of said quenching zone,
(d) collecting said yarn,
(e) establishing an airstream in said quenching zone flowing in an opposite direction to said one direction of filament travel,
(f) entraining fine particles of inert material into said airstream,
(g) forming a fluidized bed of said fine particles in said quenching zone in surroundment of and adjacent to the entrance of said filaments into said quenching zone,
(h) whereby said particles in said fluidized bed move about at random therein and contact said filaments thereby effecting transfer of heat from said filaments to said particles for cooling said filaments.

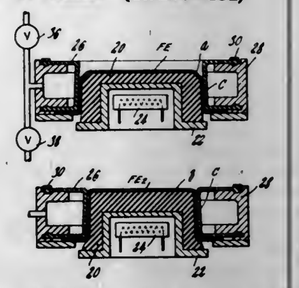
3,264,390
PROCESS FOR PREPARING MULTIFILAMENT YARNS
David Tanner, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 15, 1963, Ser. No. 295,242
4 Claims. (Cl. 264—171)

1. A process for preparing a splittable composite filament which comprises
(1) extruding a polyamide component having a relative viscosity, measured after extrusion, of about 30 to 60 and a polyester component having a relative viscosity, measured after extrusion, of about 22 to 30, the ratio of the viscosities of said polyamide and polyester components being from 1.5 to 2.5, and at least one of said components containing as a separate phase therein a polymeric antistatic agent,
(2) attenuating said filament by pulling it away from the orifice at a speed at least 40 times the speed at which it is extruded, and
(3) drawing said filament from 2 to 8 times its original length.

3,264,391
METHOD FOR PRODUCING POLYTETRAFLUOROETHYLENE INSULATED WIRE
Ford E. Warrick, Asheville, and Roger T. Guthrie, Enka, N.C., assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware
No Drawing. Filed Mar. 22, 1962, Ser. No. 181,807
4 Claims. (Cl. 264—174)

1. A method for producing polytetrafluoroethylene insulated wire comprising the steps of extruding a coating of polytetrafluoroethylene around a wire at an extrusion die temperature above room temperature, collecting the wire under low tension on a metal spool in one layer of windings, storing the spool of wire for a period sufficient to evolve vaporizable constituents from the polytetrafluoroethylene coating, dipping the spool of wire in a molten sintering bath for a period sufficient to harden the polytetrafluoroethylene coating, and quenching the spool of wire in cold water.

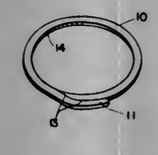
3,264,392
METHOD OF MAKING ROLLING SEAL DIAPHRAGMS
John F. Taplin, 15 Sewall St., West Newton, Mass.
Original application Oct. 26, 1962, Ser. No. 233,379. Divided and this application Apr. 1, 1964, Ser. No. 356,431
10 Claims. (Cl. 264—231)



1. A method of manufacturing a rolling seal diaphragm with a rolling wall of improved limited extensibility characteristics which comprises the steps of forming a fabric

wall with an outer surface defined by rotating a first line about an axis, an inner surface concentric with said outer surface, and made up of interlocking threads cooperating to limit any circumferential extensibility and prevent any axial extensibility, engaging said fabric wall over at least some peripheries of one said surface thereof with a die of configuration corresponding with said last-mentioned surface over said peripheries, engaging said fabric wall over corresponding peripheries of the other said surface thereof with a second die of mating configuration to grip said fabric wall between said dies around said peripheries, simultaneously decreasing the diameter of the die engaging said outer surface and decreasing the diameter of the die engaging said inner surface while pressing said fabric wall therebetween, to reduce the diameter of said fabric element at each of said peripheries, and setting said fabric element in its last-mentioned configuration of reduced diameter at each of said peripheries.

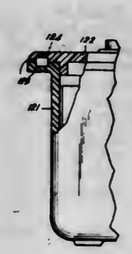
3,264,393
METHOD OF MOLDING SEALING GASKETS FOR CONTAINERS
Edward W. Merrill, Belmont, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Original application Apr. 15, 1963, Ser. No. 272,895. Divided and this application Sept. 27, 1963, Ser. No. 312,262
3 Claims. (Cl. 264—236)



1. A method of preparing an integral sealing gasket which comprises providing a predetermined length of a strip of vulcanizable resilient material having its side walls lying solely at right angles and having one longitudinal end running diagonally from one side wall to the other side wall, overlapping the opposed longitudinal end over the diagonal end to form a continuous band, and heating the overlapped band for a time sufficient to cause plastic flow but insufficient to cause vulcanization, whereby the opposed ends are severably joined with the outer end extending tangentially to the curvature of the band.

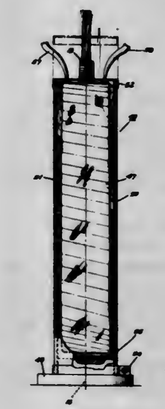
3,264,394
METHOD OF SEALING A STORAGE BATTERY CASING
Walter Gohl, Waiblingen, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Dec. 9, 1964, Ser. No. 417,033
Claims priority, application Germany, Oct. 21, 1960, B 59,817
6 Claims. (Cl. 264—263)

1. A method of welding together a hollow open storage battery housing and a cover therefor so as to form a storage battery casing, said housing and said cover each having a peripheral sealing face with an endless groove in said sealing face, said housing and said cover consisting of thermoplastic material and said endless grooves in said peripheral sealing faces of said housing and said cover defining an endless closed channel formed with at least one inlet opening, comprising the steps of placing said cover onto said housing so as to form said endless closed channel therebetween; filling through said inlet opening said closed channel under pressure with a liquefied thermoplastic material adapted to render the surface portions of said housing and said cover, respectively, which define said closed channel into like liquefied condition so as to form of said liquefied thermoplastic material and of said liquefied surface portions an integral mass; and solidifying



said integral mass, thereby firmly joining said housing and said cover to each other and forming thereof, without the use of an extraneous mold, an integral, unitary, thermoplastic body.

3,264,395
METHOD FOR ENCASING ELECTRICAL APPARATUS
Newton Chessin, Maitland, Fla., and Franklin P. Eppert, Danville, Ill., assignors to General Electric Company, a corporation of New York
Original application Sept. 11, 1961, Ser. No. 137,339, now Patent No. 3,219,884, dated Nov. 3, 1965. Divided and this application June 22, 1965, Ser. No. 466,018
2 Claims. (Cl. 264—272)

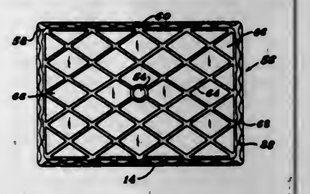


1. A method for encasing an electrical apparatus having a capacitor and at least one magnetic core and coil assembly, said method comprising the steps of: rigidly attaching one end of said capacitor to one end of the magnetic core to form an elongate assembly, connecting said capacitor and magnetic core and coil assembly in operative circuit relationship with external leads, said external leads being brought out at one end thereof to form a riser for the passage of liquid resin, wrapping cloth of reinforcing material around at least a portion of said leads, said capacitor and said core and coil assembly to form a jacket substantially circumscribing said apparatus, placing said wrapped and connected magnetic core and coil assembly and capacitor in a mold, pouring a liquid polymerizable resin into said mold so that it fills the interior

of said jacket and so that an outer body substantially encasing said apparatus is formed, and curing said resin to a solid infusible mass.

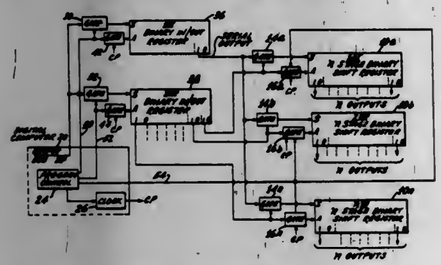
3,264,396
METHOD OF INJECTION MOLDING A TOTE CASE
Robert L. Beesley, Saginaw, John W. Mighton, Midland, and Rudolph H. Matthias, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 6, 1964, Ser. No. 335,739
4 Claims. (Cl. 264—328)

1. The method of forming a molded plastic tote case having a rectangular bottom, said method comprising the step of injecting thermoplastic material from the center of said bottom along a plurality of flow lines which cross one another and are of the same length to the periphery of said bottom, whereby uniform controlled material distribution is maintained.



ELECTRICAL

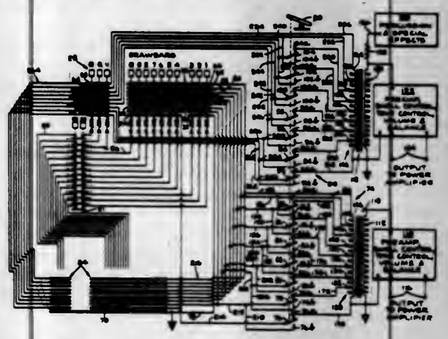
3,264,397
CONTROL SYSTEM
Lester M. Glickman, Framingham, and Richard W. Sonnenfeldt, Waban, Mass., assignors to Radio Corporation of America, a corporation of Delaware
Filed Aug. 13, 1962, Ser. No. 216,488
10 Claims. (Cl. 340—172.5)



1. A control system comprising:
m two-state devices to be controlled;
k binary shift registers of *n* stages each, where *n* is less than *m*, and where *k* is equal to *m/n*, or is the smallest integer greater than *m/n* when *m/n* is not an integer;
means connecting each two-state device to the output of a different register stage;
a separate coincidence gate at the input of each of said registers;
means supplying signals representing an *n* bit binary information word serially by bit to one input of each said gate;
and means responsive to a second binary word for enabling a second input of one of the gates.

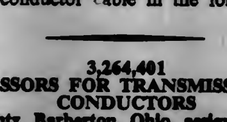
3,264,398
ELECTRIC ORGAN CRESCENDO SYSTEM
Donald R. Kern, Chicago, Ill., assignor to Hammond Organ Company, Chicago, Ill., a corporation of Delaware
Continuation of application Ser. No. 70,511, Nov. 21, 1960. This application Mar. 26, 1964, Ser. No. 358,137
4 Claims. (Cl. 84—1.27)

1. In an organ of the tone synthesizing type in which there is provided a multiplicity of sine wave tone generators according to the musical scale, a plurality of busses individual to the fundamental and various harmonics of the fundamental, playing keys adapted when played to connect appropriate generators to the busses so that appropriate busses have applied thereto the fundamental and various harmonics of the fundamental, an output system having a plurality of input terminals of graded effectiveness from no effectiveness to low effectiveness, to higher effectiveness, to still higher effectiveness, and so on progressively up to high effectiveness, a plurality of controls operable to connect each of said busses individually to any selected one of said input terminals to determine the effectiveness in the output of the fundamental and various harmonics of the notes being played, and a crescendo system comprising a plurality of switches ganged together, a control for progressively actuating switch members of said gang as said control is progressively moved, connections from said ganged switches to said input terminals such that progressive actuation of said ganged switches by their control progressively first removes the connections of whatever busses there are that are connected to the no effectiveness terminal and connecting these busses to the terminal of low effectiveness, next removes the bus connections from the terminal of low effectiveness and connects these busses to the terminal of higher effectiveness, next removes whatever bus connections there are to said terminal of higher effectiveness and connects these busses to said terminal of still higher effectiveness, and so on progressively until all said bus connections have been removed from all less effective terminals and connected to said terminal of high effectiveness.



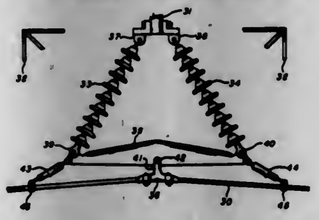
3,264,399
POWER TRANSISTOR DEVICE
Donald R. Baird, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 16, 1963, Ser. No. 331,346
2 Claims. (Cl. 174—15)

1. An improved encapsulating device for a power transistor or similar device comprising:
an airtight container having a flat heat-exchange surface and a peripheral flange disposed generally in a plane parallel to and offset from the heat-exchange surface, and
a clamp member comprised of a first plate having an aperture for receiving the airtight container disposed to engage one side of the peripheral flange, a second plate having an aperture for receiving the airtight container disposed to engage the other side of the peripheral flange,



flange means on one of the plates, the flange means being crimped around the other plate to secure the clamp member on the container, and bolt hole means in the clamp member on opposite sides of the container,
whereby bolts may be passed through the bolt holes and connected to a chassis heat sink and tightened to press the heat-exchange surface against the heat sink.

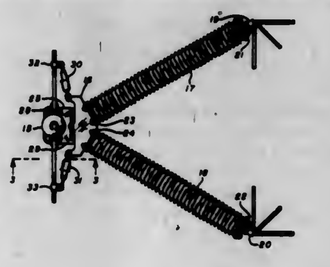
3,264,400
SUPPRESSORS FOR TRANSMISSION LINE CONDUCTORS
John J. Taylor, Medina, Ohio, assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey
Filed Oct. 28, 1963, Ser. No. 319,186
8 Claims. (Cl. 174—42)



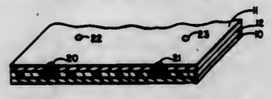
1. In apparatus for an electric power transmission system in which there is a tower, conductor means suspended from the said tower comprising a conductor cable and a conductor clamp holding the cable, and suspension insulators connected to the conductor clamp and to the tower, the conductor means being free to move relative to the tower at least in the longitudinal direction of the conductor cable, the combination, with the conductor means and suspension insulators, which comprises a reference member adjacent the cable, two strut insulators connected between the reference member and the tower with the strut insulators connected to the tower at points spaced in the longitudinal direction of the cable and fixing the position of the reference member in the longitudinal and transverse directions of the cable, and fluid damper means connected between the conductor means and the reference member for suppressing movement of the conductor cable in the longitudinal direction thereof.

3,264,401
SUPPRESSORS FOR TRANSMISSION LINE CONDUCTORS
Alpha D. Lantz, Barberton, Ohio, assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey
Filed Oct. 29, 1963, Ser. No. 319,737
3 Claims. (Cl. 174—42)

1. Apparatus for an electric power transmission system in which there is a tower, conductor means suspended from the tower comprising a conductor cable, a conductor clamp holding the cable, and suspension insulators connected to the conductor clamp and to the tower carrying the conductor means from the tower, the combination with the conductor means and suspension insulators which comprises a reference member adjacent the cable, two rigid strut insulators extending between the reference member and the tower with means connecting the strut insulators to the tower at points spaced in the longitudinal direction of the cable and fixing the reference member to the tower in the longitudinal and transverse directions of the cable, and means connecting the reference member to the conductor clamp for carrying the reference member and strut insulators from the suspension insulators, the last-named means comprising interengaging means for movement of the conductor means relative to the reference member in the longitudinal direction of the cable.

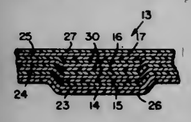


3,264,402
MULTILAYER PRINTED-WIRING BOARDS
Joseph M. Shaheen and Henry Franklin Jones, Whittier, Calif., assignors to North American Aviation, Inc.
Original application Sept. 24, 1962, Ser. No. 225,754. Divided and this application Mar. 23, 1964, Ser. No. 353,999
2 Claims. (Cl. 174—68.5)



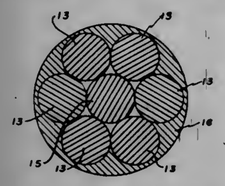
1. A multilayer printed-wiring board comprising,
a first sheet of insulating material having a first printed conductor bonded to a top surface thereof and a second printed conductor bonded to a bottom surface thereof,
an aperture in said first conductor at a location where an electrical interconnection between the conductors is desired,
a solid conducting material having a protruding portion extending from said insulating sheet into a flush mount within said aperture, said protruding portion being bonded to said first conductor within said aperture, and a relatively larger portion continuous with said protruding portion and occupying a mushroom shaped opening in said insulating sheet with the top surface of said larger portion being bonded to the bottom surface of said first conductor in the area adjacent to the aperture, said relatively larger portion extending through said insulating sheet and electrically contacting the inside surface of the second printed conductor, said second conductor being continuous in the area where said larger portion makes electrical contact, the bottom surface of said larger portion being bonded to the inside surface of said second conductor.

3,264,403
ELECTRICAL BUS BAR WITH NON-ADHERING PLASTIC INSERTS
Jack A. Erdle, Brighton, N.Y., assignor to Eldre Components, Inc., Rochester, N.Y., a corporation of New York
Filed Oct. 15, 1963, Ser. No. 316,256
9 Claims. (Cl. 174—72)



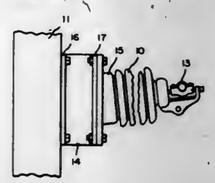
1. A laminated electrical bus bar comprising
(a) a plurality of elongate, electrical conductor strips disposed in parallel, generally superposed relation,
(b) relatively short, nonadhering, plastic, dielectric inserts disposed between adjacent strips for relatively short spaced sections of the lengths of said strips, the inserts between any two adjacent strips being spaced from one another in the direction of the length of said two adjacent strips,
(c) an elongate layer of dielectric material longitudinally coextensive with and interposed between adjacent strips to insulate said strips electrically from one another along their lengths, and
(d) at least two further, elongate layers of dielectric material disposed, respectively, over the outer faces of the two outermost of said superposed strips,
(e) said layers of dielectric material having marginal edge portions which project beyond the longitudinal edges of said strips, and which are secured to one another to hold said strips and said inserts against movement relative to one another, and
(f) said strips and layers being adapted to be severed across any of said sections to permit removal of said inserts with any fragments from the severed ends of adjacent conductor strips embedded therein, thereby preventing shorting of the strips on one another when the bus bar is in use.

3,264,404
POWER TRANSMISSION CABLE
Francis J. Trebby, deceased, late of Spokane, Wash., by Claudine J. Trebby, executrix, Spokane, Wash., and Ludwig F. Roehmann, Spokane, Wash., and Alexander N. Shealy, Newark, Ohio, assignors to Kaiser Aluminum & Chemical Corporation, Oakland Calif., a corporation of Delaware
Filed Mar. 26, 1964, Ser. No. 358,970
4 Claims. (Cl. 174—130)



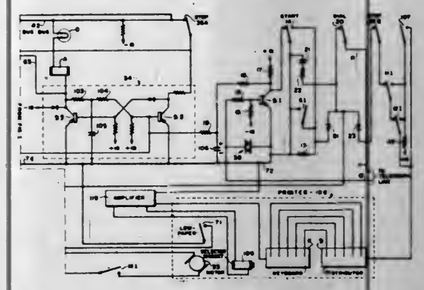
1. An electrical power transmission conductor comprising a core member including multiple strands of electrical conductor grade of aluminum and an outer layer surrounding said core member of a material of relatively higher resistivity than said electrical conductor grade of aluminum, said material of said outer layer having an electrical conductivity between 10 and 60% of said core member and being electrically continuous and in intimate electrical contact with said core member throughout the length thereof and having a thickness sufficient to carry and to attenuate substantially all of the radio frequency currents associated with the power transmission.

3,264,405
BENDABLE BASE INSULATOR
Carl D. Flero, Le Roy, N.Y., assignor to Lapp Insulator Company, Inc., Le Roy, N.Y., a corporation of New York
Filed Nov. 20, 1964, Ser. No. 412,699
5 Claims. (Cl. 174—158)



1. An insulator for attaching line conductor means which include a line conductor, to a support structure, said insulator comprising: a dielectric body having a distal end and a proximal end; holding means at said distal end for holding said line conductor means with the longitudinal axis of said conductor when in position being coincident at said holding means with a straight reference line; base means at said proximal end, which comprise inelastic web means that support said body and that are unyieldingly rigid relative to stress components at least up to the weight of said body and line conductor means including said line conductor, when applied to said web means transversely to said reference line, but bendingly yieldable to stress components sufficient to break said body when applied along said reference line to said distal end, whereby, when line conductor means including a line conductor are held by said insulator and stress components sufficient to break said body are applied through said line conductor, said insulator is canted to relieve at least a portion of said stress component.

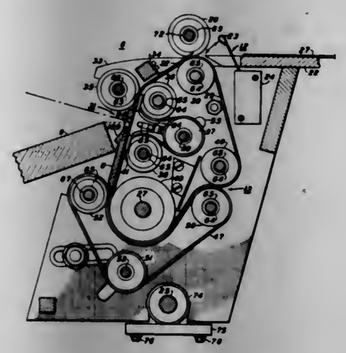
3,264,406
TELEPRINTER CONTROL DEVICE
Peter J. Cohen, Flushing, N.Y., and Francis R. Firth, Hoboken, N.J., assignors to The Western Union Telegraph Company, New York, N.Y., a corporation of New York
Filed May 4, 1962, Ser. No. 192,461
16 Claims. (Cl. 178—4.1)



1. In a telegraph system which comprises a central exchange, a telegraph line pair and a telegraph instrument adapted for line switching destination selection, control means for the instrument comprising:
(1) resistor means and first diode means in circuit with said line for limiting current flow in one direction to a predetermined idle value;
(2) momentary start switch means and a first relay having a pair of contacts, said start switch means and said contacts being connected across said resistor for calling current initiation and retention respectively;

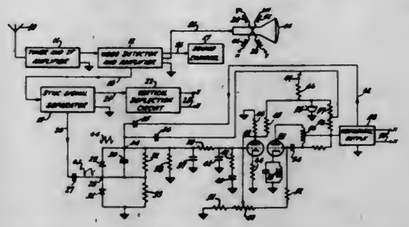
(3) varistor means comprising a pair of oppositely conducting semiconductor diodes connected in parallel, and in circuit with said line for establishing a stabilized voltage drop thereacross upon line current flow therethrough;
(4) first bistable transistor means having an "on" state and an "off" state, saturable transistor means connected thereto and to said varistor means for the switching of said first bistable transistor means to said "on" state only upon transistor desaturation induced by varistor means voltage drop extinction, back contacts on said momentary start switch means connected across the said saturable transistor means output to obviate saturable transistor means desaturation effect during start switch means inaction, said first relay being connected to said first bistable transistor means and responsive to the "on" state thereof to close its said contacts across said resistor means, for maintaining line calling current after transistor desaturation;
(5) dial means in the line for destination code signalling; and
(6) second diode means connected to said line and to the telegraph instrument and oppositely directed to said first diode means for flowing line current into the telegraph instrument upon line polarity reversal.

3,264,407
FACSIMILE SCANNING APPARATUS
Franklin L. Headd, Penfield, N.Y., and John R. Miles, Glenview, Ill., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed June 24, 1963, Ser. No. 290,260
4 Claims. (Cl. 178—7.1)



1. A document scanning apparatus including
a conveyor system for transporting a document through a path of movement passing a scanning station at a predetermined rate,
a light source for scanning a document at the scanning station transversely to the path of movement of the document,
a document support platen positioned at the scanning station on one side of the document path,
said platen having a light reflective surface adjacent the document path,
a document guide positioned on the opposite side of the document path from the support platen to hold the document on the support platen,
the document guide being transparent and positioned to intercept light reflected from the document surface and from the platen surface, and shaped to convey the reflected light to a predetermined point for use in producing an electrical signal.

3,264,408
AUTOMATIC FREQUENCY CONTROL
John Stark, Jr., Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 6, 1963, Ser. No. 286,975
6 Claims. (Cl. 178—7.3)

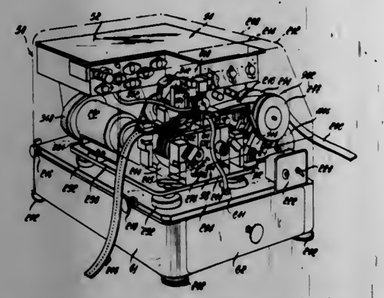


1. An automatic frequency control comprising, in combination,
a first and a second peak detector circuit;
a source of first periodic signals occurring at a first frequency, said first periodic signals being applied to said first and second peak detector circuits arranged in parallel;
a source of second periodic signals occurring at substantially said first frequency, said second periodic signals being applied to said peak detector circuits connected in series opposition, a capacitive load circuit, said first and second peak detector circuits producing a control voltage across said load circuit when said first and second periodic signals are applied thereto, said control voltage being proportional to any phase difference between said first and second periodic signals;
control means responsive to said control voltage and connected to said source of second periodic signals for changing the frequency of said periodic signals in a direction to reduce said control voltage to substantially zero; and
impedance means coupled across said load circuit for substantially reducing the response of said first peak detector circuit to low frequency variations of the periodic signals supplied by said first source thereby tending to equalize the frequency response of said peak detector circuits.

3,264,409
COINCIDENCE DETECTION APPARATUS
Edward F. Kleinschmidt, Fort Lauderdale, Fla., and Hilding A. Anderson, Lake Zurich, and Clayton H. Clark, Mundelein, Ill., assignors to SCM Corporation, New York, N.Y., a corporation of New York
Original application July 24, 1959, Ser. No. 829,446, now Patent No. 3,150,235, dated Sept. 22, 1964. Divided and this application Nov. 22, 1963, Ser. No. 325,735
6 Claims. (Cl. 178—17)

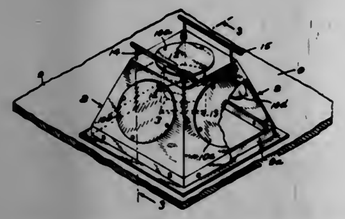
1. For use in combination with a telegraph receiving apparatus having a receiver control device and a rotatable operating section, a coincidence selector for correlating rotational selection points from the operating section with electrical coded signal impulse groups received in the receiver control device comprising: means providing plural axially spaced planar groups of permanent magnets, and a corresponding plurality of axially spaced planar groups of induction pick-up heads disposed adjacent the associated ones of said planar magnetic groups so that relative movement between each group of magnets and its associated group of pick-up heads results in an impulse being generated in each head of said associated group whenever a magnet of the associated group is relatively moved past the associated group of heads; and means to cause relative rotation between said groups of

magnets and said groups of pick-up heads directly correlated with rotation of said rotatable operating section; said magnets and pick-up heads being disposed relative to each other in a different angular relationship in each group whereby a rotational cycle of the planar magnetic



groups is divided into a multiplicity of different equiangular signal positions with an equal number of code signal groups having impulses equal in number to said plurality of planar groups generated for the respective multiplicity of positions.

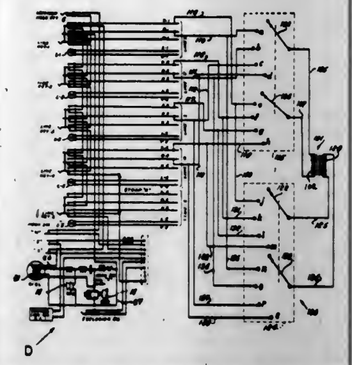
3,264,410
SOUND SIMULATING AND REPRODUCING SYSTEM
George H. Schoenbaum, West Islip, N.Y. (% Marketing Co-ordination, Standard Oil Company (N.J.), 30 Rockefeller Plaza, New York 20, N.Y.)
Filed Nov. 1, 1962, Ser. No. 234,661
2 Claims. (Cl. 179—1)



1. A sound system comprising a housing, one wall of said housing being at least partially metallic and adapted to transmit sounds originating outside of said housing, said housing being pyramidal frustum in shape, a sound pick-up disposed in said housing and acoustically coupled to pick up sounds transmitted by said metallic wall, a speaker without and remote from said housing and connected to said pick-up and means for amplifying the sound in said speaker.

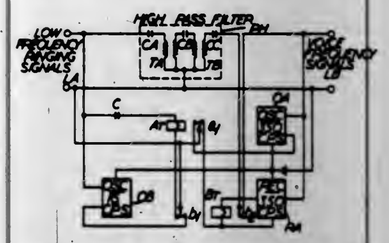
3,264,411
TELEPHONE CONFERENCE SYSTEMS
Michael John Reaves, 6535 Le Loache St., Dallas, Tex.
Filed Apr. 5, 1963, Ser. No. 270,926
5 Claims. (Cl. 179—1)

1. In a telephone system including an instrument having a receiver and transmitter circuit, a plurality of lines terminating at the instrument, holding means individual to each of said lines and operable at the instrument for placing holding conditions thereon, and key means for selectively and individually connecting said lines to said receiver and transmitter circuit: conference means operable at the instrument for operatively connecting one line held in holding condition by its associated holding means to said receiver and transmitter circuit while another line is connected by its associated key means to said receiver and transmitter circuit whereby a three party conference may be held between a party employing the instrument and the parties on the line held in holding



condition and the line connected by its key means to said receiver and transmitter circuit, said conference means including a transformer having two windings, and switch means for selectively connecting one of said lines to said one of said windings and another of said lines to the other of said windings.

3,264,412
FIELD TELEPHONE SYSTEM
Jozef Auguste Van Eynde, Victor Arcangiolo Marcel Maggini, and Herman Frans Paul Willem Van Horen, Antwerp, Belgium, assignors to International Standard Electric Corporation
Filed Jan. 30, 1963, Ser. No. 255,051
Claims priority, application Belgium, Feb. 12, 1962, 613,770
8 Claims. (Cl. 179—6)



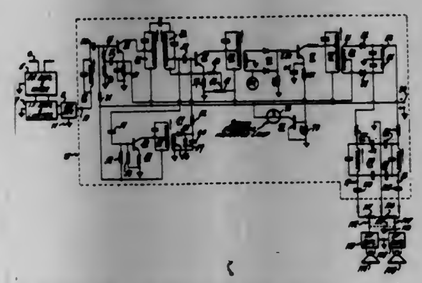
1. A field telephone system comprising a first group of lines serving transistorized subsets having voice frequency ringing oscillators and second group of lines serving subsets having low frequency ringers, converter means connected between lines of said first group and said second group for enabling calling lines in said first group to signal called lines in said second group and calling lines in said second group to signal called lines in said first group, said converter means comprising high pass filter means included in the path connecting said calling and called lines for providing a speech path between said calling and called lines, and control means bridging said filter means operated responsive to actuation by calling lines in said first group of lines for providing low frequency ringing signals to called lines in said second group of lines and operated responsive to actuation by calling lines in said second group of lines for providing voice frequency ringing signals to called lines in said first group of lines.

3,264,413
FM STEREOPHONIC RECEIVER USING AN INSULATED-GATE - FIELD - EFFECT TRANSISTOR FOR COMBINING THE SUBCARRIER AND COMPOSITE WAVES
James F. Merritt, Trenton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Apr. 1, 1963, Ser. No. 269,524
9 Claims. (Cl. 179—15)



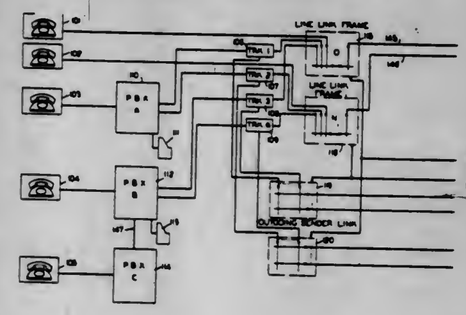
1. Means for producing a carrier wave which is amplitude modulated in one polarity by a first audio wave and in the opposite polarity by second audio wave comprising,
an amplifier having a first input electrode, a second input electrode, and an output electrode,
means for applying to said first input electrode a composite wave comprising an audio wave representing the sum of said first and second audio waves, the suppressed carrier balanced modulation products of a carrier wave and an audio wave representing the difference of said first and second audio waves, and a pilot wave,
means for selecting said pilot wave from the amplified waves appearing at the output electrode of said amplifier,
means for changing the frequency of said pilot wave to the frequency of said suppressed carrier wave,
means for applying said frequency changed wave to said second input electrode for amplification by said amplifier and for combination with said composite wave, and
means for deriving said produced wave from said amplifier.

3,264,414
STEREOPHONIC FM RECEIVERS
Richard Santilli, Somerville, and Lova Pins, South Bound Brook, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed May 28, 1963, Ser. No. 283,811
4 Claims. (Cl. 179—15)



1. A circuit for frequency-modulation stereophonic receivers comprising:
a circuit for connection to a source of demodulated frequency-modulation signals which during monophonic reception comprise audio-frequency signals and which during stereophonic signal reception includes: (1) audio-frequency signals, (2) subcarrier sideband signals, (3) a pilot signal,
means for separating said pilot signal from the remainder of said composite signal,
a signal translating stage having an input circuit coupled to receive said pilot signal and an output circuit for said pilot signal,
means including a detector circuit coupled to said signal translating stage for maintaining said signal translating stage cutoff during monophonic reception when said pilot signal is absent and for conditioning said signal translating stage for operation during stereophonic reception when said pilot signal is present, and
means coupling said detector circuit to receive said pilot signal from said separating means and from the output circuit of said signal translating means.

3,264,415
SWITCHING SYSTEM FOR OUTPULSING ON PBX TRUNKS
Thomas V. Burns, Etna Township, Licking County, Ohio, Edson L. Erwin, Towaco, N.J., and George J. Krall, Eugene D. Mascucci, and Charles J. Vincent, Columbus, Ohio, assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 28, 1962, Ser. No. 240,558
19 Claims. (Cl. 179—18)



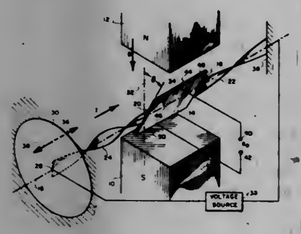
1. In combination in a telephone switching system, a switching network comprising a plurality of subscribers' line terminals and also a different plurality of trunk terminals, characterized in that means are provided for transmitting calling signals over outgoing lines from selected ones of said subscribers' line terminals including outpulsing senders and means for selectively connecting said outpulsing senders to the selected ones of the subscribers' line terminals, and also including translating means responsive to the last portion of the calling signals for conditioning said sender to selectively transmit calling signals to said selected subscribers' line terminals.

3,264,416
TRANSDUCER
William B. Jorden, Malverne, Edward A. Murphy, Farmingdale, and William Posner, Brooklyn, N.Y., assignors to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware
Filed May 6, 1963, Ser. No. 278,274
4 Claims. (Cl. 179—110)

2. A Hall effect device comprising
(a) a single crystal semiconductor wafer having an axis of symmetry;
(b) first means responsive to a mechanical force applied thereto and coupled to said wafer to rotate same through an arc about said axis, the arc length being determined by the magnitude of said force, the direction of rotation being clockwise when said force is exerted in one direction and being counterclockwise when the direction of said force is re-

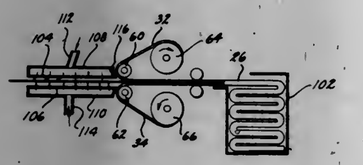
versed, said first means being adapted for passing current therethrough and through said wafer in a direction parallel to said axis;

(c) second means associated with said wafer to establish a magnetic field therein, the magnetic field vector pointing in a direction perpendicular to said axis, the angular orientation of said wafer with respect to the direction in which the magnetic field vector points being determined by said force, whereby when said current flows, an electric field is generated within said wafer, the electric field vector being perpendicular to the magnetic field vector and pointing in a direction perpendicular to said axis, the intensity and polarity of said electric field being determined by said angular orientation, and



(d) third means responsive to incident sound waves and coupled to said first means to exert said force thereon, the magnitude and direction of said force being determined by the phase and intensity of said waves.

3,264,417
WIRE RELEASE MECHANISM
Louis G. Smith, Jr., Grand Rapids, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Apr. 16, 1962, Ser. No. 187,759
1 Claim. (Cl. 191—12)



A storage and releasing device for a signal conducting means comprising: a signal conducting means positioned in a sinuous pattern; ribbon wall supporting means releasably sustaining said signal conducting means; ribbon wall removal means engaging and retracting said ribbon means away from said signal conducting means to allow release and extension of said signal conducting means; and gas cushion injection means adjacent said removal means oriented toward opposite sides of said signal conducting means to suspend said signal conducting means and cause extension in an essentially frictionless manner.

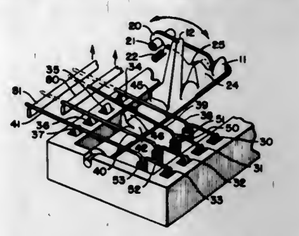
3,264,418
PROGRAMMABLE SWITCHING ASSEMBLAGE
Arthur A. Hagstrom, Hoffman Estates, Roselle, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Apr. 23, 1964, Ser. No. 362,031
5 Claims. (Cl. 200—1)

1. A switching assemblage comprising:

a plurality of movable contact wires including at least one of a different length than at least one other,

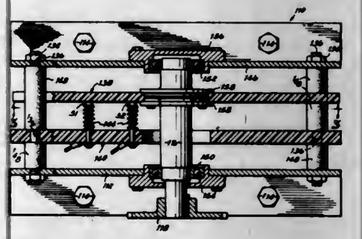
a pair of fixed terminals individual to each contact wire to be bridged and electrically interconnected by the wire,

means for biasing each contact wire for engagement with its associated pair of fixed terminals, and



an actuator extending transversely of the contact wires and disposed beyond the end of a shorter one of the wires for disengaging only a longer one of the contact wires from at least one of the terminals of its associated pair.

3,264,419
CONTROL SYSTEM AND DIGITAL SELECTOR SWITCH
Siegfried K. Handel and Robert A. Lasley, Hamilton, Ohio, assignors to The Mosler Safe Company, Hamilton, Ohio, a corporation of New York
Filed Mar. 31, 1965, Ser. No. 444,143
14 Claims. (Cl. 200—11)



1. A digital selector switch for controlling the movement of a bidirectional load device from any existing position to any desired position via the shortest path, comprising:

(a) a fixedly mounted stator member,

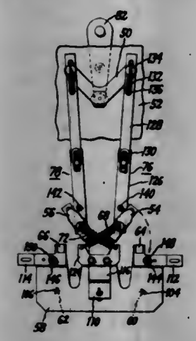
(b) first and second sets of electrical contacts carried by the stator member,

(c) a rotatably mounted commutator disc cooperatively disposed adjacent the stator member and mechanically coupled to the load device for synchronous movement therewith,

(d) a pair of conductive areas carried on the commutator disc in engagement with the first set of contacts and spaced from each other by a first insulative area, and

(e) a plurality of conductive segments carried on the commutator disc in engagement with the second set of contacts and spaced from each other and from the conductive areas by a second insulative area, whereby a first circuit path established across one of the conductive areas between two of the first set of contacts controls the movement of the load device during a first phase of operation into an area represented by the second set of contacts, and in which a second circuit path then established across one of the conductive segments between two of the second set of contacts controls the movement of the load device during a second phase of operation until it reaches a desired position.

3,264,420
CABLE GROUNDING, THREE POSITION, SNAP ACTION SWITCH
Albert J. Charbonneau, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed July 1, 1964, Ser. No. 379,550
3 Claims. (Cl. 200—48)



1. A three position, snap acting, cable grounding switch comprising: an actuating member, means for pivotally securing said actuating member to a mounting means, an insulating member, means for fixedly positioning said insulating member to the mounting means, a pair of fixed contacts mounted on said insulating member, a pair of movable contacts pivotally secured to said insulating member, a first terminal means electrically connected to one of said fixed contacts for electrical connection to an electrical apparatus, a second terminal means electrically connected to the other of said fixed contacts for electrical connection to a ground, a third terminal means electrically connected to said movable contacts for electrical connection to an electrical cable, connecting means connecting said movable contacts to said actuating member for movement of said movable contacts into and out of engagement with said fixed contacts, in one position of said actuating member one of said movable contacts engaging one of said fixed contacts to electrically connect said third terminal to said first terminal, in a second position of said actuating member said movable contacts being disengaged from said fixed contacts, in a third position of said actuating member the other of said movable contacts engaging the other of said fixed contacts to electrically connect said third terminal to said second terminal, and a plurality of separate spring means individually connected between each of said movable contacts and said insulating member in over-center relation to aid in opening and closing each of said contacts with a snap action.

3,264,421
SAFETY CONTROL FOR GAS VALVE AND THE LIKE
Harold A. McIntosh, South Pasadena, and Houston Rehrig, Pasadena, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Aug. 2, 1963, Ser. No. 299,590
9 Claims. (Cl. 200—61.86)

1. In a safety control for operation with an electrically actuated gas valve and a thermocouple, the combination of:

an electromagnet;

means for energizing said electromagnet from a thermocouple;

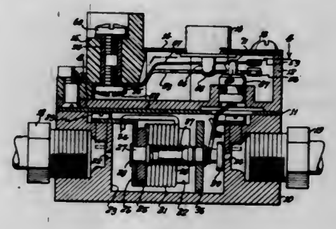
an armature movable into and out of engagement with said electromagnet;

spring means for urging said armature out of said engagement;

means for moving said armature into said engagement;

first and second contact carriers for closing a circuit to a valve solenoid; and

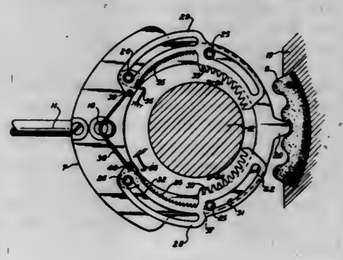
a manually actuable member engaging said first carrier and moving said first carrier in a first direction away from said second carrier, said manually actuable



member engaging said armature moving means and moving said armature moving means to move said armature into engagement with said electromagnet;

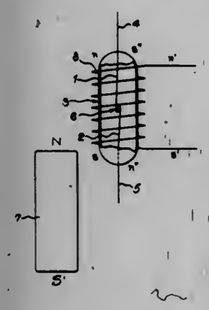
said armature moving means engaging said second carrier and moving said second carrier in the opposite direction away from said first carrier when said armature is out of engagement with said electromagnet.

3,264,422
TURN SIGNAL CONNECTING MECHANISM ACCUMULATOR HAVING PIN AND SLIDE CONNECTION
Curtis Masserant, Jr., Allen Park, and Paul J. Straub, Livonia, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 26, 1961, Ser. No. 161,900
8 Claims. (Cl. 200—61.34)



6. In a turn signal mechanism the combination comprising: a vehicle steering member for steering a vehicle, a switch member movably mounted adjacent to said vehicle steering member, said switch member having an operative and an inoperative position, a switch operating means connected to said switch member, a sensing means, said sensing means comprising, a slidable elongate ratchet means operatively coupled for sliding movement to said switch member by a pin and slot connection for moving said switch member and said switch operating means to an inoperative position when moved through a given displacement, said slidable ratchet means adapted to be moved incrementally through said given displacement, and an actuating means engaging said slidable ratchet means when said switch member is in an operative position for incrementally moving said slidable ratchet means, said actuating means operatively coupled to said vehicle steering member.

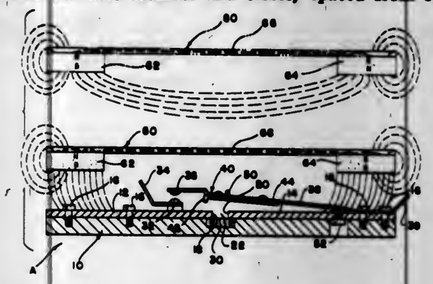
3,264,423
POSITION INDICATING ELECTRIC SWITCH
Jacques G. Mejean, Greenwich, Conn., and Emanuel J. Di Nola, Briarcliff Manor, N.Y., assignors, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed June 4, 1964, Ser. No. 372,481
2 Claims. (Cl. 200—87)



1. A position indicating electric switch which comprises a capsule of non-conductive, non-magnetizable material, a pair of magnetizable electrically conductive reeds sealed in said capsule, having spaced, overlapping, portions when not magnetized and biased into contact when magnetized and having terminals outside said capsule, a movable permanent magnet having a magnetic flux sufficient to magnetize said reeds to draw said reeds into contact, said magnet being outside said capsule and movable to a position to magnetize said reeds to draw their overlapping portions into contact and movable to a position to release said reeds from contact, and a solenoid encircling said capsule and between said capsule and said movable magnet to produce, when energized, a magnetic field of a polarity and magnetic flux sufficient to neutralize the magnetic flux of said movable magnet through said reeds thereby to demagnetize said reeds, said position of said magnet wherein the reeds are in contact being such that one pole of said magnet is orientated adjacent to the terminal portion of one of said reeds with said magnet extending parallel to and in the direction of the outermost extremity of the terminal portion of said one reed, said position of said magnet inducing a magnetic polarity across said reeds the same as that magnetic polarity produced by said solenoid when energized, whereby said magnet, when in reed operating postion, is remagnetized by said solenoid.

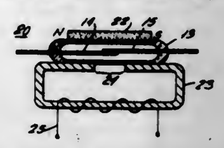
3,264,424
MAGNETICALLY ACTUATED SWITCH
Max Baermann, Cologne, Rhine, Germany
(Bensberg Wulfshof, Bezirk Cologne, Germany)
Filed July 23, 1964, Ser. No. 384,585
Claims priority, application Germany, Aug. 2, 1963, B 72,968
11 Claims. (Cl. 200—87)

10. A magnetically actuated switch comprising a fixed contact, a movable contact mounted on a movable member and adapted to be selectively moved into and out of engagement with said fixed contact as said movable member is moved, a pair of flat, elongated antenna members mounted in generally the same plane and extending in generally opposite directions and having ends closely spaced to define an air gap between said elongated members, said elongated members being formed of high permeability material, a permanent magnet with at least a pair of opposite polarity magnetic poles being positioned adjacent said air gap to magnetize said ends of said elongated members, and a magnetically permeable element mounted on said movable member and closely spaced from said



air gap whereby said magnetized ends of said elongated members attract said element until said elongated members are subjected to an opposing magnetic field.

3,264,425
REED RELAY ASSEMBLY EMPLOYING BOTH A PERMANENT MAGNET AND A SATURABLE CORE
Yoshitoshi Hosokawa and Hisaei Kikuchi, Tokyo, Japan, assignors to Nippon Electric Company Limited, Minatoku, Tokyo, Japan
Filed Aug. 18, 1964, Ser. No. 390,394
Claims priority, application Japan, Aug. 26, 1963, 38/45,610
4 Claims. (Cl. 200—87)



1. Reed relay switch means including at least one reed relay switch comprised of first and second conductive reed elements sealed within suitable housing means and normally biased out of engagement; permanent magnet means positioned in close proximity to said housing and in the region of engagement of said reed elements for holding said reed elements in the engaged position; saturable core means having an excitation winding which, when energized, drives said saturable core substantially into a saturation state; at least one portion of said saturable core being positioned adjacent said housing and in the region of engagement of said reed elements; said excitation winding being wound about a second portion of said saturable core and being located a spaced distance from said housing, said saturable core generating a magnetic field of predetermined field strength in said saturation state to offset the effect of said permanent magnet means permitting said conductive reed elements to become disengaged; said saturable core preventing any appreciable increase in field strength when in said saturation state thereby preventing false operation of said switch means.

3,264,426
MINIATURE ELECTROMAGNETIC RELAYS
John Harold Place, Coventry, England, assignor to The General Electric Company Limited, London, England
Filed Feb. 5, 1965, Ser. No. 430,720
Claims priority, application Great Britain, Feb. 6, 1964, 5,090/64
9 Claims. (Cl. 200—87)

1. In a miniature electromagnetic relay the combination of

(A) a supporting structure having a pivot edge,

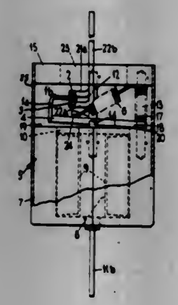
(B) a pillar in said structure that is adjacent to said pivot edge,

(C) an armature formed by

(I) a plate of ferromagnetic material

(II) having a slot in an edge thereof that cooperates with said pillar to locate said armature on the pivot edge for angular motion between first and second positions relative to said structure,

(D) an electromagnet included in said structure for moving said armature to said first position,



(E) a coiled spring

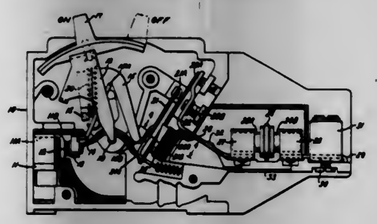
(I) which is attached between said structure and said armature and

(II) which is inclined to said armature

(III) whereby the pull exerted by this spring has two mutually perpendicular components that respectively bias said armature towards said second position and hold said armature against said pillar, and

(F) a further spring which is carried by said structure and which holds said armature against said pivot edge.

3,264,427
ELECTRIC CIRCUIT PROTECTIVE DEVICE WITH ENERGY DIVERTING MEANS
Ralph L. Hurtle, West Hartford, Conn., assignor to General Electric Company, a corporation of New York
Filed Apr. 16, 1962, Ser. No. 187,793
5 Claims. (Cl. 200—88)



1. An electric circuit protective device comprising

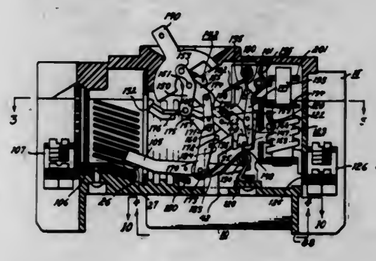
(a) at least one pair of relatively separable contacts,

(b) magnetically operable means for causing separation of said contacts,

(c) a repetitively operable current limiting device connected electrically in parallel with said magnetically operable means,

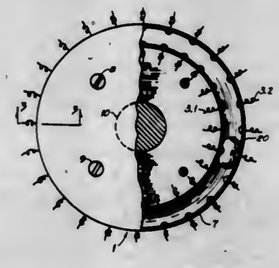
(d) said current limiting device including a conductive medium having a relatively low electrical resistance under normal operating conditions and suddenly and reversibly changing to relatively high resistance upon the occurrence of predetermined current conditions therethrough without permanently interrupting current therethrough.

3,264,428
RELAY IN COMBINATION WITH A CIRCUIT BREAKER FOR AUXILIARY TRIPPING OF THE LATTER
Joseph S. Hollyday, Pennington, N.J., assignor to Heinemann Electric Company, Trenton, N.J., a corporation of New Jersey
Filed Apr. 29, 1963, Ser. No. 276,575
3 Claims. (Cl. 200—106)



2. In combination, a circuit breaker having a case enclosing a pair of separable contacts, an automatically resettable linkage connected to and controlling one of said contacts, a latch forming part of said linkage, an electromagnetic coil and a pivotal armature movable into engagement with said latch to trip said linkage on predetermined overload currents, and a trip finger means extending through said case and engaging said armature to move the latter into engagement with said latch to trip said linkage, said trip finger means being automatically resettable to its initial position subsequent to the tripping of the linkage to permit said linkage to automatically relatch.

3,264,429
AUTOMATIC SWITCHING DEVICE
Ray H. Lee, 2 Sturgis Road, Kendall Park, N.J.
Filed May 2, 1963, Ser. No. 277,560
3 Claims. (Cl. 200—112)



1. An automatic switching device comprising a cylindrical hollow enclosure composed of connected dual flanged annular members each disposed to have internally a toroidal shaped path, a toroidally shaped hollow tubular member placed in said path and forming an integral part

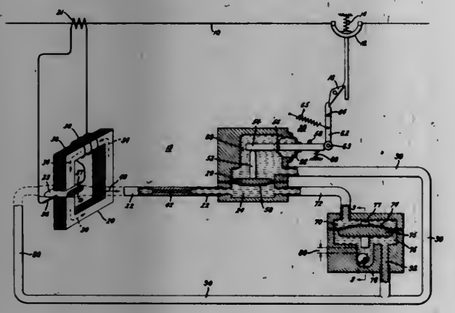
of and completely surrounded by said enclosure, magnetic means in said enclosure to produce a continuous transverse magnetic field across each portion of said tubular member, spaced diametrically opposed contact means circumferentially placed along the inner and outer periphery of said tubular member and extending within and without the wall thereof, movable fluid droplet means disposed within the said tubular member and having freedom of motion therein to conductively engage sequentially the said contact means and cause the flow of current between the respective diametrically opposed contacts.

3,264,430

TRIP DEVICE FOR AN ELECTRIC CIRCUIT BREAKER HAVING AN ELECTROMAGNETIC PUMP AND A TIME DELAY MEANS

Peter Kotos, Drexel Hill, Pa., assignor to General Electric Company, a corporation of New York

Filed Sept. 17, 1964, Ser. No. 397,206
12 Claims. (Cl. 200—112)



12. A current-sensing trip device for an electric circuit breaker comprising:

(a) a conduit containing an electrically conductive liquid,

(b) means including an electromagnetic pump for pumping liquid through said conduit at a flow rate varying as a function of the current flowing through an electric circuit,

(c) a tripping chamber hydraulically connected to such conduit for receiving liquid pumped therethrough,

(d) a tripping actuator exposed to the liquid in said tripping chamber and movable in a direction to trip said circuit breaker when the pressure in said tripping chamber exceeds a predetermined minimum value,

(e) movable structure projecting into the liquid of said trip device from the region outside said liquid,

(f) all of said movable structure that projects into the liquid of said tripping device from the region outside the liquid being so mounted that motion thereof does not change the effective volume of said trip device containing conductive liquid.

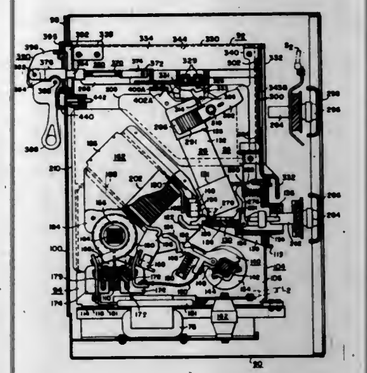
3,264,431

COMPACT SWITCHING APPARATUS EMPLOYING FUSE AS MOVABLE CONTACT

Alfred W. Hodgson, Orchard Park, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 7, 1962, Ser. No. 235,938
22 Claims. (Cl. 200—114)

1. A switching apparatus assembly comprising first switch means including a set of contact members operable between open and closed positions, a fuse having one end conductively coupled to one of said contact members, means pivotably mounting said one end of the fuse to make the other end of the fuse swingable in opposite directions about said one end, first disconnect contact means coupled to said other end of the fuse and movable therewith, disconnect switch means including said first disconnect contact means and stationary second disconnect contact means in the path of movement of the first disconnect contact means, movable means coupled to said



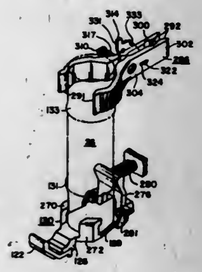
fuse for swinging said other end of the fuse about said one end and selectively moving said first disconnect contact means into contact and out of contact with said second disconnect contact means, and means for operating said set of contact members from the open to the closed position while said fuse is at rest and said first disconnect contact means is in contact with said second disconnect contact means.

3,264,432

PIVOTABLE FUSE MOUNT FOR SWITCHING APPARATUS

Alfred W. Hodgson, Orchard Park, and Russell D. Clark, Jr., East Aurora, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 7, 1962, Ser. No. 235,939
10 Claims. (Cl. 200—114)



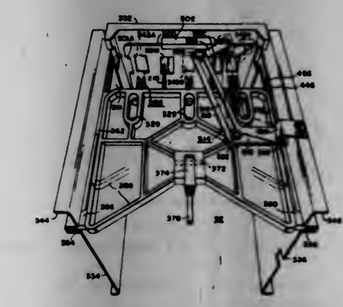
1. In a switch having cooperable switch members including a stationary contact and a movable elongate tubular fuse, and wherein one end of the fuse is swingable about the other end of the fuse in a predetermined path rearward and forward respectively toward and from said stationary contact to respectively close and open a circuit between the stationary contact and said one end of the fuse, said rearward direction being the circuit closing direction of the fuse, said fuse having a peripheral surface extending longitudinally of the fuse, means for pivotably supporting said other end of the fuse comprising forward element means, and movable resiliently forward biased rearward element means having limited forward movement, said other end of the fuse being disposed between said forward element means and said rearward element means with said rearward element means engaging said peripheral surface, said forward element means having a fulcrum portion in engagement with said peripheral surface against which fulcrum portion said peripheral surface pivots when said one end of the fuse is swung in said path, said forward bias of the rearward element means forcing the rearward element means forward against the fuse to grip the fuse between the respective forward and rearward element means when said one end of the fuse is swung rearward toward said stationary contact, said rearward element means reaching its limit of forward movement when said one end of the fuse is swung forward to an open circuit position, said other end of the fuse being free from said grip when the rearward element means is at its forward limit of movement.

3,264,433

SWITCHING APPARATUS EMPLOYING FUSE AS MOVABLE CONTACT AND HAVING SAFETY FEATURES

Russell D. Clark, Jr., East Aurora, and Charles J. Mahler, Fairport, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 7, 1962, Ser. No. 235,940
20 Claims. (Cl. 200—114)



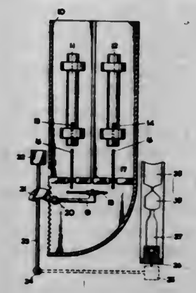
4. In combination, structure means defining a space, said structure means having an opening and a door therefor operable between open and closed positions, first switch means including a set of contacts disposed in said space and operable between closed and open positions and operating means for operating said set of contacts, a fuse disposed in said space and having one end conductively coupled to one of said contacts, means for rockably supporting said one end of the fuse in such manner that the other end of the fuse is swingable about said one end, first contact means coupled to said other end of the fuse and movable therewith, second switch means having a second set of contacts including said first contact means and stationary second contact means in the path of movement of said first contact means, a member which is movable between first and second positions, means coupling said member to said fuse in such manner that movement of said member to said first position swings said fuse in one direction and moves said first contact means into contact with said second contact means, and movement of said member to said second position swings said fuse in opposite direction and moves the first contact means out of contact with the second contact means, and means for locking said member in said second position in response to opening of said door.

3,264,434

MECHANISM FOR OPERATING ELECTRIC SWITCHES IN COOPERATION WITH ELECTRIC FUSES

Jan Christiaan Clason, Hengelo, Netherlands, assignor to N.V. Fabriek van Electrische Apparaten voorheen F. Hazemeijer & Co., Hengelo, Netherlands, a corporation of Netherlands

Filed Apr. 9, 1965, Ser. No. 446,864
Claims priority, application Germany, Apr. 13, 1964, N 24,791
5 Claims. (Cl. 200—114)



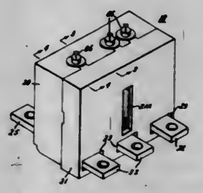
1. A safety device adapted to actuate an electric switch comprising a housing, at least one fuse element in the housing and having a slidable pin releasable from the fuse, a handle member with a weight at one end and pivotally mounted at the other end, a latch pivotally mounted in the housing to hold the handle and weight in a position poised for movement when released, and means in the housing to cooperate with the pin to actuate the latch thereby releasing the weight which latter falls by gravity to strike a device causing actuation of the electric switch.

3,264,435

CIRCUIT BREAKER WITH REMOVABLE TRIP UNIT HAVING IMPROVED MOUNTING MEANS FOR TERMINAL STRAP AND THERMAL RESPONSIVE MEANS

Keith W. Klein, Simsbury, and David B. Powell, Bristol, Conn., assignors to General Electric Company, a corporation of New York

Original application June 25, 1962, Ser. No. 204,730, now Patent No. 3,162,739, dated Dec. 22, 1964. Divided and this application July 6, 1964, Ser. No. 381,016
4 Claims. (Cl. 200—116)

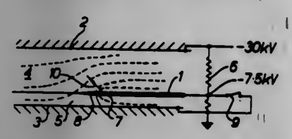


1. An electric circuit breaker comprising:

(a) a generally rectangular insulating casing, at least two line terminals carried by said casing in side-by-side relation at one end thereof, at least two load terminals carried by said insulating casing in side-by-side relation adjacent the other end thereof and substantially in alignment with the corresponding line terminals,

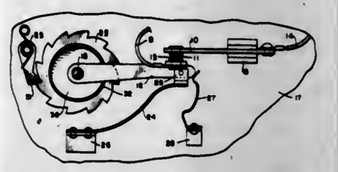
(b) at least one pair of relatively movable contacts within said casing between each pair of corresponding line and load terminals and disposed and arranged to control electrical continuity therebetween,
(c) operating mechanism within said insulating casing for operating said relatively movable contacts between open and closed circuit conditions, said operating mechanism including a manually engageable handle member projecting through an aperture in said insulating casing, and a member releasable to cause automatic opening of said contacts,
(d) a separately enclosed trip unit mounted within said insulating casing and including a member movable to cause release of said releasable member, said trip unit comprising a generally rectangular insulating casing having pairs of line and load terminals disposed and arranged to be connected in series relation between corresponding pairs of line and load terminals of said circuit breaker,
(e) a plurality of electrical conductors within said trip unit, each of said conductors interconnecting the members of a pair of line and load terminals of said trip unit, each of said conductors including a first portion fixedly attached to the bottom wall of said trip unit, and a second generally U-shaped portion extending substantially perpendicular to said bottom wall of said trip unit, and
(f) a pair of supporting abutments at either side of said conductor adjacent said U-shaped portion, a bridging member supported on said abutments and extending across said conductor, a clearance hole in one of the legs of said U-shaped portion, a clearance hole in said bridging member, and fastening means passing through said trip unit casing and through both of said clearance holes and into engagement with the other of said leg portions, whereby to compress said other leg portion of said U-shaped portion against said bridging member and into fixedly mounted relation with said trip unit casing.

3,264,436
ELECTRICAL SWITCH HAVING A TRIGGER ELECTRODE WHOSE SHARP EDGES ARE SEALED TO SUPPRESS THE FORMATION OF CORONA
John Christopher Martin, Tadley, and Ian Douglas Smith, Calcot, Reading, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Dec. 23, 1964, Ser. No. 420,699
Claims priority, application Great Britain, Jan. 2, 1964, 275/64
8 Claims. (Cl. 200—118)



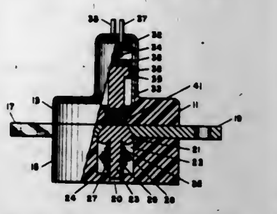
1. A switch comprising a thin sheet of conducting material constituting a trigger electrode, two further electrodes sandwiching said trigger electrode in face-to-face relationship therewith and overlapping an edge-portion thereof, said further electrodes being insulatedly spaced from said trigger electrode by solid dielectric material, a connection to said trigger electrode extending beyond said solid dielectric material, said edge-portion of the trigger electrode being sharp therearound, and a substance of high dielectric strength and resistivity sealing said sharp-edge-portion to said dielectric material to suppress the formation of corona at said edge-portion and to allow an intense local electric field to form at said edge-portion when the switch is in operation.

3,264,437
AUTOMATICALLY RESETTABLE THERMAL ACTUATED SWITCH
Inrich M. Miller, 72 E. 35th St., Paterson, N.J.
Filed Sept. 6, 1963, Ser. No. 307,092
7 Claims. (Cl. 200—124)



1. An automatically resettable thermostat type switch which is operative in response to ambient temperature to change from a first to a second operative position comprising:
a movable contact arm,
a first thermal sensitive means connected to said contact arm for positioning said contact arm at said first operative position in response to sensing temperatures below a critical temperature and to said second operative position in response to sensing temperatures above said critical temperature,
a second thermal sensitive means connected to said contact arm for restraining the positioning of the contact arm from said first to said second operative position by said first thermal sensitive means until a first temperature above said predetermined critical temperature is sensed by said second thermal sensitive means and for preventing said first thermal sensitive means from moving said contact arm from said second to said first operative position until said first thermal means senses a temperature equal to or less than said critical temperature, and means for holding said second thermal sensitive means at a predetermined position during the time the temperature rises from said critical temperature to said first temperature and falls from said first temperature to said critical temperature.

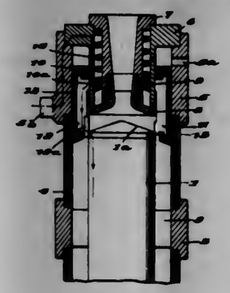
3,264,438
POSITIVE ACTION CIRCUIT BREAKING SWITCH
Benjamin A. Gay, Phoenixville, Pa., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware
Filed Apr. 29, 1964, Ser. No. 363,417
5 Claims. (Cl. 200—142)



1. A circuit breaking switch comprising
a pair of conductors,
a connecting bar connecting said pair of conductors, said connecting bar having a notched stem section thereon,
said notched stem section positioned within the coils of a spring means,
said spring means urging said bar into a position of contact, with said pair of conductors,
a driving means positioned to force said bar against the urging of said spring means to compress said spring means, and

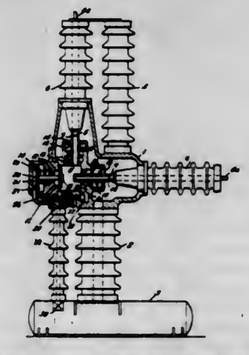
said notched portion on said stem section of said bar adapted to catch and hold said spring means in a compressed position freeing said bar from further urging from said spring means.

3,264,439
PRESSURE GAS OPERATED ELECTRICAL SWITCH WITH TWO STATIONARY MAIN CONTACTS AND A MOVABLE BRIDGING CONTACT BASKET
Jürgen Ernsting, Umiken, Aargau, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed July 18, 1963, Ser. No. 295,924
Claims priority, application Switzerland, July 26, 1962, 8,955/62
2 Claims. (Cl. 200—148)



1. In a pressure gas operated electrical switch, the combination comprising a pair of co-axially aligned main contact members arranged with their ends in confronting spaced relation within a switching chamber to which a pressurized gas is introduced during electrical disconnection of said main contact members, one of said main contact members being in the form of a nozzled tubular member through which the pressurized gas flows during a contact disconnection, a movable bridging contact assembly arranged for sliding movement upon said tubular nozzled contact member to engage and be disengaged from the other main contact member, said bridging contact assembly being comprised of a contact basket of electrically insulating material in which a circular array of contact fingers are located, said basket serving also as a piston which is slidably actuated upon introduction of pressurized gas into said switching chamber thereby to disengage said contact fingers from said other main contact member, a loading spring for said contact basket to return the same to a position wherein said contact fingers re-engage said other main contact member when the pressurized gas flow to said switching chamber is cut off, an electrically conductive cylindrical connector member surrounding said contact basket and forming a cylinder for the sliding movement thereof, said connector member also including a laterally extending lug to which one electrical connection is made to the switch, at least one of only those contact fingers located at the same side of said cylindrical connector member as is located said connection lug being longer than the remaining contact fingers thereby to serve as the last to disengage from said other main contact member, and said cylindrical connector member also including an inverted U-shaped yoke of highly conductive material embedded therein at the side on which said connection lug is located and which surrounds said longer contact finger, said yoke serving in part to establish two closely parallel current flow paths of opposite direction between said connection lug and the adjacent side of said cylindrical connector member and said other main contact member subsequent to disengagement of said remaining contact fingers but prior to disengagement of said longer contact finger, one of said current flow paths being through said longer contact finger thereby to establish thereon an electrodynamically derived force acting in a radially inward direction to increase the pressure of said longer contact finger on said other main contact member and thereafter move the contact disconnection arc toward the center of said nozzled tubular contact member.

3,264,440
AIR BLAST CIRCUIT BREAKER
Haakon Forwald, Ludvika, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed Mar. 27, 1964, Ser. No. 355,154
Claims priority, application Sweden, Apr. 10, 1963, 3,976/63
3 Claims. (Cl. 200—148)

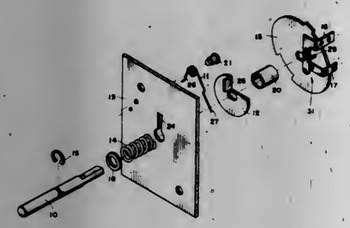


1. A gas blast circuit breaker interrupter structure comprising a conductive housing, a high pressure gas supply permanently connected to said conductive housing to maintain the interior of said conductive housing at high pressure, first and second stationary contacts supported on the interior of said conductive housing and in insulated relation with respect to each other and to said conductive housing, first and second hollow movable contacts positioned within said conductive housing normally engaging said first and second stationary contacts, and mounted for movement out of engagement therewith, a resistor permanently electrically connected between said first stationary contact and said first movable contact, and a blast valve in the wall of said container; said second contacts being connected in series with said first contacts; said first and second hollow contacts defining respective flow paths from interior portions of said conductive housing to the interior surface of said blast valve whereby high pressure gas flows through said first and second hollow movable contacts when said blast valve is opened; and an operating means connected to said first and second hollow movable contacts for moving said first and second hollow contacts between engaged and disengaged positions with respect to said first and second stationary contacts respectively.

3,264,441
PUSH TO START MECHANISM
William M. Jenkins, Indianapolis, Ind., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Filed Oct. 22, 1964, Ser. No. 405,687
11 Claims. (Cl. 200—153)

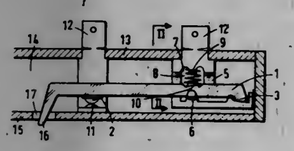
1. A push to start switch mechanism comprising: an apertured mounting frame; a shaft rotatably journalled within said apertured mounting frame; a compression spring means biasing said shaft outwardly from said

mounting frame; an index means coupled to said shaft, said index means including means interfitting with said aperture of said mounting frame; a spring means fixedly coupled to said mounting frame and biased against said means of said index means; a contact switch means carried by said mounting frame, said switch including disengaged contacts when said means interfits with said aperture; means to push said shaft inwardly storing energy in said compression spring means, said spring means biased across said aperture as said means is displaced therefrom, preventing said means from interfitting with



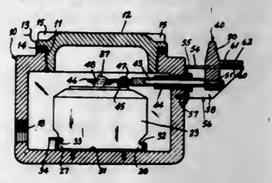
said aperture, said contacts engaged as a result of said inward movement of said shaft, thereby completing an electrical circuit through said contact switch; and means coupled to said shaft to rotatably displace said shaft and said index means, said index means engaging said spring means upon an arcuate displacement of said index means, said index means displacing said spring means allowing said means to interfit with said aperture, said shaft displaced outwardly by the releasing of the energy stored in said compression spring means, said outward displacement of said shaft disengaging said contacts.

3,264,442
SWITCHING DEVICE USING FLAT CONTACT PIECES
Walter Holzer, Drosteweg 19, Meersburg, Bodensee, Germany
Filed Nov. 12, 1964, Ser. No. 410,403
Claims priority, application Germany, Nov. 27, 1963, H 50,957
7 Claims. (Cl. 200—166)



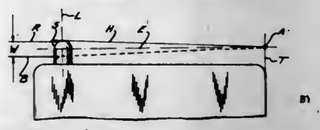
1. A switching device comprising a stamped flat contact piece, one end of said flat contact piece being adapted to act simultaneously as a bearing and as a contact and the other end of said contact piece having a cam follower portion adapted to rest on a cam and having a contact portion adapted to contact a counter contact piece, a spring, said flat contact piece having a protuberance upon which said spring is positioned and an edgewise guide holding said contact piece, said edgewise guide having stop faces and a self cleaning contact face, said bearing end of said flat contact piece resting on said contact face of said guide, said spring being connected to said guide whereby said flat contact piece, said spring and said guide form a positively connected interlocked assembly, the length of the assembly corresponding substantially to the length of said flat contact piece.

3,264,443
EXPLOSION-PROOF SWITCH BOX ASSEMBLY INCLUDING RECIPROCAL EXTERNAL ACTUATOR MEANS
Joseph J. Farina, Bridgeton, Marshall G. Zavertnik, Manchester, and James A. Kelly, St. Louis, Mo., assignors to Killark Electric Manufacturing Company, St. Louis, Mo., a corporation of Missouri
Filed Nov. 18, 1963, Ser. No. 324,398
10 Claims. (Cl. 200—172)



7. In a switch assembly, a box, a switch in the box having an operating member operable by back and forth movement; a rod slidably mounted through a wall of the box, means on the inner end of the rod engageable with the switch operating member to move it back and forth upon reciprocation of the rod back and forth; a handle on the rod outside the box; a bracket on the box adjacent the handle, the bracket having limiting means limiting inward and outward movements of the handle and rod, and openings in the handle and bracket to receive a lock to lock the handle, and therefore the switch, in inner or outer position.

3,264,444
ACTUATING MEANS FOR MICROSWITCHES
Otto Krauss and Franz Bahmann, Nurnberg, Germany, assignors to Max Grundig, Furth, Bavaria, Germany
Filed Jan. 24, 1964, Ser. No. 340,085
Claims priority, application Germany, Jan. 29, 1963, G 36,925
17 Claims. (Cl. 200—172)



1. In a microswitch, in combination, housing means; plunger means having an elongated portion projecting from the interior of said housing means and terminating in an outer end, having a longitudinal axis, and supported by said housing means for longitudinal movement along said axis between a pair of end positions where said outer end of said plunger means intersects said longitudinal axis at a pair of predetermined points, respectively; lever means engaging said outer end of said plunger means for displacing the latter along said axis; and support means carried by said housing means and supporting said lever means for turning movement about an axis located in a plane normal to said longitudinal axis of said plunger means and intersecting said longitudinal axis midway between said points.

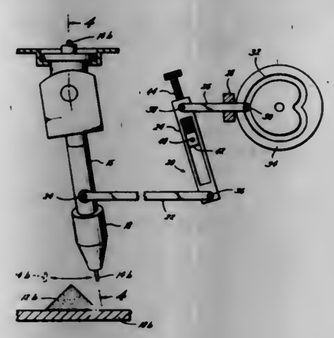
3,264,445
WELD OVERLAY
Roman F. Arnoldy, Houston, Tex., assignor to R. I. Patents, Inc., Houston, Tex., a corporation of Texas
Filed Sept. 23, 1963, Ser. No. 311,290
15 Claims. (Cl. 219—76)

1. A method of producing a weld overlay on the surface of a base comprising,

placing on the surface of the base a pile of electrically conductive, weldable overlay particles in a predetermined amount,

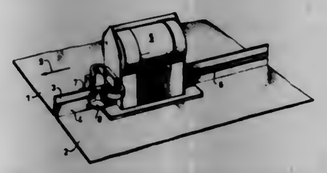
the width of the pile being in excess of that which can be completely melted by a linearly moving electrode without substantial penetration of the base,

creating an arc from an electrode to the upper portion of the pile, and



oscillating the electrode transversely of the pile while melting and moving the electrode along the length of the pile at a speed corresponding to the linearly moving electrode thereby melting the pile and a thin skin of the base and bonding the overlay of predetermined composition to the base without substantial dilution of the overlay by the material of the base.

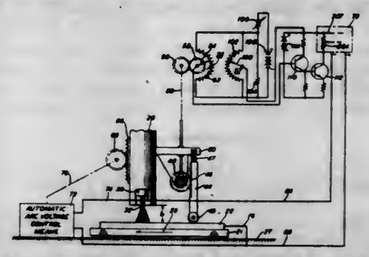
3,264,446
WELDING MACHINE FOR SEAM FLANGES OF SHEETS
Sven Olof Grönlund, Marumegatan 16, Skara, Sweden
Filed Dec. 16, 1963, Ser. No. 330,732
Claims priority, application Sweden, Dec. 10, 1963, 13,701/63
8 Claims. (Cl. 219—82)



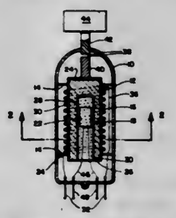
1. A welding head for welding upright seam flanges of metallic sheets comprising a supporting plate, pivots carried by said supporting plate, shafts parallel with said pivots, bearing casings for said shafts swingably mounted on said pivots, electrode rollers mounted on said shafts, and clamping means connecting said bearing casings to force the roller electrodes into peripheral contact with the seam flanges to be welded when located at opposite sides of said flanges.

3,264,447
PENETRATION CONTROL FOR ARC WELDING
Stanley A. Agnew, New Providence, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 29, 1965, Ser. No. 429,049
12 Claims. (Cl. 219—130)

1. Apparatus for compensating for variations in weld penetration due to relative movements of the arcing tip of a welding electrode in a welding head and the level of an unfused surface of a workpiece, comprising, in combination, means for continuously sensing the spacing between a fixed point of the welding head and the said unfused surface of the workpiece during the welding of a seam, and means to vary the welding current substantially in direct relationship to sensed variations in said sensed spacing, thereby maintaining substantially constant the depth of penetration of the weld along the length of the seam.



3,264,448
TEMPERATURE CONTROL APPARATUS
Donald E. Lehmer, Berkeley, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Dec. 29, 1964, Ser. No. 421,954
12 Claims. (Cl. 219—210)



1. A method for controlling the temperature of a temperature-sensitive device, comprising the steps of

surrounding said temperature-sensitive device with a substance having a melting point within the operating temperature range of said temperature-sensitive device;

adding heat to said substance at a rate which tends to maintain at least a portion of said substance in a constant temperature, solid-liquid mixture; and,

subtracting heat from said substance, when necessary, to maintain said portion of said substance in said solid-liquid mixture.

3,264,449
ELECTRICALLY HEATED HAND TOOL
Morris Brenner, 5106 Paseo de Pablso, Torrance, Calif.
Filed Dec. 3, 1962, Ser. No. 241,810
8 Claims. (Cl. 219—227)

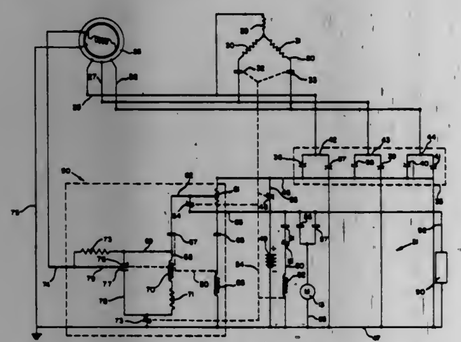


4. An electric heating device comprising: a hollow, elongated support made of an insulating material, said support having a projection at one end extending outwardly therefrom in a radial direction; a hollow, elongated metal heat sink slidable forwardly on said support to a position in engagement with said projection; means to limit axial movement of said heat sink rearwardly away from engage-

ment with said projection; a heating element carried by said support; and a hollow elongated grip positioned around said support, said grip being made of an insulating material, said grip having a body surrounding said support in spaced relation thereto and having a plurality of more than two axial ribs fixed to and extending inwardly of said body, said ribs being swaged tightly upon said support, said ribs being disposed contiguous to the rearward end of said heat sink to limit axial movement thereof rearwardly away from engagement with said projection.

3,264,450
ELECTRIC HEATING SYSTEM FOR AN AUTOMOTIVE VEHICLE

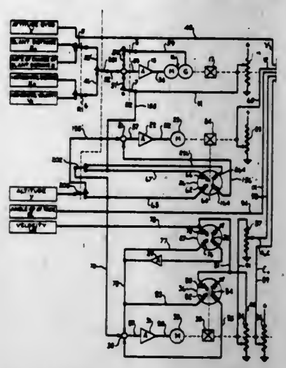
Baird Wallace, Grosse Ile, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation of abandoned application Ser. No. 193,109, May 8, 1962. This application Mar. 6, 1964, Ser. No. 350,938
16 Claims. (Cl. 219—279)



16. In an automotive vehicle, a passenger compartment, a heating system including a primary heating means, a ventilating system for supplying the heat of said primary heating means to said passenger compartment, an electrical system including an electrical generator having a field, an electrical storage battery and a regulator connected in circuit, said regulator normally limiting the amount of electrical energy applied to the field of said electrical generator, an electric quick heat means operatively placed in said ventilation system to supply heat to said passenger compartment, said electric quick heat means coupled to said electrical generator, a sensing means for sensing when said primary heating means has reached a given operating temperature, a resistor, a control circuit means for reducing the effectiveness of said regulator circuit to limit the electrical energy applied to said field and for connecting said resistor in series with said electrical generator and said electrical storage battery when said sensing means senses a temperature below said operating temperature, said resistor having a magnitude capable of supporting a voltage drop defined by the difference between the output voltage of said electrical generating means and the terminal voltage of said battery when said control circuit means is effective for reducing the effectiveness of said regulator, said control circuit returning said regulator circuit to normal operation and disconnecting said resistor from series connection with said electrical generator and said electrical storage battery when a temperature equal to or greater than said operating temperature is sensed by said sensing means, said control circuit means connected to said sensing means to be operated by said sensing means, said resistor being operatively positioned in said ventilation system and contributing to the heat generated by said electric quick heat means when said electric quick heat means is operative to supply heat to said passenger compartment.

3,264,451
TOSS BOMBING INSTRUMENTALITY

Per Torsten Faxen and Knut Arne Rosell, Jonkoping, Sweden, assignors to Svenska Aeroplan Aktiebolaget, a corporation of Sweden
Filed Oct. 1, 1962, Ser. No. 227,145
3 Claims. (Cl. 235—61.5)



1. In a toss bombing computer instrumentality for installation in an aircraft, of the type comprising a manually actuatable element, speed sensing means for producing an electrical output having a value which is a function of velocity of the aircraft, and integrating means, responsive to the outputs of rate sensing means in the aircraft, for producing electrical outputs having values which correspond to functions of the instantaneous values, after actuation of said element, of the angle between the horizontal and a line connecting the aircraft with a target, and of a distance which, together with said angle, defines the instantaneous position of the aircraft relative to the target in a vertical plane through the target in which the aircraft is maneuvered:

(A) a comparator having three input terminals and an output terminal;

(B) means connecting one of the input terminals of the comparator with said integrating means for impressing upon said one input terminal an electrical input corresponding to a function of said distance;

(C) means connecting a second input terminal of the comparator with said integrating means for impressing upon said second input terminal an electrical input corresponding to a function of said angle;

(D) a servo motor connected with the input terminal of said comparator;

(E) an electromechanical resolver having relatively fixed and rotatable parts, one of which comprises input means and the other of which comprises output means;

(F) means mechanically connecting the relatively rotatable part of the resolver with the servo motor, so that the angular position of the rotatable part relative to the fixed part is established by the servo motor;

(G) means connecting the input means of the resolver with said speed sensing means and with the second input terminal of the comparator;

(H) feedback means connecting the output means of the resolver with the third input terminal of the comparator, to thereby cause the angular position of the rotatable part of the resolver to correspond to a predetermined function of aircraft velocity, said angle and said distance; and

(I) a variable electrical instrumentality

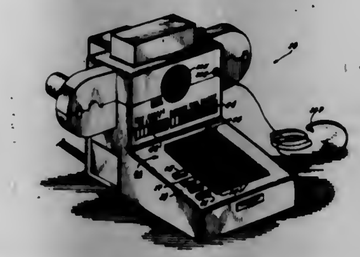
(1) having an input terminal connected with a source of electric current,

(2) having a movable element mechanically connected with said servo motor to be positioned thereby in unison with positioning of the rotatable part of the resolver, and

(3) having an output terminal at which an output electric current is available that has a value which corresponds to said function of aircraft velocity, said angle and said distance.

3,264,452
DATA PROCESSING APPARATUS

Harold F. Rieth, Pasadena, Calif., assignor to Packard-Bell Electronics Corporation, Los Angeles, Calif., a corporation of California
Filed May 21, 1962, Ser. No. 196,147
5 Claims. (Cl. 235—61.6)



1. In combination for use with a tape,

a calculating machine including a keyboard with a plurality of manually actuatable keys representing preselected data and including function means for causing said machine to perform particular arithmetic functions on the data represented by the keys actuated in said keyboard,

recording means disposed relative to the tape to make recordings on the tape corresponding to the keys actuated in said keyboard,

tape transport means for advancing said tape through said recording means,

switch means operatively interconnected with said function means and said recording means, said switch means being effective for actuating said recording means for positioning a sequence of recordings on said tape corresponding to said group of actuated keys,

means disposed relative to said tape for sensing the recordings on the tape during the advance of the tape by the tape transport means, and

means operatively coupled to the sensing means for producing audio sounds each corresponding to a different one of the numbers recorded on the tape.

3,264,453
DATA RECORDING SYSTEM

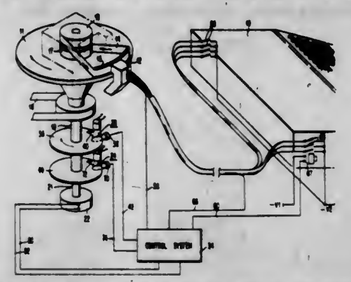
Cecil P. Barnard, San Jose, and Donald H. Heiser, Los Gatos, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 9, 1962, Ser. No. 208,424
6 Claims. (Cl. 235—61.11)

2. A data recording system comprising in combination:

means for converting the data into a code manifestation and a control manifestation,

transducing means mounted for cyclical movement relative to a record member, said record member having a reference means thereon, said transducing means comprising a recording means for each of said code manifestations and said reference means and a means for sensing reference means on said record member,

control means operative under control of coincidence between said control manifestation and sensing said last reference means as the record member is read in



the reverse order to energize said recording means in accordance with said code manifestation to record data on said record member, and

means to simultaneously energize said reference means transducing means to record a new reference means with said data.

3,264,454
DIGITAL DEVICE FOR MEASURING TIME INTERVALS

Jon P. Davis, Burbank, and George A. Walthers, Los Angeles, Calif., assignors to Canoga Electronics Corporation, Van Nuys, Calif., a corporation of Nevada
Filed Sept. 24, 1962, Ser. No. 225,713
3 Claims. (Cl. 235—92)

1. A device for determining time intervals which comprises:

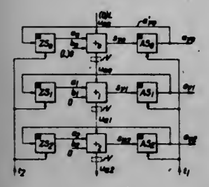
(a) delay means responsive to an input signal of fixed frequency for producing a series of output signals, each output signal of said series having different phase displacement with respect to all other signals of said series, said input and output signals being of the same frequency,

(b) circuit means responsive to said output signals for arranging said output signals into a second series of signals defining a digital counting code,

(c) gating means connecting said second series of signals to a register comprising a plurality of flip-flops, said gating means being responsive to a triggering signal to transmit the particular count of said code coincident with the application of said triggering signal to said register, and

(d) second gating means connecting said second series of signals to a second register comprising a plurality of flip-flops, said second gating means being responsive to a second triggering signal to transmit the particular count of said code coincident with the application of said second triggering signal to said second register.

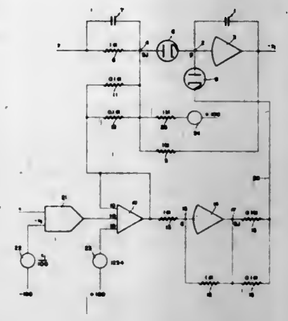
3,264,455
BINARY COUNTER
Elmar Götz, Frankfurt-Gravenbruch, Germany, assignor to Licentia Patents-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed Jan. 9, 1963, Ser. No. 250,341
Claims priority, application Germany, Jan. 9, 1962, L 40,894
3 Claims. (Cl. 235—92)



1. In an electric binary counter at whose outputs there appear signals in natural binary code and in parallel representation, the combination which comprises:
(a) a separate adder associated with each binary digit, each adder having a sum circuit and a carry circuit, the carry circuits of all adders being galvanically coupled with each other;
(b) a separate, clock pulsable output storage device associated with each respective adder, each storage device having an input connected to the sum circuit of its respective adder and an output connected to feed the sum signal back into an input of said respective adder;
(c) means for constantly applying the value L as one of the binary signals applied to the adder associated with the lowest binary digit;
(d) a separate, clock pulsable intermediate storage device associated with each binary digit, each intermediate storage device having an input connected to receive said output from the respective output storage device and an output connected to deliver the sum signal to said input of the respective adder;
(e) said carry circuit of each adder being separate from said sum circuit and being connected ahead of the respective intermediate storage device, the latter being an amplifier for amplifying the carry signal;
(f) said sum circuit of each adder being connected ahead of the respective output storage device, the latter being an amplifier for amplifying the sum signal; and
(g) said carry circuit of said adder and said intermediate storage device being combined into a first multiple-component logic circuit and said sum circuit of said adder and said output storage device being combined into a second multiple-component logic circuit, said first and second multiple-component logic circuits being similar to each other.

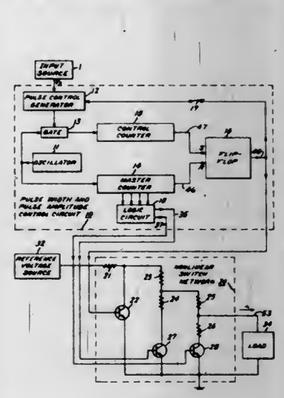
3,264,456
METHOD OF SAMPLING
Ivan C. Gruet, Montclair, N.J. assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed July 17, 1962, Ser. No. 210,362
1 Claim. (Cl. 235—150.51)

Apparatus for sampling a value on a calculated curve comprising in combination:
(a) track-and-hold means comprising
(1) a capacitor
(2) an amplifier in parallel connection with said capacitor
(b) a pair of diodes used as switches for regulating the application of current to said track-and-hold means
(c) a circuit to compensate for time lag consisting of a capacitor and resistor in parallel for applying a voltage proportional to a series of values to said track-and-hold means said voltage passing through



one of said diodes before going to said track-and-hold means
(d) means for generating a square wave which changes in polarity at any predetermined value, said change in polarity causing actuation of said pair of diodes.

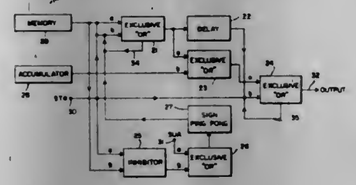
3,264,457
HYBRID DIGITAL-ANALOG NONLINEAR FUNCTION GENERATOR
Walter R. Seegmiller, Scotia, and Edwin C. Underkoffler, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Dec. 26, 1962, Ser. No. 247,224
4 Claims. (Cl. 235—150.53)



2. An electronic circuit for generating pulse-width output signals modulated in accordance with a nonlinear function comprising:
(a) a high frequency pulse source;
(b) two pulse counters, said two pulse counters actuated by the high frequency pulse source to run in synchronism in the absence of any control action;
(c) a pulse gate circuit for rendering one of said pulse counters responsive to an analog input signal to thereby provide a control action, said control action effecting a phase displacement between outputs of the two pulse counters to develop a pulse-width control signal;

(d) variable impedance means for varying the amplitude of the said pulse-width control signal; and
(e) logic means responsive to one of said counters to switch said variable impedance means in accordance with the desired nonlinear function of the input variable.

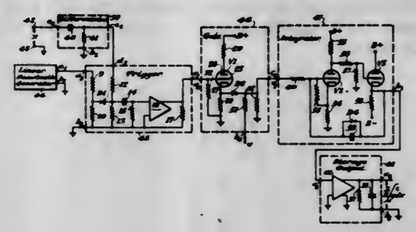
3,264,458
SERIAL BINARY ADDER
Ralph G. Cromleigh, La Canada, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 4, 1963, Ser. No. 270,625
16 Claims. (Cl. 235—176)



3. A serial binary adder circuit comprising: a first and second source of binary numbers; sign determining means adapted to receive and determine the sign of the numbers supplied by said first source of numbers; complementing means coupled to said first source of numbers and to said sign determining means and adapted to provide an output binary number which is the number supplied by said first source of numbers but with the first least significant ONE bit and all lower order ZEROS one's complemented when the number is negative and adapted to provide an output that is the one's complement when the number supplied by said first source is positive; a first EXCLUSIVE OR circuit having a first input coupled to the output of said complementing means, a second input coupled to said second source of binary numbers and having an output; a second EXCLUSIVE OR circuit having a first input coupled to the output of said first EXCLUSIVE OR circuit, a second input and an output; and delay means coupled between the output of said complementing means and the second input of said second EXCLUSIVE OR circuit; said first and second EXCLUSIVE OR circuits and said delay means adapted to add the binary numbers supplied by said second source of numbers to the output of said complementing means such that the sum or difference of the numbers provided by the first and second source of numbers appears on the output of said EXCLUSIVE OR circuit.

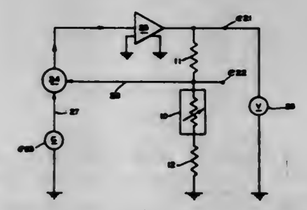
3,264,459
ANALOG COMPUTERS FOR FORMING THE INTEGRAL OF ONE VARIABLE WITH RESPECT TO ANOTHER VARIABLE
John W. Ericson, Swampscott, Mass., assignor to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania
Original application May 15, 1959, Ser. No. 813,498, now Patent No. 3,104,319, dated Sept. 17, 1963. Divided and this application May 2, 1963, Ser. No. 277,581
4 Claims. (Cl. 235—183)

1. In an integrator, in combination, differentiating means controlled by a first signal to produce a second signal in accordance with the time rate of change of said first signal, means for generating a linear triangular signal, triggering means controlled by said second signal and said linear triangular signal for producing a trigger pulse during the time said linear triangular pulse exceeds said second signal, gate means controlled by said trigger pulse to permit the passage of a third signal during the



absence of said trigger pulse, and integrating means connected to said gate means to integrate the passed portion of said third signal.

3,264,460
FUNCTION COMPUTER EMPLOYING CURVE FITTING TECHNIQUES
Edgar W. Van Winkle, Rutherford, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Sept. 7, 1961, Ser. No. 136,498
5 Claims. (Cl. 235—197)



1. An apparatus for determining a mathematical function of a variable, comprising a probe which changes resistance in accordance with changes in the variable, a pair of fixed resistors connected in series with the probe, a source of excitation applied across the probe and resistors, and means for directly determining the magnitude of voltage across the probe and one of said fixed resistors, the resistances of the resistors and probe being determined in accordance with the equation

$$f(v)=\frac{A(R10+R12)}{R10+R11+R12}$$

where:
A is a constant of proportionality,
R10 is the resistance of the probe, and
R11 and R12 are the resistances of the fixed resistors.

3,264,461
FLASHER WARNING LIGHT
Norval D. Osburn, St. Petersburg, Fla., assignor to Flasher Flare Southeast, Inc., Tampa, Fla., a corporation of Florida
Filed June 2, 1964, Ser. No. 372,056
2 Claims. (Cl. 240—2)

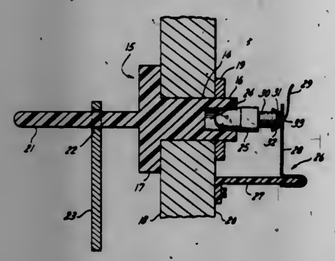
1. A lamp assembly comprising:
a supporting member,
a light head member with light-transmitting walls mounted on said supporting member and having a lamp chamber formed therein,
a resilient plug mounted on one of said members and having a central orifice,

a translucent cylindrical tube extending into said chamber and being snugly engaged within said central orifice,
said tube having an open end adjacent the said plug,
a light source slidably guided for axial movement within said tube,



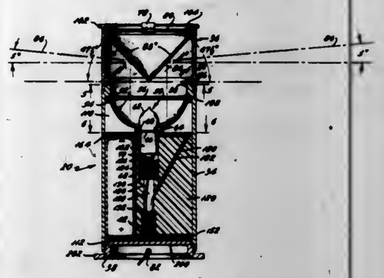
a power supply lead connected to said light source and leading through the open end of said tube,
means connecting said supply lead to a source of electrical power, and
means gripping said lead to maintain said lead in a fixed position relative to the said open end of said tube.

3,264,462
KEY DISPLAY DEVICE
Walter R. G. Haggstrom, Westminster, Mass., assignor to Independent Lock Company, Fitchburg, Mass., a corporation of Massachusetts
Filed Sept. 15, 1964, Ser. No. 396,623
2 Claims. (Cl. 240—2)



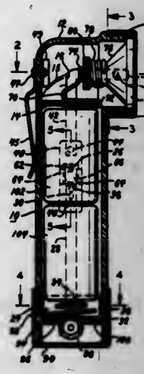
1. A key blank selector device comprising an opaque display board, a multiplicity of apertures formed in said board, integral key blank holder means of light conductive plastic mounted in said apertures of said board including a body portion extending transversely through said board, a boss forming a continuation of said body portion and lying adjacent the front face of said board, a key support probe extending outwardly from said boss, said probe being of a cross-sectional dimension to permit the same to pass through the aperture defined in the head of a key blank, locking means adjacent the rear face of said board engaging said body portion, and illuminator means disposed in light transmitting relation with respect to the body portion of said holder means, said boss serving to silhouette the head portions of keys on said probe, thereby to facilitate selection of a key.

3,264,463
LIGHT AND POWER SUPPLY
Leon T. Bonner, Jr., Alexandria, Va., assignor to The Matrix Corporation, Arlington, Va., a corporation of Delaware
Filed Aug. 21, 1961, Ser. No. 132,667
9 Claims. (Cl. 240—10.66)



1. For use in a flashlight, a power pack comprising a cylindrical body having an axial switch bore extending therethrough and four bores extending therethrough parallel to said axial switch bore; four cells in said bores; a pair of end plates secured to the ends of said body for holding said cells in said bores; conductor leaves secured to the inner surfaces of said end plates, each conductor leaf forming an electrical connection between cells that are not electrically connected by the leaves at the opposite end; an incandescent lamp in said axial bore; and a switch in said axial bore movable between positions opening and closing an electrical circuit including said lamp, said leaves and said cells.

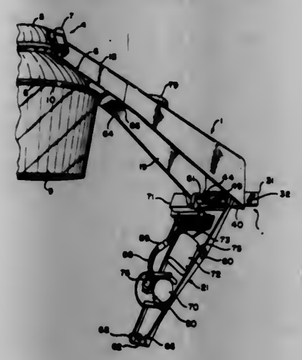
3,264,464
FLASHLIGHT AND SWITCH THEREFOR
Jules P. Gits, 1003 Lathrop Ave., River Forest, Ill.
Filed May 25, 1964, Ser. No. 369,670
4 Claims. (Cl. 240—10.67)



4. In a flashlight which has a housing with an opening at one end thereof, a lamp adjacent the other end of said housing, a switch, a conductor extending from said switch toward said lamp, and a second conductor extending from said switch toward said one end of said housing; the improvement which comprises:
(a) one end of the first said conductor being adjacent said switch,
(b) a plurality of fasteners securing one end of said second conductor to said housing adjacent said switch,

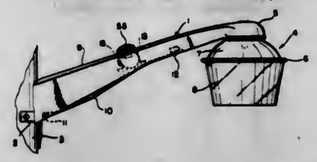
(c) said fasteners being electrically conductive,
(d) said fasteners being closely adjacent each other,
(e) a slide for said switch,
(f) a contactor for said switch which is secured to and movable with said slide,
(g) said contactor having a reentrant end which is selectively disposable in recesses intermediate and defined by said fasteners,
(h) said reentrant end coacting with said fasteners to prevent accidental shifting of said slide and said contactor,
(i) the other end of said contactor being selectively movable into register with said one end of the first said conductor to permit a flash button carried by said slide to press said other end of said contactor into engagement with said one end of said first said conductor,
(j) said reentrant end of said contactor being adjacent, and having movement thereof limited by, one of said fasteners whenever said other end of said contactor is in register with said one end of said first said conductor,
(k) said other end of said contactor being movable into abutting engagement with said one end of said first said conductor to turn said switch "on,"
(l) said reentrant end of said contactor being adjacent, and having movement thereof limited by, another of said fasteners whenever said other end of said contactor is in abutting engagement with said one end of said first said conductor,
(m) the outer faces of said reentrant end of said contactor acting as inclined planes to ease said reentrant end past said fasteners.

3,264,465
LUMINAIRE
Charles H. Rex, Hendersonville, N.C., assignor to General Electric Company, a corporation of New York
Filed Sept. 3, 1963, Ser. No. 305,986
11 Claims. (Cl. 240—25)



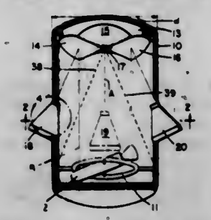
1. A luminaire support bracket comprising an inverted U-shaped open bottom channel member, means at one end of said member for mounting the bracket on a pole, means at the other end of said member for mounting a luminaire thereon, a transparent dome mounted intermediate the ends, a closure member with one end hingedly secured to said channel member adjacent the pole mounting means, means for mounting a discharge lamp ballast on said closure member, means for mounting a photoelectric control device on said closure member and means for securing the other end of said closure member to said channel member with the photoelectric control device juxtapositioned beneath said transparent dome.

3,264,466
LUMINAIRE
William D. Bacon, Jr., Hendersonville, N.C., assignor to General Electric Company, a corporation of New York
Filed Oct. 16, 1963, Ser. No. 316,579
4 Claims. (Cl. 240—25)



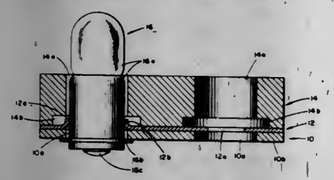
1. In a luminaire, an opaque housing having a light transmitting window in one wall thereof for transmitting light into the housing interior, photoelectric control means having a photosensitive portion for receiving light transmitted through said window, said window being of such size and so positioned relative to said photoelectric control means as to transmit light thereagainst along substantially a single axis, and means adjustably mounting said photoelectric control means within said housing for selectively arranging said photosensitive portion thereof at different positions relative to said window for varying the intensity of light incident on said photosensitive portion.

3,264,467
RADIANT ENERGY COLLIMATING SYSTEM
Alfred E. Mann, West Hollywood, Ronald Bell, Granada Hills, Halbert P. Fischel, North Hollywood, Douglas C. Martin, San Fernando, and Walter Wallin, Tarzana, Calif., assignors to Spectrolab, a division of Textron Electronics, Inc., a corporation of California
Continuation of abandoned application Ser. No. 360,162, April 1, 1964. This application Dec. 6, 1965, Ser. No. 528,663
5 Claims. (Cl. 240—41.3)



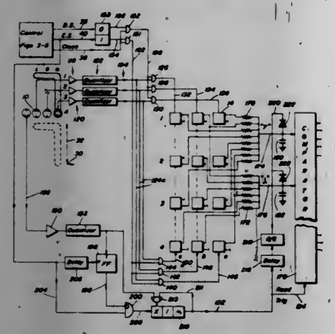
1. A radiant energy collimating system for simulating solar energy, including: a reflecting means constituting substantially a portion of a surface of revolution whose axis passes exteriorly to the boundary of said reflecting means; an enclosure defining a hermetically sealed chamber incorporating said reflecting means and having a principal axis passing within said chamber substantially parallel to and spaced from said axis of said surface of revolution, said chamber having means to receive a test body spaced from said reflecting means; and means for providing radiant energy disposed to one side of said principal axis substantially at the focus of said surface of revolution for directing radiant energy to said reflecting means so that energy reflected from said reflecting means is substantially in the form of a collimated beam directed along said principal axis, the distance between said means for receiving said test body and said reflecting means being such that normals to any surface portion of said reflecting means diverge away from said principal axis to define an area free of said normals so that any energy from said collimated beam reflected by said test body when positioned along said principal axis in said area is not directly returned to said test body by said reflecting means.

3,264,468
ELECTRIC LAMP SUPPORT
Walter R. Ditsworth, Baileyville, and Alfred J. Gaskell, Freeport, Ill., assignors to Honeywell Inc., a corporation of Delaware
Filed Sept. 6, 1963, Ser. No. 307,169
2 Claims. (Cl. 240—52.1)



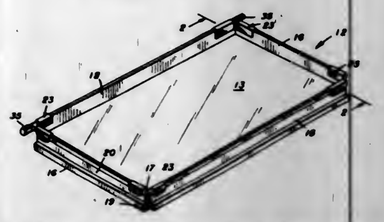
1. A support for a flange base electric lamp comprising: a first metal plate member having an opening therethrough larger than the body but smaller than the flange of a flange base electric lamp; a thin elastomer sheet member having an opening therethrough smaller than the body of the lamp; and a second plate member having an opening therethrough substantially the same size as that contained in said first plate member and further having a coaxial counterbore; said first plate member, said sheet member and said second plate member being assembled together with said sheet member between said first and second plate members with all the openings being coaxial and with the counterbore adjacent said sheet so that the lamp can be slidably disposed into the assembly with the flange of the lamp engaging said first plate member to provide one of the conducting means for the lamp and the body of the lamp being frictionally held and supported by the peripheral portion surrounding the opening in said sheet member, said portion being displaced by the body into the counterbore of said second plate member and so that the lamp can be slidably removed from the assembly by overcoming the friction between the body of the lamp and the peripheral portion surrounding the opening in said sheet member.

3,264,469
READING MACHINE WITH LARGE TOLERANCE TO ACCOMMODATE PRINT MISREGISTRATION
Jacob Rabinow, Bethesda, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 31, 1963, Ser. No. 334,762
9 Claims. (Cl. 340—146.3)



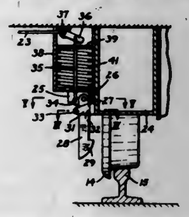
1. In an optical character reading machine for characters on an area, a character examination means to provide information signals, means for imaging a said character on said examination means, means to cause relative motion in a horizontal direction between the image and said examination means, and means to vertically sweep the image so that said examination means experiences a plurality of vertical excursions of the image, means providing a control signal in conjunction with a said excursion, a temporary storage register of a capacity not substantially greater vertically than that required to store information signals corresponding to the vertical height of the character, means responsive to said control signal to gate said information signals into said register at least during a fraction of said excursions of the image, and decision means operatively associated with said register to identify the character on the basis of the information which is in said register during at least one of said excursions.

3,264,470
FRAMED DIFFUSER PLATE FOR A LIGHTING FIXTURE
Marcus Bodian, Los Angeles, Calif., assignor to Sunbeam Lighting Company, Los Angeles, Calif., a limited partnership
Filed May 22, 1964, Ser. No. 369,394
4 Claims. (Cl. 240—147)



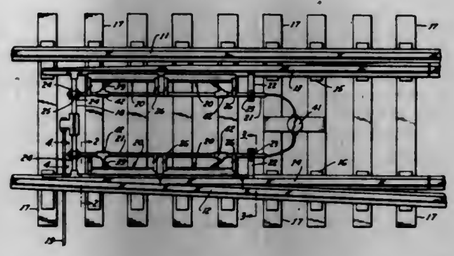
3. A framed closure for a lighting fixture comprising a rectilinear diffuser plate; frame members corresponding in lengths to the straight line edges of said diffuser plate, and enclosing said plate, each of said frame members having a lower inwardly facing groove engaging the edges of said plate and having an upper outwardly facing groove adapted to engage the holding tabs of corner clips; corner clips fastened over the rims of adjacent end portions of said frame members, each of said clips consisting of two angularly disposed channel-shaped sheet metal members held together by the connecting metal side strip which forms the inner side of said channel members, the outer side strip of said channel members having spring holding tabs engaged in said upper grooves of said frame members; and pivot members attached to adjacent corner clips and extending outwardly therefrom, said pivot members including a pivot pin and a pair of legs disposed angularly and each leg being engaged between said frame members and one of said angularly disposed channel members of said corner clips.

3,264,471
RAILROAD SAFETY DEVICE
Angelo De Gaetano, Princeton, Mass. (R.F.D., Sterling Junction, Mass.)
Filed May 19, 1964, Ser. No. 368,498
4 Claims. (Cl. 246—171)



1. A safety device for a railroad car, comprising
(a) a valve adapted to be connected into an automatic braking system,
(b) an actuating finger mounted for pivotal movement about a generally horizontal axis with its free end formed with a cam surface located above the plane of the top surface of the rail, and
(c) means connecting the finger to the valve, so that in the event the car leaves the rail the cam surface of the finger will strike the rail and move the finger laterally of the wheel to operate the valve to operate the braking system, the finger residing in a slotted member mounted on the railroad car and normally retained in the slot by a shear bolt.

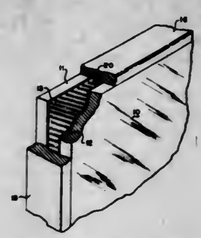
3,264,472
TRACK RAIL SNOW AND ICE MELTER
Lawrence C. Simmons, Cleveland, Ohio, assignor to Cleveland Technical Center, Inc., Cleveland, Ohio, a corporation of Delaware
Filed Sept. 11, 1962, Ser. No. 222,829
6 Claims. (Cl. 246—428)



1. In a railroad switch installation having an elongated stationary stock rail and an elongated switch point movably mounted so that it may be moved toward and away from said stock rail, the combination of an elongated supporting member extending longitudinally of and in spaced relation to the switch point on the side thereof opposite the stock rail, means for supporting said elongated supporting member from said switch point for movement therewith, an elongated reflector having a concave surface capable of reflecting infrared radiation and two spaced marginal edges, said reflector being carried by said elongated supporting member with its concave surface facing said switch point and its marginal edges in close proximity to the side of said switch point opposite said stock rail, elongated infrared radiation producing means disposed at the concave side of said reflector to generate radiation which is reflected onto and heats said switch point, means for supplying energy to the said radiation source carried by said elongated supporting member, and means pivotally mounting said reflector on said elongated supporting member so that it may be swung upwardly away from said switch point to permit access to the concave side of said reflector and to said radiation producing means.

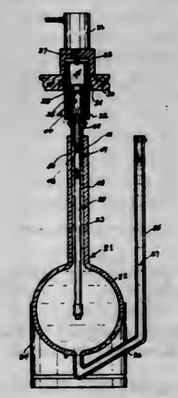
3,264,473
RADIATION STERILIZATION DEVICE WITH UNIFORMLY DISTRIBUTED BETA EMITTERS
Harry Levin, Woodland Hills, David W. Barels, Northridge, and Jack G. Bitterly, Woodland Hills, Calif., assignors to The Marquardt Corporation, Van Nuys, Calif., a corporation of California
Filed June 26, 1963, Ser. No. 294,787
13 Claims. (Cl. 250—44)

1. A radiation sterilization device comprising:
a mounting plate;
means associated with said plate for confining a material adjacent said plate for treatment;
a plurality of particles located on said plate in a hexagonal pattern for uniform distribution of said particles, said particles being treated with a radioactive isotope so that each particles is a radioactive emitter, and;



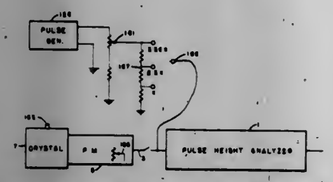
a coating over said individual particles for resisting leaching of said particles into said treated material while permitting radiated energy to enter into said material.

3,264,474
PHOSPHORIMETER ATTACHMENT FOR FLUOROMETER
Louis R. Heiss, Silver Spring, Md., assignor to American Instrument Company, Inc., Silver Spring, Md.
Filed Sept. 9, 1963, Ser. No. 307,392
1 Claim. (Cl. 250—71)



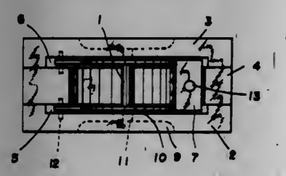
A phosphorimeter attachment for use with a fluorometer comprising a support, a sample cell housing mounted on said support, said housing having a main peripheral wall and a bottom wall and being provided in its main peripheral wall with aperture means to receive exciting radiation and to allow the exit of luminescent radiation from a sample contained in said housing, a cooling vessel adapted to contain liquified gas disposed subjacent said housing, a substantially straight upright heat-conducting metal rod in said cooling vessel, said rod extending upwardly sealingly through the top end of said vessel and through the bottom wall of said sample cell housing, and a sample receiver supportingly secured to the top end of said rod within said sample cell housing, said sample receiver having an upstanding wall provided with a light-transmitting aperture registering with said aperture means, said rod being formed with a gas passage in its upper portion opening at the top end of the rod and with a transverse passage located immediately below the top end of the vessel in communication with said gas passage and the top portion of the interior of said vessel communicatively connecting the top portion of the interior of the vessel with the interior of said sample receiver.

3,264,475
METHOD FOR CALIBRATING A RADIOACTIVE LOGGING SYSTEM
Dale H. Reed, Henry F. Dunlap, Thomas S. Hutchinson, Robert E. McCallum, and William C. Pritchett, Dallas, Tex., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 31, 1962, Ser. No. 248,333
6 Claims. (Cl. 250—71.5)



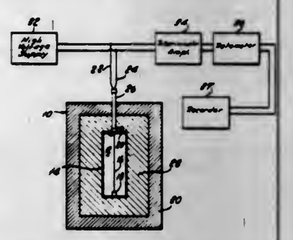
5. A method for calibrating a radioactive logging sonde, including a detector having a crystal capable of scintillating in response to gamma rays and a photomultiplier capable of converting said scintillations to electrical pulses and means for rejecting gamma rays whose energies vary from a predetermined energy range comprising
(a) connecting a pulse generator to said means for rejecting gamma rays,
(b) feeding electrical pulses of predetermined voltage proportional to a first predetermined energy level to said means of rejecting gamma rays,
(c) adjusting the output of said means for rejecting gamma rays until said output is indicative of rejection of all pulses representing gamma rays with energies below said predetermined energy level,
(d) placing a source of gamma ray energy of known strength whose count rate rapidly changes at a predetermined energy level adjacent said crystal, and
(e) adjusting the photomultiplier output until a predetermined count rate is obtained.

3,264,476
HOLDER OF A FLUOROGLASS ROD FOR USE IN RADIATION DOSIMETRY
Ryosuke Yokota, Yokohama-shi, and Saburo Nakajima, Kawasaki-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Aug. 14, 1963, Ser. No. 302,104
Claims priority, application Japan, Aug. 27, 1962, 37/48,673
5 Claims. (Cl. 250—83)



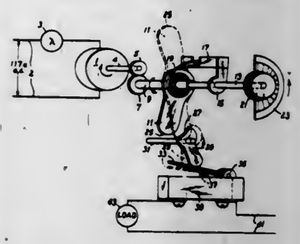
1. A fluoroglass rod and holding arrangement for use in radiation dosimetry comprising a fluoroglass rod, a pair of spaced apart outer frames with inner recesses, each having a central bore with a diameter smaller than that of said fluoroglass rod, a pair of supporting plates each mounted in the lower portion of said recesses on the inner side of said frames provided with a notch to support the end of said glass rod in axial alignment with said central bore, a recessed intermediate frame positioned between said supporting plates and a swinging holding member pivoted to said arrangement adapted to hold said glass rod in said notch.

3,264,477
EPITHERMAL NEUTRON WELL LOGGING
Hugh E. Hall, Jr., Houston, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 30, 1962, Ser. No. 183,864
14 Claims. (Cl. 250—83.1)



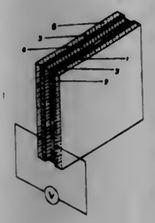
1. Apparatus for detecting epithermal neutrons comprising:
(a) a radiation detector sensitive to thermal neutrons,
(b) neutron thermalizing material surrounding said radiation detector wherein neutrons having energies in the epithermal range are slowed down to thermal energies, and
(c) thermal neutron absorbing material comprising cadmium surrounding said neutron thermalizing material, said neutron absorbing material comprising cadmium being exposed to external neutron radiation, including epithermal neutrons to be detected.

3,264,478
PHOTOCONDUCTIVE TIME DELAY DEVICE
Richard J. Moldovan, 4201 Domenico Court, Bridgeton, Mo.
Filed Apr. 18, 1963, Ser. No. 273,940
6 Claims. (Cl. 250—206)



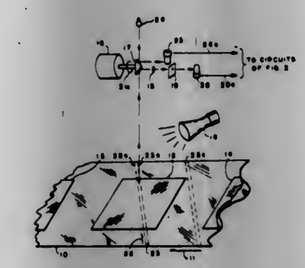
1. A photoconductive control device comprising an electrical circuit including a source of power, a motor, and a photoconductive cell connected in series with said motor, said cell being adapted to vary resistance in said circuit in accordance with changes in light intensity, an arm drivably connected to said motor and rotatable thereby in one direction only, a stop means adapted to limit rotation of said arm in a direction opposite to that in which said motor is adapted to rotate said arm, resilient means connected to said arm and biasing the same toward engagement with said stop means, a load circuit including an electrical switch, said motor developing a torque greater than that of said resilient means when the resistance of said motor circuit is reduced to a predetermined value by said cell, a lever angularly spaced about the rotational axis of said arm from said stop means and adapted to engage said arm and be rotated thereby when the latter is rotated away from said stop means by said motor, said switch having an element operatively connected to said lever for movement from one position to another when said lever is rotated.

3,264,479
ELECTROLUMINESCENT LIGHT AMPLIFIER
Sandford C. Peek, Jr., Hamilton, Mass., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Jan. 31, 1955, Ser. No. 485,131
2 Claims. (Cl. 250—213)



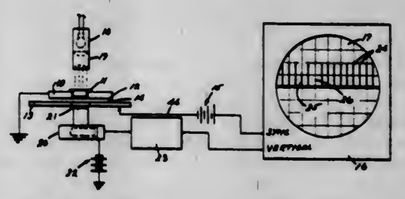
1. An electroluminescent device comprising an electroluminescent layer with a layer of light-reflecting dielectric material thereover, and a layer of photoconductive material over said dielectric layer.

3,264,480
PHOTOELECTRIC INSPECTION APPARATUS FOR MATERIAL HAVING VARIATIONS IN REFLECTIVITY
Ray A. Zuck, Lafayette Hill, and Richard W. Spencer, Wayne, Pa., assignors, by mesne assignments, to Linen Supply Association of America, Chicago, Ill., a corporation of Illinois
Filed Jan. 15, 1962, Ser. No. 166,262
20 Claims. (Cl. 250—223)



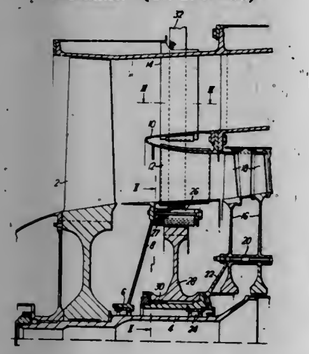
17. An inspection system for discrete pieces of material having predetermined spacings defining successive gaps and having a first normal reflectivity value and second abnormal reflectivity value, said abnormal reflectivity value due to imperfections in the pieces of material in the form of holes and stains, said system including: conveyor means effective to move said pieces along a predetermined path and to receive said pieces in spaced relation along said path, said pieces having varying orientations and edge shapes; means effective to scan successive areas of said pieces of material in a path of scan as they pass beneath said scan means on said conveyor means, said path of scan being a substantially straight line with a substantial deviation from the normal to said predetermined path, the deviation of said path of scan from the normal being such that at least one scan can be made within the confines of each of said gaps; means effective to produce signals instantaneously responsive to light reflected from said material during the course of a single scan; first storage means effective to integrate said signals during a single scan to the extent that said signals are a response to said abnormal reflectivity; second storage means effective to integrate the signals from said first storage means over a plurality of scans; means operative in response to a completion of scan having at least a portion of its travel with said normal reflectivity to transfer signals from said first storage means to said second storage means and in response to a scan without at least a portion of its travel with said normal reflectivity to discharge said second storage means; and elements responsive to the reflectivity of the conveyor means and pieces along the path of scan whereby irregular edges of varying orientations of the pieces with respect to the conveyor means will not affect the operation of the inspection system.

3,264,481
METHOD AND APPARATUS FOR INSPECTING SPINNERETS
Joseph M. Hoegerl, Meadville, Pa., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed July 12, 1963, Ser. No. 294,565
5 Claims. (Cl. 250—224)



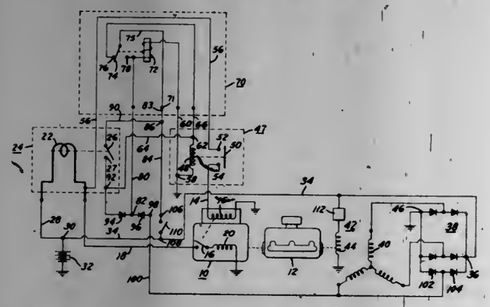
1. Apparatus for locating a clogged hole in a spinneret having a circular arrangement of holes, said apparatus comprising a rotatable support for supporting the spinneret for rotation therewith about the axis of the circular arrangement of holes, a light source for directing light through the holes of the spinneret, a light sensitive cell responsive to light from said source, a shield between said light source and said cell, said shield limiting the light reaching said cell to the light passing through a hole located in a preselected position, means for rotating said support at substantially constant speed to thereby repeatedly move each hole of the spinneret through said preselected position, a cathode ray oscilloscope having a vertical beam deflecting circuit and a triggerable horizontal sweep circuit, means connecting said light sensitive cell to the vertical beam deflecting circuit of said oscilloscope whereby said cell activates the vertical beam deflecting circuit when an unclogged hole passes through said preselected position and is ineffective when a completely clogged hole passes through said preselected position, a first electrical contact on said rotatable support, a second electrical contact arranged to be engaged by said first contact once during each revolution of said support, a powered circuit including said electrical contacts connected to said oscilloscope to trigger the horizontal sweep circuit thereof each time said contacts engage whereby the horizontal starting position of the beam of the oscilloscope is determined by the hole which is in said preselected position at the time said contacts engage one another, means mounting said second electrical contact for manual rotation about the axis of said rotatable support whereby said contacts may be caused to engage at the time a clogged hole is in the preselected position, and means for indicating the rotary position of the clogged hole in relation to said preselected position.

3,264,482
GAS TURBINE ENGINES
Kenneth William Clark and Donald Glenfield Seymour, Bristol, England, assignors to Bristol Siddeley Engines Limited, Bristol, England, a British company
Filed Aug. 22, 1963, Ser. No. 303,805
Claims priority, application Great Britain, Aug. 27, 1962, 32,821/62
6 Claims. (Cl. 290—38)



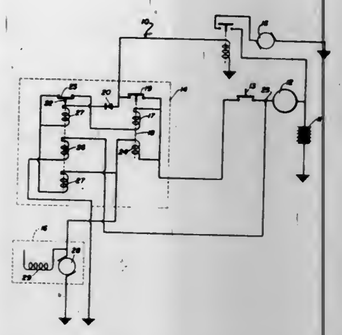
1. Two-spool gas turbine engine for aircraft propulsion comprising a pair of axially aligned first and second axial flow compressors, an annular duct communicating at least a part of the output of the first compressor to the second compressor, said duct including inner and outer annular walls, guide vanes radially connected between said walls, an auxiliary A.C. machine, e.g. for starting the engine, situated at the inside of said inner wall and axially between said compressors, said machine including a stator supported by said inner wall and a rotor drivingly connected to one of the compressors to be rotated thereby, and electrical cable means connected to the stator from a position outside said outer wall and passing to the stator through the interior of at least one of said vanes.

3,264,483
CONTROL SYSTEM FOR ELECTRIC CRANKING MOTORS
Arthur W. Alexander, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 26, 1963, Ser. No. 311,870
7 Claims. (Cl. 290—38)



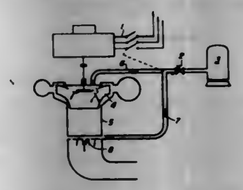
1. A control circuit for an electric starting motor comprising, an engine, an electric starting motor for cranking said engine, a source of direct current, a magnetic switch including a coil winding and switch contacts, a manually operable switch, means electrically connecting the switch contacts of said magnetic switch in series between said source of direct current and said electric starting motor, a current relay having a coil winding and switch contacts, means connecting the coil winding of said current relay with said electric starting motor and said source of direct current whereby said relay responds to the magnitude of current flowing between said source of direct current and said starting motor, a lock out relay including a coil winding and switch contacts, means connecting said manually operable switch, the contacts of said lock out relay and the coil winding of said magnetic switch across said source of direct current, means connecting the contacts of said current relay with the coil winding of said magnetic switch and with the coil winding of said lock out relay, means providing a signal voltage when said engine is running, and a circuit for coupling said signal voltage to the coil winding of said lock out relay.

3,264,484
STARTER CONTROL INCLUDING MEANS TO PREVENT STARTER ENERGIZATION WHILE ENGINE IS RUNNING
Erich Kenchen, Aachen, Germany, assignor to Garbe, Lahmeyer & Co. AG, Aachen, Germany, a corporation of Germany
Filed June 26, 1964, Ser. No. 378,403
Claims priority, application Germany, June 28, 1963, G 38,058
3 Claims. (Cl. 290—38)



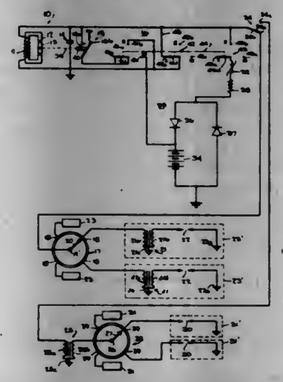
1. A starter control for use with the starter motor, starter switch, battery, and generator of an internal combustion engine, comprising
(a) a switch relay having a normally-open contactor,
(b) a pull coil forming part of the switch relay,
(c) a holding coil forming part of the switch relay,
(d) a check relay having a normally-closed contactor,
(e) a pull coil forming part of the check relay,
(f) a holding coil forming part of the check relay,
(g) a third coil forming part of the check relay, the pull coil of the switch relay and the normally-closed contactor being connected in series from a first point between the starter switch and the normally-open contactor on the one hand to ground on the other hand, the pull coil of the check relay being connected in series with a rectifier on the one hand from a second point between the normally-open contactor and the starter motor on the one hand and ground on the other hand, the holding coil of the switch relay being connected from the said first point to the generator and the third coil of the check relay being connected from ground to the generator, the holding coil of the check relay being connected from a third point between the battery and the starter switch on the one hand and ground on the other hand.

3,264,485
METHODS AND APPARATUS FOR PREVENTING WATER HAMMER IN TAILRACE OR SUCTION LINES
Susumu Naganuma and Mizuho Tanaka, Hitachi-shi, Japan, assignors to Hitachi, Ltd., Chiyoda-ku, Tokyo, Japan, a corporation of Japan
Filed Sept. 30, 1963, Ser. No. 312,482
Claims priority, application Japan, Oct. 2, 1962, 37/42,702
7 Claims. (Cl. 290—40)



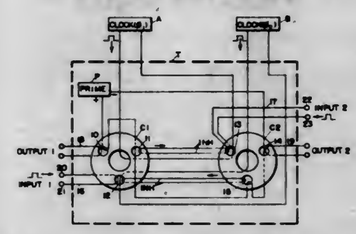
1. An apparatus for preventing water hammer in connection with hydraulic devices having runner means, inlet line means or outlet line means, a negative pressure occurring in one of said line means upon commencement of sudden changes from the steady state operating conditions of said hydraulic device, a negative pressure occurring in one of said line means upon commencement of sudden changes from the steady state operating condition of said hydraulic device, comprising supply means for supplying compressed air, connecting means operatively connecting said supply means with said said line means for supplying compressed air to said line means including valve means having valve-actuating means, and means responsive only to said sudden changes and operatively connected with said valve-actuating means for opening said valve means to supply compressed air to said line means upon occurrence of such sudden changes.

3,264,486
IGNITION SYSTEM
Richard B. Clark, Sidney, N.Y., assignor to The Bendix Corporation, Sidney, N.Y., a corporation of Delaware
Filed Dec. 4, 1963, Ser. No. 327,900
16 Claims. (Cl. 307—48)



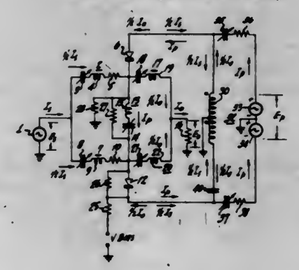
1. An ignition circuit comprising a magneto having a winding, breaker contacts connected across the winding, at least one set of electrodes constituting a discharge gap connected to the winding to be energized thereby, and a saturable reactor and a load connected in series across the winding in parallel with the breaker contacts and with the connection between said winding and said discharge gap.

3,264,487
MAGNETIC LOGIC CIRCUIT
Willis R. Smith, Rochester, N.Y., assignor to General Signal Corporation
Filed Nov. 7, 1962, Ser. No. 236,004
12 Claims. (Cl. 307—88)



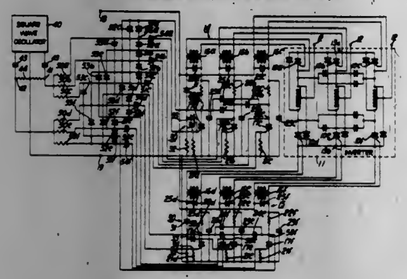
1. In a magnetic switching circuit, the combination comprising a pair of multiple aperture ferrite cores, setting means coupled to each core through a first minor aperture therein, and means coupling each core through a second minor aperture therein to the other core through said first minor aperture therein in a direction to inhibit setting of said other core when said each core is set, said setting means providing sufficient ampere-turns to overcome inhibiting ampere-turns wound through said first minor aperture in either core, and means coupling pulses through a major aperture of each core, said last-named means being coupled to the setting means of the other core.

3,264,488
BALANCED CURRENT PUMPED PARAMETRIC CONVERTER
Ellwood P. McGrogan, Jr., Cherry Hill, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 10, 1964, Ser. No. 417,270
7 Claims. (Cl. 307—88.3)



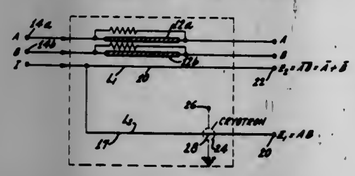
1. A balanced parametric converter comprising:
(a) first and second variable capacitance diodes,
(b) means for coupling said variable capacitance diodes to a first source of current at a first frequency in a push-pull circuit forming a low impedance resonant loop at said first frequency,
(c) means for coupling said variable capacitance diodes to a second source of current at a second frequency in a manner such that equal currents are caused to flow through said diodes irrespective of differences in the impedances of said first and second variable capacitance diodes,
(d) circuit means for coupling said variable capacitance diodes to a load impedance in a push-push circuit with said circuit means permitting only a current at a third frequency which third frequency is different from said first frequency by at least said second frequency due to said first and second frequency currents flowing through said nonlinear capacitance diodes.

3,264,489
INVERTER GATING CIRCUIT
Donald R. Boyd, Waukesha, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 23, 1962, Ser. No. 232,459
7 Claims. (Cl. 307—88.5)



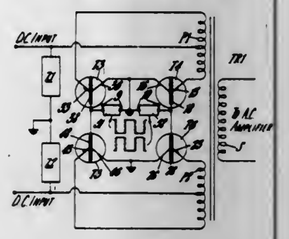
1. A gating circuit for the type of inverter having a first group of controlled switch devices associated with one polarity of a direct current source and a second group of controlled switch devices associated with a second polarity of the source, said gating circuit comprising,
a plurality of semiconductor devices each having input terminals and output terminals, said output terminals being connected to turn on said controlled switch devices in response to the potential at said output terminals,
an oscillator for producing a series of pulses to turn on said semiconductor devices,
voltage responsive circuit means for each of said semiconductor means connecting said oscillator to said input terminals, each said circuit means being connected to selected ones of said output terminals to establish a conductive path between said oscillator and the input terminals of only a selected one of said semiconductor devices according to the conduction state of all of said semiconductor devices, and
means interconnecting said output terminals whereby an on-coming semiconductor device turns off the off-going semiconductor device in a preset sequence.

3,264,490
CRYOELECTRIC LOGIC CIRCUITS
Robert A. Gange, Skillman, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 27, 1963, Ser. No. 268,279
7 Claims. (Cl. 307—88.5)



1. A cryoelectric logic circuit comprising,
superconductive control ground plane means;
a plurality of parallel superconductive current paths, at least one located immediately adjacent to the control ground plane means and whose inductance is affected by the state of the control ground plane means and at least one other located sufficiently far from the control ground plane means that its inductance remains fixed and is unaffected by the state of the control ground plane means;
means for applying a current to the parallel current paths;
means coupled to one of the paths for introducing a resistance in one path and thereby establishing a given initial current distribution among the paths;
means coupled to the control ground plane means, to which a plurality of input signal currents representative of input binary bits are applied, for substantially changing the pentration depth λ of the control ground plane means; and
output means coupled to at least one of the current paths for providing a signal current indicative of a logic function of the input binary bits.

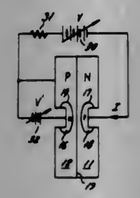
3,264,491
D.C. TO A.C. SIGNAL CONVERTERS
Herbert M. Davis, Barnehurst, Kent, England, assignor to Southern Instruments Limited, Camberley, England
Filed May 15, 1963, Ser. No. 280,679
Claims priority, application Great Britain, June 4, 1962, 21,535/62
2 Claims. (Cl. 307—88.5)



1. A D.C. to A.C. signal converter which includes a transformer having a core and at least two primary windings, each winding having a tapping point, and a secondary winding upon said core, means for applying first and second D.C. inputs between ground and each of said tapping points respectively, first and second input impedances connected across said first and second inputs, a first pair of transistor switching devices connected between ground and one end of each of said primary windings respectively, first switching means operatively connected to said first pair of devices for switching said first pair of devices cyclically on and off, during on periods said D.C. inputs flowing through said primary windings and causing opposing magnetic fluxes in said core, a second pair of transistor switching devices connected between ground and the other end of each of said primary windings respectively, and second switching means operatively connected to said second pair of devices for switching said second pair of devices on before said first pair is switched off and off again after said first pair is next switched on, during on periods said D.C. inputs flowing through said primary windings and causing opposing magnetic fluxes in said core in opposite directions to those during on periods of said first pair of devices.

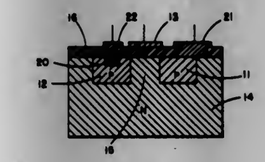
3,264,492
ADJUSTABLE SEMICONDUCTOR PUNCH-THROUGH DEVICE HAVING THREE JUNCTIONS
John M. Gault, Manhattan Beach, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed Aug. 6, 1963, Ser. No. 300,206
2 Claims. (Cl. 307—88.5)

1. A monocrystalline device comprising a body of semiconductive material having two opposed major surfaces, a first region of one conductivity type extending to one of said surfaces and a second region of opposite conductivity type extending to the other of said surfaces, said first and second regions defining a first intermediate p-n junction which is substantially parallel to said surfaces, a coaxial opening in each of said surfaces, a third region forming a second p-n junction with said first region and a fourth region forming a third junction with said second region, each of said third and fourth regions extending from adjacent the bottom of one of said openings, an electrode at the bottom of each of said openings forming first and second electrodes on each of said third and fourth regions respectively, and



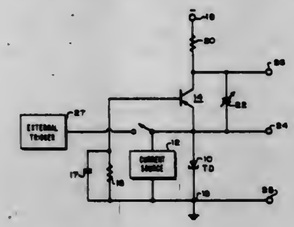
an annular electrode on one of said surfaces forming an ohmic connection to said first region and being concentrically disposed about one of said openings, and the maximum thickness of the thinnest part of the second region between being defined by $W_{max}=\sqrt{V_p 2\epsilon\rho\mu}$ wherein V_p, ϵ, ρ, and μ are respectively the punch-through voltage, dielectric constant, resistivity, and mobility of the conducting current carriers of the thinnest part.

3,264,493
SEMICONDUCTOR CIRCUIT MODULE FOR A HIGH-GAIN, HIGH-INPUT IMPEDANCE AMPLIFIER
John E. Price, Palo Alto, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed Oct. 1, 1963, Ser. No. 313,072
2 Claims. (Cl. 307—88.5)



1. A semiconductor circuit module for a high-gain, high input impedance amplifier, which comprises:
an external, insulated-gate field-effect device having a source, a drain, and an insulated gate, said device including a substrate of one conductivity type, a pair of regions formed by diffusion in said substrate and extending to the surface thereof, one being a source and the other a drain, said regions being of the opposite conductivity type from said substrate and defining a channel region therebetween, an insulating layer disposed on the surface of said channel between said regions and a metallic electrode formed on said insulating layer,
a transistor having a collector of one conductivity type which is said substrate, a base of the opposite conductivity type, which is one of said pair of regions, and an emitter of said one conductivity type, said emitter comprising a third diffused region formed within said one of said regions and extending to the surface thereof, said emitter being of the same conductivity type as said substrate,
means coupling the other of said pair of regions to said substrate, said means comprising a common electrode in contact with both the other of said drain and said substrate,
means for applying a direct coupled input signal to said metallic electrode, and
an output electrode coupled to said emitter region.

3,264,494
PULSE GENERATOR PROVIDING FAST RISE AND FALL TIME PULSES HAVING AN ADJUSTABLE REPETITION RATE OVER A BROAD FREQUENCY RANGE
Emmanuel E. Candilis, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Nov. 18, 1963, Ser. No. 324,488
10 Claims. (Cl. 307—88.5)

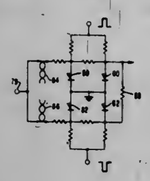


1. A pulse generator comprising:
a transistor having a plurality of electrodes,
means including first and second electrodes of said transistor forming an input circuit for said transistor,
a voltage source,
means including second and third electrodes of said transistor serially connected to said voltage source and forming an output circuit for said transistor,
said input and output circuits having a common portion between said second electrode and a point of reference potential,
a circuit element which shows in its current-voltage characteristic a region of negative resistance between adjacent low and high voltage regions of positive resistance,
said circuit element being connected in the common portion of said input and output circuits,
a current source connected in shunt with said circuit element for biasing said circuit element to operate in its high voltage region of positive resistance,
said transistor switching to a conductive state and thereby drawing current from said current source in response to operation of said circuit element in its high voltage region of positive resistance,
said circuit element switching to operation in its low voltage region of positive resistance in response to the decreased current flowing through said circuit element when said transistor is operating in its conductive state,
said transistor switching to a non-conductive state in response to operation of said circuit element in its low voltage region of positive resistance,
said current source biasing said circuit element for operation in its high voltage region of positive resistance in response to the non-conductive state of said transistor,
said circuit element generating a pulse in response to the current switching between said circuit element and said transistor.

3,264,495
MEMORY SIGNAL DETECTOR UTILIZING NEGATIVE RESISTANCE DIODED AND AN OPEN TRANSMISSION LINE

Wilbur D. Pricer, Pleasant Valley, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 31, 1963, Ser. No. 334,799
10 Claims. (Cl. 307—88.5)



1. In a system wherein low level, short duration signals and high level, long duration disturb signals occur sequentially, a sense amplifier adapted to receive, attenuate and recover from said disturb signals in time to sense a shortly succeeding data signal, the combination comprising:

input means for providing said signals;

a data signal detector, said detector including negative resistance means having stable low and high positive resistance regions separated by an unstable negative resistance region, said low positive resistance region exhibiting an extremely low resistance value which remains substantially constant in response to input signal variations falling below a preset level;

gating means for reverse biasing said negative resistance means when said disturb signal is expected and for forward biasing said negative resistance means to a point in said low resistance region near said negative resistance region when said data signal is expected; and

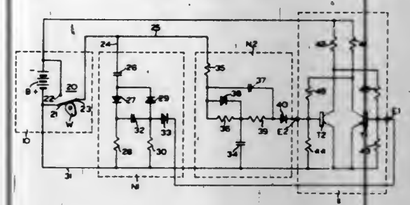
a transmission line connected between said data signal detector and said input means, said transmission line having an electrical length substantially less than said disturb signal and being substantially critically damped when said negative resistance means are reverse biased, said transmission line acting to attenuate said disturb signal to a point where it does not exceed said preset level whereby said transmission line remains critically damped even in the presence of a disturb signal.

3,264,496
ROTATIONAL SPEED RESPONSIVE ELECTRONIC SWITCH

Hermann Scholl, Stuttgart, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany

Filed Sept. 28, 1964, Ser. No. 399,673
Claims priority, application Germany, Oct. 17, 1963, B 73,910
3 Claims. (Cl. 307—88.5)

1. A rotational speed responsive electronic switch, comprising, in combination: a transistorized bistable multivibrator having first and second inputs and having emitters; a pulse generator associated with a rotating body in response to whose rotational speed the electronic switch is to operate for producing pulses at a rate depending on the rotational speed of the body; and a first RC-circuit interposed between said first input of said multivibrator and the output of said pulse generator and a second RC-circuit interposed between said second input of said multivibrator and the output of said pulse generator, said pulse generator controlling said multivibrator to be in one of its operating positions, via said first RC-circuit, below an adjustable pulse frequency and to be in the other of its operation positions, via said second RC-circuit, at a higher pulse frequency, said first RC-circuit comprising (a) a first capacitor one of whose terminals is connected by said pulse generator alternately to each of the two terminals of a source of direct current, the other terminal of said first capacitor being connected, via a series-circuit comprising a first rectifier and a first charging resistor and a second-series-circuit comprising a second rectifier, poled oppositely to said first rectifier, and a second charging resistor, to that terminal of said source of direct current to which said

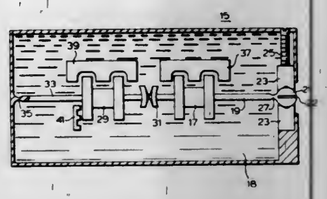


emitters of said transistorized multivibrator are connected, (b) a second capacitor having one terminal connected to the juncture of said first rectifier and said first charging resistor, the other terminal of said second capacitor being connected to the juncture of said second rectifier and said second charging resistor, and (c) a third rectifier having one terminal connected to the juncture of said second rectifier, said second charging resistor and said second capacitor, the other terminal of said third rectifier being connected to said first input of said multivibrator.

3,264,497
PULSE CONTROL DEVICE

Hugh E. Riordan, Wyckoff, N.J., assignor to General Precision, Inc., Little Falls, N.J., a corporation of Delaware

Filed Jan. 3, 1963, Ser. No. 249,148
3 Claims. (Cl. 307—106)

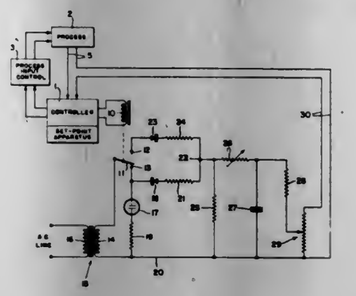


2. An inertia reference comprising a first movable mass, means to apply a first mechanical force to said first movable mass having a magnitude proportional to the impulse content of applied pulses, means to pivotally support said movable mass about a first pivot point and apply a second mechanical force to said first movable mass in opposition to said first mechanical force, a second movable mass, means pivotally supporting said second movable mass about a second pivot point, said first and second masses having equal moments of inertia about said first and second pivot points, means linking said first mass to said second mass requiring said first and second masses to pivot together in opposite angular directions when either of said first and second masses pivots, and means to detect any displacement of said first and second masses from a null position.

3,264,498
CYCLING ELECTRICAL CONTROLLER

Francis A. Lapinski, Philadelphia, Pa., assignor to Honeywell Inc., a corporation of Delaware

Filed Dec. 31, 1962, Ser. No. 248,486
2 Claims. (Cl. 307—127)



1. A control system including a controller having an input, set-point means, and an output in which is produced a control signal representative of a difference between the magnitude of a signal applied to said input and a set-point magnitude produced by said set-point means, a signal injection circuit comprising a selectively operable signal gate having a signal input circuit, a first output circuit and a second output circuit, said signal gate having an unenergized condition wherein said input circuit is connected to said first output circuit, circuit means connecting said signal gate to said control signal from said controller for selective energization thereby to connect said input circuit with said second output circuit, alternating current input means connected to said input circuit and arranged to be connected to a source of A.C. power, a first asymmetrically conductive device connected to said first output circuit and arranged to pass a signal having a first polarity, a second asymmetrically conductive device connected to said second output circuit and arranged to pass a signal having a second polarity, a capacitor having one side connected to a return path for said input means, circuit means operative to apply an output signal from said first and second conductive devices to the other side of said capacitor, and other circuit means combining an injection signal developed across said capacitor with a sensed variable signal from a process controlled by said control signal, and applying the combination of said injection signal and said sensed variable signal to said input of said controller.

3,264,499
RELAY FLIP-FLOP

Joseph R. Moser, Brookfield, and Hubert R. Schatteiner, Milwaukee, Wis., assignors to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Sept. 24, 1963, Ser. No. 311,173
8 Claims. (Cl. 307—132)

4. In a relay flip-flop, the combination comprising:

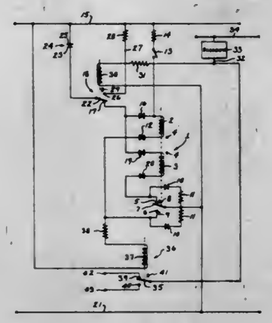
a bistable relay having a pair of operating coils connected to a common point through blocking diodes, and contacts including a pair of stationary contacts and a grounded common contact;

ends of said operating coils opposite said diodes, each being connected to one of said stationary contacts;

a capacitor having a fixed potential side adapted to be connected to a potential source and a charge side;

a capacitor discharge path adapted to be connected at one end to said potential source;

a current gate connected to said charge side of said capacitor, another end of said capacitor discharge path, and said common point between said blocking diodes connected to said operating coils, and adapted to alternately electrically connect said charge side of said capacitor to said discharge path and said operating coils;

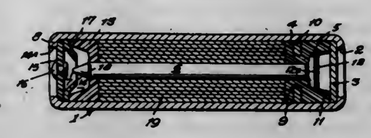


and a reset switch connected on one side between one of side blocking diodes and the immediately adjacent operating coil and having its other side adapted for connection to said potential source.

3,264,500
ELECTRIC FUZE ENERGY CAPSULE

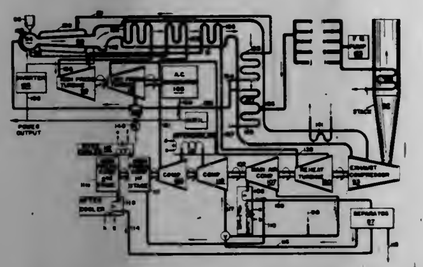
Benjamin A. Gay, Phoenixville, Pa., assignor to the United States of America as represented by the Secretary of the Army

Filed Nov. 19, 1964, Ser. No. 412,580
5 Claims. (Cl. 310—3)



1. In an energy capsule, a metal housing having an opening in the top and the bottom thereof, a flexible disc of insulating material having a central aperture covering the top opening, a metal plate covering the opening in the bottom of said housing, insulator material disposed in the bottom of the housing adjacent said plate, a conductor rod having a pointed tip and a flared bottom disposed centrally in said housing, the flared rod bottom being embedded in said insulator material, a coating of radioactive electron emitting material on the flared rod bottom, an insulator, said insulator positioned in said metal housing adjacent to said flexible disc and encompassing a portion of said rod adjacent said pointed tip whereby a top chamber is formed between said flexible disc and said insulator and a central chamber is formed between said insulator and said insulating material disposed in the bottom of said metal housing, a capacitor, said capacitor fixed in said central chamber and connected between said conductor rod and said metal housing, said pointed tip of the conductor rod protruding into said top chamber, and a metal button mounted in said flexible disc for movement into contact with said pointed tip.

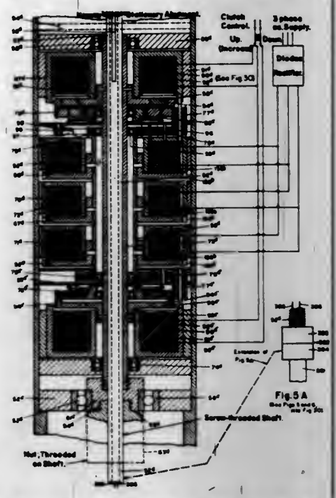
3,264,501
MAGNETOHYDRODYNAMIC POWER PLANT
Arthur R. Kantrowitz, Arlington, and Thomas R. Brogan, Winchester, Mass., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Feb. 15, 1960, Ser. No. 8,566
25 Claims. (Cl. 310—11)



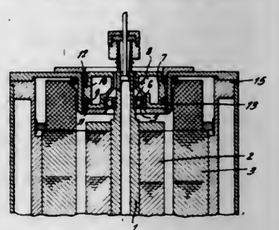
1. In combination in a stationary power plant, a combustion chamber, means for supplying pulverized coal to said combustion chamber, a separator for separating oxygen from air, an air compressor for aspirating ambient air and supplying the air under pressure to said separator, high pressure compressors for further compressing a portion of the air from said first-named compressor and delivering it to said separator, said separator utilizing the compressed air of higher and lower pressure for separation purposes and producing separate quantities of substantially pure oxygen and nitrogen, means for compressing said oxygen and mixing it with a predetermined quantity of air to produce a high pressure mixture, a preheater, means for passing the oxygen-air mixture in heat exchange relationship through said preheater and delivering it to said combustion chamber for supporting combustion of the coal to produce electrically conductive gases at high temperature and pressure, a magnetohydrodynamic generator connected to said combustion chamber for receiving the gases produced thereby, the gases expanding through said generator to generate electric power by movement relative thereto, the gases after leaving said generator passing in heat exchange relationship through said preheater for preheating and oxygen-air mixture, a steam power plant including means for extracting heat from the gases exhausted from said MHD generator and from said combustion chamber and said generator for producing high pressure steam, and a turbine through which the steam is expanded, said turbine driving said beforementioned compressors.

3,264,502
STEPPING MOTOR DRIVES FOR CONTROL RODS FOR REACTORS, AND THE LIKE
Chester W. Lytle, Chicago, Ill., Robert V. Suhrke, Colorado Springs, Colo., and William A. Bradley, Albuquerque, N. Mex., assignors, by mesne assignments, to Thomas A. Banning, Jr., Chicago, Ill.
Filed June 20, 1960, Ser. No. 37,503
10 Claims. (Cl. 310—49)

1. Means to move a control rod of a reactor vertically comprising in combination a vertically movable control rod, a vertically movable control rod supporting element, a motor including a stator element and a rotor element, and driving connections between the rotor element and the control rod supporting element effective to move the supporting element vertically in either the upward or the downward direction, said driving connections including two toothed element driving connections between the rotor element and the vertically movable control rod supporting element, said two toothed element driving connections being constituted for drive of the supporting element at different speed ratios of the supporting element for a selected speed of the motor rotor, and clutching means in each such toothed element driving connections, each such clutching means including means to effect clutching and unclutching operation together with a tension connection between the control rod supporting element and the control rod.

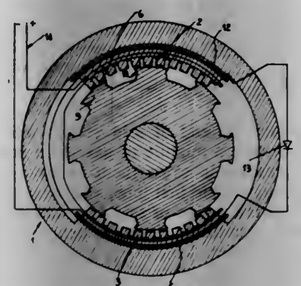


3,264,503
HIGH SPEED ELECTRIC MOTORS
Erwin Wiedemann, Riehen, near Basel, Switzerland, assignor to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland
Filed Apr. 5, 1965, Ser. No. 445,501
1 Claim. (Cl. 310—51)



An electric motor capable of running at speeds of at least 50,000 r.p.m. comprising:
(a) a stator housing;
(b) a stator disposed within the stator housing;
(c) a self-adjusting, speed responsive rotor disposed within the stator;
(d) two radial bearings supporting the rotor;
(e) each radial bearing being elastically supported at two spaced regions and having a grove therein and a conical end portion;
(f) two elastomer rings, one disposed within the groove and held in place by the groove and the stator housing, and the other disposed between the conical end portion and the stator housing;
whereby the rotor executes limited, damped movement in a direction radial to the stator so that during operation of the motor at speeds in excess of 50,000 r.p.m. the entire rotating system becomes slightly displaced relative to the stator.

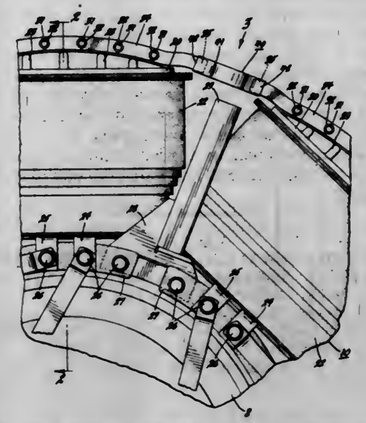
3,264,504
ELECTRICAL GENERATOR AND DEVICES FOR SUPPLYING ELECTRIC CURRENT TO LIGHTING, AIR-CONDITIONING AND OTHER APPARATUS
Paul Lamoriette, Paris, France, assignor to L'Eclairage des Vehicules sur Rail, Paris, France, a corporation of France
Filed June 2, 1961, Ser No. 114,516
Claims priority, application France, June 15, 1960, RB 830,110
24 Claims. (Cl. 310—168)



1. An electric variable reluctance type induction generator for producing alternative currents, comprising a stator; pole shoes on said stator provided with substantially parallel slots; armature windings bedded in said slots; main field D.C. windings carried by said pole shoes; and a rotor coaxially revolving within said stator and having radial polar teeth spaced by polar gaps, each rotor tooth being formed on either side face thereof with an angular substantially straight-sided, draft edged recess coextensive with the tooth face width in a direction substantially parallel with the rotor axis, both recesses being arranged in symmetrical relation to each other thereby defining a circumferentially enlarged polar tooth tip portion provided with a pair of sharp-edged sidewise projecting pole-horns overhanging in each circumferential direction a pair of reentrant dihedral-shaped tooth flanks respectively which diverge towards the tooth root and the dihedral draft edges of which are located relatively close to the radially outer peripheral tip face of said tooth.

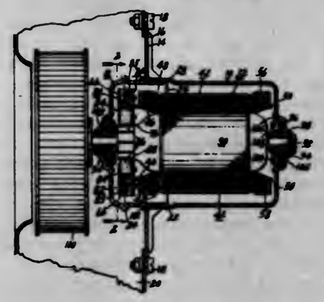
3,264,505
DYNAMOELECTRIC MACHINE WINDING CONNECTION
Richard B. Tyler, Downers Grove, Ill., assignor to General Motors Corporation, Detroit Mich., a corporation of Delaware
Filed Sept. 5, 1963, Ser. No. 306,818
2 Claims. (Cl. 310—183)

1. On a rotor of a wound salient pole electrical machine fitted also with a squirrel-cage-type winding including substantially axial conductor bars embedded peripherally in each of adjoining poles though opposite ends of the conductor bars have segmented and peripherally curved end ring means secured thereto having projection only a predetermined distance beyond poles, the improvement therewith which comprises an identical pair of radially adjacent though axially spaced U-shaped body portions secured to each projection and extending to a peripherally adjoining projection of segmented end ring means of an adjacent pole, each pair of said U-shaped body portions having radially open space therebetween that facilitates cooling which is also enhanced by turbulence due to axially opposite though symmetrically extending U-shaped body portions definitely located away from each other and rigid radially for stiffness though each having periphery rigidly within predetermined radial limit yet circumferentially flexible in addition to axially separated and opposite bowed configuration between adjacent poles for cooling turbulence and radially outward opening therebetween which permits such radially open



cooling and laterally opposite axial accommodation of expansion and contraction due to temperature variation under starting and running operating conditions.

3,264,506
DYNAMOELECTRIC MACHINE
Wilbur L. Carlson, Arthur T. Gregg, and James R. Vande Sande, Rochester, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 27, 1962, Ser. No. 205,791
1 Claim. (Cl. 310—216)



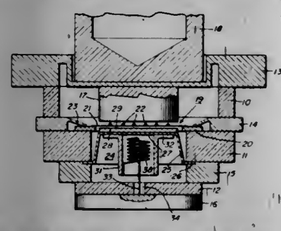
A dynamoelectric machine comprising a case, stator and rotor assemblies, a brush assembly and coil windings, said case including first and second cylindrical cup-shaped parts of deformable sheet metal being press-fitted at the open end of each part along telescoping cylindrical lip portions, the open end of the outer overlapping case part terminating in a radially extending mounting flange; said stator assembly including a laminated core having substantially rectangular laminations with notches along opposite sides thereof forming dovetailed projections, the corners of said laminations having an arcuate configuration corresponding to the cylindrical case and being press-fitted to the inner surface of said case; said stator assembly also including a pair of bracket members with each member including an elongated slot receiving the dovetailed projections along opposite core sides, the opposite ends of each bracket member being offset at each end of said laminated core thereby retaining and securing said core laminations, said opposite ends of each bracket terminating in coplanar extending shoulder portions with the shoulder portions of each bracket supporting opposite ends of a coil winding, one shoulder portion of each

bracket member having finger projections engaging said brush assembly to support the brush assembly between the finger projections; and said first and second cup-shaped parts having bottom end portions with bearing supports receiving the shaft of said rotor assembly, said bearing supports being aligned with the rotor shaft when the lip portions of said case parts are press-fitted together in telescoping relationship, the circumferential junction of said cup-shaped parts being secured together by a plurality of circumferentially spaced low penetration welds with the cup-shaped parts overlapping for a predetermined length establishing a predetermined spacing between the bearing supports and fixing the end play of said rotor shaft.

3,264,507
ELECTRIC DISCHARGE DEVICE STRUCTURE HAVING SEPARATE HEATER AND DISCHARGE COMPARTMENTS

James E. Beggs, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Nov. 21, 1962, Ser. No. 239,114
1 Claim. (Cl. 313—1)



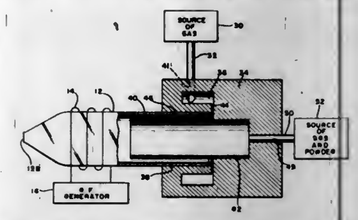
An electric discharge device comprising alternately arranged ceramic insulating and metal members sealed together to provide a hollow vacuum tight envelope with the metal members providing externally accessible terminals of the device and one of said metal members being located in the sidewall of said vacuum tight envelope intermediate the ends thereof, a cathode connected to said one of said metal members and an anode connected to a spaced and mutually insulated one of said metal terminals, said anode presenting a continuous electron collecting surface in opposed relation to the emitting surface of said cathode, a resistance heater element having an insulating oxide coating thereon supported within said envelope for heating said cathode and located within said envelope on the side of said cathode remote from said anode, and means extending transversely of said envelope and joined to said one of said metal members and said cathode to divide the interior thereof into two compartments which are vacuum tight with respect to one another, one of said compartments enclosing said resistance heater element, the other of said compartments enclosing the opposed surfaces of said anode and cathode so that gases liberated from said means for heating are excluded from the region of said cathode and operation of said heater at temperatures above the temperature at which the device is outgased during evacuation does not contaminate said cathode surface.

3,264,508
PLASMA TORCH

William Lai, 703 Curtis Way, Los Altos, Calif., and Ernest G. Chilton, 465 W. Portola Ave., Menlo Park, Calif.

Filed June 27, 1962, Ser. No. 205,767
3 Claims. (Cl. 313—63)

1. A radiofrequency plasma torch comprising a first tube having an admitting opening at one end and an emitting opening at the other end, a second tube having a diameter smaller than said first tube, means for supporting said second tube coaxially with said first tube, and partially extending thereinto through said admitting opening thereof, a source of ionizable gas, means for applying gas from said source into said first tube through the space between the walls of said first and second tube to give said gas a straight, axial velocity as it passes along said first tube toward said emitting opening, means for

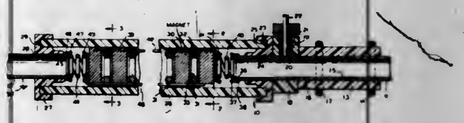


introducing into the end of said second tube extending from said first tube a mixture of gas and a powder under a sufficient pressure to cause them to travel toward the emitting opening of said first tube, and means for ionizing gas which is at the region of said first tube near its emitting opening for emitting from said opening a plasma containing melted powder.

3,264,509
DEVICE FOR TREATING FLOWING FLUIDS

Saburo Miyata Moriya, Yokohama, Japan, (58 Shimo Takanawa, Minato-ku, Tokyo, Japan)

Filed May 3, 1965, Ser. No. 456,887
10 Claims. (Cl. 313—153)

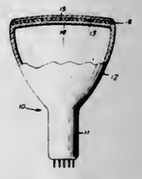


1. A device for treating fluid fuel, means for connecting said device to spaced apart portions of a line through which fuel flows comprising a flexible tubular member means on said tubular member for attachment to a pipe carrying liquid fuel, a series of polygonal prismatic magnets axially aligned in said tubular member, means spacing said magnets axially of said tubular member, a conductor extending axially of said tubular member between said magnets and the inner periphery of said tubular member, means connecting said conductor to a source of E.M.F., a second conductor extending axially of said tubular member between the magnets and the inner periphery of said tubular member, means grounding said second conductor.

3,264,510
DEGASSING OF CATHODE RAY TUBES

Leighton E. Griffiths, Newark, N.J. (18 Cedar St., Pompton Lakes, N.J.)

Filed Aug. 27, 1963, Ser. No. 304,786
11 Claims. (Cl. 313—176)



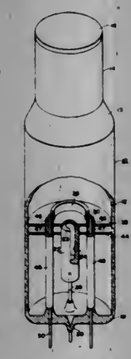
8. An electron gun assembly for replacement use in a cathode ray tube having a screen face limited to a maximum temperature of 80 degree C. when degassing and including a first grid, in the form of an inverted metal

cup, a ceramic disc secured across said cup intermediate its length, a cathode cylinder extending axially through said disc, a heater in said cylinder, a metal sleeve larger than said cylinder and smaller than the cup spacing the disc from the closed upper end of the cup and a strip of getter metal secured to the outer surface of said sleeve and effective to sorb gases from the cathode ray tube interior at the temperature to which it is heated by the said cathode cylinder heater.

3,264,511
GLOW DISCHARGE DEVICE

George K. Yamasaki, Horseheads, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 20, 1963, Ser. No. 289,215
4 Claims. (Cl. 313—209)



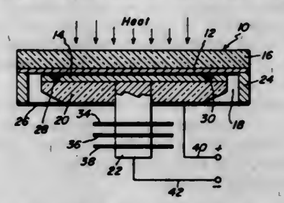
1. A spectral light source comprising an envelope; an anode and a cathode disposed in a spaced relationship within said envelope for maintaining an electron discharge therebetween, said cathode having a hollow portion therein and made of a material having the property of establishing a beam of light in response to said electron discharge, said envelope having a portion transmissive to said beam of light through which said beam of light is directed; first and second electrically conductive members connected respectively to said anode and said cathode and extending through said envelope at a place remote from said transmissive portion; and electrically insulating means including a disk having an aperture therein and disposed between said cathode and anode for confining said electron discharge to said hollow portion, and a member disposed to prevent a further electron discharge between said first electrically conductive member, and said cathode and said second electrically conductive member.

3,264,512
HIGH VACUUM THERMIONIC CONVERTER

James E. Beggs, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Original application Nov. 3, 1958, Ser. No. 771,515, now Patent No. 3,176,164, dated Mar. 30, 1965. Divided and this application Dec. 19, 1963, Ser. No. 331,693
6 Claims. (Cl. 313—250)

2. A thermionic converter for converting heat energy to electrical energy comprising a thermionically emissive cathode electrode and a spaced anode electrode, each of said electrodes having an extended planar surface means for maintaining the spacing between said electrodes including a plurality of cylindrical insulators embedded in one of said electrodes and protruding above the surface thereof and having their axes extending generally parallel to the planar surface thereof, a like plurality of insulators embedded in the other of said electrodes and having their axes extending generally parallel to the planar surface thereof and orthogonal to the axes of the insulators

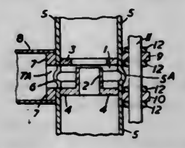


in said one electrode and protruding above the surface thereof into crossed engagement with the insulators embedded in said one electrode.

3,264,513
DEFORMABLE WALL TUNING OF RESONANT CAVITIES FOR ELECTRON DISCHARGE TUBES

John Ralph Bagnall, Chelmsford, England, assignor to English Electric Valve Company Limited, London, England, a British company

Filed July 5, 1962, Ser. No. 207,546
Claims priority, application Great Britain, Sept. 6, 1961, 31,963/61
1 Claim. (Cl. 315—5.22)



An electron discharge tube having a tunable resonant cavity comprising, a pair of separated rigid walls, a unitary tubular wall joining and extending beyond said pair of rigid walls, said unitary tubular wall including a deformable portion disposed between said rigid walls, said unitary tubular wall having substantially uniform substantial thickness throughout its length including said deformable portion, a pair of spaced body portions extending transversely of and connected to said unitary tubular wall on opposite sides of said deformable portion, and means adjustably connected between said pair of spaced body portions and adjustable to apply pressure to said deformable portion through said tubular wall to distort said deformable portion to a greater or lesser extent to vary the distance separating said rigid walls, thereby varying the resonant frequency of the cavity.

3,264,514
ELECTROSTATIC PLANAR ELECTRON BEAM FOCUSING

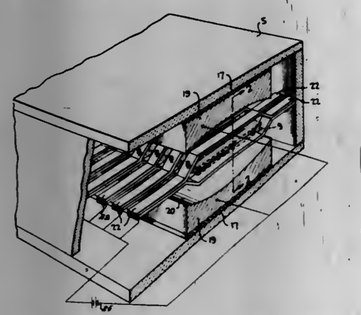
Burton J. Udelson, Rockville, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed July 2, 1962, Ser. No. 207,130
11 Claims. (Cl. 315—5.29)

1. In an electron space-discharge device of the type having a cathode adapted to issue a sheet electron beam toward a longitudinally-spaced collector, a focusing system comprising a first pair of electrodes and a second pair of electrodes, wherein:

(a) the electrodes of said first pair are electrically connected to each other and to a first circuit point and the electrodes of said second pair are electrically connected to each other and to a second circuit point, means being provided to maintain the potential at said first circuit point positive with respect to said second circuit point,

(b) the first electrode of each pair is positioned opposite the second electrode of each pair, the beam passing between the first electrode and the second electrode,
(c) the electrodes of said first pair are longitudinally spaced from the electrodes of said second pair,
(d) each electrode is at least approximately as wide as said beam,
(e) the surface of each electrode is symmetrical with respect to the transverse center plane of the beam,
(f) all longitudinal elements of the surface of each electrode are straight lines parallel to the longitudinal axis of the beam, and



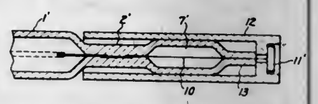
(g) the surface of at least one of said electrodes is curved in the lateral direction, the curvature being convex in the case of electrodes of said first pair and concave in the case of electrodes of said second pair, so that the beam in passing through the region of said first and second pairs passes through regions of transverse defocusing and focusing fields upon which is superimposed a lateral field component that subjects electrons in said beam to a space-charge-compensating force directed laterally toward the transverse center plane of said beam, the amplitude of said force being substantialy zero at said center plane and increasing continuously and symmetrically on both sides of the center out to the lateral edges of the beam.

3,264,515
COLLINEAR TERMINATION FOR HIGH ENERGY PARTICLE LINEAR ACCELERATORS
Jacob Haimson, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed June 29, 1961, Ser. No. 120,597
12 Claims. (Cl. 315—5.41)



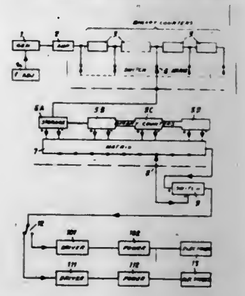
11. The method of accelerating a beam of charged particles to a high velocity comprising the steps of:
passing a beam of charged particles in synchronism with a radio frequency wave whereby energy is given up by the wave to accelerate the particles of the beam; then after the beam is partially accelerated, greatly attenuating the residual power of the radio frequency wave along the beam path while providing continuous, simultaneous interaction between the wave and the particles of said beam to continue to accelerate the beam of charged particles; then reflecting the radio frequency wave back in the opposite direction to the direction of said accelerating beam; and again greatly attenuating the residual power of the radio frequency wave as it travels along the beam path in the direction opposite to the direction of the accelerating beam.

3,264,516
TUBULAR INCANDESCENT LAMP
Hans Joachim Paschedag, Heidenheim (Brenz), Germany, assignor to Patent-Treuhand-Gesellschaft für elektrische Glühlampen m.b.H.
Filed Oct. 17, 1962, Ser. No. 231,178
Claims priority, application Germany, Oct. 31, 1961, P 18,979
4 Claims. (Cl. 315—74)



1. A halogen-containing tubular incandescent lamp comprising a tubular envelope of light-transmitting vitreous material closed by a seal portion adjacent each end thereof, lead-in conductors extending through respective said seal portions, a filament extending longitudinally within said envelope and electrically connected at its ends to respective said lead-in conductors, the end of at least one said seal portion being spaced inwardly from the proximate end of the envelope and defining thereat a chamber which is an integral unitary extension of said envelope, and a fuse in said chamber connected to the adjacent lead-in conductor, and terminal means at the said proximate end of the envelope carrying a contact member electrically connected to said fuse.

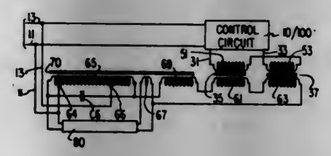
3,264,517
GENERATOR FOR ELECTRO-EROSION METAL WORKING
Werner Ullmann, Locarno-Orselina, and Franco Donati, Locarno, Switzerland, assignors to A.G. für Industrielle Elektronik AGIE, Losone-Locarno, Switzerland, a corporation of Switzerland
Filed Oct. 7, 1963, Ser. No. 314,144
Claims priority, application Switzerland, Oct. 12, 1962, 12,015/62
12 Claims. (Cl. 315—174)



1. In combination:
(a) an electro-erosion machine having an erosion gap, and
(b) means for providing output pulse trains with different pulse width ratios across said gap, said means comprising:
(1) generator means for providing an input pulse trains;
(2) means for receiving said input pulse train and for converting said input pulse train into a plurality of pulse trains each having different frequencies;

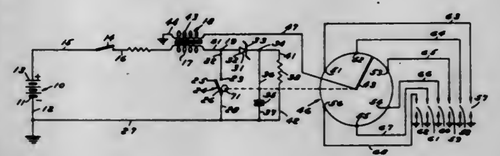
(3) controllable switching means responsive to control signals for producing across said gap output pulse trains of constant frequency and variable pulse width; and
(4) control means electrically coupled with said converting means and said controllable switching means, said control means including a matrix for selectively combining said plurality of pulse trains and producing control signals therefrom fed to said controllable switching means to vary said output pulse width in accordance with said control signals.

3,264,518
DIMMER CONTROL CIRCUIT FOR FLUORESCENT LAMP USING A CONTROLLED RECTIFIER BRIDGE CIRCUIT
Richard J. Stauverman, Evanston, Ill., assignor to Advance Transformer Co., Chicago, Ill., a corporation of Illinois
Filed June 18, 1962, Ser. No. 203,039
10 Claims. (Cl. 315—205)



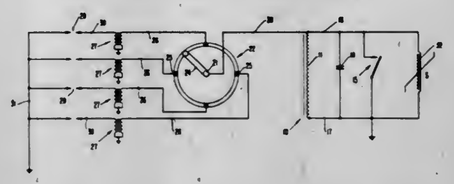
1. Control apparatus for applying variable operating potentials to a fluorescent lamp which comprises first and second lead means for supplying energizing power to a winding of an auto transformer adapted and connected for supplying said operating potentials to said lamp, first and second saturable reactance transformer core members each having a secondary winding connected in series circuit with said lamp and said autotransformer winding, first and second primary windings for said first and second transformer core members, respectively, said last named windings being connected in opposed magnetizing relation and in series circuit with a control circuit having first and second output terminals, said control circuit comprising, first and second oppositely-poled rectifying elements connected across said power supplying lead means and being respectively poled for current conduction in a low resistance direction from a connected one of said lead means to said first output terminal, first and second, three-terminal controllable rectifier elements each having first and second conduction terminals connected in series conduction circuit with said rectifier elements, respectively, said three-terminal rectifier elements having one current conduction terminal connected in common to a second control circuit output terminal adapted for connection in series circuit with said variable reactance primary windings, first and second variable resistors, first and second capacitors connected across said first and second lead means by way of respectively associated ones of said variable resistors in reverse orientation, means for connecting a common terminal of said first capacitor and said first resistor in controlling relation to a control terminal of said first controllable rectifying element, second means for connecting a common terminal of said second capacitor and said second variable resistor in controlling relation with a control terminal of said second controllable rectifier element, and means for varying the resistance of said variable resistors, whereby illumination potentials applied to said fluoroescent lighting element from said first transformer secondary winding are variable for dimming or brightening said fluorescent lighting element upon variation of said variable resistors.

3,264,519
ARC SUPPRESSION MEANS
Robert W. Minck, Detroit, Mich., assignor to The Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 30, 1963, Ser. No. 334,173
7 Claims. (Cl. 315—206)



3. An electrical circuit, a source of electrical energy, an inductive circuit element, a switching element connected in series with said source of electrical energy and said inductive circuit element, means coupled to said switching element for switching said switching element between its conducting and nonconducting states, a series circuit including a capacitor and a zener diode connected across said switching element, said zener diode being poled to permit said capacitor to charge when said switching element is switched to its nonconducting state by forward current flow through said zener diode and to prevent rapid discharge of said capacitor through said switching element when said switching element is in its conducting state, said zener diode having a breakdown voltage at least equal to the voltage on said capacitor when said switching element is switched from its nonconducting to its conducting state.

3,264,520
MAGNETO IGNITION CIRCUIT
Henry B. Gersoni, Collierville, N.Y., assignor to The Bendix Corporation, Sidney, N.Y., a corporation of Delaware
Filed Sept. 7, 1961, Ser. No. 136,599
4 Claims. (Cl. 315—218)

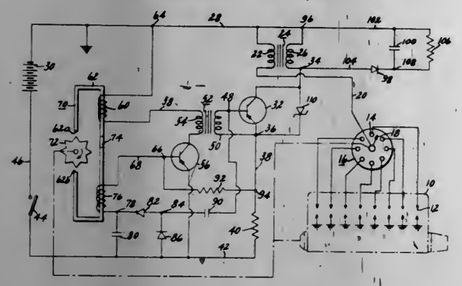


1. In a magneto, an inductance winding, magnetic means for inducing current flow in said winding, a circuit breaker connected across said winding, means for periodically opening and closing said circuit breaker, a coil connected in parallel with said circuit breaker, and a saturable core of magnetic material having substantially square hysteresis loop characteristics on which said coil is wound, said coil and core constituting a square loop saturable core reactor which offers high impedance until the core becomes saturated with magnetic flux and very low impedance when the core is saturated, said reactor being constructed to become saturated when the voltage across said coil rises to a predetermined value appreciably higher than the voltage output of the magneto in a relatively low speed operating range and lower than the voltage output capability of the magneto in a relatively high speed operating range.

3,264,521
VOLTAGE SUPPRESSION NETWORK FOR IGNITION SYSTEMS

Gerald O. Huntzinger and William D. Worrell, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 6, 1962, Ser. No. 242,687
3 Claims. (Cl. 315—224)

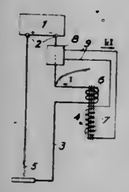


1. An ignition system comprising, an ignition coil having a primary winding and a secondary, a source of direct current, switch means connected in series with said source of direct current and in series with the primary winding of said ignition coil, said switch means being adapted to be turned on and off in timed relationship with operation of an engine, a diode, means connecting one side of said diode with one side of said primary winding, a capacitor connected between an opposite side of said diode and an opposite side of said primary winding, and a resistor connected across said capacitor, said capacitor being charged through said diode from said source of direct current when said switch means is initially closed to reduce the buildup of current in said primary winding, said resistor forming a discharging circuit for said capacitor.

3,264,522
SHIELDED ARC WELDING GENERATOR

Ferdinand Marchand, Commercy, France, assignor to Trefileries et Ateliers de Commercy, Commercy, France, a societe anonyme

Filed June 4, 1963, Ser. No. 285,329
2 Claims. (Cl. 315—284)

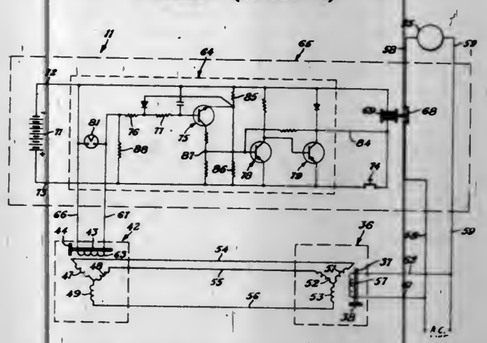


1. Arc welding generator of the type utilizing an electrode fusible in a gaseous shielding atmosphere comprising a rectifying transformer, a direct current circuit connecting said electrode to said rectifying transformer, an inductive reactance inserted in said direct current circuit, said inductive reactance comprising a main winding inserted in the direct current circuit and receiving the welding current and an auxiliary winding magnetically coupled to said main winding, said auxiliary and main windings being so wound that their associated fields are phase opposed, and means for automatically causing a current of a strength proportional to that of said welding current to flow through said auxiliary winding, so that the ampere-turns of said auxiliary winding compensate those of said main winding.

3,264,523
SYNCHRO CONTROLLED SAFETY DEVICE FOR POSITIVE DRIVE ROTARY SHAFT POWER TRANSMISSIONS

Joseph J. Sennello, Oaklawn, and Ernest M. Gore, Chicago, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Sept. 24, 1962, Ser. No. 225,685
7 Claims. (Cl. 317—6)



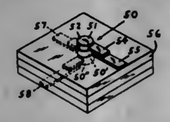
1. A safety device comprising in combination: a positive drive rotating shaft type power transmission system having two spaced apart detecting stations; a power source for driving the power transmission system; a synchro-control transmitter located at one of the stations having a rotor that is coupled to a shaft portion at the station for positive proportional rotation thereby; a synchro-control transformer located at the other station having a rotor that is coupled to a shaft portion at the said other station for positive synchronized rotation thereby at exactly the same speed as the other rotor; said synchro-control transmitter having a rotor winding and means for supplying alternating electrical energy thereto; the synchro-control transmitter and the synchro-control transformer each having stator windings respectively connected together by electrical conductors; the rotor of the synchro-control transformer having a rotor winding and being normally rotatively positioned with respect to the rotative position of the rotor of the synchro-control transmitter so that a low or zero voltage output will normally exist across its rotor winding; means for selectively permitting or preventing power delivery to the transmission system from the power source; control means operatively associated with said means for selectively permitting or preventing power delivery and energized by a pre-determined voltage output of the rotor winding of the synchro-control transformer to operate the means for selectively permitting or preventing power delivery to said transmission system from the power source to prevent power delivery thereby, said predetermined voltage output resulting from an abnormal excessive rotational angular deviation arising between the shaft portions at the stations; said safety device being operable over the entire speed range of the transmission system and even when the system is stationary.

3,264,524
BONDING OF PRINTED CIRCUIT COMPONENTS AND THE LIKE

Victor F. Dahlgren, Chelmsford, Mass., and Sidney K. Tally, Nashua, and Thomas H. Stearns, Lyndeborough, N.H., assignors to Electro-Mechanisms, Inc., Methuen, Mass., a corporation of New Hampshire

Filed May 17, 1963, Ser. No. 281,273
10 Claims. (Cl. 317—101)

6. A printed circuit member comprising an insulating support including an electrically insulating plastic material which is damaged by heat at temperatures less than 800° F. and having at least one electrical conductor encapsulated therein and at least one electrically conductive connector extending through said support in spaced re-

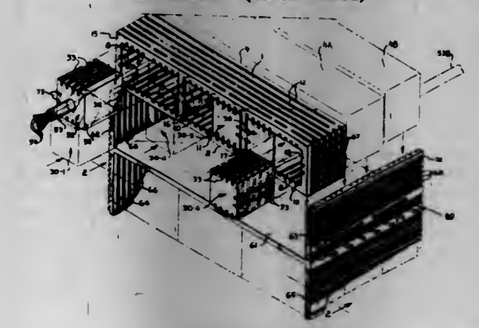


lation to the perimeter thereof and united with a selected portion of said conductor by a brazing alloy having a melting point of at least 800° F.

3,264,525
ELECTRICAL CIRCUIT SYSTEMS, MODULE CONNECTIONS, METHODS AND APPARATUS

Robert C. Swengel, Hellam, and Paul T. Hahn, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Continuation of application Ser. No. 783,296, Dec. 29, 1958. This application Dec. 16, 1964, Ser. No. 418,758
26 Claims. (Cl. 317—101)



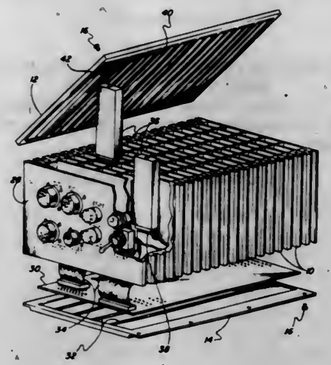
1. An electrical circuit system comprising a pair of spaced parallel support members having opposed parallel surfaces, a module having a pair of spaced parallel surfaces fitting between said support members, the respective surfaces of said module being closely adjacent to the respective surfaces of said support members, a plurality of parallel electrical interconnections between said module and at least one of said support members, each interconnection including a connector element extending along a channel in at least one of said adjacent surfaces and an elongated contact element projecting into said channel and engaging said connector element at a plurality of contact areas spaced along the length of the contact element, one of the connector and contact elements being laterally resilient relative to the sidewalls of the channel so that the elements engage under spring pressure.

3,264,526
MODULAR ELECTRONIC PACKAGING SYSTEM

Ronald E. Wiggerman, McHenry, Ill., assignor to Chicago Aerial Industries, Inc., Barrington, Ill., a corporation of Delaware

Filed Oct. 3, 1963, Ser. No. 313,648
12 Claims. (Cl. 317—101)

1. A modular electronic packaging unit comprising
a plurality of interlocking module supports, said module supports being interlocked to provide a plurality of pockets adapted to receive electrical circuit modules,
a front panel assembled in interlocking relationship with the end one of said plurality of module supports,
wiring means assembled adjacent to the open ends of the pockets formed by the plurality of interlocking module supports,
a recessed base plate receiving and supporting said wiring means, said base plate being secured to said plurality of module supports to thereby align said supports and said wiring means, and

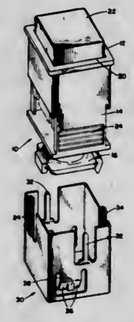


a top cover securing said front panel and said plurality of module supports together in mutual alignment.

3,264,527
MOUNTING ARRANGEMENT

James R. Fitzsimmons, Freeport, Ill., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

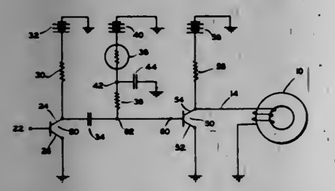
Filed Aug. 13, 1964, Ser. No. 389,447
6 Claims. (Cl. 317—101)



1. A mounting arrangement comprising: a generally rectangular parallelepiped housing having a flange proximate a first extremity and a plurality of side by side ridge depressions transverse to the longitudinal axis of said housing located on two opposite outer side walls near the second opposite extremity, said housing arranged to be disposed in a complementary opening in a mounting panel with the surface of the flange facing the second extremity of said housing engaging the surface about the opening on a first side of the panel; and a tubular member arranged to be slidably disposed over the second extremity of said housing and toward the second opposite side of said panel, said tubular member supporting coil springs on two opposite sides thereof which extend therebeyond toward said first extremity, the axes of said coil springs being parallel to the longitudinal axis of said tubular member and engageable with the second side of the panel, said

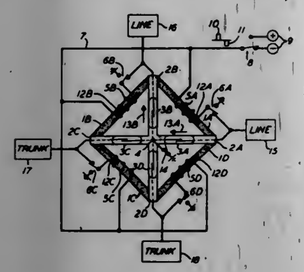
tubular member further including resilient tab portions on two opposite sides thereof each for snapping into the the appropriate ridges of said housing to locate said tubular member with respect to said housing and the panel and against the bias of said coil springs to provide a semi-rigid mounting of said housing with respect to the panel.

3,264,528
PULSE WIDTH TEMPERATURE COMPENSATED MAGNETIC CONTROL
Mitchell S. Leifer, Forest Hills, N.Y., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Apr. 18, 1963, Ser. No. 273,995
5 Claims. (Cl. 317—123)



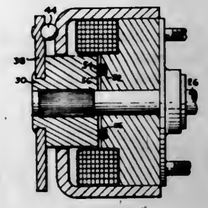
1. A system comprising a magnetic member having temperature variable permeability, a winding on the member, means for providing constant amplitude pulses connected to the winding for magnetizing the member in accordance with the pulses, and means for varying the width of the pulses in accordance with the temperature variable permeability of the magnetic member to provide constant magnetization of the member over a wide temperature range.

3,264,529
MAGNETICALLY CONTROLLED STEPPING SWITCH
Terrell N. Lowry, New York, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 11, 1963, Ser. No. 250,832
18 Claims. (Cl. 317—140)



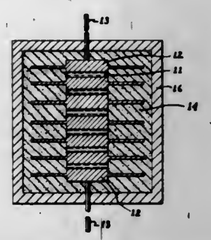
9. A switching device comprising a closed magnetic element comprising remanent magnetic means, a plurality of contact means magnetically coupled to said element and distributed along the periphery of said element, a plurality of control windings coupled to said element intermediate said contact means, and means for selectively energizing said control windings to orient said element in a magnetic condition for providing flux flow through selected pairs of said contact means to interconnect said selected pairs of actuated contact means.

3,264,530
ROTARY ACTUATOR
Gerald H. Leland and John L. Cahill, Dayton, Ohio, assignors to Ledex, Inc., Dayton, Ohio, a corporation of Ohio
Filed Jan. 5, 1962, Ser. No. 164,568
10 Claims. (Cl. 317—192)



1. In a rotary actuator, the combination comprising: a fixed assembly including a casing and an electromagnet; a movable assembly including an armature mounted for axial and rotary movement relative to said fixed assembly and a plate attached to said armature for movement therewith; a rotatable element mounted between said plate and a surface portion of said fixed assembly, one of said plate and said surface portion having an arcuate inclined recess therein within which said rotatable element rolls, said armature being attracted axially toward said electromagnet upon energization thereof whereupon said armature and said plate undergo both axial and rotary movement relative to said fixed assembly, said rotary movement being limited by the arcuate length of said recess; and low friction bearer means interposed between said fixed assembly and said movable assembly limiting axial movement of said movable assembly without substantially restricting its rotary movement.

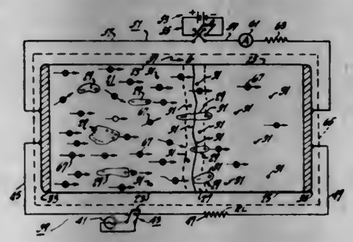
3,264,531
RECTIFIER ASSEMBLY COMPRISING SERIES STACKED PN-JUNCTION RECTIFIERS
Donald C. Dickson, Jr., 4932 E. Calle del Norte, Phoenix, Ariz.
Filed Mar. 29, 1962, Ser. No. 183,451
9 Claims. (Cl. 317—234)



1. A high voltage rectifier assembly comprising:
(a) a plurality of semiconductor rectifying diodes,
(b) a plurality of disks of greater diameter than said diodes with one such disk in electrical contact with each side of each diode and all of the disks projecting radially from the diodes, all of said diodes and disks in mutual contact to form a stack of series-connected diodes, and said disks being thicker in that area in contact with said rectifying diodes than in said radially projecting area,
(c) a material completely surrounding said stack, said material comprising a resin having a relatively low dielectric constant and very high resistivity of the

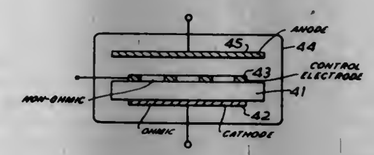
order 10^{14} ohms/cm., said resin having dispersed therein a proportion of relatively high dielectric constant material and a finely divided conducting material, said finely conducting material functioning to reduce the resistivity of the said material to the order of 10^{7} to 10^{9} ohm-cm.

3,264,532
HEAT RESPONSIVE VARIABLE CHARACTERISTIC SEMICONDUCTOR DEVICE
John O. Kessler, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 28, 1962, Ser. No. 240,600
9 Claims. (Cl. 317—234)



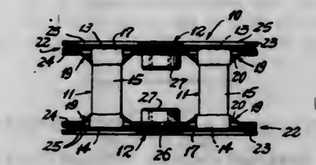
1. A semiconductor device comprising a body of semiconductor material including an N-type region and a P-type region, a P-N junction separating said N-type and and P-type regions, one of said N-type and P-type regions containing inclusions of the elemental form of a relatively-mobile, conductivity-type-determining impurity, and nucleation centers for producing said inclusions in and adjacent said junction.

3,264,533
THREE-ELECTRODE ELECTRICAL TRANSLATING DEVICE AND FABRICATION THEREOF
Gordon Thomas Wright, % Electrical Engineering Dept., The University, Edgbaston, Birmingham 15, England
Filed May 17, 1960, Ser. No. 29,691
Claims priority, application Great Britain, May 19, 1959, 17,023/59
32 Claims. (Cl. 317—235)



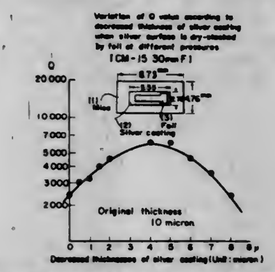
12. An electrical translating device comprising a body of crystalline material having first and second opposed faces, said body having a low density of trapping states, the ratio of trap density to the relative permittivity of said material being less than 10^{13}, a first electrode in contact with said first face, a second electrode, said second electrode being disposed with respect to said first electrode to allow the flow of a space-charge-limited current of injected charge carriers through said body in the presence of a sufficient difference of potential between said first and second electrodes, and a third electrode in non-ohmic contact with said body, said third electrode being adapted for the application of a potential thereto to control the flow of said space-charge-limited current through said body.

3,264,534
ELECTRICAL COMPONENT AND THERMAL CONSTRUCTION
Terence W. D. Murphy, West Harrow, Middlesex, England, assignor to Vitramon, Incorporated, Monroe, Conn., a corporation of Delaware
Filed Apr. 21, 1964, Ser. No. 361,441
3 Claims. (Cl. 317—243)



3. A terminal for connection to a heat generating electrical component for electrically connecting such component into an electrical circuit and dissipating the heat therefrom, said component including a unitary frangible heat-expandible body, said terminal being adapted to be connected to said component body and having low resistance to the flow of electrical current and comprising a first member formed of a plurality of independently readily distortable elements, said elements being woven together to form a planar web adapted to extend transversely of said body and have surface contact therewith, a second member formed of a plurality of independently distortable elements substantially parallel to and in engagement with said web, said second member being shaped to engage surfaces of said body adjacent the surface contacted by said web, and rigid clamping means for retaining said first and second members in engagement and supporting said web to maintain its planer form, said elements of said members collectively having a cross-section providing high thermal conductivity and being adapted to absorb through the distortion of said elements pressure transmitted thereto by the expansion of said body, whereby said body is protected against fracture and strain.

3,264,535
SILVERED MICA CAPACITOR AND METHOD OF MAKING THE SAME
Masuichi Makihara, 44 Minamisenzoku-machi, Ohta-ku, Tokyo, Japan
Filed June 11, 1963, Ser. No. 287,071
Claims priority, application Japan, Apr. 17, 1963, 38/20,206; Apr. 23, 1963, 38/20,793
6 Claims. (Cl. 317—258)



1. A silvered mica capacitor, comprising a mica sheet, a silver coating on the opposite faces of said sheet, a lead foil on each face of said sheet and covering more than 50% of each face of said sheet and being fused into the silver coating, the thickness of the silver coating beneath said foil being compressed to a thickness of from ⅕ to ⅗ of its thickness prior to the fusing of the foil thereto, and a lead wire attached to the foil on each face of the sheet.

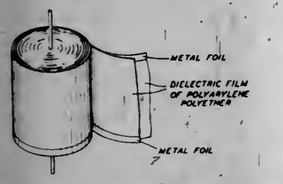
5. A method of making a silvered mica capacitor, comprising the steps of coating the opposite faces of a sheet

of mica with a silver coating, applying a lead foil directly to more than 50% of the area of each of the opposite silver coated faces without any adhesive between the foil and the silver coating, fusing the lead foil to the silver coating by applying pressure to the lead foil of from 10 to 150 kg./cm.² and at a temperature of from 170 to 220° C. for compressing the silver coating which is covered with the lead foil to a thickness of from ⅓ to ⅗ of its thickness prior to the fusing of the foil thereto, and attaching a lead wire to the foil on each face of the sheet.

3,264,536
CAPACITOR WITH A POLYARYLENE POLYETHER DIELECTRIC

Harold B. Robinson, Chatham, N.J., and David J. Valley, Cleveland, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Filed July 20, 1964, Ser. No. 383,624
5 Claims. (Cl. 317—258)



1. In a capacitor adapted to retain and store an electrical charge comprising at least two electrically conductive metal layers separated and electrically isolated from each other by a void free dielectric layer; the improvement wherein said dielectric layer is a solid, linear thermoplastic polyarylene polyether composed of recurring units having the formula:

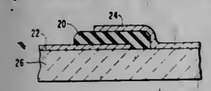
$$\{O—E—O—E'\}$$

wherein E is the residuum of a dihydric phenol and E' is the residuum of a benzenoid compound having an inert electron withdrawing group in at least one of the positions ortho and para to the valence bonds, and where both of said residua are valently bonded to the ether oxygens through aromatic carbon atoms.

3,264,537
DECOUPLING CAPACITOR

Ronald A. Delaney, Wappingers Falls, and Harold D. Kaiser and Arthur H. Mones, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 21, 1965, Ser. No. 465,329
16 Claims. (Cl. 317—258)



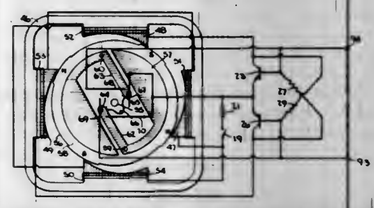
1. An electric device comprising:
a pair of electrodes;
a dielectric body between said pair of electrodes;
said dielectric body being composed of a sintered uniform mixture of finely divided particles of about at least 94 percent by weight zinc oxide, no more than about 6 percent by weight bismuth trioxide and a positive monovalent dopant.

15. A method for fabricating a high impedance capacitor device comprising:
providing on a dielectric substrate a first conductive electrode;
depositing a composite dielectric sub-layer over said first electrode and firing said layer at an elevated temperature, said sub-layer being composed of about, at least 94 percent by weight zinc oxide and no more than about 6 percent by weight bismuth trioxide;
depositing a second dielectric sub-layer over said first dielectric sub-layer and drying to form an internal dielectric layer, said second sub-layer being composed of about, at least 94 percent by weight zinc oxide and no more than about 6 percent by weight bismuth trioxide;
providing a second conductive electrode over said internal dielectric layer;
depositing an external dielectric layer over said second electrode; said layer being composed of about, at least 94 percent by weight zinc oxide, no more than about 6 percent by weight bismuth trioxide and a positive monovalent dopant; and
firing the assemblage for a time and at a temperature that causes said dopant to diffuse from said external dielectric layer through said second electrode and into the grain boundaries of said internal dielectric layer to thereby provide an improved capacitor device having high D.C. impedance and superior damping characteristics.

3,264,538
BRUSHLESS TRANSISTOR COMMUTATED MOTOR

Harrison D. Brailsford, 670 Milton Road, Rye, N.Y.

Filed Dec. 6, 1961, Ser. No. 158,642
6 Claims. (Cl. 318—138)



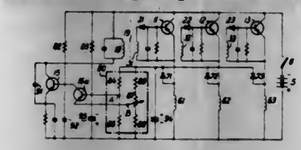
1. A motor comprising an armature having at least one pair of magnetic poles; a stator comprising at least one pair of coils; a running circuit comprising a pair of solid state amplifying devices each having a load circuit and a control circuit, the load circuit of one of said devices being connected in series with one of said coils and the load circuit of the other of said devices being connected in series with the other of said coils; a pair of coupling circuits connecting, respectively, the load circuits of each of said devices to the control circuits of the other of said devices to render said running circuit self-oscillatory; and starting means comprising resiliently biased electrical contact means connected to the control circuits of said devices, and means to actuate said contact means at predetermined positions of said armature at low armature speeds to energize said devices alternately.

3,264,539
DIRECT CURRENT MOTOR WITH TRANSISTORIZED POWER SUPPLY

Horst Sander, Berlin-Spandau, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany

Filed Sept. 10, 1964, Ser. No. 395,533
Claims priority, application Germany, Feb. 27, 1964, L 47,149
5 Claims. (Cl. 318—138)

1. In a D.C. motor having a stator and a rotor, the combination which comprises: means forming armature windings; a power supply having armature transistors connected to said windings; a control circuit connected to said armature transistors for controlling the same in dependence on the relative angular position between the stator and rotor, said control circuit being an oscillatory circuit incorporating a control transistor; and speed regulating means connected to said control circuit for applying thereto a tachometer voltage, dependent on the rotational

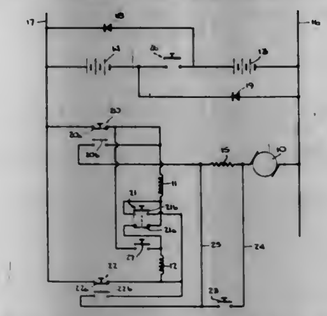


speed of the motor, which renders said control circuit ineffective at a given predetermined rotational speed, said speed regulating means incorporating a bridge circuit to which said tachometer voltage is applied, said bridge circuit being connected to said control transistor.

3,264,540
SYSTEM OF CONTROLLING SPEED OF ELECTRIC DRIVE MOTOR OF INDUSTRIAL TRUCK

Alan C. Dannettell, Philadelphia, Pa., assignor, by mesne assignments, to Eaton Yale & Towne, Inc., a corporation of Ohio

Filed Mar. 29, 1962, Ser. No. 183,599
7 Claims. (Cl. 318—139)

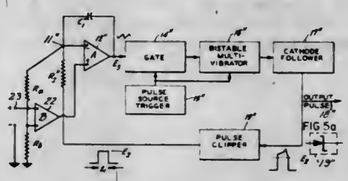


1. A system for controlling the speed of a battery operated electric traction motor of an industrial truck having an armature and two field windings comprising,
first and second batteries,
two uni-directional conductors,
a resistor,
means for connecting the two batteries in parallel with each other, with one battery being connected in parallel through one uni-directional conductor in series therewith in a position of opposite polarity from that of the other battery and the other battery connected in parallel through the other uni-directional conductor in series therewith in a position of opposite polarity from that of the one battery, for connecting the two field windings in series, and for connecting the parallel connected batteries, the series connected field windings and the resistor in series with the armature of the motor to obtain a first speed,
means for short circuiting the resistor to obtain a second speed,
means for reinserting the resistor in series with the armature of the motor, and means for connecting said first and second batteries in series and simultaneously placing each uni-directional conductor in parallel with the other battery while keeping it in series with the battery of its first connection whereby current will continue to flow uninterrupted in series to provide a third speed,
means for short circuiting the resistor to obtain a fourth speed,
means for reinserting the resistor in series with the armature of the motor, for short circuiting one field winding while maintaining the other field winding in series with the motor armature, and for connecting the one field winding in parallel with the other field winding to obtain a fifth speed, and
means for short circuiting the resistor to obtain a sixth speed.

3,264,541
ANALOG TO DIGITAL PULSE RATE INTEGRATOR AND MOTOR DRIVEN COUNTER THEREFOR

Thomas L. Mell, Wayne, Pa., assignor, by mesne assignments, to Compudyne Corporation, Hatboro, Pa., a corporation of Pennsylvania

Filed Sept. 20, 1961, Ser. No. 139,520
23 Claims. (Cl. 318—171)

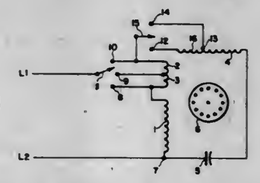


1. A voltage to pulse frequency converter comprising a direct current amplifier with capacitance feedback to form an integrating amplifier and having two input terminals, one of which provides a network summing junction, a voltage sensitive pulse source connected to an output of the integrating amplifier such that upon the occurrence of a particular voltage from the amplifier the pulse source will generate a pulse of predetermined duration and amplitude, said pulse source being coupled to a feedback path having a resistance of predetermined size to a summing junction at the summing junction input terminal of the integrating amplifier to reset the amplifier, an additional amplifier functioning as a stabilizing D.C. pre-amplifier, said additional amplifier having a relatively low response and having first and second input terminals, the first input terminal supplying a system input terminal and the second input terminal being connected to the network voltage input terminal in such a manner that said input terminal receives a voltage proportional to that at the summing junction, and the output of said additional amplifier being connected at a second input terminal of the integrating amplifier.

3,264,542
MULTI-SPEED SINGLE-PHASE MOTOR

John C. Burdett, Lima, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 28, 1963, Ser. No. 291,583
7 Claims. (Cl. 318—220)



1. A multi-speed single-phase induction motor having a main primary winding, a booster winding having at least one section connected in series with the main winding,

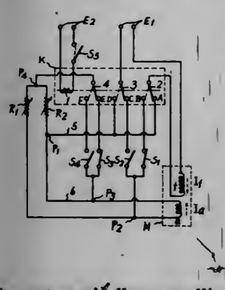
an auxiliary winding circuit including an auxiliary primary winding and a capacitor connected in series therewith, said auxiliary winding having a terminal connection and a tap connection, and means for connecting the main winding and the auxiliary winding circuit in parallel to a single-phase line, said connecting means including means for alternatively connecting the main winding alone or with one or more sections of the booster winding in series therewith and for connecting either the terminal connection or the tap connection of the auxiliary winding, to obtain operation of the motor at any one of a plurality of speeds.

3,264,543

SPEED CONTROL DEVICE OF AN AUTOMATIC OPERATING APPARATUS FOR A DOOR OR THE LIKE

Kei Yoshida, % Teraoka Gijutsu Kenkyusho, 395 Yaguchi-machi, Ohta-ku, Tokyo, Japan

Filed Dec. 28, 1962, Ser. No. 248,096
Claims priority, application Japan, Jan. 11, 1962, 37/526
5 Claims. (Cl. 318—266)



1. A system for automatically controlling the operation of a door or the like comprising:

a motor having series field and armature windings,

resistance means in parallel with said armature windings,

shaft means connecting said motor to the door for movement thereof,

cam means mounted on the said shaft means for rotation therewith,

relay means in circuit with said motor for reversing the direction of rotation,

first and second drive switch means in circuit with said motor and in abutted relation with said cam means for actuation thereby,

first and second control switch means in circuit with said armature winding and said resistance means in abutted relation with said cam means for actuation thereby,

said first control switch means and said first drive switch means actuated closed and opened respectively and in sequential order by said cam means to short circuit a portion of said resistance means thereby slowing the speed of said motor before the door is fully open at which time the said motor is deenergized,

said second control switch means and said second drive switch means actuated closed and open respectively and in sequential order by said cam means for short circuiting a portion of said resistance means thereby slowing the speed of said motor before the door is fully closed, at which time said motor is deenergized, and

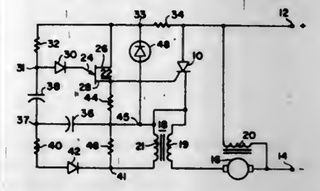
contact means on said relay means for removing said short circuit from said portion of said resistor when the door is actuated open from its full closed position and when the door is actuated closed from its full open position.

3,264,544

COUNTER E.M.F. SPEED CONTROL

David L. Bowers, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed June 8, 1962, Ser. No. 200,998
10 Claims. (Cl. 318—331)



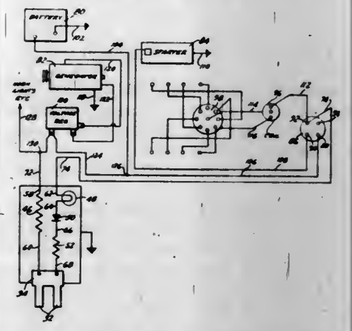
1. A control arrangement for a D.C. motor powered by a source of full-wave rectified alternating current potential and including an armature, said arrangement comprising a gate controlled rectifier in circuit with said source and said armature, timing means in circuit with said rectifier and said armature for periodically gating said rectifier into conductivity, said timing means including time constant means comprising an RC combination in circuit with said source and said armature and further including a unijunction transistor in circuit with said RC combination and said gate controlled rectifier, and regulating means in circuit with said timing means and said armature, said periods being determined by said regulating means.

3,264,545

PLURAL SOURCE CHARGING CIRCUIT FOR RECHARGEABLE FLASHLIGHT

Herbert Kott, River Edge, N.J., assignor to Bright Star Industries, Inc., Clifton, N.J., a corporation of Delaware

Filed Mar. 23, 1964, Ser. No. 353,858
14 Claims. (Cl. 320—22)



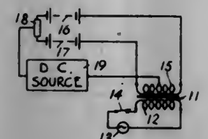
1. In combination with an electrical system comprising a source battery, a generator, a utilization device, an electrical connection between said battery and said generator, and an electrical connection between said generator and said utilization device including a switch; a charging circuit for a second battery comprising first and second charging circuit branches each adapted to be connected at one end to a second battery, said first branch comprising a first resistance, said second branch comprising a second resistance the magnitude of which is many times smaller than that of said first resistance, the other end of said first branch being connected to said source battery independently of said switch, the other end of said second branch being connected to said switch, said switch connecting said second branch to and disconnecting said second branch from said generator when said switch respectively connects and disconnects said utilization device relative to said generator.

3,264,546

TEMPERATURE CONTROL OF BATTERIES

Robert Thomas Foster, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

Filed Nov. 13, 1963, Ser. No. 323,375
8 Claims. (Cl. 320—35)



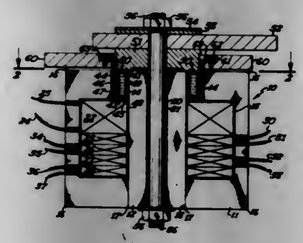
1. Means for controlling an A.C. heating current to a pair of batteries, comprising an A.C. heating circuit having said batteries in series therein, a conductor in series with said batteries, said conductor having physical characteristics such that alternating current flowing through the conductor to the batteries will cause the temperature of the conductor to vary in substantially the same manner as the temperature of the electrolyte of the batteries, and a normally closed thermally sensitive switch in thermal contact with said conductor and arranged to open above a predetermined temperature of said conductor, said switch being connected in the A.C. circuit.

3,264,547

CONDUCTIVE FLUID ELECTRIC POWER CONVERSION MEANS

William L. Carlson, Jr., Bloomington, Minn., assignor to Honeywell Inc., a corporation of Delaware

Filed Mar. 25, 1963, Ser. No. 267,593
10 Claims. (Cl. 321—8)



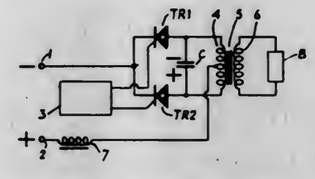
1. A conductive fluid electric power conversion means, including: magnetic circuit means having an annular air gap; non-rotating magnetic flux generating means associated with said magnetic circuit means to generate a magnetic flux that is stationary in space across said air gap; closed fluid conduit means filled with a conductive fluid and located in said air gap; electrode means connected to said conduit means to conduct an electric current to be converted through said conductive fluid at mutually right angles to said magnetic flux and a fluid flow direction of said fluid conduit means; said current and a first component of said magnetic flux causing said conductive fluid to circulate through said conduit means in an endless fashion; and said moving fluid and a second component of said magnetic flux generating an electric current output between said electrode means to provide an electric current different from that of said electric current to be converted.

3,264,548

D.C. TO A.C. INVERTER CIRCUITS

Kenneth G. King, London, England, assignor to Westinghouse Brake and Signal Company, Limited, London, England

Filed Apr. 12, 1962, Ser. No. 186,978
Claims priority, application Great Britain, Apr. 18, 1961, 13,897/61
5 Claims. (Cl. 321—45)



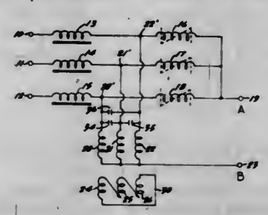
1. An inverter circuit arrangement comprising an input terminal and a terminal of an output transformer, a first switching device via which said input terminal is intermittently connectable to the terminal of the output transformer, a capacitor which is chargeable via said switching device from said input terminal, a further switching device which when rendered conducting connects said capacitor across said first switching device to render the latter non-conducting, a driver circuit for said switching devices operable to render them conducting in turn, said driver circuit having an input terminal connected via a delay circuit such that when the operating supply is applied thereto, the voltage effective to control the frequency of operation of the driver circuit is such as to cause the starting frequency to be greater than when normal operation is established.

3,264,549

STATIC FREQUENCY MULTIPLYING SYSTEM

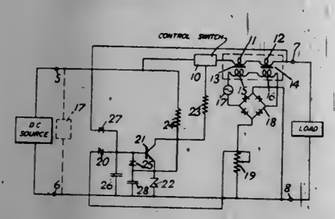
Paul Peter Biringer, Toronto, Ontario, Canada, assignor to Ajax Magnethermic Corporation, Youngstown, Ohio, a corporation of Ohio

Filed May 28, 1962, Ser. No. 198,352
8 Claims. (Cl. 321—68)



4. A static frequency multiplier having an alternating current multiphase source, linear reactances interposed between non-linear inductances and the corresponding phase of said source, a star connection point connecting the non-linear inductances, transformers having primary structures, said transformers interposed between said linear reactances and non-linear inductances, said primary structures being connected to separate phases of said source by end windings, said primary structures being connected by another portion of their windings to a common point, secondary windings connected in parallel through condensers disposed across the terminals of said windings, said secondary windings being magnetically coupled to the primary structures of said transformers providing a short circuited path for single phase third harmonic currents or multiples thereof and having an effectively neutral point creating a potential difference between said star connection point and said effectively neutral point, a load being located between said points.

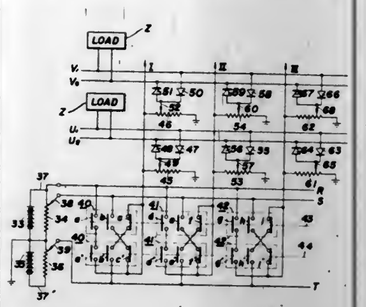
3,264,550
CURRENT REGULATORS
Derek Albert Paice, Hemel Hempstead, England, assignor to Rotax Limited, London, England
Filed Nov. 5, 1962, Ser. No. 235,268
Claims priority, application Great Britain, Nov. 7, 1961, 39,783/61
3 Claims. (Cl. 323—9)



2. A current regulating circuit comprising in combination a pair of input terminals, a direct current source connected across said input terminals, a pair of output terminals, a load connected across said output terminals, and a current regulator inter-connecting said input and output terminals, said current regulator comprising in combination means for obtaining a voltage dependent on the current flowing between said input and output terminals, a first capacitor to which said voltage is applied, a Zener diode, means connecting said Zener diode to said input terminals, the voltage across said Zener diode providing a fixed reference voltage when said Zener diode conducts, a transistor the emitter and base voltages of which are determined by said Zener diode and said first capacitor respectively, a control switch between the input and output terminals, means whereby said control switch is opened by current flow through said transistor when the latter conducts as a result of the voltage across said capacitor exceeding said fixed reference voltage by a predetermined amount, a second capacitor connected across said Zener diode, and means connecting said second capacitor to said input terminals, the reference voltage being provided by said second capacitor when the current regulator is initially connected to said direct current source, the voltage across said second capacitor building up to a value at which said Zener diode conducts in a period of time comparable with the time taken for said first capacitor to charge.

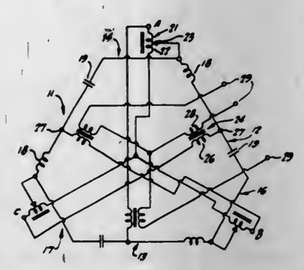
3,264,551
MULTIPLE STAGE D.C. SIGNAL CONTROL DEVICE
Yasuo Segawa, Meguro-ku, Tokyo, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Aug. 14, 1963, Ser. No. 302,099
Claims priority, application Japan, Aug. 16, 1962, 37/33,960
3 Claims. (Cl. 323—74)

1. A multiple stage D.C. signal control device comprising, a first D.C. source including terminals, a first variable resistor with a slidable arm connected in parallel with said first D.C. source, a second D.C. source including terminals and a common junction so that said second D.C. source is connected in series with said first D.C. source, a second variable resistor with a slidable arm connected in parallel with said second D.C. source, a first D.C. source bus supplied with the output voltage of any one of the terminals of said first and second D.C. sources other than said common junction, a second D.C. source bus supplied with the output voltage of the slidable arm of said first variable resistor, a third D.C. source bus supplied with the output voltage of the slidable arm of said second variable resistor, a plurality of D.C. signal busses to be selectively supplied with the output voltage of the D.C. source busses, two sets of three gang switches, each gang including three pairs of switches, each gang having a set of three contacts closing the switches, connected in cascade for supplying said source busses output voltages to said signal busses, a plurality of level setting variable resistors each having a sliding arm one end of each of said level setting variable resistors being connected to a selected one of said D.C.



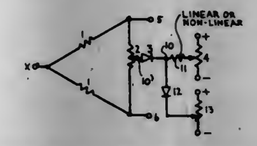
signal busses and the other end being connected to said common junction between said two D.C. sources and a pair of D.C. level control busses, a pair of oppositely poled rectifier elements for each level setting variable resistor, said pairs of rectifier elements serving to connect said level setting variable resistors sliding arms to said level control busses across which busses an output load can be connected.

3,264,552
ADJUSTABLE CONSTANT CURRENT NETWORK
Emmett R. Anderson and Charles W. Park, Oakland, Calif., assignors to Temescal Metallurgical Corporation, Berkeley, Calif., a corporation of California
Filed Aug. 23, 1963, Ser. No. 304,184
7 Claims. (Cl. 323—76)



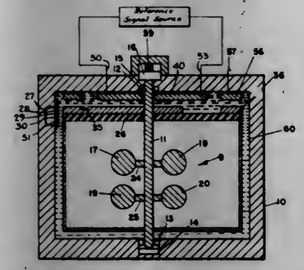
1. An adjustable constant current network comprising at least one current path defined by a capacitor and an inductor connected in series and tuned to series resonance with a predetermined frequency, a transformer including a primary winding with a first end connected to the juncture between said capacitor and inductor of each current path and including a secondary winding adapted for connection to a load, variable voltage means coupling variable amplitude first and second phases of a three-phase sequence of voltages having said predetermined frequency to opposite ends of each said current path, and means coupling the third phase of said voltages to the second end of the corresponding primary winding with a fixed amplitude equal to at least the maximum amplitude of said variable amplitude first and second phases of voltages.

3,264,553
ELECTRONIC ANALOG BRIDGE TYPE RAMP FUNCTION GENERATORS
Amos Nathan, % Dept. of Electrical Engineering Technion, Israel Inst. Techn., Haifa, Israel
Filed July 15, 1963, Ser. No. 294,889
9 Claims. (Cl. 323—79)



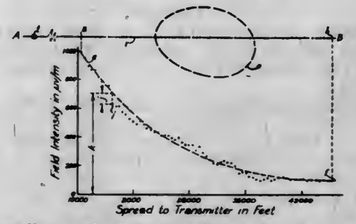
1. An electronic bridge type ramp function generator for the production of a ramp function voltage for the instantaneous value of an input voltage wherein said ramp function has a rounded off or blunted break point; comprising a ramp function generator of the type recited including input means adapted to receive said input voltage, resistive bridge means connected thereto, reference voltage means adapted to establish the break point of said ramp function, circuit means connected to said reference means, break point diode means connected to said bridge point means and to said circuit means, said circuit means providing a first path connecting said bridge means with said reference means through said diode means; said circuit means including at least one element having a non-linear current/voltage characteristic and providing a second path passing therethrough from said reference means such that current flow through said non-linear means causes the voltage at said break point diode means to be a non-linear function of said input voltage in the domain of values thereof wherein said break point diode means is conductive.

3,264,554
CAPACITOR GONIOMETER COMPASS
Paul F. Hayner, Lexington, Mass., and Thomas E. Woodruff, Nashua, N.H., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Apr. 16, 1964, Ser. No. 360,215
11 Claims. (Cl. 323—128)



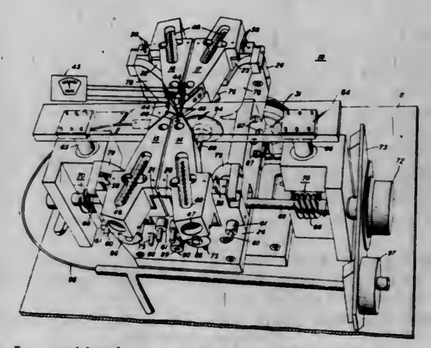
1. A goniometer compass comprising, in combination,
A. a housing,
B. a shaft mounted in said housing for rotation,
C. at least one compass magnet mounted on said shaft,
D. a cardioid-shaped conductor secured on said shaft,
E. a reference source of alternating potential,
F. a plurality of equiangular conducting elements mounted within said housing,
G. one or more of said elements having a capacitive relation to said cardioid plate,
H. said elements being connected to said reference source of alternating potential at points progressively differing in phase, and
I. means for conducting out of said casing a voltage proportional to that on said cardioid plate.

3,264,555
MEAN DEVIATION METHOD OF RECONNAISSANCE EXPLORATION OF THE EARTH WITH RADIO WAVES
William M. Barret, Shreveport, La., assignor to Engineering Research Corporation, Shreveport, La., a corporation of Louisana
Filed Dec. 31, 1964, Ser. No. 425,672
4 Claims. (Cl. 324—6)



1. A radio method of locating subsurface geologic features comprising the steps of propagating electromagnetic waves along a traverse so that some of said waves are refracted into the earth, measuring a characteristic of said waves at a plurality of locations along said traverse, recording the measured values of said characteristic against the location along said traverse at which said characteristic was measured to obtain a plot of the recorded measurement, constructing the mean curve through the plotted values, determining the deviation of said measured characteristic at each location from said mean curve, determining the average deviation of said measured characteristic from the mean curve from measurements made in an area known to be void of a geologic feature, and determining which of said deviations are significantly different from said average deviations.

3,264,556
PROBE POSITIONING DEVICE FOR USE IN MEASURING AND CHECKING SEMICONDUCTOR SPECIMENS
Hubert K. Krantz, Springfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 29, 1961, Ser. No. 163,137
18 Claims. (Cl. 324—62)



7. In combination, a supporting base, a frame having portions extending vertically to said base and supporting at least two saddles pivotally mounted on vertically extending portions of said frame, a different probe arm pivotally mounted on each of said saddles, said probe arms being oriented to have mutually adjacent ends, means for mounting probe points on the mutually adjacent ends of said probe arms respectively, means to move each of said probe arms independently in mutually perpendicular planes, an adjustable work-piece platform supported on

said supporting base and positioned beneath said probe points, adjustable yoke means pivotally secured to said frame for raising and lowering the probe point ends of said arms relative to said work-piece platform, and balance means included in each of said probe arms for varying and indicating the pressure exerted by the probe point ends thereof on a specimen.

3,264,557

METHOD AND APPARATUS FOR DETECTING AND MEASURING MINUTE QUANTITIES OF WATER PRESENT IN LIQUID HYDROCARBON FUELS

Brian Hamilton Heeps, 26A Alfada St., South Caulfield, Victoria, Australia

Filed Dec. 6, 1961, Ser. No. 157,888
13 Claims. (Cl. 324—65)



1. A method of detecting and measuring small quantities of water present in liquid hydrocarbon fuels as a suspension of droplets having a size on the order of a few microns, which comprises passing the fuel through a plurality of passages formed in the first of two detector electrodes, abruptly altering the direction of flow of the fuel through a sharp angle and passing the fuel through a gap between the two detector electrodes, the width of the gap being three thousandths of an inch, applying a voltage across the electrodes, and measuring the electrical resistance of the gap between the two electrodes while the fuel is flowing therethrough.

4. Apparatus for detecting and measuring small quantities of water present in liquid hydrocarbon fuels as a suspension of droplets of water in the fuel, which comprises a pair of electrically insulated detector electrodes having a space between them, one detector electrode having at least one passage formed therein, the passages being in communication with the space between the electrodes and being disposed at an abrupt angle thereto, the width of the space being three thousandths of an inch, means coupled to the electrodes for applying a small voltage across the electrodes, and means coupled to said voltage applying means for measuring the electrical resistance across the space between the electrodes while fuel in flowing through said space.

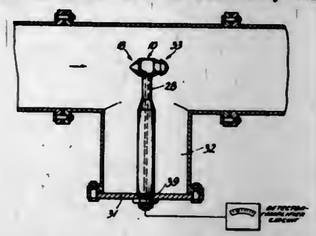
3,264,558

MOVABLE ELECTRODE APPARATUS FOR DETECTING THE PRESENCE OF MICRO-PARTICLES OF LIQUID SUSPENDED IN A FLUID

Brian Hamilton Heeps, 26A Alfada St., South Caulfield, Victoria, Australia

Filed May 14, 1963, Ser. No. 280,398
12 Claims. (Cl. 324—65)

1. An improved apparatus for detecting, or detecting and measuring, the presence of micro-droplets of water in a fluid of high resistivity relative to the liquid, particularly micro-droplets of water suspended in a hydrocarbon fuel; said apparatus comprising a body, a sensing nozzle mounted in front of said body and a baffle mounted on the rear of said body, said nozzle and baffle being connected to each other for simultaneous movement along an axis through said body whereby movement of the one in one direction causes corresponding movement of the other in the same direction; said nozzle being provided with a plurality of holes which pass from the front to the back face thereof and extending in a direction parallel to said axis, the rear face of said nozzle comprising an electrode and the front face of said body comprising



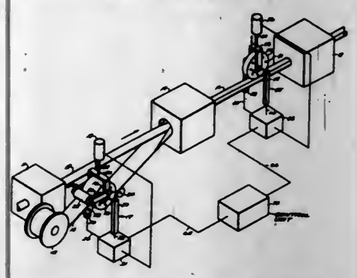
another electrode, said electrodes being spaced one from the other by a distance such that the liquid entering the said holes may cause water suspensions to form a bridge or bridges between said spaced electrodes, thereby lowering the electrical resistance between said electrodes and an electrical device having an output dependent upon the resistance between said electrodes and to which said electrodes are electrically connected.

3,264,559

APPARATUS FOR MEASURING THE PERCENT CHANGE IN LENGTH OF STRIP MATERIAL AFTER FORMATION ABOUT A CABLE CORE

Walter T. Eppler, Cranford, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 29, 1963, Ser. No. 254,664
2 Claims. (Cl. 324—69)



1. An apparatus for measuring the percent change in length of a moving continuous strip of material resulting from forming the strip about a cable core by means of a forming device comprising:

a first photoelectric device located in advance of the forming device and including a light source generating a beam and a receiver on which the beam periodically impinges,

a first counter wheel positioned intermediate the source and the receiver and movable into contact with the strip, said wheel including a circular array of openings which periodically pass said beam to the receiver as the wheel rotates, said beam thereby generating pulses at a rate proportional to the linear rate of movement of the strip prior to the formation of the strip about the cable core,

a first counter for measuring the number of pulses generated by the first photoelectric device,

a second photoelectric device located beyond the forming device including a light source for generating a beam and a receiver on which the beam periodically impinges,

a second counter wheel positioned intermediate the source and the receiver and movable into contact with the strip after it has been formed about the core, said wheel including a circular array of openings which periodically pass said beam to the receiver as the wheel rotates, said beam thereby generating pulses at a rate proportional to the linear rate of movement of the strip formed about the cable core,

a second counter for measuring the number of pulses generated by the second photoelectric device, and

means for moving the counter wheels into contact and out of contact with the strip,

circuit means including:

means for operating the moving means to move the counter wheels into contact with the strip at the start of a measuring operation,

time delay means for simultaneously connecting the counters to their respective photoelectric devices after a time interval during which the counter wheels reach their operating speed, and

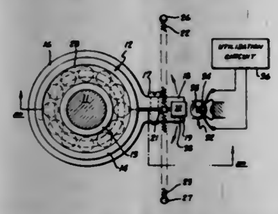
means for simultaneously disconnecting both counters from their respective photoelectric devices after one of the counters reaches a count equal to ten raised to a positive integral power.

3,264,560

APPARATUS FOR SENSING RELATIVE ROTATION BETWEEN A PAIR OF ELEMENTS

Walter J. Cheney, San Mateo, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Nov. 2, 1962, Ser. No. 235,063
10 Claims. (Cl. 324—70)



10. In a magnetic tape recording and reproducing machine, a motion sensor for a reel shaft, comprising:

a member mounted for rotation about the axis of said shaft, said member having a normal position indicating a stationary condition of said shaft, a first array of displaced positions with said member circumferentially displaced in one rotational direction with respect to said normal position indicating concurrent rotation of said shaft in said one direction at various speeds, and a second array of displaced positions with said member circumferentially displaced in an opposite rotational direction with respect to said normal position indicating concurrent rotation of said shaft in said opposite direction at various speeds;

a magnet mounted on said member at the periphery thereof;

spring means coupled to said indicating member for urging said member toward said normal position;

ball bearing means between said shaft and member, said bearing means including inner and outer races and sealing means defining therewith a housing for containing fluid in said bearing means said inner race being attached to said shaft and said outer race being attached to said indicating member;

a viscous fluid disposed in said housing between said indicating member and said shaft and forming a viscous coupling for causing said member to move away from said normal position upon rotation of said shaft, and for permitting return of said member to said normal position upon cessation of said rotation;

first and second arrays of magnetic switches positioned at said first and second arrays of positions, respectively, for operative magnetic coupling with said magnet of said indicating member, said switches each being biassed against operation thereof; and

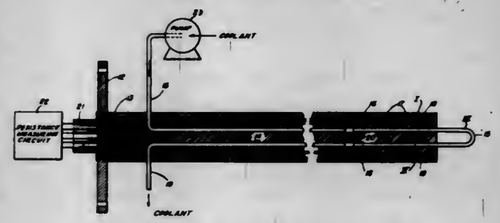
means coupled to said switches for indicating the direction of and degree of displacement of said member as a function of the direction and speed of rotation of said shaft.

3,264,561

TUBULAR ELECTRICAL CORROSION PROBE WITH COOLANT PUMP MEANS AND RESISTANCE MEASURING CIRCUIT

Vernon M. Gustafson, Pitman, N.J., assignor to Mobil Oil Corporation, a corporation of New York

Filed Mar. 16, 1962, Ser. No. 180,083
1 Claim. (Cl. 324—71)



Apparatus, for measuring the corrosion of an electrically conductive material which is disposed in a fluid containing condensible gases, comprising

a corrosion resistant probe shell adapted to be extended into said fluid,

an elongated test element made of said electrically conductive material,

first and second portions of said test element being enclosed within said probe shell and protected thereby from contact with said fluid,

a third portion of said test element extending from said probe shell into said fluid and connecting said first and second portions,

said test element being of tubular structure adapted for the circulation of a fluid medium through the interior thereof,

pump means for controlling the temperature of said test element by passing cooling fluid therethrough, sufficient to cause condensation upon the outer surface of said test element,

conduit connecting means between said pump means and said test element for the transfer of fluid therebetween,

electrical conductors extending from at least one point on said first portion of said test element and from at least two points spaced apart along the length of said second portion of said test element, and

a resistance measuring circuit adapted for connection to said electrical conductors.

3,264,562

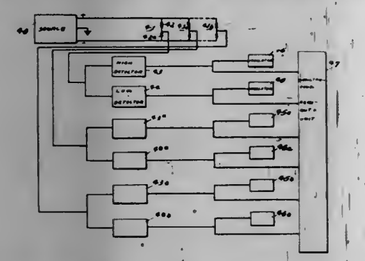
PLURAL BRIDGE SYSTEM FOR SIMULTANEOUSLY TESTING A PLURALITY OF INTERCONNECTED CIRCUIT ELEMENTS

James M. Brown, Waukegan, Ill., and Owen C. Slater, Racine, and Paul V. Tollefson, Salem, Wis., assignors to Warwick Electronics Inc., a corporation of Delaware

Filed Sept. 28, 1961, Ser. No. 141,456
7 Claims. (Cl. 324—73)

1. An electronic circuit testing apparatus for simultaneous testing of a plurality of interconnected circuit ele-

ments, comprising: a reference circuit having a plurality of interconnected circuit elements; a circuit to be tested having a corresponding plurality of nominally identical interconnected circuit elements; a source of circuit energizing potential having a pair of outputs balanced with respect to a reference potential and having connected thereacross a plurality of pairs of said nominally equal, series connected reference and test elements, the reference element of each pair being connected with one source output and the test element of each pair being connected with the other source output, the sense and magnitude of the unbalance potential at the junction of each pair of reference and test elements, with respect to said reference potential, indicating the sense and magnitude, respectively, of a difference in value between the associated reference and test elements; a plurality of bidirectional detector means, one for each pair of reference and test elements, each detector means being connected between the junction of one of said plurality of pairs of elements and said refer-



ence potential, each detector means isolating the associated pair of reference and test elements from the other pairs of reference and test elements, and each detector means including a pair of direct current detectors, one responsive to one sense of unbalance potential and the other responsive to the other sense of unbalance potential for detecting test elements which deviate from the corresponding reference elements in either direction, each detector having a threshold operating level and detecting the presence of an unbalance potential of the appropriate sense and in excess of said threshold level and wherein each detector has a fixed conductivity state in the absence of an unbalanced potential and each changes its conductivity state on the occurrence of an unbalance potential in excess of the threshold level thereof; and means connected with each detector and responsive to a change of state of the associated detector for indicating the occurrence of an unbalance potential in excess of the threshold level of the detector.

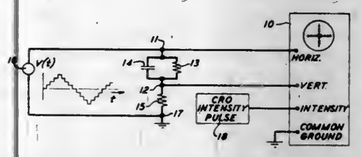
3,264,563

TEST APPARATUS FOR DISPLAYING A SELECTIVELY SUPPRESSED CURRENT - VOLTAGE CHARACTERISTIC OF A SEMICONDUCTOR JUNCTION

Stephen R. Arnold, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 20, 1963, Ser. No. 266,583
4 Claims. (Cl. 324—158)

2. A circuit for displaying on the screen of an oscilloscope the reverse current-voltage characteristic of a semiconductor junction under test comprising, in combination, an oscilloscope whose display is suppressed having a pair of horizontal and a pair of vertical deflection terminals and a pair of intensity terminals to which the application of a pulse causes said oscillosocope display to become visible, a source of a staircase voltage, a current-sensing resistor connected in a series circuit with the junction under test across said source of staircase voltage, means connecting one of the pairs of deflection terminals across said source of voltage, means connecting the other of the pairs of deflection terminals across said current-sensing resistor, and a source of pulses occurring a predetermined time interval after the occurrence of each step increase



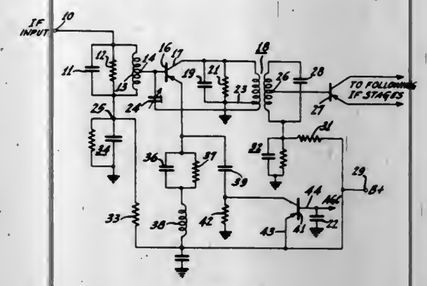
or decrease in said staircase voltage and connected to said intensity terminals of said oscilloscope to render said oscilloscope display visible after the decay of the transient current generated in response to each increase or decrease in said staircase voltage.

3,264,564

VARIABLE IMPEDANCE DEVICE FOR TRANSISTOR AUTOMATIC GAIN CONTROL

Walter B. Guggi, Niederglatt, Zurich, Switzerland, assignor to Radio Corporation of America, a corporation of Delaware

Filed Feb. 7, 1963, Ser. No. 256,846
5 Claims. (Cl. 325—411)



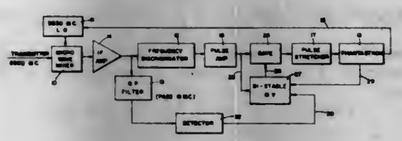
1. In an automatic gain control circuit for a transistorized television receiver in combination,
- an intermediate frequency amplifier stage having a first transistor with base, emitter and collector electrodes, said first transistor being adapted to have intermediate frequency signals applied thereto for amplification purposes;
- a control transistor having base, emitter and collector electrodes and adapted to have automatic gain control signals applied to said base electrode thereof;
- capacitive coupling means connected between the collector-emitter circuit of said control transistor and the collector-emitter circuit of said first transistor for providing substantially only alternating current coupling between said circuits;
- direct current biasing means coupled to said collector electrode of said control transistor;
- a source of biasing potential coupled to said transistors and means for applying automatic gain control signals to said base electrode of said control transistor to vary the impedance thereof and thereby vary substantially only the alternating current load impedance and the signal amplification factor of said first transistor substantially without variation in the direct current bias applied to said first transistor whereby said signal amplification factor of said first transistor is varied substantially without changing the capacitance and the tuning of said intermediate frequency amplifier stage.

3,264,565

FREQUENCY CONTROL APPARATUS

James A. Moulton, Santa Ana, Calif., assignor to North American Aviation, Inc.

Filed Mar. 1, 1963, Ser. No. 261,980
12 Claims. (Cl. 325—420)



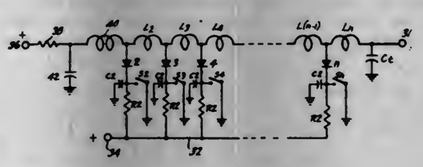
1. A closed loop automatic frequency controller for providing a constant IF frequency characteristic in a pulsed sinusoidal signal comprising
- a voltage controlled local oscillator for generating a signal having a frequency indicative of a control voltage,
- a signal mixer responsive to a sinusoidal input signal and an output of said local oscillator for providing a signal having a beat frequency indicative of the difference between the respective frequencies of said input signal and said local oscillator output,
- control circuit means including a phantastron circuit and responsive to said output of said mixer and operatively connected to provide a control voltage input to said local oscillator which is indicative of the difference between the beat frequency of said mixer output and a reference frequency, whereby the frequency of said local oscillator tends to vary so as to maintain a constant IF frequency at the output of said mixer,
- bistable gating means disconnectably intercoupling said output of said discriminator and an input of said control means for restricting control of said local oscillator in response to the phase-sense of the low frequency response only of said frequency discriminator and in further response to an abnormally high negative level of the output of said phantastron circuit.

3,264,566

ELECTRONIC SWITCHING OF TUNED CIRCUITS

William M. Kaufman, Westfield, Lawrence R. Hill, Millburn, and Frank S. Stein, West Orange, N.J., assignors to General Instrument Corporation, Newark, N.J., a corporation of New Jersey

Filed July 13, 1962, Ser. No. 209,654
5 Claims. (Cl. 325—465)



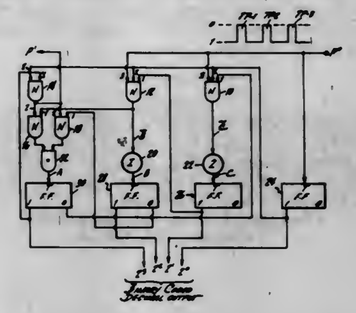
1. A tuner for a television receiver for tuning to one of a number of discrete fixed television channel frequencies, said tuner having a plurality of tuned circuits, said circuits comprising a tank capacitor, a plurality of series-connected inductors for cooperation with said capacitor, and a plurality of diodes acting as selectively usable switches connected to points between said inductors for bypassing a desired number of said inductors, a source of forward bias, one side of each diode being connected to one side of the forward bias source through the series-connected inductors, said diodes being normally connected to one side of a reverse bias source through resistors which have a resistance value high enough to block the radio frequency, the other side of both of said bias sources being grounded, the side of each diode remote from the inductors being connected via a large by-pass capacitor to ground for radio frequency flow to ground when the diode is made conductive, and the said remote side of each diode also being connected to ground by means of a normally open bias switch which when closed applies the forward bias to and effectively overcomes the reverse bias on the corresponding one of said diodes and thereby makes the said diode conductive for radio frequency which then flows through the corresponding one of the said by-pass capacitors, cooperative resonance being thereby established between the tank capacitor and one or more of the series-connected inductors, the resonant radio-frequency current flowing from ground, through the tank capacitor, through the said one or more inductors, through the corresponding by-pass capactor, and back to ground.

3,264,567

BINARY CODED DECIMAL COUNTER CIRCUITS

Anthony Prieto, Palm Beach Gardens, Fla., assignor to Radio Corporation of America, a corporation of Delaware

Filed July 2, 1964, Ser. No. 379,815
4 Claims. (Cl. 328—45)

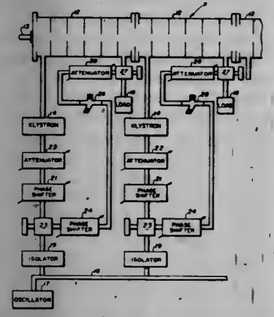


1. A stage of a binary coded decimal counter comprising, in combination:
- four two-state devices for storing the 2^0, 2^1, 2^2 and 2^3 bits, respectively, of a binary coded decimal number;
- first, second and third logic circuits, connected to the 2^1, 2^2 and 2^3 two-state devices, respectively, for applying triggering signals to said devices, and said third logic circuits for also producing a carry signal;
- means for applying the pulses to be counted to the 2^0 two-state device, and the first and second logic circuits;
- means for applying an output of the 2^0 two-state device to all three logic circuits;
- means for applying an output of the 2^1 two-state device to the second logic circuit;
- means for applying an output of the 2^2 two-state device to the third logic circuit;
- means for applying one output of the 2^3 two-state device to the third logic circuit and the complement of said output to the first logic circuit; and
- means for applying an output from the second logic circuit to the third logic circuit.

3,264,568
ELECTRON LINEAR ACCELERATOR PHASING METHOD INVOLVING ALTERNATELY TURNING ON AND TURNING OFF THE ELECTROMAGNETIC DRIVER OF THE SECTION BEING PHASED

David J. Goerz, Jr., Belmont, Richard B. Neal, Menlo Park, and Kenneth B. Mallory, Palo Alto, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Mar. 26, 1962, Ser. No. 182,691
4 Claims. (Cl. 328—233)

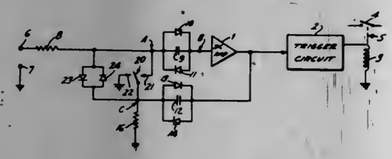


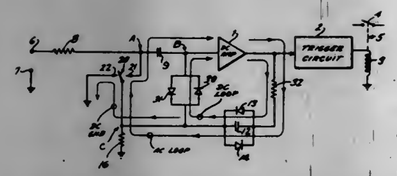
1. In a method of phasing a waveguide section of a multi-section electron linear accelerator, the steps comprising measuring the phase of a resultant traveling electromagnetic wave at the output end of said section due to an electron beam and driving electromagnetic wave passing through the section relative to the phase of the beam-induced wave at the output end of the section, and adjusting the respective phases of said resultant wave and beam-induced wave to establish a phase difference therebetween of 180 degrees.

3,264,569
TRANSIENTLY REGENERATIVE AMPLIFIER WITH A.C. AND D.C. REGENERATION

Peter Lefferts, Hopewell, N.J., assignor, by mesne assignments, to TIA Electric Company, Laurence Township, N.J., a corporation of New Jersey

Filed Dec. 7, 1964, Ser. No. 418,587
33 Claims. (Cl. 330—9)



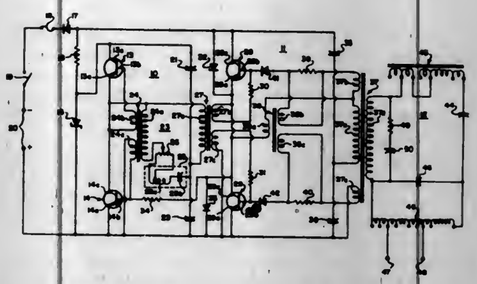


1. In a highly sensitive translating circuit, the combination of
an amplifier having an input and an output;
first circuit means forming an A.C. regenerative loop between the output and input of said amplifier;
second circuit means forming a D.C. regenerative loop between the output and input of said amplifier;
means connected in said loops to periodically activate and deactivate said regenerative loops;
third circuit means connected to apply an input signal to the input of said amplifier while said regenerative loops are activated;
whereby said input signal is first regenerated by said A.C. regenerative loop and thereafter regenerated by said D.C. regenerative loop to provide a signal at the output of said amplifier indicative of said input signal.

3,264,570
TRANSISTOR AMPLIFIER HAVING PROTECTIVE CIRCUITRY

Trevor Temple, Kingston, N.H., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed June 17, 1963, Ser. No. 288,216
4 Claims. (Cl. 330—15)



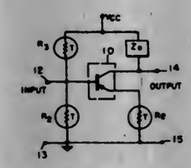
2. A power amplifier comprising a pair of transistors each having an input electrode, output electrode, and third electrode and being coupled together in a single-ended push-pull configuration, means for coupling an input voltage signal to the input electrodes of said transistors to selectively place each of said transistors in a conductive state, output transformer means including a first primary winding coupled to each of said output electrodes of said transistor devices, said output transformer providing a signal to a utilization device in response to said input signal, and a protective circuit means providing a signal to each input electrode of said pair of transistors to block conduction of said transistors whenever the output voltage provided by each of said pair of transistors reverses while said input voltage has not yet reversed including second and third primary windings of said transformer each coupling the input electrode of one of said transistors to said first primary winding for applying a signal to said input electrode proportional to said signal provided to said utilization device.

3,264,571
TEMPERATURE COMPENSATED ALTERNATING-CURRENT AMPLIFIER

James D. Meindl, Long Branch, and Octavius Pitzalis, Jr., Fair Haven, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed Feb. 5, 1963, Ser. No. 256,480
2 Claims. (Cl. 330—23)

1. A network for compensating for the impedance variation with respect to temperature of a transistor circuit comprising a common-emitter-connected transistor having emitter, collector, and base electrodes; a source of negative voltage with respect to ground; a first transistor-impedance-compensating thermistor connected between said base electrode and said source of negative voltage; a second, transistor-impedance-compensating thermistor connected between said base electrode and said ground; a third, transistor-impedance-compensating thermistor and a fourth, direct-current, bias-compensating thermistor connected in series between said emitter electrode and said ground; a by-pass condenser connected across said

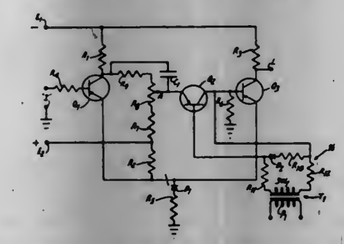


fourth thermistor; and an output load impedance connected between said collector electrode and said source of negative voltage.

3,264,572
TRANSIENTLY REGENERATIVE AMPLIFICATION

Peter Lefferts, Princeton, N.J., assignor, by mesne assignments, to TIA Electric Company, Laurence Township, N.J., a corporation of New Jersey

Filed Feb. 15, 1963, Ser. No. 258,735
16 Claims. (Cl. 330—26)



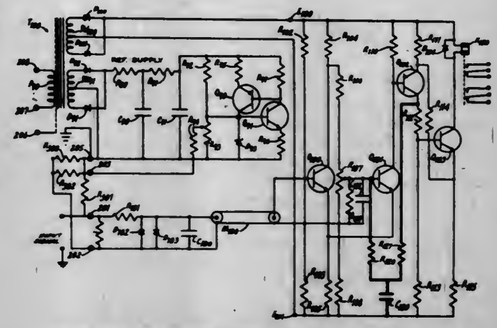
1. A highly sensitive signal translating circuit comprising
a semiconductor amplifier having two opposite saturated states and including an input and an output,
an input circuit connected to said amplifier input for receiving an electrical parameter to be sensed;
an output circuit connected to said amplifier ouput for providing a response indicative of said electrical parameter;
a positive feedback loop including at least part of said amplifier for, when activated, driving said amplifier into either one of said two opposite saturated states as a function of the polarity of the electrical parameter; and
a feedback control circuit coupled to said positive feedback loop for intermittently activating and deactivating said feedback loop over successive time intervals short compared with the period of said electrical parameter;
whereby said electrical parameter is incrementally sensed to produced a corresponding response in said output circuit.

3,264,573
TRANSIENTLY REGENERATIVE AMPLIFIERS WITH RESPONSE CONTROLLING MEANS

Peter Lefferts, Princeton, N.J., assignor, by mesne assignments to TIA Electric Company, Laurence Township, N.J., a corporation of New Jersey

Filed Jan. 24, 1964, Ser. No. 340,066
31 Claims. (Cl. 330—26)

1. A highly sensitive signal translating circuit comprising
an amplifier including
an input circuit for receiving an electrical parameter to be sensed,
an output circuit for supplying a response indicative of said electrical parameter, and
at least one stage between said input circuit and said output circuit;
a positive feedback loop coupled to said amplifier for regeneratively driving the same into a saturated state related to said electrical parameter when activated;
a feedback control means coupled to said positive feedback loop for periodically activating and impairing the regeneration of said feedback loop over successive time intervals short compared with said electrical parameter;

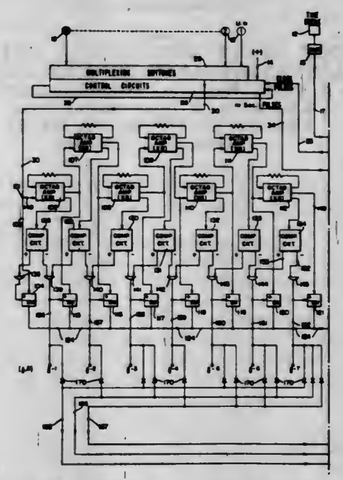


signal storage means being coupled to said output circuit for storing a signal related to the saturated state of said amplifier; and
circuit means for coupling said signal storage means to the input of one stage in said amplifier to bias said amplifier in accordance with a saturated state resulting during a previous activation of said feedback circuit.

3,264,574
AMPLIFIER SYSTEM

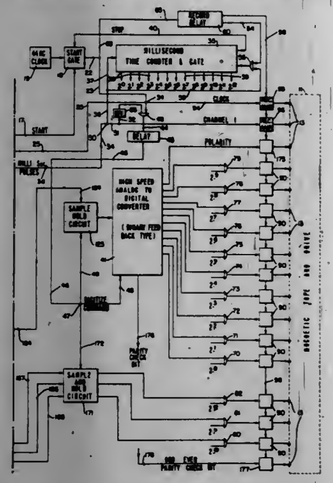
Robert J. Loofbourrow, Houston, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 150,782, Nov. 7, 1961, which is a division of application Ser. No. 846,435, Oct. 14, 1959. This application Mar. 9, 1965, Ser. No. 441,406.
8 Claims. (Cl. 330—51)



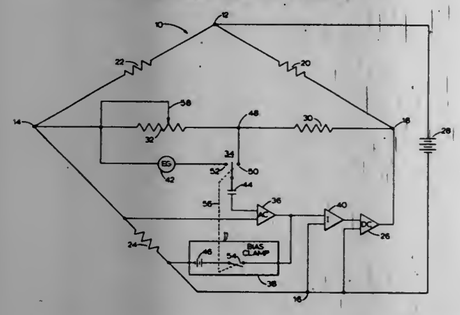
1. An amplifier system for producing output signals having a predetermined limited dynamic amplitude range that constitutes a predetermined portion of the full am-

plitude range of input signals, comprising in combination an input signal circuit, said input signal circuit having said full amplitude range of input signals impressed thereon and being connected to the first one of a plurality of amplifiers in series, circuit means for limiting the maximum amplitude of output signals from each of said amplifiers to substantially equal a predetermined maximum amplitude in order to avoid overloading the succeeding amplifier in the series, a common output circuit for each of said amplifiers in the alternative, switch means for selectively connecting one of said amplifiers at a time to



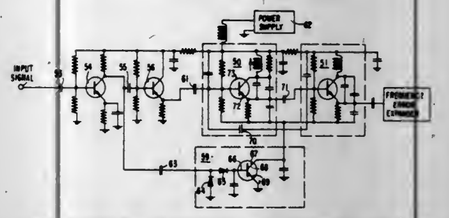
said output circuit, said switch means including a switch connecting the output of each amplifier to said common output circuit, and signal amplitude comparison means having a predetermined signal set therein and being connected to the output of each amplifier for opening the switch from such amplifier to said output circuit when the the amplitude of the output from that amplifier exceeds said predetermined amplitude level slightly less than said limited maximum amplitude while simultaneously closing the switch from the preceding amplifier to said output circuit.

3,264,575
BRIDGE CIRCUIT INCLUDING A LOW PASS TRANSCONDUCTANCE CONTROL CIRCUIT
Francis A. Clark, Waco, Tex., assignor to Southern Fuels Corporation, a corporation of Texas.
Filed Jan. 31, 1964, Ser. No. 341,568
7 Claims. (Cl. 330—146)



1. A direct current amplifier circuit comprising a bridge circuit having respective terminals and resistance legs connected therebetween, one of said legs comprising the output resistance of a direct current amplifier, a power source connected between two opposed terminals, a load disposed between the other two terminals, a feedback resistance connected in series with said load, a signal source, means for sensing a voltage difference between the voltage developed across said feedback resistance and said signal source, means for amplifying the voltage difference, means for clamping an output of said amplifier means responsive to said sensing means, an integrator circuit responsive to the clamped signal, and an amplifier having an output connected as one leg of said bridge and being responsive to an output of said integrator.

3,264,576
CIRCUIT FOR CONVERTING ANY FREQUENCY IN A GIVEN RANGE TO A HARMONIC EQUAL TO A DESIRED FREQUENCY
Harold D. Bryant, Glendale Heights, Glen Ellyn, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Mar. 23, 1964, Ser. No. 353,739
7 Claims. (Cl. 331—47)

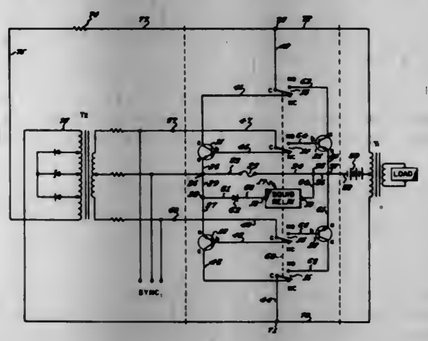


1. A circuit for developing an output signal having a frequency substantially equal to a predetermined frequency and equal to a harmonic frequency of an input signal having any one of a particular plurality of frequencies, said circuit including in combination, input circuit means, a plurality of oscillators each having a different output frequency with said output frequencies having harmonic relationships, one of said oscillators having an output frequency substantially equal to the predetermined frequency, means coupling said oscillators in a sequence with each oscillator coupled to the oscillator having an output frequency closest to its own output frequency, input signal routing means coupling said input circuit means to each of said oscillators, said routing means being responsive to the frequency of the input signal to couple the input signal to the oscillator having the lowest harmonic ratio between its output frequency and the frequency of the input signal, said oscillator to which the input signal is routed being responsive to the input signal frequency to synchronize its output frequency at an exact harmonic frequency of the input frequency, and each synchronized oscillator synchronizing the adjacent oscillator whereby all of said oscillators are synchronized at an exact harmonic frequency of the input frequency.

3,264,577
REDUNDANT SEMICONDUCTOR INVERTER CIRCUIT
John T. Lingle, Bloomington, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Oct. 25, 1963, Ser. No. 319,017
7 Claims. (Cl. 331—49)

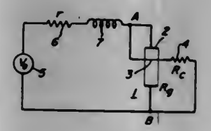
1. A composite semiconductor condition responsive means comprising: a first semiconductor circuit, said first circuit having at least one semiconductor device with input, output and control electrodes; first and second switching means; electromechanical means for actuating said first and second switching means in unison; means connecting said output electrode to a first terminal of said

first switching means; means connecting said control electrode to a first terminal of said second switching means; current sensing means; means connecting said input electrode to said current sensing means; first and second power input terminals; a signal input terminal; means connecting said first power input terminal to a common terminal of said first switching means; means connecting said signal input terminal to a common terminal of said second switching means; means connecting said second power input terminal to said current sensing means; means connecting said actuating means in parallel with said current



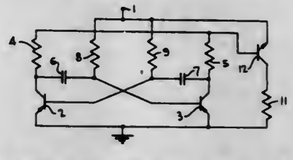
sensing means, such that said actuating means acts on command from said current sensing means; a second semiconductor circuit, said second circuit being redundant to said first semiconductor circuit, thus having at least one semiconductor device with input, output and control electrodes; means connecting said second circuit input electrode to said second power input terminal; means connecting said second circuit output electrode to a second terminal of said first switching means; and means connecting said second circuit control electrode to a second terminal of said second switching means.

3,264,578
NEGATIVE IMPEDANCE SUPERCONDUCTING OSCILLATOR
Vernon L. Newhouse, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 16, 1963, Ser. No. 331,033
7 Claims. (Cl. 331—107)



1. A cryogenic circuit having a negative impedance including a cryotron having a gate of soft superconducting material, the resistance of which is restored by a first critical magnetic field, a grid superposed with respect to said gate for providing a magnetic field in excess of said critical field, the grid being formed of hard superconducting material having a critical field higher than said first mentioned critical field, means including a resistance in series with said grid electrically coupling said grid in parallel circuit relation with said gate, and source means coupled across said gate including inductive means to provide a high A.C. impedance compared to the value of impedance of said negative impedance.

3,264,579
TEMPERATURE AND VOLTAGE COMPENSATED MULTIVIBRATOR
Ira R. Marcus, Wheaton, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Feb. 13, 1964, Ser. No. 344,787
4 Claims. (Cl. 331—113)



1. In an astable multivibrator having a first transistor and a second transistor each of said first and second transistors having a base electrode, an emitter electrode, and a collector electrode, said emitter electrodes being connected to circuit ground, a first capacitor connected to the collector electrode of said first transistor and to the base electrode of said second transistor, a second capacitor connected to the collector electrode of said second transistor and to the base electrode of said first transistor, a source of voltage, a first resistor having first and second terminals, said first terminal connected to the collector electrode of said first transistor, a second resistor having first and second terminals, said first terminal of said second resistor connected to the collector electrode of said second transistor, a third resistor having first and second terminals, said first terminal of said third resistor connected to the base electrode of said first transistor and said second terminal of said third resistor connected to said source of voltage, a fourth resistor having first and second terminals, said first terminal of said fourth resistor connected to the base electrode of said second transistor and said second terminal of said fourth resistor connected to said source of voltage, an improved voltage-controlling device for supplying a controlled voltage to said first and second resistors, said device comprising:

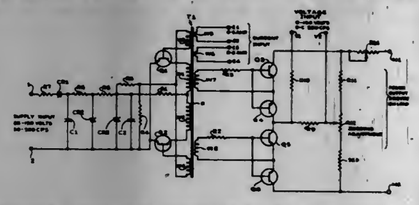
(a) a third transistor having its emitter connected to said source of voltage and its base connected to said second terminal of said first resistor and said second terminal of said second resistor; and

(b) a fifth resistor connected between the collector of said third transistor and circuit ground, the value of said fifth resistor being such as to cause the base-to-emitter voltage of said third transistor to be equal to the minimum base-to-emitter voltage which causes said first and second transistors to conduct.

3,264,580
POWER CONVERTER
Herbert R. Ryerson, Garfield Heights, and Andrew Csala, Cleveland, Ohio, assignors to Avtron Manufacturing, Inc., a corporation of Ohio
Filed Sept. 10, 1962, Ser. No. 222,279
9 Claims. (Cl. 332—12)

1. A power converter for providing a signal indicative of the power flowing into a load circuit comprising a transistor oscillator including a D.C. voltage supply, a pair of transistors, a transformer having a core of saturable magnetic material with input windings connected in series circuit with the emitter-collector paths of said transistors across said supply for supplying to said core magnetomotive forces acting in opposite directions, and feedback windings connected to the bases of said transistors for turning said transistors alternately on and off as said core saturates cyclically first in one direction then in the other whereby to sustain oscillations, a low impedance control winding on said core for series connection into the load circuit, said control winding being proportioned in respect

of a selected range of load current to produce a magnetomotive force biasing said core in order to pulse-width modulate opposite half cycles of said oscillations according to load current, voltage input terminals for connection across the load circuit, signal output terminals, and



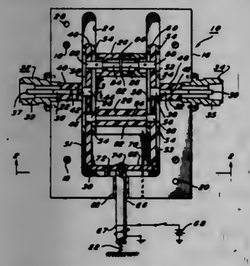
transistor switching means alternately connecting said voltage input terminals to opposite signal output terminals in synchronism with said oscillations, whereby to provide at said output terminals a signal which is pulse-width modulated according to load current and amplitude modulated according to load voltage.

3,264,581

COAXIAL SWITCHES AND SYSTEMS FOR MICROWAVE SYSTEMS WHICH MAY INCLUDE THOSE IN WHICH SIGNAL FLOW IN UNUSED PATHS IS PREVENTED BY DIMENSIONING FOR CUTOFF OF WAVEGUIDE MODE

Sherman A. Rinkel, Bethpage, N.Y., assignor to General Microwave Corporation, a corporation of New York

Filed Dec. 3, 1963, Ser. No. 327,707
17 Claims. (Cl. 333—7)



1. A coaxial microwave switch for use with a source of signals within a certain frequency band, said switch comprising: means forming first and second passages each having conductive walls, first and second rods respectively movably mounted within said first and second passages, each of said rods having at least one conductive section, first and second contacts respectively engaging the conductive sections of said first and second rods, a plurality of electrical paths each having means for contacting said conductive sections in selected operating positions of said rods, and means for reciprocating said rods in unison to connect said electrical paths between said contacts, the walls of said passages surrounding said conductive sections providing coaxial shields therefor and the walls of said passages not surrounding said conductive sections being dimensioned to function as waveguides beyond cutoff with respect to said band of frequencies.

3,264,582

WIDE BAND SLAB LINE COAXIAL DIRECTIONAL COUPLER

Samuel Hopfer, Brooklyn, N.Y., assignor to PRD Electronics, Inc., a corporation of New York

Filed May 3, 1963, Ser. No. 277,930
1 Claim. (Cl. 333—10)

In a broad band coaxial transmission line device having an outer conductor formed by interior conductor walls of a rectangular-shaped cross-section in the plane orthogonal to the axis of wave energy propagation along said line and an inner conductor supported in coaxial relationship with respect to said outer conductor, said line being characterized by a closed-terminated end, the combination defining a broad band low reflection terminating load comprising, a thin uniformly flat and relatively stiff dielectric substrate supported along diametrically opposite sides of said inner conductor, said substrate extending a finite axial length along said inner conductor, the plane of said substrate being parallel to opposed interior conductor walls of said outer conductor and coinciding with a plane substantially through a center line of said inner conductor, said substrate having a first section defined by outer edges tapering gradually so as to increase the planar area of said substrate, wherein the widest dimension of said first substrate section is closer to the closed terminating end of said line to present a gradually increasing tapered matching section with respect to wave energy propagated in a direction towards the terminating load, said substrate having a sec-



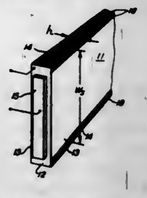
ond section continuous with and to the rear of said first section, said second section being defined by straight outer edges forming a very small uniform longitudinal gap with respect to opposed interior conductor walls of said outer conductor, wave energy dissipating metalized film along said substrate less than the skin depth of the wave energy carried by said line for dissipating said wave energy, resistor means having an end connected electrically in series to the end of said inner conductor at the rear of said metalized substrate for dissipating wave energy at the low operating frequencies to D.C., shorting means conductivity connecting the other end of said resistive means electrically in series with the conductive walls of said outer conductor, said shorting means including conductive taper walls surrounding said resistor means for forming a taper shorting plug at the closed end of said coaxial line, and a band of highly conductive material along the outer longitudinally straight edges of said second section of substrate for rendering said load less sensitive to frequency.

3,264,583

DISPERSIVE ELECTROMECHANICAL DELAY LINE UTILIZING TAPERED DELAY MEDIUM

Arthur H. Fitch, Mountain Lakes, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 12, 1963, Ser. No. 287,249
25 Claims. (Cl. 333—30)



1. A delay device for providing linear dispersive delay versus frequency comprising an elongated delay line of ultrasonic transmission material having elastic properties expressible in terms of shear wave velocity (V_s), said delay line having energy-guiding major surfaces that are spaced from each other to define a relatively small thickness (h) therebetween, and a pair of electromechanical

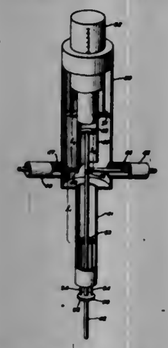
transducers respectively mounted at the ends of the elongated delay line, said delay line having a change along its length in the ratio (h/V_s), said change causing the dispersion in delay of said delay device to be linear over a larger band of frequencies than for a delay device wherein the ratio (h/V_s) is constant.

3,264,584

ADJUSTABLE IMPEDANCE MATCHING TRANSFORMERS

Charles F. Edwards, Red Bank, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 15, 1961, Ser. No. 152,534
14 Claims. (Cl. 333—33)



1. In combination, a plurality of variable reactances, means for connecting a first variable reactance X_1 between a first terminal and a first common junction, means for connecting a second variable reactance X_2 between said first common junction and a second common junction, means for connecting a third variable reactance X_3 between said first common junction and a second terminal where $X_1=X_2=-X_3$, input means connected between said first terminal and said second common junction, output means connected between said second terminal and said second common junction, and a single means for adjusting all of said reactances simultaneously while maintaining the relations $X_1=X_2=-X_3$.

3,264,585

DUAL ELECTROSTRICTIVE DRIVERS BONDED TO AND DRIVING OPPOSITE SIDES OF MECHANICAL RESONATOR

Werner Poschenrieder, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed June 5, 1962, Ser. No. 200,255
Claims priority, application Germany, June 20, 1961, S 74,429
2 Claims. (Cl. 333—72)



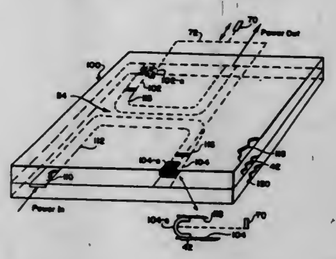
1. A resonator for executing longitudinal oscillations, comprising a generally flat strip made of material which is inactive in electrostrictive sense and forms the resonator proper, and an electrostrictive coupling arrangement, comprising a pair of substantially identical flat layers made of electrostrictive material, each of which is disposed at a respective side of said strip in the region of the zone which is neutral for longitudinal oscillations, said layers coextensively covering opposite sides of said strip only for part of its length, each layer being provided with a triggering electrode upon the side thereof which faces away from said strip, and means for utilizing said triggering electrodes for feeding in identical phase the parts which are active in electrostrictive sense with respect to the resonator proper.

3,264,586

VARIABLE ATTENUATOR FOR U.H.F. AND MICROWAVE CIRCUITS

Martin Rabinowitz, Ardsley, N.Y., assignor to Premier Microwave Corporation, Port Chester, N.Y., a corporation of New York

Filed Dec. 27, 1963, Ser. No. 333,833
2 Claims. (Cl. 333—81)



1. An attenuator for use in a microwave circuit comprising

(1) an input microwave line,

(2) a hybrid structure to receive input energy from said microwave line and to transmit a selected portion of such input energy by locally absorbing a portion of said input energy and comprising

(a) a first linear stripline, as a first arm, having an input end and a terminating end,

(b) a second linear stripline, as a second arm, separated from said first arm by a coupling dielectric, and having a terminating end and an output end,

(3) variably-adjustable energy-absorbing means coupled to said hybrid structure for absorbing a portion of said input energy and for reflecting the remainder of said input energy to provide the quantity of energy desired as output energy and comprising

(a') a first variable resistance termination connected to said terminating end of said first arm,

(b') a similar second variable resistance termination on said terminating end of said second arm,

(c') means for synchronously varying said two variable resistances equally to establish equal termination values,

(4) an output line to transmit output energy to an external circuit and,

(5) means coupling said output line to the output end of said second arm.

3,264,587

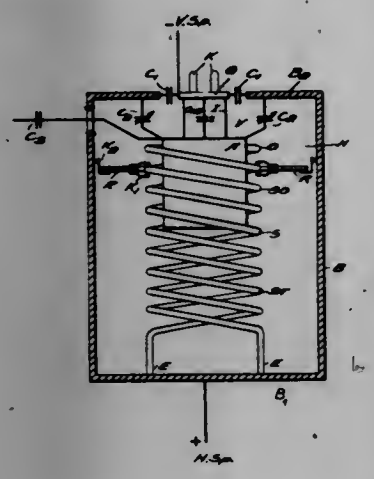
SHORT WAVE TUNING SYSTEM

Leopold Leng, Wettingen, Switzerland, assignor to "Patelhold" Patentverwertungs- u. Elektro-Holding A.G., Glarus, Switzerland

Filed Dec. 22, 1964, Ser. No. 420,400
Claims priority, application Switzerland, Dec. 23, 1963, 15,829/63
5 Claims. (Cl. 333—83)

1. In a short-wave tuning system, the combination comprising a generator tube, a cylindrical anode cover concentrically surrounding the upper anode end of said

tube, a helical tuning coil concentrically surrounding said generator tube and anode cover, an outer shield casing concentrically surrounding said tuning coil and which is provided with upper and lower end closure walls, an annular contact ring concentrically surrounding said tuning coil, said contact ring being provided with first contact means slidably engaging the turns of said coil for movement of said contact means and contact ring in a helical path along said coil and second contact means slidably engaging the interior surface of said outer shield casing, means electrically connecting the upper end of said coil to said anode cover and the lower end of said coil to said lower end closure wall of said outer casing,



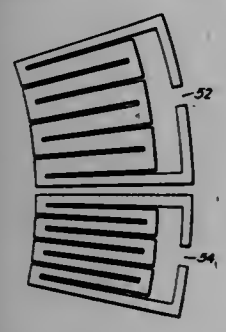
said contact ring when in its uppermost position on said coil establishing together with said outer casing and its upper end closure wall an upper annular chamber closed off metallically from a lower annular chamber established within said outer casing below said contact ring, said upper annular chamber together with the internal capacity of said generator tube forming a cavity resonator, and said contact ring when in lower positions on said coil developing by the turns on said coil above said contact ring an inductance connected in series with said cavity resonator.

3,264,588

POSITION-MEASURING TRANSFORMER HAVING MEANS FOR COMPENSATING ERRORS IN CONDUCTOR ALIGNMENT

James L. Winget, Yorktown Heights, N.Y., assignor to Del Electronics Corp., Mount Vernon, N.Y., a corporation of New York

Filed Jan. 18, 1965, Ser. No. 426,291
14 Claims. (Cl. 336—30)



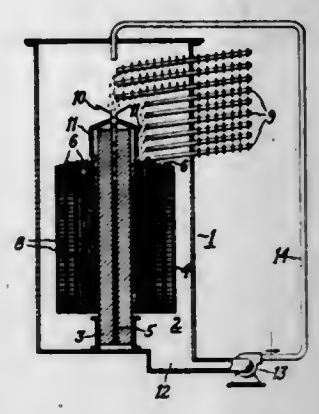
1. A position-measuring transformer comprising closely spaced relatively rotatable stator and rotor transformer members in coupling relationship, each being a disc having radial conductors connected in series circumferentially, the pitch of the radial conductors of said stator differing slightly from the pitch of the radial conductors of the rotor in such amount as to suppress an undesired harmonic, the pitch of some stator conductors being greater and the pitch of other stator conductors being less than the pitch of the rotor conductors, the conductors of greater and lesser pitch being distributed around the stator disc approximately uniformly.

3,264,589

TRANSFORMER POCKETS FOR VAPORIZED COOLING

John C. Dutton, Rome, Ga., assignor to General Electric Company, a corporation of New York

Filed Sept. 3, 1963, Ser. No. 305,943
8 Claims. (Cl. 336—57)



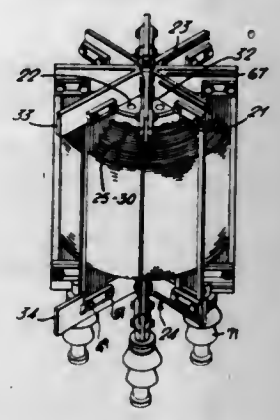
1. In combination, a transformer core and coil assembly having vertically extending cooling pockets closed at the bottom and open at the top, a cooling and insulating liquid occupying said pockets, said liquid having a boiling temperature within the normal operating temperature range of said core and coil assembly in the region of said pockets, and means for condensing liquid vaporized in said pockets and returning it to said pockets.

3,264,590

CURRENT LIMITING REACTOR

Anthony Barclay Trench, Downsview, Ontario, Canada, assignor to Trench Electric Limited, Toronto, Ontario, Canada, a corporation of Canada

Filed May 24, 1963, Ser. No. 282,937
Claims priority, application Great Britain, May 29, 1962, 20,614/62
11 Claims. (Cl. 336—60)

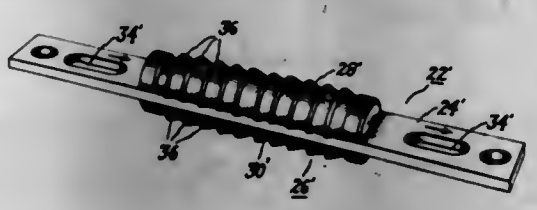


1. An air core reactor comprising a plurality of separate, inductively coupled coils, concentrically disposed about a common axis, and selected coils being radially spaced from each other by a predetermined distance, said coils each having only one turn of conductor per axial pitch so that each coil has only one layer of winding, said winding being untransposed by another coil, each coil winding being of a predetermined length with the respective coils terminating at peripherally spaced points about said common axis, and means for electrically connecting all of said coils in parallel said means making electrical contact with said coils at said peripherally spaced points.

3,264,591
REMOVABLE BAR FOR CURRENT TRANSFORMER

Franklin R. D'Entremont, Dover, N.H., assignor to General Electric Company, a corporation of New York

Filed Dec. 31, 1963, Ser. No. 334,833
3 Claims. (Cl. 336—174)

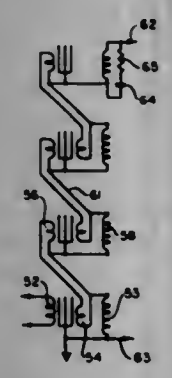


1. A primary bar type current transformer comprising, in combination, a window type current transformer having a window opening therein, a removable primary bar mounted in said window opening, said removable primary bar comprising a flat, electrical conducting member having a serrated bushing of flexible insulating material secured to the central portion of said flat conducting member, said serrations of said bushing extending transversely of said bushing and contacting the walls of said window opening to removably secure said primary bar member in said window opening.

3,264,592
HIGH VOLTAGE TRANSFORMER

Paul A. Pearson, 1200 Bryant St., Palo Alto, Calif.

Filed May 7, 1962, Ser. No. 192,855
1 Claim. (Cl. 336—182)

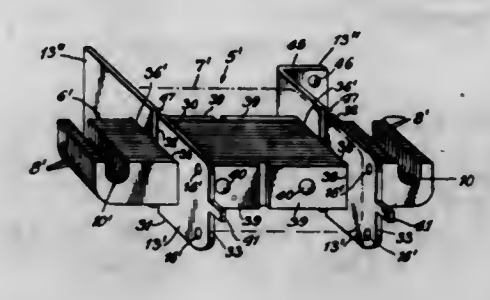


A high voltage transformer combination comprising a plurality of sections each including a winding pair, each section comprising a core, an elongated primary winding including a plurality of adjacent convolutions each having substantially the same diameter wound on said core, an elongated secondary winding including a plurality of adjacent convolutions surrounding each of the primary windings to form a winding pair, the convolutions of each of said secondary windings increasing progressively in diameter from one end to the other to provide a tapered winding so that the spacing between the primary and secondary windings increases from one end of the windings to the other of each of said winding pairs, conductive means carried adjacent the large end of the secondary winding of each winding pair and connected to the last convolution for reducing the concentration of electric field at said end of the same, a low voltage secondary winding surrounding the secondary winding of each of said winding pairs to form a section; the low voltage secondary winding of the first section being connected to the primary winding of the next section and the low voltage winding of each successive section being connected to the primary winding of the next successive section, and means connected to the secondary winding of the first section and of the last transformer section of the transformer combination to provide a high voltage output.

3,264,593
MAGNETIC CORE WITH WINDING RETAINING PLATE

James D. Cole, Park Ridge, Ill.
(550 Chester Ave., Elgin, Ill.)

Filed Apr. 29, 1963, Ser. No. 276,580
2 Claims. (Cl. 336—197)

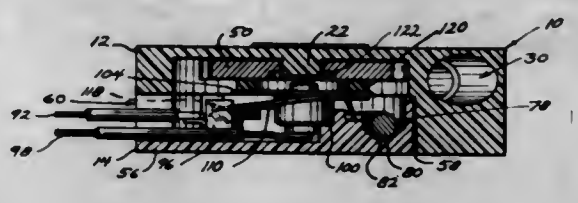


1. An electric coil structure, comprising a laminated core of rectangular section, a coil winding mounted on said core, stamped end plates for retaining said winding on said core, each of said end plates having an opening to provide a core receiving opening, friction gripping lugs on opposed edges of said openings extending obliquely at an angle to said plates and fastener elements extending through said lugs in said plates and through corresponding openings in said core to hold said end plates in position on said core and to retain the laminations thereof in fixed relation, said end plates and lugs being arranged at the ends of the core with the lugs extending in opposite directions and away from said coil, each of said end plates being provided with a radial slot extending from the opening to the outer edge thereof.

3,264,594
ADJUSTABLE POTENTIOMETER

Michael C. Layland, Columbus, Nebr., assignor to Dale Electronics, Inc., Columbus, Nebr.

Filed Nov. 29, 1962, Ser. No. 240,839
1 Claim. (Cl. 338—174)



In a miniature potentiometer,
a housing,
a compartment in said housing,
an arcuate resistance element in said housing,
an electrical collector element in said housing,
a movable collector assembly movably mounted on said collector element and being in movable electrical contact with said resistance element,
a circular gear means mounted in said housing in substantial spaced relation to said collector assembly and being free from direct engagement with said collector assembly,
a frictional resilient washer element compressed between said gear means and said collector assembly and being only in frictional engagement therewith, said washer element being the only driving means of connection between said gear means and said collector assembly whereby the movement of said gear means will normally induce corresponding movement of said collector assembly and will permit movement of said gear means independently of said collector assembly when said collector assembly is held against movement, said washer element being

of such a thickness whereby a substantial reduction of the thickness thereof due to wear thereon will not permit said collector assembly and said gear means to be in direct frictional engagement, said washer means being comprised of electrical insulation material,

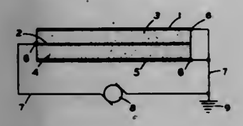
and means on the exterior of said housing and operatively connected to said gear means for moving said gear means.

3,264,595

THREE-ELECTRODE LAMINATED HEATER

Nathaniel E. Hager, Jr., Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

Filed Sept. 9, 1964, Ser. No. 395,169
6 Claims. (Cl. 338—211)



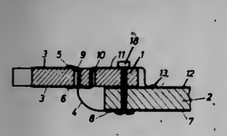
1. A three-electrode laminated heater comprising in combination two outer opposing metallic foil electrodes having electrical power connections thereon, an inner metallic foil electrode having an electrical power connection thereon and positioned correspondingly between the outer electrodes, and two semi-insulating layers positioned respectively between an outer electrode and the inner electrode in electrical contact therewith and adapted to generate the heat output of the heater when electrical current flows through the thickness thereof in a direction perpendicular to the plane of the electrodes.

3,264,596

PRINTED CIRCUIT BOARD CONNECTOR

Johannes Bernutz, Ludwigsburg-Hoheneck, Germany, assignor to International Standard Electric Corporation

Filed Mar. 26, 1963, Ser. No. 268,018
Claims priority, application Germany, Apr. 7, 1962, St 14,581
1 Claim. (Cl. 339—17)



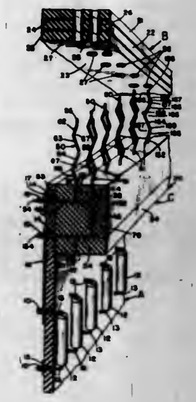
A printed circuit board connector comprising an elongated strip of insulating material for attachment to a printed circuit board, a plurality of spaced contact members distributed along the length of said strip on each side thereof, said spaced contact members consisting of metal deposits on said insulating material, each of said metal deposits being electrically insulated from the others, a plurality of electrical conductors, a plurality of openings through said strip to permit access by the electrical conductors from one side of the strip to the other, said openings serving as means to give mechanical support for conductors passing therethrough, a two sided printed circuit board having conductive portions on each side, means fastening said elongated strip to said printed circuit board to thereby hold a first side of the elongated strip in position against a first side of the printed circuit board, a first electrical conductor extending through one of said openings and being connected at one end to a first one of said metal deposits on the first side of said strip and being connected at the other end to a conductive portion on the first side of the printed circuit board, a second electrical conductor extending through one of said openings and being connected at one end to one of said metal deposits on a second side of said strip and at the other end to a conductive portion on the second side of said printed circuit board.

3,264,597

MULTI-PRONG ELECTRICAL CONNECTOR

Walter A. Gammel, Sr., Minneapolis, Minn., assignor, by mesne assignments, to G. T. Schjeldahl Company, a corporation of Minnesota

Filed Apr. 3, 1963, Ser. No. 270,302
4 Claims. (Cl. 339—17)



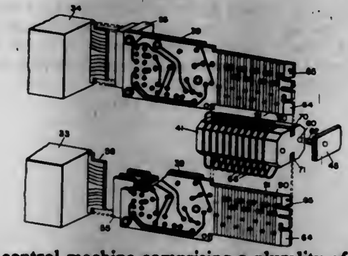
1. An electrical connector comprising a preformed insulating body having a first outer face and a second outer face angularly disposed relative to one another, said body having an L-shaped cavity therein and forming a first inner face substantially parallel with said first outer face and falling short of said second outer face, and a second inner face disposed substantially parallel to said first outer face and disposed closer to said first outer face than said first inner face, and extending up to said second outer face, said first inner face being formed with grooves substantially parallel with one another and extending in a direction substantially normal to said second outer face, said body further having holes formed therein communicating with said grooves and extending through said first outer face, said second inner face being formed with grooves substantially parallel with one another and extending in a direction substantially normal to said second outer face, said body further having holes formed therein communicating with said last-named grooves and extending through said first outer face, first connector elements each having two legs angularly disposed relative to one another, one of said legs of each connector element being disposed in one of said grooves and the other of said legs extending through the hole communicating therewith, second similarly constructed connector elements having angularly disposed legs with one leg of each connector element disposed in one of the grooves in said second inner face and the other of the legs of each of said second connectors extending through the hole communicating therewith, terminal means on said legs and insulating means disposed in said cavity for enclosing said legs and holding the same in position.

3,264,598

CONNECTOR FOR CIRCUIT BOARDS

Stuart M. Phelps and Frank A. Daly, Rochester, N.Y., assignors to General Signal Corporation, a corporation of New York

Original application Sept. 15, 1960, Ser. No. 56,231, now Patent No. 3,123,800, dated Mar. 3, 1964. Divided and this application Oct. 2, 1963, Ser. No. 313,339
1 Claim. (Cl. 339—17)



In a control machine comprising a plurality of longitudinal printed circuit boards arranged in rows and columns and having conductors for electrical connection along their longitudinal edges,

(a) a connector for connecting the conductors of a longitudinal edge of one printed circuit board with the conductors of a longitudinal edge of another circuit board repsectively, comprising,

(b) a longitudinal block of insulating material disposed between the adjoining longitudinal edges of two of said circuit boards and having longitudinal slots formed therein along two opposite sides for receiving the longitudinal edges of said one and said another circuit boards respectively,

(c) said block having a plurality of transverse slots formed therein, and

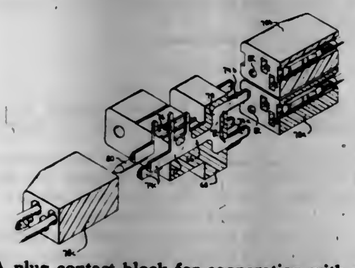
(d) an interconnecting conductor disposed in each of said plurality of transverse slots extending between the longitudinal slots in the opposite sides of the block, each said conductor being formed by a nearly closed loop of resilient wire having its ends extending into the longitudinal slots respectively and said plurality of conductors being retained in their respective slots under compression by a longitudinal pin of insulating material extending longitudinally through the block to maintain contact with their respective conductors on the said one and said another circuit boards.

3,264,599

CONNECTOR BLOCK ASSEMBLY

Robert John Kinkaid, New Cumberland, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Original application Nov. 27, 1961, Ser. No. 157,037. Divided and this application Mar. 3, 1965, Ser. No. 436,827
3 Claims. (Cl. 339—17)



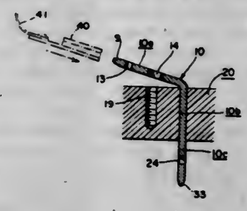
1. A plug contact block for cooperation with a socket-contact block having mating contact elements comprising an array of side-by-side spaced metallic conductors supported in a block of insulating material, each conductor terminating in a contact member projecting through a flat face of the block, said contact member being generally of solid rectangular cross-section but having rounded corners on one side, the surface of said one side between the rounded corners being flat and constituting the major part of the width of the contact member, and external circuit engaging means integral with said conductors and projecting from another face of said block.

3,264,600

MECHANICAL APPARATUS

Lewis Ellsworth Barth, Langhorne, and Robert B. Seidel, Radnor, Pa., assignors to Automatic Timing & Controls, Inc., King of Prussia, Pa., a corporation of Pennsylvania

Filed Sept. 19, 1963, Ser. No. 310,173
5 Claims. (Cl. 339—31)



1. A terminal assembly comprising:

(a) a mounting means including first and second adjacent portions, said first portion having an aperture formed therein,

(b) a resilient electrode member which includes:

(i) a first portion secured to said second portion of said mounting means and

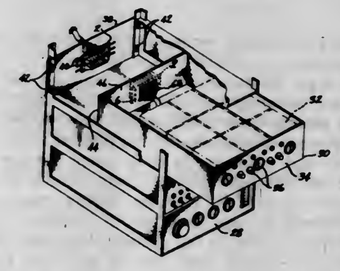
(ii) a second substantially planar portion extending from said first portion (i), said second planar portion having an aperture therein and being constructed to be slidably coupled to a push-on type of connector, said second planar portion being bendable with respect to said first portion (i) thereby to bring said apertures into alignment.

3,264,601

ELECTRICAL CONNECTOR

Marshall J. Hartholz, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Mar. 10, 1964, Ser. No. 350,784
7 Claims. (Cl. 339—176)



7. An electrical connecting device comprising:

a male member and a female member;

one of said members being adapted to be mounted on a drawer operably arranged in an associated cabinet, and the other of said members being adapted to be

mounted on said cabinet so that said male and female members will be in their closed position when said drawer is closed in said cabinet, and in an open position when said drawer is opened;

said male member including two male end portions and a plurality of male wafers secured therebetween;

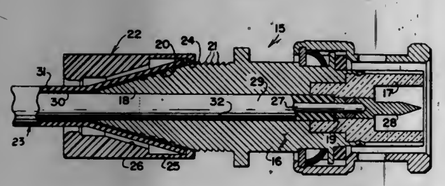
said female member including two female end portions and a plurality of female wafers secured therebetween;

each of said male wafers having means defining a longitudinally extending convex surface, and each of said female wafers having means defining a complementary, longitudinally extending concave surface adapted to receive the convex surface of one of said male wafers;

each of said male end portions including a transversely sloping surface defining a transversely extending convex surface and a longitudinally sloping surface defining a longitudinally extending convex surface, and each of said female end portions including a complementary, transversely sloping surface defining a transversely extending concave surface and a complementary, longitudinally sloping surface defining a longitudinally extending concave surface which coincide with and are adapted to receive one of said male end portions when said drawer is in a closed position; whereby said tranversely and longitudinally extending convex and concave surfaces of said male and female end portions will cooperate to align said male and female members in a longitudinal direction and in a transverse direction when said drawer is closed; and

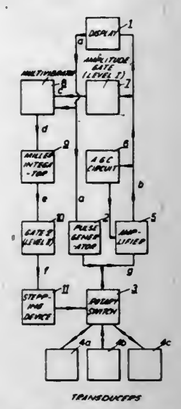
electrically conductive means provided in said male and female wafers for providing an electrical path when said drawer is in a closed position.

3,264,602
ELECTRICAL CONNECTORS FOR COAXIAL CABLES
Oscar Schwartz, Brooklyn, N.Y., assignor to Automatic Metal Products Corporation, Brooklyn, N.Y., a corporation of New York
Filed Mar. 13, 1964, Ser. No. 351,701
7 Claims. (Cl. 339—177)



1. In an electrical connector for a coaxial cable of the type including a tubular dielectric having an inner conductor fitted therethrough and at least an outer tubular conductor covering said dielectric, an electrically conductive tubular body member having a tapered end, for slidingly receiving therein the end portion of the dielectric whereby said tapered end shall enter between said dielectric and said outer tubular conductor and shall contact the latter; said body member having exterior ratchet teeth inclined in one direction in relation to its length and shoulders facing in the opposite direction, said ratchet teeth being adjacent said tapered end, and a sleeve to receive said tapered end therein, having at least in part, a tapered interior surface adapted to contact the exterior of the cable when the said sleeve is placed over said tapered end and to press same against the surface of said tapered end; said sleeve having a resilient portion and terminating in a pawl formation which need be forced to come beyond said tapered end whereby said pawl formation will enter between adjacent teeth and be engaged thereby to maintain the assembly whereby said cable is tightly clamped in said connector; said pawl engaging at least one of said shoulders to secure the sleeve against inadvertent removal.

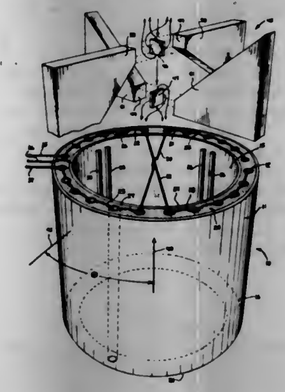
3,264,603
MARINE ECHO SOUNDING APPARATUS
Geoffrey Harold Ellis, Romford, and Roy William George Haslett, Ilford, England, assignors to S. Smith & Sons (England) Limited, London, England, a British company
Filed Dec. 17, 1963, Ser. No. 331,148
7 Claims. (Cl. 340—3)



1. Marine echo sounding apparatus comprising a pulse generator adapted to generate electric pulses at predetermined time intervals, a plurality of similar transducer means, adapted to be located at a plurality of spaced locations on a vessel, each adapted both to emit a pulse of acoustic energy upon the application of an electric pulse thereto and to produce a pulse of electric energy upon the receipt of a pulse of acoustic energy thereby, an electric amplifier adapted to amplify electric pulses applied thereto, switching means having a plurality of operative conditions corresponding to the number of transducer means, the switching means serving to connect, in each said operative position, one transducer means to the pulse generator and to the electric amplifier, means to display output signals from the amplifier in relation to their time of receipt, and means responsive to the absence of electric output pulses at the amplifier output greater than a predetermined magnitude within a predetermined time after the production of a pulse by the pulse generator to operate the switching means to cause it to assume a different operative condition, successive operations of the switching means resulting in the sequential connection of the transducer means to the pulse generator and amplifier.

3,264,604
TRANSDUCER
Peter G. Bartlett, Indianapolis, Ind., assignor to Bartlett Laboratories, Inc., Indianapolis, Ind., a corporation of Indiana
Original application June 12, 1961, Ser. No. 116,603, now Patent No. 3,148,351, dated Sept. 8, 1964. Divided and this application Jan. 20, 1964, Ser. No. 347,325
3 Claims. (Cl. 340—8)

1. A transducer comprising a cylinder composed of electromechanically sensitive dielectric material, said cylinder being divided into four quadrants and having a plurality of equally spaced bores in each of the four quadrants and extending longitudinally of the cylinder, conductive coatings on the interior and exterior of the cylinder, conductive coatings on the cylinder inside of said bores, means for electrically connecting in series all of the bores in each quadrant with the most endward bores



of each quadrant at the end of each series, means for electrically connecting one of the most endward bores to the bore diametrically opposed thereto, and means for electrically connecting the most endward bore adjacent to said one bore to the bore diametrically opposed thereto.

3,264,605
CONTROL APPARATUS
Gordon A. Vincent, Seattle, Wash., assignor to Honeywell Inc., a corporation of Delaware
Filed Dec. 7, 1964, Ser. No. 416,279
6 Claims. (Cl. 340—8)



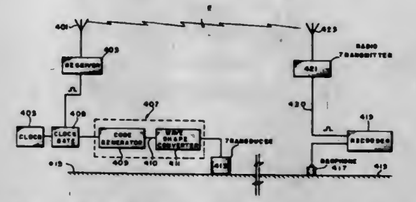
1. Compliant tube apparatus for use in electromechanical transducers comprising, in combination:

compliant tube means;

noncompressible fluid means filling said compliant tube means to a predetermined fraction of the volume enclosed by said compliant tube means; and

compressible fluid means filling the remainder of said volume whereby said compliant tube means compresses in response to externally applied pressure thereby reducing the volume enclosed with said compliant tube means, said noncompressible fluid means operating to limit the amount of compression of said compliant tube means thereby preventing damage to said compliant tube means.

3,264,606
METHOD AND APPARATUS FOR CONTINUOUS WAVE SEISMIC PROSPECTING
Troy N. Crook and John D. Ball, Houston, and Charles L. Hubbard, Bellaire, Tex., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Nov. 2, 1964, Ser. No. 408,310
17 Claims. (Cl. 340—15.5)



1. In a method of determining the travel time of seismic waves between a transmitting location and a receiving location wherein there is transmitted from the transmitting location an elongated vibratory signal made up of a succession of seismic energy pulses which are transmitted through one or more ray paths through the earth from the transmitting location to the receiving location, which vibratory signal is nonrepetitive during a time interval which is at least as long as the travel time of the signal along any of said ray paths, and wherein there are produced time series respectively representative of the transmitted vibratory signal and the composite signal detected at the detecting location, and wherein the time series are cross-correlated while shifting the time-phase relationship thereof with respect to the time-phase relationship of the transmitted vibratory signal and the detected composite signal, the improvement which comprises:

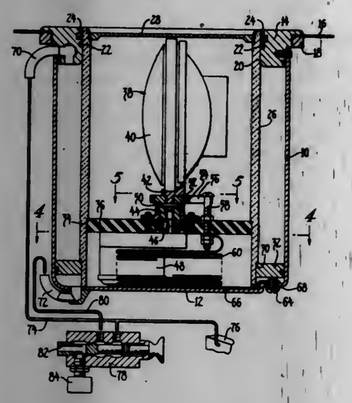
producing a code sequence which may be represented as a reference time series having a unique auto-correlation function which comprises a single major lobe having no side lobes of greater amplitude than the side lobes of the auto-correlation function of statistically unrelated noise components of the composite signal detected at said detecting location; and

shaping the amplitude density spectrum of the portion of the time series produced by the vibratory seismic waves traveling from said transmitting location to said receiving location along one of said one or more ray paths and the time series representative of the transmitted vibratory signal in an identical manner to correspond to said code sequence.

3,264,607
CONCEALED EMERGENCY BEACON
Clarence A. Sherman, Detroit, Mich., assignor to Benton Corporation, Ferndale, Mich., a corporation of Michigan
Filed Sept. 24, 1962, Ser. No. 225,479
7 Claims. (Cl. 340—87)

1. A power operated disappearing warning lamp for installation in the roof of an emergency vehicle comprising a straight cylindrical housing having an open top and a closed bottom, means at the top of the housing for attachment in an aperture in a vehicle roof and providing an inwardly directed annular shoulder having a circular opening smaller than the inside of the housing, a transparent cylinder slidably mounted in the opening, an annular piston secured to the lower end of the cylinder and

engaging the wall of the housing with a sliding fit, a warning light carried within the cylinder, and means for directing the ingress and outflow of fluid to and from the



space on at least one side of the piston to selectively move the cylinder between a position concealed below the roof and a position projecting above the roof for warning purposes.

ERRATUM

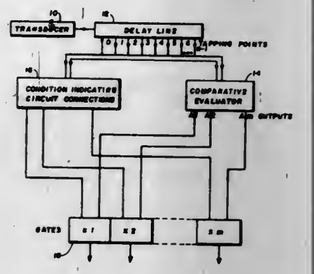
For Class 340—146.3 see:
Patent No. 3,264,469

3,264,608
ASCERTAINING THE POSITION OF WRITTEN SYMBOLS WHICH ARE TO BE AUTOMATICALLY IDENTIFIED
Günther E. Gattner and Rolf F. Jurk, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed May 14, 1962, Ser. No. 194,287
Claims priority, application Germany, May 19, 1961, S 74,053
11 Claims. (Cl. 340—146.3)



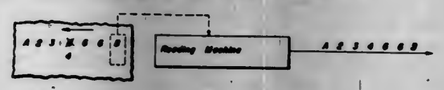
9. An arrangement for ascertaining the rearward limits of written symbols scanned in a columnar manner for the automatic processing thereof, comprising scanning means for the column-by-column scanning of a predetermined scanning range operative to generate scanning signal elements, which indicate in each case the scanning of a surface element covered or not covered by a symbol portion, means connected to said scanning means for the formation of projection signal elements representing projection, transversely to the scanning direction, of the already scanned portion of the scanning range, comparison means connected with said second-mentioned means for effecting a comparison of the projection signal elements with the scanning signal elements corresponding to those of the scanning column just scanned, in which the signal elements compared with one another positionally correspond in column direction, and further comparison means connected with said first comparison means, for comparing successive pairs of such projection and scanning signal elements corresponding to one another, to ascertain, in the succession of pairs of signal elements consisting of projection signal elements and scanning signal elements corresponding to one another, the occurrence of a number of signal element pairs "10" which consist in each case of a projection signal element "1" corresponding to a surface element covered by symbol portions, and a scanning signal element "0" corresponding to a surface element not covered by a symbol portion and which lie directly between two signal element pairs "00" which consist in each case of two signal elements "0" corresponding to surface elements not covered by symbol portions, whereby the identification of the rearward limits of a symbol just scanned is established.

3,264,609
SCANNING DEVICE
Kurt Scheidhauer, Allensbach, Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany
Filed Oct. 24, 1962, Ser. No. 232,693
Claims priority, application Germany, Oct. 24, 1961, T 21,016
3 Claims. (Cl. 340—146.3)



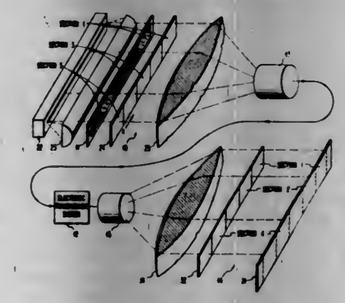
3. A device for automatic symbol recognition by scanning symbols to be recognized for providing wave forms which are characteristic of the symbols, comprising, in combination:
- a delay line to which the wave forms are fed and having a plurality of tap points at which discrete voltages significant of the wave forms of the symbols appear;
- means in the form of voltage summing networks connected to said delay line for comparatively evaluating the discrete voltages appearing at said tap points and having output channels which pertain to individual symbols and which signal when individual symbols are recognized;
- a plurality of coincidence circuits having first inputs respectively connected to said output channels and second inputs; and
- means connected to said tap points and said coincidence circuits for providing to the coincidence circuits signals derived from a selection of discrete voltages available at the tap points of the delay line as being positive, negative, and zero voltage, so that for each symbol of a set of identifiable symbols there is connected to the second inputs of the coincidence circuits a selection of tape points on the delay line adapted to the specific characteristics of the wave form of just that symbol.

3,264,610
READING MACHINE WITH AUTOMATIC RECOGNITION OF CHARACTERS SUBSTITUTED FOR PRINT ERRORS
Jacob Rabinow, Bethesda, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 31, 1963, Ser. No. 334,747
8 Claims. (Cl. 340—146.3)



1. In a reading machine for characters formed in a line on a document, wherein a character printed erroneously is disfigured and replaced with a replacement character at a predetermined position with respect to the erroneously printed character, an examination device arranged to examine the area of both said disfigured character and said replacement character, said examination device including means to extract character-describing information from both of said areas and provide signals corresponding thereto, processing means responsive to said signals to provide a plurality of correlation signals whose values correspond to the correlation provided by both said disfigured character and said replacement character, a comparator, means to conduct said correlation signals to said comparator, and control means providing a control signal for said comparator so that the effect of comparator operation is that the comparator must make a decision between said replacement character and said disfigured character and provide a character-identity signal for the replacement character only.

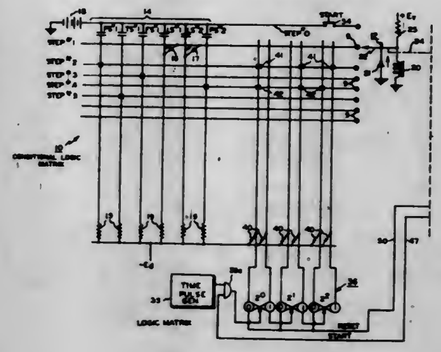
3,264,611
OPTICAL MULTIPLEXING
Adolf W. Lohmann, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 9, 1964, Ser. No. 350,483
15 Claims. (Cl. 340—146.3)

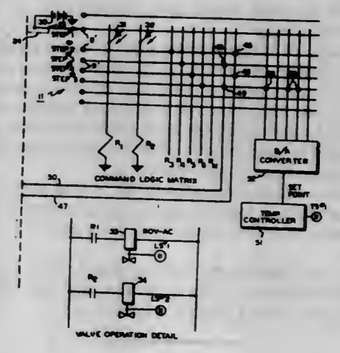


3. A device for reading a printed page, said page being divided into lines, said lines being divided into character cells, selected character cells having characters printed therein;
- a shutter, the frequency of which varies as a function of the distance along each line, whereby a particular band of frequencies is assigned to each character cell;
- a photoreceptor for generating an electrical signal in response to the light incident thereon;
- a light source for generating light;
- an optical system for modulating said light by both said characters and said shutter and for directing the modulated light to said photoreceptors;
- a plurality of bandpass filters one for each character cell, each filter having a passband corresponding to the frequencies assigned to the associated character cell;
- means connecting the output of said photoreceptor to the input of said bandpass filters;
- means for generating a plurality of reference signals, each signal representative of a different character; and
- means for correlating the output of each filter to each reference signal,

whereby the characters on said lines can be identified.

3,264,612
SEQUENCE CONTROLLER
Edward W. Yetter, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 21, 1961, Ser. No. 132,661
4 Claims. (Cl. 340—147)



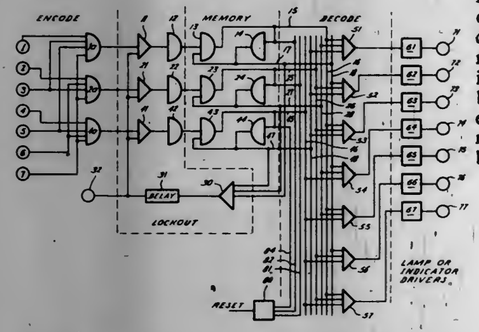


1. An electrical sequence controller comprising, in combination:
- a conditional logic matrix providing an ordered array of electrical circuit paths gated so as to correspond with the attainment of preselected conditions in a process to be controlled,
- a switching device and actuation means for said switching device,
- means connecting the outputs of said conditional matrix electrical circuit paths in individual sequence with said actuation means,
- a power source and means operative to effect said attainment of said preselected conditions in said process to be controlled,

a command logic matrix having an ordered array of electrical circuits connected by said switching device between said power source and said preselected condition attainment means, and

condition-detecting means responsive to the attainment of said preselected conditions in said process to be controlled to allow transmission of electrical verifying signals to said conditional logic matrix for actuation of said switching device, said switching device establishing powered electrical connections in a programmed sequence through preselected individual ones of said ordered array of electrical circuits in said command logic matrix.

3,264,613
ALARM ANNUNCIATOR
Leslie R. Stolle, Houston, Tex., assignor to Austin Electronics Corporation, a corporation of Texas
Filed Oct. 13, 1961, Ser. No. 144,865
12 Claims. (Cl. 340—147)



9. Apparatus for providing an identification of the source of the first signal from a plurality of possible sources comprising

a plurality of information paths of lesser number than the number of sources, each path adapted to receive information from at least one of said sources,

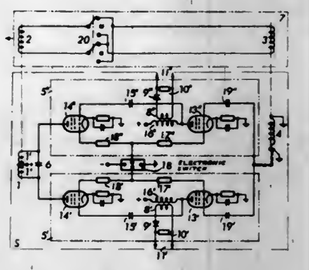
a source identification means for each source connected to said information paths in such a manner as to indicate the transmission of information resulting from a signal from such source,

a lockout circuit connected to all of said paths adapted to produce a locking signal upon receipt and transmission of information by at least one of said paths, and

means for feeding the locking signal back into all of the information paths to prevent the transmission by the paths of any further information.

3,264,614
SYSTEM FOR AUTOMATIC ELECTRIC RECORDING AND INDICATING A CODE MARKED BY MEANS OF PASSIVE CIRCUIT ELEMENTS ON A VEHICLE
Börje Hellström, 6 Svartviksvagen, Bromma, Stockholm, Sweden
Filed Jan. 19, 1960, Ser. No. 3,328
Claims priority, application Sweden, Jan. 21, 1959, 540/59
7 Claims. (Cl. 340—152)

1. A system for conveying a binary coded information from a first station to a second station, one of said stations being movable along a predetermined path of travel and the other of said stations being stationary adjacent to said path of travel, comprising, in combination, code signal determining means at said first station and code reading means at said second station, said code reading means at said second station including input inductance coil means and output inductance coil means and electrical signal amplifying means connected between said input coil means and said output coil means, said input coil means and said output coil means being spaced from each other a distance sufficient to prevent mutual inductive coupling between them and to thereby prevent electrical self-oscillation in said electrical signal amplifying means, said electrical signal amplifying means comprising two separate amplifier channels connected between said input coil means and said output coil means and a resonant circuit being common to both said amplifier channels and being tuned to a predetermined frequency, each of said amplifier channels being adapted to impart a phase shift different from that imparted by the other of said amplifier channels to a signal of said predetermined frequency transferred through the respective amplifier channel from said input coil to said output coil, said code signal determining means at said first station including for each binary digit of binary coded information to be conveyed an inductance coil system comprising a first inductance coil and a second inductance coil and switching means for mutually interconnecting said first and second inductance coils, said first and second inductance coils being spaced from each other a distance substantially equal to the distance between said input and output coil means of said code reading means and so disposed as to be inductively coupled to said output coil means and said



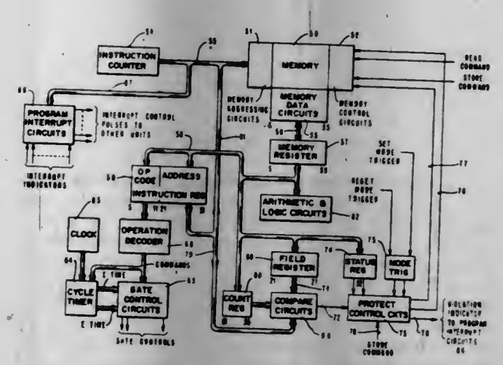
input coil means, respectively, when said first station and second station are moved into operative proximity with each other, said inductance coil system forming thereby a signal feed-back path from said output coil means to said input coil means of said code reading means, said switching means being operable between a first position, in which said first and second inductance coils are interconnected with a first relative polarity so that said inductance coil system imparts a first predetermined phase shift to a signal of said predetermined frequency transferred through said inductance coil system from said output coil means to said input coil means of said code reading means, said first phase shift being related to the phase shift of the one of said two amplifier channels in said code reading means so as to create a positive feedback for said one amplifier channel and thereby electrical self-oscillation in said one amplifier channel, and a second position, in which said first and second inductance coils are interconnected with a second relative polarity so that said inductance coil system imparts a second predetermined phase shift to a signal of said predetermined frequency transferred through said inductance coil system from said output coil means to said input coil means of said code reading means, said second phase shift being related to the phase shift of the other one of said two amplifier channels of said code reading means so as to create

a positive feedback for said other amplifier channel and thereby an electrical self-oscillation in said other amplifier channel.

ERRATUM

For Class 340—172.5 see:
Patent No. 3,264,397

3,264,615
MEMORY PROTECTION SYSTEM
Richard P. Case, La Grange, Henry G. Jones and Ronald M. Smith, Poughkeepsie, and John A. de Veer, Millbrook, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 11, 1962, Ser. No. 243,883
10 Claims. (Cl. 340—172.5)



1. In combination with a memory having a plurality of addressable storage locations which are assigned addresses in an ordered sequence, said address being employed to obtain access to said locations, means for protecting predetermined locations in said memory comprising:

(a) means for storing a configuration of address identifying indicia which is common to a plurality of addresses in said memory;

(b) means controllable for comparing at least a part of each address employed to obtain access to a location in said memory with at least a part of the configuration stored in said register means;

(c) means for signalling favorable or unfavorable comparison; and

(d) means responsive to a predetermined one of said favorable or unfavorable comparison signals for signalling a violation of a protected addressable location.

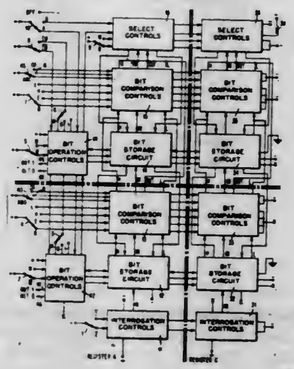
3,264,616
RANGE AND FIELD RETRIEVAL ASSOCIATIVE MEMORY
Arwin B. Lindquist, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 16, 1963, Ser. No. 330,768
11 Claims. (Cl. 340—172.5)

1. A memory system, comprising

a plurality of registers for storing words of information, each register comprising a plurality of bit positions,

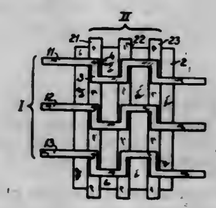
circuit means coupled to the bit positions of said registers for controlling the interrogation, selection, reading and writing operations of said registers according to an established specification of information,

and ranging and field determining means associated with like bit positions in each word register for establishing said specification of information,



said specification being variable as to range and field among the bit positions in a register.

3,264,617
SUPERCONDUCTOR MEMORY MATRIX
Henri Gérard Feissel, Paris, France, assignor to Societe Industrielle Bull-General Electric (societe anonyme), Paris, France
Filed Jan. 24, 1966, Ser. No. 522,438
Claims priority, application France, Feb. 18, 1965, 6,054
1 Claim. Cl. 340—173.1)



A superconductor memory matrix comprising

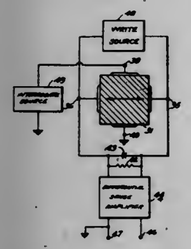
a data storage medium in the form of a continuous sheet of a superconductive material having a relatively low critical field,

and two sets of selection conductors in the form of ribbon-like strips of a superconductive material having a relatively high critical field, both sets lying respectively in a first and a second plane parallel to the plane of said sheet and on the same side thereof,

superposed portions of two strips pertaining to different ones of said two sets, being parallel to each other and having a different width, the wider one overlapping the narrower one on both sides,

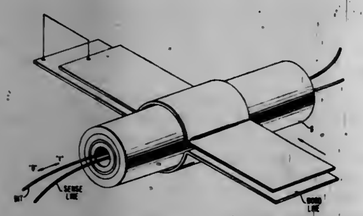
whereby the operation characteristics of a storage element of the memory matrix comprising two such superposed portions of strip depends neither on the width of the narrower portion nor on the position of the latter with respect to the larger portion.

3,264,618
FERROELECTRIC MEMORY ELEMENT
Cravens L. Wanlass and Scott H. Nelson, Santa Ana, Calif., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 23, 1962, Ser. No. 239,673
4 Claims. (Cl. 340—173.2)



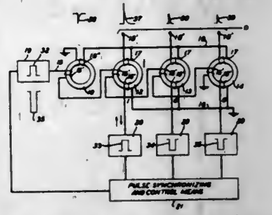
1. A nondestructive readout memory system comprising a block of ferroelectric material having a polarization axis and two stable states of polarization charge, a first pair of electrodes positioned on said block to produce in said block in response to a signal supplied to said electrodes an electric field parallel to said polarization axis, a second pair of electrodes positioned on said block to produce in said block in response to a signal supplied to said second pair of electrodes an electric field substantially perpendicular to said polarization axis, a source of write signals selectively generating write signals of one or the opposite polarity representative respectively of binary ONES and ZEROS and of magnitude sufficient to change the charge state of said ferroelectric block, means connecting said source of write signals between said first pair of electrodes, a source of unipolar interrogate pulses having a magnitude sufficient to affect the instantaneous charge state of said block, means connecting said source of interrogate pulses between said second pair of electrodes, and output means, comprising charge sensing means connected between said first pair of electrodes, for sensing the change in charge between said first pair of electrodes.

3,264,619
CYLINDRICAL FILM METAL CORES
Jacob Riseman, Quinton W. Simkins, and Barry L. Flur, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 25, 1962, Ser. No. 197,707
9 Claims. (Cl. 340—174)



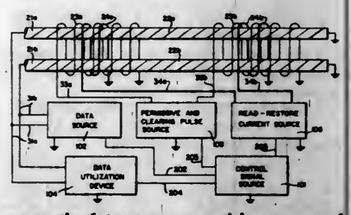
1. An individual closed flux bistable magnetic core having high speed switching characteristics comprising:
a hollow cylindrical siliceous substrate less than approximately 100 mils in length;
a layer of noble metal less than 5,000 angstrom units in thickness over the external surface of said substrate;
a vacuum deposited adhesive metallic layer between said substrate and said noble metal layer;
said adhesive metallic layer being a material selected from the group consisting of chromium, titanium and an alloy of nickel and chromium;
and a nickel-iron alloy layer covering said noble metal layer having at least a substantially circumferentially magnetic orientation and being between 3,000 and 15,000 angstrom units in thickness.

3,264,620
MAGNETIC MEMORY CIRCUIT
Andrew H. Bobeck, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 13, 1962, Ser. No. 223,483
7 Claims. (Cl. 340—174)



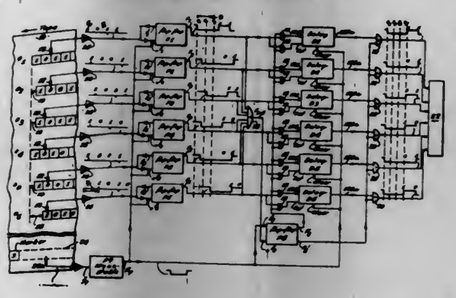
1. A magnetic memory including a plurality of magnetic elements making up a word address, each of said elements being of a material characterized by a substantially rectangular hysteresis loop, a write-read circuit including write-read windings each inductively coupled to a different one of said elements, a plurality of digit circuits each including a digit winding inductively coupled to a different one of said elements, said write-read circuit and said digit circuits when simultaneously activated determining in corresponding elements a magnetization therein, means for pulsing simultaneously said write-read and said digit circuits, a sensing circuit including a common conductor and a plurality of sensing windings, each of said sensing windings inductively coupled in the same sense to a different one of said elements for sensing changes in the magnetization therein, and a reference element inductively coupled to the write-read circuit and to said common conductor in like sense opposite to that of said sensing windings for determining in response to a subsequent activation of said write-read circuit a voltage reference level with respect to which the sensing circuit registers positive and negative outputs for said elements.

3,264,621
MAGNETIC DATA STORE
Robert L. Gray, Jr., Birmingham, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Continuation of application Ser. No. 782,914, Dec. 24, 1958. This application Mar. 25, 1963, Ser. No. 269,833
12 Claims. (Cl. 340—174)



3. A magnetic data store comprising a central conductor surrounded by magnetic material having a direction of easy magnetization substantially helical around said central conductor and exhibiting a substantially rectangular hysteresis characteristic, first solenoids of predetermined length wound externally around said central conductor and said magnetic material at selected locations along the length of said central conductor, second solenoids of considerably shorter length than said first solenoids, each of said second solenoids being wound around the said central conductor and said magnetic material in a medial position with respect to the axial length of a said first solenoid.

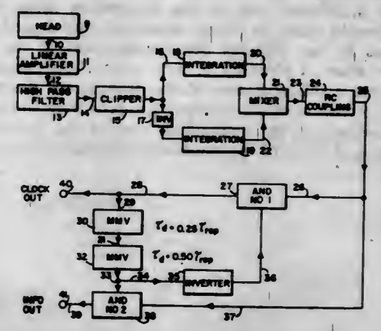
3,264,622
SYSTEM FOR COMPENSATING FOR TAPE SKEW AND GAP SCATTER
Richard K. Gerlach, Gardena, Calif., assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Oct. 23, 1961, Ser. No. 146,827
12 Claims. (Cl. 340—174.1)



1. A system for concurrent reproduction of parallel signals comprising: parallel signal channels including means for receiving misaligned parallel signals, each of said signal channels including delay circuit means for producing an adjustable time period of delay for signals in the respective signal channel according to the time period of a set pulse; and control circuit means coupled to each of said parallel signal channels to be responsive to each of said misaligned parallel signals for producing individual set pulses for said signal channels, said set pulses having respective time periods corresponding to the relative time displacement of the misaligned parallel signals; and means applying said set pulses to respective ones of said adjustable delay circuit means, said delay circuit means being responsive to said set pulses to set constant time periods of delay for signals in the respective signal channels according to the time duration of the individual set pulses applied thereto to provide concurrent outputs of said parallel signals.

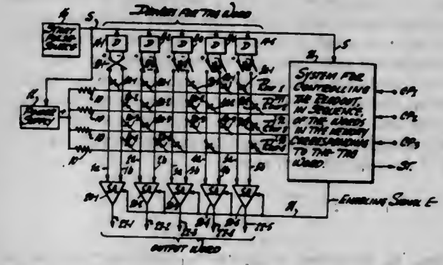
3,264,623
HIGH DENSITY DUAL TRACK REDUNDANT RECORDING SYSTEM
Andrew Gabor, Huntington, N.Y., assignor to Potter Instrument Co. Inc., Plainview, N.Y., a corporation of New York
Original application May 3, 1960, Ser. No. 26,538, now Patent No. 3,217,329, dated Nov. 9, 1965. Divided and this application Apr. 29, 1965, Ser. No. 451,915
10 Claims. (Cl. 340—174.1)

1. In a digital information recording and recovery system, the combination of, means for deriving self-clocking information signals from a prerecorded dual-track redundant magnetic tape wherein said redundant tracks are spaced by a predetermined amount at which the combined signal loss due to imperfections in the tape and due to inter-channel time displacement is substantially at a minimum, means for deriving from said signals a series of pulses representing composite information and



clock signals, and means for separating said composite signals into separate clock and information signals.

3,264,624
SYSTEM FOR THE RETRIEVAL OF INFORMATION FROM A CONTENT ADDRESSED MEMORY AND LOGIC NETWORKS THEREIN
Hillel Weinstein, New York, N.Y., assignor to Radio Corporation of America, a corporation of Delaware
Filed July 30, 1962, Ser. No. 213,339
9 Claims. (Cl. 340—172.5)

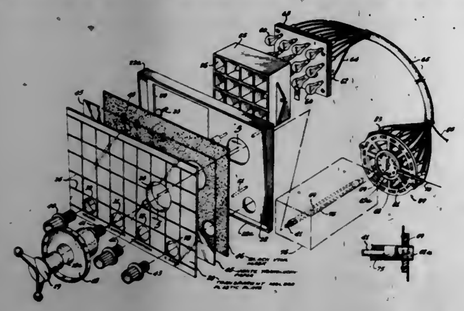


1. In combination, a plurality of storage devices for storing, in parallel, the bits of a binary word; a first network connected to said storage devices for concurrently sensing all bits stored; a second network responsive to the first network for producing one output pulse in response to the storage by any of the devices of a binary bit of given value, and for removing that binary bit from only one of said devices; and means for causing the first and second networks to repeat their function until the binary bit of given value has been removed from all of said devices.

3,264,625
TELEVISION RECEIVER TUNER CHANNEL INDICATOR
Bryce C. Bateman, Northridge, Calif., assignor to Packard-Bell Electronics Corporation, Los Angeles, Calif., a corporation of California
Filed May 23, 1960, Ser. No. 30,872
1 Claim. (Cl. 340—202)

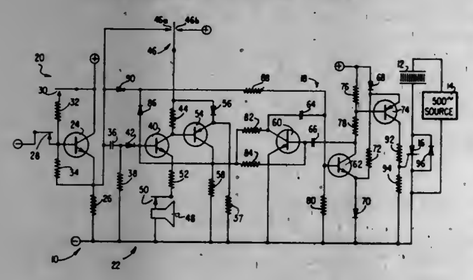
A channel selector unit for controlling the reception of a television receiver and for providing a visual indication of the selected channel, including an acrylic plastic transparent sheet having a coordinate array of ridges on one side of the sheet to define a number of designation areas, a sheet of translucent material against the other side of the acrylic plastic sheet for diffusing light provided thereto, a masking sheet member against said translucent sheet so that the translucent sheet is sandwiched between the

masking sheet member and the transparent sheet, said masking sheet member having a plurality of differently shaped transparent designation areas each positioned opposite a different one of the designation areas of said transparent sheet to define individual illuminated designations in the different designation areas of the transparent sheet, a plurality of light sources each positioned adjacent a different one of the transparent designation areas of the masking member for providing illuminated designations on the designation area of the plastic sheet which is in front of the associated designation area of the



masking member, a tuner for selecting a channel for reception, and switching means electrically connected to said light sources and mechanically connected to said tuner for selectively energizing said bulbs in accordance with the channel selected by said tuner, said tuner including a selector shaft mechanically coupled to said switching means on one side and extending on the other side through said masking member, said sheet of translucent material and said acrylic plastic sheet, said masking member and said sheet of translucent material and said acrylic plastic sheet defining an opening through which the other side of the selector shaft extends.

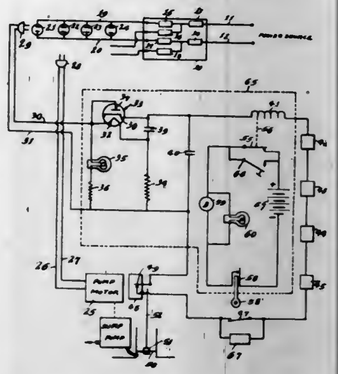
3,264,626
ALARM SYSTEM
George R. Mounce, Willowdale, Ontario, Canada, assignor, by mesne assignments, to Sloc Limited, a corporation of Canada
Filed Aug. 1, 1963, Ser. No. 299,232
10 Claims. (Cl. 340—213.1)



8. An alarm system comprising an electroluminescent panel, an alternating current potential source, controlled rectifier means including a gate electrode and adapted to connect the potential source to the panel, multivibrator means coupled to the gate electrode to control conduction through the rectifier means, contact means operable in dependence on a condition to be monitored, first controlled conduction means responsive to the contact means for supplying an enabling signal to the multivibrator means to place the multivibrator means in operation, and control means operable to one setting to maintain the energization of the panel after an abnormal condition and until reset and operable to another setting to energize the panel only during the interval in which the abnormal condition persists.

10. In an indicating system, an electroluminescent means, a source of alternating current potential for energizing the electroluminescent means, diode means connected between the source and the electroluminescent means, rectifier means connected in parallel with and oppositely poled to the diode, said rectifier means including a control electrode, and control means for supplying signals to the control electrode to control the energization of the electroluminescent means by the source.

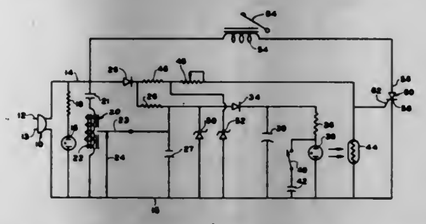
3,264,627
ELECTRICAL WARNING CIRCUIT
William H. Austin, 1622 S. Karlov Ave., Chicago, Ill.
Filed Nov. 19, 1962, Ser. No. 238,527
1 Claim. (Cl. 340—220)



Electrical warning means adapted to be connected to an alternating current potential source, comprising: a sensing circuit including, means connectable to said alternating current source for rectifying and filtering said alternating current potential to produce thereby a direct current potential output, a relay having a direct current coil connected in series with said rectifying and filtering means, a plurality of condition monitoring devices, each having a normally closed electrical switch connected in series with said rectifying and filtering means and means for sensing the existence of an undesired condition for opening said switch when the undesired condition is sensed; a sump pump for normally maintaining a liquid below a predetermined level; an electric motor connected to said sump pump for operation thereof; means for connecting said electric motor to a source of electric energy; one of said condition sensing means including an actuator coupled to its respective switch and float means on said actuator for opening said switch in response to said liquid rising about said predetermined level; a switch operator coupled to said relay coil and adapted to be actuated upon de-energization of said coil; a warning circuit including a battery, a normally open electrical switch connected in series with said battery, means coupling said normally open switch with said switch operator for closing of said normally open switch upon de-energization of said relay coil, a warning device connected in series with said battery for giving a signal when said relay coil is de-energized either by the failure of said alternating current source or by the actuation of one of said condition monitoring devices, a manually operable testing switch connected in series with said battery and in parallel with said normally open switch

for checking said battery and said warning device, and a disabling switch connected in series with said battery for opening said warning circuit when said sensing circuit is disconnected from said alternating current source.

3,264,628
MULTIPLE ALARM DEVICE
Robert H. Voigt and Jack D. Osborne, Milford, Mich., assignors to Asoco Incorporated, Milford, Mich., a corporation of Michigan
Filed Feb. 3, 1964, Ser. No. 342,102
13 Claims. (Cl. 340—220)



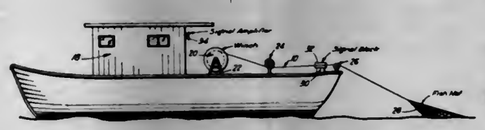
1. In an alarm circuit having a source of electrical power and means selectively imposing a predetermined actuation signal thereon, a multiple alarm device comprising

(a) an alarm circuit including a switching means and means producing an alarm upon a predetermined voltage potential being impressed across said switching means,

(b) a control circuit including a light responsive means connected with said switching means and operable to increase the voltage potential across said switching means to said predetermined value upon the light energy received by said light responsive means decreasing to a predetermined value,

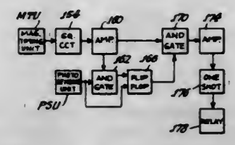
(c) said control circuit further comprising a light emitting means closely adjacent said light responsive means and a first means de-energizing said light emitting means upon receipt of said predetermined actuation signal and a second means de-energizing said light emitting means upon the temperature in the vicinity of said second means increasing to a predetermined value.

3,264,629
CABLE SIGNAL DEVICE
Franklin L. Le Bus, Sr., Geneva, Switzerland, assignor to Le Bus Royalty Company, Longview, Tex., a partnership
Filed Nov. 6, 1963, Ser. No. 321,900
3 Claims. (Cl. 340—259)



1. A cable signaling device comprising a cable carried by a spooling drum, a plurality of markers interposed throughout the length of the cable at spaced intervals of known dimensions therealong, a detecting device, means for moving the cable and markers in the proximity of the detecting device during a cable spooling or unspooling operation whereby the passage of each marker across the detecting device is independently detected, each successive marker being of a length along the cable which is different from the length of any other of said marker means to produce a differing output duration to facilitate the determination of the overall length of the cable which has been spooled or unspooled, and signal means operably connected to said detecting device to produce a signal in response to each of the differing outputs detected wherein the signal is of substantially the same duration as the detected output.

3,264,630
MIS-FEED DETECTING SYSTEM
Joseph Patrick Conklin, Fairfield, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Continuation of application Ser. No. 114,696, June 5, 1961. This application Mar. 16, 1964, Ser. No. 353,650
4 Claims. (Cl. 340—259)



1. In an apparatus for successively feeding documents along a document feed path in end to end spaced relation, and having means operating in uniform timed cyclical sequence to feed one document during each cycle and establish a document feed cycle, a mis-feed detecting system comprising:

sensing means for sensing the presence and absence of a document at a predetermined location along said document feed path and providing corresponding presence and absence indicating signals;

cyclical timing means operatively connected to said feeding means for producing serially a first timing signal and a second timing signal during each document feed cycle;

means operatively connected to said sensing means and said cyclical timing means to produce a continuous signal actuated by the presence of both said presence signal from said sensing means and said first timing signal and said continuous signal continuing thereafter only during the continued presence of said presence signal;

and mis-feed indicating means operatively connected to said continuous signal means and said cyclical timing means to produce a mis-feed indicating signal, responsive to the concurrence of said second timing signal and said continuous signal.

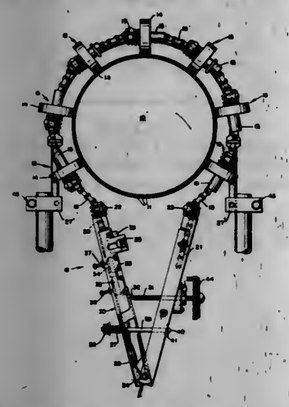
3,264,631
INDICATING GAUGE INCLUDING A CHAIN-LIKE MEMBER WRAPPED ABOUT A MAJOR PORTION OF THE CIRCUMFERENCE OF THE GAUGED WIRE-LIKE CONTINUOUS MOVING WEB FOR INDICATING IRREGULARITIES IN THE WEB CIRCUMFERENCE
Sigmund Ege, Hastings on Hudson, N.Y., assignor to Anaconda Wire and Cable Company, New York, N.Y., a corporation of Delaware
Filed Aug. 13, 1964, Ser. No. 389,285
5 Claims. (Cl. 340—259)

1. An apparatus for use in detecting the irregularity of the circumferential surface of a cable advancing longitudinally in a given path, the apparatus comprising:

(a) a plurality of contacting elements joined in series to form a flexible chain, said chain surrounding a major portion of the periphery of said cable with the contacting elements engaging said surface,

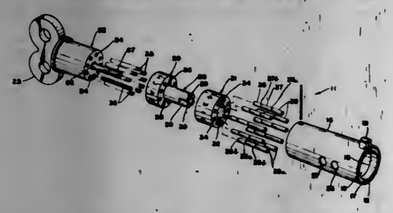
(b) a first arm connected to one end of the chain,

(c) a second arm connected to the other end of the chain and held in a predetermined angular relationship with said first arm, and



(d) means for detecting the variance of said angular relationship corresponding to the variance of the circumferential size of the cable due to the irregularity of its surface.

3,264,632
COMPULSORY TOUR SIGNALLING SYSTEM FOR WATCHMEN
Leslie A. Ward, Cleveland, Ohio, assignor to Morse Signal Devices, Inc., Cleveland, Ohio, a corporation of Ohio
Original application Apr. 26, 1960, Ser. No. 24,727, now Patent No. 3,149,321, dated Sept. 15, 1964. Divided and this application Apr. 8, 1964, Ser. No. 363,041
5 Claims. (Cl. 340—396)



1. A compulsory tour signalling system for watchmen comprising

a plurality of nonwired stations,

a wired transmitter station,

each nonwired station arranged to be visited by a watchman in accordance with a predetermined route pattern before a signal can be effected at the transmitter station,

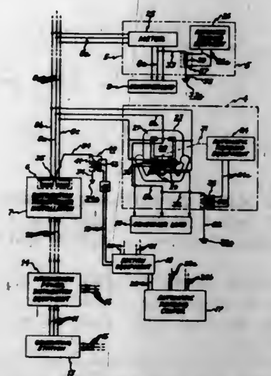
key-lock means carried by the watchmen connectable at each station to set a key element therein only if the next preceding station has been visited as prescribed by said predetermined route pattern, said key element comprising

a front rotatable member and a rear nonrotatable member each having a radial array of axially alignable passages therein,

a set of tumblers received in the passages of each member and certain tumblers in one set being of unequal length and both sets being mutually biased forwardly so that at least one tumbler in one member partially extends into the adjoining aligned passage of the other member thereby locking the members against relative rotation when the key-lock means is not being set at one of said stations,

said key lock means including means to restrain forward travel of the sets of tumblers and to permit access thereto at the front end of the rotatable member and plug key means at each station for depressing the tumblers in a prescribed fashion so that the rotatable member is free to rotate relative to the nonrotatable member in setting the key element.

3,264,633
AUTOMATIC POWER METER READING OVER NEUTRAL POWER TRANSMISSION LINE
Martin W. Hellar, Durham, N.H., assignor to General Electric Company, a corporation of New York
Filed Mar. 22, 1961, Ser. No. 97,642
6 Claims. (Cl. 340—310)



1. Automatic metering apparatus for use with an electric power distribution system having transmission lines connecting a distribution site with a remote consumer site and including one transmission line which is grounded, comprising a meter unit at the consumer site integrating the supply of a consumer load by service mains, readout means for producing electrical output signals characterizing the supply conditions integrated by said meter unit, means connecting said readout means with said meter unit for response to integrations thereof, first grounding means at said consumer site making a low-resistance connection between said one transmission line and the earth and including first coupling means for introducing said electrical output signals from said readout means in circuit therewith, means connecting the output of said readout means with said coupling means, second grounding means at said distribution site making a low-resistance connection between said one transmission line and the earth and including second coupling means in circuit therewith for producing an output of electrical signals responsive to said electrical output signals in said first grounding means, and data-processing means connected in circuit with said second coupling means and supplied with data by the electrical output signals therefrom.

3,264,634
DUAL ACTUATION SIGNAL ALARM DEVICE
Robert H. Voigt, Milford, Mich., assignor to Aseco, Incorporated, Milford, Mich., a corporation of Michigan
Filed Mar. 2, 1964, Ser. No. 348,570
8 Claims. (Cl. 340—310)

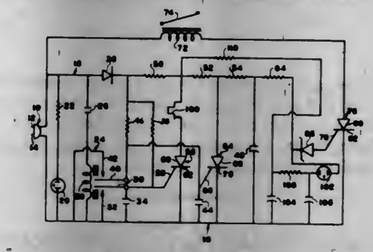
1. In an alarm system having a source of electrical power and means selectively imposing a first and a second predetermined actuation signal thereon, an alarm device comprising

(a) an alarm circuit including switching means and means producing an alarm upon actuation of said switching means,

(b) means operable to actuate said switching means and including a first control circuit, a second control circuit, an actuating circuit and a charging source for said actuating circuit,

(c) said actuating circuit being operable to actuate said switching means upon a predetermined increase in the voltage potential across said actuating circuit,

(d) said first control circuit normally shunting said actuating circuit with respect to said charging source and including means removing the shunt effect of said first control circuit from said actuating circuit only upon receipt of said first actuation signal,

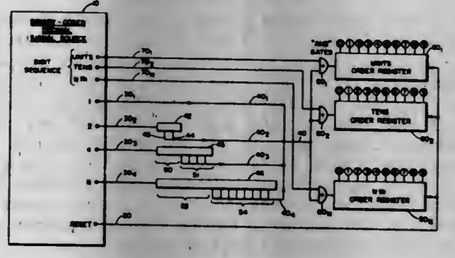


(e) said second control circuit normally shunting said actuating circuit with respect to said charging source and including means removing the shunt effect of said second control circuit from said actuating circuit only upon receipt of said second actuation signal,

(f) a third control circuit connected with said actuating circuit and including means operable to increase the voltage potential across said actuating source independently of said potential source to produce said alarm upon receipt of said first actuation signal, and

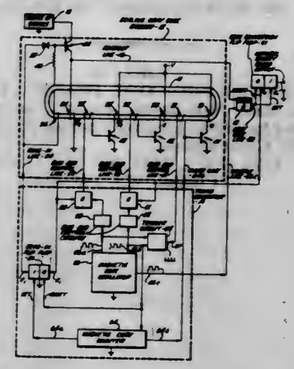
(g) said third control circuit including means intermittently reducing said voltage potential across said actuating circuit whereby the alarm produced by said third control circuit is an interrupted alarm.

3,264,635
PARALLEL TO SERIAL CONVERTER UTILIZING DELAY MEANS
Carl G. Shook, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Nov. 25, 1960, Ser. No. 71,779
4 Claims. (Cl. 340—347)



1. A code converter for converting a code from an input means manifested as the value of any given number in parallel straight binary form into a series of one or more time-spaced pulses equal in number to said given number, said converter comprising a plurality of input terminals each corresponding to a different order of said binary code, means for simultaneously applying input pulses from said input means to certain ones of said input terminals in accordance with the value of said given number, a single output terminal, and a plurality of individual means coupled respectively between each input terminal and said output terminal and responsive to the presence of an input pulse on the input terminal to which that individual means is coupled for applying to said output terminal that predetermined number of time-spaced pulses which corresponds to the order of the binary code of the input terminal to which that individual means is coupled, the time-spaced pulses applied by any one of said individual means occurring in non-overlapping relationship with the time-spaced pulses applied by any other individual means.

3,264,636
ELECTRONIC SIGNAL CONVERTER
Cecil H. Coker, Madison, Wis., assignor to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin
Filed May 19, 1961, Ser. No. 111,351
18 Claims. (Cl. 340—347)

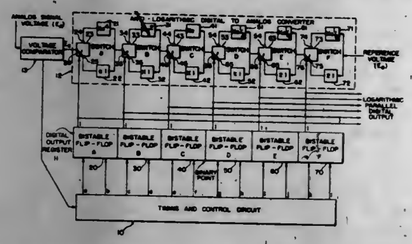


1. A signal converter for converting electronic signals comprising a signal integrating means for storing signals to be converted and having at least one reference level of signal, first means operative independent of the level of signal in the integrating means for driving the signal stored in said integrating means toward said reference level at predetermined times during a conversion cycle, and second means connected to be responsive to said reference level for driving the signal stored in said integrating means away from said reference level intermediate the driving by said first means, the operation of said first and second means whereby causing the level of signal in said integrating means to define a triangular pattern with time for each signal converted.

3,264,637
LOGARITHMIC CONVERTERS
Geoffrey B. Parkinson, Waltham, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed May 31, 1963, Ser. No. 284,483
7 Claims. (Cl. 340—347)

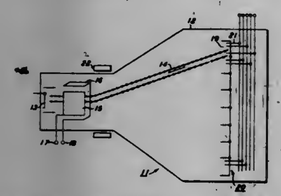
1. A converter for changing an analog signal representation to a digital logarithm representation having a predetermined base, comprising a comparator circuit to compare an analog signal with a generated comparison signal, a control circuit operating in response to said comparison signal, said control circuit providing a plurality of sequential actuating signals, a register having a plurality of storage devices each representing a value of two to a different power and being responsive to said actuating signals for providing a plurality of selection signals, and an anti-logarithmic digital to analog converter responsive to said selection signals including a plurality of multiplier means for selectively multiplying a

reference signal by a plurality of successive weighted constants to generate said comparison signal, each of said multiplier means being coupled to a different one of said



storage devices for multiplying, in response thereto, by a weighted constant having a value of said base to a power equal to the value represented by the coupled storage device.

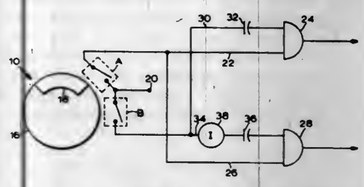
3,264,638
ELECTRONIC CODE TRANSLATION
Arthur T. Starr, New Barnet, England, assignor to Rank Precision Industries Limited, London, England, a corporation of Great Britain
Filed Oct. 1, 1963, Ser. No. 312,901
10 Claims. (Cl. 340—347)



1. Apparatus for translating information in the form of a sequence of coded characters from an input code to an output code, comprising:
a cathode ray tube including means to produce an electron beam and means to deflect said electron beam in response to an electrical input code signal, and
means in said tube to generate an output code signal when struck by the electron beam, said means including a plurality of target members having output code members,
said target means comprising output code members partly surrounded by electrically conductive open-ended box members arranged in rows and columns.

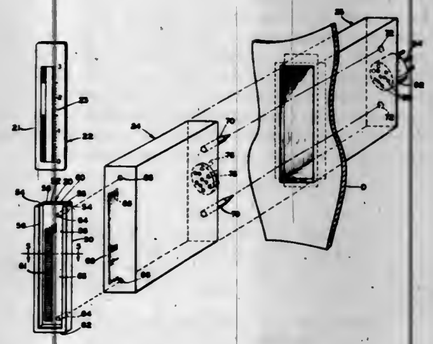
3,264,639
SHAFT ANGLE DIGITIZER
Harold Lerman, Paramus, and Allan Gerard, Fort Lee, N.J., assignors to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Nov. 27, 1963, Ser. No. 326,548
8 Claims. (Cl. 340—347)

1. A shaft angle digitizer comprising first and second AND gates, first switch means enabling each of said gates when actuated in a first direction and disabling each of said gates when actuated in a second direction, second switch means capacitively coupled to said first and second gates for applying an input pulse of one polarity to each of said gates when actuated in a first direction and an input pulse of an opposite polarity when actuated in a second direction, inverter means for inverting the input signal to said second gate, and rotatable coded means for actuating said first and second switch means at predetermined angular positions of the coded means, said coded means actuating said first switch means in said first direction at a first angular position and actuating said first switch means in said second direction at a second angular position, said coded means actuating said second switch



means in said first direction at a point midway between said first and second angular positions and actuating said second switch means in said second direction after rotating through an angle equal to the angle between said first and second angular positions.

3,264,640
REMOVABLE ELECTROLUMINESCENT LAMP SYSTEM
Leroy J. Ducharme, Caldwell, and Andre P. Viret, Ridgewood, N.J., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Dec. 4, 1963, Ser. No. 328,085
5 Claims. (Cl. 340—378)

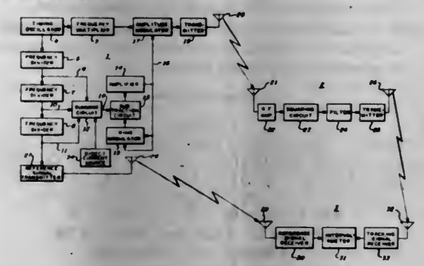


1. In a space vehicle having a panel and a plurality of display indicators, each of said indicators comprising an electronic package having connector jacks and electroluminescent lamp units having a series of electroluminescent segments with extending connecting pins to connect with said connector jacks, a dial outward and over said segments, means mounting said dial on said lamp unit, a receptacle housing for said electronic package, electrical connector means on said electronic package extending inward toward said housing and electrical mating connector means of said housing to provide a quick disconnect of said electronic package from said housing.

3,264,641
SQUARE LAW TRANSMITTER-TRANSPONDER SYSTEM
Winslow Palmer, Amityville, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Oct. 7, 1963, Ser. No. 314,252
5 Claims. (Cl. 343—6.5)

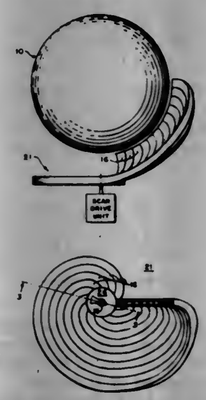
5. Signal generating means comprising
a source of carrier signal,
a source of amplitude modulating signal,

means coupled to receive said modulating signal and producing an output signal having an instantaneous amplitude representing the square root of said modulating signal,



and amplitude modulating means coupled to receive said carrier signal and said output signal, said output signal amplitude modulating said carrier signal.

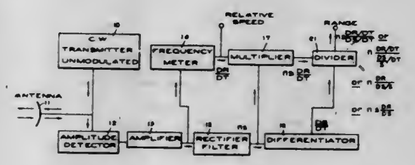
3,264,642
APPARATUS FOR SCANNING RADIO FREQUENCY ENERGY
Bernard J. Lamberty, Santa Clara, Calif., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 30, 1963, Ser. No. 305,902
5 Claims. (Cl. 343—7.4)



1. Apparatus for scanning a pencil beam of radio frequency energy into space comprising a spherical body of plastic material having characteristics to function as a Luneberg lens antenna, a unitary rotatable scanner member comprising a plurality of energy channels arranged to successively couple a pencil beam of energy into or from said sphere along a longitude line on the sphere surface, a source of radio frequency energy, driven means to couple the energy from said source successively into said energy channels and means to simultaneously rotate said scanner about an axis of said sphere whereby a pencil beam of energy is scanned simultaneously in a vertical plane and in azimuth.

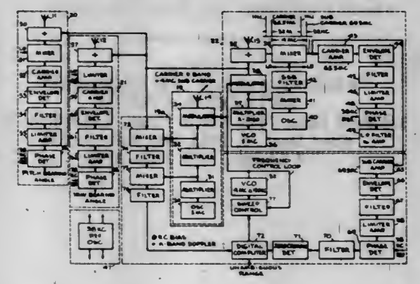
3,264,643
CONTINUOUS WAVE RADAR SYSTEM
Ole K. Nilssen, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 1, 1964, Ser. No. 415,138
11 Claims. (Cl. 343—9)

3. A radar system for measuring range between a system and a target having relative velocity with respect to the system comprising, an unmodulated continuous wave transmitting means for transmitting a signal to the target, means for receiving an echo signal from the target, detector means coupled to said last mentioned means and to said transmitting means, rectifier and filter means coupled to said detector means for producing a signal representative of the magnitude of the output signal of said detector means, a time differentiator coupled to said rectifier and filter means, a frequency meter coupled to



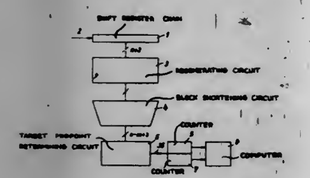
the output of said detector means, multiplier means coupled to the output of said frequency meter and said rectifier and filter means for producing a signal that is the product of the output signals from said frequency meter and said rectifier and filter means, and divider means coupled to the output of said time differentiator and said multiplier means for dividing the output of said multiplier means by the output from said differentiator means whereby a signal representative of the range between the system and the target is produced.

3,264,644
UNAMBIGUOUS RANGE RADAR SYSTEM
Don M. Jacob, Los Angeles, Calif., assignor, by mesne assignments, to TRW Inc., a corporation of Ohio
Filed Dec. 31, 1962, Ser. No. 248,680
18 Claims. (Cl. 343—12)



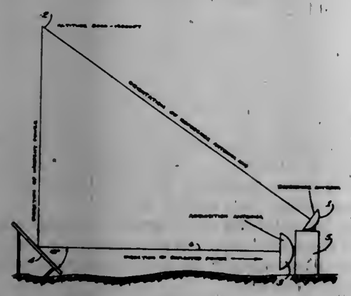
1. In combination,
means for generating and transmitting CW carrier and subcarrier signals to a remote object, said subcarrier signal being generated by modulating said carrier signal with a modulation signal,
means for receiving CW carrier and subcarrier signals from said object, said received signals having a fixed phase relation to said transmitted carrier and subcarrier signals,
means for sweeping the frequency of said modulation signal in a given direction from a first frequency to a second frequency, and
means for measuring the phase difference between the modulation on said transmitted signals and the modulation on said received signals due to the sweeping action for deriving range information.

3,264,645
CIRCUIT ARRANGEMENT FOR PROCESSING DIGITALIZED RADAR PULSE ECHO SEQUENCES
Günter Hotz, Konstanz (Bodensee), Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Donau), Germany
Filed Oct. 18, 1962, Ser. No. 232,661
Claims priority, application Germany, Oct. 18, 1961, T 20,979
15 Claims. (Cl. 343—17.1)



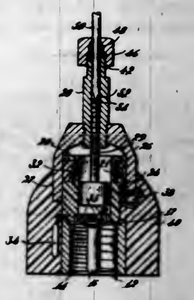
1. A circuit arrangement for processing digitalized radar pulse echo sequences wherein targets are represented by blocks of binary ONE-digits, which blocks are of different lengths but have a maximum length of n digits, and wherein the blocks are correlated so as to pertain to targets located within predetermined distance rings, the combination which comprises:
(a) a shift register having a chain of register elements, there being at one end of said chain an input for receiving the digitalized and correlated blocks; and
(b) a logic circuit having inputs connected to the outputs of said register elements for producing an output signal only when there appears in the middle of said shift register chain a block having a maximum of n ONE-digits, or when there is in said shift register chain a larger block of ONE-digits, resulting from two targets, whose chronologically first ONE-digit has reached a given reference element which is remote from said input of said chain or whose chronologically last ONE-digit has reached a given reference element which is near said input, whereby the target midpoints are determined.

3,264,646
PASSIVE PERIMETER INTRUSION DETECTION SYSTEM
Manfred Gale, 7405 Kelvin Place, Springfield, Va.
Filed Dec. 18, 1963, Ser. No. 331,631
4 Claims. (Cl. 343—100)



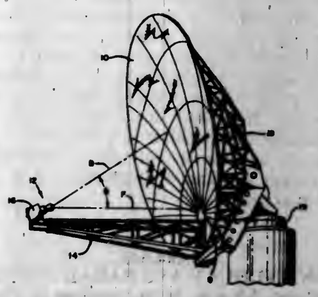
1. A passive intrusion detection system activated by natural thermal radiation comprising:
(a) an acquisition antenna the axis of which is directed along a predetermined path;
(b) a reference antenna directed toward a selected point in the atmosphere;
(c) a wave energy reflecting surface disposed in said predetermined path opposite said acquisition antenna and oriented to reflect radiation from said selected point in the atmosphere along said axis of the acquisition antenna to the acquisition antenna; and
(d) means connecting said reference antenna and said acquisition antenna to an electrical signal amplitude responsive comparison circuit.

3,264,647
ANTENNA SUPPORT ENCLOSING SLUG-TUNED INDUCTOR WHICH IS ADJUSTABLE THROUGH A SOCKET IN WHICH ANTENNA IS MOUNTED
Andrew C. Nuttle, % Gam Electronics, Inc., 138 Lincoln St., Manchester, N.H.
Filed June 29, 1964, Ser. No. 378,787
11 Claims. (Cl. 343—745)



1. An antenna tuning mount comprising:
a sleeve having a bore to receive an antenna rod;
means for securing the rod in said bore;
a variable inductance coil in the mount in circuit with the sleeve;
a tuning slug; and
a screw for moving the slug axially of the coil, said screw being coaxial with said bore with the head of the screw accessible therethrough.

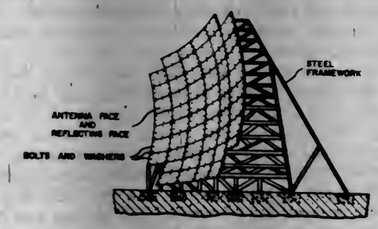
3,264,648
BROADBAND AUTOMATIC TRACKING ANTENNA
Vernon C. Sundberg, Santa Clara, and Kenneth L. Walton, Sunnyvale, Calif., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed July 2, 1963, Ser. No. 292,298
1 Claim. (Cl. 343—754)



A broadband tracking antenna system having an operating frequency range with a lower limit f_1 and an upper limit f_2 comprising a paraboloidal reflector having a focal point, and a focal axis,

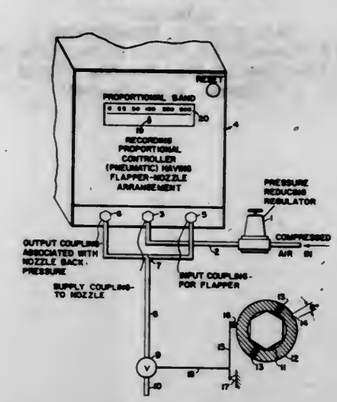
a pedestal,
means for supporting said reflector on said pedestal for tracking movements in azimuth and elevation,
a boom secured to and projecting from said reflector below said focal axis,
a nutation mechanism supported on said boom adjacent to the focal point of the reflector,
a primary microwave feed device at the focal point of the reflector and coupled to said nutation mechanism,
said feed device comprising a waveguide horn adapted to propagate linearly polarized electromagnetic waves toward said reflector as a primary beam,
said horn having an aperture and having double internal transverse ridges extending in the direction of the electric field of said waves and tapering to zero height at said aperture, and
a dielectric lens in said aperture adapted to equalize the phase of waves propagating therethrough,
the aperture of the horn and said reflector having transverse dimensions of predetermined relative magnitude such that the nutating major lobe of the horn at frequency f_1 subtends the entire area of the reflector aperture and the nutating major lobe of the horn at frequency f_2 subtends an area of the aperture substantially less than the entire aperture area,
said horn being operatively supported by said nutating mechanism relative to said reflector such that said primary beam is nutated about an axis angularly related to said focal axis.

3,264,649
INTERLOCKING PANELS
Robert S. White, Lake Hiawatha, N.J., assignor to Nicolet Industries, Inc., Florham Park, N.J., a corporation of Delaware
Filed July 16, 1962, Ser. No. 210,049
7 Claims. (Cl. 343—915)



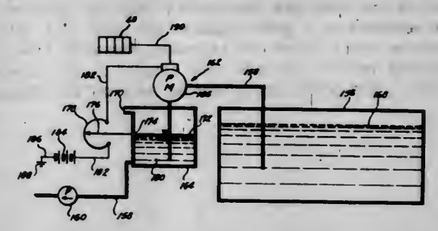
1. An antenna screen comprising a supporting structure; a multiplicity of interlocking substantially plane panels rigidly secured to said supporting structure, each of said multiplicity of interlocking panels comprising a reinforced asbestos honeycomb core, a rigid outer housing completely encasing said core, said outer housing comprising a front section and a rear section, both said front section and rear section having integral inwardly turned peripheral flanges positioned one within the other in spaced relationship to provide a space in which the corresponding flanges of adjacent panels are positioned in interlocking relationship with a sealant, a sealant in said space; and means positioned between the outer face of each rear section of each of said interlocking panels and said supporting structure to effect misalignment of each of said interlocking panels with respect to each other; whereby, the outer face of the formed antenna screen will be of a configuration which is the substantial equivalent of a parabolic curve; and whereby, each of said multiplicity of interlocking panels form a unitary structure completely sealed to atmosphere, and said multiplicity of interlocking panels form a unitary structure completely sealed to atmosphere.

3,264,650
TIME DURATION MEASURING APPARATUS
Charles R. Armstrong, Broomall, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Feb. 13, 1964, Ser. No. 344,626
3 Claims. (Cl. 346—36)



1. Apparatus for measuring the time duration of an event, comprising a pneumatically-operated proportional controller having a flapper-nozzle arrangement; a compressed air supply coupling for said nozzle, a pneumatic output coupling associated with the back pressure on said nozzle, a pneumatic input coupling for said flapper, means connecting said supply coupling to a source of compressed air, means connecting said input and output couplings together and through a controllable valve to the atmosphere, and means for closing said valve for a time interval proportional to the time duration to be measured.

3,264,651
FUEL CONSUMPTION RECORDER
Ramona E. Davis, Box 174, Stanhope, Iowa
Original application Apr. 6, 1961, Ser. No. 101,228, now Patent No. 3,188,647, dated June 8, 1965. Divided and this application Feb. 4, 1965, Ser. No. 449,345
4 Claims. (Cl. 346—94)



1. Apparatus for measuring the amount of fuel consumption in a motor vehicle comprising in combination with a motor vehicle fuel tank and fuel line to the motor, a recording device in the form of an odometer having a conventional reset mechanism, said recording device having raised numerals, a second fuel tank imposed in said fuel line, an electrically operated metering pump in said fuel line intermediate said fuel tanks, a float in said second fuel tank and hingedly secured at one end to the side of said second tank, a rheostat on said second tank connected to the hinged end of said float and operated thereby to provide less electrical resistance when said float moves downwardly and to increase electrical resistance

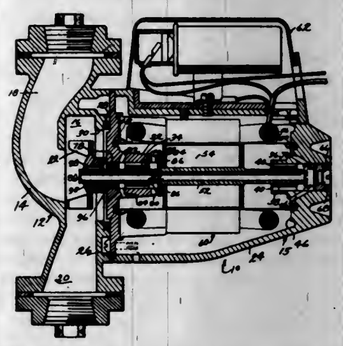
when said float moves upwardly, said rheostat electrically connected to said metering pump for increasing and decreasing respectively its speed of operation, and said metering pump including flexible cable means operatively connected to said recording device.

3,264,652
INK SUPPLY RESERVOIR
John P. Squier, 537 S. Manus Drive, Dallas, Tex.
Filed June 15, 1964, Ser. No. 375,192
7 Claims. (Cl. 346—140)



1. An ink supply system for a pen of a recording instrument having an elongate arm provided with a pen point and comprising: an elongate reservoir having a chamber therein and having a longitudinally extending external groove in one surface thereof; said reservoir being formed of light weight thin-wall rigid plastic and being open only at its upper end; an elongate conductor tube formed of a light weight thin-wall flexible plastic and having its upper portion movably disposed in said groove of said reservoir and its upper end extending from said groove upwardly over the open upper end of said reservoir and downwardly into said reservoir chamber adjacent the upper end of said reservoir and extending longitudinally from the lower end of said groove and extending substantially below the bottom of said reservoir; a wick extending through said conductor tube and having an upper end extending outwardly from the upper end of the tube and downwardly into the chamber of the reservoir to a point adjacent the lower end of said chamber and a lower end extending outwardly from the opposite end of the tube and adapted to be disposed within a pen point; means on said reservoir for retaining the upper portion of said tube within said external groove of said reservoir means on the exterior of said reservoir for securing said reservoir to a pen arm; and means for securing said conductor tube to said pen arm below said reservoir.

3,264,653
PUMP
Benno Lebkuchner, Warwick, R.I., assignor to Teco, Inc., Cranston, R.I., a corporation of New York
Filed Sept. 18, 1964, Ser. No. 407,609
21 Claims. (Cl. 103—87)

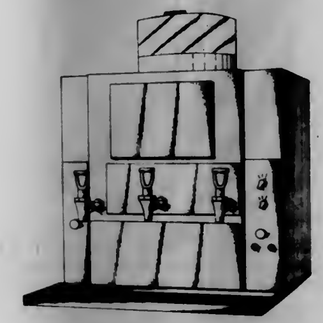


1. A wet motor pump comprising a pump casing having an impeller chamber and an inlet and outlet communicating with the impeller chamber, an electric motor having a housing with a rotor therein and a shaft rotatably driven by said rotor with said shaft projecting from one end of the housing, bearing means within said housing for rotatably journaling said rotor, means for sealingly connecting the motor housing and pump casing together with said shaft extending into said impeller chamber, an impeller positioned within the impeller chamber and drivingly connected to said shaft, and seal means for providing a seal around said shaft adjacent to said one end of the motor housing to completely seal said housing against fluid circulating into the interior of the motor housing, said shaft having passageway means therein communicating a chamber within the motor housing with the impeller chamber, said bearing means communicating with said motor chamber which can be filled with the fluid being pumped for lubricating and cooling said bearing means and wherein the fluid within said motor chamber can communicate with the fluid in the impeller chamber in a manner to compensate for changes in volume of the fluid within said motor chamber.

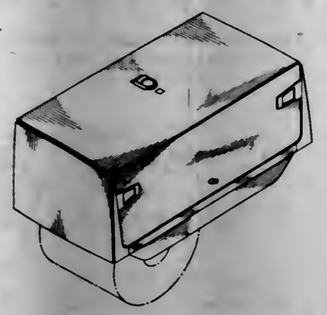
DESIGNS

AUGUST 2, 1966

205,394
PROGRAMMED AUTOMATIC COFFEE INFUSION MACHINE
Sanford E. Richeson, Brooklyn, N.Y., assignor to Alfred B. Levine, Chevy Chase, Md.
Filed Sept. 3, 1965, Ser. No. 86,814
Term of patent 14 years
(Cl. D2—3)



205,395
DUAL TOILET TISSUE DISPENSER
Council A. Tucker, Glendale, Calif., assignor to Towlsaver, Inc., Los Angeles, Calif., a corporation of California
Original design application Sept. 28, 1964, Ser. No. 82,142, now Patent No. 203,332, dated Dec. 28, 1965. Divided and this application July 13, 1965, Ser. No. 86,860
Term of patent 14 years
(Cl. D4—3)



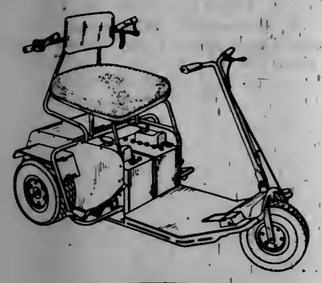
205,396
COMBINED HOLDER AND CHARGING UNIT FOR ELECTRIC TOOTHBRUSH OR THE LIKE
Austin E. Cox, Wadsworth, Ohio, assignor to Dominion Electric Corporation, a corporation of Ohio
Filed Oct. 18, 1965, Ser. No. 87,560
Term of patent 14 years
(Cl. D4—3)



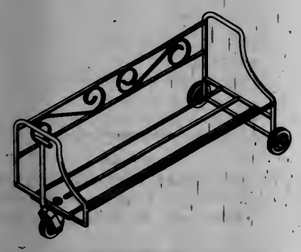
205,397
COMBINED HANDRAILING AND RAILING POST
Louis Blum and William J. Horgan, Jr., Pittsburgh, Pa., assignors to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm
Filed July 28, 1965, Ser. No. 86,322
Term of patent 14 years
(Cl. D13—7)



205,398
GOLFER'S CART
David T. Doman, Ann Arbor, and Morris Weiss, Oak Park, Mich., assignors to Fore Motor Cart Co., Detroit, Mich., a corporation of Michigan
Filed Apr. 27, 1964, Ser. No. 79,702
Term of patent 14 years
(Cl. D14—3)



205,399
TRASH CAN CARRIER
Chester L. O'Rear, 339 Workman Mill Road, La Puente, Calif.
Filed Sept. 1, 1965, Ser. No. 86,858
Term of patent 14 years
(Cl. D14—3)



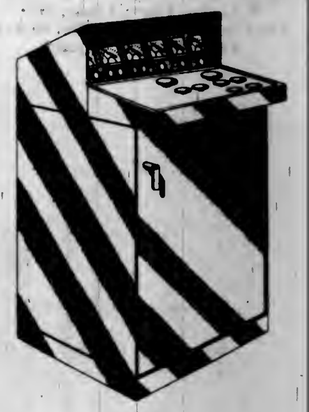
205,400
ARTICLE STORAGE UNIT
Ross N. Bray, 32 Mayhew Drive, Lamar, Colo.
Filed Oct. 19, 1965, Ser. No. 87,595
Term of patent 14 years
(Cl. D14—6)



205,401
ILLUMINABLE PANEL FOR VISUAL AID KEYBOARD INSTRUCTION DEVICE
Arthur R. Schmoyer, Falls Church, Va. (P.O. Box 38, Beallsville, Md.)
Filed June 22, 1964, Ser. No. 80,542
Term of patent 14 years
(Cl. D25—1)



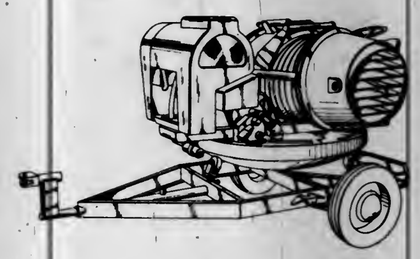
205,402
CONTROL CABINET FOR ELECTRICAL APPARATUS
Guy D. Bradley and James R. Chapin, Erie, Pa., assignors to General Electric Company, a corporation of New York
Filed July 12, 1965, Ser. No. 86,124
Term of patent 14 years
(Cl. D26—1)



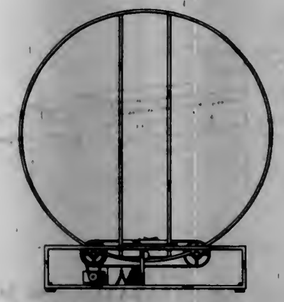
205,403
MICROPHONE
Keith R. Wilson, Glenview, Ill., assignor to Shure Brothers, Incorporated, a corporation of Illinois
Filed Apr. 28, 1965, Ser. No. 84,994
Term of patent 14 years
(Cl. D26—14)



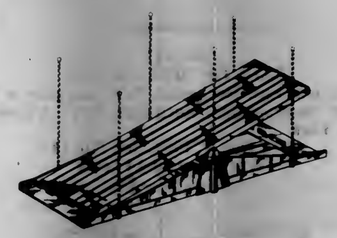
205,404
SPRAYING UNIT
Dale E. Wolford, Ashland, Ohio, assignor to The F. E. Myers & Bro. Co., Ashland, Ohio, a corporation of Ohio
Filed Aug. 24, 1965, Ser. No. 86,690
Term of patent 14 years
(Cl. D31—3)



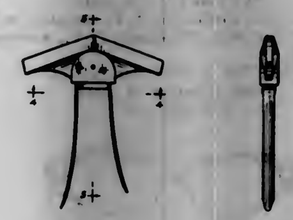
205,405
ROTARY HAND STAND MACHINE
Kiyoshi Totsuka, 43 Chokyuji-cho, Higashi-ku, Nagoya, Japan
Filed Oct. 11, 1965, Ser. No. 87,385
Term of patent 14 years
(Cl. D34—5)



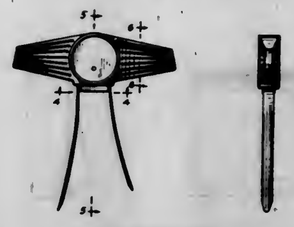
205,406
TILTING TOY RACE TRACK PIECE
Pasquale Iammatteo, Staten Island, N.Y., assignor to The Lionel Corporation, New York, N.Y., a corporation of New York
Filed May 14, 1965, Ser. No. 85,281
Term of patent 14 years
(Cl. D34—15)



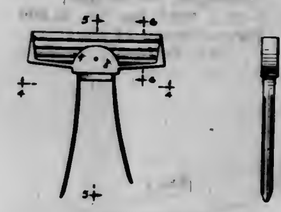
205,407
BOTTLE CORK REMOVER
Kurt M. Vogel, 84 Easton Road, Westport, Conn.
Filed Nov. 22, 1965, Ser. No. 88,169
Term of patent 14 years
(Cl. D44—29)



205,408
BOTTLE CORK REMOVER
Kurt M. Vogel, 84 Easton Road, Westport, Conn.
Filed Nov. 22, 1965, Ser. No. 88,170
Term of patent 14 years
(Cl. D44—29)



205,409
BOTTLE CORK REMOVER
Kurt M. Vogel, 84 Easton Road, Westport, Conn.
Filed Nov. 22, 1965, Ser. No. 88,171
Term of patent 14 years
(Cl. D44—29)



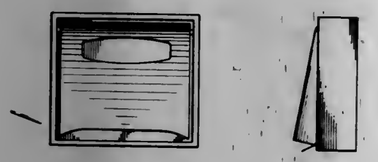
205,410
NIGHT LIGHT
Matthew E. Gerlat, 1334 N. 123d St., Wauwatosa, Wis. 53226
Filed July 12, 1965, Ser. No. 86,132
Term of patent 14 years
(Cl. D48—20)



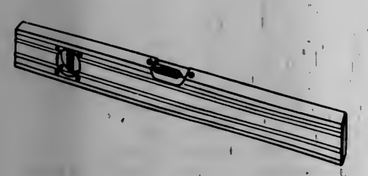
205,411
LUMINAIRE
Myron F. Pettengill, Hendersonville, N.C., assignor to General Electric Company, a corporation of New York
Filed Aug. 19, 1965, Ser. No. 86,776
Term of patent 14 years
(Cl. D48—31)



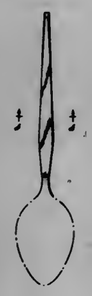
205,412
COMBINED TISSUE AND TOWEL DISPENSER
Robert A. Clark, Allentown, Pa., assignor to Caloric Corporation, Topton, Pa., a corporation of Pennsylvania
Filed Aug. 4, 1965, Ser. No. 86,433
Term of patent 14 years
(Cl. D52—2)



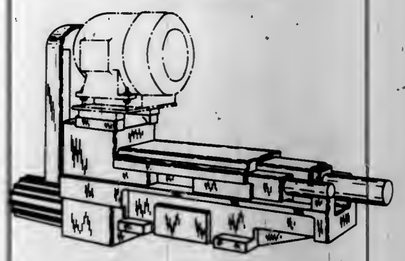
205,413
SPIRIT LEVEL
Albert Wullschleger, 11 Ifangstrasse, Weiningen, Switzerland
Filed Sept. 2, 1965, Ser. No. 86,809
Term of patent 14 years
(Cl. D52—6)



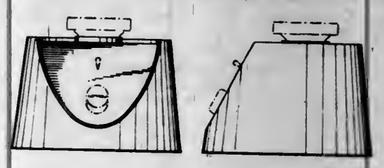
205,414
SPOON OR SIMILAR ARTICLE OF FLATWARE
Colin B. Richmond II, Newbury, Mass., assignor to Towle Manufacturing Company, Newburyport, Mass., a corporation of Massachusetts
Filed Feb. 24, 1965, Ser. No. 83,965
Term of patent 14 years
(Cl. D54—12)



205,415
POWER UNIT FOR MACHINE TOOLS
Kurt O. Tech, Grosse Pointe Woods, Mich., assignor to The Cross Company, Fraser, Mich., a corporation of Michigan
Filed Aug. 20, 1965, Ser. No. 86,660
Term of patent 14 years
(Cl. D55—1)



205,416
CASING FOR AN APPARATUS FOR MIXING FLUIDS IN A TEST TUBE OR SIMILAR CONTAINER
Gerald D. Gulotta, 420 E. 72d St., New York, N.Y.
Filed Nov. 22, 1965, Ser. No. 88,163
Term of patent 14 years
(Cl. D55—1)



205,417
PAIR OF SPECTACLES
Jean R. Simon, East Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Dec. 1, 1965, Ser. No. 11
Term of patent 14 years
(Cl. D57—1)



205,418
SPECTACLE FRAME
Jean R. Simon, East Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Dec. 1, 1965, Ser. No. 12
Term of patent 14 years
(Cl. D57—1)

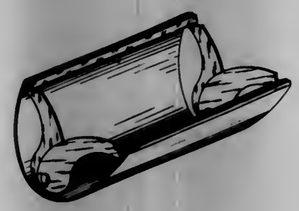


205,419
PAIR OF SPECTACLES
Michael A. Gries, Toronto, Ontario, Canada, assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Dec. 6, 1965, Ser. No. 94
Term of patent 14 years
(Cl. D57—1)



205,420
PAIR OF SUNGLASSES OR THE LIKE
Atherton R. Mitchell, Dillon Beach, Calif., assignor to Sea & Ski Corporation, Millbrae, Calif.
Filed Oct. 11, 1965, Ser. No. 87,424
Term of patent 14 years
(Cl. D57—1)

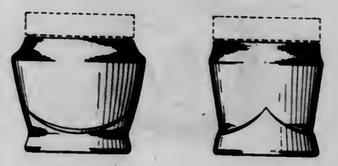
205,421
SPECTACLE CASE OR SIMILAR ARTICLE
Joseph A. Hueber and Edward K. Hueber, Penn Valley, Pa., assignors to Kelly & Heuber, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 21, 1965, Ser. No. 87,704
Term of patent 14 years
(Cl. D57—1)



205,422
BOTTLE OR SIMILAR ARTICLE
Victor Koenigsberg, Franklin Square, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Oct. 21, 1964, Ser. No. 82,266
Term of patent 14 years
(Cl. D58—8)



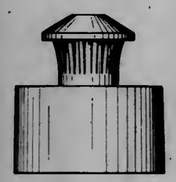
205,423
JAR OR SIMILAR ARTICLE
Victor Koenigsberg, Franklin Square, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Original design application Oct. 21, 1964, Ser. No. 82,266. Divided and this application Oct. 21, 1965, Ser. No. 759
Term of patent 14 years
(Cl. D58—25)



205,424
JAR
James E. Plummer, Toledo, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed July 22, 1965, Ser. No. 86,252
Term of patent 14 years
(Cl. D58—25)



205,425
DISPENSING CAP FOR A CONTAINER
Alvin J. Porter, Excelsior, and Edwin F. Neu, Cincinnati, Ohio, assignors, by direct and mesne assignments to Product Design & Engineering, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 8, 1965, Ser. No. 107
Term of patent 14 years
(Cl. D58—26)



205,426
CONTAINER CLOSURE WITH A TEAR STRIP OPENER
Lloyd G. Dunn, Richmond, Ind., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 28, 1963, Ser. No. 76,379
Term of patent 14 years
(Cl. D58—26)



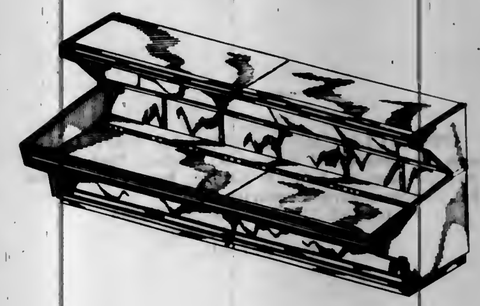
205,427
LIQUID DISPENSING CLOSURE CAP
Gilbert Schwartzman, 20 Wilmot Circle, Scarsdale, N.Y.
Filed Oct. 6, 1965, Ser. No. 87,345
Term of patent 14 years
(Cl. D58—26)



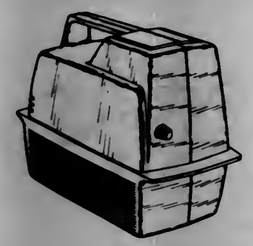
205,428
BELT HOLDER
Herman W. Suttle, 109 Broadmoor Drive, Jackson, Miss.
Filed Oct. 20, 1965, Ser. No. 87,648
Term of patent 14 years
(Cl. D80—8)



205,429
REFRIGERATED DISPLAY CASE
Chauncey V. Hill, III, Trenton, N.J., assignor to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut
Filed Sept. 14, 1964, Ser. No. 81,712
Term of patent 14 years
(Cl. D80—11)



205,430
ICE CRUSHER
Alfred W. Madl, Mequon, and Ronald D. Raitnen, Milwaukee, Wis., assignors to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 3, 1965, Ser. No. 52
Term of patent 14 years
(Cl. D69—1)



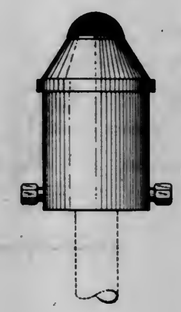
205,431
BICYCLE PARKING STAND
Michael J. Lacivita, 3220 Eldora Drive, Youngstown, Ohio
Filed Sept. 21, 1965, Ser. No. 87,097
Term of patent 14 years
(Cl. D90—18)



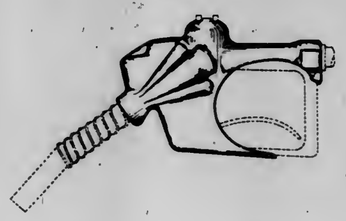
205,432
TIRE
George W. MacWherter, Wadsworth, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Dec. 27, 1965, Ser. No. 321
Term of patent 14 years
(Cl. D90—20)



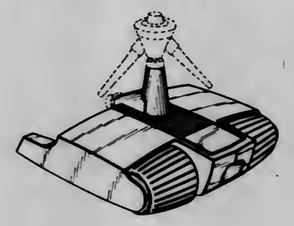
205,433
MASTER CONTROL UNIT FOR AUTOMATIC LAWN SPRINKLING SYSTEMS
George E. Sumner, Cypress Hill, Sparks, Md.
Filed May 18, 1965, Ser. No. 85,344
Term of patent 14 years
(Cl. D91—1)



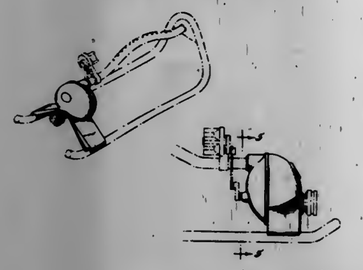
205,434
GUARD FOR DISPENSING NOZZLE
Hazel L. Satcliffe, Kirkwood, Mo., assignor to Husky Corporation, St. Louis, Mo., a corporation of Missouri
Filed May 28, 1965, Ser. No. 85,498
Term of patent 14 years
(Cl. D91—1)



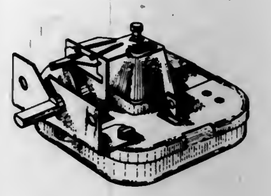
205,435
LAWN SPRINKLER BASE
John E. Reed, Glen Ellyn, Ill., assignor to Sunbeam Corporation, Chicago, Ill, a corporation of Illinois
Filed Sept. 20, 1965, Ser. No. 87,063
Term of patent 14 years
(Cl. D91—1)



205,436
LAWN SPRINKLER
Russell B. Nelson, Peoria, Ill., assignor to L. R. Nelson Mfg. Co., Inc., Peoria, Ill., a corporation of Illinois
Filed Oct. 8, 1965, Ser. No. 87,370
Term of patent 14 years
(Cl. D91—1)



205,437
PRESSURE REGULATOR, OR THE LIKE
William E. Rhodes, Columbus, Ohio, assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed May 24, 1965, Ser. No. 85,436
Term of patent 14 years
(Cl. D91—3)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 2ND DAY OF AUGUST, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Commercial Solvents Corp.: *See*—
Frump, John A. Re. 26,069.
Deere & Co.: *See*—
Sime, Sylvan H. Re. 26,072.
Frump, John A., to Commercial Solvents Corp. Process for the production of amino hydroxyethers. Re. 26,068, 8–2–66, Cl. 260—570.6.
Frump, John A., to Commercial Solvents Corp. Process for the production of amino hydroxyethers. Re. 26,069, 8–2–66, Cl. 260—570.6.
Huey, Guy L., to The Massillon-Cleveland-Akron Sign Co. Sign construction. Re. 26,068, 8–2–66, Cl. 40—125.
Infanseat Co.: *See*—
Laughlin, Clayton A. Re. 26,070.
Laughlin, Clayton A., to Infanseat Co. Support stands. Re. 26,070, 8–2–66, Cl. 297—377.
Massillon-Cleveland-Akron Sign Co., The: *See*—
Huey, Guy L. Re. 26,068.
Rowland, David L. Compactly stackable chair. Re. 26,071, 8–2–66, Cl. 297—239.
Sime, Sylvan H., to Deere & Co. Silo unloader. Re. 26,072, 8–2–66, Cl. 214—17.

LIST OF PLANT PATENTEES

Oku, Leonard K. Carnation. 2,660, 8–2–66, Cl. 70.
Patterson, John W. Rose. 2,661, 8–2–66, Cl. 22.

LIST OF DESIGN PATENTEES

Aluminum Co. of America: *See*—
Dunn, Lloyd G. 205,426.
Bausch & Lomb Inc.: *See*—
Griss, Michael A. 205,419.
Simon, Jean R. 205,417.
Simon, Jean R. 205,418.
Blum, Louis, and W. J. Horgan, Jr., to Blumcraft of Pittsburgh. Combined handrailing and railing post. 205,397, 8–2–66, Cl. D13—7.
Blumcraft of Pittsburg: *See*—
Blum, Louis, and Horgan. 205,397.
Bradley, Guy D., and J. R. Chapin, to General Electric Co. Control cabinet for electrical apparatus. 205,402, 8–2–66, Cl. D26—1.
Bray, Ross N. Article storage unit. 205,400, 8–2–66, Cl. D14—6.
Caloric Corp.: *See*—
Clar, Robert A. 205,412.
Chapin, James R.: *See*—
Bradley, Guy D., and Chapin. 205,402.
Clar, Robert A., to Caloric Corp. Combined tissue and towel dispenser. 205,412, 8–2–66, Cl. D52—2.
Colgate-Palmolive Co.: *See*—
Koenigsberg, Victor. 205,422.
Koenigsberg, Victor. 205,423.
Cox, Austin E., to Dominion Electric Corp. Combined holder and charging unit for electric toothbrush or the like. 205,396, 8–2–66, Cl. D4—3.
Cross Co., The: *See*—
Tech Kurt O. 205,415.
Doman, David T. and M. Weiss, to Fore Motor Cart Co. Golfer's cart. 205,398, 8–2–66, Cl. D14—3.
Dominion Electric Corp.: *See*—
Cox, Austin E. 205,396.
Dunn, Lloyd G., to Aluminum Co. of America. Container closure with a tear strip opener. 205,426, 8–2–66, Cl. D58—26.
Emhart Corp.: *See*—
Hill, Chauncey V., III. 205,429.
Fore Motor Cart Co.: *See*—
Doman, David T., and Weiss. 205,398.
General Electric Co.: *See*—
Bradley, Guy D., and Chapin. 205,402.
Pettengill, Myron F. 205,411.
Gerlat, Matthew E. Night light. 205,410, 8–2–66, Cl. D48—20.
Goodrich, B. F., Co., The: *See*—
MacWherter, George W. 205,432.
Griss, Michael A., to Bausch & Lomb Inc. Pair of spectacles. 205,419, 8–2–66, Cl. D57—1.
Gulotta, Gerald D. Casing for an apparatus for mixing fluids in a test tube or similar container. 205,416, 8–2–66, Cl. D55—1.
Hill, Chauncey V., III, to Emhart Corp. Refrigerated display case. 205,429, 8–2–66, Cl. D80—11.
Horgan, William J., Jr.: *See*—
Blum, Louis, and Horgan. 205,397.
Hueber, Edward K.: *See*—
Hueber, Joseph A. and E. K. 205,421.
Hueber, Joseph A. and E. K., to Kelly & Hueber, Inc. Spectacle case, or similar article. 205,421, 8–2–66, Cl. D57—1.
Husky Corp.: *See*—
Sutcliffe, Hazel L. 205,434.
Iammatteo, Pasquale, to The Lionel Corp. Tilting toy race track piece. 205,406, 8–2–66, Cl. D34—15.
Kelly & Hueber, Inc.: *See*—
Hueber, Joseph A. and E. K. 205,421.
Koenigsberg, Victor, to Colgate-Palmolive Co. Bottle or similar article. 205,422, 8–2–66, Cl. D58—8.
Koenigsberg, Victor, to Colgate-Palmolive Co. Jar or similar article. 205,423, 8–2–66, Cl. D58—25.
Lacivita, Michael J. Bicycle parking stand. 205,431, 8–2–66, Cl. D90—18.
Levine, Alfred B.: *See*—
Richeson, Sanford E. 205,394.
Lionel Corp, The: *See*—
Iammatteo, Pasquale. 205,406.
MacWherter, George W., to The B. F. Goodrich Co. Tire. 205,432, 8–2–66, Cl. D90—20.
Madl, Alfred W. and R. D. Raitnen, to John Oster Mfg. Co. Ice crusher. 205,430, 8–2–66, Cl. D89—1.
Mitchell, Atherton R., to Sea & Ski Corp. Pair or sunglasses or the like. 205,420, 8–2–66, Cl. D57—1.
Myers, F. E., & Bro. Co., The: *See*—
Wolford, Dale E. 205,404.
Nau, Edwin F.: *See*—
Porter, Alvin J., and Nau. 205,425.
Nelson, L. R., Mfg. Co., Inc.: *See*—
Nelson, Russell B. 205,436.
Nelson, Russell B., to L. R. Nelson Mfg. Co., Inc. Lawn sprinkler. 205,436, 8–2–66, Cl. D91—1.
O'Rear, Chester L. Trash can carrier. 205,399, 8–2–66, Cl. D14—3.
Oster, John, Mfg. Co.: *See*—
Madl, Alfred W., and Raitnen. 205,430.
Owens-Illinois, Inc.: *See*—
Plummer, James E. 205,424.
Pettengill, Myron F., to General Electric Co. Luminaire. 205,411, 8–2–66, Cl. D48—31.
Plummer, James E., to Owens-Illinois, Inc. Jar. 205,424, 8–2–66, Cl. D58—25.
Porter, Alvin J., and E. F. Nau, to Product Design & Engineering, Inc. Dispensing cap for a container. 205,425, 8–2–66, Cl. D58—26.
Product Design & Engineering, Inc.: *See*—
Porter, Alvin J., and Nau. 205,425.
Raitnen, Ronald D.: *See*—
Madl Alfred W., and Raitnen. 205,430.
Reed, John E., to Sunbeam Corp. Lawn sprinkler base. 205,435, 8–2–66, Cl. D91—1.
Robertshaw Controls Co.: *See*—
Rhodes, William E. 205,437.
Rhodes, William E., to Robertshaw Controls Co. Pressure regulator, or the like. 205,437, 8–2–66, Cl. D91—3.
Rocheson, Sanford E., to A. B. Levine. Programmed automatic coffee infusion machine. 205,394, 8–2–66, Cl. D2—3.
Richmond, Colin B., II, to Towle Mfg. Co. Spoon or similar article of flatware. 205,414, 8–2–66, Cl. D54—12.
Sanner, George E. Master control unit for automatic lawn sprinkling systems. 205,433, 8–2–66, Cl. D91—1.
Schmoyer, Arthur R. Illuminable panel for visual aid keyboard instruction device. 205,401, 8–2–66, Cl. D25—1.
Schwartzman, Gilbert. Liquid dispensing closure cap. 205,427, 8–2–66, Cl. D58—26.
Sea & Ski Corp.: *See*—
Mitchell, Atherton R. 205,420.
Shure Brothers, Inc.: *See*—
Wilson, Keith R. 205,403.
Simon, Jean R., to Bausch & Lomb Inc. Pair of spectacles. 205,417, 8–2–66, Cl. D57—1.
Simon, Jean R., to Bausch & Lomb Inc. Spectacle frame. 205,418, 8–2–66, Cl. D57—1.
Sunbeam Corp.: *See*—
Reed, John E. 205,435.

Sutcliffe, Hazel L., to Husky Corp. Guard for dispensing nozzle. 205,434, 8–2–66, Cl. D91—1.
Suttle, Herman W. Belt holder. 205,428, 8–2–66, Cl. D80—8.
Tech, Kurt O., to The Cross Co. Power unit for machine tools. 205,415, 8–2–66, Cl. D55—1.
Totsuka, Kiyoshi. Rotary hand stand machine. 205,405, 8–2–66, Cl. D34—5.
Towle Mfg. Co.: *See*—
Richmond, Colin B., II. 205,414.
Towlsaver, Inc.: *See*—
Tucker, Council A. 205,395.
Tucker, Council A., to Towlsaver, Inc. Dual toilet tissue dispenser. 205,395, 8–2–66, Cl. D4—3.
Vogel, Kurt M. Bottle cork remover. 205,407, 8–2–66, Cl. D44—29.
Vogel, Kurt M. Bottle cork remover. 205,408, 8–2–66, Cl. D44—29.
Vogel, Kurt M. Bottle cork remover. 205,409, 8–2–66, Cl. D44—29.
Weiss, Morris: *See*—
Doman, David T., and Weiss. 205,398.
Wilson, Keith R., to Shure Brothers, Inc. Microphone. 205,403, 8–2–66, Cl. D26—14.
Wolford, Dale E., to The F. E. Myers & Bro. Co. Spraying unit. 205,404, 8–2–66, Cl. D31—3.
Wullschleger, Albert. Spirit level. 205,413, 8–2–66, Cl. D52—6.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 2ND DAY OF AUGUST, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries, Inc.: *See*—
Johnson, Elden A. 3,263,701.
Terlecky, Boris, and Krause. 3,263,960.
AMP Inc.: *See*—
Kinkaid, Robert J. 3,264,599.
Schrader, Robert W. 3,263,816.
Swengel, Robert C., and Hahn. 3,264,525.
Van de Kerkhof, Lodevicus L. J. 3,263,475.
Abbott Laboratories: *See*—
Close, Warren J. 3,264,292.
Ablock, Solomon: *See*—
Shottenfeld, Richard, and Ablock. 3,263,953.
Abraham, Carlos S. Electric steam iron. 3,263,350, 8–2–66, Cl. 38—77.
Abrahams, David H., and L. Goldberg, to Dexter Chemical Corp. Uron resin-triazone compositions. 3,264,241, 8–2–66, Cl. 260—29.4.
Ackermann, Friedrich W., to Magnetic Metals Co. Method and apparatus for melting of metals to obtain utmost purity. 3,264,095, 8–2–66, Cl. 75—12.
Acme-Industrial Products, Inc.: *See*—
Jordan, Marvin F., and Klimowicz. 3,263,549.
Adams, Albert C., and E. S. Bialog, to Republic Steel Corp. Machine for marking tube-like articles. 3,263,600, 8–2–66, Cl. 101—40.
Adams, William J., Jr., to FMC Corp. Variable speed and steer control. 3,263,763, 8–2–66, Cl. 180—6.2.
Adamski, Joseph, to Dura Corp. Force transfer system. 3,263,515, 8–2–66, Cl. 74—105.
Addressograph Multigraph Corp.: *See*—
Mariscal, George. 3,263,828.
Adelman, John W.: *See*—
Smirl, Richard L., Waclawek, Adelman, and La Buda. 3,263,782.
Advance Transformer Co.: *See*—
Stauverman, Richard J. 3,264,518.
Aero-Dyne Corp.: *See*—
Johnson, Harold D. 3,263,927.
Aerojet-General Corp.: *See*—
Linden, Gustave B. 3,264,343.
Sunderland, Robert J., and Radbill. 3,263,415.
Throner, Guy C., Jr. 3,263,612.
Aero-Motive Mfg. Co.: *See*—
Becker, William K. 3,263,941.
Agarwal, Jagdish C., and W. L. Davis, Jr., to United States Steel Corp. Method of smelting iron ore. 3,264,096, 8–2–66, Cl. 75—40.
Agate, Augustino S.: *See*—
Graham, Charles P., and Agate. 3,264,117.
Ages, Frederik J., to Honeywell Inc. Pilot control valve and method of making same. 3,263,693, 8–2–66, Cl. 137—15.
Agfa Aktiengesellschaft: *See*—
Heyl, Gerhard, and Koch. 3,263,649.
Agnew, Stanley A., to Air Reduction Co., Inc. Penetration control for arc welding. 3,264,447, 8–2–66, Cl. 219—130.
Air Heaters, Inc.: *See*—
Muckelrath, Ernest R. 3,263,979.
Air Reduction Co., Inc.: *See*—
Agnew, Stanley A. 3,264,447.
Aitken, Thomas, W. V. Cross, and F. W. Webking, to Nalco Chemical Co. Alkali metal aluminate modified starch and process of preparing paper therewith. 3,264,174, 8–2–66, Cl. 162—175.
Ajax Magnethermic Corp.: *See*—
Biringer, Paul P. 3,264,549.
Akai Electric Co., Ltd.: *See*—
Glicksman, Martin, and Schachat. 3,264,114.
Aktiebolaget Electrolux: *See*—
Hellstrom, Axel G. 3,263,440.
Aktiebolaget Siefvert & Fornander: *See*—
Hedborg, Lennart. 3,263,998.
Aktiengesellschaft Brown, Boveri & Cie: *See*—
Ernsting, Jurgen. 3,264,439.
Albatros Superfosfaatfabrieken N.V.: *See*—
Waller, Arnoud. 3,263,760.
Albers, Archie L. Lumber rest table and measuring conveyor table combination for a cut-off saw. 3,263,716, 8–2–66, Cl. 143—132.
Albert, Herman. Clamps. 3,264,030, 8–2–66, Cl. 294—102.
Alcan Aluminum Corp.: *See*—
Vecchiarelli, Francis, and Vasas. 3,263,735.
Alderfer, Sterling W. Apparatus for controlling the charging of molds with urethane foam. 3,264,067, 8–2–66, Cl. 23—262.
Alexander, Arthur W., to General Motors Corp. Control system for electric cranking motors. 3,264,488, 8–2–66, Cl. 290—38.
Alexander, Ronald R., to Dominion Tar & Chemical Co., Ltd. Multi-headed waferizer. 3,263,719, 8–2–66, Cl. 144—176.
Alexanderson, Howard A., and T. R. Chamberlain, to The Bendix Corp. Piston pump improvement. 3,263,623, 8–2–66, Cl. 103—162.
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Alldis, Harold H. Pin registration board and method. 3,264,108, 8–2–66, Cl. 96—41.
Allen-Bradley Co.: *See*—
Moser, Joseph R., and Schatteiner. 3,264,499.
Allen, Russell B. Car wash system. 3,263,341, 8–2–66, Cl. 34—60.
Allen, Walter E.: *See*—
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Lauder, William B., and Copson. 3,264,124.
Allied Plastics, Inc.: *See*—
Macomson, Wistar W. 3,263,736.
Allinquant, Fernand S. Vehicles having electrically controlled automatic level-correcting suspension. 3,264,008, 8–2–66, Cl. 280—6.
Allis-Chalmers Mfg. Co.: *See*—
Boyd, Donald R. 3,264,489.
Rockwell, Harvey W. 3,263,767.
Allmanna Svenska Elektriska Aktiebolaget: *See*—
Forwald, Haakon. 3,264,440.
All Tech-Industries, Inc.: *See*—
Braun, David H. 3,263,996.
Alm, Karl S., to Atlas Copco Aktiebolag. Noise deadening means for percussive tools. 3,263,770, 8–2–66, Cl. 181—36.
Almond, Charles. Paint containers. 3,263,803, 8–2–66, Cl. 206—15.1.
Alos AG.: *See*—
Knus, Jean. 3,263,584.
Alper, Allen M., and R. N. McNally, to Cohart Refractories Co. Fused cast refractory. 3,264,123, 8–2–66, Cl. 106—65.
Altamil Corp.: *See*—
Schaible, Michael, and Tuttle. 3,263,288.
Altmann, Norman A., and W. H. Bureau. Method of decoating paper. 3,264,169, 8–2–66, Cl. 162—4.
Aluminum Co. of America: *See*—
Getty, Robert J. 3,264,069.
Rolles, Rolf, and Edmunds. 3,264,129.
Alvey-Ferguson Co., The: *See*—
Stokes, William K. 3,263,951.
Amann, Charles D. Re-useable container. 3,263,847, 8–2–66, Cl. 215—1.
Ambler, Arnold E., and A. Topham, to Imperial Chemical Industries Ltd. Solid-low molecular weight vinyl toluene polymers. 3,264,244, 8–2–66, Cl. 260—29.6.
American Can Co.: *See*—
Elam, William B. 3,263,825.
Grimsley, Arvid K. 3,263,851.
American Cyanamid Co.: *See*—
Berry, William L., and Kelly. 3,264,298.
Diechert, William G., and Webb. 3,264,372.
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Magrae, John K., Reynolds, and Rakowitz. 3,264,170.
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American Home Products Corp.: *See*—
Clark, Donald E., and Grant. 3,264,826.
Fisher, James F., and Smith. 3,264,288.
Foell, Theodore J., and Smith. 3,264,286.
Herbst, David E. 3,264,321.
Humber, Leslie G. 3,264,351.
Osdene, Thomas S. 3,264,295.
American Instrument Co. Inc.: *See*—
Heins, Louis R. 3,264,474.
American Metal Products Co.: *See*—
Hunt, Howard S., and McMahan. 3,263,955.
American Radiator & Standard Sanitary Corp.: *See*—
Wisniewski, Arthur J. 3,263,959.
American Scientific Corp.: *See*—
Reed, Stanley F. 3,264,385.
American Seating Co.: *See*—
Angell, Robert C., and Kolk. 3,264,382.
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Graham, Charles P., and Agate. 3,264,117.
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Rowell, Douglas W. 3,263,468.
Anaconda Wire and Cable Co.: *See*—
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Anderau, Walter, to Ciba Ltd. Photographic materials for the silver dyestuff bleaching process. 3,264,109, 8–22–66, Cl. 96—99.

Anderson, Carl M.: *See*—
Endress, James W., and Anderson. 3,263,435.

Anderson, Emmett R., and C. W. Park, to Temescal Metallurgical Corp. Adjustable constant current network. 3,264,052, 8–2–66, Cl. 323—76.

Anderson, Eric S Method of cattle feeding. 3,263,651, 8–2–66, Cl. 119—51.

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Kleinschmidt, Edward F., Anderson, and Clark. 3,264,409.

Anderson, W. Carl, to The Union Metal Mfg. Co. Package loading of poles. 3,263,830, 8–2–66, Cl. 214—10.5.

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Gee, Paul Y. C., and Andress. 3,264,075.

Andrews, Anatol N. Roller dictionary and the like. 3,263,354, 8–2–66, Cl. 40—95.

Angell, Robert C., and S. B. Kolk, to American Seating Co. Method for making foam backrests for vehicle reclining chairs. 3,264,382, 8–2–66, Cl. 264—46.

Anglo-Transvaal Consolidated Investment Co. Ltd.: *See*—
Henderson, Herbert V. 3,263,626.

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March, Anthony J. 3,263,355.

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Appleton, Norman J., to General Precision, Inc. Hydrodynamic gas-supported two-degree of freedom gyro. 3,263,507, 8–2–66, Cl. 74—5.7.

Applewhite, Thomas H., and J. S. Nelson, to United States of America, Agriculture. Preparation of amides. 3,264,281, 8–2–66, Cl. 260—112.5.

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Sajpina, Walter R. 3,263,401.

Araki, Chisato, H. Handa, and T. Ohta, to Yoshitomi Pharmaceutical Industries, Ltd. Adhesive compositions of butadiene polymers used in medical applications. 3,264,249, 8–2–66, Cl. 260—32.4.

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Hansen, Louis I. 3,264,088.
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Argueso, M., & Co., Inc.: *See*—
Argueso, Luis M., Jr., and Treacy. 3,264,128.

Argus Inc.: *See*—
Melton, Charles C. 3,264,051.

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Cooperman, Murray C. 3,264,841.

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Armour Pharmaceutical Co.: *See*—
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Hager, Nathaniel E., Jr. 3,264,595.

Arnold, Frank, H. L. Bungart, and A. J. Tava, to Sperry Rand Corp. Window assembly for direct reading instruments. 3,263,646, 8–2–66, Cl. 116—129.

Arnold, Stephen R., to Bell Telephone Laboratories, Inc. Test apparatus for displaying a selectively suppressed current-voltage characteristic of a semiconductor junction. 3,264,563, 8–2–66, Cl. 324—158.

Arnoldy, Roman F., to R.I. Patents, Inc. Weld overlay. 3,264,445, 8–2–66, Cl. 219—76.

Artman, John R. Connecting member for structural units. 3,264,021, 8–2–66, Cl. 287—189.36.

Arvidson, Bengt A., and F. F. Treiber, to Corley-Miller, Inc. Package weighing and conveying system. 3,263,759, 8–2–66, Cl. 177—52.

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Irwin, Benjamin H., Placek, and Dow. 3,263,772.

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Ask, Jonas W. Process of producing rectangular boards from waney boards. 3,263,722, 8–2–66, Cl. 144—319.

Asp, Erik W., and R. S. Lundquist, to Sprinter-Pack AB. Turning mechanism. 3,263,795, 8–2–66, Cl. 198—35.

Atchison, George J., and R. M. Narlock, to The Dow Chemical Co. Method of polymerizing vinyl ethers. 3,264,203, 8–2–66, Cl. 204—154.

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Fogelström, Gösta E., and Carlsson. 3,263,573.

Aufdermarsh, Carl A., to E. I. du Pont de Nemours and Co. Process for preparing 3,4-dimethylene-1,5-hexadiene. 3,264,366, 8–2–66, Cl. 260—683.15.

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Baermann, Max. Magnetically actuated switch. 3,264,424, 8–2–66, Cl. 200—87.

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Baker, Peter J., to Mobay Chemical Co. Polycarbonate recovery system. 3,264,264, 8–2–66, Cl. 260—47.

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Ban, Thomas E., to McDowell-Wellman Engineering Co. System for producing carbonized and metallized iron ore pellets. 3,264,092, 8–2–66, Cl. 75—5.

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Barrett, William M., to Engineering Research Corp. Mean deviation method of reconnaissance exploration of the earth with radio waves. 3,264,555, 8–2–66, Cl. 324—6.

Barta, Edward J., P. W. Kilpatrick, and A. I. Morgan, Jr., to United States of America Agriculture. Methods of peeling wheat. 3,264,713, 8–2–66, Cl. 99—80.

Bartels, Joseph, A. F. Nagelschmidt, G. J.-L. Ranvier, and G. Richter, to Societe Nationale d'Étude et de Construction de Moteurs d'Aviation. Silencers for jet engines. 3,263,931, 8–2–66, Cl. 239—265.11.

Barth, Lewis E., and R. B. Seidel, to Automatic Timing & Controls, Inc. Mechanical apparatus. 3,264,600, 8–2–66, Cl. 339—31.

Barth, Walter, G. Jahn, E. Oster, and A. Hagmann, to Mayback-Motorenbau G.m.b.H. Limiting the fuel supply to an internal combustion engine. 3,263,662, 8–2–66, Cl. 123—140.

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Baskin, Yehuda, and P. D. Shalek, to United States of America, Atomic Energy Commission. Uranium monosulfide-uranium monophosphide solid solutions. 3,264,223, 8–2–66, Cl. 252—301.1.

Batdorf, Robert L., C. A. Lee, and W. Wiegmann, to Bell Telephone Laboratories, Inc. Method of making semiconductor devices. 3,264,149, 8–2–66, Cl. 148—186.

Bateman, Bryce C., to Packard-Bell Electronics Corp. Television receiver-tuner channel indicator. 3,264,625, 8–2–66, Cl. 340—202.

Bauer, La Verne N., to Rohm & Haas Co. Oil dispersant graft copolymers of vinyl acetate onto a polymeric alkyl acrylate backbone. 3,264,376, 8–2–66, Cl. 260—885.

Bauer, Martin G. and B. A. BB-gun loader. 3,263,664, 8–2–66, Cl. 124—45.

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Becker, William K., to Aero-Motive Mfg. Co. Structure for a reel. 3,263,941, 8–2–66, Cl. 242—107.

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Baglow, Denis V., Johnson, and Block. 3,263,990.

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Brenner, Morris. Electrically heated hand tool. 3,264,449, 8-2-66, Cl. 219—227.

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Pitkethyl, Robert C., and Goble. 3,264,367.

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Brown, James M., O. C. Slater, and P. V. Tollefson, to Warwick Electronics Inc. Plural bridge system for simultaneously testing a plurality of interconnected circuit elements. 3,264,562, 8-2-66, Cl. 324—78.

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Brugh, Latane D., Jr. Low density container for liquids. 3,263,891, 8-2-66, Cl. 229—3.1.

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Bryan, Joseph R. Inflatable safety belt. 3,263,249, 8-2-66, Cl. 9—316.

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Butler, Vaughn H., to Burlington Industries, Inc. Method and apparatus for knitting. 3,263,454, 8-2-66, Cl. 66—132.

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Bystricky, Joseph C., and J. L. Luna, to Stewart-Warner Corp. Pump. 3,263,609, 8-2-66, Cl. 103—23.

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Carlson, Raymond H., to Textron Industries, Inc. Screw extractor. 3 263,533, 8-2-66, Cl. 81—71.

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Carlson, Wilbur L., A. T. Gregg, and J. R. Vande Sande, to General Motors Corp. Dynamoelectric machine. 3,264,506, 8-2-66, Cl. 310—216.

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Carlson, William L., Jr., to Honeywell Inc. Conductive fluid electric power conversion means. 3,264,547, 8-2-66, Cl. 321—8.

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Carmichael, Eldon W., and J. C. Wright, said Wright assor. to said Carmichael. Method and apparatus for manufacturing door frame components. 3,263,718, 8-2-66, Cl. 144—3.

Carpenter, Frederick D., and L. Yang, to General Dynamics Corp. Refractory material. 3,264,222, 8-2-66, Cl. 252—301.1.

Carpenter, Keith H., to General Motors Corp. Windshield washer pump. 3,263,618, 8-2-66, Cl. 103—44.

Carr, Harold J., to Lawless Bros. Container Corp. Dispensing carton. 3,263,861, 8-2-66, Cl. 221—302.

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Cruickshank, Geoffrey A., to The Molins Organisation Ltd. Feeding of rod-like articles. 3,263,397, 8–2–66, Cl. 53—236.
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Dosie, Erwin F., and B. J. Golatka, ¼ each to C. E. Hessenthaler, and E. C. Griffa. Combination license plate frame and holder. 3,263,358, 8–2–66, Cl. 40—209.
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Atchison, George J., and Narlock. 3,264,203.
Beesley, Robert L., Mighton, and Matthias. 3,264,396.
Budde, Paul B., and Tolkmith. 3,264,179.
Chisholm, Douglas S. 3,263,516.
Dickerson, Richard T., and Walborsky. 3,264,359.
Hoelzer, Russell L. 3,263,901.
Houvener, Irving S. 3,264,018.
Houvener, Irving S., and Palfey. 3,264,019.
Kenaga, Eugene E. 3,264,177.
Knierlem, Herman, Jr. 3,264,243.
Lane, Robert E., Jr., and Ham. 3,264,368.
Langner, Ralph R. 3,264,182.
Larsen, Eric R. 3,264,356.
Lefevre, Lloyd E., and Brejcha. 3,263,540.
Lowry, Ronald P. 3,263,981.
Osborn, Oliver, Schrieber, and Minderhout. 3,264,151.
Rickard, Melvin D. 3,263,977.
Teot, Arthur S. 3,264,242.
Watts, Jerry W., and Rothermel. 3,263,486.
Westcott, Robert F. 3,264,120.
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Muller, Robert W., and Kookootsedes. 3,264,260.
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Irwin, Benjamin H., Placek, and Dow. 3,263,772.
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Doyl, Orville K. Pop-up valve. 3,263,243, 8–2–66, Cl. 4—203.
Dragonetti, Anthony J., R. E. Stern, and C. Uguccioni, to United States of America, Army. Rotating cluster type rocket launcher. 3,263,565, 8–2–66, Cl. 89—1.804.
Draper Corp.: *See*—
Cadorette, George. 3,263,709.
Drexelius, Victor W.: *See*—
Schimmel, Morry L., Bleikamp, and Drexelius. 3,263,489.

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Jemal, Emile J., and Drinkwater. 3,263,748.
Ducharme, Leroy J., and A. P. Viret, to The Bendix Corp. Removable electroluminescent lamp system. 3,264,640, 8–2–66, Cl. 340—378.
Dudte, Fred, to Harper and Saunder, Inc. Material discharging apparatus. 3,263,801, 8–2–66, Cl. 198—213.
Dunn, George E., to Chrysler Corp. Universal joint. 3,263,445, 8–2–66, Cl. 64—7.
Du Pont de Nemours, E. I., and Co.: *See*—
Andrews, Alday B., Forrest, and Loving. 3,263,608.
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Cohen, Abraham B., and Webers. 3,264,103.
Gall, Walter G. 3,264,250.
Jacobson, Howard W. 3,263,325.
Linderman, James S. 3,263,581.
Pattison, Dexter B., and Schroeder. 3,264,275.
Popoff, Alexis A. 3,263,324.
Rees, Richard W. 3,264,269.
Rees, Richard W. 3,264,272.
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Sinclair, Harold K. 3,264,245.
Tanner, David. 3,264,390.
Winberg, Hilmer E. 3,264,221.
Yetter, Edward W. 3,264,612.
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Adamski, Joseph. 3,263,515.
Dutcher, James D., F. E. Fansy, and M. H. von Saltza, to E. R. Squibb & Sons, Inc. Process for the preparation of septacidin and derivatives. 3,264,195, 8–2–66, Cl. 195—80.
Dutton, John C., to General Electric Co. Transformer pockets for vaporized cooling. 3,264,589, 8–2–66, Cl. 336—57.
Duval, Robert A., and G. P. Patriquin, to Independent Lock Co. Weather seal. 3,263,463, 8–2–66, Cl. 70—455.
Dymo Industries, Inc.: *See*—
Bremer, George F., and Pedersen. 3,263,790.
Pedersen, Dane H., and Penaluna. 3,263,791.
Earl, John A., to Physical Sciences Corp. Insulating coating compositions for electrical conductors. 3,264,122, 8–2–66, Cl. 106—49.
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Donaldson, Raymond E., and White. 3,264,246.
Eaton Yale & Towne Inc.: *See*—
Dannettell, Alan C. 3,264,540.
Sutaruk, Alex. 3,263,783.
Eck, Bruno, and N. Laing. Cross-flow fans. 3,263,910, 8–2–66, Cl. 230—117.
Eckel, Oliver C. Door. 3,263,365, 8–2–66, Cl. 20—16.
Eder, Franz X., to Bendix-Balzers Vacuum, Inc. High vacuum cryopumps. 3,263,434, 8–2–66, Cl. 62—55.5.
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Rolles, Rolf, and Edmunds. 3,264,129.
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Edwards, Miles L., and Starr. 3,263,239.
Edwards, Miles L., and A. Starr, to Edwards Laboratories, Inc. Aorta valve with expansible sturing ring. 3,263,239, 8–2–66, Cl. 3—1.
Ege, Sigmund, to Anaconda Wire and Cable Co. Indicating gauge including a chain-like member wrapped about a major portion of the circumference of the gauged wire-like continuous moving web. 3,264,631, 8–2–66, Cl. 340—259.
Eglin, Hans, and A. Singer, to Mathema Corp. Reg. Trust. Gun sights particularly for light defensive weapons for use against moving aerial targets. 3,263,566, 8–2–66, Cl. 89—41.
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Eguchi, Yasukata, to Janome Sewing Machine Co., Ltd. Buttonhole stitching apparatus. 3,263,635, 8–2–66, Cl. 112—158.
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Eickmann, Karl. Rotary vane machine. 3,263,621, 8–2–66, Cl. 103—136.
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Chappelow, Cecil C., Jr., and Elliott. 3,264,352.
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Ellis, Geoffrey H., and R. W. G. Haslett, to S. Smith & Sons (England) Ltd. Marine echo sounding apparatus. 3,264,603, 8–2–66, Cl. 340—3.
Eloy, Fernand, to Union Carbide Corp. Process for the production of substituted oxadiazoles. 3,264,318, 8–2–66, Cl. 260—307.
Elsager, Edward F., and D. F. Worth, to Parke Davis & Co. Pyrimethamine salt with 4,4'-thiobis(3-hydroxy-2-naphthoic acid). 3,264,296, 8–2–66, Cl. 260—256.5.
Elwell, Robert H., to Deering-Milliken Research Corp. Plastic articles. 3,263,942, 8–2–66, Cl. 242—118.32.
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Stevens, Eric S., and Emery. 3,263,255.
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Engel, J. Anthony: *See*—
Abrams, Louis V., and Engel. 3,263,373.
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Barret, William M. 3,264,555.
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Solomon, Frank, and Enters. 3,264,139.
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Chessin, Newton, and Eppert. 3,264,395.
Eppler, Walter T., to Western Electric Co., Inc. Apparatus for measuring the percent change in length of strip material after formation about a cable core. 3,264,559, 8–2–66, Cl. 324—69.
Epstein, Nat. Screw with cotter pin. 3,263,725, 8–2–66, Cl. 151—6.
Ercoli, Alberto, and R. Gardi, to Francesco Vismara S.p.A. Process for preparing 4-hydroxy-3-keto-5α-steroids and ethers of 3-hydroxy-Δ³-5α-steroids intermediated therein. 3,264,329, 8–2–66, Cl. 260—297.4.
Ercoli, Raffaele: *See*—
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Erhardt, Manfred, to Carl Hurth Maschinen- und Zahnradfabrik. Machine for grinding gears. 3,263,372, 8–2–66, Cl. 51—123.
Ericson, John W., to Westinghouse Air Brake Co. Analog computers for forming the integral of one variable with respect to another variable. 3,264,459, 8–2–66, Cl. 235—183.
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Ernsting, Jurgen, to Aktiengesellschaft Brown, Boveri & Cie. Pressure gas operated electrical switch with two stationary main contacts and a movable bridging contact basket. 3,264,439, 8–2–66, Cl. 200—148.
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Crook, Troy N., Ball, and Hubbard. 3,264,606.
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Wiggins, John H., Jr. 3,263,446.
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Davidson, Van Michael. 3,263,493.
Gruet, Ivan C. 3,264,456.
Herbst, Walter A. 3,263,414.
Hoke, Ronald C., and Felix. 3,263,400.
Lucke, Robert V. 3,264,232.
McCulloch, William J. G., Heumann, and Mercier. 3,264,253.
McKay, Gordon. 3,263,747.
Reedy, Ora L. and Segura. 3,264,240.
Rockett, Jack. 3,264,216.
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Waghorne, Robert H., and Molstedt. 3,264,210.
Zubik, Arnold R. 3,264,387.
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Rosencranz, Robert. 3,263,694.
Ethyl Corp.: *See*—
Werner, Robert P. M. 3,264,334.
Ettinger, Bette. Back support attachment for seats. 3,263,245, 8–2–66, Cl. 4—254.
Evans, Thomas, B. T. Harris, and H. D. Hadler, to J. I. Case Co. Bale launcher control. 3,263,838, 8–2–66, Cl. 214—42.
Everston, Joseph H. Therapeutic bathtub having plural aspirating fitting. 3,263,678, 8–2–66, Cl. 128—66.
Ewaskowitz, Eugene R. Method and apparatus for removing counterbore plugs. 3,263,721, 8–2–66, Cl. 144—310.
FMC Corp.: *See*—
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Bergantz, Joseph A., Brunsvold, and Schmid. 3,264,072.
Dickens, Charles G. 3,263,599.
Downs, Kenneth J. 3,264,006.
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Lill, Melvin H. 3,264,041.
Patterson, Joseph M. 3,263,360.
Smallwood, Harold T., and Tryon. 3,264,835.
Talbot, James E. 3,264,022.
Verrinder, Ernest A. 3,263,827.
Verrinder, Ernest A., and Derricott. 3,263,829.
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Price, John E. 3,264,493.
Falanga, Bruno J., A. Gingrande, G. J. Marotta, A. J. Murabito, J. F. Russell, Jr., and R. A. Waddell to Western Electric Co., Inc. Method for mounting electrical circuitry. 3,263,304, 8–2–66, Cl. 29—155.5.
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Rehman, John L., and Livergood. 3,263,537.
Fanning, Frank U. Method of using a golf club. 3,263,998, 8–2–66, Cl. 273—81.4.
Faragher, Reginald G. Halter-bridle combination. 3,263,399, 8–2–66, Cl. 54—6.
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Merten, Rudolf, and Wagner. 3,264,266.
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Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Kuhne, Rudolf, and Meininger. 3,264,340.
Farina, Joseph J., M. G. Zavertnik, and J. A. Kelly, to Killark Electric Mfg. Co. Explosion-proof switch box assembly including reciprocal external actuator means. 3,264,443, 8–2–66, Cl. 200—172.
Farmochimica Cutolop Calosi: *See*—
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Fassell, Wayne M., Jr., H. C. Boyd, and A. M. Saul, to The Ford Motor Co. Electroless plating of metals. 3,264,199, 8–2–66, Cl. 204—38.
Fastener Corp.: *See*—
Wandel, Oscar A. 3,263,888.
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Fathauer, George H., to Radson Engineering Corp. Load cell and weighing system. 3,263,496, 8–2–66, Cl. 73—141.
Faxen, Per T., and K. A. Rosell, to Svenska Aeroplan Aktiebolaget. Toss bombing instrumentality. 3,264,451, 8–2–66, Cl. 235—61.5.
Feder, Friedhelm R., and R. S. Hoyt, to Wedco Inc. Apparatus for treating thermoplastic material to improve flowability thereof. 3,263,980, 8–2–66, Cl. 263—21.
Feissel, Henry G., to Societe Industrielle Bull-General Electric. Superconductor memory matrix. 3,264,617, 8–2–66, Cl. 340—173.1.
Fekete, Joseph. Plastic closure device. 3,263,292, 8–2–66, Cl. 24—206.
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Fetter, Zdenek, J. Musil, M. Kucera, B. Pelikan, and J. Leimer, to Vyzkumny ustav prislusenstvi motorovych vozidel. Fuel-ignitor arrangement for a heater. 3,263,729, 8–2–66, Cl. 158—28.
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Flies, Francis M., II, and O. Horton, Jr., to Phillips Petroleum Co. Simultaneously coking iron ore and cracking hydrocarbons. 3,264,209, 8–2–66, Cl. 208—124.
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Filliol, Jacques. Space heater. 3,263,671, 8–2–66, Cl. 126—59.5.
Filosa, Jean A., to British Petroleum Co. Ltd. of Britannic House. Purification of micro-organisms cultivated on hydrocarbon feedstock. 3,264,196, 8–2–66, Cl. 195—82.
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Doe, Walter P. 3,263,363.
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Fitt, Peter W., to Normalair Ltd. Oxygen supply systems. 3,263,433, 8–2–66, Cl. 62—52.
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Lagarde, Roe H. 3,264,017.
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Fitzsimmons, James R., to Honeywell, Inc. Mounting arrangement. 3,264,527, 8–2–66, Cl. 317—101.
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Fleisher, Marvin B., and P. E. Hixon, to The Rolor Corp. Photographic material drying apparatus. 3,263,345, 8–2–66, Cl. 34—159.
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Bliven, Charles V. 3,263,983.
Braun, Paul E., Freismuth, and Pruchno. 3,263,974.
Braun, Paul E., and Pruchno. 3,263,972.
Di Salvo, Anthony J. 3,264,024.
Fassell, Wayne M., Jr., Boyd, and Saul. 3,264,199.
General, Norman T. 3,263,522.
Jandasek, Vladimir J. 3,263,525.
Konrad, Eugene W. 3,263,524.
Lindamood, Beinton B., McKinlay, and Thom. 3,263,402.
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Stockton, Thomas R. 3,263,526.
Stockton, Thomas R. 3,263,527.
Toland, Thomas J. 3,263,700.
Wallace, Baird. 3,264,450.
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Fortune, William S. Solder removal apparatus. 3,263,889, 8–2–66, Cl. 228—20.
Forwald, Haakon, to Allmanna Svenska Elektriska Aktiebolaget. Air blast circuit-breaker. 3,264,440, 8–2–66, Cl. 200—148.
Foster, Edward T. Safety carriage for crane booms. 3,263,383, 8–2–66, Cl. 52—148.
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Carlson, Raymond T. 3,263,630.
Foster, Robert T., to Joseph Lucas (Industries) Ltd. Temperature control of batteries. 3,264,546, 8–2–66, Cl. 320—35.
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De Ghetto, Kenneth A., Long, and Yeh. 3,264,068.
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Gorzegno, Walter P., Stevens, and Uriarte. 3,263,423.
Konz, Paul R. 3,263,056.
Four Wheel Drive Auto Co., The: *See*—
Rill, Russell A., Elliott, Homring, Larson, Meldahl, Russler, and Simonds. 3,264,007.
Frampton, Robert E.: *See*—
Langager, Truman L., and Frampton. 3,263,762.
Francesco Vismara S.p.A.: *See*—
Ercoli, Alberto, and Gardi. 3,264,329.
Francis, Geoffrey. Palletized storage device. 3,263,831, 8–2–66, Cl. 214—16.1.
Francois, Marcel, to Sotchkiss-Brandt. Internal combustion engine. 3,263,659, 8–2–66, Cl. 123—32.
Frank, Gerard A.: *See*—
Butler, Claude R., and Frank. 3,263,305.
Frank, Milton A., Sr. Spindle stabilizer. 3,263,969, 8–2–66, Cl. 259—108.
Frazier, Robert H., and R. G. Toth, to The Youngstown Sheet and Tube Co. Method of producing a rolled steel product. 3,264,144, 8–2–66, Cl. 148—12.
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Freeman, Benjamin, to Barwick Carpet Mills, Inc. Tufting machine having fluid yarn feeding means. 3,263,631, 8–2–66, Cl. 112—79.
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French Electric Ltd.: *See*—
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Krouse, John P., and Frisbie. 3,263,785.
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Gault, John M., to International Rectifier Corp. Adjustable semiconductor punch-through device having three junctions. 3,264,495, 8–2–66, Cl. 307—88.5.
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Haggstrom, Walter R. G., to Independent Lock Co. Key display device. 3,264,462, 8–2–66, Cl. 240—2.
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Hansen, Louis I., to Archer-Daniels-Midland Co. Slow release fertilizer granule having a plurality of urethane resin coatings. 3,264,089, 8–2–66, Cl. 71—64.

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Hawes, Edward M. Push-pull door latch construction. 3,264,025, 8–2–66, Cl. 292—166.

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Wimpenny, John C. 3,263,945.

Hawkins, Robert P., to The Dayton Sure Grip and Shore Co. Concrete accessory. 3,263,956, 8–2–66, Cl. 249—40.

Haydon, Arthur W., to Tri-Tech, Inc. Method for fabricating electrical circuit components. 3,264,152, 8–2–66, Cl. 156—3.

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Hayner, Paul F., and T. E. Woodruff, to Sanders Associates, Inc. Capacitor goniometer compass. 3,264,554, 8–2–66, Cl. 323—128.

Headd, Franklin L., and J. R. Miles, to Xerox Corp. Facsimile scanning apparatus. 3,264,407, 8–2–66, Cl. 178—7.1.

Hearne, George W.: *See*—
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Goiucke, Karl, and Heckmann. 3,263,815.

Hedborg, Lennart, to Aktiebolaget Siefvert & Fornander. Method and apparatus for arranging blanks into separate stacks. 3,263,993, 8–2–66, Cl. 271—64.

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Heeps, Brian H. Method and apparatus for detecting and measuring minute quantities of water present in liquid hydrocarbon fuels. 3,264,557, 8–2–66, Cl. 324—65.

Heeps, Brian H. Movable electrode apparatus for detecting the presence of micro-particles of liquid suspended in a fluid. 3,264,558, 8–2–66, Cl. 324—65.

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Heim, Gerold, to Ciba Ltd. Preparations for combatting cotton pests. 3,264,175, 8–2–66, Cl. 167—22.

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Heimlicher, Paul, to Maschinenfabrik Winkler, Fallert & Co. A.G. Folding knife- and bundling cylinder for sheet folding apparatus. 3,263,988, 8–2–66, Cl. 270—50.

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Hellar, Martin W., to General Electric Co. Automatic power meter reading over neutral power transmission line. 3,264,633, 8–2–66, Cl. 340—310.

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Hellström, Börje. System for automatic electric recording and indicating a code marked by means of passive circuit elements on a vehicle. 3,264,614, 8–2–66, Cl. 340—152.

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Hilinski, Leo S., to W. R. Grace & Co. Apparatus for distributing liquid in packed towers. 3,263,976, 8–2–66, Cl. 261—98.

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Hinko, Joseph, to Kaybe Mfg. Co. Quilting machine operating mechanism for feed rollers. 3,263,633, 8–2–66, Cl. 112—118.

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Webb, Reginald F., and Hinton. 3,264,358.

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Hofer, David L., deceased by M. M. Hofer, administratrix, to M. M. Hofer. Relief valve control mechanism for suction dredges. 3,263,615. 8–2–66, Cl. 103—11.

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Hoffmann, Klaus, and H. Yajima, to United States of America, Health, Education, and Welfare. Tricosapeptides and intermediates for the preparation thereof. 3,264,280, 8–2–66, Cl. 260—112.5.

Hoke, Ronald C., and J. R. Felix, to Esso Research and Engineering Co. Air treatment. 3,263,400, 8–2–66, Cl. 55—33.

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Holzer, Walter. Switching device using flat contact pieces. 3,264,442 8–2–66, Cl. 200—166.

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Houvener, Irving S., and A. J. Palfey, to The Dow Chemical Co. Joining device for structures. 3,264,019, 8–2–66, Cl. 287—189.3535.

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Huber, James A.: *See*—
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Huntzinger, Gerald O., and W. D. Worrell, to General Motors Corp. Voltage suppression network for ignition systems. 3,264,521, 8–2–66, Cl. 315—224.

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Hurtle, Ralph L., to General Electric Co. Electric Circuit protective device with energy diverting means. 3,264,427, 8 2,66, Cl. 200—88.

Hustinx, Edmond. Process for preparing soluble reaction products of epoxy resins and varnishes and paint made therefrom. 3,264,235, 8–2–66, Cl. 260—18.

Hyde, Arthur P. S., to General Motors Corp. Pressure regulator. 3,263,660, 8–2–66, Cl. 123—119.

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Ibbotson, Arthur, to Imperial Chemical Industries Ltd. Hydroxy (polyalkylenoxy) alkyl hydrazine based polyurethanes. 3,264,231, 8–2–66, Cl. 260—2.5.

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International Research & Development Corp.: *See*—
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International Standard Electric Corp.: *See*—
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Irby, James C. Collision tracking device. 3,263,644, 8–2–66, Cl. 116—32.

Irwin, Benjamin H., R. L. Placek, and K. Dow, to Arvin Industries, Inc. Sound attenuating gas conduit with one-quarter wavelength side branch chambers. 3,263,772, 8–2–66, Cl. 181—59.

Iwamatsu, Shigeji. Traveller mounting apparatus for use for travellers cumulated and packed in bar shape. 3,263,317, 8–2–66, Cl. 29—207.

Jackson, James G., to Solar Projection Screens Ltd. High light reflecting screens. 3,263,561, 8–2–66, Cl. 88—28.9.

Jacob, Don M., to T.R.W. Inc. Unambiguous range radar system. 3,264,644, 8–2–66, Cl. 343—12.

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Jacoby, Marvin, to Sperry Rand Corp. Fluid hammer impression actuating means. 3,263,607, 8–2–66, Cl. 101—407.

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Jarvis, Howell R., and W. L. Shirley, to National Tank Co. Process for resolving gas-containing emulsions. 3,264,204, 8–2–66, Cl. 204—188.

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Jerothe, Rudolph A., and N. Forrest, to Toscony, Inc. Color dynamic, three-dimensional flexible film and method of making it. 3,264,164, 8–2–66, Cl. 161—33.

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Johnson, Eldon A., deceased, by D. Johnson, administratrix, to ACF Industries, Inc. Valve structure. 3,263,701, 8–2–66, Cl. 137—533.17.

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Johnson, Paul H., to Howard E. Johnson & Associates. Hydro-metallurgical method and apparatus. 3,264,099, 8–2–66, Cl. 75—101.

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Johnson, Roland E., to Columbus Plastic Products, Inc. Plastic shoe tree. 3,263,252, 8–2–66, Cl. 12—116.6.

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Jones, Daniel G., and P. S. Landis, to Mobil Oil Corp. Production of pyridines. 3,264,307, 8–2–66, Cl. 260—290.

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Jones, Robert W., to Monsanto Co. Process for the graft polymerization of styrene on alkyl lithium catalyzed polybutadiene using a peroxide catalyst. 3,264,375, 8–2–66, Cl. 260—880.

Jones, Sterling B., to Monogram Industries, Inc. Apparatus and method for assembling and disassembling clamps. 3,263,320, 8–2–66, Cl. 29—423.

Jones, William H., to Lear Siegler, Inc. Thin film electron emissive electrode. 3,264,074, 8–2–66, Cl. 29—183.5.

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Jordan, Marvin F., and T. C. Klimowicz, to Acme-Industrial Products, Inc. Retainer for die or punch members. 3,263,549, 8–2–66, Cl. 83—698.

Jorden, William B., E. A. Murphy, and W. Posner, to General Telephone and Electronics Laboratories, Inc. Transducer. 3,264,416, 8–2–66, Cl. 179—110.

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Kabelitz, Hans, and H. Jennihsen, to Gebrüder Sucker, Monchengladbach. System for the control of squeezing pressure applied to travelling web material. 3,263,460, 8–2–66, Cl. 68—253.

Kachnik, Joseph E., to Hendrickson Tandem Corp. Vehicle for transporting fluids. 3,263,865, 8–2–66, Cl. 222—159.

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Kan, Billy, to United Fruit Co. Process and apparatus for freeze drying utilizing dry gas. 3,263,335, 8–2–66, Cl. 34—5.

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Kehl, William L., and M. M. Stewart, to Gulf Research & Development Co. Alumina product and its method of preparation. 3,264,062, 8–2–66, Cl. 23—141.

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Kerttunen, Tuomas. Clamp for conductors or the like. 3,263,947, 8–2–66, Cl. 248—68.

Kessler, John O., to Radio Corp. of America. Heat responsive variable characteristic semiconductor device. 3,264,532, 8–2–66, Cl. 317—234.

Keuchen, Erich, to Garbe, Lahmeyer & Co., AG. Starter control including means to prevent starter energization while engine is running. 3,264,484, 8–2–66, Cl. 290—38.

Kiehl, Paul G., to Church-Craft, Inc. Method of making a picture slide. 3,264,154, 8–2–66, Cl. 156—108.

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Kilcrease, Jack W., S. A. Thomas, Jr., and D. D. Whitlow. Process for the treatment and preservation of grain quality during storage. 3,264,118, 8–2–66, Cl. 99—153.

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Barta, Edward J., Kilpatrick, and Morgan. 3,264,113.

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Kimmel, Irvine. Weather tight and pressure proof panel structures. 3,263,386, 8–2–66, Cl. 52—580.

King, Kenneth G., to Westinghouse Brake and Signal Co., Ltd. D.C. to A.C. inverter circuits. 3,264,548, 8–2–66, Cl. 321—45.

King, Leon N.: *See*—
Becher, Frederick W., and King. 3,263,746.

King, O. J., and R. E. Hudson, to Basin Recovery Corp. Natural gasoline process and apparatus. 3,264,212, 8–2–66, Cl. 208—340.

King, Paul A., to Union Carbide Corp. Ionizing radiation of water solution of polyalkylene oxide and product thereof. 3,264,202, 8–2–66, Cl. 204—154.

Kinkaid, Robert J., to AMP Inc. Connector block assembly. 3,264,599, 8–2–66, Cl. 339—17.

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Kirkpatrick, Richard W., to United States Steel Corp. Method of preparing molds. 3,263,287, 8–2–66, Cl. 22—192.

Klein, Keith W., and D. B. Powell, to General Electric Co. Circuit-breaker with removable trip unit having improved mounting means for terminal strap and thermal responsive means. 3,264,435, 8–2–66, Cl. 200—116.

Klein, Otto C., to American Zinc, Lead and Smelting Co. Method of making conductive zinc oxide. 3,264,229, 8–2–66, Cl. 252—518.

Kleinschmidt, Edward F., H. A. Anderson, and C. H. Clark, to SCM Corp. Coincidence detection apparatus. 3,264,409, 8–2–66, Cl. 178—17.

Klene, Kenneth W., and M. Schirmer, to Hermsdorf Fixture Mfg. Co., a Division of Camden Industries Co., Inc. Shelf assembly. 3,263,821, 8–2–66, Cl. 211—148.

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Klimowicz, Thaddeus C.: *See*—
Jordan, Marvin F., and Klimowicz. 3,263,549.

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Goiucke, Karl, and Heckmann. 3,263,815.

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Knieriem, Herman, Jr., to The Dow Chemical Co. Vinyl base adhesive compositions with improved water resistance. 3,264,243, 8–2–66, Cl. 260—29.6.

Knittel, Richard R., C. H. Burnette, and R. H. Beckman. Headed hollow body support. 3,263,247, 8–2–66, Cl. 5—353.

Knox, Lawrence H., to Syntex Corp. 17α-fluoro-17β-chlorofluoroacetoxy- and 17β-methyl-α'- and Δ⁶-androstene derivatives. 3,264,327, 8–2–66, Cl. 260—397.

Knus, Jean, to Alos AG. Appliance for illuminating and photographing a surface of an object with reflecting areas. 3,263,584, 8–2–66, Cl. 95—11.

Kobler, Victor and W. Cutting machine with tapered guide means for the movable blade. 3,263,548, 8–2–66, Cl. 83—633.

Kobler, Werner: *See*—
Kobler, Victor and W. 3,263,548.

Koch, Alan J., and M. J. Weis, to Whirlpool Corp. Magnetic gasket. 3,264,048, 8–2–66, Cl. 312—296.

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Heyl, Gerhard, and Koch. 3,263,649.

Kodama, Yutaka, T. Fujiwara, and T. Inagaki, to Toyama Kagaku Kogyo Kabushiki Kaisha Chuoku. Composition for stimulating growth of domestic animals. 3,264,112, 8–2–66, Cl. 99—2.

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Goldfarb, Erwin J. 3,263,436.

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Kolbe, William H.: *See*—
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Kolze, Lawrence A., to The Dole Valve Co. Heating and cooling zone valve. 3,263,924, 8–2–66, Cl. 236—1.

Komuro, Akio: *See*—
Eguchi, Yasukata, and Komuro. 3,263,290.

Koninklijke, N.V. Pharmaceutische Fabrieken v/h Brocades Stheeman en Pharmacia: *See*—
Van der Stelt, Cornelis. 3,264,308.

Konrad, Eugene W., to Ford Motor Co. Hydrokinetic torque converter transmission with stator reverse drive. 3,263,524, 8–2–66, Cl. 74—677.

Konz, Paul R., to Foster Wheel Corp. Method of gas purification and removal of ferrous carbonate from the absorption solution. 3,263,056, 8–2–66, Cl. 23—2.

Kool, Earl R., R. L. Bruner, and T. H. Newkirk, to Corn Products Co. Process for converting amylaceous materials to dextrose. 3,264,193, 8–2–66, Cl. 195—31.

Kookootsedes, Gust J.: *See*—
Muller, Robert W., and Kookootsedes. 3,264,260.

Korfund Dynamics Corp.: *See*—
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Lutes, Harry L. 3,263,797.

Kosanovich, Milton: *See*—
Marenchin, George. 3,263,804.

Kotos, Peter, to General Electric Co. Trip device for an electric circuit-breaker having an electromagnetic pump and a time delay means. 3,264,430, 8–2–66, Cl. 200—112.

Kott, Herbert, to Bright Star Industries, Inc. Plural source charging circuit for rechargeable flashlight. 3,264,545, 8–2–66, Cl. 320—22.

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Kramer, Gus: *See*—
Hinko, Joseph. 3,263,632.

Kramer, Jack: *See*—
Hinko, Joseph. 3,263,632.

Kramer, Leo, to Thor Power Tool Co. Impulse tool. 3,263,449, 8–2–66, Cl. 64—26.

Krantz, Hubert K., to Bell Telephone Laboratories, Inc. Probe positioning device for use in measuring and checking semiconductor specimens. 3,264,556, 8–2–66, Cl. 324—62.

Krause, Richard: *See*—
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Krauss, Otto, and F. Bahmann, to M. Grundig. Actuating means for microswitches. 3,264,444, 8–2–66, Cl. 200—172.

Kretzschmar, Karl, and G. Lichtenauer, to Carl Hurth Maschinen- und Zahnradfabrik. Machine for treating gears and similar workpieces. 3,263,568, 8–2–66, Cl. 90—1.6.

Krishnaswamy, Prathivadhi B., D. L. Ham, and J. P. Fath, to Fischer & Porter Co. Magnetic flowmeter. 3,263,500, 8–2–66, Cl. 73—194.

Krizman, John Jr. Spark arrester. 3,263,404, 8–2–66, Cl. 55—447.

Kroemer, Robert H., Jr. Food service system. 3,263,776, 8–2–66, Cl. 186—1.

Kroker, Raymond G., and R. E. Kronmiller, to National Union Electric Corp. Cooling arrangement for a vacuum cleaner motor or the like. 3,263,908, 8–2–66, Cl. 230—117.

Kronmiller, Richard E.: *See*—
Kroker, Raymond G., and Kronmiller. 3,263,908.

Krouse, John P., and R. C. Frisble, to Ingersoll-Rand Co. Torque releasing clutch mechanism and motor control. 3,263,785, 8–2–66, Cl. 192—150.

Krynski, John E., to Ametek, Inc. Filter. 3,263,816, 8–2–66, Cl. 210—386.

Krzemicki, Kazimierz: *See*—
Schonbeck, Rupert, and Krzemicki. 3,264,197.

Kubelka, Alois, V. Opatril, and K. Kubelka, to Elitey Sdruzeni podniku textiliniho. Drive means for a loom element. 3,263,707, 8–2–66, Cl. 139—122.

Kubelka, Karel: *See*—
Kubelka, Alois, Opatril, and Kubelka. 3,263,707.

Kucera, Joseph B., ⅓ to E. M. McElhinney, and ⅓ to R. L. Lowell. Bulk material handling apparatus. 3,263,836, 8–2–66, Cl. 214—83.18.

Kucera, Miroslav: *See*—
Fetter, Zdenek, Musil, Kucera, Pelikan, and Leimer. 3,263,729.

Kucka, Frank P. and M. J. Outdoor receptacle for newspapers and the like. 3,263,905, 8–2–66, Cl. 229—93.

Kucka, Michael J.: *See*—
Kucka, Frank P. and M. J. 3,263,905.

Kugler, Fritz: *See*—
Porret, Daniel, Ernst, Nikles, and Kugler. 3,264,271.

Kuhne, Rudolf, and F. Meininger, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for preparing compounds containing an ethionylamino group. 3,264,340, 8–2–66, Cl. 260—458.

Kulcsar, Frank, to Clevite Corp. Ferroelectric ceramic compositions. 3,264,217, 8–2–66, Cl. 252—62.9.

Kunstoffwerk Gebruder Anger G.m.b.H. & Co.: *See*—
Niessner, Rudolf, Sonnleitner, Wolf, and Gutlhuber. 3,264,383.

Kurek, John, Jr., to Combustion Engineering, Inc. Drum support for steam boiler. 3,263,656, 8–2–66, Cl. 122—510.

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Riedhammer, Josef, and Kurzeja. 3,263,311.

La Buda, Edward F.: *See*—
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Lachance, Joseph A., to A. A. Lachance. Grocery cart and checkout counter with cooperating conveyor drive means. 3,263,775, 8–2–66, Cl. 186—1.

Ladogana, Anthony: *See*—
Molla, Charles P., and Ladogana. 3,263,295.

Ladusaw, William T., to General Electric Co. Air filter condition indicator. 3,263,403, 8–2–66, Cl. 55—274.

La Falce, Palmerino C. Rotatable top and spinner. 3,263,362, 8–2–66, Cl. 46—67.

Lagarde, Roe H., to E. W. Bliss Co. Coupling device for woven bands. 3,263,289, 8–2–66, Cl. 24—123.

Lagarde, Roe H., to H. L. Fittings Inc. Anchoring means for flexible tension member. 3,264,017, 8–2–66, Cl. 287—82.

Lal, William, and E. G. Chilton. Plasma torch. 3,264,508, 8–2–66, Cl. 313—63.

Laing, Nikolaus: *See*—
Eck, Bruno, and Laing. 3,263,910.

Lamberty, Bernard J., to United States of America, Army. Apparatus for scanning radio frequency energy. 3,264,642, 8–2–66, Cl. 343—7.4.

Lammerz, Gustaf E. E., deceased (by I. H. E. K. Lammerz, nee Roth, heir, and A. Koss, guardian of minor heir), to Voith-Getriebe Kommanditgesellschaft. Hydraulic power transmission, especially for use in connection with rail vehicles. 3,263,528, 8–2–66, Cl. 74—731.

Lammerz, Ilse H. E. K.: *See*—
Lammerz, Gustaf E. E. 3,263,528.

Lamoriette, Paul, to l'Eclairage des Vehicules Sur Rail. Electrical generator and devices for supplying electric current to lighting, air-conditioning and other apparatus. 3,264,504, 8–2–66, Cl. 310—168.

Landbouwwerktuigen- en Machinefabriek H. Vissers N.V. Nieuw Vennep: *See*—
Vissers, Herbert. 3,263,800.

Landis, Phillip S.: *See*—
Jones, Daniel G., and Landis. 3,264,307.

Lane, Robert E., Jr., and G. E. Ham, to The Dow Chemical Co. Aziridinylformate based polyurethanes. 3,264,368, 8–2–66, Cl. 260—77.5.

Langager, Truman L., and R. E. Frampton. Load weigher incorporated into hydraulic system of vehicle weighing device. 3,263,762, 8–2–66, Cl. 177—141.

Lange, Maurice, to Societe anonyme Ancienne Maison Turquetil. Device for driving in rotation a driven shaft from a driving shaft. 3,263,514, 8–2–66, Cl. 74—69.

Lange, Oswald H., R. J. Stein, and H. E. Tubbs. Detonation reaction engine. 3,263,418, 8–2–66, Cl. 60—35.6.

Langendorf, Heinrich. Rear loading road vehicle. 3,264,009, 8–2–66, Cl. 280—81.

Langner, Ralph R., to The Dow Chemical Co. Preservation of animal specimens. 3,264,182, 8–2–66, Cl. 167—49.5.

Langwell, John D., to Waldes Kohinoor, Inc. Strip material feeding and cutting-off apparatus. 3,263,542, 8–2–66, Cl. 82—241.

Lantz, Alpha D., to The Ohio Brass Co. Suppressors for transmission line conductors. 3,264,401, 8–2–66, Cl. 174—42.

Lapinski, Francis A., to Minneapolis-Honeywell Regulator Co. Cycling electrical controller. 3,264,498, 8–2–66, Cl. 307—127.

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Larsen, Eric R., to The Dow Chemical Co. Dichloro-difluoro ether. 3,264,356, 8–2–66, Cl. 260—614.

Lasley, Robert A.: *See*—
Handel, Siegfried K., and Lasley. 3,264,419.

La Tendresse, Philip E. Pole carrier. 3,263,834, 8–2–66, Cl. 214—77.

Lattimer, Charles T., to Radio Corp. of America. Cathode ray tube fabrication. 3,264,157, 8–2–66, Cl. 156—212.

Lau, Erwin M., to Black Products Co. Bag actuated switch mechanism for bag filling machine. 3,263,712, 8–2–66, Cl. 141—68.

Laub, Herman. Receptacle filling apparatus. 3,263,711, 8–2–66, Cl. 141—40.

Lauder, William B., and R. L. Copson, to Allied Chemical Corp. Production of ultra-fine alpha alumina and such alpha alumina. 3,264,124, 8–2–66, Cl. 106—65.

Lawson, David E. Load bearing structure. 3,264,034, 8–2–66, Cl. 297—456.

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Carr, Harold J. 3,263,861.

Layland, Michael C., to Dale Electronics, Inc. Adjustable potentiometer. 3,264,594, 8–2–66, Cl. 338—174.

Lear Siegler, Inc.: *See*—
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Smith, Louis G., Jr. 3,264,417.

Lebkuechner, Benno, to Taco, Inc. Pump. 3,264,653, 8–2–66, Cl. 103—87.

Le Bus, Franklin L., Sr., to Lebus Royalty Co. Cable signal device. 3,264,629, 8–2–66, Cl. 340—259.

Lebus Royalty Co.: *See*—
Le Bus, Franklin L., Sr. 3,264,629.

l'Echairage des Vehicules Sur Rail: *See*—
Lamoriette, Paul. 3,264,504.

Ledex, Inc.: *See*—
Leland, Gerald H., and Cahill. 3,264,530.

Lee, Charles A.: *See*—
Batdorf, Robert L., Lee, and Wiegmann. 3,264,149.

Lee, Harold R., to General Electric Co. Encapsulating compositions containing an epoxy resin metaxylylene diamine, and tris-beta chlorethyl phosphate, and encapsulated modules. 3,264,248, 8–2–66, Cl. 260—30.6.

Lee, Ray H. Automatic switching device. 3,264,429, 8–2–66, Cl. 200—112.

Leeco Chemical Co.: *See*—
Rapport, Arthur. 3,264,176.

Lefevre, Lloyd E., and H. A. Brejcha, to The Dow Chemical Co. Apparatus for slitting plastic film. 3,263,540, 8–2–66, Cl. 83—171.

Lefferts, Peter, to TIA Electric Co. Transiently regenerative amplifier with A.C. and D.C. regeneration. 3,264,569, 8–2–66, Cl. 330—9.

Lefferts, Peter, to TIA Electric Co. Transiently regenerative amplifiers with response controlling means. 3,264,573, 8–2–66, Cl. 330—26.

Lefferts, Peter, to TIA Electric Co. Transiently regenerative amplification. 3,264,752, 8–2–66, Cl. 330—26.

Lehmann, Herbert G., to Valve Corp. of America. Metering button-type aerosol actuator. 3,263,867, 8–2–66, Cl. 222—182.

Lehmer, Donald E., to Beckman Instruments, Inc. Temperature control apparatus. 3,264,448, 8–2–66, Cl. 219—210.

Leiblinger, Berthold, and E. Herb, to Trumpf & Co. Slitting tool. 3,263,545, 8–2–66, Cl. 83—528.

Leifer, Mitchell S., to The Bendix Corp. Pulse width temperature compensated magnetic control. 3,264,528, 8–2–66, Cl. 317—123.

Leimer, Jaroslav: *See*—
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Leland, Gerald H., and J. L. Cahill, to Ledex, Inc. Rotary actuator. 3,264,530, 8–2–66, Cl. 317—192.

Leland, Ragnvald G. Fountain paint roller assembly. 3,263,264, 8–2–66, Cl. 15—575.

Lemaster, Stan W., and W. B. Mesplay, to General Electric Co. Assembly method for electron discharge devices. 3,263,299, 8–2–66, Cl. 29—25.16.

Leng, Leopold, to Patelhold Patentverwertungs-U. Elektro-Holding A.G. Short wave tuning system. 3,264,587, 8–2–66, Cl. 333—83.

Leonard, Lynn B., and H. Watanabe, to Beckman Instruments, Inc. Leak structure for electrochemical electrodes. 3,264,205, 8–2–66, Cl. 204—195.

Lerman, Harold, and A. Gerard, to General Precision Inc. Shaft angle digitizer. 3,264,639, 8–2–66, Cl. 340—347.

Lerner, Julius, to Sun Oil Co. Stream moisture indicator. 3,263,492, 8–2–66, Cl. 73—53.

Lesh, James B., and C. W. Damaskus, to Armour Pharmaceutical Co. Sterilizing insects with bis-(ethylenimido) phosphoro carbamates. 3,264,178, 8–2–66, Cl. 167—33.

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Appleman, Kenneth. 3,263,594.
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Rabinow, Jacob, to Control Data Corp. Reading machine with automatic recognition of characters substituted for print errors. 3,264,610, 8–2–66, Cl. 340—146.3.
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Gugki, Walter B. 3,264,564.
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Rosen, George, and W. D. Helmer, to Thiokol Chemical Corp. Vulcanizing agent prepared from sulfur, linseed oil and dicyclopentadiene. 3,264,239, 8–2–66, Cl. 260—23.7.
Rosencranz, Robert, to Esterline Angus Instrument Co., Inc. Electro-hydraulic actuator for prime mover control. 3,263,694, 8–2–66, Cl. 137—36.
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Woolsey, Curtis L., to Union Bag-Camp Paper Corp. Carton with tabs for supporting inner flaps. 3,263,896, 8–2–66, Cl. 229—37.

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Worrell, William D.: *See*—
Huntzinger, Gerald O., and Worrell. 3,264,521.

Worth, Donald F.: *See*—
Elsager, Edward F., and Worth. 3,264,296.

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Aronson, David. 3,263,437.
Hanschke, Albert F., and Browning. 3,263,963.
Robins, John W. 3,263,696.

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Wright, James C.: *See*—
Carmichael, Eldon W., and Wright. 3,263,718.

Wright, John G., and R. E. Smith, to The Auto-Soler Co. Means for supporting coiled wire for dispensing. 3,263,940, 8–2–66, Cl. 242—103.

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Wysong & Miles Co.: *See*—
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Yott, Edward W.: *See*—
Gaskill, George M., Prewitt, Kolbe, and Yott. 3,263,739.

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Young, Otto V.: *See*—
Walters, Emmett L., Warren, Young, and Miklosek. 3,263,376.

Young, Dorothy M. Hunt cap. 3,263,235, 8–2–66, Cl. 2—3.

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Zackheim, Eli A., to Johnson & Johnson. Nursing container with supporting handles. 3,263,848, 8–2–66, Cl. 215—11.

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Farina, Joseph J., Zavertnik, and Kelly. 3,264,443.

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Zepernick, Lawrence D., to Vector Cable Co. Detachable mount for magnetostrictive detector. 3,263,768, 8–2–66, Cl. 181—.5.

Ziegler, Carl, to Merck & Co., Inc. Process for effecting diuresis. 3,264,183, 8–2–66, Cl. 167—51.5.

Ziegler, Edward J.: *See*—
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Murphy, Bernard T., and Zimmerman. 3,263,647.

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Zink, Harold L. Pebble catcher. 3,263,755, 8–2–66, Cl. 171—63.

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CLASSIFICATION OF PATENTS

ISSUED AUGUST 2, 1966

NOTE.—First number, class; second number, subclass; third number, patent number

2— 3	3,263,235	29—155.5	3,263,304	52—720	3,263,389	72— 48	3,263,465	83—241	3,263,542	102— 98	3,263,613
9	3,263,236		3,263,305	53— 21	3,263,390	114	3,263,466	367	3,263,543	103— 2	3,263,614
150	3,263,237		3,263,306	28	3,263,391	131	3,263,467	409	3,263,544	11	3,263,615
265	3,263,238		3,263,307	33	3,263,392	267	3,263,468	528	3,263,545	23	3,263,609
3— 1	3,263,239		3,263,308	40	3,263,393	269	3,263,469	556	3,263,546	35	3,263,616
4— 57	3,263,240	155.57:	3,263,309	43	3,263,394	284	3,263,470	620	3,263,547	44	3,263,617
112	3,263,241	156.5	3,263,310	124	3,263,395	294	3,263,471	633	3,263,548		3,263,618
146	3,263,242		3,263,311	236	3,263,396	324	3,263,472	698	3,263,549	87	3,264,653
203	3,263,243	157.1	3,263,312		3,263,397	370	3,263,474	84— 1.27:	3,264,398	120	3,263,619
252	3,263,244	157.3	3,263,313	376	3,263,398	374	3,263,473	423	3,263,550	126	3,263,620
254	3,263,245		3,263,314	54— 6	3,263,399	381	3,263,475	484	3,263,551	136	3,263,621
5—337	3,263,246	159	3,263,315	55— 33	3,263,400	386	3,263,476	85— 8.3	3,263,552	153	3,263,622
353	3,263,247	182	3,264,073	67	3,263,401	401	3,263,477	88— 14	3,263,553	162	3,263,623
8— 26	3,264,052	183.5	3,264,074	252	3,263,402	402	3,263,478		3,263,554	104— 8	3,263,624
27	3,264,053	203	3,263,316	274	3,263,403	416	3,263,479	24	3,263,555	88	3,263,625
115.7	3,264,054	207	3,263,317	447	3,263,404	421	3,263,480		3,263,556	105— 73	3,263,626
9—308	3,263,248	212	3,263,318	56— 23	3,263,405	453	3,263,481		3,263,557	147	3,263,627
316	3,263,249	423	3,263,319	25.4	3,263,406	73— 4	3,263,482		3,263,558	215	3,263,628
10— 86	3,263,250		3,263,320	57— 34	3,263,407	9	3,263,483	28	3,263,559	369	3,263,629
12— 85	3,263,251	429	3,263,321		3,263,408	15	3,263,484		3,263,560	106— 49	3,264,122
116.6	3,263,252	446	3,263,322	156	3,263,409		3,263,485	28.9	3,263,561	65	3,264,123
14— 71	3,263,253	470	3,263,323		3,263,410	15.4	3,263,486	57	3,263,562		3,264,124
	3,263,254	486	3,263,324	60— 23	3,263,411	17	3,263,487	89— 1.5	3,263,563	76	3,264,125
15— 21	3,263,255	492	3,263,325	30	3,263,412	23.1	3,263,488	1.8	3,263,564	146	3,264,126
50	3,263,256	30— 6.1	3,263,326		3,263,413	35	3,263,489	1.804	3,263,565	160	3,264,127
93	3,263,257	8.5	3,263,327	35.4	3,263,414	37.5	3,263,490	41	3,263,566	287	3,264,128
167	3,263,258	63	3,263,328	35.5	3,263,415	53	3,263,491		3,263,567	290	3,264,129
193	3,263,259	155	3,263,329	35.54:	3,263,419		3,263,492	90— 1.6	3,263,568	292	3,264,130
230.11:	3,263,260	346	3,263,330	35.55:	3,263,420		3,263,493	5	3,263,569	108—158	3,263,630
250.35:	3,263,261	32— 47	3,263,331	35.6	3,263,416	55	3,263,494	15	3,263,570	112— 79	3,263,631
250.42:	3,263,262	33— 1	3,263,332		3,263,417	94	3,263,495	58	3,263,571	118	3,263,632
573	3,263,263	23	3,263,333		3,263,418	141	3,263,496	91—176	3,263,572		3,263,633
575	3,263,264	27	3,263,334	39.14:	3,263,421		3,263,497	217	3,263,573	153	3,263,634
592	3,263,265	34— 5	3,263,335	39.18:	3,263,422		3,263,498	436	3,263,574	158	3,263,635
16— 44	3,263,266	10	3,263,346		3,263,423	160	3,263,499	92— 75	3,263,575	113— 80	3,263,636
114	3,263,267	23	3,263,336	39.32:	3,263,424	194	3,263,500	93— 61	3,263,576	120	3,263,637
128	3,263,268	31	3,263,337	52	3,263,425	341	3,263,502	94— 1	3,263,577	114— 53	3,263,638
169	3,263,269	57	3,263,338	54.5	3,263,426	389	3,263,501	1.5	3,263,578	144	3,263,639
17— 44.1	3,263,270		3,263,339	57	3,263,427	431	3,263,503	34	3,263,579		3,263,640
18— 13	3,263,271	60	3,263,340	60	3,263,428	515	3,263,504		3,263,580	206	3,263,641
15	3,263,272		3,263,341	62.5	3,263,429		3,263,505	95— 1.1	3,263,581	208	3,263,642
26	3,263,273	76	3,263,342	61— 41	3,263,430	74— 5	3,263,506		3,263,582	115— 1	3,263,643
	3,263,274	82	3,263,343	53.5	3,263,431	5.12:	3,263,508	11	3,263,583	116— 32	3,263,644
	3,263,275	116	3,263,344	70	3,263,432	5.7	3,263,507		3,263,584	124	3,263,645
30	3,263,276	159	3,263,345	62— 52	3,263,433	6	3,263,509	18	3,263,585	129	3,263,646
	3,263,277	35— 60	3,263,347	55.5	3,263,434	18.1	3,263,510	73	3,263,586	133	3,263,647
	3,263,278	36— 2.5	3,263,348	84	3,263,435	53	3,263,511	76	3,263,587	117— 21	3,264,131
19— 66	3,263,279	34	3,263,349	100	3,263,436	54	3,263,512	86	3,263,588	31	3,264,132
145.3	3,263,280	38— 77	3,263,350	101	3,263,437	60	3,263,513		3,263,589	33.5	3,264,133
160	3,263,281	40— 10	3,263,352	183	3,263,438	69	3,263,514	94	3,263,590	69	3,264,135
21— 54	3,264,055	40	3,263,353	228	3,263,439	105	3,263,515	96— 28	3,264,103	138.8	3,264,136
22— 35	3,263,282	95	3,263,354	288	3,263,440		3,263,516	33	3,264,104	201	3,264,137
57.2	3,263,283	124	3,263,355	341	3,263,441	230.7	3,263,517	36.2	3,264,105	118— 49.1	3,263,648
	3,263,284	125	Re.26,068	394	3,263,442	477	3,263,518	41	3,264,106	637	3,263,649
65	3,263,285		3,263,356	417	3,263,443	501	3,263,519	60	3,264,107	119— 20	3,263,650
164	3,263,286		3,263,357	63— 15.7	3,263,444		3,263,520	85	3,264,108	51	3,263,651
192	3,263,287	209	3,263,358	64— 7	3,263,445	606	3,263,521	99	3,264,109	72.5	3,263,652
194	3,263,288	42— 74	3,263,359	15	3,263,446	645	3,263,522	106	3,264,110	158	3,263,653
23— 2	3,264,056	43—148	3,263,360	21	3,263,447	665	3,263,523	98— 2	3,263,591	122— 4	3,263,654
63	3,264,057	44— 68	3,264,075		3,263,448	677	3,263,524	99— 2	3,264,111	376	3,263,655
108	3,264,058	46— 61	3,263,361	26	3,263,449		3,263,525		3,264,112	510	3,263,656
113	3,264,059	67	3,263,362		3,263,450	688	3,263,526	80	3,264,113	123— 8	3,263,657
119	3,264,060	221	3,263,363	29	3,263,451		3,263,527	130	3,264,114	16	3,263,658
141	3,264,061	244	3,263,364	30	3,263,452	731	3,263,528	138	3,264,115	32	3,263,659
	3,264,062	49—237	3,263,365	65— 2	3,264,076	751	3,263,529	140	3,264,116	119	3,263,660
143	3,264,063	314	3,263,366	24	3,264,077	75— 3	3,264,090	141	3,264,117		3,263,661
203	3,264,064	349	3,263,367	25	3,264,078	5	3,264,091	153	3,264,118	140	3,263,662
209.6	3,264,065	375	3,264,032	29	3,264,079		3,264,092	171	3,264,119	195	3,263,663
212	3,264,066	382	3,263,368	72	3,264,080	10	3,264,093	174	3,264,120	124— 45	3,263,664
252	3,264,067	394	3,263,351	99	3,264,081	11	3,264,094	204	3,264,121	125— 5	3,263,665
288	3,264,068	397	3,263,369	288	3,264,082	12	3,264,095	235	3,263,592		3,263,666
313	3,264,069	501	3,263,370	66— 50	3,263,453	40	3,264,096	324	3,263,593	11	3,263,667
326	3,264,070	51— 34	3,263,371	132	3,263,454	67	3,264,097	340	3,263,594		3,263,668
358	3,264,071	123	3,263,372	67— 7.1	3,263,455	84	3,264,098	349	3,263,595	16	3,263,669
361	3,264,072	163	3,263,373		3,263,456	101	3,264,099	408	3,263,596		3,263,670
24—123	3,263,289	165	3,263,374	31	3,263,457	123	3,264,100	100— 2	3,263,599	126— 59.5	3,263,671
202	3,263,290	217	3,263,375	68— 22	3,263,458	204	3,264,101	10	3,263,597	109	3,263,672
205.11:	3,263,291	283	3,263,376	23	3,263,459	212	3,264,102	71	3,263,598	113	3,263,673
206	3,263,292	394	3,263,377	253	3,263,460	77— 1	3,263,530	101— 40	3,263,600	191	3,263,674
263	3,263,293	52— 20	3,263,378	70—383	3,263,461	62	3,263,531	48	3,263,601	211	3,263,675
265	3,263,294	53	3,263,379	447	3,263,462	81— 7.5	3,263,532	57	3,263,602	215	3,263,676
	3,263,295	64	3,263,380	455	3,263,463	71	3,263,533	123	3,263,603	128— 28	3,263,677
25— 38	3,263,296	90	3,263,381	456	3,263,464	143	3,263,534	149.2	3,263,604	66	3,263,678
28— 35	3,263,297	111	3,263,382	71— 2.3	3,264,083	302	3,263,535	170	3,263,605	83.5	3,263,679
72	3,263,298	143	3,263,383	24	3,264,084	82— 44	3,263,536	179	3,263,606	132	3,263,680
29— 25.16:	3,263,299	173	3,263,384	34	3,264,085	83— 4	3,263,537	407	3,263,607	157	3,263,681
26	3,263,300	461	3,263,385	41	3,264,086	98	3,263,538	102— 23	3,263,608		3,263,682
90	3,263,301	580	3,263,386	43	3,264,087	140	3,263,539	49	3,263,610	303	3,263,683
155	3,263,302	634	3,263,387	64	3,264,088	171	3,263,540	67	3,263,612	351	3,263,684
155.5	3,263,303	665	3,263,388		3,264,089	197	3,263,541	82	3,263,611	489	3,263,685

129– 16.1	3,263,686	
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131–243	3,263,690	
257	3,263,691	
134– 2	3,264,138	
135– 3	3,263,692	
136– 30	3,264,139	
81	3,264,140	
134	3,264,141	
137– 15	3,263,693	
36	3,263,694	
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630.13	3,263,703	
138– 42	3,263,704	
139– 12	3,263,705	
116	3,263,706	
122	3,263,707	
196	3,263,708	
281	3,263,709	
140– 71.5	3,263,710	
141– 40	3,263,711	
68	3,263,712	
165	3,263,713	
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132	3,263,716	
135	3,263,717	
144– 3	3,263,718	
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310	3,263,721	
319	3,263,722	
326	3,263,723	
148– 6.1	3,264,142	
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186	3,264,149	
149– 35	3,264,150	
41	3,264,151	
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151– 6	3,263,725	
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158– 28	3,263,729	
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115	3,263,733	
160–113	3,263,734	
242	3,263,735	
368	3,263,736	
161– 33	3,264,164	
43	3,264,165	
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111	3,264,167	
227	3,264,168	
162– 4	3,264,169	
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26	3,263,740	
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166– 11	3,263,750	
42	3,263,751	
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167– 22	3,264,175	
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78	3,264,187	
84	3,264,188	
170–160.32	3,263,754	
171– 63	3,263,755	
172– 60	3,263,756	
198	3,263,757	
173– 43	3,263,758	
174– 15	3,264,399	
42	3,264,400	
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68.5	3,264,402	
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190– 51	3,263,779	
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274– 10	3,264,003	
277– 5	3,264,004	
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287– 53	3,264,016	
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189.36	3,264,020	
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292– 48	3,264,024	
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50 : 3,264,125

DESIGN PATENTS

1 : 205,427
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205,430

PLANT PATENTS

4 : 2,660
42 : 2,661

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

August 2, 1966 Volume 829 Number 1

TRADEMARKS

NOTICES

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Revoc, Inc., d.b.a. Cover Girl, New York, N.Y., Reg. No. 423,937, Canc. No. 8641.

Theretha Hudson, d.b.a. Hudson's, Chicago, Ill., Reg. No. 638,604, Canc. No. 8702.

Junior Forum, Inc., New York, N.Y., Reg. No. 729,781, Canc. No. 8703.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 35,089 (GE AND DESIGN), General Electric Company, Certain named machinery, electrical apparatus, and supply parts therefor; **Reg. No. 320,304** (GENERAL (GE AND DESIGN) ELECTRIC), same, Dynamoelectric machines and parts therefor, electrical induction machines and parts therefor, capacitors and parts therefor, etc., filed Feb. 25, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c376, *General Electric Company* v. *All American Distributing Co., Inc.* Final consent judgment; trademark registrations held valid and infringed; defendant enjoined May 5, 1966.

Reg. No. 39,469 (ACOUSTICON), Hutchison Acoustic Co., Certain named telephonic apparatus; **Reg. No. 511,031**, same,

CONDITION OF TRADEMARK APPLICATIONS AS OF JUNE 30, 1966

Total number of applications awaiting action [excluding renewals and Sec. 12(c)] 27,463
Date of oldest new application ..... February 10, 1965
Date of oldest amended application (filing date) ..... April 25, 1963

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF (Acting), Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	6-23-65	7-15-63
(II) F. H. WETHERBEE (Acting), Classes 1, 3, 6, 7, 9, 10, 18, 22, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	2-10-65	4-25-63
Renewals (All Classes)	6-30-66	----------
Sec. 12(c) Publications (All Classes)	6-30-66	----------

Applications filed during the month of June—2,575

Registrations Issued ..... 417—No. 811,915 to No. 812,331
Renewals Issued 69

For the quarter April 1, 1966, through June 30, 1966

Applications filed 7,397
Registrations issued 4,132
Renewals issued 1,064
Cancellations under Section 8 1,312

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

Dictograph Products Company, Inc., Electrical hearing aids, filed May 14, 1965, D.C., E.D. Mich. (Detroit), Doc. 26878, *Dictograph Products, Inc.* v. *Communications and Paging, Inc. et al.* Stipulation and order of dismissal with prejudice May 3, 1966.

Reg. No. 153,038 (SHEETROCK), United States Gypsum Company, Plaster wall board; **Reg. No. 160,765**, same, Calcined gypsum, plaster of Paris, wall plaster, and finishing plaster; **Reg. No. 555,496**, same, Sealer, sizing and finisher; **Reg. No. 704,794**, same, Adhesive for attaching wallboards to framing members, filed May 2, 1966, D.C.N.J. (Newark), Doc. 451–66, *United States Gypsum Co.* v. *P.A. Sheet Rock and Insulators Co., Inc.*

Reg. No. 160,765. (See Reg. No. 153,038.)

Reg. No. 282,358 (ARPEGE), Lanvin Parfums, Inc., Perfume extract; **Reg. No. 313,722** (MY SIN), same, Perfumes, toilet water, face powder, talcum powder, sachet, lipsticks, and rouge; **Reg. No. 556,672** (LANVIN), same, Perfumes and toilet water; **Reg. No. 607,884** (EAU DE LANVIN), same, Toilet water and cologne; **Reg. No. 608,279** (ARPEGE), same, Toilet water, dusting powder, talcum powder, and bath oil, filed May 10, 1966, D.C.N.J. (Newark), Doc. 481–66, *Lanvin-Charles of the Ritz, Inc.* v. *Casa Flora Company.* Consent order for injunction June 28, 1966.

Reg. No. 313,722. (See Reg. No. 282,358.)

Reg. No. 330,304. (See Reg. No. 35,089.)

Reg. No. 378,913(a) (THE BAT MAN AND DESIGN), Detective Comics, Inc., Cartoons published in a series, filed June 22, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 66C–587, *National Periodical Publications, Inc.* v. *Masters, Inc.*

Reg. No. 378,913(b); **Reg. No. 382,770(a)** (BAT MAN AND DESIGN), Detective Comics, Inc., Magazine, filed Apr. 27, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c744, *National Periodical Publications, Inc.* v. *Shoppers Corner, Inc.* Consent decree, trademark registrations held infringed; defendant enjoined May 13, 1966. Same, filed May 13, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c857, *National Periodical Publications, Inc.* v. *Rubin Company.*

Reg. No. 378,913(c); **Reg. No. 382,770(b)**; **Reg. No. 804,709** (BATMAN AND DESIGN), National Periodical Publications, Inc., Comic magazines, filed June 22, 1966, D.C., S.D.N.Y., Doc. 66/1798, *National Periodical Publications, Inc.* v. *E. J. Korvette, Inc.* Same, filed June 24, 1966, D.C., S.D.N.Y., Doc. 66/1841, *National Periodical Publications, Inc.* v. *S. S. Kresge Co.*

Reg. No. 382,770 (a and b). (See Reg. No. 378,913 (*b* and *c*).)

Reg. No. 382,770(c), filed June 23, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 66–588, *National Periodical Publications, Inc.* v. *Abraham & Strauss, Inc.*

Reg. No. 511,661. (See Reg. No. 39,409.)

Reg. No. 521,661 (RANCH STYLE), Waples-Platter Company, doing business as Great Western Foods Company, Coffee, canned pinto beans cooked with tomato puree, beef fat, etc.; **Reg. No. 726,319** (RANCH STYLE AND DESIGN), same, Canned pinto beans, filed May 9, 1966, D.C., W.D. Tex. (San Antonio), Doc. 66–53–SA, *Waples-Platter Company* v. *Sweeney & Co. et al.* Notice of dismissal by plaintiff as to defendants Sweeney & Co., Inc., Labatt Wholesale Grocery Co., Handy-Andy, Inc., Gulf-Mart, Inc., and National, Inc., May 27, 1966. Stipulation of dismissal as to defendant Tom Christal Co., June 10, 1966.

Reg. No. 556,672. (See Reg. No. 282,358.)

Reg. No. 558,496. (See Reg. No. 153,038.)

Reg. No. 573,296 (COBRA), DK Manufacturing Company, Flexible metal hose; **Reg. No. 676,022** (COBRA KING OF METAL HOSE AND DESIGN), same; **Reg. No. 729,071** (FORM-A-LINE), same, Pipes and connectors therefor, filed Jan. 27, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c126, *Essex Wire Corporation* v. *Flex-It Metal Hose Corp. et al.* On stipulation of parties, cause dismissed Aug. 10, 1965.

Reg. No. 592,539 (HOLIDAY INN in script), Holiday Inn Hotel Courts, Inc., Motel services—namely, providing lodgings and meals in motels; **Reg. No. 592,540**, same, Holiday Inns of America, Inc., same; **Reg. No. 592,541** (HOLIDAY INN (in script) AND DESIGN), same; **Reg. No. 706,521**, same, filed May 5, 1966, D.C., N.D.N.Y. (Utica), Doc. 66/168, *Holiday Inns of America, Inc.* v. *Holiday Motel et al.*

Reg. No. 592,540. (See Reg. No. 592,539.)

Reg. No. 592,541. (See Reg. No. 592,539.)

Reg. No. 647,050 (JAMISON), Jamison Manufacturing Company, Children's and youths' playground equipment—namely, merry-go-rounds, climbing bars, slides, etc., filed Feb. 7, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66–237WB, *Jamison Manufacturing Company* v. *W. Harrison Seibert et al.* Final judgment by default in favor of plaintiff; action dismissed with prejudice as to defendant W. Harrison Seibert, Apr. 11, 1966.

Reg. No. 676,022. (See Reg. No. 573,296.)

Reg. No. 697,884. (See Reg. No. 282,358.)

Reg. No. 698,279. (See Reg. No. 282,358.)

Reg. No. 704,794. (See Reg. No. 153,038.)

Reg. No. 706,521. (See Reg. No. 592,539.)

Reg. No. 721,716 (SAFEWAY), Safeway Stores, Incorporated, Retail grocery services, filed May 10, 1966, D.C., W.D. La. (Shreveport), Doc. 12,006–S, *Safeway Stores, Incorporated* v. *Save-Way Food Center et al.*

Reg. No. 726,319. (See Reg. No. 521,661.)

Reg. No. 729,071. (See Reg. No. 573,296.)

Reg. No. 772,500 (KUTZ-KWIK), Kuts Kwik, Inc., Carton cutting machines, filed May 5, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c796, *Kuts-Kwik, Inc.* v. *K & K Enterprises, Inc. et al.*

Reg. No. 804,709. (See Reg. No. 378,913(c).)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.106.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 197,109. Foster-Milburn Company, Buffalo, N.Y. Filed July 6, 1964.

WESTWOOD

Owner of Reg. No. 624,360.

Class 18—Medicines and Pharmaceutical Preparations

For Emollient for the Relief of Minor Skin Disorders, Medicinal Preparation for the Treatment of Seborrheic Dermatitis and Acne, and Coal Tar Incorporated as an Ingredient in Therapeutic Preparations for the Treatment of Skin and Scalp Disorders.

First use July 11, 1955.

Class 52—Detergents and Soaps

For Coal Tar Incorporated as an Ingredient in Therapeutic Shampoo.

First use Feb. 19, 1964.

SN 203,259. Dairyland Chemical Products, Inc., Madison, Wis. Filed Oct. 5, 1964.



The word "Brands" is disclaimed apart from the mark as shown.

Class 6—Chemicals and Chemical Compositions

For Sanitizers and disinfectants.

Class 52—Detergents and Soaps

For Chemical Compounds, Preparations and Supplies as Used in Connection With Farm, Dairy and Related Operations—Namely, Milkstone Removers, Pipeline Cleaners, Rust and Scale Removers and Detergents, Cleansers, and Washing Compounds.

First use May 19, 1953.

SN 215,038. Fortunoff's Shopping Center, Inc., Westbury, N.Y. Filed Mar. 26, 1965.

LADY FORTUNE

Class 16—Protective and Decorative Coatings

For Interior Paints.

First use on or about Oct. 7, 1963.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Bed Linens, Pillowcases, Curtains, Mattress Pads, Mattress Covers, Comforters, Comforter Covers, Blanket Covers, and Quilt Covers.

First use in or about January 1960.

SN 216,443. Searchway, Incorporated, Bridgeport, Conn. Filed Apr. 13, 1965.



The mark comprises the words "Baird Dynamic" and a design in the form of a stylised combined "b" and "d."

Class 12—Construction Materials

For Polyester Plastic Paste Used for Automobile Body Repair Work and Similar Operations; Nonskid Surfacing Compounds, and Embedding Materials and Sealers Used To Embed Cables in Pavements.

Class 16—Protective and Decorative Coatings

For Paints and Paint Sundries—Namely, Primers, Thinners, and Putties.

First use January 1962.

SN 217,929. Precision Scientific Company (Delaware corporation), Chicago, Ill., assignee of Precision Scientific Company (Illinois corporation), Chicago, Ill. Filed May 8, 1965.



The drawing is lined for red and silver, however, this is not an essential feature of the mark.

Class 26—Measuring and Scientific Appliances

For Laboratory Apparatus, Particularly, Incubators and Hazard Safe and Explosion-Proof Cabinets.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Laboratory Apparatus, Particularly Mechanical Convection Ovens, Gravity Convection Ovens, Sterilizers, Vacuum Ovens, Humidity Cabinets, and Conditioning and Revolving Shelf Ovens.

First use Oct. 8, 1935.

SN 221,134. Marschall Dairy Laboratory, Inc., Madison, Wis. Filed June 15, 1965.



Class 6—Chemicals, and Chemical Compositions

For Neutralizer and Indicator Used for Determining the Acidity of Milk, Cream, and Whey.
First use Oct. 29, 1964, on neutralizer.

Class 46—Foods and Ingredients of Foods

For Rennet Extract; Meat Tenderizer, Phosphate Buffer Solution Used To Prevent Bacteriophage Growth in Lactic Acid-Producing Cultures Which Are Used in the Manufacture of Cheese and Cultured Milk Products; Starter Flavor, a Distilled Compound Prepared From Lactic Acid Culture and Fortified With Aromatic or Volatile Compounds Found in Such Culture, Used To Intensify the Flavor of Butter, Cottage Cheese, Margarine, and Buttermilk; Cottage Cheese Coagulator; Vegetable Coloring for Food Products; Pancreas Powder Used for the Inhibition of Oxidized Flavor in Dairy Products; Lipolyzed Butterfat Emulsions and Lipolyzed Cream, Both of Which Are Used To Give a Good Butter Flavor to Food Products; Bleu Cheese Flavoring in Powder and Paste Forms Used To Impart a Bleu Cheese Flavor to Food Products, Particularly Salad Dressings; Lipase Enzyme Preparations, Used To Develop and Control Flavor in Italian Styles of Cheese; a Starter Culture Medium for Use in Dairy Products; and an Additive for Curdling Milk for Cheese.
First use Oct. 29, 1964, on rennet extract.

SN 226,495. Atlantic Products Corporation, Trenton, N.J. Filed Aug. 26, 1965.

atlantic

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Baggage.

Class 22—Games, Toys, and Sporting Goods

For Golf Bags.
First use December 1945.

SN 229,928. Dayco Corporation, Dayton, Ohio. Filed Oct. 12, 1965.



Class 19—Vehicles

For Automobile Floor Mats, Automotive Insulating Tape, and Splash Protectors for Truck Wheels.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Printing Rollers, Printing Blankets, Color Separators and Fountain Dividers for Printing Presses; Textile Machine Parts—Namely, Bunters, Bumpers, Holdups, Aprons, Cots, Roll Covers, Pickers, Lug Straps, Checkstraps, Rolls, and Sweepsticks; and Pulleys.

Class 32—Furniture and Upholstery

For Foam Rubber Mattresses, Pillows, and Cushions.

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Power Transmission Belts and Fluid Conveying Hose.
First use on or about Sept. 8, 1965.

SN 232,642. Colourpicture Publishers, Inc., Boston, Mass. Filed Nov. 15, 1965.



Owner of Reg. No. 532,499.

Class 9—Explosives, Firearms, Equipments, and Projectiles

For Matchbooks.
First use in or about 1960.

Class 38—Prints and Publications

For Postcards, Albums of Printed Pictures, Pictures, Picture Books, Transparencies, Movies, Multi-Picture Postcard Folders and Calendars.
First use in or about 1949.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.
[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 210,209. Magic Fire Log Manufacturing Corporation, Bellevue, Wash. Filed Jan. 19, 1965.

Magic Fire Log

Applicant disclaims the words "Fire Log" apart from the mark as shown. The drawing is lined for the color red.
For Fireplace Logs.
First use Aug. 12, 1964.

SN 210,948. The General Tire & Rubber Company, Akron, Ohio. Filed Jan. 29, 1965.

STRONGFORMS

For Rigid Moldings and Laminates of Synthetic Plastics, Alone or in Combination With Reinforcing Agents in a Semi-Finished Form.
First use at least as early as May 1964.

SN 228,963. Western Gravel Company, Tonopah, Nev. Filed Sept. 29, 1965.

MONTE CRISTO
APACHE TEARS



The representation of the Indian shown on the drawing is fanciful.
For Obsidian Pebbles for Use in Exposed Aggregate Concrete, Decks, Walks, Wall Panels, and Decorative Purposes Such as Floral Arrangements, Bordering Garden Areas, and in Aquariums.
First use on or about May 1, 1965.

SN 236,162. Albert Trostel & Sons Company, Milwaukee, Wis. Filed Jan. 10, 1966.

ALLEY CAT

For Leather.
First use Sept. 14, 1965.
Subj. to Intf. with SN 234,128.

SN 238,629. S. B. Foot Tanning Company, Red Wing, Minn. Filed Feb. 11, 1966.

BOULDER

For Leather Hides.
First use Mar. 10, 1964.

Class 2—Receptades

SN 202,657. Aladdin Industries, Incorporated, Chicago, Ill. Filed Sept. 25, 1964.

KEWTIE PIE

For Lunch Bags; Lunch Kits, Including Thermal Insulated Bottles; Heat Insulated Receptacles—Namely, Vacuum Bottles, Comprising an Inner Frangible Container and an Outer Protective Jacket.
First use on or about Mar. 2, 1964.

SN 202,658. Aladdin Industries, Incorporated, Chicago, Ill. Filed Sept. 25, 1964.

PORTA·PAK

For Lunch Kits Comprising Vacuum Bottles, Picnic Kits Comprising Vacuum Bottles and Sandwich Boxes, and Lunch Bags With or Without Vacuum Bottles.
First use on or about May 22, 1964.

SN 220,436. AMK Corporation, New York, N.Y. Filed June 8, 1965.

GLAZ-ON

For Paper Cups.
First use Sept. 7, 1964.

SN 220,540. Nibot Corporation, Chicago, Ill. Filed June 7, 1965.



For Plastic Housewares—Namely, Bowls, Tumblers, Goblets, Steins, Cups, Sherbets, Open and Covered Dishes, Pitchers, Lunch Boxes, and Cream and Sugar Containers.
First use in about May 1961.

SN 220,857. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed June 10, 1965.

ROL-A-PAK

For Dispensing Containers for Rolled Sheet Materials.
First use on or about Mar. 22, 1965.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 227,306. Paul Mannell, d.b.a. Ozark Enterprises, Willard, Mo. Filed Sept. 7, 1965.

FINE-X

For Self-Cleaning Rabbit Feeders.
First use Aug. 1, 1964.

SN 229,099. M & M Bag and Suitcase Co. Inc., Jersey City, N.J. Filed Oct. 1, 1965.

Finesse

For Luggage.
First use May 14, 1965.

Class 4—Abrasives and Polishing Materials

SN 236,831. Lever Brothers Company, New York, N.Y. Filed Jan. 19, 1966.

DUAL

For Floor Cleaner and Polisher.
First use Sept. 9, 1965.

Class 5—Adhesives

SN 235,848. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 5, 1966.

SCOTCH-GRIP

Owner of Reg. Nos. 515,733, 712,341, and others.
For Liquid Adhesive for General Use in the Industrial Arts.
First use Dec. 1, 1965.

Class 6—Chemicals and Chemical Compositions

SN 208,679. Etablissements Kuhlmann, Paris, France. Filed Dec. 22, 1964.

ADINE

Priority claimed under Sec. 44(d) on French Reg. No. 522,896, dated June 22, 1964 (Seine); Natl. Inst. No. 228,388.
For Chemical Organic Phosphate for Use as an Additive to Fireproof Paints, Varnishes, and Plastics.

SN 220,737. Belle Chemical Company, Incorporated, Lowell, N.C. Filed June 9, 1965.



For Textile Chemicals and Dyes.
First use June 1948.

SN 221,495. Grey Industries, Inc., Glen Cove, N.Y. Filed June 18, 1965.

SILVERGARD

For Crystals Which Absorb From the Atmosphere Fumes That Have a Tarnishing Effect Upon Silver and Other Metals.
First use July 24, 1964.

SN 222,359. General Mills, Inc., Minneapolis, Minn. Filed June 30, 1965.

GENFLOC

For Flocculating Agent.
First use May 27, 1965.

SN 225,340. National Starch and Chemical Corporation, New York, N.Y. Filed Aug. 9, 1965.

PERMASORB

For Chemical Additive To Be Sold Separately, for Incorporation Into Plastics and Coatings To Impart Light Stability Thereto.
First use June 16, 1965.

SN 225,393. Aquariums, Incorporated, Maywood, N.J. Filed Aug. 10, 1965.

NUTRA-VITALIZER

For Aquarium Water Neutraliser.
First use in or about September 1956.

SN 227,344. The Sinclair Manufacturing Company, Toledo, Ohio. Filed Sept. 7, 1965.

DEBBIE

Owner of Reg. No. 761,474.
For Fabric Softener Liquid and a Sodium Hypochlorite Solution for Use as Liquid Bleach, Deodorizer, Germicide, and Disinfectant.
First use May 21, 1965.

SN 233,505. Philip A. Hunt Chemical Corporation, Palisades Park, N.J. Filed Nov. 29, 1965.

ANTITARN

For Anti-Tarnish Preventative for Copper and Silver.
First use Sept. 16, 1965.

SN 234,460. Protex Industries Inc., Denver, Colo. Filed Dec. 13, 1965.

PRO-COTE

Owner of Reg. Nos. 693,042, 765,055, and others.
For Chemical Release Agent for Concrete.
First use on or about July 30, 1965.

SN 239,403. Fritzsche Brothers, Inc., New York, N.Y. Filed Feb. 23, 1966.

EST. 1871 Fritzsche BROTHERS, INC. · NEW YORK

Owner of Reg. Nos. 62,432, 796,044, and others.
For Essential Oils and Essences, Substitutes for Essential Oils, Aromatic Chemicals, Deodorants for Industrial Use, and Antioxidants.
First use June 7, 1963.

SN 244,287. The Ultra-White Company, Inc., Roanoke, Va. Filed Apr. 26, 1966.

BRIGHT WHITE

For Chemical Preparations for Use as Laundry Whitener, Textile Preservative, Textile Softener, and Bacteriostat.
First use at least as early as November 1956.

Class 8—Smokers' Articles, Not Including Tobacco Products

SN 214,475. Poul Nielsen, d.b.a. Stanwell Briar Pipes, Kyringe, near Ringsted, Denmark. Filed Mar. 18, 1965.



Owner of Danish Reg. No. 873/1955, dated May 28, 1955; and U.S. Reg. No. 616,401.
For Smokers' Articles—Namely, Smoking Pipes.

SN 232,028. Rogers, Inc., New York, N.Y. Filed Nov. 2, 1965.

BUTANER

For Cigarette Lighters, and Fuel Containers for Cigarette Lighters.
First use Dec. 1, 1961.

SN 232,322. Lane Limited, New York, N.Y. Filed Nov. 8, 1965.

DOLDER

For Pipes.
First use January 1965.

SN 232,323. Henry Leonard and Thomas, Inc., d.b.a. Dr. Grabow Pre-Smoked Pipes, Greensboro, N.C. Filed Nov. 8, 1965.

WESTBROOK

For Smoking Pipes.
First use 1957.

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 224,742. Hercules Powder Company, Wilmington, Del. Filed Aug. 2, 1965.

GREEN DOT

For Smokeless Shotgun Powder.
First use May 19, 1965.

Class 10—Fertilizers

SN 225,801. Nutra-Flo Chemical Company, Sioux City, Iowa. Filed Aug. 16, 1965.



Applicant disclaims the term "Super Cr" apart from the mark as shown.
For Liquid Fertiliser.
First use Mar. 22, 1965.

Class 11—Inks and Inking Materials

SN 222,984. Soabar Company, Philadelphia, Pa. Filed July 8, 1965.

Soabar

Owner of Reg. Nos. 273,785, 799,798, and 800,373.
For Printing Ink, Marking Ink, Ink-Remover, Ink-Reducer, and Ink Pad.
First use June 1921.

SN 232,943. Studentservices-Letterservices, Inc., Ann Arbor, Mich. Filed Nov. 18, 1965.

PERMAPRINT

For Typewriter Ribbons.
First use Nov. 23, 1963.

Class 12—Construction Materials

SN 179,958. Strato-Track, Inc., Elkhart, Ind. Filed Oct. 28, 1963.

STRATO-FOLD

For Sliding Doors.
First use Feb. 20, 1961.

SN 194,318. Otto W. Schaefer, d.b.a. Schaefer Lath Supplies, Dallas, Tex. Filed May 26, 1964.

ADJUST-O-TRAK

For Metal Studs and Channels, and Clips Therefor, for Plaster and Hollow Wall Construction.
First use Oct. 1, 1960.

SN 199,160. Falls Industries Incorporated, Solon, Ohio. Filed Aug. 3, 1964.

FALLS-PACK

For Plastic Entrainment Packing Material for Gas-Liquid Contacting Operations, Such as Fractionating Towers, Distilling Columns, Mist Eliminators, Fume Scrubbers, Ventilating Systems, and the Like.
First use June 22, 1964.

SN 207,468. Ash Grove Lime & Portland Cement Co., Kansas City, Mo. Filed Dec. 4, 1964.

SLIK

Owner of Reg. No. 562,809.
For Hydrated Lime for Use in Building Construction.
First use Mar. 1, 1951.

SN 220,634. Cement Enamel Development, Inc., Detroit, Mich. Filed June 8, 1965.

GRANOSET

For Cement Aggregate Wall Surfacing.
First use Feb. 23, 1965.

SN 222,008. Decor-Cem, Inc., Rockford, Ill. Filed June 25, 1965.

DECORCEM

For Cement Mix Compounds Comprising Sand, Cement, and Unvulcanized Rubber Latex.
First use June 1, 1961.

SN 223,361. Tuff-Kote Company, Inc., Woodstock, Ill. Filed July 14, 1965.

KRACK-KOTE

For Pliable Patching Material for Masking Cracks in Plaster, Plaster Board, and Other Smooth Interior Surfaces Prior to Painting.
First use Sept. 10, 1958.

SN 223,709. Henry S. Pietrzak, d.b.a. Sure Seal Products Co., Chicago, Ill. Filed July 19, 1965.

BUTYLASTIC

For Sealants.
First use Apr. 21, 1965.

SN 24,236. Pacific Curtainwall, Inc., Long Beach, Calif. Filed July 26, 1965.

PAC WELD

For Protective Coating Fused to Exterior Metal Curtainwalls, Railing, Window Frames and Doors, Hardware, and the Like.
First use Sept. 9, 1964.

SN 229,130. REF Dynamics Corporation, Mineola, N.Y. Filed Oct. 1, 1965.

REF/CORE

Applicant disclaims the word "Core" apart from the mark as shown.
For Building Panels—Namely, Panels of Metal Laminated to a Wood Core.
First use Sept. 17, 1965.

SN 229,280. Pellon Corporation, New York, N.Y. Filed Oct. 4, 1965.

PELLOMAC

For Flexible Fiber Surfacing Veil Made of Non-Woven Fabric, for Use in Bond Stabilization of Unstable Substrates Such as Old Stucco and the Like.
First use Sept. 3, 1965.

SN 229,334. The Cleveland Fabricating Company, Inc., Cleveland, Ohio. Filed Oct. 5, 1965.

CLE-FAB

For Metal Strips for Trimming.
First use Sept. 24, 1965.

SN 229,499. Cement Enamel Development, Inc., Detroit, Mich. Filed Oct. 7, 1965.

CORALON

For Plastic Composite Wall Surfacing.
First use July 1, 1965.

SN 229,542. National Research Corporation, Cambridge, Mass. Filed Oct. 7, 1965.

NRC-2

For Metallized Plastic Sheet Superinsulation.
First use in or about May 1961.

SN 229,667. Mankato Tile-Terrazzo Company, Mankato, Minn. Filed Oct. 8, 1965.

MONOSAIC SEAMLESS FLOORING

No claim is made to the words "Seamless Flooring" apart from the mark without waiving any common law rights therein.
For Liquid Applied Seamless Flooring, Comprising Synthetic Water-Based Resin Chips in a Moisture Cured Urethane Vehicle.
First use Aug. 24, 1965.

SN 231,822. The Gordon Corporation, Farmington, Conn. Filed Oct. 29, 1965.

GORDON

For Cellar Doors.
First use June 1957.

SN 233,596. Hambro Forest Products, Inc., Crescent City, Calif. Filed Nov. 30, 1965.

Creslay

For Particle Board.
First use Oct. 27, 1965.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 213,676. Hydranautics, Santa Barbara, Calif. Filed Mar. 9, 1965.

HYDRANAUTICS

For Mechanical Devices for Gripping Wire Rope and Fittings for Wire Rope.
First use June 7, 1963.

SN 220,459. Carmic Manufacturing Co., Inc., Philadelphia, Pa. Filed June 7, 1965.

PORT-A-JON

For Portable Toilets.
First use Apr. 12, 1965.

SN 225,289. Cory Corporation, Chicago, Ill. Filed Aug. 9, 1965.

WOODRIDGE

For Beverage Brewing Devices.
First use Jan. 8, 1965.

SN 225,480. Hills-McCanna Company, Carpentersville, Ill. Filed Aug. 11, 1965.

TRANS-VAL-SAUNDERS

Applicant disclaims the word "Saunders" apart from the mark as shown.
For Diaphragm Valves.
First use in or about July 1965.

SN 225,821. Sooner Pipe & Supply Corporation, Tulsa, Okla. Filed Aug. 16, 1965.

GAY-K

For Valves.
First use Dec. 12, 1964.

SN 228,301. Ajax Hardware Corporation, City of Industry, Calif. Filed Sept. 22, 1965.

ELEGANCE FOR EVERYONE

For Cabinet Finishing and Builders' Hardware.
First use Sept. 9, 1965.

SN 231,801. Aquatech Corporation, Fort Lauderdale, Fla. Filed Oct. 29, 1965.

Automatic HYDRO SPA

For Series of Massaging Jets Arranged Within a Swimming Pool for Massaging the Body of a Swimmer.
First use Oct. 12, 1965.

SN 232,372. The Vollrath Company, Sheboygan, Wis. Filed Nov. 8, 1965.

SWAP-TOP

For Mixing and Storage Bowls of Metal.
First use Oct. 27, 1965.

SN 232,480. Republic Industrial Corporation, New York, N.Y. Filed Nov. 10, 1965.

The drawing is lined for blue.
For Hose Clamps.
First use Oct. 1, 1963.

SN 232,481. Republic Industrial Corporation, New York, N.Y. Filed Nov. 10, 1965.

R-I-C

The drawing is lined for blue.
For Automotive Hardware and Seals, More Particularly, Nuts, Bolts, Fasteners, and Door Seals.
First use Oct. 1, 1963.

SN 233,692. Cook-Rite Products, Inc., Newark, N.J. Filed Dec. 1, 1965.

COOK-RITE

For Cookware.
First use September 1960.

233,974. ACF Industries, Incorporated, New York, N.Y. Filed Dec. 6, 1965.

MAGNA SEAL

For Valves.
First use on or about Dec. 6, 1962.

SN 244,381. Amerock Corporation, Rockford, Ill. Filed Apr. 27, 1966.

VALENCIA

For Cabinet Hardware Such as Knobs, Pulls, Hinges, and the Like.
First use Dec. 15, 1965.

SN 244,383. Amerock Corporation, Rockford, Ill. Filed Apr. 27, 1966.

RENAISSANCE

For Cabinet Hardware Such as Knobs, Pulls, Hinges, and the Like.
First use Dec. 15, 1965.

Class 14—Metals and Metal Castings and Forgings

SN 232,391. Crucible Steel Company of America, Pittsburgh, Pa. Filed Nov. 9, 1965.

VERSATOOL

For Tool Steel.
First use July 15, 1965.

SN 232,403. Mary C. B. Hoge and Virginia G. B. Todman (joint owners), d.b.a. Glacier Metal Company, Richmond, Va. Filed Nov. 9, 1965.

GLACIER

For Antifriction or Babbit Metal.
First use Sept. 19, 1899.

Class 15—Oils and Greases

SN 127,088. Castoleum Corporation, Yonkers, N.Y. Filed Sept. 1, 1961.

CASTA FILM

For Additive for Crankcase Oil.
First use Dec. 15, 1958.

SN 228,387. Nationwide Industries, Inc., Philadelphia, Pa. Filed Sept. 22, 1965.

L-4

For Chemical Additive for Use in Crankcase, Automatic Transmission, and Fuel Line.
First use Feb. 1, 1965.

SN 229,050. Bluegate Candle Company, Montara, Calif. Filed Oct. 1, 1965.



Applicant disclaims the representation of the candles apart from the mark as shown. Owner of Reg. No. 414,524.
For Candles.
First use in or about March 1942.

SN 231,234. Rohm & Haas Company, Philadelphia, Pa. Filed Oct. 22, 1965.

NOVAR

For Motor Oil Sludge Dispersant.
First use on or about Sept. 28, 1965.

SN 231,488. Quackenbush & Sons, Inc., Fair Lawn, N.J. Filed Oct. 23, 1965.

PROPOCONE

For Silicone Lubricants for Industrial Use.
First use June 1, 1954.

SN 232,873. Texas Refinery Corp., Fort Worth, Tex. Filed Nov. 17, 1965.

SQVV

For Motor Oil.
First use Nov. 1, 1965.

SN 233,008. Richfield Oil Corporation, Los Angeles, Calif. Filed Nov. 19, 1965.

ROCOL

Owner of Reg. Nos. 561,442 and 658,437.
For Lubricating Oils, Hydraulic Oils, Turbine Oils, and General Purpose Industrial Oils.
First use 1949.

SN 244,173. Marathon Oil Company, Findlay, Ohio. Filed Apr. 25, 1966.

SPEEDWAY

For Gasoline and Lubricating Oil.
First use May 27, 1935.

Class 16—Protective and Decorative Coatings

SN 195,642. Cardinal Paint Corporation, St. Louis, Mo. Filed June 15, 1964.

JET AGE

For Paints, Varnishes, Enamels, and Plastic Coatings for Interior and Exterior Use.
First use Apr. 16, 1964.

SN 218,427. Hartline Products Co., Inc., Cleveland, Ohio. Filed May 10, 1965.

HARTLINE

For Liquid Asbestos Fibered Roof Coating.
First use Feb. 23, 1965.

SN 219,948. Astro Plastics Corporation, Downey, Calif. Filed May 28, 1965.

ELASTEEL

For Spray-Type Plastomeric Vinyl-Rubber Composition in the Nature of a Paint Which Forms a Non-Skid, Seamless, Waterproof Membrane and Flashing on Walking and Parking Decks, Building Exteriors, and the Like.
First use Feb. 20, 1964.

SN 224,771. Nathaniel Marx, d.b.a. Montrose Products, Inc., Chicago, Ill. Filed Aug. 2, 1965.

PAINT-RITE

Owner of Reg. Nos. 556,800 and 680,429.
For Artists' Paints.
First use 1955.

SN 244,064. Western Chemical Company, St. Joseph, Mo. Filed Apr. 22, 1966.

T-R-I-F-I-C

For Urethane Gymnasium Floor Finish.
First use June 3, 1964.

Class 17—Tobacco Products

SN 232,001. Lane Limited, New York, N.Y. Filed Nov. 2, 1965.

NOBLESSE

For Smoking Tobacco.
First use November 1964.

SN 232,173. E. Waegemans & Son, Inc., Bridgeport, Conn. Filed Nov. 4, 1965.



Owner of Reg. Nos. 514,140 and 550,786.
For Cigars.
First use November 1934.

SN 232,661. Brown & Williamson Tobacco Corporation, Louisville, Ky. Filed Nov. 15, 1965.

HALLMARK

Owner of Reg. No. 520,353.
For Cigarettes.
First use Nov. 3, 1965; on or about Aug. 4, 1904, on related goods.

SN 232,911. Wally Frank, Ltd., New York, N.Y. Filed Nov. 18, 1965.

SPINNAKER

For Tobacco Products—Namely, Pipe Tobacco.
First use Oct. 10, 1965.

SN 233,049. American Cigar Corporation, New York, N.Y. Filed Nov. 22, 1965.

RAPIERS

For Cigars.
First use March 1959.

Class 18—Medicines and Pharmaceutical Preparations

SN 204,709. The Purdue Frederick Company, Yonkers, N.Y. Filed Oct. 23, 1964.

SENOKOT CHEWTABS

Owner of Reg. No. 569,581.
For Laxative Preparation.
First use Oct. 16, 1964.

SN 222,515. School Health Supply Company, Addison, Ill. Filed July 1, 1965.

TAPE-PREP

For Skin Toughener and Conditioner, Particularly for Forming a Taping Base.
First use Aug. 27, 1962.

SN 222,927. Garden Pharmaceuticals, Inc., Oceanside, N.Y. Filed July 8, 1965.

BIO-SLIM

For Appetite Control Tablets.
First use Apr. 30, 1960.

SN 225,082. Vicain, Inc., d.b.a. Labco, Los Angeles, Calif. Filed Aug. 5, 1965.

SUPER M•39

The descriptive word "Super" is disclaimed apart from the mark as shown.
For Vitamin Tablets.
First use July 6, 1965; Mar. 25, 1958, in a different form.
Subj. to Intf. with SN 220,976.

SN 225,235. Fidelity Pharmaceuticals, Inc., Philadelphia, Pa. Filed Aug. 2, 1965.

FIDELCO

For Cough Syrup.
First use Jan. 10, 1962.

SN 225,236. Fidelity Pharmaceuticals, Inc., Philadelphia, Pa. Filed Aug. 2, 1965.

FIDELCO-V

For Cough Syrup.
First use Mar. 8, 1962.

SN, 226,226. Med-I-Caps Vitamin Co., Los Angeles, Calif. Filed Aug. 23, 1965.

MED-I-CAPS

For Vitamins.
First use on or about July 2, 1965.

SN 226,777. Pure Pharmacal Company, Houston, Tex. Filed Aug. 30, 1965.

ASPERTEX

For Aspirin.
First use at least as early as June 21, 1965.

SN 233,876. Bristol-Myers Company, New York, N.Y. Filed Dec. 3, 1965.

IT DOESN'T KID AROUND

For Medicines and Pharmaceutical Preparations—Namely, a Cough Preparation.
First use Aug. 12, 1965.

SN 244,641. A. H. Robins Company, Incorporated, Richmond, Va. Filed May 2, 1966.

DIMETAPP-A

Owner of Reg. Nos. 700,821 and 769,055.
For Antihistamine Decongestant With an Analgesic Medicinal Preparation.
First use Apr. 4, 1966.

Class 19—Vehicles

SN 186,572. Societa OSCA, Bologna, Italy. Filed Feb. 12, 1964.



Priority claimed under Sec. 44(d) on Italian application filed Sept. 25, 1963; Reg. No. 170,188, dated June 15, 1965. Applicant disclaims the word "Bologna" apart from the mark as shown.
For Automobiles and Parts Therefor.

SN 209,705. The M. T. & D. Company, Cleveland, Ohio. Filed Jan. 11, 1965.

MTD
MODERN LINE

Owner of Reg. No. 692,333.
For Wheelbarrows and Lawn Carts.
First use Oct. 10, 1954.

SN 219,509. American Metal Products Company, Detroit, Mich. Filed May 24, 1965.

HEMI SYSTEM

Applicant disclaims any claim to the word "System" apart from the mark as shown.
For Automotive Suspension Systems and Components Therefor.
First use Jan. 9, 1965.

SN 225,787. Mattel, Inc., Hawthorne, Calif. Filed Aug. 16, 1965.

STALLION

For Bicycles.
First use Mar. 24, 1965.

SN 225,833. Tour Vehicles Inc., Elkhart, Ind. Filed Aug. 16, 1965.

TOUR-A-LODGE

For Self-Propelled Motor Vehicles Containing Habitable Furnishings.
First use Nov. 13, 1964.

SN 226,247. Kick-Off Hand Truck Co., Oakland, Calif. Filed Aug. 23, 1965.

KICK-OFF

For Hand Trucks.
First use Mar. 18, 1958.

SN 226,484. West Wind Boat Company, Tampa, Fla. Filed Aug. 25, 1965.

AQUADYNE

For Pleasure Crafts—Namely, Fiberglass Runabouts.
First use on or about Jan. 1, 1964.

SN 226,485. West Wind Boat Company, Tampa, Fla. Filed Aug. 25, 1965.

TRIADYNE

For Pleasure Crafts—Namely, Fiberglass Runabouts.
First use on or about July 1, 1963.

SN 226,486. West Wind Boat Company, Tampa, Fla. Filed Aug. 25, 1965.

AERODYNE

For Pleasure Crafts—Namely, Fiberglass Runabouts.
First use on or about Jan. 1, 1963.

SN 226,599. Aeronca Manufacturing Corporation, Middletown, Ohio. Filed Aug. 27, 1965.

AEROLITE

For Hopper Type Railroad Cars.
First use Aug. 17, 1965.

SN 226,600. Aeronca Manufacturing Corporation, Middletown, Ohio. Filed Aug. 27, 1965.

AERONCAR

For Hopper Type Railroad Cars.
First use Aug. 17, 1965.

SN 243,321. Harte & Company, Inc., New York, N.Y. Filed Apr. 13, 1966.

GEMINI

For Vinyl Car Mats.
First use Mar. 29, 1966.

SN 243,322. Harte & Company, Inc., New York, N.Y. Filed Apr. 13, 1966.



For Vinyl Car Mats.
First use Mar. 29, 1966.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 200,100. The Hallicrafters Co., Chicago, Ill. Filed Aug. 18, 1964.

CIVIC PATROL

For Radio Receivers.
First use Oct. 25, 1951.

SN 211,140. Channel Master Corporation, Ellenville, N.Y. Filed Feb. 20, 1965.

TAKE-TWO

For Radio-Phonograph Combination.
First use Nov. 10, 1964.

SN 212,148. Star-Lite Electronics Corporation, New York, N.Y. Filed Feb. 16, 1965.

Star-lite

For Radio Receivers.
First use on or about Dec. 30, 1961.

SN 217,229. Wells Mfg. Corporation, Fond du Lac, Wis. Filed Apr. 23, 1965.

CĀPAC

Owner of Reg. No. 622,624.
For Automotive Ignition Parts—Namely, Distributors, Coils, Switches, Relays, Starters, Condensers, and Components Thereof.
First use during February 1961.

SN 217,301. Cerro Corporation, New York, N.Y. Filed Apr. 26, 1965.

EPOXYTEMP

For Electrical Wire and Cable.
First use Mar. 30, 1965.

SN 218,810. The Scionics Corporation, Northridge, Calif. Filed May 13, 1965.



The mark consists of the letter "S" broken in middle by two vertical lines.
For Electrical Components—Namely, Capacitors.
First use Aug. 16, 1961.

SN 220,302. James Electronics, Inc., Chicago, Ill. Filed June 8, 1965.

ULTRA-SCAN

For Ultrasonic Image Converters.
First use Dec. 16, 1964.
Subj. to Intf. with SN 213,636.

SN 221,506. Linear Alpha, Inc., Evanston, Ill. Filed June 18, 1965.

LOGITALS

For Printed Circuit Modules.
First use June 1, 1965.

SN 221,753. Ransburg Electro-Coating Corp., Indianapolis, Ind. Filed June 22, 1965.

RANSPLATER

For Electrophoretic Coating Apparatus Used in a Coating Process, and Parts Thereof.
First use on or about June 18, 1965.

SN 222,029. Howard Industries, Inc., Racine, Wis. Filed June 25, 1965.

EMC

Owner of Reg. No. 316,688.
For Electric Motors.
First use on or about Feb. 15, 1965; on or about Feb. 1, 1963, in a different form.

SN 223,903. Packard-Bell Electronics Corporation, Los Angeles, Calif. Filed July 21, 1965.

MICROSCAN

For Television Cameras and Monitors.
First use Apr. 29, 1965.

SN 234,155. Union Carbide Corporation, New York, N.Y. Filed Dec. 7, 1965.

CAPTAIN

Owner of Reg. No. 711,150.
For Electric Flashlights.
First use on or about Oct. 30, 1963.

SN 234,347. The General Tire & Rubber Company, Akron, Ohio. Filed Dec. 10, 1965.

FASTRAC

For Flexible Permanent Magnets.
First use Oct. 22, 1965.

Class 22—Games, Toys, and Sporting Goods

SN 204,088. Ben Pearson, Incorporated, Pine Bluff, Ark. Filed Oct. 15, 1964.

BEN PEARSON

"Ben Pearson" identifies a living individual whose consent is of record. Applicant disclaims the representation of an arrow in connection with the trademark presented apart from the mark as shown.
For Archery Bows, Arrows, and Accessories.
First use December 1955.

SN 204,929. Sportsways, Inc., Paramount, Calif. Filed Oct. 27, 1964.

WATERLUNG

For Underwater Sports Equipment—Namely, Masks and Fins, Snorkels, Regulators, Tanks and Tank Valves and Accessories, Wet Suits and Vests; Weight Belts and Accessories; Slurp (Suction) Guns, Spear Guns, and Accessories; Hookah Units and Accessories; Compressors and Pure Air Filtering Systems and Surfboards.
First use August 1958.

SN 216,215. The M. T. & D. Company, Cleveland, Ohio. Filed Apr. 9, 1965.

SCOOT WAGON

No claim of exclusive right is made to "Wagon" for the goods recited.
For Coaster Wagons.
First use Mar. 19, 1965.

SN 217,360. Lisk Fly Manufacturing Co., Greensboro, N.C. Filed Apr. 26, 1965.

LISK LURES

Applicant disclaims the term "Lures" separate and apart from the mark as shown.
For Artificial Fishing Lures.
First use on or about Jan. 1, 1960.

SN 218,214. Patterson International, Inc., Cincinnati, Ohio. Filed May 6, 1965.

FOOSBALL

For Coin-Operated Table Soccer Machines.
First use November 1962.

SN 218,441. Ronald K. Kieft, d.b.a. Larry Lee Products, Grand Haven, Mich. Filed May 10, 1965.

JIMMY KICKERS

No claim of exclusive right is made to the representation of the goods. The lining of the drawing represents the mark and does not indicate any particular color.
For Novelty Twirling Toy Comprising Simulated Footballs Attached to a Cord Pendulum.
First use May 5, 1965.

SN 218,513. Zappone Industries, Inc., Spokane, Wash. Filed May 10, 1965.

MERIT

For Equipment (or Apparatus) Sold as a Unit for Playing an Educational Religious Game.
First use Mar. 15, 1960.

SN 218,698. Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed May 12, 1965.

Build-O-Fun

For Toy Construction Sets.
First use Apr. 9, 1965.

SN 219,271. Paul Sakwa, Washington, D.C. Filed May 19, 1965.

SURFBRAKE

For Skateboard Brakes.
First use May 9, 1965.

SN 219,580. Frank J. Kavanaugh and Solomon C. Hollister (joint enterprise), Ithaca, N.Y. Filed May 24, 1965.

ROTA-FLEX

For Turf Gripping Means for Footwear Used in Sports.
First use Sept. 2, 1964.

SN 220,232. Playforms Inc., Columbus, Ohio. Filed June 2, 1965.

PLAYFORMS

For Playground Structural Forms Providing Passageways and Climbing and Sliding Surfaces for Children.
First use Nov. 15, 1963.

SN 222,278. The Kendrey Company, San Mateo, Calif. Filed June 29, 1965.

MOBY LYNX

For Toy or Amusement Construction Kits and Educational Visual Aid and Art Form Devices.
First use June 5, 1965.

SN 222,909. Associated Dry Goods Corporation, New York, N.Y. Filed July 8, 1965.

ANATOLE

For Stuffed Toy Mice.
First use June 24, 1965.

SN 223,075. Calico Kate's, Inc., Glen Haven, Colo. Filed July 12, 1965.

CALICO KATE'S

For Dolls.
First use Mar. 27, 1959.

SN 223,172. A. G. Spalding & Bros. Inc., Chicopee, Mass. Filed July 12, 1965.



No claim of exclusive right is made to the representation of a golf ball apart from the mark as shown. Owner of Reg. Nos. 507,674 and 525,022.
For Golf Balls.
First use on or about May 1, 1960.

SN 223,284. Milton Bradley Company, Springfield, Mass. Filed July 14, 1965.

FRANTIC FROGS

The word "Frog" is disclaimed apart from the mark as shown.
For Equipment Sold as a Unit for Playing a Board Game.
First use Mar. 1, 1965.

SN 224,911. Bancroft Racket Company, Pawtucket, R.I. Filed Aug. 4, 1965.

BANCROFT

For Tennis, Badminton, and Squash Rackets, Tennis Balls, Squash Balls, Golf Balls, Shuttlecocks, Racket Frame Presses, and Tennis Nets.
First use at least as early as 1923.

SN 224,913. Bancroft Racket Company, Pawtucket, R.I. Filed Aug. 4, 1965.

FOREST HILLS

Owner of Reg. No. 424,582.
For Tennis Rackets.
First use at least as early as 1923.

SN 225,974. Mattel, Inc., Hawthrone, Calif. Filed Aug. 18, 1965.

FLEA CIRCUS

For Toy Circus Pieces and Magnetic Fleas, Sold as a Unit, for Use in Playing a Game.
First use Aug. 10, 1965.

SN 226,212. Milton Bradley Company, Springfield, Mass. Filed Aug. 23, 1965.

PLAY AND DEFEND

For Equipment Sold as a Unit for Playing a Bridge Card Game.
First use July 15, 1965.

SN 227,051. Mattel, Inc., Hawthorne, Calif. Filed Sept. 2, 1965.

MATTEL

Owner of Reg. Nos. 635,129 and 753,681.
For Bicycles, Marketed Primarily for Use by Children, Tricycles and Children's Riding Carts.
First use Feb. 12, 1964, on bicycles.

SN 227,298. Items, Inc., St. Louis, Mo. Filed Sept. 7, 1965.
For Toy for Animals.



First use Nov. 1, 1962.

SN 227,869. Perry-Sherwood Corporation, New York, N.Y. Filed Sept. 15, 1965.

SQUISHY

For Kit Comprising Cutout Materials for Creating Doll and Animal Figures, Automobiles, Boats, and Other Toy Items.
First use on or about May 1, 1965.

SN 228,071. Pro-Putt Inc., Deerfield, Ill. Filed Sept. 17, 1965.

PUTTSTER

For Practice Putting Target.
First use Sept. 1, 1965.

SN 228,630. Champion Slot Car Products, Inc., Los Angeles, Calif. Filed Sept. 27, 1965.

CHAMPION SLOT CAR PRODUCTS INC. Los Angeles

Applicant makes no claim to the words "Slot Car Products Inc., Los Angeles" apart from the mark as shown.
For Brushes for Motors of Slot Cars (Miniature Electrically Operated Toy Racing Cars).
First use July 27, 1965.
Subj. to Intf. with SN 230,732.

SN 228,716. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

MATTEL TOONAROONI

Owner of Reg. Nos. 635,129, 691,606, and 753,681.
For Musical Toy.
First use Sept. 3, 1965.

SN 228,718. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

PALAVER

For Equipment Sold as a Unit and Including a Phonograph Mechanism for Playing Children's Parlor Games.
First use Sept. 3, 1965.

SN 228,727. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

AGENT ZERO-W

Owner of Reg. Nos. 796,328 and 804,179.
For Toy Gun.
First use Sept. 3, 1965.

SN 229,441. Metalmaster Corporation, Newark, N.J. Filed Oct. 6, 1965.

WOODMASTER

For Toy Doll Houses.
First use on or about Aug. 4, 1965.

SN 230,488. Anderson & Thompson Ski Co., Inc., Seattle, Wash. Filed Oct. 19, 1965.

HOLIDAY

For Snow Skis.
First use July 18, 1963.
Subj. to Intf. with SN 233,763.

SN 230,913. Francis P. Smith, El Cerrito, Calif. Filed Oct. 21, 1965.

JETSTER

For Coaster Wagons and Sleds.
First use Oct. 23, 1963.

SN 231,320. Norman J. Villard, d.b.a. Outboard Center, Riviera Beach, Fla. Filed Oct. 22, 1965.

'RESIST-O'

For Exercising Machines.
First use Sept. 29, 1965.

SN 231,926. The Ohio Art Company, Bryan, Ohio. Filed Nov. 1, 1965.

SPUDSIE

For Equipment Sold as a Unit for Playing a Hot Potato Game.
First use Oct. 4, 1965.

SN 233,763. World Wide, Inc., Minneapolis, Minn. Filed Dec. 1, 1965.

Holiday

For Skis, Ski Poles, and Ski Accessories.
First use Sept. 24, 1965.
Subj. to Intf. with SN 230,488.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 203,488. Harsco Corporation, Gallon, Ohio, assignee of Eagle Crusher Company, Inc., Galion, Ohio. Filed Oct. 7, 1964.

EAGLE

For Quarry, Mining, and Mineral Processing Machinery—Namely, Crushers, Pulverisers, Impact Breakers, Hammermills, Disintegrating Mills, Vibrating and Revolving Screens, Conveyors, and Loaders.
First use June 1, 1918.

SN 207,310. Meat Machinery Manufacturers Institute, Philadelphia, Pa. Filed Dec. 2, 1964. COLLECTIVE MARK.

MMM SEAL OF QUALITY M M M MEAT MACHINERY MANUFACTURER'S INSTITUTE

Applicant disclaims the words "Seal of Quality" and "Meat Machinery Manufacturers Institute" apart from the mark as shown.
For Meat Machinery and Equipment Manufactured by Members of the Association.
First use Oct. 16, 1964.

SN 209,706. The M. T. & D. Company, Cleveland, Ohio. Filed Jan. 11, 1965.

MTD MODERN LINE

Owner of Reg. No. 692,333.
For Spreaders and Rotary Garden Tillers.
First use Oct. 10, 1954.

SN 212,978. Conair, Inc., Glendale, Calif. Filed Mar. 1, 1965.

HYDRAPAC

For Hydraulic Power Units for Aircraft Flight Control and Guidance Systems, and Parts Thereof.
First use Jan. 12, 1962.

SN 217,971. Continental Oil Company, Ponca City, Okla., assignee of American Agricultural Chemical Company, New York, N.Y. Filed May 4, 1965.

AGRI SPRED

No registration rights are claimed for the word "Spred" when used properly as a descriptive designation, but applicant waives none of its common law rights in the mark. Owner of Reg. No. 730,042.
For Spreader for Lawn and Garden Products.
First use Jan. 19, 1965.

SN 218,435. Industrial Shoe Machinery Corp., Roxbury, Mass. Filed May 10, 1965.

INDUSTRIAL

For Machinery and Components Thereof for Use in the Manufacture of Shoes—Namely, Bottom Ironers, Toe Lasting Machines, Pullover and Combination Conditioners, Box Toe Conditioners, Heel Crown Forming Machines, Thermal Cement Guns, Side Last Conditioners, Heat Setters, Outsole Reducing Machines, Roughing Machines, Nailing Machines, Steamers, Combination Reducing and Roughing Machines, Rack Levelizers, Pullover Steamers, Mullers, Sole Reactivators, Heaters, Spindle Conveyors, Heel Attaching Machines, Heel and Contouring Machines, Skiving Machines, and Heat and Vapor Blowers.
First use Oct. 30, 1959.

SN 219,104. Allis-Chalmers Manufacturing Company, Milwaukee, Wis. Filed May 18, 1965.

HITCH-KING

For Earth Working and Material Handling Vehicles.
First use Apr. 17, 1965.

SN 221,059. Imperial-Eastman Corporation, Chicago, Ill. Filed June 14, 1965.

"IMP"

For Tube Cutters.
First use Oct. 15, 1963.

SN 228,244. Dennison Manufacturing Company, Framingham, Mass. Filed Sept. 21, 1965.

SPIN-PRINT

For Portable Label Printers.
First use Aug. 25, 1965.

SN 229,282. Petersen Engineering Co., Inc., Sunnyvale, Calif. Filed Oct. 4, 1965.

RUBR-LOK

For Retainers for Teeth for Earth Digging Equipment.
First use Sept. 9, 1965; Jan. 29, 1959, in another form.

SN 229,939. Atlas Supply Company, Springfield, N.J. Filed Oct. 12, 1965.

ATLAS

Owner of Reg. Nos. 292,092, 729,390, and others.
For Fuel Pumps for Automobiles.
First use Aug. 13, 1965.

SN 231,226. Remington Arms Company, Inc., Bridgeport, Conn. Filed Oct. 22, 1965.

POWERLITE

For Chain Saws, Accessories and Parts Thereof.
First use Oct. 22, 1964.

SN 231,484. Pettibone Mulliken Corporation, Chicago, Ill. Filed Oct. 23, 1965.

COUNTERGARD

For Track Chain and Parts Therefor.
First use on or about Mar. 15, 1965.

SN 231,500. Speed King, Inc., Logansport, Ind. Filed Oct. 23, 1965.

SPEED KING

For Portable Industrial Washers for Washing Bottling Equipment, Machinery, Automotive Equipment, and the Like.
First use July 15, 1962.

SN 235,217. National Semiconductor Corporation, Danbury, Conn. Filed Dec. 23, 1965.

NSC

For Machines for Manufacturing Semiconductor Devices—Namely, Semi-Automated Transistor Assembly Machines, and Parts for Such Machines.
First use 1964.

Class 25—Locks and Safes

SN 243,615. Bronx Locksmiths, Inc., Bronx, N.Y. Filed Apr. 18, 1966.

VERSA HOOD LOCK

Without waiving any of its common law rights, applicant disclaims exclusive right to use of the words "Hood Lock" except in combination with the mark "Versa" as shown.
For Automobile Hood Locks.
First use Mar. 21, 1966.

Class 26—Measuring and Scientific Appliances

SN 201,829. The Electric Storage Battery Company, Philadelphia, Pa. Filed Sept. 14, 1964.

VC

For Lenses for Safety Protective Spectacles, Goggles, and Shields.
First use Aug. 20, 1964.

SN 204,113. Tokyo Electric Co., Ltd., Chiyoda-ku, Tokyo, Japan., assignee of World-Wide Office Equipment Corporation, Los Angeles, Calif. Filed Oct. 15, 1964.

tec

For Adding Machines.
First use July 15, 1964; in commerce July 15, 1964.

SN 213,636. Photovolt Corporation, New York, N.Y. Filed Mar. 4, 1965.

ULTRASCAN

For Scanning Spectrophotometers.
First use November 1964.
Subj. to Intf. with SN 220,302.

SN 222,005. Donald C. Crandlemere, Holbrook, Mass. Filed June 25, 1965.

ZIP

For Micrometer Screwdrivers.
First use on or about June 4, 1965.

SN 222,824. Clairex Corporation, New York, N.Y. Filed July 7, 1965.

PHOTOMOD

Owner of Reg. No. 681,085.
For Assemblies, Each Including at Least One Lamp and One Photoelectric Cell in a Housing; Modular Circuit Components, Each Containing at Least One Photoelectric Cell; and Assemblies of Circuit Components of Which at Least One Component Is a Photoelectric Cell.
First use Mar. 15, 1965.

SN 223,022. Arthur G. Foster, West Islip, N.Y. Filed July 9, 1965.

REEL-RITE

For Tape Cleaning Attachment for Measuring Tapes.
First use May 15, 1965.

SN 223,624. B-D Laboratories, Inc., East Rutherford, N.J. Filed July 19, 1965.

FALCON PLASTICS

Reserving all common law and statutory rights, applicant disclaims exclusive right to the word "Plastics" apart from the mark as shown.
For Laboratory Ware—Namely, Petri Dishes, Culture Tubes, Slide Plates, Filtering Funnels, Fluid Containers, Swab in Container, and Similar Products.
First use on or about Apr. 11, 1960.

SN 225,783. Mallinckrodt Chemical Works, St. Louis, Mo. Filed Aug. 16, 1965.

CHROMA-PLATE

Applicant disclaims the word "Plate" apart from the mark as shown.
For Coated Glass Plates for Use in Chromatography.
First use Aug. 2, 1965.

SN 225,903. Southern Instruments Limited, Camberley, England. Filed Aug. 17, 1965.

POLAROTRACE

For Cathode-Ray Type Instruments for Performing Chemical Analyses by Electrolysis.
First use July 1956; in commerce July 1957.

SN 226,196. Veb Pentacon Dresden Kamera- und Kinowerke, Dresden, Germany. Filed Aug. 19, 1965.

PENTINA

Owner of U.S. Reg. Nos. 710,567 and 710,569.
For Cameras.
First use Mar. 2, 1961; in commerce July 29, 1961.

SN 226,585. Siemens & Halske Aktiengesellschaft, Munich, Germany. Filed Aug. 26, 1965.

ARDOCOL

Owner of German Reg. No. 655,693, dated Jan. 19, 1954.
For Radiation Measuring Instruments, Especially Color Pyrometers.

SN 226,786. Rayex Corporation, Flushing, N.Y. Filed Aug. 30, 1965.

POLAR-CHROME

For Sun Glasses.
First use June 15, 1965.

SN 228,939. SCM Corporation, New York, N.Y. Filed Sept. 29, 1965.

TWO-STEP

For Calculating Machines.
First use May 5, 1965.

SN 235,218. National Semiconductor Corporation, Danbury, Conn. Filed Dec. 28, 1965.

NSC

For Electrical Signal Generating and Amplifying Devices—Namely, Integrated Logic Circuit Devices, Integrated Switching Signal Generating Circuit Devices, and Integrated Circuit Amplifiers, Including Hybrid Integrated Transistor Hearing Aid Amplifiers and Multi-Stage Amplifier Circuit Devices.
First use April 1962.

SN 235,487. Birns & Sawyer Cine Equipment Co., Inc., Hollywood, Calif. Filed Dec. 29, 1965.

AUREFLEX

For Movie Camera Equipment—Namely, an Optical Installation of the Beam-Splitter Type To Provide Reflex Viewing in a Non-Reflex Camera.
First use Nov. 24, 1965.

Class 28 — Jewelry and Precious-Metal Ware

SN 231,781. Textron Inc., Providence, R.I. Filed Oct. 28, 1965.

ROMUNDA

For Expansion Bracelets, Including Watch Bracelets.
First use Oct. 20, 1965.

SN 231,782. Textron Inc., Providence, R.I. Filed Oct. 28, 1965.

COBRA

For Expansion Bracelets, Including Watch Bracelets.
First use 1948.

SN 231,814. Donley Manufacturing Co., Inc., North Attleboro, Mass. Filed Oct. 29, 1965.

LITTLE MISS

For Costume Jewelry, Not Including Watches.
First use January 1956.

Class 31 — Filters and Refrigerators

SN 216,897. United States Filter Corporation, Pasadena, Calif. Filed Apr. 19, 1965.



For Industrial and Cartridge Filters, Parts, and Components Therefor, and Filtering Materials, Such as Asbestos, Cellulose, Cotton Floc, Sisal, and the Like.
First use Dec. 4, 1953.

Class 32 — Furniture and Upholstery

SN 210,469. Precision Sheet Metal Company, Inc., d.b.a. Electro Tech, Minneapolis, Minn. Filed Jan. 22, 1965.

TAPE-STOR

For Metal Storage Cabinets, Particularly Adapted for Storing Perforated Tapes Utilized in Automatically Controlled Machine Tools or the Like.
First use Jan. 4, 1965.

SN 211,521. Carl Forslund, Inc., Grand Rapids, Mich. Filed Feb. 8, 1965.



For Household Furniture—Namely, Tables, Chairs, Davenports, Sofas, Love Seats, Sewing Stands, Plant Stands, Night Stands, Lamp Stands, Telephone Benches, Commodes, Beds, Tea Wagons, Buffets, China Cabinets, Folding Screens, Settees, Day Beds, Chaise Lounges, Magazine Racks, Wall Racks, Foot Stools, Hassocks, Mirror Frames, Desks, Secretary-Desks, Chifforobes, Costumers, Dressers, Vanity Dressers, Chiffoniers, Wardrobes, and Chests.
First use Dec. 10, 1964.

SN 221,703. Container Research Corporation, Glen Riddle, Pa. Filed June 22, 1965.



For Cabinets, Containers, and Storage Racks Used for the Storage and Transportation of Equipment.
First use Feb. 29, 1964.

SN 230,527. Fortunoff's Shopping Center, Inc., Westbury, N.Y. Filed Oct. 19, 1965.

FORTUNOFF'S WESTBROOK

For Bedroom, Living Room, Dining Room, Kitchen, and Occasional Furniture; and Decorative Wall Accessories—Namely, Framed Pictures, Wall Racks, and Mirrors.
First use on or about Sept. 25, 1964.

SN 232,795. Sealy, Incorporated, Chicago, Ill. Filed Nov. 16, 1965.

GOOD MORNING

For Mattresses and Box Springs.
First use Sept. 20, 1965.
Subj. to Intf. with SN 237,124.

SN 232,796. Sealy, Incorporated, Chicago, Ill. Filed Nov. 16, 1965.

GOOD MORNING SLEEP SHOP

For Mattresses and Box Springs.
First use Sept. 20, 1965.
Subj. to Intf. with SN 237,124.

SN 232,807. Art Metal, Inc., Jamestown, N.Y. Filed Nov. 17, 1965.

MODI-FILE

For Office Equipment—Namely, Filing Cabinets, Trays, and Drawers.
First use on or about Oct. 20, 1965.

SN 232,850. Paw Paw Plastic Laminating Service, Inc., Paw Paw, Mich. Filed Nov. 17, 1965.

MOUSETRAP

For Picture Frames With Hinged or Removable Backs.
First use Sept. 4, 1965.

SN 233,044. Alma Desk Company, High Point, N.C. Filed Nov. 22, 1965.

ADMINISTRATOR

For Office Furniture and Particularly Office Desks, Tables, Chairs, Bookcases, Cabinets, and Sofas.
First use Oct. 15, 1965.

SN 233,045. Alma Desk Company, High Point, N.C. Filed Nov. 22, 1965.

DIRECTOR

For Office Furniture and Particularly Office Desks, Tables, Chairs, Bookcases, Cabinets, and Sofas.
First use Oct. 19, 1965.

SN 233,361. Kitchen Planning Center, Inc., Lexington, Ky. Filed Nov. 26, 1965.



For Decorative Member for Use as a Counter Top or the Like.
First use Nov. 22, 1965.

SN 237,124. Holland Wire Products, Incorporated, Holland, Mich. Filed Jan. 24, 1966.



For Mattresses and Box Springs.
First use June 15, 1961.
Subj. to Intf. with SN 232,795 and SN 232,796.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 212,100. Dura Corporation, Oak Park, Mich. Filed Feb. 16, 1965.

KOTA

For Steam Cleaners, Space Heaters, Swimming Pool Heaters, Industrial Furnaces, Hot Water Heaters; and Liquid Heater and Equipment for Circulating Heated Coolant to the Radiators of Parked Vehicles.
First use Dec. 1, 1964.

SN 228,807. The Candle Man, Inc., Chicago, Ill. Filed Sept. 28, 1965.



The representation of a candle is disclaimed apart from the mark as shown.
For Candle Lamps and Holders, Shades, and Candles Therefor.
First use July 25, 1960.

SN 232,688. Fin-Tex Engineering, Inc., Fort Worth, Tex. Filed Nov. 15, 1965.

FIN-TEX

For Heat Exchanger Tubes.
First use Oct. 21, 1965.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 203,129. Technical Rubber Company, Inc., Johnstown, Ohio. Filed Oct. 1, 1964.

FLEX-TECH-K3

Owner of Reg. No. 551,038.
For Tire Repair Patches.
First use Aug. 19, 1963.

SN 235,378. Atlas Supply Company, Springfield, N.J. Filed Dec. 28, 1965.

GOLDENAIRE

For Rubber Tires.
First use Oct. 15, 1965.

Class 36 — Musical Instruments and Supplies

SN 214,984. Swisstone Corp., New York, N.Y. Filed Mar. 19, 1965.

SWISSTONE

For Musical Movements—Namely, Music Boxes for Use in Connection With Various Items Including Stuffed Animals, Rocking Chairs, Dolls, Cradles, etc.; and for Parts of Such Musical Movements.
First use Jan. 12, 1953.

Class 37 — Paper and Stationery

SN 191,837. Commonwealth Pencil Company, Inc., Shelbyville, Tenn. Filed Apr. 23, 1964.

THE DOODLER

Owner of Reg. No. 612,573.
For Lead Pencils, Pens, Mechanical Pencils, Rubber Erasers, Ball Point Pens, and Ball Point Pen Refills, Crayons, Chalk, and Rubber Bands.
First use May 14, 1954.

SN 217,036. International Paper Company, New York, N.Y. Filed Apr. 21, 1965.

TI TEXT

The word "Text" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 794,458, 800,374, and others.
For Writing and Printing Papers.
First use Aug. 6, 1964.

SN 228,284. West Virginia Pulp and Paper Company, New York, N.Y. Filed Sept. 21, 1965.

WESTVACO DURABEND

Owner of Reg. Nos. 119,848, 765,934, and others.
For Laminated Linerboard.
First use July 5, 1965.

SN 228,961. Venus Pen & Pencil Corporation, New York, N.Y. Filed Sept. 29, 1965.

C-RITE

For Ball Point Pens.
First use Sept. 17, 1965.

SN 232,944. Studentservices-Letterservices, Inc., Ann Arbor, Mich. Filed Nov. 18, 1965.

PERMAPRINT

For Bond Paper.
First use Jan. 10, 1964.

SN 235,672. International Paper Company, New York, N.Y. Filed Jan. 3, 1966.

RAP-ROUND

Owner of Reg. No. 796,771.
For Corrugated Paperboard Wrappers.
First use November 1964.

Class 38 — Prints and Publications

SN 220,835. Dayton Perforators Inc., Dayton, Ohio. Filed June 10, 1965.

PUNCH•LINES

For Company News Bulletins.
First use Aug. 20, 1963.

SN 225,333. Mahler Associates, Inc., Wyckoff, N.J. Filed Aug. 9, 1965.

TEXT-AID

For Educational Device—Namely, Transparent Overlays Having Selected Opacified Surface Portions, for Registry With Text Pages.
First use May 23, 1965.

SN 225,907. Warren Publishing Co., Philadelphia, Pa. Filed Aug. 17, 1965.

CREEPY

For Periodic Magazine Publication of the Comic Book Type.
First use Oct. 12, 1964.

SN 225,908. Warren Publishing Co., Philadelphia, Pa. Filed Aug. 17, 1965.

MONSTER WORLD

For Periodic Magazine Publication Relating to Past and Present Television and Motion Picture Features, and Fiction and Articles Relating Thereto.
First use Aug. 7, 1964.

SN 226,319. Warren Publishing Co., Philadelphia, Pa. Filed Aug. 23, 1965.

EERIE

For Periodic Magazine Publication of the Comic Book Type.
First use Aug. 19, 1965.

SN 227,379. Robert G. Spivack, Washington, D.C. Filed Sept. 7, 1965.

WATCH ON THE POTOMAC

For Syndicated Newspaper Column.
First use on or about Feb. 1, 1956.

SN 228,762. The Sunday School House, Glendale, Calif. Filed Sept. 27, 1965.

GOSPEL LIGHT PUBLICATIONS

Applicant disclaims the word "Publications" apart from the mark as shown. Owner of Reg. No. 690,921.
For Printed Material for Use in Sunday Schools and Churches.
First use 1957.

SN 229,024. Persuasion Inc., New York, N.Y. Filed Sept. 30, 1965.

PERSUASION

For Periodical Magazine Devoted to Public Affairs, Philosophy, Politics, Literature, Criticism, and the Like.
First use on or about Apr. 13, 1965.

SN 229,854. Ovid Neal, Los Angeles, Calif. Filed Oct. 11, 1965.

INFINITONE

For Photographs, Colored or Toned Prints, Photolithographs, Printings Produced by Photographic Means.
First use Feb. 18, 1965.

SN 230,262. Land & Cattle Publishing Co., Kansas City, Mo. Filed Oct. 15, 1965.

LAND & CATTLE EXCHANGE MAGAZINE

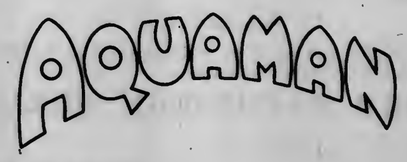
No claim is made to the exclusive right to use "Magazine."
For Periodical.
First use Sept. 15, 1965.

SN 231,432. Edna Kloos, d.b.a. VK Products Company, New York, N.Y. Filed Oct. 23, 1965.



For Personal Improvement Book and Wall Scroll (Boxed With Leaves).
First use May 19, 1965.

SN 231,469. National Periodical Publications, Inc., New York, N.Y. Filed Oct. 23, 1965.



For Comic Magazine.
First use Nov. 20, 1961.

SN 231,880. Artistic Weaving Company, Pompton Lakes, N.J. Filed Nov. 1, 1965.



For Woven Labels for Clothing.
First use Sept. 17, 1965.

SN 232,351. Reynolds Metals Company, Richmond, Va. Filed Nov. 8, 1965.

ALUMINUM PROGRESS

For Trade Magazine.
First use April 1944.

SN 232,452. Continental Oil Company, Ponca City, Okla. Filed Nov. 10, 1965.

CONOCO PLASTICS REPORT

Applicant disclaims the words "Plastic Report." Owner of Reg. No. 575,503.
For Series of Informational Pamphlets for the Plastics Industry.
First use October 1965.

SN 232,667. Civic Education Service, Inc., Washington, D.C. Filed Nov. 15, 1965.

CIVIC LEADER

For Weekly Educational Newspaper for Schools.
First use Sept. 1, 1922.

SN 232,668. Civic Education Service, Inc., Washington, D.C. Filed Nov. 15, 1965.

AMERICAN OBSERVER

For Weekly Educational Newspaper for Schools.
First use Sept. 1, 1931.

SN 232,776. Fawcett Publications, Inc., Greenwich, Conn. Filed Nov. 16, 1965.

CAVALIER

For Magazine Published Monthly.
First use November 1952.

SN 232,809. Artemis Verlags Aktiengeselischaft, Zurich, Switzerland. Filed Nov. 17, 1965.

ARTEMIS

Owner of Swiss Reg. No. 107,428, dated Dec. 1, 1964.
For Books.
First use at least as early as 1944; in commerce at least as early as 1946.

SN 232,882. Western Farm Publications, Inc., San Francisco, Calif. Filed Nov. 17, 1965.

FARM MACHINERY WORLD

For Quarterly Magazine.
First use October 1961.

SN 232,909. Fawcett Publications, Inc., Greenwich, Conn. Filed Nov. 18, 1965.



The words "A" and "Book" are disclaimed.
For Paperback Books.
First use September 1955.

SN 232,937. Scholastic Magazines, Inc., New York, N.Y. Filed Nov. 18, 1965.

NEWS EXPLORER

Owner of Reg. No. 657,797.
For Periodical.
First use September 1960; Apr. 1, 1957, on "Explorer."

SN 233,548. The Hearst Corporation, New York, N.Y. Filed Nov. 1, 1965.

The News American

Owner of Reg. No. 377,564.
For Newspaper.
First use Jan. 13, 1964.

SN 233,687. Civic Education Service, Inc., Washington, D.C. Filed Dec. 1, 1965.

YOUNG CITIZEN

For Educational Newspaper for Schools.
First use Sept. 1, 1941.

SN 244,155. Tower Press, Inc., Lynn, Mass. Filed Apr. 22, 1966.

WOMEN'S COMFORT

For Monthly Magazine.
First use in or about September 1963.

Class 39 — Clothing

SN 207,082. Saf-T-Shirt Mfg. Co., Tuscola, Tex. Filed Nov. 27, 1964.



The words "Official" and "Saf-T-Shirt" are disclaimed apart from the mark as shown. The drawing is lined for yellow.
For Garment for Use by Players of Athletic Games, Specifically a T-Shirt Which Is Padded.
First use June 21, 1964.

SN 210,078. A. M. Burns, Inc., Scarsdale, N.Y. Filed Jan. 18, 1965.



The portrait is fanciful.
For Men's, Women's, and Children's Clothing—Namely, Suits, Slacks, Jackets, Overcoats, Topcoats, Hats, Caps, Shirts, Ties, Underwear, Socks, Handkerchiefs, Scarves, Ascots, Sweaters, Vests, Gloves, Skirts, Blouses, Belts, Suspenders, Shorts, Bathing Suits, and Bath and Beach Robes.
First use in or about December 1961.

SN 211,754. Shapemaid, Inc., Reading, Pa. Filed Feb. 10, 1965.

SHAPEMAID

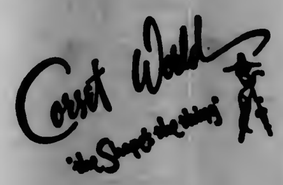
For Women's Swimsuits.
First use Jan. 6, 1965.

SN 214,699. Frank Sasaki and Esther Sasaki (partnership), Salt Lake City, Utah. Filed Mar. 22, 1965.



Applicant disclaims the representation of the goods.
For Gaiters in the Nature of a Cuff.
First use October 1963.

SN 219,765. Corset World, Ltd., Silver Spring, Md. Filed May 26, 1965.



The word "Corset" is disclaimed apart from the mark as shown without prejudice to applicant's common law rights in the mark "Corset World."
For Ladies Undergarments—Namely, Brassieres, Corsets, and Girdles.
First use Mar. 1, 1959.

SN 222,379. Huth James Shoe, Inc., Milwaukee, Wis. Filed June 30, 1965.

TOE TRUCK

For Shoes for Men and Youths.
First use June 16, 1965.

SN 224,745. M. Hoffman & Co., Inc., Boston, Mass. Filed Aug. 2, 1965.

Landlubber

For Overalls, Dungarees, Jumpers, Pants, Shirts, Long Coats, Jackets, and Aprons for Men, Women, and Children.
First use in or about September 1964.

SN 225,617. Trend Centers, Inc., d.b.a. Trend Centers, New York, N.Y. Filed Aug. 12, 1965.

brad porter

The name "Brad Porter" is fictitious.
For Men's and Boys' Overcoats, Jackets, Sport Coats, Slacks; and Boys' Suits.
First use on or about July 6, 1965.

SN 227,579. HK Corporation, Atlanta, Ga. Filed Sept. 10, 1965.

BIG Kahuna

The English Translation of the word "Kahuna" is "man."
For Bathing Suits.
First use on or about Aug. 25, 1965.

SN 230,512. H. Childs & Co. Inc., Pittsburgh, Pa. Filed Oct. 19, 1965.

VARSITY

Owner of Reg. No. 211,800.
For Shoes Made of Leather, Canvas, Rubber, Cloth, or Combinations Thereof.
First use Mar. 1, 1905.

SN 230,628. Harry Fischer Corporation, Philadelphia, Pa. Filed Oct. 20, 1965.

SAXONY MANOR

For Men's and Boys' Outercoats.
First use at least as early as 1953.

SN 231,219. Pincus Brothers, Inc., Philadelphia, Pa. Filed Oct. 22, 1965.

RED LINE

Owner of Reg. No. 214,175.
For Men's Coats and Trousers.
First use Jan. 12, 1926.

SN 231,353. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Oct. 22, 1965.

leg-mate

For Ladies' Hosiery.
First use Sept. 21, 1965.

SN 231,749. Exquisite Form Industries, Inc., New York, N.Y. Filed Oct. 28, 1965.

SUPERLATIVES

For Brassieres and Girdles.
First use Oct. 26, 1965.

SN 232,816. Colebrook Mills Inc., Hialeah, Fla. Filed Nov. 17, 1965.

LILOR

For Ladies' Sweaters.
First use Oct. 29, 1965.

SN 232,895. Bear Brand Hosiery Co., Chicago, Ill. Filed Nov. 18, 1965.

SNOW JOB

For Men's Hosiery.
First use Sept. 3, 1965.

SN 233,183. Jonbil Manufacturing Company, Inc., New York, N.Y. Filed Nov. 23, 1965.

CHEYENNE KID

For Jeans and Jackets for Men, Women, and Children.
First use Oct. 7, 1965.

SN 233,507. Lady Marlene Brassiere Corp., New York, N.Y. Filed Nov. 29, 1965.

LADY LIKE

For Brassieres and Corsets.
First use Nov. 18, 1965.

SN 233,684. Character Foundations, Inc., New York, N.Y. Filed Dec. 1, 1965.

WAIST FINDER

For Bra-Slips.
First use July 26, 1965.

SN 233,774. Benmar Knitwear Corporation, Maspeth, N.Y. Filed Dec. 2, 1965.

Benmar

For Ladies', Men's, Boys', Girls', and Children's Knitwear—Namely, Sweaters, Shirts, Jackets, and Dresses.
First use July 5, 1950.

SN 233,775. Benmar Knitwear Corporation, Maspeth, N.Y. Filed Dec. 2, 1965.

Prince Marc

For Ladies', Men's, Boys', Girls', and Children's Knitwear—Namely, Sweaters, Shirts, Jackets, and Dresses.
First use Jan. 9, 1961.

SN 234,041. Edith Lances Corporation, New York, N.Y. Filed Dec. 6, 1965.

GLAMOUR WYRE

For Lingerie.
First use in or before December 1955.

SN 234,066. John Robert Powers Footwear, Inc., New York, N.Y. Filed Dec. 6, 1965.

SPLASH GUARDS

For Overshoes.
First use Oct. 18, 1965.

SN 234,084. Standard Safety Equipment Company, Palatine, Ill. Filed Dec. 6, 1965.

THERMO BAN

For Protection Clothing for Workmen Exposed to Fire or Radiant Heat.
First use Aug. 31, 1965.

SN 234,195. Goostein Bros. & Co., Inc., New York, N.Y. Filed Dec. 8, 1965.

TEMPERA

For Men's Outerwear—Namely, Overcoats, Topcoats, All Weather Coats, and Raincoats.
First use Nov. 15, 1965.

SN 234,341. Fraternity Sportswear Sales Company, Columbus, Ohio. Filed Dec. 10, 1965.

For Men's and Women's Clothing—Namely, Sweat Shirts, T-Shirts, Polo Shirts, Athletic Jerseys, Night Shirts, and Jackets.
First use Sept. 20, 1965.

SN 234,343. Granite Hosiery Mills, Inc., Souderton, Pa. Filed Dec. 10, 1965.

SOCIETY HILL

Owner of Reg. No. 732,181.
For Sweaters.
First use Dec. 3, 1965.

SN 234,383. International Seaway Trading Corp., Cleveland, Ohio. Filed Dec. 10, 1965.

INTRANITE

For Footwear Sole and Heel.
First use Apr. 10, 1965.

SN 234,384. International Seaway Trading Corp., Cleveland, Ohio. Filed Dec. 10, 1965.

INTRAN

For Footwear Uppers.
First use Apr. 10, 1965.

SN 234,538. Carolina Underwear Company, Inc., Thomasville, N.C. Filed Dec. 14, 1965.

CAROLE

For Children's Panties, Pajamas, Robes, Vests, Gowns, Nightshirts and Ladies' Panties, Pajamas, Robes, Pajama and Robe Sets, Vests, Gowns, and Nightshirts.
First use Nov. 1, 1947.

SN 234,799. Blue Bell, Inc., Greensboro, N.C. Filed Dec. 17, 1965.

WEATHERED DENIM

No claim is made to the word "Denim" apart from the mark as shown.
For Jeans.
First use Dec. 10, 1965.

SN 234,800. Botany Industries, Inc., New York, N.Y. Filed Dec. 17, 1965.

BOTANY

Owner of Reg. Nos. 75,638, 731,573, and others.
For Men's and Boys' Suits, Overcoats, Topcoats and Slacks; Men's Sportcoats and Walk Shorts; Boys' Pants and Shorts; Neckties; Men's Mufflers, Cummerbunds and Bibs; Men's, Boys', Women's, and Girls' Sweaters; Men's Hosiery; Men's Dress and Sport Shirts; Men's and Boys' Underwear, Sweat Shirts and Sweat Pants; Men's Shoes; Men's, Women's, and Children's Rubbers; Men's, Women's, Boys', and Girls' Raincoats; Men's and Boys' Robes and Swim Trunks; Infants' and Boys' Knitted Shirts and Pajamas; and Men's Pajamas.
First use Nov. 4, 1931, on neckties.

SN 234,908. Kiddie Products, Inc., Squantum, Mass. Filed Dec. 20, 1965.

KIDDIE KICKERS

For Infants' Shoes and Booties.
First use 1956.

SN 235,058. H. H. Brown Shoe Co., Inc., Worcester, Mass. Filed Dec. 20, 1965.

RICHLAND Kensington

For Men's Footwear.
First use June 11, 1965.

SN 235,059. H. H. Brown Shoe Co., Inc., Worcester, Mass. Filed Dec. 20, 1965.

RICHLAND Dunbartan

For Men's Footwear.
First use June 11, 1965.

SN 235,060. H. H. Brown Shoe Co., Inc., Worcester, Mass. Filed Dec. 20, 1965.

RICHLAND Westchester

For Men's Footwear.
First use June 11, 1965.

SN 235,061. H. H. Brown Shoe Co., Inc., Worcester, Mass. Filed Dec. 20, 1965.

RICHLAND Kings/Lyne

For Men's Footwear.
First use June 11, 1965.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 204,505. Roddy Recreation Products, Inc., Gardena, Calif. Filed Oct. 21, 1964.

NEOHIDE

For Shoe Laces.
First use June 1941.

SN 230,609. Cap-Roc Inc., Rochester, N.Y. Filed Oct. 20, 1965.

Techglo

For Buttons.
First use Sept. 17, 1965.

SN 235,568. Lanvin-Charles of the Rits, Inc., New York, N.Y. Filed Dec. 30, 1965.

CHARLES OF THE RITZ

Owner of Reg. Nos. 792,971, 827,924, and others.
For False Eyelashes.
First use Sept. 1, 1965.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 221,756. Roller Process Corp., New York, N.Y. Filed June 22, 1965.

ANTHONIZED

For Piece Goods Made of Cotton, Silk, Wool, Man-Made Fibers or Blends Thereof, and Glitter Fabrics Constructed so as To Be Tintable and Non-Bleeding.
First use Apr. 8, 1965.

SN 224,752. The Jefferson Mills, Inc., Jefferson, Ga. Filed Aug. 2, 1965.

GROOMED YARN

The word "Yarn" is disclaimed apart from the mark as shown.
For Textile Piece Goods Made of Cotton, Synthetics, and Mixtures Thereof.
First use July 15, 1965.

SN 244,753. The Jefferson Mills, Inc., Jefferson, Ga. Filed Aug. 2, 1965.

SOUTHWORTH

For Textile Piece Goods Made of Cotton, Synthetics, and Mixtures Thereof.
First use July 16, 1965.

SN 232,688. Dwoskin, Incorporated, Atlanta, Ga. Filed Nov. 15, 1965.

PLUSHTONE

For Textile Fabrics With Plastic or Rubber Backing for Wall and Upholstery Coverings.
First use Nov. 10, 1965.

SN 233,407. J. P. Stevens & Co., Inc., New York, N.Y. Filed Nov. 26, 1965.

935

For High Temperature Woven Fabrics Made From Glass Fibers.
First use Nov. 19, 1965.

SN 233,411. J. P. Stevens & Co., Inc., New York, N.Y. Filed Nov. 26, 1965.

920

For High Temperature Woven Fabrics Made From Glass Fibers.
First use Nov. 19, 1965.

SN 233,412. J. P. Stevens & Co., Inc., New York, N.Y. Filed Nov. 26, 1965.

910

For High Temperature Woven Fabrics Made From Glass Fibers.
First use Nov. 19, 1965.

SN 233,852. Abney Mills, Greenwood, S.C. Filed Dec. 3, 1965.

UNIFIRM

For Cotton Piece Goods for Making Buffing Cloths and the Like.
First use Nov. 16, 1965.

Class 44—Dental, Medical, and Surgical Appliances

SN 199,915. Parke, Davis & Company, Detroit, Mich. Filed Aug. 14, 1964.

PARKE-DAVIS

Owner of Reg. Nos. 103,702 and 397,912.
For Sanitary Napkins, Belts for Sanitary Napkins, Disposable Washcloths and Disposable Underpads for Sick Room Use.
First use on or before July 1, 1964.

SN 203,474. The Chiroscope Company, Inc., Newburgh, N.Y. Filed Oct. 7, 1964.

CHIROSCOPE

For Electronic Detector in the Form of a Portable Cabinet, With a Cathode Ray Tube Having a Calibrated Face Plate, Said Detector Being Adapted for the Chiropractic Analysis of the Human Body.
First use July 10, 1964.

SN 222,518. Sunbeam Corporation, Chicago, Ill. Filed July 1, 1965.

FLAIR

For Hair Dryers.
First use June 9, 1965.

SN 231,976. C. R. Bard, Inc., Murray Hill, N.J. Filed Nov. 2, 1965.

BARD

Owner of Reg. Nos. 543,922, 773,752, and others.
For Catheters, Packaged Catheterization Kits, Catheterization Trays, Urinary Drainage and Collection Devices and Components, Urinary Appliances, Urological Instruments and Appliances, Devices for Intravenous Therapy and Intravenous Anesthesia, Prostheses for Surgery, Medical and Surgical Tubing, Drainage Receptacles, Filter Masks, Enema Administration Units, Oxygen Administration Units for Non-Cyclic Direct Feeding of Oxygen to the Patient, Specimen Collection Devices, Syringes, Stone Dislodgers, Bougies, Stylets, Followers, Filiforms, Fulgurating and Meatotomy Electrodes, Resectoscope and Cystoscope Accessories, Venous Pressure Measuring Devices and Sterilizers.
First use at least as early as 1942.

SN 232,505. American Cyanamid Company, Wayne, N.J. Filed Nov. 12, 1965.

ACUTROL

For Surgical and Dental Needles.
First use Sept. 20, 1965.

Class 45—Soft Drinks and Carbonated Waters

SN 205,370. Tahitian Products Co., Inc., d.b.a. Cocktail Hour Ltd., El Segundo, Calif. Filed Nov. 2, 1964.



For Non-Alcoholic Coffee Flavored Beverage for Use as a Mix for Making Alcoholic Cocktails.
First use Sept. 18, 1964.

SN 206,250. Feigenson, Incorporated, d.b.a. Faygo Beverage Company, Detroit, Mich. Filed Nov. 16, 1964.

GOLD PORT

No claim is made to the word "Port" apart from the mark as shown.
For Ginger Ale.
First use Oct. 21, 1964.

SN 219,732. Royal Castle System, Inc., Miami, Fla. Filed May 25, 1965.

ROYAL CASTLE

Owner of Reg. No. 760,898.
For Birch Beer.
First use Mar. 18, 1938.

SN 239,404. Fritzsche Brothers, Inc., New York, N.Y. Filed Feb. 23, 1966.

fritzsche BROTHERS, INC. • NEW YORK

Owner of Reg. Nos. 62,432, 796,044, and others.
For Flavoring Compounds for Non-Alcoholic Maltless Beverages in the Nature of Soft Drinks.
First use June 7, 1963.

Class 46—Foods and Ingredients of Foods

SN 203,993. Pearce-Young-Angel Company, Greenville, S.C. Filed Oct. 14, 1964.



Mr. Butler

For Canned Fruit and Vegetables.
First use Sept. 10, 1964.

SN 205,012. Taylor Food Products, Inc., d.b.a. Mr. and Mrs. "T" Food Products and Taylor Food Hobbies, Los Angeles, Calif. Filed Oct. 28, 1964.

Mr and Mrs "T"

Owner of Reg. Nos. 598,571 and 633,753.
For Sauce Used on Meats, Fish, and Poultry, and Non-Alcoholic Beverage Mixes Consisting Essentially of Tomato Juice, Catsup, and Beef Consomme.
First use Oct. 1, 1964.

SN 217,618. Farm Pac Kitchens, Inc., Lubbock, Tex. Filed Apr. 29, 1965.

FARM PAC

Owner of Reg. No. 760,111.
For Canned Biscuits, Corned Meats, Fresh Meats, Luncheon Meats, Smoked Meats, Frankfurters, Pork Brains, and Sausage Composed of Beef, Pork, and Mutton.
First use Apr. 26, 1965.

SN 219,223. M.J.B. Co., San Francisco, Calif. Filed May 19, 1965.

MJB

Owner of Reg. Nos. 563,677 and others.
For Rice Mixtures—Namely, a Mixture of White and Wild Rice and a Chicken-Flavored Rice.
First use Apr. 26, 1965.

SN 220,231. Piggly Wiggly Corporation, Jacksonville, Fla. Filed June 2, 1965.

PLYMOUTH

Owner of Reg. Nos. 612,284, 688,817, and 761,698.
For Table Salt.
First use Jan. 1, 1964.

SN 220,823. Andresen-Ryan Coffee Co., Duluth, Minn. Filed June 10, 1965.

ARCO

For Coffee and Tea.
First use last half of 1916.

SN 220,856. Interstate Potato Packers Corporation, Boise, Idaho. Filed June 10, 1965.

LEAN "16"

For Frozen Processed Potatoes.
First use Mar. 1, 1965.

SN 221,153. Calico Cottage Candies Inc., Hewlett, N.Y. Filed June 15, 1965.

CALICO COTTAGE

For Candy.
First use Oct. 8, 1964.

SN 221,597. Gimbal Brothers, South San Francisco, Calif. Filed June 21, 1965.

LOWCOOM

For Jelly-Type Candy.
First use 1963.

SN 222,576. G. P. Gundlach & Company, Cincinnati, Ohio. Filed July 2, 1965.

Churn-fresh

For Buttermilk.
First use Apr. 1, 1932.

SN 222,706. N. K. Hurst Company, Inc., Indianapolis, Ind. Filed July 6, 1965.

HamBeens BRAND

Applicant disclaims the word "Beens" apart from the mark as shown, but reserves any and all common law rights thereto.
For Beans With Ham Flavor.
First use June 14, 1965.

SN 222,798. Alamo Products Company, Alamo, Tex. Filed July 7, 1965.

RED BIRD



Owner of Reg. No. 203,803.
For Canned Vegetables and Canned Vegetable Juices.
First use 1942.

SN 223,338. Patersons Scottish Shortbread Ltd., Edinburgh, Scotland. Filed July 14, 1965.

BUTTAMUNCHY

For Shortbread.
First use Mar. 1, 1964; in commerce Oct. 1, 1964.

SN 224,852. Drew Chemical Corporation, d.b.a. Drew Foods, New York, N.Y. Filed Aug. 3, 1965.

DREWPUFF

Owner of Reg. No. 644,833.
For Vegetable Oil Puff Paste for Use in Puff Pastry.
First use on or about Apr. 22, 1955.

SN 224,879. Luther Plattor, d.b.a. Plattor's, Roswell, N. Mex. Filed Aug. 3, 1965.

TEKITAS

For Pre-Prepared Tortillas; Beef, Beans, Cheese, Flour, Green Chili and Other Ingredients Wrapped in a Mexican-Style Pancake.
First use Dec. 1, 1964.

SN 226,152. McCarthy & Associates, Inc., New York, N.Y. Filed Aug. 20, 1965.

SURJ

For Additive Conditioner Containing Mono and Di Glycerides of Vegetable Fat Forming Fatty Acids Processed in Vegetable Fats and Oils, and Milk Proteins, Corn Syrup Solids, Cane Sugar, Lecithin, and Salt for Bread Dough in Order To Improve and Keep Bread Fresh.
First use July 6, 1965.

SN 226,381. Carolus Brown Barroilhet, Los Andes, Chile. Filed Aug. 25, 1965.

ANDES

For Fresh Fruits and Fresh Vegetables.
First use January 1965; in commerce January 1965.

SN 226,428. The Dietene Company, Minneapolis, Minn. Filed Aug. 25, 1965.

DELMARK

Owner of Reg. No. 753,774.
For Grocery Products—Namely, Egg Nog Mix, Real Egg Custard, Custard Sauce, Lemon Sauce, Quick Egg Custard and a Prepared Mix To Be Used With Meat in the Preparation of Meat Loaf.
First use Feb. 21, 1962.

SN 226,710. Archibald & Kendall Inc., New York, N.Y. Filed Aug. 30, 1965.

AULA EXTENDO

Owner of Reg. No. 568,174.
For Processed Cereal Flour as a Binder, Filler, or Extender in Meat Products.
First use June 30, 1955.

SN 228,127. Brockles Foods Company, Dallas, Tex. Filed Sept. 20, 1965.

BROCKLES

For Special All-Purpose Dressing To Be Used on Sandwiches and Salads, Roquefort Dressing and Thousand Island Dressing.
First use Aug. 1, 1932.

SN 228,399. The Quaker Oats Company, Chicago, Ill. Filed Sept. 22, 1965.

ELEPHANTS

For Snack Crackers.
First use Sept. 14, 1965.

SN 229,272. National Biscuit Company, New York, N.Y. Filed Oct. 4, 1965.

HAPPY FACE

For Cookies.
First use Sept. 17, 1965.
Subj. to Intf. with SN 230,689.

SN 229,437. Thomas J. Lipton, Inc., Englewood Cliffs, N.J. Filed Oct. 6, 1965.

TURKEY PRIMAVERA

The word "Turkey" is disclaimed. The Italian word "Primavera" translated into English means "spring."
For Dehydrated Prepared Dinner Product, the Principal Components of Which Are Turkey, Noodles, Sauce, and Lesser Ingredients.
First use Sept. 3, 1965.

SN 230,687. The Pillsbury Company, Minneapolis, Minn. Filed Oct. 20, 1965.

BIG COUNTRY

For Pancake Mix.
First use Sept. 14, 1965.
Subj. to Intf. with SN 239,763.

SN 230,689. The Pillsbury Company, Minneapolis, Minn. Filed Oct. 20, 1965.

FUNNY FACE

For Gelatin Dessert Mixes and Refrigerated Dough for Making Cookies.
First use Apr. 22, 1965.
Subj. to Intf. with SN 229,272.

SN 232,286. Calavo Growers of California, Los Angeles, Calif. Filed Nov. 8, 1965.



Owner of Reg. Nos. 214,759, 655,598, and others.
For Fresh, Dried, and Frozen Fruits, and Candied Fruits.
First use Sept. 1, 1960.

SN 232,287. Calavo Growers of California, Los Angeles, Calif. Filed Nov. 8, 1965.



Owner of Reg. Nos. 214,759, 655,598, and others.
For Fresh, Dried, and Frozen Fruits, and Candied Fruits.
First use May 11, 1965.

SN 232,288. Calavo Growers of California, Los Angeles, Calif. Filed Nov. 8, 1965.

Calavo

Owner of Reg. Nos. 214,759, 655,598, and others.
For Fresh, Dried, and Frozen Fruits, and Candied Fruits.
First use Sept. 1, 1960.

SN 232,546. Goldenberg Candy Co., Philadelphia, Pa. Filed Nov. 12, 1965.

POPOLIK

For Candy Bars.
First use Sept. 29, 1965.

SN 239,763. General Mills, Inc., Minneapolis, Minn. Filed Feb. 28, 1966.

BIG COUNTRY

Owner of Reg. No. 803,501.
For Pancake Mix.
First use at least as early as Nov. 15, 1963.
Subj. to Intf. with SN 230,687.

Class 47 — Wines

SN 224,125. Societe Civile Agricole des Domaines Ott Freres, d.b.a. Ott Freres, Antibes, Alpes Maritimes, France. Filed July 23, 1965.

DOMAINES OTT

Owner of U.S. Reg. No. 672,994.
For Wines.
First use January 1930; in commerce October 1937.

SN 228,295. L. N. Renault & Sons, Inc., Egg Harbor City, N.J. Filed Sept. 20, 1965.

GOLD LADY

For Wine.
First use Sept. 14, 1965.

Class 49 — Distilled Alcoholic Liquors

SN 223,212. Bohemian Distributing Company, d.b.a. International Distilleries Co., Los Angeles, Calif. Filed July 13, 1965.

RON MORRO

The word "Ron" is disclaimed apart from the mark as shown. Owner of Reg. No. 315,855.
For Rum.
First use May 8, 1963.

Class 50 — Merchandise Not Otherwise Classified

SN 218,045. Advance Process Supply Co., Chicago, Ill. Filed May 5, 1965.

ADVANCE

Owner of Reg. No. 588,562.
For Printing Frames, Printing Screens, and Accessories for Screen Process Print.
First use Sept. 1, 1949.

SN 219,324. Clinch-Tite Corporation, Berwyn, Pa. Filed May 20, 1965.

CONVERT-A-PALLET

For Side Enclosures for Use With Pallets.
First use at least as early as Aug. 1, 1961.

SN 219,766. Crystal Craft Center, Inc., Chicago, Ill. Filed May 26, 1965.

MarblCast

For Polymerizable Polyester Resin, Catalyst Therefor and Mineral Filler and Pigment Ingredients for Use Therewith as an Adhesive and To Form Table Tops, Flooring, Wall Plaques, Statuary, Jewelry, Paperweights, Pen Stands and Being Sold as a Hobby Craft Kit With Mixing Implements and Directions for Use as Heretofore Described.
First use on or about Oct. 23, 1963.

SN 219,767. Crystal Craft Center, Inc., Chicago, Ill. Filed May 26, 1965.

MarblCast

For Polymerizable Polyester Resin, Catalyst Therefor and Mineral Filler and Pigment Ingredients for Use Therewith as an Adhesive and To Form Table Tops, Flooring, Wall Plaques, Statuary, Jewelry, Paperweights, Pen Stands and Being Sold as a Hobby Craft Kit With Mixing Implements and Directions for Use as Heretofore Described.
First use on or about Oct. 23, 1963.

SN 224,784. Ronald A. Parkhurst, d.b.a. Timberline Models, Denver, Colo. Filed Aug. 2, 1965.

TIMBERLINE Models

The word "Models" and the representation of the harp switch stand are disclaimed apart from the mark as shown.
For Model Railroad Hobby Kits and Supplies—Namely, Model Railroad Accessories Such as Model Window and Door Castings, Model Waterspout Castings, Scenery Materials, Model Sign Kits, and Additional Related Items.
First use February 1964.

SN 227,923. Capri Creations, d.b.a. Capri Candle Company, Philadelphia, Pa. Filed Sept. 16, 1965.

CAPRI

For Party Favor Items and Non-Electric Christmas Decorations of Plastic and Paper.
First use Feb. 15, 1961.

Class 51 — Cosmetics and Toilet Preparations

SN 203,944. Deckelman Brothers of Oakland, d.b.a. Kephart's Products and Kephart's, Oakland, Calif. Filed Oct. 14, 1964.

HAIR FOOD

For the purposes of registration, no claim is made to the exclusive right to use the word "Hair," but the applicant waives none of its common law rights therein.
For Hair Dressing and Conditioner.
First use Spring of 1959.

SN 206,922. Century Creations, Incorporated, Santa Monica, Calif. Filed Nov. 25, 1964.

CENTAUR

For Cologne for External Body Application.
First use Aug. 13, 1964.

SN 209,871. Dr. John Claude McCoy, Sr., d.b.a. Dr. Claude McCoy's Mink Oil Products Co., Hendersonville, N.C. Filed Jan. 13, 1965.

Mr. MINK

The word "Mink" is disclaimed apart from the mark as shown.
For After Shave Skin Conditioner Cream.
First use Feb. 1, 1960.

SN 218,243. Texas Pharmacal Company, San Antonio, Tex. Filed May 5, 1965.

Allercreme for men

Applicant disclaims the wording "For Men" apart from the mark as shown, without waiver of any common law rights thereto. Owner of Reg. Nos. 788,590 and 793,044.
For Men's Toilet Preparations Not Including Shampoos and Soaps.
First use Apr. 3, 1963.

SN 220,471. Helene Curtis Industries, Inc., Chicago, Ill. Filed June 7, 1965.

PERMA-GEL

For Cosmetic Preparations—Namely, a Hair Setting Preparation.
First use on or about May 5, 1965.

SN 224,577. Fragrances by Roman, Inc., Franklin Park, Ill., assignee of Anthony M. Andry, d.b.a. Roman, Franklin Park, Ill. Filed July 30, 1965.

state flower

For Perfumes.
First use June 21, 1965.

SN 228,181. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Sept. 20, 1965.

CHOUCHOU

The French word "Chouchou" means "pet" or "little darling".
For Perfume and Toilet Water.
First use Oct. 12, 1964.

SN 237,664. Colgate-Palmolive Company, New York, N.Y. Filed Feb. 1, 1966.

003½

For Dentifrice.
First use Dec. 6, 1965.

SN 237,693. The Gillette Company, d.b.a. Bobbi Cosmetics, Chicago, Ill. Filed Feb. 1, 1966.

BOBBI

For Hair Wave Kit Containing Waving Lotion, End Tissues, Curlers, and Hair Pins.
First use July 1950 on hair wave kits.

SN 238,688. Wembley, Inc., New Orleans, La. Filed Feb. 11, 1966.

hill crest

For Toiletries—Namely, Hair Lotion, Before (Electric) Shave Lotion, Roll Deodorant, Cologne, and After Shave Lotion.
First use Dec. 23, 1965.

SN 243,514. Drug Guild Co-Operative, Inc., Brooklyn, N.Y. Filed Apr. 15, 1966.

SALONT

Owner of Reg. No. 712,271.
For Suntan Lotion, Hair Spray, Skin Cream, Bath Oil, Hand Cream, Antiperspirant, Perfume, and Cream Developer Peroxide.
First use at least as early as 1964 on skin cream.

SN 243,823. Redken Laboratories, Inc., Van Nuys, Calif. Filed Apr. 20, 1966.

P.P.T. "S-77"

For Hair Conditioner.
First use Sept. 2, 1960.

Class 52 — Detergents and Soaps

SN 197,577. Pinehurst Handmade Soap & Candle Company, Pinehurst, N.C., by change of name from Handmade Soap and Candle Company, Southern Pines, N.C. Filed July 10, 1964.



For Hand and Bath Soap.
First use June 29, 1964.

SN 207,361. B. T. Babbitt, Inc., New York, N.Y. Filed Dec. 3, 1964.

KWIK-DRAIN

For Cleaner and Opener, in Granular Form, for Pipes and Drains.
First use 1956.

SN 208,773. South Bend Beauty Supply Co., Inc., South Bend, Ind. Filed Dec. 23, 1964.

SUDDENLY CLEAN

The word "Clean" is disclaimed apart from the mark as shown.
For Hair Shampoo.
First use July 1964.

SN 210,629. Van Wyck Products Company, Inc., Pasadena, Calif. Filed Jan. 25, 1965.

WOOL TONE

Applicant disclaims any exclusive rights to the word "Wool" apart from the mark as shown.
For Cold Water Soap.
First use Nov. 25, 1964.

SN 221,675. Witco Chemical Company, Inc., New York, N.Y. Filed June 21, 1965.

SIESTA

For Household Detergents.
First use June 9, 1965.

SN 223,491. Amway Corporation, Ada, Mich. Filed July 16, 1965.

AMVAN

For Toilet Preparations—Namely, Bubble Bath.
First use on or about June 4, 1965.

SN 233,480. Emba-Kleen Corp., Somerville, Mass. Filed Nov. 29, 1965.

Kitchen Queen

For Household Liquid Detergent.
First use Jan. 15, 1965.

SN 237,900. West Chemical Products, Inc., Long Island City, N.Y. Filed Jan. 28, 1966.

WEST PLUS

Owner of Reg. No. 590,485.
For Liquid Hand Cleaner.
First use Dec. 22, 1965.

SERVICE MARKS

Class 100 — Miscellaneous

SN 209,707. Magnetic Tape Duplicators, Hollywood, Calif. Filed Jan. 11, 1965.

BIASONIC

For Magnetic Tape Duplication Service.
First use Nov. 9, 1964.

SN 215,277. Raymond F. Schweitzer, Inc., Washington, D.C. Filed Mar. 29, 1965.

ROB ROY

For Cafe and Restaurant Services.
First use Mar. 15, 1964.

SN 224,746. Holiday Homes, Inc., Princeton, Ind. Filed Aug. 2, 1965.



Applicant disclaims the word "Home" apart from the mark as shown.
For Nursing Home Services.
First use Nov. 20, 1963.

SN 226,054. HMH Publishing Co. Inc., Chicago, Ill. Filed Aug. 19, 1965.

PLAYMATE BAR

Applicant disclaims any rights in the word "Bar." Owner of Reg. Nos. 661,391, 777,867, and others.
For Operation of Establishments Which Feature Food, Drink, and Entertainment.
First use on or about Feb. 29, 1960.

SN 226,417. Ciangio Mehlich C & C, Inc., New York, N.Y. Filed Aug. 25, 1965.



For Designing and Printing Business Reports, for Advertisements for Others.
First use July 15, 1965.

SN 230,412. Manual F. Montes, d.b.a. Casa de Montes, Fort Smith, Ark. Filed Oct. 18, 1965.



The wording, "Symbol of Quality" and "Casa de Montes" are disclaimed apart from the mark as shown, but without prejudice in accordance with Section 6(b) of the Act (15 U.S.C. 1056). "Casa de Montes" in English translation is "house of Montes."
For Restaurant Services.
First use in or about December 1961.

Class 101 — Advertising and Business

SN 204,933. Synoptic International S.A.M., Monaco. Filed Oct. 27, 1964.

SYNOPTIC

For Designing Filing Systems for Others.
First use Dec. 7, 1956; in commerce Jan. 14, 1959.

SN 223,116. The General Tire & Rubber Company, Akron, Ohio. Filed July 12, 1965.

GENERAL TIRE

Without prejudice to any common law rights applicant may have, applicant disclaims the word "Tire" apart from the mark as shown. Owner of Reg. Nos. 372,525, 671,705, and others.
For Retailing Services, Particularly in the Field of Automotive Accessories and Hard Goods.
First use April 1962.

SN 223,917. Storecast Systems, Inc., New York, N.Y. Filed July 21, 1965.

STORECAST

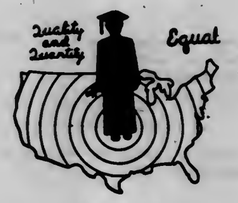
Owner of Reg. Nos. 426,987 and 556,426.
For Advertising the Goods of Others in Retail Stores Through the Combination of Merchandising Counsel, and Broadcast of Music and Commercial Announcements.
First use May 18, 1946.

SN 224,929. Central States Management Consultants, Inc., Appleton, Wis. Filed Aug. 4, 1965.

UnivEl

For Development and Application of Computerized Management Control Systems for Others.
First use Nov. 1, 1963.

SN 226,793. Glen D. Shaffer, d.b.a. Shaffer Enterprises, Kansas City, Mo. Filed Aug. 30, 1965.



For Providing Clients With the Names and Addresses of High School Students, Specializing Particularly in the High School Seniors.
First use Jan. 1, 1961.

SN 228,477. Medical Economics Consultants, Inc., Dayton, Ohio. Filed Sept. 23, 1965.



The drawing is lined for the color red, but color is not claimed as a feature of the mark.
For Professional Management Services for Physicians and Dentists.
First use Nov. 30, 1962.

SN 231,223. 'Quick' Silver, Inc., Minneapolis, Minn. Filed Oct. 22, 1965.

'QUICK' SILVER

For Promoting Sales of Goods and Merchandise by Stores, Shops, Stations, and the Like, Through the Medium of Bonus Certificates Which are Redeemable in Cash.
First use Sept. 28, 1965.

SN 232,860. Statistical Tabulating Corporation, Chicago, Ill. Filed Nov. 8, 1965.

PACE

For Data Processing and Computer Services for Others—Namely, Payroll Accounting and Processing Services.
First use Aug. 16, 1965.

Class 102 — Insurance and Financial

SN 201,452. Michigan Bank National Association, Detroit, Mich. Filed Sept. 8, 1964.



Applicant hereby disclaims the words "Michigan Bank" apart from the mark as shown.
For Aircraft Financing Service.
First use July 13, 1964.

SN 223,288. Combined Insurance Company of America, Chicago, Ill. Filed July 14, 1965.

IMAGE

For Underwriting of Sickness and Accident Insurance.
First use Nov. 7, 1962.

SN 223,637. Central Mutual Insurance Corporation, Van Wert, Ohio. Filed July 19, 1965.

CENTRALIZE

For Underwriting of Auto, Home, and Business Insurance Services.
First use Apr. 1, 1965.

SN 224,303. Farm Bureau Mutual Fund, Inc., Chicago, Ill. Filed July 27, 1965.

FARM BUREAU MUTUAL FUND, INC.

For Investment Services, Specializing in a Mutual Fund Operation.
First use Feb. 26, 1965.

SN 224,698. American Agency Life Insurance Company, Atlanta, Ga. Filed Aug. 2, 1965.



For Underwriting of Life Insurance.
First use Oct. 20, 1964.

SN 226,045. Fidelity National Bank of Baton Rouge, Baton Rouge, La. Filed Aug. 19, 1965.



For General Banking Services.
First use June 17, 1965.

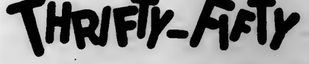
SN 226,422. The County Trust Co., White Plains, N.Y. Filed Aug. 25, 1965.

GUARD-A-LOAN

For Installment Loan Service.
First use July 12, 1965.

Class 103 — Construction and Repair

SN 222,064. Quest, Inc., Detroit, Mich. Filed June 25, 1965.



For Offering Advice and Consultation in the Establishment of Car Wash Businesses.
First use Apr. 23, 1965.

SN 222,672. Cook's Pest Control, Inc., Decatur, Ala. Filed July 6, 1965.



Applicant disclaims the words "Cook's" and "Pest Control" apart from the mark as shown.
For Termite, Insect, and Pest Exterminating and Control Service.
First use Jan. 25, 1962.

SN 222,954. Mobile Auto Cleaners, Inc., Timonium, Md. Filed July 8, 1965.

CAP-COTE

For Vehicle Refurbishing Services—Namely, Renewing the Interiors and Trunks of Automobiles, Trucks, Buses, and Similar Vehicles, by Cleaning, Dyeing, Spray Coating, Repairing, and the Like.
First use Apr. 23, 1965.

SN 224,357. Westway Petroleum Co., Portland, Oreg. Filed July 27, 1965.

IT'S ALWAYS SMOOTH SAILING WITH HARBOR

Owner of Reg. No. 789,553.
For Maintenance, Repair, Cleaning, and Lubrication of Automotive Vehicles and Parts Thereof.
First use December 1964.

SN 225,751. Frederic Co., Inc., St. Louis, Mo. Filed Aug. 16, 1965.

"FOR A HOLE IN YOUR ROOF OR A WHOLE NEW ROOF"

Owner of Reg. No. 692,970.
For Installation and Repairing of Roofing.
First use Dec. 15, 1935.

SN 226,721. John K. Buster, Mount Rainier, Md. Filed Aug. 30, 1965.

LEONARDO ARCHITECTURAL SCULPTURE STUDIOS

Applicant disclaims the words "Architectural Sculpture Studios" apart from the mark as shown.
For Ornamental Plaster Molding and Casting, Redecorating, and Stone Carving Service.
First use Sept. 15, 1964.

SN 228,576. Texas Sanitation Co., Inc., Victoria, Tex. Filed Sept. 24, 1965.

BUGMOBILES

For Sanitation and Pest Control Services.
First use Nov. 1, 1954.

SN 233,654. Texaco Inc., New York, N.Y. Filed Nov. 30, 1965.



Owner of Reg. Nos. 775,231, 794,947, and others.
For Gas Station Services.
First use Feb. 5, 1963.

Class 105 — Transportation and Storage

SN 223,213. Boss-Linco Lines, Inc., Buffalo, N.Y. Filed July 13, 1965.

BOSS-LINCO

For Common Carrier Trucking Services.
First use 1938.

SN 233,292. The Baltimore and Ohio Railroad Company, Baltimore, Md. Filed Oct. 27, 1965.

TRAILER JET

No claim of exclusive right to the use of the word "Trailer," apart from the mark as shown, is made.
For Piggyback Freight Services.
First use Feb. 6, 1965.

Class 106 — Material Treatment

SN 224,408. H. E. Fletcher Co., West Chelmsford, Mass. Filed July 28, 1965.

RoKeX Process

The word "Process" is disclaimed apart from the mark as shown.

For Engineering Services Relating to Flame Cutting Mineral Bodies—Namely, Advice, Consultation, and Planning Operations Which Are Required for Flame Cutting of Mineral Bodies.

First use Dec. 31, 1964.

Class 107 — Education and Entertainment

SN 218,279. Hugh T. Cardenas and Patricia L. Cardenas (partnership), Wayzata, Minn. Filed May 7, 1965.

COMPONENTS IN CULTURE

For Instructional Services for Dance, Instrumental, Craft, Art, Athletic, and Language Instruction, and Preparation of Books and Material for Radio, Television, Motion Pictures, etc.

First use Apr. 26, 1965.

SN 219,729. RKO General, Inc., New York, N.Y. Filed May 25, 1965.

IN SEARCH OF A SOLUTION

For Series of Public Service Television and Radio Programs.

First use Aug. 19, 1963.

SN 223,194. World Wildlife Fund, Incorporated, Washington, D.C. Filed July 12, 1965.

WWF

For Disseminating Educational Information in Respect to Wildlife, and Rendering Services for the Preservation of Threatened and Endangered Species of Fauna and Flora.

First use June 1962.

SN 224,345. Show Biz, Inc., Nashville, Tenn. Filed July 27, 1965.

NASHVILLE SATURDAY NIGHT

Without relinquishing any common law rights, applicant disclaims exclusive right to "Nashville" apart from the mark as shown.

For Title of a Television Program—Namely, a Variety Show.

First use May 22, 1965.

SN 230,553. Henry Nash, d.b.a. The Upsetters, Washington, D.C. Filed Oct. 19, 1965.

THE UPSETTERS

For Entertainment Services Rendered Through the Medium of a Rock and Roll Band.

First use Dec. 31, 1957.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 224,832. Ambulance Association of America, Palm Springs, Calif. Filed Aug. 3, 1965.

AMBULANCE ASSOCIATION OF AMERICA

The drawing is lined for red.

For Indicating Membership in the Association.

First use about Apr. 23, 1962.

SN 228,400. Quiet Birdmen, Incorporated, Brooklyn, N.Y. Filed Sept. 21, 1965.

QB

The drawing is lined for the colors blue and silver.

For Indicating Membership in a Fraternal Organization of Airplane Pilots.

First use June 1921.

SN 233,492. Grand Order of Tape Dragons, North Canton, Ohio. Filed Nov. 29, 1965.

Grand Order of Tape Dragons

For Indicating Membership.

First use Mar. 6, 1963.

SN 236,447. American Senior Citizens Association, Inc., Los Angeles, Calif. Filed Jan. 14, 1966.

asca INC.

The drawing is lined for red.

For Indicating Membership in Applicant.

First use on or about Sept. 28, 1965.

SN 236,448. American Senior Citizens Association, Inc., Los Angeles, Calif. Filed Jan. 14, 1966.

ASSOCIATE MEMBER asca INC. AMERICAN SENIOR CITIZENS ASSOCIATION INC.

The drawing is lined for red.

For Indicating Associate Membership in Applicant.

First use on or about Aug. 2, 1965.

SN 237,178. UMC Motor Club, Salt Lake City, Utah. Filed Jan. 24, 1966.

MOTOR UMC CLUB

No claim is made to the words "Motor Club" apart from the mark as shown.

For Indicating Membership in the Applicant Organization.

First use on or about Jan. 1, 1951.

CERTIFICATION MARKS

Class A — Goods

SN 217,895. Institute of American Poultry Industries, Chicago, Ill. Filed May 3, 1965.

APPROVED QUALITY

The mark certifies that the goods were produced in the United States of America, that they have been inspected and found by the Poultry Inspection Service of the United States Department of Agriculture to meet standards of quality prescribed by the applicant, that they have been packaged in accordance with preshipment procedures prescribed by the applicant, and that they were produced or exported by persons meeting requirements prescribed by the applicant designed to further the promotion, sale and consumption of the goods in foreign countries.

For Poultry, Eggs, and Poultry and Egg Products To Be Exported From the United States.

First use Mar. 19, 1965.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

811,915. CHARM-CRETE. Old Orchard Gardens, Inc. MULTIPLE CLASS (Classes 1 and 12). SN 203,196. Pub. 5–17–66. Filed 10–2–64.

811,916. VERIFILM. American Cyanamid Company. SN 215,318. Pub. 5–17–66. Filed 3–30–65.

811,917. STARK GOLD. Stark Bro's Nurseries & Orchards Co. SN 216,979. Pub. 5–17–66. Filed 4–20–65.

811,918. STARK SPLENDOR. Stark Bro's Nurseries & Orchards Co. SN 216,980. Pub. 5–17–66. Filed 4–20–65.

Class 2—Receptacles

811,919. GLACIER WARE AND DESIGN. Aldco, Inc. SN 182,757. Pub. 5–17–66. Filed 12–11–63.

811,920. SIFONATOR. Oliver/Miller Plastics Corp. SN 191,946. Pub. 5–17–66. Filed 4–24–64.

811,921. AMF AND DESIGN. American Machine & Foundry Company. MULTIPLE CLASS (Classes 2, 8, 16, 19, 21, 22, 23, 26, 31, and 107). SN 194,941. Pub. 5–17–66. Filed 6–5–64.

811,922. OPERATOR PACK. The Billboard Publishing Company. SN 197,472. Pub. 5–17–66. Filed 7–9–64.

811,923. RIPPER DIPPER. Waldorf Paper Products Company. SN 200,688. Pub. 5–17–66. Filed 8–24–64.

811,924. TRAVELER'S VALET AND DESIGN. Anthony Metal Products Company, Inc. SN 213,079. Pub. 5–17–66. Filed 3–3–65.

811,925. AQUA-LOOP. Mt. Parnell Fisheries Inc. SN 217,918. Pub. 5–17–66. Filed 5–3–65.

811,926. RENAISSANCE AND DESIGN. Atlantic Can Company, d.b.a. Trelawney. SN 219,176. Pub. 5–17–66. Filed 5–19–65.

Class 4—Abrasives and Polishing Materials

811,927. VACUMOLD. Wakefield Corporation. SN 209,826. Pub. 5–17–66. Filed 1–12–65.

811,928. V AND DESIGN. James Varley & Sons, Inc. MULTIPLE CLASS (Classes 4, 6, and 52). SN 211,789. Pub. 5–17–66. Filed 2–11–65.

811,929. INSTA-MAID. Bronson Products Co., Inc. SN 227,394. Pub. 5–17–66. Filed 9–8–65.

811,930. SENTRY. Wilmot Castle Company. SN 227,534. Pub. 5–17–66. Filed 9–9–65.

Class 5—Adhesives

811,931. MACK AND DESIGN. Mack Trucks, Inc. MULTIPLE CLASS (Classes 5, 6, 16, 19, 21, 23, 31, 35, and 52). SN 199,374. Pub. 5–17–66. Filed 8–6–64.

811,932. MACK. Mack Trucks, Inc. MULTIPLE CLASS (Classes 5, 6, 16, 19, 21, 23, 31, 35, and 52). SN 199,376. Pub. 5–17–66. Filed 8–6–64.

811,933. MINIT GRIP. Schramm Fiberglass Products, Inc., assignee of Cory Corporation. SN 205,668. Pub. 5–17–66. Filed 11–6–64.

811,934. HYPO-X. Schramm Fiberglass Products, Inc., assignee of Cory Corporation. SN 205,671. Pub. 5–17–66. Filed 11–6–64.

811,935. GO-FAS. Benjamin Foster Company. SN 215,400. Pub. 5–17–66. Filed 8–31–65.

Class 6—Chemicals and Chemical Compositions

811,928. (See Class 4 for this trademark.)

811,931. (See Class 5 for this trademark.)

811,932. (See Class 5 for this trademark.)

811,936. NUGGET. Wyandotte Chemicals Corporation. SN 214,738. Pub. 5–17–66. Filed 3–22–65.

811,937. DYANAP. United States Rubber Company. SN 215,908. Pub. 5–17–66. Filed 4–6–65.

811,938. DI-PREP. Oakite Products, Inc. SN 216,185. Pub. 5–17–66. Filed 4–9–65.

811,939. WITCO. Witco Chemical Company, Inc. SN 217,159. Pub. 5–17–66. Filed 4–22–65.

811,940. CITGO. Cities Service Oil Company. MULTIPLE CLASS (Classes 6, 15, and 103). SN 223,933. Pub. 5–17–66. Filed 7–22–65.

811,941. TRIMARK (DESIGN). Cities Service Oil Company. MULTIPLE CLASS (Classes 6, 15, and 103). SN 223,934. Pub. 5–17–66. Filed 7–22–65.

811,942. MISCELLANEOUS DESIGN. Darworth Incorporated. MULTIPLE CLASS (Classes 6, 12, 16, and 52). SN 227,210. Pub. 5–17–66. Filed 9–7–65.

811,943. MYVARINE. Eastman Kodak Company. SN 229,000. Pub. 5–17–66. Filed 9–30–65.

811,944. 688. Universal Oil Products Company. SN 229,614. Pub. 5–17–66. Filed 10–7–65.

811,945. DE-PESTER. Thompson-Hayward Chemical Company. SN 230,306. Pub. 5–17–66. Filed 10–15–65.

811,946. FINESSE. Puritan Chemical Company. SN 230,430. Pub. 5–17–66. Filed 10–18–65.

Class 8—Smokers' Articles, Not Including Tobacco Products

811,921. (See Class 2 for this trademark.)

811,947. MYLFLAM AND DESIGN. Mylflam Metallwaren Dr. Maltner Kommanditgesellschaft. SN 201,957. Pub. 5–17–66. Filed 9–15–64.

811,948. VINCI. Flaminaire Marcel Quercia. SN 224,941. Pub. 5–17–66. Filed 8–4–65.

Class 10—Fertilizers

811,949. MARKET TOPPER. Kerr-McGee Oil Industries, Inc. SN 229,259. Pub. 5–17–66. Filed 10–4–65.

Class 12—Construction Materials

811,915. (See Class 1 for this trademark.)

811,942. (See Class 6 for this trademark.)

811,950. SPEED SHORE. The Brunton Corporation, by change of name from Speed Shore Corporation. SN 183,002. Pub. 5–17–66. Filed 11–27–63.

811,951. BLACK-SEAL. Colonial Refining and Chemical Company. SN 187,725. Pub. 5–17–66. Filed 3–2–64.

811,952. HARD TOP. Union Tank Car Company. SN 199,140. Pub. 5–17–66. Filed 8–3–64.

811,953. COMPOTITE. Compotite Shower Pan. SN 200,384. Pub. 5–17–66. Filed 8–21–64.

811,954. M-BASE. K. E. McConnaughay. SN 201,295. Pub. 5–17–66. Filed 9–4–64.

811,955. FERRO. Ferro Corporation. MULTIPLE CLASS (Classes 12 and 23). SN 210,290. Pub. 5–17–66. Filed 1–21–65.

811,956. TILTEZE. Wahlfeld Mfg. Co. SN 215,299. Pub. 5–17–66. Filed 3–29–65.

811,957. VERTICOAT. Macnaughton-Brooks, Inc. SN 215,877. Pub. 5–17–66. Filed 4–6–65.

811,958. ARMILON. Macnaughton-Brooks, Inc. SN 215,878. Pub. 5–17–66. Filed 4–6–65.

811,959. BEAR BRAND AND DESIGN. American Cement Corporation. SN 218,365. Pub. 5–17–66. Filed 5–10–65.

811,960. BALCO. B & L Lighting Company. SN 219,514. Pub. 2–1–66. Filed 5–24–65.

811,961. VIDENE. The Goodyear Tire & Rubber Company. SN 221,494. Pub. 5–17–66. Filed 6–18–65.

811,962. MAINSTAY. United States Steel Corporation (Delaware corporation), by merger and change of name from United States Steel Corporation (New Jersey corporation). SN 225,381. Pub. 3–29–66. Filed 8–9–65.

811,963. PF-L. United States Plywood Corporation. SN 228,580. Pub. 5–17–66. Filed 9–24–65.

811,964. PELLA. Rolscreen Company. SN 230,293. Pub. 5–17–66. Filed 10–15–65.

811,965. ANCHOR-TITE AND DESIGN. Grahn Manufacturing Company. SN 232,072. Pub. 5–17–66. Filed 11–3–65.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

811,966. BUILD-X. Illinois Tool Works Inc. SN 208,580. Pub. 6–22–65. Filed 12–21–64.

811,967. BUILDEX. Illinois Tool Works Inc. SN 208,581. Pub. 6–22–65. Filed 12–21–64.

811,968. POCLAIN. Poclain. MULTIPLE CLASS (Classes 13 and 23). SN 210,347. Pub. 5–17–66. Filed 1–21–65.

811,969. CORONET AND DESIGN. Club Aluminum Products Company. SN 211,707. Pub. 5–17–66. Filed 2–10–65.

811,970. PANORAMA. Spun Metals Limited. SN 214,474. Pub. 5–17–66. Filed 3–18–65.

811,971. FIRST AID ON TAP. Haws Drinking Faucet Company. SN 214,646. Pub. 5–17–66. Filed 3–22–65.

811,972. EVERGLO AND DESIGN. The Enterprise Aluminum Company. SN 217,178. Pub. 5–17–66. Filed 4–23–65.

811,973. CABLEMASTER. Clifford B. Hannay & Son, Inc. SN 218,112. Pub. 5–17–66. Filed 5–5–65.

811,974. SLIDE-A-SHELF. Ajax Hardware Corporation. SN 218,941. Pub. 5–17–66. Filed 5–17–65.

811,975. ORDER OF THE BATH. Rheem Manufacturing Company. SN 219,462. Pub. 5–17–66. Filed 5–21–65.

811,976. RAPIDRAIN. Celanese Corporation of America. SN 219,672. Pub. 5–17–66. Filed 5–25–65.

811,977. C. Crest Products, Inc. SN 220,470. Pub. 5–17–66. Filed 6–7–65.

811,978. SWAGELOK AND DESIGN. Crawford Fitting Company. SN 223,292. Pub. 5–17–66. Filed 7–14–65.

811,979. GRA-TEC. Gra-Tec, Inc. SN 225,150. Pub. 5–17–66. Filed 8–6–65.

811,980. BULB-TITE. Olympic Screw & Rivet Corporation. SN 227,324. Pub. 5–17–66. Filed 9–7–65.

811,981. KITTY. Roberts Engineering & Manufacturing Co., Inc. SN 227,522. Pub. 5–17–66. Filed 9–9–65.

811,982. McCANNA "500." Hills-McCanna Company. SN 227,584. Pub. 5–17–66. Filed 9–10–65.

811,983. TEKLON. Teklon Corporation. SN 227,978. Pub. 5–17–66. Filed 9–16–65.

811,984. SHOWERITE. Theodore Efron Mfg. Co. SN 228,024. Pub. 5–17–66. Filed 9–17–65.

811,985. MYTIE MITE. Ideal Fastener Corporation. SN 229,978. Pub. 5–17–66. Filed 10–12–65.

811,986. TOROWARE. Leyse Aluminum Company. SN 230,056. Pub. 5–17–66. Filed 10–13–65.

811,987. SPRACO. Spray Engineering Company. SN 230,578. Pub. 5–17–66. Filed 10–19–65.

Class 14—Metals and Metal Castings and Forgings

811,988. ORGOTHERM-WELD ETC. AND DESIGN. Th. Goldschmidt A.-G. MULTIPLE CLASS (Classes 14 and 34). SN 187,163. Pub. 5–17–66. Filed 2–20–64.

811,989. CRISIL. Johnson Steel and Wire Company, Inc. SN 221,831. Pub. 1–18–66. Filed 6–23–65.

811,990. HI-H. P. R. Mallory & Co. Inc. MULTIPLE CLASS (Classes 14 and 21). SN 224,359. Pub. 5–17–66. Filed 7–28–65.

811,991. 2 TRIANGLES (DESIGN). Valley Metallurgical Processing Company Incorporated. SN 226,691. Pub. 5–17–66. Filed 8–27–65.

811,992. CON-PAC. United States Steel Corporation (Delaware corporation), by merger and change of name from United States Steel Corporation (New Jersey corporation). SN 229,611. Pub. 5–17–66. Filed 10–7–65.

Class 15—Oils and Greases

811,940. (See Class 6 for this trademark.)

811,941. (See Class 6 for this trademark.)

811,993. BARCO. W. H. Barber Oil Company. SN 164,207. Pub. 5–17–66. Filed 3–3–63.

811,994. POLY-EAS. Electro Compound Company. SN 214,254. Pub. 3–7–65. Filed 3–16–65.

811,995. CHARGE. Wynn Oil Company. SN 217,069. Pub. 5–17–66. Filed 4–21–65.

811,996. EXCELENE. D. A. Stuart Oil Co., Limited. SN 221,423. Pub. 5–17–66. Filed 6–17–65.

811,997. AMDEX. The American Oil Company. SN 222,539. Pub. 1–4–66. Filed 7–2–65.

811,998. SPIKETITE. Victrylite Candle Company. SN 223,604. Pub. 5–17–66. Filed 7–16–65.

811,999. AMOLIND. The American Oil Company. SN 226,977. Pub. 5–17–66. Filed 9–2–65.

812,000. SINCLAIR TURBO S15. Sinclair Refining Company. SN 227,528. Pub. 5–17–66. Filed 9–9–65.

Class 16—Protective and Decorative Coatings

811,921. (See Class 2 for this trademark.)

811,931. (See Class 5 for this trademark.)

811,932. (See Class 5 for this trademark.)

811,942. (See Class 6 for this trademark.)

812,001. PLEXTILE. Maas & Waldstein Co., assignee of Plextone Corporation of America. SN 174,232. Pub. 5–17–66. Filed 8–1–63.

812,002. DEWEY AND ALMY. W. R. Grace & Co. SN 177,030. Pub. 5–17–66. Filed 9–16–63.

812,003. ACRI-NALL. Southern Coatings & Chemical Company. SN 177,307. Pub. 11–19–63. Filed 9–18–63.

812,004. PR-97. Kurfees Paint Co. SN 194,623. Pub. 5-17-66. Filed 6-1-64.

812,005. DYNA GLAZE. Abco, Inc. SN 203,242. Pub. 5-17-66. Filed 10-5-64.

812,006. SEM-TEX. Connersville Paint & Supply Co., Inc. SN 208,727. Pub. 5-17-66. Filed 12-23-64.

812,007. CHINA-LUXE. Mary Carter Paint Co. SN 213,094. Pub. 5-17-66. Filed 3-2-65.

812,008. KELSOL. Textron Inc. SN 215,291. Pub. 5-17-66. Filed 3-29-65.

812,009. ACTIVATED CHEMPON. Pioneer Paint & Varnish Co. SN 217,053. Pub. 5-17-66. Filed 4-21-65.

812,010. POLYSTRAT. American Polystrat Corporation. SN 217,690. Pub. 5-17-66. Filed 4-30-65.

812,011. ART CHEM. George M. Warmack, d.b.a. Art-Chem Company. SN 219,645. Pub. 5-17-66. Filed 5-24-65.

812,012. PERMA-ZINC. Dennis Chemical Company. SN 225,544. Pub. 5-17-66. Filed 8-12-65.

Class 17—Tobacco Products

812,013. EL TRIUNFO. Tabacos Seleccionados, Inc. SN 197,624. Pub. 5-17-66. Filed 7-10-64.

812,014. MEDITATIONS. Tabacos Seleccionados, Inc. SN 197,625. Pub. 5-17-66. Filed 7-10-64.

812,015. PAUSERS. Tabacos Seleccionados, Inc. SN 197,626. Pub. 5-17-66. Filed 7-10-64.

812,016. PICADORES. Tabacos Seleccionados, Inc. SN 197,627. Pub. 5-17-66. Filed 7-10-64.

812,017. TE-AMO. Tabacos Seleccionados, Inc. SN 197,629. Pub. 5-17-66. Filed 7-10-64.

812,018. TOREROS. Tabacos Seleccionados, Inc. SN 197,630. Pub. 5-17-66. Filed 7-10-64.

812,019. MAN WITH HOOKAH PANEL AND DESIGN. The American Tobacco Company. SN 230,595. Pub. 5-17-66. Filed 10-20-65.

812,020. HARMONY. Liggett & Myers Tobacco Company. SN 231,644. Pub. 5-17-66. Filed 10-26-65.

Class 18—Medicines and Pharmaceutical Preparations

812,021. MYCOMIX. The Upjohn Company. SN 213,628. Pub. 5-17-66. Filed 3-8-65.

812,022. EVEX. Syntex Laboratories, Inc. SN 220,037. Pub. 11-9-65. Filed 5-28-65.

812,023. SURE-CURE. Aquariums Incorporated. SN 229,723. Pub. 5-17-66. Filed 10-11-65.

Class 19—Vehicles

811,921. (See Class 2 for this trademark.)

811,931. (See Class 5 for this trademark.)

811,932. (See Class 5 for this trademark.)

812,024. HOLIDAY TRAV'LER AND DESIGN. Holiday Rambler Corporation. SN 194,052. Pub. 5-17-66. Filed 5-22-64.

812,025. THUNDERBIRD. The Huffman Manufacturing Company. SN 213,565. Pub. 11-23-65. Filed 3-8-65.

812,026. K-D AND DESIGN. K-D Lamp Company. MULTIPLE CLASS (Classes 19 and 21). SN 214,345. Pub. 5-17-66. Filed 3-17-65.

812,027. TEAL. Molded Fiber Glass Body Company. SN 216,859. Pub. 5-17-66. Filed 4-19-65.

812,028. WHISTLER. Molded Fiber Glass Body Company. SN 216,881. Pub. 5-17-66. Filed 4-19-65.

812,029. TURBO COMMANDER. Rockwell-Standard Corporation. SN 219,358. Pub. 5-17-66. Filed 5-20-65.

812,030. CYCLERAMA AND DESIGN. Reynolds Cycle Products, Inc. SN 220,555. Pub. 5-17-66. Filed 6-7-65.

Class 20—Linoleum and Oiled Cloth

812,031. WALL-O-VIN. The Borden Company. SN 213,843. Pub. 5-17-66. Filed 3-11-65.

Class 21—Electrical Apparatus, Machines, and Supplies

811,921. (See Class 2 for this trademark.)

811,931. (See Class 5 for this trademark.)

811,932. (See Class 5 for this trademark.)

811,990. (See Class 14 for this trademark.)

812,026. (See Class 19 for this trademark.)

812,032. DECO. Deco Electronics, Incorporated. SN 162,082. Pub. 3-3-64. Filed 2-5-63.

812,033. BOSCH. Robert Bosch Gesellschaft mit beschränkter Haftung. SN 178,525. Pub. 5-17-66. Filed 10-8-63.

812,034. BUSINESS BANDER AND DESIGN. Outercom Electronics Corporation. SN 182,964. Pub. 5-17-66. Filed 12-13-63.

812,035. MITSUBISHI. Mitsubishi Electric Corporation. MULTIPLE CLASS (Classes 21, 24, 36, and 44). SN 188,994. Pub. 5-17-66. Filed 3-18-64.

812,036. PFAFF AND DESIGN. G. M. Pfaff A.G. MULTIPLE CLASS (Classes 21 and 34). SN 190,429. Pub. 5-17-66. Filed 4-6-64.

812,037. BLOCK BR (DESIGN). The Bunker-Ramo Corporation (Delaware corporation), by change of name and assignment of The Bunker-Ramo Corporation (Maryland corporation). SN 191,833. Pub. 5-17-66. Filed 4-23-64.

812,038. MAGIC BLEND. Dynamics Corporation of America. SN 194,785. Pub. 5-17-66. Filed 6-3-64.

812,039. PARALINER. The Barber-Webb Company, Inc. SN 199,005. Pub. 5-17-66. Filed 8-3-64.

812,040. THOMSON-VARIAN AND DESIGN. Societe Anonyme Thomson-Varian. SN 199,767. Pub. 5-17-66. Filed 8-12-64.

812,041. KEY-FLASH. Bantam-Lite, Inc. SN 203,466. Pub. 5-17-66. Filed 10-7-64.

812,042. ECHOCORD. Werner Pinternagel, d.b.a. Dynacord. SN 203,527. Pub. 4-6-65. Filed 10-7-64.

812,043. HALLMARK ETC. AND DESIGN. Hallmark Electronics Corporation. SN 207,598. Pub. 5-17-66. Filed 12-7-64.

812,044. PIPE GUARD AND DESIGN. The Bunker Hill Company. SN 208,810. Pub. 5-17-66. Filed 12-24-64.

812,045. LARK. Technical Appliance Corporation. SN 209,556. Pub. 5-17-66. Filed 1-7-65.

812,046. CHANNEL-SPANNER. Antennacraft Company. SN 210,252. Pub. 5-17-66. Filed 1-21-65.

812,047. STOP-ALL. Norman Industries, Incorporated. SN 212,038. Pub. 2-1-66. Filed 2-15-65.

812,048. THERMO-TEMP. Weil-McLain Company, Inc. SN 212,832. Pub. 5-17-66. Filed 2-25-65.

812,049. SELECT-A-LITE. El-Tronics, Inc. SN 212,989. Pub. 2-1-66. Filed 3-1-65.

812,050. MUNICIPALMATIC. Notifier Corporation. SN 213,598. Pub. 5-17-66. Filed 3-8-65.

812,051. UNA-FORM. The Clark Controller Company. SN 213,762. Pub. 5-17-66. Filed 3-10-65.

812,052. UNA-COIL. The Clark Controller Company. SN 213,763. Pub. 5-17-66. Filed 3-10-65.

812,053. POWRFET. Crystalonics, Inc. SN 214,845. Pub. 5-17-66. Filed 3-24-65.

812,054. GIGAFET. Crystalonics, Inc. SN 214,846. Pub. 5-17-66. Filed 3-24-65.

812,055. FOTOFET. Crystalonics, Inc. SN 214,847. Pub. 5-17-66. Filed 3-24-65.

812,056. AMTRON. Amtron, Inc. MULTIPLE CLASS (Classes 21 and 26). SN 215,043. Pub. 5-17-66. Filed 3-26-65.

812,057. DURARC. Westinghouse Electric Corporation. SN 216,226. Pub. 5-17-66. Filed 4-9-65.

812,058. COMPAC. Emerson Electric Co. SN 219,975. Pub. 3-1-66. Filed 5-28-65.

812,059. WALL-LUME. The Edwin F. Guth Company. SN 221,046. Pub. 5-17-66. Filed 6-14-65.

812,060. H (DESIGN). Hamilton Watch Company. SN 221,047. Pub. 5-17-66. Filed 6-14-65.

812,061. CODEX. Codex Corporation. SN 221,796. Pub. 5-17-66. Filed 6-23-65.

812,062. MICRO GEAR AND DESIGN. Howard Industries, Inc. SN 222,031. Pub. 5-17-66. Filed 6-25-65.

812,063. C AND DESIGN. Howard Industries, Inc. SN 222,033. Pub. 5-17-66. Filed 6-25-65.

812,064. SHORT STUFF. Short Stuff, Incorporated, d.b.a. Short Stuff of California. MULTIPLE CLASS (Classes 21, 22, and 32). SN 223,272. Pub. 5-17-66. Filed 7-14-65.

812,065. PANORAMA. Prescolite Manufacturing Corporation. SN 223,715. Pub. 5-17-66. Filed 7-19-65.

812,066. STACCATO. Prescolite Manufacturing Corporation. SN 223,716. Pub. 5-17-66. Filed 7-19-65.

812,067. UNI-TRIM. Prescolite Manufacturing Corporation. SN 223,717. Pub. 5-17-66. Filed 7-19-65.

812,068. ECONO-RACK. Amco Engineering Company. SN 223,860. Pub. 5-3-66. Filed 7-21-65.

812,069. REMO-RAD. Technical Photomation Instruments. SN 224,351. Pub. 5-17-66. Filed 7-27-65.

812,070. REMODRIVE. Technical Photomation Instruments. SN 224,353. Pub. 5-17-66. Filed 7-27-65.

812,071. MILLIGROOVE. Prescolite Manufacturing Corporation. SN 224,446. Pub. 5-17-66. Filed 7-28-65.

812,072. BIMODE. Varian Associates. SN 224,478. Pub. 5-17-66. Filed 7-28-65.

812,073. A-MP. AMP Incorporated. SN 225,525. Pub. 5-17-66. Filed 8-12-65.

Class 22—Games, Toys, and Sporting Goods

811,921. (See Class 2 for this trademark.)

812,064. (See Class 21 for this trademark.)

812,074. SKI JUMP. Norman Bartlett. SN 217,263. Pub. 5-17-66. Filed 4-26-65.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

811,921. (See Class 2 for this trademark.)

811,931. (See Class 5 for this trademark.)

811,932. (See Class 5 for this trademark.)

811,955. (See Class 12 for this trademark.)

811,968. (See Class 13 for this trademark.)

812,075. BOSCH. Robert Bosch Gesellschaft mit beschränkter Haftung. SN 178,524. Pub. 5-17-66. Filed 10-8-63.

812,076. IN EJECTO. The F. E. Myers & Bro. Co. SN 185,228. Pub. 5-17-66. Filed 1-23-64.

812,077. MISCELLANEOUS DESIGN. Automation Machines & Equipment Co., Inc. SN 199,253. Pub. 5-17-66. Filed 8-5-64.

812,078. PARTS-FORMER. Textron Inc. SN 200,307. Pub. 5-17-66. Filed 8-20-64.

812,079. FORGECRAFT AND DESIGN. Washington Forge, Incorporated. SN 202,399. Pub. 5-17-66. Filed 9-22-64.

812,080. CENTRALUBE. Centralube Limited. SN 205,924. Pub. 5-17-66. Filed 11-10-64.

812,081. ELECTROMATIC. Link-Belt Company. SN 206,163. Pub. 3-22-66. Filed 11-13-64.

812,082. CRIMP-MASTER. Gustav Schutterman, d.b.a. Progredo Trading Co. SN 212,822. Pub. 10-26-65. Filed 2-25-65.

812,083. OLYMPIA. Contour Saws, Inc. SN 214,956. Pub. 5-17-66. Filed 3-25-65.

812,084. ELECTRICARVER. Webcor, Inc. SN 215,301. Pub. 5-17-66. Filed 3-29-65.

812,085. ULTRACLEAN. Pneumatic Scale Corporation, Limited. SN 216,101. Pub. 5-17-66. Filed 4-8-65.

812,086. WORLD PIERCED BY TOOL SHANKS (DESIGN). Bernard F. Coski, d.b.a. Pacific Forge & Tool Co. SN 216,934. Pub. 5-17-66. Filed 4-20-65.

812,087. B BONDED AND DESIGN. Omark Industries, Inc. SN 217,384. Pub. 5-17-66. Filed 4-26-65.

812,088. DATA-VEYORS. Data-Veyors Corporation. SN 217,610. Pub. 5-17-66. Filed 4-29-65.

812,089. MAXAMOLD. Maxam, Incorporated. SN 217,640. Pub. 5-17-66. Filed 4-29-65.

812,090. LOGMASTER AND DESIGN. Link-Belt Company. SN 219,347. Pub. 5-17-66. Filed 5-20-65.

812,091. HOUR GLASS (DESIGN). General Time Corporation. SN 220,095. Pub. 5-17-66. Filed 6-1-65.

812,092. COTTON KING. John E. Mitchell Company, Inc. SN 220,530. Pub. 5-17-66. Filed 6-7-65.

812,093. UNIVAC. Henry Sykes Limited. SN 221,220. Pub. 5-17-66. Filed 6-15-65.

812,094. BROWNING. Browning Manufacturing Company. SN 224,083. Pub. 5-17-66. Filed 7-23-65.

812,095. TG AND DESIGN. Tuco Grinding Corp. SN 225,079. Pub. 5-17-66. Filed 8-5-65.

812,096. CRYSTALATOR. Hitachi Ltd. SN 225,153. Pub. 5-17-66. Filed 8-6-65.

812,097. TEAHOUSE ROSE. Utica Cutlery Company. SN 225,619. Pub. 5-17-66. Filed 8-12-65.

812,098. ADJUSTA-CUTTER. Paul Karlan. SN 226,246. Pub. 5-17-66. Filed 8-23-65.

812,099. TIL-KUT. Superior Implement and Supply Company. SN 226,388. Pub. 5-17-66. Filed 8-24-65.

812,100. VIBRO DRIVER. L. B. Foster Company, Inc. SN 226,838. Pub. 5-17-66. Filed 8-31-65.

812,101. SAND-ALL. Christy F. Saletta. SN 226,947. Pub. 5-17-66. Filed 9-1-65.

812,102. TS TIDY SCOOP AND DESIGN. Items, Inc. SN 227,299. Pub. 5-17-66. Filed 9-7-65.

812,103. VERTIDRIL. The Miles Standard Corporation. SN 227,601. Pub. 5-17-66. Filed 9-10-65.

812,104. HINGE-VEYOR. Morse Chain Company. SN 227,858. Pub. 5-17-66. Filed 9-15-65.

812,105. DEBONAIR. Sensation Mower, Inc. SN 227,964. Pub. 5-17-66. Filed 9-16-65.

812,106. BANDAG. Bandag Incorporated. SN 228,115. Pub. 5-17-66. Filed 9-20-65.

812,107. BLAIR HOUSE. Imperial Knife Associated Companies, Inc. SN 229,009. Pub. 5-17-66. Filed 9-30-65.

812,108. "HYPO-49." Gaunt Industries. SN 229,517. Pub. 5-17-66. Filed 10-7-65.

812,109. "HYPO-FLUX." Gaunt Industries. SN 229,518. Pub. 5-17-66. Filed 10-7-65.

812,110. DISTRIB-U-VEYOR. White Machine Co. SN 229,618. Pub. 5-17-66. Filed 10-7-65.

812,111. ABEX. American Brake Shoe Company. SN 240,820. Pub. 5–17–66. Filed 3–16–66.

Class 24 — Laundry Appliances and Machines

812,035. (See Class 21 for this trademark.)

812,112. DURO AND DESIGN. Duro Housewares, Inc. MULTIPLE CLASS (Classes 24, 39, 42, and 50). SN 226,522. Pub. 5–17–66. Filed 8–26–65.

Class 25 — Locks and Safes

812,113. FC. Dominion Lock Company, Ltd. SN 221,479. Pub. 5–17–66. Filed 6–18–65.

812,114. FRECUT. Dominion Lock Company, Ltd. SN 221,480. Pub. 5–17–66. Filed 6–18–65.

Class 26 — Measuring and Scientific Appliances

811,921. (See Class 2 for this trademark.)

812,056. (See Class 21 for this trademark.)

812,115. METRIPAK. Clevite Corporation. SN 140,094. Pub. 5–17–66. Filed 3–19–62.

812,116. TELEGUARD. Telalarm, Inc. SN 174,993. Pub. 5–17–66. Filed 8–13–63.

812,117. RANDOMATIC. Randomatic Data Systems, Inc., assignee of Automation Engineers, Inc. SN 177,477. Pub. 5–17–66. Filed 9–23–63.

812,118. W AND DESIGN. The Wilcolator Company. SN 178,155. Pub. 5–17–66. Filed 10–1–63.

812,119. INTERLOCKING C's (DESIGN). Chemtrol Corporation. SN 180,182. Pub. 5–17–66. Filed 10–31–63.

812,120. VIBRON. Electronic Instruments Limited. SN 185,029. Pub. 5–17–66. Filed 1–21–64.

812,121. WIDEBETA. Beckman Instruments, Inc. SN 187,237. Pub. 5–17–66. Filed 2–24–64.

812,122. LOADMASTER. Jackes-Evans Manufacturing Company. SN 191,297. Pub. 5–17–66. Filed 4–16–64.

812,123. DA-LITE 1.2.3 AND DESIGN. Da-Lite Screen Company, Inc. SN 195,767. Pub. 5–17–66. Filed 6–16–64.

812,124. ECON-O-LITH. R. Hoe & Co. Inc. SN 208,576. Pub. 5–17–66. Filed 12–21–64.

812,125. AUTO-CODER. The Warner & Swasey Company. SN 211,779. Pub. 5–17–66. Filed 2–10–65.

812,126. MASTER-RAIL. The Photogenic Machine Company. SN 211,919. Pub. 5–17–66. Filed 2–12–65.

812,127. HURET. Huret et ses Fils, Societe Anonyme. SN 221,499. Pub. 5–17–66. Filed 6–18–65.

812,128. ACADEMY. Brunswick Corporation. SN 221,693. Pub. 5–17–66. Filed 6–22–65.

812,129. WAYTROL. Jeffrey Gallon Manufacturing Company. SN 224,754. Pub. 5–17–66. Filed 8–2–65.

812,130. MB-TREBEL AND DESIGN. Textron Electronics, Inc. SN 228,418. Pub. 5–17–66. Filed 9–22–65.

812,131. DUALL. Kontes Glass Company. SN 233,108. Pub. 5–17–66. Filed 11–22–65.

Class 27 — Horological Instruments

812,132. ARLON. Pierre Saatman. SN 218,157. Pub. 3–22–66. Filed 3–11–65.

812,133. JET SET. Belforte Watch Company, Inc. SN 227,746. Pub. 5–17–66. Filed 9–14–65.

Class 28 — Jewelry and Precious-Metal Ware

812,134. PJ AND CROWN DESIGN. Medicated Products Co., d.b.a. Donald Bruce Company. SN 216,963. Pub. 2–22–66. Filed 4–20–65.

812,135. STAR OF SIAM. Star of Siam. SN 227,969. Pub. 5–17–66. Filed 9–16–65.

Class 29 — Brooms, Brushes, and Dusters

812,136. ENDUSTERS. The Drackett Company. SN 228,139. Pub. 5–17–66. Filed 9–20–65.

812,137. PAINTER PETE. Cook & Dunn Paint Corp. SN 229,337. Pub. 5–17–66. Filed 10–5–65.

Class 31 — Filters and Refrigerators

811,921. (See Class 2 for this trademark.)

811,931. (See Class 5 for this trademark.)

811,932. (See Class 5 for this trademark.)

812,138. BOSCH. Robert Bosch Gesellschaft mit beschrankter Haftung. SN 178,526. Pub. 5–17–66. Filed 10–8–63.

812,139. FLUO-FILTER. Northern Lights Appliance Manufacturing Corp. SN 187,880. Pub. 5–17–66. Filed 3–3–64.

812,140. SILTRONIC. International Telephone and Telegraph Corporation, assignee of ITT Bell & Gossett Inc. SN 191,293. Pub. 5–17–66. Filed 4–16–64.

812,141. VM SERIES AND DESIGN. Fogel Refrigerator Company. SN 193,776. Pub. 5–17–66. Filed 5–19–64.

812,142. EIMCO-EXTRACTOR. The Eimco Corporation. SN 194,378. Pub. 5–17–66. Filed 5–27–64.

812,143. STAR. Star Filter Corporation. SN 196,481. Pub. 1–11–66. Filed 6–25–64.

812,144. CARBO-QWIK. Sethco Mfg. Corp. SN 199,122. Pub. 5–17–66. Filed 8–3–64.

812,145. MR. WATER SOFTEE AND DESIGN. Aquionics Corporation. SN 204,444. Pub. 5–17–66. Filed 10–21–64.

812,146. MR. WATER SOFTEE. Aquionics Corporation. SN 204,445. Pub. 5–17–66. Filed 10–21–64.

812,147. MAGNAMEDIA. Farr Company. SN 206,932. Pub. 5–17–66. Filed 11–25–64.

812,148. RECIRK. C. P. Wood & Company, Inc. SN 211,328. Pub. 5–17–66. Filed 2–3–65.

812,149. AIRSTREAM. The Airstream Company. SN 212,373. Pub. 5–17–66. Filed 2–19–65.

812,150. DYNALLOY. Fluid Dynamics, Incorporated. SN 218,683. Pub. 5–17–66. Filed 5–12–65.

Class 32 — Furniture and Upholstery

812,064. (See Class 21 for this trademark.)

812,151. HISTORIC NEWPORT. The Preservation Society of Newport County. SN 181,677. Pub. 5–17–66. Filed 11–21–63.

812,152. IMPERIA AND DESIGN. Westinghouse Electric Corporation, assignee of The I-XL Furniture Co., Inc. SN 186,536. Pub. 5–17–66. Filed 2–12–64.

812,153. SOMNO. Somno, Inc., assignee of Conway Bedding Company, Inc. SN 188,202. Pub. 5–17–66. Filed 3–9–64.

812,154. YOUNGSTOWN KITCHENS. Mullins Manufacturing Corporation. SN 198,758. Pub. 5–17–66. Filed 7–29–64.

812,155. TOUJAY. Toujay Designs, Inc. SN 216,747. Pub. 5–17–66. Filed 4–16–65.

812,156. STOR/DRAWER. Bankers Box Company. SN 226,120. Pub. 5–17–66. Filed 8–20–65.

812,157. NITURE. Georges Kaplan. SN 227,845. Pub. 5–17–66. Filed 9–15–65.

812,158. PROCESS 202. The Englander Company, Inc. SN 229,644. Pub. 5–17–66. Filed 10–8–65.

Class 33 — Glassware

812,159. STRATOPANE. Daryl Industries, Inc. SN 228,887. Pub. 5–17–66. Filed 9–29–65.

Class 34 — Heating, Lighting, and Ventilating Apparatus

811,988. (See Class 14 for this trademark.)

812,036. (See Class 21 for this trademark.)

812,160. COPPER CRAFT AND DESIGN. Allcraft Manufacturing Company, Inc. SN 166,352. Pub. 4–14–64. Filed 4–9–63.

812,161. HISTORIC NEWPORT, ETC. AND DESIGN. The Preservation Society of Newport County. SN 181,682. Pub. 5–17–66. Filed 11–21–63.

812,162. CAPI-DRI. Capitol Refrigeration Industries Company. SN 184,698. Pub. 5–17–66. Filed 1–16–64.

812,163. THERMO-FRAC. Struthers Thermo-Flood Corporation, assignee of Struthers Wells Corporation. SN 195,824. Pub. 5–17–66. Filed 6–16–64.

812,164. THERMO-FLOOD. Struthers Thermo-Flood Corporation, assignee of Struthers Wells Corporation. SN 196,895. Pub. 5–17–66. Filed 6–24–64.

812,165. WELDRING. Charles W. Johnston, d.b.a. Weldring Company. SN 206,265. Pub. 5–17–66. Filed 11–16–64.

812,166. HURRI-HEATER. D.M. and S. Sales Corporation. SN 206,423. Pub. 5–17–66. Filed 11–18–64.

812,167. CHEF IMPERIAL. United States Manufacturing and Sales Corp. SN 211,944. Pub. 5–17–66. Filed 2–12–65.

812,168. CHARGE-R-MATIC. American Radiator & Standard Sanitary Corporation. SN 213,273. Pub. 5–17–66. Filed 3–4–65.

812,169. AUTO-FEED. Eutectic Welding Alloys Corporation. SN 215,608. Pub. 5–17–66. Filed 4–2–65.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

811,931. (See Class 5 for this trademark.)

811,932. (See Class 5 for this trademark.)

812,170. HOLDTITE. United States Rubber Company. SN 184,993. Pub. 5–17–66. Filed 1–20–64.

812,171. TIGER TRAC. Penetred Corporation. SN 207,652. Pub. 5–17–66. Filed 12–7–64.

812,172. SEAL AND DESIGN. Rudolph E. Krueger, d.b.a. Rudolph E. Krueger Co. SN 211,076. Pub. 5–17–66. Filed 2–1–65.

812,173. DAVIS LUXURY PREMIUM SENTRY. Western Auto Supply Company. SN 213,502. Pub. 5–17–66. Filed 3–5–65.

812,174. PIN STRIPE. United States Rubber Company. SN 214,385. Pub. 5–17–66. Filed 3–17–65.

812,175. VOG-POLYKORD. Vogue Tyre & Rubber Company. SN 214,390. Pub. 5–17–66. Filed 3–17–65.

812,176. GLIDE. The Goodyear Tire & Rubber Company. SN 218,546. Pub. 1–18–66. Filed 5–11–65.

812,177. NAVIGATOR. The Goodyear Tire & Rubber Company. SN 225,140. Pub. 5–17–66. Filed 8–6–65.

Class 36 — Musical Instruments and Supplies

812,035. (See Class 21 for this trademark.)

812,178. DUROL. Eastman Kodak Company. SN 177,874. Pub. 5–17–66. Filed 9–27–63.

812,179. ISOMOUNT. H. H. Scott, Inc. SN 192,085. Pub. 5–17–66. Filed 4–27–64.

812,180. CARRIS. Carris Lee Goins. SN 194,603. Pub. 5–17–66. Filed 6–1–64.

812,181. HALLMARK ETC. AND DESIGN. Hallmark Electronics Corporation. SN 207,599. Pub. 5–17–66. Filed 12–7–64.

Class 37 — Paper and Stationery

812,182. P AND DESIGN. Packaging Corporation of America, by assignment of and change of name from Packaging Corporation of America. SN 182,111. Pub. 2–16–65. Filed 11–29–63.

812,183. PRICE AND DESIGN. Price Brothers & Company, Limited. SN 191,593. Pub. 9–29–64. Filed 4–20–64.

812,184. FIBREBOARD AND DESIGN. Fibreboard Paper Products Corporation. SN 209,074. Pub. 5–17–66. Filed 12–30–64.

812,185. CONTAK. Eberhard Faber Inc. SN 209,660. Pub. 5–17–66. Filed 1–11–65.

812,186. KRAFT-SORB. Graham Paper Company. SN 210,304. Pub. 8–24–65. Filed 1–21–65.

812,187. BLISTER-COTE. Union Bag-Camp Paper Corporation. SN 212,465. Pub. 5–17–66. Filed 2–19–65.

812,188. KOLOR-KWILL. Cory Corporation. SN 214,844. Pub. 5–17–66. Filed 3–24–65.

812,189. DECALERTS. Merck & Co., Inc. SN 221,734. Pub. 5–17–66. Filed 6–22–65.

812,190. KARD-O-GARD. American Bag & Paper Corporation. SN 222,098. Pub. 5–17–66. Filed 6–28–65.

812,191. GUARANTY BOND. Buxton & Skinner Printing and Stationery Company. SN 222,465. Pub. 5–17–66. Filed 7–1–65.

812,192. BAC BONES AND DESIGN. Giulie, Smith & Beal Inc. SN 222,573. Pub. 5–17–66. Filed 7–2–65.

812,193. TRI-STAT. Groveton Papers Company. SN 223,121. Pub. 5–17–66. Filed 7–12–65.

812,194. RRPS AND DESIGN. Redi-Record Payroll Systems, Inc. SN 223,257. Pub. 5–17–66. Filed 7–13–65.

812,195. "SING-L-RITE." Redi-Record Payroll Systems, Inc. SN 223,258. Pub. 5–17–66. Filed 7–13–65.

812,196. MUSTANG. Richmond Pen Company, Incorporated. SN 223,350. Pub. 5–17–66. Filed 7–14–65.

812,197. PONY EXPRESS. Boise Cascade Corporation. SN 223,632. Pub. 5–17–66. Filed 7–19–65.

812,198. TAX SNAPS. Accounting Forms Company, Inc. SN 224,287. Pub. 5–17–66. Filed 7–27–65.

812,199. FILM KING AND DESIGN. Dur-O-Lite Pencil Company. SN 224,301. Pub. 5–17–66. Filed 7–27–65.

812,200. PLAST-O-LED. Hassenfeld Bros., Inc. SN 224,860. Pub. 5–17–66. Filed 8–3–65.

812,201. ELCO MINI-LETTRES. Elco Papier AG., vormals J. G. Llechti & Cie. MULTIPLE CLASS (Classes 37 and 38). SN 213,662. Pub. 5–17–66. Filed 3–9–65.

Class 38 — Prints and Publications

812,201. (See Class 37 for this trademark.)

812,202. STEP-UP BOOKS AND DESIGN. Random House, Inc. SN 213,888. Pub. 5–17–66. Filed 3–11–65.

812,203. PATH CAP SULE. College of American Pathologists. SN 215,945. Pub. 5–17–66. Filed 4–7–65.

Class 39—Clothing

812,112. (See Class 24 for this trademark.)

812,204. LAGO DI COMO. Burma-Bibas, Inc. SN 169,907. Pub. 2–15–66. Filed 5–29–63.

812,205. SCOUTOGS GIRL SCOUT SPORTSWEAR. Girl Scouts of the United States of America. SN 181,589. Pub. 5–17–66. Filed 11–20–63.

812,206. LI'L TRAVELLER. Alba-Waldensian, Inc. SN 184,678. Pub. 5–17–66. Filed 1–16–64.

812,207. NAPOLEON SHOP. Saks & Company. SN 192,451. Pub. 3–23–65. Filed 4–30–64.

812,208. BABY AND CHICK (DESIGN). Sierra Plastics, Inc. SN 201,477. Pub. 5–17–66. Filed 9–8–64.

812,209. CULTURED. Tarlow Cut Sole Company. SN 204,025. Pub. 5–17–66. Filed 10–14–64.

812,210. IMPERIAL WEAR. Imperial Outfitters to Large Men, Inc. SN 205,693. Pub. 3–22–66. Filed 11–6–64.

812,211. MISS LAZY BONES. The Juvenile Shoe Corporation of America. SN 206,266. Pub. 5–10–66. Filed 11–16–64.

812,212. STRETCHMATES. Arnold Stretchmates Corporation. SN 207,345. Pub. 9–14–65. Filed 12–2–64.

812,213. MOXEES. Belgrade Shoe Co. SN 209,758. Pub. 7–20–65. Filed 1–12–65.

812,214. COAT OF ARMS (DESIGN). Stedman Manufacturing Company. SN 210,379. Pub. 5–17–66. Filed 1–21–65.

812,215. COUNTRY PLACE. The 721 Corporation, d.b.a. Bonwit Teller. SN 214,470. Pub. 5–17–66. Filed 3–18–65.

812,216. HIGH-X. Corsets Silhouette Limited. SN 214,843. Pub. 5–17–66. Filed 3–24–65.

812,217. YOUNG AGAIN. Lov-é Brassiere Company. SN 215,625. Pub. 5–17–66. Filed 4–2–65.

812,218. SOFKISS AND DESIGN. Culver Mfg. Co., Inc. SN 216,807. Pub. 3–15–66. Filed 4–19–65.

812,219. ALLENCORE. Atlas Underwear Corporation. SN 218,727. Pub. 5–17–66. Filed 5–13–65.

812,220. ALLENCORE BY ALLEN A AND DESIGN. Atlas Underwear Corporation. SN 218,729. Pub. 5–17–66. Filed 5–13–65.

812,221. TARAMERE. Talbott Knitting Mills, Inc. SN 218,814. Pub. 5–17–66. Filed 5–13–65.

812,222. ANGELSUEDE. Wear-Right Gloves, Inc. SN 218,822. Pub. 5–17–66. Filed 5–13–65.

812,223. GOLD WIN. Kabushiki Kaisha Goldwin. SN 220,383. Pub. 5–17–66. Filed 6–4–65.

812,224. GOLD WIN AND DESIGN. Kabushiki Kaisha Goldwin. SN 220,384. Pub. 5–17–66. Filed 6–4–65.

812,225. TARASTRETCH. Talbott Knitting Mills, Inc. SN 220,884. Pub. 5–17–66. Filed 6–10–65.

812,226. EMILIA DI TOSCANA AND DESIGN. Mid-Atlantic Footwear Corp. SN 221,394. Pub. 5–17–66. Filed 6–17–65.

812,227. LATINAS. Mid-Atlantic Footwear Corp. SN 221,395. Pub. 5–17–66. Filed 6–17–65.

812,228. VALDARNO. Mid-Atlantic Footwear Corp. SN 221,396. Pub. 5–17–66. Filed 6–17–65.

812,229. PRO-PEPS. Allied Chemical Coatings, Inc. SN 222,801. Pub. 5–17–66. Filed 7–7–65.

812,230. TIPPER. Stedman Manufacturing Company. SN 222,877. Pub. 5–17–66. Filed 7–7–65.

812,231. LADY SPRUCE AND DESIGN. Washington Mills Company. SN 222,885. Pub. 5–17–66. Filed 7–7–65.

812,232. CLUBMAN AND DESIGN. A. Sagner's Son. SN 223,353. Pub. 5–17–66. Filed 7–14–65.

812,233. PALCO-MESH. Paperlynen Company. SN 223,446. Pub. 5–17–66. Filed 7–15–65.

812,234. FID-L-KNITS. H. Rosenstock & Sons, Inc. SN 223,729. Pub. 5–17–66. Filed 7–19–65.

812,235. HI-SEE. Liberty Hosiery Mills, Inc. SN 224,004. Pub. 5–17–66. Filed 7–22–65.

812,236. 2 FIFTYS AND DESIGN. Martin's Uniforms, d.b.a. Martin's Uniforms of Florida. SN 224,005. Pub. 5–17–66. Filed 7–22–65.

812,237. LITTLE MISS POWERS MODEL. Movie Star, Inc. SN 224,015. Pub. 5–17–66. Filed 7–22–65.

812,238. POWERS MODEL. Movie Star, Inc. SN 224,016. Pub. 5–17–66. Filed 7–22–65.

812,239. SKIRTREE. Oxford Manufacturing Company, Inc. SN 224,110. Pub. 5–17–66. Filed 7–23–65.

812,240. SWEATERTREE. Oxford Manufacturing Company, Inc. SN 224,111. Pub. 5–17–66. Filed 7–23–65.

812,241. SHOC-MATE. Welsh Manufacturing Company. SN 224,992. Pub. 5–17–66. Filed 8–4–65.

812,242. ROL-JEAN. Anderson Uniforms, Inc. SN 225,628. Pub. 5–17–66. Filed 8–13–65.

812,243. SEE SHIRTS. Maidenform Sportswear, Inc. SN 225,966. Pub. 5–17–66. Filed 8–18–65.

812,244. FASHION KICK. Vanity Fair Mills, Inc. SN 226,591. Pub. 5–17–66. Filed 8–26–65.

812,245. KETTY. Caterina Gualtieri, d.b.a. Ketty. SN 228,329. Pub. 5–17–66. Filed 9–22–65.

812,246. THANK HEAVEN FOR "LITTLE" GIRLS. Parkland of Dallas, Inc. SN 228,561. Pub. 5–17–66. Filed 9–24–65.

812,247. BOOTIFULS. Joló Art Craftsmen, Inc. SN 228,691. Pub. 5–17–66. Filed 9–27–65.

Class 41—Canes, Parasols, and Umbrellas

812,248. BOY. W. Bauermann & Söhne G.m.b.H. SN 197,654. Pub. 5–17–66. Filed 7–13–64.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

812,112. (See Class 24 for this trademark.)

812,249. LIVING LINING. Ascot Textile Corp. SN 184,130. Pub. 3–23–65. Filed 1–7–64.

812,250. DY-MOR. Dyersburg Cotton Products, Inc. SN 194,155. Pub. 2–16–65. Filed 5–25–64.

812,251. LURE SPINNER. Deering Milliken, Inc. SN 196,638. Pub. 5–17–66. Filed 6–29–64.

812,252. VERMEER. Continella Textile Corporation. SN 198,642. Pub. 5–17–66. Filed 7–28–64.

812,253. FEDBOND. Cumberland Chemical Corporation, assignee of Air Reduction Company, Incorporated. SN 204,218. Pub. 5–17–66. Filed 10–19–64.

812,254. MEDI-CARPET. Commercial Carpet Corporation. SN 212,750. Pub. 5–17–66. Filed 2–25–65.

812,255. TAN-O-PRESS. Tanbro Fabrics Corporation. SN 214,481. Pub. 5–17–66. Filed 3–18–65.

812,256. ORONON. Eastland Woolen Mill, Inc. SN 216,580. Pub. 5–17–66. Filed 4–15–65.

812,257. HI-FYLON. Advance Process Supply Co. SN 218,049. Pub. 5–17–66. Filed 5–5–65.

812,258. DAN RIVER. Dan River Mills, Incorporated. SN 218,618. Pub. 5–17–66. Filed 5–12–65.

812,259. CROMSET. Crompton Company. SN 219,186. Pub. 11–16–65. Filed 5–19–65.

812,260. JUNLON. Fuji Spinning Company Limited. MULTIPLE CLASS (Classes 42 and 43). SN 225,389. Pub. 5–17–66. Filed 8–10–65.

812,261. PERMA WEAVE. Permafiber Corporation. SN 225,666. Pub. 5–17–66. Filed 8–13–65.

812,262. VEROLON. Mo-Vac International, Inc. SN 225,848. Pub. 5–17–66. Filed 8–12–65.

812,263. REXTEX. David Pelton Moore. SN 227,510. Pub. 5–17–66. Filed 9–9–65.

812,264. LE MANS. Armtex Incorporated. SN 227,549. Pub. 5–17–66. Filed S.R. 9–10–65; Am. P.R. 1–28–66.

812,265. SUMERSON. N. Sumergrade & Sons. SN 228,204. Pub. 5–17–66. Filed S.R. 9–20–65; Am. P.R. 1–28–66.

812,266. THE FABRIC TREE AND DESIGN. The Fabric Tree, Inc. SN 231,676. Pub. 5–17–66. Filed 10–27–65.

Class 43—Thread and Yarn

812,260. (See Class 42 for this trademark.)

812,267. PANORAMA. Columbia-Minerva Corporation. SN 222,665. Pub. 5–17–66. Filed 7–6–65.

812,268. UNITRU. Roselon Yarns, Inc. SN 224,334. Pub. 5–17–66. Filed 7–27–65.

812,269. CHANTELAINE. M. Caullies & Delaoutre, Societe a Responsabilite Limitee. SN 226,415. Pub. 8–29–66. Filed 8–25–65.

Class 44—Dental, Medical, and Surgical Appliances

812,035. (See Class 21 for this trademark.)

812,270. NATIONAL AND TRIANGLE DESIGN. Matsushita Electric Industrial Co., Ltd. SN 148,319. Pub. 4–20–65. Filed 7–3–62.

812,271. TRI-DRIVE. Ritter Corporation, by merger and change of name from Ritter Company Inc. SN 189,731. Pub. 5–17–66. Filed 3–26–64.

812,272. COMPACK. G. D. Searle & Co. SN 204,515. Pub. 5–17–66. Filed 10–21–64.

812,273. TRU-LINE. American Hospital Supply Corporation, d.b.a. Midwest American Dental Division of American Hospital Supply Corporation. SN 210,923. Pub. 5–17–66. Filed 1–29–65.

812,274. CUTTER-RESIFLEX. Cutter Laboratories, Inc. SN 214,084. Pub. 5–17–66. Filed 3–15–65.

812,275. CUTTER-RESIFLEX AND DESIGN. Cutter Laboratories, Inc. SN 214,086. Pub. 5–17–66. Filed 3–15–65.

812,276. ELECTRA-MIST. Electra-Mist Corporation. SN 222,919. Pub. 5–17–66. Filed 7–8–65.

812,277. PRESTIGE. Profit-Mor Equipment Co., Inc. SN 230,695. Pub. 5–17–66. Filed 10–20–65.

812,278. BOND CUSTOM. Milton H. Tavel, d.b.a. Bond Custom Hearing Aid Center. SN 231,507. Pub. 5–17–66. Filed 10–23–65.

Class 46—Foods and Ingredients of Foods

812,279. MR. K BAR. Klein Chocolate Company. SN 178,009. Pub. 5–17–66. Filed 9–30–63.

812,280. DRAGGER. Bonda Foods Limited. SN 211,151. Pub. 5–17–66. Filed 2–2–65.

812,281. PATTISWELL. Meat Industry Suppliers, Inc. SN 214,890. Pub. 5–17–66. Filed 3–24–65.

812,282. ELNA. Elna Brands, Inc. SN 215,059. Pub. 5–17–66. Filed 3–26–65.

812,283. SUN CORN. Specialty Bakers' Services, Inc. SN 215,789. Pub. 5–17–66. Filed 4–5–65.

812,284. STARLIGHT. San Juan Fishing & Packing Co. SN 216,871. Pub. 5–17–66. Filed 4–19–65.

812,285. MIX-A-BAG. Luden's, Inc. SN 219,436. Pub. 5–17–66. Filed 5–21–65.

812,286. DUTCH COUNTRY. Stroehmann Brothers Company. SN 228,761. Pub. 5–17–66. Filed 9–27–65.

812,287. FLEISCHMANN'S. Standard Brands Incorporated. SN 229,586. Pub. 5–17–66. Filed 10–7–65.

812,288. ROYAL. Standard Brands Incorporated. SN 229,587. Pub. 5–17–66. Filed 10–7–65.

Class 49—Distilled Alcoholic Liquors

812,289. CLATTERING BURN. Continental Distilling Corporation, d.b.a. Inver House Distillers, Limited. SN 216,485. Pub. 5–17–66. Filed 4–14–65.

Class 50—Merchandise Not Otherwise Classified

812,112. (See Class 24 for this trademark.)

Class 51—Cosmetics and Toilet Preparations

812,290. JEAN PREMO. Dart Drug Corporation. SN 151,731. Pub. 1–21–64. Filed 8–28–62.

812,291. AFTER FIVE. C. Alan Morrison. SN 182,351. Pub. 8–25–64. Filed 12–4–63.

812,292. LOVE-IT AND DESIGN. Love-It Products Corporation. SN 214,132. Pub. 5–17–66. Filed 3–15–65.

Class 52—Detergents and Soaps

811,928. (See Class 4 for this trademark.)

811,931. (See Class 5 for this trademark.)

811,932. (See Class 5 for this trademark.)

811,942. (See Class 6 for this trademark.)

812,293. THE REAL McCOY. Harry William Williams. SN 202,882. Pub. 5–17–66. Filed 9–28–64.

812,294. THE KELSIN SYSTEM AND DESIGN. Building Chemicals Company, Inc. SN 211,623. Pub. 5–17–66. Filed 2–9–65.

812,295. ADC. S. Sampino & Waverly Beauty Products Inc., d.b.a. Waverly Beauty Products. SN 228,940. Pub. 5–17–66. Filed 9–29–65.

812,296. BIO-K. Pennsalt Chemicals Corporation. SN 231,617. Pub. 5–17–66. Filed 10–22–65.

812,297. FORETELL SOFT AND DESIGN. Foretell, Inc. SN 231,678. Pub. 5–17–66. Filed 10–27–65.

812,298. BONESSE AND DESIGN. The Great Atlantic & Pacific Tea Company, Inc. SN 232,553. Pub. 5–17–66. Filed 11–12–65.

812,299. B AND DESIGN. Youngs Drug Products Corporation. SN 233,213. Pub. 5–17–66. Filed 11–23–65.

Service Marks

Class 100—Miscellaneous

812,300. POCLAIN. Poclain. MULTIPLE CLASS (Classes 100 and 103). SN 210,348. Pub. 5–17–66. Filed 1–21–65.

812,301. ADMIRAL BENBOW. Admiral Benbow Inn, Inc. SN 217,166. Pub. 5–17–66. Filed 4–23–65.

812,302. PDI PLUMBING AND DRAINAGE INSTITUTE AND DESIGN. Plumbing and Drainage Institute. SN 233,629. Pub. 5–17–66. Filed 11–30–65.

Class 101 — Advertising and Business

812,303. ATI AND DESIGN. Auto-Tronix, Inc. SN 205,238. Pub. 12–28–65. Filed 11–2–64.

812,304. TRAVELER'S VALET AND DESIGN. Anthony Metal Products Company, Inc. SN 213,080. Pub. 5–17–66. Filed 3–3–65.

812,305. SHOP-RITE. Wakefern Food Corp. SN 215,035. Pub. 5–17–66. Filed 3–25–65.

812,306. SHOP-RITE SUPER MARKETS AND DESIGN. Wakefern Food Corp. SN 215,036. Pub. 5–17–66. Filed 3–25–65.

812,307. DATA-PLAN. Professional Budget Plan. SN 215,117. Pub. 5–17–66. Filed 3–26–65.

812,308. HOLIDEX. Holiday Inns of America, Inc. SN 229,247. Pub. 5–17–66. Filed 10–4–65.

Class 102 — Insurance and Financial

812,309. LINCOLN TOPPER AND DESIGN. The Lincoln Savings Bank. SN 229,016. Pub. 5–17–66. Filed 9–30–65.

Class 103 — Construction and Repair

811,940. (See Class 6 for this trademark.)

811,941. (See Class 6 for this trademark.)

812,300. (See Class 100 for this trademark.)

812,310. CHR. The Connecticut Hard Rubber Company. SN 190,311. Pub. 5–17–66. Filed 4–3–64.

812,311. VAL-LOCK. Tanya Corporation. SN 229,380. Pub. 5–17–66. Filed 10–5–65.

Class 107 — Education and Entertainment

811,921. (See Class 2 for this trademark.)

812,312. GIRL SITTING ON TYPEWRITER (DESIGN). Professional Secretarial School, Inc., d.b.a. Brandon's Professional Schools, Professional PBX School, Professional Secretarial and PBX School, and Professional Secretarial School. SN 216,436. Pub. 5–17–66. Filed 4–13–65.

812,313. GIRL SITTING ON GLOBE (DESIGN). Professional Secretarial School, Inc., d.b.a. Brandon's Professional Schools, Professional PBX School, Professional Secretarial and PBX School, and Professional Secretarial School. SN 216,437. Pub. 5–17–66. Filed 4–13–65.

812,314. ACT. American College Testing Program, Inc., d.b.a. The American College Testing Program. SN 230,118. Pub. 5–17–66. Filed 10–14–65.

812,315. ACT. American College Testing Program, Inc., d.b.a. The American College Testing Program. SN 230,119. Pub. 5–17–66. Filed 10–14–65.

Collective Membership Mark

Class 200

812,316. ENGINEERING SERVICE CONTRACTORS ETC. AND DESIGN. Association of Engineering Service Contractors Inc. SN 229,938. Pub. 5–17–66. Filed 10–12–65.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 12 — Construction Materials

812,317. Allwood Door Co., San Francisco, Calif. SN 217,243. Filed P.R. 4–26–65; Am. S.R. 6–6–66.

HA F LAP CASING

For Prefabricated Wooden Doors.
First use Feb. 1, 1963.

Class 15 — Oils and Greases

812,318. Genseke Brothers, Inc., Chicago, Ill. SN 228,146. Filed P.R. 9–20–65; Am. S.R. 6–8–66.

GET THE GENUINE GLYCERIZED LIQUID LUBRICANT ANTI-STICK COATING FOR HOT RUBBER SLABS & SHEETS GENSEKE BROTHERS, INC. CHICAGO FROM GENSEKE

For Liquid Lubricant Anti-Stick Coating for Hot Rubber Slabs and Sheets.
First use Jan. 10, 1925.

Class 16 — Protective and Decorative Coatings

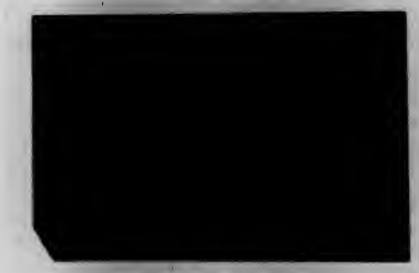
812,319. Standard Brands Paint Co. Inc., of California, Torrance, Calif. SN 210,482. Filed P.R. 1–22–65; Am. S.R. 5–27–66.



The drawing is lined for the colors red, dark grey, light grey, blue grey, blue, light blue, green, light green (chartreuse), dark brown, brownish orange, orange, purple, gold, and yellow. Applicant disclaims any rights to the exclusive use of the various colors shown in the mark, apart from the mark as shown.
For Exterior and Interior Alkyd Semi-Gloss Finish Paint.
First use Dec. 22, 1964.

Class 17 — Tobacco Products

812,320. Liggett & Myers Tobacco Company, New York, N.Y. SN 221,615. Filed P.R. 6–21–65; Am. S.R. 6–6–66.



Applicant disclaims the term "Filter Cigarettes" apart from the mark as shown.
For Cigarettes.
First use May 27, 1965; Dec. 18, 1964, as to "Masterpiece."

Class 21 — Electrical Apparatus, Machines, and Supplies

812,321. Standard Packaging Corporation, New York, N.Y. SN 179,820. Filed P.R. 10–25–63; Am. S.R. 6–2–66.

AUTOVAC

For Portable Vacuum Cleaners for Use in Automobiles and the Like.
First use May 20, 1957.

812,322. General Magnetics, Inc., Bloomfield, N.J. SN 225,187. Filed P.R. 8–6–65; Am. S.R. 6–8–66.

DE-MOD

For Solid State Magnetic Demodulators.
First use May 28, 1965.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

812,323. FMC Corporation, San Jose, Calif. SN 175,100. Filed 8–15–63.

Oiline

For Centrifugal Pumps.
First use July 23, 1963.

812,324. Marson Fastener Corporation, Revere, Mass. SN 200,011. Filed P.R. 8–17–64; Am. S.R. 5–31–66.

THE PLIER THAT RIVETS EVERYTHING

For Riveting Equipment—Namely, Riveting Guns.
First use Mar. 17, 1964.

Class 26 — Measuring and Scientific Appliances

812,325. General Electric Company, Schenectady, N.Y. SN 170,740. Filed P.R. 6–11–63; Am. S.R. 6–6–66.

OFF-R-ON

For Clock Timers.
First use April 1963.

Class 31 — Filters and Refrigerators

812,326. Howard B. Stern, Scottsdale, Ariz. SN 219,473. Filed P.R. 5–21–65; Am. S.R. 5–23–66.

CRYSTALEEN

For Swimming Pool Water Filter.
First use Mar. 7, 1965.

Class 34 — Heating, Lighting, and Ventilating Apparatus

812,327. Basic Products Corporation, Chicago, Ill. SN 183,020. Filed P.R. 12–16–63; Am. S.R. 6–2–66.

heat for industry

For Industrial Heat Treating Furnaces.
First use 1959.

Class 39—Clothing

812,328. Rosenau Brothers, Inc., Philadelphia, Pa. SN 215,009. Filed P.R. 3–25–65; Am. S.R. 5–25–66.

STOP THE PRESS

For Children's and Girls' Dresses, Suits, Jumpers, Skirts, Slacks, Playsuits, and Shorts.
First use Mar. 19, 1965.

812,329. Janelle International, Ltd., Mamaroneck, N.Y. SN 220,769. Filed P.R. 6–9–65; Am. S.R. 5–31–66.

CANADA MAID

For Children's and Women's Coats, Car Coats, Ski Jackets, Spring Coats, Raincoats, and Snowsuits.
First use May 24, 1965.

812,330. O. D. Taragin & Bros., Baltimore, Md. SN 225,372. Filed 8–9–65.

Lombardy

For Shirts, Sweaters, and Bathing Trunks.
First use May 18, 1963.

Class 44—Dental, Medical, and Surgical Appliances

812,331. H. W. Andersen Products, Inc., Oyster Bay, N.Y. SN 183,873. Filed P.R. 1–2–64; Am. S.R. 6–7–66.

VENOMETER

For Instruments for the Constant Measurement of Venous Blood Pressure Comprising a Manometer Tube and Means for Connecting the Tube to a Fluid Container and to an Intravenous Catheter, Cannule, or Needle.
First use Nov. 15, 1963.

TRADEMARK REGISTRATIONS RENEWED

28,711. EDME. Cl. 18. 8–4–1896.
29,036. MARYLAND CLUB MIXTURE AND DESIGN. Cl. 17. 10–27–1896.
51,685. OLD HICKORY AND DESIGN. Cl. 32. 4–24–06.
52,382. T.W. AND ANCHOR DESIGN. Cl. 26. 5–8–06.
53,099. KING. Cl. 46. 5–29–06.
53,258. CROWN. Cl. 44. 5–29–06.
53,360. SUMP. Cl. 44. 5–29–06.
53,361. CAVITINE. Cl. 44. 5–29–06.
53,792. PARSLEY BRAND AND DESIGN. Cl. 46. 6–12–06.
54,343. SCALECIDE. Cl. 6. 6–26–06.
54,454. 205. Cl. 1. 6–26–06.
54,647. MEXICAN AND DESIGN. Cl. 15. 6–26–06.
54,749. HERSEY. Cl. 26. 6–26–06.
55,059. 2½. Cl. 37. 8–7–06.
55,060. 1½. Cl. 37. 8–7–06.
55,468. GRAFITA. Cl. 15. 8–14–06.
56,506. STAR. Cl. 13. 10–2–06.
56,830. COTTON WHITE AND DESIGN. Cl. 46. 10–23–06.
57,008. THE FURNITURE WORLD. Cl. 38. 10–30–06.
57,124. STANDARD AND DESIGN. Cl. 23. 11–6–06.
57,497. STEK-O. Cl. 5. 11–13–06.
212,910. KIST. Cl. 46. 5–18–26.
213,522. HANCOCK AND DESIGN. Cl. 15. 6–1–26.
213,633. WORKWELL. Cl. 46. 6–1–26.
213,806. PYRALIN. Cl. 16. 6–8–26.
215,007. RAINBOW. Cl. 51. 6–8–26.
214,106. FLEETWING. Cl. 17. 6–15–26.
214,107. OLD CASTLE AND DESIGN. Cl. 17. 6–15–26.
214,260. MOEN-TONE AND DESIGN. Cl. 38. 6–15–26.
215,067. MICHCOTE BOARD. Cl. 37. 7–13–26.
215,190. TIGER AND DESIGN. Cl. 17. 7–13–26.
215,318. NORTHWEST. Cl. 37. 7–13–26.
216,427. BABY-SAN. Cl. 52. 8–10–26.
216,661. CERTIFIED 100% PURE PENNSYLVANIA PENN SEAL GASOLINE AND DESIGN. Cl. 15. 8–17–26.
216,779. SUPRE-MACY. Cl. 22. 8–17–26.
216,950. 5700. Cl. 25. 8–24–26.
217,048. TUFENUT. Cl. 39. 8–24–26.
217,712. GOLDEN VALLEY. Cl. 46. 9–7–26.
218,142. ARTGLO. Cl. 42. 9–21–26.
219,713. EAU DE QUININE AND DESIGN. Cl. 51. 10–19–26.
219,906. "SAN EQUIP." Cl. 2. 10–26–26.
219,918. MAXIMILLER. Cl. 23. 10–26–26.
221,225. BRIL-LITE. Cl. 16. 11–23–26.
419,214. U-BETS. Cl. 46. 2–5–46.
419,735. BELL AND REPENT AND DESIGN OF MAN. Cl. 42. 3–5–46.
421,168. ROTOFILE. Cl. 32. 5–21–46.
421,303. TANTIRON. Cl. 14. 5–28–46.
421,417. JOHNNY PEANUT. Cl. 46. 6–4–46.
421,422. SAB. Cl. 19. 6–4–46.
421,454. SUPER-TEX. Cl. 16. 6–4–46.
421,459. RAY-O-LUZ. Cl. 21. 6–4–46.
421,496. FORMICA. Cl. 12. 6–4–46.
421,527. ZENITH. Cl. 21. 6–4–46.
421,549. QUALIGAGE. Cl. 26. 6–4–46.
421,551. LOWDI. Cl. 21. 6–4–46.
421,925. JANTZEN AND DESIGN. Cl. 39. 6–18–46.
422,008. A GATEWAY PRODUCT AND DESIGN. Cl. 39. 6–25–46.
422,145. GREER HYDRAULICS AND DESIGN. Cl. 26. 7–9–46.
422,359. SNUFF. Cl. 52. 7–16–46.
422,362. ATLAS COLORS AND DESIGN. Cl. 6. 7–16–46.
422,633. STONECUTTER. Cl. 42. 8–6–46.
422,643. AC IN CIRCLE DESIGN. Cl. 12. 8–6–46.
422,701. FORTY-NINER. Cl. 28. 8–6–46.
423,327. PACEMAKER. Cl. 51. 8–27–46.
423,957. AMPCO. Cl. 14. 9–17–46.
423,980. MULTIMET. Cl. 14. 9–17–46.
424,182. BREEZE MARK AND DESIGN. Cl. 21. 9–24–46.
424,632. V-8 AND DESIGN. Cl. 46. 10–15–46.
425,286. FLOOR CRAFTERS. Cl. 4. 11–12–46.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued June 14, 1960

699,202. BABAH. Cl. 1.
699,203. DEKOR-ROK. Cl. 1.
699,207. RAVINAL. Cl. 1.
699,212. Q-BUBBLE AND DESIGN. Cl. 2.
699,219. VULCOIL. Cl. 6.
699,234. FOMAGE. Cl. 6.
699,236. AIR-GRID. Cl. 12.
699,244. CUSHION CERAMICS. Cl. 12.
699,245. WASCOROC. Cl. 12.
699,254. DIAMON-DENT. Cl. 12.
699,262. PORTO-SHOWER. Cl. 13.
699,267. WHIRLING DERVISH. Cl. 13.
699,268. KEN-LITE. Cl. 13.
699,272. BEETS-ALL AND DESIGN. Cl. 15.
699,280. APR. Cl. 16.
699,281. DIODOTRACIN. Cl. 18.
699,282. CONSENSUS AND DESIGN. Cl. 18.
699,287. GREENGLOBIN. Cl. 18.
699,288. SYNERZYME. Cl. 18.
699,297. STAF-O-VITE. Cl. 18.
699,298. PRO 70. Cl. 18.
699,299. RHULIFOAM. Cl. 18.
699,303. TRI-LERGIC. Cl. 18.
699,304. RAMSETTES. Cl. 18.
699,312. PAN-RELAX. Cl. 18.
699,321. BSS. Cl. 18.
699,325. VESIPAQUE. Cl. 18.
699,326. HEMALIVE. Cl. 18.
699,328. METEOR. Cl. 19.
699,331. BUSMOBILE. Cl. 19.
699,333. TOW-BOAT. Cl. 19.
699,334. TIKI. Cl. 19.
699,335. MUTT. Cl. 19.
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699,584. LEARN SERVE LEAD ETC. AND DESIGN. Cl. 200.
699,588. BEAUTITONE CLEANING AND DESIGN. Cl. B.
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699,591. PUSH-ON. Cl. 19.
699,594. WENTWORTH. Cl. 39.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

205,899. SOFTEX. Cl. 37. 11–17–25. Stevens & Thompson Paper Co. Georgia-Pacific Corporation, Portland, Oreg. Amended to appear:

SOFTEX

697,246. VICKI. Cl. 105. 5–3–60. British West Indian Airways Limited, New York, N.Y. Corrected: In the statement, column 1, line 1, "New York" should be deleted and *Crown Colony of Trinidad and Tobago* should be inserted.

804,591. RELAX. Cl. 22. 3–1–66. P. Mauborgne & Cie, Societe Anonyme en Nom Collectif, Bernouville, France. Corrected: In the statement, column 1, line 1, after "Anonyme" *en Nom Collectif* should be inserted.

804,888. LEMMON VAN MELLE AND DESIGN. Cl. 46. 3–1–66. VAN MELLE, Rotterdam, Netherlands. Corrected: In the statement, column 1, line 1, "Van Melle" should be deleted and *VAN MELLE* should be inserted.

809,638. MACOMBER'S AND DESIGN. Cl. 46. 6–7–66. Macomber's, Inc., Berkeley, Calif. Corrected: In the statement, column 2, line 4, "1958" should be deleted and *1858* should be inserted.

Erratum

In the OFFICIAL GAZETTE of July 5, 1966, at page TM 54, under Trademark Registrations Amended, Disclaimed, Corrected, Etc. all reference to 698,988 should be deleted.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 1—Raw or Partly Prepared Materials

420,573. Apr. 23, 1946. Hercules Powder Company, Wilmington, Del. Pub. by registrant.

NEOLYN

For Synthetic Resin for Use in Protective Coatings, Adhesives, Plastics, and Printing Inks.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

51,630. Apr. 17, 1906. William Ayres & Sons, Philadelphia, Pa. Pub. by Ayres-Philadelphia, Inc., Philadelphia, Pa.

5A

For Horse Blankets, Horse Sheets, Horse Covers, and Lap Robes.

55,341. Aug. 14, 1906. William Ayres & Sons, Philadelphia, Pa. Pub. by Ayres-Philadelphia, Inc., Philadelphia, Pa.

BAKER

For Horse Blankets.

Class 8—Smokers' Articles, Not Including Tobacco Products

399,894. Feb. 2, 1943. C. B. Weber Inc., Jersey City, N.J. Pub. by Weber Briars, Inc., Jersey City, N.J.

COOLMOR

For Pipes.

420,730. Apr. 30, 1946. Syracuse Ornamental Co., Syracuse, N.Y. Pub. by Rexall Drug and Chemical Company, d.b.a. Syroco, Los Angeles, Calif.

Syroco

For Ornamental Plastic Cigarette Boxes, and Ash Trays.

Class 10—Fertilizers

49,371. Feb. 6, 1906. Baugh & Sons Company, Philadelphia, Pa. Pub. by Kerr-McGee Chemical Corp., Baltimore Md.



For Bone Phosphate.

Class 12—Construction Materials

111,836. Aug. 8, 1916. The Master Builders Company, Cleveland, Ohio. Pub. by Martin-Marietta Corporation, Chicago, Ill.

SANISEAL

For Liquid Preparation for Preserving, Hardening, Impregnating, and Waterproofing Stone, Concrete, Cement, Brick, and Other Porous and Lapideous Substances.

134,735. Sept. 14, 1920. The Master Builders Company, Cleveland, Ohio. Pub. by Martin-Marietta Corporation, Chicago, Ill.

MasterMix

For Liquid Preparation To Be Incorporated With or Applied to Cement and Concrete for the Purpose of Controlling and Accelerating Its Setting; Increasing Its Hardness, Tensile Strength, and Durability; Rendering the Resulting Product Impervious to Water, and Preventing Its Freezing During Winter Construction.

174,470. Oct. 16, 1923. The Master Builders Company, Cleveland, Ohio. Pub. by Martin-Marietta Corporation, Chicago, Ill.

COLORMIX

For Preparations Intended To Be Incorporated With or Applied to Mortar, Cement, Concrete, Artificial Stone, and the Like for the Purpose of Coloring, Tempering, Hardening, Densifying, Frostproofing, and Controlling the Setting.

258,695. July 16, 1929. The Master Builders Company, Cleveland, Ohio. Pub. by Martin-Marietta Corporation, Chicago, Ill.

OMICRON

For Material To Be Used as an Ingredient in Concrete To Improve the Properties Thereof, Particularly To Improve the Tensile and Compression Strengths of the Concrete, To Increase the Density of the Concrete, and To Render the Concrete More Nearly Waterproof.

258,696. July 16, 1929. The Master Builders Company, Cleveland, Ohio. Pub. by Martin-Marietta Corporation. Chicago, Ill.

METALICRON

For Material To Be Used as an Ingredient in Concrete To Improve the Properties Thereof, Particularly To Increase the Hardness Thereof.

260,656. Aug. 27, 1929. The Master Builders Company, Cleveland, Ohio. Pub. by Martin-Marietta Corporation, Chicago, Ill.

MASTERSEAL

For Material To Be Applied to the Surface of Masonry To Form a Colorless Surface Waterproofing Coating Thereon.

276,483. Oct. 21, 1930. The Master Builders Company, Cleveland, Ohio. Pub. by Martin-Marietta Corporation, Chicago, Ill.

EMBECO

For Dry Ingredients—Namely, Mineral Aggregate, Metallic Aggregate, Waterproofing Materials, Freezeproofing Materials, Accelerators, Coloring Materials, and Catalytic Agents Aiding Crystallization for Use in Connection With Concrete.

290,430. Jan. 5, 1932. The Master Builders Company, Cleveland, Ohio. Pub. by Martin-Marietta Corporation, Chicago, Ill.

POZZOLITH

For Finely Divided Material To Be Added to Portland Cement, Containing Ingredients Intended To Stabilize, Strengthen and Increase Resistance to Distintegration.

353,184. Dec. 28, 1937. The Master Builders Company, Cleveland, Ohio. Pub. by Martin-Marietta Corporation, Chicago, Ill.

MASTERPLATE

For Material To Be Used as an Ingredient for Concrete, Mortar, and the Like To Improve the Properties Thereof, and Particularly To Improve the Hardness, To Increase Resistance to Wear and Corrosion, and To Lengthen the Life of Structures Made Therefrom.

375,079. Feb. 6, 1940. The Master Builders Company, Cleveland, Ohio. Pub. by Martin-Marietta Corporation, Chicago, Ill.

KUROKROME

For Material for Curing, Protecting, and Coloring Concrete Surfaces.

385,840. Feb. 25, 1941. The Master Builders Company, Cleveland, Ohio. Pub. by Martin-Marietta Corporation, Chicago, Ill.

MasterKure

For Materials for Curing, Hardening, and Improving Concrete Surfaces.

421,037. May 14, 1946. Syracuse Ornamental Co., Syracuse, N.Y. Pub. by Rexall Drug and Chemical Company, d.b.a. Syroco, Los Angeles, Calif.

Syroco

For Wood Mouldings and Grilles.

Class 17—Tobacco Products

420,421. Apr. 9, 1946. Lane Tobacco, Ltd., New York, N.Y. Pub. by Lane Limited, New York, N.Y.

HIGHLAND

For Smoking Tobacco.

Class 18—Medicines and Pharmaceutical Preparations

51,934. Apr. 24, 1906. J. C. Eno, Limited, London, England. Pub. by Beecham Products Inc., Clifton, N.J.



For Dry Preparation for Making a Non-Intoxicating Beverage.

422,369. July 16, 1946. Lederle Laboratories, Inc., New York, N.Y. Pub. by American Cyanamid Company, Wayne, N.J.

FOLVITE

For Vitamin B Complex Factor—Namely, Folic Acid Tablets.

Class 22—Games, Toys, and Sporting Goods

439,470. June 29, 1948. Nasco Doll, Inc., Brooklyn, N.Y. Pub. by registrant.

Nasco

For Dolls.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

56,301. Sept. 11, 1906. Arcade File Works, Anderson, Ind., and Providence, R.I. Pub. by Nicholson File Company, Providence, R.I.

Victor

For Files and Rasps.

Class 26—Measuring and Scientific Appliances

391,386. Nov. 4, 1941. Pacific News Reel Theaters, Inc., San Francisco, Calif. Pub. by Hearst Metrotone News, Inc., New York, N.Y.

TELENEWS

For Motion Picture Films.

420,731. Apr. 30, 1946. Syracuse Ornamental Co., Syracuse, N.Y. Pub. by Rexall Drug and Chemical Company, d.b.a. Syroco, Los Angeles, Calif.

Syroco

For Thermometers.

Class 29—Brooms, Brushes, and Dusters

421,038. May 14, 1946. Syracuse Ornamental Co., Syracuse, N.Y. Pub. by Rexall Drug and Chemical Company, d.b.a. Syroco, Los Angeles, Calif.

Syroco

For Clothes Brushes, Military Brushes, Sets of Hat Brushes, and Containers Therefor.

421,839. June 18, 1946. Syracuse Ornamental Co., New York, N.Y. Pub. by Rexall Drug and Chemical Company, d.b.a. Syroco, Los Angeles, Calif.

SyrocoWood

For Clothes Brushes, Whisk Brooms, Dog Brushes, and Sets of Hair Brushes.

Class 32—Furniture and Upholstery

423,628. Sept. 3, 1946. Elmer Frank Borrelli, Philadelphia, Pa. Pub. by registrant.

Sleep Easy

For Cribs.

Class 37—Paper and Stationery

211,504. Apr. 13, 1926. The Wahl Company, Chicago, Ill. Pub. by The Parker Pen Company, Janesville, Wis.

EVERSCRIPT

For Fountain Pens.

420,732. Apr. 30, 1946. Syracuse Ornamental Co., Syracuse, N.Y. Pub. by Rexall Drug and Chemical Company, d.b.a. Syroco, Los Angeles, Calif.

Syroco

For Memo Pads, Desk Calendar, Paper Weights, and Desk Pen Sets.

Class 39—Clothing

51,990. May 1, 1906. John B. Stetson Company, Philadelphia, Pa. Pub. by registrant.

STETSON

For Hats and Caps.

Class 40—Fancy Goods, Furnishings, and Notions

51,383. Apr. 17, 1906. American Hard Rubber Co., New York, N.Y. Pub. by Amerace Corporation, New York, N.Y.

IMPERIAL

For Combs for Dressing, Ornamenting, and Cleaning the Hair.

51,412. Apr. 17, 1906. American Hard Rubber Co., New York, N.Y. Pub. by Amerace Corporation, New York, N.Y.

Princess

For Combs.

51,721. Apr. 24, 1906. American Hard Rubber Co., New York, N.Y. Pub. by Amerace Corporation, New York, N.Y.

HERCULES

For Combs for Dressing, Ornamenting, and Cleaning the Hair.

52,549. May 15, 1906. I. B. Kleinert Rubber Company, New York, N.Y. Pub. by registrant.

The Gem.

For Dress Shields.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

421,605. June 4, 1946. Riverside and Dan River Mills, Inc., Danville, Va. Pub. by Dan River Mills, Incorporated, Danville, Va.

CANOE BROOK

For Piece Goods of Cotton, Rayon, Wool, or Mixtures Thereof.

421,606. June 4, 1946. Riverside & Dan River Cotton Mills, Inc., Danville, Va. Pub. by Dan River Mills, Incorporated, Danville, Va.

ENTERPRISE

For Piece Goods of Cotton, Rayon, Wool, or Mixtures Thereof.

Class 44—Dental, Medical, and Surgical Appliances

421,214. May 21, 1946. E. I. du Pont de Nemours and Company, Wilmington, Del. Pub. by registrant.

DUPONT

For Intensifying and Fluoroscopic Screens for Medical X-Ray Work.

Class 46—Foods and Ingredients of Foods

216,603. Aug. 17, 1926. Giacomo Foti, Philadelphia, Pa. Pub. by Leonard Foti, d.b.a. Giacomo Foti, Philadelphia, Pa.

Rosa

For Olive Oil.

219,896. Oct. 19, 1926. Grocers' Baking Company, Louisville, Ky. Pub. by Campbell Taggart Associated Bakeries, Inc., Dallas, Tex.

AUNT SALLY'S

For Bread.

317,094. Sept. 11, 1934. S. B. Thomas, Inc., Long Island City, N.Y. Pub. by registrant.

PROTOGEN

For Blended Flour and Bread.

Class 47—Wines

330,131. Nov. 19, 1935. Maison F. Chauvenet S.A., Nuits-St-Georges, France. Pub. by Societe Commerciale des Bourgognes de Marque F. Chauvenet ou par abreviation "S.C.B.M.," Nuits-St-Georges, France.

WHITE CAP WHITE CAP

F. Chauvenet

VIN MOUSSEUX

For Wines.

Class 51—Cosmetics and Toilet Preparations

215,762. July 27, 1926. Northam Warren Corporation, New York, N.Y. Pub. by Chesebrough-Pond's Inc., New York. N.Y.

PEARL



For Liquid Nail Polishes.

420,728. Apr. 30, 1946. Lightfoot Schultz Co., New York, N.Y. Pub. by Philip Morris Incorporated, New York, N.Y.

Avaderma

For Shampoo, Dry Skin Balm, Deodorant Cream, etc.

Class 52—Detergents and Soaps

210,594. Mar. 16, 1926. The Palmolive Company, Chicago, Ill. Pub. by Colgate-Palmolive Company, New York, N.Y.

PALMOLIVE

For Soap.

INDEX OF REGISTRANTS

AUGUST 2, 1966

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

A-F Industries: *See*—
Andrews, Jacob W.
AMP Inc., Harrisburg, Pa. 812,073, pub. 5–17–66. Cl. 21.
Abco, Inc., McKeesport, Pa. 812,005, pub. 5–17–66. Cl. 16.
Absorene Mfg. Co., The, d.b.a. Dob Co., St. Louis, Mo. 699,540, canc. Cl. 52.
Accounting Forms Co., Inc., Gastonia, N.C. 812,198, pub. 5–17–66. Cl. 37.
Acme Laboratories: *See*—
Edison, S. M., Chemical Co., Inc.
Admiral Benbow Inn, Inc., Memphis, Tenn. 812,301, pub. 5–17–66. Cl. 100.
Advance Furnace Co., The Wichita, Kans. 699,331, canc. Cl. 19.
Advance Process Supply Co., Chicago, Ill. 812,257, pub. 5–17–66. Cl. 42.
Air Reduction Co., Inc., to Cumberland Chemical Corp., New York, N.Y. 812,253, pub. 5–17–66. Cl. 42.
Airstream Co., The, St. Louis, Mo. 812,149, pub. 5–17–66. Cl. 31.
Alba-Waldensian, Inc., Valdese, N.C. 812,206, pub. 5–17–66. Cl. 39.
Alcon Laboratories, Inc., Fort Worth, Tex. 699,321, canc. Cl. 18.
Aldco, Inc., Clinton, Conn. 811,919, pub. 5–17–66. Cl. 2.
Ajax Hardware Corp., City of Industry, Calif. 811,974, pub. 5–17–66. Cl. 13.
All-America Corp., Evanston, Ill. 699,556, canc. Cl. 101.
Allcraft Mfg. Co., Inc., Cambridge, Mass. 812,160, pub. 4–14–66. Cl. 34.
Allied Chemical Coatings, Inc., Saco, Maine. 812,229, pub. 5–17–66. Cl. 39.
Allied Platers, Inc., Hartford, Conn. 699,577, canc. Cl. 106.
Allwood Door Co., San Francisco, Calif. 812,317. Cl. 12.
Amco Engineering Co., Chicago, Ill. 812,068, pub. 5–3–66. Cl. 21.
Amerace Corp.: *See*—
American Hard Rubber Co.
American Bag & Paper Corp., Philadelphia, Pa. 812,190, pub. 5–17–66. Cl. 37.
American Brake Shoe Co., New York, N.Y. 821,111, pub. 5–17–66. Cl. 23.
American Cement Corp., Los Angeles, Calif. 811,959, pub. 5–17–66. Cl. 12.
American College Testing Program, Inc., d.b.a. The American College Testing Program, Iowa City, Iowa. 812,314, pub. 5–17–66. Cl. 107.
American College Testing Program, Inc., d.b.a. The American College Testing Program, Iowa City, Iowa. 812,315, pub. 5–17–66. Cl. 107.
American Cyanamid Co., New York, N.Y. 699,299, canc. Cl. 18.
American Cyanamid Co., Wayne, N.J. 811,916, pub. 5–17–66. Cl. 1.
American Cyanamid Co.: *See*—
Lederle Laboratories, Inc.
American Distilling Co., The, d.b.a. The American Distilling Co., (Inc.), New York, N.Y. 699,524, canc. Cl. 49.
American Distilling Co., (Inc.): *See*—
American Distilling Co., The.
American Hard Rubber Co., to Amerace Corp., New York, N.Y. 51,412, 12(c) pub. 8–2–66. Cl. 40.
American Hard Rubber Co., to Amerace Corp., New York, N.Y. 51,383, 12(c) pub. 8–2–66. Cl. 40.
American Hard Rubber Co., to Amerace Corp., New York, N.Y. 51,721, 12(c) pub. 8–2–66. Cl. 40.
American Hospital Supply Corp., d.b.a. Midwest American Dental Division of American Hospital Supply Corp., Evanston, Ill. 812,275, pub. 5–17–66. Cl. 44.
American Machine & Foundry Co., New York, N.Y. 811,921, pub. 5–17–66. Multiple Class (Classes 2, 8, 16, 19, 21, 22, 23, 26, 31, and 107).
American Oil Co., The, Chicago, Ill. 811,997, pub. 1–4–66. Cl. 15.
American Oil Co., The, Chicago, Ill. 811,999, pub. 5–17–66. Cl. 15.
American Polystrat Corp., New York, N.Y. 812,010, pub. 5–17–66. Cl. 16.
American Radiator & Standard Sanitary Corp., New York, N.Y. 812,168, pub. 5–17–66. Cl. 34.
American Tobacco Co., The, New York, N.Y. 29,036, ren. 8–2–66. Cl. 17.
American Tobacco Co., The, New York, N.Y. 812,019, pub. 5–17–66. Cl. 17.
Ampco Metal, Inc., Milwaukee, Wis. 423,957, ren. 8–2–66. Cl. 14.
Amtron, Inc., Midlothian, Ill. 812,056, pub. 5–17–66. Multiple Class (Classes 21 and 26).
Andersen, H. W., Products, Inc., Oyster Bay, N.Y. 812,331. Cl. 44.
Anderson Uniforms, Inc., Kansas City, Mo. 812,242, pub. 5–17–66. Cl. 39.
Andrews, Jacob W., d.b.a. A-F Industries, Norfolk, Va. 699,588, canc. Cl. B.
Anic S.p.A., Milan, Italy. 699,207, canc. Cl. 1.
Annin & Co., New York, N.Y. 218,142, ren. 8–2–66. Cl. 42.
Antennacraft Co., Burlington, Iowa. 812,046, pub. 5–17–66. Cl. 21.
Anthony Metal Products Co., Inc., Indianapolis, Ind. 811,924, pub. 5–17–66. Cl. 2.
Anthony Metal Products Co., Inc., Indianapolis, Ind. 812,304, pub. 5–17–66. Cl. 101.
Appleton Woolen Mills, Appleton, Wis. 699,477, canc. Cl. 42.
Aquariums Inc., Maywood, N.J. 812,023, pub. 5–15–66. Cl. 18.
Aquionics Corp., Buffalo, N.Y. 812,145, pub. 5–17–66. Cl. 31.
Aquionics Corp., Buffalo, N.Y. 812,146, pub. 5–17–66. Cl. 31.
Arcade File Works, Anderson, Ind., and Providence, R.I., by Nicholson File Co., Providence, R.I. 56,301, 12(c) pub. 8–2–66. Cl. 23.
Arista Olive Co., Inc., New York, N.Y. 699,493, canc. Cl. 46.
Armtex, Inc., Gastonia, N.C. 812,264, pub. 8–2–66. Cl. 42.
Arnold Stretchmates Corp., Boston, Mass. 812,212, pub. 9–14–66. Cl. 39.
Art-Chem Co.: *See*—
Warmack, George M.
Arvey Corp., Chicago, Ill., and Detroit, Mich., to Arvey Corp., Chicago, Ill. 422,643, ren. 8–2–66. Cl. 12.
Ascot Textile Corp., New York, N.Y. 812,249, pub. 3–23–65. Cl. 42.
Ashley, T. C., & Co., Inc., Boston, Mass. 699,219, canc. Cl. 6.
Associates Discount Corp., South Bend, Ind., from The Weatherhead Co., Cleveland, Ohio. 699,559, canc. Cl. 102.
Association of Engineering Service Contractors, Inc., Washington, D.C. 812,316, pub. 5–17–66. Cl. 200.
Atlantic Can Co., d.b.a. Trelawney, Delawanna, N.J. 811,926, pub. 5–17–66. Cl. 2.
Atlas Underwear Corp., Piqua, Ohio. 812,219, pub. 5–17–66. Cl. 39.
Atlas Underwear Corp., Piqua, Ohio. 812,220, pub. 5–17–66. Cl. 39.
Automation Engineers, Inc.: *See*—
Randomatic Data Systems, Inc.
Automation Machines & Equipment Co., Inc., Menomonee Falls, Wis. 812,077, pub. 5–17–66. Cl. 23.
Auto-Tronix, Inc., Denver, Colo. 812,303, pub. 12–28–65. Cl. 101.
Aviation Sciences Institute, Inc., Seattle, Wash. 699,584, canc. Cl. 200.
Ayres-Philadelphia, Inc.: *See*—
Ayres, William, & Sons.
Ayres, William, & Sons, by Ayres-Philadelphia, Inc., Philadelphia, Pa. 51,630, 12(c) pub. 8–2–66. Cl. 3.
Ayres, William, & Sons, by Ayres-Philadelphia, Inc., Philadelphia, Pa. 55,341, 12(c) pub. 8–2–66. Cl. 3.
B & L Lighting Co., Hartford, Conn. 811,960, pub. 2–1–66. Cl. 12.
Bandag Inc., Muscatine, Iowa. 812,106, pub. 5–17–66. Cl. 23.
Bankers Box Co., Franklin Park, Ill. 812,156, pub. 5–17–66. Cl. 32.
Bantam-Lite, Inc., New York, N.Y. 812,041, pub. 5–17–66. Cl. 21.
Barber-Webb Co., Inc., The, Los Angeles, Calif. 812,039, pub. 5–17–66. Cl. 21.
Barber, W. H., Oil Co., Minneapolis, Minn. 811,993, pub. 5–17–66. Cl. 15.
Barclay Engineering Corp., Chicago, from Wayne Engineering Co., Skokie, Ill. 699,399, canc. Cl. 26.
Bargain City U.S.A., Inc., Philadelphia, Pa. 699,555, canc. Cl. 101.
Bartlett, Norman, North Miami Beach, Fla. 812,074, pub. 5–17–66. Cl. 22.
Basic Products Corp., Chicago, Ill. 812,327. Cl. 34.
Bauermann, W., & Sohne G.m.b.H., Hilden, Germany. 812,248, pub. 5–17–66. Cl. 41.
Baugh & Sons Co., Philadelphia, Pa., by Kerr-McGee Chemical Corp., Baltimore, Md. 49,371, 12(c) pub. 8–2–66. Cl. 10.
Beckman Instruments, Inc., San Diego, Calif. 812,121, pub. 5–17–66. Cl. 26.
Beecham Products, Inc.: *See*—
Eno, J. C., Ltd.
Beets, Abel J., d.b.a. Abel J.Beets Co., Lansing, Mich. 699,272, canc. Cl. 15.
Beets, Abel J., Co.: *See*—
Beets, Abel J.
Belforte Watch Co., Inc., New York, N.Y. 812,133, pub. 5–17–66. Cl. 27.
Belgrade Shoe Co., Auburn, Maine. 812,213, pub. 7–20–65. Cl. 39.
Best & Co. Inc., New York, N.Y. 699,546, canc. Cl. 100.
Billboard Publishing Co., The, New York, N.Y. 811,922, pub. 5–17–66. Cl. 2.
Black Diamond Cheese Ltd., Belleville, Ontario, Canada. 699,487, canc. Cl. 46.

Blackhawk Co.: *See*—
Ewing, Lynn H.
Boise Cascade Corp., Addison, Ill. 812,197, pub. 5–17–66. Cl. 37.
Bond Custom Hearing Aid Center: *See*—
Tavel, Milton H.
Bonda Foods Ltd., Yarmouth, Nova Scotia, Canada. 812,280, pub. 5–17–66. Cl. 46.
Borden Co., The, New York, N.Y. 699,288, canc. Cl. 18.
Borden Co., The, New York, N.Y. 812,031, pub. 5–17–66. Cl. 20.
Borrelli, Elmer F., Philadelphia, Pa. 423,628, 12(c) pub. 8–2–66. Cl. 32.
Bosch, Robert, Gesellschaft mit beschrankter Haftung, Stuttgart, Germany. 812,075, pub. 5–17–66. Cl. 23.
Bosch, Robert, Gesellschaft mit beschrankter Haftung, Stuttgart, Germany. 812,033, pub. 5–17–66. Cl. 21.
Boach, Robert, Gesellschaft mit beschrankter Haftung, Stuttgart, Germany. 812,138, pub. 5–17–66. Cl. 31.
Breeze Corporations, Inc., Union N.J. 424,182, ren. 8–2–66. Cl. 21.
Brevinex S.A. and Kurt Dubach, Geneva, Switzerland. 699,400, canc. Cl. 27.
British Borneo Timber Co. Ltd., The, London, England. 699,202, canc. Cl. 1.
British West Indian Airways Ltd., New York, N.Y. 697,246, cor. Cl. 105.
Bronson Products Co., Inc., Chicago, Ill. 811,929, pub. 5–17–66. Cl. 4.
Brown Durrell Co., Cambridge, Mass. 699,468, canc. Cl. 39.
Brown & Haley, Tacoma, Wash. 421,417, ren. 8–2–66. Cl. 46.
Browning Mfg. Co., Maysville, Ky. 812,094, pub. 5–17–66. Cl. 23.
Bruce, Donald, Co.: *See*—
Medicated Products Co.
Brunswick Corp., Chicago, Ill. 812,128, pub. 5–17–66. Cl. 26.
Brunton Corp., The, from Speed Shore Corp., Gardena, Calif. 811,950, pub. 5–17–66. Cl. 12.
Building Chemicals Co., Inc., Wilmington, Del. 812,294, pub. 5–17–66. Cl. 52.
Bunker Hill Co., The, Seattle, Wash. 812,044, pub. 5–17–66. Cl. 21.
Bunker-Ramo Corp., The, Stamford, Conn., from The Bunker-Ramo Corp., Canoga Park, Calif. 812,037, pub. 5–17–66. Cl. 21.
Burma-Bibas, Inc., New York, N.Y. 812,204, pub. 2–15–66. Cl. 39.
Burrus Mills, Inc.: *See*—
New Century Milling Co., The.
Buxton & Skinner Printing and Stationery Co., St. Louis, Mo. 812,191, pub. 5–17–66. Cl. 37.
California Date Growers Association: *See*—
Deglet Noor Date Growers Association, The.
Campbell Soup Co.: *See*—
Standard Brands, Inc.
Campbell Taggart Associated Bakeries, Inc.: *See*—
Grocers' Baking Co.
Capitol Refrigeration Industries Co., Columbus, Ohio. 812,162, pub. 5–17–66. Cl. 34.
Carter, Mary, Paint Co., Tampa, Fla. 812,007, pub. 5–17–66. Cl. 16.
Cartmell Enterprises, Inc., New York, N.Y. 699,392, canc. Cl. 26.
Catamaran Corp. of America, Kansas City, Mo. 699,334, canc. Cl. 19.
Caullies, M., & Delaoutre, Societe a Responsabilite Limitee, Tourcoing, Nord, France. 812,269, pub. 3–29–66. Cl. 43.
Celanese Corp. of America, New York, N.Y. 811,976, pub. 5–17–66. Cl. 13.
Centralube Ltd., London, England. 812,080, pub. 5–17–66. Cl. 23.
Chambord Shoe Co., Inc., New York, N.Y. 699,456, canc. Cl. 39.
Chambord Shoe Co., Inc., New York, N.Y. 699,459, canc. Cl. 39.
Charm, Inc., Revere, Mass. 699,581, canc. Cl. 107.
Chase, Paul, Ltd., Baltimore, Md. 699,455, canc. Cl. 39.
Chauvenet, Maison F., S.A., by Societe Commerciale des Bourgognes de Marque J. Chauvenet ou Par Abreviation "S.C.B.M." Nuits-Saint-Georges, France. 330,131, 12(c) pub. 8–2–66. Cl. 47.
Chemical Toilet Corp., to Vega Industries, Inc., Syracuse, N.Y. 219,906, ren. 8–2–66. Cl. 2.
Chemtrol Corp., Stamford, Conn. 812,119, pub. 5–17–66. Cl. 26.
Cheseborough-Pond's, Inc.: *See*—
Warren, Northam, Corp.
Cities Service Oil Co., Tulsa, Okla. 811,940, pub. 5–17–66. Multiple Class (Classes 6, 15, and 103).
Cities Service Oil Co., Tulsa, Okla. 811,941, pub. 5–17–66. Multiple Class (Classes 6, 15, and 103).
Citrus Products Co., Chicago, Ill., to Monarch Citrus Products Co., Doraville, Ga. 212,910, ren. 8–2–66. Cl. 46.
Clark Controller Co., The, Cleveland, Ohio. 812,051, pub. 5–17–66. Cl. 21.
Clark Controller Co., The, Cleveland, Ohio. 812,052, pub. 5–17–66. Cl 21.
Clark Paper & Mfg. Co., to Clark Stek-O Corp., Rochester, N.Y. 57,497, ren. 8–2–66. Cl. 5.
Clark Stek-O Corp.: *See*—
Clark Paper & Mfg. Co.
Clevite Corp., Cleveland, Ohio. 812,115, pub. 5–17–66. Cl. 26.
Clissold Publishing Co., Chicago, Ill. 699,448, canc. Cl. 38.
Club Aluminum Products Co., La Grange Park, Ill. 811,969, pub. 5–17–66. Cl. 13.
C-Mor Co., The, Bronx, N.Y. 699,473, canc. Cl. 40.
Codex Corp., Watertown, Mass. 812,061, pub. 5–17–66. Cl. 21.
Colgate-Palmolive Co.: *See*—
Palmolive Co., The.
College of American Pathologists, Chicago, Ill. 812,203, pub. 5–17–66. Cl. 38.
Colonial Refining and Chemical Co., Cleveland, Ohio. 811,951, pub. 5–17–66. Cl. 12.
Columbia-Minerva Corp., New York, N.Y. 812,267, pub. 5–17–66. Cl. 43.
Comet Metal Products Co. Inc., Richmond Hill, N.Y. 699,267, canc. Cl. 13.
Commercial Carpet Corp., New York, N.Y. 812,254, pub. 5–17–66. Cl. 42.
Compotite Shower Pan, Los Angeles, Calif. 811,953, pub. 5–17–66. Cl. 12.
Cone Mills Inc., New York, N.Y. 699,479, canc. Cl. 42.
Connecticut Hard Rubber Co., The, New Haven, Conn. 812,310, pub. 5–17–66. Cl. 103.
Connersville Paint & Supply Co., Inc., Connersville, Ind. 812,006, pub. 5–17–66. Cl. 16.
Continella Textile Corp., New York, N.Y. 812,252, pub. 5–17–66. Cl. 42.
Continental Distilling Corp., d.b.a. Inver House Distillers, Ltd., Philadelphia, Pa. 812,289, pub. 5–17–66. Cl. 49.
Contour Saws, Inc., Des Plaines, Ill. 812,083, pub. 5–17–66. Cl. 23.
Cook & Dunn Paint Corp., Newark, N.J. 812,137, pub. 5–17–66. Cl. 29.
Cope, Martin H., Co., Rheems, Pa. 699,491, canc. Cl. 46.
Corsets Silhouette Ltd., London, England. 812,218, pub. 5–17–66. Cl. 39.
Conway Bedding Co., Inc.: *See*—
Somno, Inc.
Cory Corp.: *See*—
Schramm Fiberglass Products, Inc.
Cory Corp., Chicago, Ill. 812,188, pub. 5–17–66. Cl. 37.
Coski, Bernard F., d.b.a. Pacific Forge & Tool Co., Tacoma, Wash. 812,086, pub. 5–17–66. Cl. 23.
Courtesy Associates, Inc., Washington, D.C. 699,557, canc. Cl. 101.
Crawford Fitting Co., Solon, Ohio. 811,978, pub. 5–17–66. Cl. 13.
Crest Products, Inc., Union, N.J. 811,977, pub. 5–17–66. Cl. 13.
Crompton Co., New York, N.Y. 812,259, pub. 11–16–65. Cl. 42.
Crystalonics, Inc., Cambridge, Mass. 812,053, pub. 5–17–66. Cl. 21.
Crystalonics, Inc., Cambridge, Mass. 812,054, pub. 5–17–66. Cl. 21.
Crystalonics, Inc., Cambridge, Mass. 812,055, pub. 5–17–66. Cl. 21.
Culver Mfg. Co., Inc., Erin, Tenn. 812,218, pub. 3–15–66. Cl. 39.
Cumberland Chemical Corp.: *See*—
Air Reduction Co., Inc.
Cutter Laboratories, Inc., Berkeley, Calif. 812,275, pub. 5–17–66. Cl. 44.
Custom-Made Paper Bag Co., Inc., Long Island City, N.Y. 699,431, canc. Cl. 37.
Cutter Laboratories, Inc., Berkeley, Calif. 812,274, pub. 5–17–66. Cl. 44.
D.M. and S. Sales Corp., Onekama, Mich. 812,166, pub. 5–17–66. Cl. 34.
Da-Lite Screen Co., Inc., Warsaw, Ind. 812,123, pub. 5–17–66. Cl. 26.
Dan River Mills, Inc.: *See*—
Riverside and Dan River Mills, Inc.
Dan River Mills, Inc., Danville, Va. 812,258, pub. 5–17–66. Cl. 42.
Darome Products Corp., New Rochelle, N.Y. 699,528, canc. Cl. 51.
Dart Drug Corp., Washington, D.C. 812,290, pub. 1–21–64. Cl. 51.
Darworth Inc., Simsbury, Conn. 811,942, pub. 5–17–66. Multiple Class (Classes 6, 12, 16, and 52).
Daryl Industries, Inc., Miami, Fla. 812,159, pub. 5–17–66. Cl. 33.
Data-Vevors Corp., Oakland, Calif. 812,088, pub. 5–17–66. Cl. 23.
Deco Electronics, Inc., Leesburg, Va. 812,032, pub. 3–3–64. Cl. 21.
Deering Milliken, Inc., New York, N.Y. 812,251, pub. 5–17–66. Cl. 42.
Deglet Noor Date Growers Association, The, to California Date Growers Association, Indio, Calif. 217,712, ren. 8–2–66. Cl. 46.
Deltox Rug Co., Oshkosh, Wis. 699,480, canc. Cl. 43.
Dennis Chemical Co., St. Louis, Mo. 812,012, pub. 5–17–66. Cl. 16.
Dob Co.: *See*—
Absorene Mfg. Co., The.
Dominion Lock Co., Ltd., Montreal, Quebec, Canada. 812,113, pub. 5–17–66. Cl. 25.
Dominion Lock Co., Ltd., Montreal, Quebec, Canada. 812,114, pub. 5–17–66. Cl. 25.
Drackett Co., The, Cincinnati, Ohio. 812,136, pub. 5–17–66. Cl. 29.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 213,806, ren. 8–2–66. Cl. 16.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 421,214, 12(c) pub. 8–2–66. Cl. 44.
Duro Housewares, Inc., Newark, N.J. 821,112, pub. 5–17–66. Multiple Class (Classes 24, 39, 42, and 50).
Dur-O-Lite Pencil Co., Melrose Park, Ill. 812,199, pub. 5–17–66. Cl. 37.
Dyersburg Cotton Products, Inc., Dyersburg, Tenn. 812,250, pub. 2–16–65. Cl. 42.

Dynacord: *See*—
Pinternagel, Werner.
Dynamics Corp. of America, New York, N.Y. 812,038, pub. 5–17–66. Cl. 21.
Eagle Pencil Co., New York, N.Y., to Eagle Pencil Co., Danbury, Conn. 55,059, ren. 8–2–66. Cl. 37.
Eagle Pencil Co., New York, N.Y., to Eagle Pencil Co., Danbury, Conn. 55,060, ren. 8–2–66. Cl. 37.
Eastman Kodak Co., Rochester, N.Y. 812,178, pub. 5–17–66. Cl. 36.
Eastman Kodak Co., Rochester, N.Y. 811,943, pub. 5–17–66. Cl. 6.
Eastland Woolen Mill, Inc., Corinna, Maine. 812,256, pub. 5–17–66. Cl. 42.
Eberhard Faber Inc., Wilkes-Barre, Pa. 812,185, pub. 5–17–66. Cl. 37.
Edison, S. M., Chemical Co., Inc., from S. M. Edison, d.b.a. Acme Laboratories, Chicago, Ill. 699,282, canc. Cl. 18.
Edison, Sylvan M.: *See*—
Edison, S. M., Chemical Co., Inc.
Edme Ltd.: *See*—
English Diastasic Malt Extract Co., Ltd., The.
Edwards, Denton, Co., Ltd., New York, N.Y. 699,280, canc. Cl. 16.
Efron, Theodore, Mfg. Co., Chicago, Ill. 811,984, pub. 5–17–66. Cl. 13.
Elmco Corp., The, Salt Lake City, Utah. 812,142, pub. 5–17–66. Cl. 31.
Elco Papier AG., vormals J. G. Liechti & Cie, Neuallschwil, Baselland, Switzerland. 812,201, pub. 5–17–66. Multiple Class (Classes 37 and 38).
Electra-Mist Corp., Boston, Mass. 812,276, pub. 5–17–66. Cl. 44.
Electric Storage Battery Co., The: *See*—
Ray-O-Vac Co.
Electro Compound Co., Cleveland, Ohio. 811,994, pub. 9–7–65. Cl. 15.
Electronic Instruments Ltd., Richmond, Surrey, England. 812,120, pub. 5–17–66. Cl. 26.
Electronics Corp. Pan America, Panama City, Panama. 699,346, canc. Cl. 21.
Elimore Silver Co., Inc., The, Meriden, Conn. 699,411, canc. Cl. 28.
Elna Brands, Inc., Skokie, Ill. 812,282, pub. 5–17–66. Cl. 46.
El-Tronics, Inc., Warren, Pa. 812,049, pub. 2–1–66. Cl. 21.
Emerson Electric Co., St. Louis, Mo. 812,058, pub. 3–1–66. Cl. 21.
Empire Geophysical, Inc., Fort Worth, Tex. 699,564, canc. Cl. 103.
Englander Co., Inc., The, New York, N.Y. 812,158, pub. 5–17–66. Cl. 32.
English Diastasic Malt Extract Co., Ltd., The, Mistley, to Edme Ltd., London, England. 28,711, ren. 8–2–66. Cl. 18.
Eno, J. C., Ltd., London, England, by Beecham Products, Inc., Clifton, N.J. 51,934. 12(c) pub. 8–2–66. Cl. 18.
Enterprise Aluminum Co., The, Massillon, Ohio. 811,972, pub. 5–17–66. Cl. 13.
Eutectic Welding Alloys Corp., Flushing, N.Y. 812,169, pub. 5–17–66. Cl. 34.
Evyan Perfumes, Inc., from Parfums Evyan Inc., New York, N.Y. 699,526, canc. Cl. 51.
Ewing, Lynn H., d.b.a. Blackhawk Co., Rock Island, Ill., from Permil N. Nelson, Galesburg, Ill. 699,354, canc. Cl. 22.
FMC Corp., San Jose, Calif. 812,323. Cl. 23.
Fabric Tree, Inc., The, New York, N.Y. 812,266, pub. 5–17–66. Cl. 42.
Farr Co., El Segundo, Calif. 812,147, pub. 5–17–66. Cl. 31.
Ferro Corp., Cleveland, Ohio. 811,955, pub. 5–17–66. Multiple Class (Classes 12 and 23).
Feusi, Robert J., Sacramento, Calif. 699,498, canc. Cl. 46.
Fibreboard Paper Products Corp., San Francisco, Calif. 812,184, pub. 5–17–66. Cl. 37.
Flaminaire Marcel Quercia, Paris, France. 811,948, pub. 5–17–66. Cl. 8.
Flintkote Co., The, New York, N.Y. 699,254, canc. Cl. 12.
Fluid Dynamics, Inc., New York, N.Y. 812,150, pub. 5–17–66. Cl. 31.
Foretell, Inc., Houston, Tex. 812,297, pub. 5–17–66. Cl. 52.
Fogel Refrigerator Co., Philadelphia, Pa. 812,141, pub. 5–17–66. Cl. 31.
Ford Motor Co., Dearborn, Mich. 699,335, canc. Cl. 19.
Formica Corp.: *See*—
Formica Insulation Co., The.
Formica Insulation Co., The, to Formica Corp., Cincinnati, Ohio. 421,496, ren. 8–2–66. Cl. 12.
Foster, Benjamin, Co., Philadelphia, Pa. 811,935, pub. 5–17–66. Cl. 5.
Foster, L. B., Co., Inc., Pittsburgh, Pa. 812,100, pub. 5–17–66. Cl. 23.
Foti, Giacomo, by Leonard Foti, d.b.a. Giacomo Foti, Philadelphia, Pa. 216,603, 12(c) pub. 8–2–66. Cl. 46.
Foti, Leonard: *See*—
Foti, Giacomo.
Fox, H., & Co., to H. Fox & Co., Inc., Brooklyn, N.Y. 419,214, ren. 8–2–66. Cl. 46.
Fox, H., & Co., Inc.: *See*—
Fox, H., & Co.
Fox, Solomon, New York, N.Y. 699,366, canc. Cl. 22.
Fuji Spinning Co., Ltd., Chuo-Ku, Tokyo, Japan. 812,260, pub. 5–17–66. Multiple Class (Classes 42 and 43).
Galion, Jeffrey, Mfg. Co., Columbus, Ohio. 812,129, pub. 5–17–66. Cl. 26.
Gaunt Industries, Chicago, Ill. 812,108, pub. 5–17–66. Cl. 23.
Gaunt Industries, Chicago, Ill. 812,109, pub. 5–17–66. Cl. 23.
General Electric Co., Schenectady, N.Y. 812,325. Cl. 26.
General Magnetics, Inc., Bloomfield, N.J. 812,322. Cl. 21.
General Mills, Inc., Minneapolis, Minn. 699,510, canc. Cl. 46.
General Time Corp., New York, N.Y. 699,405, canc. Cl. 27.
General Time Corp., New York, N.Y. 699,407, canc. Cl. 27.
General Time Corp., New York, N.Y. 699,408, canc. Cl. 27.
General Time Corp., New York, N.Y. 699,409, canc. Cl. 27.
General Time Corp., New York, N.Y. 812,091, pub. 5–17–66. Cl. 23.
Genseke Brothers, Inc., Chicago, Ill. 812,318. Cl. 15.
Girl Scouts of The United States of America, New York, N.Y. 812,205, pub. 5–17–66. Cl. 39.
Giulie, Smith & Beal Inc., Sunnyvale, Calif. 812,192, pub. 5–17–66. Cl. 37.
Glidden Co., The: *See*—
Gulden, Charles.
Global Van Lines, Inc., Garland, Tex. 699,574, canc. Cl. 105.
Goins, Carris L., Baltimore, Md. 812,180, pub. 5–17–66. Cl. 36.
Golden Valley Laboratories, Inc., Long Valley, N.J. 699,297, canc. Cl. 18.
Goldschmidt, Th., A.-G., Essen, Germany. 811,988, pub. 5–17–66. Multiple Class (Classes 14 and 34).
Goodyear Tire & Rubber Co., The, Akron, Ohio. 811,961, pub. 5–17–66. Cl. 12.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 812,176, pub. 1–18–66. Cl. 35.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 812,177, pub. 5–17–66. Cl. 35.
Grace, W. R., & Co., Cambridge, Mass. 812,002, pub. 5–17–66. Cl. 16.
Graham Paper Co., St. Louis, Mo. 812,186, pub. 8–24–65. Cl. 37.
Grahn Mfg. Co., Kansas City, Mo. 811,965, pub. 5–17–66. Cl. 12.
Grant, W. T., & Co.: *See*—
Tobacco Rehandling Co., Ltd., Inc., The.
Gra-Tex, Inc., Los Altos, Calif. 811,979, pub. 5–17–66. Cl. 13.
Great Atlantic & Pacific Tea Co., Inc., The, New York, N.Y. 812,298, pub. 5–17–66. Cl. 52.
Green, Richard B., & Co., Ltd., to John West Foods Ltd., Liverpool, England. 53,792, ren. 8–2–66. Cl. 46.
Greer Hydraulics, Inc., Los Angeles, Calif. 422,145, ren. 8–2–66. Cl. 26.
Grocers' Baking Co., Louisville, Ky., by Campbell Taggart Associated Bakeries, Inc., Dallas, Tex. 219,396, 12(c) pub. 8–2–66. Cl. 46.
Groveton Papers Co., Groveton, N.H. 812,193, pub. 5–17–66. Cl. 37.
Gualtieri, Caterina, d.b.a. Ketty, Turin, Italy. 812,245, pub. 5–17–66. Cl. 39.
Gulden, Charles, New York, N.Y., to The Glidden Co., Cleveland, Ohio. 53,099, ren. 8–2–66. Cl. 46.
Gunnin Mfg. Co., Atlanta, Ga. 699,471, canc. Cl. 39.
Guth, Edwin F., Co., The, St. Louis, Mo. 812,059, pub. 5–17–66. Cl. 21.
Hallmark Electronics Corp., Los Angeles, Calif. 812,043, pub. 5–17–66. Cl. 21.
Hallmark Electronics Corp., Los Angeles, Calif. 812,181, pub. 5–17–66. Cl. 36.
Hamilton Watch Co., Lancaster, Pa. 812,060, pub. 5–17–66. Cl. 21.
Hancock Refining Co., Long Beach, to Signal Oil and Gas Co., Los Angeles, Calif. 213,522, ren. 8–2–66. Cl. 15.
Hannay, Clifford B., & Son, Inc., Westerlo, N.Y. 811,973, pub. 5–17–66. Cl. 13.
Hardy, Charles G., Inc., Paramount, Calif. 699,203, canc. Cl. 1.
Hassenfeld Bros., Inc., Pawtucket, R.I. 812,200, pub. 5–17–66. Cl. 37.
Haws Drinking Faucet Co., Berkeley, Calif. 811,971, pub. 5–17–66. Cl. 13.
Haynes Stellite Co., to Union Carbide Corp., New York, N.Y. 423,980, ren. 8–2–66. Cl. 14.
Hearst Metrotone News, Inc.: *See*—
Pacific News Reel Theaters, Inc.
Hercules Powder Co., Wilmington, Del. 420,573, 12(c) pub. 8–2–66. Cl. 1.
Hersey Mfg. Co., Boston, to Hersey-Sparling Meter Co., Dedham, Mass. 54,749, ren. 8–2–66. Cl. 26.
Hersey-Sparling Meter Co.: *See*—
Hersey Mfg. Co.
Hills-McCanna Co., Carpentersville, Ill. 811,982, pub. 5–17–66. Cl. 13.
Hitachi Ltd., Tokyo, Japan. 812,096, pub. 5–17–66. Cl. 23.
Hoe, R., & Co. Inc., New York, N.Y. 812,124, pub. 5–17–66. Cl. 26.
Holiday Inns of America, Inc., Memphis, Tenn. 812,308, pub. 5–17–66. Cl. 101.
Holiday Rambler Corp., Wakarusa, Ind. 812,024, pub. 5–17–66. Cl. 19.
Howard Industries, Inc., Racine, Wis. 812,062, pub. 5–17–66. Cl. 21.
Howard Industries, Inc., Racine, Wis. 812,063, pub. 5–17–66. Cl. 21.
Huffman Mfg. Co., The, Miamisburg, Ohio. 812,025, pub. 11–23–65. Cl. 19.
Huntington Laboratories, Inc., Huntington, Ind. 216,427, ren. 8–2–66. Cl. 52.
Huret et ses Fils, Societe Anonyme, Nanterre (Seine), France. 812,127, pub. 5–17–66. Cl. 26.
ITT Bell & Gossett Inc.: *See*—
International Telephone and Telegraph Corp.
I-XL Furniture Co., Inc.: *See*—
Westinghouse Electric Corp.
Ichiyasu, Ben M., d.b.a. United States Net & Twine Co., Los Angeles, Calif. 699,357, canc. Cl. 22.
Ideal Fastener Corp., Long Beach, N.Y. 811,985, pub. 5–17–66. Cl. 13.

Illinois Tool Works, Chicago, Ill. 699,373, canc. Cl. 22.
Illinois Tool Works Inc., Chicago, Ill. 811,966, pub. 6–22–65. Cl. 13.
Illinois Tool Works Inc., Chicago, Ill. 811,967, pub. 6–22–65. Cl. 13.
Imperial Knife Associated Companies, Inc., Providence, R.I. 812,107, pub. 5–17–66. Cl. 23.
Imperial Outfitters to Large Men, Inc., New York, N.Y. 812,210, pub. 8–22–66. Cl. 39.
Independent Refining Co., to Quaker State Oil Refining Corp., Oil City, Pa. 216,661, ren. 8–2–66. Cl. 15.
International Telephone and Telegraph Corp., New York, N.Y., to ITT Bell & Gossett Inc., Morton Grove, Ill. 812,140, pub. 5–17–66. Cl. 31.
Inver House Distillers, Ltd.: *See*—
Continental Distilling Corp.
Irresistible, Inc., to The Nestle-Le Mur Co., New York, N.Y. 423,327, ren. 8–2–66. Cl. 51.
Iselin-Jefferson Co., Inc.: *See*—
Pinnell, W. H., Co., Inc.
Iselin-Jefferson Co.
Iselin-Jefferson Co., to Iselin-Jefferson Co., Inc., New York, N.Y. 422,008, ren. 8–2–66. Cl. 39.
Items, Inc., St. Louis, Mo. 812,102, pub. 5–17–66. Cl. 23.
Jackes-Evans Mfg. Co., St. Louis, Mo. 812,122, pub. 5–17–66. Cl. 26.
Janelle International, Ltd., Mamaroneck, N.Y. 812,329. Cl. 39.
Jantzen Knitting Mills, to Jantzen Inc., Portland, Oreg. 421,925, ren. 8–2–66. Cl. 39.
Jantzen Inc.: *See*—
Jantzen Knitting Mills.
Jefferson Electric Co., Bellwood, Ill. 699,403, canc. Cl. 27.
Jelliff, C. O., Mfg. Corp., The, Southport, Conn. 421,551, ren. 8–2–66. Cl. 21.
Johnson Steel and Wire Co., Inc., Worcester, Mass. 811,989, pub. 1–18–66. Cl. 14.
Johnston, Charles W. d.b.a. Welding Co., Bell Gardens, Calif. 812,165, pub. 5–17–66. Cl. 34.
Jolo Art Craftsmen, Inc., New York, N.Y. 812,247, pub. 5–17–66. Cl. 39.
Jordan Mfg. Co., San Francisco, Calif. 699,262, canc. Cl. 13.
Juvenile Shoe Corp. of America, The, Aurora, Mo. 812,211, pub. 5–10–66. Cl. 39.
K-D Lamp Co., Cincinnati, Ohio. 812,026, pub. 5–17–66. Multiple Class (Classes 19 and 21).
Kabushiki Kaisha Goldwin, Toyama-ken, Japan. 812,223, pub. 5–17–66. Cl. 39.
Kabushiki Kaisha Goldwin, Toyama-ken, Japan. 812,224, pub. 5–17–66. Cl. 39.
Kaplan, Georges, New York, N.Y. 812,157, pub. 5–17–66. Cl. 32.
Karlan, Paul, Mamaroneck, N.Y. 812,098, pub. 5–17–66. Cl. 23.
Kempsmith Machine Co., The: *See*—
Kempsmith Mfg. Co., The.
Kempsmith Mfg. Co., The, to The Kempsmith Machine Co., West Allis, Wis. 219,918, ren. 8–2–66. Cl. 23.
Kerr-McGee Chemical Corp.: *See*—
Baugh & Sons Co.
Kerr-McGee Oil Industries, Inc., Oklahoma City, Okla. 811,949, pub. 5–17–66. Cl. 10.
Klein Chocolate Co., Elizabethtown, Pa. 812,279, pub. 5–17–66. Cl. 46.
Kleinert, I. B., Rubber Co., by I. B. Kleinert Rubber Co., New York, N.Y. 52,549, 12(c) pub. 8–2–66. Cl. 40.
Kohnstamm, H., & Co., Inc., New York, N.Y. 422,362, ren. 8–2–66. Cl. 6.
Kontes Glass Co., Vineland, N.J. 812,131, pub. 5–17–66. Cl. 26.
Kress, S. H., and Co., New York, N.Y. 699,534, canc. Cl. 51.
Krueger, Rudolph E., d.b.a. Rudolph E. Krueger Co., Burbank, Calif. 812,172, pub. 5–17–66. Cl. 35.
Krueger, Rudolph E., Co.: *See*—
Krueger, Rudolph E.
Kurfees Paint Co., Louisville, Ky. 812,004, pub. 5–17–66. Cl. 16.
Laboratoires G. A. Cochard (Societe Anonyme), Anderlecht-Brussels, Belgium. 699,312, canc. Cl. 18.
La Lanne Inc., Oakland, Calif. 699,298, canc. Cl. 18.
Lane Ltd.: *See*—
Lane Tobacco, Ltd.
Lane Tobacco, Ltd., by Lane Ltd., New York, N.Y. 420,421, 12(c) pub. 8–2–66. Cl. 17.
Lederle Laboratories, Inc., New York, N.Y., by American Cyanamid Co., Wayne, N.J. 422,369, 12(c) pub. 8–2–66. Cl. 18.
Lennox Foundry Co., Ltd., The, Kent, England. 421,303, ren. 8–2–66. Cl. 14.
Leo Pharmaceuticals, Inc., Inglewood, Calif. 699,281, canc. Cl. 18.
Levitt, Barth, Products, Lynbrook, N.Y. 699,326, canc. Cl. 18.
Leyse Aluminum Co., Kewaunee, Wis. 811,986, pub. 5–17–66. Cl. 13.
Liberty Hosiery Mills, Inc., Gibsonville, N.C. 821,235, pub. 5–17–66. Cl. 39.
Liggett & Myers Tobacco Co., New York, N.Y. 812,020, pub. 5–17–66. Cl. 17.
Liggett & Myers Tobacco Co., New York, N.Y. 812,320. Cl. 17.
Lightfoot Schultz Co., by Philip Morris Inc., New York, N.Y. 420,728, 12(c) pub. 8–2–66. Cl. 51.
Lincoln Savings Bank, The, Brooklyn, N.Y. 812,309, pub. 5–17–66. Cl. 102.
Linen Thread Co. Inc., The, New York, N.Y. 699,367, canc. Cl. 22.
Link-Belt Co., Chicago, Ill. 812,081, pub. 8–22–66. Cl. 23.
Link-Belt Co., Chicago, Ill. 812,090, pub. 5–17–66. Cl. 23.
Lov-e Brassiere Co., Hollywood, Calif. 812,217, pub. 5–17–66. Cl. 39.
Love.It Products Corp., St. Louis, Mo. 812,292, pub. 5–17–66. Cl. 51.
Luden's Inc., Reading, Pa. 812,285, pub. 5–17–66. Cl. 46.
Lustig Sales Corp., Brockport, N.Y. 699,516, canc. Cl. 46.
Lustig Sales Corp., Brockport, N.Y. 699,517, canc. Cl. 46.
Maas & Waldstein Co., from Plextone Corp. of America, Newark, N.J. 812,001, pub. 5–17–66. Cl. 16.
Machine Accounting Corp., New York, N.Y. 699,554, canc. Cl. 101.
Mack Trucks, Inc., Montvalle, N.J. 811,931, pub. 5–17–66. Multiple Class (Classes 5, 6, 16, 19, 21, 23, 31, 35, and 52).
Mack Trucks, Inc., Montvale, N.J. 811,932, pub. 5–17–66. Multiple Class (Classes 5, 6, 16, 19, 21, 23, 31, 35, and 52).
MacNaughton-Brooks, Inc., Buffalo, N.Y. 811,957, pub. 5–17–66. Cl. 12.
MacNaughton-Brooks, Inc., Buffalo, N.Y. 811,958, pub. 5–17–66. Cl. 12.
Macomber's Inc., Berkeley, Calif. 809,638, cor. Cl. 46.
Macy, R. H., & Co., Inc., New York, N.Y. 216,779, ren. 8–2–66. Cl. 22.
Madison Sales Corp., Chicago, Ill. 699,402, canc. Cl. 27.
Maidenform Sportswear, Inc., New York, N.Y. 812,243, pub. 5–17–66. Cl. 39.
Mallory, P. R., & Co., Inc., Indianapolis, Ind. 811,990, pub. 5–17–66. Multiple Class (Classes 14 and 21).
Marlboro Fabrics: *See*—
Marlboro Fabrics, Inc.
Marlboro Fabrics, Inc., d.b.a. Marlboro Fabrics, New York, N.Y. 699,451, canc. Cl. 39.
Marson Fastener Corp., Revere, Mass. 812,324. Cl. 23.
Martin-Marietta Corp.: *See*—
Master Builders Co., The.
Martin's Uniforms, d.b.a. Martin's Uniforms of Florida, Tampa, Fla. 821,236, pub. 5–17–66. Cl. 39.
Martin's Uniforms of Florida: *See*—
Martin's Uniforms.
Master Builders Co., The, Cleveland, Ohio, by Martin Marietta Corp., Chicago, Ill. 111,836, 12(c) pub. 8–2–66. Cl. 12.
Master Builders Co., The, Cleveland, Ohio, by Martin-Marietta Corp., Chicago, Ill. 134,735, 12(c) pub. 8–2–66. Cl. 12.
Master Builders Co., The, Cleveland, Ohio, by Martin-Marietta Corp., New York, N.Y. 174,470, 12(c) pub. 8–2–66. Cl. 12.
Master Builders Co., The, Cleveland, Ohio, by Martin-Marietta Corp., Chicago, Ill. 258,695, 12(c) pub. 8–2–66. Cl. 12.
Master Builders Co., The, Cleveland, Ohio, by Martin-Marietta Corp., Chicago, Ill. 258,696, 12(c) pub. 8–2–66. Cl. 12.
Master Builders Co., The, Cleveland, Ohio, by Martin-Marietta Corp., Chicago, Ill. 260,656, 12(c) pub. 8–2–66. Cl. 12.
Master Builders Co., The, Cleveland, Ohio, by Martin-Marietta Corp., Chicago, Ill. 276,483, 12(c) pub. 8–2–66. Cl. 12.
Master Builders Co., The, Cleveland, Ohio, by Martin-Marietta Corp., Chicago, Ill. 290,430, 12(c) pub. 8–2–66. Cl. 12.
Master Builders Co., The, Cleveland, Ohio, by Martin-Marietta Corp., Chicago, Ill. 353,184, 12(c) pub. 8–2–66. Cl. 12.
Master Builders Co., The, Cleveland, Ohio, by Martin-Marietta Corp., Chicago, Ill. 375,079, 12(c) pub. 8–2–66. Cl. 12.
Master Builders Co., The, Cleveland, Ohio, by Martin-Marietta Corp., Chicago, Ill. 385,340, 12(c) pub. 8–2–66. Cl. 12.
Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka, Japan. 812,270, pub. 4–20–65. Cl. 44.
Mattingly, Flora M., d.b.a. Plinkies, Chicago, Ill. 699,387, canc. Cl. 23.
Mauborgne, P., & Cie, Societe Anonyme en Nom Collectif, Bernouville, France. 804,591, cor. Cl. 22.
Maxam, Inc., Auburn, Maine. 812,089, pub. 5–17–66. Cl. 23.
McConnaughay, K. E., Lafayette, Ind. 811,954, pub. 5–17–66. Cl. 12.
Meat Industry Suppliers, Inc., Northfield, Ill. 812,281, pub. 5–17–66. Cl. 46.
Medical Recordings Co., Inc., Houston, Tex. 699,416, canc. Cl. 36.
Medicated Products Co., d.b.a. Donald Bruce Co., Chicago, Ill. 812,134, pub. 2–22–66. Cl. 28.
Mellon National Bank and Trust Co., Pittsburgh, Pa. 699,562, canc. Cl. 102.
Melville Shoe Corp., New York, N.Y. 217,048, ren. 8–2–66. Cl. 39.
Merck & Co., Inc., Rahway, N.J. 812,189, pub. 5–17–66. Cl. 37.
Michigan Carton Co., Battle Creek, Mich. 215,067, ren. 8–2–66. Cl. 37.
Mid-Atlantic Footwear Corp., New York, N.Y. 812,226, pub. 5–17–66. Cl. 39.
Mid-Atlantic Footwear Corp., New York, N.Y. 812,227, pub. 5–17–66. Cl. 39.
Mid-Atlantic Footwear Corp., New York, N.Y. 812,228, pub. 5–17–66. Cl. 39.
Midwest American Dental Division of American Hospital Supply Corp.: *See*—
American Hospital Supply Corp.
Miles Standard Corp., The, Saginaw, Mich. 812,103, pub. 5–17–66. Cl. 23.
Minser Tackle Co.: *See*—
Minser, William D.
Minser, William D., d.b.a. Minser Tackle Co., Chinook, Wash. 699,356, canc. Cl. 22.
Missouri Butterine Co.: *See*—
St. Louis Independent Packing Co.
Mitchell, John E., Co., Inc., Dallas, Tex. 812,092, pub. 5–17–66. Cl. 23.
Mitsubishi Electric Corp., Tokyo, Japan. 812,035, pub. 5–17–66. Multiple Class (Classes 21, 24, 36, and 44).
Moen, C. R., to Moen Photo Service, Inc., La Crosse, Wis. 214,260, ren. 8–2–66. Cl. 38.

Mohun International Travels, San Carlos, Calif. 699,582, canc. Cl. 107.
Molded Fiber Glass Body Co., Union City, Pa. 812,028, pub. 5–17–66. Cl. 19.
Molded Fiber Glass Body Co., Union City, Pa. 812,027, pub. 5–17–66. Cl. 19.
Monarch Citrus Products Co.: *See*—
Citrus Products Co.
Moore, David P., Silver Spring, Md. 812,263, pub. 5–17–66. Cl. 42.
Morris, Philip, Inc.: *See*—
Lightfoot Schultz Co.
Morrison, C. Alan, Longmeadow, Mass. 812,291, pub. 8–25–64. Cl. 51.
Morse Chain Co., Ithaca, N.Y. 812,104, pub. 5–17–66. Cl. 23.
Mosler Lock Co., The, Covington, Ky., to The Mosler Safe Co., Hamilton, Ohio. 216,950, ren. 8–2–66. Cl. 25.
Mosler Safe Co., The: *See*—
Mosler Lock Co., The.
Veit, Robert C.
Mt. Parnell Fisheries Inc., Mercersburg, Pa. 811,925, pub. 5–17–66. Cl. 2.
Movie Star, Inc., New York, N.Y. 812,237, pub. 5–17–66. Cl. 39.
Movie Star, Inc., New York, N.Y. 812,238, pub. 5–17–66. Cl. 39.
Mo-Vac International, Inc., La Grange, Ky. 812,262, pub. 5–17–66. Cl. 42.
Mullins Mfg. Corp., Salem, Ohio. 812,154, pub. 5–17–66. Cl. 32.
Myers, F. E., & Bro. Co., The, Ashland, Ohio. 812,076, pub. 5–17–66. Cl. 23.
Mylflam Metallwaren Dr. Maltner Kommanditgesellschaft, Frankfurt am Main, Germany. 811,947, pub. 5–17–66. Cl. 8.
Nasco Doll, Inc., Brooklyn, N.Y. 439,470, 12(c) pub. 8–2–66. Cl. 22.
National Autocraft Mfg. Co., Orlando, Fla. 699,591, canc. Cl. 19.
National Gypsum Co., Buffalo, N.Y. 699,236, canc. Cl. 12.
National Needle Co., Springfield, Mass., to The Torrington Co., Torrington, Conn. 57,124, ren. 8–2–66. Cl. 23.
Nationwide Motel Broker: *See*—
McHugh, Hugh V.
Nelson, Permil N.: *See*—
Ewing, Lynn H.
Nestle-Le Mur Co., The: *See*—
Irresistible, Inc.
Nettle, Henry, d.b.a. Nettle Mfg. Co., Boston, Mass. 699,427, canc. Cl. 37.
Nettle Mfg. Co.: *See*—
Nettle, Henry.
New Century Milling Co., The, to Burrus Mills, Inc., Dallas, Tex. 56,830, ren. 8–2–66. Cl. 46.
New York Airways, Inc., New York, N.Y. 699,569, canc. Cl. 105.
Nicholson File Co.: *See*—
Arcade File Works.
Northern Lights Appliance Mfg. Corp., Brooklyn, N.Y. 812,139, pub. 5–17–66. Cl. 31.
Northwest Paper Co., The, to The Northwest Paper Co., Cloquet, Minn. 215,318, ren. 8–2–66. Cl. 37.
Norman Industries, Inc., Chicago, Ill. 812,047, pub. 2–1–66. Cl. 21.
Notifier Corp., Lincoln, Nebr. 812,050, pub. 5–17–66. Cl. 21.
Nu-Method Systems, Inc., Rock Falls, Ill. 699,430, canc. Cl. 37.
Oakite Products, Inc., New York, N.Y. 811,938, pub. 5–17–66. Cl. 6.
Old Hickory Chair Co., The, to Old Hickory Furniture Co., Martinsville, Ind. 51,685, ren. 8–2–66. Cl. 32.
Old Hickory Furniture Co.: *See*—
Old Hickory Chair Co., The.
Old Orchard Gardens, Inc., Manchester, Mo. 811,915, pub. 5–17–66. Multiple Class (Classes 1 and 12).
Oliver-Miller Plastics Corp., Van Nuys, Calif. 811,920, pub. 5–17–66. Cl. 2.
Olympic Screw & Rivet Corp., Downey, Calif. 811,980, pub. 5–17–66. Cl. 13.
Omark Industries, Inc., Portland, Oreg. 699,380, canc. Cl. 23.
Omark Industries, Inc., Portland, Oreg. 812,087, pub. 5–17–66. Cl. 23.
Outercom Electronics Corp., Charlotte, N.C. 812,034, pub. 5–17–66. Cl. 21.
Oxford Mfg. Co., Inc., Atlanta, Ga. 812,239, pub. 5–17–66. Cl. 39.
Oxford Mfg. Co., Inc., Atlanta, Ga. 812,240, pub. 5–17–66. Cl. 39.
Pacific Forge & Tool Co.: *See*—
Cook, Bernard F.
Pacific News Reel Theaters, Inc., San Francisco, Calif., by Hearst Metrotone News, Inc., New York, N.Y. 391,386, 12(c) pub. 8–2–66. Cl. 26.
Packaging Corp. of America, from Packaging Corp. of America, Evanston, Ill. 812,182, pub. 2–16–65. Cl. 37.
Palm Beach Co., Portland, Maine. 699,465, canc. Cl. 39.
Palmolive Co., The, Chicago, Ill., by Colgate-Palmolive Co., New York, N.Y. 210,594, 12(c) pub. 8–2–66. Cl. 52.
Pan-O-Ramic Package Co., Inc., Janesville, Wis. 699,551, canc. Cl. 100.
Paperlynen Co., Columbus, Ohio. 812,233, pub. 5–17–66. Cl. 39.
Parfumerie St. Denis, New York, N.Y., to Shulton, Inc., Clifton, N.J. 215,007, ren. 8–2–66. Cl. 51.
Parfums Evyan Inc.: *See*—
Evyan Perfumes, Inc.
Parfums Schiaparelli, Inc., New York, N.Y. 422,359, ren. 8–2–66. Cl. 52.
Parker Pen Co., The: *See*—
Wahl Co., The.
Parkland of Dallas, Inc., Dallas, Tex. 812,246, pub. 5–17–66. Cl. 39.
Pedco Corp., Atlantic Highlands, N.J. 699,388, canc. Cl. 23.
Penetred Corp., Marshfield, Wis. 812,171, pub. 5–17–66. Cl. 35.
Pennsalt Chemicals Corp., Philadelphia, Pa. 812,296, pub. 5–17–66. Cl. 52.
Permaflber Corp., New York, N.Y. 812,261, pub. 5–17–66. Cl. 42.
Pfaff, G. M., A.G., Kaiserslautern/Pfals, Germany. 812,036, pub. 5–17–66. Multiple Class (Classes 21 and 34).
Photogenic Machine Co., The, Youngstown, Ohio. 812,126, pub. 5–17–66. Cl. 26.
Pinaud, Ed, Inc.: *See*—
Pinaud, Inc.
Pinaud, Inc., to Ed Pinaud, Inc., New York, N.Y. 219,713, ren. 8–2–66. Cl. 51.
Pinnell, Wm. H., Co., Inc., to Iselin-Jefferson Co., Inc., New York, N.Y. 419,755, ren. 8–2–66. Cl. 42.
Pinternagel, Werner, d.b.a. Dynacord, Straubing, Germany. 812,042, pub. 4–6–65. Cl. 21.
Pioneer Paint & Varnish Co., Tucson, Ariz. 812,009, pub. 5–17–66. Cl. 16.
Plextone Corp. of America: *See*—
Maas & Waldstein Co.
Plinkies: *See*—
Mattingly, Flora M.
Plumbing and Drainage Institute, Oak Park, Ill. 812,302, pub. 5–17–66. Cl. 100.
Pneumatic Scale Corp., Ltd., Quincy, Mass. 812,085, pub. 5–17–66. Cl. 23.
Poclain, Le Plessis-Belleville (Oise), France. 811,968, pub. 5–17–66. Multiple Class (Classes 13 and 23).
Poclain, Le Plessis-Belleville, (Oise), France. 812,300, pub. 5–17–66. Multiple Class (Classes 100 and 103).
Pratt, B. G., Co., New York, N.Y., to B. G. Pratt Co., Paterson, N.J. 54,343, ren. 8–2–66. Cl. 6.
Prescolite Mfg. Corp., San Leandro, Calif. 812,065, pub. 5–17–66. Cl. 21.
Prescolite Mfg. Corp., San Leandro, Calif. 812,066, pub. 5–17–66. Cl. 21.
Prescolite Mfg. Corp., San Leandro, Calif. 812,067, pub. 5–17–66. Cl. 21.
Prescolite Mfg. Corp., San Leandro, Calif. 812,071, pub. 5–17–66. Cl. 21.
Preservation Society of Newport County, The, Newport, R.I. 812,151, pub. 5–17–66. Cl. 32.
Preservation Society of Newport County, The, Newport, R.I. 812,161, pub. 5–17–66. Cl. 34.
Price Brothers & Co., Ltd., Quebec, Quebec, Canada. 812,183, pub. 9–29–64. Cl. 37.
Professional Budget Plan, Madison, Wis. 812,307, pub. 5–17–66. Cl. 101.
Professional Secretarial School, Inc., d.b.a. Brandon's Professional Schools, Professional PBX School, Professional Secretarial and PBX School and Professional Secretarial School, San Francisco, Calif. 812,312, pub. 5–17–66. Cl. 107.
Professional Secretarial School, Inc., d.b.a. Brandon's Professional Schools, Professional PBX School, Professional Secretarial and PBX School and Professional Secretarial School, San Francisco, Calif. 812,313, pub. 5–17–66. Cl. 107.
Profit-Mor Equipment Co., Inc., Indianapolis, Ind. 812,277, pub. 5–17–66. Cl. 44.
Progredo Trading Co.: *See*—
Schutterman, Gustav.
Purchasing Agents Association of Syracuse and Central New York, Inc., Syracuse, N.Y. 699,444, canc. Cl. 38.
Puritan Chemical Co., Atlanta, Ga. 811,946, pub. 5–17–66. Cl. 6.
Quaker State Oil Refining Corp.: *See*—
Independent Refining Co.
Qualitrol Corp., Fairport, N.Y. 421,549, ren. 8–2–66. Cl. 26.
Quentin Co. Inc., The, Brooklyn, N.Y. 699,212, canc. Cl. 2.
Random House, Inc., New York, N.Y. 812,202, pub. 5–17–66. Cl. 38.
Randomatic Data Systems, Inc., from Automation Engineers, Inc., Trenton, N.J. 812,117, pub. 5–17–66. Cl. 26.
Rayo-O-Vac Co., Madison, Wis., to The Electric Storage Battery Co., Philadelphia, Pa. 421,459, ren. 8–2–66. Cl. 21.
Recreational Facilities Corp., Denver, Colo. 699,360, canc. Cl. 22.
Red Spot Paint & Varnish Co., Inc., Evansville, Ind. 221,225, ren. 8–2–66. Cl. 16.
Redi-Record Payroll Systems, Inc., Oceanside, N.Y. 812,194, pub. 5–17–66. Cl. 37.
Redi-Record Payroll Systems, Inc., Oceanside, N.Y. 812,195, pub. 5–17–66. Cl. 37.
Reingell Industries, New York, N.Y. 699,365, canc. Cl. 22.
Rexall Drug and Chemical Co.: *See*—
Syracuse Ornamental Co.
Reynolds Cycle Products, Inc., Maspeth, N.Y. 812,030, pub. 5–17–66. Cl. 19.
Rheem Mfg. Co., New York, N.Y. 811,975, pub. 5–17–66. Cl. 13.
Richmond Pen Co., Inc., Richmond, Va. 812,196, pub. 5–17–66. Cl. 37.
Ritter Co., Inc., from Ritter Corp., Rochester, N.Y. 812,271, pub. 5–17–66. Cl. 44.
Ritter Corp.: *See*—
Ritter Co., Inc.
Riverside and Dan River Cotton Mills, Inc., by Dan River Mills, Inc., Danville, Va. 421,605, 12(c) pub. 8–2–66. Cl. 42.
Riverside and Dan River Cotton Mills, Inc., by Dan River Mills, Inc., Danville, Va. 421,606, 12(c) pub. 8–2–66. Cl. 42.

Roberts Engineering & Mfg. Co., Inc., Corpus Christi, Tex. 811,981, pub. 5–17–66. Cl. 13.
Roberts, Francis T., d.b.a. Science Editors, Louisville, Ky. 699,445, canc. Cl. 38.
Robison, C. J., d.b.a. Tex Products Co., Newark, to Textron Industries, Inc., d.b.a. Vita-Var Co., Orange, N.J. 421,454, ren. 8–2–66. Cl 16.
Rockwell-Standard Corp., Pittsburgh, Pa. 812,029, pub. 5–17–66. Cl. 19.
Rolscreen Co., Pella, Iowa. 811,964, pub. 5–17–66. Cl. 12.
Roselon Yarns, Inc., Philadelphia, Pa. 812,268, pub. 5–17–66. Cl. 43.
Rosenau Bros., Inc., Philadelphia, Pa. 812,328. Cl. 39.
Rosenstock, H., & Sons, Inc., Ellenville, N.Y. 812,234, pub. 5–17–66. Cl. 39.
Roth Bros. & Co., Chicago, Ill. 699,460, canc. Cl. 39.
Rotobond Co., Bound Brook, N.J. 699,383, canc. Cl. 23.
Roxborough Co., The, d.b.a. Summit Hosiery Co., Philadelphia, Pa. 699,458, canc. Cl. 39.
Rudolf Gowns, Inc., New York, N.Y. 699,464, canc. Cl. 39.
Ruppert, Jacob, New York, N.Y. 699,520, canc. Cl. 48.
Saatman, Pierre, Pully, Switzerland. 812,132, pub. 3–22–66. Cl. 27.
Sacks, Louis, to Star Heel Plate Co., Inc., Newark, N.J. 56,506, ren. 8–2–66. Cl. 13.
Sagner's, A., Son, Frederick, Md. 812,232, pub. 5–17–66. Cl. 39.
St. Louis Independent Packing Co., d.b.a. Missouri Butterine Co., St. Louis, Mo., to Swift & Co., Chicago, Ill. 213,633, ren. 8–2–66. Cl. 46.
St. Regis Paper Co., New York, N.Y. 699,428, canc. Cl. 37.
Saks & Co., New York, N.Y. 812,207, pub. 3–23–65. Cl. 39.
Saletta, Christy F., Oak Park, Ill. 812,101, pub. 5–17–66. Cl. 23.
Sampino, S., & Waverly Beauty Products, Inc., Brooklyn, N.Y. 812,295, pub. 5–17–66. Cl. 52.
San Juan Fishing & Packing Co., Seattle, Wash. 812,284, pub. 5–17–66. Cl. 46.
Schmid, Julius, Inc., New York, N.Y. 699,304, canc. Cl. 18.
Schramm Fiberglass Products, Inc., from Cory Corp., Chicago, Ill. 811,933, pub. 5–17–66. Cl. 5.
Schramm Fiberglass Products, Inc., from Cory Corp., Chicago, Ill. 811,934, pub. 5–17–66. Cl. 5.
Schutterman, Gustav, d.b.a. Progredo Trading Co., New York, N.Y. 812,082, pub. 10–26–65. Cl. 23.
Science Editors: *See*—
Roberts, Francis T.
Scott, H. H., Inc., Maynard, Mass. 812,179, pub. 5–17–66. Cl. 36.
Searle, G. D., & Co., Skokie, Ill. 812,272, pub. 5–17–66. Cl. 44.
Sensation Mower, Inc., Ralston, Nebr. 812,105, pub. 5–17–66. Cl. 23.
Sethco Mfg. Corp., Freeport, N.Y. 812,144, pub. 5–17–66. Cl. 31.
Selby, Battersby & Co., Philadelphia, Pa. 425,286, ren. 8–2–66. Cl. 4.
721 Corp., The, New York, N.Y. 812,215, pub. 5–17–66. Cl. 39.
Sherman, Harry, Inc., Chicago, Ill 699,453, canc. Cl. 39.
Short Stuff of California: *See*—
Short Stuff, Inc.
Short Stuff, Inc., d.b.a. Short Stuff of California, Covina, Calif. 812,064, pub. 5–17–66. Multiple Class (Classes 21, 22, and 32).
Shulton, Inc.: *See*—
Parfumerie St. Denis.
Sierra Plastics, Inc., Los Angeles, Calif. 812,208, pub. 5–17–66. Cl. 39.
Signal Oil and Gas Co.: *See*—
Hancock Refining Co.
Silverlining, Inc., Costa Mesa, Calif. 699,336, canc. Cl. 19.
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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
August 9, 1966 Volume 829 Number 2

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of June 1966

Examiner affirmed	242
Examiner affirmed in part	59
Examiner reversed	76
Total	377

Guidelines to Examination of Programs

The following are guidelines which the Patent Office proposes to adopt for the examination of applications for patent on programming methods and apparatus. Comments as to these guidelines will be considered if received on or before October 4, 1966, on which date a public hearing on the matter will be held at 10:00 a.m. in Room 3886B of the Department of Commerce Building. All persons wishing to be heard orally at that time are requested to notify the Commissioner of Patents of their intended appearance.

EDWARD J. BRENNER,
July 6, 1966. *Commissioner of Patents.*

In considering these guidelines, it should be understood that, since it is not an analysis of judicial holdings, they must be considered as a tentative, theoretical analysis of applicable statutory law. It may well be that, when particular facts in particular applications are considered, modification in some instances may become necessary.

The term "program" has been loosely applied by authors discussing the patentability of processes and apparatus under our statutes.

For the purposes of this paper it is unnecessary to arrive at formal or precise definition of this term or of related terms such as "computer" or "data processor" since these are merely adaptations of the concept of "automatic control" which the Patent Office heretofore has been treating as within the classes of invention called for in 35 U.S.C. 101 as either apparatus or processes.

For example, the Jacquard looms of Class 139, Textiles, Weaving, subclass 59 and indented subclasses have presented for many years the concept of processes and apparatus that include a program. It is of no moment whether a "program device" is termed a Jacquard card belt, a player piano roll, a plug board or a magnetic tape and the corresponding "program" is termed a weaving design, a musical composition, a switching scheme or a document listing a series of instructions which a machine will execute, for its patentability is based on the presence or lack of statutory subject matter and this must be determined on the basis or a particular disclosure of subject matter.

It is not intended to indicate that there are no special, unresolved problems in the field of "programs" for electronic computers, such as where a program is a printed document, yet is acceptable directly by a computer having devices which can sense the printed characters on the program document.

PROCESS

Special problems of patentability arise in the computer, data processing and automatic control field that revolve around mathematical processes and equations. These problems may be more generically stated as the broad field of algorithms which are conclusions based upon a precise or mathematical premise and line of reasoning.

For example the prediction as to the winner in a presidential election made by a programmed "general purpose" computer is based on an algorithm, not generally publicized, which has been evolved from a line of reasoning based on known factors and is analogous to a mathematical formula. Similarly, business practices or methods may be reduced to an algorithm.

Mathematical process discoveries and mathematical formulas used therein may not be patented although they may be of enormous importance (e.g., $e=mc^2$). The mathematical process fails as a statutory process as defined by the Supreme Court in *Cochrane* v. *Deener*, 94 U.S. 780, 1877 C.D. 242, since it is not a treatment of "materials or substances." Processes in the electrical field were considered in the Telephone Cases 126 U.S. 1 (1887) and the electric telegraph case *O'Reilly* v. *Morse*, 15 How. (56 U.S.) 62 (1853).

Mathematical formulas are not included within 35 U.S.C. 101 since they are not a process, a machine, a manufacture, a composition of matter, or useful improvements thereof.

Other decisions treating similar non-statutory processes as "mental processes" are:

In re Abrams, 38 CCPA 945, 1951 C.D. 264, 648 O.G. 663, 188 F.2d 165, 89 USPQ 266.

In re Shao Wen Yuan, 38 CCPA 967, 1951 C.D. 286, 648 O.G. 967, 188 F.2d 377, 89 USPQ 324.

These processes were for, or were characterized by, an algorithm.

Processes of doing business and of evaluating data likewise are characterized by an algorithm.

Thus certain useful and important processes are non-statutory as being merely expressions of an algorithm while other useful processes are statutory since they deal with tangible things and substances. For convenience they may be distinguished as "algorithm" and "utility" processes, respectively.

To distinguish between algorithm and utility processes becomes difficult in the case of a programmed general purpose computer unless the distinction between *a result* of method or apparatus operation and the *function* of the method steps or apparatus components is maintained.

The *result* of a programmed operation of a computer may be the mathematical transformation of data according to an algorithm but the *functioning* of the computer is the change

New Applications Received During June 1966

Patents	7746
Designs	399
Plant Patents	8
Reissues	16
Total	8169

Issue—August 9, 1966

Patents	1402—No. 3,264,654 to No. 3,266,055, incl.
Designs	54—No. 205,438 to No. 205,491, incl.
Total	1456

in state of certain electrical or mechanical devices within the computer according to the algorithm, as distinguished from the individual or total computational result of the components thereof.

Thus a process, defined as a series of steps for the manipulation or evaluation of data, even though it is required to be carried out by a programmed computer, would be an algorithm process. A process defined as a series of steps for causing a sequence of changes in state of components of the computer, even though the sequence is dictated by an algorithm, would be a utility process.

Since the general purpose computer usually is programmed solely in terms of an algorithm and but infrequently in terms of the machine functioning of its components, it would be possible to define the process solely in algorithm terms and thus not be within the statute and not in utility function terms so as to be within the statute.

Where a process is a combination of algorithm and utility steps, its patentability is measured by viewing the process as a whole against the background of the prior art, as evidenced by references, including that which can be judicially noticed, to determine whether the process is characterized solely by the algorithm. Mere inclusion of algorithm steps *per se* does not render a process non-statutory since the algorithm may illuminate or exemplify the utility steps.

35 U.S.C. 112, third paragraph, authorizes a claim, when expressed as a "step for performing a specified function without the recital of structure, material or act in support thereof," but this does not sanction the claiming of a result only, since this has been construed repeatedly by the courts as not such that would promote the progress of science and useful arts. "Function" here must be construed as a utility function, as a means to an end, not the end or result itself.

However, a process, which includes utility steps that may or may not be old *per se*, recited in proper interrelation and illuminated by the inclusion of steps which set forth an algorithm to be solved as a result of the utility operations, may yield some new and unobvious *utility* and thus may be patentable over the prior art that does not teach this utility and how to obtain it. For example, a known programmed computer may be combined with and monitor and control a known chemical reactor in a manner to carry out a new and unobvious algorithm by a procedure applied to a material and thus be possibly patentable as where a new, unobvious compound results.

In summary, a process carried out by a programmed apparatus is (*a*) non-statutory where the process as claimed merely states the algorithm and is (*b*) unpatentable over the prior art where the prior art shows (i.e., makes obvious) all the statutory subject matter although not applied to the same algorithm. However, where the algorithm expressed in the process results in a new utility function for the statutory subject matter of the claim and this utility function is not presented by the prior art, the algorithm is illuminating and may be limiting in the process. But in no case would the fact of inclusion of the algorithm vitiate the statutory subject matter of the process.

APPARATUS

Apparatus within the field of programmed devices is always some form of machine or other manufacture under 35 U.S.C. 101.

In the case of a programmed computer or other machine, evaluation of patentability of the combination claimed follows by analogy that set forth above for processes. The program itself (if this is considered to be the algorithm) and the physical embodiment for effectuating that program (as a structural device) require no further treatment.

Apparatus may be defined in many instances in terms of a paraphrase of a process definition, i.e., in terms of "means for" carrying out the "function" of each step of that process. If the "function" is a *machine function* such a means encompasses statutory subject matter, but where the "means" is modified only by a statement of the *result* to be effected (such as the analysis of intellectual information in accordance with an algorithm), definition is non-statutory.

35 U.S.C. 112, third paragraph, specifically relates "function" to the structure or material in support of the function and not to a result which the structure or material cannot give. A claim to a series of means for carrying out the successive steps of a mathematical algorithm tells nothing of the structure of a machine capable of so operating as to result in solving the algorithm, but merely claims, in effect, the non-statutory algorithm.

Similarly to the case of the process, a claim which includes both statutory apparatus features and non-statutory features may be patentable on the basis of the new utility of the statutory apparatus features, but only if properly claimed so as to be restricted to apparatus significantly different from the prior art.

A programable machine, such as a general purpose computer, with its various parts not interconnected to perform any useful combined operation is merely a "warehouse" of unrelated parts. It may well be that the same machine, with a program device correctly related thereto, may yield a novel and useful machine combination due to the new interrelation of parts. In other words, the fact that such a prior art machine can have its parts interrelated by a program device in a new way to carry out machine functions of a specialized character may well result in a new patentable combination, unless there is a prior art teaching that would make the interrelations and results thereof obvious.

A machine which has as a part thereof a program device to cause the entire combination to carry out machine functions is embraced within the patent statute the same as any other special purpose machine and the fact that portions of the complete machine take the form of a replaceable program device is of no moment.

Claims to apparatus frequently are directed to less than the total apparatus disclosure and the aforegoing considerations are applicable to any such subcombination.

However, when the subcombination is that portion of a programmed machine which is interchangeably related to the machine and is determinative of the choice of algorithm to be carried out by the total machine, special considerations may arise because of the various usage of the terms "program" or "computer program."

The term "program" has been applied indiscriminately both (*a*) to the algorithm which the machine is intended to solve as a result of its functioning and (*b*) to the physical device which is associatable with the machine and becomes a part of that machine so as to cause the total combination to be capable of yielding the result.

A "program," when this term designates an algorithm, has no physical connotations, but is an intellectual concept and is not, *per se*, statutory subject matter.

A "program" may be a physical device which may take many different forms, such as printing on a piece of paper, electric or magnetic discontinuities on a recording media or cam-like protuberances or recesses, which is capable in proper relation to other physical devices of yielding a combination functioning to solve algorithms as a result.

The physical modification of a program *device* may express the algorithmic meaning by a printed word, letter or symbol easily interpreted by the human mind according to the prearranged convention of language or by a coded arrangement of physical discontinuities which similarly may be interpreted, but with greater difficulty, by the human mind. These same physical modifications can be sensed by the machine to control the kind or sequence of the operations of various portions of the machine so that its function is in accordance with the algorithm. (Note that some machines optically sense print and are controlled in accordance with the printing, but not its *meaning*.)

Since these program devices include symbols which can be interpreted in an intellectual sense the numerous cases on "printed matter" may apply such as the following Board decisions:

Ex parte Gwinn, 716 O.G. 15, 1957 C.D. 18, 112 USPQ 439,
Ex parte Ehnes, 107 USPQ 282,
Ex parte Dere, 118 USPQ 341,
Ex parte Stange, 124 USPQ 238,
Ex parte des Granges, 1964 C.D. 265, 803 O.G. 899, 142 USPQ 41,

and the court decision to which reference is made therein.

Thus a program device which has in combination novel structure apart from the symbols or a novel relationship of the symbols to structure so that the combination functions to give a useful result, may qualify as a statutory machine or article of manufacture. Where the program device, as to all features and interrelations, is made obvious by prior art, the meaning or intelligence conveyed by the symbology of the physical representations thereon being the sole novelty, such being non-statutory subject matter, may not impart patentability to that which is old.

It is of extreme importance to an inventor who has devised an overall combination of a programmed machine that is patentable to be able to obtain a patent on the program device as a subcombination of that machine. This is particularly the case where the subcombination is to be sold separately from the machine, being evolved for interchangeable use with other correlative subcombinations.

Where the subcombination is defined in terms of its own novel structure and resultant utility, no problems in determining patentability exist.

Where the subcombination is defined in terms of the old structure of a known subcombination and thus is unpatentable for this reason, the fact that the claim also includes language indicating merely a sought for result or an intended use in an unclaimed combination cannot cause that which is old to be patentable.

The following is presented as a summary and as such must be construed in the context of the preceding discussion.

(1) The examination of process claims entails:
- (A) A determination whether or not there is a disclosure of a statutory process under 35 U.S.C. 100(b) and 101. Mere disclosure of an algorithm process in the absence of a utility process is insufficient under 35 U.S.C. 112, first paragraph.
- (B) A determination of whether or not the claims are in whole or in part to a utility process.
  - (*a*) Patentability of a utility process or of the utility steps of a process which have both utility and algorithm steps must be on the basis of prior art which is cited or is indicated to have been judicially noted (as under 35 U.S.C. 103).
  - (*b*) Patentability cannot be predicated on an algorithm process alone. Where a process has both utility and algorithm steps, patentability cannot be predicated on the algorithm but the algorithm steps do not vitiate the claim.
- (C) A search for, and an application of, the prior art to the statutory subject matter set out by the claims. The prior art is constituted by any known machine, any known process, any known algorithm or any other pertinent known information available in the prior art to render obvious the claimed process under 35 U.S.C. 101, 102, 103.

(2) The examination of apparatus claims entails:
- (A) A determination of whether or not there is a clear disclosure of apparatus coming under the statutes, particularly 35 U.S.C. 101 and 112, first paragraph.
- (B) A determination of whether or not the claims are in whole or in part to apparatus coming under the patent statutes.
  - (*a*) The claims may set forth structure or a means for carrying out an apparatus function.
    - (i) Where this function is that which an apparatus is capable of carrying out, it is a statutory definition of that apparatus or its equivalents under 35 U.S.C. 112, third paragraph.
    - (ii) Where this function is not one which apparatus can carry out but is merely a designation of the result of, or the meaning to be accorded to, the operation of the apparatus, only a non-statutory algorithm is claimed thereby.
  - (*b*) The presence in the claim of a statement of the algorithm practiced by the apparatus does not vitiate the statutory apparatus set forth therein but may illuminate a novel apparatus function of that apparatus.
  - (*c*) The claim may set forth less than the total disclosed apparatus. The program device, apart from the programable machine with which it is to function, may be a proper subcombination, if the claim defines that which provides an apparatus function; but such device is not a proper subcombination where its sole characteristic is the meaning, algorithm or result ascribed to a physical feature of the program device.
- (C) A search for, and application of, the prior art to the statutory apparatus set out in the claim. The prior art is constituted by any known process, any known apparatus, any known algorithm, or any other pertinent known information available in the prior art to render obvious the claimed apparatus under 35 U.S.C. 101, 102, and 103.
  - (*a*) The fact that known programable machine components could be programmed by appropriate interconnections to carry out the machine functions set out in a claim does not in and of itself anticipate or make obvious the invention claimed. However, additional prior art may make obvious the necessary interconnection.
  - (*b*) A program device for a programable machine is unpatentable which differs from the prior art only by reason of the meaning or algorithm ascribed to the symbology represented on the program device and the analogy to printed matter law to which there has been reference should be followed.
  - (*c*) A program device which is a proper subcombination of a disclosed combination may be patentable *per se* by reason of its novel structure and functions.

No Entries in Punched Cards for Organic Phosphorous Compound Patents After July 1, 1966

No further entries will be made by the Patent Office in the punched card file for mechanized search of organic phosphorous compound patents after July 1, 1966. The offer of cards containing new material, published March 22, 1966 (824 O.G. 1199), is, accordingly, withdrawn. A refund of payment will be made to each party who tendered a renewal subscription for such cards.

The file containing cards for patents issued before July 1, 1966, may still be purchased at the price of $40 and machine searches may still be obtained, in accordance with the notice published February 1, 1966 (823 O.G. 1), but only with respect to patents issued before July 1, 1966.

RICHARD A. SPENCER,
Director, Office of Research, Development and Analysis.
July 5, 1966.

Format—Requesting Streamlined Continuation Application

In response to many inquiries, the following format is suggested to transmit a new set of claims and request the use of the contents of an earlier filed application for a continuation application in compliance with 824 O.G. 1.

REQUEST FOR STREAMLINED CONTINUATION APPLICATION UNDER COMMISSIONER'S ORDER 824 O.G. 1

Earlier copending application:
Applicant(s) _____
Serial No. _____
Filed _____
Title _____
Enclosed are:
1. A new set of claims.
2. Filing Fee of $_____ (or*), to cover—
   Total Number of claims _____
   Independent Claims _____

Please use the contents (specification and drawings) of the above application in the new application since it meets all the requirements of the above Commissioner's Order dated February 11, 1966. The specification (and drawings) of the new application are identical with the earlier application, and the new claims are directed to the same invention.

*"Authorization letter (2 copies) for use of funds in my Deposit Account No. _____ for the filing fee of $_____, to cover—
Total Number of Claims_____
Independent Claims _____

May 31, 1966. EDWIN L. REYNOLDS,
First Assistant Commissioner.

Practice re: Filing Fees

It is suggested that attorneys review the notices pertaining to filing fees under the new Fee Act of 1965 appearing at 818 O.G. 1207, September 28, 1965, and 823 O.G. 814, February 15, 1966.

The filing fee includes the basic $65 fee plus an additional fee corresponding to the number and type of claims presented.

For filing fee purposes the Patent Office considers any claim that specifically refers back to another claim to be a dependent claim, regardless of statutory class.

It appears that some attorneys are submitting filing fees in excess of their computations, apparently to insure against loss of a filing date should their computations be in error. This is neither necessary nor desirable. The Application Branch has been authorized to accept all applications, otherwise acceptable, if the basic fee of $65 is submitted, and if the deficiency is no more than $25 of the required filing fee, and to require payment of the deficiency within a stated period upon notification of the deficiency. Practitioners are urged to discontinue submitting excessive fees, since processing such fees has proved costly to the Office, and since applicants are believe to be adequately protected against loss of filing date by the practice outlined above.

There appears to be an erroneous impression that a Rule 147 divisional case requires a filing fee based on the claims in the parent case. The 818 O.G. 1207 notice specifically states than an amendment filed with a Rule 147 case will be effective to reduce the number of claims upon which the fee is based.

RICHARD A. WAHL,
Assistant Commissioner.

June 30, 1966.

Disclaimer

3,248,590.—*Kurt Schmidt*, Cleveland Heights, Ohio. HIGH PRESSURE SODIUM VAPOR LAMP. Patent dated Apr. 26, 1966. Disclaimer filed June 24, 1966, by the inventor; the assignee, *General Electric Company*, consenting.

Hereby enters this disclaimer to claim 9 of said patent.

Adjudicated Patents

(Ct. Cls.) Lavelle Patent No. 2,557,829 (244—42), for AIRCRAFT CONTROL MEANS. Claim 2 *Held* not infringed. *Lavelle Aircraft Corp.* v. *United States*, 358 F.2d 1005; 149 USPQ 458.

(C.A. La.) Scaramucci Patent No. 2,763,455 (287—54), for FRAME CONSTRUCTION FOR PLAYGYMS. Claim 1 *Held* invalid. *Scaramucci* v. *Universal Manufacturing Co., Inc.*, 359 F.2d 388; 149 USPQ 397.

(C.A. Miss.) Duncan, Duncan and Duncan Patent No. 2,873,722 (119—14.09), for BULK MILK TANK AND WASHER THEREFOR, *Held* invalid. *Zero Mfg. Co.* v. *Mississippi Milk Producers Ass'n.*, 358 F.2d 853; 149 USPQ 70.

(C.A. Ind) Melnick and Luckmann Patent No. 2,955,039 (99—122), for MARGARINE AND METHOD FOR PRODUCING SAME, *Held* invalid. *Corn Products Co.* v. *Standard Brands Inc.*, 359 F.2d 739; 149 USPQ 316.

(C.A. Calif.) Bentley Patent No. 2,957,199 (17—32), for HAND OPERATED MEAT BALL MOLD, *Held* invalid. *Bentley* v. *Sunset House Distributing Corp.*, 359 F.2d 140; 149 USPQ 152.

(C.A. Miss.) Duncan Reissue Patent 24,162 (119—14.09), for VACUUM CONTAINER MILKING SYSTEM AND APPARATUS THEREFOR, *Held* invalid. *Zero Mfg. Co.* v. *Mississippi Milk Producers Ass'n.*, 358 F.2d 853; 149 USPQ 70.

(D.C. Ill.) Howe Patent No. 2,201,490 (38—90), for INCLINED HINGE, *Held* invalid. *Howe* v. *General Motors Corp.*, 252 F. Supp. 924; 149 USPQ 808.

(D.C.N.C.) Long Patent No. 2,704,158 (214—5.5), for TOBACCO HARVESTER, *Held* valid. *Davis Harvester Co.* v. *Long Mfg. Co.*, 252 F. Supp. 989; 149 USPQ 420.

(D.C.N.C.) Davis Scott Patent No. 2,715,968 (214—5.5), for TOBACCO HARVESTER, *Held* invalid. 252 F. Supp. 989; 149 USPQ 421. *Id.*

(D.C. Ark.) Ents Patent No. 2,762,359 (125—23), for STONE CUTTING MACHINE. Claims 10 and 11 *Held* invalid. *Imperial Stone Cutters, Inc.* v. *Schwartz*, 252 F. Supp. 60; 149 USPQ 321.

(D.C. Iowa) Romine Patent No. 2,847,808 (53—124), for TREE WRAPPING MACHINE. Claims 1, 2 and 5 to 7 *Held* invalid but not infringed. *Greening Nursery Co.* v. *J. and R. Tool and Manufacturing Company*, 252 F. Supp. 117; 149 USPQ 337.

(D.C.N.J.) Rinker and Duva Patent No. 3,104,212 (204—46), for ELECTRO-PLATING SMOOTH DUCTILE GOLD. Claims 1, 2, 5, 6, 12 and 14 *Held* invalid. *Engelhard Industries, Inc.* v. *Sel-Rex Corp.*, 253 F. Supp. 832; 149 USPQ 607.

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Patent No. 2,860,095, W. E. Kats and N. W. Rosenberg, SEPARATION OF ELECTROLYTIC SOLUTIONS INTO CONCENTRATED AND DILUTE STREAMS, decided June 2, 1966, Interference No. 94,766, claims 1 and 6.

Patent No. 2,862,624, E. A. Stokes, FILTER ELEMENTS, decided June 23, 1966, Interference No. 94,194, claim 1.

Patent No. 3,022,455, L. R. Hetsler and L. J. Sheldrake, REGULATOR CIRCUIT FOR GENERATORS, decided Mar. 10, 1966, Interference No. 92,961, claims 4, 5, 6 and 8.

Patent No. 3,031,169, A. I. Robinson and G. O. Kimmell, APPARATUS FOR AUTOMATICALLY CONTROLLING DRILLING, decided Mar. 21, 1966, Interference No. 93,368, claim 9.

Patent No. 3,035,419, J. W. Wigert, COOLING DEVICE, decided June 22, 1966, Interference No. 94,811, claims 2 and 4.

Patent No. 3,042,720, G. Paabo, HYDROXY-ALKYL-AMINOACETYL XYLIDIDES, decided June 28, 1966, Interference No. 94,431, claim 2.

Patent No. 3,062,314, C. B. Vogel and T. W. Lamb, WELL LOGGING, decided Dec. 29, 1965, Interference No. 93,516, claim 5.

Patent No. 3,073,995, R. B. Phinisy and B. D. Menkin, ROTARY ELECTROMAGNETIC ACTUATOR, decided Jan. 5, 1966, Interference No. 94,061, claims 1, 2, 4, 5 and 11.

Patent No. 3,098,322, C. Greene, STRUCTURAL EAVES COVERING, decided June 22, 1966, Interference No. 94,516, claims 1 and 2.

Patent No. 3,156,300, J. S. Page and J. S. Page, Jr., METHOD AND APPARATUS FOR PROTECTING WELLS, decided May 27, 1966, Interference No. 95,269, claims 24, 25, 26 and 27.

Patent No. 3,158,733, C. B. Sibley, FOCUS CONTROL FOR ELECTRON BEAM HEATING, decided June 22, 1966, Interference No. 94,869, claims 1, 2, 3 and 4.

Patent No. 3,190,442, W. F. Gauss, PACKAGING METHODS, decided June 29, 1966, Interference No. 95,263, claims 1, 2, 3, 4, 5 and 6.

Erratum

In the OFFICIAL GAZETTE of Dec. 22, 1964, p. 981, under the heading "Adverse Decisions in Interferences," second column, line 20 thereof, for "claims 4 and 8." read *claims 4 and 12.*

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JULY 1, 1966

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action: New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7-1-63	11-14-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—G. D. MITCHELL, Manager. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	1-29-63	2-20-61
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager. Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	7-1-63	4-13-62
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	7-1-63	7-11-60
COMPOSITIONS AND MOLDING, GROUP 150—M. STERMAN, Manager. Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	7-23-63	2-26-60
COATING AND LAMINATING, GROUP 160—J. R. LIBERMAN, Manager. Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	6-4-63	12-4-61
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager. Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	11-16-62	10-11-61
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager. Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1-11-63	12-18-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER AND ELEMENTS, GROUP 210—M. L. LEVY, Manager. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	12-31-62	10-19-61
SECURITY, GROUP 220—S. BOYD, Manager. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	8-26-63	1-16-62
INFORMATION TRANSMISSION, GROUP 230—E. J. SAX, Manager. Communications; Multiplexing Techniques; Facsimile and Related Art.	4-4-63	12-22-61
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—E. J. SAX, Manager. Data Processing, Computation and Conversion; Storage Devices and Related Art.	12-28-62	2-6-61
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—F. M. STRADER, Manager. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	12-17-62	7-31-61
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager. Optics; Radiant Energy; Measuring.	1-8-63	8-8-61
PHYSICS, GROUP 280—R. L. EVANS, Manager. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	9-18-63	10-25-62
DESIGNS, GROUP 290—S. BOYD, Manager. Industrial Arts; Household, Personal and Fine Arts.	5-17-65	9-21-64

Total number of pending applications (excluding Designs)	196,314
Total number of Design applications pending	4,534
Total number of applications awaiting action (excluding Designs)	145,101
Total number of Design applications awaiting action	2,563
Date of oldest new application awaiting action	Nov. 16, 1962
Date of oldest amended application awaiting action	Feb. 26, 1960

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during August 1966, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1965.*

Patents..... Numbers 2,477,558 to 2,490,820, inclusive
Plant Patents..... Numbers 858 to 869, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	10-5-64	2-19-64
MANUFACTURING; METAL, PLASTICS WORKING; MACHINE TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders.	3-3-64	3-6-62
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	7-7-64	4-30-63
FLUID HANDLING, GROUP 360—T. J. HICKEY, Manager Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	5-18-64	11-7-62
HEAT AND POWER ENGINEERING, GROUP 370—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration, Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	8-17-64	11-14-63
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, Etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletry.	10-14-63	1-3-62
CIVIL ENGINEERING, GROUP 420—T. J. HICKEY, Manager Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	7-1-64	6-25-62
TEXTILES AND APPAREL, GROUP 440—W. S. COLE, Manager Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	7-1-64	6-21-62
TRANSPORTATION, GROUP 450—A. BERLIN, Manager Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	7-16-64	7-22-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	7-1-64	1-24-63
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—A. RUEGG, Manager Printing; Typewriters; Stationery; Material Treatment.	7-1-64	7-25-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE JAMES G. BURT AND HENRY C. WALTER

No. 7498. Decided February 24, 1966

[53 CCPA —; 356 F.2d 115; 148 USPQ 548]

1. PATENTABILITY—COMPOUND—OBVIOUSNESS.

"* * * it is appropriate in determining obviousness of a composition to consider, inter alia, such matters as (1) the manner of preparation of the composition vis-a-vis the prior art, (2) the structural similarities as well as differences between the claimed composition and that of the prior art, and (3) the presence or absence of properties which would be unobvious in view of the prior art."

2. SAME—PARTICULAR SUBJECT MATTER—"POLYETHER POLYMERS."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Polyether Polymers" as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 713,538.

REVERSED.

Robert C. Kline (*Frederick Schafer* of counsel) for appellants.

Clarence W. Moore (*Jack E. Armore* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

WORLEY, *Chief Judge*, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals which affirmed the Examiner's rejection of the claims in appellants' application[1] for "Polyether Polymers."

Claims 1 and 11 are representative:

1. A millable, sulfur-curable polyalkyleneether polymer having a molecular weight of at least about 30,000 and consisting essentially of the recurring units ——(——G—O——)—— wherein G is a radical selected from the group consisting of an alkylene radical and a substituted alkylene radical wherein the substituents are free of any Zerewitinoff active hydrogen atoms and have a molecular weight of not greater than about 250, with the proviso that at least about one-third of the G's be tetramethylene radicals and that there be an average of at least one G for every 10,000 units of molecular weight of polymer, having a side chain which contains a non-aromatic, carbon-to-carbon unsaturated group, said side chain having a molecular weight of not greater than about 250.

11. A process for the preparation of a millable, sulfur-curable polyalkyleneether polymer having a molecular weight of at least about 30,000 which comprises reacting tetrahydrofuran with a compound selected from the group consisting of oxetanes, oxiranes and mixtures of both, in the presence of from 0.005 to 0.5 mol percent of cationic polymerization catalyst based on the mols of cyclic ethers employed and at a temperature of from about —80 to 70° C., and recovering the resulting polyalkyleneether polymer; with the proviso that at least 33⅓ mol percent of said reactants be tetrahydrofuran and that at least one of said oxetanes or oxiranes have a side chain containing non-aromatic, carbon-to-carbon unsaturation so as to provide at least one of said side chains for every 10,000 units of molecular weight of polymer, said side chain having a molecular weight of not greater than about 250.

As evident from those claims, the application is directed to millable, sulfur-curable polyalkyleneether polymers which have side chains containing non-aromatic carbon-to-carbon unsaturated groups,

[1] Serial No. 713,538, filed February 6, 1958. Claims 1–3, 5–7, 9, 11, 12 and 14 are on appeal.

and which have a minimum molecular weight of 30,000. The presence of at least one such side chain for each 10,000 units of molecular weight of the polymer permits curing or vulcanization of the polymer by sulfur according to well known procedures.

The polymers are prepared by polymerization of selected mixtures of substituted and unsubstituted cyclic ethers in the presence of a cationic catalyst at temperatures of −80° to 70° C. At least 33⅓ mol percent of the polymerizable reactants must invariably consist of unsubstituted tetrahydrofuran, a five-membered cyclic ether also known as tetramethylene oxide or 1,4-epoxybutane. The remaining cyclic ether reactants may be chosen from substituted or unsubstituted oxiranes (a three-membered cyclic ether also known as ethylene oxide or epoxide) and oxetanes (a four-membered cyclic ether also known as 1,3-propylene oxide or oxacyclobutane). While the substituted oxiranes or oxetanes utilized may contain a wide variety of side chain radicals free of active hydrogen atoms, sufficient amounts of those cyclic ethers which contain a carbon-to-carbon unsaturated group,



to yield the requisite number of sulfur curing sites must be employed. The cationic catalysts appellants utilize are of the Friedel-Craft type, such as phosphorous pentafluoride, antimony pentachloride and boron trifluoride. The products recovered after polymerization are described as soft, rubbery polymers.

The references are:

Pattison, 2,808,391, October 1, 1957.

German patent, 914,438, July 1, 1954.

Pattison discloses certain elastomeric polyurethane polymers having side chains containing aliphatic



groups. The side chains, occurring at least once for every 8,000 units of molecular weight of the polyurethanes, serve as potential curing sites and the polymer subsequently may be cured utilizing conventional sulfur curing procedures known to the rubber industry. In general, Pattison prepares his polyurethane polymers by reacting a polyalkyleneether glycol, an organic diisocyanate and a low molecular weight, nonpolymeric glycol (a chain extending agent), one or more of which contain an aliphatic carbon-to-carbon unsaturated group as a side chain. The following disclosure with respect to the nature of the polyalkyleneether glycols contemplated by Pattison is pertinent:

> When preparing the polymers of the present invention by the reaction of glycols with diisocyanates, various high molecular weight, polymeric glycols, such as polyalkyleneether glycols, • • • may be used. *These polymeric glycols should have molecular weights of at least 750; however, they may be as high as about 10,000.* In general, molecular weights of 750 to 5000 are preferred. It is to be understood that any of these polymeric glycols may have side chains containing aliphatic
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> groups and when they do, the molecular weights will be increased in accordance with the molecular weights of the side chain groups.
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> In general, the polyalkyleneether glycols are preferred. These compounds may be represented by the formula $HO(GO)_nH$, wherein G is an alkylene radical and n is an integer sufficiently large that the polyalkyleneether glycol has a molecular weight of at least 750. Not all of the alkylene radicals present need be the same. These compounds are ordinarily derived by the polymerization of cyclic ethers such as alkyleneoxides or dioxolane or by the condensation of glycols. The preferred polyalkyleneether glycol is polytetramethyleneether glycol, also known as polybutyleneether glycol. Polyethyleneether glycol, polypropyleneether glycol, 1,2-polydimethylethyleneether glycol and polydecamethyleneether glycol are other typical representatives of this class. *Polyalkyleneether glycols having side chains which contain aliphatic C=C groups may be prepared by copolymerizing tetrahydrofuran with butadiene monoxide*[1] *as*
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> *more particularly described in German Patent No. 914,438.* [Emphasis supplied.]

The German patent, which has been incorporated by reference into the disclosure of Pattison, is directed to preparation of tetrahydrofuran polymerization products. Those products are obtained by copolymerizing certain 1,2-epoxy compounds, such as ethylene oxide or epichlorohydrin, with tetrahydrofuran in the presence of various cationic polymerization catalysts of the Friedel-Craft variety, such as boron trifluoride or antimony pentachloride. The resultant products obtained from the copolymerization of tetrahydrofuran and mono-epoxides are described as viscous, oily liquids.

In initially rejecting the claims as unpatentable over Pattison alone, the Examiner stated:

> • • • This reference discloses polyethers made by reacting tetrahydrofuran with an oxirane or an oxetane. • • • Although Pattison 2,808,391 does not disclose polyethers of molecular weight 30,000 it would be obvious to one skilled in the art to increase the molecular weight.

In subsequent correspondence with appellants, it was the Examiner's position that Pattison disclosed many material features of the claimed subject matter. As for the limitations not disclosed, he said:

> • • • The instant claims call for nothing more than a polyalkyleneether polymer having a molecular weight of 30,000 and having side chains with carbon-to-carbon unsaturation. This polymer, except for the molecular weight, is disclosed in Pattison. The term "millable, sulfur-curable" does not change the fact that the polymer is a polyalkyleneether. It is deemed that the difference in molecular weight between the instant polymer and the Pattison polymer is one of degree and not of kind. • • •

Up to that point, the Examiner did not specially treat the subject matter of process claims 11, 12 and 14, or point out to appellants wherein the specific limitations therein were disclosed by, or obvious from, Pattison alone. However, in his answer to appellants' brief before the Board, the Examiner noted that Pattison incorporated German by reference, stating:

> • • • The German reference is relied on to show the particular *reaction conditions* of applicants' method claims which are (1) proportions of reactants, (2) catalyst and (3) temperature. The particular reactants are shown by Pattison.

Developing his position further, the Examiner said:

> • • • the instant claims on appeal are directed to a "millable, sulfur curable" polyalkylene-ether polymer. The Examiner regards this preamble phrase as a mere statement of intention or desired result and further it fails to recite positive action steps. Consequently it is given little weight and certainly patentability could not be predicated upon this preamble clause.
>
> Now to the principal issue of whether the 30,000 M.W. polymer is patentable over a 10,000 M.W. polymer of the same composition. • • • As a matter of background it is considered a general rule in polymer chemistry that a high

[1] That particular polyalkyleneether glycol would contain "G" units, as set forth in Pattison's formula, consisting of tetramethylene radicals (—$CH_2CH_2CH_2CH_2$—) and radicals derived from 1,2-butadiene monooxide

molecular weight solid polymer is patentable over the same low molecular weight viscous or liquid polymer. Likewise a 50,000 or more molecular weight *solid* polymer may be patentable over a 1,000–5,000 molecular weight solid polymer. The rationale is presumably that a radical departure from the prior art in process and/or utility sustains the patentability. * * * In the instant case the difference is 10,000 *v.* 30,000. When considering the patentability of like compositions of matter differing in molecular weight, some of the tests of patentability applied by the Examiner are (1) the history of the art; was there difficulty encountered by prior workers in obtaining a high molecular weight polymer now being claimed? and (2) comparison of the process steps of the reference with applicants' process steps. In considering a history of the art approach, nothing in Pattison suggests that polyalkylene-ether polymers of *over* 10,000 M.W. are impossible to prepare. * * * Additionally the applicants have submitted no argument or exhibit showing the impossibility of preparing the 30,000 M.W. polymer prior to applicants' alleged invention.

Primary reliance was placed on a comparison of appellants' and German's process steps to demonstrate obviousness of the claimed process and product. The Examiner found appellants' particular reactants, amounts of reactants, catalyst materials and temperature ranges all disclosed by German or Pattison, and noted he could

* * * find no process step or a reaction condition in method claims 11, 12 and 14 not taught by the German patent and this evidence is given substantial weight in finding a lack of unobviousness in the product claims.

It appears that Pattison desired to halt the polymerization at a certain molecular weight so that a diisocyanate could be added, therefore it is probable that a longer reaction time would produce a higher molecular weight polymer. However this is not relied on as conclusive in finally determining patentability.

In its decision, the Board said:

* * * no general rules can be drawn as to the relationship between numerical differences in molecular weight of polymeric materials and the patentability of claims manifesting a different molecular weight from a prior art polymer. It is apparent that mere novelty, as indicated by a failure of the prior art to expressly refer to polymers of a specific average molecular weight, does not establish by itself that a polymer is unobvious from the prior art. In determining whether a particular polymer is obvious it is proper to consider such facts as the polymer's manner of preparation and the presence or absence of properties which would have been unexpected from the prior art.

The Board regarded an affidavit submitted by appellants to provide "dubious evidence" of their contention that polyalkyleneether glycols of 10,000 molecular weight and having unsaturated side chains are not millable or sulfur-curable. In addition, it noted the term "millable" in the claims is not limited to any certain degree of difficulty.

As to the process claims, the Board agreed with the Examiner that the German patent indicates "preparation of polyalkyleneether glycols presented no technical problem" and that there is nothing to suggest that the claimed process "involves a substantial or unobvious departure" from that suggested by the reference combination.

We have quoted extensively from the opinions of the Examiner and Board in order to present a clear picture of their reasoning. [1] We agree with their general approach to the problem, and think that it is appropriate in determining obviousness of a composition to consider, inter alia, such matters as (1) the manner of preparation of the composition vis-a-vis the prior art, (2) the structural similarities as well as differences between the claimed composition and that of the prior art, and (3) the presence or absence of properties which would be unobvious in view of the prior art. Necessarily such a comparison as is involved in (1) will also be helpful in determining the patentability of the process for preparing the product. We dis-

agree, however, with the conclusion of obviousness derived from the facts shown by this record.

The Process Claims

While both the Examiner and Board recognized that the respective processes carried out by the prior art and appellants produced products of different molecular weight, viz, appellants' average polymer chain was three times heavier (or longer) than Pattison's or German's, they shared the view that few, if any, of the process steps and limitations were not shown by those references. Thus Pattison was found to disclose that polyalkyleneether glycols of less than 10,000 molecular weight, and containing unsaturated side chains, could be prepared by reacting tetrahydrofuran and butadiene monooxide (a substituted oxirane within the scope of the claims). Pattison referred to German for a disclosure of how to prepare that product. German, in turn, was found to suggest appellants' temperature range, cationic catalyst materials, and ratios of tetrahydrofuran and substituted oxirane or oxetane reactants. We agree with those findings of fact and accept them as far as they go. However, as the Examiner acknowledged, "a higher molecular weight polymer obtained from the same reactants used to prepare the lower molecular weight polymer must certainly involve changes in process conditions, if any changes do occur." What, then, are the changes over the prior art which enable appellants to prepare a polymer of greater than 30,000 molecular weight?

At this point it is appropriate to review what appellants' specification says with regard to the process conditions necessary to prepare a polyalkyleneether polymer of 30,000 molecular weight:

When preparing these polyether polymers, the extent of polymerization as reflected by the inherent viscosity of the polymer depends upon the temperature at which polymerization is effected and the particular catalyst used and its concentration. In general, the lower the concentration of the catalyst, the higher the molecular weight of the resulting polyether polymer. Also, when the reaction temperature is higher, the molecular weight of the resulting polyether polymer will be lower. * * *

* * * * * * *

The catalyst concentration should be in the range of 0.005 to 0.5 mol percent, based on the total mols of cyclic ethers to be polymerized. * * * The inherent viscosities of the polymers prepared at relatively high catalyst concentrations tend to lower values than desired.

* * * * * * *

The soluble polymers of this invention have inherent viscosities of at least 1.0, when determined on 0.1% solutions in benzene at 30° C. These inherent viscosities correspond to molecular weights of at least about 30,000. Polymers having lower inherent viscosities tend to be too soft and sticky, and thus are difficult to mill and process in conventional equipment. All the polyether polymers of this invention are millable and processable in conventional equipment of the rubber industry * * *.

Appellants challenge the Examiner's statement that there was "no process step or a reaction condition in method claims 11, 12 and 14 not taught by the German patent," as well as the Board's finding that the temperature and catalyst concentrations recited in appellants' claims were not "critically distinct from temperatures and catalyst concentrations of the German patent." While we agree with the Examiner and Board that the temperature range of −80° C. to 70° C. recited in the claims is amply disclosed by German, we must also agree with appellants that nowhere in German or in Pattison

is there any disclosure of the quantity of catalyst required to produce a polyalkyleneether polymer of 30,000 molecular weight.[3] Nor did the Examiner or Board find as a fact that one of ordinary skill in the art would expect from his knowledge of analogous cationic polymerization reactions and kinetics in general that utilization of a lower concentration of catalyst in the present process would produce a substantially higher molecular weight product than either German or Pattison were able to produce. We think appellants' specification makes it abundantly clear that the claimed catalyst concentration is necessary to produce their particular polymer product. While the German patent may suggest that preparation of polyalkyleneether glycols of 10,000 molecular weight presents no "technical problem," we fail to find a suggestion therein that appellants' claimed process involves merely an obvious departure from the prior art. There being insufficient evidence in the record as a whole to sustain the Board's conclusion as to obviousness of appellants' process, its decision is reversed.

The Composition of Matter Claims

The issue here is whether millable, sulfur-curable polyalkyleneether polymers having a minimum molecular weight of 30,000 are patentable over the prior art which discloses a similar polyalkyleneether having a molecular weight no greater than 10,000 and is silent as to the "millable" and "sulfur-curable" properties of that material. In resolving that issue, we shall consider, seriatim: (1) whether the prior art suggests that the particular polyalkyleneether polymers of claim 1 which have a molecular weight of 30,000 may be prepared by *any* particular method, (2) whether the prior art suggests the particular structure of those polymers, and (3) whether the prior art suggests the particular properties possessed by those polymers.

We have already found appellants' particular process for producing their polymers unobvious in view of Pattison and German. The question remains whether those references suggest that appellants' polymers may be produced by other methods.

The Examiner thought it probable that employment of a longer reaction time in the process disclosed by Pattison and German would produce a higher molecular weight polymer. The Board did not comment on that contention. We think the record contradicts the Examiner's position, since a comparison of the specific examples in appellants' specification and in German shows that comparable reaction times of the order of 24 hours were utilized by both parties.[4] It would seem that something more than mere time governs the molecular weight of the polymer produced by the respective processes.

The Examiner noted that "nothing in Pattison suggests that polyalkylene-ether polymers of *over* 10,000 M.W. are impossible to prepare" and that appellants had "submitted no argument or exhibit showing the impossibility of preparing the 30,000 M.W. polymer"

[3] In the relevant examples of German, catalyst concentrations of about 0.65% to 1.0% (in mol percent based on total mols of cyclic ether) are employed to produce oily liquid polymerization products.

[4] The record demonstrates that the polymerization process disclosed by German proceeds by way of a ring scission of the cyclic ether reactants to form carbonium or oxonium ions. The formation of the polymer chain through an ionic mechanism proceeds in a manner akin in a kinetic sense to typical *addition* or chain-reaction polymerizations. The passage of time in addition polymerization affects ultimate yield, but generally has little effect on the degree of polymerization (molecular weight). In *condensation* or step-reaction polymerizations, on the other hand, longer reaction times generally will provide higher molecular weight polymer products. While we note that Pattison does disclose that his polyalkyleneether glycols may be prepared by condensation of suitable glycols with consequent splitting off of water, it is apparent that neither the Examiner nor the Board relied on that disclosure as a basis for their rejection.

prior to appellants' invention. While those observations are undoubtedly true, we might add that neither do the references suggest that those polymers can be prepared. Silence in a reference is hardly a proper substitute for an adequate disclosure of facts from which a conclusion of obviousness may justifiably follow.

Turning to the structure of the instant polymer, we agree with the Patent Office that the nature of "G" in the repeating unit ~~(G–O)~~ as defined in product claim 1 is rendered obvious by Pattison in view of German. We cannot agree, however, that those references suggest a polymer structure which is three times the weight or length disclosed by Pattison as the maximum desirable for use in preparing his particular polyurethane polymers. We question whether one of ordinary skill in the art, upon reading Pattison and German, would be apprised of the desirability of a heavier or longer polymer chain length.

Finally, appellants argue that their polymers have the properties of being "millable" and "sulfur-curable," and that those properties are not possessed by the Pattison polyalkyleneether glycol polymers of lower molecular weight. Although we share the view of the Board that one of ordinary skill would expect the Pattison polymeric glycols to be "sulfur-curable," i.e. react with sulfur, because of the presence of unsaturated

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groups in the side chains, we are unwilling to conclude that the oily, viscous liquid polymers of Pattison or German, having a molecular weight of less than 10,000, are indeed "millable" in the sense intended by appellants. Appellants' specification makes it clear that polymers having a lower molecular weight than 30,000 tend to be "too soft and sticky" to be millable in conventional equipment. We regard appellants' affidavit, to the effect that certain copolymers having the repeating unit structure set forth in the claims and having a molecular weight of 10,000 were "too fluid to be handled on a rubber mill," as corroboration of the disclosure in their specification. We think the record supports appellants' contention that the term "millable" applied to the present polymers is an expression which, when considered with the associated molecular weight of the material, is a significant property difference demonstrating lack of obviousness over the prior art.

When all the foregoing factors are considered, we are satisfied that a conclusion of obviousness of the claimed products is also without sufficient foundation in the record. [2] The decision is reversed.

REVERSED.

U.S. Court of Customs and Patent Appeals

THE SEVEN-UP COMPANY *v.* TROPICANA PRODUCTS, INC.

No. 7581. Decided March 3, 1966

[53 CCPA —; 356 F.2d 567; 148 USPQ 604]

1. TRADEMARK—CONFUSING SIMILARITY—"SUN-UP" FOR ORANGE CONCENTRATE AND "SEVEN-UP" FOR CARBONATED LEMON-LIME BEVERAGE—15 U.S.C. 1052(d).

"The statute, 15 U.S.C. 1052(d) states what degree of resemblance to a registered mark must exist in order to deny registration to a new one. There is no similarity whatever between the principal or dominant words ('sun' and 'seven') of the marks. Certainly a 3-letter word cannot be said to 'resemble' a 5-letter one just because both begin and end with the same letter.

Nor do we think confusing similarity in the marks can be found merely from the concurrently used word 'up'—a word which, as an adverb, has so many and such diverse meanings (sometimes no meaning at all) that it seldom has much effect in lending character or distinctiveness to a combination of which it is a part, and the average purchaser is so accustomed to seeing it used in conjunction with a wide range of other English words that, when it appears in a trademark, he would be unlikely to recognize it as signifying source or origin."

2. SAME—SAME—SAME.

"The trademarks now under consideration consist of common English words used in combinations which convey entirely different meanings. Practically everyone knows that 'sun-up' denotes the time of day when the sun rises and a large section of the public would associate 'seven-up' with a game, either accurately, a card game, or inaccurately, a game played with dice. The appellant contends that the Board was unduly influenced by the dissimilarity of meaning between the marks. As a matter of fact, the meaning of words in trademarks is often an important consideration in determining whether likelihood of confusion exists. Where the words have well known and understood, widely differing meanings, a small difference in spelling or appearance may be sufficient to distinguish them and avoid a finding of confusing similarity. On the other hand, with coined words which are meaningless so far as the English language is concerned, slight variations in spelling or arrangement of letters are often insufficient to direct the buyer's attention to the distinction between marks."

APPEAL from the Patent Office. Opposition No. 41,066.

AFFIRMED.

Lewis S. Garner, Beverly W. Pattishall, Helen W. Nies for appellant.

C. Willard Hayes (*Cushman, Darby & Cushman* of counsel) for appellee.

Before RICH, *Acting Chief Judge*, and MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

KIRKPATRICK, *J.* delivered the opinion of the court.

This is an appeal from the decision of the Trademark Trial and Appeal Board dismissing an opposition to Tropicana Products, Inc.'s application to register the mark "SUN-UP" for orange concentrate used in the preparation of uncarbonated orange drink. The product is sold mainly to dairies and distributed through dairy route men to householders and grocery stores. The opposer is the Seven-Up Company, the ground of opposition being that the appellee's mark "SUN-UP" so resembles "SEVEN-UP" and "7-UP," the opposer's trademarks for a carbonated beverage having a lemon-lime flavor, as to be likely to cause confusion or to cause mistake or to deceive (15 U.S.C. 1052). "SEVEN-UP" is sold to the general public through usual channels of trade such as supermarkets, grocery stores, soda fountains and vending machines.

The products manufactured and sold by the parties are only very remotely competitive, but their ultimate buying publics are about the same and there is enough similarity between the products to make it quite likely that many consumers would think that it was a companion product put out by the opposer if the marks are sufficiently similar. However, the Board found that "SUN-UP" was not confusingly similar to "SEVEN-UP" or its equivalent "7-UP" and we agree.

[1] The statute, 15 U.S.C. 1052(d) states what degree of resemblance to a registered mark must exist in order to deny registration

to a new one. There is no similarity whatever between the principal or dominant words ("sun" and "seven") of the marks. Certainly a 3-letter word cannot be said to "resemble" a 5-letter one just because both begin and end with the same letter. Nor do we think confusing similarity in the marks can be found merely from the concurrently used word "up"—a word which, as an adverb, has so many and such diverse meanings (sometimes no meaning at all[1]) that it seldom has much effect in lending character or distinctiveness to a combination of which it is a part, and the average purchaser is so accustomed to seeing it used in conjunction with a wide range of other English words that, when it appears in a trademark, he would be unlikely to recognize it as signifying source or origin.

"It is well established that in deciding this question each mark must be considered in its entirety, but it does not follow that every part of a mark must be given the same weight." *Hygienic Products Co.* v. *Huntington Laboratories*, 31 CCPA 773, 139 F.2d 508, 60 USPQ 205.

[2] The trademarks now under consideration consist of common English words used in combinations which convey entirely different meanings. Practically everyone knows that "sun-up" denotes the time of day when the sun rises and a large section of the public would associate "seven-up" with a game, either accurately, a card game, or inaccurately, a game played with dice. The appellant contends that the Board was unduly influenced by the dissimilarity of meaning between the marks. As a matter of fact, the meaning of words in trademarks is often an important consideration in determining whether likelihood of confusion exists. Where the words have well kown and understood, widely differeing meanings, a small difference in spelling or appearance may be sufficient to distinguish them and avoid a finding of confusing similarity. On the other hand, with coined words which are meaningless so far as the English language is concerned, slight variations in spelling or arrangement of letters are often insufficient to direct the buyer's attention to the distinction between marks.

AFFIRMED.

MARTIN, *J.*, dissenting.

I agree with the majority that the goods of the parties are substantially similar. However, I cannot agree with the analysis of the majority leading to a conclusion that there would be no likelihood of confusion between the marks.

Even giving "Seven" and "Sun" a dominant emphasis or weight, the marks in their entirety are "SEVEN-UP" and "SUN-UP." It seems clear to me that the two marks are so related in sound and appearance as to cause confusion, or to cause mistake or to deceive when applied to the respective goods. I think the Board and the majority over-analyze the mark, and place too much emphasis on the meaning of the words thereof.

But regardless of the details of dissimilarity in the sound, meaning, and appearance of the marks, I believe the marks have the same psychological effect on the mind and, therefore, are likely to cause confusion, or to cause mistake, or to deceive. In view of the above, I would reverse.

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[1] e.g. "hurry"—"hurry up," "lift"—"lift up," "raise"—"raise up," "wake"—"wake up," etc.

U.S. Court of Customs and Patent Appeals

IN RE WILLIAM E. MCCAULEY

No. 7565. Decided March 10, 1966

[53 CCPA —; 356 F.2d 995; 148 USPQ 681]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—JUDICIAL NOTICE—ARTICLE ON HIGHLY TECHNICAL SUBJECT MATTER.

"Considering the National Pest Control article, we do not find after examining the record that this article was before the Patent Office. In view of the highly technical nature of the subject matter there discussed, we decline to take judicial notice of it and hold that since the article was not before the Patent Office, it cannot be here relied upon as support for appellant's argument."

2. PATENTABILITY—OBVIOUSNESS—EVIDENCE—APPLICANT MAY SUBMIT PRIOR ART TEACHINGS TO SHOW UNOBVIOUSNESS—35 U.S.C. 103.

"Appellant had the right to submit prior art teachings such as the Sprinkle et al. Patent No. 3,097,128, and other evidence to the Examiner for showing that the known materials would not combine, and to have these teachings and evidence considered on the issue of obviousness raised under 35 U.S.C. 103."

3. SAME—COMBINING REFERENCES—OBVIOUSNESS.

"The proper test is whether, to one skilled in the art, the references together make obvious within the stated conditions of 35 U.S.C. 103 what appellant has done."

4. SAME—PROCESS—OBVIOUSNESS—USE OF OBVIOUS MATERIAL IN AN OLD METHOD TO ACCOMPLISH AN OLD RESULT—35 U.S.C. 103.

"The prior art clearly teaches the method of controlling insects as claimed in claims 27 and 28 except for the use of the particular combination of insecticidal ingredients claimed in claims 7 and 9 which we have found to be obvious under 35 U.S.C. 103. The use of an obvious material in an old method for accomplishing an old result is not patentable. 35 U.S.C. 103."

5. SAME—PARTICULAR SUBJECT MATTER—"INSECTICIDAL FORMULATIONS."

The refusal of certain claims in an application entitled "Insecticidal Formulations," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 117,666.

AFFIRMED.

Arthur B. Bakalar, Frank R. LaFontaine for appellant.

Clarence W. Moore (*J. F. Nakamura* of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN, SMITH, and ALMOND, JR., *Associate Judges*, and WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

SMITH, *J.*, delivered the opinion of the court.

The issue presented is whether certain chemical compositions and methods of using the same, as defined in the appealed claims,[1] would be obvious within the meaning of 35 U.S.C. 103.

The appealed claims define the subject matter of this appeal as follows:

7. The solid composition comprising p-dichlorobenzene and dimethyl 2,2-dichlorovinyl phosphate, the weight of said phosphate being from about 0.10 percent to about 20 percent of the weight of the dichlorobenzene.

9. The solid composition comprising naphthalene and dimethyl 2,2-dichlorovinyl phosphate, the weight of said phosphate being from about 0.10 percent to about 20 percent of the weight of the naphthalene.

27. The method for the control of insects which comprises subjecting an insect to the vapor generated by the composition of claim 7, said composition being substantially at room temperature.

28. The method for the control of insects which comprises subjecting an insect to the vapor generated by the composition of claim 9, said composition being substantially at room temperature.

[1] In application Ser. No. 117,666, filed June 16, 1961, for "Insecticidal Formulations."

From the foregoing it is seen that the composition claims 7 and 9 each define a solid composition which includes DDVP.[2] Claim 7 calls for DDVP and p-dichlorobenzene in certain proportions. Claim 9 defines a solid composition comprising DDVP in a stated proportion of naphthalene. Methods for controlling insects by the use of the composition defined in claims 7 and 9 are claimed in dependent claims 27 and 28, respectively.

The references relied on are as follows:

Snyder et al. [Snyder], 3,098,703, July 23, 1963.
Fuller, 1,845,977, February 16, 1932.
Hanna, Handbook of Agricultural Chemicals (2d ed., 1958).
Ihndris & Sullivan, Laboratory Fumigation Tests of Organic Compounds, 51 J. of Economic Entomology, 638,639 (1958).

The appealed claims were considered together and were rejected in view of two combinations of the above references: (1) Snyder in view of Ihndris, and (2) Hanna in view of Fuller.[3]

In view of appellant's position as to the allowability of the appealed claims, the teachings of the references need not be explored individually nor at great depth. Naphthalene and paradichlorobenzene are disclosed as possessing fumigant insecticidal properties as well as being a fumigant per se (Fuller, Hanna, and Snyder). Insecticidal properties are shown for lindane (Ihndris and Snyder) and DDVP (Hanna and Ihndris). Fairly construed by one of ordinary skill in this art, the teachings of record establish that the use of DDVP, para-dichlorobenzene, naphthalene and lindane for their fumigant and insecticidal properties is old in the art. Compositions resulting from combining naphthalene, para-dichlorobenzene and lindane with other fumigants are also old in the art (Fuller and Snyder). The claimed compositions produced by combining DDVP and naphthalene, and DDVP and para-dichlorobenzene are admittedly new.

Appellant argues that the claimed combinations are unobvious because of additional teachings which show that DDVP, unformulated, has certain inherent properties which render it unsatisfactory for general use as an insecticide. Appellant lists three such properties of DDVP which, it is maintained, would make it unobvious to one of ordinary skill in the art to combine DDVP with known fumigants. These properties are discussed in appellant's brief under the heading "DDVP, Unformulated, Has Drawbacks" and may be summarized as follows:

1. *Toxicity.*—Appellant points out that DDVP is very toxic to man and animals. This requires stringent precautions to prevent injury to persons handling it and/or applying it.

2. *Reactivity.*—As appellant points out, DDVP reacts with moisture, including water vapor in air, and with oxygen in air. DDVP so reacted is ineffective as an insecticide.

3. *Volatility.*—DDVP, unformulated, is said by appellant to be so volatile under ordinary conditions that it presents problems of safe handling and application because of the toxicity of its vapors.

Appellant cites the specification as filed and an article[4] in support of his position.

[2] Appellant states that the common designation of dimethyl 2,2-dichlorovinyl phosphate is DDVP and it will be so designated hereinafter.

[3] The parties agree that the claims stand rejected solely in view of 35 U.S.C. 103, notwithstanding the Board's reliance on 35 U.S.C. 102 at one point in its decision.

[4] National Pest Control Association, Technical Release, November 9, 1959, "Current Status of DDVP."

[1] Considering the National Pest Control article, we do not find after examining the record that this article was before the Patent Office. In view of the highly technical nature of the subject matter there discussed, we decline to take judicial notice of it and hold that since the article was not before the Patent Office, it cannot be here relied upon as support for appellant's argument.

Appellant cites the following single portion of the specification in support of his position:

> A variety of organic phosphates have demonstrated their usefulness as vapor-phase insecticides. Exemplary of such phosphates are the neutral esters of beta-halogen-substituted alpha,beta-olefinically unsaturated alcohols with acids of pentavalent phosphors, e.g., dimethyl 2,2-dichlorovinyl phosphate, commercially known as DDVP. Other suitable insecticides of this type are the halogenated derivatives of these vinyl phosphates, of which the compound dimethyl 2,2-dichloro-1,2-dibromoethyl phosphate is representative.
>
> These compounds are in general volatile liquids at or about room temperature. Because of the volatility of these liquids under conditions of use, they present handling and application difficulties. Furthermore, under moist conditions, the phosphates tend to hydrolyze to products of reduced insecticidal effectiveness.

However, an examination of the entire specification reveals portions which indicate some question as to the significance of the problems on which appellant's arguments are here based. Concerning a composition of the general type defined in claim 7, we find the specification states:

> The phosphate may be incorporated in the carbocyclic substrate by any desired method. For example, when incorporating DDVP in p-dichlorobenzene, the p-dichlorobenzene may be melted and the desired amount of DDVP thoroughly mixed with it by stirring. Alternatively, flakes of p-dichlorobenzene containing the DDVP may be prepared by spray-drying a solution of both components in a volatile solvent. Other conventional methods are equally suitable.

As to the composition in claim 9, the specification provides:

> Naphthalene-dimethyl 2,2-dichlorovinyl phosphate compositions having the noted compositions were prepared by melting the noted amounts of naphthalene and dissolving in it the desired amount of phosphate. * * *

We emphasize at this point that the above portions of the specification are not utilized as prior art under the terms of 35 U.S.C. 103 but are referred to as being apparently inconsistent with the basis asserted for appellant's principal argument here.

[2] Appellant had the right to submit prior art teachings such as the Sprinkle et al. Patent No. 3,097,128 and other evidence to the Examiner for showing that the known materials would not combine, and to have these teachings and evidence considered on the issue of obviousness raised under 35 U.S.C. 103. The Examiner was not impressed by this showing and reiterated the position in his answer on remand that:

> * * * Ihndris teaches the insecticidal properties of DDVP and teaches that the action of DDVP is faster than that of lindane, another halogen fumigant insecticide. The substitution of the faster-acting DDVP for lindane as the agent having general insecticidal properties can be seen as no more than an obvious expedient to the artisan. * * *

Appellant has pointed out no reason why one of ordinary skill in this art would not expect lindane and DDVP to be released analogously by para-dichlorobenzene or naphthalene. It is apparent that the release of the active insecticide is substantially the same in both cases. As stated in appellant's specification "* * * the evaporation of the latter [DDVP] from the surface of the solid composition is

determined by the evaporation of the former [the carbocyclic substrate]." This appears to be the same release mechanism as relied upon for lindane in the combination disclosed in Snyder et al. The fact that DDVP is a liquid at room temperature while lindane is a solid does not avoid the conclusion that the combination would be obvious.

Thus, the present record does not support appellant's position on the issue as here presented in his brief. Instead, the single issue which we find to be presented by the record is whether the claimed composition resulting from combining a known insecticide with a known fumigant, absent any evidence that such a combination is unobvious, is patentable in view of the prohibition set forth in 35 U.S.C. 103.

[3] The proper test is whether, to one skilled in the art, the references together make obvious within the stated conditions of 35 U.S.C. 103 what appellant has done. *In re Rossélet et al.*, 52 CCPA 1533, 347 F.2d 847, 146 USPQ 183; *In re Reynaud*, 51 CCPA 1310, 331 F.2d 625, 141 USPQ 515; *In re Marvin*, 42 CCPA 883, 222 F.2d 271, 105 USPQ 445; *In re Milne*, 31 CCPA 918, 140 F.2d 1003, 60 USPQ 559.

Considering the prior art teachings of record, on which we have briefly commented, the compositions as defined in appealed claims 7 and 9 would be obvious to one of ordinary skill in the art.

[4] The prior art clearly teaches the method of controlling insects as claimed in claims 27 and 28 except for the use of the particular combination of insecticidal ingredients claimed in claims 7 and 9 which we have found to be obvious under 35 U.S.C. 103. The use of an obvious material in an old method for accomplishing an old result is not patentable. 35 U.S.C. 103.

We therefore think the Board was correct in finding:

> * * * it would be obvious to the skilled insecticidal chemist to substitute for lindane, in the Snyder et al. combination of insecticides to be employed against house flies, DDVP, a newer insecticide, taught by Ihndris et al. to be more effective than lindane when tested against house flies. *In re Adams et al.*, 48 CCPA 746, 1961 C.D. 148, 769 O.G. 770, 284 F.2d 525, 128 USPQ 116, *In re Huellmantel*, 801 O.G. 890, 324 F.2d 998, 139 USPQ 496, and *In re Lulek*, 49 CCPA 1323, 1962 C.D. 586, 785 O.G. 17, 305 F.2d 864, 134 USPQ 352. * * *

[5] The decision of the Board is therefore affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,798,777, Flick and Kudlaty, CYLINDER MOUNT; **2,842,284**, F. S. Flick, CYLINDER END SEAL FOR FLUID PRESSURE CYLINDER, **filed** Apr. 1, 1959, D.C., N.D. Ill. (Freeport), Doc. 59c25, *Flick-Reedy Corporation* v. *Hydro-Line Manufacturing Co., Inc.* Final decree—claims 1, 2, and 5 of Patent No. 2,842,284 held invalid; complaint dismissed as to Patent No. 2,842,284; claims 1, 2 and 4 of Patent No. 2,798,777 held valid and infringed—defendant enjoined from infringing said patent May 14, 1964. Third counterclaim relating to Patent No. 2,798,777 dismissed by amendment July 1, 1964. **Appealed**, C.C.A., 7th Cir., Doc. 14804. *Flick-Reedy Corporation* v. *Hydro-Line Manufacturing Company.* Judgment of District Court holding Patent No. 2,842,284 invalid, affirmed; judgment of District Court as to Patent No. 2,798,777 affirmed in part and reversed in part and cause is remanded for further proceedings in accordance with this opinion Sept. 14, 1965. **Same, Appealed**, C.C.A., 7th Cir., Doc. 14805, *Hydro-Line Manufacturing Company* v. *Flick-Reedy Corporation.* Decree as above. **Same, Remanded** Apr. 7, 1966, D.C., N.D. Ill. (Freeport), Doc. 59c25, *Flick-Reedy Corporation* v. *Hydro-Line Manufacturing Company.*

2,842,284. (See 2,798,777.)

3,025,778, L. J. Stuckens, PHOTOCOPY APPARATUS AND DOCUMENT CARRIER FOR SAME, **filed** Oct. 25, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c1908, *American Photocopy Equipment Co.* v. *S.C.M. Corp.* Consent decree—license agreement; complaint dismissed with prejudice May 20, 1966.

3,033,150, H. E. Pickrell, Jr., CARGO VESSEL, **filed** Mar. 21, 1963, D.C. Oreg. (Portland), Doc. 63–109, *RPTZ-Patco, Inc.* v. *Pacific Inland Navigation Co., Inc.* Judgment of dismissal in favor of defendant. Notice of Appeal by plaintiff from decree of dismissal May 17, 1966. Notice of Appeal by defendant from decree of dismissal May 18, 1966.

3,045,877, E. H. Green, AEROSOL DISPENSER VALVE, **filed** Aug. 24, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1631, *Edward H. Green et al.* v. *Aerosol Research Company.* Final decree—complaint and amended complaint dismissed with prejudice May 5, 1966.

3,048,996, Russell and Solovieff, ROSE BLOCKING KNOB; **3,190,091**, same, REMOVABLE CYLINDER SPINDLE RETAINING SHOULDER, filed May 16, 1966, D.C., S.D. Ind. (Indianapolis), Doc. IP66–C–239, *Fred J. Russell* v. *Best Universal Lock Co., Inc. et al.*

3,060,293, H. Lapidus, AUTOMOTIVE ELECTRIC SOCKET, filed Feb. 15, 1965, D.C. Conn. (New Haven), Doc. 10840, *U.S. Metal Products Company, Inc.* v. *The Roberk Company.* Stipulation and order of dismissal May 18, 1966.

3,068,656, Booth and Coakley, UNDERGROUND SHEETING METHODS, filed Feb. 1, 1966, D.C.N.J. (Newark), Doc. 88–66, *Gregory Industries, Inc.* v. *Contact Sheeting, Inc.* Notice of dismissal May 16, 1966. Same, filed May 19, 1966, D.C., S.D.N.Y., Doc. 66/1455, *Gregory Industries, Inc.* v. *Contact Sheeting, Inc.*

3,072,582, C. B. Frost, POLYETHER-URETHANE FOAMS AND METHOD OF MAKING SAME, filed Mar. 30, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c570, *General Tire & Rubber Co.* v. *Union Carbide Corp.* Stipulation and order dismissing cause without prejudice May 26, 1966.

3,082,794, F. W. Wahl, CLAMPING MEANS FOR SEALING PLASTIC TUBING, filed Dec. 30, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c2184, *AMP Incorporated* v. *Abbott Laboratories.* Stipulation and order holding patent valid and action dismissed with prejudice May 13, 1966.

3,093,200, S. H. Raskin, SYSTEM AND METHOD OF WEIGHING COUPLED RAILROAD CARS IN MOTION, filed May 13, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c860, *Railroad Machinery Development Corp.* v. *Mangood Corporation.*

3,113,680, A. H. Frater et al., STACKING AND NESTING CONTAINERS, filed May 5, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66–767–S, *G. B. Lewis Co.* v. *Banner Metals, Inc.*

3,114,956, H. Gannaway, CONCRETE PIPE GASKET GROOVE FORMING APPARATUS, filed May 10, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66–798–EC, *Six Points Lumber & Supply Company* v. *Pausch & Sons Equipment, Inc. et al.*

3,115,305, I. Rinkewich, OSCILLATING LAWN SPRINKLER; **3,126,156**, same, TRAVELLING SPRINKLER; **Des. 193,884**, J. D. Belnert, MOBILE LAWN SPRINKLER, filed May 6, 1966, D.C., S.D.N.Y., Doc. 66/1321, *Melnor Industries, Inc. et ano.* v. *First Manufacturing Corp. et ano.*

3,121,158, B. Hurko, HOUSEHOLD COOKING OVENS AND METHODS OF CLEANING THE SAME, filed May 6, 1966, D.C., S.D. Ohio (Columbus), Doc. 7818, *General Electric Company* v. *Westinghouse Electric Corporation.*

3,126,156. (See 3,115,305.)

3,143,978, D. Clejan, FREIGHT TRANSPORTATION SYSTEMS AND METHODS; **3,168,876**, same, HITCHES FOR ROAD SEMI-TRAILERS, filed May 2, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c765, *General American Transportation Corporation* v. *ACF Industries, Incorporated.*

3,168,876. (See 3,143,978.)

3,183,821, Averill and Straub, SELECTIVE AIR DISCHARGE PATTERN SLOT DIFFUSERS; **3,185,068**, same, AIR DISTRIBUTION DEVICES; **3,185,069**, same; **3,242,847**, same, METHODS OF AIR DISTRIBUTION THROUGH ELONGATED SLOTS, filed May 10, 1966, D.C., S.D.N.Y., Doc. 66/1355, *Connor Engineering Corp.* v. *Titus Manufacturing Corp.*

3,185,068. (See 3,183,821.)

3,185,069. (See 3,183,821.)

3,190,091. (See 3,048,996.)

3,212,173, R. F. Wonneman, APPARATUS FOR APPLYING CURVED DIP TUBED CLOSURES TO CONTAINERS; **3,212,174**, same, INLINE APPARATUS FOR ASSEMBLING FLEXIBLE CURVED DIP TUBE CLOSURES TO CONTAINERS; **3,212,175**, same, ROTARY APPARATUS FOR CONTINUOUSLY ASSEMBLING FLEXIBLE CURVED DIP TUBED CLOSURE ASSEMBLIES TO CONTAINERS, filed Apr. 11, 1966, D.C. Md. (Baltimore), Doc. 17212, *Roman F. Wonneman* v. *Machinery Systems, Inc. et al.*

3,212,174. (See 3,212,173.)

3,212,175. (See 3,212,173.)

3,242,847. (See 3,183,821.)

Des. 193,884. (See 3,115,305.)

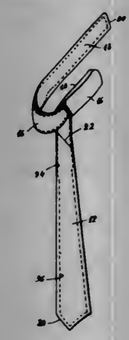
PATENTS

GRANTED AUGUST 9, 1966

GENERAL AND MECHANICAL

3,264,654
REVERSIBLE NECKTIE
Leonard E. Woronowicz, 15 Nickel Ave., Sayreville, N.J., Jane Sudowski, 2 Lincoln St., South River, N.J., and Carl W. Woronowicz, 115 MacArthur Ave., Sayreville, N.J.

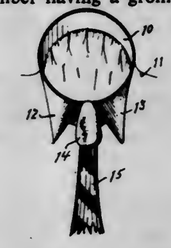
Filed Oct. 7, 1965, Ser. No. 493,777
2 Claims. (Cl. 2—146)



1. A necktie comprising an elongated fabric body constituted by a pair of panels in end-to-end relation forming the front and tail portions of the outside portion of the body, a similar pair of panels in end-to-end relation forming the front and tail portions of the inside portion of the body, the adjacent ends of each pair being cut on the bias and sewed together by rows of stitching forming joints therebetween, said front portion tapering from end to end, said tail portion being substantially rectangular rows of stitching close to the long edges of the panels joining said long edges adjacent to and on both sides of the joints and on both sides of the body providing narrow pleats thereat midway the ends of the body, and rows of stitching joining the remainder of the long edges inwardly of the first-named close rows of stitching, said second-named rows of stitching being remote from the long edges providing relatively wider pleats than said narrow pleats, a portion of one of said edges adjacent the joints being left unstitched to provide means for turning the necktie inside-out.

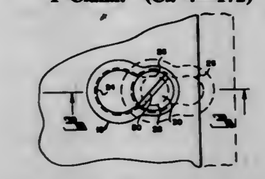
3,264,655
ORNAMENTAL NECKWEAR
Harry C. Thistle, 110 Clinton Park, San Francisco, Calif.
Filed May 11, 1965, Ser. No. 454,901
1 Claim. (Cl. 2—150)

In an ornamental neckwear ensemble for sports shirts having an attached collar, a combination of a mounting member of ornamental outline, a semi-precious polished stone carried by said mounting member, a unitary one-piece support comprising an upper member, an intermediate member and a lower member, said upper member comprising a rearwardly curved portion and a downwardly extending portion parallel with said intermediate member and forming a shirt collar band engaging hook having a length sufficient to encompass the neckband of a shirt, said lower member being shorter than said hook and comprising a rearwardly curved portion and an upwardly extending portion in substantial alignment with said downwardly extending portion of said upper member, said intermediate portion being attached to the central rear portion of said mounting member, and a depending tie fabric member having a grommet mounting said



fabric member on said lower member, whereby when applied to a shirt said hook will serve to hold said mounting member with its ornamental facing and depending fabric member firmly upon the neckband of a shirt as a substitute for a conventional four-in-hand tie.

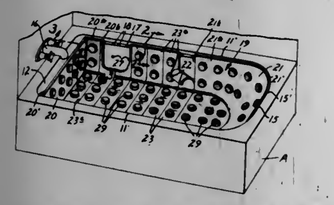
3,264,656
POOL COVER AND ANCHOR MEANS THEREFOR
Horace A. Clay, 2908 W. Montebello, Phoenix, Ariz., and William Yuochko, 2937 N. 52d Drive, Phoenix, Ariz.
Filed Apr. 23, 1964, Ser. No. 362,134
1 Claim. (Cl. 4—172)



In a pool cover and anchor means the combination of: a flexible pool cover; fixtures connected therewith near a peripheral edge thereof; a plurality of anchor assemblies adapted to be recessed in concrete surrounding a pool; a cylindrical body of each assembly being tubular and having an upper open end adapted to be flush with an upper surface of concrete surrounding a pool; a plunger reciprocally and rotatably mounted in said body; a spring in said body tending to force said plunger to project upwardly above said open end of said body; holding means projecting inward from said body into interfering relation with said plunger; and a plurality of axially spaced ledge means on said plunger; said plunger having an axially extending passage between said ledge means adapted to bypass said holding means when said plunger is rotated to align said bypass with said holding means whereby a normally upper end of said plunger may be flush with said open end of said body when one of said ledges is engaged by said holding means and said upper end of said plunger may be projected upward by said spring to cause engagement of said holding means by another of said ledges when said passage is rotated into alignment with said holding means; and connector means at an upper portion of each plunger adapted to be connected to one of said fixtures; said fixtures comprising converging grommet structures; said connector means

being an external annular recess in each respective plunger; said converging grommet structures each having an opening therein; said opening being elongated; the elongated axis of each opening directed from an outer edge portion of said cover toward a central portion thereof; an inwardly directed portion of said opening being slightly larger than the upper end of said plunger so as to fit thereover; an outer portion of said opening being reduced so as to fit in said annular recess of each respective plunger, said outer portion of said opening thus being smaller than the normally upper end of said plunger, whereby tension of said cover holds each outer portion of each respective opening in position around a respective annular recess.

3,264,657
SCRUB-FACILITATING LINER FOR BATH TUBS
Charles J. Klinkner, 324 7th St. N., Fargo, N. Dak.
Filed Nov. 13, 1963, Ser. No. 323,319
4 Claims. (Cl. 4—184)



1. A liner for a bath tub having a bottom wall, vertically disposed side walls and opposed end walls, one of said end walls being generally vertically disposed and the other inclining upwardly and outwardly, said linear comprising

(a) opposed end sections conforming generally to the contours of said opposed tub end walls,

(b) each of said end wall liner sections having generally U-shaped flange portions which terminate in opposed parallel side edges,

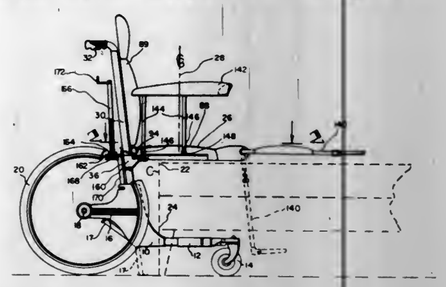
(c) a plurality of relatively narrow U-shaped strip-like intermediate liner sections,

(d) means for detachably securing said intermediate liner sections in side-by-side relationship between said end wall sections,

(e) and means for imparting longitudinal adjustments to one of said end wall sections toward and away from the other of said end wall sections to the extent equal to the dimensions of said intermediate sections measured longitudinally of said tub, whereby to vary the effective length of said liner.

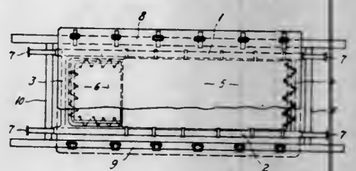
3,264,658
WHEEL CHAIR
John V. Kitrell, Lincoln, Nebr., assignor to Lincoln Carriage Corporation, Maricopa, Ariz., a corporation of Arizona
Filed Dec. 20, 1962, Ser. No. 246,131
6 Claims. (Cl. 5—81)

1. In a wheel chair the combination of: a main frame; a cantilever frame portion of said main frame having first supporting wheels of small enough diameter to pass under a bed; second relatively larger wheels supporting said frame and disposed to support said wheel chair at the side of a bed, said larger wheels having peripheries disposed in a position adapted to be operated by a patient in said chair; a seat frame pivotally mounted on said main frame on a substantially vertical axis, said seat frame cantilevered from said main frame and disposed in spaced relation with and above said cantilever frame portion; a turntable means rotatably supporting said seat frame on a vertical axis; second cantilever means projecting horizontally from said main frame in vertically spaced relation to said cantilever frame portion; and receiving portions of said turntable means, said receiving portions removably mounted on said second cantilever means and relatively engageably and disengageably by



movement of said second cantilever means and said main frame at substantially right angles relative to the axes of said second wheels and relative to said turntable means and said seat frame when said seat frame is deposited on a stationary support to thereby permit loading and unloading of the seat frame relative to the main frame.

3,264,659
LITTERS
Gustav Albert Magni, Lidingo, and Gösta Wilhelm Andersson, Stockholm, Sweden, assignors to Jarnbs Elektriska Aktiebolag, Solna, Sweden, a corporation of Sweden
Filed Nov. 23, 1964, Ser. No. 413,135
Claims priority, application Sweden, Nov. 27, 1963, 13,110/63; April 22, 1964, 4,952/64
6 Claims. (Cl. 5—82)



1. A litter comprising in combination two litter frames one of which is of a size to fit within the other so that both frames can rest on a common support with the larger of the frames liftable from about the smaller of the frames, the smaller of the frames having a first sheet thereon, a second separate sheet on the smaller frame, and means for releasably attaching said separate sheet to said larger frame.

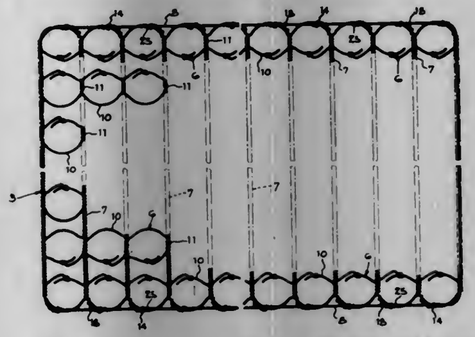
3,264,660
COIL SPRING
Clifford Goldmeyer, Cincinnati, and Thomas J. Dull, Fairfield, Ohio, assignors to The J. R. Greeno Company, Cincinnati, Ohio, a corporation of Ohio
Original application Jan. 23, 1964, Ser. No. 339,638. Divided and this application Oct. 2, 1964, Ser. No. 401,092
3 Claims. (Cl. 5—351)

1. In a coil spring unit having rows of vertically disposed coil springs including terminals adjoining one another and having a border wire extending about the periphery of the spring unit, the improvement which comprises:

a respective helical threaded in corkscrew fashion upon the adjoining portions of the terminals of the rows of coil springs, thereby tying said terminals to one another;

the terminals of the coil springs about the margin of the coil spring unit having portions in adjoining relationship to said border wire;

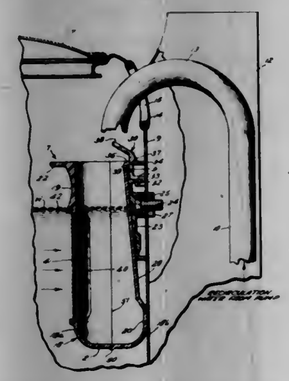
the end portion of each of said helicals, which tie the rows of coil springs to one another, having elongated turns extending generally parallel with the border wire from the row of terminals which is joined together by said helical, said elongated turns terminat-



ing in an end portion which is wrapped under tension about the border wire and about the portion of the terminal which adjoins the border wire, thereby to secure the terminals to the border wire;

the wrapped portion of the helical, which passes about the border wire and adjoining terminal, providing a clamping engagement between the border wire and adjoining portion of the terminal, thereby to prevent longitudinal displacement of the helical.

3,264,661
METHOD AND APPARATUS FOR FILTERING LIQUID IN A CLOTHES WASHING MACHINE
Anthony Mason, Benton Harbor, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware
Filed May 1, 1964, Ser. No. 364,090
12 Claims. (Cl. 8—158)



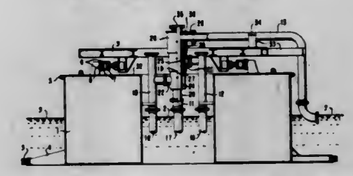
1. A method of filtering liquid containing foreign matter liable to clog a filtration screen,

delivering liquid containing the foreign matter into a receptacle having an opening through an upright wall and across which opening a filtering screen extends,

and while continuing to deliver recirculation liquid into the receptacle directing a flushing stream of liquid generally horizontally across the inner face of the screen from one side of the opening and into a chamber area of the receptacle beyond the opposite side of the opening,

whereby as the flushing stream diminishes in velocity into said chamber space foreign material flushed from the screen tends to sink to the bottom of the receptacle.

3,264,662
BUOY FOR LOADING AND UNLOADING SHIPS
Alastair O. Young, Lutong, Sarawak, Malaysia, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Aug. 7, 1964, Ser. No. 402,045
Claims priority, application Netherlands, Aug. 7, 1963, 296,352
6 Claims. (Cl. 9—8)



1. A water buoy for interconnecting a plurality of tubular lines located beneath the water with a ship moored to the buoy, said buoy comprising:

a float member;

a first plurality of conduit means fixedly secured to said float member and adapted for connection with tubular lines located beneath the water;

a second plurality of conduit means extending from the top of said float member and adapted for connection with a ship moored to the buoy;

rotatable connecting means located on said float member and positioned between said first and second pluralities of conduit means, said rotatable connecting means providing for rotational movement of said second plurality of conduits with respect to said first plurality of conduits;

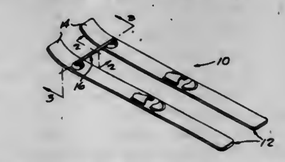
a plurality of elongated, vertical concentric pipes located on said float and having a common vertical axis coinciding with the vertical center line of said float member; and

the lowermost ends of said plurality of pipes being arranged at different levels so that the smallest-diameter pipe terminates at the lowest level and the largest-diameter pipe terminates at the highest level, said rotatable connecting means comprising:

a plurality of concentric bushings fixed to said float member;

each of said concentric pipes being rotatably mounted at its lower end in one of said bushings.

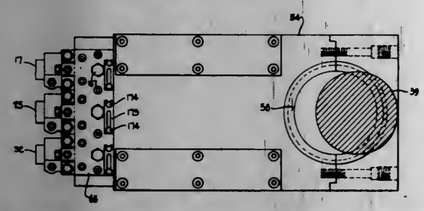
3,264,663
SKI ASSEMBLY
Austin P. Owens, North Syracuse, N.Y.
(% Owens Mfg. Co. Inc., 339 Peat St., Syracuse, N.Y.)
Filed June 5, 1964, Ser. No. 372,886
2 Claims. (Cl. 9—310)



1. In a ski assembly including a pair of skis normally disposed in side-by-side laterally-spaced parallelism, means for maintaining said parallelism while preserving flexibility in the maneuverability of said skis, said means including an elongated rigid strut having opposed ends,

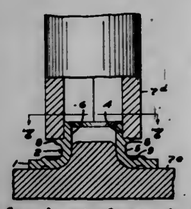
said strut extending transversely between said skis and having an end thereof juxtaposed with respect to each ski, and resilient, flexible and compressible vacuum means mounted on each end of said strut to effect a releasable vacuum connection of said strut with the immediately adjacent one of said skis.

3,264,664
ARTICLE FORMING MACHINE
Howard D. Prutton, Cleveland, Ohio, assignor to Prutton Corporation, a corporation of Ohio
Original application Oct. 4, 1961, Ser. No. 142,967, now Patent No. 3,189,191, dated June 15, 1965. Divided and this application Mar. 19, 1965, Ser. No. 441,126
29 Claims. (Cl. 10—12)



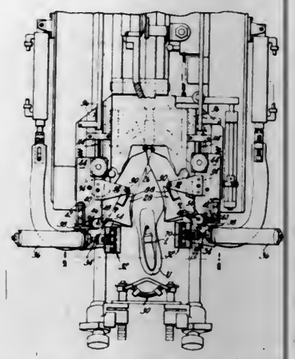
1. A metal working machine comprising in combination a pair of rams, each adapted to carry first and second cooperating metal working tool means, means for moving the rams oppositely in circular paths, whereby the rams alternatively approach each other and recede from each other for working upon a piece by said first tool means during the approach stroke of the rams, and transfer means to transfer a piece laterally from said first to said second tool means during the period of separation of said rams for subsequent working on the piece by said second tool means.

3,264,665
METHOD OF FORMING THE TOOL ENGAGING FLATS OF A THREADED NUT DEVICE
Norman J. Hughes, Melrose, Mass., assignor to United-Carr Incorporated, a corporation of Delaware
Continuation of application Ser. No. 226,096, Sept. 25, 1962, now Patent No. 3,192,818, dated July 6, 1965. This application Mar. 30, 1965, Ser. No. 443,922
1 Claim. (Cl. 10—86)



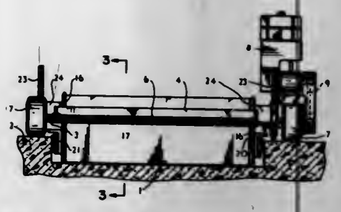
The method of forming tool-engaging surfaces on a drawn sheet metal nut having a laterally-extending base flange, a thin-walled barrel portion extending normal to the plane of said base flange, a plurality of tool-receiving surfaces on an outer surface of said barrel portion and a plurality of integral shaved portions adjacent said base flange, which comprises the step of shaving the outer surface of said barrel portion with a shaving tool acting in a direction substantially parallel to the longitudinal axis of said barrel portion to form said tool-engaging surfaces and said shaved portions and simultaneously pressing said shaved portions against said base flange, prior to the nut being removed from nut forming tools, thereby leaving the shaved portions free of any interferences with the tool-engaging surfaces.

3,264,666
SHOE LASTING MACHINES
Robert G. Akerley, Beverly, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Sept. 3, 1965, Ser. No. 484,836
5 Claims. (Cl. 12—12)



1. In a shoe lasting machine having means for lasting an upper of a shoe over a last comprising a member having two diverging legs, a resilient band engageable with the shoe carried by the member and extending unsupported between the legs, a pivot mounting the member for rocking movement heightwise of the shoe, means carrying the pivot for moving the pivot and member bodily widthwise toward the shoe for first causing one of the legs to press the band against the upper adjacent its top line for clamping the upper against the last to prevent bodily displacement, continued bodily movement of the member thereafter causing the member to rock about said one leg widthwise and toward the shoe bottom whereby the unsupported portion of the band wraps the upper heightwise around the last and widthwise over the margin of the last bottom, the final rocking movement of the member causing the other leg to press the band and upper heightwise toward the shoe bottom.

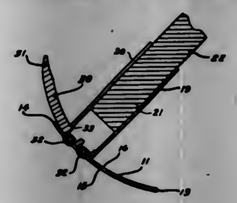
3,264,667
PIT CLEANER FOR POULTRY CAGES
William C. Frank, Hyde Park, Ontario, Canada, assignor to Hyde Park Farm Supply Limited, Hyde Park, Ontario, Canada, a corporation of Ontario
Filed June 8, 1964, Ser. No. 373,350
3 Claims. (Cl. 15—93)



1. A poultry cage pit cleaner comprising a power driven wheeled frame designed to straddle the pit, a transverse scraper blade disposed between the sides of the frame and depending therebelow, an apron at each end of said blade, and self-steering pit engaging guides on the outside of each apron, wherein the blade is rotatably mounted midway between its longitudinal edges on a shaft with sufficient clearance therearound rendering the same

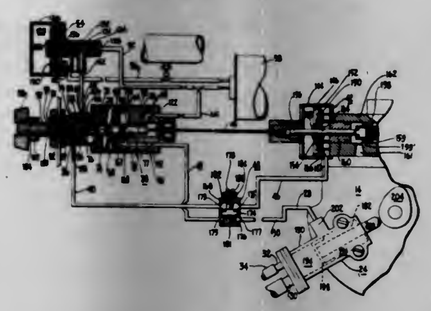
reversible so that it may be operated in either direction and enabling the same to float over droppings in the pit on reverse movement.

3,264,668
CONCRETE TOOL
Charles C. Lasker, 5003 Manchester Ave., Kansas City, Mo. 64129
Original application May 6, 1959, Ser. No. 811,492, now Patent No. 3,213,476, dated Oct. 26, 1965. Divided and this application Aug. 10, 1965, Ser. No. 478,582
3 Claims. (Cl. 15—105)



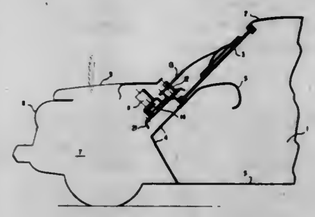
1. A concrete finishing tool having a rigid rectangular sheet metal body portion transversely curved about an axis parallel to its length to provide a concave face on one side thereof, said body portion having a straight rear longitudinal edge, a hook rigidly mounted on said concave face and projecting perpendicularly across and outwardly from said rear edge midway thereof, and an elongated straight handle rigidly secured in fixed position on said body portion to project from said concave face thereof adjacent but spaced inwardly from said rear longitudinal edge midway of the length thereof, said portion of said hook projecting beyond said rear longitudinal edge curving substantially uniformly gradually upwardly away from said body portion and toward said handle.

3,264,669
WINDSHIELD CLEANING SYSTEM
Anthony R. D'Alba, Williamsville, N.Y., assignor to Trico Products Corporation, Buffalo, N.Y.
Filed Sept. 28, 1964, Ser. No. 399,506
5 Claims. (Cl. 15—250.02)



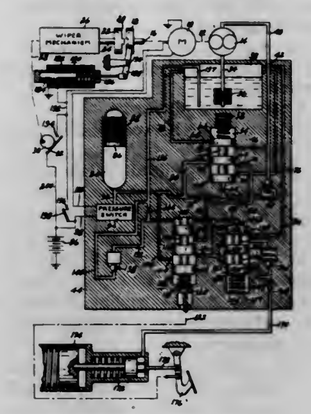
1. In a windshield cleaning system comprising a wiper motor having a vacuum actuatable coupler for initiating a timed period of wiper motor operation and a washer pump responsive to a vacuum pulse for initiating operation; a unitized manually operated control including means for simultaneously supplying a vacuum pulse to said coupler and said pump with a single manual operation to effect conjoint wiper-washer operation and manual means to substantially instantaneously abort said timed period of wiper motor operation.

3,264,670
WINDSHIELD WIPER ARRANGEMENT
Béla Barényi, Stuttgart-Vaihingen, and Heinrich Haselmann, Sindelfingen, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Nov. 27, 1963, Ser. No. 326,474
Claims priority, application Germany, Dec. 1, 1962, D 40,419
7 Claims. (Cl. 15—250.27)



1. A windshield wiper arrangement for vehicles, especially passenger motor vehicles having a transverse boundary wall for the passenger space and a windshield, comprising:
a stationary bearer member,
drive and bearing means for the windshield wiper arrangement,
all of said drive and bearing means being secured to said bearer member,
and said bearer member extending substantially transversely to the vehicle and being disposed in the installed condition within the area of the lower edge of the windshield with said drive and bearing means being located completely outside the transverse wall, said bearer member being assembled together with the elements of the windshield wiper arrangement into a preassembled unit that is rigidly secured at the vehicle in a readily detachable manner.

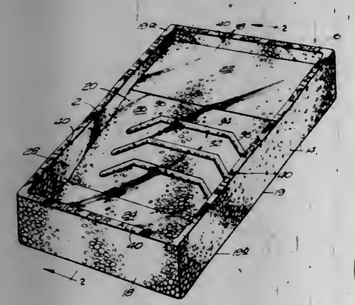
3,264,671
ELECTRO-HYDRAULIC ACCESSORY POWER SUPPLY
Keith H. Carpenter, Pittsford, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 10, 1964, Ser. No. 417,294
9 Claims. (Cl. 15—250.30)



1. An electro-hydraulic accessory power supply for a vehicle comprising, an electric motor, first and second

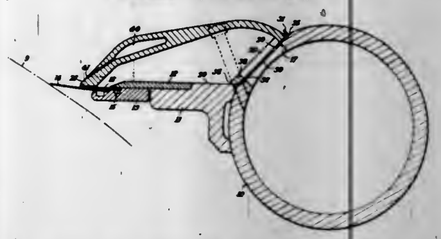
energizing circuits for said motor, a pump directly coupled to said electric motor having an inlet connected to a sump and an outlet, an accumulator connected to the outlet of said pump, a relief valve connected with the output of said pump and with said accumulator for bypassing the output of said pump to the sump when said accumulator is fully charged, said first energizing circuit including a pressure switch responsive to pressure in said accumulator, windshield cleaning mechanism, electrically actuated means connected in said second energizing circuit for coupling said motor with said windshield cleaning mechanism, and manual switch means in said second energizing circuit.

3,264,672
REVERSIBLE PAINT ROLLER TRAY
Richard A. Campbell, Wellesley Hills, and Clifford R. Blood, Lexington, Mass., assignors to Baltimore Brushes, Inc., Boston, Mass.
Filed Mar. 13, 1964, Ser. No. 351,792
4 Claims. (Cl. 15—257.06)



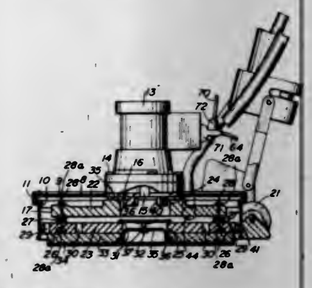
1. A tray for roller-type liquid-applying implements, said tray comprising:
(A) a unitary rectangular enclosure of rigid foam including
(1) a pair of rectangular side walls, each of which has opposed lateral edges, and
(2) a pair of rectangular end walls, each of which has opposed lateral edges,
(3) said opposed lateral edges of said walls lying in a first pair of parallel planes that are orthogonal to said walls,
(B) a rigid foam divider extending within said enclosure between and integral with said walls, said divider including
(1) a pair of end platforms
(a) extending between and integral with said side walls,
(b) integrally joined to different end walls at different heights thereon, and
(c) extending in different planes between the planes in said first pair thereof, and
(2) a ramp joining said end platforms at their edges remote from said end walls,
(a) said ramp extending between said side walls and integral with side walls and said platforms
(b) so that said divider forms two chambers within said enclosure, said chambers being disposed back-to-back with respect to each other on opposite sides of said divider, and
(C) an oil-base paint resistant material coating the interior surfaces of at least a first of said chambers.

3,264,673
DOCTORS FOR PAPERMAKING MACHINES
Harold Eric Ballol Scott, Weybridge, Surrey, England, assignor to Vickerys Limited, Greenwich, London, England
Filed Aug. 6, 1964, Ser. No. 387,862
Claims priority, application Great Britain, Aug. 20, 1963, 32,965/63
7 Claims. (Cl. 15—308)



1. A doctor for doctoring a roll of a papermaking machine comprising a doctor blade, a blade holder mounting said blade, a pressure plate also mounted on said holder and bearing against the face of the doctor blade remote from the roll, a suction duct extending for the length of said blade, means attaching said blade holder to said suction duct, a plurality of contiguous, rigid suction nozzles attached to said suction duct which extend forwardly from the suction duct to the vicinity of the tip of the doctor blade, each suction nozzle terminating at its forward end in an elongated suction orifice adjacent the pressure plate and having one side defined by said pressure plate, and having at its near end an orifice communicating with an orifice in the suction duct, said suction nozzles collectively defining a continuous wall, extending rearwardly at a gradual inclination from the doctor blade to the suction duct, and orifice plates accommodated in slots in the suction nozzles, said orifice plates controlling the flow of air through the suction nozzles to the orifices in the suction ducts, having graded orfices which provide uniformity of suction through the suction nozzles, being accommodated in slots in the suction nozzles and being manually removable from and replaceable in said slots by sliding movement.

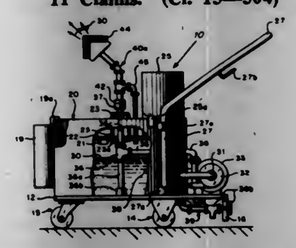
3,264,674
FLOOR TREATING MACHINES
Dewey I. Doyle, Jr., Grand Rapids, and Gerald H. Ferguson, Fruitport, Mich., assignors to Doyle Vacuum Cleaner Company, Grand Rapids, Mich., a corporation of Michigan
Filed May 20, 1964, Ser. No. 368,778
10 Claims. (Cl. 15—328)



7. A floor treating machine comprising
(a) a body portion having an annular depending skirt portion,
(b) a disk-shaped working unit disposed in said skirt portion in axial alignment therewith,

(c) said working unit comprising
(1) two substantially inflexible disk-shaped supporting members disposed in vertically spaced relation to each other,
(2) resilient separator means disposed between said supporting members,
(3) a resilient pad mounted on the lower face of the lowermost one of said supporting members,
(4) said lowermost supporting member extending radially outwardly of said pad,
(5) a working disk mounted on the lower face of said pad in position to operatively engage a floor to be treated during operation of the machine in position to support said skirt portion in upwardly spaced relation to said floor,
(d) said lowermost supporting member having a plurality of spaced openings extending substantially vertically therethrough and radially outwardly of said paid,
(e) means disposed on the axis of said skirt and operatively connected to said supporting members for rotating said working unit around said axis, and
(f) means supported by said body portion for providing a flow of working fluid vertically through said openings and between said working unit and said skirt,
(g) said lowermost supporting member being disposed in radially inwardly spaced relation to said skirt portion throughout the periphery of said lowermost supporting member so as to restrict flow of working fluid between said lowermost supporting member and said skirt.

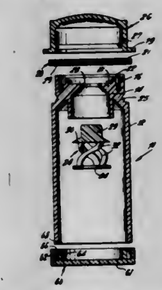
3,264,675
CAN CLEANER
Rocco F. Di Ilio, 708 Worthington Drive, Warminster, Pa.
Filed Aug. 24, 1965, Ser. No. 482,218
11 Claims. (Cl. 15—504)



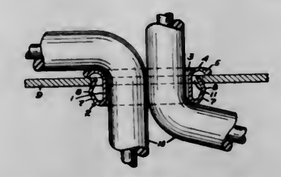
1. A can cleaner comprising a baseplate on wheels, an open top tank on said baseplate, a motor and pump on said baseplate, a vertical riser in said tank, said pump having an inlet and an outlet, said outlet being connected to said vertical riser, said inlet extending into said tank, a removable screen over said tank, a hole in said screen to accommodate said vertical riser, said vertical riser passing through said hole, a fixed quick-disconnect coupling means on the upper end of said vertical riser, above said screen, and adapted to receive a spray head having a spray head lock and a spray head lock hole in said screen to accommodate a spray head lock.

3,264,676
SPIN WELDED PACKAGE
Gilbert Schwartzman, 20 Wilmot Circle, Scarsdale, N.Y.
Filed Apr. 2, 1964, Ser. No. 356,838
1 Claim. (Cl. 15—569)

A fluid applicator comprising a double ended cylinder having a dispensing end and a bottom end and having a retainer ring integrally formed therewith adjacent said dispensing end, a cover secured to said ring and defining an applicator surface at said dispensing end, a tubular projection inwardly disposed within said cylinder concentric therewith, a web integral with said cylinder at said dispensing end thereof and integral with said projection forming a relatively thickened portion, said cylinder having a groove therein at said relatively thickened portion, said web having a tapered opening therein forming a valve seat, a valve assembly including a valve head movable with respect to said valve seat, said valve head including a conical portion engageable with said valve seat to control fluid flow through said opening, said valve head extending through and beyond said opening and engaging said cover so that upon depression of said cover, said conical portion will be displaced from engagement with said valve seat permitting fluid flow through said opening, said valve assembly including an enlarged circular mounting ring and helical spring means integral with end engaging said valve head and integral with and engaging said mounting ring, means on said projection to hold said mounting ring with said spring means continuously under compression urging said valve head against said valve seat, a cap provided with an inner annular rib, said cap being received over said cover with said rib seating in said groove, and a base spin welded to said bottom end of said cylinder, said base including a disc and a pair of spaced cylindrical flanges integral with said disc and defining a groove therebetween, one of said flanges being of a greater diameter than said cylinder, said bottom end of said cylindrical being received in said groove so that said base forms an enlarged supporting surface.



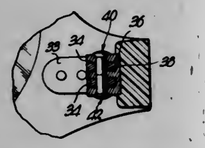
3,264,677
SAFE EDGE METAL GROMMET
Conrad Olson, Arlington, Mass., assignor to United-Carr Incorporated, a corporation of Delaware
Original application Oct. 7, 1963, Ser. No. 314,460. Divided and this application Nov. 13, 1964, Ser. No. 411,063
4 Claims. (Cl. 16—2)



1. A one-piece sheet metal grommet comprising a hollow, continuous, generally circular, open end body portion, a first flange operable as a stop extending outwardly from one end of said body portion, a second flange extending outwardly from the opposite end of said body portion, each of said flanges presenting a continuous smooth surface adjacent said hollow body portion, and a plurality of snap acting legs integral with said second flange and disposed about the periphery of said body portion in spaced relation therewith, said legs extending

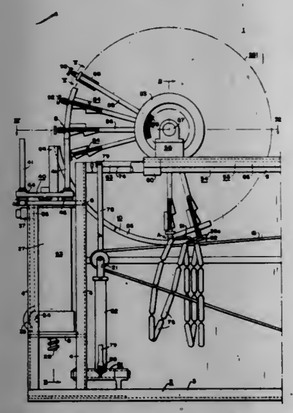
toward said first flange and terminating in a free end in spaced relationship therewith and having a length at least as great as one half the length of said body portion.

3,264,678
MAGNETIC HINGE PIN ASSEMBLY FOR EYEGLASS STRUCTURE
Alfred F. Parmelee, 5801 W. 83rd St., Overland Park, Kans.
Filed Oct. 4, 1965, Ser. No. 496,239
6 Claims. (Cl. 16—128)



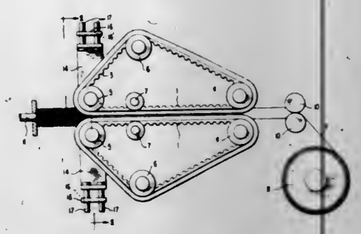
1. A hinge assembly for eyeglasses having a frame and bows thereon, comprising:
a pair of relatively movable hinge structures for swingably interconnecting the frame and a respective bow and having a common pin-receiving pivot passage therethrough; and
hinge pin means provided with an elongated first section having one end thereof telescoped at least partially through said passage, and a second section contacting said one end of said first section, one of said sections being magnetic and the other section being magnetized whereby said sections will be magnetically coupled to each other, said sections including integral retainer means disposed to engage at least one of said hinge structures and normally maintain said first section in said telescoped position.

3,264,679
APPARATUS FOR MAKING LINKED PRODUCTS
Charles D. Moekle, 10063 Grandview Ave., Penn Hills Township, Allegheny County, Pa.
Filed Dec. 24, 1963, Ser. No. 333,148
25 Claims. (Cl. 17—33)



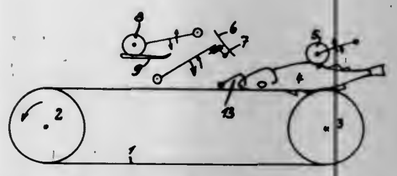
1. An apparatus for forming a stuffed product into a series of integrally-connected links comprising a product-feeding means including a rotatable generally vertically-positioned casing holder adapted to support a product casing to be filled with a fluid-like product, said casing holder having an inlet end and an exhaust end, conveyor means including a plurality of spaced pincher assemblies carried therewith, a portion of the path of movement traversed by the spaced pincher assemblies being in close proximity to the exhaust end of said casing holder, means for closing the pincher assemblies in succession upon the filled casing ejected from the rotating casing holder, means for subsequently releasing the pincher assemblies in succession from the twisted links, the spaced pincher assemblies constituting the sole supporting means for the twisted links, whereby successive links are twisted in the same direction to thereby prevent the untwisting thereof upon release of said pincher assemblies.

3,264,680
APPARATUS FOR SHIRRING SAUSAGE CASINGS
Ernst Riegler, Niederwalluf, Rheingau, Germany, assignor to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany
Original application Jan. 24, 1962, Ser. No. 168,556, now Patent No. 3,201,825, dated Aug. 24, 1965. Divided and this application Dec. 21, 1964, Ser. No. 420,029
Claims priority, application Germany, Jan. 26, 1961, K 42,739
6 Claims. (Cl. 17—42)



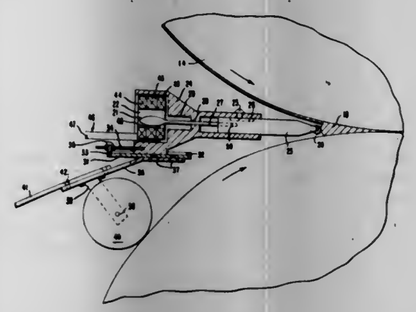
1. An apparatus for shirring sausage casings comprising a mandrel, a pair of belts mounted adjacent the mandrel and forming a channel about the mandrel for advancing a casing in the shirring direction, and means for reciprocating the belts in a direction normal to the shirring direction at the discharge end of the channel.

3,264,681
METHOD OF OPENING UP THE BELLY CAVITY OF UNSLAUGHTERED FISH
Alfred Friedrich Adolf Bartels, Lubeck-Israelsdorf, Germany, assignor to Nordischer Maschinenbau Rud, Baader, Lubeck, Germany, a firm
Filed Feb. 17, 1965, Ser. No. 433,373
Claims priority, application Germany, Feb. 20, 1964, N 24,480
5 Claims. (Cl. 17—45)



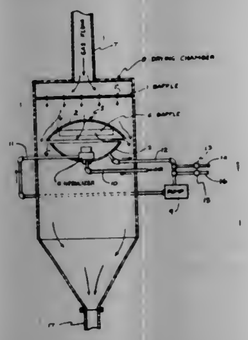
1. Method of opening up the belly cavity of unslaughtered fish, comprising the steps of providing a short incision in the belly cavity in the vicinity of the anus, severing the isthmus and then slitting open the belly cavity along its entire length between the anus and the ends of the collar bones by a slitting tool, and guiding the fish to the slitting tool whereby the belly cavity is supported and centrally guided to the slitting tool.

3,264,682
CALENDER BANK SIZE INDICATOR
John Thomas Freeman, Freehold, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 2, 1964, Ser. No. 335,218
4 Claims. (Cl. 18—2)



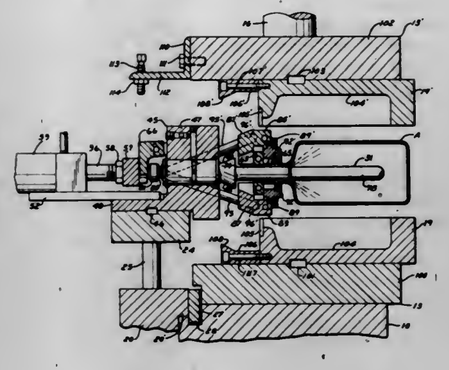
1. In combination with calender rolls for calendering viscous material into sheet form a detecting device for measuring calender bank size comprising
(A) supporting means for holding said detector in operational position adjacent the nip between two calender rolls,
(B) sensing means mounted on said support means for continuously determining said bank size, and
(C) means for converting said bank size determinations into a signal that varies as a function of the bank size.

3,264,683
DRIER
Richard L. Lloyd, Salt Lake City, Utah, assignor to the United States of America as represented by the Secretary of the Army
Filed May 20, 1964, Ser. No. 369,041
5 Claims. (Cl. 18—2.4)



1. Apparatus for formation and drying of uniformed small particles containing viable microorganisms comprising:
a drying chamber having an upper inlet end;
means to introduce a warm dry gas to said upper inlet end of the drying chamber;
a dish-shaped member inside of the drying chamber;
an inverted dish-shaped member above the dish-shaped member, the inverted dish-shaped member having a hole therein and being spaced slightly from the dish-shaped member to form a cavity and an annular slot therebetween and having its periphery spaced adjacent to the wall of the drying chamber to produce a restriction between these members;
a nebulizer mounted in the dish-shaped member and having fluid connections to introduce fluids to the cavity to be sprayed as a fog;
and means for the escape of fluids from the drying chamber.

3,264,684
NECK RING MOLD
Ernest P. Moslo, 2443 Prospect Ave., Cleveland 5, Ohio
Filed Oct. 8, 1963, Ser. No. 314,728
10 Claims. (Cl. 18—5)

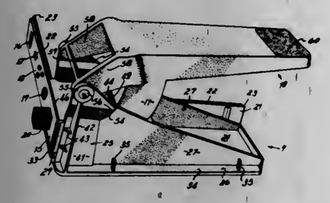


1. A mold comprising base means; separable mold half means; a carrier for moving both said mold half means toward and away from said base means; said carrier comprising a guide disposed perpendicularly to the direction of movement of said mold half means relative to said base means, ways provided in said mold half means embracing opposite edges of said guide, and a power source for moving said guide relative to said base means; one of said means carrying converging guide members projecting in the general direction of the other of said means; the other of said means having means providing complementary converging ways for receiving said guide members whereby when said mold half means are moved away from said base, said converging guide members and converging ways coact to cause said mold half means to open, and when said mold half means are moved toward said base, said guide members and ways coact to cause said mold half means to close.

3,264,685
TOY EXTRUDER
Robert Boggild and William L. Dale, both of 5463 Hill and Dale Drive, Cincinnati, Ohio
Filed Feb. 28, 1963, Ser. No. 261,614
8 Claims. (Cl. 18—12)

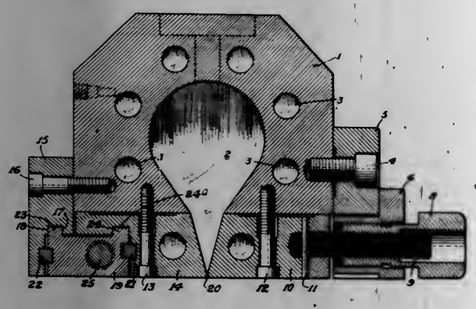
1. A toy extruder comprising,
a flat elongated base,
side walls projecting integrally upwardly from said base and spaced inwardly from the side edges of said base,
a pair of spaced arcuate walls located between said side walls and forming with said side walls an arcuate chamber in said base having a supply opening and a discharge opening,

an operating lever mounted between said side walls for pivotal movement about an axis which is coincident with the center of circles defining said arcuate walls,
an arcuate piston integral with said lever and slidable in said chamber,
a slide holder at the discharge end of said chamber,



a slide plate slidably mounted in said holder, said slide plate having a plurality of differently configurated openings selectively positionable over said discharge opening,
and at least one upwardly projecting post on each side edge of said base spaced from said respective side wall to form storage means on said base for receiving said slide plate.

3,264,686
EXTRUDING DIE JAW ADJUSTMENT
Fred Soloduk, Belle Mead, N.J., assignor to Frank W. Egan & Company, Somerville, N.J., a corporation of New Jersey
Filed May 1, 1964, Ser. No. 364,135
6 Claims. (Cl. 18—12)



1. A film extrusion apparatus including a die body having an elongated opening therein, a pair of elongated jaws one at each side of said opening having faces forming an extrusion slot between them, means mounting one of said jaws on said body for movement as a unit to adjust its said face toward and away from the face of the other jaw, and means mounted on said body for adjusting said jaw as a unit providing for movement of the jaw positively and selectively in either direction, said means for adjusting the jaw including a single operating member.

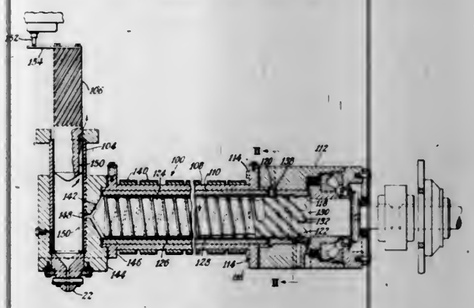
3,264,687
CONSTANT AREA ULTRAHIGH PRESSURE ANVIL SYSTEM
Richard D. Potter, Fort Worth, Tex., assignor to General Dynamics Corporation, Fort Worth, Tex., a corporation of Delaware
Filed May 24, 1965, Ser. No. 457,947
4 Claims. (Cl. 18—16)

1. An anvil for ultrahigh pressure anvil systems comprising:
A. a workface;
B. side faces positioned adjacent said workface in angular relationship thereto and operative to cause a material extruded therebetween by like opposing anvil members to function as a pressure gasket;
C. a relief area continuous to said side faces, said relief area spaced from said workface to limit the area defined by said side faces to the distance re-



quired to form a pressure gasket between like opposing side faces, said relief area in co-operative relationship to said side faces to permit extruded material to be unconfined beyond the pressure gasket on application of opposing anvil members having like configurations.

3,264,688
FEEDING AND CUTTING MEANS FOR SUPPLYING SOLID PLASTIC IN FRAGMENTED CONDITION
Donald B. McIlvin, Danvers, Mass, assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Original application Oct. 17, 1962, Ser. No. 231,222, now Patent No. 3,200,438, dated Aug. 17, 1965. Divided and this application Feb. 5, 1965, Ser. No. 430,632
3 Claims. (Cl. 18—30)

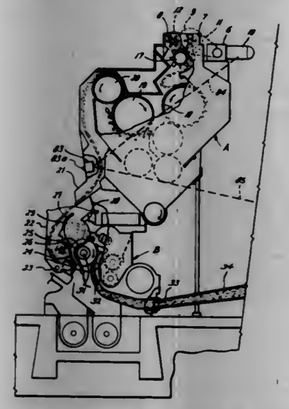


1. Feeding and cutting means for supplying solid plastic in fragmented condition comprising a sleeve having a helical groove along its inner wall, a screw having a head mounted to rotate in said sleeve, a stationary cutter disposed in the sleeve and adjacent said head, and means for feeding a length of plastic tape through said helical groove, said feeding means comprising a plurality of cutters carried by said head and engageable with said tape, said cutters carried by said head being further engageable with said stationary cutter to shear off fragments from said length of plastic tape.

3,264,689
LINT FLOW EQUALIZER
Joseph C. Neitzel, Dallas, Tex., and Richard D. Day, Fresno, Calif., assignors to The Murray Company of Texas, Inc., Dallas, Tex., a corporation of Delaware
Filed July 1, 1964, Ser. No. 379,570
10 Claims. (Cl. 19—64.5)

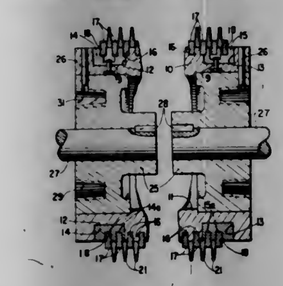
1. In a cotton gin plant, in combination, a pneumatic duct for transporting cotton, cotton supply and processing apparatus, respectively, at the entrance and outlet of said duct, a perforate walled condenser roll interposed in said duct for separating the pneumatic air from the cot-

ton therein, doffing means for removing cotton in batt form from the exterior of said roll and delivering it to said processing apparatus, individual powering means for said cotton supply apparatus and said condenser roll,



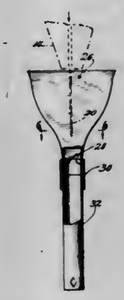
and joint means to vary the operating rates of said supply apparatus and said condenser roll to maintain the supply of a batt of desired thickness to said processing apparatus.

3,264,690
GARNETT ROLL
Frank B. Morrill, North Adams, Mass., assignor, by mesne assignments, to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Apr. 11, 1961, Ser. No. 102,281
8 Claims. (Cl. 19—112)



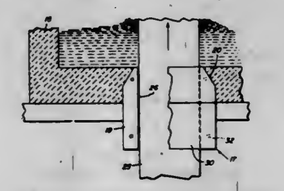
1. A Garnett roll comprising a cylinder having circumferential grooves in the cylindrical peripheral surface of the cylinder at the respective end portions thereof, said peripheral surface also having a groove extending spirally around the cylinder axis from one to the other of said circumferential grooves, said circumferential grooves being substantially deeper than the spiral groove, an end ring releasably secured in each circumferential groove and having its peripheral surface flush with said peripheral surface of the cylinder, each end ring having in its peripheral surface a spiral groove forming an extension of said spiral groove in the cylinder, said spiral grooves in the cylinder and rings forming a composite spiral groove of substantially uniform width and depth, a spiral filler strip seated in said composite groove and having its turns projecting from said peripheral surfaces of the cylinder and rings to define therewith a second spiral groove, at least some of the metal of said rings adjacent the spiral grooves thereon being upset laterally against the filler strip to anchor the end portions of the filler strip in the rings, and a spiral toothed wire secured in said second spiral groove.

3,264,691
METHOD OF MAKING TAMPONS
Howard A. Whitehead, Appleton, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Nov. 24, 1964, Ser. No. 416,951
1 Claim. (Cl. 19—144.5)



The method of making tampons comprising the steps of cutting an elongate and relatively thick slab of a wet sponge-like absorbent material into a plurality of keystone-shaped pledgets, each of said pledgets having a length substantially greater than the widest dimension thereof, sewing a withdrawal string along substantially the longitudinal center line of said pledget and completely through the material thereof to draw inwardly a central portion of each pledget sufficiently to effect a generally "dumbbell" configuration in cross section, drawing the narrow end of said wet pledget by said withdrawal string into a cylindrical applicator casing through an inwardly tapering guide member having the general configuration of a flattened funnel whereby said pledget is constrained against relative rotational movement with respect to said casing while being compressed substantially only transversely of the major plane thereof into the cylindrical shape of said applicator casing, and thereafter drying said casing-enclosed pledget.

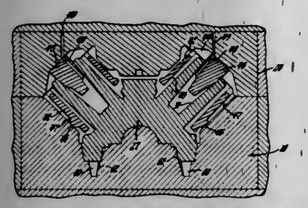
3,264,692
INLET ORIFICE FOR CONTINUOUS CASTING APPARATUS
Robert M. Parke, Coral Gables, Fla., assignor to General Electric Company, a corporation of New York
Filed Apr. 29, 1964, Ser. No. 363,464
4 Claims. (Cl. 22—57.2)



1. In a continuous casting apparatus in which elongated strip steel is fed upwardly through an inlet orifice into a crucible containing molten metal to freeze additional metal thereon, the combination comprising means defining an inlet orifice having side walls and end walls which together define an inlet opening, said side walls being constructed of zircon having a density of not less than about 3.7 gm./cm.^{3} and said end walls being con-

structed of a material selected from the group consisting of zircon having a density no greater than about 3.55 gm./cm.^{3} and graphite.

3,264,693
MOLDING ASSEMBLY FOR INTERNAL COMBUSTION ENGINE BLOCKS
John L. Flitz, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 18, 1963, Ser. No. 331,442
6 Claims. (Cl. 22—131)



4. A molding assembly including a flask having a cope and a drag cooperating to form a mold cavity appropriate to define the exterior surface configurations of a V-type multi-cylinder internal combustion engine frame adapted to be cast therein, a core assembly adapted for use in the flask and being positionable in the mold cavity in spacial relationship with wall portions thereof to define interior surface configurations of the engine frame, said core assembly comprising a plurality of associated core elements including:

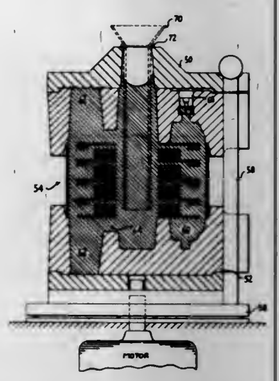
a unitized crankcase core having a plurality of aligned core body portions of generally triangular shape formed together as a unit but being locally spaced apart to expose the inner adjacent side surfaces thereof, other surfaces of the core body portions being engageable with surfaces within the mold cavity and cooperating with said side surfaces to define the bulkhead and bearing structure for the engine frame, said inner adjacent side surfaces of the core body portions opening downwardly and outwardly in rectilinear fashion with respect to the vertical transverse plane through the center of the bulkhead spaces, and inclined cylinder barrel core portions integrally formed with the core body portions and projecting from the triangular side surfaces thereof in planes generally parallel to the transverse planes passing through the bulkhead spaces forming parallel inclined barrel core rows; and

a pair of water jacket cores each being positionable adjacent a barrel core row and having generally cylindrical body portions adapted to surround each said cylinder barrel core portion in spaced relationship thereto and to said core body portions and mold cavity walls, and core extension means formed thereon adapted for engagement with said cylinder barrel core portions and the walls of the mold cavity for supporting said water jacket core and for maintaining the spacial relationship thereof during casting.

3,264,694
METHOD OF CASTING
Berthold C. Weber, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
No Drawing. Original applications Mar. 4, 1959, Ser. No. 797,309, now Patent No. 3,049,432, dated Aug. 14, 1962, and Apr. 2, 1962, Ser. No. 184,610, now Patent No. 3,189,473, dated June 15, 1965. Divided and this application Sept. 22, 1964, Ser. No. 398,457
5 Claims. (Cl. 22—200)

1. The method of casting metals selected from the group consisting of titanium, zirconium, hafnium, thorium and chromium which comprises the steps of providing a container consisting essentially of zirconia saturated with the metal to be cast in substitutional solid solution in said zirconia, placing a charge of the selected metal in the container, melting the metal in the container while minimizing a reaction between the melt and the container by balancing the container melt temperature below the metal melting point, preheating the melt for a minimal possible time and only as high as is required to obtain the proper viscosity of the metal for casting, and cooling the metal to room temperature.

3,264,695
METHOD OF CASTING ROTORS
Erwin R. Summers, Scotia, and George M. Rosenberry, Jr., Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Original application Jan. 6, 1960, Ser. No. 857, now Patent No. 3,213,306, dated Oct. 19, 1965. Divided and this application Jan. 28, 1965, Ser. No. 436,979
1 Claim. (Cl. 22—200.5)



The process of making an induction motor rotor with a high resistance cast squirrel cage winding, said process comprising:

(a) stacking contiguously a plurality of annular magnetic laminations assembled in sections to provide a rotor core having a central bore, aligned apertures formed in the laminations of said sections communicating between adjacent sections and establishing a plurality of continuous passages by varying radial dimension through the rotor core, and vent openings formed in the laminations of selected ones of said sections communicating from said passages into said bore;

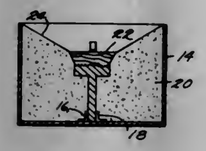
(b) positioning an upper and a lower casting mold at corresponding ends of said core, each of said molds including end ring cavities communicating with respective ends of each of said passages and gates interconnecting said cavities and said bore, said upper mold having an aperture formed therethrough aligned with said bore and a vent opening in the top of said upper mold;

(c) rotating said core and molds about an axis through said bore;

(d) pouring conductive molten metal through the aperture in said upper mold into said bore; and,

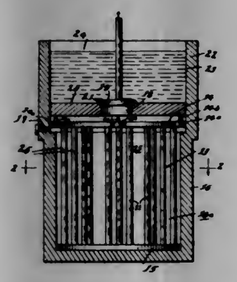
(e) venting air displaced by the rising molten metal axially inwardly to the bore from said passages through said vent openings in the laminations, whereby trapping of air in said passages is avoided and molten metal is permitted to completely fill said passages.

3,264,696
METHOD OF CLADDING METAL SURFACES
Charles F. Funk, 11755 Sherbrook Drive, Baton Rouge, La.
Filed June 13, 1962, Ser. No. 202,305
2 Claims. (Cl. 22—203)



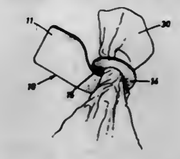
1. A method of forming a built up surface layer of metal on a surface of a metal article, said surface being receptive to fusion, which comprises the steps of placing said article with said surface facing upwardly and in a generally horizontal position, forming a mold having upwardly-extending sides around an area of said surface, laying sufficient thermit composition to form said built up layer on said surface within said sides, placing igniter material in contact with said thermit composition, igniting said igniter material, whereby the burning igniter material causes the ignition of said thermit composition and a layer of molten metal is formed which fuses to said surface.

3,264,697
METHOD OF FORMING COMPOSITE METAL BODIES
David E. Price, Hilliard, and Herbert J. Wagner, Columbus, Ohio, assignors, by mesne assignments, to Roehr Products Co., Inc., a corporation of Delaware
Filed Apr. 17, 1963, Ser. No. 273,615
10 Claims. (Cl. 22—204)



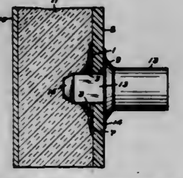
1. The method of forming a composite metal body, comprising the steps of: disposing a plurality of elongated elements in laterally spaced parallel relationship to define a cage; placing said cage in a mold cavity; drawing a vacuum in said cavity; heating said cage to a preselected preheat temperature; heating a quantity of matrix material to a temperature preselected as a function of the heat capacity of said elements and the heat capacity and heat of fusion of said matrix material to cause substantially instantaneous solidification of a thin layer of said matrix material on the surface of the elements when contacted therewith; and introducing the heated matrix material into the cavity to cast the matrix material about the elongated elements of said cage to define a billet of said elements metallurgically bonded to said matrix material.

3,264,698
BAG CLOSURE
Charles E. Wright, 107 Alexandra Blvd., Toronto, Ontario, Canada
Filed Oct. 12, 1964, Ser. No. 403,277
Claims priority, application Canada, Apr. 29, 1964, 901,548
8 Claims. (Cl. 24—30.5)



1. A closure for flexible containers comprising; a normally planar member of resilient material, said member comprising; a first handle portion; a second intermediate portion; and a third container engaging portion, said third portion being curled with an end having an edge thereof normally adjacent a side edge of said intermediate portion to provide, within said third portion, a container constricting receiving chamber, and a chamber entry throat of reducing width defined by side edges of said third portion and said second portion, whereby, upon application of said member about a container and relative rotation therebetween, said third portion flexes out of plane to permit entry of such container into said container constricting receiving chamber to cause closure of said container.

3,264,699
SEALED FASTENING DEVICE
Edward A. Knowlton, Winchester, Mass., assignor to United-Carr Incorporated, a corporation of Delaware
Filed Mar. 2, 1964, Ser. No. 348,609
5 Claims. (Cl. 24—73)

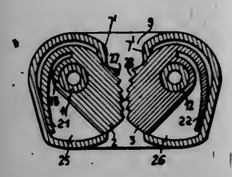


1. A fastening device for securing a part to a thin, frangible, apertured support comprising a thin, planar, apertured base plate, the aperture in said base plate being adapted to receive a part to be secured to the support and said base plate being adapted to overlie an external surface of the support adjacent the aperture therein to provide for even load distribution over a relatively large surface area of the support, a plurality of spring fingers for engaging portions of the support adjacent the aperture therein, disposed adjacent the aperture in said base plate, and extending away from one side of said base plate, and means for engaging a part to be secured to said support disposed adjacent the aperture in said base plate at the side of said base plate opposite that from which said spring fingers extend.

3,264,700
CLEAT DEVICE
René-Jean Jouanno, Marsangy, Yonne, France, assignor to Ermst, Yonne, France, a company of France
Filed June 30, 1964, Ser. No. 379,182
Claims priority, application France, July 11, 1963, 941,084
11 Claims. (Cl. 24—134)

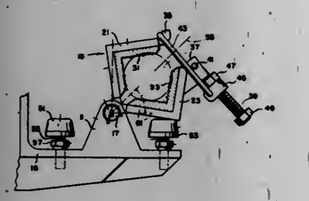
1. A wedge-action cleat device comprising a base member, two symmetrically related cams, means, eccentrically

pivoting the cams on a common general plane whereby the cams are rotatable towards each other to advanced positions and away from each other to retracted position, said cams having active edges which closely confront each other in said advanced positions of the cams for wedging a rope therebetween, resiliently deflectable appendages



unitary with the respective cams and extending from side edges thereof generally remote from said active edges, and means on said base member defining surfaces engaging the respective appendages for resiliently deflecting said appendages to bias the respective cams to their said advanced positions.

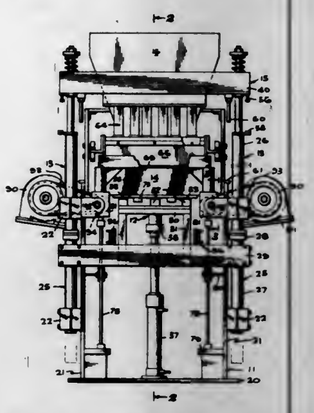
3,264,701
ADJUSTABLE TOGGLE MECHANISM
Alexander W. McClay, Jr., 28 Perry St., Petersburg, Va.
Original application Nov. 4, 1963, Ser. No. 322,275, now Patent No. 3,191,203, dated June 29, 1965. Divided and this application Feb. 12, 1965, Ser. No. 432,284
7 Claims. (Cl. 24—249)



1. An adjustable toggle mechanism adapted to close and lock a gripping device of a type including an extending lug and an extending opposed yoke, comprising, in combination an elongated pin, means hingedly securing the pin in the yoke to preclude rotation of the pin on its own axis; pin receiving means moveably fixed on the pin, a retaining strap engaging the pin receiving means offset from the axis of the pin and adapted for connection around the lug, said strap, when in the connection position around the lug, lying in a plane substantially between the means hinging the pin to the yoke and the pin receiving means.

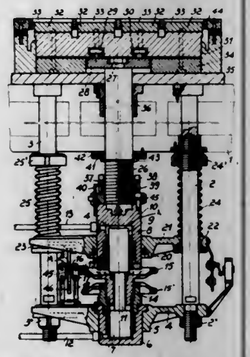
3,264,702
MACHINE FOR MOLDING CONCRETE BLOCKS
Raymond W. Clanton, 9735 Orcas Ave., Sunland, Calif., and Charles W. Howe, Sunland, Calif.; said Howe assignor to said Clanton
Filed Mar. 23, 1964, Ser. No. 354,078
9 Claims. (Cl. 25—41)

9. In a machine for molding concrete blocks and the like, a frame, a pair of elongated, vertically disposed guide members mounted on said frame in parallel, laterally spaced relation for limited vertical movement, means connecting said guide members to form a unitary structure, means for raising and lowering said guide members as a unit, a mold mounted on said frame, a head beam mounted on said guide members above said mold for vertical



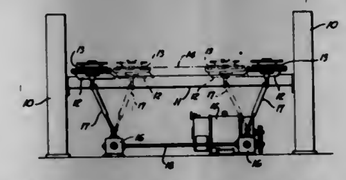
movement relative to said guide members and carrying mold stripper means, and means for raising and lowering said head beam relative to said guide members.

3,264,703
HYDRAULICALLY MOVED CONTROL DEVICES OF THE LOWER PRESSING PLUNGERS IN MOULDS FOR TILES AND THE LIKE OBJECTS IN CERAMIC
Alberto Gatti, 8 Via Friuli, Milan, Italy
Filed Dec. 10, 1963, Ser. No. 329,522
Claims priority, application Italy, Dec. 11, 1962, 24,256/62
19 Claims. (Cl. 25—84)



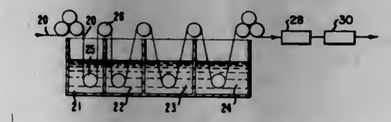
1. A molding press for tiles and similar articles comprising, in combination, support means; a mold fixed to said support means and formed with at least one cavity; press platen means in said mold cavity for compressing material therein and for ejecting the compressed material therefrom; moving means for moving said press platen means from a rest position in one direction along an active stroke having a compression portion for compressing material in said mold cavity, and an ejection portion for ejecting the compressed material from said cavity; said moving means comprising a first stationary cylinder means having a closed end facing away from said press platen means, a second movable cylinder means having a closed end facing said press platen means, elongated piston means having opposite ends respectively located in said first and second cylinder means, and a pair of conduit means respectively communicating with said first and second cylinder means for feeding pressure fluid into and out of the space between the closed ends of the first and second cylinder means and said opposite ends of said elongated piston means; connecting means connecting said press platen to said movable cylinder means for movement therewith; first stop means cooperating with said elongated piston means for limiting movement of the latter during said active stroke relative to said stationary cylinder means; and second stop means cooperating with said movable cylinder means for limiting total movement of the latter during said active stroke.

3,264,704
DRIVE FOR TENTERING CHAINS
Fritz Prottengeler, Hamburg-Langenhorn, Germany, assignor to Artos Maschinenbau, Dr. Ing. Meier-Windhorst, Hamburg, Germany, a corporation of Germany
Filed Dec. 2, 1963, Ser. No. 327,370
Claims priority, application Germany, Dec. 31, 1962, A 42,005
1 Claim. (Cl. 26—57)



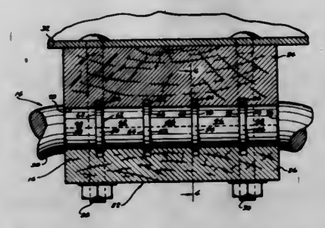
A drive for tentering chains, comprising in combination, posts, a cross bar carried by said posts, two chain drive carriers movably mounted upon said cross bar, a separate chain wheel mounted upon each of said carriers, a fixed motor, a separate drive for each chain wheel, means operatively interconnecting said drives, means operatively conecting said motor with the last-mentioned means, and a separate Cardan shaft of variable length operatively connecting each drive with a separate chain wheel.

3,264,705
PROCESS FOR IMPROVING THE PILL RESISTANCE OF TWO-COMPONENT ACRYLONITRILE POLYMERS
Frank Joseph Kovarik, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 8, 1960, Ser. No. 54,697
5 Claims. (Cl. 28—76)



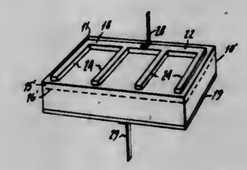
1. In a process for preparing staple fiber from composite filaments, the resulting staple fiber having improved resistance to pilling which comprises simultaneously washing and drawing a tow of continuous filaments wherein said filaments have two eccentrically positioned sections of different acrylonitrile polymers extending along their lengths, the improvement which comprises a controlled relaxation step provided by continuously passing said filaments under a slight tension through a heated plasticizing medium, the tension on said filaments and the temperature of said medium being controlled to uniformly shrink said filaments an amount equal to at least 50% of the boil-off shrinkage of said drawn filaments, and converting the resulting tow of relaxed continuous filaments to staple fiber and drying the staple fiber at high temperature.

3,264,706
MACHINE ELEMENT
Shelly Albert Bulin, Davenport, Iowa, assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Original application June 5, 1963, Ser. No. 285,710. Divided and this application Aug. 24, 1965, Ser. No. 487,959
1 Claim. (Cl. 29—6)



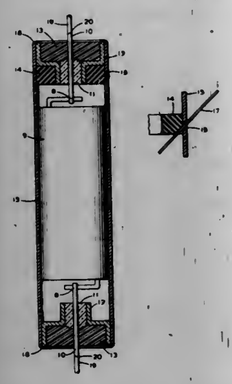
The method of making a crankshaft which comprises the steps of
- utilizing a rough shaft of substantially uniform diameter,
- bending said shaft to provide a plurality of offset journals,
- finishing a plurality of portions on each of said journals to a
- reduced diameter less than that of the original rough shaft and spaced along said journal to leave a
- land between each reduced portion and the next, which land will have the
- diameter of the original rough shaft.

3,264,707
METHOD OF FABRICATING SEMICONDUCTOR DEVICES
George T. Elie, Bound Brook, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 30, 1963, Ser. No. 334,138
3 Claims. (Cl. 29—25.3)



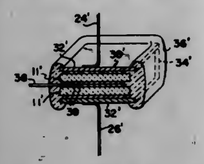
1. The method of fabricating a solar cell, comprising the steps of:
- polishing one face of a given conductivity type gallium arsenide wafer;
- treating said gallium arsenide wafer in a solution of a strong oxidizing agent selected from the group consisting of chromium trioxide, osmium tetroxide, ceric sulfate, the permanangates of an alkali metal, the dichromates of an alkali metal, and concentrated hydrogen peroxide for a period of time sufficient to shift the peak spectral response of the cell to light having a wavelength of .75 to .79 micron,
- diffusing an opposite conductivity type modifier into said one wafer face in an inert ambient to form a thin surface region of said opposite conductivity type and a rectifying barrier between said opposite type region and the bulk of said wafer; and,
- attaching one electrical lead to said opposite type region and another electrical lead to the given conductivity type bulk of said wafer.

3,264,708
HERMETICALLY SEALED CAPACITOR
George W. Diggens, North Adams, Mass, assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Oct. 1, 1962, Ser. No. 227,212
4 Claims. (Cl. 29—25.31)



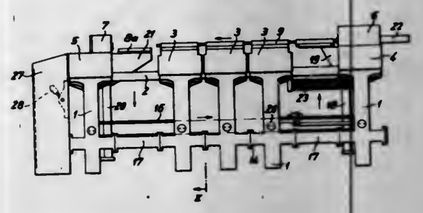
1. A process for forming a hermetically sealed electrolytic capacitor comprising welding at least one glass-to-metal seal to a capacitor section, there being a rubber ring positioned at one end of this assembly between said section and the seal, said seal comprising a mass of glass surrounding and fused to a metal lead wire and surrounded by and fused to a metal collar; providing a small hole near one end of a metal capacitor casing, inserting the capacitor section into the casing to a point where the space between the end of the section and the rubber ring is opposite said small hole; inserting the end of a pipette through said hole and into said space; pushing the section and seal into final position and welding the seal to the casing; impregnating the capacitor unit with an electrolyte through said pipette; pre-aging the capacitor to oxidize the welded joint and internal lead; removing the pipette and closing the hole by welding with the same metal as the casing.

3,264,709
ELECTRICAL COMPONENT AND METHOD OF MANUFACTURE
David A. Lupfer, Metuchen, N.J., assignor to Nytronics, Inc., Phillipsburg, N.J., a corporation of New Jersey
Filed July 29, 1963, Ser. No. 298,020
9 Claims. (Cl. 29—25.42)



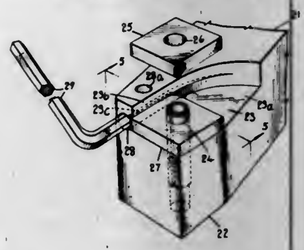
1. The method of making a capacitor comprising the steps of
depositing a layer of metallic material on opposite sides of a thin substrate of dielectric material,
limiting the coverage of said layers so as to extend outwardly to a predetermined distance from the edges of said substrate,
baking the substrate containing said layers to remove gas and water molecules therefrom,
providing a barrier at the outer surfaces of said layers which is impervious to the passage of gas and water molecules,
and providing a coating of glass extending from one of said layers to the other around the periphery of said substrate, whereby a capacitor is formed in which said glass coating cooperates with said barriers to form a hermetic enclosure for said capacitor.

3,264,710
FINISHING ROAD
Johannes Guido, Borsigstrasse 13, Neutraubling, near Regensburg, Germany
Filed Oct. 16, 1963, Ser. No. 316,651
Claims priority, application Germany, Oct. 18, 1962, G 36,172
6 Claims. (Cl. 29—33)



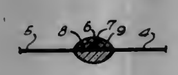
1. An apparatus for facilitating the accurate progressive machining of a plurality of work pieces and for facilitating the substitution or addition of different machining operations, said apparatus comprising a plurality of upright supports disposed in spaced side-by-side relationship and detachably secured together, each support having a pair of spaced upwardly opening grooves, the grooves in all of said supports being in alignment, a pair of accurately machined bars disposed in said grooves with a portion of each bar projecting above the upper surfaces of said supports, at least one machine tool bed secured to the upper surface of each support and disposed transversely of said bars, each bed having a pair of spaced downwardly opening grooves tightly receiving the projecting portions of said bars to accurately position each bed with respect to the adjacent bed, each bed serving to receive and support the machine tool to provide successive machining stations, a guide on each bed between said bars, said guides being in alignment, a plurality of work piece carriers slidably received on said guides, and means on each bed for centering and clamping a carrier for machining of a work piece carried thereby.

3,264,711
CUTTING TOOL
Herbert Friedrich Jehring, Oakville, Ontario, Canada, assignor to A. C. Wickman Limited, Toronto, Ontario, Canada
Filed Feb. 25, 1965, Ser. No. 435,171
9 Claims. (Cl. 29—96)



1. A cutting tool comprising a tool holder having a shank and a head, the head having an open recess to receive a cutting insert provided with opposed faces and with a peripheral surface which defines the edges of the opposed faces, a hole extending through the cutting insert transversely of the opposed faces, the open recess being defined by a base and by an abutment, the cutting insert resting in the open recess with a portion of its peripheral surface bearing against the abutment, a spring pin fast within the head and having a free portion protruding from the base and into engagement with the periphery of the hole in the cutting insert, the spring pin being loaded to urge the cutting insert toward the abutment so that a portion of the peripheral surface of the cutting insert bears against the abutment, and means engageable with the pin to relieve the load therefrom and thus to release the cutting insert from engagement with the abutment.

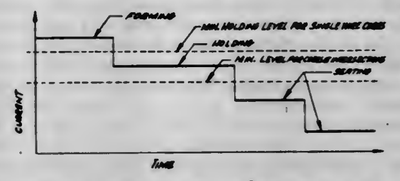
3,264,712
SEMICONDUCTOR DEVICES
Teruo Hayashi, Shigeru Tsuji, and Shinzo Anazawa, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed May 28, 1963, Ser. No. 283,856
Claims priority, application Japan, June 4, 1962, 37/23,065
2 Claims. (Cl. 29—155.5)



1. A method of manufacturing semiconductor devices comprising the steps of
(A) forming in a flat piece of conductive material an opening having inwardly projecting extensions,
(B) attaching a semiconductor element between said inwardly projecting extensions in such manner that the inwardly projecting extensions form lead elements for said semiconductor device,
(C) encapsulating said semiconductor element and the innermost portions of said inwardly projecting extensions with an encapsulating material containing powdered glass having a melting temperature below 500° C., said encapsulating step comprising applying a coating of said encapsulating material to said semiconductor element and the innermost portions of said inwardly projecting extensions, then heating the coated semiconductor element to a temperature between 500° C. and said melting temperature to melt said powdered glass, and then cooling the semiconductor element to solidify said melted glass and thus encapsulate said semiconductor element in a glass envelope, and
(D) cutting said inwardly projecting extensions free of said piece of conductive material to form an encapsulated semiconductor device, wherein said extensions protrude outwardly from said glass envelope and serve as said lead elements for said device.

3,264,713
METHOD OF MAKING MEMORY CORE STRUCTURES
Frederick W. Viehe, deceased, late of Los Angeles, Calif., by Sara Catherine Viehe, administratrix, Los Angeles, Calif.; J. Gregg Evans, executor of said Sara Catherine Viehe, deceased, and administrator of the estate of said Frederick W. Viehe, deceased
Filed Jan. 30, 1962, Ser. No. 169,973
18 Claims. (Cl. 29—155.5)

1. A method of forming an information storage unit comprising the steps of: forming a latticework of intersecting conductors; providing magnetic particles having bistable memory characteristics in a medium which does not restrict the mobility of said particles; magnetically forming at selected conductor intersections memory elements from a plurality of said magnetic particles, said particles about each intersection being domain-aligned

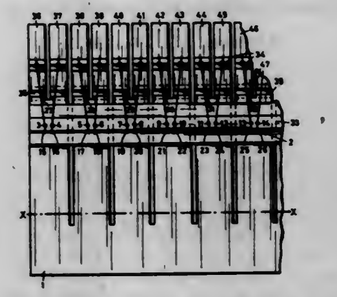


and concentrated in a continuous band surrounding said intersection; and securing the particles about each intersection in their aligned positions.

3,264,714
METHOD OF FORMING A THERMOELECTRIC PANEL
Mervin K. Baer, Jr., Sawyer, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
Original application May 16, 1958, Ser. No. 735,804. Divided and this application June 9, 1961, Ser. No. 116,187
1 Claim. (Cl. 29—155.5)

The method of forming a thermoelectric panel, comprising the steps of: disposing a plurality of pairs of preformed thermoelectric elements in laterally spaced relationship in a support of insulating material having opposite surfaces, with an end portion of each element projecting outwardly from said surfaces; disposing on each of said opposite surfaces of the support a preformed metal sheet having a plurality of holes with said element ends projecting through said holes, said sheet having a thickness substantially equal to the amount of projection of said end portions from said opposite surfaces of said support; electroplating a layer of metal in situ over each sheet and end portions of each element to form an electrical and mechanical connection to said sheet and to said end portions of each element; and removing a portion of the integral metal sheet and layer to define a plurality of spaced metal junctions each connecting a pair of elements.

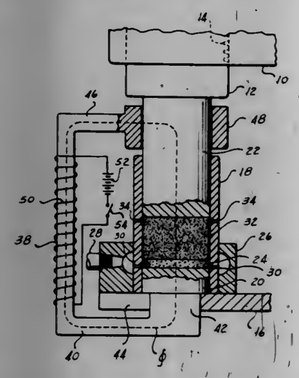
3,264,715
METHOD OF MAKING CONTACTS TO A SEMICONDUCTOR USING A COMB-LIKE INTERMEDIARY
Karl Siebertz, Munich-Obermenzing, Germany, assignor to Siemens & Halske Aktiengesellschaft, Munich and Berlin, Germany, a corporation of Germany
Filed June 28, 1962, Ser. No. 206,557
Claims priority, application Germany, June 28, 1961, S 74,535
8 Claims. (Cl. 29—155.55)



1. A method of producing a semiconductor component, especially a component for a mesa transistor, comprising the steps of placing a strip of semiconductor ma-

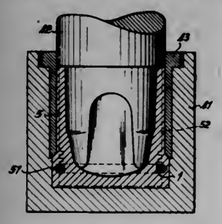
terial, provided with a plurality of pairs of adjacently positioned electrodes, upon the prongs of a comb-like carrier with said strip extending perpendicularly to said prongs, the latter having free end portions not engaged by said conductor strip, interconnecting each electrode by means of a wire with such free end portion of a respective prong, thereupon severing said prongs from the remaining part of the carrier, cutting said semiconductor strip along lines extending between said prongs to obtain individual semiconductor systems, mounting the respective individual systems each upon a base plate of a housing, and cutting the respective prongs of the individual system to electrically separate the electrodes therefrom.

3,264,716
METHOD OF COMPACTING FERRITE PARTICLES
Theodore J. Silver, Merrick, N.Y., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 17, 1962, Ser. No. 231,252
4 Claims. (Cl. 29—155.6)



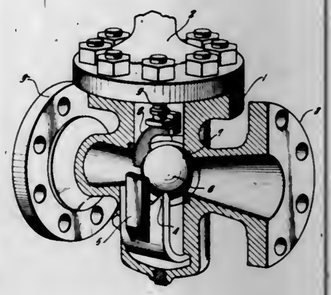
1. A method of compacting ferrite particles including the steps of forming a gas-fluidized bed of ferrite particles to be compressed, subjecting the particles in said bed to the influence of a magnetic field and compressing said particles while in said gas fluidized bed and while under the influence of said field.

3,264,717
PROCESS FOR MAKING FORGED LIGHT METAL PISTONS WITH RING SUPPORTS
Willy Class, Stuttgart-Munster, Erwin Lehre, Stuttgart-Unterturkheim, and Rudolf Röger, Stuttgart-Sommerrain, Germany, assignors to Mahle Komm.-Ges., Stuttgart-Bad Cannstatt, Germany
Filed Nov. 29, 1963, Ser. No. 326,899
Claims priority, application Germany, Dec. 11, 1962, M 55,079
1 Claim. (Cl. 29—156.5)



A process for making a light metal piston having a ring support of a harder metal embedded in the piston ring portion of the piston head comprising casting a piston blank of the light metal in a cylindrical mold containing the ring support, said mold being of larger inner diameter at least in the piston ring portion of the mold than the outer diameter of the ring support so the latter is completely covered and embedded in the light metal, forging the cast blank into piston form, then machining the circumference of the forged piston form to expose the peripheral edge of the embedded ring support.

3,264,718
METHOD FOR MAKING BALL VALVES
Herman L. Paul, Jr., Wayne, N.J., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Nov. 19, 1962, Ser. No. 238,639
3 Claims. (Cl. 29—157.1)



1. The process of finishing an unlapped seat ring for use in a high pressure ball valve of the type including a hard seat ring having a ball-contacting surface and a ball positionable against the ball-contacting surface of the seat ring to shut off essentially all flow of fluid through the valve, comprising the steps of:

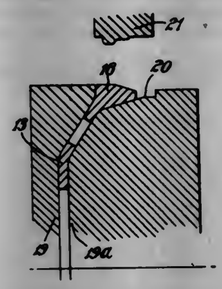
(a) assembling the unlapped seat ring and a ball of ceramic material substantially harder than the material from which the seat ring is made, and capable of producing a burnished surface upon said seat ring upon repeated engagement therewith into a ball valve,

(b) cycling the assembled ball valve between its open and closed conditions to engage the ball with the unlapped seat ring, and

(c) repeating the cycling step for a plurality of times until the ball produces a burnished ball-contacting surface upon the seat ring effective in cooperation with the surface of the ball to provide an essentially fluid tight seal between the seat ring and the ball when the valve is in its closed condition.

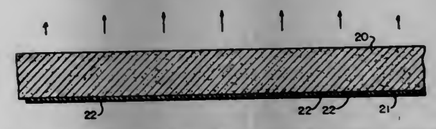
3,264,719
METHOD FOR THE MANUFACTURE OF WHEELS
George Edward Adams and George Henry Whale, Coventry, and John Harry Arthur Hanson, New Cubbington, near Leamington Spa, England, assignors to Dunlop Rubber Company Limited, London, England, a British company
Filed Nov. 15, 1962, Ser. No. 237,950
Claims priority, application Great Britain, Nov. 16, 1961, 40,985/61
4 Claims. (Cl. 29—159.01)

1. A method of making a disc wheel which comprises punching a circular hole through the center of a circular blank of uniform thickness, then dishing the blank by bending and pressing, then heating the circular edge margin of the blank, contour rolling said edge of the dished blank to form a contoured circumferentially extending bead which is thicker than the remaining portion



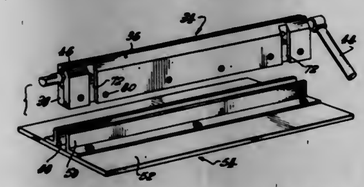
of the dished blank and rolling to spread the metal of the thickened bead to form a circumferentially extending gutter and an axially extending rim portion.

3,264,720
POROUS METAL ARTICLES OF DIFFERENTIAL PERMEABILITY
Lambert H. Mott, 272 Huyshope Ave., Hartford 14, Conn.
Filed Sept. 11, 1964, Ser. No. 395,823
14 Claims. (Cl. 29—183.5)



1. A porous wall for differential flow therethrough, said wall comprising a porous metal layer having an upstream and a downstream side, and an impermeable layer associated with the upstream side of said porous metal layer, said impermeable layer containing openings metering different amounts of flow therethrough in different portions of said impermeable layer, said porous metal layer being thicker on the downstream side of openings in said impermeable layer than the distance between openings.

3,264,721
APPARATUS FOR POSITIONING AND ALIGNING A PLURALITY OF PINS
Edward E. FitzPatrick, Manhattan Beach, and Gundus Erkan, Hollywood, Calif., assignors to TRW Semiconductors, Inc., a corporation of Delaware
Filed Oct. 11, 1963, Ser. No. 315,457
5 Claims. (Cl. 29—200)



1. A loading fixture for positioning, aligning, and retaining a plurality of pins comprising:

a back plate having means to receive said pins in vertical spaced alignment;

a gripping plate fastened to said backing plate;

said gripping plate having means to engage pins and retain said pins in said backing plate;

a cam rod between said backing plate and said gripping plate;

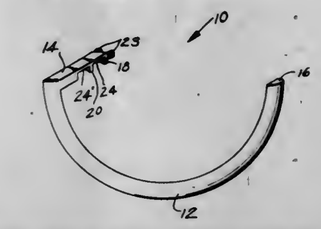
said cam rod having a flat surface; and

means for rotating said cam rod;

said rod being of such size that when said flat surface abuts the inner surface of said gripping plate said pins are engaged and retained between said backing plate and said gripping plate;

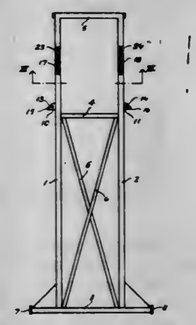
said gripping plate being forced outwardly away from said pins when said rod is rotated so that the flat surface no longer engages said inner surface.

3,264,722
MAIN BEARING SEAL REMOVER
Robert E. Potter, 2931 Lincoln Garden, Crown Point, Ind.
Filed June 26, 1964, Ser. No. 378,143
6 Claims. (Cl. 29—235)



1. A main bearing seal remover comprising, in combination, an arcuate body member of semicircular cross sectional configuration, an offset arm carried by said arcuate body of said seal remover providing a means for receiving a seal guide, a plurality of bolts carried by said seal remover providing a means for clamping the seal remover to said seal guide.

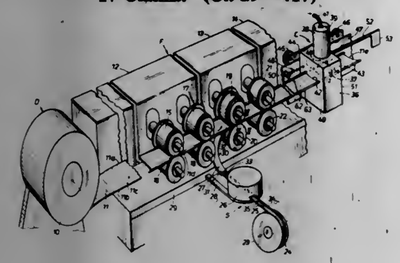
3,264,723
MEANS AND METHOD FOR EFFECTING AUTOMOBILE REPAIRS
Yngve Elof Holger Andersson, Smedstugugatan 16C, and Gosta Herbert Andersson, Tunnlandsgatan 17, both of Norrkoping, Sweden
Filed June 10, 1964, Ser. No. 374,037
Claims priority, application Norway, July 17, 1963, 149,434
6 Claims. (Cl. 29—401)



1. The method of replacing a damaged frame head in a car of the Volkswagen type and which frame head connects the front axle assembly with the base plate on the under side of the vehicle, characterized by the fact that the front axle part is first removed from the base plate and the base plate is permitted to remain in place on the vehicle; the damaged frame head is then cut away; a fitting is mounted beneath the base plate and is fixed in relation to a rear part of the vehicle and is also fixed to a front part of the base plate so that the fitting permits of

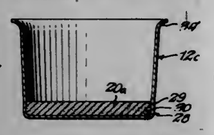
the mounting of a new frame head in the correct position in relation to the base plate and to the front axle part, whereby the frame head may be secured to the base plate by welding.

3,264,724
METHOD AND APPARATUS FOR PRODUCING VENETIAN BLIND SLATS
Friedrich Griesser, Andorf, Thurgau, Switzerland, assignor to Griesser A.G., Andorf, Thurgau, Switzerland
Filed July 30, 1965, Ser. No. 476,136
Claims priority, application Switzerland, Aug. 3, 1962, 9,327/62
17 Claims. (Cl. 29—417)



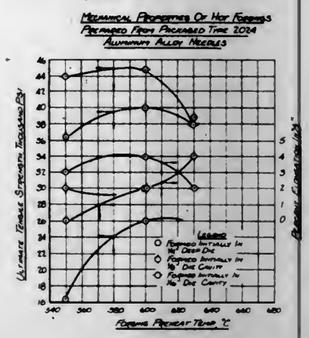
1. Method for the production of slat members for Venetian blinds comprising the steps of: continuously delivering a band member to a forming station, pre-forming at least one longitudinal edge of the moving band member at the forming station to possess a pre-formed flanged longitudinal edge, continuously introducing a strip member into the region of said pre-formed flanged longitudinal edge by the pulling action of said moving band member upon said strip member during travel of the band member through the forming station, further forming said pre-formed flanged longitudinal edge such that it snugly engages and embeds the strip member within the further formed flanged longitudinal edge, and then cutting said band member with the embedded strip member into predetermined finite sections, to thereby form slat members for Venetian blinds.

3,264,725
METHOD OF MAKING SORPTIVE GETTER STRUCTURE
John S. Cullen, 2222 Elmwood Ave., Buffalo 23, N.Y.
Filed Oct. 4, 1962, Ser. No. 228,285
1 Claim. (Cl. 29—420)



A method of making a getter structure comprising the steps of drawing a blank into a cup-shaped capsule having a wall portion, inserting a sorptive material into said capsule, utilizing a die to hold said capsule and a punch associated with said die simultaneously to deform and shear a circular lip from said wall portion and to compress said sorptive material in said capsule while confining said sorptive material by said wall portion of said capsule to tablet said sorptive material in said deformed wall portion, whereby said punch causes said sorptive material to assume a rigid form and said deforming and lip forming of said wall portion provides interengagement between said tableted sorptive material and said wall portion of said capsule to retain said tableted sorptive material in said capsule.

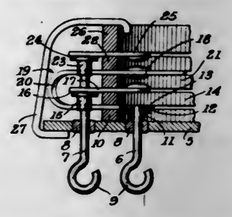
3,264,726
METHOD FOR FORGING PARTICLES
Samuel Storchheim, Forest Hills, and Alan Cross, Little Neck, N.Y., assignors to Alloys Research & Manufacturing Corporation, Woodside, N.Y., a corporation of Delaware
Filed June 5, 1963, Ser. No. 285,675
4 Claims. (Cl. 29—420)



1. The method of die forging, comprising the steps of introducing heated metal particulates contained in a foil envelope between the matching dies of a forging mechanism, the assembly being heated above the temperature where incipient fusion of said metal particulate begins but below the temperature of complete melting, and subjecting the particulates in the dies to forging pressures to produce a consolidated part having a shape determined by the die impressions.

2. The method of die forging, comprising the steps of heating aluminous particulates contained in a foil envelope to a temperature in the range of 400° C. to 600° C., introducing said heated particulates contained in a foil envelope between the matching dies of a forging mechanism, and subjecting the particulates in the dies to forging pressures to produce a consolidated part having a shape determined by the die impressions.

3,264,727
METHOD OF PRODUCING AN ELECTRONIC UNIT
Charles S. Sloan, North Hollywood, Calif., assignor, by mesne assignments, to Charles S. Sloan, Sun Valley, Calif.
Filed July 1, 1963, Ser. No. 291,804
8 Claims. (Cl. 29—471.1)



1. A method of producing an electronic unit that consists in
(a) placing a plurality of sub-assembled metal elements, one of which is a sheet of solder, in successive planes above a base member,
(b) alternating aluminum spacers between the sub-assembled metal elements, between the base member and the next adjacent sub-assembly, and above the outmost sub-assembly,
(c) clamping together the stack formed by the sub-assemblies, spacers and base member,

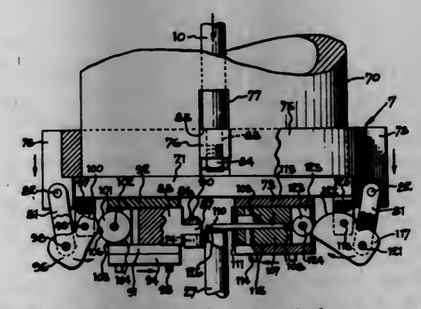
(d) applying heat to said stack to melt the sheets of solder to cause the same to flow around adjacent portions of the other metal elements, and
(e) bathing the stack in a solution of sodium hydroxide until the spacers become sufficiently eroded by the solution to disintegrate into a fine powder, said metal elements being resistant to erosion by said solution.

3,264,728
BRAZING METHOD
Milton M. Mabry, Torrance, Martin Perl, Los Angeles, and Carl J. Muser, Rolling Hills Estates, Calif., assignors to North American Aviation, Inc.
Substituted for abandoned application Ser. No. 158,718, Dec. 12, 1961. This application June 22, 1965, Ser. No. 472,384
2 Claims. (Cl. 29—471.1)



1. A method of joining together workpiece components to form a stainless steel panel of sandwich type construction having relatively low density core with a relatively higher density face sheet secured on either side of said core, said panel further having at least one external member secured to one of said face sheets on the side thereof opposite from the connection between said core material and said one face sheet, said method comprising:
positioning between said core and each of said face sheets a silver base brazing alloy adapted to liquify at a brazing temperature,
positioning between said one face sheet and said external member a manganese base brazing alloy adapted to liquify at said brazing temperature, and
simultaneously heating said panel, said member, and both said brazing alloys to cause said alloys to form permanent joints.

3,264,729
METHOD FOR CLOSING THE ENDS OF PIPES
Dudley Bowman, Lebanon, Ohio, assignor, by mesne assignments, to Gas Appliance Supply Corporation, Indianapolis, Ind., a corporation of Indiana
Original application June 18, 1962, Ser. No. 203,235. Divided and this application Mar. 15, 1965, Ser. No. 448,226
6 Claims. (Cl. 29—475)



1. The method of forming an end closure on a pipe section comprising the steps of heating an end portion of the pipe section to a temperature sufficiently high to reduce the pipe wall to a substantially plastic state, rotating a pipe closing element in an orbit about the heated end portion of the pipe in a plane passing through the heated end portion of the pipe section, and advancing said pipe closing element toward and across the longitudinal axis of the pipe section in said plane while said element is rotating in said orbit, whereby said closing element progressively constricts the heated plastic portion of the pipe section and forms said end closure.

3,264,730
METHOD AND APPARATUS FOR FORMING SHEET METAL CORNER MEMBERS
Ralph E. Roper, Indianapolis, Ind., assignor to Wallace Expanding Machines, Inc., Indianapolis, Ind., a corporation of Indiana
Filed Feb. 1, 1962, Ser. No. 170,413
2 Claims. (Cl. 29—475)



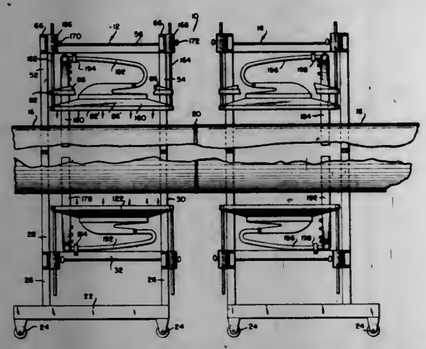
1. A process for forming sheet metal corner members comprising forming a sheet metal blank to have adjacent edge portions each including an inner terminal portion and a parallel outer terminal portion, folding up the edge portions of the metal to a position wherein they are perpendicular to said blank and said inner terminal portions engage one another, folding in said outer terminal portions into overlapping relation and so that they are parallel to said blank whereby said blank and edge portions define a corner, placing a male die having a serrated forming face within said corner and a female die externally of said corner, causing relative movement of said dies toward one another to form said corner therebetween, spot welding said overlapping outer terminal portions to one another, and painting the external surface of said corner without further finishing operations.

3,264,731
BONDING PROCESS
Bruno Chudzik, Wenonah, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 11, 1963, Ser. No. 264,373
15 Claims. (Cl. 29—486)



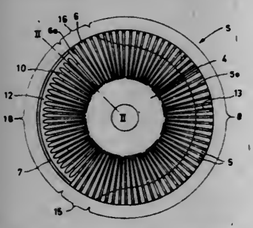
1. A method for forming a substantially continuous metallurgical bond between metal layers which comprises forming a juncture between at least two ductile metal layers, said juncture being defined by an angle of about 1 to 60°, positioning a layer of a detonating explosive on the external surface of at least one of the metal layers, and initiating the explosive so that at least one of the ratios of the collision velocities to the respective sonic velocities of the metal layers is less than 1.2 and when each of these ratios is greater than 1.0 the angle between each two adjacent metal layers in the collision region exceeds the maximum value of the sum of the deflections produced in the metal layers by oblique shock waves, the loading of said explosive being at least that which produces a collision pressure greater than 100% of the elastic limit of the metal having the lowest elastic limit in the system.

3,264,732
METHOD OF WELDING
John J. Fannon, Jr., Grosse Pointe Park, Mich., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Ohio
Original application Nov. 3, 1961, Ser. No. 150,017. Divided and this application Apr. 20, 1965, Ser. No. 465,813
3 Claims. (Cl. 29—487)



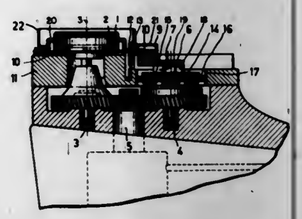
3. A method of welding together a pair of metallic objects along a predetermined band comprising the steps of subjecting portions of each of said objects adjacent said band to the influence of beams of infrared irradiation from gas burning infrared generators having visibly radiant faces to heat said portions to elevated temperatures, shifting said beams away from said band sufficiently to provide access thereto while maintaining the irradiation of said objects, and welding said objects together along said band while said irradiation of said objects is maintained.

3,264,733
DRY-SHAVING APPARATUS HAVING A SHAVING HEAD WHICH IS PARTLY CONSTRUCTED FOR USE AS A HAIR-CLIPPER
Karel Martin Tiemes and Willem Witziers, Drachten, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 28, 1965, Ser. No. 467,633
Claims priority, application Netherlands, July 17, 1964, 6,408/63
3 Claims. (Cl. 30—34.1)



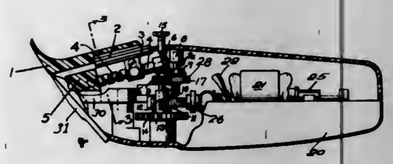
1. A dry shaving apparatus comprising a shear plate, a movable clipper adapted to co-act with said shear plate, said shear plate having a hair clipping sector and a shaving sector both provided with radially extending portions and a rim located laterally therefrom, said shaving sector having its radially extending portions connected to said rim while said hair clipping sector has its radially extending portions spaced from and unconnected to said rim, the opening in said hair clipping sector between said radially extending portions and said adjacent part of the rim extending continually from one end of said hair clipping sector to the other end thereof and constituting an entry aperture for the hair to be cut, and the thickness of the radially extending portions in said hair clipping sector being greater than the thickness of the radially extending portions in said shaving sector.

3,264,734
DRY SHAVER HAVING ROTARY INNER CUTTER AND AN OSCILLATING SHEAR PLATE
Gerrit Starre, Drachten, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 24, 1964, Ser. No. 339,913
Claims priority, application Netherlands, Feb. 14, 1963, 289,014
2 Claims. (Cl. 30—43.5)



1. A dry shaver comprising a shaving head including an apertured shear plate and a movable cutter co-acting therewith, and means provided in said shaver for oscillating said shear plate in two directions but at different frequencies including two spaced slots, a movable pin in one slot and a fixed pin in the other slot, the directions of movement of said shear plate being substantially transverse to one another in a plane parallel to the plane of shaving.

3,264,735
AUTOMATIC TAPER-CUT HAIR CLIPPERS
Paul E. Du Charme, 141 Springcrest Drive, Akron, Ohio
Filed May 28, 1963, Ser. No. 283,767
5 Claims. (Cl. 30—202)



1. In a hair clipper having a body, an electric motor within the body, fixed and reciprocating blades supported on the body at the forward end thereof and disposed at an acute angle to the longitudinal axis of said body, and an operator-controlled mechanism driven by the motor for reciprocating the reciprocable blades; the combination therewith of a scalp-engaging comb attachment slidably mounted outside the body on the upper side thereof adjacent said blades and being slidable at an acute angle to the general plane of said blades, said comb attachment having comb teeth projecting in the general plane of the blades, or in planes parallel to said general plane, but projecting forwardly or in advance of the extremities of said blades so that the comb teeth encounter hairs on a scalp before the hairs can be cut by said blades; an attachment mechanism within said body for connecting the comb attachment with the motor-driven mechanism of the clipper; and an operator-controlled clutch for connecting the attachment mechanism with the motor-driven mechanism, so that the comb attachment at the will of the operator, is slowly reciprocated by motor power.

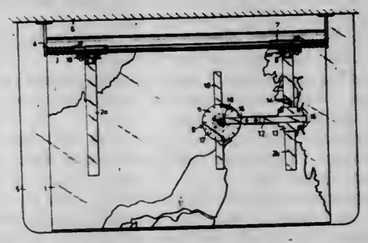
3,264,736
COMPASS
Warren D. Novak, New Castle, N.Y. (325 Douglas Road, Chappaqua, N.Y.)
Filed Oct. 14, 1963, Ser. No. 315,862
12 Claims. (Cl. 33—27)



1. A compass comprising a body member and a gear rack member mounted for straight line adjustment movement within said body member and protruding on each side thereof, said body member including guiding means for maintaining said gear rack member in alignment therein during said movement, a pinion gear mounted within said body member and in engagement with said gear rack for controlling the adjustment movement of said gear rack member, each of said members including an arm and an adjustable pointed member supported on each of said arms, said pointed members each being mutually parallel and perpendicular to the direction of movement of said rack member, an adjustment wheel having an outside diameter greater than the diameter of said pinion and fixedly mounted upon a common shaft with said pinion for adjustment of said pinion, a constant friction locking device comprising a dished spring washer positioned upon said shaft between said body member and said wheel, said spring having an effective radius of contact at least in the order of the radius of said pinion, said spring providing a friction force to restrain rotation of said wheel and said pinion to thereby prevent inadvertent movement of said rack in response to forces upon said rack alone, a graduated dial disk having a diameter substantially equal to the diameter of said wheel and adjustably positionable and arranged to be locked upon the face of said wheel to provide an accurate direct reading indication of the separation between said pointed members as determined by the position of said pinion and said rack, the maximum effective adjustment movement of said gear rack being approximately equal to the diameter of said adjustment wheel.

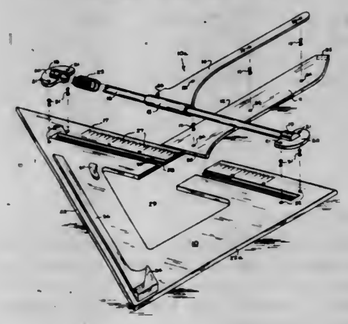
3,264,737
HOLDERS FOR NAUTICAL CHARTS AND PLOTTING INSTRUMENTS
Fritz Gunnar Olsson, Lundavagen 57D, Malmo C, Sweden
Filed Dec. 16, 1963, Ser. No. 330,920
6 Claims. (Cl. 33—76)

1. Arrangement in holders for plotting instruments and nautical charts or other maps intended for navigation at sea or in the air and placed on a board or similar base, the arrangement comprising supporting means including a bar adapted to be secured to a board or similar base, arm means including two parallel arms resting on the chart and spring loaded to hold it against the base, said arms each being at one of their ends independently slidably and pivotally connected to said bar and extending at right angles thereto, a slide mounted on at least one of said chart-holding arms which constitutes a guide for said slide, an extensible arm carried by said slide and extending perpendicularly from said chart-holding arm and forming



a holder, a plotting device including a graduated arc member mounted on said extensible arm and a ruler pivotally mounted in relation with said arc member.

3,264,738
RIGHT ANGLE DRAFTING TRIANGLE
Hermann F. Ackermann, Jr., 3900 Greystone Ave., Riverdale, N.Y.
Filed Feb. 4, 1964, Ser. No. 342,371
7 Claims. (Cl. 33—108)



1. A triangle having an attachment comprising a flat arm with top and bottom sides on the same plane corresponding with that of the triangle, a straight edge on said arm, adapted to extend from the hypotenuse of the triangle and be parallel with the base of the triangle said arm being beveled at a 45 degree angle from the straight edge, and being adapted to slide evenly against the edge of the hypotenuse, and means for retaining the said arm in a position for slidable and parallel movement along the hypotenuse, said arm comprising a bracket with one flat and parallel edged extended and thereof being mounted over the top face and parallel with the edge of said arm.

3,264,739
APPARATUS FOR MEASURING AREA
Anthony A. Berlinsky, Silver Spring, Md., William T. Fay, Washington, D.C., and Martin J. Brennan, Maryland Park, Md., assignors to the United States of America as represented by the Secretary of Commerce
Filed Nov. 15, 1963, Ser. No. 324,147
1 Claim. (Cl. 33—123)

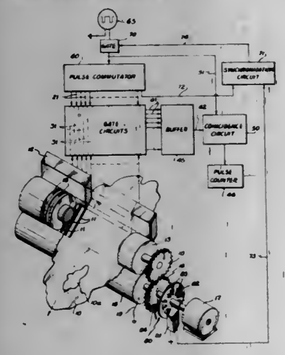
Apparatus for measuring the area of sheet material, comprising:

a clock pulse source,

a first pulse gate having the output of said clock pulse source connected to the input thereof,

a pulse commutator having the output of said first pulse gate connected to the input thereof, and having a plurality of output lines,

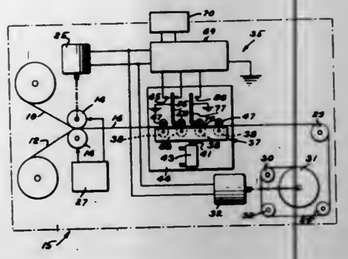
a pulse counter,
a row of sheet material sensing elements each arranged to gate the pulses on a respective one of said pulse commutator output lines to said pulse counter when sheet material is sensed thereby,
means for feeding sheet material relative to said row of sheet material sensing elements,
means for generating a synchronizing pulse every time said sheet material feeding means advances a predetermined unit distance,
a two-input flip-flop having one of said pulse commutator output lines connected to one input thereof, and having the output of said synchronizing pulse generating means connected to the other input thereof, the output of said flip-flop being connected to the control input of said first pulse gate, so that said first pulse gate is closed in response to a pulse on said one pulse commutator output line and opened in response to a synchronizing pulse from said synchronizing pulse generating means,



a buffer having a plurality of inputs each connected to a respective one of said sheet material sensing elements and the pulse commutator output line associated therewith, said buffer further having a common output line,
a second pulse gate having said buffer common output line connected to the input thereof, the output of said second pulse gate being connected to the input of said pulse counter,
a differentiating-rectifying circuit having the output of said first pulse gate connected to the input thereof, and
a delay flip-flop having the output of said differentiating-rectifying circuit connected to the input thereof so that said delay flip-flop is flipped by the leading edge of a clock pulse passed by said first pulse gate, said delay flip-flop returning to its original state before the leading edge of the succeeding clock pulse, the output of said delay flip-flop being connected to the control input of said second pulse gate so that said second pulse gate is opened only for a short time at the end of each clock pulse period.

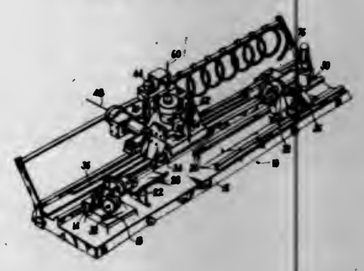
3,264,740
DEVICE FOR DETECTING DEFECTS IN ELONGATED ARTICLES
Charles C. Veale, West Chicago, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 22, 1961, Ser. No. 140,088
3 Claims. (Cl. 33—148)

1. In a device for detecting irregularities in an article of indefinite length having upper and lower surfaces and flange extending laterally therefrom adjacent to the lower surface and spaced a predetermined distance from said upper surface, the combination of mounting means, a pair of spaced guide members fixedly supported on said mounting means and engageable with the upper surface of the article for guiding the article along a straight path, support means engageable with the lower surface of the article, means for moving said support means toward said guide members to maintain the article in engagement with said guide members and for supporting the article for movement along said path, means for advancing said article along said path, a feeler member movably supported on said mounting means between said



guide members and having a pair of feeler surfaces engageable with the flanges on the article, means for urging said feeler toward said support means to a normal position with the feeler surfaces in engagement with the flanges of the article, said feeler being moved to a second position in response to the movement therebeneath of a defective article having flanges spaced from said upper surface a distance different from said predetermined distance, and means actuated by the movement of said feeler to said second position for rendering said advancing means unoperative.

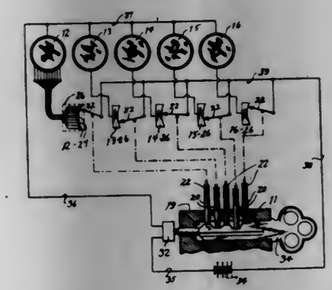
3,264,741
DIMENSIONAL INSPECTION BENCH FOR PARTS HAVING CYLINDRICAL BODIES
Charles Brebant, Aix-en-Provence, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Apr. 17, 1963, Ser. No. 273,693
Claims priority, application France, Apr. 27, 1962
895,936
3 Claims. (Cl. 33—172)



1. Dimensional inspection bench for measuring and checking the variations between a real generator-line and a theoretical generator-line of a part having a cylindrical body, said bench comprising a rotary support including a headstock and a tailstock for said part and a measuring head, said head and said support being movable relatively to each other parallel to the axis of rotation of said support along the length of said part, characterized in that the measuring head is composed of a frame which supports on the one hand a first moving system which is mounted to rotate about a first shaft carried by said frame

and located in a plane passing through the theoretical generator-line of said body, and on the other hand a second moving system which is mounted to rotate about a second shaft carried by said first moving system and oriented at right angles to said first shaft in a same plane, a detector element being carried by said second moving system for the purpose of following the real generator-line by contact with said part, and means being provided for the purpose of measuring the angular deviations of said moving systems with respect to reference positions defined by the theoretical generator-line.

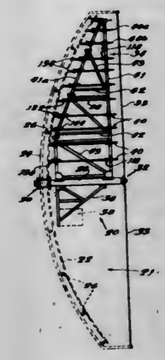
3,264,742
TUMBLER IDENTIFYING KEY READER
Max G. Roland, San Carlos, Calif., assignor to Maromatic Company, Inc., Burlingame, Calif., a corporation of California
Filed Apr. 12, 1965, Ser. No. 447,435
4 Claims. (Cl. 33—174)



1. In a tumbler pin identifying means for a cylinder lock assembly the combination of, a base member having a key accommodating slot formed therein, a plurality of circuit controlling levers mounted above said slot, a plurality of key bit engaging feelers projecting into said key accommodating slot and spaced to conform with the several bits of a key and operating to move said levers as determined by the engaged bits of the key, a visual character indicating means associated with each of said pivotal levers, an electrical circuit for energizing said character indicating means having connections with a plurality of spaced stationary contacts, a circuit completing contact wiper carried by each of said levers and engaging said contacts one at a time as determined by the bits of a key engaged by said feelers, and a circuit controlling means for rendering said character indicating means operative only when a key is fully projected into the key accommodating slot of said base.

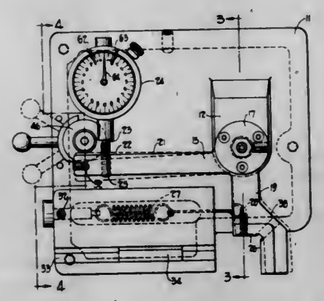
3,264,743
GAUGING DEVICE FOR LARGE PARABOLIC ANTENNAS
Joseph F. Bell, Elmhurst, Ill., assignor to Andrew Corporation, Orland Park, Ill., a corporation of Illinois
Filed June 8, 1964, Ser. No. 373,318
4 Claims. (Cl. 33—174)

1. A surface contour gauge for use in shaping large parobolic antenna reflector comprising:
(a) a rigid rotatable support,
(b) a first bearing at the inner end of the support adapted to be mounted at the center of the reflector and a second bearing at the outer end of the support having laterally adjustable mounting means for aligning the support for rotation about the parabolic axis,
(c) a radial arm on the support,
(d) parallel gauging rods spaced along the arm and spring-urged inwardly in the axial direction, the lengths thereof decreasing substantially parabolically with radial distance from the axis,
(e) and substantially identical sets of longitudinally spaced markings on the outer ends of the rods,



whereby conformity of the reflector to the parabolic contour may be observed by viewing of the alignment of the outer end portions of the rods, and the amount of required adjustment of the surface at any point is indicated by the measure of misalignment provided by the markings.

3,264,744
GEAR CHECKER
Jules A. Rhine, 1736 E. 30th St., Cleveland, Ohio
Filed Sept. 27, 1962, Ser. No. 226,708
3 Claims. (Cl. 33—179.5)



1. A gear checker comprising in combination with a supporting plate
a bell crank lever pivotally mounted on the plate with a vertical pivot axis,
the lever having a first arm with an end adapted to receive a first jig,
the lever having a second arm with a portion adapted to engage a gauge,
the supporting plate having a portion adapted to receive a second jig,
a pair of jigs secured to the first lever arm and the supporting plate respectively and each supporting a vertical shaft,
one shaft adapted to support a master gear rotatably,
the other shaft being adapted to support rotatably a gear to be checked in mesh with the master gear,

a tension spring connected at one end to the supporting plate and at the other end to the first lever arm for biasing the gear supporting shafts towards each other with fixed pressure,

a dial gauge secured to the supporting plate having an actuating pin bearing against the gauge engaging portion of the second lever arm and dial with a pair of spaced limit indices thereon,

and a cam mounted upon the supporting plate adjacent to the second lever arm on the side thereof toward which said tension spring tends to deflect the second lever arm,

the cam having three arcuate portions of different radii,

one arcuate cam portion having such a radius as to separate the gear supporting shafts sufficiently to unmesh the gears,

a second cam portion having such a radius that the second lever arm engages the gauge actuating pin in zero position thereof,

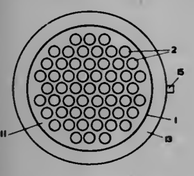
a third cam portion having a smaller radius to permit one gear to bear against the other regardless of irregularities when the dial reads variations in pitch runout and pitch diameter of the gear being tested and acceptable gears are indicated by retention of the dial reading excursions within said dial limit indices.

3,264,745

PROCESS AND APPARATUS FOR FREEZING AND FREEZE-DRYING LIQUID SUBSTANCES, AND APPARATUS FOR CARRYING OUT SAID PROCESS

Geert Seffinga, Ede, Netherlands, assignor to Sec N.V. Seffinga Engineering Company, Ede, Netherlands, a corporation of Dutch law

Filed Mar. 27, 1964, Ser. No. 355,507
Claims priority, application Netherlands, Mar. 29, 1963, 290,885
7 Claims. (Cl. 34—5)



1. A process for freezing and freeze drying liquid substances, which comprises filling the tubes of a bank of upright tubes with a liquid substance to be dried, circulating a freezing medium about the tubes until a frozen layer of said substance has formed on the inner surfaces of the tubes, draining the remaining liquid substance from the tubes, then by circulating a heating medium about the tubes while subjecting said layer to vacuum subliming ice from said frozen layer and drawing off the water vapor formed, and finally discharging the dried layer from the tubes.

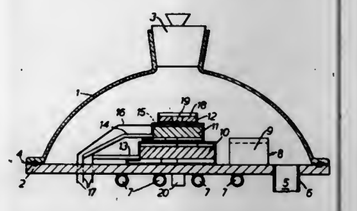
3,264,746

FREEZE-DRYING

Anthony Guy Everson Pearse, Letchmore Heath, England, assignor to Edwards High Vacuum International Limited, Crawley, England, a British company

Filed Apr. 23, 1964, Ser. No. 362,125
3 Claims. (Cl. 34—5)

1. A method of freeze-drying a small sample of tissue of small heat capacity using a thermo-electric module disposed within an evacuable chamber and operable by the Peltier effect to produce heat exchange between the module and a tissue supporting surface within the chamber, the method including the steps of freezing the sample, introducing the sample to the evacuable chamber together with a wax contained in a cup member which is placed on the supporting surface, sealing the chamber, reducing the pressure in the chamber by a vacuum pump, controlling the temperature of the sample by the thermo-electric



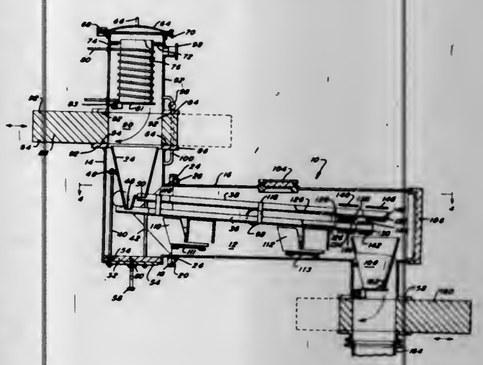
module until it is dry and then supplying heat to the wax by reversing the current supply to the thermo-electric module in order to effect melting of the wax so that the sample becomes embedded in the wax whilst still under vacuum.

3,264,747

METHOD AND APPARATUS FOR CONTINUOUS FREEZE DRYING

Manuel Fuentevilla, Haddonfield, N.J., assignor to Pennsalt Chemical Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed May 13, 1964, Ser. No. 366,964
20 Claims. (Cl. 34—5)



20. A method of drying frozen material comprising the steps of introducing the frozen material to be dried to a zone of sub-atmospheric pressure, raising the temperature of said material, vibrating said material, moving the material past a source of microwave heat, and removing the material from the zone.

3,264,748

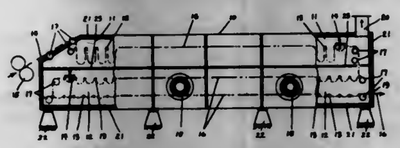
METHOD OF DRYING DYE IMPREGNATED FABRICS

August Meier-Windhorst, Schwalbenplatz 18, Hamburg, Germany

Filed July 6, 1962, Ser. No. 208,131
Claims priority, application Germany, July 6, 1961, A 37,819
3 Claims. (Cl. 34—12)

1. In a process of continuously treating lengths of dyed textile fabrics, in combination with a process of impregnating a fabric with a dye solution and then pressing

excess moisture out of the impregnated fabric, the process which comprises the steps of thereupon maintaining the fabric for a predetermined time period in a moist and warm steam-containing atmosphere substantially without drying the fabric, then preliminarily drying the fabric while gradually increasing the rate of drying until the range of the fiber saturation point has been reached, and thereafter subjecting the fabric to a final output drying operation.

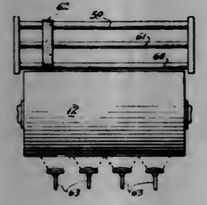


3,264,749

PAPERMAKING DRIER DRUM

Homer E. Malmstrom, Appleton, and Keith C. Martiny, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Original application Apr. 15, 1959, Ser. No. 806,475, now Patent No. 3,118,743, dated Jan. 21, 1964. Divided and this application Nov. 26, 1963, Ser. No. 325,982
6 Claims. (Cl. 34—19)



1. In a method of forming the exterior surface of a drier drum, the steps which comprise holding the interior surface of the drum at a certain elevated temperature while holding the exterior surface of the drum in a middle region at a certain reduced temperature with respect to the temperature of end regions of the exterior drum surface, and forming the exterior surface of the drum while the drum is at said interior and exterior temperatures to crown it from its center to its ends so as to decrease in diameter from its center to its ends.

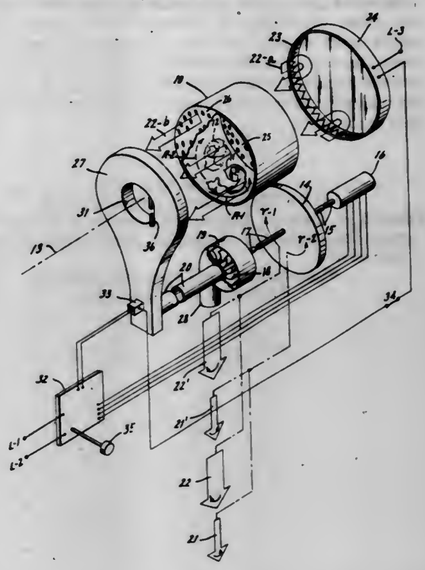
3,264,750

DRYER CONTROL APPARATUS

Arthur Berenbaum, Philadelphia, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Oct. 1, 1963, Ser. No. 313,063
4 Claims. (Cl. 34—45)

1. A domestic dryer, comprising a basket to reversibly tumble a load of fabrics; a heater for heating a current of air; a reversibly rotatable blower for discharge of air in uniform direction but at a slightly different rate depending on the blower's sense of rotation, to pass said current of air through said load; reversible drive means common to said basket and blower; control means automatically operable for causing energizations and deenergizations of the heater in a program of successive periods, and for causing a cycle of reversals of the drive means to be performed during said program; and timer means for first causing operation of said control means, whereby to perform said program and cycle and thus to dry the fabrics by reversible tumbling in a current of hot air,



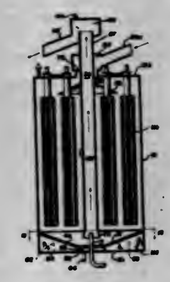
and for later causing timed operation of said drive means apart from said heater, whereby to cool the fabrics by tumbling in a current of cool air.

3,264,751

HEAT-EXCHANGE METHOD AND APPARATUS

Frank J. McEntee, Jr., 1106 Hillcrest Road, Beverly Hills, Calif.

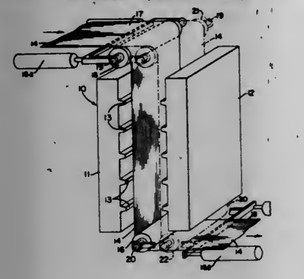
Original application July 11, 1960, Ser. No. 41,967. Divided and this application Oct. 13, 1965, Ser. No. 495,580
5 Claims. (Cl. 34—57)



1. A heat-exchange apparatus for treating pulverulent material comprising a vessel to receive the pulverulent material, the portion of the vessel which receives the material and in which the material is treated having an inlet opening located at the top of the vessel for the introduction of the material to be treated and an outlet conduit extending upwardly through the vessel from a portion adjacent but spaced from the bottom of the vessel, the lower end of said conduit being open and forming the discharge from the portion of the vessel in which the material is to be treated, said conduit having an opening adjacent its upper end for the discharge of material, a nozzle pipe having an opening positioned to direct gas

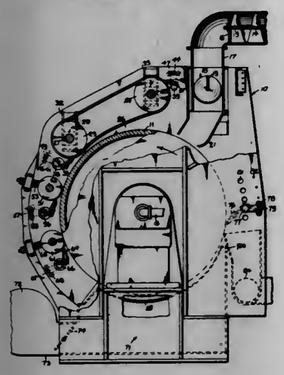
passing therethrough upwardly through said conduit to facilitate upward flow of material through said conduit, means adjacent the botom of the vessel for introducing a fluidized gas to pass upwardly through the material in the vessel to fluidize it, a plurality of heat exchangers within said vessel, said heat exchangers being spaced from the walls of the vessel and from one another to provide spaces for the material being treated, and means for causing a flow of heat-exchange medium through said heat exchangers.

3,264,752
WEB TREATING APPARATUS
Edward E. Hunter, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Jan. 2, 1964, Ser. No. 335,313
7 Claims. (Cl. 34—62)



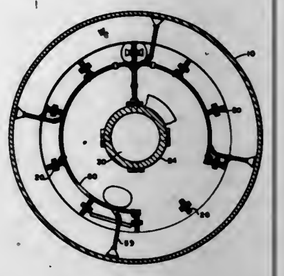
1. In a continuous web treating apparatus, first fluid dispensing means, second fluid dispensing means arranged in opposed relationship to said first fluid dispensing means, web supporting means capable of supporting a continuous web as it passes between said first and second dispensing means, means to move said web supporting means so that the web is moved away from said first dispensing means and toward said second dispensing means.

3,264,753
FOOD DEHYDRATOR
Hugo F. Budzien, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Aug. 16, 1963, Ser. No. 302,631
13 Claims. (Cl. 34—112)



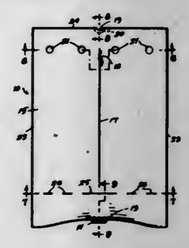
1. A drier comprising a rotating imperforate drum, feed means arranged to apply a material to be dried to the periphery of said drum, means for heating said drum to thereby form a film of dried material on said periphery, a travelling endless belt mounted in spaced relation with respect to the periphery of said drum and forming with said periphery a convergingly shaped gap in the direction of movement of said drum, said gap coextending longitudinally with said drum, and removal means disposed beyond said belt in the direction of rotation of said drum for scraping the resulting film from said drum.

3,264,754
PAPERMAKING MACHINE
Don H. Kutchera, Oshkosh, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Aug. 12, 1963, Ser. No. 301,348
6 Claims. (Cl. 34—124)



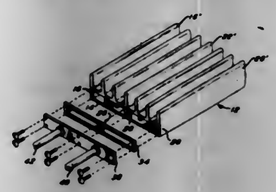
1. A rotatable drier drum having an inner surface which is cylindrical and smooth, a steam supply connection for directing steam into the drum, a plurality of water condensate removal nozzles in said drum distributed about the inner surface of the drum, each of said nozzles having an opening pattern which faces and has a termination closely adjacent to the inner drum surface and which at said termination has a length in the circumferential direction of the drum that is more than three times greater than the width of the pattern in the axial direction of the drum, and water conduit means connected with said opening pattern in each of said nozzles for carrying water condensate from the drum.

3,264,755
CLOTHES DRYING BAG
Arnold S. Moore, Fairfield, Conn., assignor to Aeroplastics, Inc., Bridgeport, Conn., a corporation of Connecticut
Filed July 31, 1963, Ser. No. 298,843
10 Claims. (Cl. 34—151)



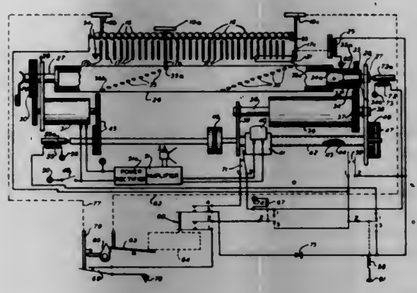
1. In a clothes dryer, an enclosure defined by flexible walls, means dividing said enclosure into an air compression chamber and an air expansion chamber, air inlet means opening to said compression chamber, restricted air passage means between said chambers for discharging air under pressure from said compression chamber to said expansion chamber, air outlet means opening from said expansion chamber at a point substantially spaced from said air passage means, and means for opening and closing said expansion chamber for placing therein or removing therefrom articles to be dried.

3,264,756
DRYING TRAY
Manuel E. Fuentevilla, Haddonfield, N.J., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed June 1, 1964, Ser. No. 371,622
5 Claims. (Cl. 34—237)



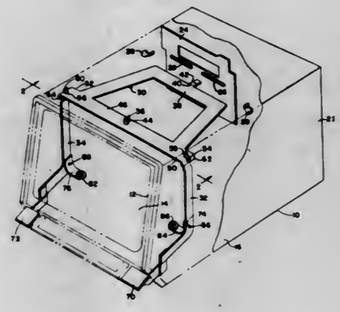
1. A tray for the drying of material under vacuum conditions while such material is moving along said tray comprising a flat extruded hollow body having boundary walls and a top surface, upright laterally spaced longitudinal ribs on said surface, said surface and said ribs being smooth in a lengthwise direction to promote smooth movement of material therealong to a drop off point for material, laterally spaced longitudinal partitions transecting the interior of said hollow body, end plate means secured to said body and comprising the end walls of the hollow body, said end plate means extending no higher than said top surface, at least some of said partitions stopping short of the end plate means to provide a path for transverse movement of fluid around the ends of said partitions. and conduit means secured to the tray and communicating with the interior of said body to provide an inlet and an outlet for a heat exchange fluid.

3,264,757
AUDIO TYPEWRITER
Richard Kobler, West Orange, N.J., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Dec. 3, 1963, Ser. No. 327,769
18 Claims. (Cl. 35—5)



14. In combination, a typewriter keyboard including a set of depressible keys, a rotatably mounted indexing member having projecting dogs spaced along and around the indexing member, a series of latch pawls respectively operable by said keys for engaging said respective dogs to latch said indexing member in predetermined angular positions as respective keys of said keyboard are depressed, a motor driven shaft, a friction slip clutch between said motor driven shaft and said indexing member for releasably driving the indexing member, and a movably mounted record carrier having a fixed drive coupling with said indexing member to cause the record carrier to be moved when said indexing member is rotated, said friction slip clutch being adapted to slip during rotation of said motor driven shaft when said indexing member is latched.

3,264,758
OPERATING MECHANISM FOR TEACHING MACHINE
Lloyd E. Moeller, Davenport, Iowa, assignor to Mast Development Co., Davenport, Iowa, a corporation of Iowa
Filed Jan. 18, 1965, Ser. No. 426,111
10 Claims. (Cl. 35—9)

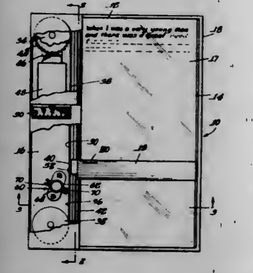


1. A teaching machine, comprising: a casing having front and rear ends, opposite side walls, and upper and bottom portions; a transport member disposed rearwardly of said front end and adjacent to said upper portion and carried by and for movement back and forth transversely of the casing; vertical pivot means carried by said upper portion adjacent to said front end and generally midway between the side walls; a fore-and-aft oscillating member having a rear end including a rear operative connection to the transport member and a forward end carried by the pivot means and including opposite lateral portions respectively adjacently inwardly of said side walls; transversely coaxial horizontal pivot means carried by the side walls adjacent to said front end of the casing; and a pair of generally L-shaped levers lying respectively closely inwardly of the side walls and including upper ends respectively having upper operative connections to the lateral portions of the oscillating member, forward ends projecting at the front end of the casing, and intermediate portions carried by the horizontal pivot means.

3,264,759
READING-PACING DEVICE
John A. Simpson, Chicago, Ill., assignor to Elizabeth A. Simpson, Chicago, Ill.
Filed July 1, 1963, Ser. No. 291,887
6 Claims. (Cl. 35—35)

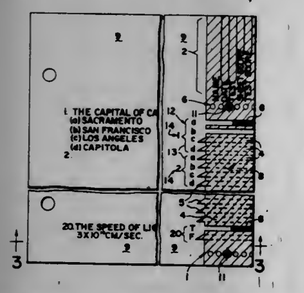
1. A reading-training device comprising:
(a) a drive mechanism operable at a plurality of speeds,
(b) a line-indicating assembly driven by the drive mechanism,
(c) and an audible indicator assembly having an actuator manually settable in the path of the line-indicating assembly,

(d) and means responsive to the striking of the actuator by the line-indicating assembly to produce the



audible indication and withdraw the actuator from the path of the line-indicating assembly.

3,264,760
QUIZ ANSWER SHEET WITH CORRECT ANSWER AND ITEM ANALYSIS INDICIA
Maurice Webster St. Clair, 1021 Sierra Drive, Menlo Park, Calif.
Filed Aug. 16, 1965, Ser. No. 479,879
8 Claims. (Cl. 35—48)



6. An answer sheet overlay for a quiz sheet of the type having a column of correct answer indicia placed along the marginal edge of the quiz sheet comprising an answer overlay sheet of material for fastening over the correct answer indicia on the marginal edge of the quiz sheet, said overlay sheet of material having a column of separately removable elongated tabs extending to one margin of said overlay sheet as applied to the quiz sheet and corresponding to different possible answer selections, and an adhesive coating provided on the back side of said overlay sheet for holding said overlay sheet to the quiz sheet.

3,264,761
CLOTH SHOE CONSTRUCTION
Donald C. Johnson, Fremont, Ohio, assignor to Crown Rubber Company, Fremont, Ohio, a corporation of Ohio
Filed Sept. 24, 1965, Ser. No. 489,880
1 Claim. (Cl. 36—3)



An article of footwear comprising a sole and an upper, said upper consisting essentially of a bonded sandwich of an inner layer of knitted textile fabric, an outer layer of textile fabric, and an intermediate layer of open cell cast latex foam which joins the fabric layers directly without the intervention of a bonding layer, the interstices of the fabric layers being open and communicating



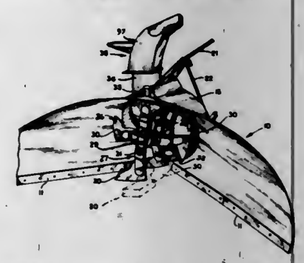
with the open cell latex foam to permit air to pass through all the layers of the sandwich so that the sandwich is permeable and capable of breathing.

3,264,762
SHOE HEEL, PARTICULARLY FOR MEN'S FOOTWEAR AND LADIES' SPORTS FOOTWEAR
Pietro Rigon, 8 Viale S. Lazzaro, Vicenza, Italy
Filed Oct. 10, 1963, Ser. No. 315,255
Claims priority, application Italy, Oct. 27, 1962, 21,525/62
6 Claims. (Cl. 36—34)



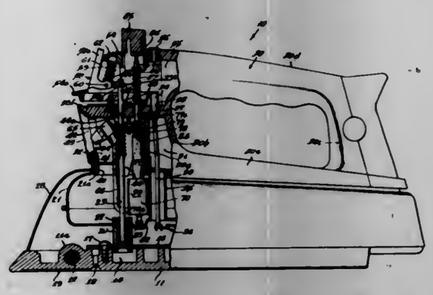
1. A shoe heel, comprising a plastic shell having a base, sides integral with said base and enclosing a hollow space, ribs integral with said base and extending perpendicularly to said base, said ribs being located within said space, leather strips covering said sides and firmly connected therewith, and a wear lift firmly connected with said base, said base extending between said ribs and said wear lift.

3,264,763
SNOW BLOWERS
Frederick B. Arps, New Holstein, and Calvin O. Schmahl, Chilton, Wis., assignors to Arps Corporation, New Holstein, Wis., a corporation of Wisconsin
Filed Sept. 9, 1963, Ser. No. 307,674
1 Claim. (Cl. 37—43)



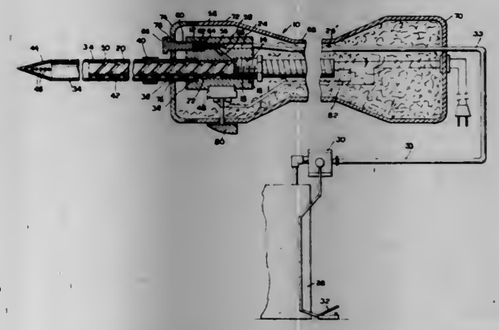
A snow blower, comprising: a rearwardly tapered hood having an enlarged, open forward end; a horizontal, rotatable drive shaft extending longitudinally within said hood; impeller means mounted on said drive shaft adjacent the rearward portion of said hood; a discharge chute on said snow blower positioned to receive and discharge snow directed therein by said impeller; and a plurality of freely-pivotal flail blades mounted fast on said drive shaft forwardly of said impeller, said blades normally hanging downwardly from said shaft but being adapted to assume a radially projecting position when said rotatable drive shaft is actuated, each of said flail blades being substantially L-shaped and provided with an enlarged free outer end portion forming a head having a relatively small leading cutting edge which is sharpened to promote the chopping action of said blade, said rotating blades being designed to engage and chop incoming snow during operation, and each of said flail blades having a planar surface which is pitched rearwardly relative to the direction of rotation of said blade to urge snow engaged thereby rearwardly toward said impeller.

3,264,764
PRESSING IRON
Joseph L. Viecelli, La Grange, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed May 14, 1963, Ser. No. 280,770
7 Claims. (Cl. 38—77)



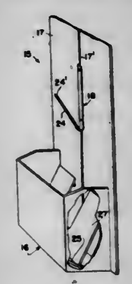
1. A steam and spray iron comprising a sole plate, electric heating means for heating said sole plate, a steam generator in heat exchange relationship with said heating means, a reservoir overlying said sole plate, means for selectively supplying water from said reservoir to said steam generator, a spray nozzle mounted on said iron above said reservoir, a pump having a water inlet portion thereof disposed in said reservoir, conduit means interconnecting said pump and said spray nozzle, a handle for said iron, a U-shaped clamp for securing the forward portion of said handle to said reservoir, and means connected between said pump and the bight portion of said U-shaped clamp for holding the pump in a predetermined position relative to said reservoir.

3,264,765
STEAMING AND PRESSING DEVICE
George A. Schaeffer, 43 Oak Rest Lane, North Babylon, N.Y., and Neil White, 65—50 Wetherole St., Rego Park, N.Y.
Filed June 21, 1965, Ser. No. 465,379
16 Claims. (Cl. 38—141)



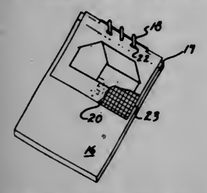
1. A steaming and pressing device comprising
(A) a body portion having an axial bore therethrough,
(B) an elongate electric heating element mounted in one end of said bore and projecting therethrough and having a portion which extends outwardly of said body portion a substantial distance, said heating element having a diameter less than the diameter of said bore to define an annular space therebetween,
(C) conduit means in said body portion communicating with said annular space and including means connecting with an external source of steam,
(D) an elongate hollow fabric material pressing element connected to said body portion at the other end of said bore and surrounding said outwardly extending portion of said heating element, said pressing element having an internal diameter larger than the diameter of said heating element to define an annular space therebetween which forms an extension of the annular space within said body portion, both said annular spaces forming a chamber within which steam from said external source is superheated and thus rendered free of moisture, and
(E) means adjacent the outermost end of said pressing element presenting a material pressing surface and for discharging said superheated steam onto the material being treated whereby said material may be steamed or simultaneously steamed and pressed.

3,264,766
DISPLAY DEVICES
Sam Offsay, New York, N.Y., assignor to Quadri, Inc., Queens, N.Y., a corporation of New York
Filed Apr. 13, 1964, Ser. No. 359,083
5 Claims. (Cl. 40—36)



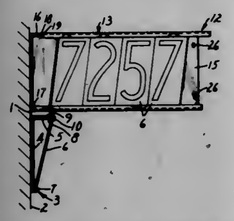
1. In a display device of the character described, a stack of standing, front facing cards; adjacent surfaces of successive cards being in contact; each card having a socket in its rear surface near its top edge, a floor sloping downwardly rearwardly; said cards standing on said floor, a support fixed in relation to said floor; the rear card resting against said support whereby said cards are positioned sloping upwardly rearwardly, an upright member fixed in relation to said floor, having a heightwise track, an element mounted for sliding movement along said track, a freely extending finger sloping upwardly forwardly; the lower end of said finger being connected to said slidable element whereby said finger moves with said element and means connected to said slidable element for reciprocating it between a low position and a high position; the underside of said finger during the descent of said slidable element, contacting the top edge of the rear card, then camming said stack of cards so that each card is swung whereby its top edge moves forwardly whereupon on further descent of said slidable element, the free end of said finger enters and becomes engaged in the socket in the rear card and finally upon ascent of said slidable element, said finger will lift the rear card above the remaining cards; the free end of said finger extending so that the plane of the card suspended therefrom intersects the front surface of the front card of the stack; the slope of all cards on the floor forever remaining so that such cards will be biased to fall towards said support.

3,264,767
PIN REGISTRATION SYSTEM OF PRODUCING SLIDE TRANSPARENCIES FOR OVERHEAD PROJECTION
Joe W. Coffman, Holyoke, Mass., assignor to Tecnifax Corporation, Holyoke, Mass., a corporation of Massachusetts
Continuation of application Ser. No. 796,978, Mar. 3, 1959. This application Jan. 29, 1964, Ser. No. 341,494
1 Claim. (Cl. 40—102)



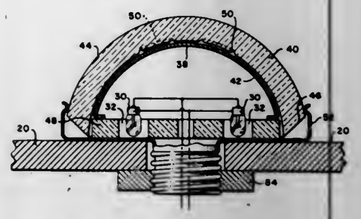
Slides for overhead projectors comprising a mounting frame, one film transparency mounted in fixed coplanar relation on said frame and having a portion of a composite projection image, and a plurality of other film transparencies swingably affixed along different edges of said frame to enable variable sequence of overlay projection and each bearing at least another portion of said composite image, said frame and transparencies having three registration holes disposed parallel to one edge thereof, the center one of said holes being round and the others being elongated in the direction of hole alignment enabling expansion and contraction of the transparencies when disposed on a pin registration board, each of said other film transparencies being affixed to said frame by at least one flexible tab.

3,264,768
COMPOSITE HOUSE NUMERALS AND MOUNTING MEANS THEREFOR
Hjalmer H. Kalmoe, 401½ S. 7th St., Montevideo, Minn.
Filed May 6, 1963, Ser. No. 278,325
3 Claims. (Cl. 40—124)



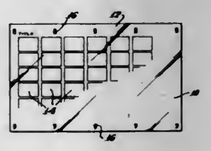
1. A house numeral support comprising:
(a) a back member,
(b) a lower generally horizontal bracket secured to said back member, said lower bracket being adapted to carry a series of numerals, said lower bracket comprising:
(1) a lower channel portion adapted to hold the lower edges of the numerals carried by said lower bracket,
(2) an upper channel portion adapted to hold the upper edges of the numerals carried by said lower bracket, and
(3) said upper channel portion being disposed laterally outwardly of said lower channel portion whereby to position the numerals carried by said lower bracket in an upwardly and outwardly extending condition,
(c) an upper bracket positioned above said lower bracket, said upper bracket having a pair of sections which extend and converge generally laterally outwardly with respect to said back member,
(d) said upper bracket sections of said upper bracket each being adapted to carry a series of numerals, and
(e) said upper bracket sections being arranged so that the numerals carried by each thereof are visible from generally opposite directions.

3,264,769
ILLUMINATED FIXED INDICIA INDICATING DEVICE
George K. C. Hardesty, Box 156, Mayo, Md.
Filed Dec. 7, 1960, Ser. No. 74,438
1 Claim. (Cl. 40—130)



An edge lighted indicator illumination system comprising:
a circular flat light conducting panel having at least one aperture therein;
a light source mounted in said aperture;
a hollow hemispherical light conducting body having its edge located in close proximity to the edges of said circular panel;
the edge of said hemispherical light conducting body being prismatically polished and beveled at an angle to the radius of the hemisphere and to the plane of said panel, for directing light rays by total internal reflection from said source via said edge through said hemisphere;
a hemispherical opaque body of material underlying substantially the entire inner surface of said hemisphere;
and a plurality of indentations forming intelligible indicia located on the inner surface of said hemisphere for intercepting and reflecting therefrom a portion of the light rays otherwise totally internally reflected thru the hemisphere.

3,264,770
HOLDER FOR SHEET MICROFILM
Alexander L. Baptie, La Crosse, Wis., assignor to Microcard Corporation, a corporation of Wisconsin
Filed Jan. 2, 1964, Ser. No. 335,273
7 Claims. (Cl. 40—158)



1. A support for protecting a flexible fiche having a front, information-carrying surface and a back surface, said support comprising frame means having opposed side members and resilient, opposed connecting members interconnecting said opposed side members and being bendable from an untensioned planar disposition to move the opposed side members toward one another, and means on each of said opposed side members for securing an adjacent edge of said fiche to said side members when said side members have been moved toward one another, whereby upon release of the side members, the connecting members of the frame means will move toward their planar position to hold the flexible fiche taut and in tension.

3,264,771
SHOTGUN SIGHT
Frank Allen Barnes, P.O. Box 1352, Missoula, Mont.
Filed Mar. 5, 1965, Ser. No. 437,500
4 Claims. (Cl. 42—76)



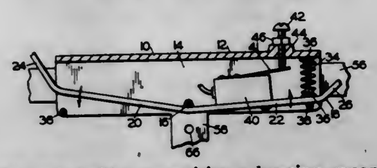
1. In combination with a shotgun barrel having a muzzle, a body secured to said barrel having a flat top substantially rectangular unobstructed surface of a width to subtend a width at normal range corresponding to approximately one third the diameter of a thirty-inch circle which is approximately the transverse diameter of a shotgun pattern at 40 yards when projected to a target, said body having a normally vertical rear portion, and a downwardly and rearwardly descending portion of less width than said body, the uppermost point of said downwardly and rearwardly descending portion being disposed below and spaced from the top of said vertical rear portion of said flat surface to define a vertical sighting face.

3,264,772
METHOD OF CONTROLLING PREDATORY FISH
Richard E. Hart, Torrance, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Original application Nov. 6, 1963, Ser. No. 321,840, now Patent No. 3,199,454, dated Aug. 10, 1965. Divided and this application Dec. 16, 1964, Ser. No. 418,823
6 Claims. (Cl. 43—4.5)



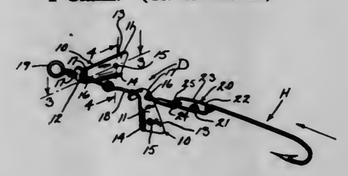
1. A method of preventing movement of fish between two adjacent zones of a body of water, which comprises the steps of:
igniting external ends of respective fuses in a number of cartridges which each includes a repellent material, and an explosive charge connecting with a corresponding one of said fuses therein;
deploying said number of cartridges into the body of water in a predetermined pattern near the common boundary of the two zones; and
creating a fish repellent barrier of cloud formations at depth by
allowing said cartridges to sink substantially freely under gravitational influence at a predetermined rate in the body of water,
limiting the discharge of gas generated by said fuses, when burning, from said respective cartridges to maintain internal pressure in reasonable equilibrium with external fluid pressure to prevent premature extinction of said fuses, and
exploding said cartridges after a predetermined time duration following ignition of the fuses of said cartridges to disperse said repellent material in said cartridges into respective cloud formations,
whereby predatory fish in one of the adjacent zones will be prevented by said barrier from entering into the other zone.

3,264,773
SIGNALING FISH POLE HOLDER
Mike J. Woznick, 3603 SE. Grant St., Portland, Oreg.
Filed July 21, 1964, Ser. No. 384,129
4 Claims. (Cl. 43—17)



1. A fish pole holder comprising a housing, means on said housing for mounting it in a stationary position, a lever pivotally mounted in said housing and having end extensions projecting upwardly through the ends of said housing to a plane above said housing, pole holding means on the ends of said extensions whereby said lever is rotated relative to said housing when a fish exerts a tug on a pole in said holding means, resilient means resisting rotation of said lever, an electric circuit, switch means mounted on one of said housing and lever and arranged in said circuit, switch operating means mounted on the other of said housing and lever in spaced relation from said switch means and arranged to engage the latter and energize the circuit upon a selected rotation of said lever, and signal means in said circuit energized upon engagement of said switch means and said switch operating means as a result of rotation of said lever by a fish.

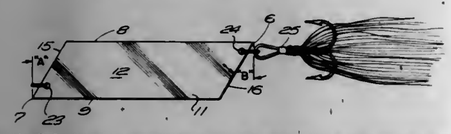
3,264,774
ARTIFICIAL BAIT
Delbert F. Patterson, Wild Rose, Wis.
Filed May 28, 1964, Ser. No. 371,028
1 Claim. (Cl. 43—42.14)



An artificial bait including in combination, a longitudinal elongated bendable rod providing a body having means at one end for attachment of a fishing line, a spring hook retaining fastener formed at the opposite end by bending said body upon itself to form a coiled loop spring and a return bend extending inwardly and beyond the coiled loop spring to define a parallel stretch terminating in a U-shaped catch for quick separable engagement with the body portion of the rod, means associated with said U-shaped catch to prevent the accidental loss of the hook associated therewith, including a rearwardly extending stretch on said U-shaped portion parallel to said first mentioned parallel stretch, a pair of spinners each having a tang shank portion and a main blade body portion, a tube extending transversely of said spinner through said shank portion, said tube receiving a respective portion of said bendable wire rod body, said blade portion being

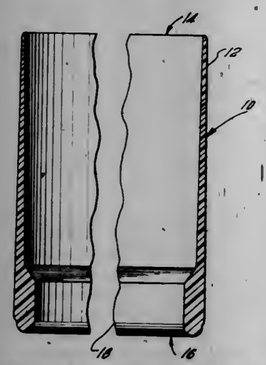
of a general trapezium shape with a straight leading edge in the direction of rotation, said blade portion comprising a major planar portion and a minor inturned bend portion at the trailing edge and an aperture adjacent the outer end of said blade portion, said bendable wire rod body being formed with an intermediate loop to separate the mounting portions of said spinners whereby the inturned edge and aperture cooperate to act as a light reflective surface and to provide an imbalance in the blades for both spinning and wobbling action.

3,264,775
FISH LURE
David J. Nahigian, 179 Nagansett Ave., Warwick, R.I.
Filed Oct. 2, 1964, Ser. No. 401,052
4 Claims. (Cl. 43—42.39)



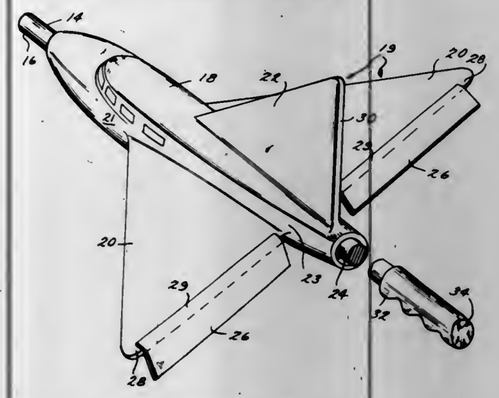
1. A fish lure comprising an elongated body provided with opposite sides and having a flat surface, an opposite keel surface, a front end positioned at an angle to said opposite sides and a back end generally parallel to said front end, said front end providing a leading corner with one of said opposite sides, said back end providing an oppositely located trailing corner with the other of said opposite sides, a beveled area in said keel surface forming a thickness in said front end, a second beveled area in said keel surface forming a thickness in said back end, and means located in said leading corner for attaching a fish line, and means located in said trailing corner for attaching a fish hook, thereto.

3,264,776
AERIAL TOY
William Bruce Morrow, New York, N.Y., assignor to Wham-O Manufacturing Company, San Gabriel, Calif., a corporation of California
Filed Feb. 16, 1966, Ser. No. 527,989
7 Claims. (Cl. 46—74)



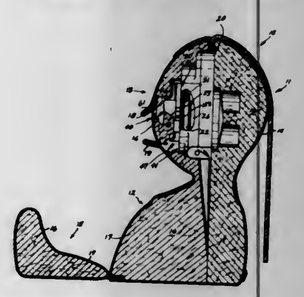
1. An aerodynamic device comprising a straight hollow tube having a leading end, a trailing end, and being substantially fully open at the ends, the tube having weighting means such that the center of gravity of the tube is located approximately within the leading one-third of the length of the tube and said device further having means comprising its length, weight and diameter so as to have aerodynamic properties when said device is propelled, leading end forward, with a rotational motion about its longitudinal axis.

3,264,777
GAME PROJECTILE HAVING ADJUSTABLE AILERONS
Bernie F. McCreary, Jr., Houston, Tex., assignor of twenty percent to Leighton Stallones, twenty percent to James T. Radford, twenty percent to Edward A. Gibbons, and twenty percent to Wesley C. Gustafson, all of Houston, Tex.
Filed Dec. 9, 1964, Ser. No. 417,060
1 Claim. (Cl. 46—81)



A game projectile adapted to be slidably mounted on an elongated rod for projection therefrom comprising:
a foamed plastic elongated fuselage having an opening extending longitudinally therethrough of substantially constant cross-sectional area so that the fuselage can be mounted on a rod, the fuselage having integral foamed plastic wings projecting laterally on opposite sides thereof and an integral foamed plastic tail fin projecting upwardly therefrom in a plane substantially perpendicular to the laterally projecting wings; and
adjustable paper ailerons attached to the rear edge of the wings, each of the ailerons comprising an elongated piece of paper having glue on one side thereof, the glued side being laterally doubled over and stuck to itself so as to provide stiffness, the free edges of the paper being separated so as to receive the rear edge of the wing therebetween and being glued thereto.

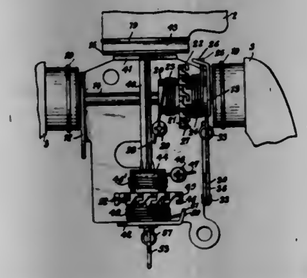
3,264,778
ANIMATED SOUNDING FIGURE TOY
John W. Ryan, Bel Air, Calif., assignor to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed July 17, 1964, Ser. No. 383,465
7 Claims. (Cl. 46—118)



1. An animated speaking figure toy adapted to oscillate both its lips and eyelashes through a substantial angle in synchronization with the operation of a phonograph

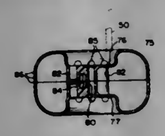
device and actuated solely by the operation of said phonograph device, comprising:
(a) a phonographic device;
(b) a substantially integral flexible lip and eyelash structure having pivotally mounted eyelashes, each hinged at its rear end to an upper linking arm, said arm having means adapted to undergo substantial forward and side displacement; and
(c) a slidably mounted back plate connected to the rear end of said upper linking arms and means to vertically oscillate said plate by said phonograph device.

3,264,779
MOTION DELAY MECHANISM AND ANIMATED TOY EMPLOYING IT
Joseph L. Bonanno, South Orange, N.J., assignor to Deluxe Reading Corp., Elizabeth, N.J., a corporation of New Jersey
Filed July 10, 1964, Ser. No. 381,714
19 Claims. (Cl. 46—120)



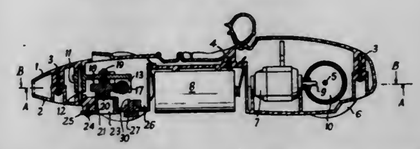
6. In a doll, a hollow body, an appendage mounted for relative movement with respect thereto, a rotatable shaft journaled in said body and carrying said appendage, a coil spring encircling said shaft for imparting a limited rotative movement to it, said spring having one end anchored to said body and the other to said shaft, a drum on said shaft, and a helical braking spring having convolutions encircling said drum and acting to restrain it frictionally and thereby retard the shaft movement, the convolutions extending in a direction in which the rotative movement of the shaft in the driven direction induces them to tighten against said drum.

3,264,780
WHEEL FOR TOY
Walter P. Doe, East Aurora, N.Y., assignor to Fisher-Price Toys, Incorporated, East Aurora, N.Y., a corporation of New York
Filed June 17, 1964, Ser. No. 376,615
10 Claims. (Cl. 46—221)



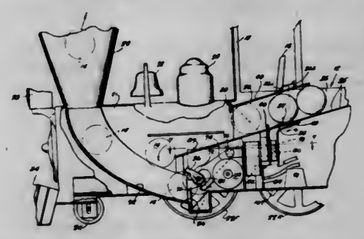
1. A unitary toy wheel that is made of synthetic plastic material and that has a generally toroidal body and a pair of axially-spaced, radially-extending webs that are integral with said body and that are disposed to extend between confronting inner wall surfaces of said wheel body, and a plurality of axially-extending rigid members that are integral with and interconnect said webs with each other.

3,264,781
SELF-STEERED AND SELF-PROPELLED TOY VEHICLE
Ting Hok-Shou, North Point, Hong Kong, assignor to Kader Industrial Company Limited, a corporation of Hong Kong
Filed June 26, 1964, Ser. No. 378,273
Claims priority, application Great Britain, Mar. 4, 1964, 9,232/64
8 Claims. (Cl. 46—244)



1. In a self-propelled toy vehicle in combination a body, a substantially vertical pivot on the body, a bracket mounted on said pivot for swinging movement thereabout, a steering axle rotatably mounted in said bracket, a drive worm fastened on said axle, a worm wheel arranged to rotate about a pivot in said bracket and to mesh with said drive worm, a pivot positioned eccentrically on said worm wheel, a fixed pivot on said body and a link pivotally connected to said eccentric pivot and to said fixed pivot, whereby rotation of the steering axle turns the worm wheel and swings the bracket about its pivot so as to vary continuously the steering angle of the wheels of the steerable axle.

3,264,782
SELF-PROPELLED TOY STEAM-TYPE LOCOMOTIVE
Marvin I. Glass and Gunars Licitis, Chicago, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed Aug. 20, 1963, Ser. No. 303,394
6 Claims. (Cl. 46—243)

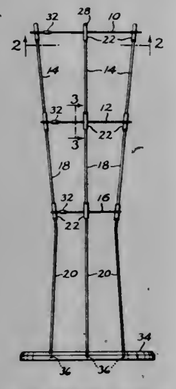


6. A wheeled toy comprising a body including a hopper portion for receiving a plurality of separate pieces and means affording passage of the pieces in sequence to a position in said body spaced from said hopper portion, and power operated driving means for said toy, control means which is in the path of movement and responsive to the passage of the pieces from said hopper to said position to effect operation of said driving means and movement of the toy, and said control means being operative to stop the operation of said driving means when the body is emptied of such pieces.

3,264,783
COLLAPSIBLE AND ADJUSTABLE TRELLIS
Carl W. Bayliss, 1089 Oxford SE., Salem, Oreg.
Filed Mar. 10, 1964, Ser. No. 350,816
4 Claims. (Cl. 47—45)

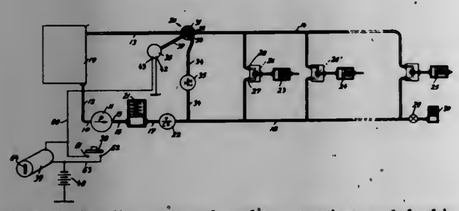
1. A trellis comprising,
(a) a plurality of ring members adapted to be arranged in substantially horizontal, vertically spaced position,
(b) a plurality of socket members on each ring member,

(c) each socket member having therein a pair of oppositely facing sockets each having an inner leg-abutting end and one aligned with and facing a socket in a socket member on the next adjacent ring member,
(d) the socket members on the lowermost ring member also having sockets therein facing downward,



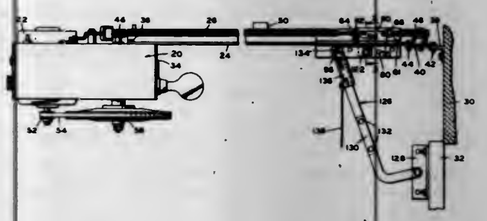
(e) a plurality of elongated spacer leg members receivable freely at their opposite ends in the facing sockets of adjacent ring members, and
(f) a plurality of elongated supporting leg members receivable freely at their upper ends in the downward facing sockets on the lowermost ring member.

3,264,784
SYSTEM FOR LOCKING AND UNLOCKING ACTUATORS PROVIDED IN A MOTOR VEHICLE
Ernst J. H. Fiala, Berlin, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Continuation of application Ser. No. 73,432, Dec. 2, 1960. This application Jan. 5, 1965, Ser. No. 424,883
Claims priority, application Germany, Dec. 2, 1959, D 32,026
20 Claims. (Cl. 49—24)



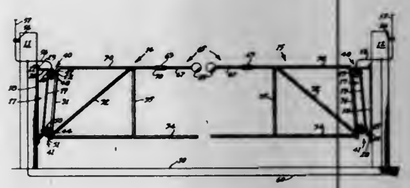
1. A hydraulic system for the actuation and locking of closing devices, especially in a motor vehicle, comprising a pump having a suction pipe and a pressure pipe, a plurality of fluid-operable actuators, means including conduit means and individual valve means for selectively connecting each actuator with said pressure pipe for actuation in one direction and means including said individual valve means and further conduit means for selectively connecting each actuator with said suction pipe for actuation in the opposite direction, and additional valve means inserted in said suction pipe down stream from said further conduit means, said additional valve means being movable to an unlocking position in which said suction pipe is open and to a locking position in which said suction pipe is closed by said additional valve means to thereby prevent said actuation of said actuator in said opposite direction.

3,264,785
SAFETY DOOR ACTUATOR
Harold L. Miller, Detroit, Mich., assignor to Vemco Products, Inc., Detroit, Mich., a corporation of Michigan
Filed Dec. 3, 1964, Ser. No. 415,619
11 Claims. (Cl. 49—26)



1. In a garage door operating mechanism wherein a lineal power shuttle operates an actuator arm connected to a vertical lift door to raise and lower the door and wherein there is utilized a safety release combination including a guide track, a power shuttle on said track, and a second shuttle on said track releaseably associated with an actuator arm of a garage door, that improvement in a shuttle construction which comprises
(a) a set of four substantially identical plates each shaped to have a sliding engagement with a track,
(b) means joining said plates in two opposed pairs on said track to form longitudinally aligned shuttles,
(c) one of said shuttles having opposed recesses on an axis transverse of said track, and
(d) means mounted on the second of said shuttles positioned to overlie a portion of said one shuttle containing said recesses to resiliently engage said recesses, whereby said shuttles are normally engaged for tandem operation and separable upon a predetermined resistance to door movement.

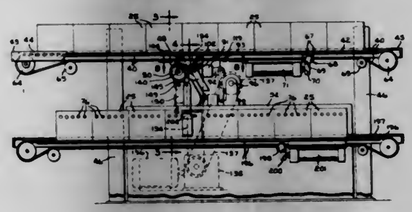
3,264,786
GATE CONSTRUCTION
J. B. Nettles, Box 256, Rte. 3, Goodlettsville, Tenn.
Filed May 13, 1964, Ser. No. 367,065
5 Claims. (Cl. 49—70)



1. A gate construction comprising:
(a) a gate post,
(b) an adapter frame including opposed first and second side bars having longitudinal axes converging in the same plane,
(c) means for securing said first side bar in a vertical position against said gate post so that said second side bar converges downwardly toward said gate post,
(d) a gate member having a top rail and a side rail, one end of said top rail being connected at an obtuse angle to said side rail, and the other end of said top rail comprising a free end,

(e) upper hinge means and lower hinge means spaced apart longitudinally of said second side bar and connecting said side rail substantially parallel to said second side bar,
(f) each of said hinge means comprising a block fixed to said second side bar,
(g) said blocks having aligned holes therethrough parallel to said second side bar, to form an inclined pivotal axis for said gate member,
(h) each hinge means including a hinge member fixed to said side rail and projecting into pivotal relation with said corresponding block, each hinge member having a hole coaxial with said pivotal axis,
(i) a pintle for each hinge means extending through the holes in said corresponding block and hinge member so that there is free pivotal movement between said pintle, said hinge member and said block.

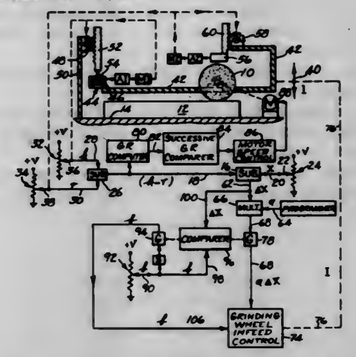
3,264,787
APPARATUS FOR AUTOMATICALLY FEEDING AND CUTTING HELICAL FILM RESISTORS
Paul E. Anderson, Hinsdale, and Alfred C. Kengott, Lombard, Ill., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 8, 1964, Ser. No. 336,477
10 Claims. (Cl. 51—37)



1. In an apparatus for cutting a groove in a cylindrical article:
a rotary cutting wheel mounted on one side of a predetermined axis for movement toward the axis to an operative position in engagement with one side of such an article supported in cutting position on the axis;
a pair of backup rollers mounted on the one side of the axis and biased toward the axis for engaging longitudinally spaced portions of the one side of the article;
a pair of driving rollers mounted on the other side of and in parallel relation to said axis and for movement to a first position for engaging circumferentially spaced portions of the other side of the article and cooperating with said backup rollers to support the article for rotation in the cutting position;
means for rotating said driving rollers to impart rotation to the article; and
means for moving said driving rollers from said first position to effect the disengagement of the article from said cutting wheel under the influence of said biased backup rollers.

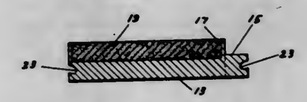
3,264,788
CYBERNETIC GRINDING
Loring Coes, Jr., Princeton, and Emmanuel Milias, Worcester, Mass., assignors to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Dec. 16, 1963, Ser. No. 330,767
10 Claims. (Cl. 51—165)

1. Apparatus for automatically increasing the efficiency of a grinding operation by a grinding wheel on a work piece, comprising:
means for determining the difference factor ΔX between the instant size of said work piece and a desired size thereof, and



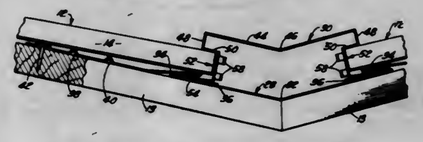
means for computing an infeed I equal to a function of ΔX, wherein I is less than ΔX.

3,264,789
HONING STONE HOLDER
Denny D. Duesenberg, Grosse Ile, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 17, 1963, Ser. No. 316,833
11 Claims. (Cl. 51—204)



11. A holder for an abrading element comprising a structure having an irrecoverably compressible base, a central body member supported by said base that is compression resistant relative to said base, and incasement means supported by said body member, said base being positioned on a first side of said body member, said body member having a first surface on a second side thereof opposite said base for receiving an abrading element, said incasement means substantially encompassing said first surface, defining an aperture opposite said base portion through which an abrading element can be admitted to said first surface, and being adapted to provide lateral support for an abrading element when said element is positioned against said first surface.

3,264,790
TWO-PIECE VALLEY FLASHING
Max D. Beals, Colton, Calif., assignor to American Metal Climax, Inc., New York, N.Y., a corporation of New York
Filed Jan. 30, 1964, Ser. No. 341,205
10 Claims. (Cl. 52—14)



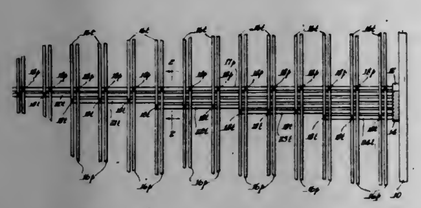
1. A valley flashing for a shingled roof valley, comprising:
an elongated lower member of sheet metal bent along its longitudinal axis to conform to the included angles of the roof valley, said lower member being firmly attached to the roof;

an upper member of substantially narrower width than said lower member and having the general configuration of an inverted channel, said upper member being disposed above said lower member and cooperating therewith to define a covered channel for carrying off water;
means attaching said upper member to said lower member;
the shingles of said roof being laid on top of the outer edges of said lower member and abutting against the sides of said upper member; and
drainage means for admitting water into the space between said upper and lower members.

ERRATUM

For Class 52—100 see:
Patent No. 3,266,051

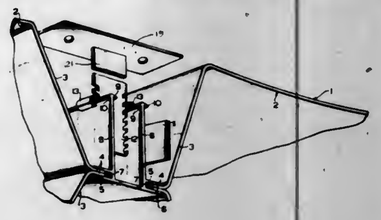
3,264,791
BUILDING FLOOR CONSTRUCTION AND UNDERFLOOR WIRING DUCT SYSTEM
James W. Hudson, Lexington, Ky., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Mar. 4, 1963, Ser. No. 262,445
4 Claims. (Cl. 52—221)



1. An underfloor wiring duct system for distributing electrical service wires from a housing, said underfloor wiring duct system comprising
(a) a plurality of parallel electrical wiring feed duct runs of different lengths connected to the housing and extending different distances therefrom at a first level,
(b) a corresponding plurality of groups of electrical wiring distribution duct runs extending transversely of said feed duct runs at a second level, each of said distribution duct runs having a plurality of access openings spaced longitudinally therealong for distributing electrical service wires to floor outlets, all the distribution duct runs of any group being spaced farther from the housing than the distance any of the distribution duct runs of a group closer to the housing is spaced from the housing, each feed duct run being connected to each distribution duct run of a respective one of said groups of distribution duct runs, and each feed duct run being connected to only those distribution duct runs of its respective group.

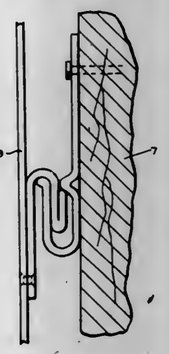
3,264,792
SUSPENSION CEILING
Hans Drazdik, Frankfurt am Main, and Ernst Jacobi, Kronberg-Schonberg, Taunus, Germany, assignors to Hans J. Zimmer Verfahrenstechnik, Frankfurt am Main, Germany
Filed Dec. 21, 1964, Ser. No. 419,702
3 Claims. (Cl. 52—508)

1. A suspension ceiling structure comprising means attachable to a support ceiling including subtending means having a plurality of downwardly inclined notches, carrier strip means having upstanding walls with flanged ends selectively engaged in said notches, clamping means securing said flanged ends into engagement with said notches, said carrier strip means being further provided with horizontally extending lateral grooves, and means comprising



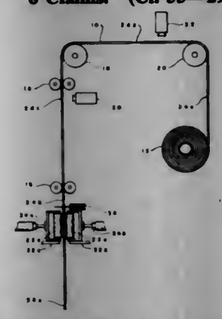
a pair of opposed trough-like members having outwardly extending flanges in face-to-face contact in said grooves to provide a suspended hollow panel unit.

3,264,793
FASTENING DEVICE FOR CLADDING PANEL
Fred W. Schlensker, North Royalton, Ohio, assignor to Ferro Corporation, a corporation of Ohio
Filed June 27, 1963, Ser. No. 291,090
7 Claims. (Cl. 52—511)



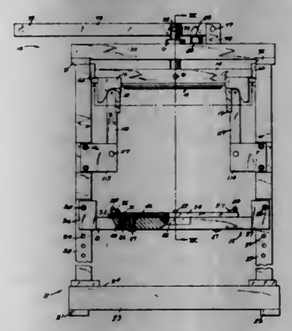
7. The combination of a substantially vertical, clad building wall consisting of cladding panels fixed in generally parallel spaced relationship with respect to the clad surface of said wall, said wall and said panels having a multiplicity of connecting means interposed therebetween consisting of primary hooks formed of resilient sheet metal having substantially flat shanks, said flat shanks having a longitudinal axis which is generally vertical, said primary hooks fixed to said wall by nailing means driven through said shanks and into said wall, the said primary hooks having return curves emanating from said shanks and terminating in respective free legs to describe generally U configurations with respect to said shanks, said primary hooks having respectively flanges on the surfaces of said shanks contiguous with the respective concave surfaces of said U's, said free legs of said primary hooks in non-contacting relationship to said wall, said free legs of said primary hooks respectively terminating in substantially straight edges, generally parallel to said flange, both said flange and said straight edges generally horizontal, secondary hooks in hooked relationship with said primary hooks, said secondary hooks composed of sheet metal having, respectively, shanks, said secondary hooks fixed to the interior surface of said panels by welding means, said secondary hooks having return curves emanating from their shanks respectively and terminating in respective free legs to describe inverted U's with respect to said primary hooks, said free legs respectively of said secondary hooks having on their respective surfaces, which are contiguous with the convex surface of said inverted U's thereof, locking lugs engaging said flanges on said primary hooks, the loop of the inverted U of said secondary hooks resting respectively in supported contact with their concave surfaces on, and carried by, said substantially straight edge of said free legs of said primary hooks, the thus engaged relationship of said locking lugs and said flange restraining vertical displacement of said panel.

3,264,794
PACKAGING APPARATUS
Wilber A. Brown, Springfield, Charles H. Fawkner, Amherst, Eugene W. Geigel, Springfield, and Chester D. Rhodes, Wilbraham, Mass., assignors to Monsanto Company, a corporation of Delaware
Filed Mar. 26, 1963, Ser. No. 267,978
8 Claims. (Cl. 53—29)



1. A method of packaging materials in plastic bags which comprises the steps of transversely sealing a continuous tube of thermoplastic film at predetermined intervals along its length, transversely severing the tubular film adjacent each seal to form a bag blank sealed at one end, clamping the blank bag across its width adjacent the open end of the bag blank, causing a projection to move parallel to and in contact with the open end of said bag blank, whereby a filling spout may enter the bag, transferring said bag blank to a filling station, filling said bag blank with materials to be packaged and closing said open end of the bag blank.

3,264,795
CONTAINER CLOSING MACHINE
Gerald C. Bauer, Portage Township, Kalamazoo County, Mich., assignor, by mesne assignments, to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Oct. 3, 1963, Ser. No. 313,571
11 Claims. (Cl. 53—128)

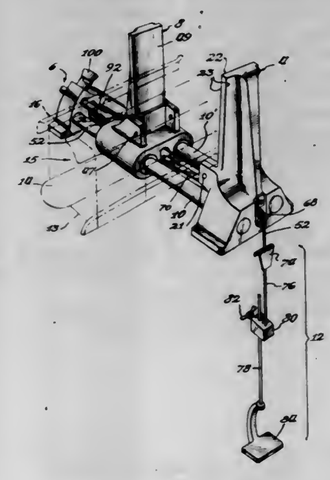


1. A machine for affixing a bail-engaging clip to the rim of a container, comprising:
a frame structure;
a platform mounted upon said frame structure for supporting a container in the clip affixing position;
jaw supporting means mounted upon said frame structure for movement toward and away from said platform;
actuating means connected to said jaw supporting means for effecting said movement thereof;
a first jaw mounted upon said jaw supporting means for movement therewith toward the rim of a container supported by said platform in said clip affixing position;
a second jaw and means supporting said second jaw upon said frame structure for lateral movement toward and away from the rim of a container, said second jaw including clip supporting means for holding a clip for engagement by said first jaw; and
cooperating means associated with said first and second jaws for effecting lateral movement of said second jaw toward the container in response to said movement of said first jaw toward said platform, whereby said clip is rigidly affixed to the rim of a container in said affixing position.

ERRATUM

For Class 53—140 see:
Patent No. 3,264,802

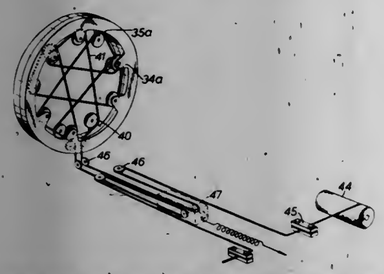
3,264,796
BAG AND BAND STRETCHER
Roman M. Tomczak, Willow Springs, and Michael J. Myles, Downers Grove, Ill., assignors to Union Carbide Corporation, a corporation of New York
Filed Mar. 6, 1963, Ser. No. 263,340
16 Claims. (Cl. 53—261)



1. In a portable packaging apparatus having stretching platens forming a projecting passage for opening flattened flexible film tubing, the combination of:
(a) a head pedestal, a passaged base portion in said head pedestal, means in said base portion for securing one end of a strut, and means on said head pedestal for mounting a stretching platen;
(b) a tail pedestal, a passaged base portion in said tail pedestal, and means in said base portion for securing one end of a strut;
(c) a rigid strut member secured to the head pedestal and to the tail pedestal, said strut member having a bearing surface intermediate said pedestals;

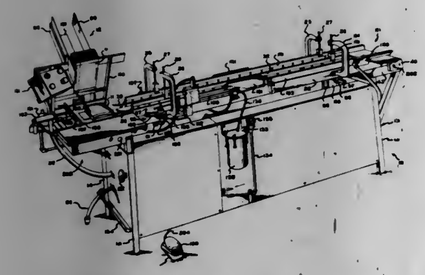
(d) a slide post moveably secured to and adapted to move on the strut member bearing surface, said slide post having a passaged base portion, and means on said slide post for mounting a stretching platen;
(e) a treadle and cooperating cable and pulley means to move the slide post on the strut bearing surface to and from the head pedestal.

3,264,797
APPARATUS FOR THE PRODUCTION OF CHRISTMAS CRACKERS
Philip Steward Powling and John William Crollie, Ilford, England, assignors to Nellsons Gaiety Limited, London, England
Filed Apr. 24, 1963, Ser. No. 275,331
15 Claims. (Cl. 53—285)



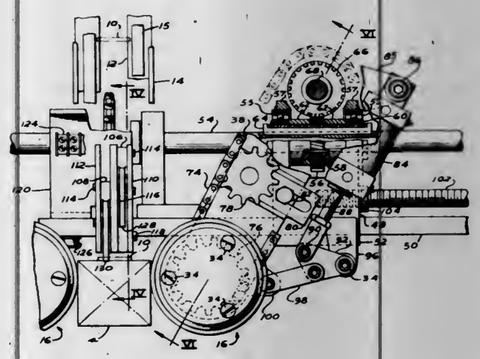
1. Apparatus for forming the waist in a cracker comprising two relatively rotatable coaxial rings, a plurality of rotatably mounted pulley members carried on each ring, a continuous cord presenting a series of spans defining a polygonal figure of a size suitable to permit the insertion therein of a cracker cylinder supported on said pulley members, each said span extending between a pulley member on one ring and a pulley member on the other ring, relative movement of said rings being effective to cause the size of said figure to be reduced, thereby creating a waist in a cracker cylinder inserted within the figure and a rotatably mounted bobbin mounted to feed said cord to said pulley members.

3,264,798
PACKAGING MACHINE
Gerald R. Hayes and Charles F. Hayes, Marshall, Mich., assignors to Hayes Machine Company, Marshall, Mich., a corporation of Michigan
Filed Nov. 19, 1962, Ser. No. 238,504
26 Claims. (Cl. 53—374)



1. A packaging machine which comprises
(a) a frame,
(b) means at one end of said frame to receive a filled carton with its flaps at both ends extending unfolded,
(c) means for forwarding said carton lengthwise of said machine.
(d) means for folding the leading flaps at each side of said carton inward and substantially flush with the end of said carton,
(e) a trailing flap tucking means which turns in said trailing flap substantially flush with the end of said carton,
(f) means carried by said packaging machine to engage said trailing flap tucking means and move it from an initial position into tucking contact with said trailing flap and disengage said trailing flap tucking means when the trailing flap has been tucked in place permitting same to return to its initial position,
(g) means to turn the top and bottom end flaps of said carton substantially flush and in final constructed position with the ends of said carton,
(h) means for discharging and applying glue from a glue applicator to the outer face of each of said first turned end flaps at their substantially final constructed position,
(i) means for turning the remaining end flaps into contact with the glue on said turned end flaps, and
(j) means for holding said end flaps in contact with each other for sealing while said carton is moved to the second end of said frame ready for delivery.

3,264,799
HEAT SEALING MEANS FOR PACKAGING MACHINES
John S. Bartlo, Longmeadow, Mass., and Volker R. Grundmann, Windsor, Conn., assignors to Package Machinery Company, East Longmeadow, Mass., a corporation of Massachusetts
Filed Sept. 9, 1963, Ser. No. 307,586
10 Claims. (Cl. 53—379)



1. In combination with a packaging machine having a folding channel for folding wrapper extensions in lapped relation against once face of articles advanced therethrough, means for advancing articles through the folding channel, heat sealing mechanism comprising a cylindrical heat sealing roller mounted in opposed relation to said one face, means for rotating said roller about an axis parallel to said one face and normal to the path of advance of the articles at a peripheral rate approximating the rate of advance of the articles, the axial length of the working cylindrical surface of the roller being less than that of the opposed one face of the articles and spaced inwardly from the ends thereof, and means for moving the roller into engagement with said one face of each article in such timed relation that the roller contacts said one face at a point adjacent to and spaced inwardly from the leading corner edge thereof and means for moving the roller out of engagement with said articles in such timed relation that the last point of engagement with said one face is adjacent to and spaced from the trailing corner edge of the articles to thereby produce a heat sealed pattern on said one face of each article which is registered in relation thereto and spaced inwardly from the four corner edges thereof.

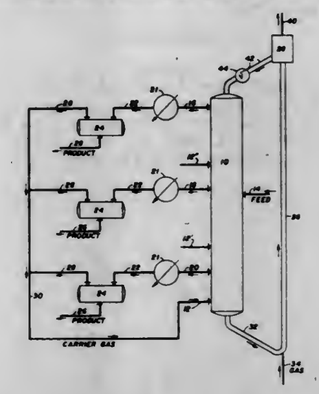
3,264,800
PROCESS OF DISCHARGING PULVERULENT MATERIALS, ESPECIALLY VERY FINE DUST, FROM CYCLONES
Georg Wittmann, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
Filed Nov. 5, 1962, Ser. No. 235,367
Claims priority, application Germany, Aug. 7, 1958, B 49,884
2 Claims. (Cl. 55—1)



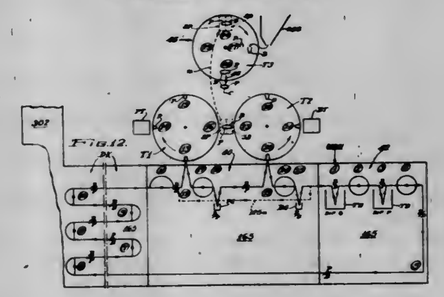
1. A process for discharging from cyclones dusty materials having a particle size of less than about 15 microns and a tendency to plug the dust outlet of the cyclone, which process comprises: supplying direct to said dusty material, only after separation thereof from the gas in said cyclone and during the discharge thereof through said dust outlet, a material which is inert to said dusty material and to said gas passing through said cyclone, said material having a grain size spectrum of from 0.5 to 50 millimeters, and discharging the collected dusty material together with said inert material through said dust outlet.

3,264,801
CHROMATOGRAPHIC APPARATUS AND PROCESS
Robert F. Buhl and Marion L. Yeagle, Crystal Lake, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Nov. 13, 1962, Ser. No. 237,046
13 Claims. (Cl. 55—67)

1. A method of continuously separating a fluid mixture containing at least three components, which comprises continuously introducing a sorptive material in a prescribed course of flow and moving said sorptive material along said prescribed course, continuously introducing a fluid mixture containing at least three components into said moving sorptive material, said sorptive material having different affinities for each of said components, continuously introducing a countercurrent stream of a carrier gas into said moving sorptive material at a point along said course downstream from the point of introduction of the fluid mixture, and withdrawing from said moving sorptive material at spaced points along said course and intermediate the points of introduction of said sorptive material and carrier gas, at least three product streams, each of said product streams comprising carrier gas and a portion of said fluid mixture consisting essentially of one of said components.



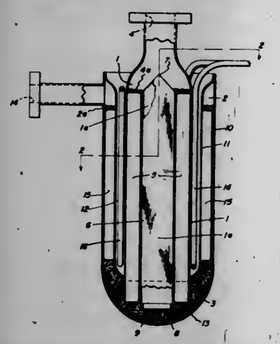
3,264,802
CAPSULE FORMING AND FILLING MACHINE
Alfred W. Kath, Grosse Pointe, Mich., assignor to R. P. Scherer Corporation, Detroit, Mich., a corporation of Michigan
Filed Jan. 20, 1964, Ser. No. 338,832
49 Claims. (Cl. 53—140)



1. In a capsule forming apparatus, a plurality of pin bars having a set of plug pins extending from one side of each bar and a set of body pins extending from the other side thereof, first and second dipping tanks for gelatin or the like, a first means for conveying pin bars across the tops of said dipping tanks, lowering the pin bars for dipping one set of pins in the first dipping tank, inverting the pin bars between said dipping tanks, lowering the pin bars for dipping the other set of pins in said second dipping tank and again inverting said pin bars, a drying kiln for the capsule bodies and plugs formed on said body and plug pins, a second means for traversing said pin bars back and forth through said drying kiln, a pair of stripping stations, one for capsule plugs and the other for capsule bodies, a third means for conveying the pin bars in a line past said stripping stations and displacing each bar at each of said stripping stations from the conveying line to a position for stripping the capsule plugs and bodies therefrom, a turret at each of said stripping stations to receive the capsule plugs and bodies stripped from said pin bars, a first inverting means between said stripping stations to invert said pin bars, a first greasing means for the first-stripped pins of said pin bars when so inverted, a second

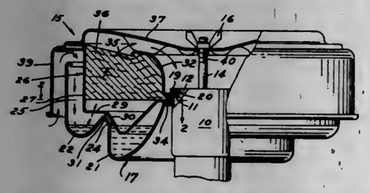
inverting means between said second stripping station and said first dipping tank to invert the pin bars, and a second greasing means for the second stripped pins of said pin bars when so inverted.

3,264,803
SORPTION VACUUM PUMP
Philip L. Read, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 21, 1963, Ser. No. 252,627
2 Claims. (Cl. 55—208)



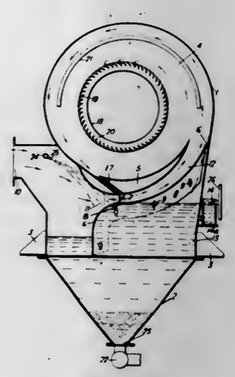
1. A sorption pumping device comprising a pair of substantially concentric, vertically coextensive, annular containers, said containers being spaced apart,
the inner wall of the inner container comprising a gas pervious member,
the outer wall of the inner container and the inner wall of the outer container being joined together at their lower ends to form a coolant receiving region between said containers,
an electric heating element positioned within said coolant region,
a gas passageway connecting the lower ends of said containers,
sorbent material positioned between the walls of each of said containers and in said passageway,
gas inlet means connected to the upper end of said inner container,
gas outlet means connected to the upper end of said outer container, whereby gas flowing between said inlet and outlet means passes through said pervious member and the sorbent material in said two containers and said passageway in series, and
valve means connected to said outlet means.

3,264,804
OIL BATH AIR CLEANER
Ralph E. Sendelbach, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed July 19, 1963, Ser. No. 296,267
4 Claims. (Cl. 55—223)



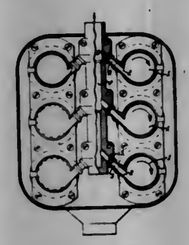
1. An oil bath type air cleaner for a down draft carburetor of the type having an annular flange for receiving the cleaner, said cleaner comprising a lower body portion formed of a sheet metal annulus having an inner flange for engagement with the annular flange of the carburetor, having an upwardly extending imperforate dividing wall forming inner and outer concentric troughs surrounding the inner flange, and having a generally vertical, upwardly extending outer peripheral wall; an upper body portion formed of a sheet metal annulus fitting within the lower body portion and having an outer peripheral wall spaced radially inwardly from and generally parallel to the peripheral wall of the lower body portion to define an air intake passage therebetween, the upper body portion having a series of spaced air passage holes above the outer trough and a series of drain holes above the inner trough of the lower body portion; fibrous filter material within the upper body portion; and a cover engaged with the upper edge of the peripheral wall of the upper body portion; the upper and lower body portions being slightly spaced to form an annular opening above the dividing wall connecting the two troughs of the lower body portion; and a series of spacers pressed from one of said body portions and engaged against the other body portion adjacent the dividing wall to determine the size of the annular opening.

3,264,805
GAS SCRUBBERS
George Benjamin Tyler, Beaconsfield, England, assignor to Buell Limited, Yorkshire, England, a company of Great Britain
Filed Oct. 31, 1963, Ser. No. 320,324
Claims priority, application Great Britain, Nov. 6, 1962, 41,949/62
6 Claims. (Cl. 55—238)



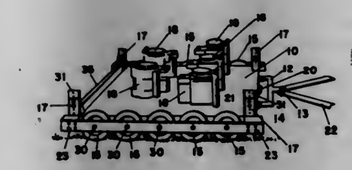
1. A gas scrubber for removing dust from gases, said scrubber comprising a casing including an upper generally cylindrical wall defining a separation chamber having a horizontal axis and a lower wall defining a reservoir below said chamber adapted to contain a body of water, discharge means positioned axially of said chamber for removal of gas from said chamber therethrough, a venturi inlet passage formed in the lower portion of said cylindrical wall and opening substantially tangentially into said separation chamber, a gas inlet in the wall of said reservoir positioned to admit dust laden gases under pressure into said venturi passage, a water inlet duct formed in the lower wall of said venturi passage at the throat portion thereof and adapted to extend into the body of water in said reservoir whereby water is drawn into the throat of said venturi by the passage of gas therethrough, and a tangential water outlet duct from said separation chamber positioned to discharge directly into said venturi passage at the throat thereof.

3,264,806
CENTRIFUGAL DUST SEPARATOR ASSEMBLY
Willy Neumann, Hohenweg 26, Wilhelmsfeld, Odenwald, Germany
Continuation of application Ser. No. 77,435, Dec. 21, 1960. This application Jan. 17, 1964, Ser. No. 338,391
Claims priority, application Germany, Dec. 22, 1959, N 17,675
3 Claims. (Cl. 55—346)



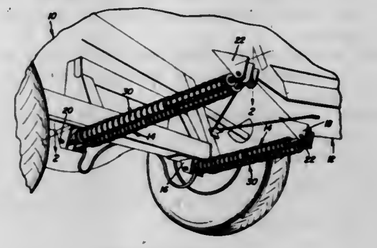
1. A centrifugal dust separator having a plurality of vortex chambers in series arrangement, each said chamber being provided with an orifice for the outflow of dust-containing fluid, said separator comprising a common dust collecting conduit for said chambers, connecting passages extending tangentially from respective chambers in communication with the orifices thereof and opening into said common conduit in series arrangement whereby fluid may flow from each chamber into the conduit wherein the fluid flows toward a common outlet, orifice plates in said passages having openings which respectively diminish in the direction of fluid flow in the conduit, said conduit having sections of stepwise increased diameter in the direction of fluid flow in the conduit wherein each stepwise increase is provided prior to the location where the respective passages open into the conduit.

3,264,807
MOWER
Clarence Wallace, 101 1st Ave., Corry, Pa.
Filed Aug. 24, 1964, Ser. No. 391,662
2 Claims. (Cl. 56—25.4)



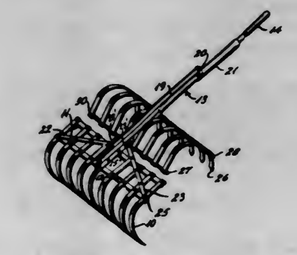
1. A mower for cutting grass and the like comprising
a rigid support platform disposed generally in a horizontal plane,
a plurality of internal combustion engines supported on said platform,
each said engine having a depending drive shaft extending through said platform,
a plurality of blades,
one of said blades being attached to a depending end of each of said drive shafts and adapted to be rotated thereby in a generally horizontal plane,
said blades defining circular paths which overlap in the intended direction of movement of said mower,
means to attach said platform to a towing vehicle,
an elongated wheel channel member at each end of said platform,
at least three ground engaging wheels in each said channel member,
and axle means attaching each said wheel to a said wheel channel member,
and means adjustably attaching said wheel channel members to each end of said platform whereby said adjusting means adjustably supports said channel members and said wheels on said platform.

3,264,808
COMBINE HEADER CONTROL
Hugh J. Hagan, Woodson, Ill.
Filed Mar. 6, 1964, Ser. No. 349,958
4 Claims. (Cl. 56—214)



1. A header control for a combine header of the type having a header mounted on a combine for vertical swinging movement and with a fluid pressure operated cylinder and piston lift unit for adjusting vertically the position of said header together with pivot connections at the opposite ends of said lift unit securing the latter to said combine and to said header; said header control comprising an auxiliary lift spring assembly, means connecting said assembly to said combine and to said header, said auxiliary lift spring assembly being adjustable and exerting an adjustable upward resilient force upon said header at least partially compensating for the weight of the header, said auxiliary lift spring assembly being disposed in parallel relation to said lift unit and mounted upon coaxial pivots.

3,264,809
RAKE AND COLLECTOR DEVICE
Avery L. Jackson, Rte. 1, Boone, N.C.
Filed Dec. 8, 1964, Ser. No. 416,757
7 Claims. (Cl. 56—400.12)



1. A combination rake and collector device for use with leaves, trash or the like comprising,
an elongated handle,
a rake head having bar means fixedly mounting said rake head on one end of said handle to extend symmetrically at right angles thereto,

said rake head including a set of substantially parallel and generally arcuately curved tines fixedly mounted at their upper end portions on said bar means so as to extend outwardly at one side of said handle and in facing relation toward the opposite end of the latter,

said handle including aperture means therein rotatably mounting a bar at right angles thereto and generally parallel to and adjacent said bar means,

brace means secured to and rigidifying said first set of tines,

said brace means including portions adjacent said handle providing additional bearing support for said rotatably mounted bar,

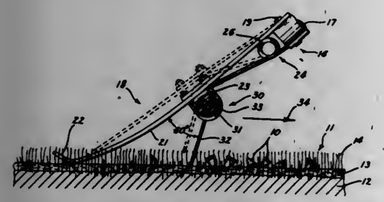
a second set of substantially parallel and generally arcuately curved tines fixedly secured on said rotatably mounted bar to rotate therewith at said one side of said handle through an angle of approximately 90 degrees,

said second set of tines being of greater length and of a greater radius of curvature than said first set of tines,

means for rotating said second set of bar-mounted tines downwardly into a generally parallel and cooperative caging position abreast of said first set of tines,

and spring means normally yieldably positioning said second set of tines upwardly to an inoperative position adjacent said handle.

3,264,810
LAWN IMPLEMENT
Rudolph L. Lowell, 710 Savings & Loan Bldg., Des Moines, Iowa
Filed Nov. 26, 1963, Ser. No. 325,861
10 Claims. (Cl. 56—400.16)



1. An implement for gathering together acorns resting on a ground surface comprising:

(a) a handle member having at least one end section,

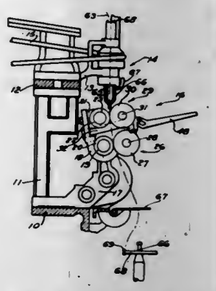
(b) a plurality of flexible spring teeth positioned in a relative side-by-side relationship longitudinally of said handle means, said teeth having midsections and opposite end sections,

(c) means attaching one of the end sections of said spring teeth to said end section of the handle member, and

(d) a comb unit secured to the midsections of certain of said teeth, said comb unit having a plurality of rigid teeth spaced transversely of said spring teeth and inclined toward the other one of the end sections of said flexible spring teeth.

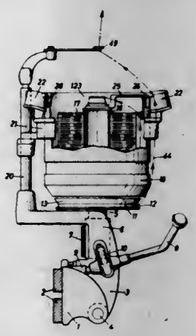
3,264,811
SPINDLE DRAFTING APPARATUS FOR TEXTILE FIBERS
Harold T. Heathcote, Pawtucket, R.I.
(Rte. 102 and Central Pike, North Scituate, R.I.)
Filed May 27, 1964, Ser. No. 370,531
4 Claims. (Cl. 57—51)

1. In the process of spinning textile fibers, advancing a roving from a card condenser supply source, leveling and elongating by means of a jerking action on the roving between two pairs of rolls while putting into the roving a false twist followed without packaging by a



much increased drafting between the more advanced of said pair of rolls and a further advanced pair of delivery rolls and then packaging the yarn.

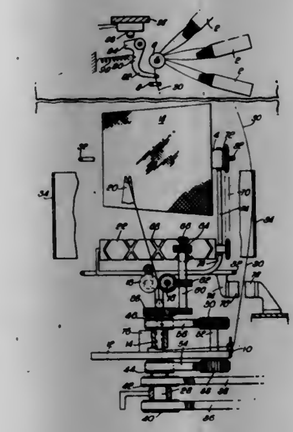
3,264,812
APPARATUS FOR TWISTING YARN
Frederick Scragg, Mobberley, England, assignor to Ernest Scragg & Sons Limited, Macclesfield, England
Filed July 25, 1963, Ser. No. 297,570
Claims priority, application Great Britain, May 9, 1962, 17,784/62; July 26, 1962, 28,709/62
9 Claims. (Cl. 57—58.76)

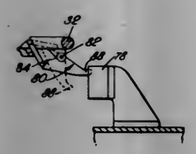


6. A two-for-one textile spindle assembly, comprising, in combination, a stationary framework; an outer balloon-controlling ring carried by said framework; a supply bobbin carriage substantially coaxial with said outer ring; an inner balloon-controlling ring carried by said carriage, said rings being located at least at an elevation as high as the position of maximum free balloon diameter; a pair of magnets mounted on said outer ring; and a pair of armatures mounted on said inner ring and cooperating with said magnets for restricting and stabilizing bobbin-carriage movement.

3,264,813
TWO-FOR-ONE TWISTING OR SPINNING MACHINE
John K. P. Mackie, Belfast, Northern Ireland, assignor to James Mackie & Sons Limited, Belfast, Northern Ireland
Filed Sept. 21, 1964, Ser. No. 397,953
Claims priority, application Great Britain, July 3, 1962, 25,464/62; Sept. 26, 1963, 37,975/63
8 Claims. (Cl. 57—58.76)

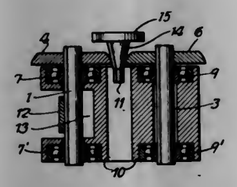
1. A two-for-one twisting or spinning machine comprising a machine frame, a yarn take-up package spindle, a bracket to support said spindle, a flyer at one end of said spindle to cause the material being worked on to form a balloon which is rotated around the bracket in a path between said bracket and the machine frame, a magnet carried by said bracket, a member for magnetic cooperation with said magnet said member being carried by the machine frame, a movable safety member carried on a horizontal pivot on the machine frame adjacent said bracket and remote from the cooperating member, said





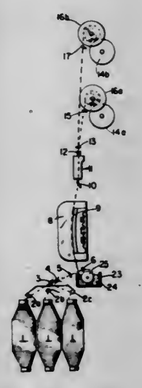
safety member being arranged, on rotation of the bracket in either direction, to be attracted by said magnet to move to an operative position in which it lies across the balloon path to stop the bracket rotating and to sever the material in the balloon, and a latch device positively to hold the movable safety member in the operative position.

3,264,814
FRICTION GEAR
Heinz Kuster, Lichtensteig, and Armin Graf, Bronshofen, Switzerland, assignors to Heberlein Patent Corporation, New York, N.Y., a corporation of New York
Filed Feb. 14, 1962, Ser. No. 173,263
Claims priority, application Switzerland, Feb. 23, 1961, 2,187/61
9 Claims. (Cl. 57—77.45)



1. A friction gear assembly comprising at least three rollers, at least one of which is driven, a rotor having the mass thereof distributed substantially towards its outer periphery, and said rotor being positioned to be rotatably driven and radially supported at a single location along its length, such drive and support being provided by frictional engagement of the rotor with the peripheral edge of each of said rollers distributed about and contacting said rotor in a single plane lying perpendicular to the axis of rotational drive produced by said rollers.

3,264,815
PROCESS OF TEXTURIZING DYED THERMOPLASTIC YARNS
Edmund Pickup and John E. Clark, Charlotte, N.C., assignors to Standard Chemical Products, Inc., Hoboken, N.J., a corporation of New Jersey
Filed Nov. 27, 1964, Ser. No. 415,860
11 Claims. (Cl. 57—157)

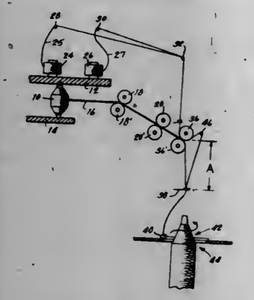


2. The process of bulking dyed thermoplastic yarn which comprises the steps of incorporating on said dyed thermoplastic yarn from about 0.1% to about 8% of a water-soluble resinous hardenable condensation product containing epoxide and halogen groups as an antistatic agent, continually twisting the dyed thermoplastic yarn containing said antistatic agent incorporated thereon, continually passing the yarn at a selected linear speed under uniform tension through a restricted thermally isolated heated zone to uniformly heat the yarn to a prescribed temperature to reorient the molecules of the yarn to the twisted formation of the yarn and yarn-set the same, continually cooling the yarn to stabilize the same, continually untwisting the yarn after cooling the same, and continually collecting the evenly and substantially permanently crimped, wavy or fluffed dyed thermoplastic yarn having from about 0.1% to about 8% of said antistatic agent incorporated thereon.

3,264,816
PROCESS FOR PRODUCING COMPOSITE YARN STRUCTURE
Markus Jäggi, Wattwil, Switzerland, assignor to Heberlein Patent Corporation, New York, N.Y., a corporation of New York
Filed June 21, 1963, Ser. No. 289,475
Claims priority, application Switzerland, July 2, 1962, 7,925/62
7 Claims. (Cl. 57—160)

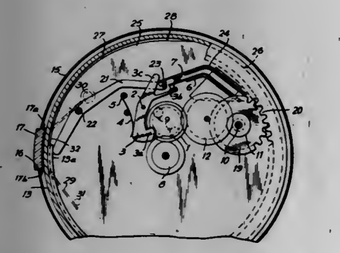
1. A process for producing composite yarns containing staple fibers and continuous crimped synthetic filaments, said process comprising the steps of, withdrawing a roving of staple fibers from a first spool by means of a first pair of rollers driven at a first peripheral velocity, stretching the roving so withdrawn by means of another pair of rollers driven at a second peripheral velocity higher than said first peripheral velocity, withdrawing two

crimped synthetic filament yarns from separate second and third spools and passing said filament yarns through said other pair of rollers, passing said roving through said other pair of rollers in contact with one of said synthetic filament yarns, guiding the second synthetic filament yarn



into adjacent relationship with said roving and said one filament yarn at a first point beyond said other pair of rollers, and continuously plying said roving and one said synthetic filament yarn with the second synthetic filament yarn at a second point beyond said first point.

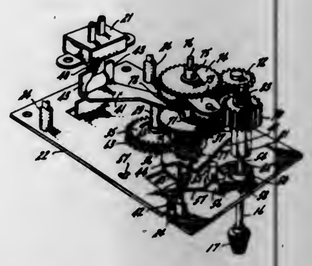
3,264,817
CLOCK WITH RELEASE MECHANISM
Maurice Beguin, La Chaux-de-Fonds, Switzerland, assignor to Le Portescap S.A., La Chaux-de-Fonds, Switzerland
Filed Apr. 6, 1965, Ser. No. 446,045
Claims priority, application Switzerland, Apr. 10, 1964, 4,766/64
12 Claims. (Cl. 58—21.15)



1. A clock having a casing, a time keeping and indicating movement, a signal-producing means, a tripping mechanism driven by said movement for actuating said signal-producing means at a predetermined time, a stopping mechanism for interrupting the signal of said signal-producing means when it is actuated, a window in said casing, a time-display means visible through said window synchronized to display said predetermined time therethrough and operably connected to said stopping mechanism, and a transparent button movably mounted in said window engaging said time-display means, whereby the signal can be interrupted by movement of said button.

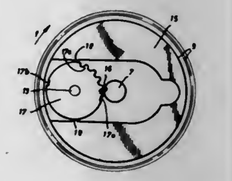
3,264,818
FRONT SET MECHANISM
David Morrison and Ralph C. Robinson, Athens, Ga., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 27, 1964, Ser. No. 340,413
9 Claims. (Cl. 58—22.5)

1. A switch controlling timer comprising, in combination, a settable timing train, a shiftable switch operating member having ON, OFF and AUTO positions, a settable alarm mechanism cooperable with said timing train and said member, and a manually operable control shaft for



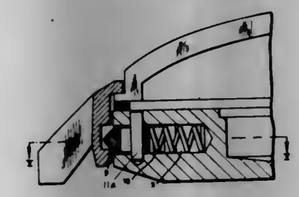
selectively setting said timing train, setting said alarm mechanism and shifting said member between ON, OFF and AUTO position.

3,264,819
OVERWIND PREVENTION DEVICE FOR A SELF-WINDING WATCH
Marcel Konrad, 30 Rue du Moulin, Moutier, Switzerland
Filed Apr. 15, 1963, Ser. No. 272,929
Claims priority, application Switzerland, Apr. 19, 1962, 4,793/62; Aug. 24, 1962, 10,095/62
2 Claims. (Cl. 58—83)



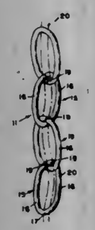
1. In a watch comprising a barrel drum, a barrel spindle coaxial with the drum, a main spring interconnecting the spindle with the drum and a rocking winding weight, a device for coupling and uncoupling said weight and said spring comprising an outer wheel actuated by the rocking weight, revolvably carried by the barrel spindle and provided with a coaxial circular recess, a ratchet wheel coaxially rigid with the barrel spindle and the rotation of which winds the main spring, a spindle eccentrically carried by the ratchet wheel and facing the recess in the outer wheel, an inner wheel revolvably carried by said eccentric spindle, housed inside the recess in the outer wheel and provided with a series of teeth on at least a portion of its outer periphery, a radial projection rigid with the said barrel spindle and adapted to mesh with last-mentioned teeth to be driven thereby to wind the spring in a direction starting from an unwound towards a fully wound position, an elastic U-shaped member fitted inside the recess in the outer wheel and including two arms the outer periphery of at least one of which is adapted to engage frictionally when expanded the outer surface of the recess in the outer wheel and the inner peripheries of said arms engaging the inner wheel to be urged apart thereby and to urge said arms into engagement with said outer surface of the recess, and cooperating means on the inner wheel and inner peripheries of the arms of the U-shaped member adapted to ensure a receding movement of said arms when the inner wheel has reached an angular position corresponding to the end of the allowed spring winding operation, the inner wheel being thereafter returned to its former position by the unwinding of the spring.

3,264,820
SHAPED WATERTIGHT WATCH CASE FASTENING MEANS
Ervin Piquerez, Bassecourt, Berne, Switzerland
Filed June 18, 1964, Ser. No. 376,092
Claims priority, application Switzerland, June 18, 1963, 7,545/63, 7,546/63; June 19, 1963, 7,611/63; Nov. 15, 1963, 14,031/63
7 Claims. (Cl. 58—90)



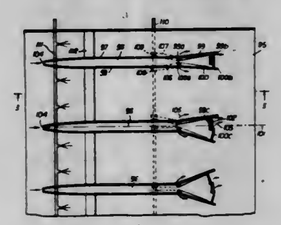
1. In combination in a fluidtight watch case: a watch case bottom having at least one radially outwardly directed slot; a caseband having a rim facing said bottom and at least one recess facing said slot in said bottom; a glass fitted between said rim and said bottom; a locking member slidably mounted in said slot of said bottom and having a sloping end surface, said sloping end surface and a peripheral portion of said recess being in tangential relationship relative to each other and said sloping end surface being positioned to enter said recess and to make tangential contact with said peripheral portion of said recess; resilient means in said slot for urging said locking member outwardly to a locking position extending into said recess of said caseband, in which locking position said sloping end surface makes tangential contact with said peripheral portion of said recess thereby producing an axially directed force component which clamps the glass between said bottom and said caseband rim; said sloping end surface of said locking member and said recess being so dimensioned as to provide a clearance therebetween at least between the upper part of said surface and said recess when said member is in said locking position, said clearance together with said tangential relationship permitting a varying depth of engagement between said sloping end surface and said recess; and stop means for preventing said locking member from being projected outwardly when said bottom is separated from said caseband.

3,264,821
CHAIN FOR LAMPS AND THE LIKE
Thomas Rosenberg, Mount Vernon, N.Y., assignor to Eastern Chain Works, Inc., New York, N.Y.
Filed Apr. 3, 1964, Ser. No. 357,116
3 Claims. (Cl. 59—78.1)



1. In a chain for lamps, chandeliers and the like, a plurality of links interconnected together, each of said links including spaced apart side portions and diametrically opposed arcuate end portions, there being a cut in one of the end portions of the links, and said cut being offset from the center of the said one arcuate end portion, whereby there is provided contiguous plane surfaces adjacent the cuts, the cuts being substantially parallel to the longitudinal axes of the side portions of the links.

3,264,822
NOZZLES FOR DISCHARGE OF COMPRESSIBLE FLUID
Raymond John Lane and Terence Roy Denis Foote, Bristol, England, assignors to Bristol Siddeley Engines Limited, Bristol, England, a British company
Filed Nov. 21, 1963, Ser. No. 325,420
Claims priority, application Great Britain, Nov. 26, 1962, 40,605/62
14 Claims. (Cl. 60—35.6)

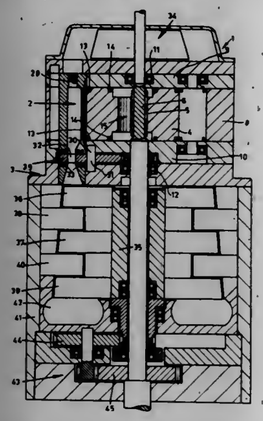


1. A nozzle for the discharge of a compressible fluid into an ambient atmosphere, comprising an outer wall enclosing a duct with an open discharge end, and at least one vane which projects into the duct from the outer wall; each vane having two flanks each terminating downstream at a trailing edge spaced upstream from the open discharge end of the duct, and a base wall lying between the two trailing edges and facing in the downstream direction; the trailing edges being on members which are movable relatively to one another to vary the distance apart of the trailing edges, and the base wall including expandable and contractible means operable in coordination with the relative movement of the members for substantially closing the space between the trailing edges and the vanes; the system having a static pressure higher than ambient atmospheric pressure.

3,264,823
ROTARY FLUID DELIVERING MACHINE
René Linder, Via Baranzate 49D, Novate Milanese, Italy
Filed Oct. 23, 1964, Ser. No. 405,958
Claims priority, application Switzerland, Oct. 25, 1963, 13,065/63
2 Claims. (Cl. 60—39.38)

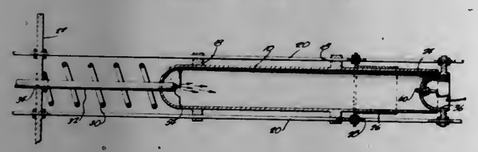
1. An engine comprising a compressor casing forming a combustion chamber, a rotary piston revolvably carried in said combustoin chamber, including an elongated body the cross-section of which terminates with symmetrical semicircular ends and provided at its center with an inwardly toothed cylindrical recess extending perpendicularly to the plane of rotation of the piston, the inner wall of the casing surrounding the piston and forming three arcuate radial recesses lying at 120° from each other and the diameters of which match those of the semicircular ends of the cross-section of the piston body, said casing recesses being interconnected by short intermediate convex part cylindrical surfaces, the distance between the central point of the convex surface separating any two adjacent casing recesses from the medial generating line of the last recess being substantially equal to the length of the cross-section of the piston between the medial points of its semicircular ends, a shaft projecting into said casing and into the toothed recess of the piston, a toothed wheel eccentrically secured to said shaft and meshing with the teeth of said toothed recess to make the piston ro-

tate while holding it constantly in contact with said cylindrical surfaces, and to close simultaneously at least two of the radial recesses in the casing, means feeding a combustible mixture into each radial recess upon closing thereof to ensure its subsequent compression, an explosion chamber extending outside and communicating with each radial recess of the casing, automatically operating first



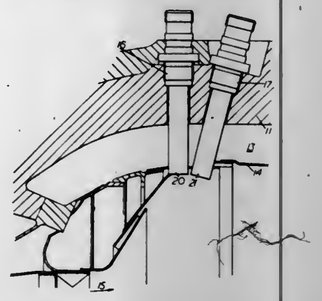
valves controlling the connection between each explosion chamber and the corresponding radial recess to fill the explosion chamber with the combustible mixture from said recess, second valves adapted to operate in alternation with the corresponding first valves, and a turbine into which said second valves open to feed said turbine with the burnt gases produced by the explosions.

3,264,824
PULSE JET REACTION MOTOR HAVING INTERMITTENT COMBUSTION
Warren J. Bost, P.O. Box 661, Goldsboro, N.C.
Filed Oct. 16, 1964, Ser. No. 404,343
7 Claims. (Cl. 60—39.78)



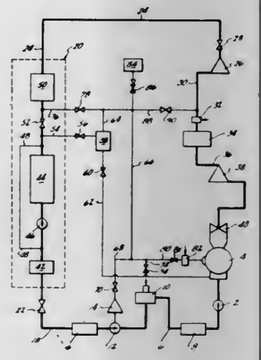
1. A pulse jet engine comprising an elongated combustion chamber having its forward end closed and terminating in a domed shape cap, the rear end of the combustion chamber having a spring loaded closure for such chamber, igniting means mounted in said chamber proximate the rear end thereof, said igniting means initiating combustion near the rear end of said chamber and having a traveling wall of combustion proceeding along the length of the combustion chamber in a forward direction, said wall for compressing and increasing the pressure and the gases in the forward end of the combustion chamber, said combustion chamber being sufficient in length to cause a low pressure swell in pressure of the combustion chamber to cause the spring loaded closure to close and restart the cycle as long as the combustion chamber is fed with combustible material, at least two guide rods each attached at one end to said closure member, a pair of spaced rod holders slidably receiving each rod and mounted in longitudinally spaced relation on said combustion chamber for guiding said closure member in a reciprocating path to open and close said combustion chamber.

3,264,825
GAS TURBINE JET PROPULSION ENGINE IGNITER
Gordon Allan Halls and Leslie Barnes, both of Littleover, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed Sept. 1, 1965, Ser. No. 491,476
6 Claims. (Cl. 60—39.82)



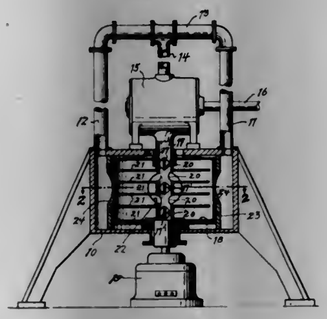
1. In a gas turbine jet propulsion engine, a combustion chamber having two closely adjacent surface discharge spark igniters which individually could not produce light-up at a predetermined altitude, and means for simultaneously firing the two spark igniters to produce combustion zones which combine and can produce light-up at said predetermined altitude, said means being capable of firing the spark igniters individually to produce light-up at altitudes less than said predetermined altitude.

3,264,826
METHOD OF PEAKING A POWER PLANT SYSTEM
Robert A. Kane, Hazardville, and Edward L. Kochey, Jr., Colebrook, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Aug. 8, 1963, Ser. No. 300,766
7 Claims. (Cl. 60—73)



1. A vapor plant system comprising in combination a main high-temperature high-pressure vapor generator, having first and second heating surfaces, and a valve for stopping flow of vapor from said first to said second heating surfaces, a flash tank, piping associated with said flash tank comprising, valved means connecting said first heating surface to said flash tank, valved means connecting said flash tank to said second heating surface, an auxiliary boiler the operating pressure of which is substantially lower than said main steam generator, having means connecting to said flash tank; a first turbine portion receiving vapor produced in said main vapor generator, reheater means receiving the exhaust from said first turbine portion, a second turbine portion receiving vapor from said reheat means; valved means for conveying vapor from said piping associated with said flash tank, and introducing it into the exhaust vapor from said first turbine portion, for conveyance to and through said second turbine portion.

3,264,827
HYDRO-CENTRIFUGAL POWER UNIT
Fred M. Siptrott, 3011 Hardies Lane, Santa Rosa, Calif.
Filed Mar. 15, 1965, Ser. No. 439,903
2 Claims. (Cl. 60—54)

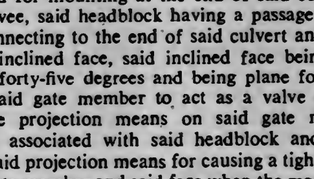


1. In a hydro-centrifugal power unit with a rotating liquid mass, the combination of a vertically disposed rotatable prime mover compartment adapted and arranged to contain a liquid mass having oppositely disposed ports through which said liquid mass will be discharged by centrifugal force when said prime mover compartment is rotated about its vertical axis, means for rotating said compartment about said vertical axis, an outer surrounding and stationary cylindrical liquid confining partition having ports aligned with and comparable in size to the ports of said rotatable prime mover compartment, a plurality of horizontally disposed discs arranged in vertically spaced relation within said rotatable prime mover compartment, a vertically extending hollow shaft forming a support for said discs and having staggered ports communicating with spaces between said discs, means forming an outer chamber for the reception of water discharge from said prime mover compartment, a plurality of upstanding penstocks through which portions of the liquid mass discharged into said outer stationary cylindrical liquid confining partition will pass to a single downwardly extending conduit, and operate a fluid turbine having a power output shaft connected to and driven by fluid flowing through said downwardly extending conduit, whereby said liquid mass will be caused to circulate through said turbine in a continuous manner and drive said power output shaft.

3,264,828
DRAINAGE LINE CONSTRUCTION
Eddie D. Harpold, Huntington Beach, Calif., assignor to La Bolsa Tile Co., Huntington Beach, Calif., a corporation of California
Filed Oct. 19, 1962, Ser. No. 231,633
1 Claim. (Cl. 61—11)

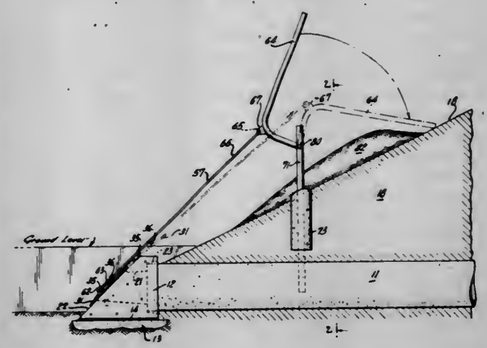
In a sectional underground conduit having joints through which water may percolate between the interior and the exterior of the conduit, the combination of:

(a) conduit sections in spaced end-to-end relation;
(b) compressible annular filter gaskets of inert fibrous material respectively disposed between the adjacent ends of adjacent ones of said conduit sections;
(c) the axial spacings of said adjacent conduit-section ends being less than the initial axial dimensions of said filter gaskets when uncompressed, so that said filter gaskets are axially compressed between said adjacent conduit-section ends;
(d) the degree of axial compression of said filter gaskets being insufficient to prevent percolation of water therethrough; and



(e) the inside and outside diameters of said filter gaskets respectively being substantially equal to the inside and outside diameters of said conduit sections, the inner and outer surfaces of said gaskets extending in substantially flush relation to the corresponding surfaces of said conduit sections.

3,264,829
FLOOD GATE
Frank P. Broussard, Port Arthur, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 12, 1963, Ser. No. 264,629
3 Claims. (Cl. 61—28)

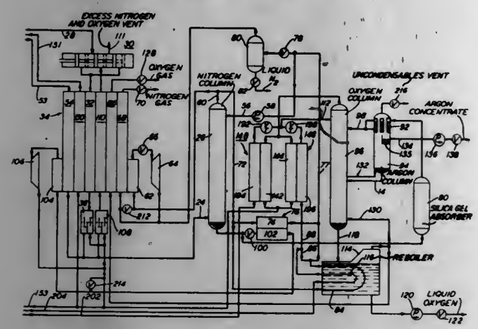


1. A flood gate for use in a tank farm levee having a culvert therethrough, comprising in combination a gate member having a plane face on one side thereof, a moulded headblock for cooperating with said gate member and adapted for mounting at the end of said culvert through said levee, said headblock having a passage therethrough for connecting to the end of said culvert and terminating at an inclined face, said inclined face being inclined at about forty-five degrees and being plane for cooperating with said gate member to act as a valve seat therefor, arcuate projection means on said gate member, cam means associated with said headblock and cooperating with said projection means for causing a tight seal between said gate member and said face when the member is seated thereon, and operating mechanism for actuating said gate member, said operating mechanism comprising a rod, lever means for actuating said rod in longitudinal translation, and lost motion means for coupling said rod to said gate member to apply jarring force in opening or closing the flood gate valve, said lost motion means comprising a lug on said gate member having a hole therethrough receiving said rod therein, and stop means spaced apart on said rod for contacting said lug to apply said jarring force.

ERRATUM

For Class 61—53.72 see:
Patent No. 3,264,834

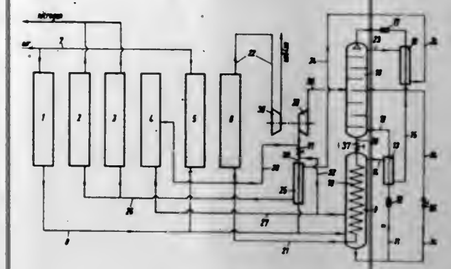
3,264,830
SEPARATION OF THE ELEMENTS OF AIR
Donald E. Smith, Summit, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 9, 1963, Ser. No. 301,143
2 Claims. (Cl. 62—39)



1. In an air separation system designed for proportioning its product output as between nitrogen and oxygen according to varying demand from time to time, in combination, a relatively high pressure nitrogen column for producing relatively high purity nitrogen and an oxygen-rich liquid, a relatively low pressure oxygen column for producing high purity oxygen from said oxygen-rich liquid; means to economically dispose of excess oxygen during intervals of relatively high demand for nitrogen product output, said means comprising, means to divert and evaporate a part of the said oxygen-rich liquid by heat exchange with a warmer process stream that is on its way from said high pressure nitrogen column to serve as reflux in said nitrogen column, thereby salvaging refrigeration from said oxygen-rich liquid, work expansion means for salvaging pressure energy from said evaporated portion of oxygen-rich liquid, means to vent to the atmosphere the work-expanded oxygen-rich material from said work expansion means, whereby the venting of partially processed oxygen-rich material to the atmosphere is substituted for the venting of more fully processed high purity oxygen, means to derive an argon concentrate from said oxygen column, nitrogen cycle means for refluxing said oxygen column and for furnishing refrigeration for both said columns, means determining a path in said cycle means whereby there is continual recirculation of material in said path, and means for heat exchanging the said recirculating material in said path with incoming air that is on its way to said nitrogen column for processing into component gases, thereby aiding in refrigerating said incoming air, the said recirculating material serving to provide reflux for said oxygen column in desired quantity and quality substantially irrespective of material withdrawal of nitrogen product from the system to maintain a desired condition for producing said argon concentrate.

3,264,831
METHOD AND APPARATUS FOR THE SEPARATION OF GAS MIXTURES
Fritz Jakob, Achmuhle, near Wolfratshausen, Germany, assignor to Linde Aktiengesellschaft, Wiesbaden, Germany
Filed Jan. 12, 1962, Ser. No. 165,789
8 Claims. (Cl. 62—13)

1. A method of separating a gas mixture by two stage low-temperature rectification to produce a higher boiling point main product and a lower boiling point residual product, and comprising the steps of partially condensing in the first stage at decreasing temperatures the gas mixture to be separated at a pressure of about 2.5 to 4 atmospheres absolute to rectify the gas mixture therein and to produce a liquid intermediate product and a residual gaseous mixture, expanding the liquid intermediate product to a pressure in the range of about 1.2 atmospheres absolute to 2.0 atmospheres absolute, counterflowing the expanded liquid intermediate product and the residual gaseous mixture in heat exchange relationship to each other to evaporate the liquid intermediate product and to liquefy the residual gaseous mixture, withdrawing the lower boiling point residual product in the gaseous state from the upper part of the second stage, counterflowing the lower boiling

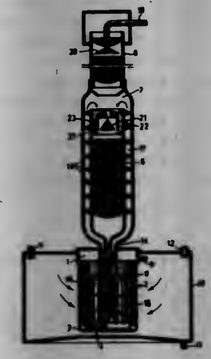


point residual product and the liquefied residual gaseous mixture in heat exchange relationship to subcool the liquefied residual gaseous mixture, expanding the liquefied residual gaseous mixture, introducing the expanded liquefied residual gaseous mixture into the second stage as a refluxing agent, rectifying the gaseous intermediate product introduced into the bottom portion of the second stage to obtain the liquid main product in the lower part thereof, discharging the liquefied main product from the lower part of the second stage and expanding the same to a pressure in the range of about 0.2 atmospheres absolute to 1.2 atmospheres absolute, counterflowing in the first stage the liquid main product and the gas mixture to be separated to evaporate the main product and for partially condensing the gas mixture, and withdrawing the evaporated main product from the first stage and heating the same.

3,264,832
GAS-FRACTIONATING COLUMN WITH A GAUZE FILTER
Johannes van der Ster and Aldert Teunis Bloem, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 17, 1964, Ser. No. 340,118
Claims priority, application Netherlands, Jan. 24, 1963, 288,162
6 Claims. (Cl. 62—14)

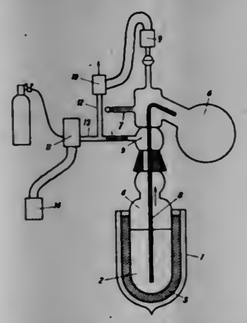
1. A gas fractionating apparatus for a gas mixture including hydrocarbons and nitrous vapors comprising a fractionating column separated into an upper and lower part, a first cooler for said gas mixture, a second cooler including an annular duct surrounding at least the lower part of said column, a plurality of spaced gauze members in said annular duct having said gas mixture passing therethrough, a cooling liquid container within the lower part of said column wall for supplying cold through the adjacent column wall to at least one of the gauze members last contacted by said gas mixture before entry into said fractionating column, said liquid container being provided with at least one opening through which part of said liquid collected in said container can leave the same and

enter said column, said gauze member last contacted by said gas mixture before entry into the fractionating col-



umn being capable of freezing out acetylene and other lightweight substances.

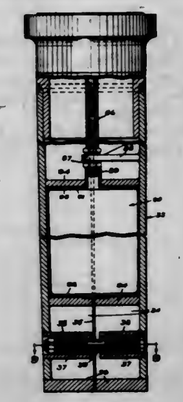
3,264,833
STORING AND DISPENSING OZONE
Francis Mahieux, Genevilliers, France, assignor to L'Air Liquide, Societe Anonyme pour l'Etude et l'Exploitation des Procedes Georges Claude
Filed Sept. 14, 1964, Ser. No. 396,163
Claims priority, application France, Sept. 23, 1963, 948,347, Patent 1,246,273
7 Claims. (Cl. 62—52)



1. A method of storing and dispensing ozone, comprising establishing in a container a body of a solution of ozone in a liquid fluorinated hydrocarbon at low temperature, increasing the pressure of the body of solution by injecting a gas into the container thereby to force a portion of the solution from the container, and totally vaporizing said portion thereby to obtain a vapor having substantially the same composition as said solution.

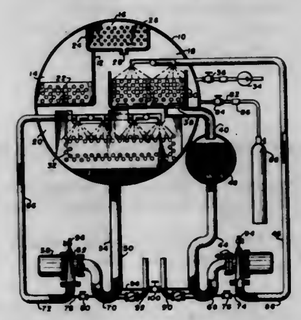
3,264,834
EXPANSIBLE MANDREL
Charles L. Guild, Rumford, R.I., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Mar. 28, 1963, Ser. No. 268,649
14 Claims. (Cl. 61—53.72)

1. An expansible mandrel for insertion into and for driving an earth entering form for a cast-in-place pile, said mandrel comprising a tubular member whose cross sectional dimensions are such that it is a free but close fit in said form, the form-entering end of said tubular member including spaced arcuate sections defining longitudinally extending, open-ended slots; resilient means interconnecting said sections adjacent said end and drawing them inwardly to materially reduce the cross sectional area of said end to facilitate entry of said tubular member in said form; annular, expansible fluid pressure operated means within said tubular member peripherally engaging the interior surfaces of said sections in a circumferential zone where they are inclined inwardly by



said resilient means but above said resilient means; and fluid pressure delivery means extending lengthwise of the interior of said tubular member and in communication with and operable to so expand said expansible means as to force said sections outwardly into tight driving engagement with the interior of said form.

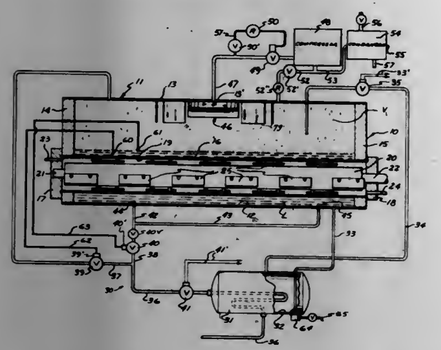
3,264,835
METHOD OF AND APPARATUS FOR REMOVING PARTS OF A REFRIGERATING SYSTEM
John L M. Holman, Medary Township, La Crosse County, and James M. Porter, La Crosse, Wis., assignors to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Aug. 21, 1964, Ser. No. 391,168
19 Claims. (Cl. 62—101)



1. A method of removing a pump motor from an absorption refrigeration system of the character having a closed vessel normally maintained at subatmospheric pressure and normally partially filled with a liquid, a fluid circuit means for conducting liquid from a portion of the vessel to a higher portion of the vessel, a pump disposed in the fluid circuit means at a level below the vessel, and a motor drivingly coupled to the pump and having at least a portion thereof in fluid communication with the liquid in the fluid circuit means, comprising the steps of: providing said fluid circuit means with a liquid trap means disposed below said vessel; providing said vessel with a source of inert gas; charging said vessel with sufficient gas from said source that the sum of the total gas pressure

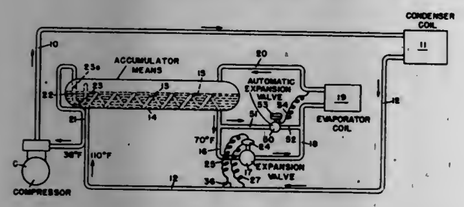
within said vessel and the hydrostatic pressure, in said fluid circuit means at a level below said vessel above said trap, substantially equals atmospheric pressure; and disconnecting and removing said portion of said motor from said refrigeration system.

3,264,836
REFRIGERATION SYSTEM AND METHOD
Bruce D. Miller, Winter Park, Fla., Albert L. Thornton, Louisville, Ky., and George W. Reigel, Clarksville, Ind., assignors to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 4, 1964, Ser. No. 349,386
11 Claims. (Cl. 62—115)



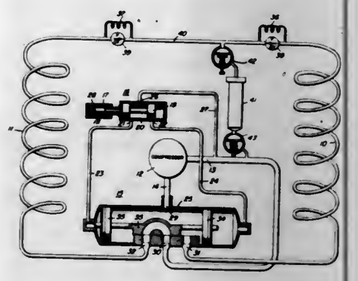
10. Method of refrigeration, comprising the steps of: providing a chamber for refrigerant around a heat transfer member, providing vaporizable liquid refrigerant in the refrigerant chamber to a level above the heat transfer member, and directing vaporizable liquid refrigerant under pressure into the refrigerant liquid in the refrigerant chamber and toward the periphery of the heat transfer member, the discharged refrigerant partly vaporizing upon contact with the heat exchange member so that vapor and refrigerant liquid skim across a portion of the periphery of the heat transfer member and effect movement of the refrigerant in the refrigerant chamber around the heat transfer member.

3,264,837
REFRIGERATION SYSTEM WITH ACCUMULATOR MEANS
James R. Harnish, Staunton, Va., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 9, 1965, Ser. No. 447,008
28 Claims. (Cl. 62—117)



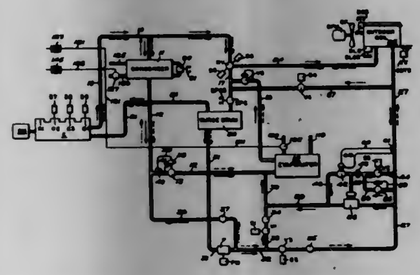
1. The method of operating a refrigeration system containing a compressor, a condenser, a heat exchange coil, an expansion valve, an evaporator, and suction line accumulator means connected in series in the order named, which comprises overcharging said system with refrigerant so that there is more refrigerant than is necessary to satisfy the requirements of said condenser and evaporator, and that there is always a quantity of refrigerant liquid within said accumulator means; continuously evaporating liquid within said accumulator means with heat from the high pressure liquid flowing through said coil, and adjusting said expansion valve at all loads on said evaporator to continuously overfeed said evaporator with refrigerant liquid at such a rate that unevaporated liquid flows continuously from said evaporator into said accumulator means at substantially the rate at which liquid is evaporated within said accumulator means.

3,264,838
HEAT PUMP AND CHARGE MODULATING MEANS
Sterling C. Johnson, 1841 S. 13th St., Abilene, Tex.
Filed July 26, 1965, Ser. No. 474,831
3 Claims. (Cl. 62—149)



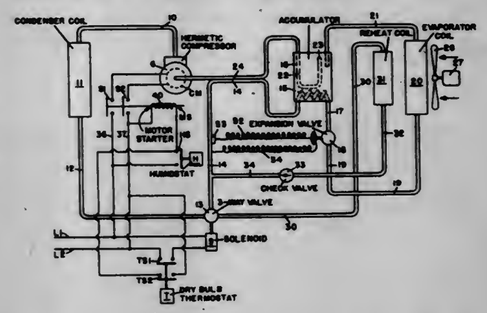
1. A heat pump comprising a pair of heat exchangers connected in a closed refrigerant circuit and arranged in different separated ambient locations either one of which exchangers may be used to heat its respective ambient location while the other is used to absorb heat from its ambient location; means in said circuit including a compressor having a discharge line and an intake line and reversing valve means reversibly connecting said discharge and intake lines selectively to opposite ones of said heat exchangers at one of the ends of each for effecting flow of refrigerant through said circuit in either direction whereby said pump may be operated on a cooling cycle for one heat exchanger with the other heat exchanger functioning as a condenser and receiving high pressure-high temperature gaseous refrigerant from said compressor and exhausting high pressure-high temperature liquid refrigerant therefrom to said circuit and on a heating cycle for said one heat exchanger functioning as the condenser of the system with said other heat exchanger functioning as the evaporator receiving low pressure-low temperature liquid refrigerant from said circuit and exhausting low pressure-low temperature gaseous refrigerant therefrom to said compressor intake; flow-restricting means in said circuit for controlling the flow of refrigerant from one of said heat exchangers to the other and for maintaining a pressure difference between said heat exchangers; said flow-restricting means comprising an expansion valve and bypass means therearound connected to the other end of said one heat exchanger from the connection thereof to one of said compressor lines and another expansion valve and bypass means therearound connected to the other end of said other heat exchanger from the connection thereof to one of said compressor lines; a conduit connecting in series said two flow-restricting means valve and bypass means between said heat exchangers; means controlling said bypass means for selectively bypassing one of said flow-restricting valves in accordance with the position of said reversing valve such that the flow-restricting valve connected to the heat exchanger connected by said reversing valve to said compressor discharge line is bypassed whereby said conduit conducts high pressure refrigerant during both cycles of operation for both heat exchangers; and a refrigerant charge modulator means for controlling the effective refrigerant charge circulating in said circuit; said modulator comprising a reservoir with a one-way high pressure-responsive valve connecting said reservoir to said conduit and connected for response to the pressure in said conduit for admitting refrigerant from said conduit to said reservoir when refrigerant pressure in said conduit exceeds a predetermined value, and a one-way low pressure-responsive valve connecting said reservoir to said compressor intake line and connected for response to the pressure in said intake line for supplying refrigerant from said reservoir to said intake line when refrigerant pressure in said intake line falls below a predetermined value.

3,264,839
HEAT PUMPS FOR SIMULTANEOUS COOLING AND HEATING
James R. Harnish, Staunton, Va., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 12, 1964, Ser. No. 367,287
31 Claims. (Cl. 62—160)



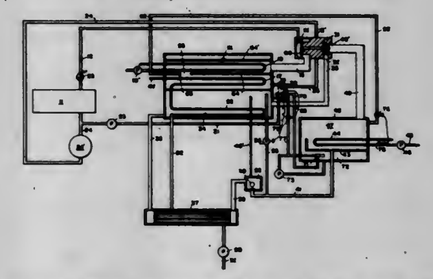
1. A heat pump for cooling indoor air in a portion of a building and simultaneously heating indoor air in another portion of the building, comprising a refrigerant compressor; a condenser for heating fluid for supply to local air heating units, and having its refrigerant inlet connected to the discharge side of said compressor; an evaporator for chilling fluid for supply to local air cooling units, and having its refrigerant inlet connected to the refrigerant outlet of said condenser; a surge drum having a gas outlet connected to the suction side of said compressor, and having a gas and unevaporated liquid inlet connected to the refrigerant outlet of said evaporator; a pump having an inlet connected to receive liquid refrigerant from said drum, and having an outlet connected to said inlet of said evaporator; a heat sink exchanger, and having one side connected to said inlet of said evaporator and to said outlet of said pump; reversal valve means connected to said discharge side of said compressor, to the other side of said heat exchanger, and to said inlet of said drum; means when the cooling load is greater than the heating load for adjusting said valve means to route gas from said discharge side of said compressor to said other side of said heat exchanger, and for routing liquid from said pump to said inlet of said evaporator; and means when the heating load is greater than the cooling load for routing liquid from said pump to said one side of said heat exchanger, and for adjusting said valve means to route gas and unevaporated liquid from said other side of said heat exchanger to said inlet of said drum.

3,264,840
AIR CONDITIONING SYSTEMS WITH REHEAT COILS
James R. Harnish, Staunton, Va., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 3, 1965, Ser. No. 452,480
8 Claims. (Cl. 62—173)



1. An air conditioning system comprising a refrigerant compressor, a condenser coil connected at one end to the discharge side of said compressor, a suction line accumulator connected to the suction side of said compressor, a heat exchange coil arranged to heat liquid within said accumulator, an expansion valve connected to one end of said heat exchange coil, an evaporator coil connected at one end to said expansion valve and at its other end to said accumulator, means for moving air to be chilled over said evaporator coil, a reheat coil adjacent to and downstream with respect to air flow of said evaporator coil, means when no reheat is required, for routing refrigerant from the other end of said condenser coil into the other end of said heat exchange coil, and when reheat is required, for routing refrigerant from said other end of said condenser coil through said reheat coil into said other end of said heat exchange coil, and means for adjusting said expansion valve to supply refrigerant liquid from said heat exchange coil to said evaporator coil at the rate at which refrigerant is condensed in said condenser coil when no reheat is required, and at the rate at which refrigerant is condensed in said condenser coil and in said reheat coil when reheat is required.

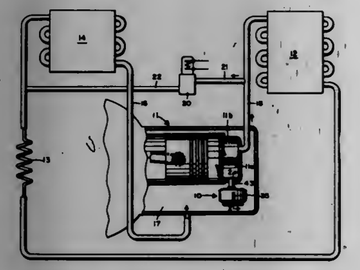
3,264,841
REFRIGERATION SYSTEM WITH MEANS TO PREVENT COMPRESSOR SURGE
William T. Osborne, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed June 23, 1964, Ser. No. 377,316
8 Claims. (Cl. 62—196)



1. In a refrigeration system, the combination comprising, a refrigerant compressor, first means operable for effectively preventing compressor surge, a steam con-

denser, steam powered drive means for driving said compressor and discharging steam into said steam condenser, second means for regulating the output of said drive means and thereby the output of said compressor in proportion to the cooling capacity of the system and as said output is reduced, for raising the steam condensate to a substantially predetermined temperature as the compressor approaches surge condition, and control means responsive to said predetermined condensate temperature for operating said first means and effectively preventing surge of said compressor.

3,264,842
REFRIGERATING SYSTEM AND SUCTION PRESSURE RESPONSIVE THROTTLING VALVE THEREFOR
Robert W. Dobbie, Liverpool, N.Y., assignor to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio
Filed Oct. 10, 1963, Ser. No. 324,159
1 Claim. (Cl. 62—217)

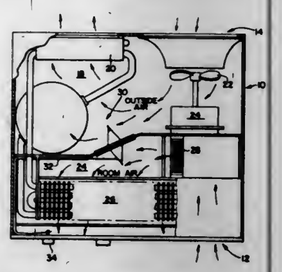


In a refrigerating system comprising a refrigerant compressor having an inlet and a discharge, a condenser connected with said discharge of said compressor, an evaporator having its inlet connected with said condenser, said compressor having a housing enclosing said inlet thereof, said evaporator being connected with said housing for supplying refrigerant to the inlet of said compressor, a valve in said housing and comprising casing means forming a first chamber having an outlet opening in one wall and a tubular member attached to said wall in said opening, said tubular member being attached to the inlet of said compressor and supporting said valve casing means in said housing, said chamber having a valve port in a second wall thereof, said casing means forming a second chamber having a wall common with said second wall of said first chamber, an expansible sealed element supported in said second chamber on a wall thereof opposite said second wall, said element containing a relatively thermally inert gas, a valve closure member in said first chamber and adapted to close on said valve port, and means attaching said closure member to said expansible element for movement by said element to close said port, the effective area of said element subjected to external pressure being in excess of the area of said port, said second chamber having openings in the outside walls thereof for admitting refrigerant from said housing to said second chamber,

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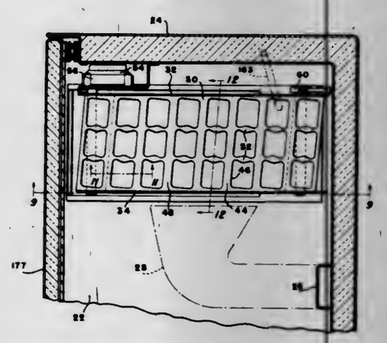
3,264,843
AIR DAMPER
Michael D. Ulich, Columbus, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 6, 1965, Ser. No. 453,697
8 Claims. (Cl. 62—262)

1. A damper and air flow control arrangement for the selective interchange of air between generally parallel, uni-directional air flow paths along opposite faces of a wall containing an opening through which said interchange takes place, comprising:
an open-face frame mounted in said opening, said frame including flange means bordering the framed opening on each face of said frame;
a pair of covers disposed in mirror relation against opposite faces of said frame and including shoulder means on their inner faces abutting said flange means;
each cover including an extended-surface area portion and an inwardly-open, outwardly-projecting hollow, shell thereon having an axis normal to said frame;



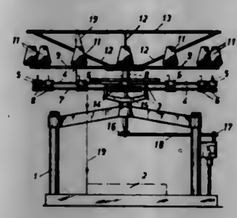
means yieldably urging said covers against said frame; and
cover operating means including a rocker arm, extending outwardly from a pivotally mounted shaft carried by said frame between said covers, and into each shell for selective engagement against one or the opposite inner face of said shell to effect rocking of said covers along diagonally-opposite edges of said covers parallel to said shaft to open said covers.

3,264,844
ICE CUBE MAKER OF THE FLEXIBLE BELT TYPE
Keith K. Kesling, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 30, 1965, Ser. No. 483,692
7 Claims. (Cl. 62—344)



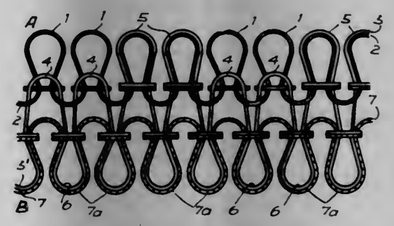
1. A liquid freezer including a belt having liquid holding compartments arranged in a plurality of skewed oblique transverse rows extending at a substantial oblique angle transversely of the belt, a sprocket having means for driving and supporting one end of said belt, means for supporting the other end of said belt, means for filling the compartments with liquid to be frozen, means for freezing the liquid in said compartments, one of said supporting means having means cooperating with the skewed rows of said belt for dislodging frozen liquid from said compartment.

3,264,845
DEVICE FOR FEEDING YARN TO MULTIFEED CIRCULAR KNITTING MACHINES
Karl Isac Joel Rosén, Villa Haga, Ulricehamn, Sweden
Filed Nov. 16, 1964, Ser. No. 411,209
Claims priority, application Germany, Nov. 22, 1963, R 36,618
10 Claims. (Cl. 66—132)



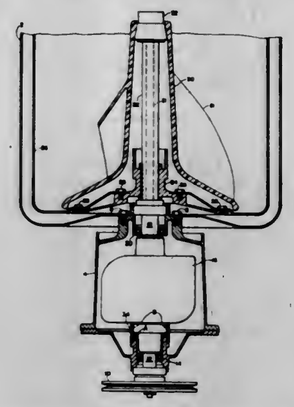
1. A feeder for the positive feeding of yarn to a multifeed circular knitting machine having a needle cylinder and a driven feeding tape comprising rollers for guiding said tape along a path about the axis of said needle cylinder and feeding yarn to a plurality of feeders with constant speed in correspondence to the yarn consumption, each of said feeders having an inlet and an outlet for the yarn, yarn guides for guiding the yarn essentially in the longitudinal direction of said feeding tape between the mutually contacting surfaces of said feeding tape and said rollers, said rollers each being provided with a running surface for contracting said feeding tape, said running surface being broader than said feeding tape and means responsive to the yarn tension at said outlet for displacing the yarn at said inlet transversely of the direction of travel of said tape on said running surface.

3,264,846
DOUBLE FACED KNITTED FABRIC
Bruno Pfrommer, Tuebinger Strasse 51, Reutlingen, Germany
Filed Nov. 13, 1964, Ser. No. 410,943
Claims priority, application Germany, Feb. 20, 1960, P 24,476
9 Claims. (Cl. 66—196)



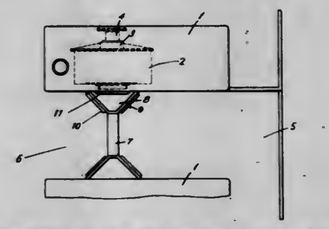
1. A double-faced knitted fabric, comprising
at least two threads,
one of said two threads constituting a first thread forming ground loops on one side of said fabric,
the other of said two threads constituting a second thread forming ground loops on the other side of said fabric,
one of said threads forming a binding thread interlacing said ground loops of both sides of said fabric to form tuck loops hung over a plurality of said ground loops of the other of said threads and to form plain loops forming double loops with the others of said ground loops of the other of said threads, said tuck loops and said plain loops being formed in any predetermined pattern.

3,264,847
AGITATOR SYSTEM FOR CENTERPOST AGITATOR WASHER
Leslie A. Johnson and William A. Wasemann, Mansfield, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 28, 1965, Ser. No. 453,884
5 Claims. (Cl. 68—23)



1. In a clothes washing machine including a centerpost oscillating agitator and an outer rotatable spin basket:
reaction torque drive means connected to oscillate said agitator and concurrently impose counter rotative forces upon said basket;
means restraining rotation of said basket in one direction so that counter rotation of said basket relative to said agitator occurs only during the stroke of said agitator in one direction; and
screw-shaped blade means on said agitator for obtaining a differential in the screw-down and screw-up effect of said agitator during alternating strokes thereof in accordance with the degree to which the stroke of said agitator in said one direction is retarded by the load imposed upon said agitator by said clothes.

3,264,848
CHEMICAL CLEANING MACHINE
Heinrich Führing, Augsburg, Germany, assignor to Böwe Böhler & Weber KG Maschinenfabrik, Augsburg, Germany
Filed Apr. 30, 1963, Ser. No. 276,718
3 Claims. (Cl. 68—210)

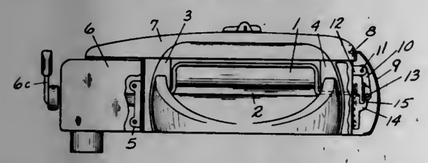


1. A dry-cleaning installation for the treatment of contaminated articles without contamination of cleaned articles, said installation comprising, in combination:
a front-end-loading dry-cleaning machine having a rotary drum for receiving articles to be cleaned, bearing means rotatably supporting said drum at one axial end thereof, said drum being open at the other end, and housing means enclosing said drum and hav-

ing a single access opening for the insertion and removal of articles into and from said drum at said other end; a contaminated chamber and a noncontaminated chamber separated from one another by a substantially impermeable wall; and

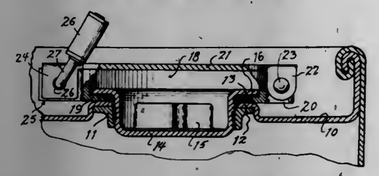
means for alternately connecting one of said chambers with said opening while closing off the other chamber and connecting said other chamber with said opening while closing off said one of said chambers to permit alternate insertion of contaminated articles into said drum from said contaminated chamber and removal of cleaned articles from said drum into said noncontaminated chamber.

3,264,849
CLOTHES WRINGER
James W. Brandt, Erie, Pa., assignor to Lovell Manufacturing Company, Erie, Pa., a corporation of Pennsylvania
Filed Nov. 23, 1964, Ser. No. 413,101
3 Claims. (Cl. 68—256)



1. In a clothes wringer having a bottom frame carrying upper and lower rolls, a top frame centered over the rolls, toggle links connecting one end of the top frame to the bottom frame and holding said one end centered over the rolls, a depending tab on the other end of the top frame having an opening between the sides of the tab and hooks at the sides of the tab extending outwardly below the opening, said bottom frame having a slot receiving the tab and a tongue entering said opening and cooperating therewith to provide a hinge connection, said slot having shoulders engaging the tab and hooks to prevent disengagement of the tongue from said opening while the top frame is centered over the rolls, said slot having an enlarged portion clearing said hooks and tongue when said one end of the top frame is disconnected from the toggle links and said one end of the top frame is swung to one side of the rolls.

3,264,850
OIL DRUM CAP LOCK
William H. Bower, 127 Reed Blvd., Mill Valley, Calif.
Filed Oct. 9, 1964, Ser. No. 402,756
2 Claims. (Cl. 70—165)



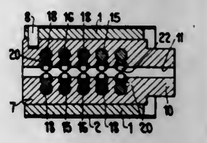
1. In a lock accommodating means for preventing the theft and/or unauthorized removal of contents of a conventional oil or gasoline drum, the combination of a screw cap with sealing gasket and an outwardly extending gasket compressing flange, a ring like member having an inwardly extending flange at its lower side adapted and arranged to extend under the gasket compressing flange of said screw cap, said ring having a hinge forming plate extending at one side and oppositely disposed means having a padlock accommodating opening, and a cover mounted upon the hinge forming plate of said ring having a configuration conforming with the outer circumference of said ring and a depending clevis like extension with openings for register with the padlock accommodating opening of said oppositely disposed means, characterized by the fact that when applied to the closure cap said ring and hinged cover will be free to rotate independently of the cap.

3,264,851
COMBINATION LOCK MECHANISM
Rollow D. Kimball, 3340 West 3500 South, Granger, Utah
Filed Jan. 8, 1962, Ser. No. 164,932
8 Claims. (Cl. 70—312)



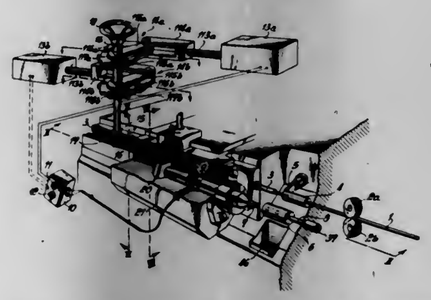
1. A combination lock mechanism, in combination, a plurality of rotatable drum members each including a drum head having successive character indicia disposed progressively about the periphery thereof, one of said drum members including a shank, integral at one end thereof with its respective drum head, and also a lug portion, integral with the remaining end of said shank and having peripheral lug means, another of said drum members including a lug portion having peripheral lug means, said another drum member being revolvably mounted upon said one drum member shank with the lug portions of both of these drum members being mutually adjacent and the drum heads thereof being mutually adjacent also, the lug means of both of said one and another drum members being spaced apart, a third of said drum members being interiorly relieved and having interior, mutually spaced, annular grooves selectively and retentively receiving said lug means and also having elongate, communicating, interior passageway means for admitting said lug means into and releasing said lug means from said grooves, respectively, said character indicia being so arranged about their respective drum heads that when selected ones of said character indicia, disposed upon said drum heads, are in linear alignment, to be read together, said lug means will be in alignment with said interior passageway means to permit the release of said first and second drum members from said third drum member.

3,264,852
CYLINDER LOCK
Fritz Gysin, Zollikofen, Switzerland, assignor to A. & R. Wiedemar, Bern, Switzerland
Filed Jan. 29, 1964, Ser. No. 341,020
5 Claims. (Cl. 70—358)



1. A cylinder lock comprising a pin tumbler cylinder rotatably mounted in an outer cylinder or plug, a slot in said pin tumbler cylinder for insertion of a key, groove means in opposite side surfaces of the key, two axially extending rows of guide grooves in opposite side surfaces of said slot and a pin tumbler inserted in each of said guide grooves for displacement in substantially radial direction, such pin tumblers having drive means extending into said slot and adapted for engagement of said groove means of the key, rows of apertures in said plug in coaxial alignment with said rows of guide grooves and pin tumblers respectively when the said pin tumbler cylinder is in a predetermined position, the cross section of said apertures of the plug corresponding to the cross section of said pin tumblers, said rows of guide grooves, pin tumblers and apertures being shifted relatively to each other in axial direction.

3,264,853
PRESS FOR FORMING WORK PIECES FROM WIRE AND BAR STOCK
Hans Huber, Basel, Switzerland, assignor to Fritz Bernhard Hatebur, Basel, Switzerland
Filed Apr. 26, 1963, Ser. No. 275,955
7 Claims. (Cl. 72—10)



1. In a press for forming work pieces in a chip-less manner, especially from wire and bar stock material: die means for receiving stock material to be formed, first means associated with said die means for acting upon a work piece in said die means and together therewith determining the final size of the product formed in said die means, a stock material receiving and cutting off mechanism including second means for varying the length of the respective piece to be cut off from said stock material, feeding means for feeding cut off stock material to said die means, measuring means operable to measure the pressure to which the work piece in said die means is being subjected at the end of the shaping operation in said die means, and control means operable by said measuring means and operatively connected to one of said first and second means for adjusting the same to bring into harmony with each other the volume of the cut off piece of stock material and the volume of said die means at the end of the shaping operation in said die means.

3,264,854
METHOD AND APPARATUS FOR FORMING PRESSES
Howard W. Carlisle, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed May 15, 1964, Ser. No. 367,709
8 Claims. (Cl. 72—63)

1. A press for drawing a workpiece to a predetermined shape comprising in combination:

(a) a draw ring adapted to receive the workpiece thereon,

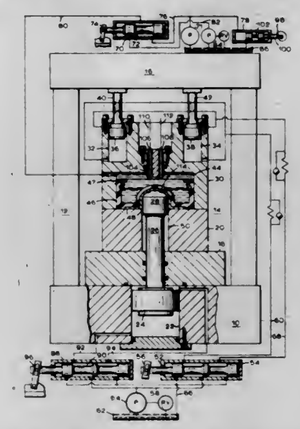
(b) a ram member having a cavity therein,

(c) means for holding said ram member above said draw ring with said cavity opening toward said draw ring and including means for moving said ram member between a retracted position and an advanced position wherein said ram member contacts said draw ring,

(d) a flexible diaphragm received in said ram member to close said cavity, said diaphragm contacting the workpiece and draw ring when said ram member is in its advanced position,

(e) fluid supply means for maintaining said cavity full of fluid behind said diaphragm and including means for raising the pressure of said fluid to a high level when said ram member is in its advanced position and said diaphragm is in contact with the workpiece,

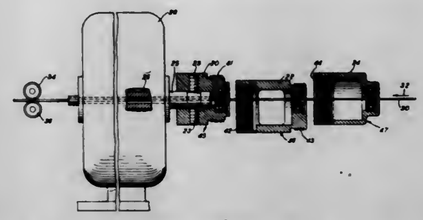
(f) a die extensible from and retractable into said draw ring at the location whereat said draw ring is adapted to receive the workpiece,



(g) means for extending said die forcefully out of said draw ring and into said cavity when said ram member is in its advanced posiiton to draw the workpiece into the shape of the contour of said die, and

(h) means for suddenly and momentarily increasing the fluid pressure on said diaphragm to a level greatly in excess of the high level to which the pressure of said fluid is raised by said fluid supply means when said die is extended fully into said cavity.

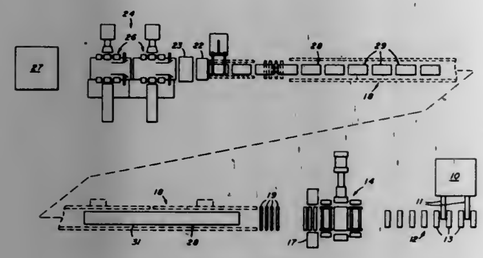
3,264,855
DEMOUNTABLE HOLLOW ARMATURE WIRE STRAIGHTENER
George R. Turbett, Chatham Township, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 17, 1963, Ser. No. 309,521
5 Claims. (Cl. 72—79)



1. In a wire straightening apparatus, in combination, three hollow cylindrical members, wire passing bushing means individual to each of said members, two of which bushing means are aligned parallel and coaxial with the central axis of their respective cylindrical member and the third of which is aligned parallel to the central axis of its respective cylindrical member but displaced therefrom, each of said cylindrical members having connecting means at at least one of its ends and the member with the bushing means offset from center having connecting means at both of its ends with the connecting means at each end demountably securable to the connecting means

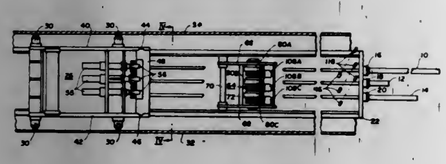
of one of the other members, whereby the three members may be demountably connected end to end along a common axis.

3,264,856
HOT STRIP MILL
Camville Pellew Layard, Burlington, Ontario, Canada, assignor to The Steel Company of Canada, Limited, Hamilton, Ontario, Canada
Filed Sept. 23, 1963, Ser. No. 310,779
Claims priority, application Canada, June 26, 1963, 878,798
7 Claims. (Cl. 72—202)



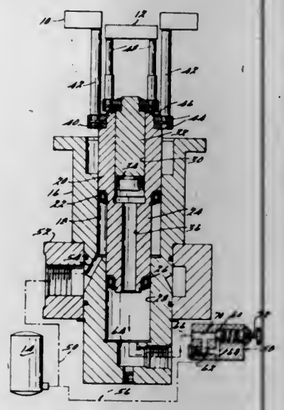
1. In a hot strip mill, wherein a strip is transported along a delay table from a roughing mill to a finishing mill, the method of reducing differential cooling effects on the strip while it is on the delay table which comprises the step of passing the strip below a series of heat shields movably disposed above said delay table and adjusting the height of each of said heat shields above the strip in accordance with the temperature of the strip beneath each said shield.

3,264,857
DRAWBENCH APPARATUS
George A. Mitchell, Youngstown, Ohio, and Stefan Lill, Rochester, Pa.; said Lill assignor to Halstead Metal Products, Inc., Zellenople, Pa., a corporation of Pennsylvania
Filed Apr. 10, 1964, Ser. No. 358,728
9 Claims. (Cl. 72—281)



1. In a drawbench of the type including a plurality of drawing dies, a track structure extending parallel to the axes of said dies on one side thereof, and a draw carriage movable along said track structure for pulling workpieces through the dies; the combination of means for dissipating the kinetic energy of newly-drawn workpieces as they snap through the dies at the completion of a drawing operation, comprising pairs of individual rolls for each of said workpieces, each of said pairs of individual rolls being arranged to frictionally engage opposite sides of an associated one of said workpieces after the draw carriage leaves the dies during a drawing operation, each pair of rolls being rotatable independently of the other pairs, an electromagnetic braking means inductively coupled to the rolls for applying a retarding braking force to at least one roll in each pair when their associated workpiece snaps free of its die.

3,264,858
HYDRAULIC CONTROL FOR DIES IN RAM TYPE PRESSES
Floyd M. Williamson, Detroit, Mich., assignor to Di-Dro Engineering Company, Detroit, Mich., a corporation of Michigan
Filed June 25, 1963, Ser. No. 290,557
7 Claims. (Cl. 72—351)

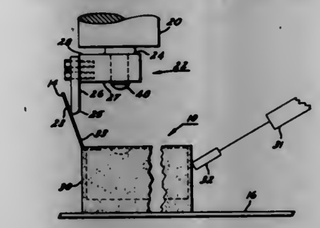


1. In a press having a pair of dies each movable from an extended to a retracted position upon closing of the press, a hydraulic cushion reacting on said dies so as to resist retraction thereof, said hydraulic cushion comprising a tank of hydraulic fluid under pressure, a cylinder having two bores, a piston reciprocable in each bore and reacting on one of said dies so as to be retracted as said one die moves toward its retracted position, a hydraulic circuit including fluid flow connections between said tank and said cylinder bores through which hydraulic fluid under tank pressure is supplied to each cylinder bore when the press opens so as to cause said pistons to bias said one die toward its extended position, said fluid flow connections providing for hydraulic fluid flow from said cylinder bores toward said tank upon the retraction of said pistons, a pressure relief valve in the connection between one of said bores and said tank so as to provide a resistance substantially greater than tank pressure to the retraction of the piston in said one bore, said pistons being integral and being provided with a cylinder bore communicating with said one cylinder bore, a third piston in said cylinder bore in said pistons, the other of said dies being arranged to react on said third piston to provide a resistance substantially greater than tank pressure to the retraction of said third piston in its cylinder bore, said pistons having different diameters so as to provide different predetermined resistances to retraction of said dies upon closing of the press.

3,264,859
BENDING DEVICE
James L. Hall, Leetonia, Ohio, assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Nov. 19, 1962, Ser. No. 238,561
5 Claims. (Cl. 72—412)

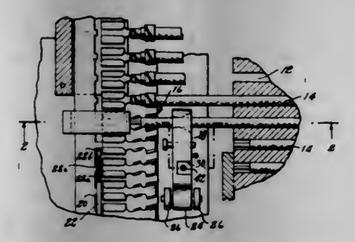
1. In an apparatus for metal encasing a refractory brick including a dimpling tool attached to a vertically movable reciprocating means to locally depress an edge of a metal

casing into conformity with a shallow, discontinuous depression in a side face of said brick, an improvement for bending a metal hanger tab from an upwardly extending position downwardly to lie flat against the end surface of the brick, comprising stop means to temporarily hold said brick in a fixed position, an L-shaped tool having a first leg portion and a second leg portion, said first leg portion of said L-shaped tool being attached to said reciprocating means with a second leg portion directed downwardly, said first leg portion being affixed to said reciprocating means above said dimpling tool, said second leg portion of said L-shaped tool being disposed a pre-



determined distance from the point of attachment to said reciprocating means whereby said downwardly directed second leg portion of said L-shaped tool is spaced from the end of said brick by a distance slightly greater than the thickness of said tab in bent-down position when said brick is temporarily held in place by said stop means and said reciprocating means is lowered to its lowermost position.

3,264,860
WIRE GUIDES FOR TERMINAL ATTACHING MACHINES
Philip J. Herb, North Branch, N.J., assignor to The Thomas & Betts Company, Incorporated, Elizabeth, N.J., a corporation of New Jersey
Filed Feb. 3, 1964, Ser. No. 341,961
7 Claims. (Cl. 72—457)

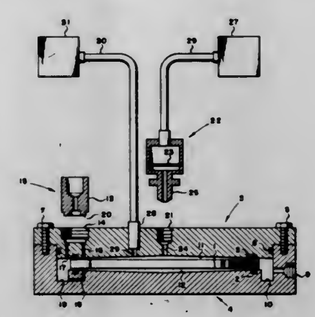


1. A guide for positioning wires for attachment of terminals on the ends thereof by a terminal attaching device comprising a frame, a pair of arms vertically disposed adjacent each other, both of said arms being pivotally mounted on said frame, said arms being in operational engagement with each other, said arms having rearwardly converging slots on the adjacent surfaces thereof such that said slots form a wire receiving and positioning guide and means linked to said terminal attaching machine to cause said arms to pivot away from each other after the attachment of a terminal to said wire positioned by said guide such that said wire may be removed from said guide without interference from said guide.

ERRATUM

For Class 73—1 see:
Patent No. 3,266,052

3,264,861
DYNAMIC PRESSURE GENERATOR
Duane O. Miles, Sunnyvale, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed June 8, 1964, Ser. No. 373,158
6 Claims. (Cl. 73—4)



1. A pressure gauge calibrating device comprising:
(a) a driver member for producing sinusoidal pressures having two opposing major plane surfaces,
(b) a housing enclosing and supporting said driver member, said housing forming at least one gas chamber on one of the said opposing major surfaces of said driver member,
(c) means for introducing a gas coupling medium at a desired pressure into said gas chamber,
(d) means connected with said housing for maintaining at least one dynamic pressure detecting device in contact with the gas coupling medium in said gas chamber,

said driver member comprising:

(e) an electrode having two opposing major plane faces,
(f) a first polarized piezoelectric element having two major plane surfaces of opposite polarity,
the positive major surface of said first piezoelectric element contacting one of said major faces of said electrode,
(g) a second polarized piezoelectric element having two major plane surfaces of opposite polarity,
the negative major surface of said second piezoelectric element contacting the opposing major face of said electrode, and
(h) means contacting said driver member adapted to electrically activate said driver member by applying a sinusoidal voltage to said member.

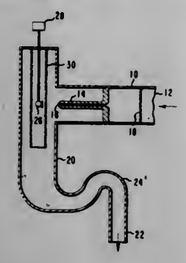
3,264,862
PROCESS AND DEVICE FOR ANALYZING BINARY FLUID MIXTURES
Herman R. Felton, Wilmington, Del., and James W. Williams, Penns Grove, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 25, 1963, Ser. No. 311,423
10 Claims. (Cl. 73—25)

4. An analyzer for binary vaporizable fluid mixtures of known components which comprises
(A) a supply chamber for the binary fluid mixture to be analyzed,
(B) an expansion chamber,

(C) a tube having an internal diameter of from 0.001 to 0.125 inch and a length of at least 1 inch connecting the supply chamber to the expansion chamber,

(D) an orifice having a diameter of from 0.001 to 0.025 inch at the expansion chamber end of said tube,

(E) an electronic temperature sensing means accurate to ±1° C. in said expansion chamber positioned in front of said orifice and spaced therefrom by 1/32 to ¼ inch, including

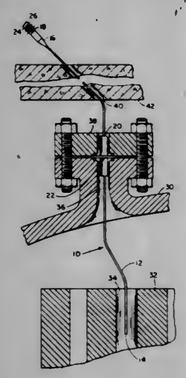


(a) means extending outside of said expansion chamber for indicating the temperature of the the temperature sensing means,

(b) and a screen surrounding the side of the temperature sensing means to prevent the impingement of liquid droplets on the temperature sensing means;

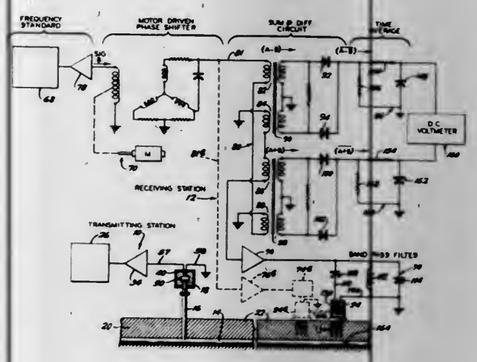
said supply chamber and said expansion chamber having a diameter at least twice the diameter of said tube, and said expansion chamber having a volume of at least 1.5 ml.

3,264,863
METHOD AND APPARATUS FOR DETECTING INCIPIENT BOILING OF A LIQUID
Nicholas Maropis, West Chester, Pa., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed May 27, 1963, Ser. No. 283,646
5 Claims. (Cl. 73—67)



5. A method of determining incipient boiling of a liquid or the imminence thereof, comprising the steps of providing a sonic conductor of rigid construction, engaging the liquid with the conductor, applying a minimum level of vibratory energy through the conductor to the liquid at a frequency substantially the same as the natural frequency of the conductor, increasing the level of applied vibratory energy until the liquid cavitates, detecting the occurrence of cavitation and measuring the level of the applied vibratory energy required to induce cavitation, the remoteness of the liquid from incipient boiling being related to the amount of vibratory energy required to produce cavitation.

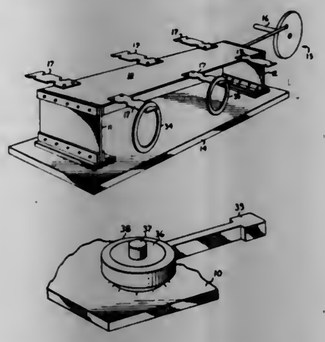
3,264,864
APPARATUS FOR PINPOINTING LEAKS IN BURIED PIPES
Jack M. Reid, Villa Park, Ill., and Paul L. Michael, State College, Pa., assignors, by mesne assignments, to American Gas Association, New York, N.Y., a corporation of New York
Filed Mar. 1, 1962, Ser. No. 176,721
14 Claims. (Cl. 73—69)



1. An apparatus for use in locating a leak in a buried gas conveying conduit without excavating said conduit in which gas conveyed by said conduit is employed to transmit a wave of one sonic frequency through said leak, the improvement comprising transducer means at the earth's surface for detecting said wave and generating a first electrical signal corresponding to said one frequency with the voltage of said first electrical signal being proportional to the distance of said transducer means from said leak, a second means for generating a second electrical signal of said one frequency with a continuously varying phase to be used as a reference signal, and means for comparing said first signal from said transducer with said second signal having said continuously varying phase whereby a characteristic signal is derived having a maximum voltage proportional to the distance between said transducer means and said leak, the character of said derived signal varying in a predetermined manner whereby said transducer first signal may be distinguished from transducer signals caused by background noises of other frequencies and from random noise signals of said one frequency.

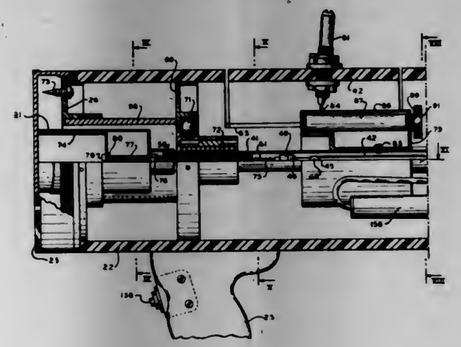
3,264,865
FATIGUE TESTING SHAKE TABLE APPARATUS
Verner D. Coombs, Erie, Pa., assignor to General Electric Company, a corporation of New York
Original application Mar. 30, 1962, Ser. No. 183,787, now Patent No. 3,187,566, dated June 8, 1965. Divided and this application Mar. 9, 1965, Ser. No. 438,327
5 Claims. (Cl. 73—71.6)

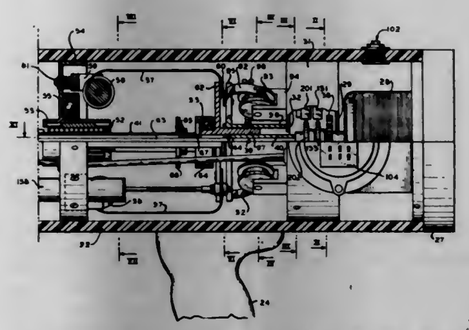
2. Testing apparatus comprising: a shake table adapted to have cyclic movement imparted thereto; cylindrical journal means fixed to said table so that the cylindrical axis of said journal means is perpendicular to the plane containing the directions of motion of said table whereby a bearing retained by said journal means has motions developed therein in synchronism with movement of said table; a bearing holder adapted to removably engage a bearing retained by said journal means, said bearing holder having a mass associated therewith which mass is radially displaced from the cylindrical axis of said journal



means and said mass revolves about the cylindrical axis of said journal means in rotational synchronism with movement of said table to develop a cyclic force and resultant wear stresses on said bearing.

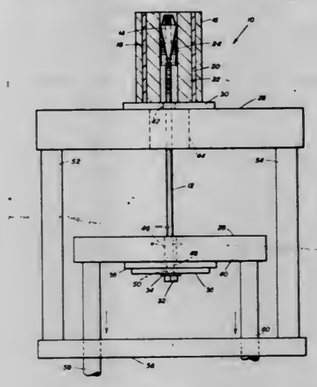
3,264,866
ROTATING KNIFE TENDEROMETER
Kenneth Bouschart and Earl A. Meyer, Madison, Wis., assignors to Feed Service Corporation, Crete, Nebr., a corporation of Nebraska
Continuation of application Ser. No. 171,713, Feb. 7, 1962. This application Jan. 7, 1964, Ser. No. 339,058
12 Claims. (Cl. 73—78)





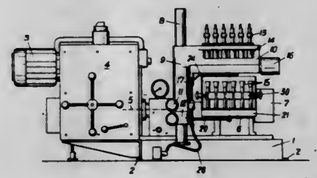
1. Apparatus for determining the tenderness of a material comprising a dull cutter, means successively passing the cutter along a predetermined path on the material under test to cut the same, means maintaining a substantially constant force between the cutter and material during each cutting pass, and means for determining the average penetration per cutting pass of said cutter into said material for a plurality of such passes.

3,264,867
DEVICE FOR ANCHOR TESTING
Leonard J. Trenkenshuh, P.O. Box 3211, Pueblo, Colo.
Filed Nov. 12, 1963, Ser. No. 322,683
6 Claims. (Cl. 73—95)



6. A mine roof rock bolt tester comprising an elongated bolt, expansion elements on one end of the bolt, a casing positioned around said expansion elements, a split sleeve in said casing, an annular element of rock-like material positioned between said split sleeve and the expansion elements, said bolt extending in one direction beyond common ends of said casing, sleeve, and said element, a frame means engaging said casing, sleeve and said element for preventing their movement in said one direction, and means engageable with the end of said bolt opposite to the end on which said expansion elements are positioned for pulling on said bolt to test said bolt.

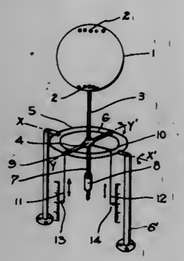
3,264,868
TEST STAND FOR FUEL INJECTION PUMPS
Richard Hainz, Salzburg, Austria, assignor to Friedmann & Maier, Salzburg, Austria
Filed Feb. 18, 1963, Ser. No. 259,209
Claims priority, application Austria, Feb. 28, 1962, A 1,685/62
13 Claims. (Cl. 73—119)



1. A test stand for fuel injection pumps, comprising a fixedly arranged support device for the pump to be tested, a driving spindle, a gear box in which said driving spindle is mounted, said gear box mounted on said support device, said pump being coupled to the driving spindle, a first carrier, nozzles carried by the carrier, injection conduits operably connecting the nozzles to the outlets of the pump to be tested, a second carrier arranged below the nozzles, measuring glasses for receiving the amount of fuel to be tested supported by the second carrier, means attached to

said support device for mounting said first and second carriers for pivotal movement in a horizontal plane, means for adjusting said first and second carriers vertically with respect to the support device, means for fixing said first and second carriers in position with respect to the support device, and means independent of said first-mentioned means for pivotally moving the second carrier relative to the first carrier for movement about a vertical axis.

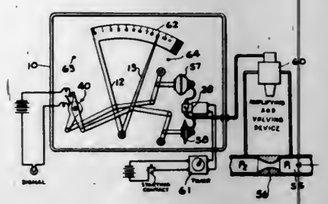
3,264,869
PROCESS AND APPARATUS FOR STUDYING CURRENTS
Ladislas Erdely, Paris, France, assignor to Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France
Filed Sept. 13, 1963, Ser. No. 308,854
7 Claims. (Cl. 73—189)



1. Apparatus for the determination of the speed and direction of moving fluids comprising:
(a) means defining a revolution volume;
(b) a rod upon which the volume is supported as a prolongation of the revolution axis of said column;
(c) a pair of concentric rings movable one in relation to the other and in relation to their support about two perpendicular radially extending rotation axes which cross the centers of the rings and in which the rod which passes through the center of the rings is attached to the axis of the internal ring perpendicular to the plane of said ring;
(d) means secured to and extending away from said rings, said means comprising at least two extending rods repsectively attached to said concentric rings and extending perpendicularly to the planes thereof at a point remote from their rotation axes; and
(e) means operatively associated with said extending rods for measuring quantitatively and directionally the deviation between the equilibrium positions of both rings when said volume is in a fluid at rest and when the volume is in the same fluid when moving.

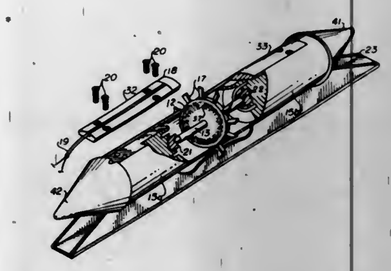
3,264,870
FLOW MEASURING DEVICE
Leo J. Berger, Jr., Madison Heights, Mich., assignor to Scans Associates, Inc., Livonia, Mich., a corporation of Michigan
Original application Jan. 31, 1962, Ser. No. 170,109, now Patent No. 3,150,525, dated Sept. 29, 1964. Divided and this application July 31, 1964, Ser. No. 386,637
2 Claims. (Cl. 73—205)

1. An apparatus for measuring the rate of flow through a conduit having a restriction therein, and changes in said rate, said apparatus comprising an amplifying and valving device having one of its sides operatively connected to said conduit at the upstream side of said restriction and the other side connected to said conduit at the downstream side of said restriction and adapted to produce pressures related to the difference between the pressures existing on said downstream and said upstream sides, a pressure-indicating device connected to said amplifying and valving device to receive therefrom the pressure related to said difference; said pressure-indicating device comprising an indicating member, a reference member, first pressure-responsive means drivingly connected to said indicating member, second pressure-responsive means drivingly connected to said reference member, the respective driving connections of said respective pressure-responsive means adapted to set said indicating member on said reference mark when both of said pressure-responsive means are subjected to equal pressures, conduit means adapted to



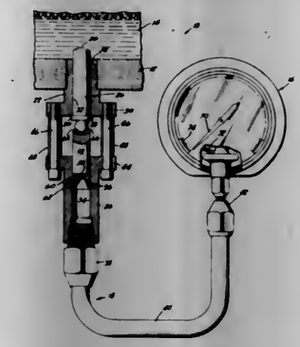
subject both of said pressure-responsive means simultaneously to the action of pressure conveyed from said amplifying and valve device to set the indicating hand on said reference mark, and valve means interposed in said conduit means and adapted to isolate the pressure-responsive means of the reference member from said amplifying and valving device and to retain the pressure originally conveyed thereto for acting thereon and thus to retain said reference member in the position so reached but to maintain connection of the pressure-responsive means of the indicating member with said amplifying and valving device for subjecting said means to the varying pressure conveyed thereto from said amplifying and valving device.

3,264,871
MAGNETIC RECORDING READOUT FOR FLOWMETER
John C. Beynon, North Hollywood, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Aug. 20, 1963, Ser. No. 303,457
8 Claims. (Cl. 73—231)



1. A flowmeter comprising a turbine rotor having an inner hub portion and a bladed portion extending radially outwardly from said hub portion, means for mounting said rotor for rotation about its axis in response to fluid flow past said bladed portion, magnetic recording means for receiving cyclic magnetic intensity variations, said recording means disposed on an annular planar surface of said hub portion coaxial with and perpendicular to the axis of rotation of said rotor, and a magnetic record playback head disposed in magnetic field transmit-receive relation directly adjacent to said magnetic recording means.

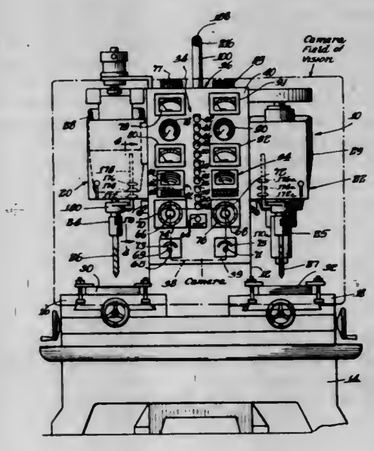
3,264,872
GAUGE ASSEMBLY FOR MEASURING HEATED FLUID PRESSURES
Merritt W. Martin, Jr., Saline, Mich., assignor to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Michigan
Filed May 4, 1964, Ser. No. 364,414
7 Claims. (Cl. 73—419)



1. In a gauge assembly for measuring the pressure of a heated fluid, a reciprocally movable pressure sensing member having one end positioned so that it is in contact with said fluid so that the position of said member is responsive to the magnitude of the pressure of said fluid, a gauge actuating member positioned in substantial alignment with said sensing member, conduit means in which said actuating member is supported for reciprocal movement, a gauge connected to said conduit means, fluid in said conduit means maintaining a pressure on said actuating member urging it toward said sensing member, and a ball positioned between and in substantially point-to-point engagement with said sensing member and said actuating member to minimize heat transfer between said fluids.

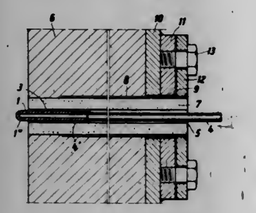
3,264,873
APPARATUS FOR DETERMINING OPTIMUM MACHINING CONDITIONS
Ernest J. Svenson, Rockford, Ill., assignor to Odin Corporation, Rockford, Ill., a corporation of Illinois
Filed Apr. 22, 1963, Ser. No. 274,456
27 Claims. (Cl. 73—432)

1. A testing machine for determining empirically optimum tool design specifications and optimum machine tool operating conditions for performing particular machining operations, comprising, in combination, machine tool support structure, a workpiece support mounted on said support structure, a rotary tool support spindle mounted on said support structure, driving means for rotating said spindle at different speeds, a first adjustable control for adjusting the rotary speed at which said spindle is driven by said driving means, feeding means for feeding said spindle toward said workpiece support at an adjustable feeding speed, a second adjustable control for adjusting the feeding speed at which said spindle is fed toward said workpiece support by said feeding means, a single frame camera, a rapid sequence camera, means on said support structure supporting said cameras in positions such that the optical field of each camera covers at least partially said spindle and said workpiece support, said first and second adjustable controls being positioned within the optical field of each of said cameras, a thrust indicator mounted on said support structure and positioned within the optical field of each of said cameras for visually indicating the thrust applied to said spindle, a torque indicator mounted on said support structure and positioned within the optical field of each of said cameras for visually indicating the torque applied to said spindle, a feeding speed indicator mounted on said support structure and positioned within the optical field of each of said cameras for visually indicating the feeding speed of said spindle toward said workpiece support, a spindle speed indicator mounted on said support structure and positioned within the optical field of each of said cameras for visually indicating the rotary speed of said spindle, a machining cycle counter including a cycle indicator mounted on said support structure and positioned within the optical field of each of said cameras for visually indicating the numbers of successive feeding movements of said spindle toward said workpiece support, synchronizing means for operating said single frame camera to photographically record the values indicated by all of said indicators automatically in response to feeding movement of said spindle toward said workpiece support into a predetermined positional relationship of the spindle relative to the workpiece support, said synchronizing means including first and second camera control means



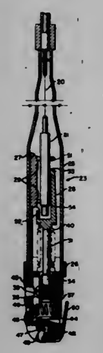
one of which is mounted on said machine tool support structure and the other of which is interconnected with said spindle to be moved in coacting relation to the one camera control means in response to feeding movement of said spindle, said first camera control means comprising a camera triggering switch interconnected with said single frame camera to trigger operation of the single frame camera to take a picture, the other of said camera control means including a plurality of adjustable switch actuating elements for actuating said switch upon movement of said spindle into different positions in relation to said workpiece support as determined by the adjustment of said switch actuating elements, a spindle torque responsive control connected with said rapid sequence camera to effect operation of the latter automatically in response to application of a predetermined torque to said spindle, a spindle thrust responsive control interconnected with said rapid sequence camera to effect operation of the latter automatically in response to application to said spindle of thrust in excess of a predetermined thrust value, and a camera control interconnected between said rapid sequence camera and said spindle to effect operation of said rapid sequence camera in response to movement of said spindle into a predetermined position in relation to said workpiece support.

3,264,874
APPARATUS FOR MEASURING TEMPERATURES OF IRON AND STEEL MELTS
Wilhelm Anton Fischer, Ratingen, Germany, assignor to Max-Planck-Institut für Eisenforschung and Phoenix-Rheinrohr Aktiengesellschaft Vereinigte Hütten- und Röhrenwerke, both of Dusseldorf, Germany
Filed May 8, 1963, Ser. No. 278,829
Claims priority, application Germany, May 30, 1962, M 53,045
1 Claim. (Cl. 73—343)



Apparatus for continuously measuring the temperature of iron and steel melts contained in a melt vessel having a masonry wall, comprising a detector head held in a tubular passage in the masonry wall of the melt vessel so that a portion of the front inner end thereof extends into the melt and having at the front inner end thereof a refractory ceramic protective tube, a temperature measuring element housed within said tube and a plug of refractory ceramic material disposed between said tube and said masonry wall, the diameter of said tubular passage being slightly greater than the external diameter of said protective tube and said plug being in the form of a thin layer and of initially pasty consistency, said plug comprising an absorptive backing material impregnated with said refractory material, said impregnated absorptive backing material being wrapped around said protective tube.

3,264,875
GRAVITY METER CLAMP
Richard R. Goodell and James C. Adair, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Mar. 11, 1964, Ser. No. 351,054
11 Claims. (Cl. 73—382)



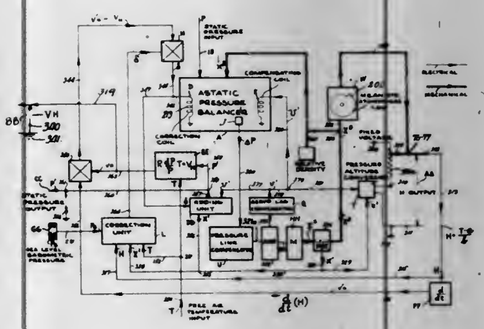
11. A clamping arrangement for a mass suspended from a string within an evacuated housing comprising:

(a) a pair of mass-gripping means positioned within said housing and respectively on opposite sides of said mass, a first of said mass-gripping means forming an abutment and being mounted adjacent the side wall of said housing, a part of the second of said mass-gripping means passing out of said housing in sealed relationship and being movably mounted relative to said housing;

(b) means mounted outside of said housing for normally urging an external part of said second mass-gripping means to move said second mass-gripping means substantially horizontally toward said mass and said first mass-gripping means to grip said mass and prevent any movement thereof; and,

(c) a remotely controlled actuating means mounted outside of said housing and operatively connected to said second mass-gripping means for moving said second mass-gripping means away from said first mass-gripping means to release the mass.

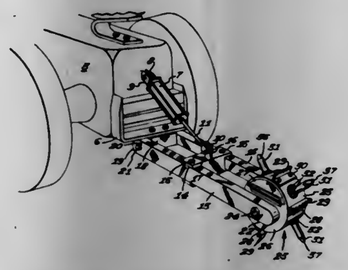
3,264,876
ALTITUDE AND VERTICAL VELOCITY METER
Maurits ten Bosch, White Plains, and Joseph F. Kishel, Pleasantville, N.Y., assignors to M. ten Bosch, Inc., New York, N.Y., a corporation of New York
Filed Nov. 29, 1955, Ser. No. 549,766
1 Claim. (Cl. 73—386)



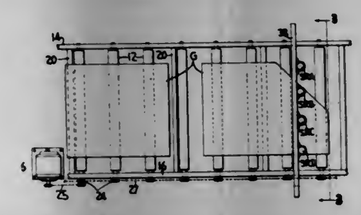
An altimeter having oppositely acting bellows in evacuated condition, a casing enclosing said bellows, a static pressure application including a conduit leading into the casing, said bellows being subject to the static pressure within the casing, said bellows having movable and fixed ends, the fixed ends being attached to the casing and said bellows being spaced apart and having their axes parallel, a lever having its ends connected to the movable ends of the bellows and having a frictionless center pivot, a movable plate vacuum tube transducer having its plate connected to the center of the lever so that the plate will move with movement of the lever, said movement of the plate generating an electric signal and a computer actuated by said electric signal to give a computed altitude reading.

3,264,877
SOIL SAMPLING DEVICE
Phillip E. Boxrud, Madelia, Minn.
Filed Aug. 17, 1964, Ser. No. 390,139
9 Claims. (Cl. 73—421)

1. A soil probing device for taking intermittently spaced samples of soil from a given land area comprising in combination, power means whereby said device is moved over said land area and secondary power means associated with the first noted power means whereby the said device is raised and lowered out of and into soil engagement, a frame pivotally mounted on the first noted power means and a rotatable member having an internal chamber with an access door carried by said frame, soil probing means mounted on the said rotatable member having communication with the internal chamber in the said rotatable member for taking intermittently spaced cores of soil from the ground and automatically depositing the same in said internal chamber and in thence intermixing said cores of soil by the rotating movement of the drum to produce an agglomerated composite soil sample.



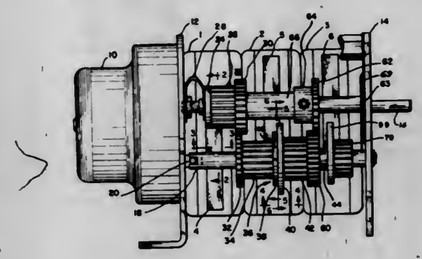
3,264,878
AUTOMATIC GLASS AREA MEASURING DEVICE
Michael J. Balog, New Kensington, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 207,976, July 6, 1962. This application Oct. 7, 1965, Ser. No. 495,026
1 Claim. (Cl. 73—432)



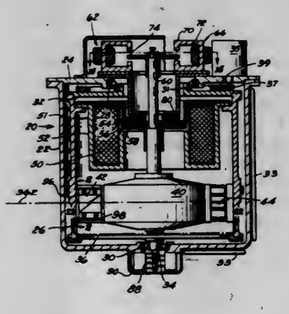
In a method of measuring the area of glass in sheet and ribbon form that is conveyed along a predetermined path and passes a reference plane intersecting said path, the steps comprising conveying the glass at a predetermined speed past said reference plane, directing ultrasonic signals from a plurality of ultrasonic transmitters spaced across said reference plane through the path of glass travel toward a corresponding plurality of receivers, receiving signals from said plurality of transmitters in the absence of glass passing said reference plane opposite a receiver, blocking signals directed across the reference plane by moving glass along said predetermined path past said reference plane, dissipating electrical energy only when said glass is being conveyed and in response to and proportional to the ultrasonic signals blocked by the moving glass, measuring the total quantity of energy dissipated in response to blocked signals and correlating the quantity with the predetermined speed of glass travel to determine the area of glass that has passed said reference plane.

3,264,879
TIMER
August J. Danek, Crystal Lake, Ill., assignor to Controls Company of America, Melrose Park, Ill., a corporation of Delaware
Filed Nov. 9, 1962, Ser. No. 236,658
16 Claims. (Cl. 74—3.5)

1. A timer comprising, in combination, first and second control devices, drive means controlled by said first control devices, a drive shaft connected to and driven by said drive means, a control shaft mounted for axial and rotational movement independent of said drive shaft, first and second cam means connected to and driven by said drive shaft, said first cam means operative to control the actuation of said first control device and said second cam means operative to control said second control device, holding means adjacent said second control device and so configured as to engage said second control device and render said second cam means inoperative to control said second control device, means connected with said drive means and between said second cam means and said holding means and operative to produce relative movement between said second cam means and said holding means after a predetermined amount of relative rotational movement therebetween to free said second cam means to assume control over said second device, and means for adjusting the relative position between said holding means and said second cam means to adjust the point at which said second cam means is rendered operative.

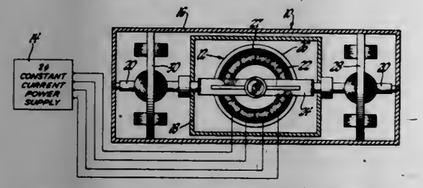


3,264,880
GYROS WITH COMPENSATED FLEXURE PIVOTS
Eduard M. Fischel, Wayne, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Dec. 28, 1961, Ser. No. 162,721
19 Claims. (Cl. 74—5)



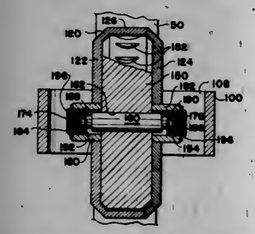
1. In a tight loop stabilized gyroscope, a supporting member, a supported member, a pair of flexure pivots pivotally mounting said supported member on said supporting member for precession about an axis perpendicular to the spin axis of the gyroscope, and compensating means for exerting a torque on said supported member in opposition to the restraining torque developed by said flexure pivots when deflected, the radial elasticity of each of said flexure pivots being equal to the combined axial elasticity of both of said pivots whereby said flexure pivots are iso-elastic.

3,264,881
POWER SUPPLY FOR GYROSCOPES
Rudolph F. Poklar and Richard E. Kraemer, Milwaukee, Wis., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 4, 1962, Ser. No. 192,497
4 Claims. (Cl. 74—5.7)



1. In combination, an inertial sensing device comprising a hysteresis motor having a rotor including a gyroscope wheel and a stator for imparting driving torque to the rotor, and a constant current, alternating voltage power supply connected with the stator for energization thereof.

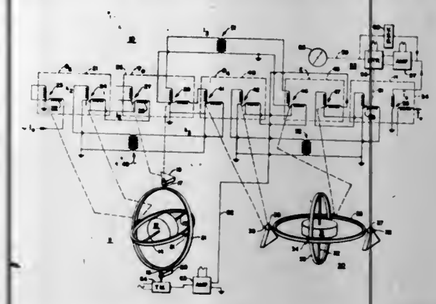
3,264,882
GYROSCOPE
Koytt Nichols, 2255 N. Roosevelt, Wichita, Kans.
Filed Dec. 17, 1962, Ser. No. 245,009
5 Claims. (Cl. 74—5.7)



4. In a gyroscope for instruments and the like having a vertical ring and a gimbal ring positioned within and operatively connected to said vertical ring and a rotor case operatively connected to the gimbal ring and having a rotor positioned therein, the improvement comprising, in combination, a solid rotor shaft having a center portion connected to and rotatable with said rotor, the ends of said rotor shaft having axially extending recesses therein closed at the inner end with tapered bottom surfaces, two balls, each of said recesses in said rotor shaft receiving one of said balls in seated engagement with said tapered surface with a major portion of said balls projecting from said rotor shaft, seal means in said recesses engaging said balls and the walls of said recesses and sealingly and releasably mounting said balls therein, and ball bearing means operatively connected to said rotor case and having balls therein engageable with said projecting portions of said balls mounted on said rotor shaft to thereby rotatably mount said rotor shaft.

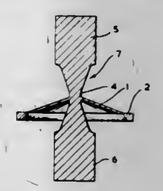
3,264,883
CONTROL APPARATUS
Joseph A. Miller, Stillwater, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Aug. 2, 1960, Ser. No. 46,984
18 Claims. (Cl. 74—5.34)

1. An all-attitude heading reference device for a craft maneuverable about a plurality of its axes, comprising: a directional gyroscope having a rotor rotatably mounted in a frame work; pivotal means comprising a first gimbal supporting said framework about a first axis normal to the rotor axis; mounting means on the craft pivotally supporting said first gimbal about a second axis normal to both the rotor axis and the first axis; a vertical gyroscope having a rotor; a frame supporting said rotor for rotation about a spin axis; a second gimbal pivotally supporting said frame on a third axis normal to the spin axis; bearing means pivotally supporting said second gimbal on a fourth axis normal to both the rotor spin axis and the third axis, a plurality of sine-cosine resolvers, a first resolver being associated with the first axis, a second resolver with the second axis and so forth so that the first, second, third, and fourth axes have a separate resolver associated therewith so that the induc-



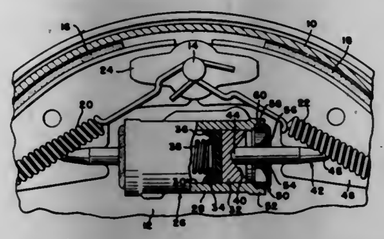
tance between sets of windings of each resolver is altered upon rotation about its related axis; means electrically connecting the four resolvers; a fifth resolver; connecting means from the third and fourth resolvers to the fifth resolver; follow up means positioning a winding of the fifth resolver; means controlling said follow up means from the voltage in the winding of said fifth resolver; means for applying a selected voltage to one winding of the first resolver on the directional gyroscope and means driven by said follow up means to show the direction of the craft relative to a datum direction.

3,264,884
ACTUATING UNIT FOR VALVES OR SWITCHES
Bernard Frederick Brooker, Crawley, Sussex, England, assignor to Premier Injection Mouldings Limited, Sussex, England, a company of Great Britain
Filed Aug. 30, 1963, Ser. No. 305,636
Claims priority, application Great Britain, Sept. 5, 1962, 34,039/62
4 Claims. (Cl. 74—17.8)



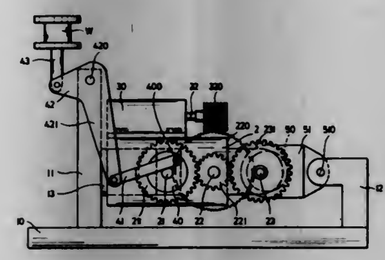
1. An actuator device which includes a rim portion adapted to be clamped between two fixed members, a resilient bowed portion connected to the rim portion by a thin joint structure, and a stem portion connected to the resilient portion by which the resilient portion can be moved axially with respect to the rim portion to distort and snap through the plane of the rim portion from one stable position to another stable position, the rim portion, resilient portion, joint and stem portion, being moulded in one piece of a synthetic plastic material, and outer marginal portions of said resilient portion being bevelled to provide outwardly convergent surfaces, and the inner edge portions of the rim portion being bevelled to provide inwardly convergent surfaces thereon, the apices of said respective convergent surfaces meeting to form said thin joint structure, whereby said joint is substantially thinner than the thickness of the diaphragm.

3,264,885
CYLINDER BOOT
Ronald L. Shellhause, Vandalia, and Carl A. Bierlein, Kettering, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Nov. 19, 1962, Ser. No. 238,503, now Patent No. 3,187,848, dated June 8, 1965. Divided and this application Mar. 19, 1964, Ser. No. 353,035
5 Claims. (Cl. 74—18.2)



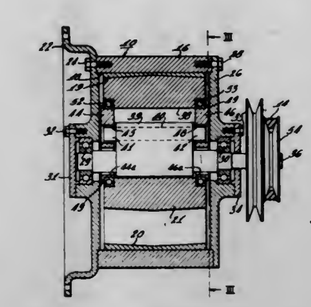
1. A wheel cylinder boot for use with a brake wheel cylinder, said boot comprising, an annular member having the inner periphery thereof forming a seal for sealing engagement with a wheel cylinder link pin and the outer periphery thereof being formed as a cylindrical section having outer mounting and sealing and locking surface means for cohesive and micromechanical locking engagement with an inner surface formed in one end of a wheel cylinder, and a cylindrically formed retaining ring in engagement with the inner surface of the outer periphery cylindrical section.

3,264,886
DRIVE- AND CONTROL-GEAR OF MACHINES FOR THE FORMING OF WORK PIECES WITHOUT CUTTING
Albert Marty, Ibach, Switzerland
Filed July 2, 1964, Ser. No. 379,933
Claims priority, application Switzerland, July 9, 1963, 8,503/63
4 Claims. (Cl. 74—40)



1. A drive- and control-gear for machines for the forming of work pieces without cutting, comprising in combination: a base, a support carriage guided for rectilinear reciprocating movement on said base, a first crankshaft and a second crankshaft both journalled on said carriage rotatably about axes transverse of the direction of reciprocating movement of said carriage, a tool for forming a work piece, said tool being mounted on said base for reciprocating movement relative thereto, connecting means linking said first crankshaft with said base, a linkage linking said tool with said second crankshaft, gearing connecting said two crankshafts with another synchronously and in the same sense of rotation with a phase difference, and a driving motor in operation continuously driving said crankshafts.

3,264,887
ROLLER VIBRATOR
Robert G. Holmes, Worthington, Ohio, assignor to Allis Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Nov. 29, 1963, Ser. No. 326,700
5 Claims. (Cl. 74—87)

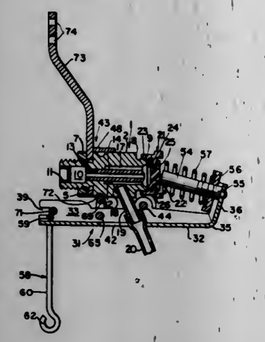


1. A roller vibrator comprising: support means adapted to be attached to a mass to be vibrated; a drive shaft having axially spaced journals supported by said means; an arm attached to said drive shaft for rotation therewith, said arm being located between said journals, said arm also extending radially from said drive shaft; a hinge shaft rigidly mounted in said radial extension of said arm substantially parallel to said drive shaft, one end of said hinge shaft projecting from said arm and being adjacent to one of said journals and the other end projecting from said arm and being adjacent to the other of said journals; link means comprising a pair of circular disks, each disk being pivotally connected to a different end of said hinge shaft; and a roller weight surrounding said drive shaft, arm, hinge shaft and disks; said roller weight, at spaced points, being rotatably attached around the circumference of each of said disks, said roller weight being adapted to rollingly engage said support means.

3,264,888
LATCH MEANS FOR DEVICES HAVING A PIVOTED OPERATING ARM
William P. Alburger, Hatfield, Pa., assignor to Fox Products Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 2, 1964, Ser. No. 415,328
7 Claims. (Cl. 74—102)

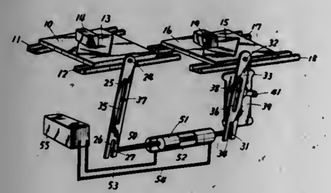
1. In a device of the type described comprising
a body member, an operating arm, and means mounting the arm for pivotal movement relative to the body member, the combination of
a connector device including a portion of limited transverse dimension;
means for engaging said connector device with the operating arm including at least one notch having an open throat, through which said portion of said connector device can be moved laterally, and a notch portion communicating with said throat and in which said portion of said connector device can be accommodated;
means carried by the body member and presenting a guide surface directed toward the operating arm; and
a latch member slidably carried by the operating arm for movement transversely thereof between a latching position and non-latching position,

said latch member including an element engaged in said one notch to prevent removal of said portion of said connector device from said notch portion so long as said latch member occupies said non-latching position,



said element of said latch member being disengaged from said one notch, allowing removal of said portion of said connector device, when said latch member is in said latching position, said latch member being slidably engaged with said guide surface.

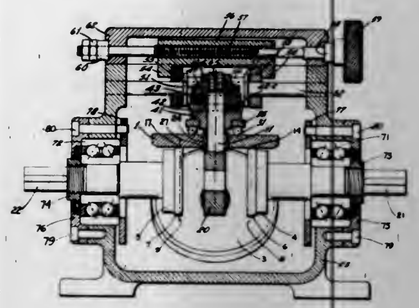
3,264,889
ELECTRONIC ENGRAVING MACHINE
Yoshihiro Machida, Shugakuin, Sakyo-ku, and Fumihiko Nishida, Nishi-iru, Kamikyo-ku, Kyoto, Japan, assignors to Dainippon Screen Seizo Kabuishiki Kaisha (Dainippon Screen Mfg. Co., Ltd.), Kyoto, Japan
Filed Oct. 22, 1963, Ser. No. 318,007
3 Claims. (Cl. 74—110)



1. In a two-table type electronic engraving machine with continuously variable reproduction scale, a lever mechanism comprising a lever rotatably journalled at its upper end to an engraving table, a lever rotatably journalled at its upper end to a copy table, means rotatably journalling the middle portions of said two levers to structural parts of the machine, a connecting rod, means longitudinally reciprocating said connecting rod, pins carried by the ends of said connecting rod and engaging in slots at the free ends of said levers, and means shifting the turning axis of either lever to produce the reciprocating motion of said two tables in accordance with the desired reproduction scale.

3,264,890
VARIABLE SPEED TRANSMISSION
Richard T. Erban, 145—38 Bayside Ave., Flushing, N.Y.
Filed Nov. 28, 1960, Ser. No. 72,193
15 Claims. (Cl. 74—196)

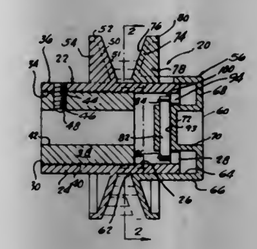
1. A variable speed transmission, comprising two shafts aligned on a common geometrical axis, a roller on each shaft, three discs having their axes of rotation intersecting each other in one point located substantially upon said common axis, each of said discs having a plane surface positioned at an angle of substantially 60° with respect to the plane surfaces of the other discs and facing inwardly towards said common axis each plane surface being in contact with both of said rollers, each of said discs having at its center a bore and a thrust bearing comprising a thrust race outwardly adjacent said disc and concentric with said bore, a free floating member having a central portion coaxially positioned in the space between said two rollers and the inward surfaces of said discs, said central portion being provided with three radial arms extending outwardly therefrom through the bores at the centers of said discs and through the said thrust races, an abutment means upon each of said radial arms adjacent each of said thrust bearings and adjustable radially



inwards for generating in each of said arms forces of radial tension whereby each of said discs through its respective thrust bearing is pressed into frictional driving contact with said two rollers, said radial arms and said central portion of said floating member being so constructed and associated with said arms that said forces of radial tension are transmitted through said arms to said central portion and equalized thereby, pressure means upon at least one of said arms adapted to increase the contact pressure between said discs and rollers, said pressure means comprising an element pivotally connected to said arm, an axially slidable control means including abutments engaging said element and constructed to prevent free rotational motion of said free floating member and said radial arms about said common axis while providing for free lateral adjustability of said member with respect to said common axis.

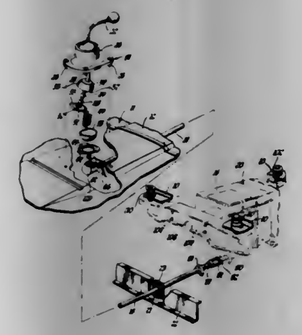
3,264,891
PULLEYS
Jiri J. Hovorka, North Miami Beach, Fla., assignor to International Rotary Machinery Corp., Miami, Fla., a corporation of Florida
Filed Feb. 18, 1964, Ser. No. 345,644
3 Claims. (Cl. 74—230.17)

1. A self-tensioning pulley assembly mounted on a rotatable shaft, for use with a belt of substantially V-shaped cross section, the pulley assembly comprising:
substantially cylindrical, externally threaded bushing means, fixed about the shaft;
tubular inner sleeve means with opposite ends, having a bore formed therein and extending therethrough with a threaded section and a smooth section, threadedly connected at the threaded section to the bushing means and rotatable therewith in fixed relation to the shaft;
an inclined first pulley wall, including inner and outer sides, fixedly secured to the sleeve means intermediate the ends thereof with a portion of the sleeve outer wall extended forwardly thereof;
spaced apart, radially extended support ribs extending between the wall outer side and the sleeve means;
tubular outer sleeve means journaled on the forwardly extended portion for forward and rearward sliding movement and having inner and outer ends;
an end wall fixed to the outer end of the outer sleeve means;



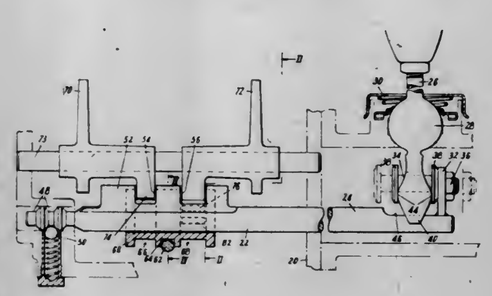
an upstanding second pulley wall fixed to the outer sleeve adjacent its inner end, the second pulley wall being oppositely inclined with respect to the first pulley wall;
spaced apart, radially extended support ribs extending between the second pulley wall and the outer sleeve means; and
cam means secured to the end wall of the outer sleeve means and extended inwardly thereof and secured to the smooth section of the inner sleeve means causing inward and outward movement of the outer sleeve means relative to the inner sleeve in response to changes in belt tension.

3,264,892
TRANSMISSION CONTROL LINKAGE
William H. Boman, Birmingham, and Charles E. Churchill, Farmington, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 24, 1964, Ser. No. 399,058
8 Claims. (Cl. 74—473)



1. In a control linkage, a lever support, a rod support, a control lever pivotally supported by said lever support for universal pivotal movement about a pivot point, a controlled rod supported by said rod support for rotary movement and for linear movement in one path of control lever movement, first movement translating means for translating pivotal movement of said control lever into rotary movement of said controlled rod and second movement translating means spaced from said first movement translating means on said controlled rod and said control lever for translating pivotal movement of said control lever into linear movement of said controlled rod.

3,264,893
GEARSHIFT MECHANISMS FOR CHANGE-SPEED GEARS
Thomas Charles Felix Stott, Harpenden, and Mario Joseph Maina, Luton, England, assignors to General Motors Corporation, a corporation of Delaware
Filed Aug. 5, 1963, Ser. No. 299,801
Claims priority, application Great Britain, Sept. 28, 1962, 36,872/62, 36,874/62; Apr. 11, 1963, 14,700/63, 14,701/63
17 Claims. (Cl. 74—477)



1. A gearshift mechanism for effecting displacement of coupling members of a change-speed gear between neutral and ratio-engaging positions, comprising a gearbox casing, a selector shaft projecting from the gearbox casing, a gearshift lever pivotally mounted remotely from the gearbox casing, a pivotal connection between the lower end portion of the gearshift lever and the free end of the selector shaft, a striker device rail mounted within the gearbox casing, a plurality of striker devices slidable along said rail to effect displacement of said coupling members, a plurality of striker device lugs extending from the respective striker devices, an axially extending key-like projection on said selector shaft defining a recess intermediate the ends of the projection, the lugs of the striker devices being spaced around the selector shaft and being disposed, when the mechanism is in a neutral position, in a common radial plane with the recess such that movement of the gearshift lever to effect rotary movement of the selector shaft causes any selected lug to lie within the recess and subsequent movement of the gearshift lever to effect axial movement of the selector shaft causes the key-like projection to engage the selected lug and thereby effect sliding movement of the selected striker device, the mechanism also comprising an interlock sleeve which is mounted on the selector shaft for rotation with the shaft, and detent means for preventing the interlock sleeve from moving axially relatively to the gearbox casing, the interlock sleeve defining a circumferential groove which is entered by the striker device lugs and also defining an axial groove which intersects the circumferential groove and is entered by the axially extending key-like projection, such that the said rotary movement of the selector shaft causes the selected striker device lug to enter the axial groove and the said subsequent axial movement of the selector shaft moves said lug along the axial groove, the walls of the circumferential groove preventing movement of the other lugs.

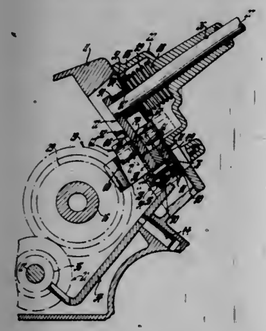
3,264,894
TRANSMISSION CONTROLS
George Popovich, Birmingham, and Edward S. Szczepanski, Mount Clemens, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 4, 1963, Ser. No. 314,013
12 Claims. (Cl. 74—477)

1. In a linkage mounted on a support;
(a) a pair of shiftable elements each movable along a path relative to the support each to a plurality of shift positions;



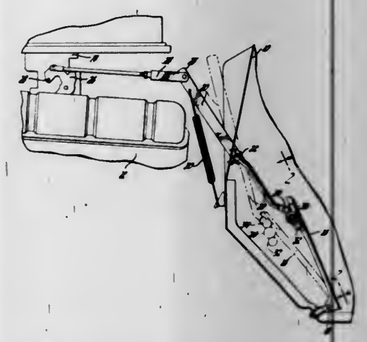
(b) interlock means employing a pair of interlock levers pivoted to the support and each lever having a portion movable relative to each element and having cam surfaces on each lever directly engaging each of said elements and means to bias both interlock levers into engagement with said elements to resiliently hold either element in the first position when the other element is in the first position and to positively lock either element in the first position when the other element is in a position other than the first.

3,264,895
CONTROL LINKAGE
John R. Turunen, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 8, 1963, Ser. No. 278,914
20 Claims. (Cl. 74—477)



6. In a gear selector mechanism of a character adapted to be secured to a transmission the combination of,
(A) support means,
(B) control means rotatably and slidably mounted in said support means,
(C) a plurality of shift fork means,
(D) supporting means supporting each shift fork means on said support means for reciprocal movement transverse of said control rod means between a plurality of positions,
(E) said control means being slidably movable to a selecting position corresponding to each shift fork means,
(F) means operatively connecting said control means to one shift fork means in each selecting positions to move one shift fork means between its plurality of positions when said control means is rotated,
(G) locking means slidably mounted in said supporting means conjointly movable with said control means to each selecting position,
(H) said plurality of shift fork means having lock means selectively co-operatively with said locking means in each selecting position to lock the non-selected shift fork means in one of their positions,
(I) and means on said supporting means and shift fork means to yieldingly hold said shift fork means in each of their positions.

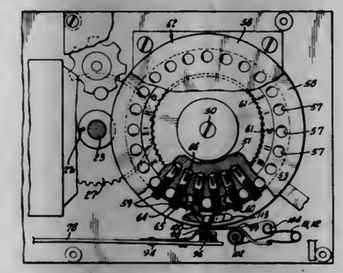
3,264,896
VARIABLE RATIO LEVER MECHANISM
Rodolph J. Gorsky, Fenton, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 14, 1964, Ser. No. 382,452
5 Claims. (Cl. 74—516)



3. In an engine driven vehicle having a throttle adapted to control the speed thereof, linking means connected to the throttle, a lever pivotally mounted in the vehicle and connected to said linking means and adapted to impart movement thereto, said lever having a multiplicity of spaced contact points located thereon, an accelerator pedal pivotally mounted in the vehicle, said pedal having a multiplicity of spaced contact points located thereon which upon pivotal movement of said pedal successively bear against said contact points on and impart pivotal movement to said lever whereby a multiplicity of ratios is available for opening the throttle through said linking means and said lever from said pedal, and resilient means located on one of said lever and said pedal adjacent the contact points thereon which upon pivotal movement of said pedal bears against a portion of the other of said lever and said pedal adjacent the contact points thereon to provide a smooth transition between the available ratios.

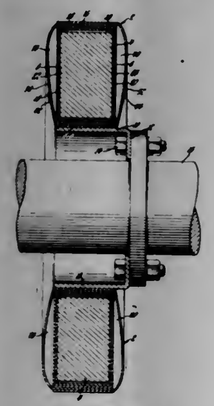
3,264,897
ADJUSTABLE CAM
Arthur J. Berger, 123 N. Highland Place, Croton-on-Hudson, N.Y.
Filed Jan. 27, 1964, Ser. No. 340,183
3 Claims. (Cl. 74—568)

1. A multiple peripherally adjustable cam which comprises:
a cam body having a plurality of spaced radial apertures arranged in aligned rows lengthwise thereof
said cam body also having axial apertures lengthwise thereof, and each partially intersecting one row of said radial apertures
cam adjust members having threaded areas disposed in said radial apertures and movable therein and thereout
an adjusting tool having a shaft and an operating head portion
said head portion having grooves thereon for mating engagement with said threaded areas



whereby the ends of said members will constitute a plurality of cam surfaces and said surface may be adjusted by inserting said tool in said axial apertures and any of said members positioned independently.

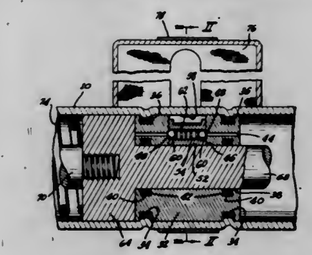
3,264,898
TORSIONAL VIBRATION DAMPER
Bernard E. O'Connor, 8904 Rindge, Playa Del Rey, Calif.
Filed July 29, 1964, Ser. No. 385,952
5 Claims. (Cl. 74—574)



1. A torsional vibration damper comprising a round casing adapted to be secured to a rotary member for rotation therewith, said casing having a chamber therein containing a liquid and an inertia member supported within said casing for rotation with respect thereto, said inertia member being in frictional slidable relationship with a wall of said fluid chamber, at least a portion of said wall being movable more closely toward said inertia member responsive to increased pressure within said chamber such that the frictional contact pressure between the casing and the inertia member is proportional to the fluid pressure in the chamber.

3,264,899
FLUID LOCK DEVICE
William H. Swan, Quincy, Mich., assignor, by mesne assignments, to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Michigan
Filed Jan. 13, 1964, Ser. No. 337,192
6 Claims. (Cl. 74—586)

1. A fluid locking device comprising, in combination,
(a) an elongated tubular cylinder, having first and second ends,
(b) anchor means affixed to said cylinder first end,
(c) a spring abutment affixed to said cylinder adjacent said second end,
(d) a partition fixedly mounted within said cylinder intermediate the ends thereof and sealed with respect thereto,
(e) a piston rod within said cylinder slidably extending through said partition and sealed with respect thereto,
(f) a first piston within said cylinder and mounted on said piston rod intermediate said cylinder second end and said partition,
(g) a second piston within said cylinder and mounted on said piston rod intermediate said cylinder first end and said partition,
(h) a piston rod extension extending from said cylinder second end,
(i) a compression spring within said cylinder operatively interposed between said spring abutment and said first piston,
(j) an orifice defined within said partition establishing fluid communication between the cylinder chambers

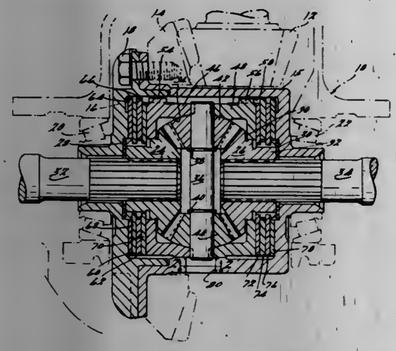


defined by said first piston and said partition, and said second piston and said partition,
(k) an opening defined in said partition transversely intersecting said orifice, said opening defining a pair of orifice seats at the intersection with said orifice,
(l) a valve member movably mounted within said opening having a passage defined therein adapted to align with said orifice at a first position of said valve member within said opening permitting fluid passage through said orifice,
(m) a pair of check valve members within said passage, each check valve member adapted to sealingly cooperate with an orifice seat upon positioning said valve member to a second position preventing fluid flow through said orifice,
(n) said cylinder and partition being formed of a nonmagnetic material and said valve member being formed of a magnetic material, and
(o) a magnet associated with the exterior of said cylinder disposed adjacent said partition and valve member adapted to selectively position said valve member between said first and second positions.

3,264,900
DIFFERENTIAL
Perry B. Hartupee, Dearborn, Mich., assignor to Powr-Lok Corporation, a corporation of Michigan
Filed June 14, 1962, Ser. No. 202,528
21 Claims. (Cl. 74—711)

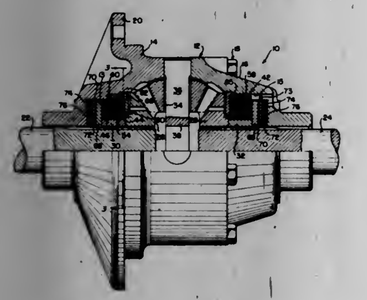
1 A differential for receiving torque from a power source and delivering it to two separate output axles, said axles defining the axis of the differential, comprising a rotatable case, a pair of axially separated and axially movable pressure rings disposed inside said case on said axis, a pair of axially separated side gears disposed inside said case on said axis and having means for drive connection to said axles, respectively, a pair of pinions inside

said case on opposite sides of said axis and each in toothed engagement with both side gears to provide a differential gearing, a spider pin extending diametrically across said axis, said pinions being rotatably mounted on opposite ends of said spider pin, said spider pin having round outer surfaces at opposite ends, said pressure rings having circular cam surfaces in contact with said spider pin surfaces to provide cam means, means connecting the



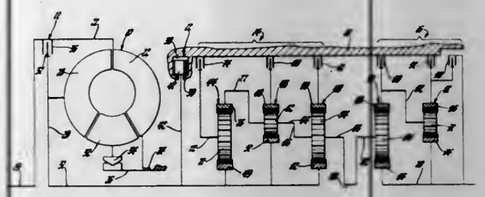
pressure rings to the case to rotate at all times with the case, and providing for axial movement of the rings relative to each other and to the case, clutch means operated by axial spreading apart of the pressure rings for delivering torque from the case to said axles and substantially by-passing said differential gearing, relative movement of said spider pin surfaces and said pressure ring cam surfaces causing said axial spreading of said pressure rings to operate said clutch means.

3,264,901
LIMITED SLIP DIFFERENTIAL
Russell C. Ferbitz, Clawson, and Stanley E. Chocholek, Madison Heights, Mich., assignors, by mesne assignments, to Rockwell-Standard Corporation, a corporation of Delaware
Filed May 22, 1964, Ser. No. 369,505
7 Claims. (Cl. 74—711)



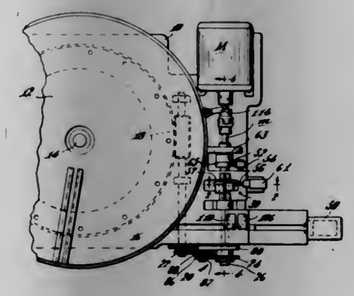
1. A limited slip differential mechanism comprising a driven casing, a plurality of pinions carried by said casing, a pair of aligned output shafts rotatably carried by said casing, side gears meshing with said pinions, said side gears being drivingly connected to the inner ends of said shaft and mounted for axial movement thereon, a pair of clutch assemblies within said casing, each adapted, when engaged, to lock one of said shafts to said casing, means constantly spring urging said clutch assemblies toward engaged positions, and means responsive to the application of driving torque to said casing to release said clutches.

3,264,902
TRANSMISSION
Ulysses A. Breting and Marion D. Smith, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 9, 1964, Ser. No. 336,692
9 Claims. (Cl. 74—764)



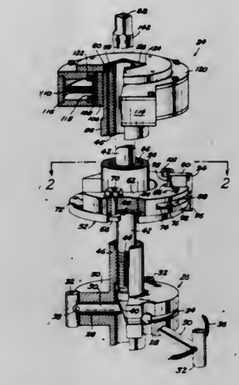
1. In a transmission drive train the combination of
(a) an input member, an output member, an intermediate member, a bidirectional gear unit including first, second and third reduction planetary gear sets to drivingly connect said input member to said intermediate member and a unidirectional gear unit including first and second overdrive planetary gear sets to drivingly connect said intermediate member to said output member,
(b) said first reduction planetary gear set having an input element drivingly connected to said input member, a reaction element, an output element drivingly connected to said intermediate member and a brake for said reaction element which when retarded and said input member is rotated causes said intermediate member to rotate in the same direction and at a reduced speed relative to said input member to provide a first forward reduction ratio,
(c) said second reduction planetary gear set having an input element drivingly connected to said input member, a reaction element, an output element drivingly connected to said intermediate member and a brake for said reaction element which when retarded and said input member is rotated causes said intermediate member to rotate in the same direction and at a reduced speed relative to said input member less than the relative speed difference provided by said first reduction planetary gear set to provide a second forward reduction ratio lower than said first forward reduction ratio,
(d) said third reduction planetary gear set having an input element drivingly connected to said input member, a reaction element, an output element drivingly connected to said intermediate member and a brake for said reaction element which when retarded and said input member is rotated causes said intermediate member to rotate in the opposite direction and at a reduced speed relative to said input member to provide a reverse reduction ratio,
(e) said first overdrive planetary gear set having an input element drivingly connected to said intermediate member a reaction element, an output element drivingly connected to said output member and a brake for said reaction element which when retarded and said intermediate member is rotated causes said output member to rotate in the same direction and at an increased speed relative to said intermediate member to provide a first overdrive ratio,
(f) said second overdrive planetary gear set having an input element drivingly connected to said reaction element of said first overdrive planetary gear set, a reaction element, an output element drivingly connected to said output member and a brake for said reaction element which when retarded and said input element of said first overdrive planetary gear set is rotated by said intermediate member causes said output element of said first overdrive planetary gear set to provide a reaction to rotate said reaction element of said first overdrive planetary gear set and said input element of said second overdrive planetary gear set in the same direction and at a reduced speed relative to said input element of said first overdrive planetary gear set and causes said output member to rotate in the same direction and at an increased speed relative to said intermediate member less than the relative speed difference provided by said first overdrive planetary gear set to provide a second overdrive ratio lower than said first overdrive ratio,
(g) a clutch in said unidirectional gear unit operable to selectively prevent relative rotation between said intermediate member and said output member to provide in said unidirectional gear unit a direct drive ratio,
(h) and said output element of said second reduction planetary gear set being drivingly connected to said intermediate member via said output element of said first reduction planetary gear set and said output element of said third reduction planetary gear set being drivingly connected to said intermediate member via said output element of said second reduction planetary gear set and said output element of said first planetary gear set.

3,264,903
INDEXING MECHANISM FOR MACHINE TOOLS
Oliver W. Bonnafe, Hudson, Mass., assignor to The Lapointe Machine Tool Company, Hudson, Mass., a corporation of Maine
Filed Mar. 15, 1961, Ser. No. 95,871
21 Claims. (Cl. 74—825)



1. In combination with a machine tool, means supporting a work-supporting table and a tool for relative movement to perform an operation on a work piece supported by the table; indexing means for automatically effecting relative movement of said work-supporting table and said tool in equal increments between successive operations, means operating, following a predetermined one of a number of indexing operations, to index the table a further amount, means operating, at a predetermined time, following the further movement of the table to restore it to the position it occupied prior to said additional movement, and means operating, by restoration of the table to said original position, to reinstate operation of the indexing means for effecting movement of the table equal increments.

3,264,904
CYLINDER RIDGE REMOVER
James M. Moore, 1929 Prospect St., National City, Calif.
Filed May 28, 1964, Ser. No. 370,996
2 Claims. (Cl. 77—2)

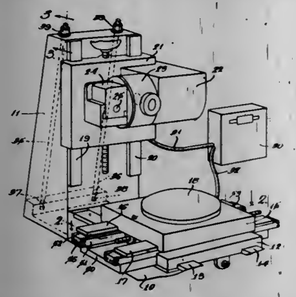


1. A cylinder ridge reamer, comprising in combination:
(A) a support including:
(1) a block forming a turntable support and having a central opening;
(2) an upwardly extending sleeve formed integrally with the block, the opening in the block being axially aligned with the opening in the sleeve;
(3) a plurality of radially movable shoes extending outwardly of the block;
(4) a cone axially aligned with the sleeve and engageable with the inner ends of the shoes;
(5) a stem for axially moving the cone, said stem being axially aligned with the sleeve and threadedly attached to the sleeve;
(B) a turntable supported by the turntable support and including:
(1) a sleeve surrounding and guided by the first mentioned sleeve;
(C) a cutting tool attached to the turntable and rotatable therewith;
(D) an assembly including:
(1) a gear housing;
(2) a worm within the housing;
(3) a worm gear within the housing and meshing with the worm;
(4) a sleeve rotated by the worm gear;
(E) means forming a removable driving connection between the last mentioned and second mentioned sleeves;
(F) means for rotating the worm;
(G) and means on the first mentioned sleeve and the gear case for preventing rotation of the gear case relative to the support.

3,264,905
MACHINE TOOLS
Carl F. Erikson, Belvidere, Ill., assignor to Sundstrand Corporation, a corporation of Illinois
Filed Apr. 23, 1963, Ser. No. 275,078
5 Claims. (Cl. 77—3)

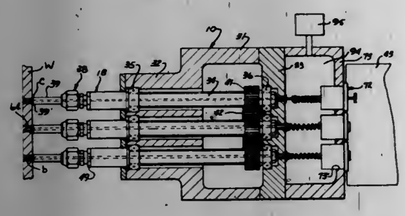
1. In a numerically controlled machine tool, a column having a pair of spaced apart ways, a slide mounted on said ways and having a spindle and spindle head positionable at different elevations on said column, and a pair of members extending for substantially the length of the

the column and adjacent the rear thereof, each of said members being positioned generally in front to rear alignment with a respective one of said ways, and adjustable



means operatively connecting each of said members to said column for stressing each of said members to a desired degree and placing corresponding compression on said column.

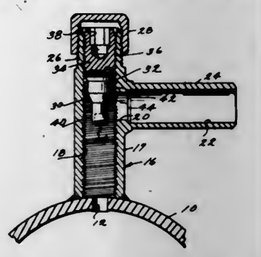
3,264,906
MACHINE TOOL SPINDLE ASSEMBLY
Robert W. Swords, 2912 Rural St., Rockford, Ill.
Filed July 16, 1964, Ser. No. 383,189
14 Claims. (Cl. 77—5)



1. In a machine tool including a spindle assembly and means for effecting relative movement between the spindle assembly and a workpiece along a path generally axially of the spindle, the spindle assembly including a rotatable tool holding spindle and a cutting tool carried by the spindle, means for rotating the spindle about its axis, the tool having a lengthwise passage therein, a probe element extending through said passage in the tool and having one end projecting outwardly of the outer end of the tool, said probe element being axially slidable relative to said tool, and machine control means operated in response to relative axial movement between the tool and probe element.

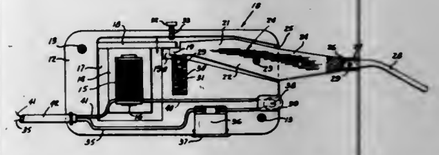
3,264,907
PERFORATOR WITH SLUG RETAINING FEATURES
Frank H. Mueller, Wilbur R. Leopold, Jr., Carl E. Floren, and Lynn D. Edwards, Decatur, Ill., assignors to Mueller Co., Decatur, Ill., a corporation of Illinois
Filed Oct. 21, 1964, Ser. No. 405,427
8 Claims. (Cl. 77—38)

1. A cutting tool for tapping a hole in a main by cutting a coupon from the wall of the main and retaining the coupon after the same is cut, said cutting tool comprising: an elongated plug-like body member having a driving socket at one end thereof and a closed bottom circular bore at the other end thereof; said body member having a first body portion adjacent the end with the drive socket, said first body portion having exterior threads thereon, said body member having a second body portion adjacent the end with the closed body circular bore, said second body portion being of reduced diameter with respect to said first body portion through any plane thereof normal to the axis of the body member and having a forward tapered cutting end portion and a back tapered shank portion whereby said second body portion has a maximum diameter in a plane normal to the axis of the body member in an area between the shank portion and the cutting end portion thereof; said cutting end portion having a flat forward facing cutting edge de-



fined by a pair of slopes of different degrees relative to a plane normal to the axis of the body member, said slopes intersecting in a single radially extending cutting point and merging into a flat arcuate portion lying in a plane normal to the axis of the body member, said closed bottom circular bore having interior threads designed to receive the coupon as the same is cut from the wall of the main whereby the coupon is retained in the cutting tool.

3,264,908
VIBRATORY LOCK PICK
Lloyd L. Moore, 2107 NE. Union Ave., Portland, Oreg.
Filed Aug. 24, 1964, Ser. No. 391,523
6 Claims. (Cl. 81—3)



1. A lock pick comprising, in combination, a body forming a handle, a laminated core surrounded by a coil in said body, a magnet adjacent said coil and selectively energizable thereby, an elongated bar mounted for oscillating movement in said body adjacent said magnet, an electric circuit connected to said coil, means for connecting said circuit to a source of alternating current to impart oscillating vibration to said bar, a lever pivoted in said body having one end in contact with said bar for oscillating vibration thereby and its other end extending outwardly through an opening in said body, and a needle adapted to be inserted into the key opening of a tumbler lock for vibrating the tumblers thereof fixed to said other end.

3,264,909
TWEEZERS
Harold Block, Oak Park, Mich., assignor to Futurex Products Corp., Detroit, Mich., a corporation of Michigan
Filed Sept. 28, 1964, Ser. No. 399,769
3 Claims. (Cl. 81—43)

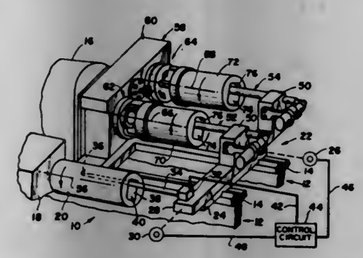
1. A retracting tweezer, comprising: a U-shaped jaw member having bent sections in each of its legs; a U-shaped gripper member surrounding said jaw member and having its ends engaging the bent sections of the legs of the jaw member; a cover member including a pair of flat

surfaces extending over the sides of the gripper member; and an elongated spring having a center section abutting the bight in said gripper member and having crossed legs each having their ends abutting the bight of said jaw



member, whereby pressure on a gripper member first causes said jaw members to close and then causes said jaw members to retract with respect to said gripper member against the pressure of the spring.

3,264,910
MULTIPLE SPINDLE HEAD ASSEMBLY
James J. Kindelan, Greensburg, Pa., assignor to Overmyer Mould Company of Pennsylvania, Greensburg, Pa., a corporation of Pennsylvania
Filed May 22, 1964, Ser. No. 369,387
8 Claims. (Cl. 82—3)



1. A thin, compact spindle head assembly adapted for mounting on a bed of a lathe adjacent to the driving spindle of said lathe, comprising in combination: a casing extending transversely of said bed; means for detachably securing said casing to said bed; a plurality of spaced-apart spindles extending through said casing and supported thereon for rotation about spaced, parallel axes extending parallel with said bed; support members, one each secured to the adjacent ends of each of said spindles, each of said support members supporting a workpiece in axially-aligned relation with the axis of rotation of the spindle carrying the same; means for connecting one of said spindles to said driving spindle of said lathe; and a driving train disposed within said casing for connecting all of said spindles in driving relation with one another, said driving train comprising a plurality of meshing gear members aligned along a common plane.

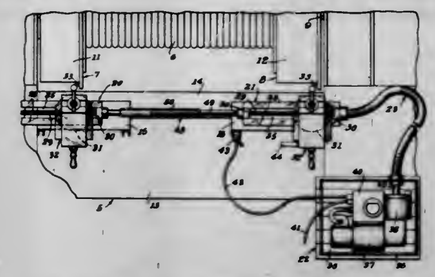
3,264,911
PORTABLE DRUM FLANGE TURNING MACHINE
Vern H. Crider, 2530 Bank St., Bakersfield, Calif.
Filed Dec. 2, 1963, Ser. No. 327,238
2 Claims. (Cl. 82—4)

1. A portable machine for turning the brake flanges at the ends of a drum of a draw works, said machine comprising:

(a) two similar and longitudinally aligned machining components adapted for removable mounting in spaced fixed position,

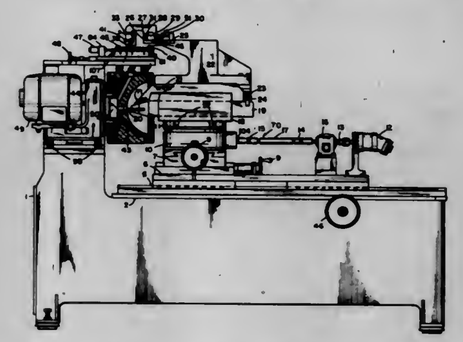
(b) a drive component adapted for non-secured position relative to the draw works,

(c) an articulated driving connection from said drive component to one of said machining components, and



(d) a telescopically extensible drive connection between the machining components to permit selective longitudinal spacing of the machining components.

3,264,912
PRECISION LATHES
Victor M. Hovis, Jr., Kingston, and Edward E. Palmer, Knoxville, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 16, 1964, Ser. No. 404,529
5 Claims. (Cl. 82—14)



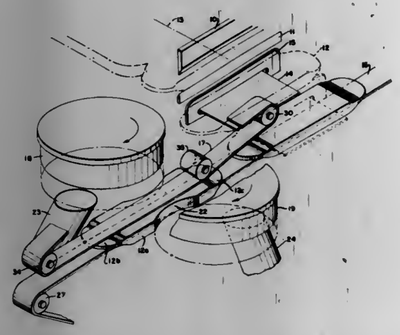
1. A precision tracer lathe comprising a body, a rotating spindle mounted on the body and having a work mounting chuck thereon, a rotating table mounted on the body, a floating slide hydraulically mounted by the table for mounting a cutting tool, a scanner mounted on the slide for scanning a pattern to produce signals, means responsive to the signals from the scanner for actuating the slide to bring the tool into contact with the workpiece and produce a cut that conforms to a pattern.

3,264,913
METHOD AND APPARATUS FOR SIMULTANEOUSLY NOTCHING OPPOSITE EDGES OF PRODUCT PIECES
Richard D. Anderson, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Apr. 26, 1965, Ser. No. 450,676
8 Claims. (Cl. 83—24)

1. In a method of making a catamenial napkin pad, the steps of holding such a pad in position for cutting and cutting out each side edge portion of the pad by applying a knife to the pad and moving the knife through the thickness of the pad and in a curved path that extends from

the side edge of the pad inwardly of the pad and then back to the same side edge so as to thereby provide curved side edges to the pad for fitting the thighs of the wearer.

3. In apparatus for making a catamenial napkin pad, a support on which a pad may be positioned, a knife, means for mounting said knife for rotation about an axis that extends at an angle to said support and at a radius that



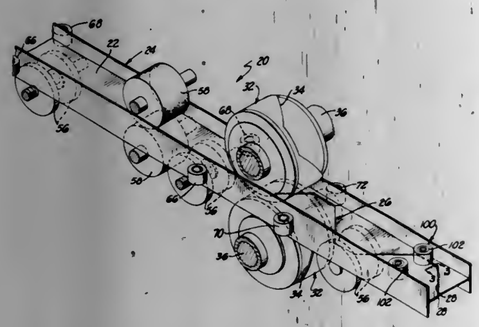
intersects with a side edge of a pad positioned on the support, and means for moving said knife in the direction of its said axis and for simultaneously rotating the knife about said axis so that said knife passes through the pad in a round path and severs a side edge portion from the pad to thereby provide a round contoured side edge to the pad for fitting the thigh of the wearer.

3,264,914

METHOD OF MAKING CASTELLATED BEAMS

Carl L. Lodjic, Long Beach, Calif., assignor to Stanray Corporation, Chicago, Ill., a corporation of Delaware

Original application Dec. 30, 1963, Ser. No. 334,384. Divided and this application Aug. 3, 1965, Ser. No. 476,913
6 Claims. (Cl. 83—25)



1. A method of dividing a member into two interfitted parts, including the step of:

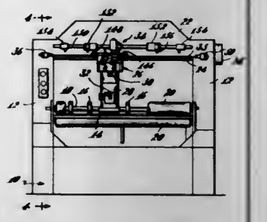
(a) shearing said member into two parts in a direction perpendicular to a surface of said member and along a nonlinear line, while simultaneously relatively displacing said parts of said member in said direction a distance less than the thickness of said member, so as to provide said parts of said member with interfitted nonlinear edges coinciding with said nonlinear line and tending to remain frictionally interengaged to frictionally lock said parts of said member together.

3,264,915

AUTOMATIC CUTTING MACHINE

Evald O. Peterson, Lynnfield Center, Frederick A. Prahl, Jr., Harvard, and Joseph A. Vitka, Jr., Winchester, Mass., assignors to Compo Shoe Machinery Corporation, Waltham, Mass., a corporation of Delaware

Filed July 17, 1964, Ser. No. 383,378
19 Claims. (Cl. 83—71)



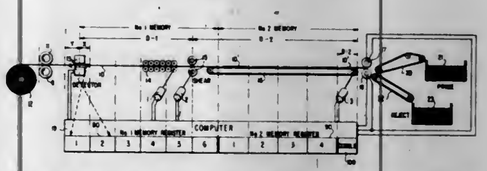
1. In an automatic die-cutting machine, a platen for supporting sheet material, a die, means supporting the die for movement transversely of the platen and for movement perpendicular to the platen into cutting engagement with the sheet material resting on the platen, drive means for effecting transverse movement of said means supporting the die step-by-step from one longitudinal edge of the material to the other, mutually cooperable means including a plurality of first means positioned at predetermined intervals transversely of the platen and second means movable with the support operable, in cooperation with each of said first means, to arrest operation of said drive means, and means for adjusting the relative positions of said mutually cooperable means to enable arresting movement of said drive means and hence of said means supporting the die in precisely the same position with respect to each of said first means each time its operation is effected by one of said first means.

3,264,916

SHEARING LINE, SINGLE SHEET CLASSIFIER

Albert G. Owen, 4409 Driftman Drive, Monroeville, Pa.

Filed Sept. 20, 1963, Ser. No. 310,278
18 Claims. (Cl. 83—80)



1. In apparatus for classifying sheet material moving at high speed including shear means for cutting said sheet material from a strip in predetermined lengths, and deflecting means for sorting the sheet material in accordance with the characteristics of the sheets, the combination comprising, a detector disposed to respond to a characteristic in said material while in strip form, first means producing signals representative of the advancement of the strip from said detector toward the shear means, second means producing signals representative of operation of the shear means, means for determining from said signals which sheet to be subsequently cut from the strip is being inspected by said detector at any given instant and thereby at the time a given characteristic in the strip is signaled by said detector determining which sheet to be subsequently cut from the strip has said characteristic, first memory means operated by said signals for remembering the location of the sheet having the characteristic in its passage through the shear means, third means producing signals representative of the advancement of the sheared sheets away from said shear means, second memory means connecting to said first memory means for following the location of the sheet having the characteristic in its passage from the shear to the deflecting means, means for determining from said first, second and third means the number of sheets between the shear means and deflecting means for controlling said second memory means, and means operated by said second memory means for operating said deflecting means to classify sheets having the characteristic from sheets that do not have the characteristic.

3,264,917

SHEET HANDLING SYSTEM

Frank L. Califano, Hackensack, and Paul N. Shutak, Kearny, N.J., assignors to The Flintkote Company, New York, N.Y., a corporation of Massachusetts

Filed Feb. 11, 1964, Ser. No. 344,013
3 Claims. (Cl. 83—94)



1. A sheet handling and conveying line comprising means for feeding a wide web of material; means for cutting the web longitudinally and transversely to form sheets; conveyor means for receiving series of sheets cut from different locations across the width of the web and conveying them in separate lanes; a plurality of deflector elements at the delivery end of said conveyor means; each of said deflector elements being aligned with one of said lanes and being movable between a normal through position and a reject position wherein sheets are directed from its one associated lane; second conveyor means receiving sheets travelling across said deflector elements when the same are in said through position; a driving means individually connected to each of said deflector elements for moving it between said positions; high speed automatic stacking apparatus at stations located to receive sheets from lanes of said second conveying means; and a control system for all of said driving means comprising: two sets of visual indicators located respectively at said stacking apparatus and at a station adjacent said cutting means, both of said sets each having a plurality of visual indicators, each said indicator being responsively coupled to one of said deflectors and operative to emit a signal indicating if the deflector is in said through position or reject position, a single manually operable control element at said cutting means station, means connecting the last-mentioned control element to all of said driving means to effect movement of said deflectors in all lanes simultaneously between said through and reject positions. a plurality of manually operable control elements closely combined with and corresponding to said set of indicators at said stacking apparatus, and plural means individually connecting each of the last-mentioned control elements to one of said driving means similarly to effect movement of its associated deflector element between said through and reject positions.

3,264,918

APPARATUS FOR TESTING ELECTRICAL COMPONENTS

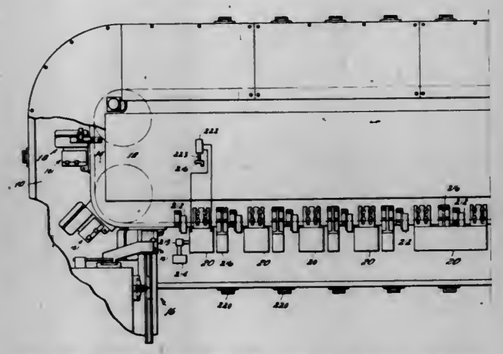
David H. Lockart, Womelsdorf, Pa., assignor to Western Electric Company, Incorporated, a corporation of New York

Filed Oct. 11, 1961, Ser. No. 144,366
18 Claims. (Cl. 83—160)

1. An apparatus for testing electrical components mounted on successively integral card-like portions of dielectric strips with leads of the components held in relative spaced positions on their respective portions of the strips comprising:

a single endless conveyor movable intermittently like distances between intervals of rest,

like holders for the individual card-like portions mounted at spaced positions on the conveyor with vertical centers disposed said like distances apart,



separate means disposed at spaced feeding stations mounted adjacent the conveyor to cut the strips into card-like portions with the components and their spaced leads held individually thereon,

test units mounted at test stations extending from each feeding station and positioned said like distances apart, and

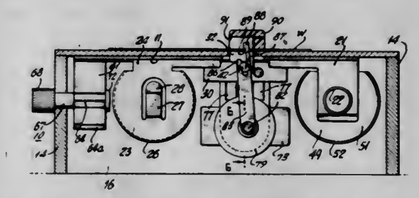
means disposed at the test stations to move the holders to cause electrical connection of the leads of the components thereon with the test units.

3,264,919

SNIPPING DEVICE

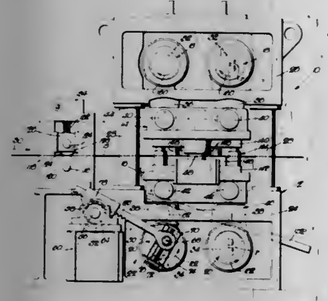
Gustav J. Pawelka, Sunset Ave., Glenwood Landing, N.Y., and Frederick H. Kroll, 72 Wood Hollow Lane, New Rochelle, N.Y.

Filed Aug. 31, 1964, Ser. No. 393,325
8 Claims. (Cl. 83—237)



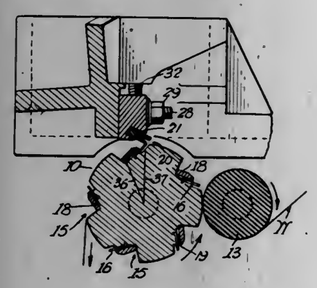
1. A web cutting apparatus comprising a horizontal guide plate having an opening formed therein, a shear plate registering with said opening and provided with a shear edge substantially at the level of the upper face of said guide plate and a substantially vertical face depending from said shear edge, a blade member mounted for rocking movement about a horizontal axis substantially perpendicular to said vertical face and sliding movement along said vertical face and provided at its upper end with a forwardly directed cutting element having a downwardly directed blade edge movable with said blade along a path vertically across said shear edge, a guide member positioned a short distance above said guide plate and overlying said opening, said guide member having a longitudinal slot formed in the underface thereof slidably engaging the upper end of said blade, and a drive motor connected to said blade and rocking said blade about said horizontal axis and reciprocating said blade relative to said shear edge.

3,264,920
FLYING PRESS
Karl W. Hallden, Thomaston, Conn., assignor to The Hallden Machine Company, Thomaston, Conn., a corporation of Connecticut
Filed Apr. 21, 1964, Ser. No. 361,450
8 Claims. (Cl. 83—311)



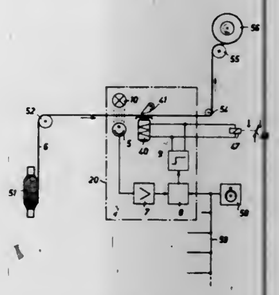
1. In a flying press, the combination of a set of spaced pivots and arms swingable thereon; a set of spaced eccentrics and arms swingable on said eccentrics as pivots; opposite companion platens for mounting a die set, said platens having pivot connections with said arms of said sets, respectively, and forming therewith parallelogram systems swingable about said pivots of the respective sets with the platens in parallelism with each other; guide means on one of said platens slidably receiving the other platen for solely guiding said platens for their operational strokes in alignment with each other and for transmitting swinging motion of one system to the other system; drive means for said eccentrics to impart operational strokes to the associated platen; and a device operatively connected with, and operative to impart swinging motion to, said one system.

3,264,921
SHEAR CUT PERFORATOR
Ernst Daniel Nystrand, Green Bay, Wis., assignor to Paper Converting Machine Company, Inc., Green Bay, Wis., a corporation of Wisconsin
Filed Mar. 4, 1965, Ser. No. 437,226
5 Claims. (Cl. 83—342)



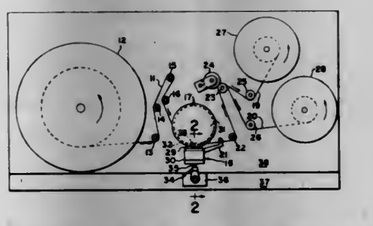
1. In web perforating apparatus, a frame, a cutting bedroll mounted for rotation in said frame, means for rotating said roll, means for feeding a web on said roll in partial wrapping engagement therewith, said roll having an axially-extending recess in the surface thereof and a rigid bearing surface within said recess, a resilient blade having its inner edge portion rigidly supported on said bearing surface and having an inclined, outwardly-extending free portion provided with a cutting edge, said roll being provided with a further recess about said outwardly-extending free blade portion for relieving the same for flexing, the inclination of said blade being such that it forms with a radial line drawn from its cutting edge to the roll center an acute angle, a radial line drawn to said inner edge being forward of the first-mentioned radial line relative to the direction of roll rotation, an anvil blade-supporting member mounted on said frame adjacent said roll adapted to support an anvil blade for contact with said roll blade, said member being equipped with a rigid bearing surface, a resilient anvil blade having its inner edge portion supported on said member bearing surface and having an inclined, outwardly-extending free portion provided with a cutting edge, said member being provided with a recess about said anvil block outwardly-extending free portions for relieving the same for flexing, the inclination of said anvil blade being such that it forms with a radial line drawn from its cutting edge to the roll center an obtuse angle, said anvil blade inner edge portion being rigidly supported on said member bearing surface when said blades are perforating webs sized within the limits of proper adjustment of said blades, said anvil blade cutting edge being radially inward of the path of travel of the roll blade cutting edge to interfere with the same, said anvil blade being arranged with its cutting edge at an angle to the cutting edge of said roll blade as the cutting edges of said blades are brought into engagement during the rotation of said roll whereby a progressive point cutting is developed, one of said blades being equipped with a plurality of notches in its cutting edge to provide perforation bonds in said web, said member being fixed against rotation when said blades are perforating webs sized within the limits of proper adjustment of said blades.

3,264,922
FIBER GAUGING-CUTTING MEANS AND COMPONENTS THEREFOR
Siegfried Peyer, Kantonsstrasse, Bach, Schweiz, Switzerland
Filed July 22, 1963, Ser. No. 296,605
Claims priority, application Switzerland, July 23, 1962, 8,770/62
14 Claims. (Cl. 83—365)



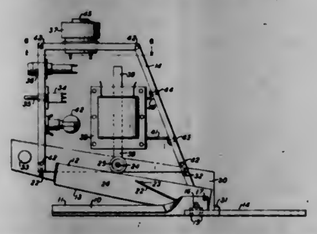
12. Thread gauging and cutting apparatus comprising, means to guide a fiber along a path providing a fiber-scanning zone, source means of diffused scattered light on one side of the axis for said zone, said source means being a radiator of said light over an emitting area subtending an obtuse angle from said axis in a plane normal thereto, photoelectric means on the opposite side of said axis and in optically coupled relation with said source means to receive light energy from said area as a function of the cross-sectional dimensioning of a length of fiber in said zone and to convert said light energy into an electric indicating signal of the acceptability or non acceptability of said dimensioning, fiber-cutting means adjacent said zone, and control means responsive to said signal when indicative of non-acceptability of said dimensioning to actuate said fiber-cutting means.

3,264,923
TAPE APPARATUS
Walter J. Waitzman, Menlo Park, Calif. (3564 G Road, Rte. 1, Box 54, Palisade, Colo. 81526)
Filed Feb. 15, 1965, Ser. No. 432,790
6 Claims. (Cl. 83—427)



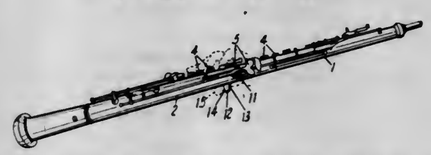
1. A tape slitter adapted to slit a tape, advanced from a supply source to a take-up unit, lengthwise into portions of predetermined width comprising:
a guide member having a surface over which said tape is advanced in its path from said supply source to said take-up unit;
slitting means having a cutting edge interposed in the path of the tape between said supply source and said take-up unit and projecting into said guide member, said surface being provided with a channel for receiving said cutting edge, said guide member surface being cam-shaped; and
means operatively connected to said guide member for causing movement of said guide member with respect to said cutting edge as said tape is advanced from said supply source to said take-up unit, thereby causing relative movement of said tape along said cutting edge as said tape is advanced from said supply source to said take-up unit.

3,264,924
CUTTING MECHANISM
Eliezer Yaron, 3812 Church Ave., Brooklyn, N.Y.
Filed June 3, 1965, Ser. No. 460,895
8 Claims. (Cl. 83—575)



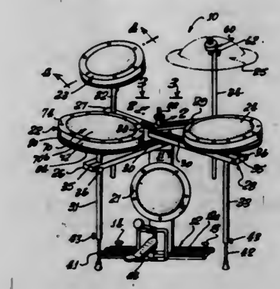
4. A cutting mechanism comprising two blades each having a front cutting section, a pivot section and a rear section; each of said blades having a cutting edge along its cutting section; pivot means for connecting the pivot sections of said two blades for allowing said blades to rotate relative to each other to enable said cutting edges to engage in a cutting action; and means connected between the rear sections of said blades for forcing said front cutting sections toward each other and for turning said blades away from each other such that during a cutting action the only contact between said front cutting sections is the contact of the cutting edge of one of said cutting sections with the cutting edge of the other of said cutting sections.

3,264,925
MUSICAL INSTRUMENTS OF THE OBOE, BASSOON AND CLARINET TYPES
Roy Jackson Linton, Sr., Elkhart, Ind., assignor to Linton Manufacturing Company, Elkhart, Ind.
Filed Nov. 14, 1963, Ser. No. 323,756
6 Claims. (Cl. 84—380)



1. A musical instrument of the class described comprising inner and outer tubular body members formed of thermoplastic material, each body member being provided with a plurality of key openings and with keys provided with fingerpieces disposed generally at the upper sides of the body members, the outer body member having an annular coupling unit socket of uniform diameter and of substantial width in its inner end, the inner body member having a coupling member disposed in fitting telescoping engagement within said socket and having an external annular groove of substantial width and a friction sleeve fittingly engaged in said groove, the outer body member having an external groove at its inner end and having an annular reinforcing sleeve fittingly disposed in said groove, said outer body member having a thumbpiece moulded integrally therewith and projecting downwardly therefrom adjacent but outwardly spaced from said coupling means at its inner end.

3,264,926
DRUM PRACTICE SET WITH SINGLE COLUMN FOLDABLE ASSEMBLY
Remo D. Belli, North Hollywood, Calif., assignor to Remo, Inc., North Hollywood, Calif., a corporation of California
Filed Oct. 21, 1965, Ser. No. 499,992
5 Claims. (Cl. 84—411)

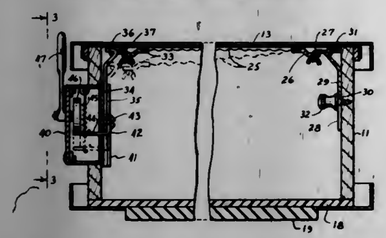


1. A drum practice set which includes:
a rigid inverted T structure comprised of a central upstanding column and a transverse horizontal base member;
a plurality of horizontal arms projecting radially outwards from the top of said central column member;
an arm assembly retaining means for said arms, at the upper end of said central column, and a holding means associated with said retaining means for releasably fastening said arms in a selected radial adjustment;
a plurality of vertical positioning rods, one mounted in the outer end of each of said horizontal arms, and vertically adjustable therein;
holding means for releasably retaining each of said rods in adjusted vertical position;

vertically adjustable leg means in the lower ends of at least some of said rods, to provide vertical adjustment to floor level, for stable support of said drum practice set; and

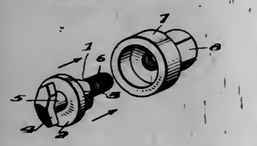
drum practice pads mounted on at the upper end of at least some of said rods.

3,264,927
DUAL PURPOSE DRUM
Rocco A. Fischetti, 1060 39th St., Brooklyn, N.Y.
Filed Aug. 2, 1965, Ser. No. 476,552
6 Claims. (Cl. 84—411)



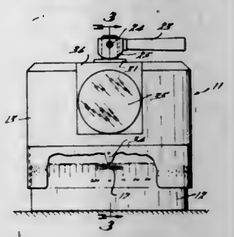
1. A drum construction comprising a cylindrical open-ended body, a flexible drumming sheet extending across and closing one end of said body, snares in said body extending across the inner side of said flexible drumming sheet, a first snare-supporting bracket fixed to said body and connected to one end of said snares, a second snare-supporting bracket connected to the other end of said snares, a slideway mounted in said body adjacent to said second snare-supporting bracket and extending longitudinally of said body, said second snare-supporting bracket being slidable in said slideway for back-and-forth movement of said snares toward and away from said drumming sheet, resilient means connected between said body and second snare-supporting bracket urging the latter in its direction of movement toward said drumming sheet, an eccentric cam carried by said body for rotation about an axis generally parallel to said drumming sheet, a cam follower carried by said second snare-supporting bracket in following engagement with said cam to effect said back-and-forth movement upon rotation of said cam, and additional drumming means extending across and closing the other end of said body.

3,264,928
FASTENING DEVICE
Orville Wright Smith, Marley Creek Drive, Glen Burnie, Md.
Filed June 24, 1964, Ser. No. 377,583
4 Claims. (Cl. 85—9)



1. A fastening device for motor vehicle license plates and the like, comprising a bolt member having shank and stud portions approximately equal in diameter to the width of the mounting slot in the motor vehicle, said stud portion having a threaded end portion, an elongated head member of a width generally equal to the shank diameter for it to pass through the slot in the motor vehicle and of a length substantially exceeding the shank diameter with the head having generally pointed ends and being bent generally toward the threaded stud end and in which the length is greater than the width of the slot in the motor vehicle, a washer member mounted on said shank and stud portion, said washer member having an elongated and flattened portion and including an annular portion of a diameter substantially exceeding the shank diameter with the flattened portion extending from the annular portion toward the threaded stud end, and elongated to a greater length than the width of the license plate slot and flattened to a thickness less than the width of the license plate slot, a nut with a counterbore to receive said flattened portion, and means to maintain said head member and said flattened portion of said washer member oriented approximately 90° to one another.

3,264,929
CHECKING AND LOCATING DEVICE
Alexander D. F. Moncrieff, Bloomfield Hills, Mich, assignor to Michigan Tool Company, Detroit, Mich., a corporation of Delaware
Filed June 20, 1961, Ser. No. 118,402
2 Claims. (Cl. 88—14)

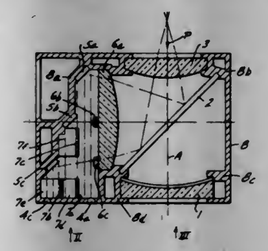


1. In a checking and locating device, a base having a first set of equidistantly spaced circularly arranged teeth, carriage having a second set of equidistantly spaced circularly arranged teeth adapted to interlock with said first set, means for moving said carriage between a disengaged position in which the two sets of teeth are separated and a locked position in which the two sets of teeth are engaged, said teeth being so formed as to maintain concentricity between the two sets of teeth when the teeth are fully engaged irrespective of the relative angular positions of the carriage and base, an upstanding post on said base, said carriage being of a generally circular shape loosely mounted on said post and carrying a reflecting surface, said moving means comprising a helical compression spring on said post urging said carriage toward a disengaged position, a manually actuatable cam mounted on the upper end of said post for moving said carriage to its engaged position, a scale on said base calibrated to correspond with said teeth, and a zero mark on said carriage for cooperation with said scale.

3,264,930
CAMERA VIEWFINDER WITH COMPRESSED FRAME LIMIT MEANS AND PLURAL REFLECTOR AND LENS MEANS FOR FORMING EXPANDED FRAME IMAGE
Hans-Hermann Koeppe, Wiesbaden-Schierstein, Germany, assignor, by mesne assignments, to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 8, 1961, Ser. No. 151,046
Claims priority, application Germany, Nov. 10, 1960, A 35,992
5 Claims. (Cl. 88—1.5)

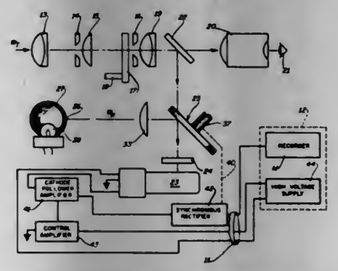
2. In a camera, in combination, viewfinder means having an optical axis and a viewing field; frame limit means located beside said viewfinder means and including frame limit portions positioned with respect to each other in a compressed pattern; a plurality of narrow reflector means respectively arranged in separate planes behind said frame limit portions, said reflector means being angled with respect to the viewfinder axis and being of different lengths corresponding to the lengths of said frame limit portions

to direct the images thereof toward said viewfinder means; baffle means located between said frame limit means and reflector means to prevent light from straying between said plurality of reflector means; and lens means located



between said mirrors and viewfinder means and having sections of different optical power for the images reflected by said plurality of reflector means to transfer all portions of said frame limit means as an equal size image in the viewing field of said viewfinder means.

3,264,931
AUTOMATIC BRIGHTNESS PYROMETERS
Sumner Ackerman, East Walpole, and Joseph S. Lord, Walpole, Mass., assignors, by mesne assignments, to Kollmorgen Corporation, Long Island, N.Y., a corporation of New York
Filed July 10, 1961, Ser. No. 123,032
2 Claims. (Cl. 88—22.5)



1. Pyrometer apparatus comprising an integrating sphere, a source of reference radiation within said sphere, a radiation sensitive device, a narrow band filter, optical means for directing radiation emanating from a target body whose temperature is to be measured and that emanating from said integrating sphere alternately through said filter on said radiation sensitive device, said optical means including means for focusing the target on the radiation sensitive device, and detector means connected to said radiation sensitive device for producing a voltage corresponding in amplitude to said target temperature and indicating means responsive to said voltage for measuring the temperature of said target.

3,264,932
METHOD AND DEVICE FOR PRESENTING A VISUAL COMPARISON OF TWO DIFFERENT CURVED SURFACES
Charles E. Hendricks, 5500 E. 51st St., Tulsa, Okla.
Filed May 27, 1964, Ser. No. 370,490
6 Claims. (Cl. 88—24)

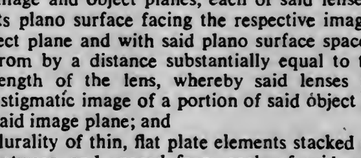
2. A device for visually illustrating the radius of curvature of the exterior corneal surface of an eyeball comprising:

a screen having a target imprinted thereon, the target having the form derived from the reflection of concentric light rings from a spherical reflective surface of known radius;

a light source positioned to cast light on said screen;

a photograph holder supported in a plane parallel the said screen and between said screen and said light source;

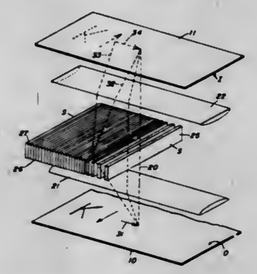
a photographic negative of reflected concentric light rings from the exterior corneal surface of an eyeball held by said photograph holder whereby the rings of said photographic negative are projected onto said target imprinted screen;



means of moveably positioning one of said screen, said light source and said photograph holder relative to the other two of such members to vary the effective radius of the spherical reflective surface represented by said target imprinted on said screen; and

indicating means with the moveable member to visually and calibratingly indicate the distance of the moveable member from the other of said members to provide a visual comparison of the relationship of a spherical surface of variable known radius to the exterior corneal surface from which said photographic negative is made.

3,264,933
CYLINDRICAL LENS AND LAMINATED PLATE SCANNING SYSTEM
Lee F. Frank, Cambridge, Mass., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 18, 1963, Ser. No. 288,662
8 Claims. (Cl. 88—24)



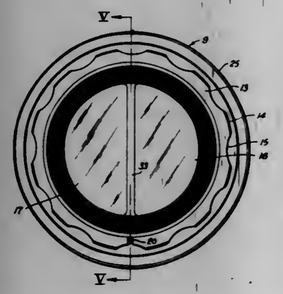
1. An optical system for producing on an image plane a right reading image of an original in an object plane optically parallel to and spaced from said image plane, comprising:

two cylindrical lenses optically aligned between said image and object planes with their cylindrical axes in one azimuth parallel to each other and to said image and object planes, each of said lenses having its plano surface facing the respective image or object plane and with said plano surface spaced therefrom by a distance substantially equal to the focal length of the lens, whereby said lenses form an astigmatic image of a portion of said object plane on said image plane; and

a plurality of thin, flat plate elements stacked centrally between and spaced from each of said cylindrical lenses, each of said elements having parallel surfaces that are perpendicular to said image and object planes and to said one azimuth, and plano entrance and exit

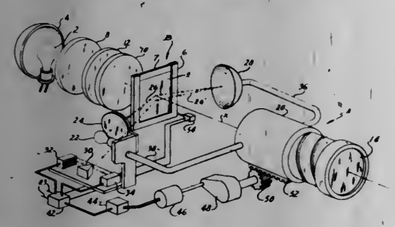
surfaces that lie in planes parallel to said image and object planes, whereby said elements directionally differentiate in said one azimuth the light received by each of said entrance surfaces from each point in said object plane and for transmitting about half of said light directly through each of said elements to said image plane.

3,264,934
METHOD OF AND APPARATUS FOR PROJECTING LIGHT IMAGES
Alfred Fulgence Matagne, 44 Passage Lemonnier, Liege, Belgium
Filed Aug. 20, 1963, Ser. No. 303,274
Claims priority, application Belgium, Feb. 24, 1955, 535,959; June 29, 1955, 539,397
4 Claims. (Cl. 88—24)



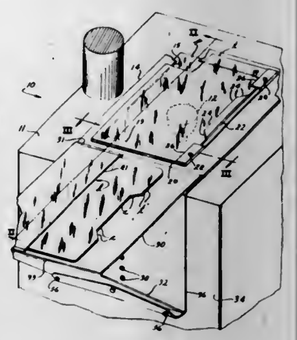
1. An attachment to an objective of a projection apparatus for producing three-dimensional images therewith, said attachment comprising a support, two semi-circular prisms facing each other and mounted within said support, two inversely polarized semi-circular glass plates mounted within said support in alinement with and adjacent to said prisms, a sleeve rotatably mounted upon said support, an outer ring rotatably mounted upon said sleeve and having an annular groove concentrical with said prisms, said groove having a plurality of uniformly spaced shoulders, and resilient means connected with said sleeve and adapted to engage said shoulders.

3,264,935
SELF-FOCUSING SLIDE PROJECTOR
Robert W. Vose, 1528 Piper Road, West Springfield, Mass.
Filed Jan. 6, 1964, Ser. No. 335,880
4 Claims. (Cl. 88—24)



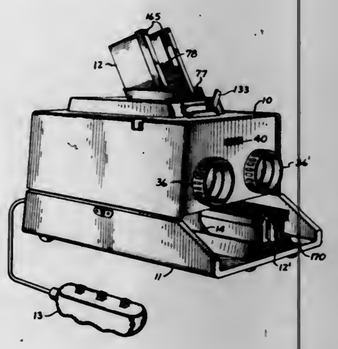
4. Automatic optical focusing system comprising a projection lens, means for holding objects at the focused object plane of said lens, means including a concave spherical mirror centered at the mid-point of said focused object plane for sensing deviations in the location of objects relative to said focused object plane, means for generating a signal which is a function of said deviations, and means for relatively moving said lens and said object holding means to automatically correct said deviations.

3,264,936
OVERHEAD PROJECTION STAGE FOR TRANSPARENCIES
Bennett V. Schultz, Holyoke, Robert F. Bellveau, Easthampton, and Earl S. Stahl, Springfield, Mass., assignors to Tecnifax Corporation, Holyoke, Mass., a corporation of Massachusetts
Filed June 17, 1964, Ser. No. 375,823
8 Claims. (Cl. 88—24)



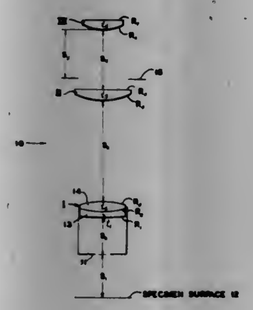
8. Accessory for displaying transparencies on an overhead projector comprising a frame panel, means for releasably attaching said panel on the stage of an overhead projector, means for registering transparencies in superposed relation over said frame panel, a shelf panel hingedly connected to said frame panel and swingable in superposed and coplanar relation, and means for releasably retaining said shelf panel in generally coplanar relation adjacent said frame panel when the latter is mounted on the stage of the overhead projector, said retaining means including a flexible flap for at least partially enclosing said accessory when removed from the stage of the overhead projector.

3,264,937
SLIDE PROJECTION SYSTEM
Joseph Antos, Rte. 1, Box 18A, Big Rock, Ill.
Filed Nov. 9, 1962, Ser. No. 236,614
18 Claims. (Cl. 88—28)



1. In an automatic slide projector, the combination comprising, a pair of spaced optical systems, a slide supporting hopper adapted to receive a stack of slides, means for feeding alternate ones of the slides positioned in said hopper seriatim into different ones of said optical systems for image projection therefrom, a common discharge station, and means for transferring the slides positioned in said twin optical systems to said discharge station seriatim in the same order as such slides are fed from said hopper.

3,264,938
LOW POWER OPTICAL SYSTEM FOR MICROSCOPE
Harold E. Rosenberger, Brighton, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Jan. 10, 1963, Ser. No. 250,530
2 Claims. (Cl. 88—57)



1. An optical system for microscopes having a magnification of substantially 10× and a numerical aperture of substantially .030, said system being well corrected for chromatic and spherical aberrations, coma, astigmatism and field curvature and consisting of

a front compound lens designated I for forming an image of a specimen surface,

a front diaphragm which is optically aligned with the lens I between said lens and said specimen surface at a fixed distance from said lens, the lens and diaphragm together constituting an objective,

an eyepiece lens group optically aligned with said objective and consisting of a front substantially plano-convex lens designated II and a rear substantially plano-convex lens designated III, and further consisting of a stationary eyepiece diaphragm located between lenses II and III,

the front diaphragm being located at an axial distance designated S_1 rearwardly from the specimen and at an axial distance designated S_2 in front of said lens I, the lens I consisting of a front negative meniscus lens element and a rear double convex element in contact with the negative element, the values of the optical parameters of the optical system being given in the table of mathematical statements herebelow wherein the axial distance between lens I and lens II is designated S_3, and the axial distance between lenses II and III is designated S_4, and the axial distance between lens III and said eyepiece diaphragm is designated S_5, the focal lengths of lenses I to III are designated F_I to F_{III} respectively,

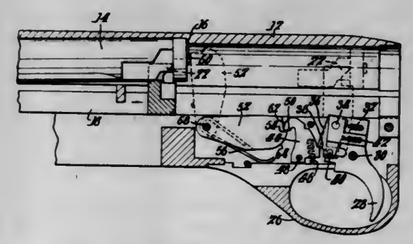
the successive radii of said lenses I to III are designated R_1 to R_7, the axial thicknesses of said lenses and elements being designated t_1 to t_4, and n_D and ν designating respectively the refractive index and Abbe number of the glasses from which the lenses are made, the minus (—) sign accompanying the R values being applied to those radii whose center of curvature lies on the object side of the vertex of the lens surface, and K denoting half of the overall length of the optical system from said specimen surface to the rear surface of lens III,

$F_I = .404K$ $R_1 = .633K$
$F_{II} = .499K$ $R_2 = .230K$
$F_{III} = .339K$ $-R_3 = .230K$
$S_1 = .560K$ $R_4 = .262K$
$S_2 = .220K$ $R_5 = \infty$
$S_3 = .672K$ $R_6 = .178K$
$S_4 = .408K$ $R_7 = \infty$
$S_5 = .339K$

$t_1 = .0151K$
$t_2 = .0387K$
$t_3 = .0521K$
$t_4 = .0336K$

Lens I (Neg. Elem.)	$n_D = 1.720$ $\nu = 29.3$
Lens I (Pos. Elem.)	$n_D = 1.517$ $\nu = 64.5$
Lens II	$n_D = 1.524$ $\nu = 59.5$
Lens III	$n_D = 1.524$ $\nu = 59.5$

3,264,939
FIREARM
Eugene G. Reising, Hartford, Conn. (% Harrington & Richardson Inc., Park Ave., Worcester, Mass.)
Filed Dec. 2, 1964, Ser. No. 415,289
3 Claims. (Cl. 89—145)

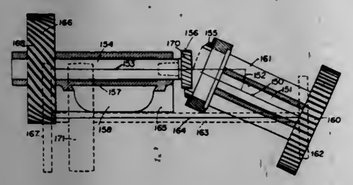


1. In a firearm, a trigger, means pivotally mounting the same, a pivotally mounted sear, a pivotally mounted hammer, a hammer spring tending to move the hammer in a direction to fire the firearm, said sear and said hammer having interengaging means for holding the hammer cocked in position, means connecting the trigger and the sear for moving the sear to hammer-releasing position by means of the trigger, an action bar and action bar spring, a disconnector actuated by the action bar, said disconnector acting to disengage said second-named means when the action bar is moved to the rear under influence of the explosive forces of the cartridge in the breech of the firearm upon being fired by the hammer, said action bar holding the disconnector in trigger-sear disconnected position until the action bar returns to its original breech-closed position, the means connecting the trigger and sear including a pivoted member mounted on the trigger and having a disconnectable engagement with respect to the sear, and a spring for moving the pivoted member toward sear-engaging position against the action of the disconnector.

3,264,940
ROTARY GEAR-SHAPED TOOL
Ernest Wildhaber, Brighton, N.Y. (124 Summit Drive, Rochester, N.Y.)
Filed June 5, 1964, Ser. No. 372,852
16 Claims. (Cl. 90—3)

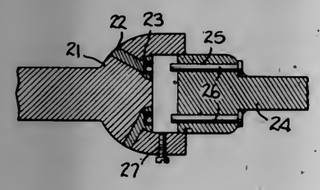
1. A gear-shaped tool for cutting the teeth of a gear in a process of timed rotation with feed motion in the direction of the axis of said gear, said tool and gear being adapted to engage in internal mesh while their axes are offset from and disposed at an acute angle to each other, said tool having a plurality of cutting teeth equally spaced

in a circle about its axis of rotation, opposite side edges on each cutting tooth lying in a single cutting face, the side profiles of said cutting teeth in planes perpendicular to the tool axis being differently curved at their mid-



portion than the involute tangent thereto at said mid-portion and concentric with said tool, so that the curvature radius at said mid-portion differs from the curvature radius of said involute.

3,264,941
PRECISE REPETITIVE POSITIONING DEVICE
Louis Miraglia, Navesink River Road, Red Bank, N.J.
Filed May 11, 1965, Ser. No. 451,246
16 Claims. (Cl. 90—11)



1. A device for precise repetitive positioning of metal machining equipment in relation to the piece to be machined which comprises, in combination,

(1) a movable and a fixed member each having complementary shaped engaging faces;

(2) at least three rigid accurately positioned and dimensioned projections extending at least 1/16 inch from the engaging surface of one said member, the said projections being made of hard, shock-resistant and abrasive-resistant material; and

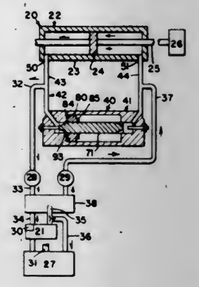
(3) at least as many bushings in the engaging surface of the second said member as there are said projections in the engaging face of the first said member, said bushings being imbedded in a pocket of a low melting alloy completely filling the engaging surface exposure of pockets in said engaging surface, the said cavity being larger than said bushing and having a means for external access by liquid flow, the said alloy having a melting point lower than the annealing temperature of said hard, abrasive and shock-resistant material and having a negative thermal coefficient of expansion, said bushings being accurately positioned to engage said projections.

3,264,942
HYDRAULIC CUSHION ASSEMBLY
Kenneth F. Witt, Wolcott, Conn., assignor to Witt Machine Co., Inc., Waltham, Mass., a corporation of Massachusetts
Filed May 18, 1964, Ser. No. 368,187
9 Claims. (Cl. 91—35)

1. In a hydraulic system of the type comprising a hydraulic pump for generating force; a double acting work cylinder having a piston for performing mechanical work; hydraulic conduits connecting each opposite end of said cylinder with said pump and control mechanism, associated with said pump, for selectively stopping, or reversing, the flow of incompressible hydraulic fluid filling said system, the combination of:

a remote, hydraulic cushion assembly for reducing shock to said system caused by stoppage, or direction change, of a loaded piston at any location along said cylinder, said assembly comprising:

a double acting, cushion cylinder having a centrally disposed piston chamber therewithin, and having a pair of valve bores, each bore opening into said chamber at an opposite end of said cylinder;

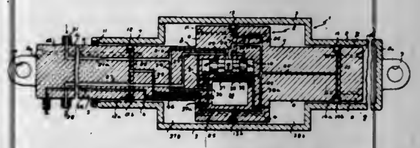


conduit means connecting each said bore with one of the ends of said work cylinder;

a double acting valve axially slidable in said cushion cylinder, each opposite end thereof having means forming orifices in cooperation with one of said bores for throttling flow from said piston chamber to the adjacent conduit means, and

a piston axially slidable in said piston chamber, said piston being cooperable with said valve to create progressively diminishing back pressure on the piston of said work cylinder when flow in said system is stopped or reversed in direction.

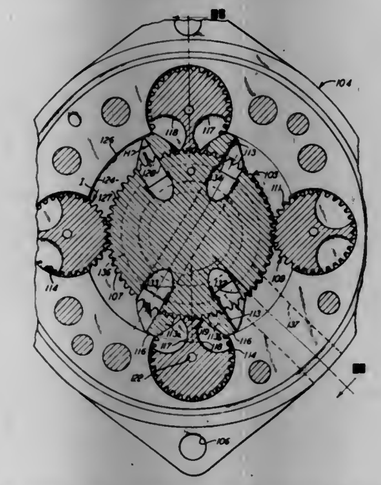
3,264,943
FLEXIBLE DYNAMIC SEAL
Vernon R. Schmitt, 3970 Alkire Road, Grove City, Ohio
Filed July 8, 1964, Ser. No. 381,271
4 Claims. (Cl. 91—42)



1. In an extensible and retractable fluid pressure operated actuator, a cylinder, a piston member axially movable in said cylinder, an annular resilient radially expandable piston ring in the periphery of said piston in surrounding unexpanded condition in substantially free sliding relation to the inner wall of the cylinder to retard pressure leakage around said piston between the opposite ends of the cylinder during relative movement of said piston by the introduction of pressure fluid into either end of said cylinder, pressure fluid supply means for normally expanding said piston ring outwardly into predetermined frictional and fluid sealing contact with the inner wall of the cylinder when said piston is at rest in said cylinder, to frictionally resist movement of said piston in said cylinder and resist pressure fluid leakage around said piston between the opposite ends of said cylinder when said piston is at rest, common slidable valve means in said piston for selectively admitting pressure fluid into either end of said cylinder for moving said piston and simultaneously venting said piston ring expanding pressure fluid supply means to allow contraction of said resilient piston ring to its normal unexpanded condition to

eliminate frictional contact between said piston ring and said cylinder during selective axial movement of said piston in either direction.

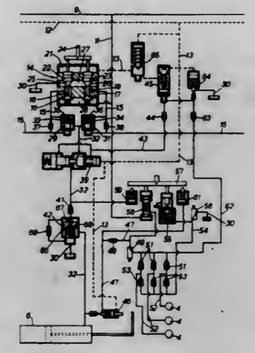
3,264,944
FLUID PUMP OR MOTOR HAVING ROLLER VANES
George W. Brand and Philip Hartmann, Racine, Wis., assignors to Hartmann Manufacturing Company, Racine, Wis., a corporation of Wisconsin
Filed Apr. 15, 1964, Ser. No. 359,824
5 Claims. (Cl. 91—82)



1. A motor for converting fluid pressure into rotary motion comprising a stator including radially extending vanes of two circumferentially spaced-apart portions and having fluid passageways extending in said stator only on opposite sides of each of said vanes and being free of any fluid passageway between said portions, a rotor rotatably mounted on said stator and having a circular bore for reception of said vanes and having openings on the circumference of the wall of said bore, the number of said rollers being twice the number of said vanes, rollers rotatably mounted in said openings of said rotor and with said rollers and said stator both having gear teeth in meshing relation and being in fluid-sealing relation therebetween for fluid partitioning between the latter two elements across said bore and with each of said rollers having two cut-outs along only the intermediate lengths of said gear teeth on said rollers for respectively passing over said spaced-apart portions of said vanes, said rollers including a web portion extending between said cut-outs and into mesh with said stator, and said portions of said vanes being spaced apart a distance sufficient to extend along said wall to span said openings and fluid seal across the latter.

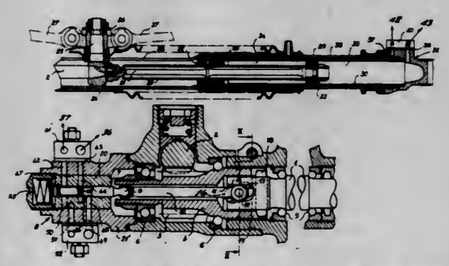
3,264,945
ROOF SUPPORT ASSEMBLY SUITABLE FOR USE IN MINES
Douglas Herbert Hewlett Bolton, Winchcombe, Frank Pawling, Charlton Kings, and Michael Charles Potts, Prestbury, England, assignors to Dowty Mining Equipment Limited
Filed May 13, 1965, Ser. No. 455,540
Claims priority, application Great Britain, May 15, 1964, 20,383/64
6 Claims. (Cl. 91—170)

1. A roof support assembly including a series of advanceable roof supports, each roof support having at least one fluid-pressure-operated prop operable to set the support aginst a roof and a fluid-pressure-operated jack operable to advance the support, each roof support also having a valve assembly controlling operation of the prop and the jack, the valve assembly being operated by the receipt of a signal from the preceding roof support in the series to cause its roof support to undergo an advancing operation, and the valve assembly being responsive to the satisfactory completion of the advancing operation of its roof support to send a signal to the next



roof support in the series, the assembly also including a source of fluid pressure which, when a roof support is undergoing an advancing operation, supplies fluid under pressure through the valve assembly of the roof support to the prop and jack thereof, and isolating means operable from a position remote from the roof supports to isolate from the source of fluid pressure the prop and jack of a roof support which has received but not passed on the signal.

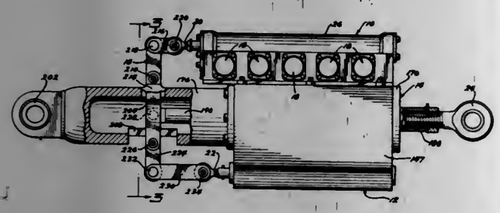
3,264,946
SERVO STEERING OF VEHICLES
Antoine Brueder, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a corporation of France
Filed Dec. 16, 1963, Ser. No. 330,976
Claims priority, application France, Jan. 10, 1963, 921,015, Patent 1,364,591
4 Claims. (Cl. 91—382)



1. Servo steering mechanism of a vehicle, comprising a manual steering control, a steering linkage, a cylinder, a piston in said cylinder dividing said cylinder into a first chamber and a second chamber, a rod connected to said piston extending through said first chamber to actuate said steering linkage, a source of fluid under pressure, a pressure-fluid distributor having a movable member for delivering said fluid to said chambers responsive to said manual steering control having a certain control backlash to operate said movable member of said distributor, said distributor constantly connecting said first chamber with said source of fluid, and connecting said second chamber according to the direction of actuation of said manual control, either with said source of fluid

under pressure, or with an exhaust, a first passage connecting said first chamber and said distributor, a second passage connecting said second chamber and said distributor, said movable member of said distributor comprising a slide valve having a portion to close said second passage, a groove in said slide valve on one side of said portion interconnecting said source of fluid under pressure to said first chamber and a second groove at the other side of said portion communicating with an exhaust passage.

3,264,947
DIGITAL SERVO ACTUATORS
Jerald D. Bidlack, East Aurora, N.Y., assignor to Cadillac Gage Company, Roseville, Mich.
Continuation of application Ser. No. 153,076, Nov. 17, 1961. This application Aug. 26, 1964, Ser. No. 392,225
17 Claims. (Cl. 91—384)



1. An apparatus for converting input electrical digital signals into corresponding mechanical linear displacements with power amplification, said apparatus comprising:

a stationary housing defining a stationary reference element and having a first substantially cylindrical bore closed at one end and open at the other end;

a slidable output member defining a first movable reference element which is movable through the open end of said housing;

a plurality of cascaded motor stages slidably disposed end-to-end within said first bore intermediate the closed end of said bore and said output member, each of said motor stages comprising:

a piston member having a body adapted to slidably fit within said first bore in the housing and having a first and a second L-shaped extensions projecting from the opposite faces of said body;

the first of said extensions being a push-rod element adapted to abut against the end face of the piston body immediately preceding, and the second of said extensions being a connecting link element having an end flange portion adapted to project into a corresponding recess of the push-rod element of the next consecutive piston member;

said end flange portion having its inner end defining an abutment for the inner end face of the recess in the push-rod element of the next consecutive piston member;

a substantially annular motor chamber disposed between each two consecutive piston member bodies;

conduit means to admit supply pressure fluid into said annular motor chamber thereby causing said piston body to be displaced, displacing at the same time the piston members between it and the output member by pushing against the push-rod of the next consecutive piston member;

stop means defined by the inner end face of the recess in the push-rod elements and the abutment of the flange portion of the connecting link elements;

the first connecting link element being an integral portion of the end plate closing the closed end of said first bore in the housing and the last piston member displacing directly said output member;

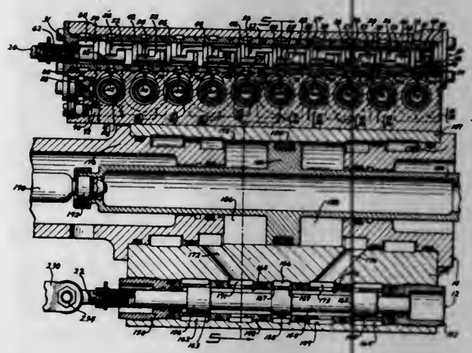
biasing means exerted upon said last piston member in a direction that tends to maintain the end face of the push rod of each piston member in contact with the corresponding end face of the next preceding piston body and the end face of the push-rod of the first piston member in contact with the inner face of said end plate, thereby biasing the output member to its retracted position;

a solenoid-operated valve for each of said motor stages, said valve comprising:

a substantially cylindrical cavity with pressure, return and control ports in communication respectively with a pressure fluid channel, a return fluid channel, and control passageway at all times connected to the motor chamber of one of said motor stages;

a spool member with two integral enlarged land portions slidable within said cylindrical cavity;

a spring bias urging said spool member to one extreme position where said pressure ports are disconnected from and said return ports are connected to said control ports;



a plunger member for displacing said spool member to another extreme position where said pressure ports are connected to and said return ports are disconnected from said control ports;

and a solenoid coil actuating said plunger member when selectively energized by the appropriate input electrical digital signal;

a power amplifying servo booster cylinder comprising:

a second cylindrical bore substantially parallel to said first bore and provided with end caps on both ends;

a double-acting piston element slidably disposed in said second bore and defining a first and a second servo motor chamber on both faces of said piston;

a first and a second fluid control channels leading respectively into said first and said second servo motor chambers;

a servo output member integral with said double-acting piston element and defining a second movable reference element slidable through the end cap closing one end of said second bore;

a feedback connecting rod affixed to said double-acting piston element and slidable through the end cap closing the other end of said bore;

a control rod actuated servo valve for operating said servo booster cylinder, said valve comprising:

a third cylindrical bore in said housing, substantially parallel to said first and second bores, and having pressure ports, return ports and a first and a second sets of control ports connected respectively to said first and second control channels;

a spool member slidably disposed in said third bore and having three integral enlarged land portions defining a first annular chamber in communication with said first set of control ports and a second annular chamber at all times in communication with said second set of control ports;

said spool member being integral with said control rod and being capable of being positioned thereby to a first extreme position whereby said first annular chamber is open to return ports and said second annular chamber is open to pressure ports, to a second extreme position whereby said first annular chamber is open to pressure ports and said second annular chamber is open to return ports, and to a neutral position whereby said first and second annular chambers are cut off from said pressure and return ports by said lands;

and whereby said spool member controls the direction and amount of displacement of said double-acting piston member of said servo booster cylinder by selective admission of pressure fluid on one side of said piston at the same time as fluid is being exhausted from the other side of said piston;

and a linkage arrangement comprising:

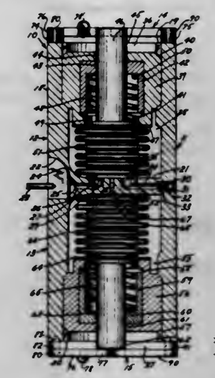
a first lever pivoting on a pin affixed to said housing and having one end connected to the output member defining said first movable reference element and the other end of said first lever being free to swing;

a second whippletree-like lever pivoting on the free end of said first lever, one end of said second lever being connected to said control rod of said servo valve and the other end being connected to the end of said feedback connecting rod;

said linkage arrangement integrating the actions of the motions of said first movable reference element and of said feedback connecting rod upon the control rod of said servo valve such as to cause said servo valve to operate said power amplifying servo booster cylinder to displace said second movable reference element to a position which is the analogue of the position of said first movable reference element.

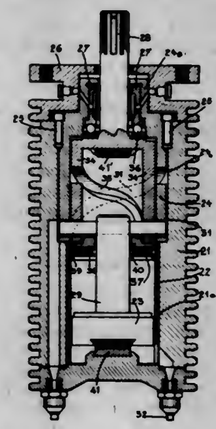
3,264,948
TWO-STAGE TIMER MECHANISM
Armand L. Dilpare, Hicksville, N.Y., assignor to Lundy Electronics and Systems, Inc., Glen Head, N.Y.
Filed Apr. 2, 1963, Ser. No. 270,004
1 Claim. (Cl. 91—411)

A two-stage pneumatic timer mechanism comprising: a casing element, said casing element having an interior septum defining first and second chambers; first and second plunger means slidably disposed within said first and second chambers, respectively, portions of which slidably extend outwardly of said casing element; first and second actuating means associated with each of said first and second plunger means respectively; first and second compressible bellows disposed within said first and second chambers respectively, at the inwardly disposed ends of said plunger means; resilient means urging said plunger means to compressing relation against said bellows; first metering means connecting the first bellows exteriorly of said casing element; said means comprising an orificed plate disposed within a passage, second metering means



interconnecting the first and second bellows, said second metering comprising a porous plug, frangible means closing the first metering means and check valve means for filling the first bellows through the casing element.

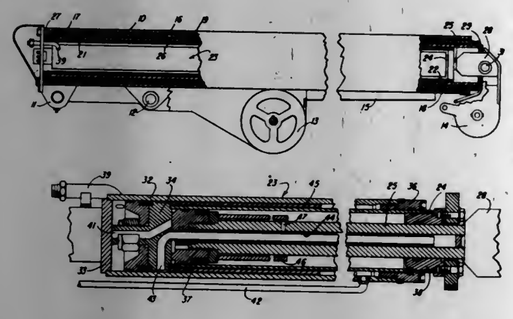
3,264,949
APPARATUS FOR TRANSFORMING A RECTILINEAR MOVEMENT INTO A ROTARY MOVEMENT
Jacques Dietlin, 26 Rue Berlioz, Nice, France
Filed Feb. 14, 1964, Ser. No. 344,955
Claims priority, application France, Feb. 15, 1963, 7,179; Jan. 20, 1964, 7,339
2 Claims. (Cl. 92—31)



1. A rotary actuator comprising a cylinder, a piston reciprocable in the cylinder, means for supplying fluid to and removing fluid from the cylinder on opposite sides of the piston, the piston having a piston rod having a lateral projection thereon that extends in opposite directions from the piston rod, means fixed relative to the cylinder and providing a pair of helical recesses in which opposite ends of said projection are disposed, a driven member, and means mounting the driven member for rotation relative to the cylinder coaxially of the piston rod, the driven member having a pair of helical recesses in which portions of said projection on opposite sides of the piston rod are disposed, the helical recesses of said driven member being wound oppositely to said fixed helical recesses, said driven member having a hollow sleeve,

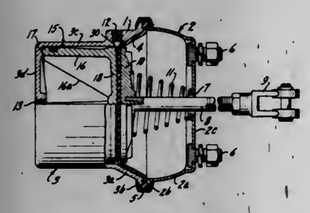
said helical recesses of said driven member extending through said hollow sleeve, the piston rod being reciprocable in said hollow sleeve.

3,264,950
EXTENSIBLE BOOM
Sidney G. Knight, Schofield, Wis., assignor to Drott Manufacturing Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 20, 1964, Ser. No. 363,662
5 Claims. (Cl. 92—51)



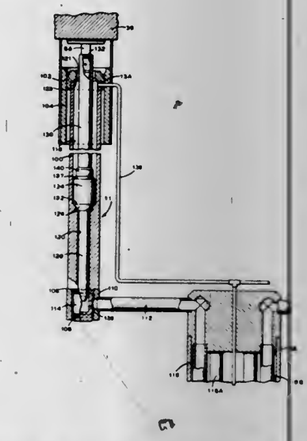
1. An extensible boom for cranes and the like comprising a tubular base section, a tubular intermediate section telescopically slidable in the base section, tubular end section telescopically slidable in the intermediate section, and a pressure responsive power unit lying within the end section when the boom is retracted and expansible and contractable to extend and retract the boom, the power unit comprising an outer cylinder, a piston having a tubular elongated piston rod slidable in the outer cylinder and said piston rod defining an inner cylinder of smaller diameter than the outer cylinder, a second piston in the inner cylinder having an elongated piston rod, means connecting the outer cylinder and the second piston rod to the base section and the end section respectively, means lying radially between the outer cylinder and the tubular end section connecting the outer end of the first piston rod to the inner end of the intermediate section, and means simultaneously to supply actuating fluid under pressure to the same ends of the cylinders and to connect the other ends of the cylinders to exhaust.

3,264,951
BRAKE ACTUATOR
Harold L. Dobrikin, Highland Park, Ill., assignor, by mesne assignments, to Berg Mfg. & Sales Co., Des Plaines, Ill., a corporation of Illinois
Filed Jan. 17, 1964, Ser. No. 338,392
7 Claims. (Cl. 92—64)



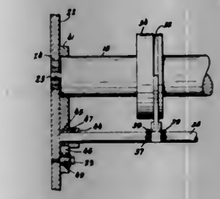
1. A brake actuator comprising a housing, said housing having a cylindrical portion, an outwardly flared portion joining said cylindrical portion, a diaphragm closing said outwardly flared portion, a chamber portion on the opposite side of said diaphragm, a brake rod reciprocal in said chamber portion, a plate carried by said brake rod for engagement with one surface of said diaphragm, a return spring engaging said plate and said chamber portion and positioned to urge said diaphragm toward said cylindrical portion, a piston having a length substantially equal to the length of said cylindrical portion and reciprocally mounted in said cylindrical portion, a service pressure inlet positioned in said housing to deliver fluid pressure to the opposite side of said diaphragm, an emergency pressure inlet positioned to deliver fluid pressure to the opposite side of said piston from said diaphragm, said piston having a seal ring carried in its outer surface for engagement with the inner surface of said cylindrical portion, the outer cylindrical surface of said piston being tapered in opposite directions away from said seal and having an outwardly flared portion adjacent said diaphragm for centering engagement with said flared housing portion when said piston is moved away from said chamber.

3,264,952
NUCLEAR SAFETY ROD ACTUATOR
Gordon R. Winders, Lynchburg, Va., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed May 1, 1964, Ser. No. 364,258
14 Claims. (Cl. 92—162)



1. A nuclear safety rod actuator comprising a cylinder, a piston arranged in said cylinder, one end of said piston arranged to be connected to a safety rod, said cylinder having an internal diameter smaller at each end than the diameter of said piston and an internal diameter between said ends greater than the diameter of said piston to form a restricted flow space between said piston and said cylinder, means for introducing a fluid at a predetermined flow rate into one end of said cylinder for passage therethrough and through said restricted flow space, the size of said restricted flow space being related to said predetermined flow rate to produce a pressure drop across said piston sufficient to move said piston to the opposite end of said cylinder, means cooperating with said piston and said cylinder to minimize said fluid flow through said restricted flow space when said piston reaches the opposite end of said cylinder, said piston being maintained at the opposite end of said cylinder by a predetermined reduced rate of said fluid flow, and means for returning said piston to the first end of said cylinder when said flow rate falls below said predetermined reduced rate.

3,264,953
MACHINE ELEMENT MOUNTING MEANS
Theodore M. Baum, Baltimore, Md., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Feb. 6, 1964, Ser. No. 342,913
2 Claims. (Cl. 93—36)



1. A machine having coacting male and female cutters for cutting slots in a blank to make cartons therefrom comprising a frame, a shaft mounted on said frame for supporting the female cutter, a bar supporting a stripper in juxtaposition to said female cutter to maintain the cutter clear, a collar for said bar, and mounting means at the end of said bar adapted to be attached to the frame, said mounting means including an aperture for said collar and a slot leading from said aperture to a lower position whereby when said collar is in the aperture, the bar is held in an operative position with the stripper in juxtaposition to the female cutter and when the bar is in the slot, the bar will be in an inoperative position with the stripper displaced from the female cutter.

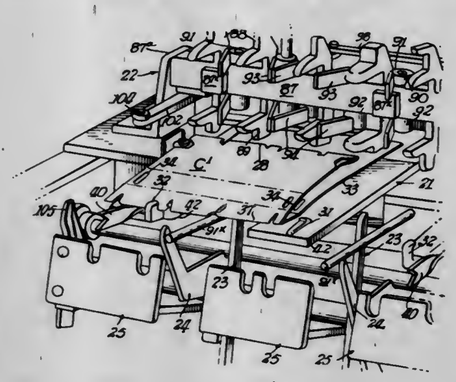
3,264,954
METHOD FOR MANUFACTURING A TAPED BOX
William Grobman, Philadelphia, Pa., assignor to Samuel M. Langston Company, Camden, N.J., a corporation of New Jersey
Filed Apr. 9, 1965, Ser. No. 446,956
8 Claims. (Cl. 93—36)



1. The method of manufacturing a paperboard box from a blank comprising the steps of mechanically applying a tape strip to a first edge of a flat blank with the tape strip projecting over said blank edge while moving the flat blank, folding the blank while it is moving to present the taped edge to a second edge of the blank with the projecting portion of the tape strip overlapping the second edge, and securing the tape strip to the second edge to form a foldable connection between the first and second blank edges.

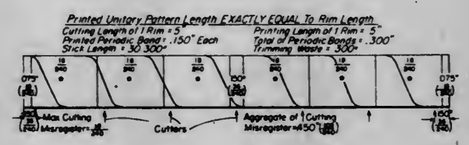
3,264,955
EGG CARTON SETUP MACHINE
Soenke Soennichsen, Chicago, Ill., assignor to Premier Tool Works, Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 22, 1963, Ser. No. 303,842
6 Claims. (Cl. 93—37)

1. In egg carton setup apparatus, a frame equipped with a magazine dischargeably supporting a plurality of folded blanks, a shuttle reciprocably mounted on said frame for sequentially receiving blanks from said magazine and moving each blank through a setup path, fork means reciprocably mounted on said frame for movement generally transverse of said path to unfold said blanks, a cell-forming element equipped-setup head rigidly fixed to said frame intermediate said magazine and the intersection of said path with said fork means, pusher means reciprocably mounted on said frame for engaging an unfolded carton developed from said blank and urging the same toward said setup head, clincher means for indenting an unfolded carton in engagement with said setup head, and means on



said frame for reciprocating said shuttle, fork means, pusher means and clincher means, said shuttle being equipped with clamping means for immobilizing a carton thereon during movement through said path until said unfolded carton is engaged by said pusher means.

3,264,956
METHOD OF MAKING SPIRALLY WOUND CONTAINERS
Francis G. Glasby and Ernest B. Robinson, Chesterfield, England; said Glasby assignor to Robinson & Sons Ltd., Chesterfield, England, a British company
Filed Aug. 20, 1963, Ser. No. 303,377
22 Claims. (Cl. 93—94)



1. A method of winding containers having a unitary pattern strip spirally wound so as to be visible on at least one surface thereof, comprising the steps of,

spirally winding a tube,

simultaneously winding spirally so as to be visible on at least one surface of the tube a pattern strip bearing repeated groups of unitary patterns with a periodic space between each such repeated group of patterns the spaces appearing as circumferential bands when wound on the tube, the unitary patterns differing slightly in wound lengths from the required length of the container, then

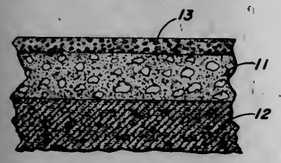
cutting the tube symmetrically with relation to the groups of patterns so as to cut apart the containers in a stick length in the region of a pattern group boundary at distances corresponding to the required lengths of the containers;

whereby containers of correct length are produced with unitary patterns in approximate register with the ends of the containers, any bands between pattern groups being absorbed into the containers and any excess material left over being only at the ends of the stick.

3,264,957
BINDER AND SURFACE COATING MADE FROM COAL AND ASPHALT

Martin D. Schlesinger and Raymond W. Hiteshue, Pittsburgh, Pa., assignors to the United States of America as represented by the Secretary of the Interior

Filed Jan. 18, 1963, Ser. No. 252,534
11 Claims. (Cl. 94—9)



4. A method for preparing a binder and surface coating material composed of an insoluble particulate bituminous coal residue dispersed in a solution of bituminous coal constituents and petroleum asphalt comprising

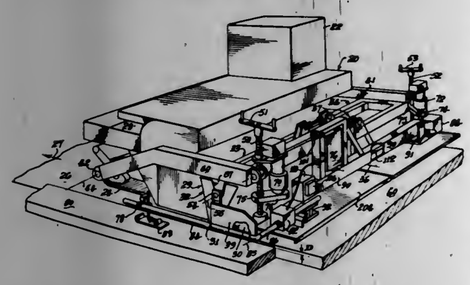
(a) intimately mixing petroleum asphalt with a finely divided bituminous coal, the coal being added in an amount up to about 20% by weight of the total mixture;

(b) heating the mixture at a temperature of from about 250° C. to about 450° C. for from about ½ hour to about 4 hours, thereby forming a dispersion of insoluble bituminous coal residue in a solution composed of (1) the petroleum asphalt and (2) constituents of the bituminous coal.

3,264,958
SLOPE AND GRADE CONTROL FOR PAVING MACHINES

Jerry W. Babb, Pico Rivera, John T. Bowen, La Habra, Reeford P. Shea, Laguna Beach, and Robert M. Walp, Altadena, Calif., assignors to Preco, Incorporated, Los Angeles, Calif, a corporation of California

Filed Apr. 19, 1962, Ser. No. 188,635
21 Claims. (Cl. 94—46)



1. A control system for a paving machine that is movable forwardly over a base and that comprises a transverse screed, means for depositing paving material adjacent the leading edge of the screed to form a mat on which the screed rides, and setting means actuable to differentially adjust the angles of attack of the respective end portions of the screed to vary the screed twist and thereby to cause a corresponding progressive variation in transverse slope of the mat surface as the machine moves forward;

said control system being adapted to maintain a desired value of the transverse mat slope and comprising in combination

signal means operatively connected to the screed for response to the screed twist and acting to produce a signal having a predetermined relationship to screed twist,

servo means operatively connected to and controlled by said signal means for driving the screed setting means under control of the signal to maintain an equilibrium value of screed twist in accordance with said relationship independently of irregularities in the base,

said servo means including trimming means operatively associated with said signal means and actuable selectively in opposite directions to modify the equilibrium value of screed twist that is maintained,

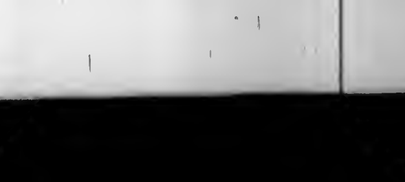
sensing means responsive to deviation of the transverse slope of the mat surface from the desired value,

and monitoring means operably connected to said trimming means and sensing means for actuating the trimming means under control of the sensing means in a direction to reduce said slope deviation.

3,264,959
PAVING MACHINE SLOPE CONTROL SYSTEM

Reeford P. Shea, Laguna Beach, Calif., assignor of one-third to Preco Incorporated, Los Angeles, Calif., a corporation of California

Filed Aug. 6, 1963, Ser. No. 300,239
11 Claims. (Cl. 94—46)



1. In a slope control apparatus for a paving machine having a screed movably connected to a prime mover and operable means for independently varying the angle of attack of each lateral end portion of the screed, the combination of: first sensing means operatively connected to the screed for registering a value of transverse inclination corresponding to a combination of the actual transverse inclination of the screed and the angles of attack of both end portions of the screed, second sensing means operatively connected to the trailing edge of the screed for registering a value of transverse inclination equal to the transverse inclination of the trailing edge of the screed, means responsive to said first sensing means and a preselected value of desired transverse slope for producing a signal for adjusting said operable means to modify the angle of attack of said screed in a manner to reduce the difference between registered transverse inclination and desired transverse slope, control means for modifying the said first inclination-slope difference, and second means responsive to said second sensing means and the preselected value of desired transverse slope for producing a second signal of this second inclination-slope difference between registered transverse inclination and desired transverse slope for adjusting said control means to modify the first inclination-slope difference in the direction of said second inclination-slope difference.

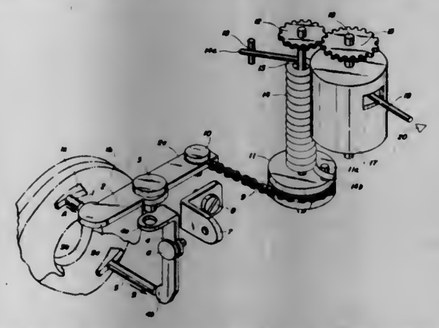
3,264,960
PHOTOELECTRIC EXPOSURE CONTROL SYSTEMS FOR CAMERAS

Helmut Ettischer, Ruit, Fildern, Germany, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Nov. 27, 1963, Ser. No. 326,414
4 Claims. (Cl. 95—10)

1. In a camera having first and second independently movable exposure factor setting members and a movable electric measuring instrument, means coupling said setting members to said instrument, comprising: a respective cam movable with each of said setting members; a push rod for each of said cams, one end of each push rod being

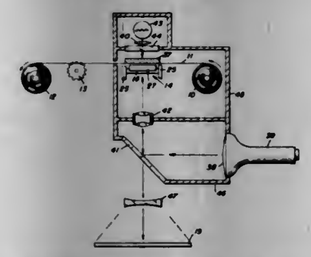
maintained in sensing engagement with its respective cam; a first lever pivotally mounted about an axis fixed relative to said camera, said lever being in engagement with the other end of one of said push rods; a second lever dually pivoted on said first lever and on the other end of the second of said push rods; both axes of rotation of said second lever being perpendicular to the axis of rotation of the first lever; both of said levers being closely adjacent the face of the setting members; and flexible means coupling said second lever to said instrument for moving the latter in response to movement of said second lever about either of its pivots.



3,264,961
PHOTOGRAPHIC APPARATUS FOR RECORDING, PROCESSING, AND PROJECTING DATA

Clifton M. Tuttle, Lenox, Mass., and Robert A. Fox, Fishers, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Apr. 13, 1964, Ser. No. 359,136
5 Claims. (Cl. 95—12)



1. In a photographic apparatus for processing to a visible image an exposed area of a strip of photosensitive material transported in one direction through a processing station, the combination comprising:

means for processing said exposed area at said processing station to a visible image, and including

a porous web saturated with processing solution; and

means for moving said web in a direction transverse to said one direction and in wiping engagement with said photosensitive material across said exposed area for processing same and removing substantially all spent processing solution from said exposed area.

3,264,962
REMOVABLE FILM PROCESS MAGAZINE

Harry N. Dieffenbach, Fremont, Calif., assignor to Mark Systems, Inc., Santa Clara, Calif.

Filed Jan. 29, 1964, Ser. No. 340,870
5 Claims. (Cl. 95—13)

1. A mechanism for handling photographic material of the type having photographic film with an emulsion side adapted to create a latent image when exposed to light and a mat having a developing solution impregnated within an emulsion side of the mat and in which development of the latent image on the film is caused by action of the developer carried by the mat when an intimate contact between the emulsion of the photographic film and the emulsion of the mat is effected, comprising a first reel adapted to carry the mat, a second reel adapted to receive the film and mat, means to track the mat and film onto the second reel with the emulsion side of each in face-to-face contact under pressure, means to rotate

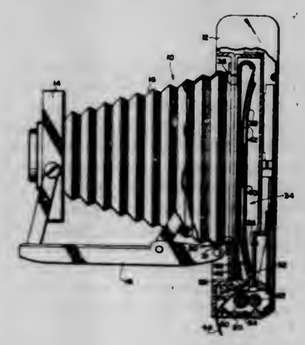


said second reel to cause said film and mat to take-up on the second reel, guide means to guide the film through a first, second and third stretch, means to guide said film from said third stretch onto said second reel, means to guide film in entrance to said first stretch, means to sever said film along said second stretch, third reel means to engage said film along said first stretch to spool the film in entrance after said second film stretch is severed, and fourth reel means engageable with the film along said third stretch to spool film from said second reel when said second film stretch is severed.

3,264,963
PHOTOGRAPHIC APPARATUS

Patrick L. Finelli, Sudbury, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed May 6, 1964, Ser. No. 365,868
14 Claims. (Cl. 95—13)



1. Processing apparatus adapted to be incorporated with a photographic camera for use with a film assembly including a photosensitive sheet, a second sheet, and a contained processing liquid adapted to be released under compression and spread between said sheets, said apparatus comprising, in combination:

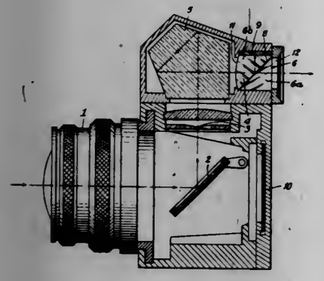
(a) a pair of elongated pressure-applying members between which said film assembly may be advanced in a direction substantially perpendicular to the longitudinal axis of said members for releasing said processing liquid and spreading the latter between said sheets;

(b) a pair of margin-engaging elements located adjacent an entrance area of said pressure-applying members;

(c) said margin-engaging elements being laterally spaced by a distance slightly less than the width of said film assembly and initially extending across the plane of advancement of said film assembly through said pressure-applying members, whereby opposite marginal areas of one of said sheets slidingly engage said margin-engaging elements during advancement of said film assembly; and

(d) resilient mounting means permitting movement of said margin-engaging elements in a plurality of directions, whereby the force exerted on said elements by said film assembly during advancement thereof tends to move said elements out of said plane of advancement and toward said entrance area, whereby said opposite marginal areas are slidingly engaged between said elements and one of said pressure-applying members closely adjacent said entrance area.

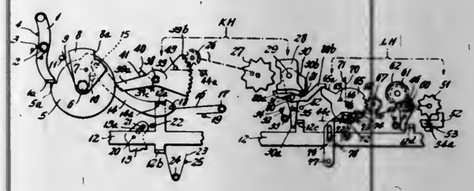
3,264,964
SINGLE LENS MIRROR REFLEX CAMERA WITH EXPOSURE METER
Helmut Ebertz, Stuttgart-Mohringen, Germany, assignor to Zeiss Ikon Aktiengesellschaft, Stuttgart, Germany
Filed Sept. 11, 1963, Ser. No. 308,182
5 Claims. (Cl. 95—42)



1. In a single objective lens mirror reflex camera provided with a photo-electric element adapted to be connected to a photo-electric exposure meter in which the element is illuminated by a portion of the viewfinder light beam and an ocular for said viewfinder having a viewing aperture, the improvement comprising a partly transmitting mirror arranged between the ocular of the viewfinder and the viewing aperture of the same, said partly transmitting mirror forming an angle of substantially 45° with the optical axis of said viewfinder and deflecting said portion of the viewfinder light beam onto said photo-electric element, the objective and ocular being positioned so that the projection of the pupil of said objective takes place in a plane conjugate to the ocular plane, said photo-electric element being arranged in said projected plane.

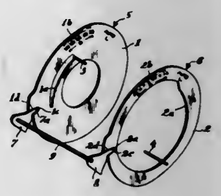
3,264,965
PHOTOGRAPHIC SHUTTER HAVING MULTIPLE ESCAPEMENT MECHANISMS
Waldemar T. Rentschler, Calmbach (Enz), Germany, assignor to Alfred Gauthier, G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed Sept. 12, 1963, Ser. No. 308,408
16 Claims. (Cl. 95—53)

1. A photographic shutter comprising a shutter blade; a shutter blade driving member connected thereto; a driving mechanism connected to said driving member; a main escapement mechanism connected to said driving mechanism to control the operating speed thereof; a subsidiary escapement mechanism; and a locking device connected to said main escapement mechanism and controlled by said subsidiary escapement mechanism to interrupt the operation of said main escapement mechanism and there-



by the operation of said driving mechanism for a predetermined period of time with said blade in its open position and said main escapement mechanism cocked.

3,264,966
INTERLOCK FOR CAMERA CONTROLS
Franz W. R. Starp, Calmbach (Enz), Germany, assignor to Alfred Gauthier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed Apr. 12, 1963, Ser. No. 272,636
Claims priority, application Germany, Apr. 13, 1962, G 34,720
2 Claims. (Cl. 95—64)

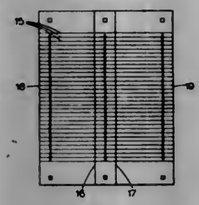


1. In a photographic camera having first and second controls, each of which can be set to at least a first range and a second range, the first range of said first control being related to the first range of said second control and the second range of said first control being related to the second range of said second control, an interlock comprising: a first member engaging said first control to be rotated thereby when said first control passes from one of its ranges to the other; a second member engaging said second control to be rotated thereby when said second control passes from one of its ranges to the other; and a non-rotatable connection between said second member and said first member so that both of said members must rotate together.

3,264,967
APPARATUS FOR COMPOSING SHEETS FOR THE REPRODUCTION THEREOF
Cecil Edward Carrington Wood, Herne Hill, London, England, assignor to Quiklista Limited
Filed Jan. 16, 1964, Ser. No. 338,165
Claims priority, application Great Britain, Jan. 18, 1963, 2,268/63
2 Claims. (Cl. 95—85)

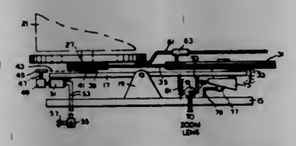
1. Apparatus for composing an up-to-date information sheet from an original out-of-date information sheet containing lines of printed information, and longitudinally extending rows of spaced perforations opposite the corresponding ends of said lines of information, respectively, comprising

means for immobilizing said original sheet the length thereof, including a backing plate carrying a pair of rows of spaced parallel locating pegs adapted for insertion in said perforations, respectively, when said out-of-date information sheet is mounted on said backing plate;



and a template containing corresponding perforations for receiving at least one locating peg of each of said rows thereof, said template including spaced parallel cutter guiding edges on opposite sides of at least one line of out-of-date information, whereby said edges provide guides for severing from said original sheet a first transverse strip containing at least one line of out-of-date information.

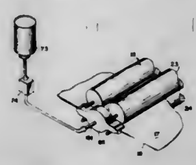
3,264,968
AUTOMATIC TRACKER
John W. De Barr, Sr., 212 Donald Drive, Warrington, Fla.
Filed Sept. 23, 1963, Ser. No. 310,798
10 Claims. (Cl. 95—86)



1. An automatic tracker of a type adapted to trace the outline of a configuration from a vantage point comprising in combination a mount adapted to support a device to track the outline; platform means supporting said mount for rotation; resolver means also supported from the platform for rotation relative thereto; a vector arm fixed to the mount and extending to the resolver means; vector arm engaging means pivotally fixed to the resolver means and slidably engaging the vector arm whereby rotation of the resolver means turns the mount through an arc; frame means supporting the platform for pivotal movement; and, cam means disposed between the frame means and platform and moveable with the resolver means to tilt the mount relative to the frame along with the turning thereof.

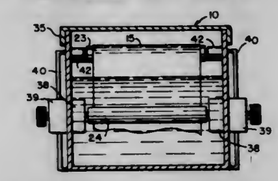
3,264,969
PROCESS AND APPARATUS FOR TREATING PHOTOGRAPHIC SHEET MATERIALS WITH A PROCESSING FLUID
Edwin Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Apr. 26, 1961, Ser. No. 105,758
15 Claims. (Cl. 95—89)

1. The method of spreading a processing fluid on a first surface of a first sheet of photographic material comprising the steps of: superposing said first surface with a surface of a second sheet material; moving said superposed sheets along a predetermined path in a predetermined direction; physically separating said sheets at adjacent edge portions thereof by an amount sufficient to permit the introduction therebetween of a processing fluid; greatly expanding the distance between said sheets by forcing a pressurized processing fluid between said physically separated edge portions to form a fluid-filled



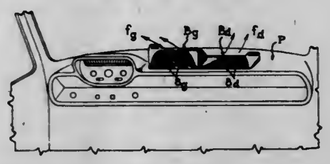
cavity between said sheets; and causing portions of said fluid to adhere as a layer to successive portions of said first surface as said sheets move relative to said point.

3,264,970
PHOTOGRAPHIC PROCESSING APPARATUS
Seymour L. Hersh, Freehold, and Marilyn Levy, Red Bank, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed May 5, 1964, Ser. No. 365,217
12 Claims. (Cl. 95—94)



1. Photographic processing apparatus comprising at least one solution containing tank, means for feeding an exposed photosensitive strip into and out of said solution, a dip roll submerged in said solution around which the sensitive strip is passed to thus establish the length of the submerged loop of sensitive material, a bearing block of magnetic material at each end of said dip roll, each block having a journal within which the roll is rotatively received, vertically adjustable magnets situated outside of the tank wall opposite said bearing blocks and magnetically coupled thereto.

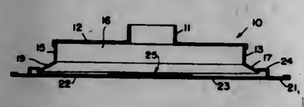
3,264,971
AIR SUPPLY NOZZLE OF UTILITY IN PARTICULAR FOR THE AERATION OR HEATING OF VEHICLES
Marcel Dangauthier, Paris, France, assignor to Societe d'Etudes et d'Applications Industrielles Commerciales et Immobilieres "Inter-Technique," Paris, France, a French body corporate
Filed May 14, 1964, Ser. No. 367,374
Claims priority, application France, May 28, 1963, 936,232
7 Claims. (Cl. 98—2)



1. A conditioning air supply nozzle assembly comprising, an air supply conduit having an open outlet end, a substantially part-cylindrical hood, having a radius equal to one of the sides of the cross-section of the conduit pivotally mounted to a wall of the conduit near its upper edge so as to be pivotally adjustable between a withdrawn position in which the hood is withdrawn into the conduit and a deployed position in which the hood pro-

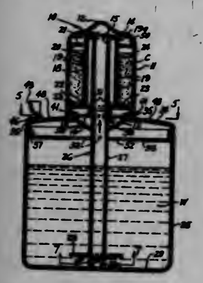
jects from the conduit outlet end, whereby the direction of the air issuing from the conduit can be varied between two extreme directions making an angle therebetween determined by the pivotal adjustment of the hood, the hood comprising a fixed deflector which is integral with the hood and non-parallel to the pivot axis of the hood for the purpose of directing the air in the direction of said deflector.

3,264,972
AIR DISTRIBUTION DEVICES
Eugene F. Averill, Waterloo, and Marvin Leon Kloostra, Cedar Falls, Iowa, assignors to Titus Manufacturing Corporation, Waterloo, Iowa, a corporation of Iowa
Filed June 12, 1964, Ser. No. 374,693
10 Claims. (Cl. 98—40)



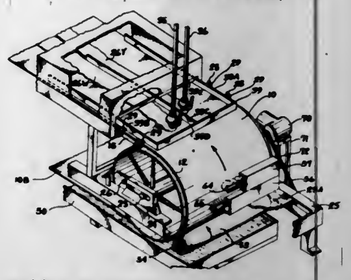
1. An air distributing device comprising wall means defining an air passage having an inlet and an outlet of substantially larger area than the area of said inlet, a thin, substantially flat, perforated plate extending across said outlet, and an open, air deflector extending across said passage downstream of said inlet and upstream of said perforated plate, said air deflector having interlinked webs sloping relative to the general plane of said deflector with small openings between said interlinked webs for deflecting an air stream flowing through said device and out of the perforations of said perforated plate into a lateral air-discharge pattern.

3,264,973
PREPACKED COFFEE CONTAINING CARTRIDGE
Antonio Tavera, Rte. 1, Box 1386, Elk Grove, Calif.
Continuation of application Ser. No. 359,885, Apr. 15, 1964. This application Sept. 21, 1965, Ser. No. 488,913
10 Claims. (Cl. 99—295)



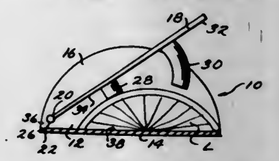
6. A self-contained cartridge for a coffee percolator including a tubular stem comprising a dome-shaped outer receptacle having an imperforate side wall portion, a central stem having an imperforate side wall portion, an open upper end and a flared lower end, said flared lower end seating on said first-mentioned stem, a sleeve surrounding said second mentioned stem, means closing the space between said second mentioned stem and said sleeve at the upper ends thereof, an annular top plate having openings therethrough, secured to said sleeve and slidingly received internally of said outer receptacle adjacent the top thereof, and a bottom plate having openings therethrough, secured to said sleeve and slidingly received internally of said outer receptacle, said top and bottom plates, and the side wall portions of said sleeve and said outer receptacle between said plates defining an annular coffee containing space, said cartridge being removably positioned on the upper side of said lid.

3,264,974
EGG COOKING APPARATUS
Melvin W. Miller and Rolly P. Fringer, Seattle, Wash., assignors to Western Farmers Association, Seattle, Wash., a corporation of Washington
Filed Feb. 17, 1964, Ser. No. 345,252
15 Claims. (Cl. 99—423)



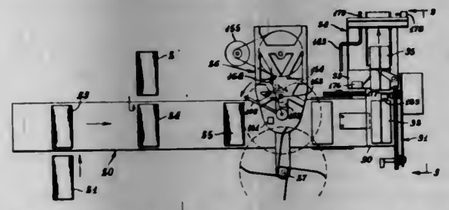
1. A cooking apparatus comprising in combination: an endless belt; support means supporting said belt and defining a first horizontal belt section and a second belt section; drive means adapted to cause translation of said first section in a first direction; a cooking chamber disposed about said first section of said belt; means for applying heat to the interior of said cooking chamber and to a portion of said first section; first and second fluid conduit means aligned with said belt; a separation element including a first section disposed between said first and second conduit means and engaged with said belt and partially disposed in said chamber adapted to maintain material discharged from said two conduit means onto said belt separated during initial travel thereof in said chamber; and cooked material receiving means in cooperative relation with said belt adapted to receive cooked material from said belt.

3,264,975
FRUIT PULP PRESS
William Jerry Williams, 1911 Eaton Ave., Owensboro, Ky.
Filed Dec. 29, 1964, Ser. No. 421,807
9 Claims. (Cl. 100—211)



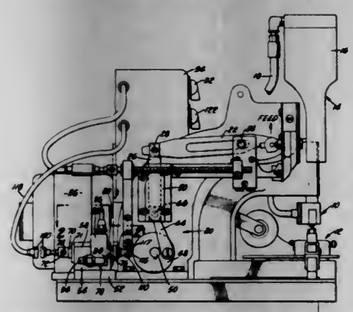
3. A fruit pulp press comprising: means for confining and means for supporting a quantity of fruit pulp; said confining means including a pair of laterally spaced walls adjacent said support means; movable barrier means bridging the space between said walls overlying said support means; a fruit pulp receiving chamber being thereby defined between said walls, said support and said movable barrier means; a lever secured at one end thereof to said means for confining and means for supporting a quantity of fruit pulp; said movable barrier means comprising a first region of said lever adjacent and leading to said lever one end; first plunger means mounted on said lever intermediate the ends thereof adjacent said movable barrier means and extending into said fruit pulp receiving chamber; second plunger means mounted on said lever adjacent the opposite end thereof from said one end and extending into said fruit pulp receiving chamber; said lever being flexible at least in the region thereof defined between said first and second plunger means; said lever and said first and second plunger means being constructed and arranged to move between a rest position wherein a quantity of juice-containing fruit pulp received in said fruit pulp receiving chamber is engaged between said first plunger means and said support means and a second position wherein said lever is flexed at least between the first and second plunger said first plunger means is urged toward said support means and said second plunger means is urged toward said barrier means and toward said first plunger; and means defining a juice outlet from said fruit pulp receiving chamber, whereby as said lever is moved from said rest position to said second position with a quantity of juice-containing fruit pulp in said fruit pulp receiving chamber juice is expressed from the fruit pulp receiving chamber through said juice outlet.

3,264,976
CONTROL FOR CONVEYORIZED BUNDLE TYING SYSTEM
Walter D. Ayres, Jr., Oaklawn, Ill., assignor to B. H. Bunn Company, Chicago, Ill., a corporation of Illinois
Original application May 6, 1963, Ser. No. 278,053, now Patent No. 3,189,163, dated June 15, 1965. Divided and this application June 1, 1965, Ser. No. 460,416
5 Claims. (Cl. 100—4)



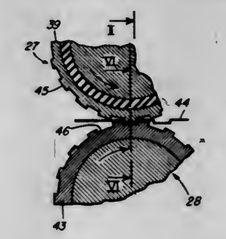
1. In combination, a tying machine comprising a rotatable twine arm, an article-supporting table adjacent the twine arm, and electrically operated means for energizing the machine to rotate the twine arm; conveyor means for moving an article to an article-tying position on the machine, switch means operable by the conveyor, and switch means operable by the article when in said article tying position on the machine to energize said electrically operated means, said conveyor operated switch means and article operated switch means being connected in series to prevent operation of the tying machine until the article is in article-tying position on the machine and to prevent operation of the tying machine in the event that there is no article moved by the conveyor.

3,264,977
TIMING MECHANISM IN ROLL-LEAF HOT STAMPING MACHINE
Lewis A. Kingsley, 850 Cahuenga Blvd., Hollywood, Calif.
Filed May 14, 1964, Ser. No. 367,301
7 Claims. (Cl. 101—11)



1. In a roll-leaf hot stamping machine of the type having a pressure cylinder actuated stamping mechanism for marking material intermittently advanced through the machine, and means for supplying fluid under pressure to said cylinder for causing the operation thereof, the combination of a valve coupled in said fluid supplying means to control the flow of fluid therethrough, a shaft, means for rotating said shaft, a disc eccentrically mounted on said shaft, valve actuating means coupled to said valve for opening said valve, said valve actuating means including a roller mounted on a shaft coupled to the body of said valve whereby engagement of said roller by said disc causes said valve to be opened, a block mounted on said machine, a slider slidably mounted on said block, remotely controllable means for moving said slider relative to said block, and a plate mounted on said slider, said valve actuating means being mounted on said plate for movement relative to said disc to vary the time interval of engagement between said disc and said engageable means.

3,264,978
ROTARY EMBOSSING MACHINES
John Staley, Richmond, Va., assignor to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
Filed Aug. 11, 1964, Ser. No. 388,864
1 Claim. (Cl. 101—23)

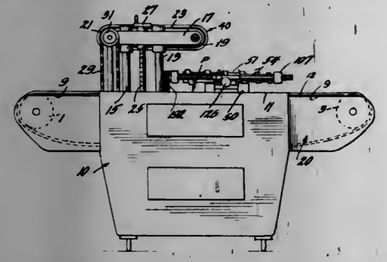


In an embossing machine which includes first and second embossing rolls rotatable about parallel spaced axes and each carrying one die element of a matched die set, the die elements being adapted normally to register one with the other when said embossing rolls are rotated with the die element on one of said embossing rolls traversing a fixed path of rotation about the axis of said one embossing roll, the improvement wherein the other of said embossing rolls comprises an assembly of a cylindrical core member, a cylindrical sleeve of resilient material enclosing said core member and bonded to the outer surface thereof, and a metallic sleeve coextensive with and enclosing said resilient sleeve, said resilient sleeve being bonded to the inner surface of said metallic sleeve, the outer surface of said metallic sleeve being engraved and constituting one of said die elements, said resilient sleeve being deformable on misregistration of said die elements to admit axial, circumferential and radial displacements of said metallic sleeve relative to said core member whereby the die element on the surface of said metallic sleeve is maintained in matching register with the die element on the other of said embossing rolls.

3,264,979
CODING APPARATUS
Lewis C. Price, Jr., Yonkers, N.Y., assignor to Control Print Machinery Manufacturers Corporation, a corporation of New York
Filed Apr. 10, 1964, Ser. No. 358,861
11 Claims. (Cl. 101—35)

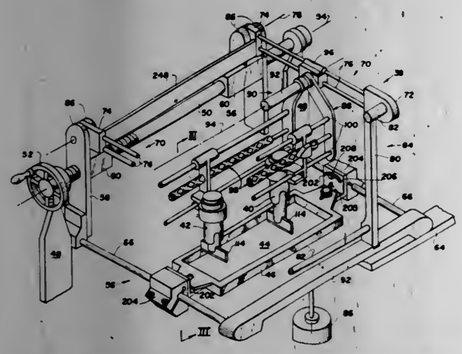
1. In a container marking apparatus, a cabinet structure, having a planar horizontal top surface; conveyor means supported by said cabinet structure and movable over said top surface; a timing screw movably mounted on said top surface of said cabinet structure and disposed above said conveyor and laterally of the centerline thereof

for spacing containers along said conveyor; means for adjusting said timing screw vertically above said conveyor and means for adjustably positioning said timing screw laterally with respect to the centerline of the conveyor, said



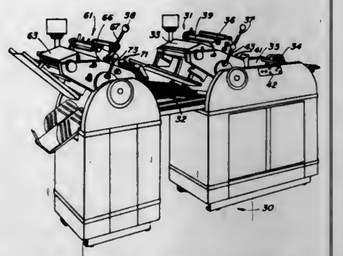
last-mentioned means restraining said lateral movement to a horizontal plane only and including resilient means biasing said timing screw toward the centerline of the conveyor.

3,264,980
SQUEEGEE DRIVE MECHANISM
Rome R. Rudolph, Gibsonia, Carl Strutz, Jr., and Frank C. Strutz, Mars, Pa., assignors to Carl Strutz & Co., Inc., Valencia, Pa., a corporation of Pennsylvania
Filed Dec. 9, 1963, Ser. No. 329,129
25 Claims. (Cl. 101—40)



17. In apparatus for applying decorative imprints to generally cylindrical workpieces, having endless conveyor means adapted to support said workpieces at spaced points thereon for rotation about their central axes, means for driving said conveyor means along a path of travel at a constant linear speed and parallel to a stationary decorating screen, and means for rotating said workpieces at a predetermined speed whereby the peripheral speed of the workpieces is equal to said constant linear speed, the combination comprising: a pair of squeegee means; guide means supporting said squeegee means for reciprocal movement generally parallel to said path of travel and through a distance substantially equal to the length of said screen; means supporting said guide means for movement laterally of said path of travel; drive means for reciprocating said pair of squeegee means along said path of travel, at said constant linear speed whereby one squeegee means is moved in a first direction along said path of travel and in unison with a workpiece while the other squeegee means is moved in a second direction opposite to said first direction and vice versa; means for moving each of said squeegee means into engagement with said screen during movement in said first direction; and means for moving each of said squeegee means laterally away from said decorating screen during at least a portion of its movement in said second direction.

3,264,981
TANDEM PRINTER
Jack E. Burger, Chagrin Falls, and Francis M. Polly, Euclid, Ohio, assignors to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Apr. 15, 1964, Ser. No. 359,934
10 Claims. (Cl. 101—144)

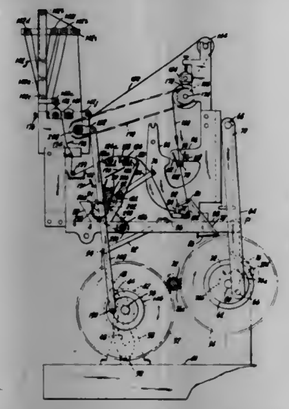


1. In an offset printing machine of the kind comprising first and second printing heads connected in tandem and driven in unison to perform two sequential printing operations on each of a plurality of print-receiving sheets, each printing head including a master cylinder, a blanket cylinder, a main control member movable between an initial position, at least one intermediate operating position, and a final operating position, repellent applicator means for applying an ink repellent solution to said master cylinder, inking means for applying ink to a planographic master mounted on said master cylinder, blanket imaging means for moving one of said master and blanket cylinders from an initial position displaced from the other cylinder into a blanket-imaging contact position therewith, means operatively connecting said repellent applicator means, said inking means, and said blanket imaging means to said main control member for actuation in predetermined sequence in response to movement of said main control member, and an electrically actuated control mechanism for advancing said main control member between said positions, sequence control means comprising:
first circuit means for actuating the control mechanism of said first printing head to advance the first main control member step-by-step from its initial operating position to its final operating position;
second circuit means connecting the control mechanism of said second printing head to said first circuit means for actuation to advance the second main control member to intermediate position in unison with the first main control member;
and program control means, connected in said second circuit means, for precluding actuation of the second control mechanism from said first circuit means when said main control members are in their intermediate positions and for energizing said second circuit means independently of said first circuit means to advance said second main control member to final position a predetermined number of machine cycles after the first main control member is advanced to its final operating position.

3,264,982
WIPER FOR INTAGLIO ENGRAVING PRESSES
Edmund A. Gillis, Paramus, N.J., assignor to The Cronite Co., Inc., North Bergen, N.J., a corporation of New York
Filed Dec. 19, 1963, Ser. No. 331,708
20 Claims. (Cl. 101—164)

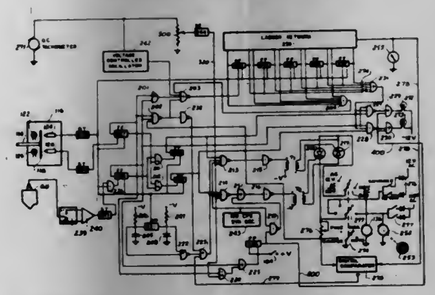
1. In an intaglio engraving printing press, a die, an endless die wiping belt mounted for movement in the direction of its length, movable means in contact with said belt for moving the latter, a motor, first means operatively connected to said belt moving means and said motor

and operated by the latter for operating said belt moving means intermittently, to thereby move said belt intermittently for a predetermined distance during each intermittent movement, means controlled by said motor to move said die for wiping operations of said die by said belt, and second means operatively connected to said belt moving means and said motor and operated by the



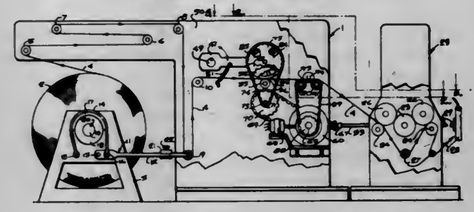
latter for operating said belt moving means to thereby move said belt through a predetermined distance which is greater than said first mentioned predetermined distance irrespective of the speed of the movement of said die, said belt having a seam portion, and means responsive to the position of said seam portion for controlling operation of said second means.

3,264,983
REGISTRATION SYSTEM FOR A MOVING WEB
Clarence A. Lewis, Kinnelon, and James F. O'Brien, Sussex, N.J., assignors to Champlain Company, Inc., Roseland, N.J., a corporation of New York
Filed Feb. 18, 1964, Ser. No. 345,784
17 Claims. (Cl. 101—181)



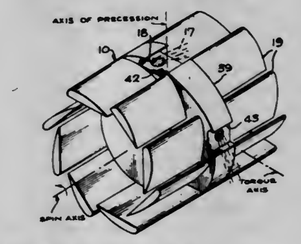
1. Apparatus for correcting errors in the registration of multiple repeat operations on a moving web, said apparatus comprising an oscillator for generating pulses corresponding to a desired minimum unit of error, scanners for scanning targets representing the multiple operations, binary means for digitally counting the number of pulses between targets as an accurate measure of the magnitude of the error to be corrected, means for deriving an error voltage proportional to the number of pulses representing the error, a variable speed correction motor, a comparator circuit, the said motor armature being used as a generator to provide an output rate feedback, the error voltage and the output rate feedback being opposed in said comparator circuit to provide a logic error signal, and means responsive to the logic error signal for driving the correction motor at a rate substantially proportional to the magnitude of the error voltage regardless of variations in load, in order to reduce the error.

3,264,984
WEB LENGTH CONTROL DEVICE FOR ROTARY PRINTING PRESS
Roy R. Smith, Jr., Leawood, Kans., assignor to Smith R.P.M. Corporation, Kansas City, Mo., a corporation of Missouri
Filed July 31, 1964, Ser. No. 386,490
14 Claims. (Cl. 101—227)



1. In combination with a web receiving apparatus having drive means, a web in-feeding device adapted to release a predetermined length of web per apparatus operation regardless of changing web demand of the apparatus, said device comprising; means forming a control couple adapted to grip the web and move therewith, a measuring member operably associated with said control couple and responsive to the web passing therethrough, means forming a feed roll couple adapted to grip and continuously release the web for entry into the apparatus, a variable speed transmission having an input member and an output member and a control member for varying the rotation ratio between said transmission input and transmission output members, said drive means and transmission input member being operably connected for driving said transmission and apparatus synchronously, motion transmitting means connecting said transmission output member to said feed roll couple for controlling the web releasing speed thereof, and means for comparing the measuring member response and the operation of said drive means, said comparing means being operably connected to said control member and adapted to order a change in said control member in response to predetermined variations in the comparison.

3,264,985
ANTI-PERSONNEL BOMB
Edwin G. Reed, 18937 Nordhoff St., Los Angeles, Calif.
Continuation of application Ser. No. 264,208, Mar. 11, 1963. This application July 12, 1965, Ser. No. 471,282
21 Claims. (Cl. 102—4)



1. An explosive bomb comprising:
a cylindrical housing adapted to contain a quantity of explosive material;
an annular chamber means surrounding said housing and adapted to contain a quantity of combustible propellant material, said chamber means including

a plurality of annularly arranged nozzle means communicating between said propellant material and the atmosphere and being directed tangentially relative to said housing whereby the combustion products of said propellant material cause said housing to rotate about its longitudinal axis;

detonator means in said housing communicating with said explosive material;

fuse means in said housing communicating between said propellant material and said detonator means and adapted to be ignited by said propellant material whereupon said detonator means is caused to detonate said explosive material within said housing; and

an array of airfoils secured to said chamber means in circumferentially spaced, tangential relationship to the exterior of said housing in parallel relationship to the longitudinal axis of said housing so as to cause said housing to travel in an unstable pattern when launched from an aircraft, or the like, and so as to prevent acceleration of the fall of said housing.

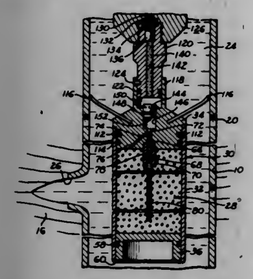
3,264,986

EXPLOSIVE WELL STIMULATION APPARATUS

Henry H. Mohaupt, Santa Barbara, Calif., assignor to Petroleum Tool Research, Inc., Fort Worth, Tex., a corporation of Texas

Original application Jan. 13, 1958, Ser. No. 708,481, now Patent No. 3,174,545, dated Mar. 23, 1965. Divided and this application Feb. 18, 1965, Ser. No. 433,564

9 Claims. (Cl. 102—24)



1. An explosive well stimulating apparatus, including:

(a) a long, slender explosive charge;

(b) said charge having a length-diameter ratio of at least 3:1;

(c) said charge including an explosive of the propellant type in particle form capable of being dispersed prior to complete combustion thereof;

(d) means for initiating combustion of said explosive nonuniformly;

(e) said charge including a carrier which contains said explosive and which is readily frangible upon nonuniform initiation of combustion of said explosive to disperse said explosive prior to complete combustion thereof; and

(f) means incorporated in said carrier for preventing collapse of said charge by external pressure prior to initiating combustion of said explosive.

3,264,987

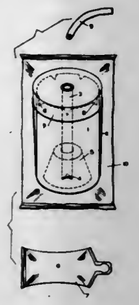
METHOD OF DELAYED IGNITION IN BLASTING

George M. Pratley, Factoria, Luipaardsvlei, Transvaal, Republic of South Africa, assignor to Pratley Igniters (Proprietary) Limited, Factoria, Luipaardsvlei, Transvaal, Republic of South Africa

Filed Mar. 10, 1965, Ser. No. 438,529

4 Claims. (Cl. 102—27)

1. An igniter for delayed ignition of a fuse comprising means for holding the end of said fuse in heat contact with a metal oxide, well mixed with water soluble material and a water repellent, said mixture providing a time



regulator for the hydration of said metal oxide when a water charge is added to the mixture.

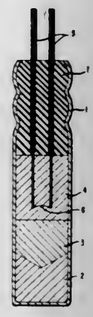
3,264,988

IGNITION ASSEMBLY RESISTANT TO ACTUATION BY RADIO FREQUENCY AND ELECTROSTATIC ENERGIES

Klaus G. Rucker, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Mar. 6, 1964, Ser. No. 349,887

6 Claims. (Cl. 102—28)



3. An electric ignition assembly for explosive initiators, comprising a pair of electrical conductors separated from each other by insulation and connected to each other at one of their ends by a bridgewire, the radio frequency resistance of said conductors at one megacycle being at least about 25 times their direct current resistance.

3,264,989

IGNITION ASSEMBLY RESISTANT TO ACTUATION BY RADIO FREQUENCY AND ELECTROSTATIC ENERGIES

Klaus G. Rucker, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Mar. 6, 1964, Ser. No. 349,936

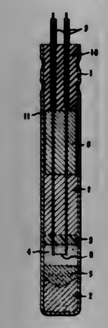
6 Claims. (Cl. 102—28)

1. In an electric initiator having a metal shell integrally closed at one end and open at the opposite end and containing an ignition composition, an electrical ignition assembly comprising, in sequence from said ignition composition:

(A) a pair of electrical conductors extending into said metal shell and joined at their terminals by a bridgewire contacting said ignition composition,

(B) a plug of a magnetic inductance composition surrounding and contiguous to said electrical conductors adjacent said ignition composition,

(C) a resistance slug having an electrical resistance two to six times that of said bridgewire adjacent said



inductance plug, said slug being in contact with said electrical conductors and spaced from said metal shell to provide a spark gap of a width less than the distance between the bridgewire and shell, and

(D) a sealing plug surrounding said conductors and closing said open end of said shell.

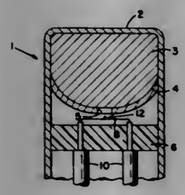
3,264,990

FOCUSED EXPLODING BRIDGE WIRE

Robert E. Betts, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army

Filed Apr. 13, 1965, Ser. No. 447,925

11 Claims. (Cl. 102—28)



1. A focused exploding bridge wire adapted for use in igniting a pyrotechnic position in proximity therewith, means integral with said bridge wire and intermediate the ends thereof for directing explosive energy therefrom, said means having an orientation with respect to said pyrotechnic whereby explosive energy resulting from the explosion of said wire upon energization thereof by a source of electrical energy connected therewith is directed by said means from said wire to a predetermined area of said pyrotechnic.

3,264,991

FOCUSED EXPLODING BRIDGE WIRE ASSEMBLY FOR ELECTRIC IGNITERS

Robert E. Betts and Nathan P. Williams, Jr., Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Army

Filed Apr. 13, 1965, Ser. No. 447,926

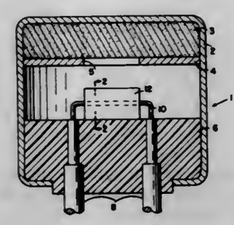
8 Claims. (Cl. 102—28)

1. A focused exploding bridge wire assembly comprising:

a non-metallic plug having a planar end face;

a pair of insulated lead wires extending through said plug in a direction normal to said face;

an exploding bridge wire extending in contiguous relationship with said face and in a plane parallel thereto, said bridge wire being interconnected at the opposite ends thereof with said lead wires; and



a reflector device positioned between said bridge wire and said end face for focusing the explosion of said bridge wire to a predetermined area remote from said end face.

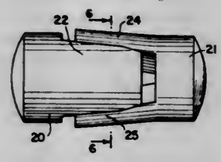
3,264,992

TAMPING PLUG

Marlin E. Beck, 13 S. Filbert St., Allentown, Pa.

Filed Mar. 9, 1964, Ser. No. 350,403

8 Claims. (Cl. 102—30)



1. A pair of blasting plug elements, each of said elements comprising an expandable wedge of deformable material, each of said wedges being a complement of the other and having a head portion and a plurality of spaced legs extending longitudinally of said head portion with complementary spaces between said legs, each of the legs of one of said wedges being capable of being wedged into a corresponding space of the other wedge.

3,264,993

COMBUSTIBLE CARTRIDGE CASE COMPOSITION AND PROCESS

Myron G. De Fries, Fairfax County, and John N. Godfrey, Alexandria, Va., assignors to Atlantic Research Corporation, Fairfax County, Va., a corporation of Virginia

No Drawing. Filed Apr. 22, 1965, Ser. No. 450,215

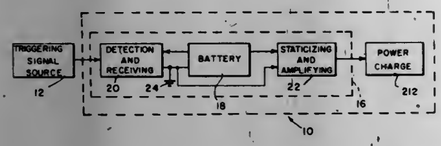
18 Claims. (Cl. 102—43)

1. A composition for making a shaped, felted, and fibrous combustible product, having high tensile strength when cured and dried said composition comprising (a) nitrocellulose fibers, (b) cellulose fibers, (c) resin binder compatible with said nitrocellulose, said binder consisting essentially of water-dispersed thermosetting adhesive resin composition comprising a self-reactive, aqueous emulsion copolymer containing at least 90%, by weight, of vinyl acetate together with at least one other polymerizable comonomer containing at least one functional group selected from the group consisting of the glycidyl, methylol, ureido, hydroxyl, amine, carboxyl, and alkoxycarbonyl groups, and (d) water.

3,264,994
SUBSURFACE WELL APPARATUS

Kurt Leutwyler, Whittier, Calif., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California

Filed July 22, 1963, Ser. No. 296,815
21 Claims. (Cl. 102—70.2)

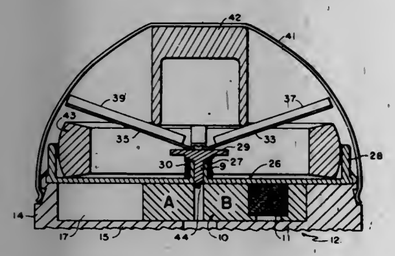


2. In subsurface well apparatus adapted to be lowered in a well bore, means incorporated in the apparatus for operating the apparatus comprising the combination of detecting means including an inductive coil operable in response to an applied magnetic field signal for providing an output signal; staticizing means connected to said detecting means and operable in response to said output signal to provide an operating signal having a magnitude and duration greater than that of said output signal; and powering means, including a source of work energy for operating the apparatus, connected to said staticizing means and operable in response to said operating signals for applying work energy to the apparatus, whereby an applied magnetic field signal triggers the apparatus into operation.

3,264,995
MECHANICAL FUZE OPERABLE ON GRAZING IMPACT

Terry L. Libby and George Webb, Richmond, Ind., assignors to Avco Corporation, Richmond, Ind., a corporation of Delaware

Filed May 11, 1964, Ser. No. 366,310
9 Claims. (Cl. 102—79)

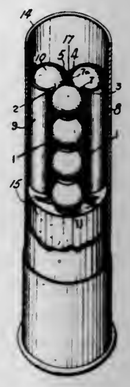


1. In a fuze for a spinning projectile, the combination of:
- a firing pin for detonating the projectile;
- a gyroscopic inertia ring;
- actuating means for driving said firing pin into firing position, said actuating means including at least one element normally oriented to be spaced from said ring;
- said inertia ring maintaining stability of plane, whereby impact forces cause said element to strike said inertia ring and to drive the firing pin into firing position;
- the inertia ring being mounted to spin relative to the longitudinal axis of the projectile;
- and a mounting for the firing pin, which mounting permits the firing pin to be displaced rearwardly into firing position or advanced forwardly into a safe position;
- the actuating means comprising a plurality of radially extending spring elements having their inner ends secured to the pin.

3,264,996
BUCKSHOT-LOADS FOR SHOTGUN-SHELLS

Eugene Rimar, Pinellas County, Fla. (7853 1st Ave. S., St. Petersburg, Fla. 33707)

Filed Oct. 13, 1964, Ser. No. 403,464
1 Claim. (Cl. 102—91)



In combination, a plurality of columns of shot projectiles and a projectile spacer receptacle therefor, said projectiles having a portion which is generally spherical, a short cylindrical column integral with said spherical portion and extending therefrom, said cylindrical column having a concavity at the end thereof opposite the spherical portion, the curvature of said concavity being equal to the curvature of said spherical portion, said projectiles being aligned in three substantially contiguous columns with the spherical surface of one of said spherical portions engaging the convacity of said cylindrical portions of another projectile, said columns of projectiles forming a generally three-leafed clover leafed pattern in cross-section defining a central axis extending longitudinally of the columns of projectiles, said receptacle having a generally three-leafed clover leafed pattern in cross-section with each leaf substantially surrounding each of said three columns, said receptacle initially formed from a flat rectangular pliable, resilient sheet stock, said sheet stock folded in two places parallel to one side of the rectangular sheet stock to provide three equally sized rectangles in said sheet stock, said folds and the ends of the rectangular sheet stock parallel to said folds extending inwardly toward said longitudinal axis of said columns of said projectiles, each of said equally sized rectangles of said sheet stock being arcuated to substantially surround one of said columns of said projectiles, said receptacle being constrained in said three-leafed clover leaf shape so as to develop a spring action which has a tendency to release itself from said clover-leaf shape to the shape of said equally folded rectangular sheet stock.

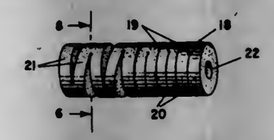
3,264,997
PROPELLANT CONFIGURATIONS FOR USE IN FIREARMS

Harold E. Michael, 30714 Tarapaca Road, San Pedro, Calif.

Filed July 20, 1964, Ser. No. 383,759
1 Claim. (Cl. 102—98)

A propellant configuration for use in a cylindrical firearm shell, comprising: a cylindrically shaped charge including an axially directed bore extending therethrough, said charge having a plurality of lateral cuts extending generally normal to the longitudinal axis of said charge to intersect said bore at substantially right angles, said cuts initiated from opposite sides of said cylindrical charge in an alternate manner and extending completely through

said bore and the major portion of the grain diameter to define closely adjacent disc portions alternately connected at their diametrically opposite ends, whereby said disc

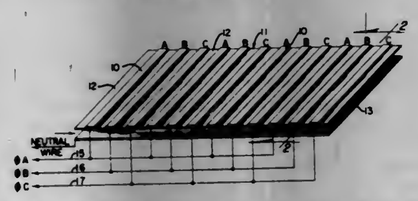


portions are at least partially separable to progressively increase the exposed burning area as the charge is progressively burned.

3,264,998
TRAVELING WAVE HIGH FREQUENCY VACUUM PUMP

Edward H. Dingman, Littleton, Colo., assignor to Martin Marietta Corporation, Baltimore, Md., a corporation of Maryland

Filed Sept. 20, 1963, Ser. No. 310,197
4 Claims. (Cl. 103—1)

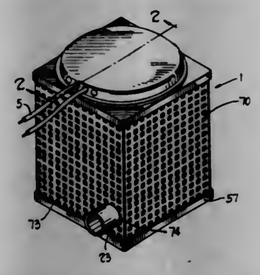


1. A pump which comprises a series of conductors mounted on a planar resilient sheet which insulates said conductors from each other, a plate conductor disposed in parallel spaced relationship with the plane of said sheet means for maintaining the plate conductor electrically neutral, means for sequentially applying a potential to each of the resiliently mounted conductors to cause the same to deflect toward and from the plate conductor in a wave motion for moving fluid between the sheet and the plate conductor toward a point of expulsion.

3,264,999
SUBMERSIBLE PUMP

Fred E. Tutthill, Grafton, Ohio, assignor to Kenco Pump Division of the American Crucible Products Company, Lorain, Ohio, a corporation of Ohio

Filed Mar. 13, 1961, Ser. No. 152,703
13 Claims. (Cl. 103—87)

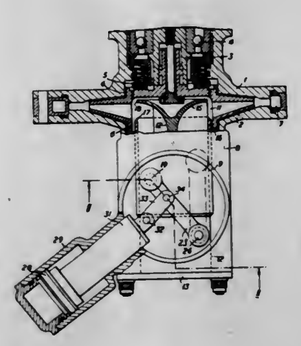


1. In a submersible pump comprising a housing, a motor, disposed within said housing, and having a shaft extending therefrom, and an impeller, disposed within said housing, and mounted on and driven by said shaft, the improvement of said housing comprising a first cylindrical member, having a side wall, a closed end, an open end, and a plurality of parallel, internal annular grooves adjacent said open end, a second substantially cylindrical member having a longitudinally extending portion with a trasverse wall intermediate its end, one end of said longitudinally extending portion comprising an interlock and being disposed within said first cylindrical member and engaging the interior of said side wall and having a plurality of external, parallel, annular ribs, having slanted surfaces facing toward said closed end and flat, transverse surfaces facing away from said closed end and engaging in and interengaging with said grooves and exerting an outwardly directed force on said side wall, an annular groove in said interlock, a seal in said annular interlock groove, said seal engaging and sealing between said side wall and said interlock, said first cylindrical member and said transverse wall defining a motor chamber, said motor being disposed in said motor chamber, an aperture in said transverse wall and said shaft extending therethru, a plate closing the end of said longitudinally extending portion remote from said interlock, said plate, transverse wall and longitudinally extending portion therebetween defining a volute chamber, said impeller disposed in said volute chamber, a discharge outlet from said volute chamber in said longitudinally extending portion, an intake opening in said plate at the center of said impeller, a running seal on said shaft sealing said aperture, a base detachably secured to said housing exteriorly of said plate, said base comprising an imperforate bottom member, with a square perimeter having a perpendicular flange extending toward said housing, and a perpendicular baffle wall extending between said bottom member and said plate and being closed on three sides and opening toward the fourth side adjacent one edge of said bottom member, a collar mounted on said first cylindrical member remote from said base and having a square perimeter with a perpendicular flange extending toward said base, said flanges of said collar and base being aligned, a plurality of molded plastic screens, disposed, one to a side, between said base and collar and positioned and restrained against outward displacement by said flanges, respectively, and lugs on said bottom member of said base restraining the adjacent portions of said screens, respectively, against inward displacement.

3,265,000
FLUID METERING DEVICE

Stanley R. Tyler and Lewis W. Manson, Cheltenham, England, assignors to Dowty Fuel Systems Limited, Gloucester, England, a company of Great Britain

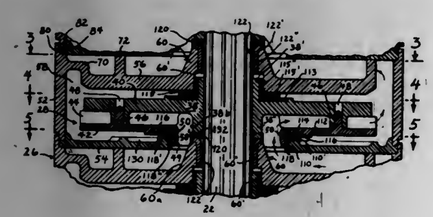
Filed Sept. 3, 1963, Ser. No. 306,071
Claims priority, application Great Britain, Sept. 3, 1962, 33,754/62
2 Claims. (Cl. 103—97)



2. A centrifugal pump comprising a casing, an impeller rotatably mounted in the casing, a fixed valve member located within the central recess in the impeller, a moving valve member also located within the central recess for

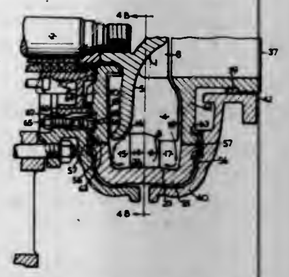
both axial and angular movement relative to the fixed valve member about the impeller axis to define a radially directed variable area orifice within the recess, a link pivotally connected at one position of its length to the fixed valve member and at another position along its length to the moving valve member to locate the moving valve member for movement relative to the fixed member in a fixed path combining axial and angular movement such that for movement of the moving valve member in one direction along the fixed path the dimensions of the orifice increase by both axial and angular movements and for movement of the moving valve member in the other direction along the fixed path the dimensions of the orifice decrease by both axial and angular movements.

3,265,001
CENTRIFUGAL PUMP
Elmer M. Deters, Davenport, Iowa, assignor to Red Jacket Manufacturing Company, Davenport, Iowa, a corporation of Iowa
Filed Apr. 24, 1964, Ser. No. 362,242
7 Claims. (Cl. 103—102)



1. A multi-stage centrifugal pump for pumping fluid from a main pump inlet through successive stages to a main pump outlet, a shaft, a plurality of pump impellers each having an impeller inlet in the front side and impeller passages extending from the impeller inlet to the periphery of the impeller, said impellers each having an impeller hub slidably and non-rotatably mounted on the shaft for free axial float thereon with the hubs on adjacent impellers axially spaced apart along the shaft, a portion of the hub extending axially toward the impeller inlet and having one end disposed at a level adjacent the impeller inlet, a pump casing surrounding the impellers and including a plurality of inlet walls each spaced axially from the front side of a respective impeller and a plurality of diffuser walls each spaced axially from the rear side of a respective impeller, intermediate ones of the diffuser walls having sleeve portions immediately surrounding the shaft between the adjacent ones of the hubs and extending from the diffuser wall toward the hub on the impeller of the next succeeding pump stage, each impeller and the adjacent inlet wall of the pump casing having opposed seal faces around the impeller inlet to limit recirculation of fluid therebetween, and a hub thrust bearing means for each impeller surrounding the shaft and defining opposed axially facing bearing faces between said one end of each hub portion and the end of the adjacent sleeve portion for limiting movement of the impellers in a direction toward the pump inlet to control wear on said impellers and said inlet walls of the pump casing when sand or other abrasive material is present in the water being pumped, the outer surfaces of the hub portions and sleeve portions defining the inner boundary of the flow passage through the impeller inlet and said hub thrust means having its outer periphery adjacent the outer surfaces of the hub portions and sleeve portions and being located at a level adjacent the inlet of the impeller whereby fluid flowing through the impellers tends to carry any foreign matter therein past the hub thrust bearing.

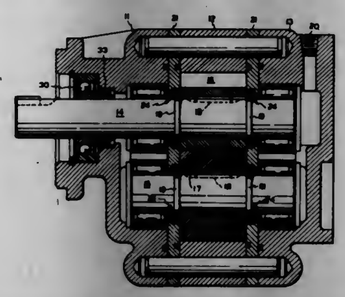
3,265,002
CENTRIFUGAL PUMPS AND THE LIKE
Charles H. Warman, Castlecrag, New South Wales, Australia, assignor to Research and Development Pty. Ltd., Perth, Western Australia, Australia, a corporation of Western Australia
Original application Jan. 13, 1961, Ser. No. 82,552, now Patent No. 3,146,722, dated Sept. 1, 1964. Divided and this application Aug. 3, 1964, Ser. No. 387,033
Claims priority, application Australia, Jan. 19, 1960, 56,621/60
6 Claims. (Cl. 103—103)



1. A centrifugal pump, comprising a casing having axially spaced opposed walls and a peripheral wall defining a pumping chamber, said peripheral wall having a circumferentially extending ridge extending around a substantial portion of the periphery of said circumferential wall and projecting inwardly toward the axis of the casing, the opposite peripheral ends of said ridge tapering gradually outwardly toward said circumferential wall in the circumferential direction of said ridge, said ridge having a top surface having an axial width substantially less than the axial spacing of said side walls, said ridge and spaced side walls defining between them circumferentially extending concave grooves coextensive with said ridge, an impeller in the pumping chamber of said casing rotatable about the axis of said casing, said impeller having at least one approximately radial wall with the peripheral portions of the inward surface of each wall flared smoothly outwardly toward the adjacent wall of said casing, said impeller further having circumferentially spaced vanes secured to the inner face of at least one of said walls, the radially outer trailing end of each said vane having a smooth concave recess in the central portion thereof said opposed walls of said casing curving smoothly from adjacent the periphery of said impeller into said grooves, and a discharge branch on said casing and opening into said pumping chamber of said casing only through the top surface of said ridge along a portion of the length of said ridge, said portion of the length of the ridge being at radial distances from the center of the casing which are less than the radial distances of the remainder of the top surface from the center of the casing, whereby each said impeller wall, its vanes, said opposed casing walls, the concave grooves in said peripheral wall and said ridge coact to produce a pair of fluid flows which are outwardly diverging from the periphery of said impeller and then inwardly converging at the sides of said ridge, and said flows defining a low energy central zone at said discharge opening in said top surface of said ridge.

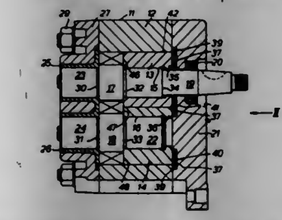
3,265,003
PUMP
Robert W. Kaechele, Kalamazoo, Mich., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed Apr. 2, 1964, Ser. No. 356,881
4 Claims. (Cl. 103—126)

1. In a gear pump of the type including a housing having an impeller cavity therein, inter-engaging toothed impellers in said cavity; a wear plate closing one side of the cavity and having its face engaging the side faces of said impellers; and a drive shaft connected to drive one of said impellers and extending outward from said housing through an opening in said wear plate the improvement which comprises a counterbore formed into said opening from its gear-engaging face; an annular seal plate received in said opening, and having a flange received in



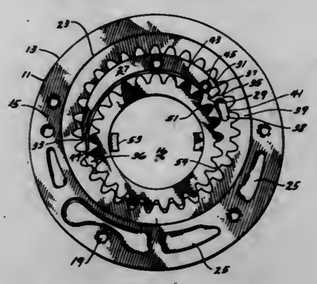
the counterbore, the outer periphery of the flange on the annular seal plate lying entirely within the trace of the roots of the teeth on the impeller; a sealing face formed on the side of the seal plate engaging the side face of the impeller; sealing means effective to prevent leakage from said counterbore through said opening; and means biasing said seal plate into engagement with the side face of the impeller.

3,265,004
GEAR PUMPS AND MOTORS
Kenneth R. Boydell, Tewkesbury, and Cedric D. Weaver, Shurdington, near Cheltenham, England, assignors to Dowty Hydraulic Units Limited, Cheltenham, England, a British company
Filed Jan. 28, 1965, Ser. No. 428,699
Claims priority, application Great Britain, Feb. 6, 1964, 5,097/64
9 Claims. (Cl. 103—126)



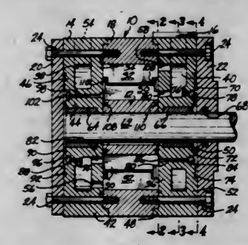
1. A gear pump or motor of the kind in which bushes, which carry those shafts formed on one and the same side of the intermeshing gears for partly supporting those gears for rotation, are subjected to delivery pressure (in the case of a pump) or supply pressure (in the case of a motor) upon their end faces remote from the side faces of the gears adjacent the bushes, in a manner such that the resultant pressure differential across the bushes urges them into substantial sealing engagement with those side faces, wherein the driving shaft (in the case of a pump) or the driven shaft (in the case of a motor) is so reduced in diameter along that part thereof supported by its bush as to permit the internal diameter of that bush to be correspondingly reduced towards its end portion remote from the associated gear, whereby the area of the end face subjected to the said delivery or supply pressure is such in relation to the area of the opposite face of the bush as to afford the required pressure differential for urging the bush into substantial sealing engagement with the adjacent side face of the gear.

3,265,005
OIL PUMP
Howell V. Ringgenberg, 3518 3rd St., Des Moines, Iowa
Filed Apr. 15, 1965, Ser. No. 448,519
10 Claims. (Cl. 103—126)



7. In a rotary gear oil pump,
a pump body having a central hub portion on one side thereof and a face portion on its other side, said hub portion having an axial hole extending therethrough, said pump body having a cylindrical recess formed in its face portion in communication with said axial hole and offset therefrom,
a crescent in said recess and having curved inner and outer faces and opposite ends,
a curved shim mounted on the inner face of said crescent and having one of its ends pivotally secured to said crescent,
a driven gear rotatably mounted in said recess and having internal gear teeth passing in close proximity to the outer face of said crescent,
and a drive gear rotatably mounted in said recess in axial alignment with said axial hole, said drive gear having external gear teeth in mesh with some of the internal gear teeth of said driven gear, said gear teeth of said drive gear passing in close proximity to said shim.

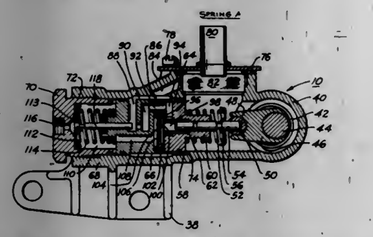
3,265,006
HYDRAULIC MECHANISMS HAVING BIASED VANES AND BALANCED END MEMBERS
Arne Feroy, 20017 42nd S., Kent, Wash.
Filed Nov. 9, 1964, Ser. No. 409,822
14 Claims. (Cl. 103—136)



1. A rotary hydraulic mechanism comprising a stator and a rotor in said stator forming at least one compartmented working chamber therewith, said stator comprising an end member having concentric, generally cylindrical rim and hub portions, and axially spaced inboard and outboard wall portions extending between said rim and hub portions, and forming an annular fluid manifold therewith, said inboard wall extending contiguous a side of said rotor, said mechanism further comprising an end plate abuttingly engaging an axially outboardly facing first part of said outboard wall and forming an annular balancing fluid chamber with an axially outboardly facing second part of said outboard wall, said end member having a fluid passageway in it interconnecting said fluid

manifold with said balancing fluid chamber, and valve means in said passageway permitting the flow of fluid from said fluid manifold to said balancing fluid chamber, but preventing fluid flow in the reverse direction.

3,265,007
PUMP
Harold B. Schultz, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Sept. 25, 1964, Ser. No. 399,206
4 Claims. (Cl. 103—153)



1. For use in a reciprocating pump a means to control inlet and discharge flow comprising:

a pump casing having a shoulder formed internally thereof;

a flanged body having a portion thereof sized to abut on said shoulder, said flanged body being adapted to receive a pump piston in a central chamber thereof;

a porting and hold-down member sealingly connected to said flanged body on an end opposite that abutting said shoulder, said porting and holddown member having separate passages therein arranged to communicate with said central chamber;

a valve means operatively arranged between said flanged member and said porting and hold-down member to control communication between said central chamber in the flanged member and said passages in the porting member, which valve means includes,

a first circular inlet valve body having a horseshoe-shaped opening circumscribing an annular valve disc supported by a single reed type stem member to said body to provide a long spring arm allowing said annular valve disc to fluctuate by a small pressure differential thereacross,

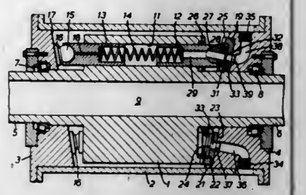
a second circular discharge valve body having a horseshoe-shaped opening circumscribing a solid valve disc supported by a single reed type stem to said body to be centered by the opening in said annular valve disc whereby said inlet and discharge valve bodies may be operatively arranged between said flanged member and said porting member in concentric positions in stacked relationship, and

a spacer element arranged between said valves with appropriate openings communicating each valve with said central chamber such that suction in said chamber will open said annular valve disc and close said solid disc and pressure will open said solid disc and close said annular disc;

a means adapted to be connected with said casing and arranged to bias said porting member to said flanged member clamping said valve means in operative position therebetween; and

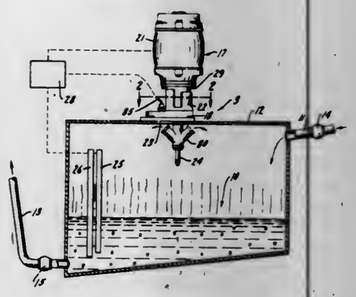
a pressure responsive member arranged in said casing to be operative by discharge pressure to close off said passage in said porting member communicated with the suction operated annular valve disc to starve said pump when said discharge pressure reaches a predetermined value.

3,265,008
HYDRAULIC APPARATUS
Edward V. Ward, Cheltenham, England, assignor to Boulton Paul Aircraft Limited, Wolverhampton, England, a British company
Filed Jan. 4, 1965, Ser. No. 423,014
Claims priority, application Great Britain, Jan. 6, 1964, 558/64
6 Claims. (Cl. 103—162)



1. A pump or motor comprising a rotary cylinder barrel having a plurality of cylinders disposed parallel or nearly parallel to the rotation axis, a piston in each cylinder projecting from one end of the barrel, a drive shaft extending from the barrel, a block having a flat surface disposed adjacent to one end of the barrel, the flat surface being inclined or inclinable to the barrel rotation axis, a supply port and a return port opening into the flat surface, a slipper mounted by a ball joint at the outer end of each piston, a valve rotatably mounted on the block and having one surface engaging the flat surface of the block, another surface, opposite to the said one surface, engaging the slippers, and cylinder ports extending between the two surfaces of the valve, a hydraulic passage extending through each piston and slipper assembly to connect a cylinder with a cylinder port, and drive means interconnecting the barrel and valve to ensure their rotation at similar speeds, whereby each cylinder port is connected to the supply port during one part of a complete revolution of the cylinder barrel and is connected to the return port during another part of the complete revolution of the cylinder barrel so that liquid enters each cylinder from the supply port and is discharged from that cylinder through the return port.

3,265,009
SEWAGE PUMPING SYSTEM
Frank G. Weis, Kansas City, Mo., assignor to Union Tank Car Company, a corporation of New Jersey
Filed Aug. 7, 1963, Ser. No. 300,526
13 Claims. (Cl. 103—235)



1. In a reversible, balanced rotor, gas compressor having:

(1) a housing defining an elliptical cavity having a minor axis of predetermined length,

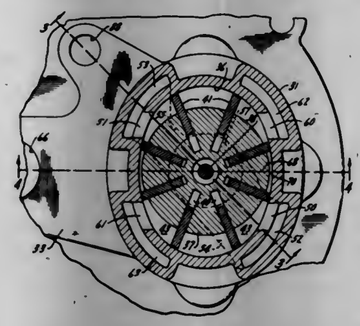
(2) there being a gas intake port and a gas discharge port in opposite sides of said housing in the area adjacent said minor axis,

(3) a circular rotor supported rotatably in said housing so that its axis is coincident with the center of said elliptical cavity, said rotor having a diameter of predetermined length,

(4) there being an even number of slots in said rotor,

(5) a breakable vane slidable in each slot, and

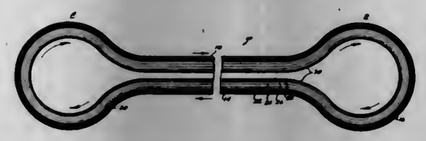
(6) said slots and said ports being oriented so that a vane is always located between the intake port and discharge port on the same side of said housing;



the improvement enabling said compressor to efficiently compress gases containing discrete amounts of liquid and solid matter without breaking said vanes comprising:

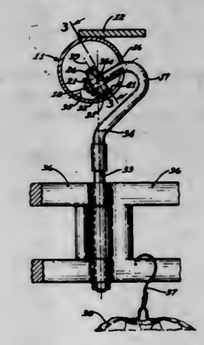
said length of said rotor diameter being from about .025 to about .085 inch less than said length of said minor axis.

3,265,010
MASS TRANSPORTATION SYSTEM
Uria Makiri, 6137½ Saturn St., Los Angeles, Calif.
Filed Mar. 25, 1964, Ser. No. 354,656
3 Claims. (Cl. 104—25)



1. A mass transportation system for moving pedestrians from an outlying area to a downtown area, comprising: a plurality of parallel, adjacent endless conveyors forming a closed loop between said outlying area and said downtown area; driving means connected to said conveyors for driving them continuously at progressively increasing speeds from one conveyor to the next, a stationary platform encompassing said conveyors, whereby pedestrians have access to said conveyors at any point between said outlying area and said downtown area, said plurality of conveyors including a first conveyor immediately adjacent said platform, a second conveyor adjacent said first conveyor, a third conveyor adjacent said second conveyor, and a fourth conveyor adjacent said third conveyor, the upper surfaces of said platform and said conveyors being at the same relative elevation and wherein said means for driving said conveyors includes first means for driving said first conveyor at approximately 5 miles per hour, second means for driving said second conveyor at approximately 10 miles per hour, third means for driving said third conveyor at approximately 15 miles per hour and fourth means for driving said fourth conveyor at approximately 20 miles per hour, an upstanding wall adjacent said fourth conveyor, each conveyor comprising a plurality of links connected together to form an endless track, each link including a tongue portion and a bifurcated portion, the bifurcated portion of one link slidably engaging the tongue portion of an adjacent link, each of said tongue portions including an elongated slot and each of said bifurcated portions including an aperture, platform sections mounted transversely across each of said links, a pin connecting each platform section to associated link sections, each of said pins passing through a platform section, an associated aperture and an associated elongated slot, and roller means rotatably mounted adjacent each conveyor, said roller means including grooves engageable by said tracks.

3,265,011
CONVEYOR SUSPENSION TRACK STRUCTURE
Steve T. Golden, 258 Banner Ave., Ventura, Calif.
Filed Dec. 30, 1963, Ser. No. 334,475
2 Claims. (Cl. 104—93)



1. A conveyor suspension structure comprising in combination:

(A) a tubular track having a slot in the side thereof,

(B) a suspension hook having its inner end extending through said slot into the interior of said tubular track,

(C) a roller journaled against axial movement to rotate around an oblique axis on the inner end of said hook and arranged to roll at a point of contact on the bottom portion of the inside cylindrical surface of said tubular track,

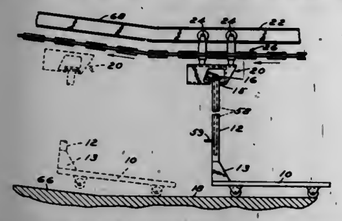
(D) a vertical shank portion on the lower outer end of said hook having a vertical axis defining a vertical plane parallel to said tubular track extending upwardly to intersect said oblique axis of rotation of said roller on the inner end of said hook,

(E) said point of contact of the periphery of said roller with the said interior surface of said tubular track lying in a plane at right angles to the axis of rotation of said roller and passing through the point of intersection of said roller and said vertical plane defined by said shank axis.

3,265,012
OVERHEAD TOW CONVEYOR
Arvene R. Beltzel, Atlanta, Ga., Augustus E. Green, Charlotte, N.C., and Howard L. Meyer, Wilton, Conn., assignors to Jervis B. Webb Company, a corporation of Michigan
Filed Mar. 20, 1964, Ser. No. 353,496
10 Claims. (Cl. 104—170)

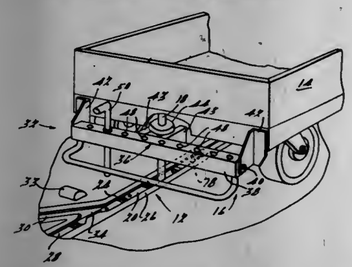
1. An overhead tow conveyor including an overhead power chain provided with pushers for engaging a tow mast of a floor truck, characterized by the tow mast consisting of an upstanding member having its lower end fixed to the floor truck, an enlarged cap at the upper end of the tow mast, each pusher having portions which ex-

tend downwardly and inwardly into underlying relation with the tow mast cap, and a section along which the elevation of the conveyor is changed, said section being arranged with the pushers in increased vertical spacing



from a floor so that a floor truck is in part suspended from a pusher by engagement between the tow mast cap and the downwardly and inwardly extending pusher portions while traversing said section.

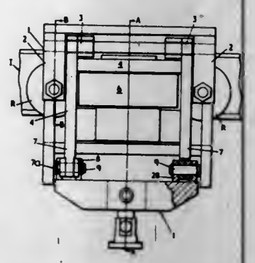
3,265,013
LOW PROFILE FLOOR CONVEYOR
Adolph Czarnecki, Birmingham, Mich., assignor to Anchor Steel & Conveyor Company, Dearborn, Mich., a corporation of Michigan
Filed Mar. 24, 1964, Ser. No. 354,365
19 Claims. (Cl. 104—172)



1. A conveyor chain assembly adapted to be installed in a chain race defined by a pair of spaced side members, means forming a base portion and a pair of spaced cover plate members supported thereby, the cover plate members defining a slot adapted to receive a tow pin of a truck, said chain assembly comprising:
a plurality of upper links joined together and formed to present a smooth upper surface closely adjacent and below the slot,
a plurality of interconnected lower links spaced below said upper links and parallel thereto,
connector means for joining said upper and lower links,
first means carried by said upper and lower links for spacing said chain from the side walls, and
second means carried by said upper and lower links for vertically supporting said chain,
said upper links being further formed to transversely underlap each of the cover plates for providing a vertical closure for the slot.

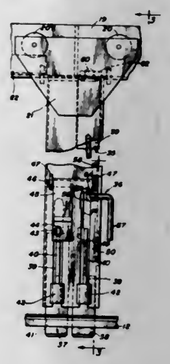
3,265,014
MONORAIL VEHICLES
Norman L. C. Parfitt, Ashby-De-La-Zouch, England, assignor to Cowlishaw Walker & Company Limited, Biddulph, England
Filed June 10, 1965, Ser. No. 462,922
Claims priority, application Great Britain, June 16, 1964, 24,953/64
5 Claims. (Cl. 105—30)

1. A propulsion suspension unit for a vehicle arranged for movement along a monorail, comprising suspension rollers for supporting the vehicle on the monorail and driving rollers set in opposition about the rail and mounted to both roll along and grip between them a central vertical web of the rail, said driving rollers being mounted at the same level as the suspension rollers and the latter being arranged to roll along flanges extending each side of and at the lower extremity of the said verti-



cal web, the unit further comprising a multiplying linkage from which the vehicle is suspended whereby the force exerted by the weight of the vehicle is transferred evenly to each of the driving rollers to cause them to grip said central vertical web between them with a force which is effectively greater than the weight of the vehicle.

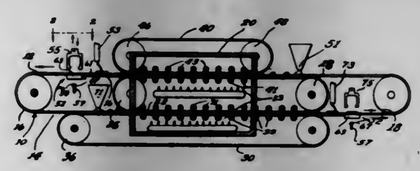
3,265,015
DOORPOST LOCKING ARRANGEMENT FOR RAILWAY CARS
Franklin P. Adler, Michigan City, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed July 2, 1964, Ser. No. 379,800
5 Claims. (Cl. 105—378)



1. In a railway car having a floor, a roof structure and end walls arranged to form an open side railway car, a roll-up door disposed in said open side, and a roll-up door track fixed between said roof and said floor for guiding one end of said roll-up door; the improvement comprising a removable door post extending vertically between said roof and said floor and spaced lengthwise from said fixed door track, said removable door post having a door track for guiding the other end of said roll-up door, locking means for positioning said removable door post, said locking means comprising a locking bolt member, guiding means on the lower end of said door for guiding said locking bolt member in vertical sliding relationship, an opening in said floor adapted to receive the end of said locking bolt member so that said door post may be locked in said operative position, notch means in said locking bolt member, locator means for ascertaining that said door post assumes a

substantially vertical attitude in said operative positon and including a locator bolt disposed adjacent to said locking bolt member, means adjacent the upper end of said door post for guiding said locator bolt for vertical sliding movement, a locator bolt opening in said roof structure adapted to receive the end of said locator bolt means, said locator bolt means including means seatable within said locking bolt notch, and locator bolt stop means mounted on said door post in the path of movement of said locator bolt means for retaining said seatable means seated within said notch and thereby preventing the insertion of said locking bolt member into said locking bolt opening until said locator bolt member is inserted into said locator opening.

3,265,016
FORTUNE COOKY MACHINE
Yau Tak Cheung, 6500 W. 64th St., Chicago, Ill.
Filed Sept. 25, 1963, Ser. No. 311,473
6 Claims. (Cl. 107—1)



1. Apparatus for forming plastic, substantially planar blanks of plastic conditioned material releasably disposed in open portions of a longitudinally transported conveyor belt which comprises, a forming housing having an upper surface portion disposed in proximity with an under surface of said belt, said upper surface portion of said housing comprising first and second sloping portions disposed transverse of the longitudinal motion of said belt, said sloping portions being transversely spaced apart to provide an opening therebetween corresponding to the transverse positioning of the open portions of said belt, said housing further comprising a vertically positioned bar member extending between said spaced apart portions and having an upper edge portion positioned oppositely of said sloping portions of said upper surface, and a plunger having a bifurcated planar surface disposed perpendicular to said bar member, said plunger being operable bi-directionally along a line perpendicular to said conveyor belt into enfolding relation with said bar member upper edge portion for urging said plastic material blank from said belt open portion to fold said blank about said bar member upper edge portion in a first direction corresponding to one direction of motion of said plunger in a first plane corresponding to that of said plunger bifurcated planar surface, whereby said first and second sloping surfaces engage said plastic blank to fold said blank in a second, opposite direction from said bar member in a second, perpendicular plane.

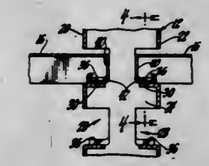
3,265,017
IRONING BOARD
Edwin E. Foster, Austin, Tex., assignor to Majik-Ironers, Inc., Austin, Tex., a corporation of Texas
Filed Oct. 5, 1964, Ser. No. 401,362
7 Claims. (Cl. 108—82)

1. An ironing board comprising an elongated board generally rectangular in outline but cut away at one corner along a straight line intersecting one end of the board adjacent to one side thereof and intersecting the other side of the board at a point spaced from said one end but intermediate the length of the board, the board at said straight line being formed of sheet material bent downwardly from the surface of the board to define a relatively thick hollow edge, a connector strip of sheet material of a width substantially equal to the thickness of said edge, one edge of the connector strip being hinged to the upper corner of said edge on the board for swinging from a first position coplanar with the board to a



second position overlying said edge of the board, a triangular corner piece of sheet material hinged to the other edge of the connector strip for swinging from a first position coplanar with the connector strip and board to a second position at right angles to the connector strip and closely underlying the board, and latch means to hold the connector strip and corner piece in said first and second positions.

3,265,018
UPRIGHT POST
James E. Joyce, Battle Creek, Mich., assignor to American Metal Products Company, Detroit, Mich., a corporation of Michigan
Filed Apr. 29, 1965, Ser. No. 451,891
5 Claims. (Cl. 108—109)

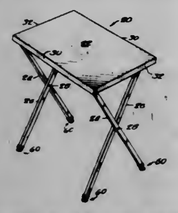


4. A shelf frame comprising: a plurality of elongated hollow upright members each including; parallel spaced first and second sides and parallel spaced third and fourth sides, a plurality of slots spaced along and extending transversely of at least one of said first and second sides respectively, a tongue extending inwardly from each of said slots, said third and fourth sides having openings therein each of which is in substantial registry with one of said slots, each of said openings in said third side having a lower edge disposed above said tongue associated with said slot with which said opening is in substantial registry, each of said tongues being disposed on the lower edge of one of said openings in said fourth side; shelves disposed between said upright members; and said shelves having portions each of which extends into one of said slots for resting upon said tongue and abutting said third side below said opening therein whereby a plurality of shelves are removably supported between a plurality of said upright members.

3,265,019
TV SNACK TABLE
Raymond S. Haydock, Chicago, Ill., assignor of one-half to Raymond Haydock, Jr., and one-half to Sandra Lynn Haydock, Chicago, Ill.
Filed Oct. 21, 1965, Ser. No. 499,510
1 Claim. (Cl. 108—119)

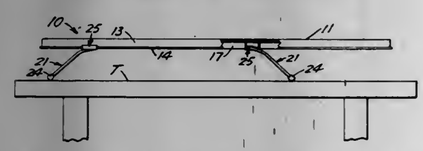
A TV snack table assembly, comprising a rectangular table top, having two long sides and two shorter sides, said table top having a rim extending about its edge, and depending therefrom, on its long sides and on its shorter sides, a pair of substantially U-shaped leg units, each leg unit having an upper portion adapted to extend along the long sides of said table top, and each leg unit

having a pair of depending legs, and said legs being pivoted together midway between the legs' ends, at each end of the table, the legs being foldable after disengaging them from the table top to permit storage or shipment, and the legs supporting the top rigidly when attached to the table top, the said table top being provided with a plurality of leg clips, located on each of the long sides of the table adjacent each end, and located to engage the upper portion of the leg unit, each leg clip having a flat attaching flange to be secured to the depending rim of the table top, and each leg clip having



another angle flange, extending generally parallel to the bottom of the table top, and each leg clip having a pair of ribs adapted to engage just above the edge of the leg unit at the longer side of the table, whereby the leg unit on either side may be cammed in between the angular flange and the bottom of the table top, and be held in engagement with the table top, the said legs being rectangular, and having a seam on one side, and the leg being engaged by the seams on the leg clips, and with the attaching flange, to hold the legs in fixed position, to support the table top in erect position.

3,265,020
IRONING TABLE
Howard E. Kerr, Muscatine, Iowa, assignor to H. V. Keller Mfg. Co., Muscatine, Iowa, a corporation of Minnesota
Filed July 26, 1965, Ser. No. 474,771
3 Claims. (Cl. 108—129)



1. An ironing table adapted to be supported on an elevated support such as a table top, said ironing table comprising

an elongate substantially flat table top structure having a continuous downturned peripheral flange integrally formed therewith, said flange terminating in a continuous bead,

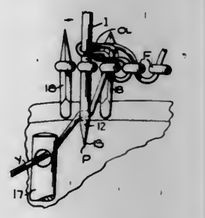
an elongate channel shaped rib member rigidly affixed to the lower surface of said table top structure and extending longitudinally thereof, said rib member having a plurality of longitudinally spaced apart transverse slots therein,

a pair of channel shaped leg retaining members each including a web portion having a pair of flanges integrally formed therewith, said retaining members extending transversely of the lower surface of said table top structure and being disposed in spaced apart relation with respect to each other, each of said leg retaining members having the flanges thereof positioned within a pair of said slots in said rib member, the web portion of each said leg retaining members being bent into engaging relation with said bead to fixedly secure the leg retaining members to the table top structure,

a pair of generally U-shaped leg structures each including a bight portion having a pair of leg elements extending therefrom, the bight portion of each leg structure being disposed within one of said leg retaining members and said leg elements thereof projecting through openings in the associated leg retaining member, each of said leg structures being movable between an inoperative collapsed position disposed closely adjacent the lower surface of the table top, and an erect operative position,

and a friction element on each of said leg retaining members frictionally engaging the bight portion of one leg structure and releasably holding the same in said operative and inoperative positions.

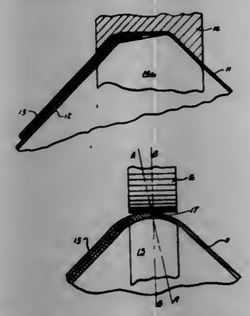
3,265,021
LINKING CHAIN STITCH MACHINE
Denis Matthews, Sutton-in-Ashfield, England, assignor to Matthews & Birkhamshaw Limited, Sutton-in-Ashfield, England
Filed Feb. 11, 1963, Ser. No. 257,715
Claims priority, application Great Britain, Feb. 12, 1962, 5,358/62; June 6, 1962, 21,817/62
1 Claim. (Cl. 112—25)



In a knitwear chain stitch linking machine having a plurality of pointed pins and a linking machine needle, a standard needle operating member arranged to reciprocate said needle from a retracted position at one side of the fabric to an extended position at the opposite side of the fabric, and to retract the needle, and yarn feeding and guiding means on such opposite side of the fabric to feed and guide yarn to said needle projected through the fabric by said operating member, said linking machine needle having an elongated longitudinally arcuate and longitudinally smoothly streamline stem formed with a shank portion at one end for releasable attachment in said standard operating member, the opposite end of said stem having an elongated portion gradually tapering to a point suitable to penetrate loops of overlapped fabric portions to be chain stitched to each other, said elongated stem portion being imperforate; and yarn and loop control means on said needle including a recess formed in said stem inwardly of said imperforate elongated portion and inwardly from a surface of said stem for releasably receiving new yarn from said yarn feeding and guiding means, said recess being contoured at its outer end to define a hook facing away from said point and having a laterally outer surface included within the forwardly extending peripherally conforming projection of the longitudinally streamline surface of said stem inwardly of said hook, said laterally outer surface enabling passage of a loop on the needle smoothly over the recess; said stem being formed with a longitudinally extending groove extending longitudinally inwardly from said recess, said groove being longitudinally arcuate and having an outwardly facing concave surface; and a latch pivotally mounted at one end within said groove on a transverse axis intermediate the ends of the latter; said latch having a spoon-shaped free end, and having a first position, substantially within said recess, in which said spoon-shaped

end overlaps said hook and a second position, substantially out of said recess, in which said spoon-shaped end extends toward said shank portion of said stem; whereby said needle may be used for chain stitch linking in a knitwear chain stitch linking-machine without requiring a complex looper.

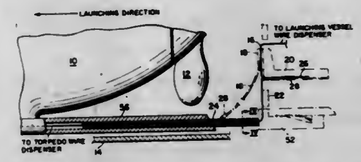
3,265,022
SHEET METAL RECEPTACLE AND METHOD OF MAKING
Morris Kaufman, Morton Grove, Ill., assignor to American Home Products Corporation, a corporation of Delaware
Original application Sept. 7, 1961, Ser. No. 136,545, now Patent No. 3,219,229, dated Nov. 23, 1965. Divided and this application Mar. 8, 1965, Ser. No. 437,872
2 Claims. (Cl. 113—120)



1. The method of making a sheet metal pan which comprises bending a sheet metal blank along lines to form a bottom wall of rectangular plan and side walls extending upwardly from said bottom wall, joining said side walls by doubling up material thereof to form two ply corner folds and bending each corner fold against the outer surface of one of the side walls of which said fold forms a continuation, applying an inner electrode to the inner surface of an area of the pan along the junction line between said side walls while applying an outer electrode to the outer surface of the pan directly opposite said inner electrode, subjecting said area to heavy localized electric current and mechanical pressure of said electrode along a first fixed direction of force to integrally fuse each ply of the corner fold at said junction line to the other ply of said corner fold and to the side wall of the pan overlapped thereby along a zone extending the full length of said junction line, and thereafter subjecting said area to heavy localized electric current and mechanical pressure of said electrodes along a second fixed direction of force in such angular relation to the first fixed direction of force as to spread and gradually reduce the thickness of said zone of fusion in the direction opposite to that direction which said plies of the corner fold extend from said junction line.

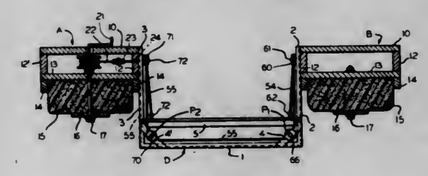
3,265,023
DEVICE FOR PREVENTING WIRE ENTANGLEMENT
Herbert M. Hollingsworth, Jr., Annapolis, Stephen Mehalko, Baltimore, and Edward L. Stene, Linthicum Heights, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 22, 1961, Ser. No. 154,373
10 Claims. (Cl. 114—20)

1. An apparatus for preventing entanglement of a flexible line which is connected to a vehicle and is paid out from a dispenser when the vehicle is launched from a launching device, the line extending in a vicinity with respect to the vehicle where a turbulence is caused by the vehicle when the vehicle is launched, said apparatus comprising means located on the launching device between the dispenser and the vehicle for retaining a length of the line along a substantially straight course before and during the turbulence, said means including an elongate rod constructed of a resilient material and having a channel therealong, an inner portion of said channel having a cross section at least equal to a cross section of the



line, and means for progressively releasing the line, said releasing means being an outer portion of said channel and including a pair of opposing lips spaced at a dimension less than a width of the line whereby the line can be retained within the inner portion of the channel until the vehicle tugs thereon and thereafter be progressively drawn from the inner portion of the channel through said lips.

3,265,024
BOAT LIFT
Charles W. Kramlich, 1931 Church St., Wauwatosa, Wis.
Filed June 14, 1965, Ser. No. 463,746
3 Claims. (Cl. 114—45)



1. In a floating dock comprising two relatively spaced pontoons, the combination with a pair of relatively spaced U-brackets connecting said pontoons in spaced relation, said brackets each comprising a substantially horizontal bottom channel iron having at each end a vertically disposed channel iron extending upwardly and connected at its upper end with an adjacent pontoon, the channel side of the vertical channel iron of each bracket facing each other and jointly serving as a guide, of a boat lift bar disposed above each of said bottom channel irons and having its ends slidably disposed in a channel of an adjacent vertical channel, and a manually operable pulley and cable system mounted on one of said pontoons and comprising a manually operated reel, a cable to be wound on said reel and controlling two second cable systems simultaneously, one associated with one of said boat lift bars and the other associated with the other of said boat lift bars, each of said second cable systems including a first cable connected with one end of one of said boat lift bars and a second cable connected with the other end of said one of said boat lift bars.

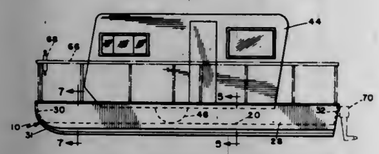
3,265,025
BOAT FOR HOUSE TRAILERS
Arthur A. Haigh, 8634 Harjoan St., and John B. Burkmeyer, 6434 Burgundy St., both of San Diego, Calif.
Filed Jan. 11, 1965, Ser. No. 424,660
10 Claims. (Cl. 114—60)

1. A boat for a house trailer, comprising:

a buoyant hull having a substantially flat deck;

raised walls surrounding said deck and enclosing a well;

said walls including a portion mounted for opening to admit a trailer to said well;



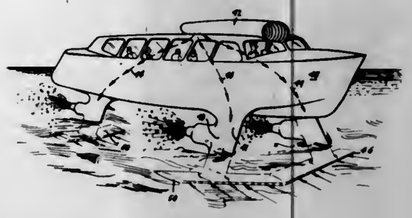
upper deck structure mounted on top of said walls and having portions thereof adjustable to fit closely around a trailer contained in the well.

3,265,026
BOATS
John Bernard Hamilton, Seaforth, New South Wales, Australia, assignor of one-half to John Paterson, Harbord, New South Wales, Australia
Filed May 22, 1964, Ser. No. 369,409
Claims priority, application Australia, May 28, 1963, 31,211/63
1 Claim. (Cl. 114—61)



A boat comprising:
(a) a body;
(b) a plurality of support arms fixed to and extending laterally from each side of said body, said arms each having a free end portion;
(c) first bearing means secured to each of said arms at the free end portion thereof, said bearing means each having a horizontal support axis and the axes of said respective bearing means being parallel to each other;
(d) a streamlined float secured to each of said bearing means for at least partial unrestricted pivotal movement about the axis thereof;
(e) rudder fins fixed to a pair of said floats disposed on opposite sides of said body;
(f) second bearing means securing said pair of floats to the first bearing means thereof for pivotal movement with respect thereto about vertical axes independent of movement of said first bearing means whereby said pair of floats may be pivoted about said vertical axes without disturbing the position of said horizontal axes;
(g) steering means coupled to said pair of floats to effect simultaneous turning thereof about said vertical axes;
(h) actuating means coupled to said steering means to selectively effect operation thereof; and wherein,
(i) said first and second bearing means are located at a metacentric position of stability of said floats.

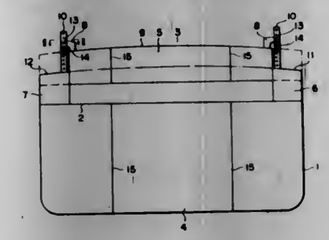
3,265,027
PROPULSOR
Arthur E. Brown, Corning, and Hansjoerg Stern, Scotia, N.Y., assignors to General Electric Company, a corporation of New York
Filed Mar. 12, 1965, Ser. No. 439,376
6 Claims. (Cl. 114—66.5)



1. A hydrofoil ship comprising
a hull,
an engine,
a plurality of struts projecting from said hull,
hydrofoils attached to said struts acting in combination therewith to support said hull during high speed operation,
a propulsor adapted to propel the hydroplane comprising
an inlet diffuser positioned in said hydrofoils and said struts for substantially increasing the pressure and decreasing the velocity of incoming water as it passes therethrough,
means for supplying exhaust gas from said engine,
a mixing chamber connected to at least one of said struts and to which the inlet diffuser and the gas supply means are connected to permit the high pressure, low velocity gas to mix with low velocity pressurized inlet water at low velocities so that there is a minimum of energy transfer therebetween so that this energy is available for thrust generation, and
an outlet nozzle connected to said mixing chamber whereby the two-phase gas-water mixture existing in the mixing chamber in passing through the nozzle has its high pressure energy converted into high velocity to thereby impart substantial thrust from starting operation, while the hull is in water and said propulsor exhaust nozzle is submerged, through high speed operation, when the hull is out of water and supported on the hydrofoils and struts and said propulsor exhaust nozzle exhausts to the atmosphere.

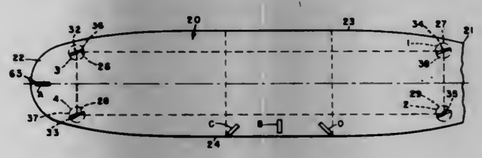
3,265,028
METHOD FOR REBUILDING A HULL, BY THE USE OF JACKS, TO INCREASE THE DEPTH OF WATER
Takakuni Matsuse, Nagasaki-shi, Japan, assignor to Mitsubishi Shipbuilding & Engineering Co., Ltd., Tokyo, Japan
Filed June 3, 1964, Ser. No. 372,249
Claims priority, application Japan, June 18, 1963, 38/30,819
1 Claim. (Cl. 114—77)

A method of rebuilding the hull of a ship to increase the depth of the hull, said method comprising, the steps of dividing the original hull to form an upper central hull section extending longitudinally of the ship and a U-shaped lower hull section having upper side portions extending longitudinally adjacent the longitudinal edges of the upper middle hull; affixing a plurality of arms to the upper deck of the central hull section extending in rows with each row being along one longitudinal edge of the upper hull section; erecting an equal number of upwardly extending guide members on the upper decks of the upper side sections of the lower hull, each adjacent one of said arms; mounting jacks on said upright guide members in engagement with said arms; operating said jacks to lift said upper central hull section step-by-step; between each jacking step, restraining said arms against downward movement along said upright guide members; when said upper central hull section is at an elevation sufficient to provide for movement of a new central hull section therebeneath,



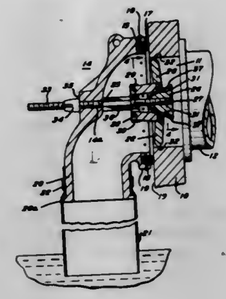
mounting said new central hull section on rollers in engagement with the longitudinal bulk heads of said lower hull section and beneath the longitudinal bulk heads of said new upper central hull section; moving said new upper central hull section beneath said lifted upper central hull section along the longitudinal bulk heads of said lower hull section; uniting said new upper central hull section with said lower hull section; lowering said lifted upper hull section onto said new upper central hull section and uniting said two central hull sections; and then rebuilding the side hull sections of said U-shaped lower hull section.

3,265,029
SHIP STABILIZER
Alfred Laurenti, 35 Essex St., Lawrence, Mass.
Filed July 21, 1964, Ser. No. 384,143
6 Claims. (Cl. 114—122)



1. In combination with a ship
four reversible-pitch, bladed propellers, each rotatable on a fixed vertical axis relative to said ship, on a horizontal plane outside said ship and below the water line, one on the starboard and one on the port side of both the stern and of the bow;
four level sensing mechanisms mounted peripherally on said ship, one on the longitudinal center line, one on the lateral center line, one on a diagonal center line forward of the ship and one on a diagonal center line sternward of the ship;
individual power drive means connected to each said propeller for rotating the same;
blade reversing means associated with each said propeller for reversing the pitch of the blades thereof to selectively exert upward or downward thrust in a vertical direction on said ship, and
electric control means, connecting each said level sensing means with each such blade reversing means for instantaneously countering pitch, roll and combined pitch and roll of said ship.

3,265,030
ATTACHABLE SCUPPER DRAIN
Clinton E. Stevens, 122 Woodlawn Ave., Collingswood, N.J.
Filed Apr. 13, 1965, Ser. No. 447,715
1 Claim. (Cl. 114—182)

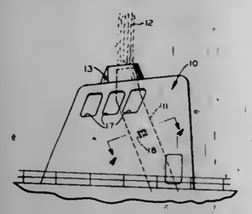


A scupper drain for detachable connection to an upright wall having a discharge opening therethrough terminating at an outer face and surrounded by a bounding surface comprising
a fitting having an upper horizontally disposed end with a vetrical marginal portion and a lower downwardly disposed end with a confined interior passageway therebetween,
said vertical marginal portion having an end groove with a resilient packing therein for engagement with said outer face,
an elongated flexible downwardly extending tube secured to said downwardly disposed end,
a horizontally disposed control rod extending through a wall portion of said fitting,
said control rod having a tapered head thereon interiorly disposed in said fitting,
a mounting member on said rod and having pivotally mounted arms thereon with portions engageable by said tapered head for impelling said arms outwardly,
said tapered head and said arms having interengaging portions preventing relative rotation of said tapered head and said arms,
said arms each having a pointed terminal end portion for engagement with said bounding surface in gripping relation thereto,
said rod having an enlarged member thereon engaging said fitting and with which said mounting member is in engagement, and
said rod having a wing nut thereon exteriorly of said fitting and engaging said fitting for positioning said rod and the head thereon and thereby said arms and said terminal end portions.

3,265,031
METHOD AND APPARATUS FOR PREVENTING SOOT FALLOUT ABOARD SHIP
Thomas T. Lunde, 233 Cerrantes Blvd., San Francisco, Calif.
Filed Jan. 27, 1965, Ser. No. 428,353
2 Claims. (Cl. 114—187)

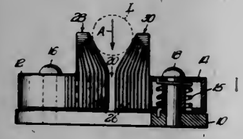
1. Apparatus for preventing soot fallout onto that portion of a ship which lies to the rear of its smoke stack from the smoke column emitted from said stack comprising, an annulus positioned adjacent the upper end of said stack and defining an annular orifice surrounding the same, means to supply air under pressure to said annular orifice, said annulus being oriented with respect to said stack to provide an annular orifice having an area of greater width to the rear of said stack so that the volume

of air to the rear of said stack is greater than the volume of air forward of said stack whereby the portion of the air column established to the rear of said stack will be



impelled to a greater height than that portion of the air column on the opposite side of said stack to protect said rear of said ship from soot fallout.

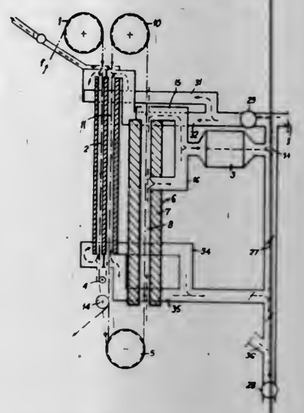
3,265,032
CAM CLEAT
Patrick H. Hume, 210 E. Pearson St., Chicago, Ill.
Continuation of application Ser. No. 35,723, June 13, 1960. This application Oct. 23, 1965, Ser. No. 507,632
5 Claims. (Cl. 114—218)



1. A cam cleat comprising a base, a cam element pivoted to said base about an axis normal to the latter, means confronting said cam element on said base coacting therewith to form a line-receiving nip, said cam element being relatively displaceable around its pivotal axis to vary the size of said nip for the accommodation of lines of different diameters, spring means biasing said cam element toward said confronting means and additional cam means upon said cam element and faired into said nip constituting a V-shaped entry on the latter in cooperation with said confronting means, so that a line moved toward said nip in a direction radially of the line effects relative displacement between said cam element and said confronting means to the dimension necessary to receive such line within said nip.

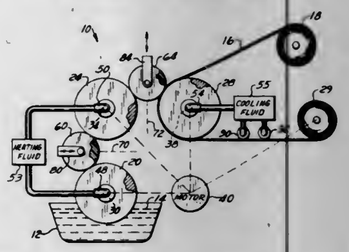
3,265,033
WIRE ENAMELLING FURNACES
Pierre Touze, William Tobelem, and Rene Gau, Reims, France, assignors to Compagnie Francaise Thomson-Houston, Paris, France, a French body corporate
Filed Oct. 6, 1961, Ser. No. 143,452
Claims priority, application France, Oct. 13, 1960, 841,059
2 Claims. (Cl. 118—61)

1. In apparatus for coating wire comprising applicator means for applying a dispersion of a polymerizable substance in a volatile carrier to the wire, oven means including elongated preheat, evaporation and polymerization zones and means for continuously passing wire serially at least once through the applicator means to apply the dispersion to the wire, then through the preheat zone to preheat the wire and dispersion applied thereto, then through the evaporation zone to evaporate the carrier from the dispersion, and then through the polymerization zone to polymerize the substance remaining on the wire, the improvement comprising the provision of said preheat, evaporation and polymerization zones in the form of separate chambers arranged in generally parallel laterally displaced relation with the polymerization and preheat chambers being in closely adjacent relation, including means isolating the chambers from one another,



means for maintaining different predetermined temperature conditions in the respective chambers,
means for withdrawing vapor of said carrier from spaced points of said evaporation chamber,
a catalytic combustion unit for burning said vapors, and means for controllably circulating combustion products from the combustion unit through said polymerization and preheat chambers.

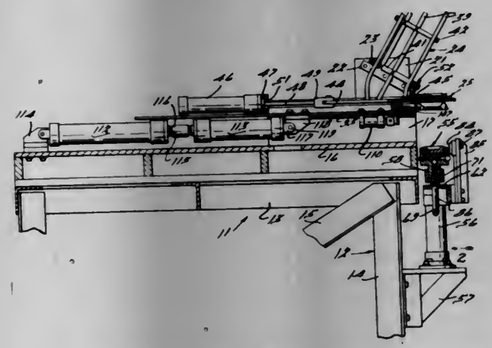
3,265,034
COATING APPARATUS WITH COOLING BACK-UP ROLL
Alfonso Di Mino, Woodcliff Lake, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 31, 1963, Ser. No. 320,300
2 Claims. (Cl. 118—68)



1. A web-coating apparatus comprising
a first fountain roll adapted to have its surface partly submerged in a tank of coating material,
a second transfer roll spaced from said first fountain roll,
a third web-supporting roll spaced from said second transfer roll and supporting a web to be coated,
said first, second, and third rolls being rotatable and positively driven,
a first free-floating soft-surfaced roll positioned between said first and second fountain and transfer rolls and movable into and out of contact therewith,
a second free-floating soft-surfaced roll positioned between said second and third transfer and web-supporting rolls and movable into and out of contact therewith,

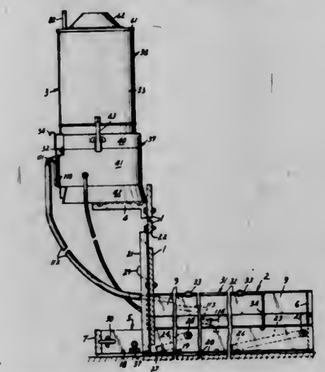
said first and second soft-surfaced rolls being adapted to be frictionally driven by contact with their associated driven rolls,
said first fountain roll having its axis horizontally oriented,
said second transfer roll having its axis horizontally oriented and aligned vertically above the axis of said fountain roll, and
said web-feeding roll having its axis oriented horizontally and aligned horizontally with the axis of said transfer roll,
said first free-floating roll having its axis parallel to the axis of the other rolls and positioned on the center line between the axes of said first and second rolls,
said second free-floating roll having its axis parallel to the axes of the other rolls and positioned on the center line between the axes of said second and third rolls.

3,265,035
FEEDING AND COATING DEVICE
William Rosenstein and Frederick H. Bultman, Racine, Wis., assignors to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed July 31, 1963, Ser. No. 298,927
5 Claims. (Cl. 118—211)



1. In a device for feeding objects from a storage station to a glue-applying station and from the glue-applying station to a delivery station, a storage rack for retaining a stack of objects, a feed plate slidably mounted below said storage rack, stripping means carried by said feed plate, the feed plate being movable between a retracted position and a forward position, the stripping means being engageable with the lowermost object in the stack when moving to its forward position and being slidable under the stack when moving to its retracted position, the stripped object being supported by the feed plate when moving forwardly, detent means mounted at said glue-applying station and engageable with said object to detain the object at said glue-applying station when the feed plate is retracted, a glue head reciprocably mounted at said glue-applying station between a retracted position and a glue-applying position, the glue-applying position being such that an object released from said feed plate when the latter is retracted will engage the glue head, means carried by the glue head for applying glue to an object dropped thereon, a gripper plate slidably mounted below said feed plate for movement between retracted and delivery positions, a gripper on said gripper plate movable between open and gripping positions, the disposition of said gripper being such that said object passes through said gripper while approaching said glue head when the gripper is in its open position and the gripper plate in its retracted position, means for moving said gripper to its gripping position while the object rests on said glue head to grip the object, whereby the object will be supported by said gripper when the glue head is retracted, and means for momentarily opening said gripper when said gripper plate has moved to its delivery position, whereby said object may be released at the delivery station.

3,265,036
ANIMAL LIQUID FEEDING APPARATUS
Dale D. Kloss, Minneapolis, Minn., assignor to K & K Manufacturing, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 3, 1964, Ser. No. 394,120
9 Claims. (Cl. 119—51)

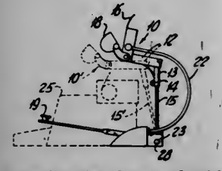


3. An animal liquid feeder comprising:
(a) an elongated generally horizontal base structure,
(b) an elongated feed trough disposed in overlying generally parallel relation to said base and having a bottom wall, spaced sidewalls, and front and rear end walls, said front end wall being removable,
(c) means releasably locking said front end wall in sealing engagement with said bottom and side walls,
(d) linkage mounting said feed trough on said base for angularly upward and downward and generally longitudinal movements between an operative feeding position wherein said feed trough rests on said base and a raised longitudinally displaced inoperative cleaning position wherein said feed trough is longitudinally tilted downwardly in the direction of said removable front end wall,
(e) liquid food dispensing means remote from said feed trough for dispensing predetermined quantities of liquid food,
(f) conduit means extending from said dispensing means to said feed trough,
(g) and control means for said dispensing means including a control element in said feed trough and responsive to consumption of liquid food from the trough to a predetermined level to render said dispensing means operative to dispense a predetermined quantity of liquid food to said feed trough.

3,265,037
COPY HOLDER
James D. O'Donnell, 1955 79th St., Jackson Heights, N.Y.
Filed Jan. 31, 1964, Ser. No. 341,798
1 Claim. (Cl. 120—28)

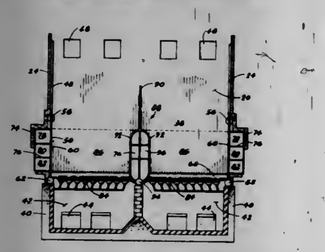
A copy holder comprising a copy holder head for holding a source data sheet in face view of the operator of a desk top machine such as a typewriter or the like; a base including a base plate to underlie the desk top machine and spaced side brackets extending to the rear of the location for the desk top machine on the base plate; an upwardly extending support structure at the rear of said base

for supporting the copy holder head above the desk top machine, the support structure including a cross bar journaled between said side brackets to mount the structure to the base for angular adjustment forwardly or rearwardly with respect to the base; at least one of said brackets comprising a flat plate arm; another flat plate arm non-rotatively carried by said cross bar for face-to-face friction engagement with the other plate arm; a pin-and-slot tie connection between the two plate arms for limiting the angle through which said support structure may be adjusted; one of the plate arms being formed back from



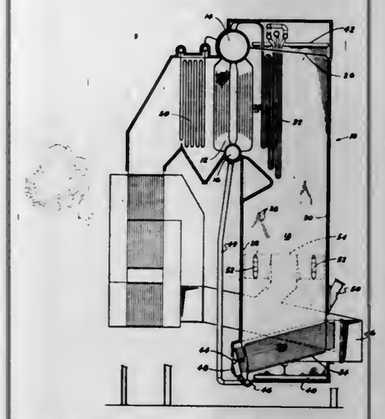
its face with a cavity the front of which opens on the confronting face of the other plate arm; a bullet-nosed spring plunger unit insertably, freely detachably nested in said cavity with only the plunger nose protruding from the front of the cavity for pressure engagement with said confronting face so as to resist angular displacement of the support structure; said confronting face having a socket into which the plunger nose snaps to impositively lock the support structure in a predetermined angular relation to said base; and the spring plunger unit being locked into its nesting cavity solely by said confronting face.

3,265,038
CELLULOSIC FUEL FURNACE HAVING MULTI-CELL BURNING CHAMBER
Romul E. Vuia, Laval sur le Lac, Quebec, Canada, assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Sept. 29, 1964, Ser. No. 399,994
6 Claims. (Cl. 122—2)



1. A vapor generator having rectangularly disposed walls forming a vertically extending, undivided furnace chamber; tubes lining the walls of said furnace chamber; fluid fuel burner means operatively disposed in said walls to fire into said furnace chamber; a combustion chamber adapted to burn piles of cellulosic fuel positioned subjacent to, and in open gaseous communication with said furnace chamber; tubes in fluid communication with said furnace chamber tubes lining the walls of said combustion chamber; means for passing combustion air through the walls of said combustion chamber; partition means dividing said combustion chamber into a plurality of burner cells comprising oppositely spaced rows of tubes extending upwardly from the bottom of said combustion chamber to a height substantially coincident with the top thereof forming a substantially closed air passage between the walls of said combustion chamber, means for passing combustion air from said air passage to said burner cells; tubular extensions connecting with the tubes of said air passage at the uppermost portion thereof and extending upwardly therefrom to a height substantially below said fluid fuel burner means, the upper ends of said tubular extensions being displaced into lateral alignment with said furnace chamber tubes to line a portion of said furnace walls.

3,265,039
BURNING CHAMBER CELLS FORMED BY HORIZONTAL PARTITION-FORMING TUBES
Ralph D. Winship, St. Lambert, Quebec, and Paul C. Anderson, Ville d'Anjou, Quebec, Canada, assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Sept. 29, 1964, Ser. No. 400,046
6 Claims. (Cl. 122—2)

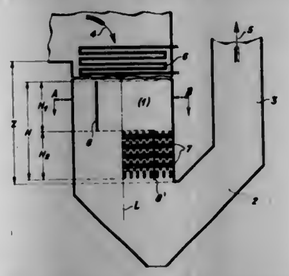


1. A vapor generator having rectangularly disposed walls defining a vertically extending furnace chamber; substantially vertically arranged vapor generating tubes lining said walls; a combustion chamber capable of supporting combustion of cellulosic fuel positioned subjacent to and communicating with said furance chamber; substantially vertically extending extensions of said vapor generating tubes lining the walls of said combustion chamber; first air passage means surrounding said combustion chamber; partition means dividing said combustion chamber into a plurality of burner cells, said partition means comprising rectangularly disposed rows of substantially horizontally arranged, parallel tubes extending between opposed walls of said combustion chamber, said rows defining second air passage means therethrough, said partition means including spaced, parallel sides and a roof traversing the top of said sides; the tubes forming said sides extending to the exterior of said vapor generator and there being laterally and vertically offset to connect with a first portion of said vapor generating tubes; the tubes forming said roof being vertically offset to connect directly with a second portion of said vapor generating tubes; and means for effecting communication between said air passage means and said burner cells.

3,265,040
COMBUSTION GAS STACK FOR STEAM GENERATING PLANT
Yian-Nian Chen, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed Nov. 10, 1964, Ser. No. 410,128
Claims priority, application Switzerland, Nov. 18, 1963, 14,199/63
5 Claims. (Cl. 122—4)

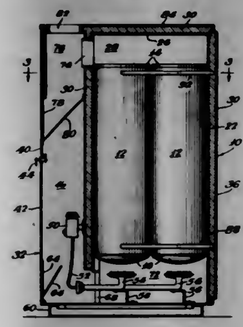
1. A steam generator combustion gas stack comprising stack walls, tubes extending across the stack between said walls in a direction transverse to the direction of

combustion gas streaming through the stack, and a plurality of partitions disposed within the stack at positions successively traversed by the gases in streaming through



the stack, said partitions extending parallel to the direction of gas streaming and to the length of said tubes, adjacent of said partitions having unlike spacings from said stack walls.

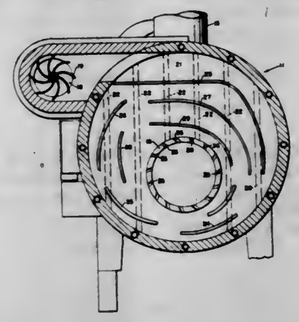
3,265,041
MULTI-TANK WATER HEATER
Joseph H. McCarthy, Jr., La Grange, Ill., assignor to Rheem Manufacturing Company, Chicago, Ill., a corporation of California
Filed May 18, 1964, Ser. No. 368,013
5 Claims. (Cl. 122—17)



1. A water heater comprising a plurality of upright, substantially cylindrical water storage tanks, said tanks being mounted with their outer peripheries being in substantial contact so as to provide substantial line contact therebetween, flue means defined between said tanks, cold water inlet means connected in parallel to the lower portions of said tanks, hot water outlet means connected in parallel to the upper portions of said tanks, means positioned below said tanks for heating the water in said tanks, and insulating means substantially surrounding said tanks and said heating means.

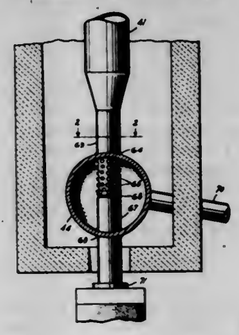
3,265,042
AIR PREHEATER FOR INDUSTRIAL BOILERS
Luther H. Huckabee, 4990 Poplar Ave., Memphis, Tenn.
Filed Dec. 28, 1964, Ser. No. 421,322
4 Claims. (Cl. 122—149)

1. Means for preheating air from use in firing industrial boilers, comprising in combination a boiler to be fired, a chamber mounted on one end of said boiler, an exhaust flue adjacent said end of said boiler for exhausting gases from said boiler, said chamber including a heat radiating plate segregating the gases in said boiler from said chamber, said plate retrieving heat from said gases adjacent said flue and being heated thereby, a burner communicating from said chamber through said plate into said boiler and discharging into said boiler heated products of combustion including exhaust gases, air supply means delivering into said chamber air for combustion by said burner, a plurality of irregularly disposed discontinuous heat radiating fins mounted on said plate within said chamber in heat exchange relation to said plate, at least one of said fins initially intercepting and guiding the air delivered by said air supply means, said fins being



respectively gapped apart and positioned surrounding said burner and disrupting air flow from said air supply means to said burner and creating a turbulence in said air flow whereby to extend the retention of said delivered air in said chamber exposed to said fins and said plate, said fins being heated from the heat exchange relation with said plate, said fins and said plate preheating said delivered air.

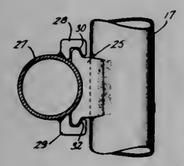
3,265,043
FIRED HEATER
Frank A. Lee, Westwood, and George Kratsios, Verona, N.J., assignors to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York
Filed June 29, 1965, Ser. No. 467,922
1 Claim. (Cl. 122—360)



A fired heater comprising:
an enclosure forming a chamber;
means for supplying hot gases to said chamber;
a row of vertical tubes adapted to contain a catalyst and located in a common plane within said chamber, each tube having a lower end portion with a substantially reduced diameter, said lower end portion having perforations therein, said perforations being adapted to retain the catalyst within the tubes;
means for supplying fluid into said tube at a point toward the upper end of said tube;
a row of lower extensions in the form of short tubes having approximately the same cross-sectional dimensions as said lower end portions;

a header located in the same plane as said row of tubes and having its longitudinal axis at approximately right angles to the longitudinal axis of said tubes, said header having an upper series of spaced openings therein into which the entire perforated portion of the lower end portions of said tubes are located and a lower series of spaced openings substantially directly opposite the upper series into which the lower extensions are located, the lower end portions and lower extensions extending very close to one another within said header so as to retain the catalyst within the vertical tubes; and means for removing fluid from the header.

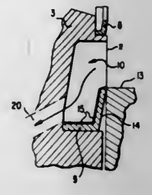
3,265,044
HEAT EXCHANGER TUBE SUPPORT
Charles D. Juchtern, Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Apr. 3, 1964, Ser. No. 357,035
4 Claims. (Cl. 122—510)



1. A heat exchanger having a furnace, means for burning an ash laden fuel therein, a vertical flue for the conduction of combustion gases from said furnace, horizontal serpentine tubular fluid heating elements disposed in said vertical flue, each of said serpentine elements comprising a plurality of horizontal tubes, vertical support tubes extending through said vertical flue adjacent the serpentine elements, means for supporting a horizontal tube of one of said heating elements from the vertical support tube comprising: a saddle welded to the vertical support tube, said saddle having an upper lip projecting vertically upward and extending parallel to said horizontal tube, and a lower lip projecting vertically downward and extending horizontally parallel to said horizontal tube; an upper jaw welded to said horizontal tube slidably engaging said upper lip; a lower jaw welded to said horizontal tube slidably engaging said lower lip; and said lower jaw extending longitudinally with the horizonal tube a lesser distance than the upper jaw, and located such that all portions of said lower jaw are vertically underneath some portion of said upper jaw.

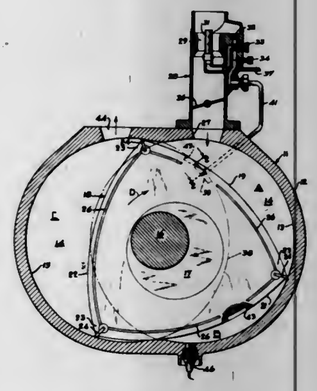
3,265,045
ROTARY-PISTON INTERNAL COMBUSTION ENGINE OF TROCHOIDAL CONSTRUCTION
Wolf-Dieter Bensinger, Stuttgart-Unterturkheim, Hans-Otto Derndinger, Stuttgart-Wangen, Heinz Lamm, Stuttgart-Bad Cannstatt, and Willi Springer, Faurndau, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Dec. 19, 1963, Ser. No. 331,856
Claims priority, application Germany, Dec. 21, 1962, D 40,565
16 Claims. (Cl. 123—8)

1. A rotary-piston internal combustion engine of trochoidal construction, comprising:
housing means including lateral housing parts,
an eccentric shaft provided with eccentric means,
polygonal piston means rotatably arranged on said eccentric means and including axial seal means, said piston means sliding with the axial seal means thereof along the lateral housing part,
said axial seal means including annularly-shaped oil seal means effectively sealing the gaps between the piston end walls and the lateral housing parts,
said oil seal means being securely arranged at the piston end walls and each including two concentrically arranged oil seals at each piston end wall,



the piston means being provided with an annular space between two concentrically arranged oil seals open in the direction toward the respective lateral housing part, and said annular space being subdivided into individual chambers by radial ribs provided on the piston means.

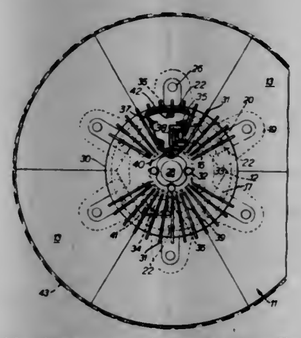
3,265,046
ROTARY INTERNAL COMBUSTION ENGINE
Hanns-Dieter Paschke, Neckarsulm, Wurttemberg, Germany, assignor to NSU Motorenwerke Aktiengesellschaft, Neckarsulm, Germany and Wankel G.m.b.H., Lindau, Germany
Filed June 8, 1964, Ser. No. 373,254
Claims priority, application Germany, June 26, 1963, N 23,368
6 Claims. (Cl. 123—8)



1. A rotary piston internal combustion engine, comprising in combination an outer body having axially spaced end walls and a multilobed peripheral wall therebetween having a basically epitrochoidal inner surface, a rotatable shaft transpiercing said end walls perpendicularly thereto and having an eccentric portion disposed within said outer body, a multi-apexed piston member rotatably mounted on said eccentric whereby on relative rotation of said piston and said outer body variable volume working chambers are formed, said piston having one more apex portion than said peripheral wall has lobes and having an end face adjacent to each of said end walls in sealing relation therewith and having a working face extending between each pair of adjacent apexes, a radially movable apex seal member borne by each of said apex

portions sweeping said epitrochoidal surface in sealing relation therewith, said peripheral wall having a main induction port and an exhaust port, at least one of said end walls having an idling induction port of smaller cross-section than said main induction port and disposed in an area of said end wall that is continuously covered by said piston member, said piston member having a recess in at least one end face adjacent to said end wall having said idling port, said recess communicating with the adjacent working face and so disposed in said end face that it communicates with said idling port once in each piston revolution.

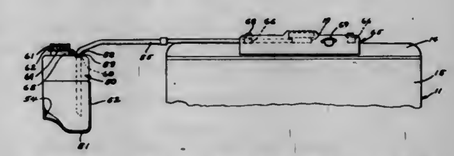
3,265,047
COOLING FANS
Arthur E. H. Elmer, Painswick, England, assignor to Dowty Hydraulic Units Limited, Gloucester, England, a British company
Filed May 14, 1964, Ser. No. 367,486
Claims priority, application Great Britain, May 16, 1963, 19,553/63
8 Claims. (Cl. 123—41.12)



1. A combined warm-up shutter and cooling fan for use in conjunction with a duct in the cooling system of a motor vehicle's engine, and arranged to be driven by such engine, said shutter and fan comprising a hub rotative in the duct, a plurality of blades mounted upon said hub for change of their pitch between fine and coarse pitch limit positions, and so shaped that in their fine pitch limit position cooperatively they substantially close the duct, spring devices disposed generally radially between the hub and each blade and biased to urge said blades to their fine pitch limit position, and means responsive to engine-operating temperature and operatively connected to the blades for adjustment of their pitch, said temperature-responsive means being arranged to increase the pitch of the blades automatically from fine pitch limit position, in opposition to said spring devices, upon increase of the engine's operating temperature from cold to a warmer operating temperature, and conversely to permit decrease in the pitch of the blades by said spring devices, upon decrease of the engine's operating temperature below a predetermined value, thereby to maintain the engine's temperature within an optimum range during its operation.

3,265,048
COOLING SYSTEM
Leroy J. Herbon, Detroit, Mich., assignor to American Motors Corporation, Kenosha, Wis., a corporation of Maryland
Filed Oct. 14, 1964, Ser. No. 403,700
5 Claims. (Cl. 123—41.14)

1. A cooling system for an internal combustion engine comprising:
(a) an internal combustion engine having a coolant jacket;
(b) a hollow radiator having an inlet and an exit connected to said jacket for circulation of a liquid coolant between said radiator and jacket, said radiator also having a filler neck, said filler neck being located at an elevation above said inlet and exit, said filler neck having an internal valve seat therein, said filler neck having an overflow extension located above said valve seat;
(c) a radiator cap closing said filler neck above said overflow extension, said radiator cap having a pressure relief valve contacting said valve seat and controlling movement of coolant from said radiator between said valve and said seat, said pressure relief valve having a vacuum relief valve therein that is in open position at substantially atmospheric pressure and sub-atmospheric pressures;
(d) a pump for circulating a liquid coolant through said jacket and said radiator;

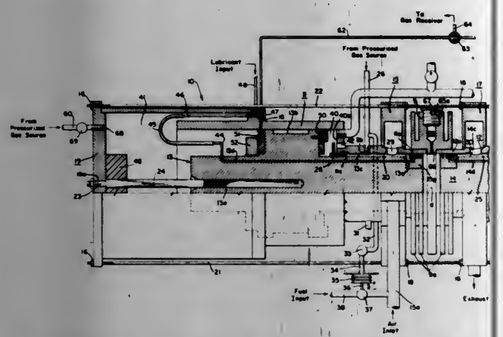


(e) an auxiliary reservoir vented to the atmosphere and also having an opening through which extends said overflow extension, said extension being located below and remaining below the coolant surface in said reservoir, whereby as said engine heats said coolant, the excess coolant of thermal expansion moves through said open vacuum valve into said neck forcing any coolant or air in said neck out through said extension into said reservoir until said vacuum relief valve closes and said system becomes pressurized and as said engine and said coolant cools and said coolant contracts, the resulting vacuum in said radiator opens said vacuum relief valve and draws therethrough said excess coolant and any coolant that has moved between said pressure relief valve and said seat from said reservoir and through said extension, neck and into said radiator for further use in said cooling system.

3,265,049
COOLING SYSTEM FOR AN INTERNAL COMBUSTION ENGINE
Harold Kosoff, 1203 Hale St., Philadelphia, Pa.
Original application June 27, 1963, Ser. No. 291,067, now Patent No. 3,175,584, dated Mar. 30, 1965. Divided and this application Mar. 15, 1965, Ser. No. 442,230
6 Claims. (Cl. 123—41.35)

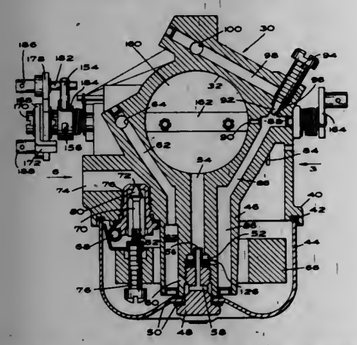
1. In an internal combustion engine a dual-purpose system comprising:
(a) a selected number of cylinders each of which has an inside surface against which a piston rubs during movement of said piston therein,
(b) a selected number of pistons each of which is arranged for reciprocal movement in one of said cylinders, each of said pistons having a predetermined part of lesser breadth than other parts thereof as measured in a direction substantially transverse to the direction of movement thereof, said predetermined part being spaced appreciably from said cylinder inner surface so as to form a clearance, said other parts having an outer surface in intimate contact with said inner surface, said pistons having respective strokes which are subject to variation during operation of said engine,
(c) means for applying pressurized gaseous material to said clearance, the pressure of said gaseous material in said applying means being a function of the

extent to which said other parts obstruct said applying means, and



(d) utilization means coupled to said applying means and being responsive to changes in the pressure of said gaseous material in said applying means.

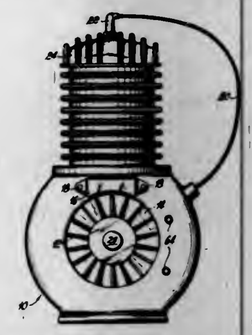
3,265,050
CARBURETOR CONSTRUCTION
Charles H. Tuckey, Cass City, Mich., assignor to Walbro Corporation, Cass City, Mich., a corporation of Michigan
Filed July 1, 1964, Ser. No. 379,514
13 Claims. (Cl. 123—119)



1. In combination, a carburetor and an engine comprising:
(a) a supply of fuel,
(b) a venturi passage and means connecting said passage to said supply of fuel wherein fuel is induced from said supply into said passage,
(c) a source of pulsating fluid pressure responsive to the action of said engine, and
(d) means connecting said source of fluid pressure to said fuel supply and to said venturi passage to cause fuel to be injected into said venturi passage to supplement the induction action of said venturi passage.

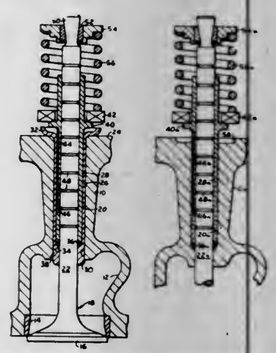
3,265,051
BREAKER UNIT FOR THE IGNITION SYSTEM OF AN INTERNAL COMBUSTION ENGINE
Fritz Fend, Regensburg, Germany, assignor to Fichtel & Sachs A.G., Schweinfurt am Main, Germany, a corporation of Germany
Filed June 4, 1964, Ser. No. 386,102
Claims priority, application Germany, June 6, 1963
F 39,933
12 Claims. (Cl. 123—148)

1. In an internal combustion engine, in combination:
(a) sparkplug means;
(b) a sealed housing;
(c) a fixed contact in said housing;
(d) an elongated leaf spring of ferromagnetic material having two end portions;
(e) fastening means fastening one of said end portions to said housing for movement of the other end portion toward and away from said fixed contact;
(f) a movable contact on said other end portion and normally urged by the resilience of said spring into circuit closing engagement with said fixed contact;



(g) magnetic actuating means for moving said other end portion and the movable contact thereon away from said fixed contact in timed sequence; and
(h) spark generating means in circuit with said contacts and said sparkplug means for applying a spark generating voltage to said sparkplug means in response to said movement of said movable contact out of said engagement.

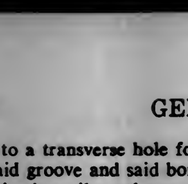
3,265,052
VALVE GUIDES
Alexander Goloff, East Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 27, 1964, Ser. No. 385,124
10 Claims. (Cl. 123—188)



1. An apparatus for sealing and lubricating an internal combustion engine including a valve of the type having an elongated cylindrical valve stem and a radially enlarged head comprising an elongated tubular sleeve forceably fitted in an opening formed in the engine, such sleeve having one end formed to define an annular well for accumulating lubricating oil and the other end having an annular groove for reducing the amount of heat transferred to said sleeve, an elongated bearing slidably fitted within said sleeve and being adapted to reciprocably receive the stem of said valve, a longitudinal groove formed on the outer surface of said bearing and extending from said annular well to a transverse hole formed in the wall of said bearing, said groove and said bore defining a flow path for the lubricating oil so that communication between the interior of said bearing and said annular well of said sleeve is established, and means captively retained by said sleeve and said bearing for sealing the interior surface of said bearing from the exhaust manifold of the engine.

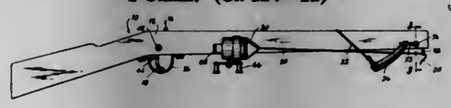
2. An improved guide assembly including a valve, having a stem, head, valve spring and valve spring retaining members in combination with an internal combustion engine valve passage comprising:
an elongated valve guide means for reciprocally supporting the valve stem of said valve, said valve guide means slidably inserted in a stepped bore in an internal combustion engine;
sealing means supported adjacent said valve passage between the walls of said stepped bore and the inserted end of said elongated valve guide means for compression therebetween whereby said sealing means is forced into sealing engagement with the surface of said valve stem; and
a valve spring supporting means on said protruding end of said elongated valve guide means for supporting said valve spring under compression between said supporting means and said spring retaining members associated with the end of said valve stem whereby said elongated valve guide means is urged against said sealing means by said valve spring to insure sealing engagement of said sealing means with said valve stem.

3,265,053
VALVE ASSEMBLY
Charles C. Fitzsimons, Detroit, Mich., assignor to Michigan Chrome & Chemical Company, Detroit, Mich., a corporation of Michigan
Filed Feb. 1, 1965, Ser. No. 429,501
6 Claims. (Cl. 123—188)



1. A locking assembly for association with the valve stem of a valve for internal combustion engines comprising a pair of metallic elements, each of said elements having semicylindrical recess in one face thereof, the exterior surface of each element having a semi-frusto conical configuration, all surfaces of said elements being coated with lead to a substantial thickness.

3,265,054
RUBBER BAND PROPELLED ARROW GUN
Albert L. Gruenenfelder, 1513 9th St., Highland, Ill.
Filed May 25, 1964, Ser. No. 369,781
1 Claim. (Cl. 124—22)



A gun for propelling arrows comprising a barrel having a longitudinally top recessed portion receiving an arrow and a further groove receiving an arrow fletch, a stock having a trigger element, a vertically reciprocal operating pin connected to the trigger element, said pin being operable by the trigger to a protruding position above the stock to a retracted position within the stock, and means for propelling an arrow resting upon said barrel, said means comprising a cord having elastic means connected to the front of the barrel and being adapted to be stretched back over said operating pin, said elastic means comprising a rubber band connecting each end of the cord to an opposite side of the frame to the barrel, and said cord is a nylon cord, and means for recovering the arrow after it has been propelled from the gun, said means comprising a spinning reel having a fishing line extending through a ferrule at the front of the barrel and connected to an arrow, said reel having a locking means operable to lock said reel against playout of the line to afford a safety precaution against accidental operation of the gun trigger, and a handle for reeling said line back in when it has been played out.

3,265,055
ARCHER'S BOW
Raymond T. Gage, 27110 Claireview Drive, Dearborn Heights, Mich.
Filed Mar. 20, 1964, Ser. No. 353,402
15 Claims. (Cl. 124—24)

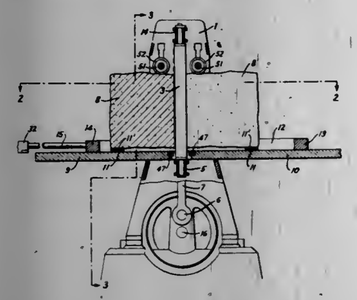


1. An archer's bow, comprising:
(a) a central hub;
(b) at least three elongated resilient arms projecting outwardly from said hub;
(c) and string segments extending between the ends of said arms and a point substantially aligned with the outer surface of said hub.

3,265,056
CUTTING OF STONE BLOCKS INTO SLABS BY VERTICAL GANG SAWS
Eberhard Pieper and Wilfried Weber, Altotting, Bavaria, Germany, assignors to Machinenfabrik Esterer A.G., Bavaria, Germany, a corporation of Germany
Filed Aug. 20, 1963, Ser. No. 303,250
Claims priority, application Germany, May 10, 1963, M 56,773
10 Claims. (Cl. 125—16)

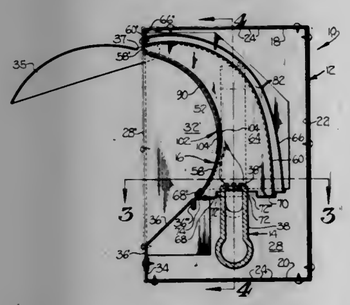
5. A device for cutting a stone block into slabs, the device comprising, in combination, a saw frame mounted for reciprocating motion in a substantially vertical plane; a group of parallel vertical blades in said saw frame; means for vertically reciprocating said saw frame; a stationary work table in front of, and behind, the saw frame, said table having a horizontal plane table surface which is continuous in a lateral direction for at least the width of said group of blades; a pair of transverse slats for supporting the ends of the block, said slats being of a readily sawable material and having a flat undersurface resting in contact with, and slidable on, said table surface for at least the width of said group of blades; a horizontal work

frame on said table, said work frame comprising a leading transverse frame member behind said blades, a trailing frame member in front of said blades, and lateral frame members connecting said transverse members and extending outside of said blades; means on said work frame



for clamping a stone block resting on said slats within said work frame; and work feeding means for moving said work frame relatively to said blades in a direction in which said trailing transverse member moves toward said blades.

3,265,057
ELONGATE RADIANT GAS HEATER
William P. Horne, Charlotte, N.C., assignor to Gas-Fired Products, Inc., a corporation of North Carolina
Filed Sept. 3, 1964, Ser. No. 394,294
12 Claims. (Cl. 126—92)



8. An elongate radiant gas heater adapted for substantially unidirectional heating, comprising:

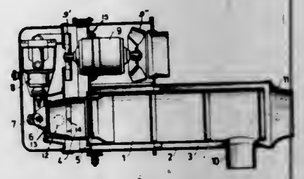
(a) an elongate housing adapted to be mounted in a generally horizontally-extending position upon the wall of an enclosure or the like and having a forwardly-facing opening through which radiant heat energy is adapted to be emitted in a predominantly forward and downward direction;

(b) gas burner means extending longitudinally within said housing and adapted to produce heated gases;

(c) combustion chamber means extending longitudinally within said housing above said gas burner means for reception of the ascending heated gases produced thereby, said chamber means including arcuate front and rear walls curving upwardly and forwardly within said housing in spaced converging relation to each other and formed of material capable of a high radiation emissivity, said front wall being disposed adjacent said opening of said housing and including a plurality of longitudinally-spaced perforate grid members mounted for independent expansive and contractive movement and adapted to pass and be uniformly heated by said gases; and

(d) said grid members being adapted to emit and transmit radiant heat energy through said opening of said housing in a predominantly forward and downward direction.

3,265,058
AIR HEATER USING VOLATILE FUELS
Manfred Carlhorst Linus Schmitt, Kelheim (Danube), Germany, assignor to Aktiebolaget Bahco, Stockholm, Sweden, a corporation of Sweden
Filed Jan. 21, 1965, Ser. No. 426,959
Claims priority, application Sweden, Jan. 24, 1964, 916/64
4 Claims. (Cl. 126—110)

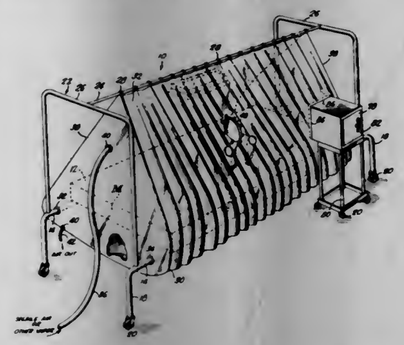


1. A liquid fuel heater for automobiles and the like comprising a first unit having a housing with an open end facing the rear of the heater, a fuel supply mounted on the inside of said housing, a volatilization chamber and a heater means supported below said fuel supply and within said housing, a front combustion chamber having a front end supported adjacent to and communicating with said volatilization chamber; a second unit comprising a jacket, a fan supported within said jacket, said jacket defining an air intake port contiguous said fan for enabling air to enter said jacket in response to the drawing of said fan, an elongated rear combustion chamber supported below said fan, said jacket being spaced from and defining with the outer walls of said rear combustion chamber a channel for enabling the air therein to be heated by the walls of the rear combustion chamber, a heated air exhaust communicating with said channel and the space to be heated, an exhaust for products of combustion communicating with said rear combustion chamber and the ambient, said first unit being detachably fitted to said second unit so that the rear of said housing releasably engages the forward end of said jacket and the rear of said forward combustion chamber detachably communicates with the front of said rear combustion chamber.

3,265,059
ISOLATOR ASSEMBLY
Frank E. Matthews, Falls Church, Va., assignor to Matthews Research, Inc., Alexandria, Va., a corporation of Virginia
Filed Feb. 21, 1962, Ser. No. 174,843
20 Claims. (Cl. 128—1)

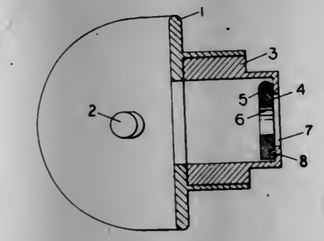
1. An enclosed working area assembly comprising: a working area surface having a predetermined longitudinal and lateral extent, supporting means extending beneath said surface while engaging and maintaining said surface in a raised position, said supporting means extending longitudinally beyond said surface to provide an unobstructed area beneath said surface, a rigid frame having a frame member extending above and substantially parallel to said surface, a flexible film enclosure slidably secured along said frame member and hanging freely alongside and extending continuously around and out of contact with said working area surface forming a closed loop containing and continuously surrounding said working area surface, said enclosure being at least twice the longitudinal extent of said surface and draping loosely laterally and below said surface in the form of folds, access means in said enclosure, said access means located longitudinally

between the ends of said working area surface and permitting working access to the entire longitudinal and



lateral extent of said surface for contact with said surface, said enclosure being freely and telescopically movable longitudinally of said surface.

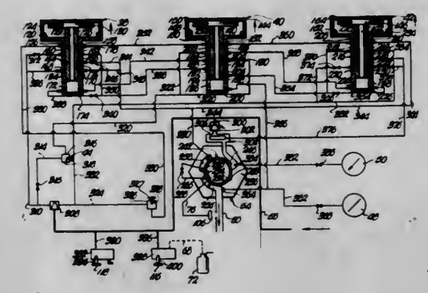
3,265,060
EXPIRATION REGULATORS
Gus Schreiber, Medical Arts Bldg., Dallas, Tex. 75201
Filed Mar. 2, 1964, Ser. No. 348,556
1 Claim. (Cl. 128—27)



A valve structure for the control of expiration in emphysema patients comprising: a valve housing having one end attached to a mouthpiece, said valve housing having a fluid passageway therethrough communicating with said mouthpiece, said passageway being controlled by a pivotally mounted valve leaf constituting an inlet check valve, dashpot means limiting closing movement of said valve leaf, said valve leaf having an aperture therein, whereby free flow is obtained through said passageway upon inhalation and said aperture restricts flow upon exhalation.

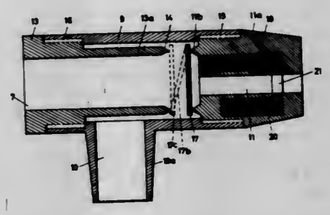
3,265,061
RESPIRATION APPARATUS
Herbert L. Gage, Jr., Pacific Palisades, Calif., assignor to Bennett Respiration Products, Inc., Los Angeles, Calif., a corporation of California
Filed Nov. 7, 1960, Ser. No. 67,589
13 Claims. (Cl. 128—29)

1. In respiration apparatus, the combination of a source of pressurized gas to be administered to the patient; gas delivery means adapted to be applied to the patient; a main valve having an inlet connected to said source and an outlet connected to said delivery means and operable between an open position, wherein flow of gas takes place from said source to said delivery means, and a closed position, wherein such flow is blocked, said main valve being responsive to a predetermined negative pressure in said delivery means when in its closed position to shift to its open position and to a predetermined minimum flow through said delivery means when in its open position to shift to its closed position; an inspiration start timer coupled to said main valve and operable after a predetermined time period independent of the pressure in said delivery means when said main valve is in its closed posi-



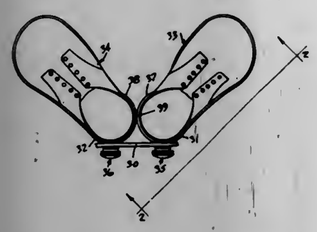
tion to shift said main valve to its open position; and an expiration start timer coupled to said main valve and operable after a predetermined time period independent of the flow through said delivery means to shift said main valve to its closed position.

3,265,062
VALVE FOR BREATHING APPARATUS
Holger Hesse, Skovtoftebakken 19, Copenhagen-Virum, Denmark
Filed July 9, 1963, Ser. No. 293,670
Claims priority, application Germany, July 14, 1962, H 46,381
15 Claims. (Cl. 128—29)



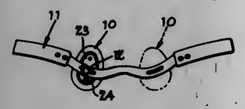
1. A gas inhalation valve comprising a gas flow conduit open at opposed ends, means at one of said ends for connecting said conduit to a source of gas under pressure, a magnetically responsive valve element, movable within said conduit between a pair of opposed upstream and downstream seats, means for establishing a gas flow from said source towards said valve at a first predetermined pressure, means for temporarily establishing gas flow at a second predetermined pressure higher than said first predetermined pressure, and magnetic means adapted, at gas flow pressures below said first predetermined pressure, to hold said valve element in inlet-closing seating contact with said upstream seat and, at gas flow pressures above said first predetermined pressure and below said second predetermined pressure, to hold said valve element in partial, inlet-opening contact with said upstream seat, said magnetic means, at gas flow pressures above said second predetermined pressure, releasing said valve element for movement into seating contact with said downstream seat.

3,265,063
CORRECTIVE SHOE
Donald J. Friedman, 20 N. High St., West Chester, Pa.
Filed Aug. 8, 1962, Ser. No. 215,630
16 Claims. (Cl. 128—80)



1. In combination, a pair of shoes, each shoe having a heel, a toe portion, and a counter; an inextensible, incontractible, elongated element secured to the counter of each of said shoes substantially above the heel of each to connect the shoes to one another adjacent the counters thereof and to maintain relative movement of said shoes within predetermined angular limits with respect to each other; and detachable means for securing said element to each of said counters at a point on each counter laterally offset from the vertical center line of said counter of each shoe.

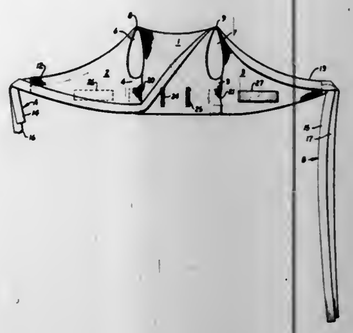
3,265,064
TRUSS PAD AND METHOD OF MANUFACTURE
Elmer J. Gruber, Cincinnati, Ohio, assignor to Surgical Appliance Industries, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 18, 1964, Ser. No. 397,441
6 Claims. (Cl. 128—95)



3. A truss pad comprising a main body portion, said body portion including a molded skin having a front wall portion and a rear wall portion, a backing plate embedded in said rear wall portion, a plastic head member extending outwardly from said front wall portion, said head member being fused integrally with said skin member, a foamed in place cellular material filling said skin, and means including a rear cover plate bolted to said backing plate for mounting said truss pad upon a truss, said head member being softer than said skin and harder than said cellular material.

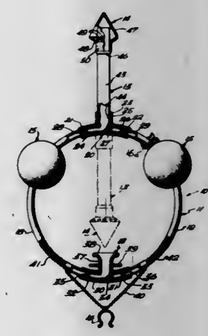
3,265,065
RESTRAINING VEST
Betty Jillson, P.O. Box 506, Agnew, Calif.
Filed Aug. 11, 1964, Ser. No. 388,764
4 Claims. (Cl. 128—134)

1. A restraining device comprising:
a main body portion in the form of a vest and including a back and a pair of front sections,
a pair of elongated belts in continuation of said front sections respectively and adapted to extend around said back when said vest is worn by a person,
said back being formed with a pair of back openings each of which receives one of said belts therethrough, said openings being positioned on opposite sides of, and closely adjacent, the central plane of said back, said vest also being provided with a pair of arm



openings between said back and said front sections and being provided with a pair of belt receiving side openings at points below said arm openings respectively.

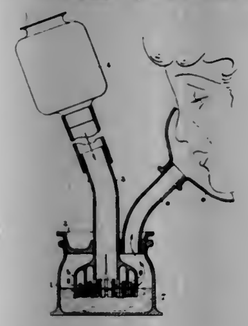
3,265,066
COMBINATION SWIMMING AID AND RESPIRATOR
George Katehis, 2270 SW. 26th Lane, Miami 33, Fla.
Filed Nov. 13, 1963, Ser. No. 323,452
1 Claim. (Cl. 128—145)



A combination swimming aid and respirator device comprising, in combination, a tubular ring-shaped body member, an air passageway extending in one direction only along and within said body member between diametrically opposed zones thereof, wall portions within said body member blocking the flow of air in the other direction along and within said tubular body member, a substantially straight breathing tube, a connector fitting interconnecting one end of said breathing tube with said body member, the interior of said breathing tube communicating one end of said body member air passageway through said connector fitting, a mouthpiece member having an internal air passageway, means connecting said mouthpiece member with said body member at a location substantially diametrically opposite said breathing tube, said air passageway in said mouthpiece communicating with the other end of said body member passageway, a pair of

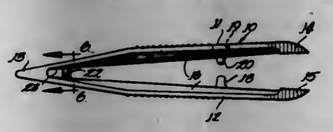
float members attached to said ring-shaped body member at each side of said breathing tube, a splash guard having breathing holes removably fitted over the outer end of said breathing tube, said breathing tube connector fitting comprising a T-fitting having a pair of opposed branches and an outwardly-extending branch, said ring-shaped member comprising a pair of tubes, one end of each of which is received in one each of said opposed branches, said tube ends being rotatively movable in said opposed branches, said mouthpiece member connecting means comprising a pair of opposed mouthpiece branches, said other ends of said tubes being rotatively movable in said opposed mouthpiece branches, said tubes each being provided, near said other ends, with accordion-like sections of increased flexibility.

3,265,067
INHALER
Marcel Ehlinger, 28 Rue Scheffer, Paris, France
Filed July 8, 1963, Ser. No. 293,375
Claims priority, application France, July 25, 1962, 905,029, Patent 1,338,422
1 Claim. (Cl. 128—196)



An inhaler comprising a power fan, a closed vessel, a medicinal liquid in said vessel, a lid closing said vessel, a first duct connected to said power fan and extending through said lid, a widened bell-shaped inner end of said first duct which is divided internally by baffle means, a plurality of concentric walls in said baffle means, vertical slots in the walls partially extending above the surface of the liquid, and a second duct also extending through said lid for discharging on the one hand the blown air having licked the surface of said liquid and on the other hand the air loaded with the active principles of the medicinal liquid in which it has been caused to bubble, these two gaseous streams being mixed by said baffle means to form a mist in said first duct fed with air under pressure.

3,265,068
PLASTIC FORCEPS
Bartholomew Holohan, Mountainside, N.J., assignor to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed Aug. 24, 1962, Ser. No. 219,213
4 Claims. (Cl. 128—321)

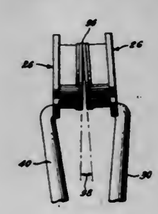


1. In a pair of forceps formed from plastic material, a pair of integrally-formed flexible plastic arms connected together at one end of said forceps, said arms being provided with opposing jaws at the opposite ends thereof, and an integral plastic spanner element extending between said arms and spaced from the connected ends of said arms in close proximity thereto, said spanner element being joined to and securely interconnecting both of said arms and extending longitudinally of said arms only a relatively short distance therealong, and means provided by said arms between said spanner element and said jaws for preventing relative lateral displacement of said jaws as the same are moved between partially closed and fully closed positions.

ERRATUM

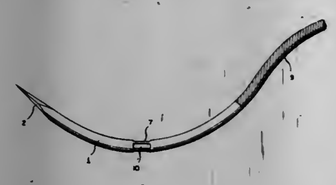
For Class 128—334 see:
Patent No. 3,266,054

3,265,069
ANASTOMOSIS SURGICAL INSTRUMENTS
John E. Healey, Jr., 3202 Oakmont St., Houston, Tex., and Edwin B. Moore, 4804 Bellview St., Bellaire, Tex.
Filed July 16, 1965, Ser. No. 480,541
6 Claims. (Cl. 128—334)



1. A surgical device especially adapted for use in the rejoining of severed tubular body ducts such as blood vessels, bile ducts and the like, comprising a pair of elongated similar elements, each of which is provided with finger holding means on one end and each being provided on the opposite end with a body providing a working surface, said elements being pivotally connected intermediate their ends for relative pivotal movement whereby the said bodies are moved to and from their working position in the manner of forceps and the like; said bodies each having a generally cylindrical form, and each having axially therethrough a generally circular channel whereby to receive said tubular body ducts; each of said bodies having discontinuous outer walls thereby affording passageways to the exterior of said bodies from said openings; means movable with respect to each of said bodies for closing said passageways; said bodies, in their movement to final working position under finger manipulation of the said holding surfaces, first meeting at substantially a single point on their working surfaces, said point lying substantially midway between the ends of and in the arcuate portions of the working surfaces of said bodies which depend outermost of said device, said point determining the apex of and defining an angle extending between said working surfaces of said bodies and inwardly of said device, said point thereupon acting as a fulcrum point relative to said bodies, and said angle decreasing as said bodies are moved into their final working position, said bodies being in substantial point to point contact about their opposing working surfaces in said final working position and having their cylindrical axes substantially coincident; said holding means affording the user the development of a controlled amount of pressure between said surfaces, and means associated with said elements for restraining movement of said working surface from their working position and maintaining said pressure.

3,265,070
SUTURE NEEDLE
Leonard D. Kurtz, 9620 222nd St., Queens Village, Woodmere, N.Y.
Original application Nov. 17, 1960, Ser. No. 69,856, now Patent No. 3,197,997, dated Aug. 3, 1965. Divided and this application Feb. 26, 1965, Ser. No. 443,739
2 Claims. (Cl. 128—339)



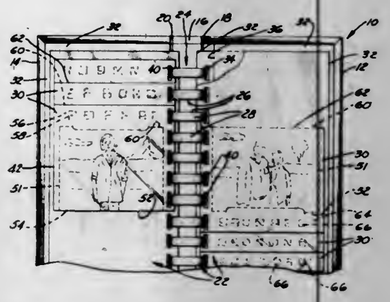
1. A curved surgical needle having a point at one end thereof, means to secure a suture to the needle at the other end thereof and a curved section of circular cross section between said ends, a gripping portion for gripping the needle with needle clamping holders intermediate the ends of said curved section, said gripping portion comprising a first pair of flattened surfaces disposed on inner and outer curved surfaces of the needle and a second pair of flattened surfaces disposed substantially normally with respect to said first pair of surfaces, the space between said first pair of surfaces and between said second pair of surfaces respectively defining the depth and width of the gripping portion, the ratio of the width to depth of the gripping portion being less than unity.

3,265,071
ORTHOPEDIC PADS
George J. Kirchner, Pittsburgh, Pa., and Emil D. W. Hauser, Wilmette, Ill., assignors to Hapad, Incorporated, a corporation of Illinois
Filed Apr. 30, 1964, Ser. No. 363,926
9 Claims. (Cl. 128—586)



1. A resilient and compressible one-piece pad adapted to be placed in a shoe under the longitudinal and metatarsal arches of the foot, which comprises a flat generally L-shaped bottom surface adapted to contact the inner sole of the shoe, one longitudinal side of said flat surface being relatively straight for the majority of its length and adapted to be positioned toward the inside of the foot, said surface having a substantial width for the majority of its length with the forward end of said surface being wider than the rearward end, the other longitudinal side of said flat surface being concave over the intermediate portion thereof, and a contoured upper surface, the forward end of said pad curving upwardly and rearwardly to a maximum thickness, the portion of the pad adjacent said one longitudinal side curving upwardly toward the other longitudinal side, the rearward portion of the pad curving upwardly and forwardly, the portion of the pad adjacent the other longitudinal side curving upwardly toward the said one longitudinal side, the top surface of the pad adjacent said other longitudinal side being concave over the central part thereof, the upper surface having a relatively straight portion adjacent said one longitudinal side sloping from the maximum thickness portion rearwardly and downwardly to the curved rearward portion.

3,265,072
PHOTO-ALBUM
Robert Gross, 4111 W. Devon Ave., Chicago, Ill. 60646
Filed Dec. 30, 1964, Ser. No. 422,287
1 Claim. (Cl. 129—20)

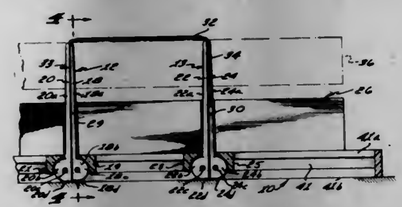


In a photo-album of the character described, in combination, a pair of cover sections and an interconnecting hinge section, a hinge member positioned adjacent to said hinge section, a series of transparent rectangular envelopes having their proximate side edges carried by said hinge section and having respectively open edges, other than their proximate side edges, adapted for reception therethrough of selected pairs of back-to-back photographs, and a unitary normally flat unfolded rectangular photograph holder card disposed in each envelope, said holder card being slitted to provide two hinged photograph-retaining flaps effective on opposite sides of the holder card respectively to receive thereunder an edge of a photograph, one of said flaps being disposed a slight distance inwardly from the upper edge of the holder card and projecting downwardly therefrom and the other flap being disposed a slight distance inwardly from the lower edge of the holder card and projecting upwardly therefrom, the space immediately above said one downwardly projecting flap on one side of the holder card presenting a legend-receiving area and the space immediately above said other flap on the other upwardly projecting side of the holder card similarly presenting a legend-receiving area, adjacent envelopes being disposed in slightly overlapping relationship in the vertical direction of the card holder so that when the photo-album is in its open condition with certain envelopes overlying one of the cover sections and with certain other envelopes overlying the other cover section, all of the legend-receiving areas on the sides of the photograph holders remote from the adjacent cover sections will be exposed to view.

3,265,073
PAPER BINDING DEVICE
Max Stark, Apt. C, 735 Provential Drive, Anaheim, Calif., and Gayle W. Hasenplaugh, 200 N. Ladera Vista Drive, Fullerton, Calif.
Filed Apr. 13, 1964, Ser. No. 359,249
5 Claims. (Cl. 129—22)

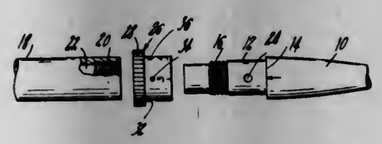
1. A paper binding device for indexing paper sheets for insertion of the ends of a strip fastener through holes in said sheets, said device comprising: a horizontally disposed elongated base frame; two index posts mounted on said base frame, each of said posts comprising: a first and a separate second rigid partial finger, each partial finger being mounted on said base for movement away from the other partial finger,

each of said partial fingers being swingable between an upstanding position and a position extending parallel to said base toward the other partial finger, whereby said fingers may be moved from a juxtapositioned upstanding position apart from each other and swung to a position parallel to said base for storage, each partial finger being shaped so that when it is upstanding part of its lower portion



projects toward the other partial finger more than its upper portion to provide a thin slot adapted to receive an end of a strip fastener when the lower portion parts are abutting, whereby said posts can be received through a plurality of sheets of paper having holes therein and an end of a strip fastener can be inserted in each slot, and said posts may guide said sheets to a position wherein said strip fastener ends are received through said holes.

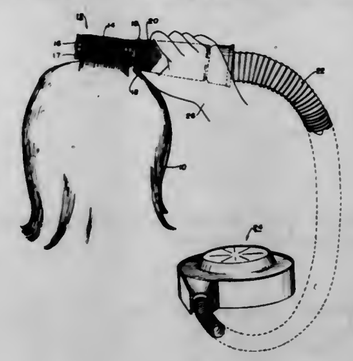
3,265,074
VENTED CIGARETTE HOLDER
Francis W. Davis, 90 Common St., Belmont, Mass.
Filed Mar. 2, 1964, Ser. No. 348,483
1 Claim. (Cl. 131—198)



A vented cigarette holder comprising a mouth-piece having a tubular end portion of reduced diameter forming a shoulder, said reduced end portion having a screw-threaded part spaced from said shoulder and a radial hole through the wall thereof between the threaded part and the shoulder, a sleeve rotatably fitted on said reduced portion between said shoulder and said threaded part, said sleeve having a knurled flange and a series of holes of various sizes selectively registrable with the hole through said wall be rotation of the sleeve, and a tubular cigarette-receiving part in threaded engagement on said threaded part, the end of said cigarette-receiving part bearing only against an end of said sleeve to press the other end of the sleeve into binding engagement with said shoulder to lock the sleeve against rotation.

3,265,075
HAIR CURLING AND DRYING APPARATUS WITH MAGNETIC COUPLING
Carl A. Edman, Fairfield, and Peter Kranz, Darien, Conn., assignors to General Electric Company, a corporation of New York
Filed Sept. 19, 1963, Ser. No. 310,035
5 Claims. (Cl. 132—9)

3. In a hair curling apparatus: a curler member having a substantially tubular construction with one end open and the other end substantially closed; said curler having a perforated side surface between its ends adapted to have hair wound thereon; a rigid tubular handle member to be held by the user during a hair curling operation; means formed on one end of said handle for connecting the handle to a source of forced air; and coupling means formed on the other end of said handle and the open end of said curler for releasably attaching the curler to the handle,



said coupling means including a magnet and an element attracted by the magnet, said coupling means being entirely disposed within and spaced from both ends of one of said members including said curler member and said handle member when said curler is attached to said handle, and mechanical means for preventing inadvertent separation of said magnet and said element.

3,265,076
DISPOSABLE HAIR NET
Edna E. Ellis, P.O. Box 333, Wynne, Ark.
Filed Nov. 7, 1962, Ser. No. 236,028
1 Claim. (Cl. 132—49)

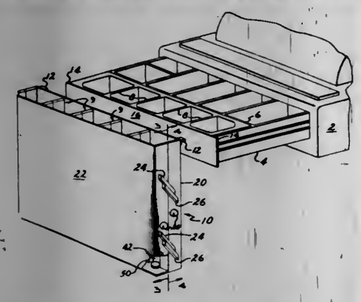


A disposable hair net comprising a single perforate piece of thin, light, stretchable fire-resistant paper in substantially a triangular shape having a plurality of pleats only along the front edge thereof, said pleats extending normally to said edge and being longer in the middle portion of said edge than near the ends thereof, whereby said net conforms to the coiffure of the wearer.

3,265,077
COIN STACKING AND HANDLING DEVICE
Donald Kirkpatrick, 39 Alden Ave., Pittsfield, Mass.
Filed June 3, 1965, Ser. No. 461,014
7 Claims. (Cl. 133—8)

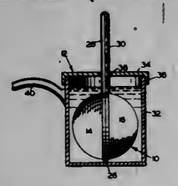
1. A coin stacking and handling device comprising a pair of separable casing members forming in mated relation an open coin receiving chute at the top with a columnar tube below the chute, one of said casing members having calibrations adjacent the columnar portion thereof indicating the value of a stack of coins resting therein, the top chute portion thereof being defined by side wall portions, the other casing member having mating tube and chute portions, the said latter chute portion having fixed therein coin deflector means inclined in the direction of the tube portion, and interengaging means

on said casing members for registering the mating chute and columnar portions thereof, said device being opened



to expose the coins stacked therein only by completely separating the casing members.

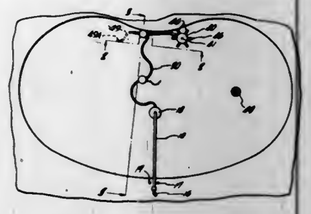
3,265,078
DEVICE FOR HANDLING DENTURES
Evelyn L. Gordon, 4241 SE. 136th Ave., Portland, Oreg.
Filed May 26, 1964, Ser. No. 370,156
1 Claim. (Cl. 134—166)



A device for handling and cleaning dentures comprising a first holder including a pair of receptacles each having an open end, hinge means connecting said receptacles together adjacent said open ends whereby said receptacles are arranged to be pivoted away from each other to provide an open position of said first holder to receive dentures to be cleaned and arranged to be pivoted together with their open ends in registry to provide a closed position of said first holder to confine dentures therein, each of said receptacles having a plurality of apertures therein for admitting a cleaning fluid, a handle on each of said receptacles of substantially equal length and of substantially uniform cross sectional dimension throughout their length, said handles in the closed position of said first holder being disposed in abutting relation, a second holder having an open upper end and comprising an imperforate container of a size to freely receive said first holder in closed condition with the handles of the latter projecting upwardly, and a cover arranged for removable mounting on the upper end of said second holder, said cover having a central aperture, the handles on said receptacles being of a sufficient length to project above the upper end of said second holder, the combined cross sectional dimension of said handles being less than the diameter of said cover aperture for reception therein whereby said cover is arranged to be slidably moved down over the projecting ends of said handles for mounting on the second holder and for holding the said handles in abutting relation to maintain the first holder in closed position when the receptacles thereof are disposed in said second holder.

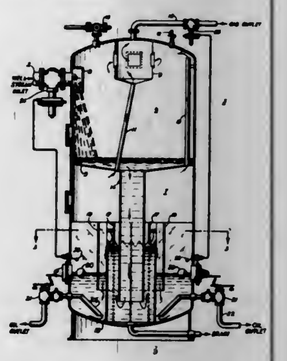
3,265,079
SWIMMING POOL CLEANING APPARATUS
Charles M. Blumenfeld, 4700 Parkridge Road, Sacramento, Calif.
Filed May 8, 1964, Ser. No. 365,917
3 Claims. (Cl. 134—167)

1. Apparatus for cleaning sediment from a pool of liquid, the apparatus comprising a movable conduit disposed in the pool, a source of water under pressure, means connecting the water source to one end of the movable conduit to supply water to the conduit and leave it free to rotate in a generally horizontal plane, means for moving the conduit, means continuously urging the other end of the movable conduit toward the edge of the pool, buoyant means supporting said other end portion of the movable conduit in a substantially horizontal position, a first downwardly-extending hose connected to the movable conduit between the source of water under pressure and the said



other end of the conduit to receive water under pressure and jet it into the pool to stir up sediment, a second downwardly-extending hose shorter than the first hose and connected to the conduit adjacent the said other end to receive water under pressure and jet it into the pool to stir up sediment adjacent the edges of the pool, a wheel carried by the conduit adjacent said other end thereof and mounted to rotate about an upright axis, and outwardly-extending arms on the wheel to engage obstructions and guide the wheel and conduit around them.

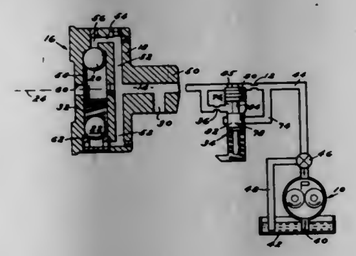
3,265,080
LIQUID DISTRIBUTION METHOD
Charles Edward de Young, Houston, Tex., and Irvine E. Gandee, Tulsa, Okla., assignors to National Tank Company, Tulsa, Okla., a corporation of Nevada
Application Sept. 24, 1962, Ser. No. 226,483, now Patent No. 3,202,167, dated Aug. 24, 1965, which is in turn a continuation of application Ser. No. 26,140, filed May 2, 1960. Divided and this application Mar. 1, 1965, Ser. No. 435,859
4 Claims. (Cl. 137—12)



1. A method of separating a mixture of gas and liquids and distributing the liquids among a number of liquid processing units, comprising the steps of;
flowing the mixture into a closed vessel,
flowing the mixture through a first portion of the vessel to induce the gas to separate from the liquids,
flowing the liquids from the first portion to a second portion of the vessel in a quiescent manner to induce the liquids to form a relatively level upper surface,

passing the liquids in the second portion of the vessel over a plurality of separate weirs and into a plurality of separate compartments,
communicating and applying the elevated pressure of the separated gas to the vessel portions and separate compartments,
independently discharging the liquid from each separate compartment to one of the number of liquid processing units while preventing the discharge of separated gas to such units,
removing excess separated gas from the vessel,
and controlling the rates of flow of the gaseous and liquid fluids to continuously balance the total fluid inflow to and outflow from the vessel and substantially maintain the flow relationships within the vessel.

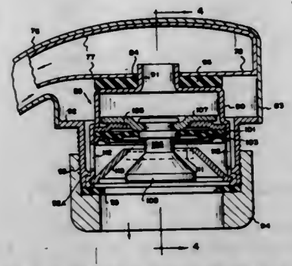
3,265,081
CENTRIFUGAL FLUID PRESSURE GOVERNOR ASSEMBLY
Thomas R. Stockton, Northville, and Reginald T. Lewicki, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed May 8, 1963, Ser. No. 278,951
19 Claims. (Cl. 137—54)



1. A multi-stage fluid pressure governor assembly comprising, in combination, a rotating shaft having conduit means therein containing a fluid under a varying pressure, speed responsive fluid regulating control means for regulating the pressure of the fluid in a plurality of successive independent stages, flow control means in said conduit means restricting the supply of fluid to said control means, and other means upstream of said pressure control means movable in response to a predetermined pressure of the fluid therein to supply additional fluid to said pressure control means.

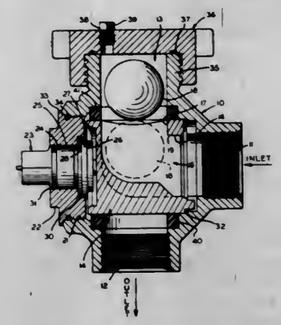
3,265,082
VALVE AND DIVERTER CONSTRUCTION
Milton Perlman, Detroit, Mich., assignor to Nile Corporation, Royal Oak, Mich.
Filed Apr. 24, 1964, Ser. No. 362,380
2 Claims. (Cl. 137—119)

1. In spout and diverter construction;
a discharge or outlet spout extending generally horizontally and having a generally vertical spout mouth with a downwardly directed discharge opening;
a diverter tube in said spout having a closed end in the spout mouth with a lower surface orifice in the spout mouth above the discharge opening;
a secondary valve normally blocking said diverter tube and openable as desired to permit flow in said tube;
a diverter in said spout mouth below said orifice;
said diverter being a unitary diverter element comprising a housing having a bottom valve opening and containing a vertically movable differential area piston valve which moves up to seal the valve opening from below and down to expose said valve opening; said piston, when down, as is normal, permitting full flow through said valve opening and discharge opening and no flow into the diverter tube orifice and adapted to be moved upwardly automatically on the opening of said valve by water pressure to close said valve opening and said discharge opening to inhibit flow through said discharge opening and to permit full flow into the diverter tube orifice;



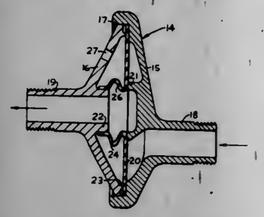
said diverter, including its housing and valve as a unitary diverter element, being insertable as a unit into the spout mouth upwardly through its discharge opening;
and a ring threaded onto said spout mouth at the discharge opening to retain said unitary diverter element in said discharge opening.

3,265,083
PIG HANDLING VALVE
Norman H. Sachnik, Houston, Tex., assignor to Texsteam Corporation
Filed Oct. 4, 1963, Ser. No. 313,883
3 Claims. (Cl. 137—268)



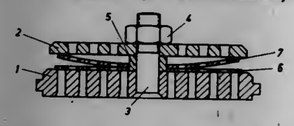
1. A pig injector valve comprising, a body having an inlet, an outlet at right angles to said inlet, a pig chamber diametrically opposite said outlet for receiving a pig, means for closing the end of the pig chamber remote from the body, a plug in said body having a pig receiving chamber with an inlet and an outlet, said pig receiving chamber inlet always in communication with said body inlet and said plug movable between a first position for intercommunicating the pig receiving chamber outlet with said body outlet and a second position for preventing communication therebetween, said pig receiving passageway outlet communicating with said pig chamber in said second position to load a pig in the pig receiving passageway of said plug, said plug sealingly closing said pig chamber in said first position, and ridge means in said pig receiving chamber opposite said pig receiving chamber outlet and axially extending relative to said pig receiving chamber inlet to prevent movement of a pig through said inlet.

3,265,084
ENGINE CRANKCASE BREATHER VALVE
Harold H. Wagner, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 14, 1964, Ser. No. 403,821
3 Claims. (Cl. 137—508)



1. A valve to control fluid flow comprising a housing having inlet and outlet passages, a centrally disposed valve seat, a valve element normally closing connection between said passages, means to permit opening of the valve by pressure in the inlet passage, said valve element comprising a diaphragm bearing against said centrally disposed valve seat; said diaphragm having a central opening normally closed by said valve seat, and a tubular bellows communicating between said opening and said outlet passage; said means including said inlet passage communicating with the diaphragm in an annular area outwardly of the seat and an atmospheric passage communicating with the diaphragm in an annular area inwardly of the seat, whereby said valve remains closed unless the inlet pressure is above atmospheric pressure.

3,265,085
MULTIPLE-RING VALVE
Robert Koehler, Schongau, Lech, Upper Bavaria, Germany, assignor to Hoerbiger Ventilwerke Aktiengesellschaft, Vienna, Austria
Filed Oct. 15, 1963, Ser. No. 316,404
Claims priority, application Austria, Nov. 10, 1962, A 8,850/62
8 Claims. (Cl. 137—512.15)



1. multiple-ring valve, particularly for piston-type compressors, comprising a valve seat and a valve guard arranged in spaced relation thereto, a closing member located between the valve seat and the valve guard and loaded by means of at least one arcuate spring plate formed by concentrical rings interconnected by webs, wherein adjacent rings of each spring plate are interconnected by not more than two webs, all of the webs of the spring plate being located on the some plate diameter, and at least one ring of each spring plate is vaulted so as to produce an approximately cylindrical surface, the generating lines of which extend parallel to the plate diameter traversing the webs.

3,265,086
FLUID FLOW CONTROL SYSTEM
Horace V. Smith and George M. Clark, Houston, Tex., assignors to Metrol Corporation, Houston, Tex., a corporation of Texas
Filed Jan. 7, 1964, Ser. No. 336,179
25 Claims. (Cl. 137—552)

1. In a fluid flow control system for temporarily diverting fluid flow from a plurality of conduits sequentially, the improvement comprising:

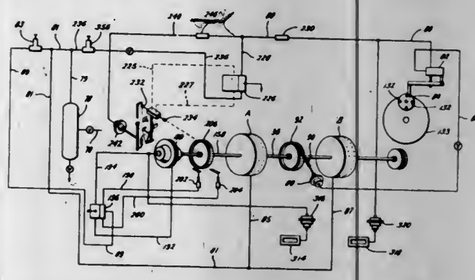
(a) a plurality of flow conduits for transporting fluid,

(b) a plurality of withdrawal conduits, each such withdrawal conduit being in fluid communication with a flow conduit,

(c) fluid operated motor valve means controlling fluid flow in the conduits,

(d) control means for sequentially diverting fluid flow from each flow conduit to the withdrawal conduit connected to it while maintaining fluid flow in the other flow conduits, said control means including:

(1) a first pilot valve including a casing containing a valve chamber, a plurality of spaced rows of spaced and aligned ports through the casing and into the valve chamber, a fluid passageway through the casing communicating with the valve chamber, a movable valve element in the valve chamber movable along each of the rows of ports, said movable valve element having a projection contacting the casing at the ports said projection being of lesser cross-sectional dimension than the distance between the ports whereby when the projection is over one of the ports the other ports are uncovered, a fluid passageway through the movable valve element communicating between the exterior of the pilot valve and the projection and forming an orifice in the projection, and a source of fluid pressure in communication with the fluid passageway through the movable valve element,



(2) a pressure responsive first actuator associated with the first pilot valve for moving the movable valve element to successive positions of the orifice covering one port in a row to covering another port in that row,

(3) fluid pressure lines between ports and the motor valve means for operating said motor valve means to divert fluid flow from one flow conduit to the withdrawal conduit connected with it while maintaining fluid flow in the other flow conduits each time the movable valve element moves from a position in which the orifice covers one port into a position covering another port,

(4) shift means connected to the movable valve element for moving the orifice from one row of ports to another row of ports upon the completion of a predetermined amount of movement of the movable valve element,

(e) indicating means operated by fluid pressure from the port covered by the orifice for indicating which port is covered by the projection,

(f) a skip assembly including:

(1) a rotatable disc associated with the movable valve element and rotated by movement of the movable valve element to successive positions corresponding to the successive positions of the movable valve element and adapted to carry bleed valve actuators on its surface at positions corresponding to the aforesaid positions of the movable valve element,

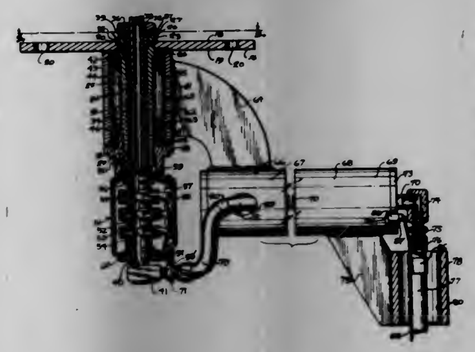
(2) a movable member adjacent the disc mounted for reciprocating movement toward and away from the disc,

(3) a pressure responsive second actuator adapted to reciprocate the movable member,

(4) a pressure responsive second pilot valve adapted in a first position to drain fluid pressure from a fluid pressure line and in a second position to supply pressure to the last mentioned fluid pressure line, the last mentioned fluid pressure line operatively connected to the first and second pressure responsive actuators whereby upon the second pilot valve being moved to its first position the movable member is moved away from the disc, and upon the second pilot valve being moved to its second position the movable valve element in the first pilot valve is moved into its next position and the movable member is moved toward the disc, and

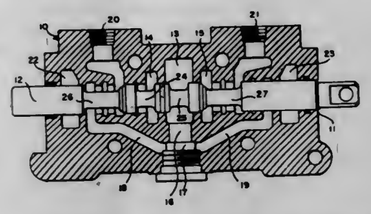
(5) bleed valve means carried by the movable member and connected to the second pilot valve for moving the second pilot valve from the first to the second position and then from the second to the first position upon operation of the bleed valve means by a bleed valve actuator.

3,265,087
HOSE SUPPORTING BOOM FOR CAR WASHING INSTALLATIONS
Edwin B. Livingston, 1735 Walnut, Jackson County, Mo.
Filed Jan. 27, 1964, Ser. No. 340,194
6 Claims. (Cl. 137—560)



1. A fluid conducting swivel apparatus comprising: a vertically extending cylindrical sleeve having a lower end and an outside surface, means for rigidly supporting said sleeve depending from an overhead member, a fluid conducting stationary tube extending downwardly within and through said sleeve and terminating below said lower end of said sleeve in a right angle fluid conducting swivel joint, upper and lower spaced apart horizontally rotatable radial thrust bearings supported on said outside surface of said sleeve, a vertically extending tubular member surrounding said sleeve and engaging said bearings for rotating about said sleeve, means on said tubular member and engaging at least one of said bearings for vertically supporting said tubular member on said sleeve, a rigid elongated horizontally extending support member, means securing said support member to said tubular member, and a horizontal fluid conducting tube joined to said swivel joint and supported by said support member for rotating about said stationary tube therewith.

3,265,088
CONTROL VALVES OF THE SERIES TYPE
Arthur J. Williams, Hubbard, Ohio, assignor to Commercial Shearing & Stamping Company, a corporation of Ohio
Filed Oct. 11, 1963, Ser. No. 315,575
5 Claims. (Cl. 137—596.12)

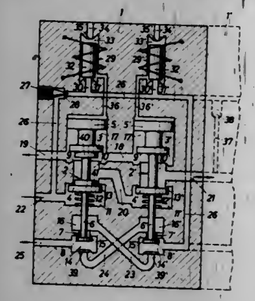


4. In a control valve of the series type adapted for use in an assembly of parallel type valves, a housing having a bore extending therethrough and open at each end to receive an elongated spool valve element, a fluid inlet in said housing extending transverse to said bore and intersecting the bore intermediate its ends, a pair of fluid outlets in said housing extending transversely of said bore and intersecting the bore one on each side of the fluid inlet at a point adjacent to but spaced from the intersection of the inlet passage, a valve element slidable in said bore, a pair of high pressure outlets intersecting the bore one on either side of the said fluid inlet and outlet, a pair of exhaust outlets in the housing intersecting the bore on either side of the fluid inlet and outlet, and passage means communicating between the fluid inlet and the bore adjacent each of the high pressure outlets, said valve element having four spaced grooves separated by lands so that when centered in the housing the valve element provides a neutral position in which fluid passes directly through the fluid inlet and the two intermediate grooves and the bore into the fluid outlets and fills the passage means, and a power position for each high pressure outlet which directs fluid from the fluid inlet through one of the two intermediate grooves and through the said passage means and through a groove in the valve element adjacent one end to one high pressure outlet while directing fluid from the other high pressure outlet through the groove in the valve element adjacent the opposite end to a fluid outlet.

3,265,089
THREE-WAY SAFETY DOUBLE VALVE
Rudolf Nill, Faurndau, near Goeppingen, Germany, assignor to Concordia Maschinen- und Elektrizitats-Gesellschaft m.b.H., Stuttgart, Germany
Filed Dec. 10, 1964, Ser. No. 417,318
Claims priority, application Germany, Dec. 11, 1963, C 31,649; Oct. 17, 1964, C 34,131
22 Claims. (Cl. 137—596.16)

1. A three-way double valve unit for controlling the flow of a pressure medium to a pressure-operated apparatus and adapted, when a failure occurs in the operation of said valve unit, to interrupt said flow, said valve unit comprising a valve housing, a main intake conduit within said housing adapted to be connected to a supply line for said pressure medium, a pair of three-way main control valves arranged in series in said housing and both connected to said main intake conduit and adapted to communicate with at least one outlet adapted to be connected to said apparatus, a pair of chambers in said housing above said main control valves, a pair of three-way safety valves, each positively connected to one of said main control valves so as to be movable thereby, said main control valves and said safety valves having substantially flat valve members for opening and closing the associated valve seats of said valves, a feed conduit within said housing

connected to said main intake conduit, a pair of preliminary control valves each connected with said feed line and with said chamber above the associated main control valve for moving the latter by said pressure medium to the on position when said preliminary control valve is opened, means for moving said preliminary control valves from the closed to the open position and for moving said main control valves simultaneously to the on position when both of said preliminary valves are opened simultaneously, each of said safety valves having at least one



valve chamber, one of said safety valve chambers being connected to said feed line, a leakage conduit in said housing and connected to the other safety valve chamber and leading to the outside, at least one throttle member in said feed line for reducing the effective cross-sectional area of said feed line to a size smaller than that of said leakage line, and conduits connecting said safety valve chambers with each other in such a manner that, when only one of the valve members of said safety valves is opened by the associated main control valve, said feed and leakage conduits communicate with each other.

3,265,090
FLUID FLOW CONTROLLER
Dean H. Elliott, Garden Grove, Calif., assignor to North American Aviation, Inc.
Filed Nov. 9, 1962, Ser. No. 236,578
1 Claim. (Cl. 138—45)



A device for controlling fluid flow as a function of a control pressure comprising:

a hollow cylindrical rigid assembly comprising a first and second terminal section and a central section, each said rigid section adapted to matingly engage an adjacent section as tapered male and female fittings, a raised shoulder being provided at each axial end of said central section and mounting an externally concentric female-threaded coupling member thereon, and said terminal sections being threaded as male-threaded members for matingly engaging a respective one of said female-threaded coupling members; and

a deformable and substantially nonresilient hollow tubular member having a flared skirt at the axial extremities thereof and mounted upon a corresponding one of said tapered male fittings as to be sealingly interposed between said matingly engaged adjacent sections of said rigid assembly,

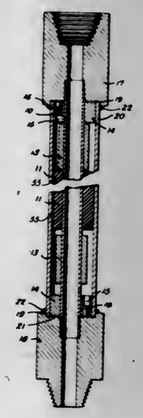
said deformable member having an axial extent relative to said rigid assembly whereby one end of said deformable member is peeled back over a portion of said deformable member to define a venturi section thereof,

said female-threaded coupling members engaging respective ones of said threaded terminal sections for urging said terminal sections into engagement with said central section,

whereby said deformable member is coaxially mounted within said rigid assembly to provide fluid communication between the terminal sections of said rigid assembly through the interior of said deformable member,

said central section of said rigid assembly having a port located within the axial extent thereof and adapted for porting the external sides of said deformable member to a source of control pressure, whereby the venturi section of said deformable member may become pinched-off in response to an externally applied net pressure.

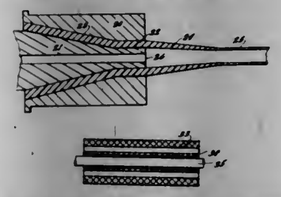
3,265,091
FLUID-PACKED DRILL PIPE
Frank D. De Jarnett, 2150 Chestnut Ave., Long Beach, Calif.
Filed Dec. 7, 1962, Ser. No. 243,088
7 Claims. (Cl. 138—114)



6. A device of the class described, comprising an inner steel tube and an outer steel tube arranged one within the other with their respective opposite ends proximate each other, except for a protruding end portion of the inner steel tube beyond each end of the outer steel tube, the inner surface of each end of the outer steel tube being tapered in shape towards the longitudinal center of the outer steel tube, said inner steel tube and outer steel tube forming a cylindrical space between the outer surface of the inner steel tube and the inner surface of the outer steel tube, a bushing affixed to each end of the inner steel tube at the end portion of the outer steel tube and having a tapered outer surface in slidable contact with the inner surface of the outer steel tube so as to seal the cylindrical space between the outer surface of the inner steel tube and the inner surface of the outer steel tube in a fluid-tight manner, each bushing having a longitudinal opening partially threaded and closed by a screw plug facilitating the filling of the cylindrical space with a fluid of pre-selected gravity, a tool joint box shrunk fit about the outer surface of the inner steel tube and the outer surface of the outer steel tube and affixed thereto by an annular weld,

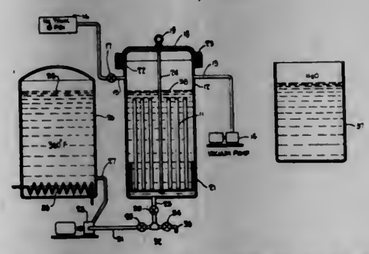
a tool joint pin shrunk fit about the other protruding end of the inner steel tube and about the end of the outer steel tube and affixed thereto by annular weld, and fluid of pre-selected density and quantity stored in the cylindrical space hereinabove described.

3,265,092
FEP-FLUOROCARBON TUBING
Berten E. Ely, Jr., Cheyney, John W. Burley, Ardmore, and Ira T. Clement, Glen Mills, Pa., assignors to Pennsylvania Fluorocarbon Company, Inc., Clifton Heights, Pa., a corporation of Pennsylvania
Filed Apr. 13, 1965, Ser. No. 447,844
4 Claims. (Cl. 138—118)



1. Heat shrinkable tubing of a copolymer of tetrafluoroethylene and 5 to 35% by weight of hexafluoropropylene, whose ratio of expanded diameter to recovered diameter varies from 1.21 to 2.0 and retaining the property of heat sealability.

3,265,093
FIBROUS PIPE IMPREGNATED WITH A HIGHLY AROMATIC PETROLEUM-DERIVED RESIN
John C. Wisniewski, Parma, and Thomas H. Madden, Euclid, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 18, 1961, Ser. No. 138,992
4 Claims. (Cl. 138—145)

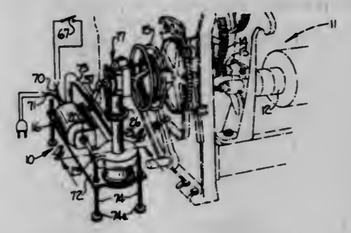


1. A conduit comprising in combination an oil permeable wall and an impregnant having a ring and ball softening point within the range of 150 to 250° F. consisting essentially of a highly aromatic, quinoline soluble oxygenated condensation product of a distilled cycle oil extracted with an extractant selected from the group consisting of furfural, phenol, B,B'-dichloro diethyl ether, nitrobenzene, and sulphur dioxide, impregnated therein and coacting therewith to render said wall oil impermeable.

3,265,094
APPARATUS FOR ROTATING THE CLOTH ROLL OF A LOOM
Jack D. Baird, Morganton, N.C., assignor to Joseph J. Milligan, Clyde S. Phillips and Ray T. Zimmerman, all of Burke, N.C.
Filed Feb. 8, 1965, Ser. No. 431,116
16 Claims. (Cl. 139—1)

1. In combination with a loom having a cloth roll adapted to be controllably rotated following a tying-in operation to pull the knotted-together trailing ends of the threads of an old or exhausted warp and leading ends of the threads of a new or full warp through the operating instrumentalities of the loom, portable apparatus for rotating the cloth roll comprising:

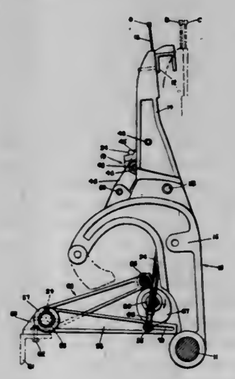
(a) rotatable means detachably connected to the cloth roll for rotating the same,



(b) power means operatively connected to said rotatable means for driving the same at a predetermined speed, and

(c) control means operatively connected to said power means and adapted to be operated from a position remote from said cloth roll for controlling the operation of said power means and thereby controlling the rotation of the cloth roll.

3,265,095
LOOM REED MOTION
Edward C. Nichols, Upton, Mass., and Bertrand E. Guindon, Cumberland, R.I., assignors to Draper Corporation, Hopedale, Mass., a corporation of Maine
Filed Oct. 6, 1964, Ser. No. 401,782
6 Claims. (Cl. 139—26)



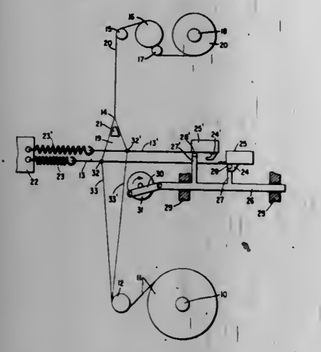
1. In a loom for weaving terry fabric in which the picks are inserted by reciprocable carriers, a reed motion which includes swords being pivoted for swinging movement and having a lay beam and a reed fixedly attached thereto, each one of said swords being a single supporting member, said swords each being hinged intermediate their ends forming an upper portion and a lower portion, and means to displace as a unit the said upper portion together with said lay and reed relative to the said lower portion of each of said swords at certain picks to effect partial beat-up and to return as a unit said upper portion, said lay and reed to a non-displaced relationship with said lower portion of each of said swords at other picks whereat said unit will effect normal and complete beat-up.

3,265,096

JACQUARD MACHINE WITH INDIVIDUAL ELECTROMAGNETICALLY CONTROLLED HEDDLES

Walter Zangerle, Zurich, and Heinrich Fend, Uster, Zurich, Switzerland, assignors to Oerlikon-Buhrle Holding AG. (Oerlikon-Buehrle Holding S.A.) (Oerlikon-Buehrle Holding Ltd.), Oerlikon, Zurich, Switzerland

Filed Feb. 3, 1964, Ser. No. 342,000
Claims priority, application Switzerland, Feb. 13, 1963, 1,806/63
10 Claims. (Cl. 139—59)



1. In a Jacquard machine, at least one electromagnetically controlled heddle provided with a recess and operable between two end positions, means for continually applying a first force to displace said heddle in a first direction towards one end position, means for intermittently applying a second force to displace said heddle in a second direction opposite said first direction towards the other end position, said first force being weaker than said second force, an electromagnetically controllable locking device for temporarily restraining said heddle in an operable position into which it is displaced in said second direction by said second force applying means, said electromagnetically controllable locking device incorporating a magnet system including a magnet core, an armature constructed as a flat spring, said flat spring having a flexed free end, said flat spring being formed of resilient material possessing sufficient internal stress to induce said flexed free end to normally move into the path of movement of said recess of said heddle, said flat spring during movement of said heddle in said second direction being urged against said magnet core, said flat spring during movement of magnet core when said magnet system is unexcited in order said heddle in said first direction being held against said to render unobstructed the movement of said heddle in said first direction, said flat spring being released from said magnet core when said magnet system is excited so that said flexed free end engages with said recess of said heddle to restrain the latter in said operable position in said second direction of movement of said heddle.

3,265,097

FILAMENT SUPPORT-WIRE DETECTOR AND EJECTOR

Thomas Hamilton, Verona, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

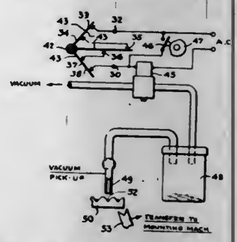
Filed Feb. 7, 1964, Ser. No. 343,390
5 Claims. (Cl. 140—71.6)

1. A filament support-wire detector and ejector apparatus for detecting the absence of a support wire projecting from a lamp stem and ejecting a filament intended therefor from the filament supply feeder for a stem machine, when a defective lamp stem with a missing filament support-wire arrives at an indexed position of the stem machine, said apparatus comprising:

(a) a circuit for energizing and de-energizing a solenoid valve disposed in a vacuum line respectively to close and open such valve,

(b) a plurality of contacts adapted to be connected to each other to complete the circuit to energize said solenoid valve,

(c) means for moving said contacts into engagement with existing filament support-wires projecting from said lamp stem when at its indexed position to cause



said circuit to close said solenoid valve, and said circuit remaining open when a lamp stem is defective due to a missing filament support-wire and hence not engaged by said contacts, and

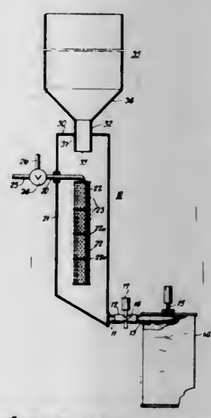
(d) a vacuum system connected to said vacuum line and operable by an open position of said solenoid valve to eject a filament intended for said defective vitreous lamp stem from the filament supply feeder adjacent a subsequent index position of the stem machine to thereby salvage said filament.

3,265,098

METHOD AND APPARATUS FOR PACKAGING LOOSE AGGREGATE MATERIALS

Harry D. O'Neal, Seekonk, Mass., and Robert B. Wheeler, Bellaire, Tex., assignors to St. Regis Paper Company, New York, N.Y., a corporation of New York

Filed Jan. 24, 1963, Ser. No. 253,556
9 Claims. (Cl. 141—5)



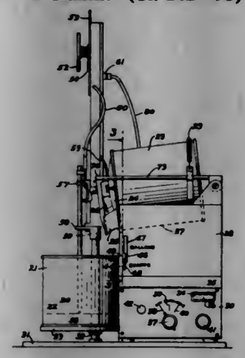
8. A method of packaging loose aggregate material, comprising: filling a supply bin to a substantial height with said material, introducing said material from the lower portion of said supply bin into an elongated infeed conduit having reduced passage area, intermittently passing said material from said conduit into a closed dispensing bin having increased passage area, intermittently introducing dispersing air into an elongated central portion of said dispensing bin at a plurality of openings to pressurize said dispensing bin and fluidize the material in said dispensing bin, while simultaneously causing to form a releasable material-gate within said conduit by pressurization by said dispersing air of said dispensing bin to prevent flow of said material into said dispensing bin, and while simultaneously discharging said fluidized material from said dispensing bin through an outlet opening into a packaging container.

3,265,099

ACTUATING CIRCUIT SENSITIVE TO LOW CONDUCTANCE MEDIA AND CONTROL DEVICE USING SAID CIRCUIT

Paul J. Severino, 1701 Heron Ave., and James C. Halliday, 1779 Heron Ave., both of Sunnyvale, Calif.

Filed Feb. 17, 1964, Ser. No. 345,446
2 Claims. (Cl. 141—95)



1. A device for dispensing incremental heights of a liquid in a conductive container, including a combination:

an electrically conductive support for said conductive container,

a dispensing device having a dispensing valve,

a cradle for supporting said dispensing device at a pouring angle and holding it in a fixed position,

lever means for closing said valve mechanically,

a solenoid having a core connected to said lever means and actuating it for closure of said valve upon energization of said solenoid,

means for changing the stroke of said lever means to accommodate different sizes of dispensing devices,

a vertical rod movable vertically in said container and spaced from the wall thereof and having at its lower end a probe tip,

means to move said rod vertically,

height-measuring means for accurately indicating the amount of vertical movement of said rod,

means for sending a very small electrical potential between said container wall and said probe tip, and

means for energizing said solenoid upon attainment of electrical conductance through this liquid between the walls of the container and the probe tip, when said liquid rises to the level of said probe tip.

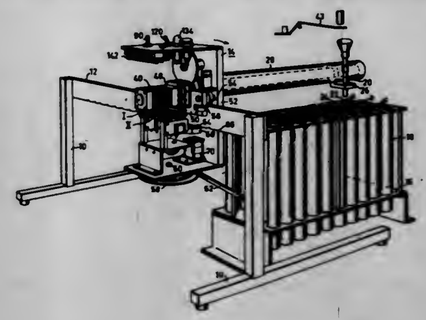
3,265,100

APPARATUS FOR SUPPLYING QUANTITIES OF MATERIAL TO A PLURALITY OF RECEPTACLES

Sune Erik Holm, Vallingby, and Edgar Anselm Eklund, Bombus, Sweden, assignors to AB D. J. Stork, Stockholm, Sweden, a corporation of Sweden

Filed May 13, 1963, Ser. No. 280,025
Claims priority, application Sweden, May 17, 1962, 5,562/62
5 Claims. (Cl. 141—284)

5. Apparatus for supplying quantities of material to receptacles in rows, comprising a supply member, first guide means, a rotary screw, said screw comprising an endless screw thread for moving the supply member in one direction and back in the opposite direction as the screw rotates in one direction only to set the supply member along a row of receptacles to successive material-



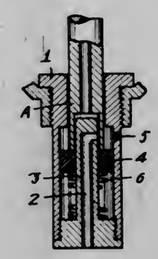
supplying positions, second guide means, and means for moving said first guide means along said second guide means transversely of said first row of receptacles to position said supply member opposite a second row of receptacles.

3,265,101

LIQUEFIED GAS POURING VALVE IN GAS LIGHTER

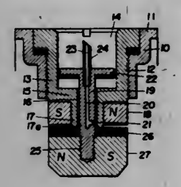
Eini Shiozaki and Kenichi Katsumata, Tokyo, Japan, assignors to Mansei Kogyo Kabushiki Kaisha, Saitama, Japan

Filed Nov. 22, 1963, Ser. No. 325,627
Claims priority, application Japan, June 4, 1963, 38/28,360
1 Claim. (Cl. 141—295)



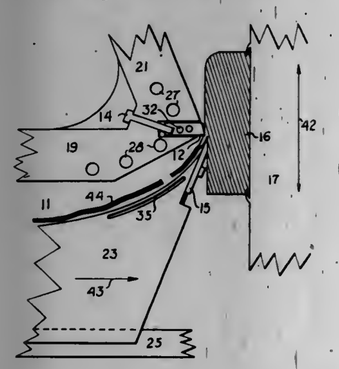
A fuel pouring valve adapted to be used in conjunction with a liquefied-gas-fueled lighter which comprises a stationary tubular member adapted to be fixedly secured to the fuel reservoir of said lighter, said stationary tubular member having an air exhaust bore therein; a tubular guide member fixedly secured to said stationary member and having a fuel pouring bore therein; an annular sealing member disposed around the upper end portion of said guide member for frictional movement along the length of the guide member and adapted to seal said pouring bore of the guide member and said air exhaust bore of the stationary member; and a spring disposed around said guide member so as to normally maintain said annular member in its uppermost sealing position whereby when said annular sealing member is depressed down by means of the nozzle of a fuel supply bomb against the action of said spring, liquefied gas from said supply bomb is allowed to flow through said pouring bore of the guide member into the fuel reservoir of the lighter and at the same time the air within the fuel reservoir is allowed to discharge through said air exhaust bore of the stationary member.

3,265,102
VALVE MEANS FOR GAS LIGHTERS
Masajiro Yoshinaga, Taito-ku, Tokyo, Japan, assignor to Yoshinaga Prince Kabushiki Kaisha, Tokyo, Japan
Filed May 6, 1964, Ser. No. 365,287
Claims priority, application Japan, June 21, 1963, 38/45,060
5 Claims. (Cl. 141—295)



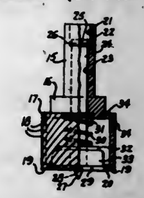
1. A filler valve assembly for gas lighters comprising a stationary member adapted to be secured to the bottom of a lighter, said stationary member including a horizontal plate and vertical walls extending upwardly therefrom, said plate and walls defining a central cavity adapted to receive a fuel vessel therein, a valve seat integrally formed with said stationary member, a valve assembly including a valve body member with an inlet port at its upper end, a central bore, and an outlet port near its lower end, said valve body member being axially movable within said stationary part in response to downward pressure to move said outlet port below said valve seat, a first magnet secured to the lower portion of said stationary member, a second magnet secured to the lower end of said valve body, and said first and second magnets normally being mutually attracted towards each other to thereby move said outlet port above said valve seat and maintain the valve assembly in closed position.

3,265,103
WOOD VENEER SLICING ELEMENTS TEMPERATURE MAINTENANCE MEANS
David E. Hervey, 1806 High St., Logansport, Ind.
Filed Feb. 11, 1964, Ser. No. 344,099
4 Claims. (Cl. 144—178)



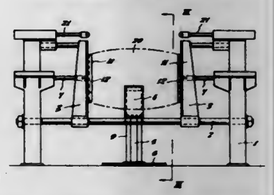
2. A veneer cutting machine comprising a cutting knife, a pressure bar in spaced relation to said knife, a cap in spaced relation to and supporting said pressure bar, a fluid passage within said pressure bar, a fluid passage within said cap, a heated fluid means for causing flow of said fluid within said passage of said pressure bar, and means for causing flow of fluid within said passage in said cap whereby said pressure bar and said cap may be maintained at approximately the same temperature as a heated flitch to be cut.

3,265,104
TUBULAR SAW CUTTER WITH CHIP REMOVAL MEANS
John Gallo, Sr., 64 Broad St., Boston, Mass. 02109
Filed Feb. 24, 1964, Ser. No. 346,868
8 Claims. (Cl. 145—130)



1. A saw comprising in combination an elongated shank means having a concentric aperture therethrough, means concentrically securing a substantially tubular body to said shank means, said tubular body comprising an interior wall, an exterior wall, an exposed annular edge, and cutting teeth forming cutting edges on said interior wall, said exterior wall and said annular edge, said teeth on said interior wall being inclined and closely spaced to define channels facilitating removal of chip material therefrom to prevent clogging of said saw means.

3,265,105
APPARATUS FOR ASSEMBLING CASKS
Thomas W. Woodruffe-Peacock, Wilmslow, England, assignor to William Grant & Sons Limited, Dufftown, Scotland, a limited-liability company of Great Britain
Filed June 16, 1965, Ser. No. 464,362
Claims priority, application Great Britain, June 30, 1964, 26,941/64
5 Claims. (Cl. 147—4)



1. Apparatus for assembling and applying truss hoops to casks comprising in combination a concave cradle for supporting the staves of one trough-like half of a cask by their bilges, end supports for supporting the ends of the staves for the remaining trough-like half of the cask located one at each side of said cradle, means for adjusting and moving each of said end supports towards and away from the cradle, a clamping device for temporarily tightening around the bilge of assembled staves, means for adjusting said cradle vertically, means for turning the cradle in a horizontal plane to position the assembled staves at right angles in truss hoop-receiving positions, cables for coiling around the two sets of ends of the staves, and means for tightening said cables for drawing in each set of stave ends.

3,265,106
GOLF CLUB CARRYING DEVICE
Edward R. Jarman, Portland, Oreg., assignor to Edward R. Jarman, Roy W. Jarman, and Dean Jarman, a partnership, doing business as Jarman-Williamson Company, Portland, Oreg.
Filed Mar. 11, 1963, Ser. No. 264,418
19 Claims. (Cl. 150—1.5)

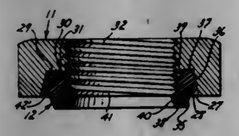
1. In a holder for golf clubs,
a pair of elongated rack members having notches spaced therealong for gripping the shank of a golf club,

frame means mounting the rack members in oppositely facing, vertically spaced, horizontally extending positions spaced from each other sufficiently to permit a lower end of a golf club to be moved freely therebetween,



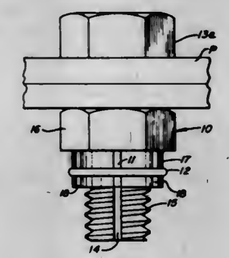
and an elongated sloping member extending horizontally in a position below the rack members and facing generally in the same direction as the upper one of the rack members for camming the lower end of a golf club positioned between the rack members in said direction to move the club into engagement with the notches in the rack members.

3,265,107
SEALING THREADED NUT CONSTRUCTION
Milton Glicksman, Teaneck, N.J., assignor to Multi-Flex Seals, Inc., New York, N.Y.
Filed Feb. 3, 1964, Ser. No. 342,022
1 Claim. (Cl. 151—7)



A threaded sealing device for use with a threaded shank projecting through an opening in a surrounding member having a pair of substantially planar end surfaces perpendicular to the axis of said threaded shank, comprising: a metallic nut element and a resilient nut element; said nut elements having a continuous threaded bore extending therethrough, there being an annularly-shaped recess extending into the body of said metallic nut element and coaxially positioned with respect to said threaded bore, said recess being of a given volume; said resilient nut element being bonded to said metallic nut element, and at least partially disposed within said recess, said resilient nut element being of volume substantially equal to that of said recess, said resilient nut element having a configuration when in unstressed condition projecting axially outwardly of said recess; said recess including an innermost portion thereof bounded by a first wall perpendicular to the axis of said threaded bore and communicating with said bore, a second wall angularly inclined and connecting with said first wall, a third wall parallel to said first wall, and connecting with said second wall, and a fourth wall angularly inclined opposite to said second wall and joining said third wall, whereby said second and fourth walls diverge in the direction of the open end of said recess; said resilient nut element having a cross-sectional configuration corresponding in unstressed condition to said innermost part of said recess, and being free of interconnection with a portion of said fourth wall; whereupon the engagement of said metallic nut element with a threaded shank and the movement of said resilient nut element against said surrounding member, said resilient nut element is distorted to substantially fill said recess and effect a seal between said member and said metallic nut element.

3,265,108
LOCK NUT ASSEMBLY
Lorentz H. Semon, Sr., deceased, late of Zanesville, Ohio, by Everett R. Semon, administrator, Rte. 1, Box 15, Zanesville, Ohio
Filed Oct. 14, 1964, Ser. No. 403,946
1 Claim. (Cl. 151—8)



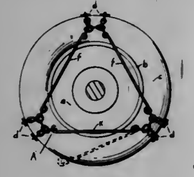
A lock nut assembly for mounting on a bolt having a threaded end portion with a key slot formed in said portion and extending radially thereinto and axially of the bolt so that the slot has an inner axially extending surface, said assembly comprising a nut having a body with an axial opening therethrough which is threaded so that it can be screwed onto said threaded bolt end portion, an axially extending skirt on said nut body having an extremity and an outer circular peripheral surface and provided with radial slots at angularly spaced intervals and any one of which is adapted to be aligned with said bolt key slot when the nut is screwed onto said threaded end portion thereof, said radial skirt slots being open both at their radial outer sides and at their ends at the extremity of the skirt but being closed at their ends at said body, a flat key fitted radially into one of said skirt slots so that it will extend into the bolt key slot when aligned therewith and having inner and outer axially extending edges, said key slot being of a greater axial extent than that of said radial skirt slots, said key being of a radial depth substantially equal to the combined radial depth of the key slot and the aligned radial skirt slot so that when its inner edge is in keying position in contact with the inner surface of the key slot its outer edge is substantially flush with said outer peripheral surface of said skirt, said key having opposed ends and being of uniform axial length equal to the distance from the closed end of said radial skirt slot to the said extremity of the skirt so that when its one end is in contact with the closed end of the receiving radial slot in the skirt its opposite end is substantially flush with said extremity of the skirt, said skirt having a groove formed in the outer peripheral surface thereof intermediate its extent, said key having a notch in its outer edge intermediate its opposed ends which will align with said groove when the key is inserted into one of said radial skirt slots and the aligning key slot, and a split ring of O-cross section extending completely around said skirt fitted into said aligning groove and notch and having tapered overlapping ends for retaining the key in keying position both radially and axially.

3,265,109
SAFETY NUT
Curt Hermann Hanfland, Laustrasse 62, Stuttgart-Sonnenberg, Germany
Filed Sept. 14, 1962, Ser. No. 223,793
2 Claims. (Cl. 151—21)



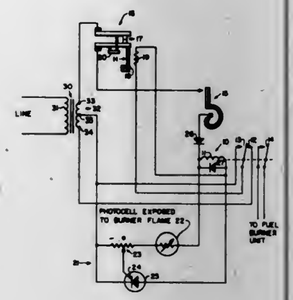
1. A rotatable lock nut having a peripheral circumferential depression located on one side of that central plane of the nut which is transverse to the axis of rotation of the nut, the peripheral portions of the nut at both sides of said depression respectively being of different polygonal shape, said nut also being provided with at least one slit extending from a peripheral area of said nut beyond said axis and being located on the same side of said plane as said depression, at least one-half of the length of said slit extending within the area of said depression.

3,265,110
AUTOMOBILE ANTI-SKID CHAIN ASSEMBLY ATTACHMENT
Ernest H. Faust, North Road, Highland, N.Y.
Filed Nov. 12, 1964, Ser. No. 410,811
1 Claim. (Cl. 152—242)



An anti-skid traction device for wheels of motorized vehicles, comprising a semi-rigid assemblage of rods and chain on both sides of a wheel; said assemblage consisting of three rods of equal length plus connectors, on the inner side of a wheel; and consisting of two rods of equal length, a third rod of shorter length, connectors, and chain on the outer side of the wheel; said assemblage forming a semi-rigid, closed and approximately equilateral triangular-structure on both sides of the wheel; said connectors providing a flexible connection among ends of two rods and also the ends of two sets of cross chains, at two of the points of each said triangular structure; said connectors also providing a flexible connection at the third point of the triangular structure on the outer side of the wheel, among the ends of two sets of cross chains, the end of one rod, and a snap fastener; said connector also providing a flexible connection at the third point of the triangular structure on the inner side, among the end of one rod, the ends of two sets of cross chains, and a hooked rod-end; said hooked rod arranged to permit manual closure of the triangular structure on the inner side of the wheel; and said snap fastener arraanged to permit manual closure of the triangular structure on the outside of the wheel, in connection with the cascaded aforementioned rod of shorter length and connecting chain; said triangular structures being each collapsible, when off the wheel, to three parallel rods plus their connectors, and chain links; three pairs of cross chains, extending across the tire, with one pair of cross chains connecting each point of the triangular structure on the inner side of the wheel with a point on the triangular structure on the outer side of the wheel; said cross chains connected so as to maintain the triangular shape in the structures on both sides of the wheel and arranged so that the breakage of any one chain in any pair or combination of pairs of cross-chains does not affect this maintenance of the triangular shapes.

3,265,111
[redacted]URNER CONTROL APPARATUS
Ric[redacted], Brown, Excelsior, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed May 28, 1965, Ser. No. 459,855
5 Claims. (Cl. 158—28)

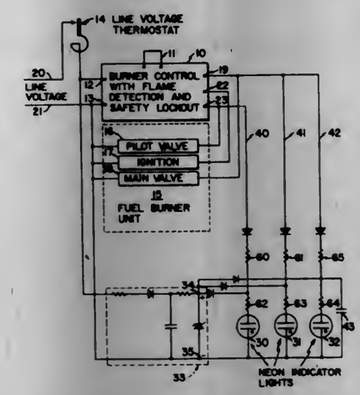


1. Control apparatus for use with a fuel burner unit, comprising:
a control relay having a winding, a normally closed switch, and first and second normally open switches,
circuit means including the first normally open control relay switch adapted to be connected to the fuel burner unit,
flame detector means adapted to detect the presence of flame at the fuel burner unit and including a normally nonconductive circuit element which is conductive in response to the presence of flame,
safety cutout means including electrically energizable time delayed actuating means,
initial energizing circuit means for the winding of said control relay and including in series the winding, the actuating means of said safety cutout means, and the normally closed control relay switch,
intermediate energizing circuit means for the winding of said control relay and including in series the winding, the actuating means of said safety cutout means, and the second normally open control relay switch,
holding energizing circuit means for the winding of said control relay and including in series the winding, and the flame detecting means circuit element,
and circuit means for energizing the actuating means of said safety cutout means independent of the control relay winding and including in series the actuator, the normally closed control relay switch, and the flame detecting means circuit element.

3,265,112
BURNER CONTROL INDICATOR
Patrick J. Eckelberry, Minneapolis, and Frederick H. Loy, Minnetonka, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Nov. 5, 1965, Ser. No. 506,457
9 Claims. (Cl. 158—28)

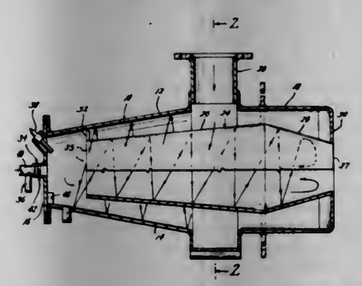
1. In apparatus comprising a burner control and means responsive to the need for operation of a fuel burner unit, the burner control having first electrical terminal means

adapted to be connected to the fuel burner unit and to have voltage applied thereto to institute a trial-for-ignition period upon a need for operation of the fuel burner unit, and having second electrical terminal means adapted to be connected to the fuel burner unit and to have voltage applied thereto to institute a run period upon the establishment of ignition;
first output means including utilization means and having an initiating voltage and a maintaining voltage,



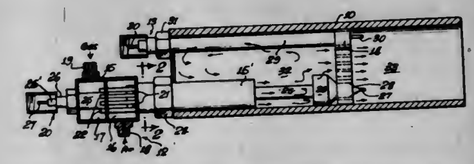
first circuit means connecting said first output means to the burner control second electrical terminal means to apply an initiating voltage to said first output means when a voltage is applied to the second electrical terminal means,
a source of maintaining voltage,
and second circuit means connected to be controlled by the means responsive to the need for operation of the fuel burner unit and to apply said source of maintaining voltage to said first output means only so long as there is a need for operation of the fuel burner unit.

3,265,113
GAS BURNER APPARATUS
John Thurley and George P. Lowry, Oklahoma City, Okla., assignors to Black, Sivalls & Bryson, Inc., Oklahoma City, Okla., a corporation of Delaware
Filed Sept. 27, 1963, Ser. No. 312,232
9 Claims. (Cl. 158—109)



1. A gas burner apparatus comprising:
an outer shell having a front end and a rear end, said outer shell being frusto-conical converging toward said rear end,
an inner metal liner having a front end and a rear end, said inner liner being of a smaller diameter than said shell and including a frusto-conical section converging toward said liner rear end and including a frusto-conical section converging toward said liner front end,
said inner liner and said outer shell being coaxial, and spaced to form an air passage between said shell and said liner,
end walls at the front and rear ends of the outer shell closing said shell,
a tangential air inlet in the outer shell and spaced from the rear end thereof for admitting air for cooling said inner liner,
said liner rear being spaced a distance of at least one-half the diameter of the rear of the liner from the rear end of the outer shell whereby a portion of the air from the space between the outer shell and the liner will flow about the inside well of the liner in a helical path to cool the inside of the liner, and
means adjacent the rear of the shell for injecting fuel into said inner liner whereby fuel and air is mixed and burned in the interior of the liner.

3,265,114
IGNITOR-BURNER ASSEMBLY
Herman T. Childree, Cason, Tex., assignor to General Dynamics Corporation, Pomona, Calif., a corporation of Delaware
Filed July 20, 1964, Ser. No. 383,602
11 Claims. (Cl. 158—123)

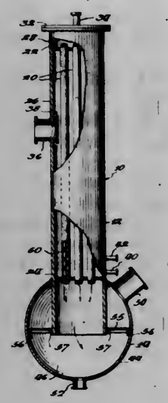


7. A natural gas pilot burner comprising a housing, an ignitor assembly, a flame rod assembly, and a flame holder having passages therethrough and operatively mounted in said housing; said ignitor assembly including gas and air manifolds, a plurality of conduit means having one end thereof operatively connected to said gas manifold, a plurality of conduit means having one end thereof operatively connected to said air manifold, said gas conduit means being positioned intermediate said air conduit means, ignition means including positive and negative electrode means and baffle means positioned a predetermined distance from one end of said electrode means, said one end of said electrode means extending through said flame holder, said gas and air conduit means being positioned concentrically with respect to said ignition means and having the other ends thereof terminating in a spaced relationship with respect to said baffle means.

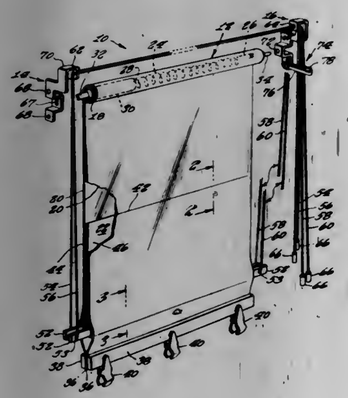
3,265,115
VERTICAL CYLINDRICAL FILM EVAPORATOR WITH SELF-ROTATABLE WIPER
Richard Charles Maier, Chicago, Ill., assignor to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois
Filed June 1, 1964, Ser. No. 371,646
4 Claims. (Cl. 159—13)

1. An evaporating processing vessel for concentrating liquids and thus generating vapors, having at least one vertical elongated tube, means for feeding a liquid to the upper end of the tube to gravitate downwardly as a film on the inner surface of the tube, rotatable wiping means positioned in the tube to wipe the surface of the tube

and thereby control the thickness of liquid film thereon, said wiping means comprising rotatable helicoidal screw means, said screw means being freely pivotable for rotation by the falling vapor forces in the tube so that the wiping of said film is self-sustained by the processing of the liquid.

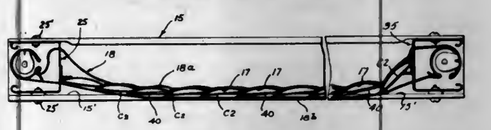


3,265,116
ADJUSTABLE WINDOW SHADE
Samuel Guffan, 1488 Ocean Parkway, Brooklyn, N.Y.
Filed Feb. 16, 1965, Ser. No. 433,045
6 Claims. (Cl. 160—121)



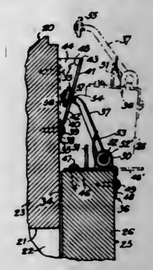
1. In a window shade unit, the combination of a shade assembly and a left and right bracket, said left and right brackets supporting said shade assembly, said shade assembly comprising a roller, a pair of transparent sheets supported on said roller, said transparent sheets being adjacent each other, a space at one portion between said transparent sheets, an opaque sheet within said space between said transparent sheets, means for said opaque sheet being adjustable vertically between said transparent sheets, said transparent sheets being secured along one of their edges to said roller, the opposite ends of said sheets being clamped together between a pair of sticks secured together by a plurality of clips, said transparent sheets being of rectangular configuration.

3,265,117
SKYLIGHT VENETIAN BLIND WITH IMPROVED COACTION BETWEEN THE LADDERS AND THE SLATS
Hans K. Lorentzen, Montclair, and Joseph A. Anderle, Clifton, N.J., assignors to Levolor Lorentzen, Inc., Hoboken, N.J., a corporation of New Jersey
Filed Dec. 9, 1963, Ser. No. 328,897
12 Claims. (Cl. 160—174)



9. A Venetian blind ladder comprising: a pair of flexible side tapes, a series of flexible cross tapes interconnecting the side tapes, and strut-ties on certain of the cross tapes, each strut-tie being composed of a trough-shaped piece of sheet metal positioned astride of the cross tape with one edge of the cross tape in the bottom of the trough formation, the length of the trough formation being somewhat less than the length of the cross tape, and the trough formation being collapsed into close proximity to the faces of the cross tape and making frictional engagement therewith.

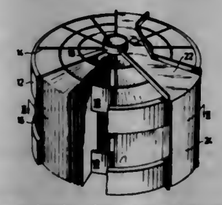
3,265,118
OVERHEAD DOOR RETAINING MEANS
Ernest G. Smith, 4215 N. 93rd St., Milwaukee, Wis.
Filed May 11, 1964, Ser. No. 366,557
7 Claims. (Cl. 160—209)



1. An overhead door construction comprising, in combination with a building door frame providing a doorway and having a header, and a track-guided door for opening and closing the doorway and when in closed position being vertically disposed with the upper marginal portion of the door lapping the inner side of the header, of a first retainer fitting rigidly secured to the inner side of the header at an intermediate point of the width of the doorway and having a portion projecting inwardly from the header and provided with an upwardly opening slot extending downwardly in said projecting portion, said projecting portion having cam surfaces along opposite sides of said slot sloping downwardly and forwardly and facing the header, a second retainer fitting including an arm pivotally secured to the top portion of the door and swingable through a limited angle in a vertical plane normal to the door, said arm projecting upwardly and forwardly from its pivotal axis and adapted to move in said slot when the door is at the lower portion of its travel, and a head on the free end portion of said arm engageable with said cam surfaces with a camming action as the door moves downwardly toward its closed position to thereby urge and hold the upper marginal portion of the closed door against the inner side of the header, said first retainer fitting and said headed arm engaging the same

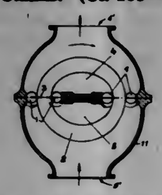
forming a relatively unyielding connection when the door is in closed position to prevent inward deflection of the upper portion of the closed door by external wind pressure.

3,265,119
ROTARY REGENERATIVE HEAT EXCHANGERS
Wilfried Mittmann, Schwetzingen, Germany, assignor to Svenska Rotor Maskiner Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed Mar. 23, 1965, Ser. No. 442,035
1 Claim. (Cl. 165—4)



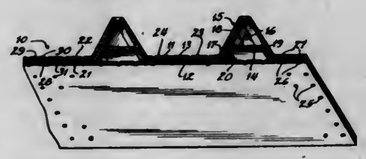
A regenerator body for a rotary regenerative heat exchanger of the type which comprises a casing, a substantially cylindrical regenerator body in said casing, ducts for supplying heat exchanging media axially to said regenerator body and for carrying off said media axially from said body and at least one conduit connection located radially outside said regenerator body and communicating with the interior of said body at a level between the ends thereof, said ducts and said regenerator body being rotatable relatively to each other, said regenerator body being filled with a heat exchanging mass permitting axial flow from one end to the other of said regenerator body and at least within a region between said ends also permitting radial flow, means being provided to prevent peripheral flow within said regenerator body.

3,265,120
HEAT EXCHANGER
Hans Joachim Schroeder, Munich, Germany, assignor to BMW Triebwerkbau Gesellschaft m.b.H., Munich-Allach, Germany
Filed Apr. 2, 1962, Ser. No. 184,392
Claims priority, application Germany, Apr. 7, 1961, B 62,046
7 Claims. (Cl. 165—6)



1. In a regenerative heat exchanger, a heat exchanging mass comprising heat exchanger means including a plurality of individual stacked, annularly-shaped relatively thin rotary lamellae independent of one another, and clamping means compressing said lamellae in a gas tight manner in at least two spaced zones forming a sealing plane separating the heat exchanging media and serving simultaneously as drive means for said lamellae, said clamping means including pairs of sealing roller means forcibly producting a gap between individual lamellae, said gap increasing with the distance from said sealing plane, which gap enables the passage of the heat exchanging media therethrough, said pairs of sealing roller means supporting said laminae in both the axial and radial direction, and each sealing roller means having, on the one hand, substantially conical abutment surface means oppositely disposed in pairs and forming an acute angle in the axial direction with the axis of said roller means against which abut the outermost laminae of the stack of laminae with the facing surfaces thereof, and, on the other hand, substantially cylindrical portions against which abut the end faces of said lamellae.

3,265,121
THREE-PLY TEMPERATURE-REGULATING PANEL
John S. Hickman, Shorewood, Wis., assignor to Inland Steel Products Company, Milwaukee, Wis., a corporation of Delaware
Filed Dec. 10, 1963, Ser. No. 329,410
19 Claims. (Cl. 165—49)

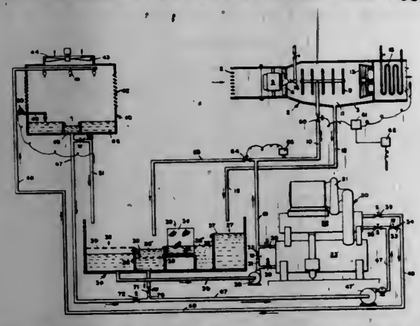


1. A three-ply temperature-regulating panel comprising:
a first outer ply;
a middle ply;
another outer ply;
means bonding said middle ply to said first outer ply with the two plies in facing relation;
means bonding said middle ply to said other outer ply with the two plies in facing relation;
an elongated, deformed portion on each of said middle and other outer plies;
said deformed portions cooperating to define a fluid-confining passage;
said deformed portion of the middle ply being substantially spaced from the closest facing part of the first outer ply;
a plurality of perforations along the entirety of said first outer ply;
a plurality of perforations in the undeformed portion of at least said middle ply;
each perforation in the middle ply being aligned with a perforation in the first outer ply;
the deformed portions of said middle and other outer ply being imperforate.

3,265,122
AIR CONDITIONING SYSTEMS FOR INDUSTRIAL APPLICATIONS
William S. Ostrander, Fayetteville, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed July 1, 1964, Ser. No. 379,445
13 Claims. (Cl. 165—60)

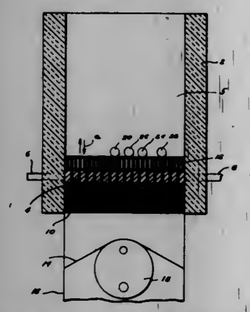
1. In an air conditioning system for industrial applications such as textile mills having selective summer and winter operation, the combination of an air washer, means in said air washer for discharging a first stream of water into an air stream directed through the washer, means in said washer for collecting discharged water; a refrigeration machine including a condenser and a cooler for treating the first stream; valve means for regulating the supply of water to said washer discharge means; a first circuit utilizable during summer operating conditions including said cooler, discharge means and collecting means for supplying water cooled in said cooler to said discharge means and for returning water from said collecting means to said cooler, first pump means for passing the first stream of water to the first circuit; a cooling tower for cooling a second stream of water; a second circuit utilizable during summer operating conditions including said cooling tower and said condenser for supplying cooling water from the cooling tower to the condenser and for

returning water from the condenser to the cooling tower, second pump means for passing a second stream of water through the second circuit; and a third circuit utilizable of the first circuit and the second circuit for supplying



water treated by the cooling tower to the washer discharge means and for returning water from the washer collecting means to the cooling tower, said first pump means and said second pump means being utilized to pass water through the third circuit.

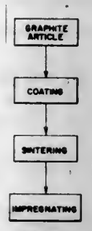
3,265,123
HEAT EXCHANGER HAVING OSCILLATING FLUID FOR RECEIVING AND DISCHARGING HEAT
William E. Gifford, 829 Ostrom Ave., Syracuse, N.Y.
Filed Apr. 17, 1964, Ser. No. 360,595
3 Claims. (Cl. 165—104)



1. An apparatus for producing refrigeration comprising a support member, a tempering device having means therein through which a cooling fluid may be conducted, and means therein through which a second fluid may be conducted, said tempering device being received on the support member, means for controlling the temperature of the tempering body, thermal regenerator means located at one side of the tempering body and fluid compressor means for providing an oscillating flow of said second fluid through the regenerator and tempering body to create a flux region externally of the tempering body, and said thermal regenerator means occurring between the said tempering device and the fluid compressor means.

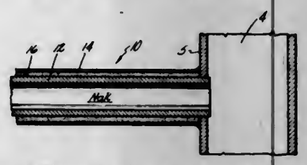
3,265,124
COATED GRAPHITE PRODUCTS
John Reys, Chagrin Falls, Ohio, assignor to Falls Industries Incorporated, Solon, Ohio, a corporation of Ohio
Filed July 10, 1964, Ser. No. 381,643
10 Claims. (Cl. 165—133)

2. A heat exchanger tube comprising a graphite tube, a smooth, substantially uniform coating of a chemically inert high thermal stability anti-fouling resin selected from the group consisting of polytetrafluoroethylene and polytrifluorochloroethylene on one surface of approx-



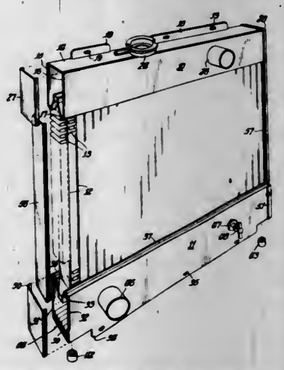
imately 1 mil or less in thickness, and impregnated with a thermosetting resin to render the tube impervious to fluid seepage.

3,265,125
RADIATOR SEALING SCHEME
Solomon Rosenblatt, West Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Feb. 5, 1964, Ser. No. 342,713
9 Claims. (Cl. 165—134)



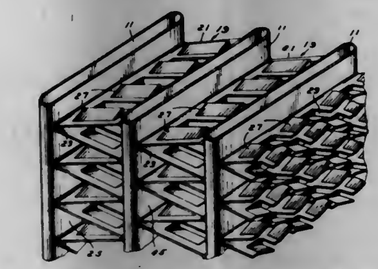
1. A space radiator having at least one tube through which to circulate a fluid,
a tubular jacket surrounding said tube and radially spaced therefrom to form an annulus therearound, and
a sealant in said annulus, said sealant consisting essentially of a metallic salt which is chemically reactive exothermically with said fluid and which forms a brazing material therewith, the brazing material being formed in the event of a tube leak and operating to seal the leakage passage.

3,265,126
HEAT EXCHANGER
Desmond M. Donaldson, Oakville, Ontario, Canada, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 14, 1963, Ser. No. 323,654
3 Claims. (Cl. 165—140)



1. A heat exchanger adapted to be mounted on a structure comprising a pair of spaced, elongated tanks, each tank comprising a substantially rectangular member having top, side and bottom walls, one wall of each of said tanks having a relatively narrow channel therein defined by inwardly extending members and outwardly extending projections in said one wall, a plurality of spaced tubes extending between said tanks, the ends of said tubes having end and side walls, the side walls being sealably connected to the projections defining the channels and the end walls of each adjacent tube being connected together in sealed relationship to provide a substantially continuous opening between said tanks and said tubes, at least one of said tanks having a mounted flange integral with said tank and extending from one of said walls for securing the heat exchanger to a structure said inwardly extending members provide substantial support for said ends of said tubes, said outwardly extending projections providing means to deflect the flow of air away from said tube ends.

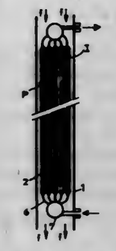
3,265,127
HEAT EXCHANGE ELEMENT
Henry A. Nickol, Livonia, and Sylvester J. Battisti, Wayne, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 21, 1963, Ser. No. 317,638
7 Claims. (Cl. 165—152)



1. A heat exchange and spacer element for use in a passageway between and in heat exchange relationship with conduits of a heat exchange device, said element comprising a corrugated metal strip having a plurality of slitted fins separated by connecting members and being constructed and arranged to divide said passageway into a plurality of smaller intercommunicating air passageways of substantially equal dimensions, said fins consisting of a substantially planar base having a plurality of slits therein extending through and in transverse relationship to the longitudinal axis of said fins with each end thereof terminating within said planar base and a plurality of louvers turned out of the base plane adjacent said slits in a manner such that alternate louvers extend from said base plane on opposite sides thereof, the directional alternation of the louvers of each fin being in reverse order with respect to the alternation of the louvers of the fins adjacent thereto thereby providing said air passageways with alternately converging and diverging sections.

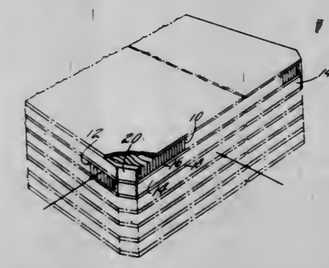
3,265,128
TUBULAR NEST FOR HEAT EXCHANGER AND EXCHANGER EQUIPPED THEREWITH
Pierre Legrand, 98 Rue de Rennes, Paris 6, France
Filed Jan. 17, 1961, Ser. No. 83,216
Claims priority, application France, Jan. 22, 1960, 816,539
6 Claims. (Cl. 165—159)

1. In a heat exchanger, a cylindrical casing for a fluid circulated in a general longitudinal direction, a nest of transversally finned straight tubes distributed according to substantially regular intercommunicating mesh patterns to form a plurality of tube bundles arranged in concentric layers which are symmetrically disposed about a common longitudinal axis, guiding plate means fitting each bundle of each layer, said guiding plate means being so disposed along said tubes as to constitute with the relevant plate means of the other bundles of the layer concerned at



least one discontinuous substantially helicoid surface winding about said longitudinal axis thereby imparting a transverse gyratory motion to said fluid in order to force same between and along the fins provided on said tubes.

3,265,129
HEAT EXCHANGER CONSTRUCTION
Rafael R. Bawabe, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 26, 1964, Ser. No. 378,096
3 Claims. (Cl. 165—166)



1. A multi-channel multi-pass plate and fin heat exchanger having a core of stacked layers, each layer including a continuous fin element, spaced plates sandwiching the sides of said fin element defining therewith a series of separate parallel open ended channels terminating at an edge of the fin element, said layers being stacked so that the channels formed in one layer lie in a direction transverse to the channels in the adjacent layer, elongated closure bars extending the length of said layers abutting the spaced plates adjacent the side of said fin elements, the ends of said closure members being bent inwardly toward said fin element and the angle of said bend being less than 90°, said ends of alternate closure members being complementary for defining a continuous rigid corner surface, headers secured to said surface defining an inlet and outlet for communicating with the channels at the ends of the fin elements.

3,265,130
METHOD AND APPARATUS FOR DRILLING UNDERWATER WELLS
Bruce J. Watkins, West Covina, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed May 23, 1962, Ser. No. 197,105
5 Claims. (Cl. 166—46)

4. A method of establishing communication for fluid flow between a drilling platform positioned on a vessel above a body of water and an underwater wellhead assembly at the top of a well, said method comprising

positioning the platform of said vessel substantially above said underwater wellhead assembly,

providing an elongated tubular element with connector means for securing it in engagement with a cooperating tubular element of said underwater wellhead assembly,

mounting underwater observation and fluid jet-type propulsion equipment near the lower end of said elongated tubular element, movably suspending said elongated tubular element from the vessel with its lower end in the water,

lowering said elongated tubular element and its associated equipment substantially vertically from said vessel until the lower end of said elongated element is at substantially the depth of said underwater wellhead assembly,



illuminating the area in the vicinity of the wellhead assembly and observing on the vessel the location of the underwater wellhead assembly relative to the lower end of the tubular element,

pumping fluid under pressure from the vessel to said propulsion equipment to jet the fluid therefrom and propel the lower end of said elongated tubular element laterally into substantial vertical alignment with a cooperating portion of said underwater wellhead assembly,

lowering said elongated tubular element into telescopic mating engagement between the lower end thereof and said cooperating portion of said underwater wellhead assembly, and

moving the upper end of said elongated tubular element into substantial vertical alignment and subsequently raising the observation equipment from the lower end of the tubular member to the vessel at the surface of the water.

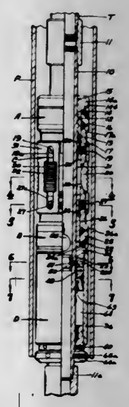
3,265,131
WELL PACKER
Harry C. Ehlert, Houston, Tex., assignor to Camco, Incorporated, Houston, Tex., a corporation of Texas
Filed Sept. 13, 1963, Ser. No. 308,701
19 Claims. (Cl. 166—120)

1. Well packer equipment of the character described including a deformable packing member arranged for radial expansion in response to axial squeeze pressure applied on opposite ends thereof, first abutment means and second abutments engageable with opposite ends of the deformable packing member, the first abutment means including a slidable piston member having opposing head surfaces for exposure to pressure fluid which controls piston slide position, the second abutment means including a chambered member receiving one of the piston head surfaces and co-operating therewith to define a variable volume pressure fluid chamber and means to evacuate pressure fluid from said variable volume chamber and



thereby effect relative movement of the piston and chamber members and a responsive deformation of the packing member.

3,265,132
RETRIEVABLE PACKER AND ANCHOR APPARATUS
Joe E. Edwards, Jr., Houston, Tex., assignor to Brown Oil Tools, Inc., Houston, Tex., a corporation of Texas
Filed Dec. 13, 1963, Ser. No. 330,435
16 Claims. (Cl. 166—120)



1. In a well tool adapted to be set in a well pipe including,

a tubular support,

an anchoring assembly encircling the support and comprising an upper expander, a lower expander spaced therebelow, and gripping members spaced about and co-acting with the expanders,

movement of the expanders toward each other expanding the gripping members into pipe-gripping position and movement of the expanders away from each other retracting said gripping members,

a release mandrel connected with the upper expander and surrounding the support,

a releasable connection between said release mandrel and support, preventing longitudinal movement between the mandrel and support,

a second mandrel connected with the lower expander and slideable on the support,

pressure-actuated means on the support below the lower expander and having two parts movable longitudinally relative to each other, one part being attached to the support and the second part being attached to the second mandrel,

movement of said parts of said pressure-actuated means in one direction effecting a relative movement of the release mandrel and the second mandrel in a direction to move the upper and lower expanders with respect to each other to thereby urge the gripping members into pipe-gripping position,

and means for conducting a pressure fluid to the parts of the pressure-actuated means to move the parts thereof in that direction which urges the gripping members into gripping position.

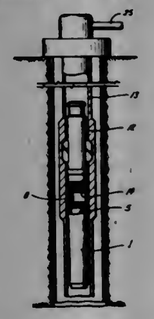
3,265,133
GAS WELL TREATMENT APPARATUS
Julius Gordon Burch, 822 S. McGee, Borger, Tex.
Filed July 27, 1965, Ser. No. 475,125
3 Claims. (Cl. 166—177)



1. Apparatus for treating a gas producing well also producing water said apparatus comprising

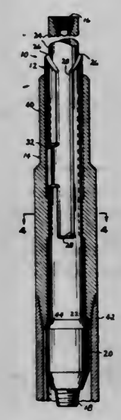
an expansible hollow U-shaped plug insoluble in water and oil, hemispherical and imperforate at its top, the top having a cylindrical skirt firmly attached to the bottom thereof, and a container for and separable from said plug, said container having sides that encompass said plug, said plug longitudinally folded therebetween, said container having a smaller external diameter than the external diameter of said plug in its unfolded condition, and said container and said plug having a greater specific gravity than water, and wherein said plug is formed of rubber and the top portion there of is reinforced by tire cord, and wherein said container comprises a water-soluble hollow cylindrical shell and a solid water-soluble pointed base attached to one end of said cylinder.

3,265,134
WELL SAFETY VALVE
Gilbert H. Tausch, Houston, Tex., assignor to Camco, Incorporated, Houston, Tex., a corporation of Texas
Filed Feb. 3, 1964, Ser. No. 341,914
6 Claims. (Cl. 166—224)



4. A well tubing safety valve comprising an outer tubular member for connection in a well tubing string, a downwardly facing annular valve seat carried by said member, a valve movably mounted by said member for upward travel into closing engagement with said seat, an inner tube slidably fitted to said member for axial movement from one position in which the tube is wholly above said seat and another position in which a tube portion is below said seat and blocks valve closing movement, means on the tube responsive to tubing string fluid pressure downstream of the tube for urging the tube into its last mentioned position, spring means interposed under compression between the member and the tube for biasing the tube in opposition to said downstream fluid pressure and a spring enclosing chamber sealed at atmospheric pressure between the member and the slidable tube.

3,265,135
FISHING TOOL GUIDE
Thelton E. Wilkinson, Hobbs, N. Mex. (41 H.M.S. Courts, Houma, La.)
Filed July 11, 1963, Ser. No. 294,333
5 Claims. (Cl. 166—240)

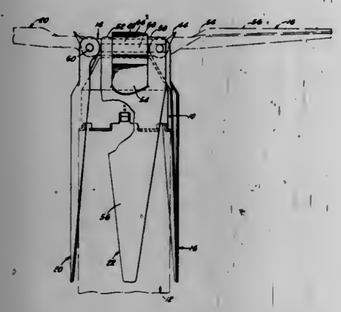


2. A well tool guide, comprising: a vertically disposed elongated tubular body having exterior threads at its lower end for connection with a string of washover pipe; a seat formed on the lower end portion of said body; a mandrel slidably received by said body and projecting upwardly thereabove, said mandrel having an enlarged lower end portion forming a tapered surface sealing with said seat; coupling means at the lower end of said mandrel for attaching a tool thereto; coupling means at the upper end of said mandrel for attachment with the lower end of a fishing string; and means connecting said mandrel to said body for rotation therewith and longitudinal movement of the mandrel with respect to said body.

3,265,136
DESCENT MECHANISM
Francis X. Wojciechowski, Garden Grove, and William Brandt Goldsworthy, Palos Verdes Estates, Calif., assignors to Hoffman Electronics Corporation, El Monte, Calif., a corporation of California
Filed Mar. 2, 1964, Ser. No. 348,568
8 Claims. (Cl. 170—160.12)

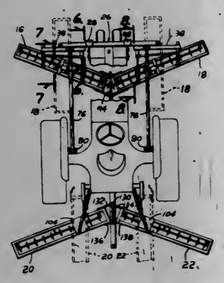
1. A descent mechanism comprising: a housing adapted to be fastened to an object; a trunnion, said trunnion having a hub portion and a plurality of arms projecting outwardly from said hub portion, each of said arms having a hinge adjacent the outer end thereof; means rotatably

mounting said trunnion on said housing; a plurality of deformable resilient airfoils, each of said airfoils being hingedly mounted on one of said hinges for pivotal movement from a folded to an extended flight position about an axis substantially perpendicular to the axis of rotation of said trunnion; and resilient means mounted on each



of said arms for engaging and exerting a force on the corresponding airfoil when said airfoil has pivoted about said axis through a predetermined arc, said arc being greater than the arc described by said airfoils when in their extended flight position wherein said resilient portions are spaced from said airfoils.

3,265,137
GROUND CONDITIONING IMPLEMENT
Chester F. Couser, Zearing, Iowa
Filed Feb. 13, 1964, Ser. No. 344,586
3 Claims. (Cl. 172—307)



2. A ground conditioning implement in combination with a tractor having a frame and forward and rearward wheels,

a pair of elongated implement sections extending laterally from said tractor frame forwardly of said rearward wheels,

supporting means connecting said implement sections to said tractor frame,

said supporting means including frame portions extending laterally outwardly in opposite directions from said tractor frame,

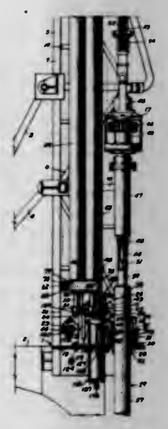
a bar member extending between and pivotally connected to each of said implement sections and the adjacent supporting means,

a hydraulic power means on said tractor connected to each of said implement sections for raising and lowering said implement sections by pivoting on each of said bar members,

said implement sections being rotatably connected to said power means for movement in a horizontal plane from a working position extending transversely of said tractor frame to a transport position extending parallel to said frame, and

said supporting means further including a rail member extending longitudinally on each side of said tractor frame, said rail members being secured to a portion of said tractor frame adjacent said rear wheels and to said supporting frame portions, said supporting frame portions being disposed adjacent said front wheels, and said power means having an upper end secured to said rail members and their lower ends to said implement sections.

3,265,138
MAGAZINE FOR STORING AND HANDLING DRILL PIPE IN ROTARY DRILLING RIG
Emmett L. Alexander and Herschel L. Bules, Enid, Okla., assignors to George E. Failing Company, Enid, Okla., a corporation of Delaware
Filed Aug. 19, 1963, Ser. No. 302,871
15 Claims. (Cl. 175—52)



1. In a rotary drilling rig including a mast for handling a string of drill pipe composed of drill pipe sections connected in end to end relation by external threaded pins on the lower ends of each section connected with internally threaded boxes on the upper ends of said sections,

a magazine for storing and handling the drill pipe sections in the mast when they are disconnected from said string of drill pipe and for carrying the drill pipe sections to and from axial registry with the string of drill pipe, said magazine having

upper and lower heads provided with arcuate slots opening through the front edge of said heads,

means within the mast for supporting the magazine for rotation on an axis within the mast with centers of the open ends of the slots arranged to intersect the axis of the drilling string,

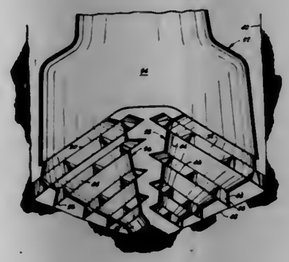
means for turning the magazine on said axis to a position with a drill pipe section in the drilling string passing into said slots to pickup and support the drill pipe section when being disconnected from the drilling string and for carrying the drill pipe section away from the drilling string to storage position and for returning the drill pipe section into axial registry with the string of drill pipe for reconnection to the drilling string, and

means for raising and lowering the magazine for removing the pin of said section from the box of the next section in the drilling string in said first position and to lower the pin into the box in said other position of the magazine.

3,265,139
ROLLER CONE DRILL BIT
Elard L. Haden and Henry A. Bourne, Jr., Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma
Filed Dec. 9, 1963, Ser. No. 329,130
10 Claims. (Cl. 175—356)

1. A rotary drilling bit for boring a hole into the surface of relatively hard material comprising:

a body having a vertically extending, longitudinal axis of rotation;



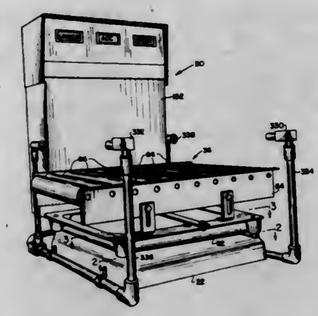
converging axles extending downwardly from said body toward each other;

roller cones mounted on said axles for rotation about downward extending, converging axes of rotation which converge in a point in said vertically extending, longitudinal axis of rotation;

cutter means mounted on each of said cones and positioned to bear upon and roll against the material to be bored during rotation of said body, said cutter means including a plurality of teeth positioned in concentric, annular array about the axis of rotation of the respective roller cones for contacting the surface of the material to be bored during the rotation of said roller cones, said teeth each having a wedge-shaped tip defined by two converging sides, and each mounted so that the lines of intersection of the two converging sides of all of said teeth pass through a common plane during rotation of each of said roller cones about its respective axis of rotation, said lines of intersection each forming a portion of a chord of a circle concentrically surrounding the longitudinal axis of rotation of said body at such time as the respective lines of intersection pass through said common plane, and wherein each of the two converging sides of each tooth defines an angle of at least 40° with said common plane as measured from the respective converging side directly to said common plane.

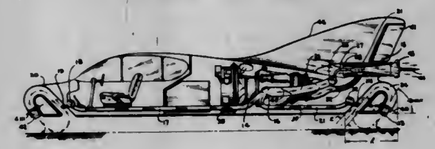
3,265,140
CHECKWEIGHING APPARATUS
Gerald C. Mayer, Wayne, N.J., assignor to Howe Richardson Scale Company, Clifton, N.J., a corporation of Delaware
Filed Mar. 3, 1965, Ser. No. 436,782
19 Claims. (Cl. 177—46)

1. A checkweighing apparatus comprising a scale having a displaceable platform for supporting a load to be checked, relatively movable magnetic means and magnetically actuatable switch means disposed in magnetically coupled relation, means mounting said magnetic means for movement within a predetermined path adjacent said switch means, means for transmitting the displacement of said platform to effect movement of said magnetic means in said path, said switch means being



actuatable by said magnetic means upon predetermined displacement of said platform by a load deviating from a preselected weight range, and means responsive to the actuation of said switch means for signalling the presence of the weight-deviating load.

3,265,141
GROUND EFFECT MACHINE EMPLOYING RECIRCULATION AND CONTROLLED DISTRIBUTION OF LIFT
Keith R. Cossairt, Orlando, Fla., and Hugh B. Montague, Denver, Colo., assignors to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland
Filed Oct. 18, 1961, Ser. No. 145,920
6 Claims. (Cl. 180—7)



1. A ground effect machine utilizing recirculation techniques for creating and sustaining a pressure on the underside of said machine for a major portion of its support comprising a plurality of recirculating ejector units disposed on at least a portion of the periphery of the machine, each of said units comprising a curved duct having substantial dimension along the periphery of said machine, and having adjacent inlet and outlet slots disposed along the underside of the peripheral edge of said machine, injection means for injecting quantities of high velocity primary compressed fluid into said inlet slots in a direction such that said primary fluid will tend to flow through said curved ducts and thereafter emanate from said outlet slots, said primary fluid causing a substantial portion of the fluid emanating from said outlet slots to be drawn into said inlet slots, thereby to establish a recirculating flow through said ducts, said recirculating flow serving to create and sustain a pressure on the underside of said machine greater than ambient pressure whereby said machine is lifted as a result of the change of momentum of said recirculating flow as well as due to the sustaining of pressure on the underside of said machine, said machine having front, back and side portions, at least one of said recirculating ejector units disposed on each of said front, back and side portions, each of said units having control means for controlling the amount of primary compressed fluid flowing to said injection means whereby by changing the lift contributed by each

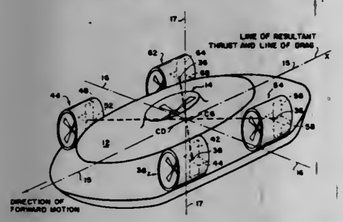
unit, the height of the machine above the operating surface as well as the individual height of any one portion of the machine can be controlled.

3,265,142

INTEGRATED PROPULSION AND CONTROL SYSTEM FOR AIR CUSHION VEHICLE TYPES

David H. Winter, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed May 3, 1962, Ser. No. 192,292
6 Claims. (Cl. 180—7)



5. An integrated propulsion and control system for a vehicle of the type having its body supported primarily by an air cushion comprising:

(a) a plurality of discrete thrust propulsion means rigidly mounted on said body;

(b) said plurality being an even number greater than three;

(c) said propulsion means being in the form of a duct having a fan mounted in the forward end;

(d) the resultant line of thrust of said plurality of thrust propulsion means at least approximately coinciding with the line of drag of said body when in motion;

(e) adjustable thrust deflecting means mounted in the thrust path of each of said thrust propulsion means;

(f) the deflecting means being mounted in said body so that the approximate origin of vector components representing aerodynamic forces acting on each of said thrust deflecting means are symmetrical in a plane about the center of gravity of said body;

(g) said deflecting means comprising a mutually bisecting rudder control vane and an elevator control vane aft of said fan in said duct; and

(h) further control means for deflecting said elevator control vane and means for deflecting said rudder control vane independently of said elevator control vane.

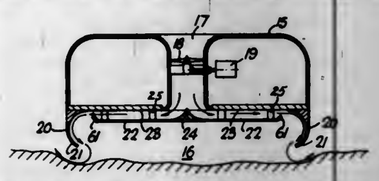
3,265,143

VEHICLES FOR TRAVELLING OVER A SURFACE HAVING MEANS FOR REDUCING LOADS AND VERTICAL ACCELERATIONS RESULTING FROM SURFACE IRREGULARITIES

Edward Gunston Tattersall, Hythe, England, assignor to Hovercraft Development Limited, London, England, a British company

Filed Sept. 4, 1963, Ser. No. 306,450
Claims priority, application Great Britain, Sept. 5, 1962, 34,026/62
13 Claims. (Cl. 180—7)

1. A vehicle for travelling over a surface and which in operation is supported above that surface by at least one cushion of pressurised gas formed and contained beneath the normally horizontal bottom surface of the main body of the vehicle, comprising means extending downwardly from said bottom surface for containing said cushion, means for reducing the effect on said bottom surface of local impact loads and vertical accelerations due to irregularities in the surface over which the vehicle is travelling including at least one bottom surface shielding member extending substantially parallel to said bottom surface over a substantial part of the area thereof, and means for supporting said shielding member below and spaced from said bottom surface in a normally horizontal position, said support means including a plurality of substantially vertically extending members distributed at spaced points over said bottom surface and extending between said bottom surface and said shielding member, and at least one of said shielding member and said



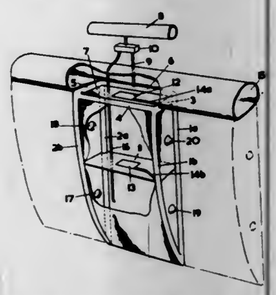
support means being flexible, whereby said shielding member is movable relative to said bottom surface and said cushion containing means so that local impact loads and vertical accelerations imposed on the vehicle due to irregularities in the surface can be intercepted by said shielding member, and their effect on the vehicle reduced by deflection of said member from its normal location.

3,265,144

INFLATABLE FLEXIBLE STRUCTURE

Ronald Andrew Shaw, Boxmoor, England, assignor to National Research Development Corporation, London, England

Filed Aug. 10, 1964, Ser. No. 388,379
Claims priority, application Great Britain, Aug. 15, 1963, 32,287/63
20 Claims. (Cl. 180—7)



1. A flexible structure comprising an inflatable bag member, a separately inflatable framework associated with said bag member and arranged when inflated to define therewith a desired configuration of the structure, means connecting the framework with an air supply for inflation, further means connecting the bag member with a second air supply and valve means operable by inflation of the framework so as to cause inflation of the bag member by said second air supply.

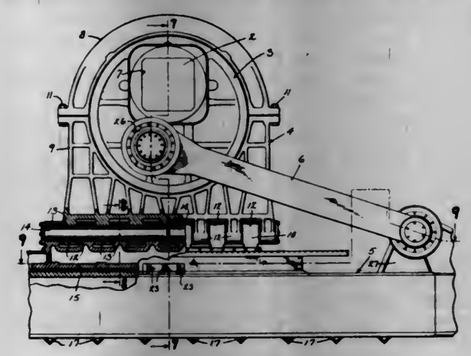
3,265,145

WALKING EQUIPMENT FOR DRAGLINE EXCAVATORS AND THE LIKE

Horace C. Beitzel, South Milwaukee, Wis., assignor to Bucyrus-Erie Company, South Milwaukee, Wis., a corporation of Delaware

Filed Aug. 20, 1964, Ser. No. 390,839
12 Claims. (Cl. 180—8)

6. In walking equipment for dragline excavators and the like, the combination comprising: a horizontal, rotatable drive shaft transverse to the desired line of movement of the machine to be walked; a generally circular drive disc eccentrically mounted on and rotatable with the shaft with its axis generally parallel to the axis of the shaft; a walking frame defining a generally circular bearing which rotatably receives the disc with a relatively close fit, said frame including a lower portion below the disc which is connected to the remainder of the frame by a hinge connection which allows the lower portion to pivot in a plane generally parallel to the axis of the shaft; an elongated walking shoe that is slidably connected to



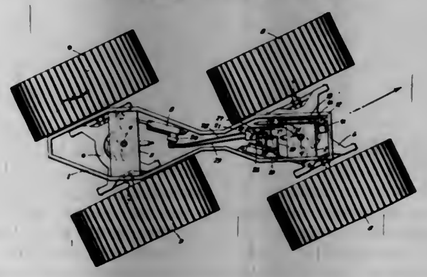
the frame with a forward end pointing in the direction of movement of the machine, said walking shoe being slidable with respect to the frame forwardly and rearwardly along a line parallel to the line of movement of the machine; and a link member having one of its ends connected by a universal connection to the walking shoe and its other end connected by a second universal connection to the disc at a point which is generally opposite the axis of the disc from the shaft.

3,265,146

STEERING SYSTEM FOR FOUR-TRACK SNOW VEHICLES

Jasper J. Tucker, Medford, Oreg., assignor to Tucker & Sons, Grass Valley, Calif., a corporation of California

Filed Nov. 3, 1964, Ser. No. 408,490
2 Claims. (Cl. 180—9.46)



2. In a four-track vehicle chassis which includes a frame, front and rear fifth wheels mounted on the frame for rotation about vertical axes, front and rear track units mounted on the corresponding fifth wheels, and a steering system mounted on the chassis and connected to the fifth wheels; said steering system embodying a hydraulic ram connected between the frame and the front fifth wheel to turn the same, another hydraulic ram connected between the frame and the rear fifth wheel to turn the same, a hydraulic pump on the frame, conduits extending between both ends of both rams and the pump, manually actuated means interposed in the conduits to control the flow of hydraulic fluid therethrough to one end or the other of the rams and having a neutral position, manually controlled means normally preventing the flow of such fluid to the rear ram, and a lock valve interposed in the conduits between the rear ram and the last named means and arranged to prevent any fluid flow from the rear ram when

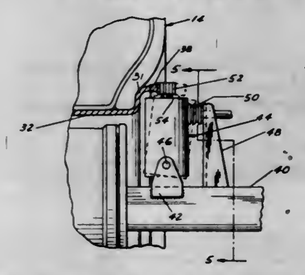
the corresponding track unit has been moved to a predetermined position and said manually actuated means is in a neutral position.

3,265,147

AUXILIARY WHEEL DRIVE MECHANISM

John E. Coordes, Birmingham, Mich., assignor to the United States of America as represented by the Secretary of the Army

Filed Feb. 18, 1965, Ser. No. 433,819
4 Claims. (Cl. 180—44)



1. In an auxiliary vehicle drive system assembly for use on all wheels of a vehicle, the combination comprising:

axle means on said vehicle;

a plurality of wheels mounted on said axle means;

said wheels including rims having flanges thereon, wherein the flanges are on the inner portion of said rims facing outwardly from the wheels in a plane normal to the axle;

circular gears on said flanges;

auxiliary drive means having pinion gears thereon pivotally mounted on said axle a distance from, and in the same plane as, said circular gears;

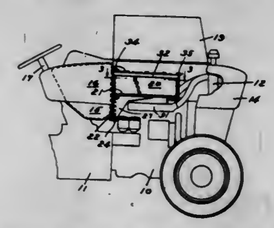
actuator means connected to said axle and said auxiliary drive means, whereby upon activation of said actuator means, the auxiliary drive means are pivoted toward the wheels of the vehicle, wherein the pinion gears and said circular gears engage to drive the vehicle.

3,265,148

TRACTOR BATTERY SUPPORT

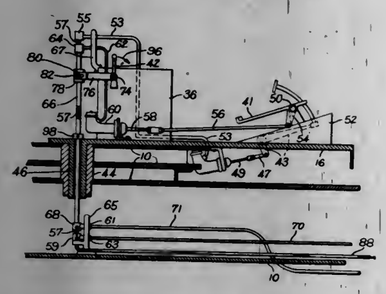
William J. Foxwell, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Dec. 31, 1963, Ser. No. 334,830
6 Claims. (Cl. 180—68.5)



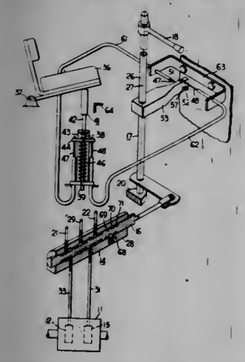
1. In a tractor having an in-line engine with vertically extending cylinders and an exhaust manifold projecting from one side of the engine, a clutch housing behind the engine, a radiator in front of the engine and a sheet metal hood extending rearwardly from the radiator; a fuel tank mounted above the clutch housing and immediately behind the engine and a storage battery mounted on top of the engine and beneath the hood, the battery being offset from the longitudinal center-line of the engine in a direction away from the exhaust manifold.

3,265,149
CONTROL MECHANISM FOR VEHICLES
John R. Schuetz, Wausau, Wis., assignor to Drott Manufacturing Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 14, 1964, Ser. No. 418,011
10 Claims. (Cl. 180—77)



1. In combination with a vehicle comprising lower and upper frames and a vertical-axis swivel connection between said frames, said lower frame having a hydraulically actuated device and a mechanically actuated device, said swivel connection having an axially extending bore therethrough; a control mechanism comprising a hydraulic tube extending through said bore and terminating above and below said swivel connection, hydraulic actuating means on said upper frame, a hydraulic connection from said hydraulic actuating means to the upper end of said tube, a hydraulic connection from the lower end of said tube to said hydraulically actuated device on said lower frame, mechanical actuating means on said upper frame for reciprocating said hydraulic tube, and a mechanical connection between the lower end of said tube to said mechanically actuated device for actuating the same in response to longitudinal movement of said tube through said bore.

3,265,150
AUTOMATIC RETURN TO NEUTRAL MECHANISM FOR VEHICLE TRANSMISSION
Dean P. Westman, South Chicago Heights, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 1, 1964, Ser. No. 414,953
5 Claims. (Cl. 180—82)



1. Means for automatically insuring that a vehicle transmission is in neutral when the operator leaves the vehicle, comprising:

an operator's seat mounted on said vehicle for vertical movement relative thereto between an occupied position and an upwardly disposed unoccupied position,

means for shifting said transmission to and from neutral and drive establishing conditions including a manually operated shifting linkage having neutral and drive establishing position, and

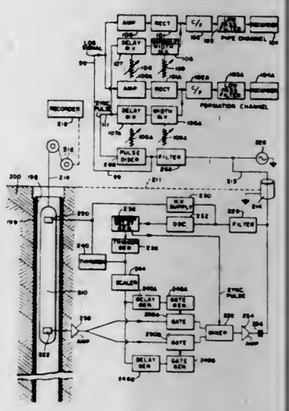
means interposed between said seat and said linkage forcing said linkage to occupy its neutral position when the operator's seat is unoccupied including

a pair of cables having corresponding ends connected to said linkage,

a thrust transmitting connection between said cables and said seat, and

spring means for moving said seat to its unoccupied position when vacated by the operator and for urging said cables axially in the direction away from said linkage and toward said seat.

3,265,151
MEANS AND TECHNIQUES USEFUL IN ESTABLISHING QUALITY OF CEMENT BONDS IN CASED BOREHOLES
Warren L. Anderson, Bacliff, Tex., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed June 15, 1962, Ser. No. 202,886
13 Claims. (Cl. 181—0.5)



1. In the method of determining the quality of cement bond in a cased cemented bore hole, the steps comprising transmitting an acoustic pulse inside the casing, indicating the amplitudes of the resulting acoustic energy which is transmitted through the casing and through the casing and borehole formations, and determining from the relative magnitudes of said amplitudes the quality of the bond, on the one hand, between the cement and casing and, on the other hand, the cement and the formation.

3,265,152
UNDERWATER BEACON
Irvin E. Kass, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Aug. 26, 1964, Ser. No. 392,349
6 Claims. (Cl. 181—.5)

1. Apparatus for providing an underwater acoustic beacon that comprises:

(a) a liquid tight housing;

(b) means for immersing the housing in a body of water;

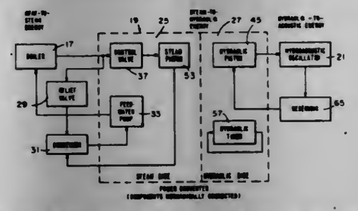
(c) a water source in said housing;

(d) an isotopic heat source for converting said water to steam energy in a closed cycle that stores energy in said steam;

(e) cyclic piston means that is biased by said steam in a power stroke in one direction for producing a closed cycle hydraulic fluid flow;

(f) spring means that is compressed by said power stroke to store energy in said spring;

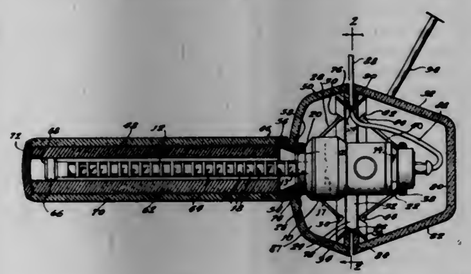
(g) mechanical means responsive to said piston biasing for selectively causing said spring to release its energy



to flow said fluid uniformly through an orifice in opposite timing;

(h) oscillator means for converting said fluid flow in said power stroke direction into sonic vibrations in said housing for transmission to said water, said power stroke flow producing strong, square-shaped acoustic signals in said water of about 5000 c.p.s.

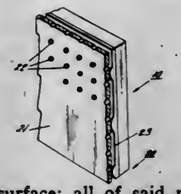
3,265,153
ACOUSTICAL DEVICE WITH PROTECTIVE SCREEN
Louis R. Burroughs, Buchanan, Mich., assignor to Electro-Voice, Incorporated, Buchanan, Mich., a corporation of Indiana
Original application June 27, 1962, Ser. No. 205,704. Divided and this application Nov. 30, 1964, Ser. No. 414,610
10 Claims. (Cl. 181—31)



6. A combination microphone and wind screen comprising a microphone having a casing with an opening therein and a diaphragm disposed within the opening of the casing, and a body of open cellular foam plastic having a cavity therein, the thickness of the body measured between the cavity and the exterior surface thereof being at least equal to twice the diameter of the average cell in said body, the microphone being disposed within the cavity of the body and the opening in the casing being spaced from the body.

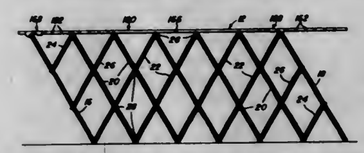
3,265,154
ACOUSTICAL PANELS WITH SPACED LAYERS
John March, Old Brookville, N.Y., assignor to Insul-Coustic Corporation, Maspeth, N.Y.
Filed July 9, 1964, Ser. No. 381,331
7 Claims. (Cl. 181—33)

1. An acoustical structure in sheet form for absorbing sound waves moving through said structure; comprising a first layer of sound absorbing material having a first predetermined density; a second layer of sound absorbing material having a second predetermined density greater than said first density; means for laminating first surfaces of said first and second layers; the second surface of said second layer having a plurality of projections arranged in a predetermined pattern extending outward



from said second surface; all of said projections being integral with said second layer and being equal in size; a septum layer being positioned between said first and second layers for reflecting impinging sound waves to increase the sound absorbing properties of said structure.

3,265,155
EXTENSIBLE LADDER AND SUPPORT
Melville G. W. Thatcher, Jr., P.O. Box 128, Collegedale, Tenn.
Filed Dec. 5, 1963, Ser. No. 328,403
12 Claims. (Cl. 182—27)

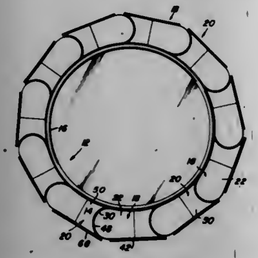


1. An extensible support structure of the pivoted linkage type comprising a pair of lazy tong link assemblies disposed in side-by-side arrangement and constituting supporting sides for said structure, each assembly comprising end links and a plurality of intermediate links together with brace links pivoted to said ends and intermediate links, cross members extending between and uniting said assemblies, each cross member comprising an elongated hollow body member having an open side and a plate-like cover member therefor, mounting means securing opposite ends of said body member to the associated pair of parallel links, said assemblies being simultaneously movable by pivoting of their links between an elongated extended position functioning as a support structure and a folded position with said links and braces retracted into side-by-side engagement with each other in each assembly, lock means releasably and selectively retaining said side rails in extended and collapsed positions, a pair of adjacent links of each side rail assembly having longitudinally extending channels, said lock means comprising a lock member slidably and adjustably retained in the channel of one of said pair of adjacent links and a keeper member similarly retained in the other, a connector pivoted to one member and releasably engaged with the other member.

3,265,156
PLATFORM MEANS WITH ADJUSTABLE COMPANION UNITS
Alfred D. Jacobs, 604 7th Ave., Huntington, N.Y.
Filed June 29, 1965, Ser. No. 467,914
15 Claims. (Cl. 182—113)

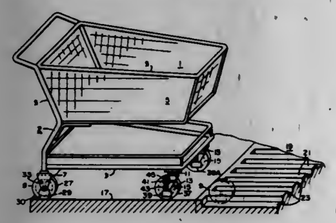
15. In combination, a tank-like or an equivalent swimming pool of an above-the-ground or partly sunken semi-above-the-ground type having a vertical rimming wall and circular or substantially so in plan, and a platform structure for users of the pool located outwardly of and marginally encompassing said wall, said structure characterized by a plurality of like leg-supported deck units arranged in end-to-end relationship, each unit having a flat

horizontal platform having suitable hand rails serving as upstanding guards for persons using the overall deck in the manner of a boardwalk, each unit having oriented coacting ends pivotally linked together, one end being convexly rounded, and the coordinating end being arcuately



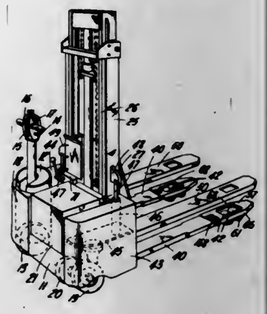
recessed, the rounded end fitting conformingly in said recess and providing an articulating joint between said units and permitting the same to be angularly adjusted with their respective platform portions in a common uninterrupted multipurpose surface.

3,265,157
FLOOR STRUCTURES FOR STORAGE DISTRIBUTION AREAS
Lennius R. Rissler, Newark, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 6, 1964, Ser. No. 387,976
2 Claims. (Cl. 186—1)



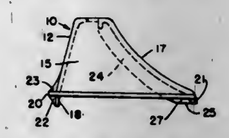
1. In combination, a cart having at least one cart-wheel on which the cart can be rolled, a confinement area having a substantially flat stationary floor, a boundary barrier for confining said cart to said area, said boundary barrier being interrupted to provide a passage permitting departure of persons from said area, and a threshold member for said passage acting to impede movement of said cart through said passage, said threshold member having a stationary base element and a plurality of projections projecting upwardly from said base element with their top surfaces substantially in the plane of the floor, said projections being spaced to expose a plurality of uniformly spaced parallel strips of equal width of said base element, said cart-wheel having a rim width less than the width of strips, whereby when said wheel-rim rolls from said area on to one of said strips the wheel-rim drops between pairs of said projections, said cart having a brake-shoe positioned when said cart is on said floor to clear the floor by a distance less than the height of said projections, said brake-shoe being positioned when said wheel-rim is between said projections to engage the upper surface of at least an adjacent one of said projections to restrain movement of said cart through the passage, said projections being formed by plural sets of grooves, each of said sets comprising a plurality of uniformly-spaced, straight, parallel grooves extending in a horizontal direction, the horizontal directions of said sets being angularly spaced from each other.

3,265,158
INDUSTRIAL TRUCKS
Charles Frederick Constable, Basingstoke, England, assignor to Lansing Bagnall Limited, Basingstoke England, a British company
Filed Mar. 23, 1965, Ser. No 442,069
Claims priority, application Great Britain, Mar. 24, 1964, 12,460/64
7 Claims. (Cl. 187—9)



1. A truck having a body-portion, a mast with a lifting-carriage and fork-arms upon it, which fork-arms are made hollow in their underside, and legs projecting forwardly from the lower end of the mast of such dimensions and so located as to enable them to fit into the undersides of the fork arms when the latter are lowered, characterized by the fact that the mast and legs are mounted on the body by means permitting them to move up and down relatively to the body, the legs are of a box-section for the greater part of their length, each with a hollow tip which is pierced to receive a roller-carrying member and roller of the full depth of the legs, the roller-carrying members are movable up and down by operating rods passing through the box-section legs, the operating rods being linked with the means for moving the mast up and down, and the total depth of the legs and fork-arms when fitted one into the other is not greater than will permit them to enter together into a normal pallet.

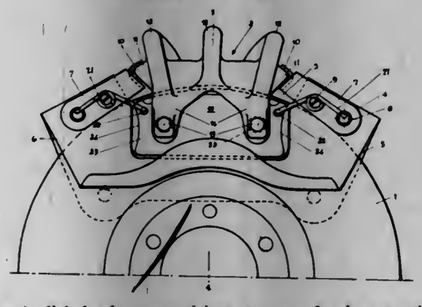
3,265,159
CHOCK BLOCK FOR VEHICLES
Edward C. Worden, P.O. Box 97, Averill Park, N.Y.
Filed July 29, 1965, Ser. No. 475,705
11 Claims. (Cl. 188—32)



1. A chock block for use with wheels of vehicles to prevent undesired rolling of the vehicle, which comprises:
(a) a generally wedge shaped, hollow, strong rigid shell of about the width of a vehicle wheel periphery, with a generally flat bottom face forming one face of a wedge, and a wall that forms the other face of such wedge, extending upwardly from said bottom wall at the wedge edge, with its upper, outer face corresponding generally in curvature and size to a segment of a cylinder that would generally fit against a peripheral segment of a selected vehicle wheel against which it is intended to be wedged in use,
(b) the upstanding wall of said shell opposite from and generally parallel to said wedge edge terminating at its lower edge in one set of teeth spaced apart in a row along its said lower edge and depending to a substantial distance below said bottom face,

(c) said shell also having another set of teeth arranged in a row along said wedge edge and spaced apart in such row, and depending also below said bottom face,
(d) the wall of said shell which has the arcuate wedge face being provided on its inner surface with a plurality of reinforcing ribs from adjacent the top of the shell to and below the said bottom face of the shell and there each aligned with and merging into one of the depending teeth of said another set along said wedge edge.

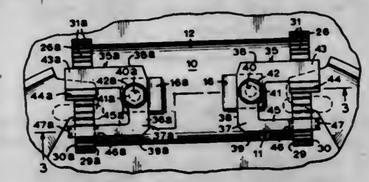
3,265,160
SPOT TYPE DISK BRAKES
Max Elberg, Vaucresson, and Pierre Gancel, Paris, France, assignors to Societe Anonyme D.B.A., Paris, France, a company of France
Continuation of application Ser. No. 299,246, Aug. 1, 1963. This application Oct. 11, 1965, Ser. No. 506,417
11 Claims. (Cl. 188—73)



1. A disk brake comprising: a rotor having a pair of opposed friction surfaces thereon, a support having a pair of circumferentially spaced arms extending generally parallel to one of said friction surfaces, then in an axial direction across the periphery of said rotor and then in a direction radially inwards parallel to the other of said friction surfaces, a friction member located between said arms on each side of said rotor, a generally U-shaped stirrup straddling said rotor and said friction members, one leg of said stirrup being operatively connected to one of said friction members, actuating means carried by the other of said legs and operatively connected to the other of said friction members, said stirrup having a pair of circumferentially spaced end portions, a pair of levers each pivotally mounted on a respective one of said arms and having a guide portion thereon located radially outwards of and overlapping a respective one of said circumferentially spaced end portions of said stirrup for guiding said stirrup, and means for releasably securing said levers in a substantially fixed position on said support member.

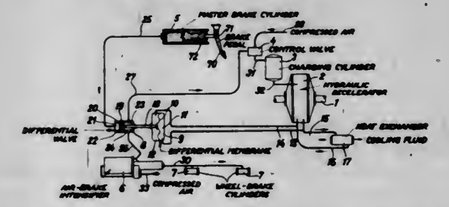
3,265,161
AUTOMATIC ADJUSTING MECHANISM
Stanley W. Croissant, Kirkwood, and Donald J. Jasper, Franklin, Mo., assignors to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware
Filed July 27, 1964, Ser. No. 385,132
14 Claims. (Cl. 188—79.5)

1. In a friction device having a pair of relatively displaceable members adapted for energization into frictional engagement, adjustable means movably supported in said friction device and concertedly displaceable with one of said members upon the friction device energization and de-energization movement thereof, said adjustable means being rotatably driven relative to said one member to adjust the displacement thereof, a pair of abutment surfaces on said adjustable means, and driving means pivotally supported on said friction device for driving engagement with said adjustable means including other means respectively engageable with said adjustable means abutment surfaces upon the friction device energization and deenergization movement of said one member to effect pivotal movement of said driving means in opposite



directions, said driving means being pivotally movable in one direction toward a position in driving engagement with said adjustable means and pivotally movable in the other direction to effect driving rotation of said adjustable means and adjust the displacement of said one member.

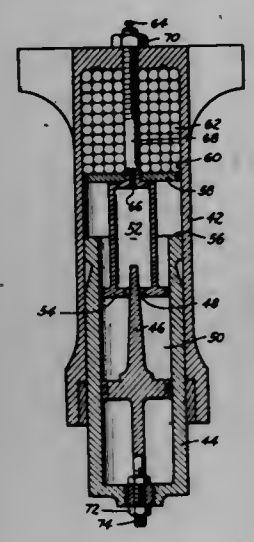
3,265,162
VEHICLE-BRAKING SYSTEM
John R. Botterill, Frankfurt-Eschersheim, Germany, assignor to Alfred Teves Maschinen- und Armaturenfabrik KG, Frankfurt am Main, Germany
Filed Oct. 9, 1964, Ser. No. 402,970
Claims priority, application Germany, Oct. 11, 1963, T 24,877
10 Claims. (Cl. 188—86)



1. In a vehicle-braking system for a vehicle having a shaft coupled with wheels of the vehicle and fluid-responsive wheel-brake means, in combination:
a hydraulic decelerator coupled to said shaft and operable upon an increase of hydraulic pressure applied to said decelerator for reducing the speed of said shaft;
fluid-responsive brake-actuating means coupled with said wheel-brake means for energizing same, said brake-actuating means including:
differential-valve means formed with a passage communicating fluid to said wheel-brake means, and
mechanism controlled by said decelerator for selectively blocking said passage to control the fluid pressure applied to said wheel-brake means in accordance with the degree of braking of said shaft by said decelerator; and
control means operatively interconnecting said hydraulic decelerator and said brake-actuating means for increasing the hydraulic pressure applied to said decelerator upon operation of said brake-actuating means to energize said wheel-brake means, said differential-valve means comprises a valve housing, a seat-forming member in said housing shiftable under the action of a fluid-pressure differential applied thereacross, said seat-forming member being provided with said passage and subdividing the interior of said housing into a high-pressure chamber and a low-pressure chamber interconnected by said passage, spring means in said housing biasing said seat-forming member into a predetermined normal position and resisting displacement of said seat-forming member in opposite directions out of said position, said high-pressure chamber communicating

with said brake-actuating means for pressurization thereby to energize said wheel-brake means, said low-pressure chamber communicating with said wheel-brake means for communicating thereto fluid applied to said differential-valve means by said brake-actuating means.

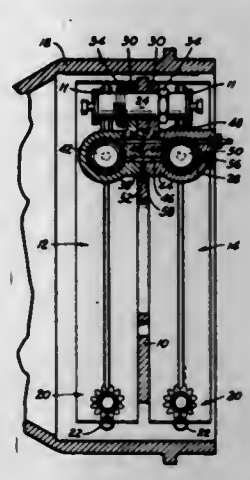
3,265,163
SHOCK ABSORBER
Emerson D. Gilbert and Gerard P. Deyerling, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Mar. 5, 1964, Ser. No. 349,717
6 Claims. (Cl. 188—88)



1. A shock absorber for a vehicle comprising:
a support structure affixed to said vehicle;
a first cylinder operatively connected to said support structure;
a second cylinder arranged to reciprocate in said first cylinder, said second cylinder containing a non-compressible fluid which is utilized to extend said second cylinder in accordance with a pressurized compressible fluid in said first cylinder such that only a portion of said first cylinder contains said non-compressible fluid in the extended position;
an adjustable metering means to meter the flow of non-compressible fluid into said first cylinder upon telescopic action of said second cylinder in said first cylinder;
a crush plate operatively connected to said first cylinder at the end opposite that mounted by said support structure;
a honeycomb member held between said crush plate and said support structure exteriorly of said first cylinder; and
a stop means connected to said second cylinder and arranged to contact said crush plate to compress said honeycomb upon the application of excessive loads.

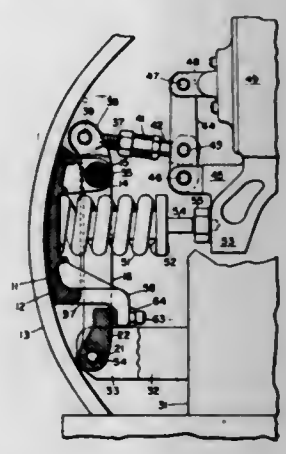
3,265,164
DUAL CYLINDER BRAKE
Edward K. Dombeck, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Original application Oct. 27, 1964, Ser. No. 406,929. Divided and this application Oct. 6, 1965, Ser. No. 493,329
2 Claims. (Cl. 188—152)

1. In a drum brake comprising: a backing plate having an opening therein, a pair of wheel cylinders each having a boss thereon, each boss having an inlet and outlet port communicating with its respective wheel cylinder fluid chamber, one of said wheel cylinders having a hose inlet port and a bleeder port communicating with its respective wheel cylinder fluid chamber, means connecting said wheel cylinders to said backing plate, said wheel cylinders being arranged on said backing plate with the boss of each extending into said opening and abutting each other, the inlet port of one boss being generally aligned with the outlet port of the other boss and the outlet port of said one boss being generally aligned with the inlet port of said other boss, a pair of annular sealing members, a pair of annular aligned depressions one on each of the



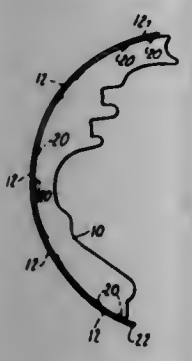
abutting surfaces defining an annular space therebetween surrounding one of said openings on each boss, one of said sealing members being received within said space formed by said aligned depressions, a pair of annular shoulders one on each of said bosses cooperating to define an annular recess receiving the other of said sealing members, said second sealing member engaging the wall of said backing plate opening and compressed between the wall and said shoulders whereby one pair of aligned ports is separated from the other pair of aligned ports and said aligned ports are separated from the exterior of said wheel cylinders.

3,265,165
BRAKE SHOE MOUNTING
Henry August Stainken, New York, N.Y., assignor to Otis Elevator Company, New York, N.Y., a corporation of New Jersey
Filed July 2, 1964, Ser. No. 379,891
8 Claims. (Cl. 188—166)



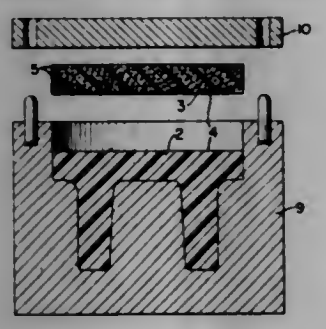
1. A brake, comprising,
a brake drum,
a pivoted brake arm,
a brake shoe pivotally mounted on said arm,
means acting independently of said arm for impressing a brake applying force directly against said shoe substantially at the center thereof, and
means interconnecting said shoe and said arm for engaging said shoe upon rotation of said arm in one direction and for releasing said shoe upon rotation of said arm in the opposite direction.

3,265,166
BRAKE SHOE
Thomas A. Lavengood, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Aug. 31, 1964, Ser. No. 393,145
2 Claims. (Cl. 188—250)



1. A brake shoe comprising: a web having an arcuate outer edge, at least one projection extending from said outer edge, said projection having a pair of opposed faces and a pair of circumferentially spaced edges, said circumferentially spaced edges declining in a direction toward each other from the outer edge of said projection to provide a generally dove-tailed projection with the widest portion thereof being at the outer end thereof, an arcuate rim having at least one slot receiving said projection therethrough, the inner surface of said rim engaging the outer edge of said web, the edges of said slot being substantially aligned with the body of said rim, the end edges of said slot compressively engaging a respective one of said circumferentially spaced edges of said projection, the side edges of said slot compressively engaging their respective faces of said projection, whereby said web is locked to said rim to prevent movement of said rim relative to said web and to prevent circumferential movement of said rim relative to said web, and a space provided between the inner surface of said rim and the outer surface of said web adjacent said circumferentially spaced edges.

3,265,167
INTEGRAL MOLDED PISTON AND LINING FOR BRAKES AND METHOD FOR FORMING THEREOF
Harold N. Yazell, Jr., Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed July 10, 1964, Ser. No. 381,827
9 Claims. (Cl. 188—251)

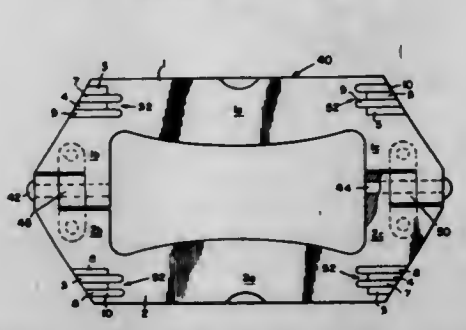


1. In an integrally molded piston and lining for brakes the combination of

a cylindrically shaped piston made from a heat cured thermosetting epoxy resin bonding agent mixed with asbestos powder, said piston having a reduced diameter portion at one end thereof to provide a sealing surface and a recessed portion inside the reduced diameter portion to eliminate weight, and to provide substantially uniform cross sectional areas in the piston, and

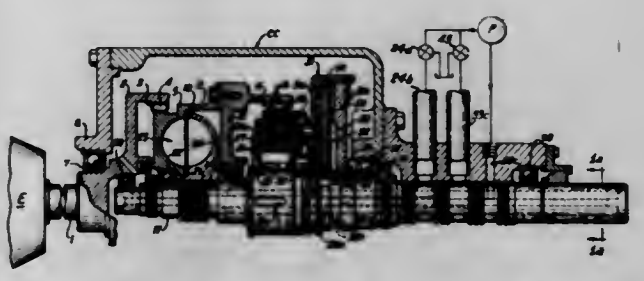
a friction disc made from a heat cured thermosetting epoxy resin bonding agent mixed with asbestos powder and including iron powder, brass chips and graphite to provide a friction surface, said friction disc being fused by heated and pressure to the other end of said piston by the common epoxy resin bonding agent in the piston and the friction disc.

3,265,168
HANDLE CONSTRUCTION
Hermann Erhard, Landauer Strasse 3, Berlin-Wilmersdorf, Germany
Filed Dec. 20, 1963, Ser. No. 332,214
5 Claims. (Cl. 190—57)



1. A handle construction particularly for suitcases, comprising first and second handle portions each having a central gripping portion of generally smooth contour around its periphery adapted to be pivotally mounted at each end on a common pivot for movement together to form a single handle unit and apart to form separate first and second handle portions, and securing means for securing each of said first and second handle portions together constructed and arranged to leave said central gripping portions of each handle portion unobstructed and free both when said handle portions are together and when separated, said securing means comprising at least one gearing disposed adjacent at least a corresponding one of the corners of each said handle portion, the respective gearings of said handle portions interengaging when said handle portions are brought together.

3,265,169
METHOD OF OPERATING A COMBINED FLUID COUPLING AND FRICTION CLUTCH
George R. Aschauer, Racine, Wis., assignor to Twin Disc Clutch Company, Racine, Wis., a corporation of Wisconsin
Filed July 27, 1964, Ser. No. 385,421
2 Claims. (Cl. 192—3.2)

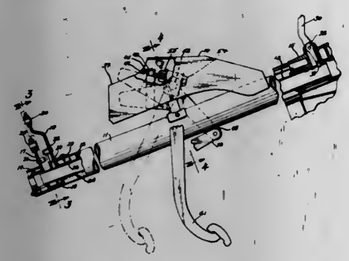


1. A method of providing an accelerating and driving torque from an engine to a load comprising the steps of connecting a fluid coupling and a friction clutch for operation in parallel between said engine and load, operating the fluid coupling from substantially the point of stall of the coupling at full engine speed and horsepower to begin driving the load, then operating the friction clutch to drive the load simultaneously with the coupling, and permitting both the coupling and clutch to slip in driving the load and sharing the heat generated during such acceleration.

3,265,170
CLUTCH TO TRANSMISSION SHIFTING ASSEMBLY INTERLOCK

Charles R. Olnhausen, Kenosha, Wis., assignor to American Motors Corporation, Kenosha, Wis., a corporation of Maryland

Filed Nov. 10, 1964, Ser. No. 410,237
7 Claims. (Cl. 192—3.5)



2. A vehicle clutch to transmission shifting assembly interlock comprising:

(A) a housing defining a chamber having an entrance;

(B) support means for said housing;

(C) an operating member movably supported in said housing chamber, said member having a slot therein;

(D) a pair of spaced levers mounted on said operating member, said operating member being slidable in said levers and selectively engageable for rotation therewith, said levers also extending outside said housing and being adapted to select gears in a manual transmission;

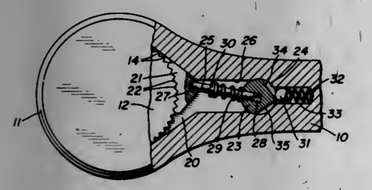
(E) a locking member having one end extending through said housing entrance and engaging said slot, said member being adapted to contact and be restrained by said housing;

(F) a clutch pedal linkage element connected to said other end of said locking member, said linkage element being adapted to pull said locking member out of engagement with said slot when the clutch pedal is depressed to disengage the clutch and thereby free for rotation said operating member to rotate the selected lever to select the desired transmission gear.

3,265,171
ONE WAY REVERSIBLE CLUTCH FOR WRENCH

Luther E. Kilness, 211 E. Philadelphia St., Rapid City, S. Dak.

Filed June 22, 1964, Ser. No. 377,030
4 Claims. (Cl. 192—43.2)

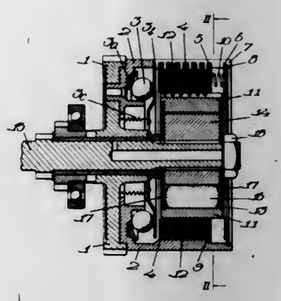


1. In a ratchet mechanism, the combination of two members adapted to relative motion with respect to each other, one of said members having a series of ratchet teeth, the other of said members having a recess therein positioned opposite said ratchet teeth and intercepting part of said ratchet teeth, said recess having two bearing surfaces inclined toward each other in a direction away from said ratchet teeth, a pawl carried in said recess, said pawl being smaller than the recess to permit transverse movement of said pawl within said recess, said pawl having a toothed side adapted to concurrent engagement with said ratchet teeth, said pawl having two sides with bearing surfaces, each of said last-named sides extending to said toothed side, the bearing surfaces of said pawl being adapted to the bearing surfaces of said recess for transmitting the thrust of the pawl to said other member for the two driving directions, and control means for urging the pawl into reversible ratcheting engagement with said ratchet teeth, said control means including a manual control mounted on said other member, said control means further including a spring having a first end operatively secured to said manual control and a second end engaging said pawl, said manual control being arranged to control the action of the first end of said spring in a manner whereby the second end of said spring engaging the pawl tends to follow the movement of said first end to urge the pawl selectively to either bearing surface of said recess, said spring being so consructed as to have a compressional elasticity varying in magnitude at different sections of the spring between the ends of said spring.

3,265,172
CUSHIONED TORQUE-LIMITING CENTRIFUGAL CLUTCH

Kunio Atsumi, Hamamatsu-shi, Shizuoka-ken, and Hiroshi Wada, Hamana-gun, Shizuoka-ken, Japan, assignors to Suzuki Motor Co., Ltd., Shizuoka-ken, Japan, a corporation of Japan

Filed Apr. 20, 1964, Ser. No. 361,140
Claims priority, application Japan, Apr. 26, 1963, 38/30,847/63; July 18, 1963, 38/54,091/63; Aug. 13, 1963, 38/60,908/63
6 Claims. (Cl. 192—55)

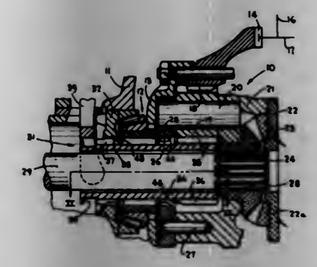


4. A clutch comprising: a hollow cylindrical driving member to receive torque from an engine for transmission through said clutch; a driven shaft coaxial with said driving member for delivering torque transmitted through said clutch; a first torque member coaxial with said driving member; a series of interengaging friction discs, alternate ones of said friction discs being axially displaceably connected to said driving member for rotation coaxially therewith, the discs engaging said alternate discs being axially displaceably connected to said first torque member for rotation therewith; a second torque member connected for rotation coaxially with said driven shaft, said torque members defining therebetween a plurality of symmetrically arranged axially extending open-ended chambers, each chamber being of uniform transverse cross-sectional area throughout its entire length, said area being decreased by relative angular displacement between said torque members in the direction urged by torque transmission through said clutch; an elongated resilient cushioning member confined in each of said chambers, each cushioning member being enlarged intermediate its ends, whereby the central portion of each cushioning member is compressed to a greater extent than its end portions when the cross-sectional area of its confining chamber is decreased; closure means connected for rotation with said torque members and closing the ends of all of said chambers for limiting longitudinal expansion of said cushioning members, said closure means permitting said relative angular displacement between said torque members and maintaining said torque members coaxially positioned with respect to each other; a plurality of balls confined within said driving member; an annular ramp concentric with said driving member and engaging said balls; an annular pressure plate axially displaceable by said balls during radially outward movement thereof in engagement with said ramp, said pressure plate applying a first force to the disc at one end of said series, said first force being axially directed toward the other end of said series; means limiting outward movement of said balls; and spring means engaging the disc at the other end of said series and applying a second force thereto which yieldingly opposes said first force, the maximum pressure of interengagement of said discs being limited by said second force.

3,265,173
SLIDING CLUTCH GEAR

Robert C. Russell, Asheville, N.C., assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 18, 1961, Ser. No. 160,033
4 Claims. (Cl. 192—67)



1. A drive mechanism comprising a clutch, drive means and a shaft;

said clutch comprising a pair of members each having a toothed surface adapted to selectively coact in meshing interengagement;

one of said toothed members forming a part of the drive means;

means supporting the other toothed member free from engagement with the shaft and for relative axial movement directly into and out of toothed engagement with said one of said toothed members;

means independent of said other toothed member for coupling the drive means with the shaft;

said toothed members coacting independently of the shaft when engaged and disengaged respectively to change the drive relationship between the drive means and the shaft;

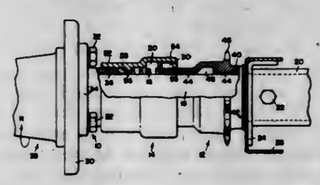
the teeth on each of said members having chordal widths adapted to coact in meshing engagement to restrain relative rotation between the teeth;

the mating axial end faces on the teeth of said toothed members adjacent each other, when not in meshing engagement, being inclined in parallel planes at substantially the same angle within 30 to 40 degrees to the axis of rotation of said toothed members, said mating axial end faces independently coacting to synchronize and thereby facilitate their meshing engagement.

3,265,174
SPRING CLUTCH MECHANISM HAVING LOCKOUT MEANS

Donald H. Polzin, Horicon, Wis., assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Sept. 8, 1964, Ser. No. 394,892
8 Claims. (Cl. 192—67)

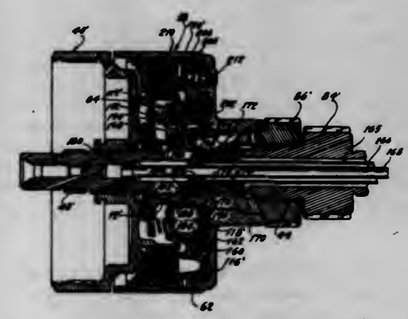


1. A clutch construction comprising: a rotatable drive member, a rotatable driven member mounted concentrically with respect to said drive member, said drive and driven members being disposed a fixed distance apart from each other, each of said members having radially disposed engaging surfaces, a sleeve member mounted coaxially with said members and movable axially with respect to said members between engaged and disengaged positions, said sleeve having first and second sets of radially disposed engaging surfaces, said first set of radially disposed engaging surfaces being selectively engageable and disengageable with the engaging surface on said drive member as the sleeve member is moved between its engaged and disengaged positions, respectively, said second set of radially disposed engaging surfaces being selectively drivingly engageable and disengageable with the engaging surface on said driven member as the sleeve member is moved between its engaged and disengaged positions, respectively, spring means normally biasing said sleeve member to its engaged position, and means on one of said members to hold said sleeve member in the disengaged position.

3,265,175
DUAL CAPACITY FLUID PRESSURE OPERATED CLUTCH SERVO

Howard L. Croswhite, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich, a corporation of Delaware

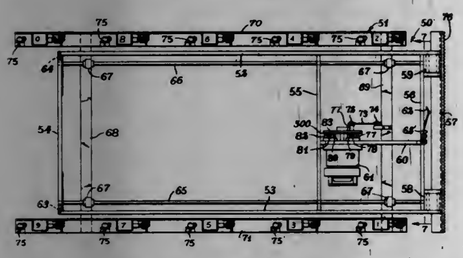
Filed June 28, 1965, Ser. No. 470,324
7 Claims. (Cl. 192—87)



3. A fluid pressure operated friction clutch comprising a rotary annular clutch cylinder, means for dividing said annular cylinder into a radially outward portion and a radially inward portion, an annular piston having first and second stepped diameter portions situated respectively in said radially inward and radially outward cylinder portions, each cylinder portion and its cooperating piston portion defining a separate pressure cavity, first clutch discs carried by said cylinder portion, other clutch discs carried by another torque delivery element of said clutch

in registry with said first clutch discs, said piston engaging said discs to establish frictional driving relationship between said cylinder portion and said other element, a valve chamber in fluid communication with the radially inward pressure cavity, a valve element in said valve chamber adapted to move therein from one axial position to another, a valve orifice establishing communication between the radially inward cavity and one end of said valve chamber, a fluid pressure distributor passage establishing communication between the radially outward cavity and said one end of said valve chamber, means for applying a valve actuating force to said valve element to urge it into registry with said valve orifice and interrupting communication between said pressure chambers, and means for changing the valve actuating force to appropriately change the clutch torgue capacity, the magnitude of the valve actuating force acting upon said valve element to urge it to an orifice closing position being reduced when said radially outward cavity and said radially inward cavity are in fluid communication.

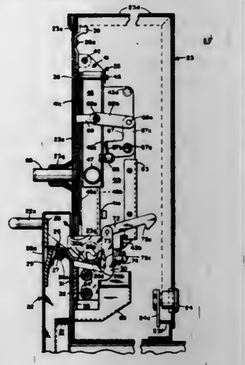
3,265,176
ARTICLE DISPENSER FOR SUSPENDED ARTICLES
Douglas W. Aden, Harvey, Ill., assignor to Nedaco Inc., Blue Island, Ill., a corporation of Illinois
Filed Oct. 17, 1963, Ser. No. 317,869
32 Claims. (Cl. 194—2)



5. An article dispenser comprising a storage rack, a plurality of dispenser assemblies mounted in said storage rack, a group of articles carried by each of said dispenser assemblies, scanning means to scan said storage rack, said scanning means being movable over the storage rack along two paths disposed at right angles to each other, said scanning means being movable along one of said paths in first and second directions, said scanning means moving in said first direction to scan said group of articles to determine if the selected one of said articles is available for sale on the selected one of said dispenser assemblies, said scanning means then being movable in a second direction to engage the selected one of said dispenser assemblies to release a single article from the group of articles carried by the selected one of said dispenser assemblies.

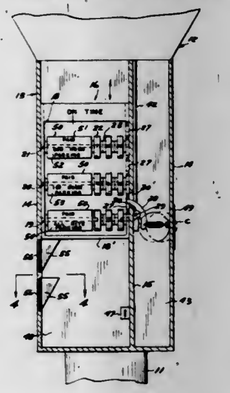
3,265,177
COIN OPERATED VENDING MACHINES
Karl Knickerbocker, 400 Baycrest Drive, Bayshore Estates, Venice, Fla.
Filed Oct. 2, 1964, Ser. No. 401,090
6 Claims. (Cl. 194—54)

1. In a coin operated mechanism:
(a) a base plate,
(b) a channel shaped coin chute structure member having two side walls interconnected by a yoke wall,
(c) means pivoting the upper end of said channel shaped member to said base plate for pivotal movement about an axis parallel to the plane of said base plate,
(d) spring means urging the lower portions of said channel shaped member toward said base plate,
(e) a pair of coin chute wall members each pivotally attached at their upper ends to the insides of the respective side walls of said channel shaped member and each chute member being swingable about an axis parallel to said side walls and toward one another about their pivots,



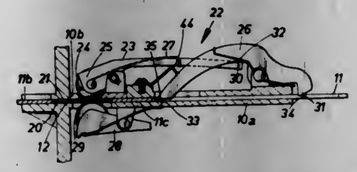
(f) cam means carried by said channel shaped member and cooperable with said chute wall members for urging said chute wall members towards one another; and
(g) linkage means between said base plate and cam means for actuating said cam means when said channel member is moved about its pivot relative to said base plate.

3,265,178
PARKING METER FOR PREPAID PARKING AND USER IDENTIFICATION
George S. Donev, 24312 Annapolis, Dearborn 9, Mich.
Filed Feb. 5, 1965, Ser. No. 430,545
7 Claims. (Cl. 194—54)



1. In a parking meter, the invention comprising a housing on a pedestal; and a customer actuated prepaid parking indicating mechanism mounted within the housing and variably adjustable therein to visibly indicate the nature and extent of said prepaid parking; said indicating means including a support;
an elongated, rotative body journaled on said support and having on its exterior surface a series of different indicia to show the nature and amount of prepaid parking paid for;
a spring biased openable door having a window hinged on the housing opposite said body;
a latching means normally maintaining the door closed;
and a coin controlled means on the housing to release the latching means permitting manual opening of the door for access to said body.

3,265,179
COIN PUSH CHUTE
Jack Luke, 715 Victory Drive, Fairport Beach, Ajax, Ontario, Canada
Filed Apr. 5, 1965, Ser. No. 445,411
11 Claims. (Cl. 194—92)



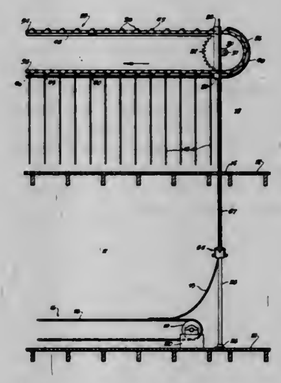
1. In combination with a coin push chute of the type comprising a frame and a coin slide slidably mounted in said frame for movement from a coin receiving position to a fully inserted coin depositing position, said coin slide having a slot therein adapted to receive a coin; means for precluding said coin slide from reaching said fully inserted position upon carrying a coin having an undepressed face, said precluding means comprising movable coin slide engaging means actuable to a first position and a second position, said movable coin slide engaging means in said first position engaging stop means on said coin slide and precluding said coin slide from reaching said fully inserted position, said movable coin slide engaging means in said second position permitting said coin slide engaging means to reach said fully inserted position, movable sensing finger means actuable from a first position to a second position, a sensing wheel rotatably attached at one end of said sensing finger means, a plurality of teeth of equal height located peripherally around said sensing wheel, in said second position of said sensing finger means said teeth on said sensing wheel being adapted to ride on the depressed face of a true coin in said slot, in said first position of said sensing finger means said teeth of said sensing wheel being at a different level than the level of said depressed face of said true coin, lifting finger means actuable by said sensing finger means and adapted to actuate said movable coin slide engaging means, means for biasing said coin against said frame and towards said sensing finger means actuating said coin slide engaging means to said second position thereof upon said teeth of said sensing wheel riding on the depressed face of a coin having a depth of depression at least as great as a predetermined depth, said coin slide engaging means being in said first position upon said teeth of said sensing wheel riding on the undepressed face of a counterfeit coin, the position of said stop means being such that said coin slide engaging means is about to co-act with said stop means to preclude movement of said coin slide to said fully inserted position as said teeth of said sensing wheel ride over the rim of a true coin and into the depressed face of said true coin.

3,265,180
RIBBON VIBRATORS AND OPERATING MECHANISM THEREFOR
Aaron C. Zeamer, Groton, and Roy C. Pappas, Cortland, N.Y., assignors to SCM Corporation, New York, N.Y., a corporation of New York
Filed Aug. 27, 1963, Ser. No. 304,845
6 Claims. (Cl. 197—170)

1. A ribbon vibrator and carrier for typewriting and like machines, comprising:
(a) a stem;
(b) a first pair of spaced apart ribbon guiding arms integral with said stem;
(c) a second pair of ribbon guiding arms, one of said second pair of arms lying opposite each of said first pair of arms and spring biased thereagainst; and
(d) means extending between each of said second ribbon guiding arms and the associated one of said first ribbon guiding arms and spacing said arms apart to form a completely enclosed ribbon receiving aperture, said last-named means including projections formed in one of each of the co-operating pair of arms and spacing said one arm from the co-operating arm, each said projection having a substantially semiconical camming surface extending from the arm in which it is formed at its upper end to the co-operating arm at its lower end and a lower locking edge generally normal to the arm in which it is formed and the co-operating arm.



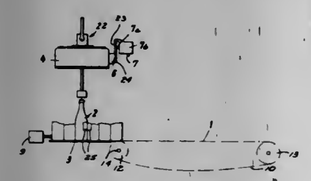
3,265,181
RUG CONVEYER AND DRYER
Arthur F. Moore, 2010 Praire, and Gregg R. Moore, 2121 Hawthorne, both of Elkhart, Ind.
Filed Jan. 15, 1964, Ser. No. 337,794
5 Claims. (Cl. 198—20)



1. A rug conveyor and dryer of the character described comprising a first pair of generally parallel, transversely spaced, stationary rails, a second pair of rails arranged in generally parallel, transversely spaced relation to each other and severally arranged in end-to-end spaced relation to said first pair of rails to provide horizontally alined spaces therebetween, a pair of vertical tracks having upper portions arranged in line with and adjacent said spaces, a carrier movable vertically along each track and having a rail section positioned to bridge the space between the opposing ends of the corresponding first and second rails and also having a guard rail in spaced

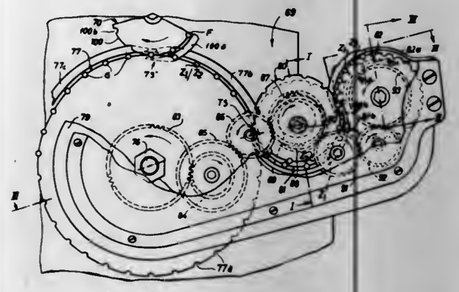
relation above its rail section, a rug carrying bar including opposite ends adapted to be supported on and moved along said first pair of rails, between the rail sections and guard rails of said vertically movable carriers, and second pair of rails, and a step-by-step conveyer associated with each of said first and second rails and arranged to move the corresponding end of each rug carrying bar from the corresponding first rail onto the corresponding rail section of a vertically movable carrier, and from said rail section of said vertically movable carrier onto the corresponding second rail whereby the rug carrying bar on said rail sections of said vertically movable carriers can be moved vertically downwardly to a rug loading position and vertically upwardly to draw the loaded rug into a pendant position and to move the ends of said rug carrying bar through the spaces between the ends of sad first and second pairs of rails into the zone of action of said step-by-step conveyers.

3,265,182
APPARATUS FOR TRANSFERRING BOTTLES AND SIMILAR CONTAINERS
Günter Bargel, Dortmund-Korne, Germany, assignor to Holstein & Kappert, Dortmund, Germany
Filed May 19, 1964, Ser. No. 368,552
10 Claims. (Cl. 198—20)



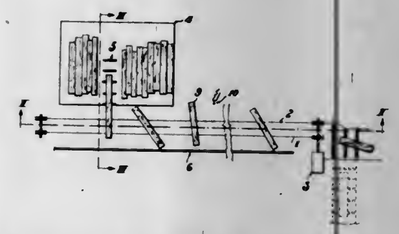
1. In an apparatus for transferring bottles and similar containers, in combination, a stationary support; a conveyor arranged to continuously advance a row of containers toward and onto said support so that a plurality of containers of said row of containers is located on said stationary support in predetermined position and maintained in such predetermined position by pressure of following containers on said conveyor tending to move in direction toward said plurality of containers on said stationary support; a transfer mechanism arranged to reciprocate substantially vertically toward and away from said support, said mechanism comprising individual gripper means for each of said plurality of containers and arranged in the same predetermined position as said plurality of containers on said stationary support means, said gripper means being adapted to lift said plurality of containers from said support when said mechanism moves upwardly; drive means including a variable-speed motor arranged to drive said conveyor at variable speed; and a control arrangement operatively connected with said transfer mechanism and arranged to reduce the speed of said motor and thereby reduce also the speed of said conveyor while said transfer mechanism lifts said plurality of containers from said stationary support, said reduction of speed of said conveyor being sufficient to prevent excessive pressure of the following containers on said conveyor against said plurality of containers on said stationary support during lifting of said plurality of containers, so as to avoid any undesired resistance to lifting of said plurality of containers caused by such excessive pressure while maintaining a limited pressure sufficient to retain said plurality of containers in their predetermined position on said stationary support, enabling proper engagement of said containers by said individual gripper means.

3,265,183
APPARATUS FOR TRANSFERRING CIGARETTES AND THE LIKE
Günter Menge, Hamburg-Lohbrugge, Germany, assignor to Hauni Werke Korber & Co. K.G., Hamburg-Bergedorf, Germany
Filed June 5, 1964, Ser. No. 372,831
Claims priority, application Germany, June 12, 1963, H 49,432
20 Claims. (Cl. 198—20)



1. In a machine for manipulating cigarettes or similar rod shaped articles, first conveyor means constructed and arranged to travel about a fixed horizontal axis; second conveyor means for advancing rod shaped articles at a predetermined level above the ground; and a feed for delivering rod shaped articles from one of said conveyor means to the other thereof, said feed comprising a support mounted to rock about said fixed axis and third conveyor means mounted in said support and arranged to transfer rod shaped articles from said one to said other conveyor means, said support being rockable with reference to said fixed axis into a position of angular adjustment in which said third conveyor means registers with said second conveyor means.

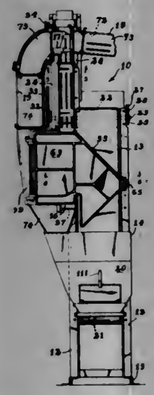
3,265,184
CONVEYING DEVICE FOR ELONGATED MATERIALS
Giovanni F. Franciosi, 9 Via Posillipo, Naples, Italy
Filed Aug. 13, 1964, Ser. No. 389,197
Claims priority, application Italy, Aug. 26, 1963, 17,574/63
3 Claims. (Cl. 198—33)



1. A conveying device for solid material of elongated shape and particular length, said device comprising first and second endless conveyor elements extending parallel to one another in spaced relation at a distance corresponding to at least half the length of the material to be conveyed, means for advancing said conveyor elements at the same speeds, means for feeding said material onto said conveyor elements transversely thereof, a shoulder projecting above a plane containing said elements in spaced relation with one of said conveyor elements for

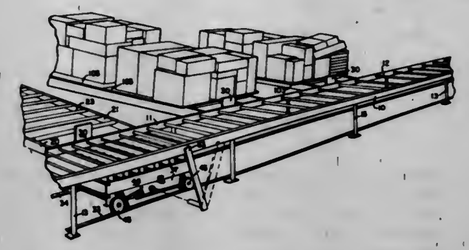
contacting material placed on said elements to limit overhang thereof and prevent falling of the conveyed material from said elements, stop means arranged adjacent the other of said elements to engage one end of the conveyed material and to cause it to fall by gravity within the free space between said endless elements, and receiving means disposed beneath said conveyor elements for receiving the conveyed material as it falls therefrom.

3,265,185
CAP CONVEYING AND SORTING DEVICE
Leslie J. Weselik, Villa Park, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 2, 1964, Ser. No. 401,271
18 Claims. (Cl. 198—33)



1. A high speed closure cap sorting and delivery device adapted for use with metallic caps having a depending annular skirt portion, said device comprising cap storage means, a first magnetized vertically directed endless conveyor of substantial width arranged with the lower end portion thereof in close association with said cap storage means to magnetically pick up a relatively great number of caps in flat condition thereon from said storage means and lift the same, first drive means connected to said first conveyor to drive the same at a relatively slow speed, a second magnetized vertically directed endless conveyor arranged to one side of said first conveyor in close association therewith throughout a substantial portion of said first conveyor above said storage means, said second conveyor being of a width limited to the accommodation of a single line of caps and extending substantially upwardly beyond the upper end of said first conveyor, second drive means connected to said second conveyor to drive the same at a high speed, cap guide means extending angularly across the upper end portion of said first conveyor in the direction of said second conveyor to provide for cap delivery thereonto, the upper end of said second conveyor being in communication with downwardly inclined cap delivery means for gravity feed of accepted caps to a capping machine, said upper end further being in communication with a downwardly directed rejected cap return chute which is in communication with said storage means, and cap sorting means operative relative to the upper end of said second conveyor to accept and reject caps and direct the same into said cap delivery means and return chute, said cap sorting means comprising a bowed resilient finger arranged to flexibly slide over the outer continuous surface of the top panel of a cap and resiliently engage the inner surface of a skirt portion of a cap in which position the cap pivots relative to said finger for controlled directional movement.

3,265,186
WAREHOUSE CONVEYOR SYSTEM
Calvin A. Burton, Syracuse, N.Y., assignor to Lamson Corporation, Syracuse, N.Y., a corporation of New York
Filed June 23, 1965, Ser. No. 466,345
6 Claims. (Cl. 198—79)



1. A warehouse conveyor system comprising an elongated shipping conveyor including a pair of side members and load supporting rolls journalled between said side members, a plurality of storage conveyors, each adapted for advancing a procession of articles, said storage conveyors extending normal to said shipping conveyor with the discharge ends of said storage conveyors terminating adjacent one side of said shipping conveyor, an escapement mechanism at the discharge end of each of said storage conveyors and operable, when actuated to discharge an article from said storage conveyor, rails extending lengthwise of said shipping conveyor beneath the same, a transfer car movable along said rail beneath said shipping conveyor into registration with a selected one of said storage conveyors, an article transfer mechanism mounted on said car and having article supporting members extending in a direction transversely of said shipping conveyor and spaced apart complemental to the spacing between the rolls of said shipping conveyor, said transfer mechanism being mounted on said car for vertical movement from a down position, with said supporting members positioned below the rolls of said shipping conveyor, to an up position to move said supporting members between the rolls of said shipping conveyor and above the plane of the load bearing surface of the rolls of said shipping conveyor for the reception of an article discharged from a storage conveyor, means operable to actuate said escapement mechanism for the discharge of an article to said supporting members, said supporting members being operable upon downward movement of said transfer mechanism to position the transferred article on the rolls of said shipping conveyor.

3,265,187
COOLING BED FOR ROLLED WORKPIECES
Ewald Hein, Kreuztal, and Ernst Klein and Walter Krämer, Dahlbruch, Germany, assignors to Siegener Maschinenbau G.m.b.H., a corporation of Germany
Filed Aug. 13, 1964, Ser. No. 389,301
Claims priority, application Germany, Aug. 16, 1963, S 86,777
5 Claims. (Cl. 198—107)

1. In a cooling bed, including a movable workpiece advancing member, for receiving and supporting a rolled workpiece,

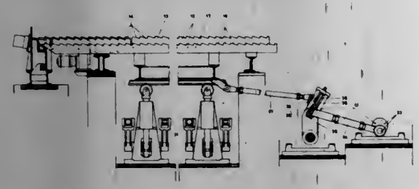
a workpiece receiving trough arranged at the entry side of said cooling bed adapted to receive rapidly moving workpieces,

a workpiece engaging element arranged to contact with a workpiece passing through said trough, to effect at least a partial deceleration of a moving workpiece,

a member associated with said workpiece engaging element arranged to receive a workpiece therefrom and

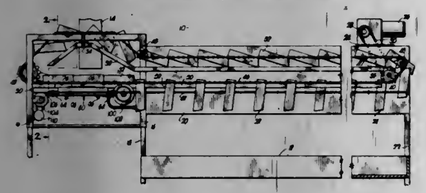
to complete the deceleration of the workpiece, if necessary, and bring it to a stationary position for transfer to said cooling bed,

means for altering the movement of said advancing member of said cooling bed in relationship to said



trough so that a portion of said advancing member can selectively be brought first adjacent to said member to engage and transfer a workpiece from said member to said cooling bed, and second adjacent to said trough to engage and transfer a workpiece from said trough to said cooling bed.

3,265,188
AUTOMATIC UNLOADING CONVEYOR ASSEMBLY
Warren Clark Redden, R.F.D., Gypsum, Kans.
Filed Oct. 11, 1965, Ser. No. 494,776
11 Claims. (Cl. 198—146)



1. Apparatus for transporting and unloading materials comprising:

conveyor means adapted for advancement in a predetermined direction;

at least a pair of material-receiving tray structures each having opposed, leading and trailing extremities;

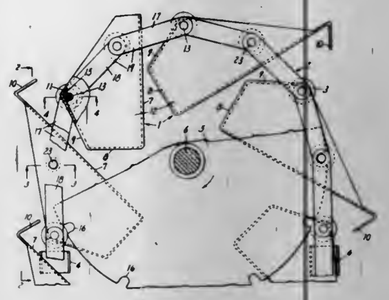
means supporting the trailing extremity of each of said structures and coupling the latter to said conveyor means for advancement therewith and for movement of each structure between a material-carrying disposition and a material-dumping disposition;

the leading structure of said pair of structures having means engageable with the leading extremity of the other of said pair of structures, when said leading structure is in its material-carrying disposition, for supporting said other structure and maintaining the same in its material-carrying disposition;

a device movable with said leading structure during operation of said conveyor means for supporting said leading structure in the material-carrying disposition thereof as the structures are advanced by the conveyor means, whereby said other structure is maintained in its material-carrying disposition by the leading structure; and

control means coupled with said device for effecting relative movement of said structures and said device to release said leading structure for movement to its material-dumping disposition and substantially simultaneously position said device in supporting relationship to said other structure, and then release said other structure for movement to its material-dumping disposition, whereby said structures are successively dumped upon operation of said control means.

3,265,189
BUCKET CONVEYORS
Charles R. Larson, 532 Capital, Bellevue, Mich., and John J. Wallace, 5131 Maple Ridge Drive, Kalamazoo, Mich.
Filed Sept. 8, 1964, Ser. No. 394,849
10 Claims. (Cl. 198—149)



1. A bucket conveyor comprising:

a pair of laterally spaced link chains,

pivot pins connecting adjacent ends of successive pairs of links of each of said chains and extending laterally inwardly therefrom,

rollers mounted on said pivot pins,

a plurality of buckets extending transversely between said chains and having lateral end walls with transverse leading, bottom and trailing walls extending between the edges of the end walls,

said pivot pins being secured to said end walls near the upper edges thereof at approximately two-thirds of the distance from the trailing wall to the leading wall,

other pivots consisting of bars extending through said end walls adjacent the upper trailing corners thereof and across said buckets and therebeyond into pivotal connecting engagement with said pairs of links,

other rollers on said other pivots,

first flanges turned from the outer edges of said trailing walls in leading overhanging relation to the pivot bars at the trailing sides of said buckets,

other flanges turned from the outer edges of said leading walls in overhanging upwardly spaced relation to the first flange on the preceding bucket,

and at least one driven shaft having sprockets thereon with peripheral radial slots successively receiving successive pivot pins and said other pivots in conveyor driving engagement,

said leading walls being approximately three times as long as said bottom walls and at about 45° from the plane of the pivots connected to its own bucket,

said trailing walls being about one-third the height of said leading walls.

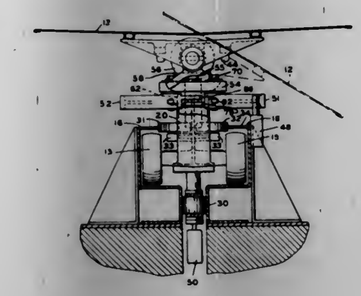
3,265,190
TILTING DISCHARGE CARRIER FOR CONVEYORS
Walter G. Boehm, Birmingham, Mich., assignor to Jervis B. Webb Company, Detroit, Mich., a corporation of Michigan
Filed Dec. 2, 1964, Ser. No. 415,349
6 Claims. (Cl. 198—155)

1. A carrier of the type described including a wheeled carriage having a load supporting tray pivotally mounted thereon and means for tilting the tray from a normal position to a load discharging position as the carrier passes a tripping device at an unloading station, characterized by the tray tilting means comprising:

(a) an actuating member mounted on the carriage for rocking movement;

(b) a tripping lever adapted to engage the tripping device;

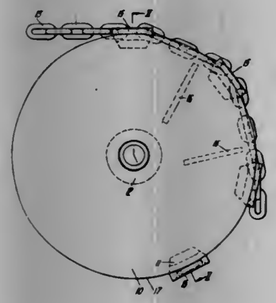
(c) means mounting the tripping lever for pivotal movement relative to the actuating member and carriage in response to such engagement;



(d) means for imparting rocking movement to the actuating member in response to movement of the tripping lever;

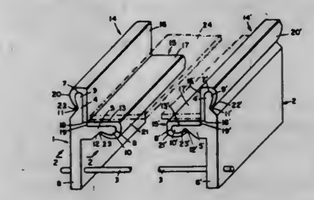
(e) and gear means for translating rocking movement of the actuating member into tilting movement of the load supporting tray.

3,265,191
CONVEYORS
Alexander C. Low, Glasgow, Scotland, assignor to Mavor & Coulson Limited, a British company
Filed May 12, 1964, Ser. No. 366,832
Claims priority, application Great Britain, May 23, 1963, 20,528/63
1 Claim. (Cl. 198—171)



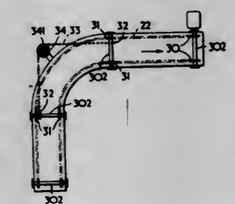
A heavy-duty endless chain conveyor having flights projecting laterally from one side only for pushing material such as coal and the like, the chain having links disposed alternately crosswise to each other, a conveyor sprocket having a central hub, a plurality of blocks equiangularly spaced on a pitch circle relative to the hub and supporting the conveyor chain as it passes therearound, the blocks having recesses on their outer surfaces for seating the links of the chain, the recesses having portions shaped to receive adjacent crosswise links, and a pair of parallel, spaced, coaxial discs supporting the blocks in position relative to the hub, the connecting blocks supporting the chain on said one side of the chain intermediate the flights with said links in said recesses, the pitch of the flights being substantially the same as the pitch of the blocks, whereby the flights can pass through the sprocket and between said discs unrestricted and can carry material therethrough, the flights being of a length less than the sprocket radius.

3,265,192
RAIL TRACK WITH ELONGATED SNAP-ON BEARING STRIP
Frank Stadelman, Cranford, N.J., assignor to Latendorf Conveying Corp., Kenilworth, N.J., a corporation of New Jersey
Filed Oct. 15, 1965, Ser. No. 496,293
10 Claims. (Cl. 198—204)



1. A rail track comprising a pair of composite laterally spaced interconnected rail means in the form of elongated bars, each bar having a longitudinal portion adjacent a longitudinal marginal edge in the form of a head means, a longitudinally extending neck means on the bar adjacent the head means, a plurality of elongated strips each having a substantially flat hard outer surface along its length adjacent one longitudinal edge thereof, a longitudinal portion along the length of the strip including the other longitudinal edge diverging from the flat surface along a path positioning the said other longitudinal edge to face toward an under surface of the strip opposite the flat surface thereby forming a strip of substantially hook-like cross-section, said diverged portion having a snapable resiliency sufficient to snap over the head means of one of said bars, the strips each being mounted on each of said bars with the diverged portion thereof containing the head means and the diverged edge being positioned adjacent the neck means.

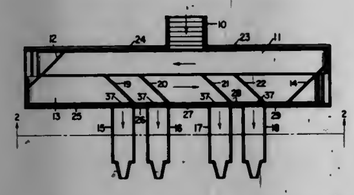
3,265,193
ENDLESS CHAIN CONVEYORS
Albert Douglas Bessant, Morden, England, assignor to Himpelm Engineers Ltd., Walsall, England, a corporation of Great Britain and Northern Ireland
Filed July 28, 1964, Ser. No. 385,631
20 Claims. (Cl. 198—182)



1. An endless chain conveyor incorporating a conveying surface, main rollers for supporting said conveying surface, tracks for said main rollers arranged at each side of the conveying surface, endless driving chains arranged at each side of the conveying surface having links which are interconnected so as to permit hinging about both horizontal and vertical axes, sprockets for carrying and driving said endless driving chains, control rollers provided at each side of the conveying surface

intermediate the main rollers aforesaid, means for supporting said control rollers from the respective endless driving chains, and auxiliary tracks for the control rollers provided around a lateral bend to define and control the direction of travel of the endless driving chains around the lateral bend, said conveying surface being capable of variation of effective surface area to permit the conveying surface to negotiate lateral bends under the governance of said control rollers in association with the auxiliary tracks aforesaid.

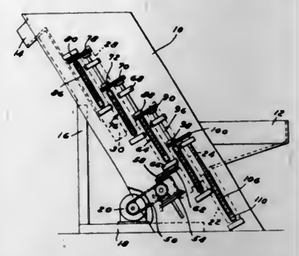
3,265,194
SIDE ASSEMBLY FOR PRODUCE MACHINE
William H. Tew, 29 Orchard Lane, Fairport, N.Y.
Filed May 13, 1964, Ser. No. 367,080
3 Claims. (Cl. 198—204)



1. In a conveyor comprising a frame having a pair of horizontally disposed and spaced longitudinal supports, horizontally disposed and longitudinally aligned belt bearing strips between said supports, two belt conveyors with the feed end of each conveyor being adjacent the delivery end of the other conveyor with the belts of said conveyors being supported adjacent each other by said bearing strips and by roller means adapted for moving said belts in opposite directions, said roller means being on horizontal axes of rotation and rotatably mounted on said supports, means for delivering produce to a first one of said conveyors, means at each end of said conveyors for deflecting produce from the delivery end of said first conveyor to the feed end of the second conveyor and for deflecting produce from the delivery end of said second conveyor to the feed end of said first conveyor, at least one diversion member extending transversely across the top of the belt of said second conveyor and having sufficient vertical extent above said top of said belt to divert at least some of the produce from said second conveyor, and side members confining produce to said conveyors, but providing an opening for passage from said belt of produce diverted by said diversion member, the improvement which comprises: at least one of said supports comprising a vertically disposed, longitudinally extending strip, the upper portion of which at about the top of the adjacent belt is folded back upon its inner side and then laterally to provide a longitudinal edge portion, the outer bearing strip adjacent said support is disposed on said edge portion with the outer side thereof spaced from said folded portion and providing thereby a longitudinally disposed slot between said bearing strip and said support, and said side members comprise a longitudinally disposed side panel removably seated in said longitudinally disposed slot and extending upwardly beyond said top of said belt.

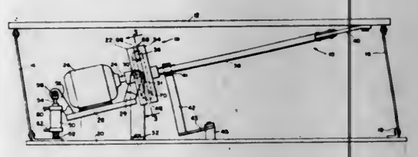
3,265,195
TRANSFER MECHANISM HAVING WORM DRIVEN RECIPROCATING PLATES
Paul A. Ford, Detroit, Mich., assignor of one-half to Thomas M. Reed, Livonia, Mich.
Filed Nov. 14, 1963, Ser. No. 323,669
3 Claims. (Cl. 198—218)

1. In a, transfer mechanism of the type utilizing a plurality of juxtaposed plates mounted for reciprocation in a housing having an inlet hopper and an elevated outlet to receive metered quantities of articles moved from said hopper by said plates, means for alternately reciprocating said plates whereby articles may be elevated in a step-by-step fashion comprising a plurality of threaded shafts lying generally in the same plane as said plates, power



means to rotate one of said shafts, and means connecting said shafts to said plates and said shafts to each other wherein actuation of said power means causes rotation of each of said shafts and alternate reciprocation of said plates.

3,265,196
VIBRATING CONVEYOR
Kenneth M. Allen and Chester H. Harper, Newberg, Oreg., assignors to Allen-Harper, Inc., Newberg, Oreg., a corporation of Oregon
Filed Oct. 26, 1964, Ser. No. 406,242
11 Claims. (Cl. 198—220)

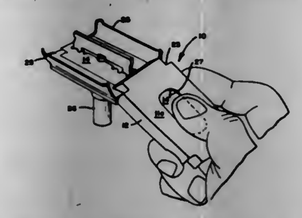


1. In a vibrating conveyor,
a conveyor bed mounted for back and forth movement,
follower means connected to the conveyor bed,
a rotor member rotatable on a predetermined axis,
means for rotating the rotor member,
a thrust member positioned between the rotor member and the follower means, eccentrically of the rotor member and revolved by the rotor member,
and means for adjusting the rotor member through a range from a first posiiton in which the rotor member is parallel to the follower means and the conveyor bed and a second position in which the rotor member is inclined relative to the follower means and a predetermined maximum throw is imparted to the conveyor bed.

3,265,197
RAZOR BLADE RECEPTACLE AND DISPENSER
Robert J. Hunt, 729 27th Ave., San Francisco, Calif.
Filed Jan. 18, 1965, Ser. No. 426,100
5 Claims. (Cl. 206—16)

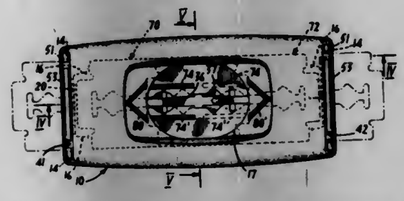
5. A combination razor blade receptacle and dispenser, for use with a razor having hinged covers, which comprises: a generally six-sided housing including two sides, two ends, and two parallel edges, said sides, edges and ends defining a recess at each corner of said receptacle and further defining a protruding end portion at each end of said receptacle, said end portion having a width less than the distance between said hinged covers of said razor, said sides including a dispenser side and a receptacle side, a partition between said sides and parallel thereto dividing

said housing into a receiving chamber adjacent said receptacle side and a dispensing chamber adjacent said dispensing side, a window in said dispensing side providing access to said dispensing chamber, each of said ends defining a dispensing passage communicating with said



dispensing chamber, a magnetized inclined plane extending from each of said ends into said receiving chamber to said partition, each of said planes defining an entryway with said receptacle side and being inclined at an angle of 20–40° therefrom.

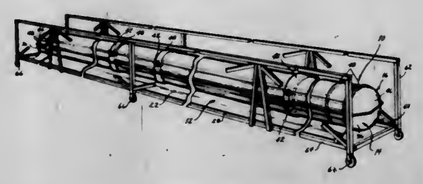
3,265,198
DOUBLE EDGE RAZOR BLADE DISPENSER
Paul A. Braginetz and George A. La Cas, Staunton, Va., assignors to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
Filed Jan. 29, 1965, Ser. No. 428,992
24 Claims. (Cl. 206—16)



5. In a blade dispenser embodying an elongated housing with a blade exit aperture at each end and an upper wall provided with a central opening therein, blade retainer means within said housing for supporting a stack of blades in longitudinally offset relation with overlapping inner ends, the retainer means being arranged to enable the successive blades to be dispensed alternately at the opposite exit apertures, and indicator means adapted to indicate the appropriate direction of dispensing the respective blades comprising a marking in the surface of each blade adapted to be exposed at said central opening, and a direction indicator on said housing upper wall at each side of said central opening and associated with the corresponding end of the housing, the said blade marking on the respective blades cooperating with the direction indicators to indicate the directions in which the blades are dispensed.

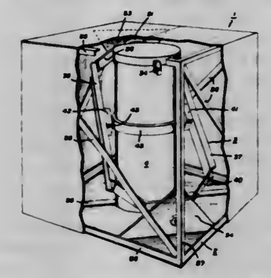
3,265,199
SHOCK-RESISTANT SHIPPING ENVELOPE FOR LARGE, THIN-WALLED TUBES AND THE LIKE
John T. Parsons, Traverse City, Mich., assignor to Parsons Corporation, Traverse City, Mich., a corporation of Michigan
Filed July 6, 1964, Ser. No. 380,407
6 Claims. (Cl. 206—46)

1. For use with a handling rack or the like, a shock-absorbing shipping envelope for an elongated part to be handled, comprising
container means for receiving such part,
an elongated undulated plate support part having a raised central portion formed integrally with said container means and including elastic shock-absorbing leg portions outward of said central portion, said leg portions curving concavely downward from convexly curved crested junctures formed between said leg portions and said raised central portion,



said downwardly and outwardly curved leg portions of said plate support part further terminating in base margins at a level below said raised central portion, whereby vertical and lateral shock loads are absorbed by the plate support part.

3,265,200
PACKAGING DEVICE
Kenner S. Omer, Owensboro, Ky., assignor to General Electric Company, a corporation of New York
Filed Oct. 22, 1964, Ser. No. 405,789
17 Claims. (Cl. 206—46)

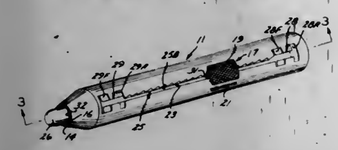


17. A package for an image orthicon tube which includes an envelope defining a target portion and a gun portion comprising an enclosure; a rigid framework contained within said enclosure including a top and a bottom frame, corner posts securing said top and bottom frames together and diagonal braces extending across the top and bottom frame and the sides delineated by the top and bottom frame and corner posts for rigidly supporting against inward movement, the top, bottom and sides of said cardboard enclosure; gimbal mount means supported from diagonally opposite corners of said rigid framework including bearing support plates secured to said rigid framework, a bridle including a pair of side members defining an open portion rotatably supported by said bearing support plates, a support band rotatably secured between the side members of said bridle, bearing means between the bridle and the support band for rotatively supporting said support band; a cannister including a main body portion and a top cover portion supported by said support band, latching means for securing said top cover portion to the main body portion of said cannister, a weighting means contained within said cannister for maintaining said cannister in a vertical position within said gimbal mount; and a vibration absorbing container within said cannister including a bottom portion having an internal shape for conforming to the envelope of the gun portion of an image orthicon tube and a top portion having an internal shape for conforming to the envelope of the target portion of an image orthicon.

3,265,201
HOLDER AND DISPENSER FOR LONGITUDINALLY DISPOSED MATERIAL

David L. Edwards, 679 S. Westlake Ave., Los Angeles, Calif. 90057

Filed Feb. 24, 1964, Ser. No. 346,77[illegible]
8 Claims. (Cl. 206—56)



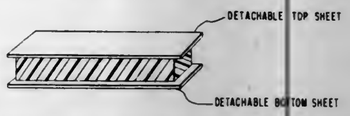
1. A holder and dispenser for longitudinally disposed material, comprising: barrel means having a lengthy aperture and passage therein and having a material-receiving inlet at one location thereof and a material-dispensing outlet at another location thereof; material follower and pusher means having a material following and pushing portion cooperable for insertion into said lengthy aperture and passage in said barrel means and for slidable movement along the length thereof in a direction extending from said material-receiving inlet toward said material-dispensing outlet, said material follower and pusher means being provided with a digitally engageable actuating portion positioned exterior of said barrel means for forcibly applied digital engagement whereby to forcibly advance material received within said lengthy aperture and passage in said direction extending from said inlet toward said outlet; and one-way engagement means comprising first and second portions, with said first portion being effectively carried by said follower and pusher means and with said second portion thereof being effectively carried by said barrel means, said first and second portions of said one-way engagement means being effectively oppositely directed and cooperably positioned for forcible resilient passing movement relative to each other in one direction of relative movement occurring when said follower and pusher means is moved in said direction extending from said inlet toward said outlet and cooperably positioned for non-passing positive interlocking and movement-preventing engagement when oppositely directed relative movement is attempted, said barrel means being provided with a following and pushing portion entry opening communicating the exterior of said barrel means with the interior of said lengthy aperture and passage adjacent to said material-receiving inlet thereof, said barrel means being provided with a following and pushing portion exit opening communicating the exterior of said barrel means with the interior of said lengthy aperture and passage adjacent to said material-dispensing outlet thereof.

3,265,202
COMPOSITE TOOTH AND VENEER GEL COMPOSITE FORMED OF NON-VOLATILE DIMETHACRYLATE AS THE SOLE POLYMERIZABLE CONSTITUENT

John A. Cornell, Philadelphia, Pa., assignor to H. D. Justi Division, Williams Gold Refining Company, Inc., Buffalo, N.Y., a corporation of New York

Filed June 26, 1964, Ser. No. 378,457
5 Claims. (Cl. 206—63.5)

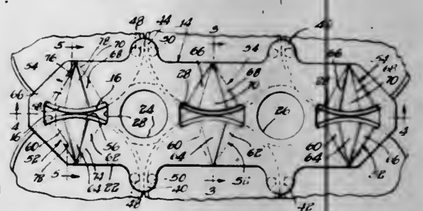
1. A package comprising a supporting sheet and a preformed strip of storage-stable pigmented putty which is readily detachable from said supporting sheet, said putty being adapted to be stored on a shelf for long periods of time at room temperature without hardening or drying out, said putty consisting of: an opacifying inert stable solid pigment; a non-volatile liquid polymerizable dimethacrylate ester of a polyhydric alcohol selected from the group consisting of aliphatic glycols having 4 to 8 carbon atoms, polyethylene glycol having a degree of polymerization from 2 to 6 and polypropylene glycol having a degree of polymerization from 2 to 6; said liquid ester being less volatile than dibutyl phthalate and the sole liquid component of said putty; and, as a thickener for said liquid component, solid finely divided methyl methacrylate polymer which is intimately dispersed with said liquid dimethacrylate ester in proportions to make a putty consistency, said methyl methacrylate polymer being prepared by peroxide polymerization and containing an amount of peroxide sufficient to polymerize said putty when said putty is heated to a curing temperature of about 212° F. for longer than 15 minutes.



3,265,203
CONTAINER PACKAGE AND CARRIER

Ougljesa Jules Poupitch, Itasca, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Oct. 26, 1961, Ser. No. 147,892
The portion of the term of the patent subsequent to Dec. 4, 1976, has been disclaimed
18 Claims. (Cl. 206—65)



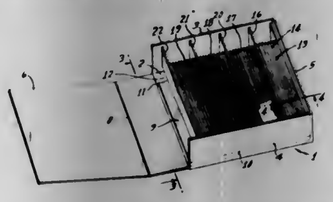
1. A package comprising a pair of adjacently disposed containers having axially and radially projecting rims at upper ends thereof, and a carrier detachably interconnected with said containers, said carrier comprising a generally horizontally disposed body portion overlying upper ends of the containers, shoulder means depending from said body portion and extending between the containers and engaging beneath the rims thereof, and a pair of elements integral with said body portion and respectively including a plurality of undulations extending transversely of said body portion, each of said elements presenting a free edge facing inwardly and traversing said undulations and engaging an inner surface of an adjacent container rim and cooperating with said shoulder means in securing the containers with respect to the carrier, each of said elements having substantially continuous peripheral edges extending entirely therearound and between and substantially to opposite ends of said free edge thereof, and each of said peripheral edges of each of said elements having an integral substantially continuous junction with said body portion.

3,265,204
PACKAGE FOR THIN ELONGATED ARTICLES

Theodore A. Wozniak, Barrington, R.I., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

Filed July 29, 1964, Ser. No. 385,856
4 Claims. (Cl. 206—65)

2. A package comprising a bottom wall, opposite side walls, an end wall connecting the side walls, said end wall and side walls defining an open top, an open end opposite the end wall, an apron extending outwardly of the bottom wall adjacent the open end and dimensioned to close the open end and cover the top when folded thereupon, a first pleated strip in said package having a terminal pleat fold anchored to the end wall, an elongated first spacer means in said package spaced from the end wall and having its ends extending adjacent the side walls and movable along the bottom wall, another terminal

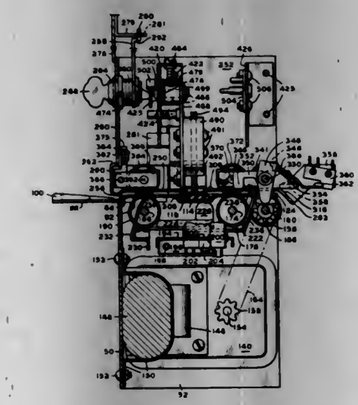


pleat of the pleated strip being anchored to a side of the spacer means, a second pleated strip having a terminal end fold anchored to the spacer means and extending in the direction of the open end, a second elongated spacer means in the package spaced from the first spacer means and having its ends extending adjacent the opposite side walls and movable along the bottom wall, another terminal pleat of the second pleated strip anchored to the second spacer means.

3,265,205
PAPER CURRENCY DETECTOR HAVING MAGNETIC AND OPTICAL SENSING MEANS

Calvin L. Chumley, Glendale, Mo., assignor to National Rejectors, Inc., St. Louis, Mo., a corporation of Missouri

Filed Sept. 5, 1963, Ser. No. 306,767
48 Claims. (Cl. 209—75)

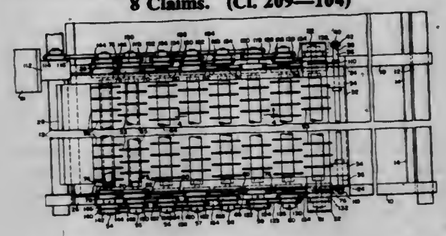


14. A currency detector which comprises:
(a) members that coact to define a testing area,
(b) an inertial member movably mounted adjacent said testing area,
(c) a sensing element mounted on and movable with said inertial member,
(d) said inertial member being adapted to move said sensing element toward and away from a sensing position, and
(e) means to move said inertial member to move said sensing element away from said sensing position and to develop a progressively larger biasing force on said inertial member and to subsequently release said inertial member for movement toward said sensing position.

3,265,206
POTATO CHIP SORTER

Kenneth M. Allen, P.O. Box 352, Newberg, Oreg.

Filed Sept. 11, 1963, Ser. No. 308,152
8 Claims. (Cl. 209—104)

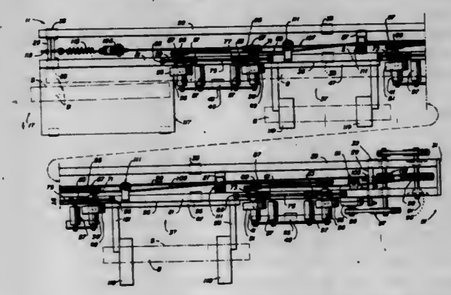


7. In combination,
a plurality of rotor members including shafts and adapted when rotated to advance food products,
bearing means journaling the shafts,
guide means mounting the bearing means in positions in which the shafts are substantially parallel and for movement of the bearing means toward and away from each other,
adjusting means for moving the rotor members and bearing means toward and away from each other,
means for holding the bearing means in adjusted positions,
expansible and contractible drive means for rotating the rotor members in the same direction so that the rotor members tend to advance food products toward a discharge end thereof,
first receiving means positioned directly below the rotor members for receiving food products dropped between the rotor members,
and second receiving means adapted to receive food particles advanced by the rotor members to the discharge end.

3,265,207
LUMBER SORTING MECHANISM

Joseph M. Lawson, Memphis, Tenn., assignor, by mesne assignments, to Moore Dry Kiln Company, Jacksonville, Fla.

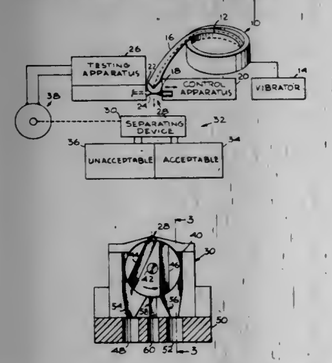
Filed Aug. 27, 1964, Ser. No. 392,437
7 Claims. (Cl. 209—106)



1. A machine for sorting boards according to length as the boards are moved flat and endwise along the machine comprising a long frame disposed horizontally, guide means included in and extending horizontally and rectilinearly along a side of said frame and engageable with a vertical edge surface of each board, and a plurality of sorting stations disposed successively along said frame with each said station being adapted to sort out a certain length board; each of said sorting stations comprising roller means secured to said frame and extending horizontally and outwardly from said side of said frame, said roller means including a first roller member and a second

roller member, said roller members being rollably engageable with the undersurface of the boards, support means secured to said frame and disposed substantially between said first and second roller members, said support means including support structure extending horizontally and outwardly from said side of said frame, said support means being supportably engageable with that portion of the undersurface of the boards adjacent and longitudinally intersecting the above-mentioned vertical edge surfaces thereof, and motor driven feed wheel means mounted from said frame and rollably engageable with the upper surface of the boards, said feed wheel means including a first feed wheel and a second feed wheel mounted respectively above said first and second roller members, the length of a board sorted out at a respective station of said plurality of stations being determined by the distance between said first roller member and said second roller member.

3,265,208
ARTICLE SEPARATING APPARATUS
William E. Reniker and Roger W. Wagner, Los Angeles, Calif., assignors to Ampex Corporation, Culver City, Calif., a corporation of California
Filed Jan. 14, 1964, Ser. No. 337,603
2 Claims. (Cl. 209—111.8)



1. Magnetic core handling and testing apparatus including a pair of electrical probes; means for placing a magnetic core between said electrical probes and for closing said probes to hold said magnetic core; means for testing the characteristics of said magnetic core held between said probes and for generating a signal when said core is acceptable; means for opening said probes subsequent to said testing to thereby permit said core to fall in a predetermined path; a separating means including a housing having an entrance opening aligned with said path; a disc in said housing mounted for rotational movement about its axis; first and second tubular passageways, each having first and second ends, extending through said disc parallel to the plane thereof; means normally orienting said disc for positioning said first passageway first end in alignment with said entrance opening; solenoid means responsive to said signal for rotating said disc to position said second passageway first end in alignment with said entrance opening; a deflection member having first and second inclined surfaces; means supporting said deflection member adjacent the periphery of said disc substantially in alignment with said axis and with said first and second inclined surfaces being respectively disposed adjacent said second ends of said first and second passageways when the first ends thereof are in alignment with said entrance opening; and a dust opening defined in said deflection member extending therethrough between said first and second inclined surfaces.

3,265,209
METHOD AND APPARATUS FOR SEPARATING RIBS FROM TOBACCO LEAVES
Waldemar Wochnowski, Hamburg, Heinz Harte, Hamburg-Bergedorf, and Johannes Iwen, Reinbek, near Hamburg, Germany, assignors to Hauni Werke, Koerber & Co., KG, Hamburg-Bergedorf, Germany
Filed Mar. 27, 1962, Ser. No. 182,802
Claims priority, application Germany, Oct. 31, 1960, H 40,822; Mar. 27, 1961, H 42,131
13 Claims. (Cl. 209—136)

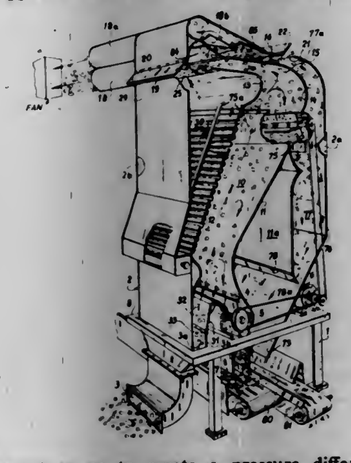


6. In an apparatus for separating lighter particles from heavier particles which form a mixture with said lighter particles, in combination, a housing forming an inclined ascending path for an air stream and having a lower part at the bottom of said path and an upper part at the top of said path and an intermediate portion spaced from said lower part and said upper part; means for introducing into said lower part of said housing an air stream containing said mixture of lighter and heavier particles at such a high speed that said air stream containing the entire mixture of said lighter and heavier particles ascends to said intermediate portion of said housing spaced from said lower and upper part thereof; means for deflecting at said intermediate portion of said housing part of said air stream without permitting any lighter or heavier particles to be carried along with said deflected part of said air stream so as to reduce at said intermediate portion of said housing the air pressure in said ascending air stream, thereby creating at said intermediate portion of said housing a separation zone in which the air pressure in said undeflected part of said air stream is reduced so as to lose its capacity to carry along said heavier particles which then descend from said separation zone; means associated with said housing for removing at a point located under said separation zone the thus descending heavier particles; and means for withdrawing from said upper part of said housing said lighter particles further ascending along said inclined ascending path with said undeflected part of said air stream into said upper part of said housing.

3,265,210
METHOD OF AND APPARATUS FOR AIR CLASSIFICATION
Heinz Harte, Kampchaussee 39C, Hamburg-Bergedorf, Germany; Johannes Iwen, Am Krachenwald 19, Reinbek, near Hamburg, Germany; and Waldemar Wochnowski, Osterstrasse 59, Hamburg 13, Germany
Filed Aug. 14, 1962, Ser. No. 216,871
Claims priority, application Germany, Oct. 31, 1960, H 40,822; Mar. 27, 1961, H 42,131; Aug. 5, 1961, H 43,332
10 Claims. (Cl. 209—136)

5. A method of separating lighter tobacco particles from heavier tobacco particles which form a mixture with the lighter particles, comprising the steps of introducing the mixture of lighter and heavier particles into

an ascending inclined first air stream having an upper and lower surface said stream being strong enough to entrain the major part of lighter particles but too weak to entrain all heavier particles so that the major part of heavier particles descends by gravity, that the major part of lighter particles ascends with the first air stream and that the remainder of the mixture tends to accumulate above such section of said stream from which the majority of heavier particles descends by gravity deflecting a portion of said inclined first air stream from said upper surface and at an angle to the direction of



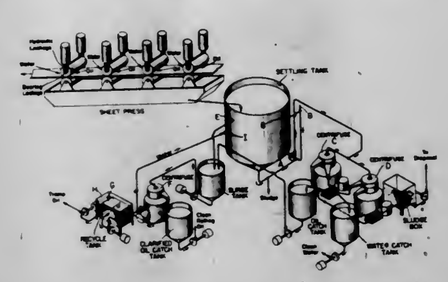
its ascent so as to create a pressure differential that maintains the major part of said lighter particles in said first air stream despite the tendency of the heavier particles descending from said lower surface to entrain lighter particles counter to the direction of flow of said first air stream; transferring the remainder of the mixture from said first stream into a second ascending air stream which is stong enough to entrain the lighter particles but which is too weak to entrain the heavier particles so that the heavier particles descend by gravity stream; and separately withdrawing heavier particles from said first and second air streams.

3,265,211
FROTH FLOTATION WITH AN AMINE COMPOSITION
Charles L. Ray, Wheaton, and Robert E. Baarson, La Grange, Ill., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed June 19, 1963, Ser. No. 288,876
8 Claims. (Cl. 209—166)

1. In a process for separating finely-divided minerals by froth flotation, the improvement comprising utilization of effective quantities of a fatty amine having about 8 to 20 carbon atoms and a mixture of heterocyclic nitrogen compounds as contained in the crude, semi-purified or purified by-products having a boiling point of about 200° F. to 750° F. resulting from refining of gilsonite.

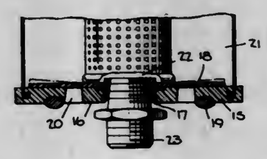
3,265,212
PROCESS FOR THE PURIFICATION OF ROLLING MILL OIL
Rodney T. Bonsall, Jr., Philadelphia, Pa., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania
Filed May 9, 1963, Ser. No. 279,098
3 Claims. (Cl. 210—73)

1. In a rolling mill operation a process including the steps of collecting coolant water and rolling oil together with lesser quantities of tramp oil, stratifying the collection substantially according to the density of the components, withdrawing a heavier portion of the stratified collection and subjecting it to a locus of centrifugal force, discharging from adjacent the axis of the locus an oil-containing portion and from an outer region of the locus a coolant water discharge for the process, withdrawing a lighter portion of the stratified collection, combining it with the oil-containing portion and subjecting it to a



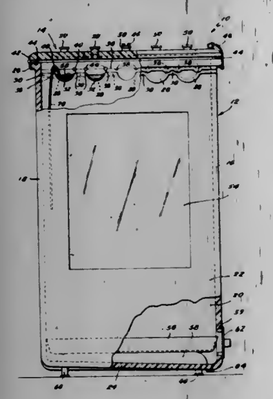
second locus of centrifugal force, withdrawing from adjacent the axis of the second locus of centrifugal force a clean rolling oil discharge for the process, withdrawing from an outer region of the second locus a mixture of water and tramp oil and settling said mixture, withdrawing from the settled mixture a lighter portion comprising the tramp oil discharge for the process, and returning at least a portion of the clean rolling oil discharge for the system to the mill for reuse.

3,265,213
FILTER ASSEMBLY HAVING THE ENCLOSURE EMBEDDED IN THE BOTTOM MEMBER
Milton R. Decker, Denville, and John L. Kukowski, Fanwood, N.J., assignors to Purolator Products, Inc., Rahway, N.J., a corporation of Delaware
Filed Sept. 18, 1963, Ser. No. 309,710
6 Claims. (Cl. 210—136)



5. A throw-away oil filter comprising a filter element with an inlet and an outlet side, a surrounding closure member having a closed top and an open bottom, an in situ molded plastic composite bottom member having the inner and outer bottom edge portion of said closure member embedded therein to form a fluid and pressure tight seal therewith, said bottom member including a centrally disposed bushing member communicating with the outlet side of said filter and adapted for interconnection of said filter with an automotive crankcase oil system, filter inlet port members in said bottom member disposed radially outwardly from said bushing and communicating with the inlet side of said filter, and peripheral gasketing means integrally cast in said bottom member radially outwardly from said inlet port members and bonded to the outer surface of said bottom member for sealing said bottom against an engine block, and anti-drainback slot means integrally cast in said bottom member adjacent said inlet port members for preventing a reverse flow of oil through said inlet port members.

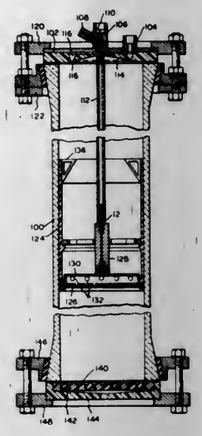
3,265,214
CHROMATOGRAPHY CABINET
David L. Brodsky, Providence, R.I., assignor to Esco Products, Inc., Providence, R.I., a corporation of Rhode Island
Filed Apr. 15, 1963, Ser. No. 272,950
11 Claims. (Cl. 210—198)



1. In apparatus for use in paper chromatography, a cabinet molded in a one-piece construction of an inert plastic material that is combined with a chemically resistant resin, and cabinet including integrally formed front, rear, side and bottom walls, the interior surface of each of said side walls having a plurality of spaced pockets formed therein, each pocket in one side wall being aligned with a corresponding opposed pocket formed in the other side wall, a shelf formed on each side wall in stepped vertical relation with respect to the spaced pockets formed therein, a plurality of grooves formed in each shelf in horizontal spaced relation, each groove in one shelf being aligned with a corresponding groove formed in the other shelf, a plurality of troughs extending across the interior of said cabinet in parallel relation, each of said troughs being received in oppositely located pockets and being adapted to receive a solvent therein, an anchor rod located in each trough for anchoring a sample of paper therein, a plurality of anti-siphon rods extending across the interior of said cabinet in parallel relation and being received in oppositely located grooves, and a lid located on the uppermost end of said cabinet for sealing the interior thereof.

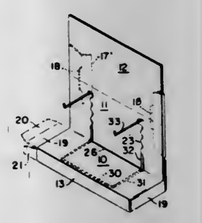
3,265,215
GEL FILTRATION APPARATUS
Nils Ingvar Arne Emneus, Uppsala, and Per Gustaf Magnus Flodin, Perstorp, Sweden, assignors to Pharmacia Fine Chemicals Inc., New York, N.Y., a corporation of New York
Filed Apr. 11, 1963, Ser. No. 272,375
3 Claims. (Cl. 210—287)

1. A gel filtration apparatus, comprising in combination:
(a) an elongated upright filtration column having a top cover and a bottom member,
(b) said bottom member being perforated but adapted to support a bed of gel extending only a part of the way up the length of said column,
(c) a sample distributor normally positioned within said column above said bed of gel,
(d) said sample distributor having enough buoyancy so that it rests on the top of gel bed without compressing it and follows the movement of the gel bed,
(e) an inlet for sample liquid in said top cover, said inlet being connected to said sample distributor by means of a conduit,



(f) said sample distributor having a plurality of laterally extending sample liquid outlets located at spaced intervals across the cross sectional area of said column.

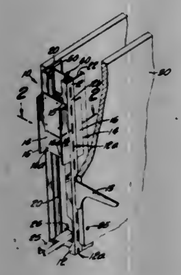
3,265,216
DISPLAY STAND FOR HANG-UP CARDS
Rolf A. Samsing, Braintree, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Sept. 24, 1964, Ser. No. 398,895
7 Claims. (Cl. 211—57)



1. A display stand for articles of merchandise, comprising an elongated box-shaped base of rectangular cross section and having a flat platform panel and down-turned front panel, together with an integral back panel rising from the rear edge of the base and held in stable upright position thereby, and a bail having a post portion secured to the back panel, a foot portion secured in said base and a bracket arm projecting from the post portion and overhanging said base.

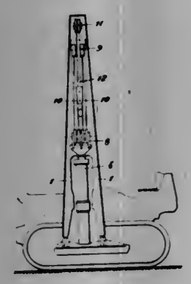
3,265,217
BUILDING CONSTRUCTION
Ariel C. Biggs, Whittier, Calif., assignor to Angeles Metal Trim Company, Los Angeles, Calif., a corporation of California
Filed July 22, 1964, Ser. No. 384,486
9 Claims. (Cl. 211—90)

9. In combination:
an elongated, channelled support having slots in its web adapted to receive the ends of a supported bracket;
a shaped metal positioning piece fitted into said channelled support and having flanges at its edges engaging edges of said channelled support,
said metal piece also having intermediate reversely bent portions providing a positioning channel opposite said slots to receive, between its walls, end portions of a bracket adapted to extend through slots of said support and to align such bracket end portions with said slots, and



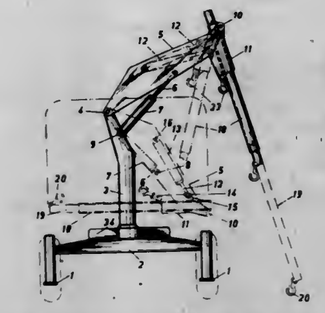
reentrant portions joining said positioning channel portions and carrying said edge flanges, said edge flanges and said positioning channel portions being spaced from the web of said channelled support in predetermined relation providing an elongated passage through said channelled support; and
a bracket member mounted in slots in said channelled support, inner portions of said bracket member extending into said positioning channel of said metal piece and being stabilized by walls thereof against significant sway of the bracket member outside said channelled support.

3,265,218
SIDE BOOM PIPE LAYER
Sergio Stefanutti, Rome, Italy, assignor to Giovannetti Macchine S.p.A., Rome, Italy
Filed Jan. 24, 1964, Ser. No. 340,056
Claims priority, application Italy, Feb. 7, 1963, 2,562/63
7 Claims. (Cl. 212—8)



1. A hydraulically operated pipe layer comprising a bridge, a boom hingedly connected to said bridge movable in a vertical plane, a first hydraulic hoisting jack mounted on said boom, a tackle connected to said jack mounted on said boom, a second hydraulic jack mounted on said bridge controlling the raising of said boom, a hook connected to said tackle, a support for said hook having a roll, said tackle comprising a pair of cables, each of which has one end anchored at the top of said boom and the other end wound on said roll to balance the stresses of said two cables.

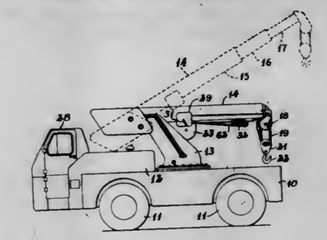
3,265,219
CRANE WITH FOLDING BOOM WHICH PASSES CLOSE TO BUT CLEARS ITS MAST
Anders Erik Sundin, Bergnas, Forsa, Sweden, assignor to Hydrauliska Industri Aktiebolaget, Hudiksvall, Sweden
Filed Oct. 27, 1964, Ser. No. 406,933
6 Claims. (Cl. 212—35)



1. In a crane adapted to be mounted on a truck, an upright post, a hoisting boom pivotally mounted on said post on a horizontal pivotal axis, a rocker arm pivotally mounted on said hoisting boom on a horizontal pivotal axis, a longitudinally extensible elongation arm and means mounting said elongation arm on said rocker arm for extension of said elongation arm in the longitudinal direction of said rocker arm, said means comprising a support extending laterally from said rocker arm to said elongation arm to laterally displace said elongation arm from alignment with said post, whereby when said hoisting boom and said rocker arm are swung inward toward said post said elongation arm passes on one side of said post.

4. In a crane adapted to be mounted on a truck, an upright post, a hoisting boom pivotally mounted on said post on a horizontal pivotal axis, a rocker arm pivotally mounted on said hoisting boom on a horizontal pivotal axis and a longitudinally extensible elongation arm, said post being provided with an aperture adapted to permit passage through of said elongation arm, whereby when said hoisting boom and said rocker arm are swung inward toward said post said elongation arm passes through said aperture.

3,265,220
SAFETY CONTROL FOR EXTENSIBLE BOOM CRANES
Sidney G. Knight, Schofield, Wis., assignor to Drott Manufacturing Corporation, Milwaukee, Wis., a corporation of Wisconsin
Original application Dec. 26, 1964, Ser. No. 421,396. Divided and this application Oct. 19, 1965, Ser. No. 509,670
4 Claims. (Cl. 212—39)



1. Safety control means for cranes in combination with a crane having an extensible boom, power means to extend and retract the boom, a cable running over a block at the end of the boom, a second block supported by

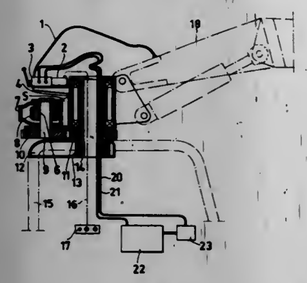
the cable, power operated drum means to extend and retract the cable thereby to lower and raise the second block, the safety control means comprising a control device operated by the block when the second block moves into close proximity to the first block, and means operated by the control device when it is operated to prevent operation of the power means in a direction to extend the boom.

3,265,221

ELECTRICALLY CONTROLLED AND HYDRAULICALLY OPERATED SWIVEL MANTEL, PARTICULARLY FOR GRAB LOADERS

Bengt Haldo Karlin, Alfta, Sweden, assignor to Östbergs Fabriks AB, Alfta, Sweden, a joint-stock company of Sweden

Filed Mar. 4, 1964, Ser. No. 349,417
Claims priority, application Sweden, Mar. 5, 1963, 2,395/63
3 Claims. (Cl. 212—68)



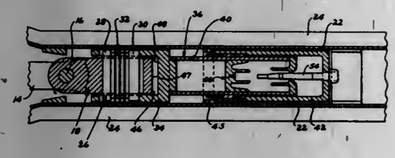
1. An electrically controlled, hydraulically operated revolving arrangement, particularly for use in grab loaders, comprising an upright swivel post having a gear ring fixed thereto and extending thereabout, a swivel mantle rotatably mounted on said post, a gear housing fixedly connected with said swivel mantle, an axle journal mounted in said gear housing, a first cog wheel fixed on said axle journal, a hydraulically actuated rack engaging said first cog wheel, a second cog wheel provided on said axle journal and meshing with said gear ring on said swivel post, to swing said housing and mantle about said upright swivel post upon actuation of said rack and a boom pivotally mounted on said mantle to be swung thereby.

3,265,222

RAILWAY CAR CUSHIONING DEVICE

Charles B. Goldman, St. Louis County, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed July 16, 1965, Ser. No. 472,629
22 Claims. (Cl. 213—43)



1. A railway car having a center sill structure with an open outer end, a coupler structure carried by said center sill structure, a cushioning device mounted within said center sill structure rearwardly of said coupler structure for cushioning the coupler structure upon the exertion of buff forces, said cushioning device comprising a cylinder forming a hydraulic fluid chamber, a piston mounted within said cylinder and forming one end of said fluid chamber, means separating the hydraulic fluid chamber into an enclosed low pressure portion and an enclosed high pressure portion in a neutral position of the cushioning device with said piston forming a portion of said low pressure portion, and fluid pressure responsive means responsive to fluid pressure in the high pressure portion and adapted to be actuated upon a predetermined pressure being reached in said high pressure portion to permit flow of hydraulic fluid into said low pressure portion and subsequent movement of said piston, said means separating the fluid chamber into said portions being operatively connected to said coupler structure and responsive to the exertion of buff forces against said coupler structure to increase the pressure in said high pressure portion whereby upon a predetermined pressure being reached in said high pressure portion said fluid pressure responsive means is actuated to allow a flow of fluid into said low pressure portion for permitting a cushioned movement of said cushioning device.

3,265,223

MACHINE FOR UNLOADING RETORT CRATES

Robert F. Krupp, Oakland, Calif., assignor to Gerber Products Company, Fremont, Mich.

Original application Dec. 26, 1961, Ser. No. 162,003, now Patent No. 3,198,361, dated Aug. 3, 1965. Divided and this application Mar. 1, 1965, Ser. No. 443,744
4 Claims. (Cl. 214—8.5)

1. In a retort crate unloading machine for use with a crate of the type having an upwardly sliding bottom and wherein containers are stacked within the crate in layers with separators between layers, an elevator comprising a platform to receive the sliding bottom of a crate, elevating means for raising said platform in increments and subsequently lowering said platform, and control means for said elevating means, said control means comprising a feeler projectable to a position adjacent the paths of movement of said platform to contact the uppermost separator in said crate, a switch responsive to upward movement of said feeler and responsive when said feeler is raised up to a preselected level to deactivate said elevating means.

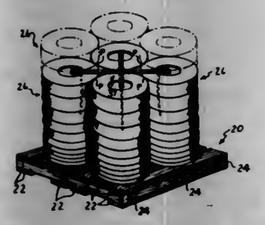
3,265,224

STACK STABILIZER FOR TIRES

Leroy F. Skubic, Long Beach, Ind., assignor to The Paltier Corporation, Michigan City, Ind., a corporation of Illinois

Filed Apr. 20, 1964, Ser. No. 360,827
9 Claims. (Cl. 214—10.5)

1. A fixture for stabilizing a plurality of abutting vertical stacks of relatively thin walled tires, said fixture comprising, in combination, a frame adapted for disposition in overlying relation with a plurality of tires each at substantially the same level in the stacks, a plurality of stabilizer rods adjustably mounted in depending relation with said frame, each said stabilizer rod being positioned on



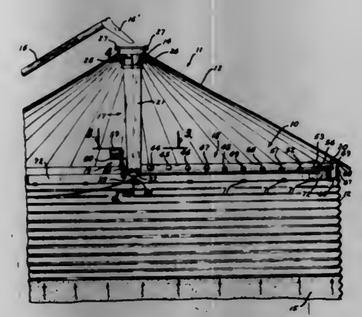
said frame so as to maintain lateral pressure against the tires in its associated stack urging the same against an adjacent stack.

3,265,225

APPARATUS FOR LEVEL PILING OF GRANULAR MATERIAL

Robert A. Louks, Gilman, Iowa

Filed Mar. 27, 1964, Ser. No. 355,254
2 Claims. (Cl. 214—17)



2. In a storage bin having an upstanding wall and a roof supported over the wall, apparatus for discharging granular material inside the bin comprising in combination:

an opening formed centrally in the roof;

hopper means suspended from the roof and disposed about said opening, said hopper means including a hopper for receiving material discharged through said opening, said hopper rotatable at its upper end about a vertical axis, said hopper depended vertically from its upper end to its lower end such that said lower end is disposed centrally within the storage bin wall;

an auger tube in communication at one end with said hopper lower end for receiving material therefrom, said auger tube extended substantially horizontally outwardly toward the wall and movable with said hopper in a circular manner about said vertical axis;

an auger rotatably mounted in said tube;

power means operatively connected to said auger for imparting rotation thereto to move the material from the inner end of said tube toward the outer end thereof; and

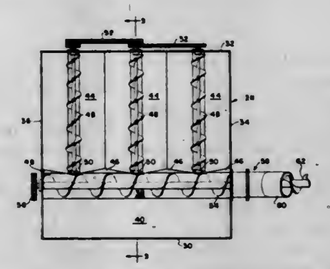
a plurality of longitudinally extended openings formed in a side wall of said tube, each opening having a lower wall portion formed therein lower than the next adjacent opening closest to said one end, the amount of material discharged from said tube in response to rotation of said auger increasing progressively from the innermost lower wall portion to the outermost lower wall portion to effect a level filling of the storage bin.

3,265,226

GRAIN TANK AND DISCHARGE MEANS THEREFOR

Robert L. Malcolm, Altona, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Sept. 24, 1964, Ser. No. 398,851
7 Claims. (Cl. 214—17)



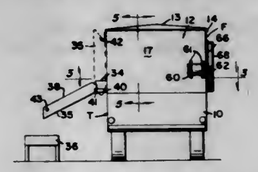
1. A crop-handling apparatus for mounting on agricultural machinery comprising a crop receptacle including opposite side walls and a bottom, one of said walls having an opening at its bottom edge, discharge conveyor means on the bottom of said receptacle and extending between said opening and the opposite side wall for moving crops through said opening, and one or more auxiliary conveyor means on said bottom, the discharge end of each auxiliary conveyor means being proximate to and positively feeding said discharge conveyor means.

3,265,227

TRUCK WITH AUGER RANGE FEEDER

Robert J. Vratil, Lester G. Vratil and Louis Vratil, all of 400 Main St., Limon, Colo.

Filed Mar. 16, 1964, Ser. No. 352,064
4 Claims. (Cl. 214—83.32)



1. In combination with a pickup truck having a fixed, box-shaped bed with fixed sidewalls extending a short distance above the bed surface, a range feeder for dispensing a grain-silage mixture and like material having a hopper-shaped body including laterally inclined floor portions merging into a longitudinally-disposed chute extending from one end of the body as a discharge tube and an auger within the chute to drive material into the discharge tube, wherein:

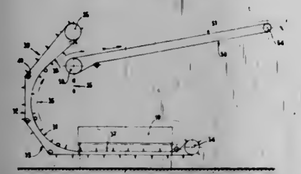
said feeder is proportioned to be mounted with its chute lying transversely across the truck bed box with its bottom being substantially at the level of the top of the truck box sidewalls and the discharge tube extending over a sidewall for deposit of material from the side of the truck; and

means adapted to support the feeder transversely across the truck bed, above the bed, and substantially at the level of the top of the truck box.

3,265,228
CONTINUOUS LOADER FOR BULK MATERIAL

Agricol Jullien, Salin-de-Giraud, France, assignor to Compagnie Saliniere de la Camargue Salicam, Paris, France

Filed Feb. 5, 1964, Ser. No. 342,746
Claims priority, application France, Feb. 14, 1963, 924,835
9 Claims. (Cl. 214—91)

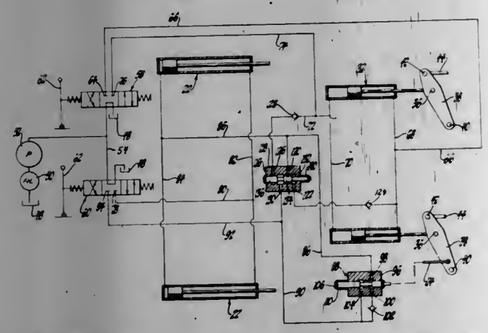


1. A continuous loader for bulk materials adapted to be mounted on a tractor comprising a pivotally mounted, cutting action shovel, means secured to said tractor for imparting pivoting action to said shovel, a first conveyor mounted on said tractor behind said shovel, said first conveyor defining a substantially horizontal bed portion which moves adjacent the rear edge of said shovel whereby material picked up by the shovel is discharged onto said first conveyor, an ascending concave portion included in said first conveyor adjacent said horizontal portion for receiving material therefrom, means for driving said first conveyor at a translational speed sufficient to impart centrifugal force to the material conveyed in excess of the gravational force applied to said material whereby said material remains on the surface of said first conveyor as the material is moved from said first horizontal portion to said concave portion, a second conveyor mounted on said tractor and located adjacent the upper end of said first conveyor whereby material collected by the shovel can be passed to said first conveyor and then passed onto said second conveyor and whereby said second conveyor can thereafter discharge said material, and means for driving said second conveyor.

3,265,229
AUTOMATIC BUCKET POSITIONING MECHANISM

George P. Koch, Livonia, Mich., assignor to Massey-Ferguson Inc., Detroit, Mich., a corporation of Maryland

Filed Dec. 2, 1963, Ser. No. 327,259
11 Claims. (Cl. 214—140)



1. In the combination comprising a material handling implement pivotally mounted on boom means for movement toward and from a predetermined position relative thereto, said boom means being pivotally mounted for raising and lowering movement thereof, and fluid pressure operated implement and boom means jacks respectively operable to move said implement and boom means; the improvement comprising fluid circuit means interconnecting said implement and boom means jacks, and control valve means in said circuit means operably connected to said implement to sense a position of the latter displaced from said predetermined position thereof, said control valve means being operable automatically in response to displacement of said implement from said predetermined position thereof and actuation of said boom means to lower the latter to move said implement toward said predetermined position thereof.

3,265,230
STAND AND AUTOMATIC UNLOADING MATERIAL HANDLING BOX

Andrew L. Thomas, Coloma, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware

Filed June 1, 1964, Ser. No. 371,505
5 Claims. (Cl. 214—307)



1. In combination,
a supporting stand,
a material handling box having front, rear and side walls and being disposed for being received on said stand in inclined position,
said box having an opening in said front wall thereof,
a door slidably mounted on said box and registering with said opening and having a recess formed therein,
a spring biased actuating member mounted on said stand and projecting toward said door for movement on an axis intersecting said front wall,
said recess disposed for receiving and seating said actuating member, said actuating member movable axially against the spring bias when said front wall is moved downwardly in an arcuate path to said inclined position, whereby said door will be moved away from said opening when said box is lowered into inclined seating engagement with said stand.

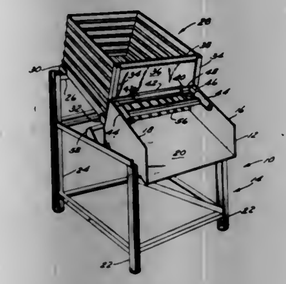
3,265,231
DOOR ACTUATING MEANS FOR MATERIAL HANDLING BOX

Andrew L. Thomas, Coloma, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware

Filed June 1, 1964, Ser. No. 371,506
6 Claims. (Cl. 214—307)

1. In combination, material handling apparatus comprising:
a stand,
a material handling box for mounting on said stand in an inclined, unloading position and having an opening in a front wall thereof for the gravitational discharging of articles contained in said box,
said box including a door slidably supported thereon to selectively open and close said opening,
actuating means on said stand including biasing means urging said actuating means in a direction intersecting said front wall and toward said door in a generally transverse direction when said box is lowered into said inclined position,

and means on said door for engaging said actuating means to simultaneously move said door away from said opening and to move said actuating means in an

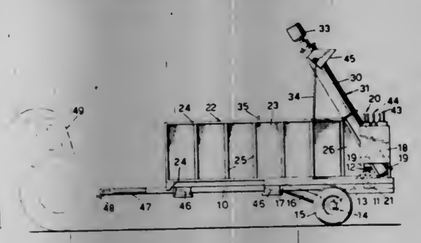


opposite direction against the bias of said biasing means as said box is lowered into said inclined position.

3,265,232
MATERIAL HANDLING DEVICES

Frank Lythgoe, Park Farm, Warburton, near Lymm, England

Filed Nov. 12, 1964, Ser. No. 410,612
14 Claims. (Cl. 214—501)



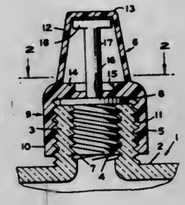
1. A transportable material handling device for receiving and dispensing bulk particulate materials comprising:
(1) a chassis,
(2) a mobile hopper mounted on the chassis and having a front open end,
(3) means for tilting the hopper relative to the chassis,
(4) an axle at one end of the chassis and means connected to the chassis and axle to raise and lower the chassis relative to the ground,
(5) ramp means positionable adjacent the said open end to enable a truck to back up to said hopper and thereinto if so desired,
(6) a discharge conveyor mounted on the hopper whereby upon tilting of the hopper materials will move by gravity to the conveyor for discharge.

3,265,233
CONTAINER AND SAFETY CLOSURE CONSTRUCTION

Armas A. Tuuri, 6040 David Berger, Mount Morris, Mich.

Filed Oct. 5, 1964, Ser. No. 401,535
5 Claims. (Cl. 215—9)

1. A safety closure for a container having a tubular neck provided with two discrete threaded areas, one of which is located radially inwardly of the other, said closure comprising a first cap element having a threaded portion adapted for threaded engagement with the radially inner threaded area of said neck; a second cap element mounted on said first cap element for rotation and axial movement relative to said first cap element, said second cap element substantially wholly enclosing said first cap



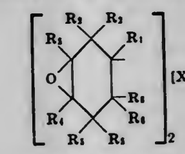
element and having a threaded portion adapted for threaded engagement with the radially outer threaded area of said neck; and engageable and disengageable means on said cap elements engageable when the latter are in but one position of relative axial adjustment to prevent relative rotation thereof.

3,265,234
LAMINATING RESINS FOR CATHODE RAY TUBES

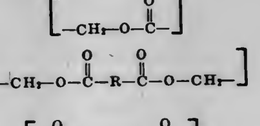
Charles W. McGary, Jr., and Charles T. Patrick, Jr., South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

Filed Feb. 6, 1963, Ser. No. 256,628
8 Claims. (Cl. 220—2.1)

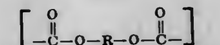
1. An implosion protected cathode ray tube comprising, in combination, a cathode ray tube and a transparent protective member disposed over the viewing surface of said cathode ray tube, said member being bonded to said viewing surface by a transparent layer, said layer comprising in polymerized form:
(a) a polyepoxide of the formula:



wherein X represents divalent radicals selected from the group consisting of



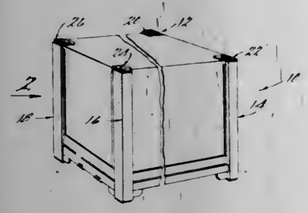
and



in which R represents members selected from the group consisting of lower aliphatic hydrocarbon groups and lower oxyalkylene groups and R_1 through R_8 represent members selected from the group consisting of hydrogen and lower alkyl groups;
(b) a high molecular weight aliphatic polyol having a molecular weight of from 750 to 2500 and an hydroxyl equivalent weight of from 275 to 1250;
(c) a low molecular weight aliphatic polyol having an hydroxyl equivalent weight below 114;
(d) a polycarboxylic acid anhydride derived from an acid having a K_A of at least 2×10^{-5}; and
(e) an organic tin catalyst;

said polyepoxide and combined high and low molecular weight polyols being present in such relative amounts as to provide from 30 to 40 weight percent polyepoxide and from 60 to 70 weight percent combined polyols, based on the total weight of polyepoxide and polyols; said high molecular weight polyol being present in an amount as to comprise at least 85 weight percent of said combined polyols; said low molecular weight polyol being present in an amount sufficient to impart to said composition when cured a stiffness at 25° C. of from 0.4 to 1.8; said anhydride being present in an amount to provide from 1.8 to 2.2 carboxyl groups per hydroxyl group of said combined polyols; and said organic tin catalyst being present in an amount of from 0.25 to 1.5 weight percent as tin based on the total weight of said laminating composition.

3,265,235
CONTAINER CONSTRUCTION
George Chieger, Grosse Pointe Woods, Mich., assignor to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan
Filed June 21, 1963, Ser. No. 289,519
1 Claim. (Cl. 220—4)



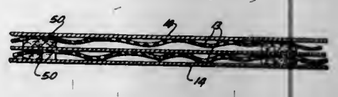
In a shipping container having a plurality of vertical side and end walls in a generally rectangular array, an improved composite corner post and casting construction comprising

a plurality of generally rectangular steel corner castings at each of the corners of the side and end walls, and

a plurality of corner posts extending between vertically aligned corner castings, respectively, said posts being secured to and overlying substantially the entire vertically extending outer faces of said castings so as to transfer loads therebetween in shear, the outer surfaces of said posts extending outwardly beyond the plane of said side and end walls so as to define the outer horizontal cross section of the shipping container so as to accept abrading and scuffing to which said container is subjected, the outer surfaces of said posts being smooth and devoid of protrusions.

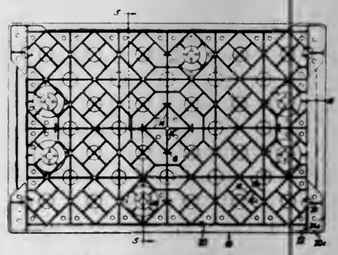
3,265,236
THERMAL INSULATION
Norman Gibbon, Tonawanda, John A. Paivanas, Williamsville, and David I-J. Wang, Buffalo, N.Y., assignors to Union Carbide Corporation, a corporation of New York
Filed May 10, 1962, Ser. No. 193,790
18 Claims (Cl. 220—9)

9. An apparatus provided with a gas evacuated insulating space continguously associated with a heat transferable container and being enclosed by rigid, self-supporting walls; a heat insulative and radiation-impervious composite flexible material comprising a multiplicity of thin, flexible, radiant heat barrier layers of thickness less than 0.2 mm. in said insulating space disposed in spaced relation to each other for reducing the transmission of radiant heat across said space, and a multiplicity of low heat conductive fibrous sheet material layers composed of fibers having diameters less than 15 microns, being coextensive with such radiation barrier layers and disposed in contiguous adjacency between and in alternating sequence with said barriers being contiguously associated with said heat transferable container for separating and supporting said barriers spaced from each other, the radiant heat barrier-low conductive fibrous sheet composite insulating material being assembled sufficiently closely to provide at least 4 fibrous sheet layers per inch of composite insulation,



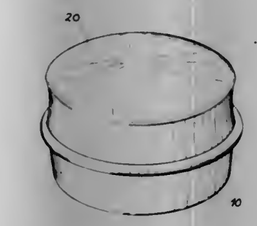
and disposed generally perpendicular to the direction of heat transfer across said space; and low heat conductive organic fibrous bulking material layers between at least some of the fibrous sheet layers having a total surface area contiguously associated with a minor part of the surface area of said fibrous sheet layers, adjacent bulking material layers across said insulating space being at least partially aligned with each other, said organic fibrous bulking material being composed of fibers having an intrinsic thermal conductivity of less than 0.25 B.t.u./hr. sq. ft. ° F./ft., modulus of elasticity of at least 0.35×10^6 lb./sq. in., and having diameters less than 20 microns, said bulking material being under a compressive load of 0.01 to 9 p.s.i.

3,265,237
BEVERAGE BOTTLE CASES
Robert A. Pache, South River, Louis H. Peters, Somerville, and James H. Versteeg, Middlesex, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed Jan. 2, 1964, Ser. No. 335,161
6 Claims. (Cl. 220—21)



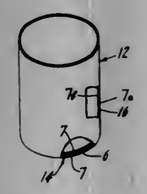
1. In a molded beverage bottle case having two end walls, two side walls and a bottom wall, for carrying twenty-four bottles in a pattern which consists of six bottles in each of four coextensive, parallel rows, the improvement which comprises a plurality of grommets having slip resistant surfaces positioned in the bottom wall of the case and extending downwardly therefrom, said grommets being located substantially in the center of the third and fourth bottle positions of the first and fourth rows respectively, and in the first and sixth bottle positions of both the second and third rows, wherein a portion of each of the grommets in the first and sixth positions of the second and third rows extends inwardly towards the second and fifth positions respectively, whereby the weight of one case superimposed upon a second case will be supported by engagement of at least some of the grommets thereof with the bottle caps of the second case.

3,265,238
CONTAINER FOR SHOE POLISH AND THE LIKE
Heinz Bernhardt, 87 Worringer Strasse, Dusseldorf, Germany, and Franz Teuber, Dusseldorf, Germany; said Teuber assignor to said Bernhardt
Filed July 29, 1964, Ser. No. 395,335
Claims priority, application Germany, July 29, 1963, B 72,905
6 Claims. (Cl. 220—43)



1. A container for shoe polish and the like, comprising a cup-shaped box with an annular outer shoulder on its peripheral wall below the rim of the cup, said peripheral wall having an upwardly converging zone above said shoulder and being formed with a lower and an upper annular bulge in said zone, and a cover of inverted cup shape removably closing said box, said cover having an annular upper peripheral wall portion inwardly deformable by radial pressure above said rim and further having a lower peripheral wall portion, terminating at said shoulder and spanning said bulges in frictional engagement therewith, said lower wall portion being disengageable from said lower bulge by said radial pressure, said cover defining above said rim a free space separating said rim from the top of said cover.

3,265,239
COATED METAL CONTAINER
Leonard Raymond Kohan, Yonkers, N.Y., and John Anthony Storace, Crystal Lake, Ill., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Original application Oct. 23, 1962, Ser. No. 232,559. Divided and this application Sept. 2, 1965, Ser. No. 484,625
6 Claims. (Cl. 220—64)



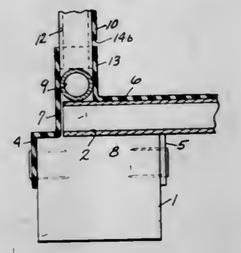
1. A drawn and ironed one-piece aluminum container, comprising:

an end having an anodized aluminum oxide coating thereon;

a seamless sidewall, said sidewall having a thickness substantially thinner than said end;

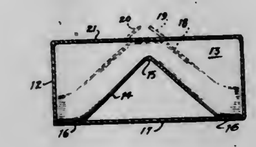
and a discontinuous anodic aluminum oxide coating covering at least one surface of said sidewall, said oxide coating comprising a plurality of discontinuous microscopic particles adhering to the aluminum basis metal, although said aluminum oxide coating appears continuous to the naked eye.

3,265,240
COLLAPSIBLE CONTAINER
Harold S. Cloyd, Erie, Pa., assignor to Nosco Plastics, Incorporated, Erie, Pa., a corporation of Pennsylvania
Filed July 10, 1964, Ser. No. 381,673
9 Claims. (Cl. 220—84)



1. In combination, a plurality of longitudinal skids, cross tubes resting on the skids, a plastic bottom wall overlying the skids and tubes and fixed to the skids, the bottom wall and the skids having cooperating formations forming recesses confining the tubes.

3,265,241
DISPENSING CONTAINER FOR ALIGNED ARTICLES
Arnold J. McColgan, Pointe Claire, Quebec, Canada, assignor to W. Ralston & Co., (Canada) Ltd., Montreal, Quebec, Canada, a corporation of Canada
Filed Apr. 2, 1965, Ser. No. 445,135
2 Claims. (Cl. 221—47)

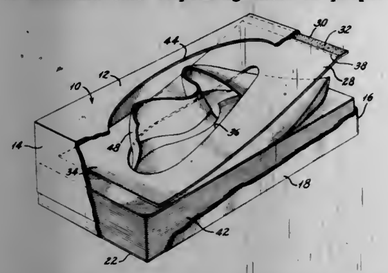


1. A dispensing container for flexible bags comprising a hollow body having a top and bottom portion thereupon, a support member within said body having a substantially inverted V-shaped portion and a pair of angularly disposed and outwardly extending substantially flat end portions, each of said end portions parallel with and secured to the bottom portion of said body, said V-shaped portion adapted to support a plurality of said flexible bags in aligned draped overlying relationship, and a pair of complementary pivotally movable openable covers upon the top portion of said body overlying and spaced from said V-shaped portion.

3,265,242
TISSUE DISPENSER WITH A MOVABLE DISPENSING SHEET
Carl P. Davis, Plattsburgh, N.Y., assignor to Georgia-Pacific Corporation, New York, N.Y., a corporation of Georgia
Filed Aug. 6, 1964, Ser. No. 387,959
8 Claims. (Cl. 221—63)

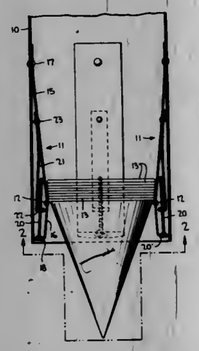
1. A dispenser for tissues from which individual tissues may be removed one at a time and in which a portion of the top tissue is held above the remaining tissues comprising: a receptacle including a top wall having an opening for removing tissues therethrough; and a dispensing sheet mounted in said receptacle having an opening in line with at least a portion of the opening of said

top wall and including a first end fastened to said receptacle to retain said first end adjacent said top wall and to maintain said dispensing sheet in proper align-



ment in said receptacle, and a second end free to move vertically between the top of a stack of tissues in said receptacle and said top wall.

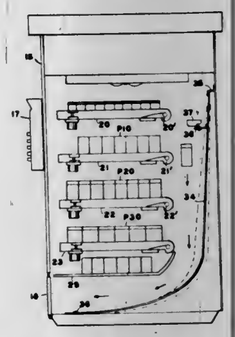
3,265,243
ADJUSTABLE CUP DISPENSER
John F. Velter, 3611 Brookfield Road, Harrisburg, Pa.
Filed Jan. 15, 1965, Ser. No. 425,852
8 Claims. (Cl. 221—63)



1. A dispenser for nested and stacked drinking cups of the type having outwardly projecting rims around their upper ends, comprising a tube having a vertical major axis and open at its lower end, a plurality of toggle linkages extending generally parallel to said major axis and respectively having toggle knees arranged with their pivotal axes tangentially to a common circle concentric to said major axis, each said linkage comprising upper and lower links having their adjoining ends pivotally interconnected to define said respective knees and diverging outwardly from said knees relative to said major axis, means securing each said toggle linkage against axial displacement in the tube, the relatively remote ends of the respective links abutting the interior of said tube and the said remote end of one link axially slidably engaging the tube, and adjusting means selectively operable to vary the angle between said links and the distance of the respective knees from said major axis.

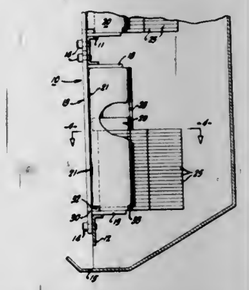
3,265,244
DISPENSER HAVING DEFORMABLE ARTICLE DISCHARGE MEANS
Kenneth G. Brown, Wickham Ave., Mattituck, Long Island, N.Y.
Filed Jan. 27, 1966, Ser. No. 523,413
10 Claims. (Cl. 221—103)

1. A vending machine comprising,
a cabinet,
a plurality of horizontal racks mounted inside said cabinet and each rack extending from the front portion of said cabinet to a predetermined distance from the rear of said cabinet, each of said racks having a plurality of channels thereon,
tape drive pusher means connected to each of said racks to push a package off the rear end of each of said racks,
motor means to operate said pusher means,
a flexible chute member one end thereof mounted at the upper rear portion of said cabinet, said chute member extending downwardly and forwardly under said racks and attached to a point at the bottom of the front portion of said cabinet,



a delivery door in said cabinet adjacent the bottom of said cabinet and adjacent said point,
said chute being spaced predetermined distances from the rears of said racks so that a package falling off any of said racks will slide down on said chute safely to said delivery door, the impact of said package on said chute causing a movement of said flexible chute,
a stationary switch mounted in said cabinet, said switch having a feeler arm, a V-shaped member fixedly connected to said flexible chute and adapted to be actuated by movement of said chute in either direction, said switch being connected to stop said motor means after one package has been delivered to said chute.

3,265,245
KEY BLANK DISPENSER
Keith L. Harden, P.O. Box 4731, Sacramento, Calif.
Filed Aug. 19, 1964, Ser. No. 390,611
3 Claims. (Cl. 221—124)



1. A key blank dispenser unit comprising:
a vertical chute having a bottom closure member;
a plurality of identical key blanks, each having a head and a body of a particular body profile and body length, said key blanks being stacked flat on each other in said chute with the bottom most of said key blanks resting on said bottom closure member, said chute being shaped to receive the heads of said key blanks with the bodies projecting longitudinally from said chute;
said chute having a horizontal slot adjacent to said bottom closure member of a width and height to allow the head of the bottommost key blank to pass therethrough;
means forming a horizontal keyway adjacent to the bottommost key blank in said chute, said keyway being opposite to and in alignment with said slot to enable a key to be inserted into said keyway and to push the bottommost key blank out through said slot, said keyway having the same profile as the body profile of said key blanks;
said bottom closure member extending towards said slot from said keyway and terminating a distance from said keyway less than the body length of said key blanks.

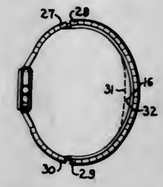
3,265,246
DISPENSING AND DISPLAY DEVICE
Allen F. Messenger, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Nov. 29, 1963, Ser. No. 326,981
6 Claims. (Cl. 221—283)



1. In a dispensing and display device adapted to be used with a carton containing a plurality of articles to be dispensed, a carton having an open lower end and a perforation adjacent its other end, a wire rack having spaced upwardly extending tongues secured thereto for detachably engaging the open end and perforation of said carton to hold said carton in an upright position whereby the articles therein may move by gravity through the open end thereof, and a horizontally disposed dispensing portion at the lower end of said rack to receive and permit the removal of said articles.

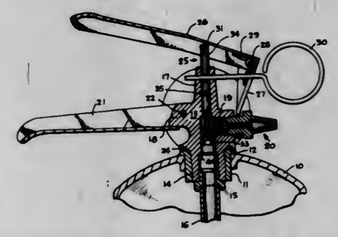
3,265,247
COMBINATION WATCH BAND
William J. McKinney, Muskogee, Okla., assignor of one-third to Barton G. Treece and one-third to Jack B. Miller, both of Muskogee, Okla.
Filed Mar. 15, 1965, Ser. No. 439,679
4 Claims. (Cl. 224—4)

3. An attachment for an expansible band for holding a watch on the back portion of the wrist of a user, said band consisting of a plurality of links, said attachment being of flat semi-circular form having one face engaging said wrist, and its opposite face engaging said expansible band, and means near each end of said attachment on the face thereof facing said expansible band for engaging between links of said expansible band, said attachment being positioned on said band to extend over the arteries of the wrist of the user opposite the back



portion to relieve pressure on said arteries caused by the expansible band.

3,265,248
WIPING ACTION DISPENSING STRUCTURE
Kenneth E. Guest, Elmsford, N.Y., assignor to Safety First Products Corporation, Elmsford, N.Y.
Filed July 16, 1965, Ser. No. 472,430
1 Claim. (Cl. 222—4)

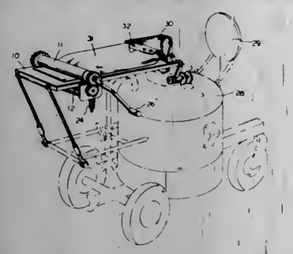


An intermittent selectively operated dispensing structure for dispensing fire extinguishing chemicals from a tank under high pressure comprising a valve housing having a central borehole therethrough consisting of a top relatively long borehole portion of smallest diameter, a relatively short intermediate borehole portion of larger diameter and a bottom borehole portion of largest diameter, said housing having a lateral aperture communicating near the bottom of the smallest borehole portion and with the atmosphere, an integral plunger having a top portion of a diameter substantially that of diameter of the smallest borehole portion, an intermediate plunger portion of least diameter disposed in a portion of the borehole to form a mixing chamber, and a bottom plunger portion disposed in the intermediate borehole portion, said bottom plunger portion having a circular groove, and a plastic resilient O-ring disposed in said groove and in gas tight sliding-wiping relationship to the intermediate borehole portion wall surface whereby said intermediate borehole wall surface is wiped free of dry powder to form the gas tight seal.

3,265,249
APPARATUS FOR EMPTYING BAGS CONTAINING A PASTE-LIKE OR VISCOUS MASS
Johan Sture Jansson, Sollentuna, Sweden, assignor to Nya Murbruksfabrikens i Stockholm Aktiebolag, Stockholm, Sweden, a company of Sweden
Filed Oct. 2, 1963, Ser. No. 313,273
Claims priority, application Sweden, Oct. 9, 1962, 10,822/62
8 Claims. (Cl. 222—101)

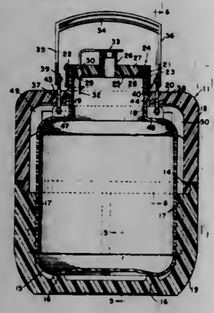
1. Apparatus for pressing a paste-type material from a pliable bag: comprising, a table mounted in a fixed, horizontal position and adapted to support said bag thereon; guide means slidably mounted on said table and adapted to move along said table; reaction roller means fixedly mounted in said guide means for rotation therein and transversely disposed in contact with the lower surface of said table; pressure roller means transversely disposed in contact with the top surface of said table

with said table, including, spring means resiliently urging said pressure roller against said table; and roller advanc- above said reaction roller; means for maintaining said reaction roller and said pressure roller in engagement



ing means operatively connected to said pressure roller and said reaction roller and adapted to turn said rollers in opposite directions and advance said rollers along said table by the frictional engagement of one of said rollers with said table.

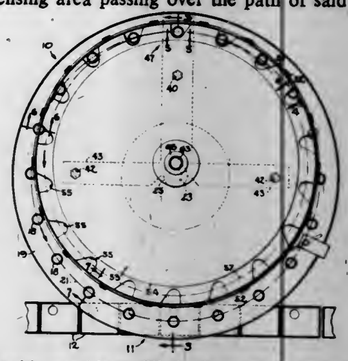
3,265,250
ALL PLASTIC HEAT INSULATED JUG
Gerson Meyer, Baltimore, Md., assignor to Life-Like Products Inc., Baltimore, Md., a corporation of Maryland
Filed May 29, 1962, Ser. No. 198,668
8 Claims. (Cl. 222—131)



3. An all plastic heat insulated jug comprising a bottle consisting of a plastic material, a casing consisting of a relatively weak, thick bulky foamed plastic material surrounding said bottle, said casing having walls with interior surfaces facing the bottle and enlarged portions extending inwardly to contact the bottle and hold it in spaced relation to said surfaces, a handle on the exterior of the casing, and means attaching the handle to the bottle on the interior of the casing and exclusively of any attachment of the handle to the casing, whereby when the jug is carried by the handle, the weak casing section will be supported by the stronger plastic bottle.

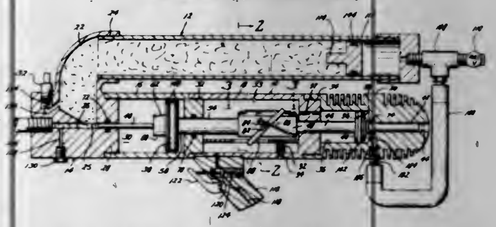
3,265,251
MEASURING AND DISPENSING DEVICE
Robert F. Lense, Rockford, Ill., assignor to Bartelt Engineering Company, Inc., Rockford, Ill., a corporation of Delaware
Filed Feb. 1, 1965, Ser. No. 429,321
5 Claims. (Cl. 222—168.5)

5. In a device for measuring and dispensing quantities of fluent material, the combination of, a carrier mounted for rotation about a predetermined axis, a plurality of angularly spaced measuring receptacles on said carrier having open upper ends, said receptacles being disposed along a first pitch circle of predetermined diameter for movement along a circular path as said carrier rotates, a filler mounted for rotation on top of said carrier about an axis parallel to the carrier axis and having an annular dispensing area lying along a second pitch circle of smaller diameter than said first pitch circle, said filler axis being offset from said carrier axis toward one side of said device with said dispensing area passing over the path of said recep-



tacles on said one side to fill the latter with material and spaced from the receptacle path on the opposite side, mechanism for rotating said carrier and said filler in the same direction to move said receptacles and said dispensing area in the same direction, and means for opening the lower end of each of said receptacles along said opposite side whereby each receptacle is emptied.

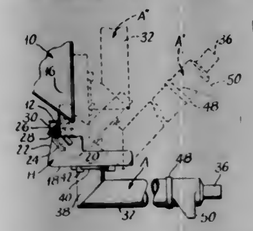
3,265,252
GREASE GUN OR THE LIKE
Francis L. Anderson, Houston, Tex., assignor of one-half to William E. Hamm, Houston, Tex.
Filed Jan. 25, 1965, Ser. No. 427,902
4 Claims. (Cl. 222—262)



1. In apparatus for dispensing fluent material under pressure, a pressure barrel, means forming an actuating chamber and a pump chamber in the barrel, an actuating piston movably disposed in the actuating chamber and a pump piston movably disposed in the pump chamber, means connecting the actuating piston and the pump piston for movement together, a supply cylinder for fluent material, means connecting the barrel and cylinder together at one end and formed with a discharge bore in communication with said one end of the cylinder, a plunger slidably extended into said bore and connected to said actuating piston for movement therewith in one direction to close the bore against the inflow of material from the cylinder and to apply pressure to material in the bore and in the other direction to open the bore to such inflow, a material feeding piston movably disposed in the cylinder, means for admitting fluid to the pump chamber on one side of the pump piston upon movement of the pump piston in one direction and for discharging fluid from the pump chamber on said one side of the pump piston upon movement of the pump piston in the other direction, means for conducting fluid discharged from the pump chamber into said cylinder to urge said material feeding piston toward said one end of the cylinder, means for introducing fluid

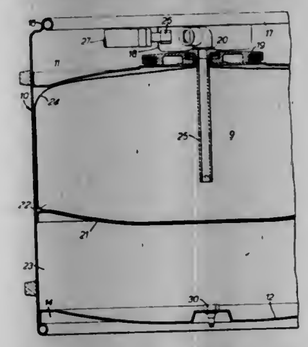
under pressure into said one end of the cylinder to urge said material feeding piston away from said one end of the cylinder, and means for admitting fluid under pressure into said actuating chamber at one side of the actuating piston and allowing an outflow of fluid therefrom to move the actuating piston in one direction and for admitting fluid under pressure into the actuating chamber on the other side of the actuating piston and allowing an outflow of fluid therefrom to move the actuating piston in the other direction.

3,265,253
AUGER-HOPPER CONSTRUCTION
Donald W. Niewold, R.F.D. No. 1, Loda, Ill.
Filed Apr. 12, 1965, Ser. No. 447,346
8 Claims. (Cl. 222—321)



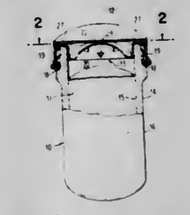
8. In an auger-hopper construction of the character disclosed, a hopper, means for pivoting said hopper to a discharge chute to receive material therefrom, and an auger unit for receiving material from said hopper comprising an auger tube, an auger therein, means for rotating said auger, an elbow at the intake end of said auger tube swivelly mounted on said hopper, said pivoting means permitting inclination of said auger tube in a plane at right angles to the plane of the axis of the pivotal connection and said swivel connection permitting inclination of said auger tube in a plane parallel to the plane of the axis of said pivotal connection.

3,265,254
STACKED BARRELS CONTAINING COLLAPSIBLE BAGS
Edward Reginald Carter, Culham, Abingdon, Richard Frederick Holbrow, Burcot, near Abingdon, Leslie George Best and Anthony Rex Denham, Oxford, England; said Holbrow assignor to said Carter
Filed Mar. 3, 1964, Ser. No. 353,313
Claims priority, application Great Britain, Mar. 5, 1963, 8,780/63
(Filed under Rule 47(a) and 35 U.S.C. 116)
6 Claims. (Cl. 222—386.5)



1. An installation comprising at least two storage barrels stacked one upon another, each barrel comprising a rigid fluid-tight container, an impervious division plate to divide the container into a pair of superposed compartments, air passageways in the marginal edge of the division plate to permit communication between the compartments, a collapsible impervious bag for the fluid to be dispensed, a delivery-pipe connection carried by the container and communicating with the interior of the bag which is suspended within the upper of said pair of compartments so that it rests upon the division plate without obstructing the air passageways, a fluid discharge tube extending from the fluid-pipe connection downwardly within the bag to near the division plate and a valve connector carried by the container by which the interior of the container is pressurised thereby to press the bag upon the division plate, the bottom of each barrel being constructed and arranged to interlock with the top of another barrel.

3,265,255
INSERT FOR CONTAINERS
Robert M. Mitchell, South Norwalk, Conn., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Continuation of abandoned application Ser. No. 123,738, July 13, 1961. This application Apr. 12, 1965, Ser. No. 449,923
14 Claims. (Cl. 222—425)



1. A device for dispensing metered quantities of a fluent solid, comprising a container for said solid, said container having a base on which it rests in upright position and a side wall forming an aperture through which said solid can be discharged, a closure for said container removably mounted over said aperture and against said side walls, and an insert disposed at said aperture to define a volumetric measuring chamber with said closure, said insert being provided with an upwardly recessed bottom wall which extends across said aperture, said bottom wall being formed with a plurality of orifices each shaped to define a vertex directed downwardly and away from the center of said insert and being of such dimensions and so located that when said container has been inverted and agitated the space between said bottom wall and said closure defining said chamber is substantially filled with said solid, and when said container is then brought to upright position said solid will bridge said orifices by virtue of its coefficient of cohesion and said chamber will remain substantially filled.

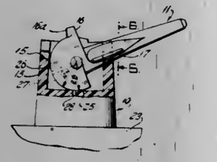
3,265,256
SPOUT STRUCTURE
Morton D. Chaber, North Brunswick, and John Frederick Friden, Plainfield, N.J., assignors to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Filed Sept. 16, 1964, Ser. No. 396,988
4 Claims. (Cl. 222—534)

1. In a dispensing spout comprising
(a) a movable nozzle,
(b) a base member having walls formed thereon to receive said movable nozzle,
(c) means defining a passage extending through said base and through said nozzle such that in an open position said passage is continuous through said base and nozzle and in a closed position the passages are not continuous,

(d) pivotal means on said base member and nozzle to enable said nozzle to rotate between open and closed positions,

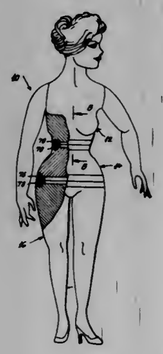
(e) said base member having receiving means on one of said walls,

(f) said nozzle member having a rib thereon,



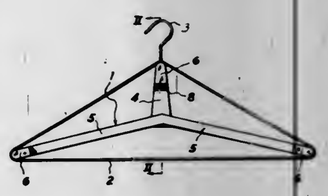
(g) said rib and receiving means being constructed to engage to lock said nozzle member in a closed position, said receiving means comprising walls defining an upwardly facing recess shaped to receive said nozzle and having a protuberance extending inwardly and above said rib when said spout is located in said recess so as to interfere with said rib on said nozzle when the nozzle is in closed position.

3,265,257
ADJUSTABLE MANIKIN
Gino Buonamici, 625 E. 240th St., Bronx, N.Y.
Filed June 1, 1965, Ser. No. 460,025
2 Claims. (Cl. 223—68)



1. In a manikin having a sectional body, with flexible joints therebetween, each joint including a universal joint assembly, including a plate secured to one surface of one section, said plate having a central opening therein, a ball loosely seated in said opening, said ball having a threaded socket therein, another plate spaced above said first plate, said other plate having an opening to receive the ball, bolt and nut assemblies fastening the plates to each other and to the ball, said ball adapted to move relative to the plates, means for adjustably connecting the universal joint assembly to the adjacent section, said means including an upright hollow post having spaced holes therein, a threaded pin carried on the bottom of the post, said pin being threaded in the socket in the ball, another hollow post secured to the adjacent surface of the other section of the body, said adjacent post receiving the post attached to the ball, and a movable bolt assembly carried by the adjacent section of the body and coacting with the holes in the first named post for adjustably holding the first named post in the other post, said other post having a depending perforated extension below the surface of said adjacent section, said bolt assembly including a hollow casing secured to the under surface of the adjacent section adjacent said extension, a spring pressed bolt in the casing and having one end extending through the casing, through the perforation in the extension on the other post and through a hole in the first named post, and a handle on the other end of the bolt for manipulating the bolt, and straps on the first named plate embedded in the material of said one section for securing said plate to the section, straps on the bottom end of the other hollow post embedded in the material of the adjacent section of the body for securing said post to said adjacent section, and a pair of peripheral rubber bands, one band secured to said one section and the other band secured to said adjacent section and concealing the universal joint assembly and adjustable connection means.

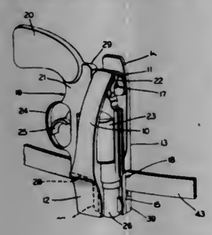
3,265,258
CLOTHES HANGERS
Miguel Raluy Viñuales, Paseo Manuel Girona 5, Barcelona, Spain
Filed Feb. 18, 1965, Ser. No. 433,569
Claims priority, application Spain, Mar. 6, 1964, 104,894; Apr. 30, 1964, 106,124; May 12, 1964, 106,333
11 Claims. (Cl. 223—89)



1. A clothes hanger comprising in combination a robust structure having three ends which are not aligned with each other, said robust structure comprising a central upright limb portion and two lateral limb portions of greater length symmetrically disposed with respect to the axis of the central upright limb portion, said lateral limb portions sloping downwardly away from said central limb portion and each having a transverse enlargement with rounded edges at their outer ends, an endless flexible strap connected to said robust structure, said endless flexible strap being engaged over said enlargements and being stretched between said rounded edges of the transverse enlargements of said limb portions, a hook for suspension of the whole hanger connected to said central limb portion, said hook passing through said strap, the two top sections of said strap extending between said lateral limb portions and said central limb portions being adapted to support one kind of garment and the lower section of strap between the outer ends of said lateral limb portions being adapted to support another kind of garment.

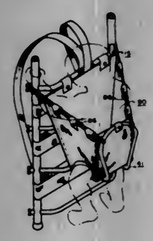
3,265,259
PISTOL HOLSTER CONSTRUCTION
Fred R. Marburger, 1529 19th St. NW., Canton, Ohio 44709
Filed Mar. 22, 1965, Ser. No. 441,516
6 Claims. (Cl. 224—2)

1. Holster construction for holding pistols with the barrel portions thereof extending downwardly including forward and rearward sides having spaced lower end portions joined by an intermediate lower supporting portion, the lower supporting portion having an upper surface extending between the sides and being positioned for supporting the front edge of a pistol frame between the pistol trigger guard and the pistol barrel portion, the forward and rearward sides extending upwardly along the pistol frame inward of and free of covering the pistol trigger guard, the forward side having an upper end portion extending over a back surface of the pistol frame and to an upper end portion of the rearward side, means selectively detachably securing the upper end portions of the forward and rearward sides with said sides fitting snuggly against the pistol frame, surfaces of at least the forward and rearward sides inwardly against the pistol frame being molded conforming skin-fitting to the side contour of the pistol frame and snugly abutting and conforming to said pistol frame side contour when the forward and rearward sides are secured by said means, the



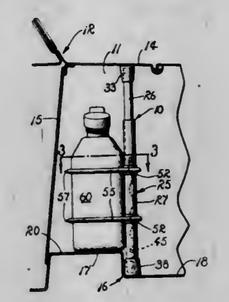
forward and rearward sides and lower supporting portion being constructed and arranged for the pivoting of the front edge of the pistol frame over the lower supporting portion in either direction in a plane substantially parallel to the forward and rearward sides for the release and removal of the pistol from the holster when the upper end portions of the forward and rearward sides are selectively detached, and belt loop means operably connected to the forward and rearward sides and lower supporting portion for securing the holster to a belt.

3,265,260
PACK CARRIER
Russell Heiner Romney, 3259 Bon View Drive, Salt Lake City, Utah
Filed July 8, 1964, Ser. No. 381,171
11 Claims. (Cl. 224—6)



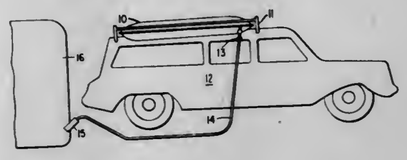
8. In combination with a pack frame, a rearwardly extending, selectively horizontally pivotal, support bracket secured to said frame, and elongate means secured to and between said support bracket and said pack frame for retaining the former in support position; a person-receiving bag including a bag member having means secured to margins of said bag member and looping around said elongate means, bracket, and at least one selected portion of said pack frame, for retaining said bag in position between said elongate means to rest upon said bracket, said bag member, including leg holes constructed and arranged so that the person riding therein may position his legs therethrough and straddle said bracket.

3,265,261
HOLDING DEVICE
Joseph F. Kenrick and Jeffrey J. Kenrick, both of 734 E. Fairmont, Fresno, Calif.
Filed Nov. 4, 1964, Ser. No. 408,983
3 Claims. (Cl. 224—29)



3. A holding device adapted to constrain a container in a predetermined upright position while being transported in a vehicle compartment having oppositely spaced walls as reaction surfaces comprising an elongated tubular support rod having opposite telescopic received and receiver sections individually providing respective inner ends and closed outer ends and the sections being movable between a retracted installing position and extended restraining position within the compartment with the ends in frictional engagement with said walls; an elongated compression spring disposed within the rod in contact with the outer end of one section and the inner end of the opposite section to urge the sections toward said restraining position; a flexible cable disposed within the compression spring and providing opposite ends; pin means individually connecting the ends of the cable respectively to the outer end of said receiver section and to the inner end of said received section to preclude complete separation of the sections; a pair of elongated resiliently flexible tie members, each providing opposite ends, a pair of sleeves journaled on said receiver section of the rod slidably individually to receive the tie members therethrough and being axially slidable on the rod for placement of the tie members about the container to hold the same in said predetermined upright position against the rod; and hooking fasteners secured to the ends of the tie members for detachably holding the container in said position.

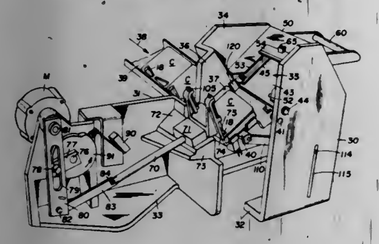
3,265,262
PLASTIC BAG FOR CARRYING WATER ON MOTOR VEHICLES
Armard Valery Motsinger, 485 Paradise Road, Aberdeen, Md.
Filed Dec. 30, 1963, Ser. No. 334,436
2 Claims. (Cl. 224—42.1)



1. A collapsible and foldable flat envelope shaped plastic bag for transporting liquid in combination with the top surface of a vehicle, said bag having a single hose connection with valve and thin walls for folding into a small space retaining said liquid on said top surface of

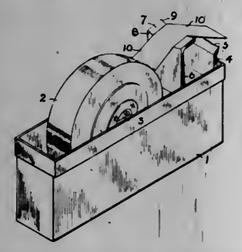
the vehicle, said bag at one corner is flattened transversely and reinforced to evenly distribute stress on walls of the bag over an arc of 90° radiating from said hose connection and semirigid fitting with wide interior channel to prevent collapse of said bag when discharging fluid, a hole in said fitting to receive the male end of a garden hose, and interior flap closure for said hole.

3,265,263
METHOD AND APPARATUS FOR OPENING EXPENDABLE FILM CARTRIDGES
Alix M. Lafontant, Fullerton, Calif., and James E. Ferris, Robert W. Vreeland, and Raymond C. Weyl, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 8, 1965, Ser. No. 446,527
19 Claims. (Cl. 225—2)



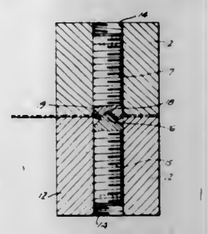
1. The method of opening a film cartridge to permit removal of a film strip therefrom, said cartridges consisting of a plastic box-like member within which a roll of film is confined by a plastic cover member sealed to the open end of said box-like member in covering relation therewith and overhanging at least one edge of said box-like member to provide a projection by which the cover can be grasped, comprising the steps of rupturing the seal between said cover member and box-like member along said edge of the box-like member said cover overhangs; separately grasping said box-like member and the cover by said projection adjacent said ruptured portion of said seal, and pulling the box-like member and cover apart in opposite directions from the ruptured portion of said seal to break the seal between the two progressively from the initial point of rupture toward the edge opposite that ruptured, and which latter edge remains sealed and acts as a hinge between the two parts.

3,265,264
ADHESIVE TAPE DISPENSERS
Hugh Stephens, 90 Leighton Ave., Winnipeg, Manitoba, Canada
Filed Feb. 15, 1965, Ser. No. 432,477
1 Claim. (Cl. 225—25)



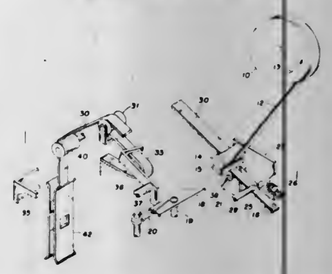
An adhesive tape dispenser comprising a roll of adhesive tape rotatably mounted within a frame, a cutter bar distant from said roll of tape forming part of said frame, a tape rest transversely disposed within said frame and medially positioned between said roll of tape and said cutter bar, the upper face of said tape rest being flat in line of and concave transverse of the line of tape flow between the roll and the cutter bar, said tape rest having a leading and trailing edge intercepting in ordered sequence said line of tape flow between the point of tape disengagement from the roll and the cutting edge of said cutter bar.

3,265,265
MULTI-LOCK CLAMPING CHAIN AND METHOD
William Lewi, 1840 Relyea Drive, Long Island City, N.Y.
Filed Mar. 19, 1964, Ser. No. 353,202
3 Claims. (Cl. 226—2)



1. In an opposed identical mating U-shaped top and bottom pair of hinged continuously moving planar surface clamping frames for effecting a peripheral clamping action about an area of a moving sheet or plastic film clamped therebetween the improvement comprising said mating pairs of frames having a plurality of spaced-apart opposed suitably threaded boreholes transversely therethrough disposed in axial alignment, and threaded coacting male and female set screws disposed completely in mating relationship in said opposed pairs of boreholes, whereby adjustment of said set screws to pinchingly seize said film therebetween effects localized locking clamping action of greater seizure force to the already clamped surfaces of said frames.

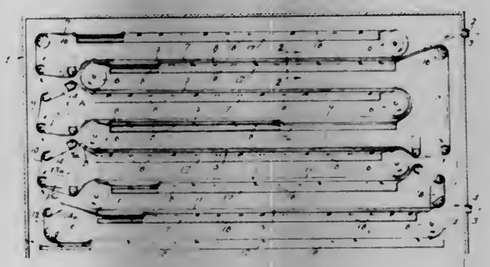
3,265,266
MEANS FOR RESTRAINING WEBS DURING THREADING
Henry A. Thomson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 14, 1964, Ser. No. 367,535
7 Claims. (Cl. 226—39)



1. A clamping device for preventing premature rewinding of a filmstrip on a constantly tensioned supply reel comprising:
- a lead-in roller arranged to have a leader portion of the filmstrip threaded therepast;
- a friction pad biased against said lead-in roller to prevent rewind of the filmstrip by the supply reel;
- latching means for maintaining said lead-in roller in engagement with said pad;

- a dancing roller downstream of said pad arranged to guide the filmstrip toward a film gate;
- drive means associated with the film gate for driving the filmstrip therethrough, said drive means developing sufficient tension in the filmstrip to deflect said dancing roller; and
- linkage means coupling said dancing roller to said latching means to release said lead-in roller from engagement with said pad when said dancing roller is deflected a predetermined amount.

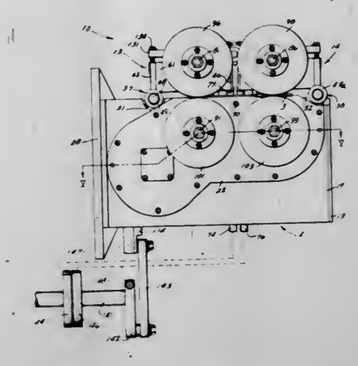
3,265,267
ARRANGEMENT FOR THREADING OF WEBS
Sven Werner Wallin, Taby, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden
Filed Sept. 11, 1964, Ser. No. 395,739
Claims priority, application Sweden, Sept. 13, 1963, 10,025/63
8 Claims. (Cl. 226—91)



1. In a treatment plant for a continuous web having at least one reversing roll mounted to direct the web in at least one zig-zag run through said plant and threading apparatus comprising cooperating confronting band means for engaging opposite surfaces of the leading-end of the web to feed the same through said plant, the improvement wherein one of said band means is carried about said reversing roll and the other of said band means comprises a sequence of at least two separate bands, said plant including turn members for said separate bands, said turn members engaging said separate bands adjacent said reversing roll and being oriented to cause the first band of said sequence to deflect the leading end about the reversing roll and to cause the next band of said sequence to engage the leading-end between said next band and the cooperating confronting band means, and stop members at the reversing roll adapted upon completion of the threading to be displaced between the reversing roll and the one band means, thereby disengaging the one band means entirely from its contact with the reversing roll.

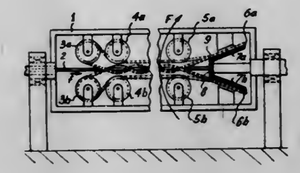
3,265,268
WIRE FEEDING DEVICE
Harold E. Bach, Monitor Township, Bay County, and Lyle G. Gilbert, Bay City, Mich., assignors to National Electric Welding Machines Co., Bay City, Mich., a corporation of Michigan
Filed May 6, 1964, Ser. No. 365,397
9 Claims. (Cl. 226—112)

1. In a feeding device for advancing an elongated element, the combination comprising:
- first and second pairs of rollers engageable with said elongated element;
- first means for effecting engagement of said elongated element by said first pair of rollers and second means for effecting engagement of said elongated element by said second pair of rollers, said first and second means being operable independently and alternately of each other;
- roller energizing means for rotating said first pair of rollers in a direction for advancing said elongated element in one direction and for rotating said second pair of rollers in a direction for moving said elongated element in a direction opposite to said one direction, said roller energizing means being reversible to effect reverse rotation of said rollers;



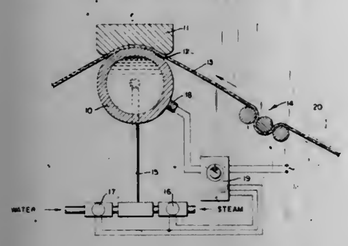
- means effecting synchronized alternate operation of said first and second means with alternately reversing operation of said roller energizing means;
- whereby to produce motion of said elongated element in only said one direction.

3,265,269
TRACTION DEVICE FOR A UNIT FOR PULLING AN ELONGATED ELEMENT
Jean Godderidge, 11 Blvd. Henri Barbusse, Houilles, Seine et Oise, France
Filed Nov. 30, 1964, Ser. No. 414,790
Claims priority, application France, Nov. 29, 1963, 955,440
2 Claims. (Cl. 226—172)



1. A device for use in a traction apparatus for pulling an elongated element, said apparatus comprising a frame rotating about the axis of the element to be pulled and carrying a plurality of pulleys for guiding and driving said device in a path defined by its longitudinal axis, said device being intended to have the form of a doubled loop which is wrapped around said element in the manner of the multiple threads of a screw so that the portions of said device which contact said element move in the direction of the longitudinal axis of said element, and urge said element in this direction, characterized in that said device comprises in combination: a supple central cable whose ends are joined together to form a continuous loop; a plurality of sleeves disposed along, and rigidly connected to said cable at regular intervals; and a plurality of supple, annular gripping elements having high friction surfaces and freely disposed on said cable alternately with said sleeves, said gripping elements having larger outer diameters than said sleeves.

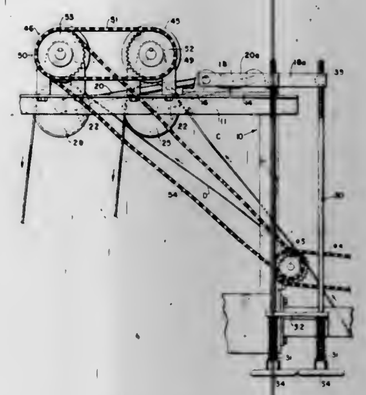
3,265,270
FABRIC FEEDING SYSTEM
Frank Catallo, Elmont, N.Y., assignor to Samcoe Holding Corporation, Woodside, N.Y., a corportion of New York
Filed Mar. 4, 1964, Ser. No. 349,300
7 Claims. (Cl. 226—175)



1. A fabric feeding system with controlled slippage comprising
(a) a driven feeding roller engaging one side of a fabric;
(b) a stationary fabric confining surface facing said feeding roller over a substantial portion of its surface area and adapted to engage the other side of the fabric;
(c) fabric travel resisting means positioned on one side of said roller and engaging fabric being advanced by said roller;
(d) said feeding roller, said confining surface, said fabric, and said resisting means being so spaced and related as to effect continuous controlled slippage of the feeding roller surface with respect to said fabric;
(e) means for supplying heating and cooling media to said roller,
(f) means for sensing the temperature of the surface of the feeding roller in an operative surface region thereof engaged by the fabric during rotations of said feeding roller, and
(g) adjustable temperature regulator means associated with said temperature sensing means and said media supply means for supplying heating or cooling means to said feeding roller in accordance with whether the sensed surface temperature of said feeding roller is below or above the adjusted setting of said regulator; whereby
(h) said feeding roller is maintained in controllably slipping relation with said fabric;
(i) the extent of slippage increasing and decreasing directly as a function of increases and decreases, respectively, in roller surface temperature.

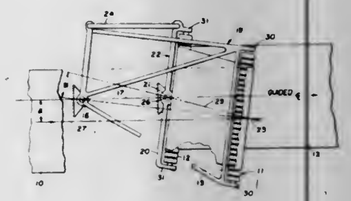
3,265,271
MULTIPLE WEB FEEDING SYSTEM
Eugene Cohn, Great Neck, Frank Catallo, Elmont, and Sargent P. Snyder, Springfield Gardens, N.Y., assignors to Samcoe Holding Corporation, Woodside, N.Y., a corporation of New York
Filed Mar. 4, 1964, Ser. No. 349,302
7 Claims. (Cl. 226—177)

1. A multiple web feeding system comprising
(a) a draw roller assembly including a pair of relatively elongated draw rollers mounted in coaxial relation for independent rotation,
(b) first and second drive rollers positioned to engage relatively limited axial areas of the respective draw rollers adjacent their outer end extremities,
(c) resilient means for independently supporting the outer ends of the draw roller assembly,
(d) the resilient supporting means being operative normally to urge said draw rollers into friction driving engagement with their respective drive rollers, and
(e) means for guiding a web about each of the respective draw rollers whereby tensions in the web act individually upon said draw rollers to urge them away from their respective drive rollers,



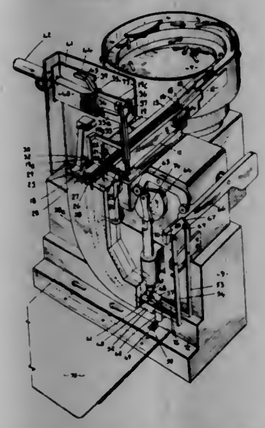
(f) said resilient supporting means accommodating tilting of the axis of the draw rollers, whereby the driving relationship of one draw roller is not significantly affected by a change in the driving relationship of the other draw roller.

3,265,272
WEB CENTERING DEVICE
David S. Smith, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 22, 1964, Ser. No. 377,011
15 Claims. (Cl. 226—196)



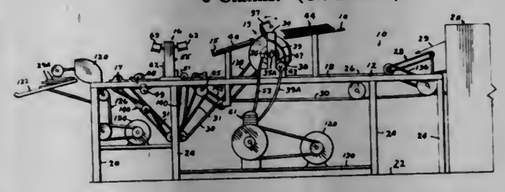
1. Apparatus for centering a moving web, comprising in combination:
a first roller assembly for receiving said web and reversing its direction of movement, said assembly being pivotally mounted for movement about an axis substantially perpendicular to the center line of said incoming web;
a second roller assembly for receiving said web from said first roller assembly and delivering it in an outgoing direction that is in substantially the same direction as said incoming web and in a different plane, said second assembly being pivotally mounted for movement about an axis substantially parallel to that of said first roller assembly; and
means interconnecting said first and second roller assemblies for pivoting said second roller assembly in response to pivotal movement of said first roller assembly to maintain the center line of said outgoing web in a predetermined relation to the axis of said second roller assembly.

3,265,273
MACHINE FOR FEEDING AND SETTING FASTENERS
Stanley Janus, Toronto, Ontario, Canada, assignor of a one-half interest to Index Card Company Limited, Toronto, Ontario, Canada, a corporation of Ontario
Filed May 11, 1964, Ser. No. 366,402
17 Claims. (Cl. 227—2)



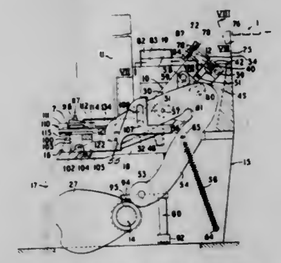
1. In combination with an eyelet setting machine for fixing tangs to tang covers, said covers having preformed tang receiving holes in the binding edges thereof, mechanical means for delivering tangs one at a time to the eyelet setting tools of the eyelet setting machine in a preselected setting position, said mechanical means including a vibrator feeder mechanism for selecting, orienting and transporting said tangs to a tang transfer mechanism, said tang transfer mechanism feeding the tangs one at a time automatically into a tang compartment carried by the eyelet machine for automatic positioning of successive tangs relative to the eyelet setting tools and the binding edge of the cover to which the tang is to be attached; switch means actuated by the manual positioning of a tang cover with one hole of the binding edge in registering position with the eyelet setting tools whereby the tang in the compartment is released therefrom and fixed in position on a binding edge of the tang cover, said switch means simultaneously actuating said transfer mechanism to feed another tang to said tang compartment.

3,265,274
PAMPHLET ASSEMBLY AND STAPLING MACHINE
Vernon G. Burnell, Rte. 2, Box 98A, Edmond, Okla.
Filed July 30, 1964, Ser. No. 386,253
6 Claims. (Cl. 227—7)



1. A pamphlet assembly and stapling machine, comprising: a table-like support having an elongated horizontal sheet receiving surface; guide means on the sheet receiving surface including a pair of parallel spaced-apart rails for engaging and aligning opposite side edges of a stack of sheet material deposited between said rails; conveyer means on the sheet receiving surface including a pair of chains extending longitudinally of said table-like support in spaced-apart parallel relation, upstanding longitudinally spaced-apart pins secured to each of said chains in aligned relation transversely of said sheet supporting surface for engaging the rearward edges of stacked sheet material and advancing the latter longitudinally of said sheet supporting surface; pamphlet cover feeding means mounted on said table-like support above said sheet receiving surface for adding a pamphlet cover to each stack of sheet material, said cover feeding means including upright supports mounted on opposing side surfaces of said table-like support, a hollow drum journaled by said upright supports for rotation about a horizontal axis, said drum having spaced apertures in its wall, air pressure reducing means connected with the interior of said drum, a pamphlet cover holding rack positioned adjacent said drum so that an edge portion of a pamphlet cover when placed on said said drum overlies a portion of the periphery of said drum; pamphlet stapling means mounted on said table-like support; belt conveyer means for positioning each stack of sheet material under said stapling means; and control means actuated by said positioned stack of sheet material for operating said stapling means.

3,265,275
APPARATUS FOR ATTACHING PRONGED DEVICES TO FABRIC OR OTHER FLEXIBLE MATERIAL
Clarence Martin Wilson, Birmingham, England, assignor to Thomas Walker Limited, Birmingham, England, a British company
Filed Oct. 14, 1964, Ser. No. 403,767
Claims priority, application Great Britain, Oct. 16, 1963, 40,765/63
5 Claims. (Cl. 227—18)



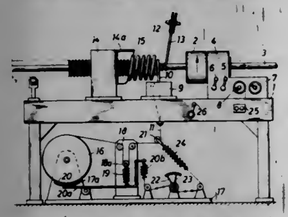
1. Clenching apparatus for attaching pronged workpieces, such as hooks and eye fastening devices, to a made-up pocket portion of a garment, such as a trousers' waistband, said apparatus comprising, in combination, prong-clenching anvil means, a horizontally-extending fixed cantilever mandrel having the form of an elongated blade-like bar, said mandrel carrying said anvil means and being insertable into said pocket portion of the garment, a slidably-mounted movable supporting member settable in an operative position in supporting engagement with the underside of the outer end of the mandrel bar and in an alternative inoperative retracted position, an operating slide member having cooperating cam surfaces engaging said supporting member and controlling movement of the latter between said operative and inoperative positions, holder means for the pronged workpieces, a movable carrier member supporting said holder means, loading mechanism for mechanically loading the workpiece holder means automatically from a supply of the pronged workpieces, operating mechanism coupled to said carrier member for moving said workpiece holder means and the mandrel into cooperative clenching engagement to effect attachment of the pronged workpieces after said holder means has been loaded, said operating mechanism also being coupled to said operating slide member which controls the mandrel supporting member so as to actuate

said slide member and set the mandrel supporting member in said operative position prior to the clenching engagement, and control means for controlling, in predetermined sequence, the steps of loading the workpiece holder means, actuating said operating mechanism to move the mandrel supporting member from said inoperative retracted position to said operative supporting position and to carry out the clenching operation in which the loaded workpiece holder means supported by the movable carrier member and the mandrel bar are brought into cooperative clenching engagement, and to return the mandrel supporting member to its retracted position.

ERRATUM

For Class 227—132 see:
Patent No. 3,265,278

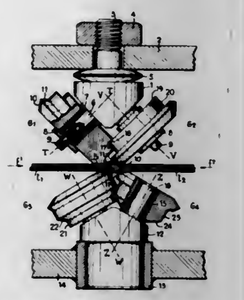
3,265,276
APPARATUS FOR MAKING HEAT EXCHANGER CONDUITS WITH A WIRE COIL HELICALLY WOUND THEREON
Franciscus Roffelsen, Mauritslaan 7, Helmond, Netherlands
Filed July 15, 1964, Ser. No. 382,768
Claims priority, application Germany, July 20, 1963, R 35,722
14 Claims. (Cl. 228—17)



1. Apparatus for making metallic heat exchanger conduits with a wire coil wound thereon, comprising drive means for continuously rotating a conduit to be wire-coil wound and for simultaneously displacing the conduit continuously along a path in the direction of its axis, stationary wire supply means for supplying wire to be formed into a wire coil, winding means for forming the wire coil, said winding means comprising a winding mandrel adjacent said path and stationary relative to the conduit axis, said mandrel having a periphery comprising a plurality of surfaces, each of said surfaces being other than a convex surface, and winding head means rotatable about said mandrel for drawing the wire from said wire supply means and for winding the wire about said mandrel in the form of a wire coil and for simultaneously ejecting the wire coil from said mandrel toward the conduit for winding thereon, means for supplying a band of solder between the conduit and the wire coil simultaneously as the wire is wound on the conduit, and heating means for heating the conduit and the wire coil wound thereon to soldering temperature whereby the wire coil is soldered to said conduit.

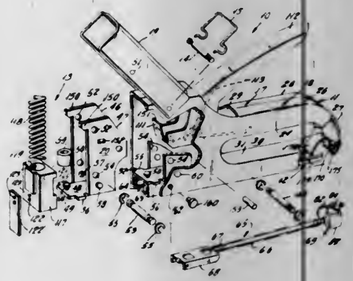
3,265,277
DEVICE FOR BUTTWELDING METAL SHEETS
Marcel Bacrolx, Pont-a-Mousson, France, assignor to Centre de Recherches de Pont-a-Mousson, Pont-a-Mousson, France, a French body corporate
Filed Jan. 23, 1964, Ser. No. 339,776
Claims priority, application France, Jan. 31, 1963, 923,279
5 Claims. (Cl. 228—44)

1. A device for continuously forming a buttwelded joint between the heated edges of metal sheets, comprising a head, a pair of forging rollers rotatably mounted on the head and located on each side of the joint, the axes of rotation of the rollers being at an angle to each other, each roller having a work engaging face, a cylin-



drical bearing face and a thrust face, all of said faces being coaxial on the axis of rotation of the roller, and the cylindrical bearing face of each roller bearing against the thrust face of the other roller of said pair of rollers.

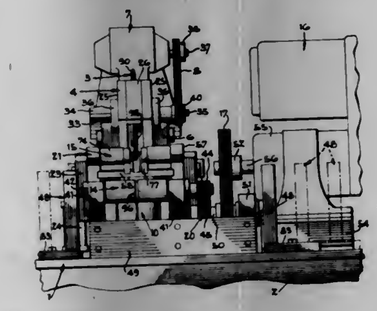
3,265,278
STAPLING DEVICE
Albert L. Robbins, Whitestone, N.Y., assignor to United Staple Company, Inc., Long Island City, N.Y., a corporation of New York
Filed July 20, 1964, Ser. No. 383,733
16 Claims. (Cl. 227—132)



1. A stapling device comprising a housing having a first location for receiving a staple to be discharged, staple drive means for storing and rapidly dissipating appreciable energy for rapid transfer to a staple at said first location, and a staple feed means for successively presenting staples to said first location; said housing including space separated, and substantially parallel extending first and second frame walls; said staple feed means including a channel member longitudinally extending in the space intermediate said frame walls and including first and second space-separated channel walls in juxtaposed relationship with respect to said first and second frame walls, respectively; said channel member having a first and a second end; said first end adjacent to said first location at a region subjected to shock loading during staple discharge; first fastening means for rigidly securing the first end region of said channel member to said frame walls at a location along the path of movement of the staples towards said first location; said first fastening means comprising a first stud means press-fit located within cooperating apertures of said first channel member and frame walls, and a second stud means press-fit located within cooperating apertures of said second

channel member and frame walls, said stud means substantially contained within the respective channel member and frame walls to permit an unimpeded passageway between said channel member walls for the movement of the staples towards said first location.

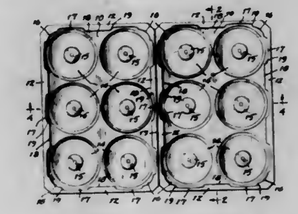
3,265,279
MACHINE FOR CLOSING THE ENDS OF MANIFOLD PIPES
Dudley Bowman, Lebanon, Ohio, assignor to Gas Appliance Supply Corporation, Indianapolis, Ind., a corporation of Indiana
Filed Sept. 9, 1963, Ser. No. 307,460
11 Claims. (Cl. 228—17)



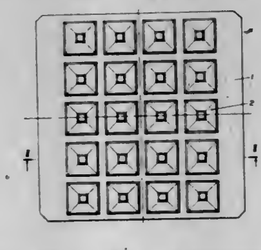
1. A machine for forming two closed end pipes by progressively constricting and severing a heated malleable portion of a pipe section comprising;
a single rotatable swaging disk;
a pair of rotatable regulating rollers adapted to cradle a pipe section having a heated, malleable portion; said regulating rollers each being provided with a surface which supports the pipe section at the heated malleable portion thereof;
power means adapted to impart rotary motion to the swaging disk and regulating rollers;
a pressure roller adapted to engage the pipe section which is cradled between said regulating rollers; said pressure roller being provided with two sections axially aligned, with the adjacent inner ends thereof spaced apart a distance substantially equal to the thickness of the swaging disk;
and means connected to the swaging disk for forcing the rotary swaging disk into the heated malleable portion of the pipe section, whereby the periphery of the swaging disk progressively constricts the heated malleable portion of the pipe section and severs the same to form two closed end pipes;
said swaging disk adapted to impart a flat surface to the closed ends of said pipes.

3,265,280
DOUGHNUT PACKAGE
Robert L. Butzko, 94 Nash Lane, Bridgeport, Conn.
Filed Apr. 14, 1964, Ser. No. 359,579
3 Claims. (Cl. 229—2.5)

1. A doughnut package for a plurality of doughnuts, each comprising a substantially circular cross-section ring-shaped body having a hole defined by the convex inner wall of said body; said package comprising a pair of complementary matching receptacle parts formed from thin plastic sheet material molded to shape, each said part comprising a base wall of generally rectangular form, a side wall joined at one edge to the periphery of said base wall along its four sides, and a lateral flange extending outwardly from the other edge of said side wall along its four sides, said base wall having a plurality of spaced pockets at its inner side each of circular outline defined by a planar base wall portion parallel to and outwardly offset from said base wall and a continuous circular peripheral wall portion entirely separated from said side wall and the peripheral wall of each adjacent pocket adapted to receive a doughnut with its outer periphery entirely out of contact with said side walls and with the outer periphery of adjacent doughnuts, and a conical projection centrally of each of said pockets extending within said receptacle part in convergent relation away from said base wall portion and terminating in a plane intermediate said base wall part and the plane of said lateral flange, said projection having a diameter at its base substantially larger and a diameter at its peak substantially smaller than the minimum diameter of the hole of the doughnut received in the respective pocket, whereby said projection is adapted to wedgingly engage within said hole to restrain lateral displacement of said doughnut in said pocket, said pair of receptacle parts adapted to be disposed in opposed relation with their said lateral flanges superimposed to form a closed container and with said pockets and projections of the respective receptacle parts in opposed registering relation, a separation sheet disposed in the meeting plane of said receptacle parts in their opposed closed relation having its marginal edge portion disposed between said flanges whereby the opposed doughnuts are out of contact with each other, and means for securing said flanges in superimposed relation.



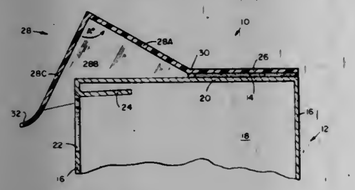
3,265,281
SHIPPING TRAY
Zeljko Hohnjec, 17 Gonzagagasse, Vienna, Austria
Filed Apr. 14, 1964, Ser. No. 359,653
2 Claims. (Cl. 229—2.5)



1. Transportable package for supporting a number of fragile articles in predetermined, fixed position, comprising two tablets, each consisting of a plane base foil extending into a sheeted structure consisting of a number of substantially equal positioning troughs, each forming over a square base a cavity shaped to receive one of said articles within its concave portion; said cavities being substantially closed except at their bases and being arranged at regular distances at the corner points of said square bases; said square bases being arranged substantially in the plane of said base foil, leaving on said base foil at least two oppositely arranged edge strips, said troughs becoming smaller with increasing depth and forming three pyramid

frustums, one on top of the other, whereby the inclination of the walls of each trough at the highest and lowest frustum are substantially equal and steeper than that of the wall of the intermediate frustum, said troughs extending from said base foil substantially in one direction only and the walls of adjoining troughs being separated from each other; and means for attaching said tablets to each other, including the outer ledges formed at the bases of the outer rows of said pyramid frustums and extending outwardly sufficiently so as to form said edge strips and to permit attachment of said tablets to each other on said edge strips, each trough of one tablet facing the trough of the other tablet, thereby forming a substantially closed structure encasing the fragile articles positioned in said troughs.

3,265,282
BOX CLOSURE
Stuart L. Maxwell, 727 Dayton St., Muskogee, Okla.
Filed Aug. 3, 1964, Ser. No. 387,077
1 Claim. (Cl. 229—7)



The combination of

(1) a box having a rectangular top and means forming an opening in one of the narrow sides adjacent the top; and

(2) a unitary closure member, the closure member being of flexible elastic plastic material, the closure member defined by

(a) a flat portion substantially of the width of the box top affixed to the box top such as by an adhesive in the area of the box top opposite the side of the box having the opening therein, and

(b) a four sided closure portion having

(1) a top portion of width equal to the box top, the top portion being integral with the flat portion, the juncture of the top portion and the flat portion serving as a hinge, and

(2) opposed triangular side portions,

(3) an end portion, the four sides conforming to the top corner of the box when in closed position, the end portion completely and sealably covering the opening in the box,

(4) the triangular side portions are normally of dimension wherein the angle formed between the top portion and the end portion is less than 90°, and

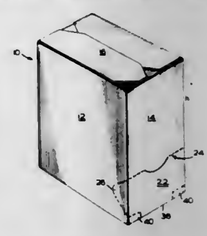
(5) a finger flap portion integrally affixed to the end portion at the lower edge thereof.

3,265,283
SHIPPING AND DISPENSING CARTON
Melville T. Farquhar, Bon Air, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Dec. 11, 1964, Ser. No. 417,598
6 Claims. (Cl. 229—7)

1. Dispensing means for a shipping carton containing a plurality of articles wherein said carton includes an end panel having side panels and a bottom panel integrally connected thereto along side and bottom crease lines;

a manually rupturable line of separation of generally inverted U-configuration extending upwardly from said bottom crease line and embracing therewithin the adjacent portion of said end panel and said side panels adjacent said side crease lines, thereby to define with said bottom crease line a dispensing flap,

said line of separation including portions thereof on said end panel extending upwardly from said bottom crease line and inwardly of said side crease lines and thence outwardly toward and past said side crease



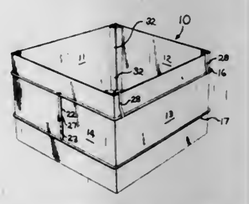
lines, thereby to define a pair of spaced retaining tab portions on said end panel adjacent to said side and bottom crease lines and adjacent the lower outer edges of said flap,

whereby upon rupture of said separation line, said flap is freed for outward swinging movement about said bottom crease line to provide an access opening to said carton contents, and said retaining tab portions engage the cartoned articles adjacent said opening to prevent undesired spillage of said articles from said carton.

ERRATUM

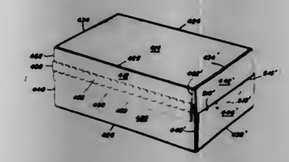
For Class 229—17 see:
Patent No. 3,266,055

3,265,284
BULK STORAGE CONTAINER
Wilford J. Tompkins, St. Paul, Minn., assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed May 13, 1964, Ser. No. 367,172
6 Claims. (Cl. 229—49)



1. A storage container comprising in combination, a generally rectangular carton formed of interconnected side walls and bottom wall, a collapsible frame positioned around the exterior of said carton, said frame comprising a first rectangular shaped member surrounding said carton, a plurality of flat clips having their upper ends reversed bent in overlying relationship to the upper rim of the carton and their lower ends inwardly bent in engagement with said first frame member for supporting and maintaining said frame member around said carton at a predetermined distance below the top thereof, a second rectangular shaped member surrounding said carton, and means extending between said frame members and connected to both said frame members for supporting and maintaining said second frame member around said carton at a predetermined distance below said first frame member.

3,265,285
CARTON
Edward P. Fanter, Elmhurst, N.Y., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 12, 1963, Ser. No. 301,373
6 Claims. (Cl. 229—51)



1. In a one-piece container comprising foldably connected front, rear, bottom and cover panels defining a rectangularly cross-sectioned receptacle portion sealingly containing a viscous material such as ice cream or the like, the improvement comprising a combined orienting-and-sealing end closure assembly including a pair of inner closure flaps foldably connected to end margins of said front and rear panels and retaining the viscous material therein, said inner closure flaps including overlapping free marginal side edges extending the entire width thereof including at least one intermediate free abutment portion for maintaining said front and rear panels in mutually parallel relation and providing a base resisting inward deflection thereof and preventing said viscous material from moving thereby, an outer closure flap foldably connected to said bottom panel on a fold line normal to the end margins of said front and rear panels and secured at inner surface portions in juxtaposed relation on lower outer surface portions of said inner closure flaps, and another outer closure flap foldably connected to said cover panel on a fold line parallel to said fold line of said first outer closure flap and disposed in and retained in juxtaposed relation on upper outer surface portions of said inner closure flaps, and maintaining the carton panels in a rectangularly cross-sectioned relationship and maintaining the viscous material and container in a substantially square condition and preventing the viscous material from flowing past said end closure assembly, said outer closure flaps each including free marginal edge portions parallel to the fold lines thereof and disposed in mutually co-planar abutting relationship maintaining said cover and bottom panels in oriented parallel relationship and aiding to maintain the squared condition of the viscous material therein, said overlapping, free abutment portions of said inner closure flaps comprising at least one terminal extension portion at the side edge of one of said inner closure flaps and forming at least one intermediate abutment shoulder thereon, said other inner closure flap including at least one terminal extension extending beyond said free side edge of said other inner closure flap, said shoulders abuttingly engaging each other and spaced a distance substantially equal to the width of said cover and bottom panels, the inner edges of said inner closure flaps having a mutually inverted L-shape with respect to each other.

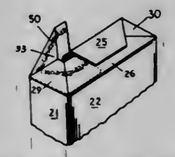
3,265,286
UNPACKING ARRANGEMENT FOR FILMY PACKAGES
Etsuo Inoue, 8 8-chome, Miyakojimahondori, Miyakojima-ku, Osaka, Japan
Filed Apr. 2, 1964, Ser. No. 356,914
3 Claims. (Cl. 229—51)

1. A package comprising a thin film of tearable material, a string covered with a material similar to the package film, said covered string being secured to the interior surface of the package film at locations along the string and along the package film with sufficient adhesion that the string will remain in secure relation to the package film whereby when the string is pulled in a direction transversely to the adjacent portion of the package film and away from the surface of the package film to which the string is attached toward the other surface of the package film, the package film will be severed



along the string in controllable increments whereby the user may open a limited portion only of the package from which a portion of the contents is to be dispensed and the remaining portion of the package may remain closed retaining the remaining portion of the contents of the package in its original packaged condition thereby avoding damage and soilage of the contents of the unopened portion of the package.

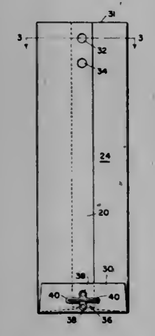
3,265,287
HERMETICALLY SEALED CIGARETTE PACKAGE WITH OPENING FEATURE
Howard N. Hovland, Appleton, Wis., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 23, 1964, Ser. No. 413,186
6 Claims. (Cl. 229—51)



1. A package for cigarettes or the like which comprises a product enclosed within a substantially hermetically sealed unitary "shell" formed from a composite multi-ply blank, said plies including a plurality of layers of paper and a plurality of layers of a synthetic elastomeric polymeric resin, said shell including a pair of opposed main panels, a pair of opposed side panels connected to the side edges of said main panels, opposed end panels connected to the end edges of said main and side panels, said end panels being formed from opposed first flaps attached to the end edges of said main panels and opposed second flaps attached to the end edges of said side panels and to the side edges of said first flaps, portions of said flaps adjacent the outer corners thereof being folded inwardly on diagonals running from the inner corners of said first flaps so as to lie between and against the inner surface of adjacent portions of said first flaps, said second flaps lying in subposed relationship with respect to the infolded portions of the first flaps, at least one of said polymeric resin plies being intact, integral, imperforate, and water-vapor impervious, at least one of said paper plies and at least one of said polymeric resin plies having a line of weakness extending transversely across one of said first flaps, thence along the fold line joining said one of the first flaps to a main panel to an inner corner thereof, thence along the extent of the fold line joining the adjacent second flap to its associated side panel, thence along the fold line joining the next adjacent first flap to its associated main panel to a point approximately opposite the position of the line of weakness in said one front flap, and thence transversely across said

next adjacent first flap, said plies being tenaciously bonded to one another whereby said imperforate ply will tear along with the ply having said line of weakness.

3,265,288
ENVELOPE
Donald Lum, Hilton, N.Y., assignor to Rochester Envelope Company, Inc., Rochester, N.Y., a corporation of New York
Continuation of application Ser. No. 193,403, May 9, 1962. This application Jan. 16, 1964, Ser. No. 340,586
13 Claims. (Cl. 229—78)



1. A reuseable, reversible bag or envelope formed of a pair of opposed panels and having an open end and a closed end, two-part fastening means having one part thereof located near said open end of the bag and a second part thereof located near said closed end of the bag, said bag being foldable upon itself in one orientation in which approximate halves of one of said panels are confronting and the other one of said panels serves as an exterior surface for bearing a set of indicia, said first described orientation being secured by the releasable engagement of said first and second parts of said fastening means, said bag being foldable upon itself in another orientation in which approximate halves of said other one of said panels are confronting and said one of said panels serves as an exterior surface for bearing another set of indicia, said second orientation being secured by the releasable engagement of said first and said second parts of said fastening means.

3,265,289
ENVELOPE WITH A RESEALABLE INSPECTION FLAP
Walter L. Hiersteiner, Mission, Kans., assignor to Tension Envelope Corporation, Kansas City, Mo., a corporation of Delaware
Filed Dec. 23, 1964, Ser. No. 420,741
1 Claim. (Cl. 229—80)

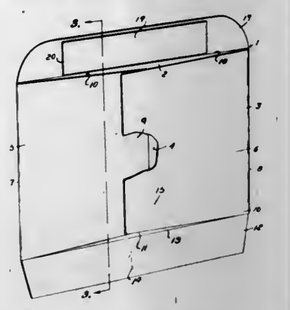
An article of manufacture comprising:

an envelope including substantially rectangular front and back panels connected along two edges to provide a pocket between said panels and open along the other two edges to provide an insert opening and an inspection opening, respectively,

an inspection flap integrally connected with one of the panels along an edge adjacent the inspection opening by a fold line and overlying a portion of the other panel,

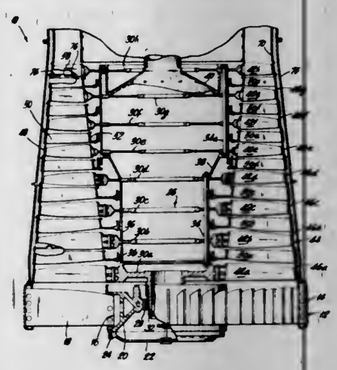
correspondingly located pressure sensitive resealable adhesive on said portion of the other panel and said inspection flap, respectively, and having the adhesive surfaces in sealing contact and forming a releasable and resealable adhesive seal, and thereby closing the inspection opening,

said contacting surfaces of the adhesives being peelable from each other to release said flap for inspection of contents of the envelope and to re-establish the seal when said surfaces are in contact upon reclosing of said inspection flap,



a second flap connected with one of the panels by a fold line along an edge adjacent said insert opening and extending parallel to said first named edge, said flap being adapted to be folded in overlying relation to said other panel to close said insert opening and being provided with a strip of dry moisture soluble adhesive capable of permanently securing said flap to said panel upon moistening of said adhesive.

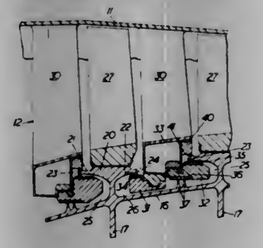
3,265,290
AXIAL FLOW COMPRESSORS FOR JET ENGINES
Anthony J. Cali, 2030 Bath Ave., Brooklyn, N.Y.
Filed Sept. 1, 1964, Ser. No. 393,608
5 Claims. (Cl. 230—122)



1. An axial flow compressor for a jet engine comprising a series of longitudinally aligned stationary stator sections arranged in end-to-end relation along the longitudinal axis of the compressor, each of said sections comprising a circular shroud having an inlet end and an outlet end and a front marginal circumferentially extending edge portion at said inlet end and a rear marginal circumferentially extending edge portion at said outlet end, said inlet end having a diameter greater than said outlet end, a series of circumferentially spaced guide vanes positioned in the rear portion of said shroud and extending radially inwardly toward said longitudinal axis, said front edge of said shroud being positioned forwardly of said guide vanes, the rear edge portion and front edge portion of adjacent stator sections having loosely interengaging parts for loosely interconnecting said stator sections to each other, a fairing having a front edge rigidly connected to the rear edge portion of an adjacent stator

section and having a circular body portion extending rearwardly and radially inwardly from said fairing front edge to a particular diameter and, thereafter, reawardly and radially outwardly to a larger diameter, a series of longitudinally aligned rotor sections spaced from each other longitudinally along the longitudinal axis of said compressor, each rotor section being positioned between successive pairs of stator sections in the space between the front edge of the stator section and its guide vanes, and a rotor section positioned within said fairing body portion between said fairing front edge and said position of said fairing body portion at said particular diameter and adjacent said guide vanes of said adjacent stator section, said last mentioned rotor section having a diameter which is greater than said particular diameter.

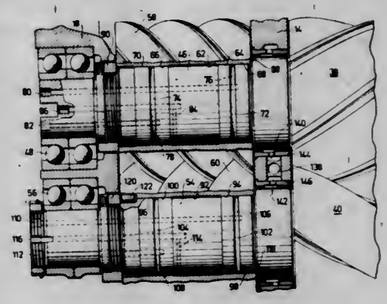
3,265,291
AXIAL FLOW COMPRESSORS PARTICULARLY FOR GAS TURBINE ENGINES
David Omri Davies, Derby, and Robert Vaughan Blackhurst, Ripley, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed Oct. 7, 1964, Ser. No. 402,252
Claims priority, application Great Britain, Oct. 18, 1963, 41,352/63
5 Claims. (Cl. 230—122)



1. An axial flow compressor comprising a compressor casing, a rotor shaft mounted within the casing, a plurality of axially spaced rotor discs provided on said rotor shaft, a peripheral flange provided on each disc and extending axially upstream and downstream of the respective disc, each said peripheral flange being disposed radially outwardly of the shaft so as to define annular spaces therewith, a plurality of angularly spaced apart rotor blades carried by each said peripheral flange, a plurality of rows of angularly spaced apart stator blades mounted within the casing, and a sealing ring assembly carried by each row of stator blades, each sealing ring assembly extending into both the adjacent annular spaces between two adjacent peripheral flanges and the shaft, extending radially inwardly of both said adjacent peripheral flanges, and being in sealing relationship with the radially inner surfaces of the upstream and downstream portions of said flanges.

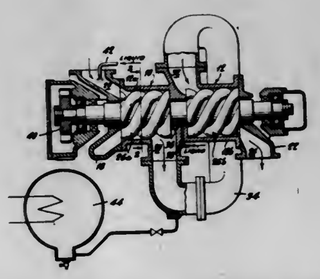
3,265,292
SCREW ROTOR MACHINE
Lauritz Benedictus Schibbye, Saltsjo-Duvnas, Sweden, assignor to Svenska Rotor Maskiner Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed Jan. 3, 1966, Ser. No. 518,394
Claims priority, application Sweden, Jan. 13, 1965, 373/65
13 Claims. (Cl. 230—153)

1. A screw rotor machine for an elastic working fluid comprising coaxial rotors journalled in a housing in parallel groups and provided with helical lands and intervening grooves having wrap angles of less than 360°, one rotor in a group cooperating with a rotor in another group within each set of axially equally located rotors of the different groups and one of said cooperating rotors at least in one set being of male rotor type and the other of female rotor type, the housing having at least one working space provided with low pressure and high pressure ports and barrel and end walls sealingly enclosing rotors provided therein, one rotor at least in a first coaxial rotor group comprising at least one axially projecting stud, at least one further rotor having a central bore surrounding and connected with said stud by the interference between at least one pair of rotationally



symmetrical surfaces located on the stud and in the bore, respectively, said interconnected rotors being provided with means for accurately determining their relative axial position, and at least one channel being provided in one of said interconnected rotors, said channel having an opening located in the barrel surface of the rotor axially between the ends of said further rotor and another opening provided with means for connection to a source of liquid under high pressure, whereby with the rotors standing still liquid can be pressed in between the stud and the surrounding further rotor.

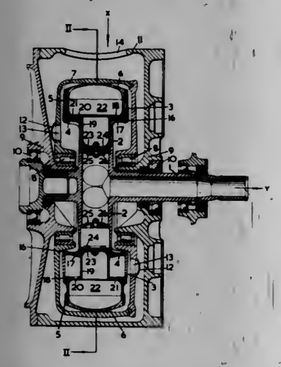
3,265,293
VACUUM PUMP OF THE SCREW ROTOR TYPE AND METHOD FOR OPERATING THE SAME
Lauritz Benedictus Schibbye, Saltsjo-Duvnas, Sweden, assignor to Svenska Rotor Maskiner Aktiebolag, Nacka, Sweden, a corporation of Sweden
Continuation of application Ser. No. 320,568, Oct. 31, 1963, which is a continuation of application Ser. No. 52,485, Aug. 29, 1960. This application Jan. 10, 1966, Ser. No. 519,630
Claims priority, application Sweden, Sept. 8, 1959, 8,297/59
15 Claims. (Cl. 230—143)



1. A multiple stage vacuum pump for compressing an elastic fluid from a sub-atmospheric inlet pressure to a delivery pressure for discharge to ambient atmosphere, comprising a main compression stage of the helical screw rotor type having intermeshing male and female rotors

providing apositive sealing and further comprising a pre-compression stage for pre-compressing said fluid from said inlet pressure and delivering it at an intermediate pressure to said main compression stage, said pre-compression stage having a pressure ratio not exceeding 5 to 1 and operating to effect a pressure rise in said pre-compression stage not in excess of 15% of the total pressure rise from said inlet pressure to said delivery pressure.

3,265,294
MULTI-STAGE COMPRESSOR INCLUDING ONE OR MORE RECIPROCATABLE PISTONS
Michael S. Hunt, Coventry, England, assignor to Bristol Siddeley Engines Limited, Bristol, England
Filed May 20, 1964, Ser. No. 368,772
Claims priority, application Great Britain, May 24, 1963, 20,749/63
5 Claims. (Cl. 230—198)

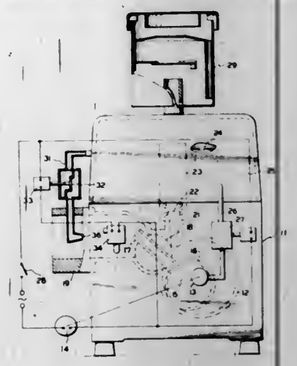


1. A two-stage compressor including at least one compound piston providing said two stages of compression, the piston having a large diameter end portion and a co-axial smaller diameter end portion, a similarly shaped cylinder in which the piston is reciprocatable, the larger diameter end portion of the cylinder constituting the low pressure stage of compression and the smaller diameter end portion of the cylinder constituting the high pressure stage of compression, an annular shoulder between the two end portions of the cylinder, a first valve in said annular shoulder of said cylinder operative to admit working fluid on induction strokes of the piston to the low pressure stage of the cylinder, an interstage storage chamber within said piston, an annular shoulder between the two portions of the piston, a second valve in said annular shoulder of said piston operative to discharge working fluid from the low pressure stage of the cylinder into said interstage storage chamber on compression strokes of the piston, a third valve in the smaller diameter end portion of the piston operative to discharge working fluid from said interstage storage chamber into the high pressure stage of the cylinder on induction strokes of the piston, and a fourth valve in the smaller diameter end portion of the cylinder operative to permit discharge of working fluid from the high pressure stage of the cylinder on compression strokes of the piston.

3,265,295
PUMP
RobRoy Cyr, Medfield, Mass., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed July 31, 1964, Ser. No. 386,531
4 Claims. (Cl. 230—207)

1. In an oil-sealed mechanical vacuum pumping means, of the type including a lubricant reservoir open to atmosphere and elevated with respect to the pumping means and a lubricating line leading from said reservoir to the interior of the pumping means through its bearing clearances, the improvement comprising:

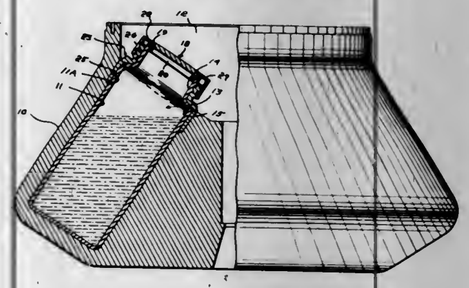
(a) a connection from said reservoir directly to the suction connection of the pumping means and through which lubricant may flow by gravity;



(b) valve means in said connection and controlling the flow of lubricant therethrough,

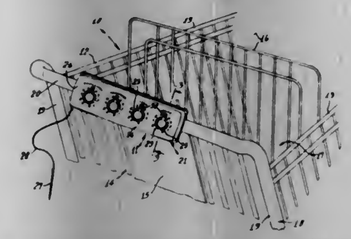
(c) pressure responsive means closing said valve when pressure in the suction connection falls below a predetermined value.

3,265,296
PLASTIC CENTRIFUGE BOTTLES AND CAPS THEREFOR
David F. Mitchell, Tewksbury, Mass., assignor to International Equipment Company, Needham, Mass., a corporation of Massachusetts
Filed Mar. 6, 1964, Ser. No. 349,837
3 Claims. (Cl. 233—26)



1. In combination, a centrifuge rotor having a plurality of angularly disposed cavities, each cavity having a counter bore in its upper end, a plastic centrifuge bottle dimensional to fit a rotor cavity and including an externally threaded neck defining a shoulder, the open end of said neck constituting an annular, outwardly exposed seat; a jacket including a neck portion threaded on said bottle neck and a skirt portion overlying the shoulder of said bottle, and extending a short distance below said shoulder, said skirt portion dimensioned to fit a counter bore, the neck portion of said jacket being externally threaded; and a cap comprising a retainer threaded on said neck portion and including a clamping portion overlying the mouth of said bottle, a closure including a disc member overlying said mouth and fitting freely within said retainer under said clamping portion, and an annular seal of the O-ring type carried by said closure and seated on said seat, said jacket neck portion being positioned relative to said seat and the threaded connection between said jacket neck portion and said retainer being of sufficient extent to enable said seal to be compressed axially between said seat and said disc member by said clamping portion as said retainer is secured.

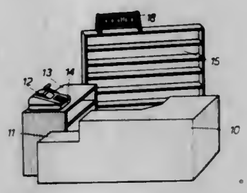
3,265,297
PUSH CART ATTACHMENT
Erroll W. Behrens, 2732½ Lydia St., Jacksonville, Fla. 32205
Filed May 28, 1965, Ser. No. 459,779
2 Claims. (Cl. 235—1)



1. An adding machine attachment for releasable connection to an elongated push bar of a wheeled shopping cart for use by the shopper comprising an adding machine having a casing and working components housed in and manipulatable by the shopper at the front face of said casing, and a device releasably connecting said adding machine to the elongated push bar of the push cart to dispose said adding machine outwardly thereof and facing the shopper; said casing having a back wall, said device comprising a plate component glued to said back wall, a pair of spaced clips for releasably gripping the push bar; each of said clips comprising an elongated resilient member having opposite end lengths, connecting means for fastening said clips to said plate component between said end lengths, said end lengths having respective first sections extending rearwardly of said plate component in spaced relation, and having respective end sections spaced from each other and disposed in the space between said first sections, said end lengths having respective return bends integrally interconnecting the first sections and end sections of respective said end lengths, said return bends being spaced to provide an opening into the clip for receiving the push bar into gripping engagement in the space between said end sections and for withdrawal of the push bar from gripping engagement in the space between said end section upon bending of said end lengths of said resilient member.

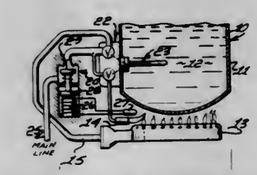
3,265,298
CASH REGISTER WITH REMOTE INDICATOR
Leif Malcolm Andersen, Bergen, Norway, assignor to Jorgen Sigurd Lien, Bergen, Norway
Filed Apr. 4, 1962, Ser. No. 185,124
Claims priority, application Norway, Apr. 6, 1961, 139,745
1 Claim. (Cl. 235—23)

A sales indicating apparatus comprising a cash register and an auxiliary indicating mechanism in operative association with said register and spaced apart therefrom, said register including an indicating, printing and data storing mechanism and an adding machine mechanism, the latter mechanism comprising a plurality of slide members and a corresponding number of digit key rows forming a keyboard, each of said rows of keys cooperating with a corresponding one of the slide members, said slide members each being adapted to be moved a distance which is proportional to the figure on a depressed key of a row of keys, and means for transmitting slide member movement to said indicating, printing and data storing mechanism, said apparatus further including shafts for said slide members, a selected number of the rows of keys each having their respective slide member operatively engaged with a corresponding shaft, first and second levers secured to said shaft, the first lever being connected to its slide member so as to be able to rock a distance proportional to the movement of said slide member, and a movable contact being connected to the second lever which can be moved a distance which is proportional to the movement of the first lever, the auxiliary indicating mechanism comprising lamps, a series of ten stationary contacts, one for each figure in a row of keys, being electrically connected to individual lamps



of said mechanism, said movable contact being arranged to cooperate with said stationary contacts and the connection between the slide member and the movable contact being a one-way connection, said movable contact being spring-biased into engagement with said one-way connection, said apparatus further comprising a locking mechanism arranged to lock the movable contact in the position to which it has been moved by its connection with the slide member when the slide member moves back to its starting position, said locking mechanism being released when the slide member starts to move forward.

3,265,299
EXCESSIVE TEMPERATURE CUT-OFF CONTROL
Harold W. Rice, Fullerton, and Douglas R. Scott, Santa Ana, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed July 24, 1963, Ser. No. 297,393
16 Claims. (Cl. 236—21)



4. Gas control apparatus including a housing having a main gas inlet and outlet with a main gas passage therebetween and with a valve interposed between the main gas inlet and outlet in said main gas passage, a temperature sensor mounted for operating said valve from an open to a closed position, a pilot gas passage through said housing, safety shut off means controlling both said main and pilot gas passages and being movable from open to shut-off positions whenever said pilot gas passage is closed, and an over temperature responsive control device for said pilot gas passage comprising:

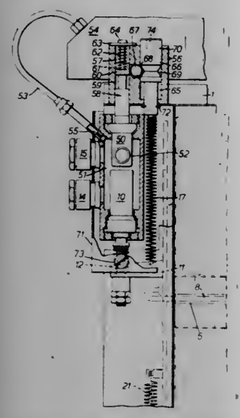
a means for interrupting said pilot gas passage,

a lever abutting said interrupting means and temperature sensor,

a means for pivoting said lever mounted on said housing and abutting said lever,

whereby selected movement of said temperature sensor is transmitted to said interrupting means through the lever.

3,265,300
RADIATOR SHUTTER MECHANISMS
Lionel Henry Selway, Wembley, England, assignor to The Varivane Company Limited
Filed July 27, 1964, Ser. No. 385,282
Claims priority, application Great Britain, July 26, 1963, 29,695/63; Nov. 25, 1963, 46,417/63
10 Claims. (Cl. 236—35.2)



1. A temperature responsive actuator including an actuating member, first biasing means coupled to the actuating member to urge the actuating member in one sense, a first temperature responsive means for moving said actuating member in opposition to said biasing means, a release mechanism operative to reduce the effect of said first biasing means, a second temperature responsive means operable at a given temperature to actuate said release mechanism, a second biasing means operable in the same sense as the first temperature responsive means to move said actuating member in the opposite sense to said first biasing means, and means for adjusting the temperature at which said release means operates.

3,265,301
ABSOLUTE HUMIDITY CONTROL AND INDICATION APPARATUS
Elias J. Amdur, St. Louis Park, Robert H. Gasch, Jr., Long Lake, and Robert W. White, Glen Lake, Minn., assignors to Honeywell Inc., a corporation of Delaware
Filed July 2, 1963, Ser. No. 292,317
5 Claims. (Cl. 236—44)

2. In an absolute humidity control system for controlling the quantity of moisture in the air of a high temperature gas source,

a heat exchanger having a first passageway with an inlet and an outlet,

a source of cooling medium,

conduit means connecting said source to said inlet and outlet in a series whereby said medium is circulated at a constant rate through said first passageway to remove heat from said heat exchanger,

a differential temperature sensing means having a first temperature sensor mounted on said inlet and a second temperature sensor mounted on said outlet, said sensing means having an output indicative of the temperature difference between the inlet medium and outlet medium to said heat exchanger, said heat exchanger having a second passageway having an inlet and an outlet and connected in thermal relation to said first passageway,

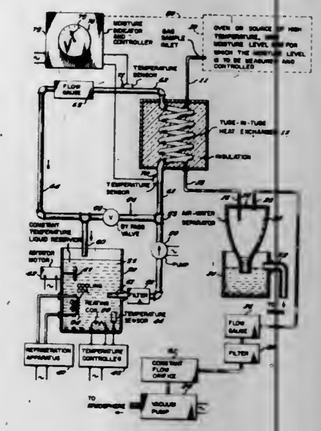
conduit means adapted to connect said inlet of said second passageway to continually sample high temperature-high moisture level gas from the source,

an air and water separator means,

a constant air flow control means,

a vacuum pump,

conduit means connecting said outlet of said second passageway, said separator means, said constant flow control means, and said vacuum pump in series whereby moist air is drawn into said inlet of said

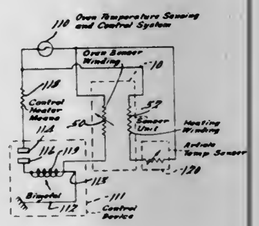


second passageway, cooled, the moisture condensed, and after a predetermined quantity of the water is separated the air is pumped to the atmosphere by said vacuum pump,

control means adapted to change the moisture level in the air of said gas source,

and means connecting said output to said control means.

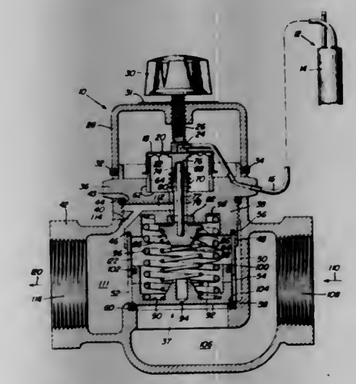
3,265,302
OVEN SENSER WITH BIASING WINDING
Anthony K. Otto, Ann Arbor, Mich., assignor to King-Seeley Thermos Co., Ann Arbor, Mich., a corporation of Michigan
Filed Sept. 26, 1963, Ser. No. 311,739
3 Claims. (Cl. 236—68)



1. In an oven temperature sensing and control system for establishing a temperature equilibrium condition between an oven and an article being heated in said oven, bimetal control means having a pair of openable and closeable contacts operable to control the temperature of the oven in accordance with the ratio of open to closed contact time, oven temperature sensing electrical resistance means having a high temperature coefficient of resistance connected in circuit in series with said bimetal control means, said oven temperature sensing electrical resistance means being adapted to be mounted in the oven in heat transfer relationship with the heating environment of the oven and being effective to control the oven temperature,

heating wire means mounted in juxtaposition with said oven temperature sensing electrical resistance means for applying a controlled amount of additional heat to said oven temperature sensing electrical resistance means, article temperature sensing means including high temperature coefficient resistance means controllably connected in series circuit with said heating wire means to apply additional heat to said oven temperature sensing electrical resistance means in amounts proportional to changes in temperature of the article and resulting in corresponding change in oven temperature and the oven temperature and the article temperature approaching substantially equilibrium temperature.

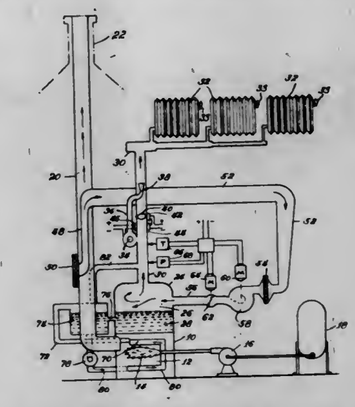
3,265,303
TEMPERATURE REGULATING VALVE
James E. Harris, Fort Washington, Pa., assignor to Honeywell Inc., a corporation of Delaware
Filed Apr. 14, 1964, Ser. No. 359,726
7 Claims. (Cl. 236—80)



4. A unitary cage and pilot valve structure to precisely regulate the rate of flow of a fluid passing from the upstream to downstream side of the valve to a level that is proportionate to the temperature of a condition being sensed by a temperature-responsive means, the improvement comprising the provision of a restricted passageway connecting a chamber comprised of an inner wall of a plug and an associated inner wall of a cage with the fluid pressure on the upstream side of the valve, a passageway connecting the chamber with the fluid pressure on the downstream side of the valve, a plug of a pilot valve operably connected for movement with a temperature-responsive means into and out of preselected restricted positions with one end of the last-mentioned passageway, a spring biased plug mounted for slidable movement within the chamber, and a force balance feedback spring positioned for compressed movement at one of its ends by the plug of the pilot valve and positioned for substantially simultaneous compressed movement at its other end by the plug that is in slidable engagement with the cage.

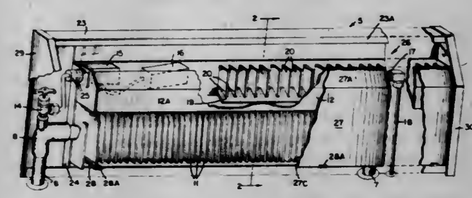
3,265,304
PRESSURE VAPOR HEAT SYSTEM
Casper J. Gatza, 3040 Elston Ave., Chicago, Ill.
Filed Mar. 30, 1964, Ser. No. 355,765
4 Claims. (Cl. 237—67)

1. In a one pipe pressure heat vapor system, the combination with a water heating boiler having a water dome, a fire box and a burner therein, a smoke stack extending from the fire box, and a main heating pipe with radiators connected to the boiler; of a heat booster generator between the burner and water in the dome, a separator for water and vapor, and a vapor connection to the said main heating pipe; a stack heater having a heat transfer member in the stack, and means for forcing heated air from the member into the top of the dome to heat vapors therein and force them into the main heating pipe; and a vapor pump connected to the main heating pipe with a



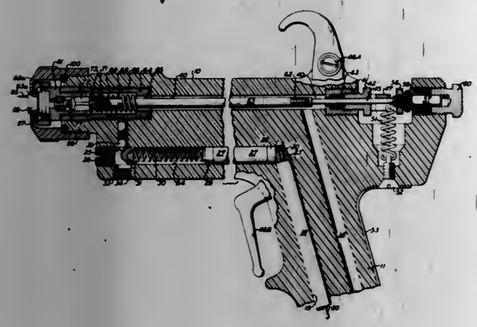
motor to force steam vapor through a venturi into the said pipe at a temperature less than that of steam, to add its heating effect to the radiators; the booster, stack and vapor heaters all connected with the main heating pipe and adding their heating effect to that of the water heating boiler to prolong and equalize it, and to reduce the stack temperature which is due to the operation of the burner.

3,265,305
COMBINED HUMIDIFIER AND HOT WATER RADIATOR
Sanders R. Johnson, Lakehurst, North Windham, Maine
Filed Oct. 9, 1964, Ser. No. 403,449
5 Claims. (Cl. 237—78)



1. A combined humidifier and radiator for hot water heating systems comprising a housing of heat conductive material, having an upwardly opening, lengthwise slot in the upper portion of its outer wall, a heating unit in the lower portion of said housing including a lengthwise water conduit of heat conductive stock for connection with an inlet and an outlet of the system, and a plurality of approximately rectangular fins of heat conductive stock through which the conduit extends and with which said conduit is in thermal contact, and an elongated, open tank of heat conductive stock within said housing below said slot, said tank being supported by and in thermal contact with said fins, said outer housing wall and the proximate wall of said tank being spaced and arranged to establish an air conduit effecting communication between the heating chamber and the space between said tank and said slot, and said tank including a float controlled inlet for connection with the inlet of said system.

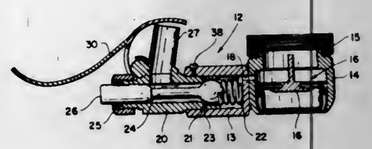
3,265,306
SPRAY GUN
Warren G. Fischer, St. Charles, and Arvid C. Walberg, Lombard, Ill., assignors to H. G. Fischer & Co., Franklin Park, Ill., a corporation of Illinois
Original application Jan. 30, 1963, Ser. No. 254,899, now Patent No. 3,248,059, dated Apr. 26, 1966. Divided and this application Dec. 9, 1965, Ser. No. 512,692
8 Claims. (Cl. 239—15)



1. An electrostatic gun for hydraulically atomizing and spraying liquid coating material comprising a body provided with a passage with a liquid intake for connection to a source of liquid under high pressure, said passage having an outlet, a valve and nozzle assembly secured to said body at said outlet through which liquid is discharged into atmosphere when said valve is open, means for opening said valve from a normally closed position, said nozzle assembly comprising two serially connected nozzles with a small chamber therebetween, the first of said nozzles having a restrictive orifice for discharging into said chamber a jet of high velocity coating material, the second of said nozzles having a discharge orifice for receiving the jet of coating material for discharging liquid into atmosphere said second nozzle being of refractory material for withstanding wear, said gun having some parts thereof of metal through which coated material passes from the discharge end of said body passage, means connected to such metal parts for charging the same to a high potential thereon with respect to work to be coated, electrical insulation for withstanding such high potential covering all metal in said gun which is charged to such high potential and a pin-shaped charging electrode connected to such high potential charged metal within said insulation and extending through such insulation and terminating in a sharp point, the charging electrode portion exposed to atmosphere being laterally offset from the refractory nozzle by a distance of the order of about 3/16" and extending forwardly beyond the nozzle tip.

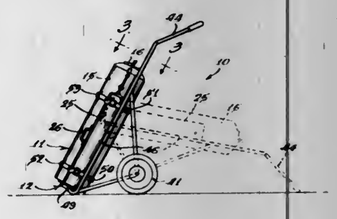
3,265,307
DRINKING FOUNTAIN ATTACHMENT FOR FAUCET
Thomas Slater, Jr., 14057 32nd NE., Seattle, Wash.
Filed Oct. 2, 1964, Ser. No. 401,119
2 Claims. (Cl. 239—25)

1. A drinking fountain attachment for a water faucet having a spout from which water may be discharged under pressure; said attachment comprising an aerator housing equipped for its application to the said faucet spout for the discharge of water therethrough, a tubular valve housing attached at one end to said aerator housing and extended laterally therefrom; said valve housing having a water inlet opening thereinto at its inner end from said aerator housing, a fountain tube extending into the outer end portion of the valve housing and formed with a valve seat at that end, a valve member contained in said fountain tube to close against said valve seat under pressure, a stem extended outwardly within said fountain tube and slightly beyond its outer end, a drinking tube applied to and extended upwardly from said fountain tube, and a valve opening lever pivotally mounted between its ends on the drinking tube; said lever having a flattened and downwardly arched upper end portion normally protectively overlying the discharge end of the drinking tube when the valve is closed, and having a



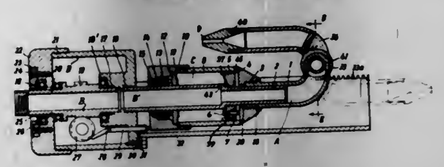
lower end portion adapted to be pressed inwardly and downwardly against the extended end portion of the valve stem, thus to unseat the valve and swing the upper end of the lever clear of the drinking tube for an upward flow of water therefrom; and a coil spring confined under pressure in said valve housing to urge said valve member against its seat, and spring means acting against said valve opening lever to normally retain said valve opening lever in a drinking tube overlying position when said valve is closed.

3,265,308
YARD AND GARDEN SPRAY DEVICE
Homer W. Hopkins, 1201 Meriden St., Mendota, Ill.
Filed Mar. 16, 1964, Ser. No. 351,913
2 Claims. (Cl. 239—172)



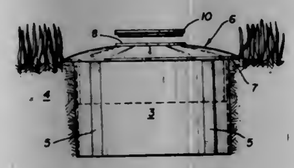
1. A chemical spray unit including, a liquid chemical spray tank having a spray nozzle, a base end and a top opening for filling and emptying thereof, a compressed air tank, a fluid line connecting said tanks together including a quick-disconnect coupling, and means facilitating handling of said tanks including a frame having an axle and a pair of ground-engaging wheels, a handle at an end of the frame remote from the axle and having a terminal end, a tank-supporting platform at the lower end of said frame for supporting the tanks in side-by-side relation, a tank support intermediate the ends of the frame on which the tanks partially rest, first fastening means including a releasable strap for securing the chemical tank to the frame, and second fastening means including a releasable strap for securing the compressed air tank to the frame, said spray unit having a spraying position and an emptying position, in said spraying position said chemical tank being supported in a generally upright position, and in said emptying position, said chemical tank having its base end elevated above its top and having the handle terminal end in engagement with the ground.

3,265,309
SWINGING NOZZLE DEVICE FOR CLEANING PIPES, STORAGE TANKS AND THE LIKE
Paul Hammelmann, 17 Zum Sundern, Oelde, Westphalia, Germany
Original application Jan. 31, 1961, Ser. No. 86,061. Divided and this application Jan. 13, 1965, Ser. No. 425,298
Claims priority, application Germany, Mar. 11, 1960, H 38,886
4 Claims. (Cl. 239—187)



1. A cleaning jet device, comprising conduit means for supplying fluid under pressure, jet discharge means including a reciprocable discharge tube, means for effecting reciprocation of said discharge tube and nozzle means communicating with and carried swingably by said discharge tube, nonreciprocating rack means extending parallel and adjacent to said discharge tube and relative to which said discharge tube is reciprocable, and gear means reciprocable with said discharge tube and rotatable relative thereto, rigidly connected to said nozzle means, meshing with said rack means and rotated by engagement therewith as said discharge tube reciprocates to swing said nozzle means.

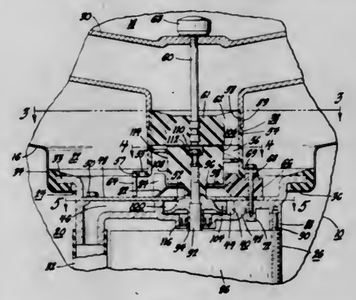
3,265,310
SPRINKLER HEAD PROTECTOR
Felix Cohen, 2465 S. Kearney St., Denver, Colo. 80222
Filed Aug. 7, 1964, Ser. No. 388,165
7 Claims. (Cl. 239—201)



2. A sprinkler head protector comprising a base portion for insertion into the soil in surrounding relation to a sprinkler head, said base portion having circumferentially spaced ribs of triangular section spaced at about 90° and extending from its exterior surface, a separable hooded portion with a flanged inner surface for insertion in frictional engagement with the inner surface of the base portion and having an overhanging grass-inhibiting portion extending outwardly from the annular portion over the adjoining grassed area, said hooded portion being of curved section with a central bore through its upper surface to allow sprinkling therethrough and having its upper exterior surface corrugated for facilitating drainage therefrom.

3,265,311
DOMESTIC APPLIANCE
Frank E. La Flame, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 30, 1964, Ser. No. 341,209
4 Claims. (Cl. 239—251)

1. In a dishwashing apparatus the combination of, washing fluid distributing means, means including a bottom member forming a fluid containing sump volume for receiving fluid from said distributing means, first pump means for supplying fluid to said distributing means, second pump means for draining fluid from said sump volume, motor means reversible to drive said pump means in opposite directions of rotation for causing them to alternately pump fluid from said sump volume, diverter means for directing fluid from the lowest level in said sump volume across said bottom member to an inlet to each of said pump means, said diverter means including a plurality of circumferentially located radially outwardly directed conduit portions each having spaced apart side walls supported on said bottom member, said first pump means including a tubular pump housing supported by said conduit portions, means interconnecting said pump housing to said conduit portions and said conduit means to said bottom member, said conduit portions extending radially outwardly of said pump housing and including

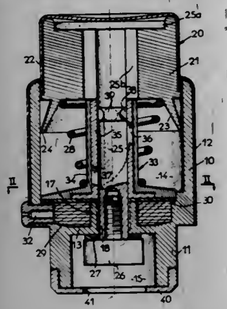


inlet means formed in part by said side walls directly communicating with the sump volume at said bottom member and outlet means located radially inwardly of said inlet means communicating with the inlet to said second pump means, said diverter means further including an upwardly inclined ramp intermediate spaced apart ones of said side walls of said tubular portions, said side walls of said conduit means defining with said bottom member an inlet passageway across said bottom member to said ramp, said ramp having a radially outer edge portion engaging said bottom member for directing fluid from said inlet passageway across said bottom member at the lowest level of said sump volume into the inlet of said first pump means whereby said first pump means during a washing cycle of operation serves to comminute particles collected on said bottom member prior to the washing cycle of operation.

3,265,312
ATOMIZER
Paul Curti, Zwinglistrasse 10, Sankt Gallen, Switzerland
Filed Sept. 25, 1964, Ser. No. 399,304
Claims priority, application France, Sept. 30, 1963, 949,134
8 Claims. (Cl. 239—355)

1. An atomizer comprising in combination: a generally tubular body having an intermediate transverse partition separating an annular skirt-forming upper portion and a plug-forming lower portion adapted to be inserted in the neck of a container filled with the product to be atomized, said partition being provided with intercommunicating means, a piston slidably mounted in said skirt-forming upper portion and defining therein a chamber closed by said piston, a return member housed in said chamber to urge said piston in an outwards direction with respect to said chamber, a pad of absorbent material disposed in said chamber in adjacent relationship with said partition, an atomizing nozzle provided in said tubular body at the level of said pad, a sleeve solid with said body and extending axially within said chamber, a rod connected to said piston and extending slidably through said sleeve and said partition, locking means for holding said piston in

its retracted position and consisting of a ball axially solid with said rod and adapted to move along a curved guideway formed in the inner wall of said sleeve, said guideway comprising at its lower end an elbow beyond which said ball is adapted to move when said piston is moved



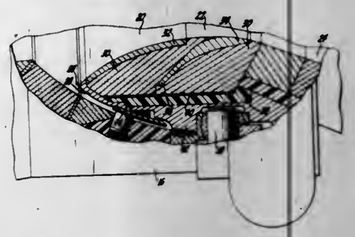
to its retracted position so as to lock said piston in this position, and further means associated with said piston for discontinuing the flow of product to be atomized into said chamber.

3,265,313
DEVICE FOR MIXING TWO FLUID STREAMS
Jean Camille Hyppolyte Paris, % Secretariat de M. Marsot, 152 Champs-Elysees, Paris, France
Original application May 1, 1962, Ser. No. 191,594. Divided and this application May 12, 1965, Ser. No. 470,280
Claims priority, application France, May 3, 1961, 860,586
4 Claims. (Cl. 239—427.5)



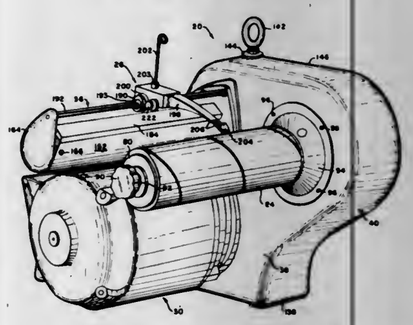
1. In an oil burner, in combination, a cylindrical shell having an open end, fuel-supply means including a tubular nozzle extending substantially axially within said shell and terminating therewithin ahead of said open end, said nozzle having an outlet spaced from said open end for discharging a substantially conical stream of atomized fuel toward said open end, means for creating a generally axial air flow in said shell toward said open end, and annular baffle means spacedly surrounding said nozzle with an annular clearance in the path of said air flow, said baffle means forming at least one substantially frustoconical channel diverging from the vicinity of said nozzle outwardly toward said shell in the direction of said open end for subdividing said air flow into an inner branch through said clearance and along said nozzle allowed to mix with said atomized fuel in the vicinity of said outlet of said nozzle and into an outer branch diverted through said channel toward said shell for mixture with said conical stream at a location forwardly of said outlet toward said open end, said baffle means comprising an inner baffle and a plurality of outer baffles, at least said outer baffles having substantially frustoconical surfaces forming said channel therebetween, said inner baffle being disk-shaped and disposed in a plane transvere to the nozzle axis while being provided with at least one circular array of perforations transverse to the axis of said shell and in the path of said air flow for passing individual axial streams thereof through said perforations in the direction of said open end.

3,265,314
HEAT DISPERSING SWIVEL ROCKET NOZZLE LINER
Harold E. Helms, Indianapolis, Kenneth O. Johnson, Camby, and James A. Pyne, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 13, 1963, Ser. No. 308,906
1 Claim. (Cl. 239—591)



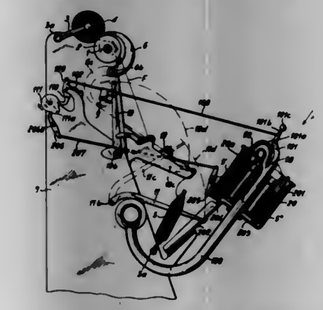
A rocket engine vectoring exhaust nozzle having a nose portion, a converging portion, a throat portion, and a heat flow path controlling liner system comprising, in combination, a carbon mass forming the larger portion of the nozzle structure, a tungsten liner at the nose portion of the nozzle, a pyrolytic graphite liner shielding the converging portion of the nozzle, said pyrolytic graphite liner portion having its one-dimensional heat conduction characteristics oriented to cause the heat to flow along the nozzle surface, parallel to the flow of gases through the nozzle, thereby restricting radial heat flow, a tungsten liner exposed at the throat portion of the nozzle having a portion extending radially and toward the nose portion through said carbon mass externally of and spaced from the pyrolytic graphite liner, both said tungsten liners providing paths to conduct the heat to interior points in the carbon mass, the combination of said liners providing a heat flow path to favorably control the heating rate throughout the carbon mass thereby reducing the possibility of thermal shock and local failures.

3,265,315
WINDER
Edward G. Mueller, Huntingdon Valley, Pa., assignor, by mesne assignments, to Maremont Corporation, Chicago, Ill., a corporation of Illinois
Filed July 29, 1963, Ser. No. 298,040
23 Claims. (Cl. 242—18)



1. A thread winding machine comprising a motor, a gainer mechanism operably connected to said motor, rotatable means for supporting a package adapted to have a thread wound thereon drive-connected to said motor, reciprocable means for guiding a thread onto said package, means including a rotatably mounted cam drive-connected to said gainer mechanism for reciprocating said thread guiding means, and a gainer housing surrounding said gainer mechanism, the axial centerlines of said cam and said package supporting means being fixed relative to each other, and said thread package supporting means, said cam, and said motor being fixed to and supported from said gainer housing.

3,265,316
AUTOMATIC YARN-WINDING MACHINE
Stefan Fürst, Monchen-Gladbach, Germany, assignor to Walter Reiners, Monchen-Gladbach, Germany
Filed Mar. 30, 1964, Ser. No. 355,585
Claims priority, application Germany, Mar. 30, 1963, R 34,822
6 Claims. (Cl. 242—35.6)



1. In a yarn winding machine for winding yarn from yarn-supply coils into larger packages having a supply-coil holder and a take-up package holder and a yarn path between the two holders, a knotter disposed along the path for joining the respective yarn ends from the coil and the package, and first yarn-seeking means for passing the respective ends to the knotter, the combination of a supply-coil magazine apparatus comprising a plurality of compartments for receiving supply coils sequentially dischargeable onto the supply-coil holder so as to substitute a new coil for a depleted coil doffed therefrom, automatic yarn-readying means disposed on said magazine apparatus and having second yarn-seeking means actuable upon the coils in said compartments for entraining therefrom a starting length of yarn in a given position to which said first yarn-seeking means has access as each supply coil passes from said magazine apparatus onto said coil holder, and manually actuable yarn-readying means also disposed on said magazine apparatus and operable for entraining from selected coils a starting length of yarn in said given position.

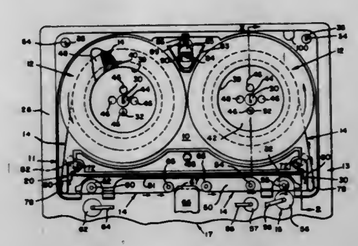
3,265,317
TAPE CARTRIDGE
Max M. Liang, San Mateo, Michael J. Markakis, Palo Alto, and Sammy J. Ferguson, San Jose, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Mar. 18, 1964, Ser. No. 352,728
7 Claims. (Cl. 242—55.13)

1. A tape cartridge adapted for use with apparatus for recording and reproducing signal information, said cartridge comprising:

(a) a casing having an opening therein,

(b) a pair of tape reels rotatably supported in the casing, each of said reels adapted to have one end of the recording tape wound around it,

(c) guide means in said casing for directing and maintaining the portion of tape intermediate the two reels in an extended path in a looped configuration, said extended path positioning the tape at a predetermined location relative to said opening, said guide means including at least one resilient element supported in said casing between one of said reels and said opening, said element being adapted to engage the tape and tension the same, and



(d) an electrical contact carried by said casing in operative relation to said resilient element, said contact being operated by a predetermined movement of said element.

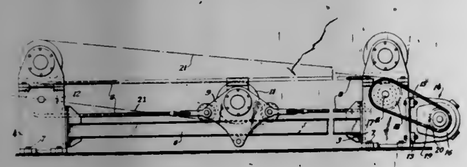
3,265,318
MAGNETIC TAPE MACHINE
William A. Ellmore, Saratoga, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed May 4, 1964, Ser. No. 364,666
11 Claims. (Cl. 242—74)

1. A take-up hub for a magnetic tape recorder comprising: a circular base and spaced teeth mounted around the circumference of the base, each tooth having the shape of a tetrahedron and having one edge perpendicular to the base.

3,265,319
AUTOMATIC TENSIONING APPARATUS
Thomas Hindle and David Dugmore Banks, both of Blackburn, England, assignors to Hindle Son & Co., Limited, Lancashire, England
Filed Apr. 17, 1964, Ser. No. 360,610
Claims priority, application Great Britain, Apr. 19, 1963, 15,595/63
1 Claim. (Cl. 242—753)

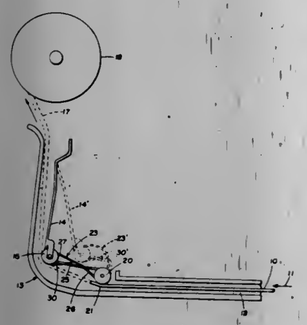
Tensioning apparatus comprising two endless chains, a pair of spaced parallel chain-supporting shafts, bearings for said shafts, fixed supports for said bearings, spaced sprockets fixed to the respective shafts and which are embraced by the respective chains and so arranged as to define parallel runs of the chains which are spaced apart a distance exceeding the width of the material to be tensioned, each of said parallel chain-runs including an assembly comprising a shaft bearing, the assemblies being so relatively located that the shaft bearings are coaxial, a shaft having its axis parallel to the chain-supporting shafts and its end portions arranged in turn in the bearings comprised in the assemblies, a tension roll

fixed to said last-named shaft intermediate its end portions, one of the chain-supporting shafts extending outwardly beyond its bearing and a sprocket fiexd to said outwardly extending portion of the shaft, a fluid pressure motor of the kind which has a rotary output shaft, means fixedly securing said motor to one of the shaft-bearing supports in such position that its output shaft is parallel to the chain-supporting shafts, a sprocket fixed to the



motor shaft, an endless chain embracing the sprocket on the motor shaft and the sprocket on the outwardly extending end portion of the chain-supporting shaft, a conduit operative to supply pressure fluid from a source to the inlet of the motor, and automatic regulating valve means normally operative to maintain a constant fluid pressure at the intake of the motor, said regulating valve means being manually adjustable whereby to set it for maintaining various selected pressures.

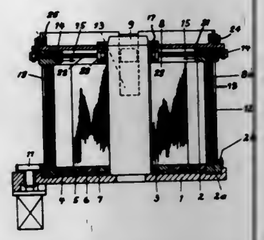
3,265,320
FLEXIBLE THREADING GUIDE
Robert B. Johnson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester N.Y., a corporation of New Jersey
Filed May 14, 1964, Ser. No. 367,379
7 Claims. (Cl. 242—76)



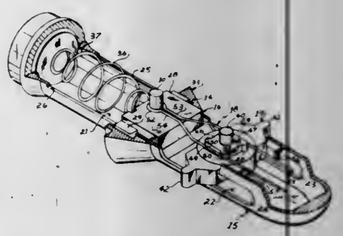
1. Threading means for guiding a filmstrip comprising:
a dancing roller;
a snubber spring for movably supporting said dancing roller and arranged to be deflected in response to tension in the threaded filmstrip;
guide means spaced apart from said spring and receptive of the filmstrip;
a flexible guide strip coupled between said spring and said guide means to prevent the filmstrip passing therebetween instead of therearound during threading; and
diverting means associated with said snubber spring for deflecting said guide strip away from the filmstrip when said snubber spring is deflected by tension in the filmstrip.

3,265,321
COIL EXPANDER
Richard Rahn, Dusseldorf, Germany, assignor to Schloemann Aktiengesellschaft, Dusseldorf, Germany
Original application June 28, 1962, Ser. No. 205,975, now Patent No. 3,216,671, dated Nov. 9, 1965. Divided and this application May 18, 1965, Ser. No. 456,776
Claims priority, application Germany, July 25, 1961, Sch 30,037
6 Claims. (Cl. 242—78.1)

6. A method of expanding a tight coil of magnetizable metal strip to provide an expanded coil having substantially uniform spacing between adjacent turns, said method comprising the steps of disposing a tight coil of metal strip on end, fixing of the inner end of said coil against movement, disposing of the outer end of said coil at a point spaced from the axis of said coil a distance substantially equal to the desired radius of the expanded coil, rotating said outer end about said axis in a direction opposite to the winding direction of said coil to progressively unwind said coil with adjacent turns moving radially outwards toward said outer end, and progressively magnetizing with light polarity one edge of said outwardly moving turns, whereby adjacent turns will repel each other with equal force to provide an expanded coil having substantially uniform spacing between adjacent turns.

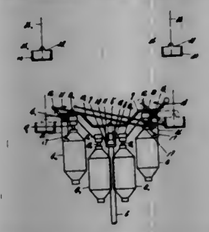


3,265,322
BOBBIN HOLDER
Richard K. Whitehead, Sr., De Kalb County, Ga. (1631 N. Gatewood Road, NE., Atlanta, Ga.), and Richard K. Whitehead, Jr., 1365 Monroe Drive, NE., Atlanta, Ga.
Filed Nov. 1, 1963, Ser. No. 320,677
11 Claims. (Cl. 242—130.2)



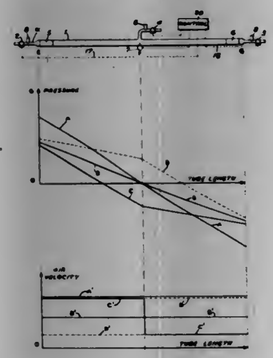
1. A holder for a bobbin, said holder comprising a tubular member having apertures; a catch member rotatable in the tubular member about an axis and having a bobbin holding position in which it extends through the said apertures and a bobbin releasing position in which it does not extend through the apertures; a ratchet member rotatable within the tubular member with the catch member laterally offset from said catch member and the apertures of said tubular member and having a plurality of flat surfaces displaced from the axis of rotation of the catch member; positioning means for restricting the rotation of the ratchet member by resiliently pressing inwardly against a flat surface of the ratchet member; rotating means for overcoming the resiliency of the positioning means and rotating the ratchet member in response to upward motion of a bobbin along the tubular member; and locking means for preventing rotation of the catch member except when a bobbin is moved upward along the tubular member.

3,265,323
SLIVER BOBBIN CREEL CHANGING APPARATUS FOR SPINNING MACHINE
Masahiko Ariga, Amagasaki-shi, Takeji Arai, Toyonaka-shi, and Tatsuo Tarumi, Oshaka-shi, Japan, assignors to O-M Ltd., Osaka-shi, Japan
Filed Sept. 9, 1964, Ser. No. 395,183
2 Claims. (Cl. 242—131)



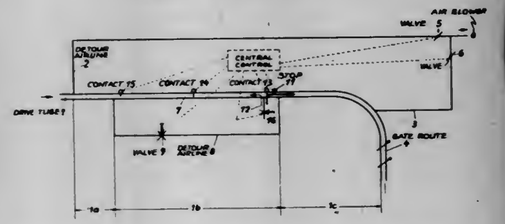
1. A sliver bobbin creel changing apparatus for a spinning machine, comprising a sliver bobbin support assembly removably mounted above the spinning machine and on top of upright pillars centrally arranged longitudinally of said spinning machine, said support assembly being provided with gripper means for holding sliver bobbins suspended therefrom, and hook means operatively connected to means including rods and links for displacing said hook means to a doffer rail-engaging position, and a doffing mechanism adapted to be horizontally movable above said support assembly and having doffer rails adapted to be lowered to the above-mentioned position to engage said hook means thereby to raise said sliver bobbin support assembly.

3,265,324
PNEUMATIC TUBE SYSTEMS
Horst Mach and Hans-Joachim Peter, Berlin, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 26, 1964, Ser. No. 370,303
Claims priority, application Germany, May 30, 1963, St 20,667
10 Claims. (Cl. 243—6)



1. A reversible pneumatic tube system comprising:
(a) a forwarding tube;
(b) a first reversible blower connected to a first end of said forwarding tube;
(c) a second reversible blower connected to the opposite end of said forwarding tube, said first and second reversible blowers producing an air velocity which is in itself insufficient to move a carrier along said forwarding tube;
(d) a reversible intermediate blower connected to said forwarding tube between the respective connections of said first and second reversible blowers to said forwarding tube; and
(e) control means for causing said reversible intermediate blower to cooperate with said first and second reversible blowers to produce an air velocity in a first portion of said forwarding tube of sufficient velocity to move a carrier along said first portion of said tube.

3,265,325
ARRANGEMENT FOR CONTROLLED DISPATCH OF STORED PNEUMATIC TUBE CARRIERS
Fritz Buchwald and Hans Kudritzki, Berlin, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 21, 1964, Ser. No. 405,533
Claims priority, application Germany, Oct. 31, 1963, St 21,256
11 Claims. (Cl. 243—25)



1. In a system for controlled dispatch of stored pneumatic tube carriers, an arrangement for controlled storage of said carriers, comprising:
a substantially horizontal drive tube, said drive tube having input and output sections and a storage section therebetween;
a first means, normally inoperative, including a first detour air line connected to said drive tube between a point adjacent to the juncture of said input section and said storage section and said output section, for halting input of carriers for storage;
a source of air suction connected to said first detour air line;
a second means, normally operative, including a second detour air line shunt-connected to said drive tube substantially across said storage section, for controlling the movement of carriers into storage; and
a third means, responsive to a capacity storage of carriers, to render said first means operative, and to render said second means inoperative.

3,265,326
PNEUMATIC TUBE SYSTEM SWITCHING POINTS
Horst Mach and Hans-Joachim Peter, both of Berlin, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 26, 1964, Ser. No. 370,304
Claims priority, application Germany, June 20, 1963, St 20,756
6 Claims. (Cl. 243—29)

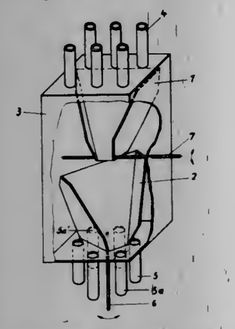
1. A switching point for a pneumatic tube system comprising: first, second, and third sections of pneumatic tubing; connecting means normally completing a pneumatic tube route between said first and said second sections of tubing; means cooperating with said connecting means for ejecting desired carriers out of said pneu-

matic tube route; and guide means characterized by symmetry with respect to said first and said second sections of tubing and cooperating with said connecting means



and said third section of tubing for guiding ejected carriers from either end of said tube route into said third section of tubing in a desired position with respect to said third section of tubing for travel therealong.

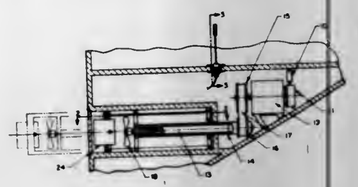
3,265,327
CENTRAL BRANCH-OFF IN PNEUMATIC TUBE SYSTEMS
Horst Mach, Berlin, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 8, 1964, Ser. No. 394,762
Claims priority, application Germany, Oct. 10, 1963, St 21,173
3 Claims. (Cl. 243—29)



1. A central branching-off facility for pneumatic tube systems to connect one of several incoming dispatch tubes with one of several outgoing tubes in a casing into which the incoming dispatch tubes enter from the top and the outgoing tubes leave at the bottom, said facility having two branching blades, arranged one above the other between the respective exits of the incoming dispatch tubes and the entrances of the respective outgoing tubes and in which the upper branching glade can be swivelled around a horizontal axle so that a connection with two sides of the casing facing each other can be made, further comprising means disposing said bottom branching blade about a vertical axis, swivelling means coupled to said bottom branching blade to rotate said bottom branching blade about said vertical axis to provide a guide facility for the dispatch carriers with each side to the entrance of one of the outgoing tubes leaving the casing at the bottom.

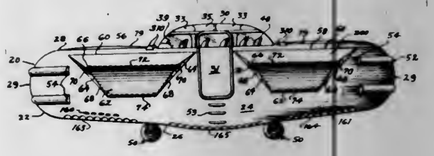
3,265,328
MARINE PROPULSION APPARATUS FOR SPACECRAFT
William G. Hokett, 2322 N. 9th St., Phoenix, Ariz.
Filed Sept. 26, 1963, Ser. No. 311,920
1 Claim. (Cl. 244—1)

A spacecraft reentry vehicle comprising a marine propulsion apparatus for said spacecraft after the landing of said craft on a body of water, said apparatus comprising means for removing the hatch of said craft by explosive detaching means, means for outwardly extending a frame member from within the craft into the water, said member comprising rotatable propeller means for applying a substantially horizontal driving force to said



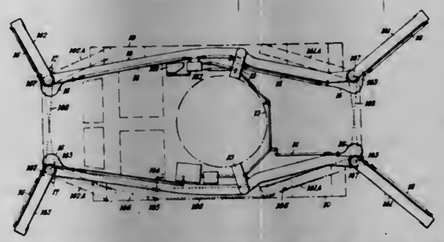
craft, and means for steering said craft, said steering means comprising a control handle adapted to be moved to the right or left if any change in the direction of motion of said craft is desired.

3,265,329
FLYING PLATFORM-AUTOMOBILE-BOAT AND AIR SUSPENSION CAR COMBINATION
Steven Postelson (Apostolescu), 415 W. 55th St., New York, N.Y.
Filed Aug. 27, 1963, Ser. No. 304,926
17 Claims. (Cl. 244—2)



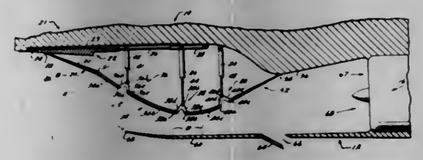
1. In an aircraft of the type described,
(a) an elongated fuselage having top, bottom, side, and end walls and being formed at the front and rear thereof with respective openings extending through said top and bottom walls and spaced from said side walls;
(b) a rotor blade assembly mounted in each opening for rotation about a common axis of the opening and of the assembly;
(c) drive means for jointly rotating said assemblies about the respective axes to generate an air stream in each opening in a direction from said top wall to said bottom wall;
(d) wings arranged on said side walls and formed with respective passages therethrough in a direction substantially parallel to said side walls;
(e) a jet engine in each passage adapted to exhaust a gas,
(1) each wing being formed with two sets of vents for discharging the exhausted gas in a sideward direction and in a downward direction respectively,
(2) said fuselage being formed with two sets of vents each in the lower front and rear portions thereof and directed in a horizontal direction, and with a further set of vents peripherally arranged in said bottom wall near said side walls, said further set being directed in a downward direction; and
(f) control means for opening and closing said vents, for diverting said exhausted gas from said passage to either set of vents in said wing, and for diverting said air stream from said opening to said vents in said fuselage.

3,265,330
CONTROL SYSTEMS OF VEHICLES ADAPTED FOR VERTICAL TAKE-OFF AND LANDING
Hugh G. Conway, Crawfordsburn, and Ronald Charles Victor Armstrong, Belfast, Northern Ireland, assignors to Short Brothers & Harland Limited, Belfast, Northern Ireland
Filed Dec. 26, 1961, Ser. No. 162,037
Claims priority, application Great Britain, Dec. 28, 1960, 44,530/60
6 Claims. (Cl. 244—23)



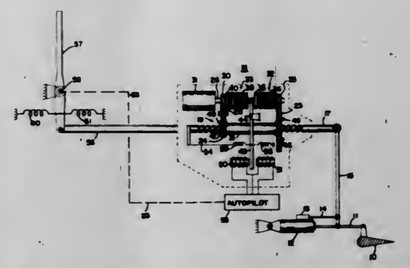
1. A land surface travel vehicle having a vertical take-off and landing jet lift engine, substantially horizontal gas supply trunks extending longitudinally of the vehicle and including inlets for receiving compressed gas tapped off from said jet lift engine, retractable tube sections disposed adjacent the ends of the vehicle and extending beyond the plan envelope of the vehicle in the operative positions, each of said retractable tube sections communicating with one of said gas supply trunks, and said retractable tube sections having means for moving said tube sections into retracted, stowed positions within the plan form envelope of the vehicle and for moving said tube sections into extended operative positions beyond the plan envelope of the vehicle, and auxiliary jet nozzles mounted at the extremities of said retractable tube sections for receiving compressed gas therefrom, said auxiliary jet nozzles having means for adjustably opening and closing the nozzle openings for exerting turning moments on the vehicle about at least one of its axes of reference.

3,265,331
SUPERSONIC INLET
Alfred Miles, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 18, 1964, Ser. No. 397,386
6 Claims. (Cl. 244—53)



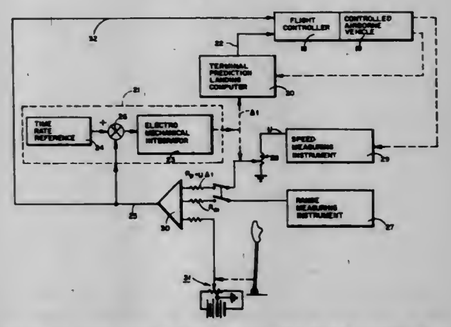
1. A supersonic, two-dimensional, combination external-internal compression air inlet system having a longitudinal axis and comprising:
a first surface angled with respect to said axis and generating an initial oblique shock wave externally of the inlet, said first surface being selectively translatable fore and aft longitudinally of said inlet system;
a forward floating surface generating at least one secondary oblique shock wave externally of the inlet, the angle of said forward floating surface with respect to said axis being determined as a function of the longitudinal position of said first angled surface;
a segmented, variable angle ramp providing internal compression in said inlet, said ramp including a forward portion pivotally connected to said floating surface and variable in angle with respect to said axis and said floating surface, said ramp portion adjusting to angle changes of said floating surface whereby said contraction ratio is substantially unaffected during translation of said first angled surface to vary the oblique shock mass flow spillage rate so as to decrease aerodynamic drag, the angle of said forward floating surface automatically decreasing at high mass flow spillage rates and automatically increasing at low mass flow spillage rates so as to improve overall inlet pressure recovery.

3,265,332
AUTOMATIC AND MANUAL CONTROL APPARATUS FOR AIRCRAFT
Robert F. Rasmussen, Brooklyn Center, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 17, 1964, Ser. No. 397,256
8 Claims. (Cl. 244—76)



1. In a maneuvering automatic pilot for aircraft: a servomotor means comprising a continuously operated motor having an output member; a further member to be driven from a normal position; a pair of engageable clutches for reversibly positioning the further member from said motor; selective force responsive means for engaging one or the other clutches; first means operating the selective force responsive means; and force applying follow-up means from the further member to the selective means independent of said first means for disengaging an engaged clutch of said pair of clutches.

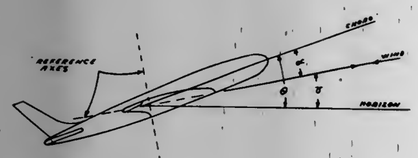
3,265,333
OVERRIDE CONTROL MEANS FOR AUTOMATIC LANDING SYSTEM
Jack W. Montooth, Long Beach, Calif., assignor to North American Aviation, Inc.
Filed Feb. 3, 1964, Ser. No. 341,875
11 Claims. (Cl. 244—77)



1. In a terminal prediction computer for an aerospace vehicle, said computer having integrator means for generating a time-to-go signal, integrator rate biasing means

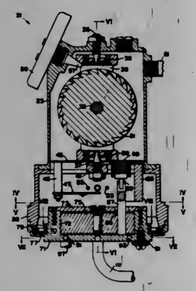
for modifying said time-to-go signal in response to an override signal and the length of time such signal persists.

3,265,334
MAXIMUM PERFORMANCE TAKE-OFF DIRECTOR
Charles A. Neuendorf, Box 9273, Wright Patterson AFB, Toledo, Ohio, and William G. Moretti, Jr., 17 Princeton Road, Burlington, Mass.
Original application June 25, 1962, Ser. No. 205,135, now Patent No. 3,200,642, dated Aug. 17, 1965. Divided and this application Feb. 24, 1965, Ser. No. 444,479
1 Claim. (Cl. 244—77)



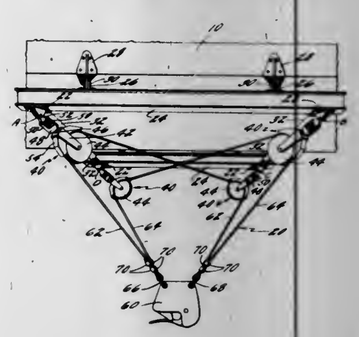
The method of winged aircraft take-off from a runway, comprising: (1) applying thrust to the aircraft of sufficient magnitude to accelerate the aircraft to a velocity in excess of a predetermined lift-off velocity which in turn is a predetermined amount in excess of stall velocity for the aircraft; (2) as the aircraft approaches lift-off velocity on the runway, exercising pitch angle control to rotate the aircraft about its pitch axis to a predetermined lift-off angle-of-attack; (3) after lift-off, exercising pitch angle control to hold the angle-of-attack constant at its lift-off value until the acceleration of the aircraft has fallen to zero; (4) and then exercising pitch angle control to hold the aircraft velocity constant at the value it had when the acceleration became zero, for the remainder of the take-off.

3,265,335
PITCH CONTROL FOR AIRCRAFT
Harry L. McPherson, 1125 Poppen Drive, Memphis, Tenn.
Continuation of application Ser. No. 187,021, Apr. 12, 1962. This application Aug. 13, 1964, Ser. No. 392,070
11 Claims. (Cl. 244—79)



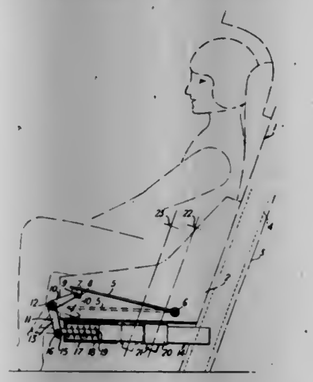
1. In an aircraft having control surfaces for effecting pitch movement about the transverse axis of the aircraft, pitch control means including a gyroscope comprising a gimbal cage pivotally supported with its axis of pivot substantially perpendicular to the longitudinal axis of said aircraft, a gyro wheel spinningly mounted in said gimbal cage with its axis of spin substantially parallel to said aircraft longitudinal axis, a plate fixed to said gimbal cage for pivoting therewith, said plate being substantially parallel to said aircraft longitudinal axis, pin means connected to and depending below said plate disposed radially outward from said gimbal pivot axis along a radius of said plate which is substantially parallel to said aircraft transverse axis, weight means connected to said plate radially outward from said pivot axis and said pin means, the vertical center line of said weight means disposed substantially on said plate radius whereby tilt of said plate responsive to pitch tilt of said aircraft urges said weight to move around said pivot axis under the force of gravity, said pitch tilt causing precession of said gyroscope in the direction of weight movement, operational means drivenly coupled to said pin means, said operational means comprising an air valve including a rotatable rotor parallel to said plate, vacuum operated means communicated with said air valve and connected to said control surfaces, a source of vacuum communicated to said air valve, rotation of said rotor respectively effecting communication of said vacuum operated means with said source of vacuum to operate said control surfaces and correct pitch curvature of said aircraft, movement of said operational means rotor thereby correcting flight curvature and said weight continuing such movement to effect correction of flight level.

3,265,336
CARGO SLING FOR AIRCRAFT
John H. Peterson, Trumbull, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 13, 1964, Ser. No. 366,953
12 Claims. (Cl. 244—118)



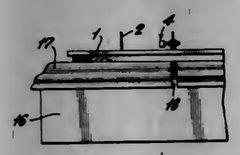
9. A carrier capable of flight including hover, said carrier having pilot operated flight controls, said carrier having a body, means for handling a load beneath the body of the carrier which will keep at a minimum any adverse effect on said pilot operated flight controls, said means comprising:
(a) four structurally rigid locations fixed with respect to said carrier,
(b) a pulley universally connected to each rigid location,
(c) a load contacting member located below said pulleys adapted to support a load,
(d) cable means extending from said load contacting member over one pair of opposed pulleys and back to said load contacting member,
(e) and second cable means extending from said load contacting member over the other pair of opposed pulleys and back to said load contacting member.

3,265,337
EJECTION OF AIRMEN FROM AIRCRAFT
James Martin, Southlands Manor, Denham, near Uxbridge, Middlesex, England
Filed Nov. 30, 1964, Ser. No. 414,667
Claims priority, application Great Britain, Dec. 3, 1963, 47,594/63
10 Claims. (Cl. 244—122)



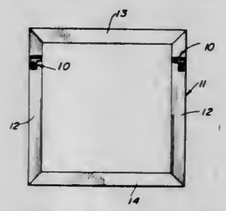
1. An ejection system for ejecting an ejection seat/airman combination from an aircraft, comprising an ejection gun for effecting initial ejection of the combination from the aircraft in a predetermined direction relatively to the aircraft and at least one rocket motor independent of said ejection gun for accelerating the combination in said predetermined direction by producing a thrust vector aligned or substantially aligned with said predetermined direction and means responsive to the weight and position of the centre of gravity of the airman during ejection of the combination for automatically adjusting the position of the thrust line of the rocket motor with respect to the ejection seat whilst maintaining the orientation of the thrust line with respect to said predetermined direction to set such thrust line to extend through or substantially through the centre of gravity of the seat-airman combination.

3,265,338
FLORAL HOLDER FOR CASKETS AND THE LIKE
Harry Mason Henderson, 256 Princess St., Kingston, Ontario, Canada
Filed Sept. 21, 1962, Ser. No. 225,332
2 Claims. (Cl. 248—27.8)



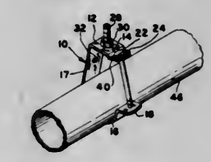
1. A floral display holder for removable attachment to the upper surface of a closed casket having two lids with a space between said lids extending transversely of said casket, said holder comprising a skeleton frame, spikes projecting upwardly from said frame for piercing and removably holding a floral display in place on said frame, yieldably means on the lower surface of said frame for engaging and supporting said frame on the upper surface of the casket and means for removably securing said frame to the casket in a manner to prevent damage to the upper surface of the casket, said last named means comprising a clamp mounted on said frame, jaws on said clamp projecting downwardly below said frame for insertion into the space between the lids of the casket and means for spreading said jaws to frictionally engage the adjacent ends of the lids of the casket to removably secure said frame thereon.

3,265,339
PICTURE FRAME HANGING AND LEVELING DEVICE
Daniel J. Hushek, 630 Davis St., Melrose Park, Ill.
Filed Sept. 17, 1964, Ser. No. 397,164
2 Claims. (Cl. 248—29)



1. In a picture frame hanging and leveling device the combination comprising a wall, a member including a main body portion having a slot formed therein for the reception of fastening means by which the said member may be attached to a rail of a picture frame unit, the said member including an arm portion extending angularly from the said main body portion and having an elongated slot formed therein; a headed supporting element which is driven into said wall, received in said slot for suspending the said picture frame hanging and leveling device therefrom; the transverse and longitudinal dimensions of the slot greatly exceeding the diameter of the head on said supporting element whereby the supporting element may be readily inserted therein, and the upper edge of said slot being linear to allow relative sliding movement between said supporting element and said member.

3,265,340
PIPE HANGERS
James W. Attwood, Wayne, Mich., assignor to Unistrut Corporation, Wayne, Mich., a corporation of Michigan
Filed June 1, 1965, Ser. No. 460,104
9 Claims. (Cl. 248—62)

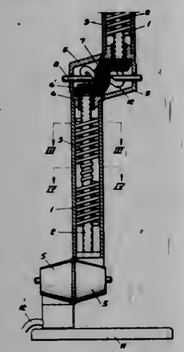


1. A pipe hanger comprising
(a) a resilient strap member having a top portion and a curved lower portion,
(b) one end of said top portion being separated from one end of said lower portion and means for lockingly connecting said ends,
(c) said means comprising an opening provided in said top portion adjacent said end thereof, an opening provided in said lower portion adjacent said end thereof, a bolt member having a head portion dimensioned to be axially inserted through one of said openings at one rotated position of said bolt member and to be locked against axial movement through said last mentioned opening in one direction at other rotated positions thereof, the end of said bolt member opposite said head portion being received by said other opening and a nut member carried on said end of said bolt member.

3,265,341
STANDS FOR ELECTRIC-LIGHT FITTINGS AND THE LIKE

Nils T. A. Rüder, Erik Dahlbergsgatan 11, Malmo, Sweden

Filed June 15, 1964, Ser. No. 375,124
Claims priority, application Sweden, June 24, 1963, 6,935/63
5 Claims. (Cl. 248—123)

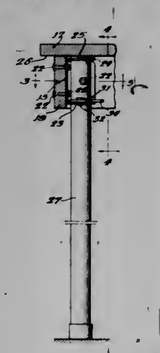


1. A stand for electric light fittings and the like that comprises, in combination, at least two tubular arm sections each provided with a corresponding inner coaxial tubular element mounted therewithin, the arm sections and corresponding tubular elements being relatively rotatable, balance spring means mounted about each inner tubular element and rotationally secured thereto at one portion thereof, the balance spring means being rotationally secured at another portion thereof to the corresponding tubular arm section, pivot means disposed between the two arm sections to connect the said two arm sections to form an articulated arm, and to transform pivotal movement of the said arms to relative rotational movement between the said arm sections and corresponding tubular elements against a restraining force provided by the balance spring means.

3,265,342
BRACKET FOR RECEIVING, HOLDING AND LOCKING AN ELONGATED POST MEMBER TO THE BRACKET

Richard W. Brettner, Rolling Meadows, Ill. (P.O. Box 316, Morton Grove, Ill.)

Filed Oct. 20, 1964, Ser. No. 405,135
5 Claims. (Cl. 248—188)

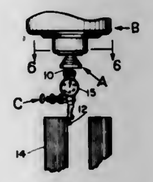


1. A combination bracket and leg lock for use with tables and the like, comprising:
a post member generally circular in cross section defining a generally cylindrical outer surface;
a bracket adapted for mounting on a table or the like and including a pair of outwardly extending flanges each having walls forming an aperture to receive and loosely embrace said post member;
and a cam lock swingably mounted on one of the flanges and having a periphery closely adjacent the post receiving aperture in such flange, the periphery of said cam lock defining a surface of varying radius about the swingable mounting on the flange and being progressively movable into and out of overlying registry with the post receiving aperture, said cam lock being freely swingable to bring its peripheral surface into a frictional contact with the cylindrical outer surface of said post member in the post receiving aperture so that turning of the inserted post member alone may turn the cam lock into and out of lock clamping of the post member against one wall of the post receiving aperture.

3,265,343
HOLDER FOR DIAL INDICATORS

Walter E. Sanford, Jr., 484 W. County Road J., St. Paul 12, Minn.

Filed Dec. 7, 1964, Ser. No. 416,567
5 Claims. (Cl. 248—205)



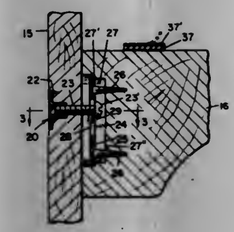
1. In a holder for dial indicators,
a body characterized by a generally frusto-conical shape and having a central longitudinal bore therein,
a series of circular concentric machine tool jaw engaging shoulders provided exteriorly of said body and extending from one end to the other thereof,
said shoulders each being of different radial extent and being adapted to engage the varying internal bores of the jaws and collets of different machine tools, and
means for releasably holding the stem of a dial indicator within the bore of said body.

3,265,344
FURNITURE CONSTRUCTION

Reuben Ornstein, 30 Maujer St., New York, N.Y.

Filed Feb. 19, 1965, Ser. No. 433,948
3 Claims. (Cl. 248—243)

1. In furniture construction, the combination of a vertical standard of non-metallic material provided at vertically spaced points with apertures, metallic insert means embedded in said standard and provided with screw-threaded bores in register with said apertures, a screw-threaded fastener received selectively in the apertures of said standard and anchored in the registering one of said screw-threaded bores, a shelf bracket vertically adjustable on said standard according to the location of said fastener, said bracket having an inner end portion in abutment with the standard and formed with a recess, said fastener having a head portion projecting into said recess, and a wedge-type locking member mounted in said recess, said head portion of said fastener being in separable wedging engagement with said locking member whereby to removably secure said bracket to said standard, said locking member comprising a plate formed with a keyhole slot having a relatively large end receiving the head portion of said fastener therethrough and a relatively narrow end

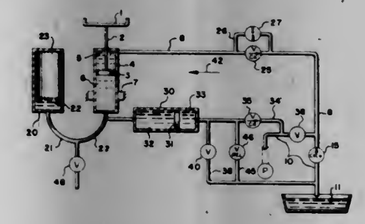


portion with inclined surfaces at opposite sides thereof to wedgingly engage the head portion of the fastener after the latter is passed through the large end of said slot.

3,265,345
SEAT SUSPENSION FOR A TRACTOR AND THE LIKE

Michel A. E. Vuichard, Jurens, Haute Savoie, France (Jurens par Valleiry, Haute Savoie, France)

Filed May 13, 1965, Ser. No. 455,658
Claims priority, application France, May 14, 1964, 898
8 Claims. (Cl. 248—400)



1. In a seat suspension arrangement for a vehicle, in combination:
(a) seat pan means for carrying the operator of the vehicle;
(b) a cylinder enclosing a cavity;
(c) a piston movable in said cavity and dividing the same into two compartments,
(1) said cylinder and said piston constituting two members of a fluid-pressure operated device;
(d) fastening means for fastening one of said members to said vehicle;
(e) motion transmitting means connecting said seat pan means to the other one of said members for relative movement of said members when said seat pan means moves relative to the vehicle;
(f) a source of fluid under substantially constant pressure communicating with one of said compartments, said source including a pump, a conduit connected to said pump and having a discharge opening, and check valve means interposed in said conduit between said pump and said opening and responsive to a predetermined pressure for opening said conduit to flow from said pump to said opening, said one compartment communicating with a portion of said conduit intermediate said pump and said check valve means;
(g) a gas cushion under pressure; and
(h) pressure transmitting means for transmitting the pressure of said cushion to said piston in the other one of said compartments.

3,265,346
TELESCOPING STANDARD

Edward J. Petrick, Park Ridge, Ill., assignor to Bretford Manufacturing, Inc., a corporation of Illinois

Filed Oct. 6, 1964, Ser. No. 401,801
1 Claim. (Cl. 248—414)

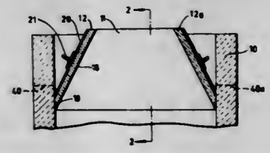


A supporting standard for a hair dryer, comprising: a base; a hollow standard on said base; a plurality of telescopically related rods, each of said rods having at least a pair of opposed flat surfaces; holding means including friction discs interposed between the flat surfaces of said rods, said friction discs having generally flat faces in frictional engagement with the flat inner surface of an outer adjacent rod for retaining the telescoping member in different positions of extension against the influence of gravity, said holding means also including spring means for continually maintaining said frictional engagement with said outer adjacent rod; a sleeve-like bearing on the upper end of each outer rod embracing the next inner telescoping rod, said bearing and holding means maintaining said telescoping rods against lateral movement relative to each other, and stop means in the standard for limiting outward movement of the rods relative to each other and normally preventing withdrawal of one rod from another, said stop means positioned on one side of the rods between said flat faces to permit disengagement and withdrawal of one rod from the other by removing said bearing means from the upper end of the standard and canting the inner rod relative to the outer rod in a direction away from said stop means and withdrawing the inner rod past the stop means in said canted relation thereto.

3,265,347
HOT TOP

Arthur Stanley Wickström, Sandviken, Sweden, assignor to Sandvikens Jernverks Aktiebolag, Sandviken, Sweden, a corporation of Sweden

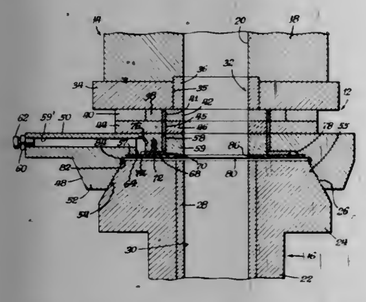
Filed Sept. 1, 1964, Ser. No. 393,696
Claims priority, application Sweden, Sept. 2, 1963, 9,553/63
8 Claims. (Cl. 249—106)



1. A hot top mold combination comprising an ingot mold and a hot top consisting of four slabs positioned around the upper part of said mold adjacent to the sides

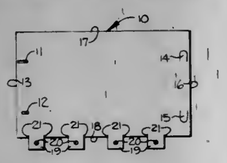
of the ingot mold, two opposed slabs being substantially vertically disposed close to their adjacent sides and conforming to their surface shape and having at least partly upwardly converging end edges, the other two slabs being at least partly inclined upwardly and away from their adjacent sides and resting on said end edges, the lower edges of said inclined slabs conforming to the shape of the adjacent sides of the ingot mold and abutting against said sides, and support pieces secured to and covering the outer surfaces of said inclined slabs and serving to support said slabs against breakage and against movement out of contact with said end edges by the pressure of molten metal in said mold.

3,265,348
MOLD PURGING APPARATUS AND METHOD
Edmund Q. Sylvester, Shaker Heights, Ohio
Filed Nov. 23, 1964, Ser. No. 413,132
7 Claims. (Cl. 249—109)



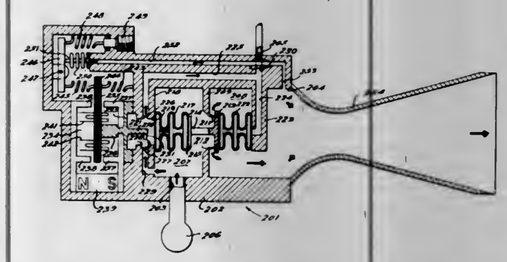
6. A method of casting in conjunction with mold means having a cavity and a downwardly opening passage communicating with the cavity, comprising closing the bottom open end of the passage with a disintegrateable closure, introducing inert gas into said passage from the bottom of the passage above said closure and continuing the introduction of the inert gas sufficiently to fill the passage and cavity and at a rate of flow sufficiently low to eliminate turbulence and mixture between the inert gas and air, and pouring molten casting material into the mold by pouring it against the disintegrateable closure and thereby disintegrating it, and continuing the pouring step until the mold is filled.

3,265,349
SLEEVE MOLD FOR FORMING PASSAGEWAY IN CONCRETE STRUCTURES
James C. Hamrick, Matthews, N.C., assignor to Jet Line Products, Inc., Matthews, N.C., a corporation of North Carolina
Filed Aug. 13, 1963, Ser. No. 301,832
4 Claims. (Cl. 249—177)



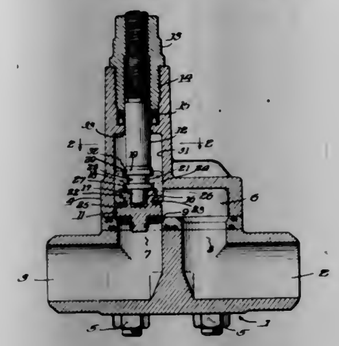
1. A device for use in the pouring of a concrete structure, such as a wall, a floor, and the like, to form a passageway therethrough, said device comprising
(a) a split sleeve,
(b) said sleeve having at least two slots therein adjacent one side edge of said sleeve formed by the split,
(c) the slots being elongated in a direction transversely of said sleeve and being spaced apart so as to include one slot disposed in each of the opposite end regions of said sleeve,
(d) the slot in one of the opposite end regions of said sleeve being longer and more closely spaced to said one side edge than the slot in the other end region of said sleeve,
(e) a plurality of tabs struck out from said sleeve, said tabs being of substantially equal width and being disposed adjacent the other side edge of said sleeve formed by the split and corresponding in number and relative positions to the slots in said sleeve,
(f) the sleeve portions adjacent said side edges of said sleeve formed by the split being in overlapping relationship,
(g) said tabs being received through the respective slots corresponding thereto,
(h) the tab corresponding to the longer slot disposed in said one end region of said sleeve being loosely received therethrough to provide for play therebetween, and
(i) the tab corresponding to the slot disposed in said other end region of said sleeve being relatively snugly received therethrough,
(j) whereby the size of said one end region of said sleeve is rendered adjustable by causing relative movement between the loosely interconnected tab and slot disposed in said one end region.

3,265,350
CONTROLLER
Emory N. Yount, Fullerton, and Charles N. McKinnon, Jr., Costa Mesa, Calif., assignors to Cadillac Gage Company, Warren, Mich., a corporation of Michigan
Continuation of application Ser. No. 67,192, Nov. 4, 1960. This application Oct. 11, 1963, Ser. No. 315,635
2 Claims. (Cl. 251—30)



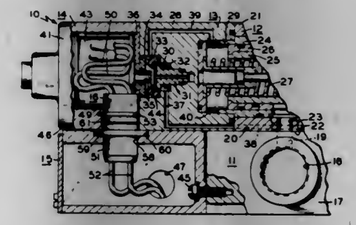
1. In a controller, a supply port, a working port and an exhaust port, a first connection between said supply and exhaust ports, a second connection between said supply and working ports, a pilot valve in said first connection, means for controlling the position of said pilot valve, a restriction between said pilot valve and exhaust port, a poppet-type main valve in said second connection comprising a spool, a first bellows connected to one end of said spool, the interior of said first bellows being connected to said first connection between said pilot valve and restriction, a second bellows connected to the other end of said spool, the interior of said second bellows being connected to the exit side of said restriction, and an inlet chamber in communication with said supply port, said first bellows and main valve spool being disposed in said inlet chamber, the relative areas of said first bellows and spool being such that pressure in the inlet chamber will tend to maintain the main valve in its closed position.

3,265,351
SEGMENTAL DISC STEM CONNECTION FOR VALVES
Kurt B. Bredtschneider, Chicago, Ill., assignor to Crane Co., Chicago, Ill., a corporation of Illinois
Filed Dec. 20, 1963, Ser. No. 332,007
6 Claims. (Cl. 251—88)



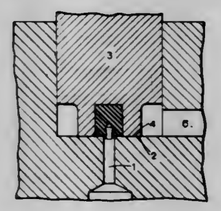
1. In a valve construction, the combination of a valve seat and a reciprocally movable swivelable closure member therefor engageable with said valve seat, a valve stem with an end portion thereof in telescoped relation to a hollow walled portion of said closure member, means for connecting said stem in rotatable and axially limited relation to said closure member, the said stem having a plurality of spaced apart collar portions at an end portion thereof adjacent said telescoped portion of the stem, the said stem connecting means comprising a plurality of annularly disposed connector segments, the said segments having recessed portions therein formed to receive portions of said stem collar portions, the said closure member at an upper portion thereof having an annularly thickened portion connected to the closure member by a reduced neck portion, the latter neck portion being engaged by said connector segments, and means to retain said segments to said closure member and stem.

3,265,352
VALVE ASSEMBLY WITH LIQUID-SEAL ELECTRICAL PLUG CONNECTION
Clifford W. Allen, Monroeville, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Sept. 25, 1963, Ser. No. 311,404
9 Claims. (Cl. 251—129)



1. A valve assembly comprising in combination:
(a) a plurality of separable casing sections releasably securable together at cooperatively abutting mating faces formed respectively thereon,
(b) a solenoid in one of said casing sections for actuating valve means in a second one of said casing sections, and
(c) means for establishing an electrical connection between a third one of said casing sections and said one casing section whereby to connect said solenoid to a source of current incidental to the assembly of said casing sections, said means comprising:
(i) a first terminal element having terminals connected to said solenoid and a flange slidably insertable in an aperture through an open side of said aperture, said aperture being in the mating face of said one casing section that abuts with a mating face of said third casing section and said open side coinciding with the mating face of said one casing section that abuts a mating face of said second casing section,
(ii) a second terminal element having terminals respectively connected by wires to a source of current and secured in said third casing section at the mating face thereof that abuts with a mating face of said one casing section,
(iii) said first and second terminal elements being movable coaxially into or out of cooperative connection upon assembly and disassembly, respectively, of said one and said third casing sections, and said one casing section being removable without separation of said terminal elements by lateral slidable action of said one casing section with respect to said first terminal element.

3,265,353
SEALING MEANS FOR VALVES
Otto H. Varga, Bradford-on-Avon, England, assignor to Seetru Limited, Bristol, England, a British company
Filed Apr. 25, 1963, Ser. No. 275,591
3 Claims. (Cl. 251—175)

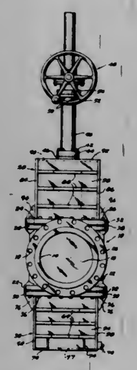


1. A valve comprising a flat, planar seat member surrounding a port of predetermined cross-section, a valve closure member positioned downstream of said port and having a planar face adapted to be brought into abutment with the planar seat when the port is to be closed, a deep recess in said planar face of said valve closure member opposite said port, a solid resilient sealing element fitting said recess, the outer face portion of said sealing element having a shallow recess therein whose cross sectional area is slightly greater than that of the said port and defining a sealing rim, and said rim when unstressed projecting beyond the planar face of said closure member, whereby upon closing the opening the projecting portion of said sealing member will flow toward the recess therein and into said port and thereby form a tight seal.

3,265,354
VALVE
Clifford E. Anderson, Houston, Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Dec. 30, 1963, Ser. No. 334,463
8 Claims. (Cl. 251—329)

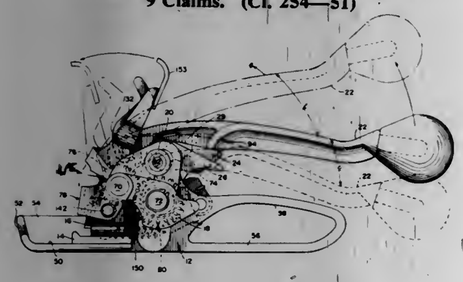
1. In a valve having a cast intermediate section with opposing fabricated sections fixed thereto, the improvement comprising: a pair of spaced side plate members, a

pair of end plate members abutting said side plate members and defining therewith a generally rectangular enclosure, marginal portions of each of said end plate members extending outwardly beyond the outer surfaces of said side plates, at least one reinforcing plate means positioned in abutment with and being disposed generally perpendicular to each of said side plates and having end surfaces thereof in abutting relationship with each of said end plate members, said end surfaces extending outwardly



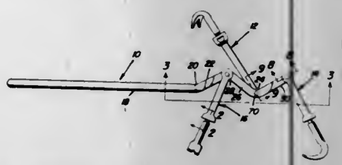
beyond said marginal portions of said end plates, first weld means rigidly and directly interconnecting said side plate members with said end plate members at the abutment therebetween, second weld means interconnecting said side plate members and said reinforcing means at the abutment therebetween, third weld means rigidly directly interconnecting the inner surface of said end plate members with said reinforcing member whereby said end plate members, said side plate members and said reinforcing plate means are each given multidirectional support.

3,265,355
STRAP TENSIONING METHOD AND MECHANISM FOR STRAPPING TOOLS
Hollinshead T. Martin, Evanston, and Gale Huson, Palatine, Ill., assignors to Signode Corporation, a corporation of Delaware
Filed Apr. 12, 1965, Ser. No. 447,480
9 Claims. (Cl. 254—51)



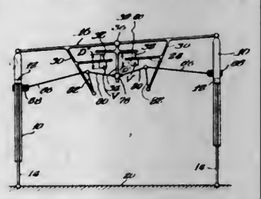
1. In a strapping tool for tensioning a loop of strapping about an article, said loop having a free end portion and a feed end portion, a framework, means carried by the framework for fixedly clamping said free end portion against longitudinal shifting movement, and means for applying tension to said feed end portion, said means for applying tension comprising a strap-tensioning wheel having a cylindrical peripheral strap-engaging friction surface for receiving said free end portion at least partially therearound, means for rotating said tensioning wheel in a tensioning direction, a hold-down roller movable bodily toward and away from said tensioning wheel into and out of strap-clamping position and between which roller and wheel the feed end portion of the strapping is adapted to pass, and means for moving said hold-down roller.

3,265,356
CHAIN TIGHTENER
Charles H. Landers, Gate, Okla.
Continuation of application Ser. No. 65,062, Oct. 26, 1960. This application Sept. 3, 1965, Ser. No. 489,791
7 Claims. (Cl. 254—75)



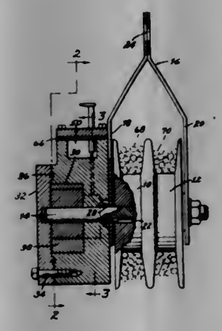
1. A tool defining a handle assembly including a support at one end and a handle at the other end, first and second arms, first and second pivot means connecting the first and second arms respectively at longitudinally spaced first and second points to the support, a link, said arms and link having means for engaging relatively movable bodies, third pivot means between said first and second pivot means connecting the link at a third point to said support, said third point being laterally offset from a straight line between said first and second points, said first, second and third pivot means being parallel and generally perpendicular to said support, said link and support defining means guiding movement of the link past both said first and second points to separate overcenter positions relative to said first and second pivot means.

3,265,357
HYDRAULIC JACK SYNCHRONIZING SYSTEM
William H. Schilling, La Habra, Calif., assignor to Hydraulic Engineering Corporation, El Monte, Calif., a corporation of California
Filed Apr. 30, 1964, Ser. No. 363,824
9 Claims. (Cl. 254—89)



1. In a hydraulic jack synchronizing system, a load-supporting element, at least two hydraulic jacks operatively connected therewith at spaced apart points to move said load-supporting element away from and toward a support, fluid pressure supply means connected to both jacks for supplying fluid pressure thereto, means for maintaining a predetermined angle between said load-supporting element and the support comprising a synchonizing valve for each jack, angle deviation-sensing means operable to adjust said valves for reducing the flow of fluid pressure from said supply means to one of said jacks when ahead of the other, each of said valves comprising a valve body, opposed valve seats and first and second cavities therein outward of said valve seats, a central cavity between said seats, a stem extending through said valve seats and cavities and having a valve head between the seats of less length than the distance between them, a pump inlet to both of said first and second cavities, a check valve between said pump inlet and each of said first and second cavities, one check valve opening away from said first cavity and the other opening toward said second cavity, said angle deviation-sensing means being operable to move said valve head in the direction of said second cavity when its corresponding jack is ahead of the other and in the direction of said first cavity when its corresponding jack is behind the other, and an outlet to the jack from said central cavity.

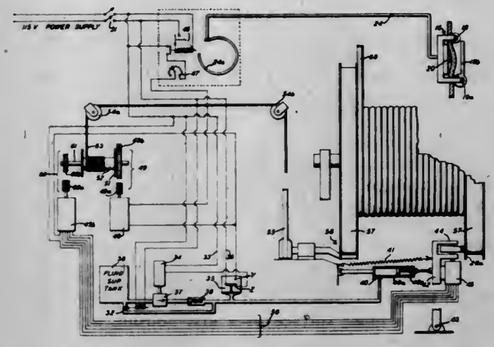
3,265,358
LOAD LOWERING DEVICE
John M. Delaney, 9571 E. Outer Drive, Detroit, Mich.
Filed Apr. 22, 1964, Ser. No. 361,709
1 Claim. (Cl. 254—158)



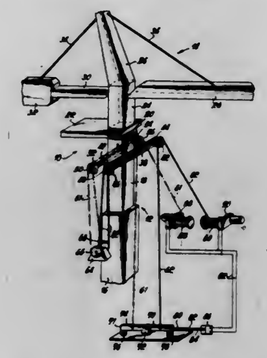
A brake comprising a body, a first rotatable pump member within said body having an inner sinuous periphery around the axis of said member, a second rotatable pump member within said first rotatable member and having its axis or rotation eccentric with respect to the axis of rotation of said first pump member, said second pump member having a sinuous outer periphery cooperable with the sinuous inner periphery of said first pump member to effect a pumping action, a wheel driven shaft extending into said body and connected to drive said second pump member, means within said body defining liquid inlet and outlet chambers in communication with said pump members, a liquid reservoir within said body in communication with said inlet and outlet chambers and with said pump members providing a closed liquid circulatory system, and a valve member controlling the rate of flow of the liquid through said system to effect a braking operation on said shaft.

3,265,359
AUTOMATIC TENSION CONTROL SYSTEMS FOR OIL WELL DRILL LINES
J. E. Bowden, 503 Mesa Drive, Hobbs, N. Mex.
Filed June 7, 1962, Ser. No. 203,684
11 Claims. (Cl. 254—173)

1. In a system for regulating drill line tension as successively deeper formations are penetrated, drum means mounted to support a supply of said drill line and provided with braking means thereon, means including a line and spool for exerting a variable force on said braking means, a planetary gear assembly mounted to rotate simultaneously with said spool, a first electric motor mounted to supply input torque to said planetary gear assembly to rotate said spool in one direction, a pivotally mounted friction wheel assembly adapted to engage said drum means for simultaneous rotation therewith, mechanism including a second electric motor, hydraulic means driven by said second electric motor, said hydraulic means being adapted to generate fluid pressure to actuate said friction wheel assembly into engagement with said drum, a pressure sensitive switch responsive to said fluid pressure to operatively connect said first electric motor to a source of power, means including a diaphragm tension sensor and Bourdon tube responsive to tension in said drill line to initiate flow of electric power to said first motor, a worm and gear in spaced relation to said planetary gear assembly mounted in operative relationship to said spool, and means connected to said friction wheel and said worm for imparting input torque to said gear in order to rotate said spool in the opposite direction to increase the force on said braking means.



3,265,360
TOWER CRANE WITH AUXILIARY HOIST
Johann Tax, also known as Hans Tax, 3 Potsdamer Strasse, Munich 23, Germany
Filed June 2, 1964, Ser. No. 372,064
Claims priority, application Belgium, June 5, 1963, 507,097, Patent 633,231
10 Claims. (Cl. 254—173)



1. A crane comprising, in combination:
(a) an elongated tower having a normally vertical longitudinal axis;
(b) two cable members having respective first longitudinal portions guided on a top portion of said tower, and respective second portions depending from said first portions;
(c) joint load supporting means attached to said second portions for transmitting the weight of a supported load to said cable members;
(d) winch means operatively connected to said cable members for tensioning the same and for thereby raising a load supported on said second portions, said winch means including brake means for arresting movement of the connected cable members;
(e) sensing means for sensing the relationhip of the respective tensions in said cable members; and

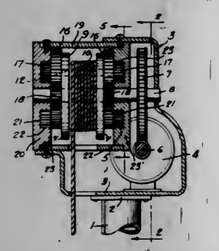
(f) brake actuating means operatively connected to said sensing means and to said brake means, and responsive to a predetermined sensed relationship of said tensions for actuating said brake means.

3,265,361
WEATHERPROOF WINCH WITH RATCHET AND CLUTCH FEATURES
Martin Mayrath, 10707 Lennox Lane, Dallas 29, Tex.
Filed July 2, 1962, Ser. No. 206,799
9 Claims. (Cl. 254—186)



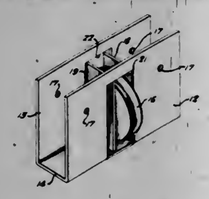
1. A winch box construction including a housing, a winch spool journalled in said housing and having a flange abutting an inner surface of a first housing wall, and a washer loose on said spool adjacent the inner surface of an opposite housing wall, cable means attached to said spool, said spool having a diametral aperture positioned immediately adjacent the inner surface of said washer and receiving said cable means which thereby acts as a stop holding said washer against said last-named housing wall.

3,265,362
HOISTING DEVICES
Warren E. Moody, 95 Fiesta Way, Fort Lauderdale, Fla.
Filed Mar. 2, 1964, Ser. No. 348,352
21 Claims. (Cl. 254—186)



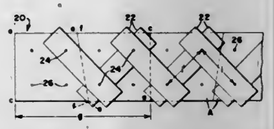
1. A mechanical movement comprising a driving member, a driven member, gear means connected to and mounting each end of one of said members for rotation about a given axis, and means drivingly connecting said gear means to the other of said members.

3,265,363
SHEAVE UNIT
Salvador N. Perez, Torrance, Calif., assignor to Tuk-A-Way Trailer Company, Torrance, Calif., a sole proprietorship of Salvador N. Perez
Filed June 1, 1965, Ser. No. 460,058
5 Claims. (Cl. 254—190)



1. A sheave unit comprising integral front and back walls and a narrow connecting wall, a first transverse wall formed of a cut portion of the front wall folded inwardly to the back wall, a scond transverse wall formed of a cut portion of the back wall folded inwardly to the front wall, said transverse walls being parallel and abutting said connecting wall, a sheave disposed between said transverse walls in closely-spaced parallel relationship thereto, and a shaft rotatably carrying said sheave and extending into fixed engagement with said transverse walls.

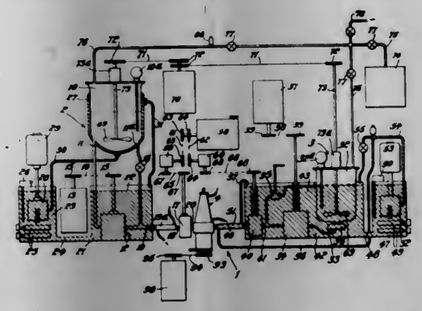
3,265,364
FENCE OR LIKE CONSTRUCTION
Norman V. Frye, R.R. 4, Davenport, Iowa
Filed Oct. 30, 1963, Ser. No. 320,089
6 Claims. (Cl. 256—19)



6. For use in the erection of a fence or the like, a preformed assemblage comprising: base means of relatively light-weight, easily manually handled material adapted to be placed upon the ground in a continuous elongated pattern and having therein a plurality of indicia arranged in first and second substantially parallel rows, the indicia in each row being equally spaced apart lengthwise of the base means and arranged so that any two neighboring indicia in one row and two directly opposite neighboring indicia in the other row lie respectively at the corners of substantially a parallelogram; a plurality of rods initially separate from and inserted respectively through selected indicia in both rows and into the ground such as to rise therefrom in regular zig-zag fashion throughout the length of said base means; and a plurality of horizontal rows of members carried by the rods in alternated stacked fashion, each member having therein a pair of apertures spaced apart on the order of the distance between a rod in one row and the next neighboring rod in the other row, each member of one row being received by a pair of such neighboring rods and each member in the row next above said one row resting on a member below it and received by one of the rods of said first-mentioned pair and a next adjacent rod other than in said first-mentioned pair.

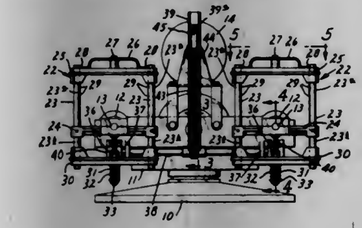
3,265,365
MANUFACTURE OF ARTICLES FROM CURABLE MATERIAL
Albert Nelson Ward, Castle Bromwich, John William Watson, Sutton Coldfield, and Richard Charles Foster and Peter Ford, Birmingham, England, assignors to Dunlop Rubber Company Limited, London County, England, a British company
Filed Jan. 22, 1963, Ser. No. 253,078
Claims priority, application Great Britain, Feb. 8, 1962, 4,816/62
6 Claims. (Cl. 259—8)

1. Apparatus for the manufacture of articles from curable material comprising a first container for liquid curable material, a mixing apparatus, a pump connected to the first container and to the mixing apparatus for supplying curable material from the container to the mixing apparatus, a second container for a cross-linking agent, means for continuously circulating said cross-linking agent from and to said container under a controlled pressure drop which comprises a recirculation pump having inlet and outlet ends connected to the flow pipe for circulating the cross-linking agent continuously from and to said second container and a throttling valve in the flow pipe between the delivery end of the pump and the outlet end of the flow pipe to provide a pressure drop in the said flow pipe, a supply pipe connected at one end to the mixing apparatus and at the other end to the flow pipe at a position between the throttling valve and the recirculation pump, means associated with the second container for raising the temperature of the cross-linking agent to render it liquid in form and for maintaining this



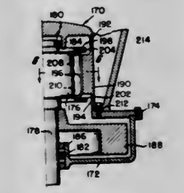
temperature in said second container and in said flow pipe and supply pipe and a pump located in the supply pipe for delivering controlled quantities of cross-linking agent through the supply pipe to the mixing apparatus.

3,265,366
PAINT CAN SHAKER AND MIXER
Frederick P. Warner, Minneapolis, Minn., assignor to Warner Manufacturing Company, Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 24, 1964, Ser. No. 346,826
7 Claims. (Cl. 259—56)



5. In a device of the class described,
(a) a base,
(b) frame structure carried by said base,
(c) a pair of laterally spaced generally parallel horizontally disposed shafts journalled in said frame structure,
(d) means for imparting simultaneous oscillatory movements to said shafts in opposite directions,
(e) a pair of shaker frames one each fast on a common end of one of said shafts and each thereof including
  (1) a pair of laterally spaced generally upright guide-legs, one each on an opposite side of its respective shaft, and
  (2) a crosshead connecting the intermediate portions of said guide-legs and dividing same into upper and lower guide-leg elements,
(f) a generally horizontally disposed upper clamping plate mounted and guided for generally vertical adjustments on each pair of said upper guide-leg elements,
(g) means for locking each of said upper clamping plates in desired adjusted positions on their respective upper guide-leg elements,
(h) a lower clamping plate slidably mounted on each pair of said lower guide-leg elements in planes parallel to their respective upper clamping plates,
(i) yielding means limiting downward movements of each of said lower clamping plates on their respective lower guide-leg elements,
(j) a horizontally disposed rockshaft journalled in said frame on an axis generally normal to the axes of said first mentioned shafts and below the plane of said first mentioned shafts,
(k) a radially projecting operating lever fast on said rockshaft for swinging movements in a vertical plane intermediate said shaker frames,
(l) a pair of cam-acting dogs on said rockshaft one each axially spaced from said operating lever in opposite directions and one each adapted to overlie and engage one of said lower clamping plates upon downward swinging movements of said operating lever, whereby to simultaneously depress said lower clamping plates against the bias of its respective yielding means,
(m) means for releasably locking said operating lever in said downwardly swung position, and
(n) means for releasably locking said operating lever in generally upright position wherein each of said cam-acting dogs is out of engagement with its respective lower clamping plate.

3,265,367
PLANETARY VIBRATOR
Bo N. Hoffstrom, Santa Monica, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Original application Apr. 20, 1961, Ser. No. 104,353, now Patent No. 3,211,262. Divided and this application Mar. 10, 1965, Ser. No. 458,526
3 Claims. (Cl. 259—72)

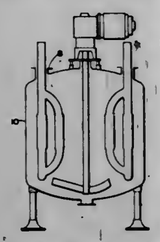


1. Drive means for inducing wave motion in a body of fluid in a container comprising a housing mounted within said container, a sun member rotatably mounted in said housing, said housing having a ring portion surrounding said sun member, a cage rotatably mounted in said housing, a plurality of planets carried by said cage for movement in the annular space between said sun member and said ring member, and said ring member having a plurality of cam surfaces engageable by said planets which effectively vary the radial width of said space the maximum radial width of said space being essentially equal to the diameter of said planets and the minimum radial width of said space being less than the diameter of said planets whereby, upon rotation of said sun member, said ring portion of said housing is radially deflected to induce wave motion in the body of fluid surrounding said housing within said container.

3,265,368
BAFFLE FOR MIXING DEVICES
Ray J. Nocera, Perry, N.Y., assignor to Pfaudler Permutit Inc., Rochester, N.Y., a corporation of New York
Filed Apr. 10, 1964, Ser. No. 359,556
4 Claims. (Cl. 259—108)

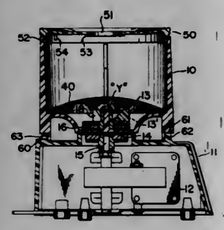
1. In combination with a vessel having mixing means, a baffle comprising,
(a) a mounting member adjustably mounted outside said vessel and adapted for extending into said vessel,

(b) a plurality of rounded spaced members substantially parallel intermediate their ends, joined to said mounting member at one end and to each other at their opposite ends, and extending into the vessel,



the portions of said baffle within the vessel being glass coated.

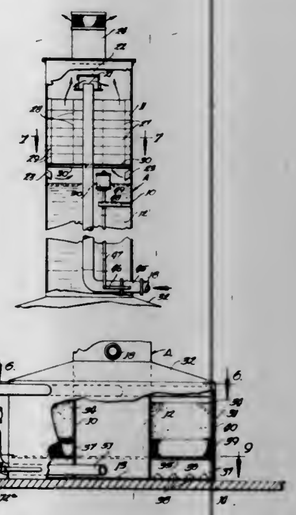
3,265,369
DENTURE CLEANERS
Robert R. Harrison, Elyria, Ohio, assignor to The General Industries Company, Elyria, Ohio, a corporation of Ohio
Filed Oct. 9, 1964, Ser. No. 402,909
7 Claims. (Cl. 259—108)



1. Apparatus comprising a cup-shaped container for cleaning solution having a substantially circular side wall and having a bottom formed with a centrally disposed well portion having a flat bottom surface, a base for said container, a circular disc, said disc having a plurality of propeller blades mounted thereon, a source of motive power disposed within the said base, a magnet within the base driven by said motive power, said disc housing a magnet, said latter magnet seated within the bottom of said well and adapted to be rotated by rotation of the magnet within the base driven by said motive means, said disc propeller blades are disposed radially on the upper surface of said disc, and said disc is provided with a centrally disposed hub projecting therethrough, said hub projecting through the magnet housed in said disc, said hub provided with means permitting fluid circulation therein.

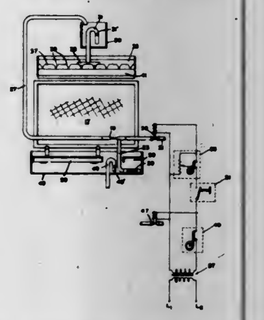
3,265,370
PACKAGED UNIT WATER AERATION AND FILTRATION APPARATUS
John J. Scholten, Ames, Iowa, assignor to General Filter Company, Ames, Iowa, a corporation of Iowa
Filed Oct. 12, 1965, Ser. No. 500,480
9 Claims. (Cl. 261—3)

1. Packaged unit water filtration and aeration apparatus, comprising in unitary combination an elongated, vertically-extending tank providing an aeration section in the upper portion thereof and a water detention section therebeneath, conduit means including inlet means for supplying the water to be treated to said tank at a point above said aeration section so that the water falls downwardly through said aeration section, means for introducing air into said tank beneath said aeration section, blower means for causing said air to flow upwardly through said aeration section and including means for discharging air from said tank at a point above said aeration section, a second tank disposed below the upper portion of the said detention section of said first-mentioned tank, said second tank being equipped with partition means for providing a plurality of filter cells for receiving a filtration medium, the said water detention section of said first-mentioned tank extending to a level substantially



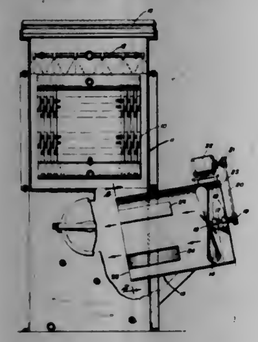
above said filter cells, conduit means extending from the said detention section of said first-mentioned tank to the upper portion of said second tank and including means for discharging aerated water from said detention section into the upper portion of said filter cells to flow downwardly through said cells, means for removing the filtered water from beneath said filter cells, and valve control means for maintaining the level of the water in said detention section substantially above the top of said filter cells.

3,265,371
GAS AND LIQUID CONTACT APPARATUS
William L. McGrath, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed June 4, 1963, Ser. No. 285,351
1 Claim. (Cl. 261—27)



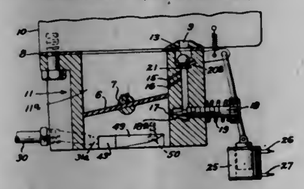
In a gas and liquid contact apparatus, the combination of a casing, evaporative media exposed to passage of air therethrough, distribution means to supply intermittently water to the evaporative media, said means including a reservoir tank, a syphon tube within said tank, a distribution pan having a weir section, said section including a plurality of V-shaped notches, and a run-off sheet, water overflowing the notches onto the sheet, the sheet distributing the water over the top of the evaporative media, a sump below said media, a jet pump to supply water from the sump to the distribution means, a make-up water line, said pump being connected to said make-up water line and being actuated by water supplied through said line, a second syphon tube within the sump to remove periodically a portion of the water in the sump, a valve in said line, and control means including a thermostat and a humidistat for regultaing operation of said valve.

3,265,372
AIR DISTRIBUTION SYSTEM
Wilson E. Bradley, Baltimore, Md., assignor to Baltimore Aircoil Company, Inc., Baltimore Md., a corporation of Maryland
Filed Feb. 27, 1964, Ser. No. 347,816
2 Claims. (Cl. 261—30)



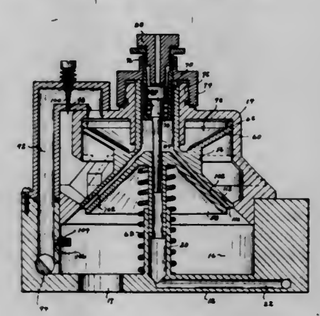
1. In an evaporative heat exchanger of the type where air is blown countercurrent to gravitating water drops through a heat exchange region, the improvement that comprises a propeller-type fan, circular ducting downstream of said fan terminating below the heat exchange region and in the path of the gravitating water, circumferentially spaced baffles extending radially inwardly from the inner surface of said ducting, said baffles being parallel to the long axis of the ducting and beginning at least about 2" downstream of the fan, the space defined by said ducting being, except for said baffles, free of structures modifying its shape or volume.

3,265,373
CARBURETOR HAVING IDLE FUEL CONTROL MEANS
Brooks Walker, 1280 Columbus Ave., San Francisco, Calif., and Frank W. Kertell, Oakland, Calif.; said Kertell assignor to said Walker
Filed May 7, 1962, Ser. No. 192,873
2 Claims. (Cl. 261—41)



1. A carburetor for an engine comprising an intake manifold, a throttle valve in said intake manifold, an idle fuel passage, an idle fuel orifice in said manifold downstream of said throttle valve, said passage bypassing said throttle valve and connected to said idle orifice, a ball valve, a seat for said ball positioned upstream of said idle orifice, said ball valve stopping the flow of idle fuel when seated on said seat, a cam shaft, a cam on said shaft for unseating said ball, said ball and said cam shaft being located on the upstream side of said seat, means to operate said cam and seat said ball valve in response to deceleration of the engine.

3,265,374
CARBURETOR FOR INTERNAL COMBUSTION ENGINES
Glenn R. Morton, 7025 Sarpy Ave., Omaha, Nebr.
Filed Aug. 14, 1963, Ser. No. 302,078
13 Claims. (Cl. 261—50)

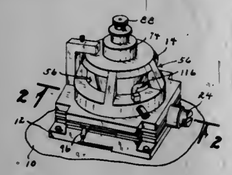


1. In a carburetor for internal combustion engines,
a carburetor housing having an upper bore and a lower compartment area;
said lower compartment area adapted to be in communication with the intake manifold of an internal combustion engine,
throttle valve means slidably mounted in the bore of said housing and adapted to variably restrict the entrance to said lower compartment,
an air inlet port in said housing communicating with the bore of said housing above the entrance to said lower compartment area,
a passageway extending through said throttle valve means adapted to have one end in communication with a source of combustible fluid,
means mounting a needle valve stem extending into the passageway of said throttle valve means,
at least one fluid exit passageway in said throttle valve means having one end operatively connected to the other end of said passageway of said throttle valve means and its other end communicating with the inside of the lower compartment area of said carburetor housing,
a conduit having one end communicating with the lower compartment area of said carburetor housing and its other end communicating with the inside of the bore of said carburetor housing at a position above the said throttle valve means,
and a manually controllable valve means imposed in said conduit.

3,265,375
CARBURETOR FOR INTERNAL COMBUSTION ENGINES
Glenn R. Morton, 7025 Sarpy Ave., Omaha, Nebr.
Filed Oct. 30, 1963, Ser. No. 320,097
13 Claims. (Cl. 261—50)

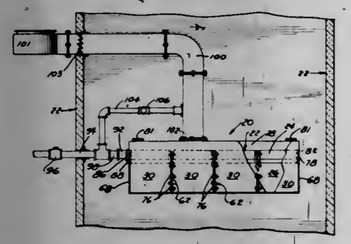
1. In a carburetor for internal combustion engines,
a carburetor housing having an upper bore and a lower compartment area;
said lower compartment area adapted to be in communication with the intake manifold of an internal combustion engine,

throttle valve means slidably mounted in the bore of said housing and adapted to variably restrict the entrance to said lower compartment area,
an air inlet port in said housing communicating with the compartment area of said housing above the entrance to said lower compartment area,
a fluid bowl on said throttle valve means,
a conduit having one end communicating with the inside of said fluid bowl and its other end adapted to be in communication with a source of engine fuel,
a combustible fluid passageway in said throttle valve means communicating with the inside of said fluid bowl,



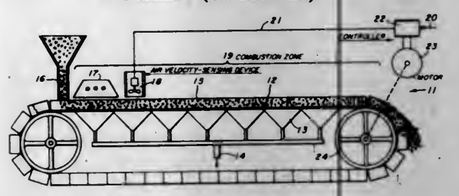
means mounting a needle valve stem extending into the passageway of said throttle valve means,
at least one fluid exit passageway in said throttle valve means having one end operatively connected to the said passageway of said throttle valve means and its other end communicating with the inside of the lower compartment area of said carburetor housing,
a conduit having one end communicating with the lower compartment area of said carburetor housing and its other end communicating with the inside of the bore of said carburetor housing at a position above the said throttle valve means,
and a manually controllable valve means imposed in said last mentioned conduit.

3,265,376
AIR HEATING BURNERS
Lyle S. Spielman, Rockford, Ill., assignor to Eclipse Fuel Engineering Co., Rockford, Ill., a corporation of Illinois
Filed Nov. 24, 1964, Ser. No. 413,414
20 Claims. (Cl. 263—19)



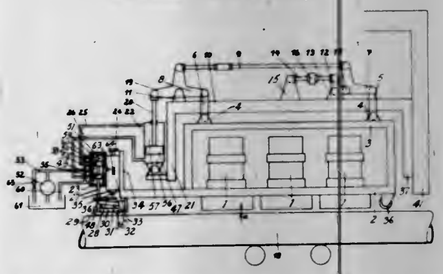
1. A gas mixing burner adapted for operation in an air stream flowing forwardly past the burner, said burner comprising a tubular burner body having a forward burner face directed downstream and provided with a multiplicity of spaced relatively small burner ports therein in communication with the interior of the body for producing a corresponding number of forwardly directed flame jets, flame-confining walls extending forwardly from said forward burner face and, in combination with said burner face, defining a forwardly opening combustion trough, means including said flame-confining walls defining a pair of closed air supply chambers on opposite sides of the combustion trough, said flame-confining walls being formed with a plurality of openings spaced both longitudinally and at different distances from said burner face, means for supplying low pressure air to the interiors of said air supply chambers, and means for regularly supplying fuel gas under pressure to the interior of said tubular burner body.

3,265,377
METHOD OF AND APPARATUS FOR REGULATING THE SPEED OF SINTERING STRANDS
Fred Cappel, Frankfurt am Main, Germany, assignor to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 21, 1963, Ser. No. 290,862
5 Claims. (Cl. 263—28)



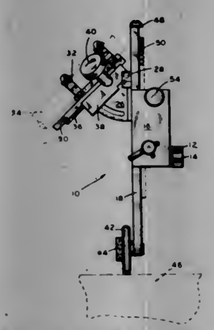
4. A method for regulating the rate of burning of a uniformly thick layer of a predetermined mixture of material upon a porous moving sintering strand solely by the speed of travel of said strand, comprising the steps of,
(a) uniformly feeding a layer of a predetermined mixture of materials having a known bulk density to the front end of the moving strand,
(b) igniting the surface of said moving layer,
(c) uniformly feeding air at a preselected velocity to the surface of said strand layer from the point of ignition to the discharge end of the strand,
(d) continuously measuring the velocity of the air moving through the layer of mixture upon the strand at the longitudinal centerline thereof immediately following said ignition of the surface of the layer, and
(e) regulating the speed of movement of the strand in accordance with change in the measured permeability of the burning mixture at the said longitudinal centerline of the strand.

3,265,378
MACHINES FOR ANNEALING THE WELDED SEAMS OF LONGITUDINALLY WELDED TUBES
Dietrich Grube, Ratingen-Tiefenbroich, Karl Warnke, Dusseldorf-Reisholz, and Franz Sommerfeld, Neuss, Germany, assignors to Schloemann Aktiengesellschaft, Dusseldorf, Germany
Filed Dec. 29, 1964, Ser. No. 421,829
Claims priority, application Germany, Feb. 25, 1964, 34,703
8 Claims. (Cl. 266—5)



1. A machine for annealing welded seams in longitudinally welded tubes, comprising: a base structure, means carried by the base structure for supporting a welded pipe to be annealed, a system of swinging levers pivotaliy carried by the base structure, a frame suspended from the swinging levers at a selected height above the tube weld to be annealed, an annealing device carried by the said frame, at least one double-acting piston-and-cylinder unit, means operatively connecting a piston of the piston-and-cylinder unit with the system of swinging levers, means for selectively supplying fluid under pressure to the cylinder spaces of the piston-and-cylinder unit, and thereby controlling the height of the annealing device above the tube weld to be annealed, and means for regulating the supply of pressure fluid to the piston-and-cylinder unit in dependence upon the distance of the annealing device from the welded seam of the tube.

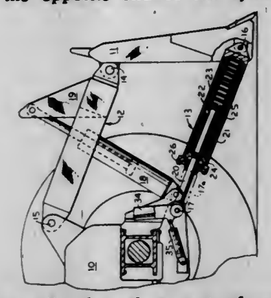
3,265,379
OUT-OF-ROUND ATTACHMENT FOR PIPE BEVELING MACHINES
Perceptimus J. Mighton, 1419 N. 78th E. Ave., Tulsa, Okla.
Filed July 8, 1963, Ser. No. 293,479
3 Claims. (Cl. 266—23)



1. An out-of-round attachment for a pipe cutting or beveling machine comprising,
a support guide member;
a first bracket retained by said guide member to move relative to said pipe, said first bracket including means to attach a pipe cutting or beveling device;
a pipe follower roller at the lower end of said first bracket, the axis of said roller parallel to the axis of said pipe and in that plane defined by the axis of said cutting or beveling device and said pipe axis;
a variable force means, the force axis of which is in said same plane, retained in said guide member;
a second bracket attachable to said machine and retained with respect to said support guide, retainer means positioned above said variable force means and fixedly attached to said second bracket to prevent downward movement of said support guide yet permit relative upward movement of said support guide with respect to said second bracket to increase said force means;
means to move said support guide relative to said first and second brackets; and
means to lock said support guide and said first bracket in a given relative position.

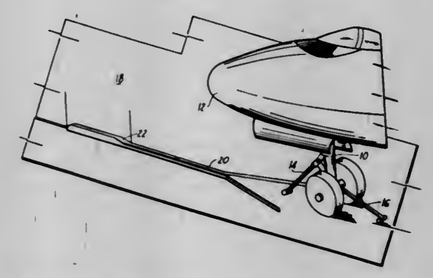
3,265,380
RESILIENT PUSH DOZER
James D. Hall, Plainfield, and Thomas R. Rehberg, Chicago Heights, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Original application Aug. 27, 1963, Ser. No. 304,754, now Patent No. 3,238,647, dated Mar. 8, 1966. Divided and this application Sept. 20, 1965, Ser. No. 505,213
2 Claims. (Cl. 267—1)

1. A resilient link for cushioning shock imparted to a push dozer blade or the like which comprises a cylinder, a rod extending into one end of the cylinder and having a piston thereon, cushioning material between the piston and the opposite end of the cylinder, said rod



extending inwardly through a part of said cushioning material and a rigid guide slidable with respect to the rod and the cylinder wall to prevent cocking of the rod.

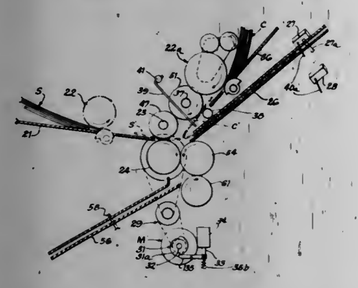
3,265,381
SHOCK ABSORBER
Norman H. Katz and Jay T. Lindley, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed May 27, 1964, Ser. No. 370,560
1 Claim. (Cl. 267—64)



An aircraft landing gear comprising:
a cylindrical member;
a tubular member closed at one end and having a piston face at the other end, which tubular member is operatively connected to said cylindrical member such that it will telescopingly move into and out of said cylindrical member with said piston cooperating with the cylindrical member to prescribe two internal variable volume chambers;
an orifice means operatively connected to said cylindrical member and said tubular member having passage for communication of said variable volume chambers;
a floating piston means operatively connected to said tubular member for reciprocatory movement therewithin, said floating piston being provided with upper and lower seal means for preventing commingling of fluid above and below said floating piston, said floating piston being further provided with a radial passage between said upper and lower seal means, which radial passage leads inwardly to a cavity within said floating piston means to provide a leakage collection chamber for any fluid leaking by either the upper seal means or the lower seal means;
a metering pin affixed to said floating piston means which metering pin is provided with a passage open at one end to said cavity in said floating piston means and closed at the other end to prevent communication of the cavity with either of the two variable volume chambers; and

a drain tube affixed to the closed end of said tubular member which drain tube extends upwardly through the floating piston means into the passage of said metering pin for a sufficient length to permit drainage regardless of metering pin position within said variable volume chambers, as may be brought about by telescoping movement of said tubular member within said cylindrical member, said drain tube having an internal passage leading from the passage in the metering pin through the drain tube and to the exterior of said tubular member to provide an overboard vent for any leakage fluid in the cavity of the floating piston means.

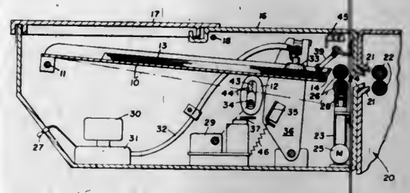
3,265,382
PAPER NESTING AND ENVELOPING APPARATUS
Herbert P. Sherman, 724 W. Washington St., Chicago, Ill.
Filed May 18, 1964, Ser. No. 368,036
6 Claims. (Cl. 270—45)



1. A paper nesting and enveloping apparatus comprising, means for feeding a first sheet, a first buckle chute into which said sheet is fed, means for arresting the feeding of said first sheet at a predetermined point in said chute, means for feeding a second sheet into superposed relation to said first sheet when the feeding of said first sheet is arrested, first fold means, means actuable by the movement of said second sheet for effecting operation of said first folding means whereby said first sheet is buckled into said first fold means with said second sheet nested within folded portions of said first sheet, a second buckle chute into which said folded first sheet and nested second sheet are fed, and second fold means into which said first sheet is buckled to effect a second folding of said first sheet whereby said second sheet is completely enveloped within said first sheet.

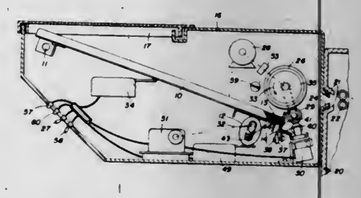
3,265,383
FILM SHEET FEEDER
Charles F. Shute, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 22, 1965, Ser. No. 450,031
8 Claims. (Cl. 271—11)

1. A film sheet feeder for sequentially supplying exposed film sheets in an edgewise fashion to a film processor input, comprising:
- a sloping tray for holding a stack of sheets;
- a plurality of vacuum lift cups located over the lower end of said tray;
- a cam drive means operable to periodically raise the lower end of said tray so that a top sheet of the stack is captured by at least one of said cups to be transported thereby to the processor input;
- a movable support for said cups positioned to pivotably respond to said cam drive means only after said tray has been raised and partially lowered by said cam drive means;
- a pair of feed rollers aligned to receive the captured top sheet when said cups are pivoted by said cam drive means;



means for continuously driving said feed rollers; and means for selectively driving said cam drive means.

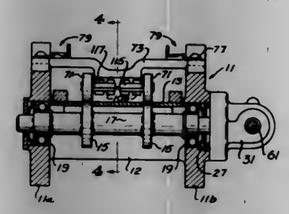
3,265,384
FILM SHEET FEEDER
Charles F. Shute, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Aug. 31, 1964, Ser. No. 393,194
10 Claims. (Cl. 271—36)



1. A film sheet feeder for sequentially supplying exposed film sheets in an edgewise fashion to a film processor, comprising:
- a sloping tray for holding a stack of sheets;
- a feed roller located over the lower end of said tray;
- a cam drive means operable to periodically raise the lower end so that a top sheet of the stack is engaged by said roller to be driven thereby to the processor input;
- a stripper bar positioned to engage the lower end surface of each of the sheets of the stack and being spaced from said roller a distance allowing passage of only one film sheet;
- a motor coupled to drive said cam means to raise and lower said tray;
- first switch means responsive to the feeding of a sheet by said roller to energize said motor only when a sheet is not being fed thereby; and
- second switch means coupled in parallel with said first switch means and responsive to the position of said tray to energize said motor only when said tray is in a raised position whereby said tray stops in a lowered position during a feeding operation.

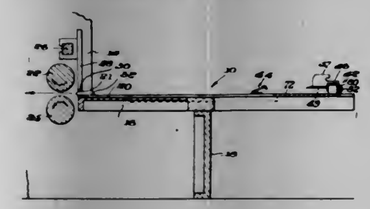
3,265,385
REMOVABLE IDLER ROLLER ASSEMBLY
Erwin F. C. Schulze, Novelty, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed June 9, 1964, Ser. No. 373,769
6 Claims. (Cl. 271—51)

1. Means for feeding documents comprising a frame including elongate side members extending in the direction of document travel; a powered roller rotatably supported between said side members; an idler roller in contact with said powered roller; a shaft rotatably carrying said idler roller; a rigid transverse support member, means providing a positively positioning but readily releasable connection of said support member with both side members of said frame; and means for resiliently supporting said idler roller shaft from said transverse support member in position to be pressed against said powered roller



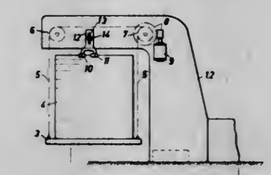
when said transverse support member is in place on said frame, said means constituting the sole means for supporting and controlling the motion of said idler roller shaft, whereby said idler roller and its shaft can be separated and bodily removed from the powered roller and the side members and readily replaced to proper position by an operator by grasping the transverse support member.

3,265,386
BOX BLANK SUPPORT DEVICE
Albert Palamenti, Saddle Brook, N.J., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Oct. 20, 1964, Ser. No. 405,157
4 Claims. (Cl. 271—61)



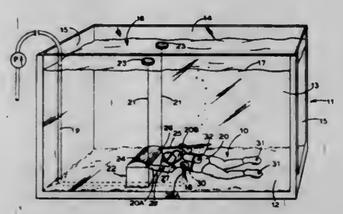
1. In a reciprocating box blank feeding mechanism the combination comprising,
- a support bed having a pair of parallel spaced arm portions extending rearwardly therefrom, said arm portions forming a recessed portion therebetween,
- a pair of parallel spaced slotted portions in said arms and said support bed,
- a transversely extending backstop member,
- means secured to said backstop member and positioned in said pair of parallel slots, said means arranged to support said backstop member for longitudinal adjustment relative to said support bed,
- said backstop member including means to support the rear edge portion of a stack of box blanks in an elevated position relative to the top surface of said support bed,
- an auxiliary support for the intermediate portion of said box blanks, said auxiliary support spanning said recessed portion between said arms,
- said auxiliary support having edge portions on the upper surface of said arms, and
- means connecting said auxiliary support to said backstop member for movement therewith longitudinally along said support bed.

3,265,387
SUPERVISORY DEVICE FOR SUPERVISING A SHEET STACK OF A SHEET PRINTING PRESS
Hans Alix and Siegfried Schuhmann, Offenbach am Main, Germany, assignors to Roland Offsetmaschinenfabrik Faber & Schleicher A.G., Offenbach am Main, Germany, a company of Germany
Filed Oct. 16, 1964, Ser. No. 404,457
Claims priority, application Germany, Nov. 7, 1963, R 36,513
2 Claims. (Cl. 271—62)



1. A device supervising the height of a stack of sheets for use in a sheet printing press, said device comprising an ultrasonic sensor constituting a transmitter for directing an ultrasonic beam upon one side of the stack to be supervised, means for mounting said transmitter adjacent to but spaced apart from said side of the stack, means for supplying electric energy to the sensor, a second ultrasonic sensor constituting a receiver for receiving sound energy reflected by said side of the stack, mounting means for mounting said receiver adjacent to but spaced apart from said side of the stack, amplifying means connected to said second sensor and controlled by the magnitude of the sound energy received by said sensor, and control means connected in circuit with said amplifying means and operated in response to a departure of the magnitude of the reflected sound energy from a predetermined value.

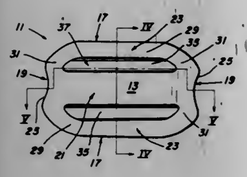
3,265,388
RHYTHMIC AERATOR ACTUATED FLOAT FOR INDICATING WATER LEVEL
Frank A. Kane III, deceased, late of Stratford, Conn., by Mrs. Frank A. Kane, Jr., administratrix, 18 Fairlea Ave., Stratford, Conn.
Filed Sept. 19, 1963, Ser. No. 310,171
13 Claims. (Cl. 272—8)



1. An aquatic device for continuously rising and submerging in rhythmic fashion within a body of water comprising
- (a) means defining a guide line,
- (b) means connected to said guide line for maintaining it taut in said body of water,
- (c) means defining a hollow body provided with an inlet formed on the undersurface of said body and an exhaust port spaced therefrom to effect control flooding of said hollow body to regulate the buoyancy

thereof, said body having means for guiding said body along said guide means when placed in water, (d) and means located in said body of water in alignment with the inlet of said body in the submerged position of said body for introducing a lighter than water gas into said body through said inlet to render said body buoyant by displacing the water therein through said exhaust port so that said body will float toward the surface of said water along said guide means, and said body thereafter taking in water through said gas inlet whereby said air is exhausted through said exhaust port causing the same to submerge in position to again receive said gas to repeat the cycle, and said cycle ceasing when said guide line slackens.

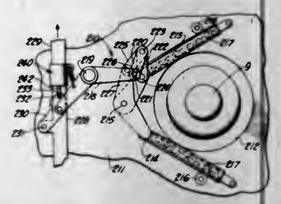
3,265,389
HAND EXERCISER
Edward H. Carlson, P.O. Box 9084, Memphis, Tenn.
Filed July 2, 1963, Ser. No. 292,354
2 Claims. (Cl. 272—68)



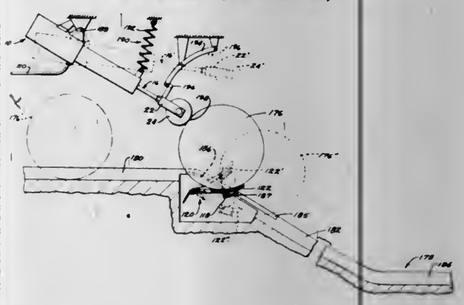
2. A hand exercising device comprising a substantially thin, flat, elongate, one-piece body formed of material having uniform structure and resiliency and including a medially disposed longitudinally extending primary portion and a pair of elongated secondary portions arranged respectively collaterally along directly opposite sides of said primary portion, each secondary portion including substantially arc-shaped bridge structure including opposite end portions, said bridge structure of each secondary portion being integrally secured respectively at said opposite end portions to said primary portion and defining an elongate open area extending lengthwise in said body and disposed substantially between said primary portion and said bridge structure of each secondary portion, each said secondary portion including a web portion extending lengthwise in said body and with said web portion being medially disposed relative to the thickness of said body and disposed respectively between said primary portion and each bridge structure, said web portion of each said secondary portion substantially defining equally proportional elongate recesses extending respectively lengthwise in said body and disposed on opposite sides of each web portion.

3,265,390
DEVICE FOR SETTING SELECTED BOWLING PINS WITH RESPOTTING MECHANISM
Lawrence J. Stauth, 4128 Hood Ave., Burbank, Calif.
Filed Nov. 1, 1963, Ser. No. 320,620
4 Claims. (Cl. 273—43)

3. In a respotting mechanism for selectively lifting or leaving standing a bowling pin, the combination of: a pair of arms pivotally mounted for movement in a horizontal plane for gripping the neck of a standing bowling pin upon closing of said arms, link means for actuating said arms for closing on a pin without regard for the location of the pin, actuating bar means operable for horizontal movement, actuating link means normally interconnecting said actuating bar means and said link means for causing closing of said arms upon said horizontal movement of said actuating bar means, and electro-mechanical means operatively connected to said actuating link means and selectively operable for disabling said actuating link means for causing said arms to stay at least partially open upon said horizontally movement of the actuating bar means whereby the bowling pin is left standing.



3,265,391
RAPID BOWLING BALL RETURN APPARATUS
Ernest C. Webb, Bay Village, Ohio, assignor to Lakewood Manufacturing Company, Westlake, Ohio, a corportion of Ohio
Filed Feb. 11, 1963, Ser. No. 257,651
9 Claims. (Cl. 273—49)



1. In apparatus for rapidly returning a bowling ball from a pit area to an approach area of a bowling alley, the combination comprising:

guideway means extending from said pit area for returning said bowling ball to said approach area;

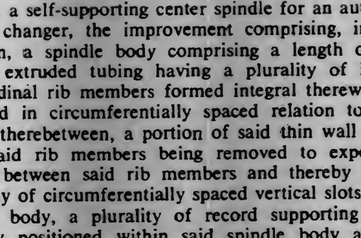
means adjacent to said guideway means for feeding said bowling ball onto said guideway means;

extrinsic propelling means for forcibly propelling said bowling ball along said guideway means, asid propelling means including a propelling member and a propelled member comprising a unitary structure, said propelling member being pivotally supported above said guideway means, said propelled member being supported by said propelling member for engagement with said bowling ball; and

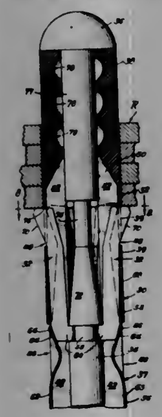
means operable independently of said bowling ball for raising said extrinsic propelling means out of the path of said bowling ball before said bowling ball is propelled.

3,265,392
LIGHTWEIGHT BOWLING BALL
Carl O. Degner, Muskegon, Fred E. Satchell, Grand Haven, and Edward W. Gatfield, Muskegon, Mich. assignors to Brunswick Corporation, a corporation of Delaware
Original application Mar. 27, 1963, Ser. No. 268,261. Divided and this application June 15, 1965, Ser. No. 483,900
5 Claims. (Cl. 273—63)

1. A bowling ball comprising a generally spherical core of laminated balsa wood laid up with end grains defining the generally spherical surface and an exterior hard cover supported by said spherical core and having a smooth outer rolling surface, said cover enclosing said core and said enclosed core being impact resistant.

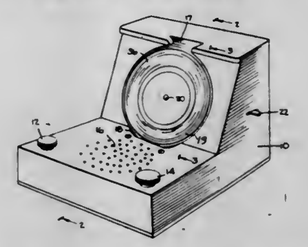


3,265,393
SELF-SUPPORTING CENTER SPINDLE FOR PHONOGRAPH RECORD CHANGERS
Gerald H. Freier, Benton Harbor, Mich., assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed July 15, 1963, Ser. No. 295,087
19 Claims. (Cl. 274—10)



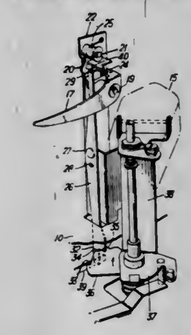
6. In a self-supporting center spindle for an automatic record changer, the improvement comprising, in combination, a spindle body comprising a length of thin-walled extruded tubing having a plurality of internal longitudinal rib members formed integral therewith and disposed in circumferentially spaced relation to define spaces therebetween, a portion of said thin wall shorter than said rib members being removed to expose the spaces between said rib members and thereby form a plurality of circumferentially spaced vertical slots in said spindle body, a plurality of record supporting fingers slidably positioned within said spindle body and disposed in corresponding ones of said spaces between said internal rib members, said fingers being of a thickness slightly less than the spacing between said ribs whereby said ribs act as a cage to control the circumferential spacing of said fingers, said fingers being movable between first operative positions wherein they project through said slots and radially outwardly of said spindle body so as to support a stack of records thereon and second inoperative positions wherein they are substantially retracted within said spindle body, and actuator means disposed within said spindle body and associated with said record supporting fingers for moving the same between said first and second positions.

3,265,394
PORTABLE RECORD PLAYER
Ernest J. Carlisle, 435 Wildwood Road, Northvale, N.J.
Filed Apr. 5, 1963, Ser. No. 270,929
5 Claims. (Cl. 274—15)



1. In a record player of the class described, a turntable, means for positioning a record on said turn-table, means for rotating said turn-table, an arm, a needle held by said arm and adapted to traverse said record from an initial position thereon, means cooperating with said needle for amplifying sound waves picked up thereby, a speaker in operative connection with said last named means, power means for said last named means, the combination comprising: means for mounting said arm for pivotal movement, resilient means for urging said needle into engagement with said record, a reciprocating rod for disengaging said needle from said record, means for actuating said rod, releasable means actuated by said last named means for retaining said needle out of engagement with said record, and a pivotal rod pivotally mounted adjacent said arm for urging said arm towards its initial position, said pivotal rod being actuated by movement of said reciprocating rod.

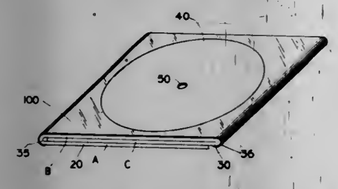
3,265,395
AUTOMATIC RECORD CHANGING APPARATUS
Norman Lane, Halesowen, England, assignor to BSR Limited, Old Hill, England, a British company
Filed Sept. 12, 1963, Ser. No. 308,586
Claims priority, application Great Britain, Sept. 12, 1962, 34,769/62
6 Claims. (Cl. 274—15)



1. In automatic record changing apparatus of the type specified, automatic means determining the position of arrest of the pick-up arm on its inward movement during a cycle of operations comprising, a post fixed to the base of the apparatus at the side of the turntable, a mounting for a selector lever carried by said post, a selector lever pivoted on said mounting, so as to be engaged by a record on its descent to the turntable, a vertical lever pivoted on said post, a quadrant plate rotatable with the pick-up arm during a cycle of operations, abutment faces on said quadrant plate engaged by the lower end of said vertical lever to arrest the inward movement of the pick-up arm,

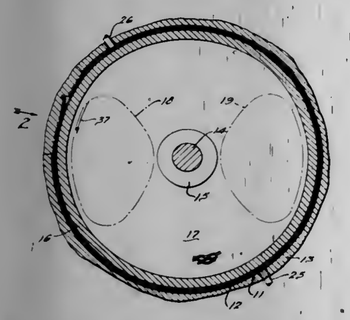
abutments on the selector lever mounting engaged by the upper end of the vertical lever, and means on the selector lever mounting engaged by the upper end of the vertical lever, said means causing depression of the selector lever when the vertical lever moves away from the abutments to its at-rest position at the end of a cycle of operations of the apparatus.

3,265,396
LAMINATED PAPER RECORDS
Harry Gorman, 2717 Holland Ave., New York, N.Y.
Filed Feb. 12, 1963, Ser. No. 258,020
3 Claims. (Cl. 274—42)



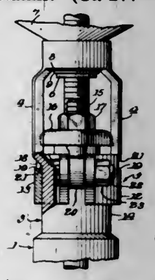
1. A phonograph record comprising a flat substrate; a surface layer of plastically deformable material laminated to said substrate, while overlying a central portion thereof; and a record impression formed in said surface layer on said central portion to provide thereon a record-receiving surface, said substrate being provided with a pair of opposite nonrecording marginal portions integral with said central portion and foldable under the latter along opposite parallel folds interconnecting said marginal and central portions while being substantially coextensive therewith, said surface layer extending integrally beyond said opposite parallel folds interconnecting said marginal and central portions and overlying only a fraction of the total area of each marginal portion adjacent said central portion for stiffening the record, said central and marginal portions being provided with aligned apertures for receiving a phonograph spindle.

3,265,397
SEAL USED IN CONJUNCTION WITH REGENERATOR
Sam B. Williams, Walled Lake, Mich., assignor to Williams Research Corporation, Walled Lake, Mich, a corporation of Michigan
Filed Apr. 26, 1963, Ser. No. 275,924
1 Claim. (Cl. 277—34.3)



In a seal for use in conjunction with the outer cylindrical surface of a rotary regenerator matrix in a gas turbine, a closed loop formed of a rubber-like tube having heat-resistant properties, pressurized coolant connections for said tube, a housing portion surrounding said matrix and having an annular inwardly facing main surface and an annular groove in said main surface, said tube being disposed within said groove, a shoe comprising a circular strip disposed between said tube and matrix surface and having a smooth inner surface engaging said matrix surface, said strip being wider than said tube, a central extension on one end of said strip, a pair of extensions on the other end of said strip forming a recess therebetween, said first-mentioned extension and said tube being disposed within said recess and overlapping said other end between said extensions for providing a continuous surface in contact with said matrix surface, hooked ends on said spaced extensions, and a relieved portion in said housing portion extending tangentially to said main surface and within the lateral confines of said strip, said relieved portion having a notch formed at the outer end thereof receiving said hooked ends, whereby rotational movement of said shoe will be prevented when said matrix rotates.

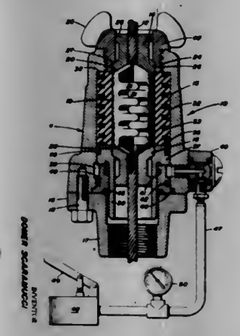
3,265,398
FABRICATED STUFFING BOX WITH GLAND EYE-BOLT ARRANGEMENT
George E. Hansen, Elmwood Park, and Anton Korzenowski, Brookfield, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois
Filed July 25, 1963, Ser. No. 297,638
2 Claims. (Cl. 277—105)



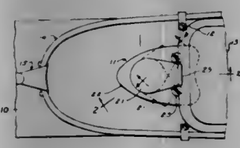
1. In a valve construction or the like for supporting an actuating mechanism, the combination including the assembly of an integral stuffing box, bonnet and yoke, the yoke portion thereof having a pair of spaced-apart arms with a lower portion thereof having inclined under surfaces, gland bolts of eye-bolt configuration for the stuffing box, retainer means for the said gland bolts, the said retainer means comprising a pair of clamp members arranged for engagement with an outer peripheral portion of said integral stuffing box, yoke and bonnet assembly, means for drawing said clamp members together, the said clamp members having relieved upper arcuate portions cooperating with said inclined under surfaces of the arms of said yoke whereby to retain said clamp members upon assembly against longitudinal and rotational movement.

3,265,399
REMOTE CONTROL HYDRAULIC LINE STRIPPER
Domer Scaramucci, P.O. Box 9125, Oklahoma City, Okla.
Original application Oct. 31, 1960, Ser. No. 66,301, now Patent No. 3,132,867, dated May 12, 1964. Divided and this application Mar. 24, 1964, Ser. No. 354,373
9 Claims. (Cl. 277—198)

1. For use in a stripper for wire lines, the combination of a compressor and a cylindrical packing member, said compressor comprising an annulus of elastic, rubber-like material sized internally to closely engage the outer surface of the packing member and of substantially the same length, a plurality of turns of wire of a substantially rectangular cross-section embedded in said material and extending closer to the outer wall of the annulus than the inner one, the turns being of uniform diameter and spaced apart axially of the annulus a distance at least as great as the axial thickness of a turn, whereby to extrude the elastic material between the wire turns radially inwardly of the annulus when the latter is compressed longitudinally to thereby compress the packing member.



3,265,400
TOE BINDING
Hjalmar Hvam, Rte. 1, Box 404, Beaverton, Oreg.
Filed Mar. 16, 1964, Ser. No. 352,197
15 Claims. (Cl. 280—11.35)



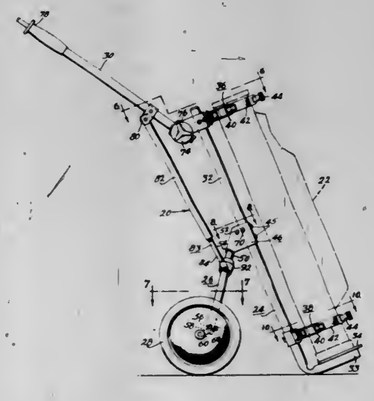
1. In a toe-holding clamp for a ski,
arm means extending generally horizontally and having a ski boot engaging means on one end thereof and having a shaft rigid therewith adjacent the other end,
pivot means secured to the ski mounting the shaft pivotally on the ski to mount the arm means for generally horizontal pivotal movement of the arm means relative to the ski and also permitting limited vertical movement of the arm means relative to the ski,
and detent means positioned at the lower ends of the shaft and the pivot means normally holding the arm means with a predetermined force against horizontal pivotal movement relative to the ski and holding the arm means against such horizontal pivotal movement with a substantially greater force than said predetermined force when the lip member is pressed upwardly by the ski boot.

3,265,401
REINFORCEMENT FOR A POLE
I Martin Spier, 50 Park Ave., New York, N.Y. 10016
Filed Jan. 29, 1964, Ser. No. 341,006
4 Claims. (Cl. 280—11.37)

1. In a pole and the like, the combination of an elongated, hollow, thin-walled shaft having a downwardly tapered bore which has an axis, an axially extending rigid insert within said bore intermediate its ends and having at least three radially extending, circumferentially spaced vanes the outer edges of which correspond in taper with and about frictionally flush against the surface of said bore, and an in situ foam plastic fill within said shaft and filling said bore from below to above said insert, said vanes having apertures through which said fill extends bondingly to fix said insert in position within said shaft.

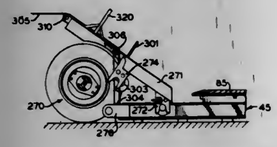


3,265,402
FOLDABLE GOLF CART
Gerson Snyder, Philadelphia, Pa., assignor to Snyder Manufacturing Co., Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 30, 1964, Ser. No. 422,337
7 Claims. (Cl. 280—41)



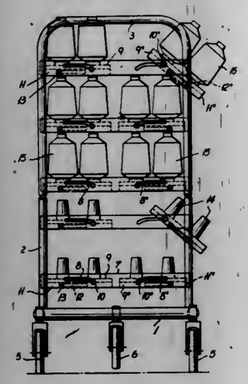
1. A golf cart comprising a bag-supporting frame, and a foldable leg assembly extending from said frame, said leg assembly comprising a pair of hollow external legs pivotally attached at their upper ends to said frame, an axle pivotally secured to the lower end of each said external leg, a wheel journaled on each said axle, an internal leg disposed within each said external leg, means at the upper and lower ends of each said internal leg for pivotally connecting said internal leg respectively with said frame and one said axle to form a parallelogram linkage with the corresponding external leg, and means for controlling the position of said foldable leg assembly, said wheels being maintained in a constant parallel relation by said parallelogram linkages at any position of said leg assembly.

3,265,403
LATCHING MECHANISM FOR CONNECTING A TRUCK TO A TRAILER PLATFORM
William O. Thomas, 3005 W. 66 Highway, Springfield, Mo.
Original application Feb. 3, 1959, Ser. No. 790,908, now Patent No. 3,078,090, dated Feb. 19, 1963. Divided and this application Jan. 3, 1963, Ser. No. 249,174
2 Claims. (Cl. 280—43.11)



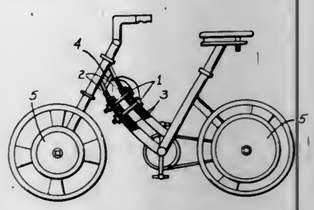
1. In combination, a trailer platform, a single-axle truck having a tiltable floor, first and second sets of keepers secured to the underside of said floor in longitudinally spaced relation, first and second sets of support pins on the rearward end of said platform, said first set of keepers adapted for releasable securement with said first set of support pins, said second set of keepers adapted for releasable securement with said second set of support pins, a pulley block, a tackle connected to the truck floor for raising and lowering said pulley block with respect to the underside of the floor of said truck, a pulley block socket on the rear of said platform adapted to receive said pulley block, the arrangement being such that upon securement of said first set of truck keepers with said first set of platform support pins and engagement of said pulley block in said socket, subsequent raising of said pulley block with respect to said truck floor causes said truck floor to move into substantial alignment with said platform by pivoting about said first set of support pins and whereby said second set of pins engage and are secured in said second set of keepers to maintain the floor in horizontal alignment with the platform.

3,265,404
TRANSPORTER TRUCK FOR INDUSTRIAL ESTABLISHMENTS
Francisco Skufca, 953 Uspallata St., Buenos Aires, Argentina
Filed Dec. 21, 1964, Ser. No. 419,873
6 Claims. (Cl. 280—79.3)



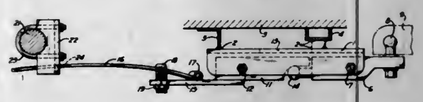
1. In a transporter truck, a framework consisting of a rectangular base frame and vertical frames at each of its sides and ends, said framework being suitably reinforced and mounted upon wheels, a plurality of pairs of horizontal carrier plates fixed to the vertical frames of the two shorter sides, said carrier plates being arranged so that every two opposing carrier plates are in the same horizontal plane, each carrier plate having two horizontal slots, the mutually adjacent ends of which are curved downwards; a series of slidably movable trays being provided with a stud at each end adapted to slide in one slot of a pair of opposing carrier plates, the ends of each tray being provided with suitably shaped vertical plates extending downwardly, each plate having an horizontal slot into which a stud protruding from the carrier plate is slidably fitted, the studs on the carrier plates and those on the trays being disposed so that, when the trays are in the horizontal position, the studs are at mutually distant ends of their respective slots, and when the trays are in the inclined position, the studs are at mutually adjacent ends of said slots.

3,265,405
BICYCLE STORAGE
Stanley T. Atterbury, 9745 S. Ingleside Ave., Chicago, Ill. 60628
Continuation of application Ser. No. 361,504, Apr. 21, 1964. This application June 24, 1964, Ser. No. 377,560
1 Claim. (Cl. 280—287)



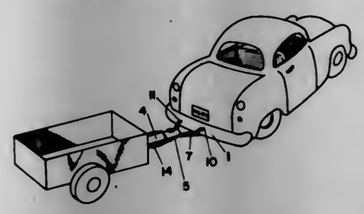
In a knock-down bicycle, a first metal disk that is disk-shaped and has a curled edge, said first disk being secured to center bolt of the front wheel with said center bolt extending axially of said first disk and said curled edge extending outwardly of said wheel, a second larger metal disk that is disk-shaped and has a curled edge, said second disk secured to the center bolt of the rear wheel with said last-mentioned center bolt extending axially of the second disk and said last-mentioned edge extending outwardly of the rear wheel, said curled edge of the first metal disk being receivable within said curled edge of said second disk when bicycle is stored in the trunk of a car.

3,265,406
AUTOMOBILE TRAILER HITCH
John E. Russell, R.D. 6, Butler, Pa.
Filed Aug. 6, 1964, Ser. No. 387,940
5 Claims. (Cl. 280—406)



1. An automobile trailer hitch, comprising a rigid lever-supporting member, means for fastening said member rigidly to the bottom of the rear end of an automobile body, a tow lever pivotally connected to said member on a horizontal axis and projecting rearwardly therefrom, means on the rear end of the lever for supporting a trailer connection, a lever pivotally connected to said supporting member in front of the tow lever on an axis parallel to said horizontal axis, the rear end of the front lever overlapping and engaging the front end of the tow lever, a plate attached to the front lever and projecting forward therefrom, a pair of forwardly diverging leaf springs having rear end portions secured to said plate, and means for fastening the front ends of said springs to the rear axle of an automobile in a position requiring the springs to be stressed upwardly, whereby when downward pressure on the rear end of the tow lever causes that lever to swing the rear end of the front lever upwardly the leaf springs will resist depression by the tilting front lever so the latter will keep said supporting member from being moved downwardly appreciably by the tow lever.

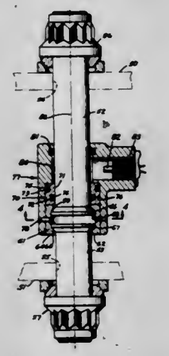
3,265,407
SAFETY CHAIN FOR TRAILERS
Chester Ira Paddock, Box 351, Lakeview, Oreg.; Theodore R. Conn, administrator of said Chester I. Paddock, deceased
Filed Sept. 2, 1964, Ser. No. 393,849
6 Claims. (Cl. 280—457)



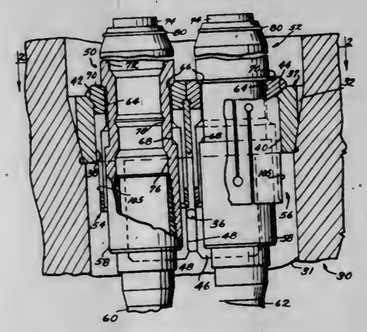
1. A safety chain for use with a trailer having a towing bar and a motor vehicle having a trailer hitch comprising:
a ring for positioning on the trailer hitch,
four main chains attached to said ring, the first and second of said main chains being adapted for attachment to the rear end of the motor vehicle, the third and fourth of said main chains being adapted for attachment to the trailer,
at least one cross-chain extending between said third and fourth main chains to support the towing bar in the event the trailer hitch breaks, and
at least one top chain extending over the towing bar between said third and fourth main chains to maintain the towing bar in its supported position.

3,265,408
EXPLOSIVELY SEPARABLE COUPLING
William R. Dickie, Manhattan Beach, Calif., assignor to Hi-Shear Corporation, Torrance, Calif., a corporation of California
Filed Nov. 6, 1961, Ser. No. 150,307
6 Claims. (Cl. 285—3)

1. A quick-release coupling comprising: a first and a second member to be coupled together, each member having a central axis, the axes being aligned when the members are coupled; engagement means comprising a shoulder on each of the members; a lock for interconnecting the engagement means, and thereby interconnecting the members, comprising a plurality of segments adapted to be assembled into a ring, each of said segments having a pair of opposed shoulders adapted to engage the engagement means to hold them together; a reciprocable latch carried by one of the members and engageable with the lock by surrounding and embracing the segments in a first position of the latch so as to hold the segments against the engagement means, and said latch being shiftable to a second position to remove it from said segments; expansible chamber means at least partially enclosed by the latch; means on opposite ends of said chamber adapted to seal said latch with one of said members; a squib of the type which discharges gas under pressure disposed in fluid connection with the expansible chamber means, said squib being mounted to the coupling and adapted to discharge said gas into the expansible chamber means to shift the latch from the first to the second position; and frangible holding means holding the latch and lock together until the squib discharges the gas under pressure to shift the latch from the first to the second position.

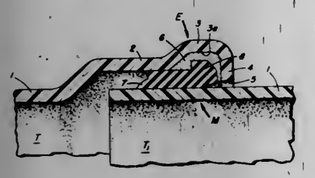


3,265,409
WELL COMPLETION EQUIPMENT
Robert L. Crain and Elwood K. Pierce, Jr., Houston, Tex., assignors to Gray Tool Company, Houston, Tex., a corporation of Texas
Filed Nov. 15, 1962, Ser. No. 237,959
10 Claims. (Cl. 285—27)



1. Well completion equipment for supporting parallel tubing strings in a tubing head or the like comprising: tubing hangers for each of the tubing strings to be supported, each of said tubing hangers including means at its lower end for engaging the upper end of a tubing string and means at its upper end for engaging lowering equipment, each of said tubing hangers including radially outwardly extending flange means, said flange means having downwardly and outwardly facing seating surfaces therein, a hanger body constructed and arranged for support within the tubing head, said hanger body having a plurality of circular passages in which said tubing hangers are disposed, said hanger body having an upwardly facing seating surface extending about each passage, each of said upwardly facing seating surfaces having a center-point which is non-concentric with respect to the axis of each of said hanger body passages.

3,265,410
PIPE OF SYNTHETIC PLASTIC MATERIAL AND COUPLING INCLUDING SAID PIPE
Pierre Edouard Lorang, Nancy, France, assignor to Centre de Recherches de Pont-a-Mousson, Pont-a-Mousson, France, a French body corporate
Filed July 7, 1964, Ser. No. 380,792
Claims priority, application France July 24, 1963
3 Claims. (Cl. 285—110)



1. A pipe element of thermoplastic material having a body, a male end and a socket, the socket being part of the same material as the body and having a single wall the thickness of which is at least equal to that of the wall of the body;

the socket including an intermediate flared portion integral with the body, an enlarged portion integral with said flared portion and adjacent the entrance of the socket, a radial, inwardly extending flange provided at the entrance of the socket, and an internal annular chamber located in said enlarged portion;

a rigid reinforcing ring fixed in said annular chamber in close reinforcing contact with the walls of the socket forming said annular chamber, the reinforcing ring being trough-shaped in cross-section, comprising a cylindrical portion forming the base of said trough, a substantially frustoconical portion adjacent the forward end of said cylindrical portion and converging outwardly toward the flange of the socket, and an inwardly extending annular lip portion in axial abutting relation to the flange of the socket, the lip portion of the ring and the flange of the socket extending inwardly to the same radial extent, whereby said flange and the enlarged portion of the socket completely encase and are wholly reinforced by the ring;

a sealing element having a substantially uniform resiliency, fitted within said ring, said sealing element being kept wholly apart from the flange of the socket by the lip portion of the reinforcing ring and extending radially inward a distance greater than that of the flange of the socket and of the lip portion of the ring, and extending axially toward said body a distance greater than the axial dimension of said enlarged portion of the socket, whereby the portion of said sealing element away from said flange and lip portion is in contact with the wall of said flared portion of the socket.

3,265,411
SYPHON SUPPORT
William R. Monroe and Ralph W. Gotschall, Three Rivers, Mich., assignors to The Johnson Corporation, Three Rivers, Mich., a corporation of Michigan
Filed Mar. 23, 1964, Ser. No. 353,825
3 Claims. (Cl. 285—135)

1. In combination with a rotating drum having a hollow journal,

(a) a rotary fluid conducting joint mounted upon the drum journal having an inlet and an outlet, said joint including a passage defined therein communicating with said joint inlet and the interior of the drum journal,

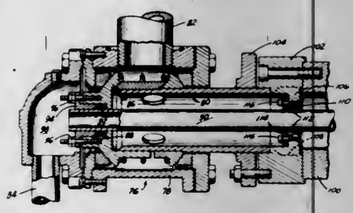
(b) syphon pipe support means defined within said joint in said passage,

(c) said syphon pipe support means including a spider defined within said passage, said spider including radially extending support portions having a relatively small cross-sectional dimension and defining fluid conducting openings therebetween,

(d) a cylindrical syphon pipe extending through the drum hollow journal having an outlet end extending into said joint and communicating with said joint outlet,

(e) a conical bore defined in said spider, the minimum diameter of said bore being greater than the diameter of said syphon pipe, said syphon pipe extending through said bore,

(f) a plurality of individual wedge segments received in said conical bore, each of said segments having a retainer engaging end, an outer conical surface corresponding to the configuration of said bore surface and an inner cylindrical surface corresponding to the outer configuration of said syphon pipe,



(g) an annular retainer ring having a centrally disposed bore receiving said syphon pipe and of a diameter greater than the diameter of said syphon pipe, said retainer having a plurality of radially extending ears defined thereon, a hole defined in each of said ears,

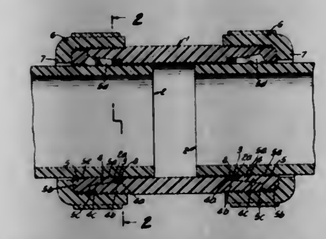
(h) an axially extending threaded hole defined in each of said spider radially extending support portions, and

(i) screw fasteners extending through said retainer ear holes and threaded into said spider support portions, threaded holes removably mounting said retainer upon the spider, said retainer engaging said segments' retainer engaging ends upon said segments being located within said conical spider bore and circumferentially spaced about said syphon pipe whereby said retainer maintains said segments in said conical bore so that said segments' conical surfaces directly engage said conical bore surface and said segments' cylindrical surfaces directly engage said syphon pipe to support said syphon pipe within said joint.

3,265,412
SEALED PIPE COUPLING ASSEMBLY
William P. Reid, 2610 E. 67th St., Long Beach, Calif., and Harold A. Price, Orange, Calif.; said Price assignor to said Reid
Filed July 10, 1964, Ser. No. 381,805
2 Claims. (Cl. 285—323)

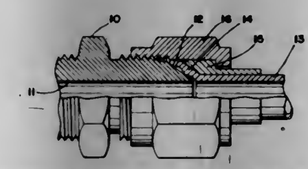
1. In a sealed coupling; a male element; a female element; said female element having a counterbore forming a shoulder, a cylindrical surface, and a tapering surface; a gland on said male element having a wedge portion, an enlarged end portion, and a shoulder; said wedge portion having axial slits therein, extending axially the full length thereof, said wedge portion being extensible into said counterbore; said shoulder on said gland being engageable with an end of said female member to limit insertion of said gland into said counterbore to a position axially

spaced from said counterbore shoulder to form a chamber wherein said cylindrical surface and a portion of said male element opposite said cylindrical surface provide radially opposed seating surfaces; a sealing ring seated on said seating surfaces within said chamber; and means for wedging said wedge portion against said tapering surface to effect a deformation at the joint such as will dis-



pose said seating surfaces parallel with and uniformly spaced from one another throughout their circumference in the event either of said elements is out-of-round, said enlarged end portion of said gland having a bore of greater diameter than the bore of said wedge portion so that said enlarged end portion is radially spaced from said male element.

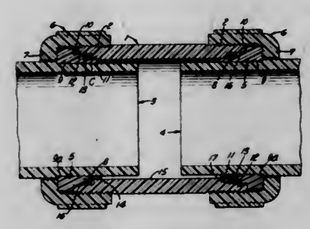
3,265,413
FLARED TUBE COUPLING JOINT AND METHOD FOR MAKING THE SAME
William E. Currie, Cleveland Heights, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed July 25, 1963, Ser. No. 297,644
1 Claim. (Cl. 285—334.4)



A tube coupling assembly comprising a body member having a conical seat, a tube having a flared end with a radially outer face and a radially inner face, said radially inner face having first and second surface portions that intersect in a circular line, said surface portions being shaped so that said inner face makes initial contact with said conical seat at said circular line, a clamping member having an internal surface engageable with said radially outer face opposite said circular line, and means inter-engaged with said body member for forcing the clamping member against said outer face and said inner face at said circular line into sealing engagement with said conical seat, said surface portions being segments of spheres of different diameters.

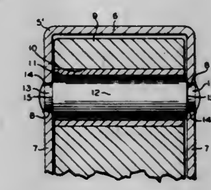
3,265,414
SEALED PIPE JOINT
William P. Reid, 2610 E. 67th St., Long Beach, Calif., and Harold A. Price, Orange, Calif.; said Price assignor to said Reid
Filed July 10, 1964, Ser. No. 381,806
2 Claims. (Cl. 285—348)

1. A pipe joint, including: a female element; a male pipe element in said female element; said female element having a bore and a counterbore forming a pair of cylindrical bearing surfaces axially and radially spaced from one another; a shoulder between said bearing surfaces; a gland sealingly secured on said male element with a portion of the gland extended into said bore and counterbore; said portion of said gland having a pair of cylindrical bearing surfaces axially and radially spaced from one another and engaged with said bearing surfaces on said female element; a shoulder on said gland between said bearing surfaces of the gland and spaced axially from said shoulder on said female element; portions of bearing surfaces on said female element and portions of bearing surfaces on said gland forming with said shoulders an an-



nular chamber of uniform cross-section; a sealing ring in said chamber engaged with said portions of said bearing surfaces; said gland having a stop shoulder thereon engaged with an end of said female element to limit extension of said portion of said gland into said female element to a position for forming said chamber; and a nut threadedly engaged with said female element and engaging said gland to hold said stop shoulder against said end of said female element.

3,265,415
WIPER ARM PIVOT JOINT
Leo J. Wubbe, Beverly Shores, Ind., assignor to The Anderson Company, a corporation of Indiana
Continuation of application Ser. No. 231,951, Oct. 22, 1962. This application Jan. 25, 1965, Ser. No. 427,557
1 Claim. (Cl. 287—93)



A windshield wiper arm having inner and outer parts pivotally connected together comprising in combination:

a channel portion of said outer arm part having a pair of parallel side walls spaced apart by a bridging wall,

said spaced-apart parallel walls having aligned circular apertures,

a head portion of said inner part disposed between said spaced-apart walls,

said head portion having a cylindrical bore with a surface adapted to provide part of a pivotal bearing coaxially aligned with said apertures,

a pin member having a cylindrical surface adapted to act as the other part of said bearing and having reduced cylindrical portions at opposite ends thereof thereby defining annular shoulders,

the length of the cylindrical bearing surface of said pin member being greater than the length of cylindrical bearing surface of said head portion so that

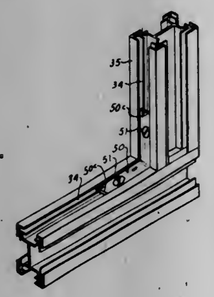
said shoulders extend beyond both sides of said head portion, said reduced cylindrical extremities being of a diameter slightly larger than the original diameter of said aligned apertures in said walls,

said reduced cylindrical extremities having been force-fitted into said aligned apertures so as to fixedly secure said pin member with respect to said walls adjacent said shoulders, said walls thereby abutting said shoulders and being spaced from the head portion of the inner part of the arm for free pivotal movement therebetween,

said pin member having rounded ends,

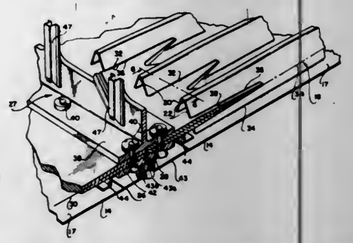
said spaced-apart parallel walls being held by said bridging wall in resiliently deformable relation to each other so that the assembled head portion and pin member can resiliently force apart said spaced-apart parallel walls with the rounded ends of the pin member seeking alignment with said circular apertures during assembly of said channel portion, head portion and pin member.

3,265,416
STRUCTURAL FRAMING SYSTEM
Leonard O. Downes, 4077 2nd St., Wayne, Mich.
Filed June 8, 1962, Ser. No. 201,021
6 Claims. (Cl. 287—189.36)



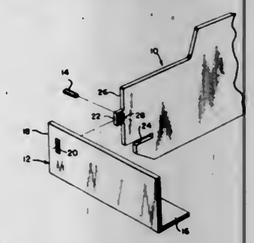
1. In a structural framing system, the combination of
(a) a pair of support members, each comprising an elongated element of substantially uniform cross-sectional shape,
(b) said elements each having at least one flat side provided with a substantially medial longitudinally extending recess,
(c) a pair of flanges extending into said recesses from each side thereof, the innermost pair of said flanges being more closely spaced than the outermost pair of said flanges,
(d) said elements being disposed on repectively normal axes with the end of one element abutting the recessed side of the other element, and the recesses of said elements facing each other,
(e) connecting means comprising an angle bracket disposed in the recesses of said elements, said angle bracket being dimensioned to pass between said outermost pairs of flanges and to engage against said innermost pairs of flanges and means clamping said bracket to said innermost pairs of flanges,
(f) the end portions of said bracket each provided with an end part displaced from the plane of said end portion, and
(g) said end parts each being dimensioned to fit closely between and being disposed to engage the inner edges of said innermost pairs of flanges to limit lateral displacement of said bracket with respect to said elements.

3,265,417
SPLICING DEVICE FOR STRUCTURAL PANEL SECTIONS
Howard Kastan, Northridge, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Aug. 19, 1963, Ser. No. 303,042
9 Claims. (Cl. 287—189.36)



1. In combination with a structural panel having stiffeners rigidly affixed to a skin portion, said stiffeners extending along said skin portion to a point adjacent one end thereof, a splicing device for connecting said panel to adjacent structure, said splicing device comprising:
(a) a flat load transfer plate overlying said one end of said skin portion in engagement with said stiffeners along the centroidal axis of said panel and the plate being spaced from the skin portion;
(b) means rigidly affixing one end of said plate said stiffeners and the other end of said plate to said adjacent structure; and
(c) means for securing the load transfer plate to the skin portion.

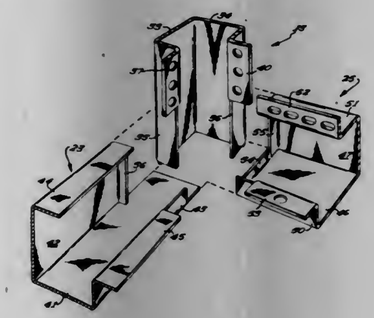
3,265,418
JOINT CONSTRUCTIONS
Herrick R. Diamond, Homer, N.Y., assignor to SCM Corporation, New York, N.Y., a corporation of New York
Filed Nov. 6, 1963, Ser. No. 321,931
3 Claims. (Cl. 287—189.36)



1. An improved frame construction, comprising, in combination:
(a) a slotted member and a second member having a tongue extending from an edge thereof, said second member being disposed at right angles to said slotted member with said edge in juxtaposition with one side of said slotted member and said tongue extending through the slot;
(b) an aperture through said tongue;
(c) an elongated, resilient, radially compressible fastener extending through said aperture and abutting said slotted member on the side thereof opposite the edge of said second member;
(d) the exposed width of one portion of said aperture being smaller than the normal uncompressed diameter of said fastener, whereby the assembled fastener is maintained compressed and thereby exerts a reactive force tending to move said edge into engagement with said slotted member;

(e) said aperture having a second portion of greater dimensions than the normal, uncompressed diameter of said fastener communicating with said one portion, whereby said fastener may be readily inserted lengthwise in said second portion and thereafter, by compressing it, forced laterally into said one portion; and
(f) said tongue having a retaining projection extending between said aperture portions to retain said fastener in said one portion.

3,265,419
CABINET STRUCTURE
James A. Durnbaugh and William C. Evans, Wabash, William G. McLaughlin, Gas City, and Truman L. Nordman, Roann, Ind., assignors to Honeywell Inc., a corporation of Delaware
Filed Dec. 30, 1963, Ser. No. 334,242
10 Claims. (Cl. 287—189.36



6. In a cabinet structure having a frame constructed of a plurality of elongated channel members three of which intersect at a corner of the frame, the improved construction comprising: each of said channel members having a plurality of angularly disposed, longitudinally extending walls including two adjacent full-width walls and two partial-width walls, each of said partial-width walls being adjacent one of said full-width walls and turned inwardly therefrom; the intersecting ends of said members being formed for mutual abutment to facilitate joining to form a trihedral joint wherein a first full-width wall and a first partial-width wall of a first of said members abut a first partial-width wall of the second of said members, said first full-width wall, a second full-width wall, and a second partial-width wall of said first member abut a first partial-width wall of the third of said members, a second partial-width wall and a first full-width wall of said second member abut a second partial-width wall of said third member, and a second full-width wall of said second member abuts both of the full-width walls of said third member; and means joining each of the aforesaid abutting walls.

3,265,420
CLIP MEMBER
Gordon A. Goodrich, Portuguese Bend, Charles E. Grubb, Palos Verdes Estates, Edward S. Baxter, Torrance, and James A. Sneller, Palos Verdes Estates, Calif., assignors to Amrol, Inc., Long Beach, Calif., a corporation of Nevada
Filed Feb. 13, 1964, Ser. No. 344,769
1 Claim. (Cl. 287—189.36)

In combination, a substantially flat clip member and a plurality of angle bar members, said bar members having substantially flat bar portions lying in substantially orthogonal planes, said clip member being substantially rectangular and comprising

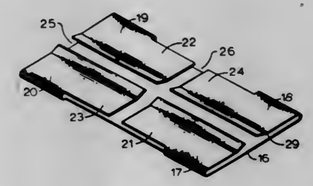
a flat plate portion,

two pairs of oppositely positoned tab portions, the tab portions of each of said pairs extending inwardly towards each other from said plate portion, said tab portions all lying in a plane parallel to said flat plate portion in close proximity thereto, a relatively narrow linear longitudinal slot being formed between the inwardly extending ends of said tab portions, said slot being slightly wider than the thickness of said bar portions,

a first pair of oppositely positioned flat finger portions extending from said first pair of tab portions in a first direction parallel to the longitudinal axis of said plate portion, and

a second pair of oppositely positioned flat finger portions extending from said second pair of tab portions in a second direction opposite to said first direction,

said tab portions and said finger portions having longitudinal ridges formed therein to provide positive holding of said bar portions,



said finger portions being positioned opposite said plate portion in close proximity and in a plane parallel thereto,

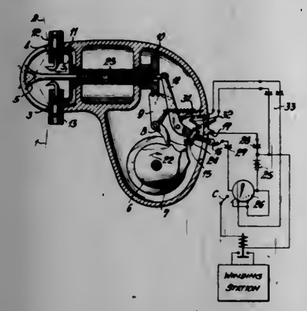
a relatively narrow linear transverse slot normal to said longitudinal slot being formed between the ends of said finger portions, said slot being slightly wider than the thickness of said bar portions,

one of the bar portions of at least one of said bar members being held slidably between said finger and plate portions by the holding action of said ridges, the other of the bar portions of said one of said bar members extending within said transverse slot, one of the bar portions of another one of said bar members being held slidably between one of said pairs of tab portions and said plate portion by the holding action of said ridges, one of the bar portions of still another one of said bar members being held slidably between the other of said pair of tab portions and said plate portion by the holding action of said ridges, the other of the bar portions of said other and said still another of said bar members extending within said longitudinal slot.

3,265,421
AUTOMATIC YARN-KNOTTING AND TENSIONING DEVICE
Hans Raasch, Rheydt-Odenkirchen, Germany, assignor to Walter Reiners, Monchen-Gladbach, Germany
Filed Mar. 20, 1964, Ser. No. 353,358
Claims priority, application Germany, Mar. 21, 1963, R 34,740
7 Claims. (Cl. 289—2)

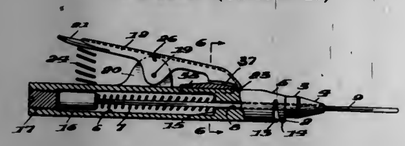
1. In a knotting device, means for knotting a pair of yarn ends including tensioning means normally tensioning the ends knotted thereby so as to test the firmness thereof, said tensioning means being movable to a pre-

determined location when the knotting is faulty, and counting means operatively connected to said tensioning means



for recording a faulty knotting whenever said tensioning means is moved to said predetermined location.

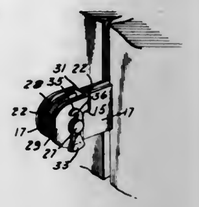
3,265,422
THREADING AND KNOT TYING DEVICE FOR FISH HOOKS
Louis Bryan Pierce, 516 W. Jackson St., Medford, Oreg.
Filed Aug. 4, 1964, Ser. No. 387,365
8 Claims. (Cl. 289—17)



1. A knot tying device comprising an elongated handle having a larger portion adapted to be gripped by the hand of the operator and a realtively smaller end portion separated from said larger portion by a shoulder, an axial bore extending through said handle, a rod slidably mounted in said bore and normally protruding a substantial distance from the front end thereof, a first slit in said handle extending radially inwardly from the outer surface thereof to said bore and longitudinally from the front end of said smaller end portion to a short distance into said larger portion, a second slit extending only partly around said larger portion and inwardly from the surface thereof to said bore and angularly to the longitudinal axis of said handle from said shoulder at one end to a short distance into said larger portion at its other end and intersecting said first slit at a substantial distance behind said shoulder and at a substantial distance in front of the rear end of said first slit, a spur carried by and extending outwardly from said rod and normally positioned at the rear end of said first slit and means for removably supporting a fish hook on said handle.

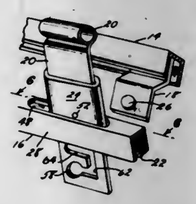
3,265,423
INSIDE DOOR LOCK
Hans Berger, 17647 Belinda St., Encino, Calif.
Filed Dec. 4, 1964, Ser. No. 416,095
7 Claims. (Cl. 292—67)

1. An inside door lock comprising a pair of side plates adapted to be mounted in corresponding positions on the side edges of a door and door jamb, each of said side plates having an inner portion secured in overlying relationship to the door or door jamb by a fastening member which extends transversely to said side plate and door or door jamb, each of said side plates having an outer portion protruding from the door or door jamb, the outer portion of each of said side plates having a vertically directed straight slot, said slots being aligned with each other when the door is closed, a latch member slidably and pivotally mounted on the outer portion of the side plate carried by the door, said latch member having a straight catch adapted to fit within said slots, said latch member being movable between open and closed positions, said catch in said open position being out of engagement with said slots, said catch in said closed position being disposed within said slots to prevent the movement of said



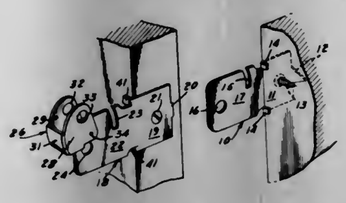
side plates with respect to each other and prevent the opening of the door, the side plate carried by said door having a pivot pin, said latch member having an elongated slot, said pivot pin extending through said slot, whereby said latch member may be rotated around said pivot pin and may also be moved vertically to a limited degree before or after such rotational movement, in order to permit the movement of said catch in a straight vertical direction in and out of said straight slots.

3,265,424
PICKPOCKET-PROOF POCKETBOOK
Aram Teopilian, 301 100th St., Apt. 3A, Brooklyn, N.Y.
Filed Sept. 14, 1964, Ser. No. 396,136
4 Claims. (Cl. 292—145)



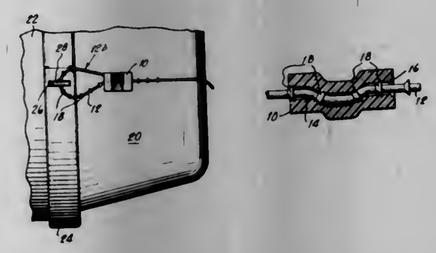
1. Pickpocketproof pocketbook construction, comprising:
(a) a first frame element;
(b) a second frame element;
(c) means for associating said first and second frame elements for movement toward and away from each other;
(d) a relatively stationary latching element having a projection and an enlargement thereon connected to said first frame element;
(e) a relatively movable latching element having a slot formed with portions extending in different directions with a widened portion to receive said enlargement;
(f) horizontally movable guide means associated with the second frame element;
(g) vertical guide means associated with the horizontal guide means;
said movable latching element being disposed in said vertical guide means;
whereby the movable latching element is engageable with the projection on the stationary latch element by a movement of the latching element substantially in its own plane.

3,265,425
INSIDE DOOR LOCK
Hans Berger, 17647 Belinda St., Encino, Calif.
Filed May 4, 1964, Ser. No. 364,428
7 Claims. (Cl. 292—202)



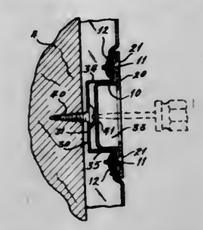
1. An inside door lock comprising a pair of side plates adapted to be mounted in corresponding positions on the side edges of a door and door jamb, each of said side plates having an inner portion secured in overlying relationship to the door or door jamb by a fastening member which extends transversely to said side plate and door or door jamb, each of said side plates having an outer portion protruding from the door or door jamb, the outer portion of each of said side plates having a slot, said slots being aligned with and face-to-face with each other when the door is closed, a latch member pivotally mounted on the outer portion of the side plate carried by the door, said latch member having a catch adapted to fit within said slots, said latch member being movable between open and closed positions, said catch in said open position being out of engagement with said slots, said catch in said closed position being disposed within said slots to prevent the movement in an inward or outward direction of one of said side plates with respect to the other and prevent the opening of the door.

3,265,426
SHACKLE SEAL
Winfred M. Brooks, West Orange, and Sigurd M. Moberg, East Orange, N.J., assignors to E. J. Brooks Company, Newark, N.J., a corporation of New Jersey
Filed June 8, 1964, Ser. No. 373,258
4 Claims. (Cl. 292—307)



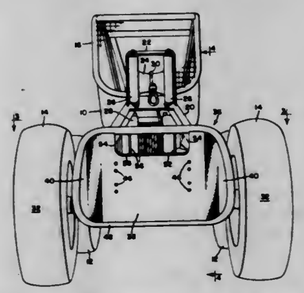
1. A shackle seal of flexible, retentively deformable plastic material, comprising a body formed with a bore extending therethrough, a shackle integral with said body and extendable through said bore, and plural, frustoconical locking collars integral with said shackle and spaced apart at a distance less than the length of said bore and having the bases of the partial cones facing axially of the shackle and away from the latter's free end; said collars being of greater diameter than said bore and extendable into the latter because of the deformability of the plastic material, and said body being retentively deformable upon a locking collar therewithin to hold said collar and the shackle against withdrawal from said body.

3,265,427
METAL DOOR JAMB STRIKE PLATE ASSEMBLIES
Joseph L. Williams, St. Louis, Mo., assignor to Dolores H. Williams, Kirkwood, Mo.
Filed May 20, 1964, Ser. No. 368,886
3 Claims. (Cl. 292—341.18)



1. In a metal door frame of the character in which a strike plate jamb section is supported by a rough buck and is normally unsecured to said rough buck through its center span and the strike plate jamb section has a hole to receive the latch of a door in said frame, the improvement comprising a dust box proportioned to fit in the hole in the strike plate jamb section and having a pair of oppositely disposed flanges adapted to bear on the face of the jamb section along the margin of said hole, said dust box having a bottom with a screw receiving hole in it; a screw extending through said hole, said screw being of a length to screw into the rough buck and having a head of a size to engage the wall of said bottom around the margin of said hole, said screw head having a screwdriver receiving recess in it; clamping means mounted within said dust box, said clamping means having a bottom web with an opening in it proportioned to admit a screwdriver but not to admit the head of said screw, said head being positioned between the bottom of the dust box and the bottom web of said clamping means, with the screwdriver receiving recess of said head framed within the said opening, and means for retaining said clamping means within said dust box.

3,265,428
LOGGING TRACTOR BUMPER
Leland G. Gilbert, Dubuque, John G. Johnson, Waterloo, and Waldean W. Grauerholz, Cedar Falls, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed May 18, 1964, Ser. No. 367,984
3 Claims. (Cl. 293—1)



1. For a vehicle having a longitudinal body including an end portion carried on and between a pair of similar coaxially spaced apart wheels of such diameter that peripheral portions of the wheels extend longitudinally beyond said portion, log handling means including a log bumper in the form of a U-shaped structure having a transverse, plate-like generally upright central part adapted for disposition closely adjacent to and secured to said

body end portion and including transverse upper and lower edges, said structure further having a pair of wings joined to and extending generally longitudinally respectively from opposite end portions of said central part respectively alongside the inner faces of the wheels at the peripheral portions thereof that extend beyond said body end portions, the junction of each wing with the central part being curved about an appreciable radius, each wing having upper and lower edges that are respectively continuations of the upper and lower edges of said central part, the edges of each wing converging in the direction away from the central part to give each wing a generally triangular shape, and a bordering element rigidly secured to said structure about the periphery thereof as defined by said edges and affording the outermost margin of said structure, said element being of rounded section having a cross-sectional dimension greater than the thickness of said wings and central part.

3,265,429
COMBINED PICK-UP DEVICE AND CANE
William C. Shatt, 75 Maple Parkway, Sparta, N.J.
Filed May 13, 1964, Ser. No. 366,988
2 Claims. (Cl. 294—19)



1. A combination cane and article pick-up device, comprising an elongated hollow tube, an open handle attached to one end of said tube, a first claw fixed to the other end of said tube and extending axially thereof, a second claw pivotally attached to the first claw member and movable into and out of article gripping relation to the first claw, an operating rod positioned within the hollow tube and extending longitudinally thereof and being connected at its one end to the second claw and at its other end being provided with an operating knob positioned within the open handle, and a spring engaging the operating rod within the hollow shaft and constantly urging the rod to a position in which the second claw is in article gripping relation to the first claw, from which position the second claw may be moved to open position by operation of the operating knob and the rod, the claw members being elongated axially of the hollow tube and having such external cross sectional shape that the claws when is closed position form a substantially cylindrical extension of the hollow tube.

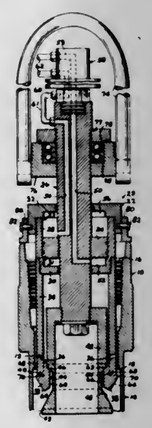
3,265,430
GOLF BALL RETRIEVER
Homer T. Jenkins, 266 E. Illinois St., Chicago, Ill.
Filed June 1, 1964, Ser. No. 371,515
3 Claims. (Cl. 294—19)

1. A golf ball retriever which includes an elongated handle, a ball wedging unit at the end of the handle, the ball wedging unit having spaced side walls, the upper portions of said side walls being directed towards each other, each side wall having a length greater than the diameter of the golf ball so the ball may roll along the length of the side wall, and each side wall increasing in height forward



to rearward, whereby a golf ball is progressively wedged more tightly as it rolls from between smaller side wall areas to between greater side wall areas.

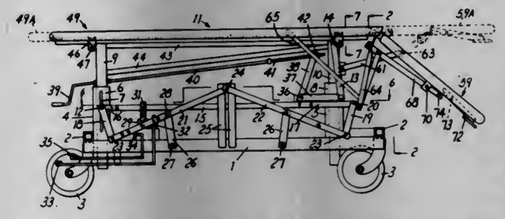
3,265,431
PIPE TRANSFER ELEVATOR
Donald L. Burner, Norman, Okla., assignor to Acme Tool, Inc., Oklahoma City, Okla., a corporation of Kansas
Filed July 6, 1964, Ser. No. 380,332
2 Claims. (Cl. 294—86.25)



1. A pipe transfer tool for lifting and moving a vertically disposed joint of pipe having an upwardly open end, including: a vertically disposed cylinder freely received by the open end of said pipe; a piston within said cylinder; a piston rod connected with said piston and extending vertically slidable through the respective ends of said cylinder, the upper end portion of said piston rod having a pair of bores extending downward from its upper end portion and communicating at their lower ends with the interior of said cylinder on opposing upper and lower end surfaces of said piston; a cage coaxially connected in depending relation to the lower end portion of said cylinder, said cage having a plurality of vertical slots in its depending end portion; gripping means connected to the depending end of said cage; a mandrel connected to the depending end of said piston rod within said cage, said mandrel having tapered surfaces slidably contacting said gripping means and coacting with the latter in response to vertical movement of the mandrel with respect to said cage for moving said gripping means into and out of contact with the inner wall of said pipe, said gripping means comprising a pipe gripping dog pivotally connected to said cage within each said slot, said dogs having opposing surfaces slidable on the tapered surfaces of said mandrel; and means connected with the upper end of said piston rod for moving said piston and lifting said pipe,

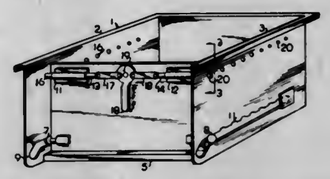
said last mentioned means comprising, pressure conducting means connected with the upper end of said piston rod and communicating with the pair of bores in the latter, and an elevator connected with the upper end portion of said piston rod.

3,265,432
HOSPITAL STRETCHER WITH DROP END
Paul C. Tabbert, Bridgman, Mich.
Filed May 14, 1964, Ser. No. 367,384
6 Claims. (Cl. 296—20)



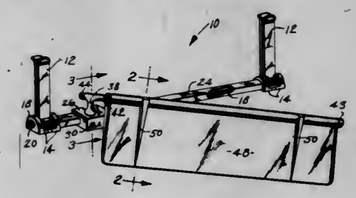
1. A mobile hospital stretcher comprising a base mounted on wheels,
uprights mounted at each end of said base each consisting of laterally spaced support plates,
support posts vertically adjustably mounted on said uprights and laterally retained therebetween with one post pivotally supported and the other swingably supported to swing about the pivotal support of the other, cross bars fixedly connected to the tops of said posts and having laterally spaced guides connected to each end,
rollers forming top supports mounted between said guides below the upper ends of the guides,
a stretcher top having a frame with spaced longitudinal slide bars on its underside positioned between said guides and longitudinally slidably supported by said rollers,
an end cross member on said frame, depending fixed pivot supports connected to said end cross member-ber and an intermediate underside portion of said frame and disposed on each side of one of said uprights underneath said top,
a stretcher top foot extension having an extension frame with downwardly and forwardly inclined break joint ends adjacent the ends of said stretcher frame, means forming a transverse pivot connection between the ends of said stretcher frame and said extension frame alined with said break joint ends,
a first rigid link pivotally connected between said one upright and said extension frame at points spaced from the pivot between said frame and said frame extension,
a toggle link having a lower bar pivoted to said fixed pivot support below said rigid link and an upper bar pivoted to said extension frame in outwardly spaced relation from said pivot connection between said top frame and said extension frame and the connection between said first link and said frame extension,
a pivot connecting the adjacent ends of said bars,
a stop on one of said bars limiting movement to a slight over-center locking position between pivots on said upright and said frame extension with said frame extension in erected continuation of said stretcher frame,
and a release lever pivoted on said frame extension and engageable with the upper bar of said toggle link to break the over-center position of the bars of the toggle link.

3,265,433
LOAD VOLUME ADJUSTABLE TRUCK BED
Francis D. Shea, San Diego, Calif.
(4125 Oxford Drive, Columbus 21, Ohio)
Filed Nov. 27, 1964, Ser. No. 414,081
2 Claims. (Cl. 296—57)



1. In a load volume adjustable truck bed, comprising in combination, a generally rectangular shaped body closed on the forward end, two sides and bottom and having a rectangular shaped tail gate having two rollers one at each side opposite each other near the bottom to rotate in a vertical plane and at 90° with the plane surface of the said tail gate, said rollers fitted to roll along a slot on each side, near the bottom of the truck bed, said tail gate having a pair of pins one on each side, slidably mounted to move horizontally outward into the sides of said truck bed, said pins having holes at the inner ends pivotally connected to linkage straps, said linkage straps pivotally connected at the opposite ends to a levered handle pivotally mounted to the tail gate, so that as the said levered handle is rotated the said pins are both caused to move outwardly into any two of a series of holes provided in the two sides of the truck bed.

3,265,434
AUXILIARY SUN GLARE SHIELD
Abraham Ivon Bolotin, 1236 S. Carob Way, Montebello, Calif.
Filed Sept. 1, 1964, Ser. No. 393,520
7 Claims. (Cl. 296—97)

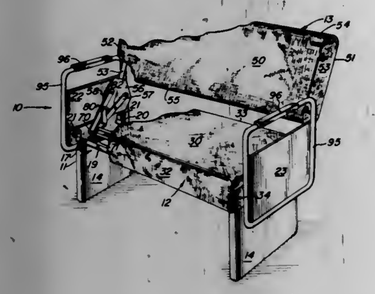


1. A portable sun glare shade attachment for motor vehicles comprising, in combination, a hollow, elongated bar of rectangular configuration, a slidable block member mounted on said bar, a pair of spaced apart semi-circular plate members carried by said bar adjacent each end thereof, means on said plate members for positioning a pair of spaced apart and parallel spring clips adapted to engage a visor within the vehicle, an elongated and threaded shaft carried within said bar and extending beyond each end thereof for securing and supporting said plate members, a T-shaped, pivotal member rotatably carried by said bar and an elongated, rectangular shade member adjustably secured to said pivotal member.

3,265,435
ROCKERLESS WALK-OVER SEAT
Raymond A. Bilancia, Arlington Heights, Ill., assignor to Coach and Car Equipment Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 3, 1966, Ser. No. 518,132
7 Claims. (Cl. 297—101)

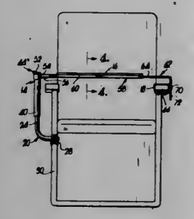
1. In a walk-over seat:
a frame;

a seat cushion having a first end and a second end;
a seat back;
said frame including means for supporting said seat cushion in an occupant-accommodating position;
means connecting said seat back to said frame and mounting the seat back for movement between a first position at said first end of the seat cushion and a second position at said second end of the seat cushion;
and means for changing the inclination of said seat cushion in response to movement of the seat back between its first and second positions;



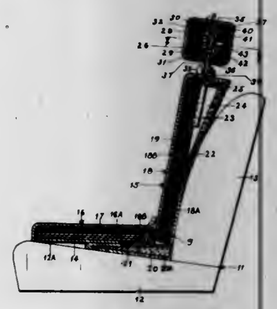
said inclination-changing means consisting essentially of one means fixed to said seat cushion and another means fixed to said connecting means and cooperating with said one means;
means for preventing removal of the seat cushion from its occupant-accommodating position when the seat back is in its first or second position and for permitting removal of the seat cushion when the seat back is in a predetermined intermediate position located between said first and second positions;
and means operable to retain the seat back in said predetermined intermediate position.

3,265,436
TRAY ATTACHMENT FOR CHAIRS
Nelson J. La Bombard, 6625 Eby Place, Merriam, Kans., and William E. Haney, 608 Romany Road, Kansas City, Mo.
Filed Aug. 10, 1964, Ser. No. 388,380
3 Claims. (Cl. 297—162)



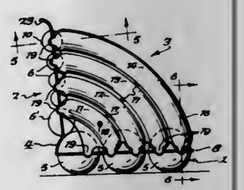
1. A tray attachment for chairs comprising:
structure for attachment to a leg of the chair;
an upright member rotatably carried by said structure;
a supporting element extending laterally from said upright member, said supporting element being U-shaped in configuration whereby to present a bight and a pair of legs, one leg thereof defining a hinge pin, the other leg thereof defining a brace;
a tray supporting element swingably carried by said hinge pin, said brace being in a plane below that of said hinge pin whereby when said tray supporting element is swung about said pin to a position of use said brace supports said tray supporting element;
a tray carried by said tray supporting element; and
a bracket carried by said tray for attachment to an arm of the chair.

3,265,437
BACK AND HEADREST SUPPORT
Vito Daniel Mincieli, 77—14 58th Ave., Elmhurst, N.Y. 11373
Filed Apr. 2, 1965, Ser. No. 445,145
11 Claims. (Cl. 297—378)



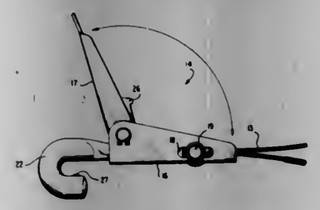
1. An orthopedic support for use on a vehicle seat having a seat cushion and a back cushion, said seat cushion sloping downwardly toward said back cushion, said back cushion sloping upwardly and backwardly from the seat cushion, said support comprising a seat section, a back section, said back section having a tapered portion thereof extending rearwardly at the top, means connecting said sections together for relative pivotal movement between an inoperative folded position and an operative unfolded position, and means for adjustably supporting the seat section on the seat cushion to provide a substantially level position of the seat section at a higher elevation.

3,265,438
SEAT
Edward V. B. Regan, 20 Melbourne Place, Buffalo, N.Y., and Norris E. Shoemaker, Williamsville, N.Y.; said Shoemaker assignor to said Regan
Filed Nov. 27, 1964, Ser. No. 414,337
3 Claims. (Cl. 297—380)



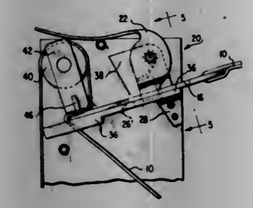
1. A pneumatic seat comprising an inflatable body having opposite side portions and seat back and cushion portions, said back and cushion portions comprising a plurality of substantially parallel generally cylindrical air cells, said cushion portion air cells being larger in cross-sectional area than said back cushion air cells, said side portions comprising a series of substantially concentric, curved air cells of generally circular cross section, said side portions being connected at spaced intervals to both of said seat back and cushion portions substantially along the entire longitudinal edges of said seat back and cushion portions, said body being resiliently yieldable when inflated and said side portions being flexible inwardly around an occupant of said seat.

3,265,439
SEAT BELT
Norman S. McEwen, 437 NE. 8th Ave., Fort Lauderdale, Fla.
Filed Nov. 19, 1963, Ser. No. 324,781
10 Claims. (Cl. 297—385)



1. A safety seat belt of the type used in automotive vehicles for restraining the passengers thereof in case of sudden stop comprising a belt having one end fastened to the chassis of the motor vehicle and means for releasably securely latching the other end of said belt to the vehicle chassis in such a way that the connection and disconnection thereof may be effected with the use of only one hand, said means including a pair of serially connected latches.

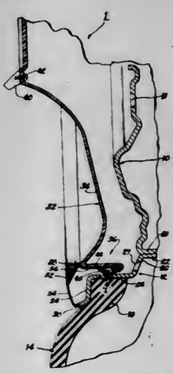
3,265,440
RETRACTABLE SAFETY BELTS
Richard G. Board, Bethesda, Md. (3000 Connecticut Ave., Washington, D.C.), and Nelson H. Shapiro, Hyattsville, Md. (801 Washington Bldg., Washington, D.C.)
Filed Oct. 4, 1963, Ser. No. 313,948
11 Claims. (Cl. 297—388)



2. In a retractable seat belt or the like, a casing, a slider supported for movement in said casing and having a strap guide at one end and an abutment at the other end, a retraction device, a strap having one end connected to said retraction device and being trained from said retraction device reversely about said guide and oriented to urge said slider in a first direction, a latch mechanism supported upon said casing adjacent a flight of said strap extending between said retraction device and said slider, a fastener element, means for guiding said element into said casing for retention by said latch mechanism, and abutment means operatively coupled to said fastener element and responsive to entry of said fastener element into said casing for moving said abutment means relative to said casing and against said flight to deflect said flight between said abutment and said abutment means and to move said slider in a direction opposite to said first direction.

3,265,441
WHEEL COVER HAVING RESILIENT PLASTIC RETAINING MEANS
Maurice F. Baldwin, 289 Abbey Road, Birmingham, Mich.
Filed June 1, 1964, Ser. No. 371,256
7 Claims. (Cl. 301—37)

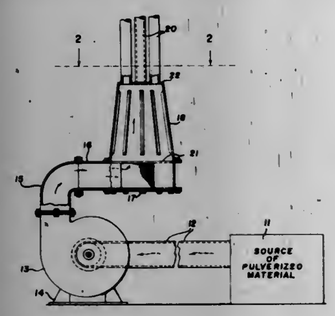
1. In an automotive vehicle wheel cover structure mountable on an axially extending tire rim flange, a central segment for covering a portion of the outside of an automotive vehicle wheel and a mounting means for effectuating a resilient positive, push-in, pull-out telescopic relationship with said tire rim flange and for supportably retaining said central segment in its covering position on the automotive wheel, said mounting means comprising an annular plastic member having an inner axially extending leg and radially outwardly thereof an outer axially extending leg, said outer and inner legs being hingedly joined adjacent one end of each, said outer leg including at least one radially raised rib extending circumferentially around the outermost surface thereof and two spaced circumferential protuberances extending radially inwardly toward said inner leg from the inner surface thereof, means for resiliently urging said rib outwardly into engagement with the tire rim flange along at least one circumferential line of contact therebetween when said mounting means is in its push-in telescopic relationship with said rim flange, said circumferential protuberances engaging and supportably retaining an annular extending flange inserted axially between said inner leg and said outer leg.



3,265,442
DISTRIBUTOR FOR PULVERIZED MATERIAL
Cullie B. Willis, Jr., Westfield, N.J., and Frederick J. Ceely, College Point, N.Y., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Jan. 18, 1965, Ser. No. 426,085
2 Claims. (Cl. 302—28)

1. An apparatus for equally distributing to multiple pipes a moving stream of pulverized material, comprising:
a volute for imparting a circular motion to a moving stream of pulverized material,

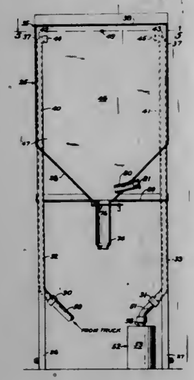
a container in the form of a frustrum of a right circular cone having an inlet, an outlet, and an inside wall surface, said container being connected at said inlet to said volute to receive said circularly moving stream of pulverized material through said inlet so that said stream of pulverized material will pass into said container with a helical motion,



bars attached longitudinally to the inside of said container to transform said helical motion to a motion longitudinal with said container so that said pulverized material moves axially to said outlet in a broad band, and

multiple pipes equally spaced about said outlet whereby an equal quantity of said pulverized material enters each pipe.

3,265,443
PORTABLE OVERHEAD BIN WITH TRAILER
William E. Simas, Salinas, Calif., assignor to The Triangle Co., Salinas, Calif., a corporation of California
Original application Mar. 30, 1964, Ser. No. 355,738. Divided and this application May 17, 1965, Ser. No. 470,947
10 Claims. (Cl. 302—59)



1. A storage bin for comminuted solid materials, including in combination:

a plurality of supporting legs, two said legs being hollow and being provided with inlet spouts and interior conduits,

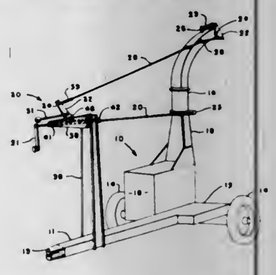
an elevated hopper housing supported by said legs and having a hopper-shaped lower wall, side walls, and a roof,

conduit means extending from said interior conduits into said housing and up to a level slightly below said roof and having outlet means for horizontal ejection of material therefrom,

a vertical partition dividing said hopper into two substantially equal sections and having adjacent its upper end an opening for passage of air from one section to the other,

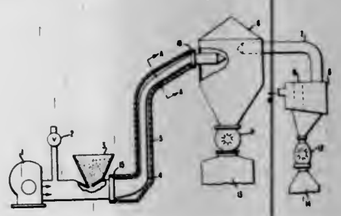
whereby during compressed-air filling of one section with a comminuted solid, said solid is blown into said one inlet spout and into said conduit means and out the associated said outlet means, and air therefrom passes through said opening to the other said section, in through the said outlet means of that other said section and down its associated said conduit means and out the inlet spout associated therewith.

3,265,444
HARVESTER SPOUT CONTROL
Thomas W. Waldrop, Ronks, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed May 13, 1965, Ser. No. 455,499
9 Claims. (Cl. 302—61)



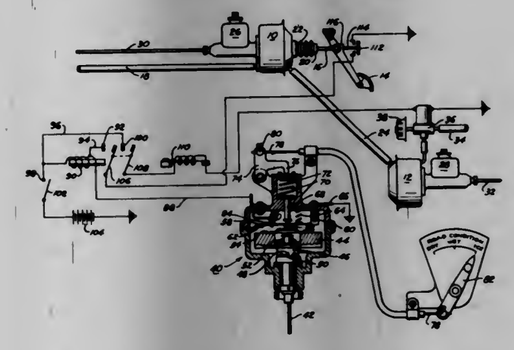
1. A harvester comprising a mobile frame, a spout on said frame through which a stream of harvested crop material is discharged, means on said spout engageable with said stream of material for varying the direction of discharge of said stream, a control member spaced from said spout and manually movable toward and away from said spout, means interconnecting said control member and said stream directing means for operating said directing means in response to changes in the distance between said control member and said spout, and means supporting said control member on said frame for movement relative thereto in response to frame deflection whereby said distance is unchanged by deflection of said frame during a harvesting operation.

3,265,445
CONVEYOR CONDUIT
John E. Cronin, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 20, 1964, Ser. No. 338,703
1 Claim. (Cl. 302—64)



A conduit comprising an inner, elastic tube circumferentially enclosed within outer means for limiting the diametric inflation capability of said tube at a predetermined diameter, said diameter being greater than the outside diameter of the elastic tube when deflated, means for inflating said elastic tube, and a multiplicity of longitudinal members spaced around the circumference of said elastic tube, said members being operative to restrain longitudinal expansion of said tube but being substantially inoperative to restrain diametric inflation thereof.

3,265,446
BRAKING SYSTEM WITH INTERMITTENT ANTI-SKID DEVICE
Maxwell L. Cripe, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed June 12, 1963, Ser. No. 287,431
3 Claims. (Cl. 303—21)

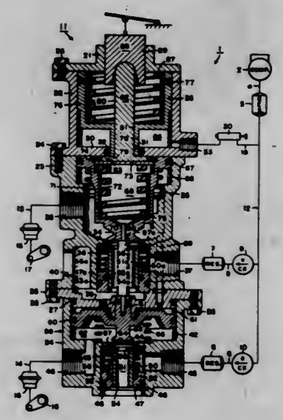


1. For a power brake system including a power brake means, a means to modulate said power brake means to eliminate premature brake locking and consequent vehicle skidding, said modulating means comprising:

a control mechanism consisting of an inertia means, a drive means for driving said inertia means, said drive means including a ratchet mechanism arranged to cause displacement of said inertia means upon cessation of said drive means before loss of the kinetic energy of said inertia means, a holding relay, a normally open switch forming a circuit in series with the coil of said holding relay and a power source, said switch being operatively connected to said inertia means such that displacement thereof will close said switch, a spring operatively biased between a movable retainer slidably contained in said control mechanism and said switch means to oppose displacement of said inertia means and consequent closing of said switch means, and a remote control means including a lever and a means connecting it to a bellcrank having a pawl adapted to vary the amount of opposition to displacement of said inertia means as said lever is operated to control the loading of said spring; and

an electrical control system connected to said holding relay; said elecrical control system including, a normally open manually operable switch means connected to said power brake and connected in series with said holding relay and said power source, a pulsating switch device and solenoid valve means in series connection with said holding relay, said solenoid valve means operatively connected to control power fluid introduction to said power brake means and said pulsating switch device operates to close the switch therein whereby said solenoid is activated and deactivated in an intermittent manner; said switch activated by said power brake means functioning to continue this intermittent operation regardless of said inertia means until said power brake means is deactivated.

3,265,447
CONTROL VALVE
Richard C. Bueler, Glendale, Mo., assignor to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware
Filed Mar. 3, 1965, Ser. No. 436,737
18 Claims. (Cl. 303—52)



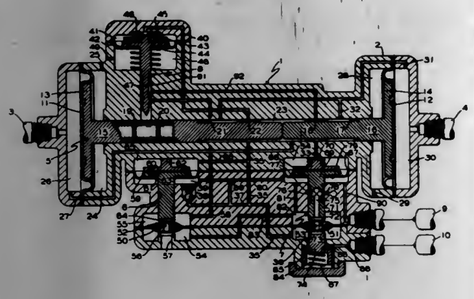
1. A control valve comprising a housing having a pressure fluid flow passage therethrough, application means movable in said said housing and controlling said flow passage, resiliently urged means movable in said housing for driving engagement with said application means and defining with said housing an expansible fluid pressure chamber and operator controlled means having one portion extending through said resiliently urged means for driving engagement with said application means and having a force receiving portion for receiving an applied force from exteriorly of said housing, said operator controlled means being movable in response to an applied force on the force receiving portion thereof to drive said application means toward an actuated position in said flow passage establishing pressure fluid flow therethrough, and said resiliently urged means being movable in response to fluid pressure in said chamber less than a predetermined value to drive said application means independently of the applied force toward the actuated position thereof in said flow passage to automatically establish pressure fluid flow therethrough.

3,265,448
FLUID PRESSURE BRAKE CONTROL APPARATUS
George K. Newell, Level Green, Penn Township, Westmoreland County, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 311,405, Sept. 25, 1963. This application Feb. 18, 1965, Ser. No. 437,620
22 Claims. (Cl. 303—86)

1. A fluid pressure relay valve device for interposition between two sections of a brake pipe on a train of cars, said relay valve device comprising:

(a) pilot valve means positionable in one or the other of two different operating positions depending upon the section of brake pipe first charged with fluid pressure, and

(b) self-lapping valve means cooperative with said pilot valve means in its said one position and operatively responsive to an increase or decrease of



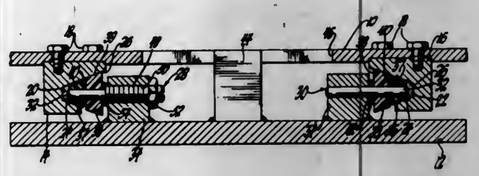
fluid pressure in the one section of the brake pipe to effect a corresponding increase or decrease of fluid pressure in the other section of the brake pipe.

3,265,449
BALL BEARINGS
Rudolf Jahn, Herzogenaurach, near Nurnberg, Germany, assignor to Industriewerke Schaeffler OHG, Herzogenaurach, near Nurnberg, Germany, a company of Germany
Filed Mar. 7, 1962, Ser. No. 178,013
Claims priority, application Germany, Mar. 10, 1961, J 19,570
4 Claims. (Cl. 308—6)



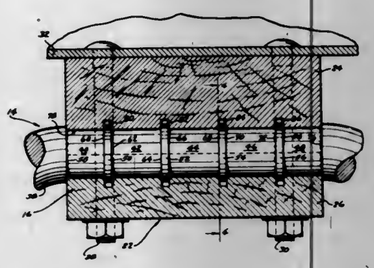
1. Ball bearing for longitudinal movements, comprising at least an inner tubular element and an outer tubular element engaged concentrically without spacing therebetween to provide together several closed-loop guides, balls under load only on part of their path of circulation, the portions of the guides of the inner tubular element each comprising two straight sections connected by two semicircular arcs, one part of the guides in said inner tubular element having a wall thickness slightly less than the ball diameter and covered outwardly by said outer tubular element, said one part of the guides in the inner tubular element having along one of the straight sections an inwardly open slot, the width thereof being inferior to the ball diameter, the outer tubular element providing the ball raceway along this section, along the other straight section and the two semicircular arcs, the outer tubular element having through slots forming the other part of said guides, the width thereof being inferior to the ball diameter to secure them against falling out and said balls being contained in the straight sections connected by two semicircular arcs, the outer tubular element being relative to the inner member thin-walled and is made of a particularly pressure-resistant material, as surface-hardened sheet steel, and the inner tubular element being relative to the outer member thick-walled, only slightly stressed and made of a readily mouldable material.

3,265,450
ROLLER TRACK APPARATUS
Kenneth A. Aho, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 17, 1963, Ser. No. 316,914
2 Claims. (Cl. 308—6)



1. The combination comprising, a pair of relatively movable members, an elongated roller track on one of said members having a pair of support surfaces forming a roller channel, said surfaces being formed along intersecting planes inclined oppositely relative to a plane therebetween bisecting said channel, first roller means rotatably mounted on the other of said members within said channel about an axis lying outside said bisecting plane and having a tapered roller surface complementary to one of said support surfaces for full flush rolling engagement exclusively therewith, second roller means rotatably mounted on said other member within said channel coaxially with said first roller means and having a tapered roller surface complementary to the other of said support surfaces for full flush rolling engagement exclusively therewith, and means for axially adjusting said first and second roller means relative to to said members to wedgingly engage said first and second roller means with respective support surfaces to provide for nonskid lash take-up between said members.

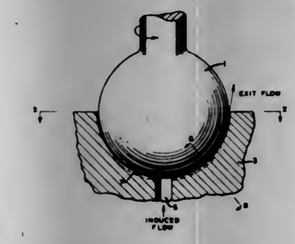
3,265,451
MACHINE ELEMENT
Shelley Albert Bulin, Davenport, Iowa, assignor to J. I. Case Company, Racine, Wis.
Filed June 5, 1963, Ser. No. 285,710
3 Claims. (Cl. 308—8)



3. A crankshaft bearing assembly for use in a threshing mechanism for supporting a
straw walker therein, said crankshaft comprising a
rough surfaced shaft of uniform diameter having the characteristics of a shaft that has been bent to provide a plurality of offset crankpin portions, each crankpin portion providing a plurality of finished

reduced journal portions spaced axially along said crankpin portion and providing
lands therebetween projecting from said reduced journal portions, said lands having the
diameter of the original rough shaft, and a bearing element comprising a
wood block fixed on said straw walker and disposed about said crankpin portion in running and supporting contact with said reduced journal portions, said bearing element providing a plurality of
grooves disposed about said lands, the walls of said grooves being engaged in running contact with the finished walls of said lands to secure said wood block against movement axially of said crankpin portion, and said grooves being of a
depth to provide clearance in said wood block about the rough peripheral surfaces of said lands.

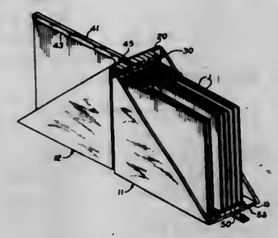
3,265,452
BEARINGS
Coda H. T. Pan, Latham, and Elie B. Arwas, Schenectady, N.Y., assignors to Mechanical Technology Incorporated, Latham, N.Y., a corporation of New York
Filed May 4, 1965, Ser. No. 456,888
1 Claim. (Cl. 308—9)



A combined journal and thrust bearing comprising,
a stationary member having a top surface and a semi-spherical cavity formed therein,
a rotating member designed with surfaces complementary to said cavity and positioned for rotation therein,
a shaft integrally formed with said rotating member,
an air gap between said members,
an opening comprising a gas passageway formed in the bottom of the stationary member cavity for permitting the flow of gas lubricant through the air gap,
grooves of a skewed geometry on said stationary member cavity walls for stiffening said bearing and generating positive pressures therein upon relative motion of said stationary and rotating members,
said grooves being located between said opening in the cavity and the top surface of the stationary member and occupying less than the total distance therebetween; and
said grooves having a width substantially less than the land width between adjacent grooves.

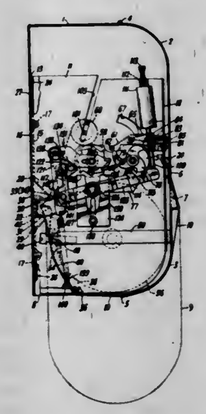
3,265,453
RECORD STORAGE MEANS
Ray Selde, 17 W. 70th St., New York, N.Y.
Filed June 12, 1963, Ser. No. 287,365
4 Claims. (Cl. 312—13)

1. A record carrying case comprising: a container diagonally separable into a lower base component and an upper cover component; a pivot rod at an upper corner of the base component of said container; a jacket gripping connector pivoted on said pivot rod; and engaging means formed by a channel on said connector adapted to grip an edge of a record jacket, whereby the jacket may be moved out of a storage position in the base component



of the container to the cover component when the cover component is separated from the base component.

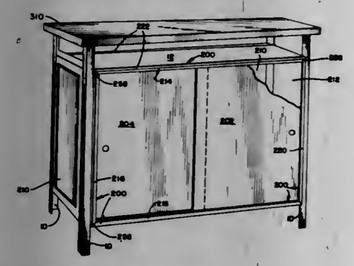
3,265,454
TOWEL CABINET
Joseph Eugene Scanland, Des Moines, Iowa, assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Aug. 14, 1964, Ser. No. 389,692
5 Claims. (Cl. 312—38)



1. Apparatus for dispensing a length of clean towel from a stored quantity of towel and automatically taking up a corresponding length of soiled towel comprising a clean towel dispensing roll, a shaft, a soiled towel takeup roll rotatable mounted on said shaft, a spring connecting said shaft and said takeup roll and adapted to store energy as said shaft is rotated independently of said takeup roll and thereby spring bias said takeup roll in a predetermined direction, means coupling said shaft and said dispensing roll for rotating said shaft as said dispensing roll is rotated to dispense a length of clean towel, locking means movable to lock and release positions for respectively preventing and permitting rotation of said takeup roll, linkage means connected to said locking means for moving said locking means to said lock and release positions, actuating means mounted on said dispensing roll for engaging said linkage means as said dispensing roll is rotated and moving said locking means to said lock

position during the towel dispensing operation, timing means connected to said linkage means for moving said locking means to said release position subsequent to the towel dispensing operation and permitting said spring biased takeup roll to rotate and withdraw a corresponding length of soiled towel, and means for displacing said linkage means out of the path of said actuating means and simultaneously maintaining said locking means in said release position to thereby permit said dispensing and takeup rolls to rotate freely and facilitate loading and removal of said quantity of towel.

3,265,455
KNOCKDOWN STEEL SHELVING AND CABINET HARDWARE THEREFOR
Irwin J. Ferdinand, Glencoe, and Dale R. Lopatka, Glenview, Ill., assignors to S. A. Hirsh Mfg. Co., Skokie, Ill., a corporation of Illinois
Filed Jan. 28, 1965, Ser. No. 443,119
9 Claims. (Cl. 312—295)

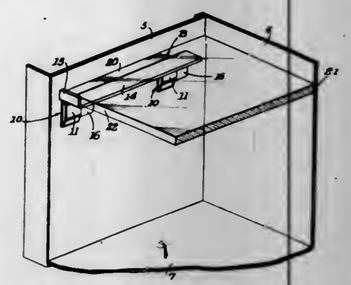


1. In combination, a steel shelving unit including a pair of vertical front corner posts having trim flanges, upper and lower vertically spaced horizontal shelves secured at their front corners to said corner posts, the front edges of said shelves in combination with said trim flanges of the corner posts defining a rectangular front access opening communicating with the interior of the shelving, a rectangular door frame including upper and lower horizontal frame members extending between said corner posts and vertical side frame members extending between the two shelves and having inner flanges alongside said vertical side frame members disposed in supported relation between said trim flanges and front edges of said shelves, means for securing the upper horizontal frame member to the front edge region of the upper shelf, in mutually supported relationship, means for securing the lower horizontal frame member in supported relation to the front edge region of the lower shelf, said upper frame member presenting a downwardly facing channel portion and said lower frame member presenting an upwardly facing channel portion opposed to said downwardly facing cradle portion, an anti-friction guide strip disposed in each cradle portion and substantially coextensive therewith, each guide strip being formed with a medial flange thereon dividing its respective cradle portion into inner and outer channels, an outer door panel having its upper and lower edges slidable in the outer channels defined by said guide strips, and an inner door panel having its upper and lower edges slidable in the inner channels defined by said guide strips.

3,265,456
SHELF BRACKET
Dwight E. Woolever, 3671 S. Broadway, Los Angeles, Calif. 90007
Filed Mar. 1, 1965, Ser. No. 437,347
5 Claims. (Cl. 312—350)

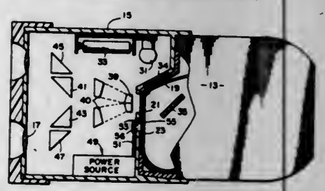
5. In a cabinet having a side wall and a normal back wall,

(a) two horizontally aligned sockets,
(b) a shelf bracket having a sliding connection with said sockets with portions extending forwardly into said sockets,



(c) a front upbent wall on said bracket, and
(d) a shelf with an end supported on the bracket and of a width to fit between the back cabinet wall and the upbent wall of the bracket.

3,265,457
MOTION PICTURE VIEWER AND FILM ADVANCE MECHANISM
James T. Dale, 3145 Haddington Drive, Los Angeles, Calif.
Filed June 12, 1964, Ser. No. 374,679
5 Claims. (Cl. 352—129)

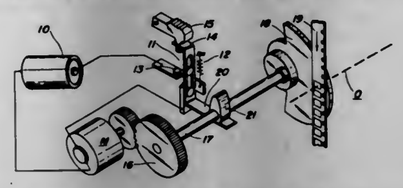


1. A film advance mechanism comprising:
an elongated arm having rigid spring characteristics,
a second light spring affixed to one end of said arm,
a catch means rigidly secured to said light spring, said catch means of a configuration for engagement with perforations present in a film,
and means for causing said elongated arm to reciprocate whereby said catch means engages successive perforations in said film and pushing said film with said reciprocal movement, said means comprising:
an electric power source,
a solenoid operatively connected to one end of said power source, said solenoid being additionally affixed at the opposite end thereof to said elongated spring arm,
and means for causing said solenoid to return to a starting position after its actuation causing said arm to reciprocate.

3,265,458
ELECTRIC DRIVE CAMERA STOP
Donald O. Easterly, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Aug. 5, 1964, Ser. No. 387,734
13 Claims. (Cl. 352—169)

1. In a motion picture camera having electric drive means to drive a light control shutter movable intermittently between open and closed positions, the improvement of:
switch means biased to assume a normally open position and movable to a closed position to actuate the electric drive means and drive the shutter;

manually movable means operable to move the switch means to its closed position and actuate the elec-



tric drive means and to permit the switch means to assume its open position on release of the manual means; and

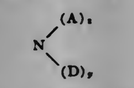
cam means movable with the shutter and defining a first surface to engage and retain the switch means in the closed position and maintain activation of the electric drive means whenever the manual means is released while the shutter is in its open position, the cam means further defining a second surface operable to permit the switch means to assume its open position as soon as the shutter moves to its closed position after said release, and bevel surface means intermediate the first and second surfaces configured to cause the switch means to be moved back to its closed position whenever the bevel surface means engages the switch means on release of the manual means.

CHEMICAL

3,265,459
DYEING TEXTILE MATERIAL WITH VAT AND SULFUR DYES
Erhard Schober, Charlotte, N.C., and Alfons Janson, Ludwigshafen (Rhine), Harald Schlueter, Neckarhausen, and Ernst Wilhelm, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Nov. 7, 1963, Ser. No. 322,023
Claims priority, application Germany, July 31, 1963, B 72,928
9 Claims. (Cl. 8—34)

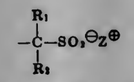
1. A process for dyeing cellulosic textile material with a dye selected from the class consisting of vat dyes and sulfur dyes comprising using as the reducing agent a mixture which consists of 20 to 80% by weight of sodium dithionite and 80 to 20% by weight of a sulfinic acid derivative selected from the class consisting of
a compound of the general formula

(I)



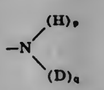
where x represents a whole number from 0 to 2, y represents a whole number from 1 to 3, $x+y$ being equal to 3, A represents a member selected from the group consisting of hydrogen, low molecular weight alkyl and low molecular weight alkyl substituted by a radical of the general Formula III below, and D represents the radial of a salt of an alkylsulfinic acid with 1 to 4 carbon atoms of the general formula

(II)



where each of the radicals R stands for a member selected from the group consisting of hydrogen and alkyl and Z stands for a member selected from the group consisting of an ammonium cation and an alkali metal ion, said substituent of the low molecular weight alkyl designated by A above having the general formula

(III)



where H is hydrogen, D has the same meaning as set forth above, p and q each represents a whole number from 0 to 2, $p+q$ being equal to 2,
an alkali metal salt of a hydroxyalkylsulfinic acid having 2 to 4 carbon atoms, and
an ammonium salt of a hydroxyalkylsulfinic acid having 2 to 4 carbon atoms.

3,265,460
DYEING OF SYNTHETIC FIBERS
Robert C. Hoare, Hamburg, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Mar. 22, 1960, Ser. No. 16,636
18 Claims. (Cl. 8—39)

1. Synthetic fibers containing a plurality of repetitive carbonyl-containing groups colored with an alpha,alpha-diamino-alpha,alpha-dihydroxy-anthraquinone having, as sole additional substituent in a beta-position, a carbocyclic hydrocarbon radical of 6 to 12 nuclear carbon atoms substituted by one to three substituents in the nucleus, of which at least one is selected from the group consisting of —OR, —SR and —$N(R)_2$ in which R is selected from the group consisting of hydrogen, lower alkyl and lower hydroxyalkyl, and the others, when present, are selected from the group consisting of halogen, nitro, amino, lower alkyl, lower hydroxyalkyl, lower alkoxy, lower alkylthio, and lower carbalkoxy radicals.

3,265,461
DYE AND HEXAHYDRO - 1,3,5 - TRIACRYLOYL - s-TRIAZINE OR DERIVATIVE THEREOF COMPOSITION AND DYEING THEREWITH
Gerhard Luetzel and Werner Rohland, Ludwigshafen (Rhine), Arnold Tartter, Lambsheim, Pfalz, Guenter Barts, Ludwigshafen (Rhine), Werner Dietrich, Mannheim, Wilhelm Federkiel, Frankenthal, Pfalz, and Roland Mueller, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Feb. 12, 1965, Ser. No. 432,403
Claims priority, application Germany, Nov. 2, 1960, B 59,960
2 Claims. (Cl. 8—84)

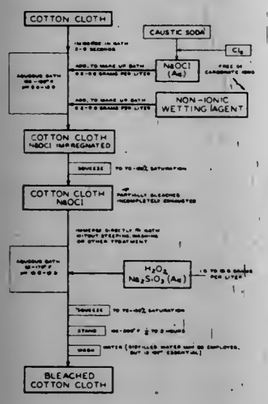
1. A process for dyeing and printing textile material of cellulose which consists essentially of contacting said material at temperatures between 15 and 200° C. with the following components:
(a) an uncolored trifunctional compound selected from the group consisting of hexahydro-1,3,5-triacryloyl-s-triazine and a hexahydro-s-triazine compound containing attached to the three nitrogen atoms groups which are capable of forming CH_2=CH—CO groups during the process by action of the strongly alkaline-reacting agents,
(b) a strongly alkaline-reacting inorganic agent, and
(c) a water-soluble organic dye having 1 to 11 labile hydrogen atoms in radicals selected from the group consisting of primary amino groups, secondary amino groups, carbamoyl groups, monosubstituted carbamoyl groups, sulfamoyl groups, monosubstituted sulfamoyl groups, hydrazine groups, hydroxyl groups, sulfhydryl groups and labile hydrogens attached di-

rectly to carbon, whereby said components *a*, *b*, and *c* are in contact with each other on said material.

3,265,462
HIGH-SPEED TWO-STAGE BLEACHING OF COTTON CLOTH

Stuart M. Rogers, Syracuse, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Oct. 12, 1962, Ser. No. 230,216
2 Claims. (Cl. 8—109)



1. A process of bleaching to produce cotton cloth of high absorbency, high whiteness and low fluidity which comprises: (A) treating cotton cloth in a sequential manner by immersing the cotton cloth for a period of time from 3 seconds to 8 seconds in an aqueous solution containing the combination of 0.2–0.6 gram per liter sodium hypochlorite and 0.2–0.8 gram per liter of a non-ionic surface-active wetting agent at a temperature between 160–190° F., said aqueous solution having a pH value of about pH 9.0 to pH 12.0 and being substantially free of carbonate ions; (B) squeezing the cloth impregnated with the solution containing the sodium hypochlorite and the non-ionic surface-active wetting agent to 70–150 percent saturation; (C) thereafter directly and without steeping immersing the cloth in hydrogen peroxide solution containing 1.0–10.0 grams per liter of sodium silicate as an additive and having a pH value of pH 10 to pH 12 at a temperature within the range of about 32–175° F.; (D) squeezing the cloth impregnated with the hydrogen peroxide solution to 70–150 percent saturation and maintaining the thus squeezed cloth at a temperature within the range of about 165–290° F. for a period of ¼ hour to 2 hours; and (E) washing the thus treated cloth with water.

3,265,463
CONTINUOUS METHOD OF IMPARTING WET AND DRY CREASE RESISTANCE TO CELLULOSIC MATERIALS THROUGH REACTION WITH FORMALDEHYDE

Richard P. Barber, Mooresville, N.C., and John D. Turner, Killeen, Tex., assignors to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware

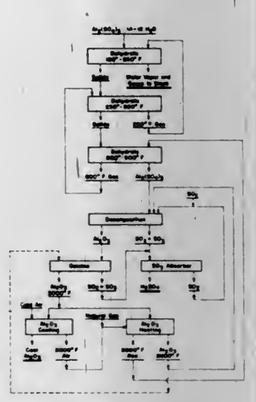
Filed Nov. 17, 1961, Ser. No. 153,021
10 Claims. (Cl. 8—116.4)

1. A process for improving the wash and wear properties of a cellulosic fabric comprising treating the fabric with an aqueous medium until the fabric contains 10–100% of its own weight of water; substantially immediately thereafter passing the wet fabric into a dehydrating solution selected from the group consisting of (a) aqueous calcium chloride solution containing at least 3% formaldehyde and (b) anhydrous acetic acid containing at least 3% formaldehyde whereby the formaldehyde reacts with said fabric; washing the thus treated fabric with water to remove free formaldehyde; applying to the fabric from 0.5 to 6% by weight, based on the dry weight of said fabric, of a latent catalyst for curing formaldehyde resins; drying the fabric at a temperature below 150° C. and then curing by heating at a temperature above 150° C.

3,265,464
PROCESS FOR PRODUCING METAL OXIDES BY DECOMPOSITION OF METAL SULFATES

John C. Udd, Montreal, Quebec, Canada, assignor, by mesne assignments, to The North American Coal Corporation, a corporation of Ohio

Filed Sept. 10, 1962, Ser. No. 222,485
4 Claims. (Cl. 23—142)



1. A process for the dehydration and decomposition of metallic sulfates which decompose into corresponding metallic oxides and sulfur oxide gases comprising:
(a) passing the metallic sulfate through a plurality of serially arranged dehydration stages of increasing temperature to drive contained water therefrom by countercurrently contacting said sulfate in finely-divided form with a heated gas, and producing thereby heated anhydrous metallic sulfate and a water-vapor bearing gas;
(b) recycling the hot water-vapor bearing gas from each succeeding dehydration stage to a preceding dehydration stage of lower temperature;
(c) separating said metallic sulfate from said gas;
(d) raising the temperature of the heated sulfate at least to its decomposition temperature by contacting the same in direct heat-exchange relation with a quantity of the corresponding metallic oxide heated to a temperature above the decomposition temperature of said sulfate, and producing thereby mixed sulfur oxide gases and a metallic oxide;
(e) separating said metallic oxide from said mixed sulfur oxide gases;
(f) recovering sulfur trioxide contained in said mixed sulfur oxide gases produced in step (d) as sulfuric acid, and recycling sulfur dioxide contained therein to step (d);
(g) calcining said oxide by combustion heating to produce heated combustion gases and metallic oxide at a temperature above the decomposition temperature of said sulfate;

(h) recycling said heated gases for dehydration of said metallic sulfate in step (a);
(i) recycling a portion of said heated metallic oxide to step (d); and
(j) recovering the remainder of said heated oxide as a decomposition product.

3,265,465
PRODUCTION OF ANHYDROUS ALUMINA

Gilbert Turpin, Sainte-Foy-Les-Lyon, France, assignor to Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine, Paris, France, a corporation of France

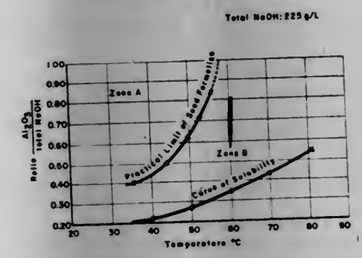
Filed Dec. 7, 1964, Ser. No. 418,382
Claims priority, application France, Apr. 28, 1961, 860,224, Patent 1,295,554
6 Claims. (Cl. 23—142)

1. A process for obtaining from alumina trihydrate, an anhydrous alumina which is at least partially crystallized in the form of alpha alumina, the process comprising subjecting alumina trihydrate to a partial dehydration to obtain a partially dehydrated product which contains substantially about 5% to 30% of its initial constitution water, introducing said product into a stream of incompletely burned hot gases, delivering said gases which contain said partially dehydrated product into a substantially cylindrical combustion chamber tangentially of the walls thereof, burning said incompletely burned hot gases in said combustion chamber, forming in said combustion chamber substantially helically descending flows of said gases and imparting to said product substantially helically descending paths, collecting said product in a lower portion of said chamber and there forming a fluidized bed of said product by directing an air stream therethrough, dehydration of said product being substantially completed during its descent to said bed, said bed being in contact with the gases thereabove, maintaining said product in said bed for converting at least a portion thereof into crystallized alpha alumina to form an anhydrous alumina which is at least partially crystallized alpha alumina, a heat exchange being effected between said bed and said gases thereabove, said heat exchange cooperating with heat evolved from said conversion to crystallized alpha alumina to maintain said bed at a temperature substantially about 1000° C. to 1250° C., and recovering said anhydrous alumina which is at least partially crystallized alpha alumina.

3,265,466
PROCESS FOR THE MANUFACTURE OF TRIHYDRATE OF ALUMINA

Paul Mollard, Sainte-Foy-Les-Lyon (Rhone), France, assignor to Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine, Paris, France, a corporation of France

Filed May 3, 1962, Ser. No. 192,171
Claims priority, application France, May 6, 1961, PV 861,008
9 Claims. (Cl. 23—143)



1. A method for preparation of active seed crystals for use in decomposing sodium aluminate to obtain alumina trihydrate comprising adding grains of alumina trihydrate to a solution of sodium aluminate having a ratio by weight of

$$\frac{Al_2O_3}{\text{total NaOH}}$$

of between about 0.30 and 0.7, maintaining said solution with said alumina trihydrate grains added thereto undisturbed at a temperature related to said ratio so as to form a zone on a graph of said ratio as ordinate and said temperature in °C. as abscissa, wherein said zone corresponds to zone A of the graph on the accompanying drawing, said maintaining said solution undisturbed being for a time sufficient to effect formation of flakes of alumina trihydrate in contact with said grains, and recovering said flakes which form said seed crystals, said flakes being smaller than a micron and having a thickness between about 10 to 100 millimicrons.

3,265,467
NON-CAKING SULFAMIC ACID AND METHOD OF MAKING SAME

Robert T. Nelson, Crown Point, and Michael Z. Zatorski, East Chicago, Ind., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 2, 1964, Ser. No. 348,795
8 Claims. (Cl. 23—166)

1. The method of improving the handling properties of crystalline sulfamic acid which comprises admixing with said sulfamic acid from 0.05 to about 0.5% by weight of a compound selected from the group consisting of sulfuric acid, orthophosphoric acid, and acetic acid; said admixing being carried out at a temperature from about 0° to 150° C.

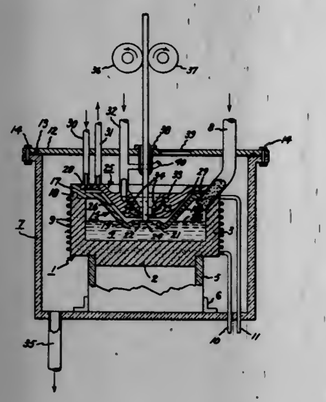
3,265,468
PROCESS FOR FORMING DICOBALT OCTACARBONYL

Adalbert Farkas, Media, Pa., Frank Miller, Wilmington, Del., George Alexander Mills, Swarthmore, Pa., and Milton Orchin, Cincinnati, Ohio, assignors to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware and Tidewater Oil Company, Los Angeles, Calif., a corporation of Delaware

Filed Apr. 22, 1963, Ser. No. 274,467
5 Claims. (Cl. 23—203)

1. A cyclic process for forming dicobalt octacarbonyl, which comprises acidifying an aldehyde-free aqueous solution of an alkali metal carbonyl of cobalt with 1 to 4 mols of a mineral acid having a dissociation constant larger than 10^{-2} for each alkali equivalent present in solution to obtain cobalt hydrocarbonyl, adding a solvent for cobalt carbonyl compounds involved in the process to the acidified solution, said solvent selected from the group consisting of C_8 to C_{12} alkanes and C_8 to C_{10} aromatic hydrocarbons, effecting stratification in a first settling zone of the resulting solution into an aqueous lower layer and a solvent upper layer, recovering the aforesaid solvent upper layer containing dicobalt octacarbonyl formed by the decomposition of cobalt hydrocarbonyl, effecting liquid-gas extraction with additional aforesaid solvent to recover cobalt hydrocarbonyl from gases generated by the process, combining the aqueous lower layer from the first settling zone with the solvent solution employed for extraction of process generated gases, effecting stratification of the combined aqueous-solvent solution in a second settling zone to obtain an upper layer of the solvent employed in the extraction of process generated gases and an aqueous lower layer, recovering the upper layer from the second settling zone and recycling the recovered upper layer for use as a solvent added to the acidified solution.

3,265,469
CRYSTAL GROWING APPARATUS
Robert N. Hall, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 21, 1964, Ser. No. 397,704
3 Claims. (Cl. 23—273)



1. Apparatus for rapidly growing a monocrystalline wire of semiconductive material from a melt of the same, said apparatus comprising:

(a) a crucible of inert refractory material comprising a solid bottom supporting portion with an integral upwardly extending side wall portion forming an open top receptacle suitable for confining a melt of semiconductive material;

(b) means for introducing semiconductive material to be melted into said crucible;

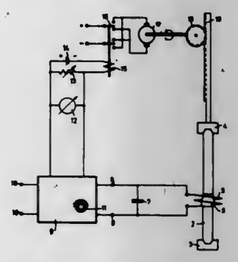
(c) means for heating semiconductive material introduced into said crucible to a temperature at least as high as the melting temperature of the semiconductive material;

(d) a top cover of inert refractory material for said crucible having a peripheral portion thereof abutting the side wall of said crucible near the uppermost extremity of said side wall, said peripheral portion including an annular upper surface, said cover having an inverted frustoconical-shape central portion depending from said peripheral portion and having the innermost part thereof adapted to be submerged under the surface of a melt within said crucible, the centermost portion of said cover comprising an annular lip projecting upwardly from the innermost part of said frustoconical-shape central portion and adapted to extend to at least the top surface of a melt within said crucible, and said annular lip defining a small diameter central aperture through which a crystal can be withdrawn continuously from a relatively small convexed part of the top surface of a melt within said crucible;

(e) a cooling shield of high thermal conductivity metal having a peripheral portion thereof engaging said annular upper surface of said cover, said shield having a continuous passage therein for flow of a cooling medium, and said shield having an inverted frustoconical-shape central portion spaced from said cover and depending from the peripheral portion of said shield, the central portion of said shield having a cylindrical aperture therein that is in closely spaced coaxial relationship to the central aperture of said cover, whereby a high thermal gradient is established adjacent the top of the annular lip of said cover without subjecting the major surface of a melt within said crucible to deleterious cooling;

(f) means for continuously withdrawing a grown crystal from the top surface of a melt within the annular lip of said cover through the apertures in said cover and said shield.

3,265,470
METHOD AND APPARATUS FOR FLOATING-ZONE MELTING OF SEMICONDUCTOR MATERIAL
Wolfgang Keller, Pretzfeld, Upper Franconia, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Aug. 12, 1960, Ser. No. 49,330
Claims priority, application Germany, Aug. 17, 1959, S 64,464; Dec. 31, 1959, S 64,492
The portion of the term of the patent subsequent to July 24, 1979, has been disclaimed
8 Claims. (Cl. 23—301)



1. In a method for floating-zone melting of semi-conductor materials in which a molten zone located between two end portions of a semiconductor rod is passed longitudinally along the rod, the molten zone being produced by inductive heating with the aid of a high frequency induction coil which surrounds the rod and is energized from a high-frequency generator, the tuned circuit employing said current for controlling a device which moves the two rod end portions relatively to each other so that the current in the high-frequency coil is maintained at a desired value, and further maintaining the rod diameter at an adjusted constant value by regulating the frequency of the high-frequency generator to control the heating power of the current supplied to the coil, the method being further characterized in that before starting the floating zone melting a thin seed crystal is fused to one end of the semiconductor rod, the seed having a smaller cross section than the rod, to minimize heat transfer therebetween, each pass of the melting zone through the semiconductor rod commencing in the seed crystal, the transition of the melting zone from the thin seed to the thick rod being controlled in accordance with a predetermined program for the generator frequency and the current supplies to the coil.

3,265,471
PROCESS FOR ION EXCHANGE IN BASIC MEDIUM FOR THE RECOVERY OF URANIUM FROM LOW-STRENGTH SOLUTIONS
Paul Pottier, Chatillon-sous-Bagneux, France, and Edmondo Macchiaverna, Buenos Aires, Argentina, assignors to Commissariat a l'Energie Atomique, Paris, France, and Comision Nacional Atomica, Buenos Aires, Argentina
No Drawing. Filed Jan. 28, 1964, Ser. No. 340,775
Claims priority, application France, July 11, 1963, 941,127
4 Claims. (Cl. 23—334)

1. In a process for recovering uranium from a dilute carbonate solution containing uranium as the anionic uranyl carbonate complex $[UO_2(CO_3)_3]$, the steps comprising: absorbing the uranium from said solution with a strongly basic exchange resin, eluting the uranium from said resin with an aqueous eluting solution comprising ammonium carbonate and a bicarbonate of an alkali metal, the molar proportion of ammonium carbonate $(NH_4)_2CO_3$ being higher than of the alkali metal bicarbonate, precipitating the uranium as

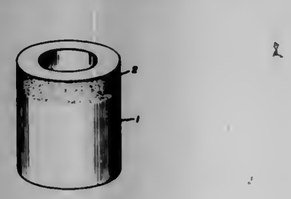
$$(NH_4)_3[UO_2(CO_3)_3]$$

separating said precipitate, adjusting the composition of said eluting solution and recycling it.

3,265,472
METALLIC SPECIES SINTERED PRODUCT OF COLUMBIUM OR TANTALUM WITH FERROMAGNETIC IRON
George J. Nessle, Linfield, and Robert E. Droegkamp, Pottstown, Pa. (both % Kawecki Chemical Company, Boyertown, Pa.)
No Drawing. Filed Jan. 19, 1965, Ser. No. 426,483
6 Claims. (Cl. 29—182)

1. A metallic species product having physical, mechanical and electrical properties such as to be acceptable to the testing elements for silver-base coins in a coin-operated machine, said product consisting essentially of a powder-metallurgically pressed and sintered mixture of a major proportion of a metal powder of the group consisting of columbium and tantalum powder and a minor proportion of ferromagnetic metal powder free from dissolution in the columbium or tantalum.

3,265,473
METALIZED CERAMIC MEMBERS
Georges Louis Gallet, La Celle-St.-Cloud, France, assignor to Compagnie Francaise Thomson-Houston, Paris, France
Original application Aug. 17, 1959, Ser. No. 834,034, now Patent No. 3,107,756, dated Oct. 22, 1963. Divided and this application Mar. 5, 1963, Ser. No. 268,849
3 Claims. (Cl. 29—195)



1. A metalized ceramic structure comprising a ceramic body, a metalized layer of highly refractory metal bonded to said ceramic body, a layer of material selected from the group including rhodium, platinum and iridium and combinations thereof on said refractory metal, and an outer layer of gold.

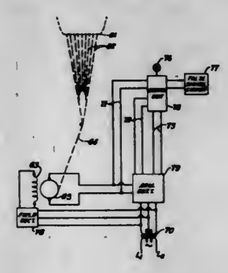
3,265,474
HYDROCARBON OILS HAVING IMPROVED WATER TOLERANCE
Joel R. Siegel, Elizabeth, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Oct. 6, 1961, Ser. No. 143,287
The portion of the term of the patent subsequent to Nov. 13, 1978, has been disclaimed
4 Claims. (Cl. 44—62)

1. A water immiscible organic liquid boiling in the range betwen about 75° F. and about 900° F. having incorporated therein about 0.001 wt. percent to about 1 wt. percent of an ashless oil-soluble polymeric additive, selected from the group consisting of (a) a copolymer of a vinyl substituted heterocyclic nitrogen base compound and an aliphatic ester of an acrylic acid; (b) a copolymer of maleic anhydride, a vinyl ester of a fatty acid and an aliphatic ester of a butenedioic acid; (c) a copolymer of ethylene and a vinyl ester of a C_2–C_{18} fatty acid; (d) the reaction product of a phosphosulfurizing agent with a C_2–C_6 polymonoolefin; and (e) a C_1–C_{80} alkenyl succinic acid anhydride and its neutralized products and derivatives, and about 0.00025 wt. percent to about 0.01 wt. percent of a dialkyl dimethyl ammonium salt in which at least 50% of the alkyl groups are C_{12}–C_{14} radicals.

3,265,475
BUFFING COMPOSITIONS
Donald H. Schantz, Grand Rapids, Mich., assignor, by mesne assignments, to Hanson-Van Winkle-Munning Company, a corporation of New Jersey
No Drawing. Filed Dec. 4, 1962, Ser. No. 242,106
9 Claims. (Cl. 51—304)

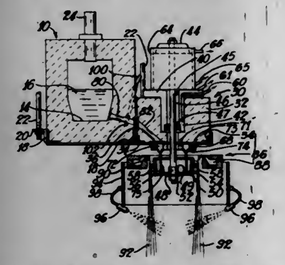
1. A buffing composition consisting essentially of a carrier lubricant selected from the group consisting of grease, oil and soap, or mixtures thereof in an amount from about 10% to 32% by weight of the composition in which there is dispersed a major amount of an inorganic abrasive, characterized in that a metallic powder selected from the group consisting of aluminum and zinc in an amount from ½% to 2% by weight of the composition is dispersed in said lubricant.

3,265,476
APPARATUS FOR PRODUCING UNIFORM CONTINUOUS FIBERS
Cletis L. Roberson, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Original application Aug. 2, 1962, Ser. No. 214,218, now Patent No. 3,126,268, dated Mar. 24, 1964. Divided and this application Dec. 19, 1962, Ser. No. 245,838
The portion of the term of the patent subsequent to Mar. 24, 1981, has been dedicated to the Public
8 Claims. (Cl. 65—1)



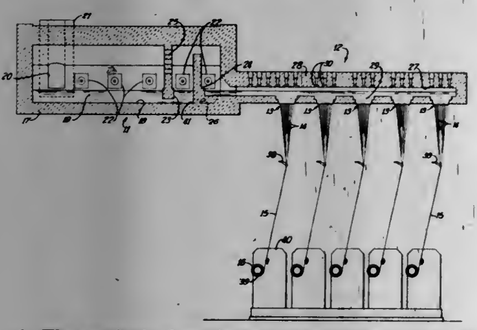
2. Fiber producing apparatus comprising in combination means supplying a plurality of streams of molten fiber-forming material, a winder collet for attenuating said streams into continuous fibers and for collecting said fibers into a package, an electrically energizable motor arranged to rotationally drive said collet, a motor speed control circuit for regulating the power supplied to said motor, speed sensing means arranged to supply signals corresponding to the speed of said motor to regulate the power supplied to said motor, said motor speed control means being arranged to receive and regulate the power supplied to said motor according to requirements for a preselected constant speed, and electrical timing means arranged to supply preselected programmed auxiliary signals matched to the rate of build-up of said package, said control circuit being arranged to receive and modify the regulation by said speed signals according to said auxiliary signals to maintain substantially constant the rate of attenuation of said streams.

3,265,477
APPARATUS FOR FORMING AND COLLECTING MINERAL FIBERS
George T. McCoppin, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed May 20, 1963, Ser. No. 281,543
6 Claims. (Cl. 65—1)



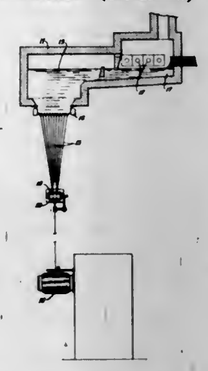
3. Apparatus of the character disclosed, in combination, a member of refractory having a channel arranged to contain heat-softened mineral material from a supply, a hollow rotor disposed directly beneath and close to the member, a feeder adjacent the member in communication with the channel to receive the mineral material from the channel, motive means disposed above the member connected with the rotor to rotate the rotor, said feeder having a plurality of orifices through which streams of the material from the feeder are delivered into the rotor, the rotor having a perforated peripheral wall whereby the material in the rotor is projected by centrifugal forces of rotation through the perforations as discrete bodies, and means surrounding and adjacent the rotor establishing an annular gaseous blast engageable with the bodies for attenuating the bodies to fine fibers.

3,265,478
METHOD FOR FORMING CRYSTAL-FREE GLASS FIBERS
Games Slayter, deceased, late of Newark, Ohio, by The Park National Bank of Newark, executor, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, Toledo, Ohio, a corporation of Delaware
Filed Mar. 24, 1965, Ser. No. 442,854
3 Claims. (Cl. 65—2)



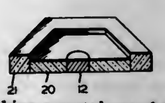
1. The method of producing substantially crystal-free glass fibers which are permanently free of crystals, the method including the steps of forming a pool of molten glass, which pool has one or more areas in which a portion of the molten glass tends to stagnate at a temperature lower than that in other portions of the pool, the temperature of said one or more areas being sufficiently low that one or more constituents of the glass tends to come out of solution in crystal form, adding glass batch to one part of the pool, adding a nucleating agent to the glass, melting the glass, moving part of the molten glass through said one or more areas after the nucleating agent has been added, forming a multiplicity of nuclei in the glass by virtue of the nucleating agent, on which nuclei constituents in the glass can form into a multiplicity of minute crystals which are smaller than those which would otherwise form, moving the glass with the small crystals therein through areas of higher temperature to cause said crystals in the glass to dissolve, and subsequently forming fibers from the glass at another part of the pool spaced from said lower temperature areas after the minute crystals in the glass have substantially dissolved.

3,265,479
METHOD OF COATING CONTINUOUS SODIUM SILICATE FIBERS
Hellmut I. Glaser, Anderson, S.C., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Original application July 28, 1961, Ser. No. 128,351. Divided and this application Mar. 22, 1965, Ser. No. 447,941
3 Claims. (Cl. 65—3)



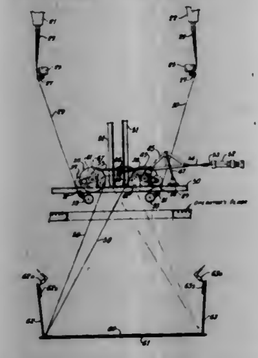
1. A method for preparing silicate fibers comprising melting a batch composition consisting essentially of silicon compounds and compounds of metals selected from the group consisting of sodium, lithium, potassium and boron, flowing the resultant molten mass through orifices to form filaments comprising at least 75% by weight of silica and an oxide of a metal selected from the group consisting of sodium, lithium, potassium and boron, continuously attenuating said filaments and applying an anhydrous solution of a cereous material as a protective size composition to the surfaces of said filaments.

3,265,480
METHOD OF MAKING METAL AND GLASS FIBER STRUCTURES
John W. Hicks, Jr., Fiskdale, Mass., assignor to Mosaic Fabrications, Inc., Southbridge, Mass., a corporation of Massachusetts
Original application Aug. 28, 1961, Ser. No. 134,342. Divided and this application Mar. 1, 1965, Ser. No. 443,740
8 Claims. (Cl. 65—4)



1. A method of making a metal cored glass fiber mosaic assembly comprising forming a mosaic element by heating at least a pair of concentric glass sleeves having different resistances to etching having a metallic member threaded therethrough to a temperature at least at which the glass sleeves are in a plastic state, draughting the composite stock to form a relatively small element having a metal core and at least a pair of concentric glass sleeves, fusing the outer sleeves of a plurality of said elements to form a mosaic assembly with the metal cores lying generally parallel, and thereafter topically modifying by differential etching at least a portion of at least one of said glass sleeves of each of said elements at at least one end of the assembly.

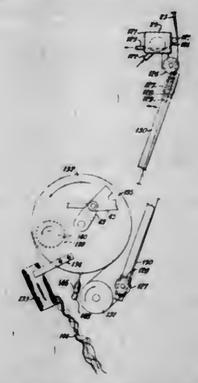
3,265,481
APPARATUS FOR DELIVERING MULTI-FILAMENT STRANDS
George E. Smock, Walter F. Fulk, Ralph M. Stream, and Harold E. Leaman, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Oct. 18, 1962, Ser. No. 231,363
9 Claims. (Cl. 65—9)



1. Apparatus for delivering a multi-filament strand to a receiving surface comprising a rotated pull wheel, a cylindrical, peripheral surface on the pull wheel adapted to receive a strand thereon and to carry the strand in following adhereing relation, there being regularly spaced cross slots in the peripheral surface below a strand carried thereon, a rotary device, means positioning the rotary device eccentrically within the rotated pull wheel, means driving the rotary device at a peripheral speed matching that of the rotated pull wheel. radially extending fingers mounted on the rotary device and spaced to successively project outwardly through successive slots in the peripheral surface on the pull wheel, the successive projections of the fingers raising a strand carried by the peripheral surface, and releasing the strand from its following adhering relation with said surface, means rotating the pull wheel at a speed to kinetically drive the strand in a tangential line therefrom toward a receiving surface, mounting means for the rotary device, said mounting means being oscillatable to move the rotary device back and forth along a linear path to effect a circumferential oscillation of the projection of the fingers through the slots in the peripheral surface of the pull wheel and a corresponding circumferential oscillation in the circumferential point of release of the strand, and means so oscillating the mounting means.

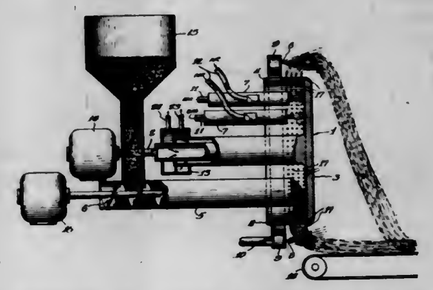
3,265,482
STRAND DELIVERY APPARATUS
Roland E. Langlois and Ralph M. Stream, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Oct. 18, 1962, Ser. No. 231,432
3 Claims. (Cl. 65—9)

1. Apparatus for drawing continuous filaments of fibrous glass, gathering the filaments into a strand and depositing the strand on a receiving surface, said apparatus including orificed means delivering molten glass in minute streams, a rotated pull wheel drawing the minute streams of molten glass into continuous filaments, a gathering device between the orificed means and the pull wheel combining the filaments into a strand, a strand receiving surface below the pull wheel, a mechanical device releasing the strand from the pull wheel whereby the strand is kinetically projected in a tangential path from the pull wheel, means oscillating the mechanical device circumferentially of the pull wheel whereby the point of release and the path of the strand are also cir-



cumferentially oscillated, an element having an inclined impinging surface mounted in radially spaced relation to the pull wheel, means by which the element is oscillated circumferentially of the pull wheel, and means synchronizing the oscillation of said element with the oscillation of the mechanical device whereby the impinging surface is maintained in the oscillating path of the projected strand.

3,265,483
FIBER FORMING APPARATUS
Jack W. Garrison, Evanston, William F. Porter, Roselle, and Eugene F. Schmitz, Chicago, Ill., assignors to United States Gypsum Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 31, 1963, Ser. No. 334,703
9 Claims. (Cl. 65—14)

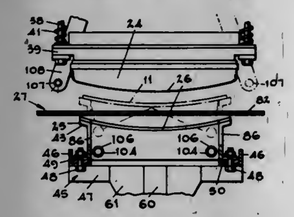


4. Apparatus for forming fibers comprising a spinner having a peripheral rim including an annular perforate area, means for rotating said spinner, means for supplying solid particulate fiber-forming material directly to the inner surface of the perforate area of said rim, and means for heating said spinner to melt said material on the perforate area of said rim and maintain said rim at fiber-forming temperature whereby such molten material is projected through the perforations in said rim to form fibers.

3,265,484
METHOD AND APPARATUS FOR PRESS BENDING AND TEMPERING GLASS SHEETS

George F. Ritter, Jr., Toledo, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Dec. 3, 1962, Ser. No. 241,834
13 Claims. (Cl. 65—104)



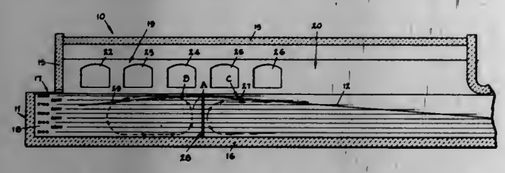
1. In apparatus for bending each of a plurality of glass sheets moving successively along a predetermined substantially horizontal path, upper and lower mold parts provided with complemental shaping surfaces, the lower mold part being movable vertically toward and away from said upper mold part, an endless belt conveyor disposed in a loop encircling said lower mold part and having a horizontal run extending along said path between said upper and lower mold parts for receiving a sheet to be bent and for positioning it between said mold parts, means disposed at opposite sides of said upper and lower mold parts for supporting the horizontal run of said conveyor, means for driving said conveyor intermittently endwise around said loop, and means for raising said lower mold part toward said upper mold part when the sheet is supported therebetween to effect the bending of the sheet between said mold parts.

9. A method of bending and tempering glass sheets, comprising supporting a glass sheet in a substantially horizontal plane for movement along a predetermined path through a heating area, a bending area and a chilling area, heating the sheet to the softening point of the glass during its passage through said heating area, advancing said heated sheet into said bending area, pressing the heated sheet in said bending area between complemental shaping surfaces to bend the sheet to the desired curvature, directing streams of cooling fluid against the upper and lower surfaces of the bent sheet while the latter is supported on one of said complemental shaping surfaces until the sheet is set in the desired curvature, advancing said sheet out of said bending area and into said chilling area, and chilling said sheet to temper the same in said chilling area.

3,265,485
METHOD AND APPARATUS FOR MELTING GLASS

Delmar E. Carney and Clarence A. Gartz, Jr., Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Oct. 16, 1961, Ser. No. 145,250
8 Claims. (Cl. 65—134)



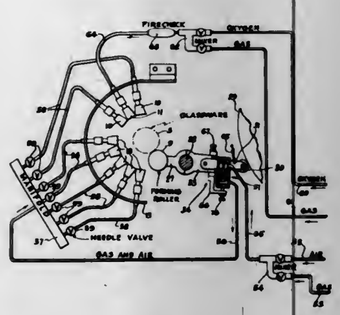
1. In a method of producing glass in a continuous tank furnace containing a bath of molten material, the steps of, heating said bath to produce a temperature gradient in the bath with the temperature being greatest in a single region intermediate the ends of the tank, said temperature gradient producing thermal currents circulating in said bath, and absorbing heat from said bath adjacent said region of greatest temperature to accelerate said thermal currents produced by said temperature gradient.

4. In a continuous glass furnace having a tank containing a bath of molten glass flowing from a charging end through melting and refining chambers to an oppositely disposed discharge end with batch material being introduced into said charging end to float on said bath and to be carried thereby through said melting chamber, heating means directing heat into said furnace to melt said batch material and to produce thermal currents in said bath flowing along the upper surface of said bath in said melting chamber toward the charging end of said furnace and being operable to distribute heat evenly throughout the bath and to sweep relatively small unmelted particles of said batch materials toward said charging end thereby to prevent their entry into said refining chamber, and a plurality of barrier elements disposed in said bath and extending transversely across said tank between said melting and refining chambers to mechanically prevent relatively large lumps of unmelted batch materials from entering said refining chamber without obstructing the flow of said molten bath.

3,265,486
AUTOMATIC FLAME REGULATOR FOR GLASS FORMING AND WELDING MACHINE

Carl Bramming, Palm Desert, Calif., assignor to Aladdin Industries, Incorporated, Chicago, Ill., a corporation of Illinois

Filed Feb. 15, 1963, Ser. No. 258,878
12 Claims. (Cl. 65—162)



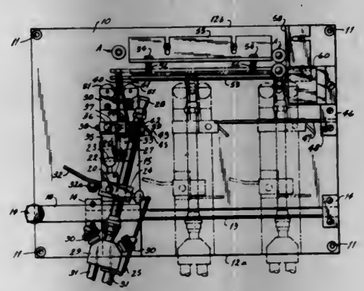
12. In a machine for forming a workpiece,
the combination comprising a heater for heating and softening the workpiece,
a movable forming tool engageable with the workpiece,
yieldable means for effecting relative movement between said forming tool and the workpiece to carry out the forming operation,
and means responsive to the yielding action in said yieldable means during the forming operation for regulating the amount of heat produced by said heater.

3,265,487
AMPUL SEALING APPARATUS

James F. Kahlenberg, P.O. Box 3636, Sarasota, Fla.

Filed May 23, 1963, Ser. No. 282,618
8 Claims. (Cl. 65—270)

1. A sealing device for necked ampules including a base, an ampul receiving carriage manually movable over said base, means on said carriage for receiving an ampul for bodily movement with said carriage and for rotatable movement during such bodily movements, fixed frictional means in the path of the bodily movement of the ampules by said carriage to engage the ampul to induce rotary movement thereof during bodily movement,

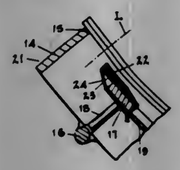


means on said carriage for continuously applying a fusing heat to the neck of an ampul as it is bodily moved and rotated, and pivotally movable ampul neck engaging jaws mounted on said carriage for movement therewith and fixed against rotation with respect to the rotation of the ampul.

3,265,488
BENDING MOLD WITH PERIPHERAL HEAT ABSORBER

Robert E. Ross and Lee F. Johnson, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Dec. 6, 1962, Ser. No. 242,795
3 Claims. (Cl. 65—288)



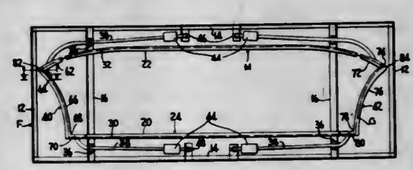
1. In apparatus for bending glass sheets, the combination of, an outline type bending mold having a substantially continuous shaping surface formed thereon and conforming in outline to a blank-size glass sheet when bent, a substantially continuous strain bar carried by said mold within the confines of said shaping surface in spaced relationship therewith, and a plate carried by said strain bar and extending outwardly therefrom toward the shaping surface, said plate having relatively smaller mass than said bar whereby the stresses imparted by said strain bar and said plate decrease in magnitude in the direction of said shaping surface.

3,265,489
GLASS SHEET BENDING MOLD WITH HORIZONTAL SUPPORT SURFACES

John G. Garbin, Greensburg, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 28, 1962, Ser. No. 240,495
5 Claims. (Cl. 65—291)

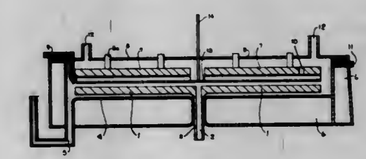
1. In a sectionalized outline mold for bending glass sheets for use as curved windows in passenger vehicles, a centrally disposed molding member including a pair of shaping rails having upper shaping surfaces extending generally longitudinally along the longitudinal side edges of said mold to form side edge portions of an outline shaping surface, and end molding members having inner and outer longitudinal extremities, said end molding member being mounted for pivotal movement with respect to said shaping rails between a spread mold position wherein said outer longitudinal extremities support the longitudinal extremities of a flat glass sheet and a closed mold position wherein said inner longitudinal extremities are adjacent the ends of said shaping rails, each end molding member having an upper ledge-type shaping surface forming a continuation of the side edge portions of the outline shaping surface in said closed mold position, the outer extremity portion of each said end molding member having an upper surface area extending downward and longitudinally outward from the remainder of the upper shaping surface of said end molding member at an angle sufficient to be disposed in a substantially horizontal plane in said spread mold position, said upper surface area being between about .06 square inch and about .4 square inch, said molding members of said outline mold being movable between a spread position wherein said downwardly and longitudinally outward extending area contacts only the undersurface of a longitudinal extremity of said flat glass sheet forming the longitudinal extremity of the ultimate product and a closed position wherein said molding members form a substantially continuous shaping surface conforming in elevation and outline to said ultimate product.

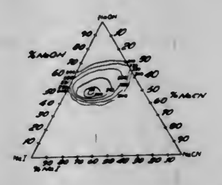


3,265,490
PRODUCTION OF ALKALI METALS FROM ALKALI AMALGAM

Shiro Yoshizawa and Nobuatsu Watanabe, Sakyo-ku, Kyoto, and Tsukiro Morimoto, Masamichi Miura, and Yashuhiro Yamada, Toyama, Japan, assignors to Tekkosha Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Apr. 9, 1963, Ser. No. 271,707
4 Claims. (Cl. 75—66)





4. A process for producing alkali metals by an amalgam electrolysis, using an electrolytic cell comprising an anode plate having a substantially horizontal upper surface and a cathode disposed above and spaced from said upper surface, which process comprises:
continuously flowing a fluid alkali metal amalgam onto said upper surface to form a moving layer thereon;

maintaining a fused, mixed salt, electrolytic bath in said cell at a level at least as high as said cathode, said bath consisting essentially of sodium hydroxide, sodium iodide and sodium cyanide, the sodium hydroxide being present in an amount of 40–70% by weight, the sodium iodide being present in an amount of less than 50% by weight and the sodium cyanide being present in an amount of less than 40% by weight, all of such percentages being in such proportions as to be encompassed within the 230° C. isotherm of FIGURE 2 of the accompanying drawing;

electrically energizing said cathode and said layer so that said layer functions as an anode and the alkali metal is deposited on said cathode;

collecting the alkali metal deposited on said cathode;

melting the thus obtained alkali metal;

mixing metallic magnesium into the molten alkali metal at a temperature in excess of between 400° C.;

cooling the solution to a temperature of between 100–200° C.;

allowing the mixture to settle; and

then separating the purified alkali metal.

3,265,491

ALLOYS RESISTANT TO HIGH TEMPERATURES

William T. Kaarlela, Fort Worth, Tex., assignor to General Dynamics Corporation, Fort Worth, Tex., a corporation of Delaware

No Drawing. Filed Apr. 15, 1965, Ser. No. 448,249
5 Claims. (Cl. 75—134)

1. An alloy characterized by its ability to withstand high temperatures and consisting of chromium from about 30% to about 48%, titanium from about 30% to about 48%, and tin from about 4% to about 8%.

3,265,492

METHOD OF UTILIZING ELECTROLYTIC CELL SLUDGE BY RECOVERING CALCIUM METAL THEREFROM

Paul R. Juckniess, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 3, 1963, Ser. No. 306,350
21 Claims. (Cl. 75—135)

1. A method of utilizing electrolytic sodium cell sludge which comprises: (1) providing a sodium and calcium-containing sludge from an electrolytic cell; (2) melting and mixing said sludge under an inert atmosphere and at a maximum temperature of about 800 degrees centigrade, with (a) at least 3 parts by weight of calcium chloride per part of sludge, and (b) sufficient alloying metal selected from the group consisting of copper, silver, lead, zinc, aluminum, and magnesium, to produce a calcium alloy containing (on a sodium-free basis) from about one to about ninety-five weight percent calcium and from about ninety-nine to about five percent alloying metal, and up to nine weight percent residual sodium; and (3) separating said calcium-alloying metal alloy from the resulting mixture.

3,265,493

ALUMINUM BASE PELLET ALLOYS CONTAINING COPPER AND MAGNESIUM AND PROCESS FOR PRODUCING THE SAME

George S. Foerster, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 31, 1963, Ser. No. 284,350
11 Claims. (Cl. 75—142)

7. An aluminum base pellet alloy article consisting essentially of copper in an amount within the range of from about 4 to about 15 percent, magnesium in an amount within the range of from about 1 to about 3 percent, and at least one additive metal selected from the group consisting of barium, chromium, manganese, nickel, and vanadium, in a total amount of from about 0.1 to about 10.0 percent, the balance being aluminum said pellet alloy article being characterized in a hot worked form by a tensile yield strength at room temperature of not less than about 50,000 p.s.i.

3,265,494

ALLOYS FOR HIGH TEMPERATURE USE CONTAINING CHROMIUM, TUNGSTEN, NICKEL, COBALT

James F. Baldwin, Locust Valley, N.Y., and Arthur T. Cape, Monterey, Calif., assignors to Coast Metals, Inc., Little Ferry, N.J., a corporation of Delaware

Filed Apr. 3, 1964, Ser. No. 357,124
2 Claims. (Cl. 75—171)



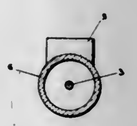
1. An alloy especially adapted for use as a welding material at high temperatures, said alloy consisting of carbon 0.7 to 1.0%, chromium 26 to 30%, tungsten 18 to 21%, nickel 4 to 6%, boron 0.005 to 0.1%, 0 to 1% silicon, 0 to 1% manganese, 0 to 3% iron, 0.75 to 1.25% vanadium, and the balance being essentially all cobalt, and the ratio of cobalt to chromium being always at least 1.4 to 1, said alloy having a ductility and freedom from brittleness such that rods of said alloy may be passed through a centerless grinder without the shattering of any substantial percentage thereof.

3,265,495

METHOD OF MANUFACTURING CATHODES

Jean-Pierre Freytag and Arvind M. Shroff, Paris, France, assignors to CSF-Compagnie Generale de Telegraphie Sans Fil, Paris, France

Filed Jan. 26, 1962, Ser. No. 169,021
Claims priority, application France, Feb. 7, 1961, 851,902
6 Claims. (Cl. 75—208)



1. A method of manufacturing impregnated-type cathodes having a body of porous metal, comprising the steps of depositing refractory metal powder substantially in the absence of compression on a support, pre-sintering the thus deposited refractory metal powder at relatively low temperature in the range of between 1200° C. and 1600° C., machining said pre-sintered powder to form the desired shape of said body, re-sintering the body at a relatively high temperature in the range of between 1700° C. and 2400° C., and impregnating the body with an alkaline-earth salt under predetermined ambient conditions operative for such impregnation.

3,265,496

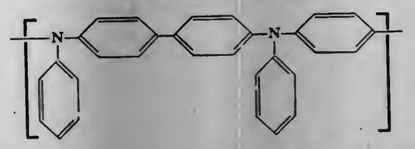
PHOTOCONDUCTIVE SUBSTANCES FOR ELECTROPHOTOGRAPHY

Charles J. Fox, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

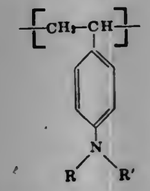
No Drawing. Filed Dec. 29, 1961, Ser. No. 163,016
14 Claims. (Cl. 96—1)

1. An electrophotographic element comprising an electrically conducting support having coated thereon a photoconductive composition containing as the photoconductive substance thereof, a polyfunctional tertiary amine selected from the group consisting of

(A) polytriphenylamines consisting essentially of recurring monomeric units having the formula:



(B) poly-p-aminostyrenes consisting essentially of recurring monomeric units having the formula:



wherein R and R′ are selected from aryl radicals;

(C) N,N,N′,N′-tetraphenybenzidines; and

(D) N,N,N′,N′-tetraphenylphenylenediamines.

3,265,497

ELECTROPHOTOGRAPHIC MATERIAL

Horst Kosche, Duren, Rhineland, North Rhine-Westphalia, Germany, assignor to Firma Renker-Belipa G.m.b.H., Lendersdorf-Krauthausen, near Duren, Rhineland, Germany

No Drawing. Filed Apr. 23, 1962, Ser. No. 191,389
Claims priority, application Germany, Apr. 29, 1961, R 30,222
11 Claims. (Cl. 96—1.1)

1. An electrophotographic material comprising a carrier and an electrophotographic layer thereon, said layer containing a low molecular non-polymeric ketone of the formula

$$X-Ar-(CH=CH)_n-CO-(CH=CH)_{n_1}-Ar_1-X_1$$

wherein

X and X_1 are each selected from the group consisting of halogen, —CN, —NH_2, —NHR, —NR_2, —OH, —OR, —SH, —SR, —COOH, —COOR, —$CONH_2$, —$CONR_2$, =O, =S, =SO, —SO_2NH_2, —SO_2, NHR, —SO_2NR_2, —NO_2, —NO and aliphatic residues of 1 to 12 C-atoms;

and wherein

R is selected from the group consisting of an aliphatic residue of 1–12 carbon atoms, phenyl, naphthyl, diphenyl, polar substituted phenyl, naphthyl, and diphenyl,

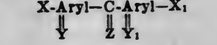
wherein

the polar substituents are selected from the group consisting of —OH, —SH, —NH_2, —$NHCH_3$, —NHC_2H_5, —Cl, —CN or —COOH;

wherein

Ar and Ar_1 are each selected from the group consisting of mononuclear rings having aromatic properties, two mononuclear rings having aromatic properties connected to one another by a single carbon atom, and two ortho condensed mononuclear rings having aromatic properties, and wherein n is any whole number selected from 1, 2 and 3 and n_1 is whole numbers from zero to 3.

5. An electrophotographic material comprising a carrier and an electrophotographic layer thereon containing a low molecular weight nonpolymeric compound selected from the group consisting of ketones and thioketones having the formula



which is reacted with an organic isocyanate compound; and where X and X_1 are each selected from the group consisting of —NHR, —NR_2, —OR, —SR, —COOR, —CONHR, —$CONR_2$, —SO_2NHR, and —SO_2NR_2, wherein R is selected from the group consisting of -phenyl, -naphthyl, and -diphenyl, each substituted by polar constituents selected from the group consisting of —OH, —SH, —NH_2, —$NHCH_3$, —NHC_2H_5, —COOH, —CN, and —Cl; and wherein Y and Y_1 are each selected from the group consisting of —OH, —SH, =NOH and —COOH each in an ortho position of the



group; and wherein Z is selected from the group consisting of O and S.

3,265,498

DIFFUSION TRANSFER PHOTOGRAPHIC PROCESS UTILIZING DEVELOPMENT RESTRAINERS

Howard G. Rogers, Weston, Mass., and Harriet W. Lutes, Cape Elizabeth, Maine, assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed Aug. 22, 1960, Ser. No. 50,849
18 Claims. (Cl. 96—3)

1. A process of forming a multicolor image by diffusion transfer comprising (a) exposing a photosensitive element comprising a support carrying, in turn, a layer including a red-sensitive silver halide emulsion, a layer including a green-sensitive silver halide emulsion and a layer including a blue-sensitive silver halide emulsion, said silver halide emulsions having associated therewith, respectively, a cyan dye developer, a magenta dye developer and a yellow dye developer, (b) applying an aqueous alkaline processing solution to said photosensitive element to initiate development of exposed silver halide, said dye developers being oxidized and thereby immobilized where development occurs, (c) continuing said development of exposed silver halide for a predetermined period, said predetermined development period being sufficiently long to form an imagewise distribution of diffusible unoxidized dye developer in undeveloped areas of each of said silver halide emulsion layers as a function of said development, said unoxidized dye developers being transferred, by diffusion, to an image-receiving layer in superposed relationship with said silver halide emulsion layers to form said multicolor image, (d) said process including the step of restraining further development of exposed silver halide after said predetermined development period, said restraining being effected by diffusing to at least one of said silver halide emulsion layers a reagent which renders said silver halide substantially less developable, said reagent being initially contained in a layer of said photosensitive element other than a layer containing a silver halide emulsion, whereby said multicolor transfer image exhibits greater color separation.

3,265,499

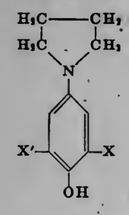
PHOTOGRAPHIC DEVELOPING COMPOSITIONS

Jozef Frans Willems, Wilrijk-Antwerp, and Georges Frans van Veelen, Mortsel-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a company of Belgium

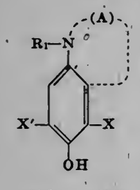
No Drawing. Filed July 9, 1962, Ser. No. 208,572
Claims priority, application Great Britain, July 10, 1961, 24,852/61
9 Claims. (Cl. 96—29)

7. In a photographic copying method of the diffusion transfer type which includes the steps of image-wise exposing a supported silver halide emulsion layer, and developing said exposed layer while in intimate contact with a supported receiving layer providing development nuclei, the improvement which comprises carrying out said developing step in the presence of a super additive combination of developing agents comprised essentially of hydroquinone and a derivative of p-aminophenol having one of the following general formulae:

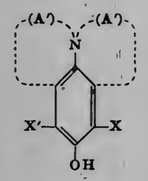
I.



II.



III.



wherein:

R_1 is a member selected from the group consisting of a hydrogen atom and a lower alkyl radical,

each of X and X′ is a member selected from the group consisting of a hydrogen atom, a halogen atom, an alkyl group, an alkoxy group, an alkyl amido group and an alkyl sulfonamido group, wherein alkyl is lower alkyl, and

A is $-(CH_2)_n-$ where *n* is an integer of 2–3 and A′ is a propylene radical.

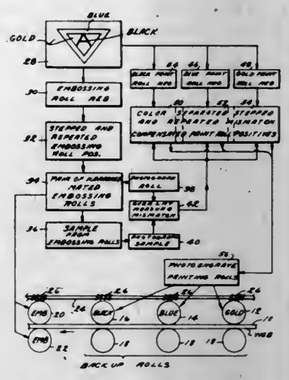
3,265,500

MAKING ACCURATELY REGISTRABLE PRINTING AND EMBOSSING ROLLS

Harry M. Lewis, Springfield, N.J., assignor to Modern Engraving and Machine Company, Hillside, N.J., a corporation of New Jersey

Filed Mar. 19, 1963, Ser. No. 266,293
10 Claims. (Cl. 96—37)

1. In the art of registering printing and embossing on a longitudinally moving web subjected to successively disposed printing and embossing rolls, the improvement in the process of making said rolls comprising the steps of making at least one embossing roll having an embossing pattern on its roll surface, and then making with the aid of the said one embossing roll at least one printing roll having on its roll surface a printing pattern substantially compensated for any stretch which said one embossing roll may effect in its axial direction on said web, whereby



the printing and embossing patterns effected on said web will accurately register invariably.

3,265,501

WATER-SWELLABLE COLLOIDAL MAGNESIUM ALUMINUM SILICATE PHOTOGRAPHIC COMPOSITION

Gerald J. Johnston, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 23, 1960, Ser. No. 77,840
14 Claims. (Cl. 96—61)

1. A method of fixing a photo-exposed and developed silver halide emulsion layer comprising imbibing in said silver halide emulsion layer a viscous photographic silver halide processing solution comprising

(A) a silver halide fixing agent selected from the class consisting of alkali metal thiosulfates, alkali metal thiocyanates, ammonium thiosulfate and ammonium thiocyanate and

(B) a water-swellable, colloidal magnesium aluminum silicate belonging to the montmorillonite group of minerals having at least 90% magnesium aluminum silicate content, in an amount from about 0.5 percent to about 5.0 percent of the total weight of the solution.

3,265,502

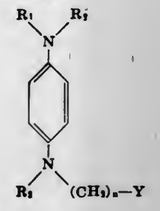
PHOTOGRAPHIC DEVELOPING COMPOSITIONS

Jozef Frans Willems, Wilrijk-Antwerp, and George Frans Van Veelen, Mortsel-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a company of Belgium

No Drawing. Filed June 20, 1962, Ser. No. 203,750
Claims priority, application Belgium, June 21, 1961, 40,745, Patent 605,204
3 Claims. (Cl. 96—66)

1. Photographic developing solution comprising hydroquinone and a derivative of p-phenylene diamine having a polarographic half-wave potential which is at least 40 mv. more negative than that of N,N-diethyl-p-phenylene diamine and corresponding to a general formula selected from the group consisting of:

(I)



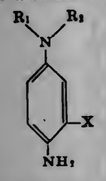
wherein:

each of R_1, R_2 and R_3 represents a lower alkyl radical,

Y represents a member selected from the group consisting of a hydrogen atom, a hydroxyl group, and a sulfonic acid group and salts thereof,

n represents an integer of at least 2 and at most 8 when Y represents a hydrogen atom or a hydroxyl group; and an integer of at least 3 and at most 8 when Y represents a sulfonic acid group,

(II)



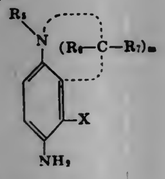
wherein:

each of R_1 and R_2 represents a member selected from the group consisting of an alkyl radical a lower and a hydroxy-substituted lower alkyl radical, and

X represents an electro-negative group selected from the group consisting of an amino group, a monoalkylamino group, a dialkylamino group, a sulfonamido group and

an alkoxy group;

(III)



wherein:

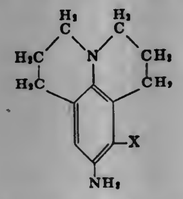
R_5 is a lower alkyl radical,

R_6 and R_7 each represent a member selected from the group consisting of a hydrogen atom and a lower alkyl radical,

m represents an integer of at least 2 and at most 3, and

X represents a member selected from the group consisting of a hydrogen atom, a lower alkyl radical, an amino group, a monoalkylamino group, a dialkyl amino group, a sulfonamide group and an alkoxy group;

(IV)



wherein:

X represents a member selected from the group consisting of a hydrogen atom, a lower alkyl radical, an amino group, a sulfonamido group and an alkoxy group;

(V) and the salts thereof.

3,265,503

PHOTOGRAPHIC RECORDING ELEMENT

Edward J. Bodmer, Cornelius J. Murphy, Jr., and Robert M. Sterrett, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed June 27, 1962, Ser. No. 205,642
8 Claims. (Cl. 96—74)

1. A photographic element with two light-sensitive layers, said element comprising a photographic support having coated thereon:

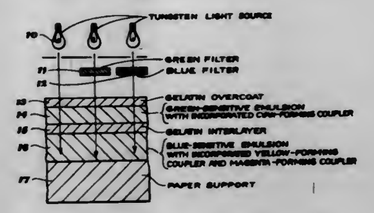
(1) one blue light-sensitive colored-image-forming layer comprising;

(a) a hydrophilic colloid,

(b) a blue-sensitive silver halide emulsion that is not sensitive to the red and green portions of the visible spectrum, and

(c) a color-forming coupler composition selected from the class consisting of those producing a cyan dye image, and those producing a red dye image; and

(2) one green light-sensitive colored-image-forming layer comprising;



(a) a hydrophilic colloid,

(b) a green-sensitive silver halide emulsion, and

(c) a color-forming coupler composition selected from the class consisting of those producing a cyan dye image and those producing a red dye image, such that

the colored image formed in the first mentioned layer is complementary to the colored image formed in the second mentioned layer so that when combined they form a black image.

3,265,504

SURFACE TREATED LITHOGRAPHIC PLATES AND THEIR PRODUCTION

Robert F. Leonard, East Rockaway, and Daniel Platt, Hicksville, N.Y., assignors to Litho Chemical & Supply Co., Inc., Lynbrook, N.Y., a corporation of New York

No Drawing. Filed Dec. 13, 1963, Ser. No. 330,268
34 Claims. (Cl. 96—75)

1. A dimensionally stable base support utilizable for lithographic platemaking comprising a metal sheet which is grained and provided on at least one side thereof with a thin tightly bonded durable hydrophilic surface obtained by the simultaneous subjection of said metal sheet to mechanical and chemical treatment with an abrasive and with an aqueous solution of a water-soluble bichromate salt and a water dispersible hydrophilic organic polymer followed by drying.

18. A presensitized lithographic plate capable of being stored for periods up to several months without loss of photographic sensitivity which comprises a mechanically grained and chemically treated sheet according to claim 1 having thereon a coating of a light-sensitive diazo resin.

3,265,505

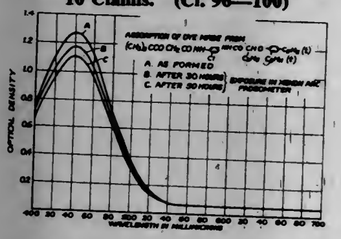
PHOTOGRAPHIC PRODUCTS

Joseph S. Yudelson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Apr. 2, 1962, Ser. No. 184,387
15 Claims. (Cl. 96—76)

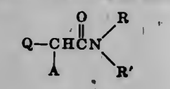
1. A composite member comprised of a layer of a hydrophilic polymeric material and a coating on one surface of said layer in an amount of from about 2 milligrams to 10 milligrams per square foot of surface of a Werner-type complex in which a trivalent atom selected from the group consisting of a trivalent chromium atom and a trivalent aluminum atom is coordinated with a carboxylic acid group having at least 10 carbon atoms.

3,265,506
YELLOW FORMING COUPLERS
Arnold Weissberger, Rochester, N.Y., and Charles J. Kibler, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 4, 1964, Ser. No. 364,450
10 Claims. (Cl. 96—100)



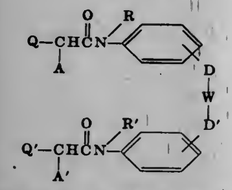
1. A photographic element comprising a support having coated thereon at least one photographic silver halide emulsion layer and in contiguity therewith a yellow dye-forming coupler selected from those having the formulas:

I

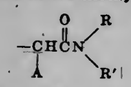


and

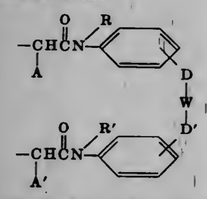
II



wherein Q and Q′ each represent a member having from 5 to 32 carbon atoms selected from the class consisting of acyl groups wherein the carbon atom attached to the carbonyl radical of said acyl group is a tertiary carbon atom and the said carbonyl radical is attached directly to the carbon atom of the active methylene in the



moiety of Formula I and the



moiety of Formula II; A and A′ each represents a member selected from the class consisting of the hydrogen atom, a halogen atom and an —SB radical; B represents a member selected from the class consisting of an alkyl radical, an aryl radical and a heterocyclic radical; R and R′ each represent a member selected from the class consisting of the hydrogen atom, an alkyl radical, an aryl radical, and a heterocyclic radical; D and D′ each represent a member selected from the class consisting of the



group, the



group, the —$NHSO_2$— group and the —SO_2NH— group; and W represents a bivalent group selected from the class consisting of a phenylene group and an alkylene group.

3,265,507
FLAVOR IMPROVED PEANUT BUTTER
Cornelis H. Japikse, Springfield Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 2, 1964, Ser. No. 408,243
14 Claims. (Cl. 99—128)

1. A flavor improved stabilized peanut butter comprising a homogeneous mixture of particles of peanuts and peanut oil, said peanut butter having dispersed therein from about 1% to about 5%, by weight of the peanut butter, of substantially completely hydrogenated hardstock having an iodine value not exceeding about 12, said substantially completely hydrogenated hardstock consisting essentially of a blend of (a) beta-phase-tending hardstock and (b) non-beta-phase-tending hardstock having a substantial proportion of fatty acid groups having from 20 to 24 carbon atoms, in a weight ratio of from about 3:7 to about 7:3, at least about 70% of the hardstock triglyceride solids being in beta-phase.

3,265,508
MANUFACTURE OF CONFECTIONERY PRODUCTS BY EXTRUSION
Otto B. Wurzburg, Whitehouse Station, N.J., and Walter G. Kunze, Catonsville, Md., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 13, 1963, Ser. No. 323,224
2 Claims. (Cl. 99—134)

1. The method of making a confectionery product which comprises taking a mixture of sugar and a granular, ungelatinized, converted starch having an amylose content no greater than about 35% and having a fluidity of at least 20, the amount of starch being from about 10% to about 70% based on the weight of the total composition, said mixture containing from about 2% to about 13% of water based on the total weight of the composition, and said converted starch being in a non-dissolved form, and subjecting said mixture to simultaneous heat, pressure and mixing action of an extruder, said mixture being initially subjected in said extruder to heat which is at a temperature in the range of from about 180 to 400° F. and finally to a temperature in the range of from about 100 to 250° F. while the pressure to which said mixture is subjected by the extruder is in the range of from about 50 to 5,000 p.s.i.; thereby effecting a dissolution of the starch and sugar with the simultaneous mixing and mastication of the mixture, and expelling the mixture from the extruder in the form of a solid, plastic, shape-retaining confectionery mass.

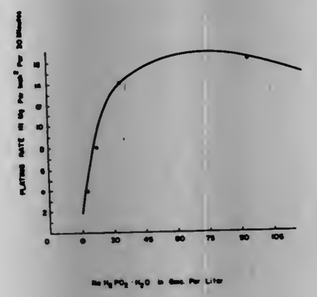
3,265,509
MANUFACTURE OF CONFECTIONERY PRODUCTS BY EXTRUSION
Otto B. Wurzburg, Whitehouse Station, N.J., and Walter G. Kunze, Catonsville, Md., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 13, 1963, Ser. No. 323,244
4 Claims. (Cl. 99—134)

1. The method of making a confectionery product which comprises taking a mixture of sugar and a starch containing at least 50% amylose, the amount of starch being from about 10% to about 70%, based on the weight of the total composition, said mixture containing no more than about 25% of moisture, based on the weight of the total composition, and said starch being in a non-dissolved form, and subjecting said mixture to simultaneous heat, pressure and mixing action of an extruder, said mixture being initially subjected in said extruder to heat which is at a temperature in the range of from about 180 to 400° F. and finally to heat at a temperature in the range of from about 90 to 175° F. while the pressure to which said mixture is subjected is in the range of from about 50 to 5,000 p.s.i.; thereby effecting a dissolution of the starch and sugar with the simultaneous mixing and mastication of the mixture, and expelling said mixture from the extruder in the form of a solid, plastic, shape-retaining confectionery mass.

3,265,510
MANUFACTURE OF CONFECTIONERY PRODUCTS BY EXTRUSION
Otto B. Wurzburg, Whitehouse Station, N.J., and Walter G. Kunze, Catonsville, Md., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 13, 1963, Ser. No. 323,268
3 Claims. (Cl. 99—134)

1. The method of making a confectionery product which comprises taking a mixture of sugar and an ungelatinized, native starch having an amylose content no greater than about 35%, the amount of starch being from about 10% to about 30%, based on the weight of the total composition, said mixture containing from about 14% to about 25% moisture based on the weight of the total composition, and said native starch being in a non-dissolved form, and subjecting said mixture to simultaneous heat, pressure and mixing action of an extruder, said mixture being initially subjected in said extruder to heat which is at a temperature in the range of from about 320 to 370° F. and finally to heat at a temperature in the range of from about 90 to 175° F. while the pressure to which said mixture is subjected by the extruder is in the range of from about 50 to 5,000 p.s.i.; thereby effecting a dissolution of the starch and sugar with the simultaneous mixing and mastication of the mixture, and expelling the mixture from the extruder in the form of a solid, plastic, shape-retaining confectionery mass.

3,265,511
ELECTROLESS PLATING
Jerome S. Sallo, St. Louis Park, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed June 12, 1963, Ser. No. 287,300
5 Claims. (Cl. 106—1)

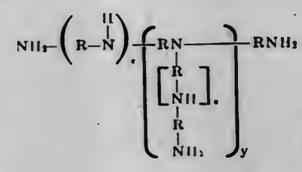


1. In an electroless plating bath of the type wherein hypophosphite ion is utilized to reduce metal ions of the class consisting of nickel and mixed nickel cobalt to metal form on a catalytic surface the improvement which comprises including within said bath in a quantity from about 8×10^{-4} up to about 16×10^{-4} mols/liter an oxidizing agent selected from the group having an electromotive force in solution calculated from the Nernst equation when the reaction has proceeded 10 percent of the way from oxidized to reduced form of from greater than 0.6 to less than 1.2 volts and hydrogen peroxide.

3,265,512
CORROSION INHIBITION
Woodrow J. Dickson, La Habra, and Fred W. Jenkins, Buena Park, Calif., assignors to Petrolite Corporation, a corporation of Delaware
No Drawing. Original application Aug. 4, 1960, Ser. No. 47,386, now Patent No. 3,200,106, dated Aug. 10, 1965. Divided and this application Aug. 6, 1963, Ser. No. 300,151
14 Claims. (Cl. 106—14)

1. A branched process for preventing the corrosion of ferrous metals in contact with a corrosive system characterized by subjecting the exposed surfaces of said ferrous metals to the action of an amount of a compound varying directly with the corrosiveness of said corrosive system, said compound being a compound selected from the group consisting of

(1) an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



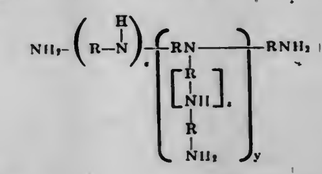
wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with a compound selected from the group consisting of

(i) a carboxylic acid having 7–39 carbon atoms and
(ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(2) an oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



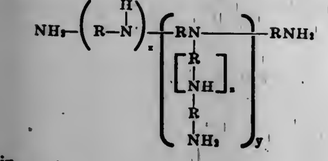
wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms,

(3) an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and

at least one tertiary amino group and having the formula

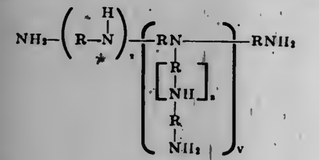


wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1 to 30 carbon atoms,

(4) an olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula

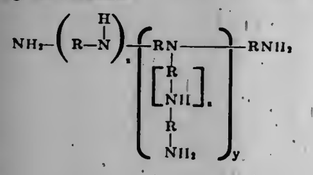


wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 70° C. to about 100° C., said polyalkylenepolyamine with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones,

(5) a Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(6) an acylated, then oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 125° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(7) an oxyalkylated, then acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(8) an alkylated, then acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(9) an acylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(10) an oxyalkylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms, and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(11) a Schiff base reaction product of an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(12) a Schiff base reaction product of an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(13) an oxyalkylated Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones to form said Schiff base reaction product and then reacting said Schiff base reaction product, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i., to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(14) an acylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones, and

(15) an alkylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having from 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones.

3,265,513

CARBON-CONTAINING REFRACTORIES

William A. Tidridge, Fanwood, David Goldstein, Somerset, and Jared S. Sproul, Rahway, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 17, 1963, Ser. No. 317,044
18 Claims. (Cl. 106—56)

11. A refractory composition consisting essentially of porous refractory grains, elemental carbon impregnating the pores of said refractory grains, and a pitch binder binding said refractory grains together, said refractory grains having prior to impregnation an open porosity of from about 25 to about 50%, the impregnated pores of said refractory grains having at least their inner surfaces coated with said elemental carbon, said carbon being present in amounts of from about 7 to about 27% by weight of the non-impregnated refractory grains, and in which the total carbon content of the composition, upon carbonization of the bonding pitch, is from about 5 to about 28% by weight of the refractory composition.

3,265,514

PROCESS FOR THE MANUFACTURE OF SUBSTANCES HAVING POROUS STRUCTURE

Rolf Helmecke, Frankfurt am Main, and Martin Reuter, Kronberg, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 14, 1963, Ser. No. 280,441
Claims priority, application Germany, Oct. 17, 1958, F 26,839
10 Claims. (Cl. 106—122)

1. The method of making a shaped solid-foam body adaptable to solution in organic solvents to form textile hydrophobing solutions, which method comprises forming a melt of an anhydrous hydrophobing agent consisting essentially of (a) 0.5 to 3 parts by weight of paraffin having a solidification point of from 40° to 100° C., (b) one part by weight of a member selected from the group consisting of (1) aluminum, ziconium, and titanium alcoholates of aliphatic alcohols having 2 to 8 carbon atoms, (2) said alcoholates reacted with from 0.1 to 3 mols of a monocarboxylic aliphatic acid per mol of alcoholate, said acid having 1 to 18 carbon atoms, and (3) the compounds of groups (1) and (2) reacted with from 0.1 to 3 mols of an aliphatic keto-enol per mol of compound, and (c) 0.01 to 10 percent, of the combined weight of (a) and (b), of an organic solvent selected from the group consisting of a lower aliphatic alcohol, toluene, perchloroethylene, white spirits, and mixtures thereof, dispersing an inert gas in said melt in amounts sufficient to produce a fluid foamed melt having a specific gravity about 95% to 33% that of the specific gravity of the unfoamed melt, casting said fluid foamed melt to foam said shaped body, and cooling the cast melt to its solidification point.

3,265,515

METHOD FOR RESTORING PUNCHED CARDS

Paul C. Wilhelmsen, 1938 Westover Drive, Pleasant Hill, Calif.

No Drawing. Filed June 1, 1964, Ser. No. 371,738
2 Claims. (Cl. 106—193)

1. A method of restoring holes in a punched card which comprises filling said holes individually, without substantially altering the dimensions of said card, with a substantially opaque composition consisting essentially of a film-forming plastic material which is solid and flexible at room temperature, a substantially opaque pigment, and a solvent for said plastic material, said composition having a viscosity from about 150 to 15,000 centistokes at 25° C., and a surface tension less than about 40 dynes per square centimeter at 25° C.

3,265,516

GLASS FIBER SIZING COMPOSITION

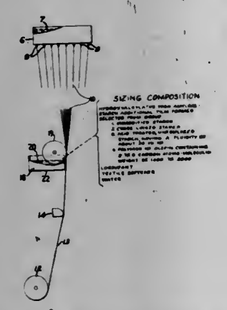
Benny L. Triplett, Shelby, N.C., and James J. Fasnacht, Donald E. McWilliams, and George E. Ellerman, Pittsburgh, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 18, 1962, Ser. No. 188,359
14 Claims. (Cl. 106—213)

1. An aqueous glass fiber sizing composition consisting essentially of in percent by weight, 91 to 96 percent water, 1.5 to 4 percent of an amylose containing starch derivative of the formula, X—O—Y,

wherein X is a high amylose containing starch having an amylose content of from about 50 percent to 100 percent by weight,
O is an oxygen atom from a hydroxyl group in the amylose portion of the starch molecule, and
Y represents hydroxy lower alkyl radicals, and wherein Y is a substituent on the said amylose with a weight average frequency of occurrence of from about 0.1 to 30.0 Y substituents per 100 d-glucopyranose units of the amylose portion of the said starch,

an effective amount up to about 2⅓ times the weight of the amylose containing starch derivative, X—O—Y, of an additional film forming agent selected from the group consisting of (1) an unmodified starch, (2) a cross-linked starch, (3) an acid treated hydrolyzed starch having a fluidity of about 30 to 50, (4) a readily emulsifiable polymer of an olefin containing 2 to 3 carbon atoms having a molecular weight of 1400 to 2500, and (5) combinations thereof,



25 to 100 percent of a lubricant based on the weight of said amylose containing starch derivative, X—O—Y, and said additional film forming agent, and

4 to 15 percent by weight of a textile softener based on the weight of the said amylose containing starch derivative X—O—Y,

said aqueous sizing composition having a viscosity of about 1 to 100 centipoises at 20° C.

3,265,517

HYDRODECHLORINATION PROCESSES AND PRODUCTS OF CHLORINATED ASPHALTENES AND THERMOPLASTIC HYDROCARBON RESINS

James B. Clelland, Newtown Square, Pa., Seymour W. Ferris, Mount Holly, N.J., and Ernest P. Black, West Chester, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Mar. 1, 1962, Ser. No. 176,809

8 Claims. (Cl. 106—270)

1. A process for the preparation of modified asphaltenes which comprises the steps of chlorinating a bituminous feed material containing 50–100 weight percent asphaltenes at a temperature in the range of 10° to 150° F. until the chlorinated intermediate material contains 5–30 weight percent chlorine, mixing the chlorinated asphaltenes with 5 to 95 weight percent based on the weight of the total mixture of an organic compound containing available hydrogen and selected from the group consisting of hydrocarbon waxes, chlorinated hydrocarbon waxes, hydrocarbon oils, and resinous polymers derived from ethylenically unsaturated monomers and dechlorinating the mixture at a temperature in the range of 200 to 700° F. in an inert atmosphere until the product contains from 1–10 weight percent chlorine.

3,265,518

METHOD FOR INTENSIFYING IMAGES TO BE READ BY OPTICAL READERS

Daniel J. Lasky, Rochester, Minn., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

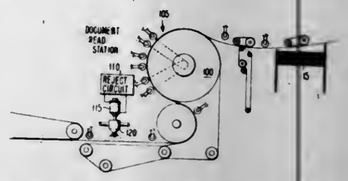
Filed Dec. 30, 1963, Ser. No. 334,295

6 Claims. (Cl. 117—2)

1. A method for intensifying the optical density of characters printed upon documents from a fabric ink ribbon which comprises:

sorting out documents which cannot be read by an optical character reader, and

applying a solvent of the ink dye particles in the form of a vapor to the characters on the sorted-out documents in an amount to dissolve the undissolved dye particles within said characters without the dye penetrating into the interior of said documents so the then dissolved dye particles become distributed within the characters.



3,265,519

ARTICLE COMPRISING SEVERAL LAYERS OF PYROLYTIC GRAPHITE AND SUBSTRATE COATED WITH SAID LAYERS

Russell J. Diefendorf, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Feb. 1, 1962, Ser. No. 170,421

6 Claims. (Cl. 117—8)



1. A composite article comprising a member, said member having a plurality of depressions on at least one surface thereof, a pyrolytic graphite coating on said surface, said coating comprising a first portion adjacent said surface, a second portion adjacent said first portion, and said second portion characterized by higher anisotropy than said first portion.

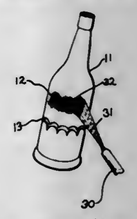
3,265,520

METHOD OF DECORATING GLASS BOTTLES

George R. Obenshain, Sylvania, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio

Filed Aug. 29, 1962, Ser. No. 220,173

4 Claims. (Cl. 117—8)



1. The method of enchancing a design including decorations and lettering recessed in a glass bottle which comprises: applying a coating comprising a precious metal salt-like component and a flux component to said recessed portions and the areas immediately contiguous thereto in order to insure complete coverage of said recessed portions, said coating being formable of a metallic film deposit on heating and being bondable to glass by fusion of said flux, heating said article and coating to a temperature sufficient to dry said coating to a non-tacky state, said temperature being less than that which would materially fuse said flux component, selectively buffing said non-tacky but unfused flux containing coating from said adjoining areas, and heating said selectively coated article to a temperature sufficient to fuse and bond said flux and metal to said glass.

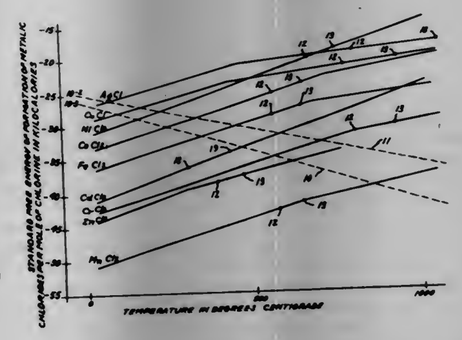
3,265,521

METHOD OF FORMING A COMPOSITE MEMBER WITH A METALLIC COATING

Henry S. Spacil, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 2, 1963, Ser. No. 249,071

8 Claims. (Cl. 117—22)



1. A method of forming a composite member which comprises providing a substrate, forming at least one metallic halide powder into a preshaped powder layer on at least one surface of said substrate thereby providing a coated substrate, positioning said coated substrate within a stream of gas consisting essentially of hydrogen, and heating said coated substrate to a temperature in a temperature range having a lower limit in a range determined by the hydrogen halide partial pressure to the hydrogen partial pressure ratio in equilibrium with the metal of said metallic halide on said substrate and with said metallic halide on said substrate in a range from 0.001 to 0.01, and an upper limit in a range determined by the metallic halide vapor pressure multiplied by the number of halide atoms per metallic atom in a range from 0.001 to 0.01 whereby said layer is reduced to a coherent metallic layer on said substrate.

3,265,522

METHOD AND APPARATUS FOR DEVELOPING LATENT IMAGES

Abraham Games, London, England, assignor to Imagic Limited, London, England, a British company

Filed Jan. 17, 1963, Ser. No. 252,239

Claims priority, application Great Britain, Jan. 25, 1962, 2,870/62

18 Claims. (Cl. 117—25)



17. A method of developing a liquid, ink-retaining latent image on the surface of a copy sheet comprising the steps of conveying powdered ink particles to an inking region on a moving endless belt, removing, by mechanical action only, the ink particles from the belt at said region to maintain a pool of mobile ink particles supported by said endless belt, and moving the latent image surface in contact with mobile ink particles of said pool to develop said latent image.

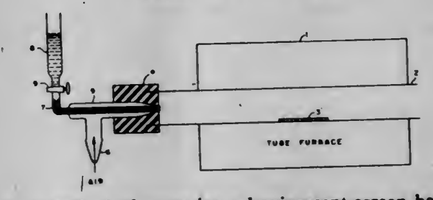
3,265,523

METHOD OF PREPARING TRANSPARENT LUMINESCENT SCREENS

James H. Schulman, Forest Heights, and Russell D. Kirk, Temple Hills, Md., and Peter King, Wellington, Va., assignors to the United States of America as represented by the Secretary of the Navy

Filed Nov. 2, 1961, Ser. No. 149,789

4 Claims. (Cl. 117—33.5)



1. A method of preparing a luminescent screen having a transparent luminescent metal silicate layer formed in situ on the surface of a silica-containing transparent glass base having a softening point not below about 400° C., said layer containing manganese as a luminescence activator, which comprises air-atomizing a solution of a metal halide of the group consisting of zinc chloride and cadmium iodide and a small amount of manganese chloride in methanol and flowing the resulting fine spray onto the surface of the silica-containing transparent glass base heated in air to a temperature in the range of from about 400 to 1000° C. with formation of a transparent luminescent metal silicate film thereon.

3,265,524

RECORDING BLANK

Ignacio P. Echesagaray, 4349 W. 132nd St., Cleveland, Ohio 44135

Filed June 24, 1965, Ser. No. 470,318

8 Claims. (Cl. 117—36.8)

1. A blank for receiving visual intelligence on selected areas comprising a base material having two planar surface portions, one of said surface portions having a smooth uniform coating dried thereon and substantially covering all of said one surface portion and in intimate adhered contact with said one surface portion, said coating being a nonpowdery cohesive mass of material decomposable by heating above 212° F. and comprising a copolymer of vinylidene chloride and acrylonitrile and zinc oxide and zinc chloride reagent materials which aid in the decomposition of said copolymer, with the proportion by weight of the reagent material to the copolymer being about 2½ to 1 and the proportion by weight of zinc oxide to zinc chloride being about 4 to 1.

3,265,525

METHOD AND APPARATUS FOR CONTINUOUS COATING OF ENDLESS METAL BANDS WITH SYNTHETIC RESINS

Albert Lichte, Wuppertal-Elberfeld, Germany, assignor to Schloemann Aktiengesellschaft, Dusseldorf, Germany, a German company

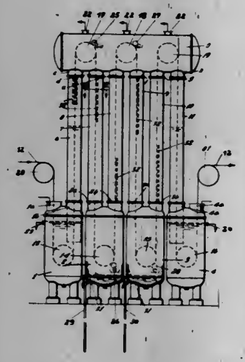
Filed Apr. 1, 1963, Ser. No. 269,394

Claims priority, application Germany, Apr. 4, 1962, Sch 31,252

4 Claims. (Cl. 117—49)

1. Apparatus for applying thin synthetic coatings to metal bands and hardening the coatings, comprising: a closed liquid container formed with an inlet for the band

to be coated, a closed liquid container formed with an outlet for the coated band, treatment vessels located between the two liquid containers and at the same level, a vacuum tank located above the liquid containers and treatment vessels, a connecting tube extending upwards from each liquid container to the vacuum tank, two connecting tubes extending upwards from each treatment vessel to the vacuum tank, reversing rollers so arranged in the liquid containers, treatment vessels and vacuum tank that a band entering the first liquid container through the band inlet can pass round the reversing rollers and through the liquid containers, treatment vessels, vacuum tank and con-



necting tubes in a plurality of vertical loops to the band outlet, means for exhausting air from the vacuum tank, the treatment vessels and the tubes connecting them with one another, means in the treatment vessels for applying a solution of synthetic coating material in an at least semi-liquid condition to that side of the band that does not come into contact with the rollers therein, means in the vacuum tank for applying synthetic coating material in an at semi-liquid condition to that side of the band that does not come into contact with the reversing rollers in the vacuum tank, and means in the connecting tubes for heating that side of the band which in each case had not come into contact with the preceding reversing roller.

3,265,526

METHOD OF CHEMICALLY PLATING BASE LAYERS WITH PRECIOUS METALS OF THE PLATINUM GROUP

Henri Bernard Beer, Schiedam, Netherlands, assignor to Amalgamated Curacao Patents Company N.V., Curacao, Netherlands Antilles, a corporation of The Netherlands

No Drawing. Filed July 2, 1962, Ser. No. 207,005
Claims priority, application Great Britain, July 6, 1961, 24,442/61
18 Claims. (Cl. 117—50)

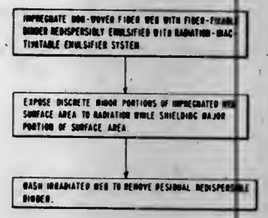
1. A process for coating a base with a precious metal selected from the group consisting of platinum and alloys thereof, which consists essentially of the steps of applying to said base a reducible salt of at least one of said precious metals, and heating said base in a gaseous mixture consisting essentially of a gaseous reducing agent and a gas having an alkaline reaction, said heating being at a temperature sufficient to reduce said precious metal salt and form a firmly adherent coating of platinum metal on said base, said temperature being above the temperature at which the salt decomposes and below the temperature at which the base will be damaged.

3,265,527

PROCESS OF PREPARING NON-WOVEN POLYMER BONDED FABRIC AND ARTICLE

Robert L. Adelman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 27, 1963, Ser. No. 283,588
10 Claims. (Cl. 117—62)



1. Process of preparing non-woven fabric comprising contacting non-woven fiber with water-dispersible polymer particles intimately associated with minor amounts, by weight of said particles, of emulsifier rendering said particles water-redispersible and material reactive with said emulsifier on exposure to electromagnetic radiation to render said particles non-water-redispersible, exposing said fibers in web form in contact with said particles to said radiation at discrete web surface areas while shielding the remaining web surface area, the total web surface area thus exposed being substantially less than the total web surface area, and washing the resulting web with water to remove residual water-redispersible polymer particles.

3,265,528

METHOD OF FORMING METAL CARBIDE COATING ON CARBON BASE

Walter L. Bond, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 27, 1963, Ser. No. 268,325
7 Claims. (Cl. 117—95)



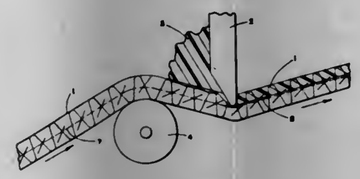
1. A method for making a carbon container substantially inert to molten silicon comprising the steps of forming a mixture in said container of silicon and at least one metal selected from the group consisting of tantalum, niobium, tungsten, hafnium, molybdenum and vanadium, said metal being present in an amount sufficient to form with the carbon a metal carbide film at least 0.1 mil thick on the interior container surface and said silicon being present in an amount by weight of from one-quarter to ten times the amount of metal present and subjecting said container to a heating schedule in an inert atmosphere that melts and reacts the mixture with the carbon surface to form a metal carbide film and removes the silicon by volatilization, the maximum temperature of said schedule for forming the metal carbide film being in the order of 3000° C. at atmospheric pressure and 2500° C. in a vacuum of 10^{-4} to 10^{-6} millimeters of mercury and the maximum temperature of said schedule for volatilizing the silicon being in the order of 200° C. below the boiling point of the metal carbide film.

3,265,529

BREATHABLE FABRIC WITH A LAYER OF WATER-SWELLABLE ELASTOMER

John R. Caldwell and Clarence C. Dannelly, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Nov. 20, 1962, Ser. No. 238,943
6 Claims. (Cl. 117—135.5)



1. A breathable fabric particularly useful as rainwear which, in contact with liquid water is water impermeable but out of contact with liquid water, is air and water vapor-permeable, which comprises a fibrous textile fabric having deposited below one surface of but above the midplane of said fabric a layer of water-swellable elastomer having an elongation of at least 200% in the dry state, which layer, out of contact with liquid water, is discontinuous and porous by virtue of the presence therein of a plurality of minute voids which permit passage therethrough of air and of water vapor, as such, but which elastomer layer, in contact with liquid water, swells from 50–500% of the volume the elastomer has out of contact with liquid water, thereby substantially and immediately to reduce the cross-sectional area or size of said voids to such an extent as to preclude the passage of liquid water, as such, through said voids and thus to remain impervious to the penetration of water for so long a time as liquid water is in contact with said layer but which, upon removal of liquid water from contact with said layer, shrinks and thereby regains its original discontinuity and porosity and its original permeability to air and water vapor.

3,265,530

AUTOMOBILE HEADLINER AND METHOD FOR MAKING THE SAME

Alfred Marzocchi, Cumberland, R.I., Frank O. Brisley, Newark, Ohio, and James J. Dillon, Providence, R.I., assignors to Owens-Corning Fiberglas Corporation, Toledo, Ohio, a corporation of Delaware

Filed Mar. 13, 1961, Ser. No. 95,415
4 Claims. (Cl. 161—203)

1. A contoured headliner for a passenger conveyance having a heat and sound insulating body of randomly arranged bonded fibers, said body being resiliently compressible, a colored surfacing fabric of fibrous glass and a continuous plastic film interlayer directly adhering the surfacing fabric to the body, said plastic film interlayer being between three and four mils in thickness and in a color matching that of the surfacing fabric.

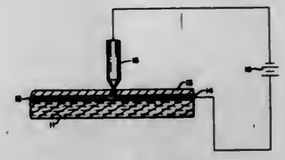
3,265,531

ELECTRICALLY RECORDING PAPER

Ferdinand C. Pribble, Burnsville Township, Dakota County, Minn., assignor to Honeywell Inc., a corporation of Delaware

Filed Apr. 27, 1962, Ser. No. 190,563
3 Claims. (Cl. 117—216)

1. An electrosensitive nonelectrolytic recording sheet which comprises a conductive base having a resistivity of less than about 800 ohms per square, a film coating on said base consisting of material selected from the group consisting of molybdenum trioxide, molybdic acid, and ammonium molybdate in a nonconductive binder, said material present in said film to the extent of about 1.0 to about 1.6 grams—equivalent of molybdenum trioxide



per square foot, said binder being present to the extent of about 3% by weight of said coating based on the equivalents of molybdenum trioxide.

3,265,532

PROCESS OF PREPARING GALLIUM SULFIDE FLAKES AND PHOTOCONDUCTIVE DEVICE USING SAME

Emanuel Mooser, Geneva, and Hans Ulrich Boelsterli, Vesenaz, Switzerland, assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed June 6, 1962, Ser. No. 200,538
3 Claims. (Cl. 117—217)



1. A process for preparing gallium sulfide in flake form, suitable for use in photoconductive devices, which comprises heating in an area of a transport reaction vessel gallium sulfide in the presence of a halogen transport reagent and at a temperature below the melting point of gallium sulfide and collecting said gallium sulfide in a second area of said vessel said second area being initially free from gallium sulfide at a temperature below the melting point of gallium sulfide and below that at which the gallium sulfide is heated in said first area of said reaction vessel.

3. A photoconductive device comprising a pair of conductive elements, at least one of which is light transmitting, having positioned therebetween as a photoconductive material flakes of gallium sulfide, grown by the transport reaction process of claim 1.

3,265,533

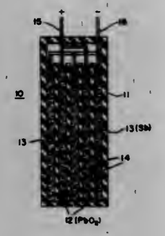
PROCESS FOR PRODUCING DEXTROSE

Harry Meisel, Englewood, N.J., assignor to Corn Products Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 11, 1963, Ser. No. 308,084
9 Claims. (Cl. 127—38)

1. A process for preparing microcrystalline dextrose hydrate from a dextrose containing liquor which comprises cooling rapidly a solution, consisting essentially of dextrose and containing between about 70 and about 90 percent of dry substance, and having a temperature in the range of about 50° C. to about 70° C. to a temperature below about 50° C. by mixing said solution rapidly and intimately with a bed of dextrose crystals having a temperature markedly lower than about 50° C. to spontaneously crystallize dextrose hydrate from said solution, maintaining said temperature below about 50° C. and thereby obtaining microcrystalline dextrose hydrate as the product.

3,265,534
ELECTRIC BATTERY
Paul Ruetschi, Yardley, Pa., assignor to The Electric Storage Battery Company, a corporation of New Jersey
Filed Nov. 6, 1963, Ser. No. 321,942
5 Claims. (Cl. 136—26)



1. A battery cell comprising
a positive electrode including lead peroxide as the active charged material,
a negative electrode including in major proportion metallic antimony as the active charged material, and
a sulfuric acid electrolyte having a specific gravity above about 1.3.

3,265,535
ACCUMULATOR ELECTRODE SHEATH
Erik G. Sundberg, Osbacken, Nol, Sweden, assignor to Aktiebolaget Tudor, Stockholm, Sweden, a corporation of Sweden
Filed June 29, 1964, Ser. No. 378,635
6 Claims. (Cl. 136—54)

1. A tubular electrode for use in a tube plate type electrode for a storage battery comprising: a rod of conductive material; active material surrounding said rod; and a tubular insulating sheath surrounding said active material in place, said sheath being formed of a laminate comprising two perforated sheets of a plastic material that is resistant to deteriorative chemical attack by said electrolyte, said sheets being arranged with their perforations substantially in alignment and disposed on opposite sides of a layer of fibrous material with the fibers penetrating partially into the sheet material.

3,265,536
ALKALI SATURATED CROSS-LINKED POLYVINYL ALCOHOL MEMBRANES AND FUEL CELL WITH SAME
Mary L. Miller, New York, and John Skogman, Yonkers, N.Y., and Judy Sutherland, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Dec. 11, 1962, Ser. No. 243,863
13 Claims. (Cl. 136—86)

1. A substantially self-sustaining membrane being adapted for use in a hydrogen-oxygen containing gas fuel cell at both ambient and elevated temperatures comprising a water-insoluble, alkali-saturated, cross-linked polyvinyl alcohol having embedded therein from about 25 percent to about 85 percent alkali-stable filler based on the weight of total solids consisting of said cross-linked polyvinyl alcohol and alkali-stable filler, said filler being in particle form of from 0.03 micron to about 300 microns in diameter and wherein said membrane when employed in a hydrogen-oxygen containing gas fuel cell maintained at 80° C. yields after two hours a voltage of at least 0.56 volt and a current between about 120 milliamperes per square centimeter and 140 milliamperes per square centimeter.

8. A hydrogen-oxygen containing gas fuel cell, wherein the membrane positioned between pair of electrodes is a substantially self-sustaining membrane positioned between said electrodes, said membrane comprising a water-insoluble, alkali-saturated, cross-linked polyvinyl alcohol having embedded therein from about 25 percent to about 85 percent alkali-stable, inert filler, based on the weight of total solids consisting of said cross-linked polyvinyl alcohol and alkali-stable filler, said filler being in particle form of 0.03 micron to about 300 microns in diameter, said membrane being adapted to rapidly equilibrate water formed during use and wherein said membrane when employed in a hydrogen-oxygen containing gas fuel cell maintained at 80° C. yields after two hours a voltage of at least 0.56 volt and a current between about 120 milliamperes per square centimeter and 140 milliamperes per square centimeter.

3,265,537
METHOD FOR ASSEMBLING PRIMARY BATTERIES
Rodolfo Rodriguez Balaguer, Fort Lauderdale, Fla., assignor, by mesne assignments, to Patent Holdings Corporation, Fort Lauderdale, Fla., a corporation of Florida
Filed June 16, 1964, Ser. No. 375,598
8 Claims. (Cl. 136—175)

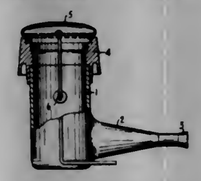
1. The method of forming a bibulous separator for covering a cylindrical hollow metallic anode for a dry cell battery, comprising the steps of forming a separator blank, applying a softening agent to said material so as to coat said material and fill the foramina thereof with said agent, winding said coated blank around said anode so that a first portion of said blank is wrapped around the outside of said anode and a second portion extends axially away from said anode, and then forcing said second portion through the interior of said anode and into contact with the interior walls of said anode whereby said coated blank covers both the inside and outside surfaces of said anode.

3,265,538
MULTIPLE VENT PLUG ASSEMBLY
Gordon B. Lucas, River Forest, Ill., assignor to The Richardson Company, Melrose Park, Ill., a corporation of Ohio
Filed Dec. 19, 1962, Ser. No. 245,815
5 Claims. (Cl. 136—177)



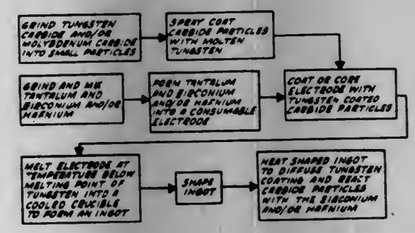
1. A multiple vent plug assembly for closing a plurality of filling wells of electrical storage batteries, the batteries being provided with covers having upwardly extending projections around the filling wells, said plug assembly comprising an elongated hollow body composed of a top and bottom section permanently joined as an integral unit, the bottom section being provided with a plurality of openings at spaced intervals between the ends thereof, a hollow vent plug suspended in each of said openings and extending below said body and having an aperture in the bottom thereof, means provided near the top of the vent plug for establishing communication between the interior of the vent plugs and the interior of said body, the upper wall of each vent plug being flared outwardly, a skirt depending from the external underside of the flared wall and encircling the outside of the vent plug forming an annular recess therewith, said skirt being adapted to seat around the upwardly extending projection of each filling well to provide additional seal against inadvertent egress of electrolyte, and a plurality of longitudinally spaced cylindrical skirts formed integrally with and depending from the underside of the top section of said elongated hollow body, one such skirt extending downwardly through an opening into each hollow vent plug, and means for establishing communication between the exterior and interior of said elongated hollow body whereby said vent plug assembly will permit egress of gas from battery cells to the atmosphere while offering obstruction to discharge of electrolyte from such cells.

3,265,539
GAS BURNER PROVIDED WITH A THERMOCOUPLE ELEMENT PIN CONTACT CATCH
Johannes Vagn Bastrup, Sonderborg, Denmark, assignor to Danfoss ved ing. M. Clausen, Nordborg, Denmark, a company of Denmark
Filed Apr. 2, 1962, Ser. No. 184,253
6 Claims. (Cl. 136—219)



1. A gas burner-thermocouple assembly comprising, in combination, a housing adapted to receive the gas to be burned and having an upper end, a cover removably supported by said upper end but providing spaces for the escape of gas from the housing for ignition, and a thermocouple comprising a first junction disposed at said cover of the burner, a second junction disposed at the lower end of a first pin connected to said cover and extending downwardly into said housing away from the housing, and a contact catch provided interiorly of said housing for the first pin, said contact catch forming with said first pin said second junction.

3,265,540
PRODUCTION OF AGE HARDENABLE TANTALUM-BASED ALLOYS
Dennis D. Foley, Los Altos Hills, Calif., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 19, 1963, Ser. No. 324,686
8 Claims. (Cl. 148—2)

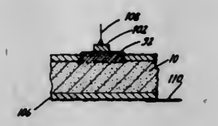


5. The method of working and hardening tantalum-based alloys, comprising the steps of:
melting tantalum and a small quantity of metal selected from the group consisting of zirconium and hafnium at a temperature lower than the melting point of tungsten, and forming an ingot thereof;
dispersing tungsten-coated carbide particles uniformly in said ingot as said ingot is formed;
cooling said ingot;
shaping said ingot;
heating and maintaining said shaped ingot at an elevated temperature to diffuse the coatings from said carbide particles.

3,265,541
ELIMINATION OF ENAMEL FISHSCALING IN IRON AND STEEL SHEETS
James A. Elias, Middletown, Ohio, assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
No Drawing. Filed Sept. 16, 1963, Ser. No. 309,342
9 Claims. (Cl. 148—16.6)

1. In a process of producing low carbon iron or mild steel enameling stock, the steps which consist in nitriding the stock in an ammonia containing annealing atmosphere to the extent of producing on the surfaces thereof a case consisting essentially of iron and iron nitrides and having a thickness not less than substantially .001", and then denitriding the stock in a hydrogen containing annealing atmosphere substantially devoid of ammonia, including the step of effecting continuous flow of the denitriding atmosphere over the surfaces of the stock so as to substantially remove ammonia produced by nitrogen from the stock combining with hydrogen in the annealing atmosphere, whereby to produce a stock characterized by porosity, which stock is substantially devoid of vitreous enamel fishscaling tendency.

3,265,542
SEMICONDUCTOR DEVICE AND METHOD FOR THE FABRICATION THEREOF
Jack M. Hirshon, Buckingham, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Mar. 15, 1962, Ser. No. 179,973
3 Claims. (Cl. 148—175)



1. A method of forming a rectifying junction on silicon which comprises: forming on a body of silicon an adherent layer of an insulating oxide of silicon extending over a part only of said body so that a portion of said body is exposed; and epitaxially growing onto said exposed portion, and contiguous to the edge of said oxide layer, silicon of conductivity suitable for producing a rectifying junction with the underlying silicon body, while retaining said oxide layer during and after the epitaxial-growth formation of the rectifying junction.

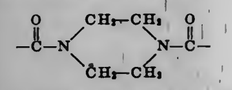
3,265,543
COMPOSITE PROPELLANT CONTAINING NITROGLYCERIN
Albert Smith Carter, New Castle, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 28, 1962, Ser. No. 205,870
6 Claims. (Cl. 149—19)

2. A propellant composition comprising 50 to 90 weight percent of a solid inorganic oxidizer and from 10 to 50 weight percent of a binder consisting essentially of a mixture of 10 to 70% by weight of nitroglycerin and

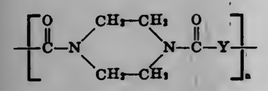
30 to 90% by weight of a thermoplastic elastic copolymer consisting essentially of the recurring units

(a) —O—G—O—, (b) —O—X—O, and (c) —Y—

connected by the bivalent acyl radical



wherein —O—G—O is a bivalent radical obtained by removing the hydroxyl hydrogen atoms from a polymeric glycol having a molecular weight of at least 800 and selected from the group consisting of polyalkyleneether glycols and polyester glycols; —O—X—O is a bivalent radical obtained by removing the hydroxyl hydrogen atoms from a glycol having a molecular weight of less than 250; and —Y— is a bivalent hydrocarbon radical having a molecular weight of less than 200 and selected so that the polypiperazine amide, having repeating units of the structure



in the fiber-forming molecular weight range, melts above 200° C.; said recurring units (a), (b), and (c) being present in amounts such that the molar ratios of $a:b:c$ are 1.0:0.0–3.0:0.0–2.0 and the sum of $b+2c$ is equal to or greater than 2.

3,265,544
LITHIUM PERCHLORATE EXPLOSIVE

David Pelton Moore, Marlow, N.H.
(9210 Flower Ave., Silver Spring, Md.)

No Drawing. Filed June 17, 1964, Ser. No. 375,954
1 Claim. (Cl. 149—19)

An explosive comprising a mixture of lithium perchlorate, 75 to 90% by weight, and as a rubber binder 10 to 25% by weight of an aqueous dispersion of vulcanizable rubber having as a coagulator sodium bisulphite, and as a retarder sodium perborate to make a non-tacky, non-hygroscopic and waterproof explosive.

3,265,545
METHOD OF DESENSITIZING LEAD AZIDE AND TETRYL

Eugene J. Murray, East Orange, N.J., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Sept. 2, 1964, Ser. No. 394,087
5 Claims. (Cl. 149—35)

1. A desensitized explosive consisting essentially of about 99–99.7 weight percent of a member selected from the group consisting of lead azide and tetryl and about 0.3–1% of a dye selected from the group consisting of 1-methylamino-anthraquinone, rosaniline, Calco Oil Blue NS, and Calcophen Red Y.

3,265,546
CHEMICAL DRILLING OF CIRCUIT BOARDS

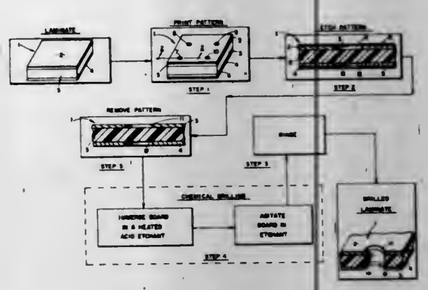
Robert J. Medford, Los Angeles, Calif., assignor to North American Aviation, Inc.

Filed Apr. 1, 1963, Ser. No. 269,453
1 Claim. (Cl. 156—3)

A process comprising chemically etching holes through an electrical circuit board, said board comprising at least a metal layer and a dielectric layer, said dielectric layer comprised of an epoxy resin-glass material;

comprising selectively chemically etching holes through said metal layer to the dielectric layer at locations selected for electrical connections through said dielectric layer;

and second selectively chemically etching holes through said dielectric exposed after etching holes through said metal layer, said chemical etching comprised of immersing said board in a heated fluosulfonic acid etchant (HSO_3F) and agitating said board in

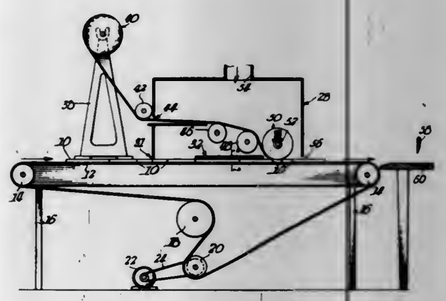


said etchant until holes suitable for electrical connections extend through the dielectric layer said fluosulfonic acid being the reaction product of concentrated sulfuric acid (H_2SO_4) and concentrated hydrofluoric acid (HF) maintained at a temperature within the range of 75 to 160° F.

3,265,547
METHOD OF MAKING A FILM-COVERED ARTICLE

Rexford L. Selbe, Glenview, Ill., assignor to United States Gypsum Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 13, 1961, Ser. No. 95,211
5 Claims. (Cl. 156—85)

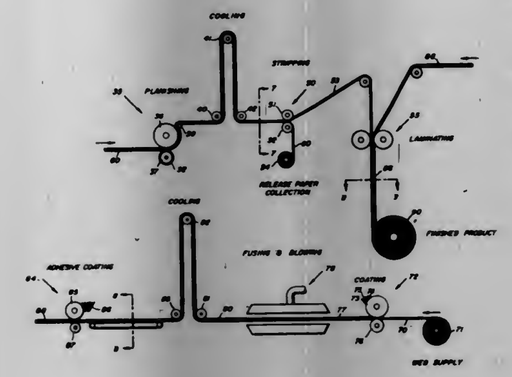


1. A method for applying a plastic film, which biaxially expands upon heating and having a heat-sensitive decoration formed therein, to a rigid substrate; comprising the steps of heating at least a substantial portion of said film to a temperature below that at which said heat-sensitive decoration will be destroyed and below the reorientation temperature of said film, and to a temperature sufficient to expand said film for a period of time adequate to effect biaxial expansion of said film; affixing marginal portions of said film in the expanded condition to said rigid substrate with the film portion disposed between said marginal portions unattached to said substrate whereby said film upon cooling becomes taut and is restrained from returning to its initial area possessed prior to said heating.

3,265,548
PROCESSES FOR PREPARING DECORATIVE SURFACE COVERINGS

Joseph C. Harkins, Jr., Kennett Square, and Frank E. Ehrenfeld, Jr., Brookhaven, Pa., and Robert J. Eitzel, Wilmington, Del., assignors to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York

Filed Oct. 29, 1963, Ser. No. 319,879
7 Claims. (Cl. 156—79)

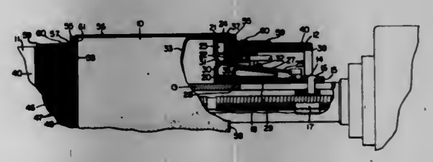


5. A process for producing a decorative surface covering having a continuous solid surface which comprises applying a liquid vinyl chloride polymer composition coating to the surface of a release paper, depositing on the liquid coating decorative granules of vinyl composition having a thickness greater than the thickness of said liquid coating to cover about 10 to about 90% of the coating, heating to partially fuse the coating, applying a foamable vinyl composition containing a blowing agent to the surface of a backing web, heating the foamable composition to partially fuse the composition without decomposing the blowing agent, laminating the surface of the partially fused foamed composition to the surface of the partially fused coating containing the granules and thereafter heating to fuse the compositions and decompose the blowing agent to convert the foamable composition to a cellulose foam layer, stripping the release paper from the composite laminate and then cooling the product thus formed.

3,265,549
METHOD AND APPARATUS FOR BUILDING A TIRE

Edwin S. Woodhall and Paul E. Appleby, Cuyahoga Falls, and Denver C. Folden, Akron, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed June 6, 1963, Ser. No. 285,931
12 Claims. (Cl. 156—131)

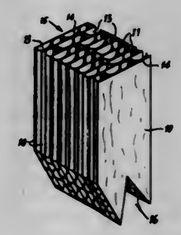


10. A method of building a tire comprising forming a substantially cylindrical band of at least one cord reinforced carcass ply and a sheet of sidewall rubber stock secured to each marginal edge of said ply; radially expanding a central portion of said band between the ends of said ply to a substantially cylindrical shape of greater radius and, during the radial expansion of said portion of the band, moving the remaining portions of the band toward the center of the band to provide a pair of bead engageable shoulders at the ends of said central portion and extending generally radially of said band and facing in opposite directions axially outwardly of the band; and engaging a pair of bead rings with the axially outwardly facing surfaces of said shoulders.

3,265,550
PROCESS OF MAKING A PACKING UNIT OF MOISTURE ABSORBENT CELLULOSIC MATERIAL

Per Lennart Lindqvist, Danderyd, Sweden, assignor to Carl Munters & Co., Stocksund, Sweden, a partnership

Filed Nov. 3, 1964, Ser. No. 410,821
Claims priority, application Sweden, July 10, 1957, 6,477/57
2 Claims. (Cl. 156—210)



1. The process of making a packing unit of moisture-absorbent cellulosic material for use in a gas and liquid contact apparatus in order to increase the wet strength of the packing while maintaining its liquid absorbent characteristics, which comprises the steps of

impregnating a web of said cellulosic material with a substantial quantity of an aqueous solution of a phenol-formaldehyde thermosetting resin,

drying said web at a temperature below the final curing temperature of said resin to avoid any substantial curing of the resin,

forming said web into uncured corrugated sheets,

applying adhesive to the apices of said corrugations of each sheet,

superposing each thus treated corrugated sheet on a similarly impregnated cellulosic sheet, and forming a stacked structure having a mass of adjacent peripherally enclosed tubular cells open at both ends to allow gas and liquid to flow through the cells, and

subjecting said stacked structure to final curing temperatures to cure said resin, set said corrugations, and harden said adhesive to thereby unite said sheets and form said stacked structure into a packing unit.

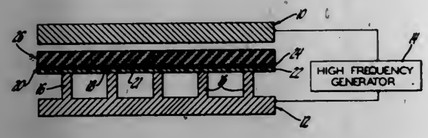
3,265,551
DIELECTRIC EMBOSSING METHOD FOR MAKING PIPED MATERIALS

Lucas G. Ananian, Detroit, and Ralph M. Stallard, Rochester, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 23, 1962, Ser. No. 189,582
4 Claims. (Cl. 156—219)

1. A method of making a decorative article with a dielectric heating press in which one of the electrodes includes a plurality of spaced elongated blades compris-

ing the steps of positioning a sheet of thermoplastic material on said blades, placing a coextensive sheet of non-polar yieldable material onto the sheet of thermoplastic material, applying pressure to the composite sheets so as to compress the yieldable material into the area between the blades and simultaneously stretch the portion of the sheet in contact with the blade, applying high frequency electrical energy to the portion of the thermoplastic sheet



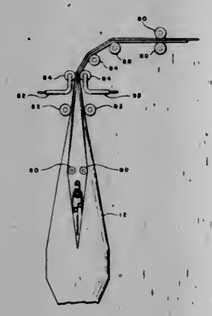
contacting said blade to soften the material and remove the tension in the stretched portion of said sheet, removing the applied pressure from the composite sheets to permit the non-polar material to return to its normal form, removing the non-polar sheet from the heating press, positioning a backing sheet over the sheet of thermoplastic material, and dielectrically bonding the backing and thermoplastic sheet together at the said portion of the sheets contacting the blades to form hollow risers.

3,265,552

METHOD FOR COATING OF BIAXIALLY ORIENTED FILM

Loring J. Berggren, Wilbraham, Mass., and Charles T. Hathaway, Covina, Calif., assignors to Monsanto Company, a corporation of Delaware

Original application Nov. 24, 1961, Ser. No. 154,453, now Patent No. 3,160,917, dated Dec. 15, 1964. Divided and this application Aug. 12, 1964, Ser. No. 389,022
7 Claims. (Cl. 156—244)



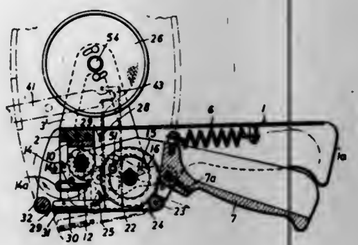
5. A method for coating biaxial oriented tubular-shaped members of thermoplastic synthetic polymeric material comprising the steps of (1) extruding a tubular member of thermoplastic synthetic polymeric material, (2) laterally and longitudinally expanding said tubular member by drawing said tubular member over and in contact with a diverging mandrel while maintaining the temperature of said tubular member above its glassy transition temperature, (3) coating the internal surface of said tubular member with a fluid coating, (4) cooling the tubular member below its glassy transition temperature, (5) cutting the tubular member into two equal lengthwise halves and (6) pressing together the tubular halves to form a continuous flat sandwich construction.

3,265,553

APPARATUS FOR PRINTING, DISPENSING AND APPLICATION OF GUMMED LABELS

Oscar Kind, Hirschhorn (Neckar), and Wilhelm Voigt, Zwingenberg, Germany, assignors to Meto-Gesellschaft Oscar Kind K.G., Hirschhorn (Neckar), Germany

Filed Mar. 17, 1965, Ser. No. 440,585
Claims priority, application Germany, Apr. 20, 1960, M 45,046; July 15, 1960, M 45,938
37 Claims. (Cl. 156—384)



1. A device for applying to goods printed stick-on labels from a carrier strip, comprising an elongated channel-like housing having an opening on one side thereof, a rotary label press-on roll in said housing at one end thereof and having at least a portion of its periphery projecting beyond the housing, mechanism in said housing for printing successive labels on a strip, including a fixed strip rest plate with an edge in close proximity to said press-on roll, mechanism in said housing for feeding the strip step by step, means in said housing for guiding the strip past said press-on roll to said feed mechanism, including said plate edge around which the strip passes for abrupt reversal of its travel direction for separation of successive labels from the strip and their delivery to said press-on roll to be pressed on the goods thereby, a lever pivoted in said housing and extending toward the other end thereof and being spring biased outwardly from and depressible into the housing through said opening therein, and operative connections between said lever and said mechanism for operating the latter on movement of the former.

3,265,554

LAMINATED TENSILE LOAD CARRYING MEMBER HAVING LAMINATED END FITTINGS

Wendell E. Eldred, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed June 11, 1962, Ser. No. 201,678
1 Claim. (Cl. 161—143)



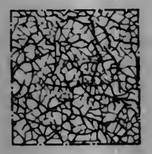
A lamination comprising:
a plurality of parallel filaments;
a plurality of layers of said parallel filaments;
a purality of plates interposed with said layers of said parallel filaments; and
means bonding said layers of said filaments to said plates including,
a thermosetting material adhering to both said filaments and said plates between said filaments and said plates and which also encases said layers of said filaments and said plates.

3,265,555

ADHESIVE COATED SHEETS AND METHOD OF MANUFACTURE

Harold R. Dalton, Rydal Road, Jenkintown, Pa.

Filed Apr. 10, 1962, Ser. No. 186,386
18 Claims. (Cl. 161—161)



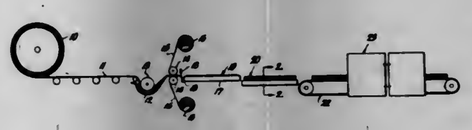
18. A laminated fibrous stock sheet product comprising a plurality of sheets of fibrous stock bonded together at their adjacent faces by an intervening dried adhesive layer having a multiplicity of fracture lines occuring in random array exhibiting substantially negligible recurrent pattern.

3,265,556

FIBER REINFORCED PLASTIC PANEL AND METHOD OF MAKING SAME

Albert O. Hungerford, Kansas City, Mo., and Dale E. Jackson, Prairie Village, Kans., assignors to Butler Manufacturing Company, Kansas City, Mo., a corporation of Missouri

Filed Oct. 20, 1961, Ser. No. 146,479
5 Claims. (Cl. 161—189)



1. A fiber reinforced composite plastic panel comprising a main body in the form of a thin sheet composed of a polymerized unsaturated polyester resin having interspersed therethrough a collection of reinforcing fibers, and a surface layer directly and permanently bonded to at least one face of the main body by the resin in the body adjacent said one face, said surface layer composed of a film of polyvinyl fluoride and the bond between the film and resin having been achieved during polymerization of the resin.

ERRATUM

For Class 161—203 see:
Patent No. 3,265,530

3,265,557

FIBROUS COMPOSITIONS

Myron G. De Fries, Bethesda, Md., and Robert E. Sherwood, Fairfax, Va., assignors to Atlantic Research Corporation, Fairfax, Va., a corporation of Virginia

No Drawing. Filed Jan. 9, 1964, Ser. No. 336,629
2 Claims. (Cl. 162—138)

1. A process for making an electrically conductive felted, fibrous composition, said process comprising the steps of dispersing electrically conductive fibrous carbon in a liquid slurry, subjecting said fibers to agitation in order to reduce the fibers to individual filaments of carbon, dispersing electrically nonconductive cellulose fibers coated with a water-resistant synthetic resin in the fibrous carbon liquid slurry and forming a felted product therefrom, wherein said filaments of carbon provide electrically conductive paths.

3,265,558

APPARATUS FOR PREPARING PAPER STOCKS

Howard Bidwell, Granby, Mass., assignor of fifty percent to Rachel Bidwell, Granby, Mass.

Original application May 17, 1961, Ser. No. 118,756, now Patent No. 3,227,606, dated Jan. 4, 1966. Divided and this application June 15, 1964, Ser. No. 374,966
2 Claims. (Cl. 162—252)



1. In the reclaiming of broke from a paper making machine, apparatus comprising, means for conveying the broke from the paper making machine, a conditioner for altering the moisture content of the broke and including a housing enclosing a chamber and an opening leading therethrough for the reception of the broke delivered to said conditioner by said conveying means and an outlet therethrough for the discharge of conditioned stock therefrom, a plurality of coarse granular-surfaced rotors journalled in contiguous parallel disposition within the chamber of said conditioner, said rotors including sections thereof contoured to move the broke upon rotation of said rotors axially toward the center of said rotors and toward said outlet, means for introducing moisture into the chamber of said conditioner, driving means for rotating the rotors of said plurality thereof, switch means responsive to the breakage of a web on the papermaking machine for activating said moisture introducing and driving means for allowing a fluid flow through the chamber and the transport of the moisture-penetrated portions of the broke toward the outlet.

3,265,559

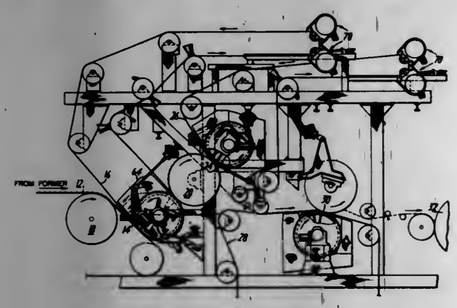
PAPER PRESS SECTION

John A. Means, South Norwalk, Conn., assignor to Time, Incorporated, New York, N.Y., a corporation of New York

Continuation of abandoned application Ser. No. 28,114, May 10, 1960. This application May 3, 1965, Ser. No. 456,883
3 Claims. (Cl. 162—276)

1. A Fourdrinier machine machine press section comprising a suction press roll having a foraminous circumferential surface, a press felt which has a water-removal side and a web-carrying side and which is trained about said roll with said water-removal side in contact with said surface, a Fourdrinier wire mounted adjacent to said press felt for carrying a web of paper, a pickup suction chamber mounted within said roll for transferring said web from said Fourdrinier wire to said felt, a second suction chamber mounted within said roll spaced circumferentially around said roll apart from said pickup chamber, a third suction chamber mounted within said roll contiguously to and intermediate said pickup and second chambers, said chambers being positioned to apply a suction to said felt along a portion of said surface coextensive with said felt along an arc of at least 120°, means for maintaining in said pickup chamber a vacuum within the range of seven to twelve inches of mercury, a save-all mounted adjacent to said roll and extending circumferentially around the surface of said roll through an arc substantially equal to 360° less said arc of at least 120°,

said arcs covering mutually exclusive portions of said surface and said save-all including a first plurality of baffles, a second plurality of baffles, and water-draining means, said first plurality of baffles being positioned to deflect water thrown from said roll and into said save-all towards said second plurality of baffles and said second plurality of baffles being positioned to collect water deflected by said first plurality of baffles and channel the



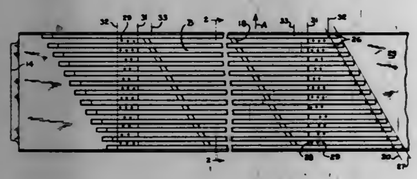
water to said water-draining means, said roll being rotatable in a given direction, and an air knife mounted within said save-all adjacent to said roll and having an elongated opening of a width substantially equal to the width of the roll, said air knife being positioned to direct a jet of air at said surface at an angle of about 20° with respect thereto and in a direction generally opposed to said direction of rotation.

3,265,560

SUCTION BOX COVER FOR A PAPERMAKING MACHINE

Karl E. Sager, Appleton, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Jan. 20, 1964, Ser. No. 338,972
3 Claims. (Cl. 162—374)



1. A suction box cover for use in contact with a moving screen of a Fourdrinier machine, said cover comprising a frame which is elongated in the direction of a major axis and having a central elongate opening therethrough with a plurality of equally spaced slots in the frame at the ends of the opening and defining tongues between the slots extending into the opening with the opening and slots and tongues all extending parallel with said major axis, a plurality of support struts fixed to said frame and extending between the sides of the frame and diagonally with respect to the minor axis of the frame which is at right angles to said major axis, said tongues terminating on lines parallel with said minor axis, a plurality of identical integral bars extending parallel with said major axis and into said slots at the opposite ends of said opening, and means for fixing said bars with respect to said support struts and thereby with respect to said frame.

3,265,561

COMPOSITION AND METHOD FOR THE CONTROL AND DESTRUCTION OF NEMATODES

Horst Werres, Berlin-Charlottenburg, and Ernst-Albrecht Pieroh, Berlin-Frohnau, Germany, assignors to Schering A.G., Berlin, Germany, a corporation of Germany

No Drawing. Filed Apr. 5, 1960, Ser. No. 19,989
Claims priority, application Germany, Apr. 22, 1959, Sch 25,923
11 Claims. (Cl. 167—22)

3. The method of controlling soil dwelling nematodes which comprises impregnating nematode infested soil with a solution comprising a mixture of equal parts by weight of methyl isothiocyanate and a compound selected from the group consisting of carbon bisulfide, dibromopropane, chloropicrin, and O-2,4-dichlorophenyl-O-O-diethyl phosphorothionate and three parts of methylene chloride.

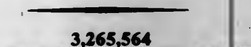
3,265,562

CONTROLLING SOIL PESTS WITH ALKOXYMETHYL METHYLDITHIOCARBAMATES

John C. Watts, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 19, 1964, Ser. No. 390,717
9 Claims. (Cl. 167—22)

1. Method of controlling soil pests comprising applying to soil containing soil pests a pesticidal amount of a compound of the formula:



wherein R is selected from the group consisting of alkyl of 1 through 4 carbon atoms, allyl, butenyl, propargyl and butynyl.

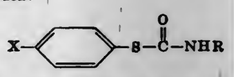
3,265,563

PHENYL N-ALKYL THIOLCARBAMATE MICROBIOCIDE

Harry Tilles, El Cerrito, and Thomas R. Williamson, Santa Clara, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Original application May 1, 1961, Ser. No. 106,445. Divided and this application Oct. 21, 1963, Ser. No. 320,245
10 Claims. (Cl. 167—30)

1. The method of controlling microorganisms comprising contacting the pest habitat with a compound of the following formula:



wherein R is a member selected from the group consisting of lower alkyl and X is a member selected from the group consisting of hydrogen and chlorine.

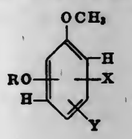
3,265,564

METHODS FOR PROTECTING PLANTS AND SEEDS FROM FUNGI

Richard M. Scribner, Wilmington, Del., and Edward J. Soboczenski, Chadd's Ford, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 11, 1964, Ser. No. 343,969
15 Claims. (Cl. 167—30)

1. A method for protecting plants from attack by soil fungi comprising applying to said fungi a plant protectant amount of a compound of the formula:



wherein

R is selected from the group consisting of methyl and ethyl;
X is selected from the group consisting of fluorine, chlorine, bromine, methyl, ethyl, and methoxy; and
Y is selected from the group consisting of fluorine, chlorine, bromine and methyl.

3,265,565

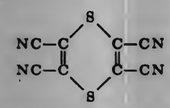
PREPARATION AND FUNGICIDAL USE OF TETRACYANODITHIADIENE

Everett J. Frazza, Yorktown Heights, N.Y., and Wesley O. Fugate, Old Greenwich, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

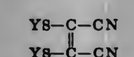
No Drawing. Filed Aug. 14, 1959, Ser. No. 833,698
4 Claims. (Cl. 167—33)

1. The method of fungicidal control comprising applying a fungicidally effective amount of tetracyano-1,4-dithiin.

2. A method for preparing tetracyanodithiadiene of the structural formula



which comprises bringing together in intimate contact at a temperature in the range of —20° C. to 150° C. an alkali metal salt of 1,2-dimercaptomaleonitrile of the formula



where Y is an alkali metal and a halide selected from the group consisting of cyanogen halides, carboxylic acid halides and nitrosyl halides and recovering the resulting tetracyanodithiadiene product.

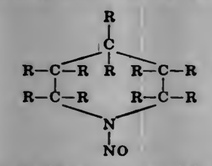
3,265,566

INSECT REPELLING COMPOSITIONS AND METHODS

Lyle D. Goodhue, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed July 16, 1965, Ser. No. 472,661
16 Claims. (Cl. 167—33)

1. A method for repelling an insect which comprises subjecting the insect to an effective repelling amount of at least one piperidine which has the formula



wherein each R is at least one material selected from the group consisting of hydrogen and alkyl having from 1 to 4 carbon atoms, inclusive.

3,265,567

METHODS AND COMPOSITIONS FOR CONTROL OF MARINE ORGANISMS

James R. Rice and Donnell A. Ballard, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 30, 1963, Ser. No. 255,095
18 Claims. (Cl. 167—38.6)

1. A method which comprises contacting an organism of the genus Limnoria with a limnoria controlling amount of a compound selected from the group consisting of 5-tert-butyl-2-chlorophenyl methylcarbamate and 3,5-xylyl methylcarbamate.

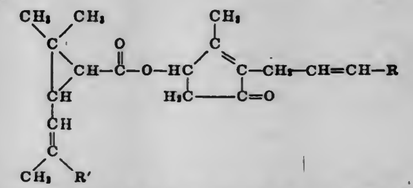
3,265,568

WAX-WATER EMULSIONS CONTAINING PYRETHRUM IN THE PHASE

Robert H. Salvesen, Clark, George A. Weisgerber, Cranford, and Harry W. Rudel, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Mar. 12, 1962, Ser. No. 179,193
1 Claim. (Cl. 167—42)

A method of controlling face flies on the faces of livestock without causing irritation to the eyes of said livestock, which comprises spraying the faces of said livestock with an aerosol bomb comprising a pressurized container; a major amount of a liquefied propellant selected from the group consisting of nitrogen and hydrocarbon; and a minor amount of an insecticidal wax-water emulsion composition suitable for direct application to sensitive areas of said livestock, consisting essentially of a major proportion of water; 0.5 to 10 wt. percent of petroleum wax having a melting point of 110° to 200° F. and a mineral oil content of about 0.01 to about 2.0 wt. percent; 0.01 to 5.0 wt. percent of an insecticide having the structure:



wherein R is selected from the group consisting of H, —CH=CH$_2$, —CH$_3$, and —C$_2$H$_5$ and R′ is selected from the group consisting of —CH$_3$ and —COOCH$_3$; and a small amount of emulsifying agent capable of emulsifying said wax into said water to thereby form said wax-water emulsion, wherein said insecticide is contained within the wax phase of said emulsion.

3,265,569

CURATIVE TREATMENT OF DOMESTIC ANIMALS

William F. Jackson, Lakeland, Fla., assignor to Hart Chemical Corporation, Tampa, Fla., a corporation of Florida

No Drawing. Filed July 15, 1965, Ser. No. 472,359
5 Claims. (Cl. 167—53)

1. Method of treatment of small animals infected with skin parasites comprising injecting the animal subcutaneously in several periodically-spaced treatments with a medicating agent selected from the group consisting of 2,6-dihalo-4-nitro-phenol and salts thereof.

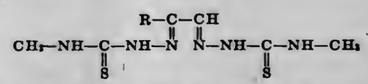
3,265,570

PYRUVALDEHYDE-BIS-(4-METHYL - 3 - THIOSEMICARBAZONES) IN A TRICHOMONACIDAL METHOD

Rhoda M. Michaels, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed Dec. 5, 1960, Ser. No. 73,536
7 Claims. (Cl. 167—58)

1. A method for treating *Trichomonas vaginalis* and *Trichomonas foetus* infections in humans and cattle which comprises: orally administering a composition containing, as the primary active ingredient, a compound of the formula



wherein R is a member selected from the group consisting of lower alkyl of 1 through 6 carbon atoms, hydroxymethyl, ethoxymethyl and α-ethoxyethyl, dispersed in a solid pharmaceutical carrier.

3,265,571

THIXOTROPIC ACNE VULGARIS COMPOSITION

Joseph Z. Krezanoski, Sunnyvale, Calif., assignor to Barnes-Hind Pharmaceuticals, Inc., a corporation of California

No Drawing. Filed Apr. 8, 1965, Ser. No. 446,709
7 Claims. (Cl. 167—58)

1. A thixotropic composition for treating skin maladies associated with hyperplasia of the infected sebaceous gland comprising an aqueous mixture having a physiological pH and containing

	Percent
Fibrous boehmite	0.5 to 10
Sodium thiosulfate	0.5 to 15
Resorcinol	0.1 to 5
Salicylic acid	0.1 to 5
and	
Alcohol	10 to 25

all percentages being by weight.

3,265,572

PROCESS FOR PREPARING TYROCIDIN AND PRODUCT PRODUCED THEREBY

William Moses, Teaneck, N.J., assignor to S. B. Penick and Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 20, 1961, Ser. No. 139,355
7 Claims. (Cl. 167—65)

1. A process for separating tyrothricin into gramicidin and tyrocidin which includes heating between 70 degrees centigrade and the boiling point of the system an acidic aqueous suspension containing up to about 20 percent by weight of tyrothricin to form a tyrocidin sol, and separating the resultant tyrocidin sol from the insoluble gramicidin.

3,265,573

BENZOTHIADIAZINESULFONAMIDE-1,1-DIOXIDE COMPOSITION

Martin Goldberg, New Brunswick, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 27, 1962, Ser. No. 213,000
7 Claims. (Cl. 167—65)

7. A sterile composition comprising about 0.1 to 10 parts of 6-trifluoromethyl-3-benzyl-7-sulfamyl-3,4-dihydro-1,2,4-benzothiadiazine-1,1-dioxide, about 30 to 99 parts of a liquid glyceridic oil and about 1 to 50 parts of a physiologically aceptable organic solvent selected from the group consisting of dimethylacetamide, diethylacetamide, ethylacetamide, dimethylpropionamide, dimethylbutyramide, 2,2-dimethyl-1,3-dioxolane-4-methanol, benzyl benzoate and ethyl benzoate.

3,265,574

METHOD OF ENHANCING THE EFFECT OF X-RAY AND RADIUM TREATMENT

Giuseppe Enea Scolari, Via Degli Alfani 37, Florence, Italy

No Drawing. Filed Apr. 3, 1963, Ser. No. 270,189
Claims priority, application Italy, Apr. 7, 1962, 6,986/62
4 Claims. (Cl. 167—65)

1. A method of enhancing the effect of X-ray and radium treatment of a patient which comprises first administering to said patient an effective amount of sodium cyclohexanol succinate, and thereafter subjecting said patient to X-ray or radium treatment, whereby the effect of the X-ray or radium treatment is enhanced by the preceding administration of said sodium cyclohexanol succinate.

3,265,575

ANTIINFLAMMATORY SALICYL MORPHOLIDE

Alfred Halpern, Great Neck, N.Y., assignor to Synergistics, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 30, 1963, Ser. No. 324,595
20 Claims. (Cl. 167—65)

1. A method of achieving an antiinflammatory effect in a human which comprises the step of the administration to such human of salicyl morpholide and a pharmaceutical carrier therefor.

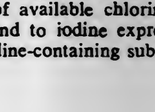
3,265,576

SUBSTITUTED AMINO THIATRIAZOLES USEFUL IN COUNTERACTING HYPERTENSION

Hollis G. Schoepke and Leo R. Swett, both of Waukegan, Ill., assignors to Abbott Laboratories, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Aug. 19, 1965, Ser. No. 481,073
11 Claims. (Cl. 167—65)

1. The method of lowering blood pressure in a warm-blooded animal which comprises administering to that animal a small but effective amount of a compound of the formula



wherein R is selected from the group consisting of phenyl, 1-naphthyl, benzyl, monoloweralkylphenyl, diloweralkylphenyl, monoloweralkoxyphenyl, diloweralkoxyphenyl, monohalophenyl and dihalophenyl, admixed with a pharmaceutically acceptable carrier.

3,265,577

METHOD OF RELIEVING SPASMODIC CONDITIONS AND PHARMACEUTICAL COMPOSITION USEFUL THEREFOR

Teunis Kralt, Hendrik Durk Moed, and Willem Johannes Asma, all of Van Houtenlaan, Weesp, Netherlands, and Adolf Lindner, Vienna, Austria, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 6, 1965, Ser. No. 493,568
Claims priority, application Netherlands, Nov. 23, 1957, 222,701; Apr. 13, 1957, 216,318
12 Claims. (Cl. 167—65)

1. A method of treating spastic conditions of the colon in a human comprising administering to said human a member selected from the group consisting of the base 4' - [N - ethyl - 1'' - methyl - 2'' - (4''' - methoxy - phenyl) - ethylamino] - butyl - 3,4 - dimethoxy benzoate and its non-toxic pharmaceutically acceptable acid addition salts.

3,265,578

STABILIZED SOLID COMPOSITION SOLUBLE IN WATER TO FORM HYPOIODOUS ACID

Frank J. Zsoldos, Jr., 25—63 33rd St., Astoria, N.Y.

No Drawing. Filed Dec. 6, 1963, Ser. No. 328,498
13 Claims. (Cl. 167—70)

1. A solid composition which is stable against substantial loss of halogen titre under ordinary atmospheric conditions of temperature and humidity and which is soluble in water to form a solution containing hypoiodous acid, said composition containing at least about 2% by weight of iodine contained in complex N-iodopolychlors wherein an iodine atom is attached to a plurality of chlorine atoms and that are the product of reaction in the solid phase in the presence of moisture of an N-chloro compound with an iodine-containing substance contained in a mixture of said compound and said substance in which the molar ratio of available chlorine contained in said N-chloro compound to iodine expressed as iodide is at least 3:1, said iodine-containing substance being selected from the group consisting of alkali metal iodides and elemental iodine, said N-chloro compound having a dissociation constant of at least 10^{-11}, having a water solubility at room temperature of at least 0.1%, having a stability in solid phase against loss of chlorine in an amount in excess of 2% thereof upon 24 hours' exposure to 100% humidity at room temperature, and the organic radical of the said N-chloro compound contained in the solid phase in said composition being substantially inert.

3,265,579

PROCESS FOR PURIFICATION OF BOVINE GROWTH HORMONE

Edward G. Daniels and Alan J. Parcellas, Portage, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Jan. 8, 1964, Ser. No. 336,373
1 Claim. (Cl. 167—74)

A process of purifying bovine growth hormone which comprises:

(1) applying an aqueous solution of bovine growth hormone to a cross-linked gel having a water regain value of about 7.5 gm. of water per gm. of dry gel to prepare a chromatogram,
(2) eluting said chromatogram with an aqueous solution and collecting fractional eluates therefrom,
(3) combining somatotrophic eluates which absorb ultraviolet light of about 280 mμ,
(4) recovering purified bovine growth hormone by dialyzing the combined eluates.

3,265,580

PROCESS FOR THE PREPARATION OF PROLACTIN

John W. Nelson, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed May 4, 1964, Ser. No. 364,840
4 Claims. (Cl. 167—74)

1. A process of preparing prolactin which comprises:

(1) extracting mammalian pituitary glands with about 0.3 M KCl solution, separating and recovering the insoluble portion thereof,
(2) extracting said insoluble portion with about 60 to about 80% (v./v.) of a lower alkanol containing 1 to 3 carbon atoms, inclusive, separating and recovering the extract,
(3) adding q.s. lower-alkanol to the recovered extract to increase the alkanol concentration to about 90%, separating and recovering an insoluble precipitate,
(4) dissolving the insoluble precipitate in water at pH about 9 to about 10,
(5) adjusting the solution to a pH of from about 2 to about 4, separating and recovering the soluble portion of the adjusted solution,
(6) salting out a precipitate from the adjusted solution by addition thereto of sodium chloride to about 0.06 saturation,
(7) separating and recovering the precipitate and dissolving it in aqueous solution of pH from about 9 to about 10,
(8) adjusting the pH of the aqueous solution to pH about 6.3, separating and recovering the soluble portion thereof,
(9) adjusting the pH of the soluble portion to pH about 5.6, separating and recovering the insoluble precipated portion thereof,
(10) dissolving the precipitated portion in 0.4% dichloroacetic acid in water equilibrated against an equal volume of 2-butanol and adjusted to pH about 2 to about 3,
(11) extracting the adjusted solution with 2-butanol equilibrated against an equal volume of 04% dichloroacetic acid in water,
(12) separating and recovering the extracted solution and adjusting to a pH of from 2.5 to 3.5,
(13) dialyzing the adjusted solution against purified water and concentrating the dialyzed solution,
(14) adjusting the concentrated solution to about pH 5.6,
(15) separating and recovering an insoluble precipitate,
(16) preparing a solution of the precipitate in water at pH 7 to 8, and
(17) lyophilizing the solution to a dry powder.

3,265,581

PROCESS OF PURIFYING INTERFERON WITH ALUMINO-SILICATE ADSORBENTS

Karl Heinz Fantes, Bushey, and Cecil Francis O'Neill, Slough, England, assignors to Glaxo Laboratories Limited, Greenford, England, a British company

No Drawing. Filed Aug. 2, 1963, Ser. No. 299,463
Claims priority, application Great Britain, Aug. 16, 1962, 31,502/62; July 26, 1963, 31,502/63
7 Claims. (Cl. 167—78)

1. A process for the purification and/or concentration of material containing interferon comprising adsorbing said interferon at a pH less than 6 from an aqueous medium onto at least one fine particulate alumino-silicate adsorbent having a molar ratio of SiO_2 to Al_2O_3 greater than 5.

3,265,582

PERMANENT WAVING OF HAIR

Gregoire Kalopissis, Paris, France, assignor to Societe Anonyme dite:L'Oreal

Filed June 15, 1964, Ser. No. 374,947
Claims priority, application France, Apr. 15, 1960, 824,620, Patent 1,309,816; Jan. 15, 1962, 884,897. Austria, Oct. 12, 1960, 6A 767, Patent 219,770
7 Claims. (Cl. 167—87.1)

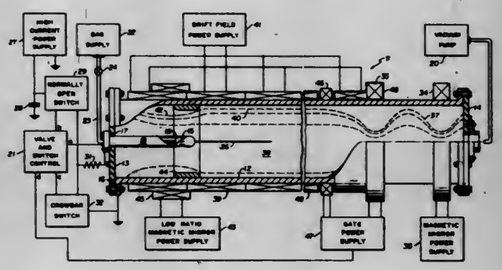
3. A neutralizing aqueous solution for use in the permanent waving of hair, containing 5% to 20% by weight of a soluble alkali metal salt of tetrathionic acid, said solution being slightly acid to a pH of 9.5.

3,265,583

APPARATUS FOR PRODUCING AND PURIFYING PLASMA

William R. Baker, Orinda, and Klaus Halbach, Berkeley, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Apr. 14, 1964, Ser. No. 359,803
12 Claims. (Cl. 176—7)



1. In apparatus for producing and containing a very pure magnetohydrodynamic plasma, the combination comprising a pair of spaced apart coaxial field coils producing a first magnetic field having a plasma containment configuration, said first field being symmetrical about a linear axis, a pair of spaced apart electrodes disposed in prox-

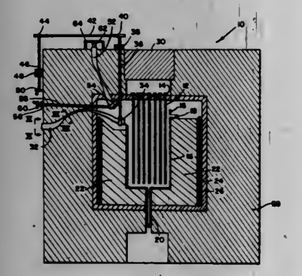
imity to said axis at a position remote from said first magnetic field whereby a plasma drift space is provided therebetween, means for maintaining a vacuum in the region of said first field and said electrodes and the drift space therebetween, means providing a second magnetic field in the region of said electrodes and said drift space, said second field being directed substantially parallel to said axis and being of greatest intensity in the region of said electrodes, means for admitting gas to the region between said electrodes, an electrical power supply connected across said electrodes, a third magnetic field generating means situated between said first field and said drift space, and a pulsed power supply coupled to said third field means to energize said third field means after said plasma has passed therethrough and prior to the arrival of trailing impurities thereat.

3,265,584

NUCLEAR REACTOR VIEWING SYSTEM

Richard C. Cooper, 8125 Bailey Drive SE., Ada, Mich.

Filed Nov. 13, 1963, Ser. No. 323,464
3 Claims. (Cl. 176—19)



1. In a nuclear reactor, a mass of fissionable material; radioactive shielding around said mass; a fiber optic bundle viewing means extending from the exterior of said reactor, through said shielding, to the interior thereof; the fibers at the exterior face of said bundle being arranged like the fibers at the interior face thereof; the intermediate portion of said bundle being undulated in said shielding with a configuration such that a straight line cannot be extended from said interior face, through said bundle, to said exterior face; the inner end portion of said bundle being flexible and free to move; shifting means on said flexible inner end of said bundle, and control means extending from said shifting means through said shielding to the exterior of said reactor for selected movement of said interior bundle face from outside the reactor.

3,265,585

PRODUCTION OF 5'-INOSINIC ACID BY FERMENTATION

Takashi Nara, Tokyo, Masanaru Misawa, Kawasaki-shi, Shigeo Abe, Tokyo, and Kiyoshi Udagawa, Yokohama, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Nov. 14, 1963, Ser. No. 323,597
Claims priority, application Japan, Nov. 29, 1962, 37/52,529
5 Claims. (Cl. 195—28)

1. A fermentative method of producing 5'-inosinic acid which comprises culturing an adenine-requiring auxotroph of *Brevibacterium ammoniagenes* in an aqueous nutrient medium therefor containing adenine, whereby 5'-inosinic acid is accumulated both in the medium and in cells, and recovering the thus-accumulated 5'-inosinic acid.

3,265,586

STARCH SACCHARIFICATION PROCESS

Charles Edward Land, Jr., Wyckoff, N.J., and Richard Russell Barton, Elkhart, Ind., assignors to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed June 11, 1965, Ser. No. 463,356
8 Claims. (Cl. 195—31)

1. A process for producing a sugar syrup from starch which consist essentially of treating an aqueous slurry of starch with a *Bacillus subtilis* derived alpha amylase enzyme composition having both dextrinizing and saccharifying activities at a temperature of about from 85° C. to 90° C. for a period of about from 2–20 minutes to liquefy substantially all of the starch present, cooling the starch slurry to a temperature of about from 50° to 70° C. and maintaining the liquefied starch at a temperature in this range for a period of about from 48–96 hours to produce a syrup having a dextrose equivalent of about from 38 D.E. to 42 D.E.

3,265,587

PROCESS OF PURIFYING GLUCOSE OXIDASE

Susie Evelyn Doebbeling, Fairlawn, and James Walter Faucett, Wyckoff, N.J., assignors to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed May 25, 1964, Ser. No. 370,046
13 Claims. (Cl. 195—66)

1. A process for purifying glucose oxidase which comprises adding to an aqueous solution of glucose oxidase a water-soluble calcium compound to precipitate a substantial amount of the sulfate impurities in the glucose oxidase solution, separating the calcium-precipitated sulfate impurities from the purified aqueous solution of glucose oxidase, adding to said purified solution a water-soluble barium compound to precipitate substantially all of the remainder of the sulfate impurities, and then separating the barium-precipitated sulfate impurities from the purified glucose oxidase solution.

3,265,588

ANTIBIOTIC DANOMYCIN AND METHOD OF PRODUCTION

Hiroshi Kawaguchi, Masanori Okanishi, and Hiroshi Tsukiura, Tokyo, Japan, assignors to Bristol-Banyu Research Institute, Ltd., Tokyo, Japan, a corporation of Japan

Filed July 3, 1962, Ser. No. 207,316
2 Claims. (Cl. 195—80)

1. The process for the production of an antibiotic substance, designated danomycin, which comprises cultivating a strain of *Streptomyces albaduncus* in an aqueous carbohydrate solution containing a nitrogenous nutrient under submerged aerobic conditions until substantial activity versus Gram-positive bacteria is imparted to said solution and then recovering said danomycin from said solution.

3,265,589

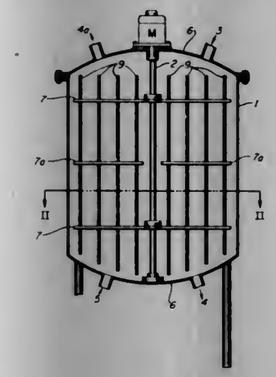
PROCESS FOR THE PROPAGATION AND FERMENTATION OF FILAMENTOUS MICROORGANISMS

Robert Steel, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

Filed Feb. 18, 1963, Ser. No. 259,985
13 Claims. (Cl. 195—80)

1. In a process for the propagation of filamentous microorganisms which comprises propagating said microorganisms under aerobic conditions in an elongated cylindrical fermentor the improvement which comprises, agitating the fermentation liquor by subjecting same to a

shearing force at each of a plurality of positions in the fermentor, said shearing force being applied by a multi-



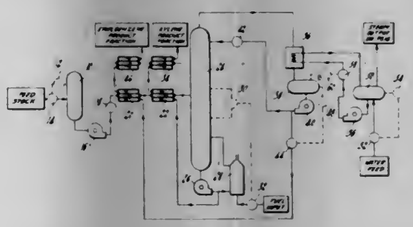
ple-rod impeller, the rods of which are disposed parallel to the longitudinal axis of said fermentor.

3,265,590

APPARATUS AND METHOD OF FRACTIONATION OF ETHYL BENZENE

Aaron K. Redcay, Florham Park, N.J., assignor to The Badger Co., Inc., a corporation of Massachusetts

Continuation of applications Ser. No. 848,389, Oct. 23, 1959, and Ser. No. 127,469, July 28, 1961. This application June 23, 1964, Ser. No. 379,432
13 Claims. (Cl. 203—21)



1. A method of separating a mixture of ethyl benzene and ortho, meta and para xylenes comprising distilling said mixture under at least 2 p.s.i.g. pressure and a temperature of at least 286° F. in a multi-stage column, refluxing said mixture at a ratio of from 38 to 350:1, whereby said mixture separates into an overhead fraction of styrene grade ethyl benzene and a bottom fraction, passing said overhead fraction from said column through a heat exchanger, and generating steam at a pressure of at least 20 p.s.i.g.

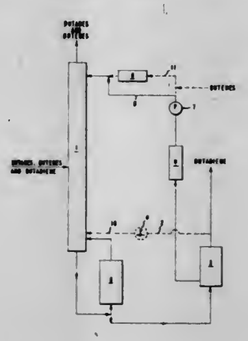
3,265,591

SEPARATION OF BUTADIENE FROM BUTENES BY DISTILLING IN THE PRESENCE OF AN AQUEOUS SOLUTION OF SILVER SALTS

Ronald Harry Halliwell, Parkersburg, W. Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 15, 1962, Ser. No. 237,934
6 Claims. (Cl. 203—33)

1. Method for the separation of butadiene from mixtures thereof with butenes which comprises introducing said mixture into a distillation column maintained at a temperature above the boiling point of said mixture and below 120° C., passing an aqueous solution of a silver salt selected from the group consisting of silver fluoborate, silver fluosilicate and mixtures thereof, said silver salt being employed in a concentration of about one to six molar, through the column, recovering butenes from the



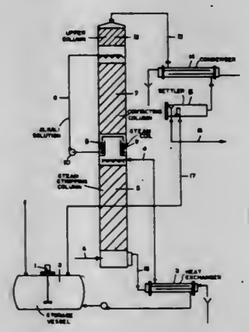
head of said column, and removing the aqueous solution of a silver salt after contact with said mixture from said column, heating said aqueous solution to a temperature above 100° C., and recovering the butadiene released by said heating.

3,265,592

KETONE RECOVERY BY STEAM AND ALKALI CONTACT

Thonis Johannes van der Weel, Zandvoort, Netherlands, assignor to N.V. Algemeene Norit Maatschappij, Amsterdam, Netherlands, a corporation of the Netherlands

Filed Apr. 22, 1964, Ser. No. 363,668
Claims priority, application Netherlands, May 9, 1961, 264,566
3 Claims. (Cl. 203—37)



1. Process for recovering ketone from mixture of ketone, water, volatile impurities and non-volatile impurities, said volatile impurities being capable of forming resins in alkali solution comprising:

(1) steam-stripping said mixture at a temperature of about 100° C., whereby a vaporous admixture of ketone, water and volatile impurities is produced as distillate, and aqueous admixture of non-volatile impurities is produced as bottoms,

(2) contacting said distillate with counter-flowing alkali solution in a vapor-liquid contact zone, whereby by said volatile impurities are resinfied and accumulate in said alkali solution, and said vaporous admixture of ketone and water form a second distillate,

(3) condensing said second distillate, whereby contiguous layers of liquid water and ketone are formed, and

(4) recycling the water layer of step (3) to the mixture of step (1).

3,265,593

REMOVAL OF ACETALDEHYDE FROM ETHYLENE OXIDE BY EXTRACTIVE DISTILLATION

Donald G. Leis and Edward J. Mills, Jr., Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 8, 1962, Ser. No. 229,160
11 Claims. (Cl. 203—60)

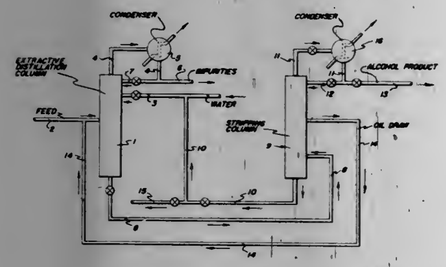
1. A process for effecting the removal of acetaldehyde from ethylene oxide which comprises contacting acetaldehyde-contaminated ethylene oxide with an extractant which is normally liquid organic compound under the extractive distillation conditions, said extractant (a) being composed of carbon, hydrogen and oxygen atoms, (b) being miscible with acetaldehyde and ethylene oxide but being essentially inert to ethylene oxide at said extractive distillation conditions, and (c) having a boiling point within the range of from about 65° C. to about 200° C. at atmospheric pressure, subjecting the resulting mixture to extractive distillation in a distillation zone under operating conditions whereby ethylene oxide having substantially reduced acetaldehyde content is removed from the upper section of said distillation zone in the vapor state essentially free from the extractant.

3,265,594

PROCESS FOR RECOVERING REFINED ETHYL ALCOHOL BY PLURAL DISTILLATION

Ronald A. De Jean and Ashley N. Beasley, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Jan. 4, 1963, Ser. No. 249,454
3 Claims. (Cl. 203—84)



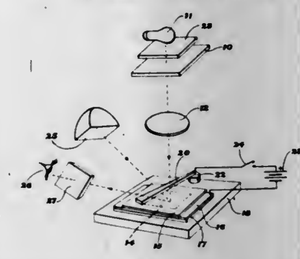
1. The process of purifying a crude ethyl alcohol prepared by the hydration of ethylene in the presence of a polybasic mineral acid-acting acid and wherein said crude ethyl alcohol contains about 5 percent to about 10 percent by weight of characteristic organic impurities including ether, aliphatic aldehyde, aliphatic ketone and aliphatic alcohol compounds and wherein secondary butyl alcohol is the principal individual organic impurity present, about 20 percent to about 35 percent by weight of water and about 60 percent to about 75 percent by weight of ethyl alcohol which comprises continuously feeding the crude ethyl alcohol to a fractional distillation zone at an intermediate point thereof, continuously adding water to the fractional distillation zone at a point substantially above that at which the crude ethyl alcohol is introduced to maintain an internal liquid reflux having a water content in the range of 85 to 99 mole percent throughout the liquid phase in the fractional distillation zone, distilling from said crude ethyl alcohol a vaporous mixture containing water and substantially all the organic impurities present in the crude ethyl alcohol wherein the overhead vaporous mixture distilled from the crude ethyl alcohol flows countercurrent to the aqueous reflux at temperatures above the boiling point of the alcohol, continuously withdrawing a dilute aqueous solution of ethyl alcohol substantially free of organic impurities but containing some secondary butyl alcohol from a lower point of said fractional distillation zone, rectifying the withdrawn aqueous ethyl alcohol in a second fractional distillation zone, removing from the top of said second fractional distillation zone refined ethyl alcohol of the order of 190-proof substantially free of organic impurities, removing a side stream consisting essentially of secondary butyl alcohol, ethyl alcohol and water from the upper portion of said second fractional distillation zone but at a point substantially below that at which the refined ethyl alcohol is removed and recycling said side stream to the first fractional distillation zone for redistillation therein.

3,265,595

VISUALLY CONTROLLED PHOTOCONDUCTOGRAPHIC PROCESS

Franz Urbach, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Oct. 25, 1960, Ser. No. 64,901
1 Claim. (Cl. 204—18)



A photoconductographic process comprising the steps of:

projecting onto the front surface of a photoconductive zinc oxide in resin layer insensitive to at least some wave lengths of visible radiation, an image in radiation which is actinic to said photoconductive layer,

passing substantially simultaneously with said projecting, electric current through the areas of the layer rendered conducting by said image and through an electrolyte in contact therewith, which electrolyte electrolytically deposits a visible material, said current being between electrodes, the rear one of which electrically contacts the rear surface of the layer and the front one of which electrically contacts the front surface of the layer partly through said electrolyte and is narrower than said image,

sweeping the front electrode with uniform velocity brushingly across the front surface of the layer several times during said projecting,

illuminating the layer substantially uniformly with nonactinic visible light for viewing,

continuing said projecting and sweeping until,

and terminating said projecting when, the electrolytic deposit on the layer reaches a preselected apparent density,

continuing said sweeping and passing of current after the terminating of the projecting,

and later terminating said sweeping and passing of current when the electrolytic deposit reaches a second preselected level of density.

3,265,596

COBALT-NICKEL ALLOY PLATING BATHS

Eugene E. Castellani, Putnam Valley, N.Y., and Richard D. De Mars, deceased, late of New Castle, N.Y., by Donna De Mars, legal representative, Millwood, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Feb. 11, 1963, Ser. No. 257,798
5 Claims. (Cl. 204—43)

1. An aqueous acidic plating bath for the preparation of magnetic cobalt-nickel alloys by electrolytic deposition comprising a solution of cobalt chloride and nickel chloride to which pyridine has been added.

3,265,597

ANODIZING PROCESS AND ELECTROLYTE

Heinrich Neunzig, Grevenbroich, and Veit Röhrig, Bonn, Germany, assignors to Vereinigte Aluminium-Werke Aktiengesellschaft, Am Nordbahnhof, Bonn, Germany

No Drawing. Filed June 4, 1963, Ser. No. 293,920
Claims priority, application Germany, June 16, 1962, V 22,651
11 Claims. (Cl. 204—58)

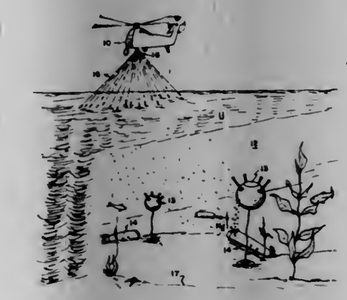
1. A method of producing a colored oxide layer on a surface of a body formed of a metal selected from the group consisting of aluminum and aluminum alloys, comprising the step of subjecting said body to anodic oxidation in an electrolyte consisting essentially of an aqueous solution of at least one substance selected from the group consisting of sulfuric acid and water-soluble metal sulfates, said substance being present in an amount equivalent to between 0.1% and 1% by weight of sulfuric acid, between 1% and 5% by weight of sulfosalicylic acid, and between 0.5% and 1.5% by weight of a substance selected from the group consisting of maleic acid and maleic acid anhydride.

3,265,598

ELECTROCHEMICAL DESTRUCTION OF MINES

Frederick A. Rohrman, Panama City, Fla., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 4, 1960, Ser. No. 47,565
2 Claims. (Cl. 204—141)



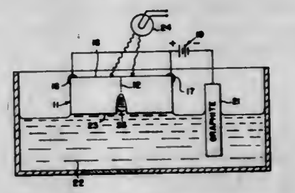
1. The method of sweeping a mined seaway which comprises dispensing in the form of a spray on an areal basis over the surface of the seaway a composition of matter in the form of a slurry having a density greater than sea water and comprising a major portion of an insoluble liquid organic compound which is a solvent for paints and a minor portion of a slightly soluble palladium salt.

3,265,599

FORMATION OF GRAIN BOUNDARY PHOTO-ORIENTER BY ELECTROLYTIC ETCHING

Henn H. Soonpaa, Minneapolis, Minn., assignor, by mesne assignments to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland

Filed June 25, 1963, Ser. No. 290,360
9 Claims. (Cl. 204—143)



1. A process for etching a semiconductor cell along a grain boundary extending through the cell from a first surface to a second surface thereof, said cell including homogeneous, generally single crystalline material on opposite sides of said grain boundary, which comprises the steps of placing said second surface of said cell in contact with an electrolytic etching solution, applying a substantially constant electric potential across said first surface of said cell on each side of said grain boundary and said electrolytic solution so that an electric potential is maintained across said electrolytic solution and said second surface of said cell, and then irradiating said first surface to increase the generation of current carriers along said grain boundary to etch a groove in said cell along said grain boundary in contact with said electrolytic solution.

3,265,600

METHOD OF COATING SILICON STEEL IN CONJUNCTION WITH BOX ANNEALING THEREOF PREPARATORY TO DIE PUNCHING

Paul R. Carter and Mahlon A. Harvey, Monroeville, and Angela R. Lynch, now by change of name Angela R. Pollis, Pittsburgh, Pa., assignors to United States Steel Corporation, a corporation of Delaware

No Drawing. Filed Dec. 10, 1962, Ser. No. 243,582
2 Claims. (Cl. 204—145)

1. In conjunction with box annealing of silicon steel strip preparatory to die punching, the steps of

(a) coating said steel strip with a composition comprising essentially MgO and NaCl in which the NaCl is in the proportion of about one (1) part in six (6) to one (1) part in twenty-five (25) of the weight of MgO;

(b) box annealing said coated strip; and

(c) subsequently removing the coating resulting from said treatment by pickling in a composition comprising nitric and sulfuric acids.

2. The process of claim 1 in which the strip or the like is made successively anodic and cathodic during pickling.

3,265,601

PROCESS FOR PROTECTING METALS AGAINST CORROSION AT ELEVATED TEMPERATURES

Francis Schein, Rueil-Malmaison, and Bernard Le Boucher, Louveciennes, France, assignors to Institut Francais du Petrole, des Carburants et Lubrifiants, Rueil-Malmaison, France

No Drawing. Filed May 25, 1962, Ser. No. 197,614
Claims priority, application France, May 26, 1961, 863,129
7 Claims. (Cl. 204—147)

1. A process for protecting a metal at temperatures higher than 500° C. against the attack of a corrosive gas selected from the group consisting of oxygen, carbon dioxide, steam, sulfur dioxide and hydrogen sulfide, wherein

the temperature of said corrosive gas and said metal is higher than 500° C., comprising the steps of:

(a) contacting said metal with said corrosive gas forming a substantially continuous solid dry corrosion product layer on said metal; and

(b) passing an electric current through said dry corrosion product layer from an anode positioned in direct contact with the external surface thereof towards the metal while maintaining the temperatures of the metal and the dry corrosion product layer higher than 500° C.

3,265,602

METHOD OF PRODUCING HYDRAZINE

Meyer Steinberg, Huntington Station, Jacob Pruzansky, East Islip, and Henry Kramer, Bayside, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Sept. 25, 1962, Ser. No. 226,778

4 Claims. (Cl. 204—157.1)

1. In the process of radiation induced synthesis of hydrazine from ammonia, the improvement that consists in the steps of sorbing the ammonia on a substrate of a washed finely divided sodium-alumino-silicate, irradiating the ammonia while sorbed on the substrate, and recovering the resulting hydrazine from the substrate.

3,265,603

PROCESS FOR THE CHLORINATION OF 2-CHLORO-6-NITRO-BENZONITRILE

Franciscus J. F. van der Plas, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 6, 1963, Ser. No. 307,035

Claims priority, application Netherlands, Sept. 25, 1962, 283,614

5 Claims. (Cl. 204—158)

1. A process for preparing 2,6-dichlorobenzonitrile, which process comprises admixing 2 - chloro - 6 - nitrobenzonitrile and hydrogen chloride at a temperature of from about 20° C. to 300° C.

3,265,604

PROCESS FOR POLYMERIZING UNSATURATED MONOMERS USING HIGH ENERGY IONIZING RADIATION

James T. Harlan, Jr., Torrance, and Edward R. Bell, Concord, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 6, 1960, Ser. No. 33,960

20 Claims. (Cl. 204—159.24)

1. A process for polymerizing ethylenically unsaturated monomers which consists of exposing at a temperature between —150° C. and about 0° C. the unsaturated monomer which is in contact with finely divided solid particles of an alkali metal halide to high energy ionizing radiation.

3,265,605

PROCESS AND APPARATUS FOR CHANGING THE CHARGE OF PARTICLES

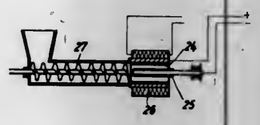
Heinz Doevenspeck, Bremen, Germany, assignor to Gesellschaft für Getreidehandel Aktiengesellschaft, Dusseldorf, Germany, a corporation of Germany

Filed Jan. 30, 1961, Ser. No. 85,531

Claims priority, application Germany, Feb. 8, 1960, D 32,565

4 Claims. (Cl. 204—165)

1. A process for changing the charge of an animal material to obtain protein concentrates preserved in natural form without exceeding temperatures over 40° C., said process comprising the steps of comminuting said material, moving it between concentric carbon electrodes and discharging directly thereon high voltage condenser charges in the form of impulse-like direct current fields



of between 2 and 6 kv./cm. and a period of 0.25 sec. to 0.8 sec., and immediately thereafter centrifuging the material at temperatures below the coagulation temperature of protein complexes to separate it into solids, hydrates with hydrophilic protein complexes and lipoids with lipophilic protein complexes.

3,265,606

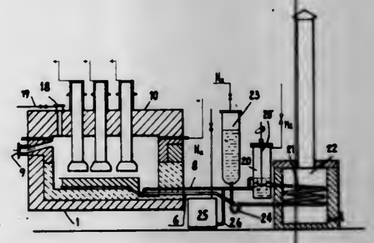
ELECTROLYTIC CELL FOR PREPARATION OF ALLOYS OF LEAD WITH ALKALINE METALS

Gerlando Marulio, Eraldo Fornasieri, and Dante Cadorin, Novara, Italy, assignors to Montecatini Societa Generale per l'Industria Mineraria e Chimica, a corporation of Italy

Filed Mar. 26, 1962, Ser. No. 182,532

Claims priority, application Italy, Mar. 29, 1961, 5,610/61

11 Claims. (Cl. 204—245)



1. An electrolysis furnace apparatus for preparing an alloy of lead and an alkaline metal by electrolysis of a molten alkaline halide electrolyte in contact with and between a molten lead cathode and a carbon anode, comprising an electrolysis cell having a bottom wall, a cover and side walls defining a single chamber, a dependent carbon anode structure extending into the cell through said cover to a point removed from the bottom wall, electric current feeding means connected to the anode, the cell having an outlet for gases formed in the electrolysis, the cell being adapted to retain a body of molten lead and molten lead alloy in its lower part, on said bottom wall, and being adapted so that in operation the molten lead and lead alloy provide a cathode below the lower end of the carbon anode, a lower portion of the cell structure providing a trap into which molten lead flows, the trap being in a locality free of any anode, being removed laterally from the lower end of the carbon anode, the trap having a bottom wall which is below the level of that zone of the bottom wall of the cell opposite the anode, so as to accumulate in the trap such slags as may form, downwardly opening substantially horizontal conduit means for removing molten lead alloy and accumulated slag from said trap at a level thereof below the level of the bottom wall zone opposite the anode, so that sucking out of alkaline halide electrolyte together with the alloy is minimized.

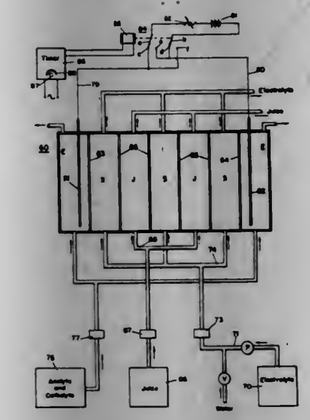
3,265,607

APPARATUS FOR IMPROVING THE TASTE OF FRUIT JUICE BY DIALYSIS

Robert W. Kilburn, Lake Wales, Fla., and Harry P. Gregor, Hewlett, N.Y., assignors, by mesne assignments, to American Machine & Foundry Company, a corporation of New Jersey

Original application Oct. 4, 1960, Ser. No. 60,495, now Patent No. 3,165,415, dated Jan. 12, 1965. Divided and this application Apr. 2, 1964, Ser. No. 366,676

2 Claims. (Cl. 204—301)



1. Electrodialysis apparatus comprising:

(a) a liquid tight container divided internally into a plurality of independent compartments by ion exchange membranes, all of said membranes being permeable to ions of a single polarity;

(b) electrodes disposed at opposite ends of said container, each electrode being in a compartment hydraulically isolated from all intermediate compartments, an outlet for ion bearing liquid in each electrode compartment and an inlet for ion bearing liquid in each electrode compartment, said inlets being connected to a common source;

(c) means for supplying a direct current to said electrodes, including means for selectively varying said current;

(d) means for supplying a first electrolyte solution to alternate compartments between said electrodes from a common source of supply, including means for selectively varying both the flow rate and the dilution of said first electrolyte; and

(e) means for supplying a second electrolyte solution to compartments between those compartments supplied with said first electrolyte solution, from a common source, including means for varying the flow rate and so controlling the dwell time of said second electrolyte solution in said compartments.

3,265,608

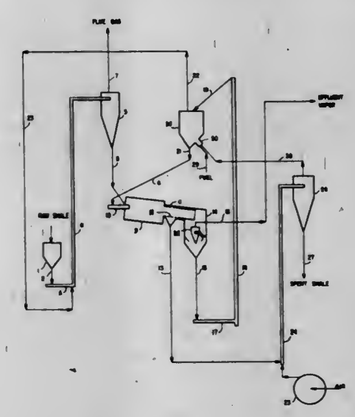
METHOD FOR PYROLYZING SOLID CARBONACEOUS MATERIALS

Clarence L. Crawford, Los Angeles, Calif., assignor, by mesne assignments, to Technikoil, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Feb. 2, 1962, Ser. No. 170,738

23 Claims. (Cl. 208—11)

1. A method for producing an effluent vapor from a solid carbonaceous material leaving, upon pyrolysis, a spent solid residue, which comprises the steps of: pyrolyzing said solid material in a pyrolysis zone by solid-to-solid milling contact with hotter heat-carrying bodies to obtain effluent vapor and hot spent solids; recovering said effluent vapor from said pyrolysis zone; separating said hot spent solids from said heat-carrying bodies; transferring said heat-carrying bodies to a pebble heater; preheating a combustion-supporting gas with the sensible heat of said hot spent solids under non-combustion conditions; combusting a fuel other than the residual carbon in the hot spent solids with said preheated combustion-supporting gas to produce a hot flue gas; passing said hot flue gas through said pebble heater to thereby heat said heat-carrying bodies therein; and recirculating said heated heat-carrying bodies to said pyrolysis zone to effect the pyrolysis of fresh solid carbonaceous material introduced thereinto.



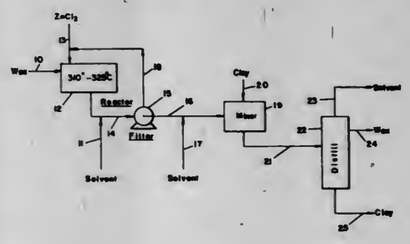
3,265,609

WAX REFINING

Robert J. Convery, Wilmington, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed July 27, 1962, Ser. No. 212,887

4 Claims. (Cl. 208—26)



1. Process of decolorizing wax which comprises:

(a) treating liquified wax with zinc chloride catalyst in an amount sufficient to transform the color bodies in the wax into a more readily removable form, and at a temperature of from 482° F. to 752° F.,

(b) separating the zinc chloride catalyst from the wax,

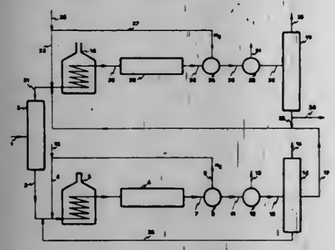
(c) contacting the liquified wax in a second step with adsorptive clay in an amount sufficient to remove the color bodies from the wax, and,

(d) recovering wax which has been substantially decolorized.

3,265,610
COMBINED PROCESS FOR HYDROCRACKING OF HYDROCARBONS

Jean-Claude Lavergne, Le Chesnay, Claude Clement, Bagneux, and Robert Dutriau, Rueil-Malmaison, France, assignors to Institut Francais du Petrole des Carburants et Lubrifiants, Rueil-Malmaison, France

Filed Dec. 18, 1963, Ser. No. 331,508
3 Claims. (Cl. 208—80)



1. A process for hydrocracking a hydrocarbon feed stock, boiling in a range comprised between 5° and 150° C. under atmospheric pressure, containing at least 20% by weight of paraffinic hydrocarbons distilling in the range of 5° to 75° C. under atmospheric pressure, and at least 20% by weight of paraffinic hydrocarbons distiling in the range of from 75° to 150° C. under atmospheric pressure comprising the stps of:

(a) fractionating said feed stock to a light starting fraction containing at least 75% by weight of constituents distilling between 5° and 75° C. under atmospheric pressure, and a heavy starting fraction containing at least 75% by weight of constituents distilling above 75° C. under atmospheric pressure;

(b) contacting said heavy starting fraction with hydrogen under hydrocracking conditions with a catalyst comprising at least one member of the group consisting of metals and compounds of metals of Groups VIA and VIII of the Periodic Table, and silica-alumina;

(c) fractionating the product of step (b) to a light fraction distilling in the range of C_3 to C_4 hydrocarbons, an intermediate fraction having at least 75% by weight of its constituents distilling between 5° and 75° C. and a heavy hydrocracked fraction distilling above 75° C. under atmospheric pressure;

(d) admixing said intermediate fraction of step (c) with said light starting fraction of step (a);

(e) contacting the mixture of step (d) with hydrogen, under hydrocracking conditions in the presence of a catalyst comprising at least one member of the group consisting of metals and compounds of metals belonging to Group VIA and VIII of the Periodic Table, and at least a partially dehydrated metal alumino-silicate whose pores have a diameter of at least 6 A.; and

(f) fractionating the product of step (e) to a fraction distilling in the range of C_3 to C_4 hydrocarbons and a fraction distilling above C_4 hydrocarbons.

3,265,611
CATALYTIC CRACKING PROCESS WITH AN ATTRITION RESISTANT CATALYST COMPOSITE

Robert L. Flanders, San Anselmo, Calif., assignor to Chevron Research Company, a corporation of Delaware

No Drawing. Filed Jan. 21, 1964, Ser. No. 339,107
2 Claims. (Cl. 208—120)

1. In a process for improving the attrition resistance of a mass of particulate siliceous cracking catalyst circulating through reaction and regeneration zones and attendant conduits in a moving catalyst system for catalytic cracking of petroleum hydrocarbon feeds wherein a finely divided material capable of forming a glaze on the external macrosurface of said catalyst particles is introduced into the circulating catalyst as a dispersion in a gaseous stream, the improvement of minimizing the loss of said glaze-forming material and of increasing the local surface temperatures on the external macrosurface of the catalyst to promote the formation thereon of an adherent, attrition-resistant protective glaze, which comprises wetting the surface of the finely divided glaze-forming material with relatively high boiling oil prior to dispersion in said gaseous stream and introducing the thus wetted glaze-forming material as a dispersion in a gaseous stream under conditions whereby the particles of glaze-forming material have an oil residue thereon when they contact said catalyst.

3,265,612
HYDROCARBON CONVERSION

Clarence L. Dulaney and Marvin Lee Owens, Jr., Texas City, Tex., assignors to Monsanto Company, a corporation of Delaware

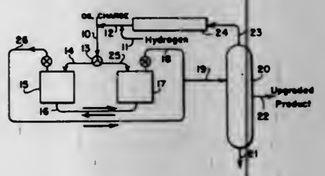
No Drawing. Filed Mar. 20, 1963, Ser. No. 266,520
5 Claims. (Cl. 208—130)

1. A process which comprises introducing a hydrocarbon feed comprised of 90 to 100% by weight of paraffinic hydrocarbons of 6 to 40 carbon atoms into a non-catalytic thermal reaction zone at a temperature of 500 to 800° C. and at a pressure of from atmospheric to 300 p.s.i.g. concurrently with from 0.1 to 2.0 parts by weight of steam per part by weight of hydrocarbon feed and approximately 0.1 to 10 mole percent of an alkyl halide.

3,265,613
METHOD FOR UPGRADING HYDROCARBON OILS

William E. Garwood, Haddonfield, N.J., assignor to Mobil Oil Corporation, a corporation of New York

Filed Apr. 16, 1963, Ser. No. 273,515
20 Claims. (Cl. 208—213)



1. A continuous cyclic process for hydroprocessing a hydrocarbon oil which comprises contacting the same in a primary contact zone containing a crystalline molecular sieve material having a volatile treating agent encased within its crystal structure at a temperature between about 400 and about 1400° F., said treating agent being non-gaseous at room temperature and having a vapor pressure greater than 1 mm. at the temperature used in the primary treating zone, said treating agent being capable of upgrading said hydrocarbon oil and of being released from said molecular sieve material at the temperature used in the primary treating zone, passing the effluent stream containing said released treating agent from said primary contact zone to a secondary contact zone containing a crystalline molecular sieve material initially free of said treating agent and maintained at a temperature between about 50 and 300° F. capable of adsorbing said treating agent, whereby the treating agent contained in the effluent stream from said primary zone is adsorbed on the molecular sieve material in said secondary contact zone upon passage therethrough, maintaining the aforesaid contacting conditions until the volatile treating agent contained in the molecular sieve materials of said primary and second contact zones respectively reach a predetermined minimum and maximum content, thereafter reversing the flow of the hydrocarbon oil charge and the conditions initially present in said primary zone and said secondary zone and repeating the aforesaid cyclic operation to afford a continuous yield of upgraded hydrocarbon oil product.

3,265,614
REMOVAL OF SULFUR BODIES

Wallace R. Matthew, Kirkwood, Mo., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No drawing. Filed Jan. 13, 1964, Ser. No. 337,128
8 Claims. (Cl. 208—222)

1. A process of removing sulfur bodies from a sulfuric acid treated hydrocarbon characterized by treating said hydrocarbon after the sulfuric acid treatment with an organic amine capable of reacting with a sulfonic anhydride, thereby yielding a product capable of aqueous extraction from said hydrocarbon, and separating said hydrocarbon therefrom.

3,265,615
CHROMIUM-CONTAINING HYDROFINING CATALYSTS

Waldeen C. Buss, Pinole, Calif., assignor to Chevron Research Company, a corporation of Delaware

No Drawing. Filed Dec. 5, 1963, Ser. No. 328,190
13 Claims. (Cl. 208—254)

13. A hydrocarbon conversion process for treating a hydrocarbon oil containing nitrogen compounds, which comprises passing said oil and excess hydrogen at elevated pressure and at a temperature below 900° F. into contact with an active hydrofining catalyst composed as the essential active components of sulfides of both chromium and molybdenum supported on a refractory porous oxide carrier, and recovering as a product oil reduced in nitrogen content; said catalyst having been prepared by impregnating alumina with solutions of a molybdenum compound and of chromic sulfate, drying the impregnated alumina below the temperature at which decomposition of $Cr_2(SO_4)_3$ occurs, treating the dried impregnated material with flowing hot gas comprising hydrogen at between 500° F. and 1000° F., and treating with flowing hot sulfiding medium at between 400° F. and 900° F. until both chromium and molybdenum are present predominantly as sulfides.

3,265,616
METHOD OF CLEANING OR COLLECTING OIL FROM THE SURFACE OF AN AREA OF WATER

Kenneth Ian Wyllie, Lymington, and Edward William Duck, Hythe, England, assignors to The International Synthetic Rubber Company Limited, Southampton, England, a corporation of United Kingdom

No Drawing. Filed Dec. 20, 1963, Ser. No. 332,280
Claims priority, application Great Britain, Dec. 31, 1962, 49,076/62
12 Claims. (Cl. 210—39)

1. A process for providing clean water by collecting surface oil therefrom comprising applying a synthetic non-oil resisting rubber latex to the surface having oil thereon and absorbing oil in said latex, coagulating said latex together with sorbed oil in the presence of a solution selected from the group consisting of aqueous salt solutions and aqueous acid solutions to form rubber containing oil, and removing said rubber containing oil from the water surface.

3,265,617
LUBRICANT

Charles M. Allen, Columbus, Ohio, assignor, by mesne assignments, to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 172,802, Feb. 12, 1962. This application Feb. 5, 1965, Ser. No. 430,735
1 Claim. (Cl. 252—25)

A lubricant composition for lubricating contacting metal-containing surfaces in an oxidizing atmosphere wherein said metal-containing surfaces are at a temperature in the range from about 70° F. to about 1350° F. consisting essentially of a mixture of metal-free phthalocyanine and molybdenum disulfide, wherein the concentration of metal-free phthalocyanine is in the range of from about 5 to about 95 percent by weight.

3,265,618
LUBRICATING OIL COMPOSITIONS

Bennett M. Henderson, Edwardsville, and Richard L. Woodruff, Alton, Ill., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 26, 1963, Ser. No. 297,958
1 Claim. (252—32.5)

A mineral lubricating oil composition consisting essentially of a major amount of mineral lubricating oil and from about 0.2% to about 10% each of (1) an oil-soluble copolymer of 2-methyl-5-vinyl pyridine/lauryl methacrylate/stearyl methacrylate, the ester mixture being in the mole ratio of 1:1 to 1:3 respectively, and the combined ester mixture to the 2-methyl-5-vinyl pyridine being in the mole ratio of 10:1 to 1:5 respectively, and having a molecular weight of from 50,000 to 700,000 and (2) an oil-soluble salt of a succinimide of mono(polyisobutylene) succinic anhydride and tetraethylene pentamine, the polyisobutylene radical having a molecular weight of about 1000 and dicresyl phosphate, the amount of dicresyl phosphate used to form the salt by reacting the two components under reflux conditions being sufficient to neutralize from 10% to 100% of the succinimide compound.

3,265,619
HEAVY DUTY LUBRICANTS

Bobby W. Malone, East Alton, Ill., and John S. Coon, New York, N.Y., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 3, 1963, Ser. No. 277,706
4 Claims. (Cl. 252—32.7)

1. A heavy duty lubricating composition comprising a major amount of mineral lubricating oil and (I) from 2% to 8% of an oil-soluble copolymer of N-vinyl pyrrolidone and a C_{8-18} alkyl methacrylate in the mol ratio of about 1:4 respectively, and having a molecular weight of from about 200,000 to about 600,000, and (II) a mixture of from about 5% to about 30% bright stock, from about 0.1% to about 1% of Zn dialkyl dithiocarbamate the alkyl radicals having from 1 to 5 carbons atoms and from about 1% to about 10% of a complex Ba–Zn salt of petroleum sulfonate and P_2S_5-polyisobutylene raction product.

3,265,620
CUTTING FLUID

Donald K. Heiman, 24675 Berrimore Lane, Warrensville Heights, Ohio

No Drawing. Filed Aug. 29, 1963, Ser. No. 305,521
9 Claims. (Cl. 252—33.6)

2. A metal working coolant composition containing as essential ingredients, in addition to water: an amine compound selected from the group consisting of triethanolamine, diethanolamine and monoethanolamine and mixtures thereof; alkali metal nitrite; an aryltriazole compound selected from the group consisting of benzotriazole, 4-nitrobenzotriazole, and mixtures thereof; and

the tetrasodium salt of ethylene diamineacetic acid as a chelating agent, each of said amine compound and said alkali metal nitrite being present in an amount that is at least 1/40 of the weight of the other, the aryltriazole compound being from .025% to 25% of the total weight of the amine compound and the alkali metal nitrite, and the chelating agent being present in a small but effective amount.

3,265,621

LUBRICANTS CONTAINING A HYDROCARBON DIESTER OF 1,1'-DI-α-HYDROXY-ETHYL FERROCENE

Edwin L. De Young, Milwaukee, Wis., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Original application May 22, 1961, Ser. No. 111,437, now Patent No. 3,217,019, dated Nov. 9, 1965. Divided and this application Dec. 16, 1964, Ser. No. 423,624

3 Claims. (Cl. 252—49.7)

1. A composition comprising a major amount of a lubricating oil and an effective anti-wear amount of hydrocarbon monocarboxylic acid diester of 1,1'-di-alpha-hydroxy-ethyl ferrocene whose hydrocarbon group has from 1 to 22 carbon atoms.

3,265,622

LUBRICANTS CONTAINING COPOLYMERS OF 4-METHYL-1-PENTENE

William S. Anderson, Oakland, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 31, 1961, Ser. No. 148,814

3 Claims. (Cl. 252—59)

1. A mineral lubricating oil composition comprising a major amount of mineral lubricating oil and from 0.01% to 5% of an oil-soluble copolymer of ethylene and 4-methyl-1-pentene obtained by reacting the monomers in the ratio of 10–90 mol percent ethylene and 90–10 mol percent 4-methyl-1-pentene in the presence of a liquid hydrocarbon soilvent, between −20° C. and 60° C., at atmospheric pressure, and a catalyst mixture selected from the group consisting of (1) a mixture of vanadium chloride and trialkyl aluminum and (2) a mixture of vanadium oxychloride and trialkyl aluminum, said copolymer having a molecular weight in the range of from 25,000 to 500,000.

3,265,623

ALCOHOL COMPOSITIONS CONTAINING CARBOXYSILOXANE DERIVATIVES AS CORROSION INHIBITORS AND PROCESS FOR INHIBITING CORROSION

Arthur N. Pines, Snyder, and Eugene A. Zientek, Kenmore, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 12, 1960, Ser. No. 75,096

17 Claims. (Cl. 252—75)

1. An inhibited alcohol composition comprising an alcohol, a silicon-free inorganic basic buffer, said buffer being present in an amount from 0.1 part to 10 parts by weight per 100 parts by weight of alcohol and, as an inhibitor, a corrosion inhibiting amount of a water soluble and alcohol soluble siloxane consisting essentially of groups represented by the formula:

$$[M_{1/a}OOCR]_b SiO_{\frac{4-(b+c)}{2}}$$

wherein M is a cation that imparts water and alcohol solubility to the siloxane, said cation being selected from a group consisting of the sodium, potassium, lithium and rubidium cations and the tetraorgano ammonium cations, a is the valence of the cation represented by M and has a value of at least one, R is a divalent hydrocarbon group containing from 0 to 1 $M_{1/a}OOC$ groups as substituents, each $M_{1/a}OOC$— group is connected to the silicon atom through at least 2 carbon atoms of the group represented by R; R^1 is a monovalent hydrocarbon group, b has a value from 1 to 3 inclusive, c has a valve from 0 to 2 inclusive, and $(b+c)$ has a value from 1 to 3 inclusive, said siloxane being present in an amount from 0.1 part to 10 parts by weight per 100 parts by weight of the alcohol.

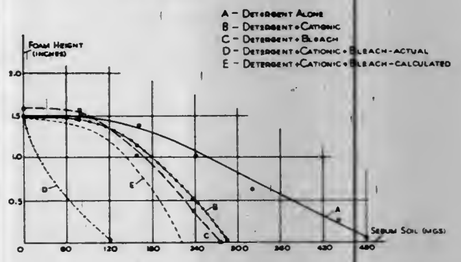
3,265,624

DETERGENT COMPOSITION

Jack Thomas Inamorato, Flushing, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

Filed Oct. 1, 1963, Ser. No. 312,968

10 Claims. (Cl. 252—99)



7. A controlled sudsing, heavy-duty detergent composition consisting essentially of:

(a) from about 7.5 to about 40 percent by weight of a water-soluble, anionic organic detergent selected from the group consisting of alkali metal sulfates, sulfonates and carboxylates having in their molecular structure an alkyl group of about 8 to 22 carbon atoms,

(b) from about 25 to about 60 percent by weight of a water-soluble, alkali metal inorganic phosphate builder salt, and

(c) from about 2 to about 30 percent by weight of a mixture containing from about 1 to about 67 percent by weight of a quaternary ammonium salt having the formula

$$[R_3—\overset{R_4}{\underset{R_2}{N}}—R_1]\ X$$

wherein R_1 is an alkyl group of about 10 to 20 carbon atoms, R_2 and R_3 are alkyl groups of 1 to 3 carbon atoms each, R_4 is selected from the group consisting of alkyl groups of 1 to 3 carbon atoms and benzyl groups, and X is a halogen selected from the group consisting of chlorine and bromine, and from about 33 to about 99 percent by weight of a bleach selected from the group consisting of trichlorocyanuric acid, dichlorocyanuric acid, sodium dichloroisocyanurate and potassium dischloroisocyanurate.

3,265,625

LIQUID DETERGENT

Erwin Grob, Philadelphia, Pa., assignor to C. P. Baker & Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 30, 1962, Ser. No. 234,240

9 Claims. (Cl. 252—152)

3. A substantially clear, homogeneous liquid detergent consisting of about 5 to 15% by weight of an alkylphenol-ethylene oxide condensate having 6 to 20 ethoxy groups per mole of phenol and the alkyl group having 8 to 9 carbon atoms nonionic detergent, about 1 to 10% by weight of a long chain alcohol-ethylene oxide condensate having 5 to 20 ethoxy groups per mole of alcohol esterified with phosphoric acid, said long chain alcohol being selected from the group consisting of tridecyl alcohol and alkyl phenols having 8 to 20 carbon atoms in the alkyl group, about 2 to 8% by weight of a fatty acid-alkanolamine condensate, the fatty acid having 12 to 16 carbon atoms and the alkanolamine being selected from the group consisting of ethanolamine, diethanolamine and propanolamine, about 4 to 15% of an alkali metal salt of an aminopolyacetic acid selected from the group consisting of nitrilotriacetic acid, ethylenediamine tetraacetic acid, hydroxyethyl ethyldiamine triacetic acid, and diethylenetriamine pentaacetic acid and the remainder water.

3,265,626

SOLS OF ZIRCONIA AND HAFNIA WITH ACTINIDE OXIDES

Frederick T. Fitch and Jean G. Smith, Baltimore, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Original application Feb. 27, 1962, Ser. No. 176,152, now Patent No. 3,150,100, dated Sept. 22, 1964. Divided and this application Dec. 20, 1963, Ser. No. 340,577

5 Claims. (Cl. 252—301.1)

1. As compositions of matter, colloidal particles consisting of oxides of the actinide metals above uranium in the periodic table intimately associated with oxides of elements selected from the group consisting of hafnium and zirconium, said particles containing from 0.1 to 99.9 mole percent actinide oxide and having a diameter of about 10 to 120 millimicrons.

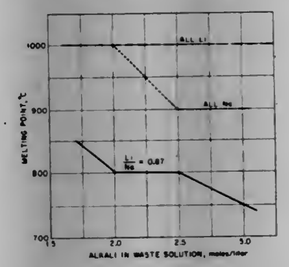
3,265,627

ADDITION OF LITHIUM VALUES IN CONVERSION OF FISSION-PRODUCT WASTES TO A GLASS-LIKE SOLID FOR DISPOSAL

Walter E. Clark, Oak Ridge, and Curtis L. Fitzgerald and George D. Davis, Kingston, Tenn., assignors to the United States of America as represented by the Secretary of the United States Atomic Energy Commission

Filed Mar. 4, 1965, Ser. No. 437,330

4 Claims. (Cl. 252—301.1)



1. In the process for conversion of a nitric-acid fission-product-containing solution obtained by chemical reprocessing of irradiated nuclear reactor fuel to a glass-like solid for disposal which comprises evaporating said solution, calcining the resulting solids, heating said solids to the melting point and solidifying the resulting melt, the composition of said solution being adjusted to provide a glass-forming mixture upon calcination, and said solution containing a substantial amount of alkali metal values, the improvement wherein said alkali metal values are lithium values and sodium values at a lithium-to-sodium molar ratio of 0.75:1 to 1.5:1.

3,265,628

URANIUM AND LANTHANIDE ACTIVATED ALKALINE EARTH MOLYBDATE AND TUNGSTATE PHOSPHORS

Marcel J. Vogel, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 23, 1962, Ser. No. 182,135

7 Claims. (Cl. 252—301.1)

1. An alkaline earth phosphor selected from the group consisting of:

calcium tungstate, calcium molybdate, strontium tungstate and strontium molybdate, and

activated by at least about 0.01%, based on the weight of oxide of the alkaline earth selected, each of uranium and lanthanide metal selected from the group consisting of cerium earths, terbium earths, and dysprosium.

5. The process comprising:

mixing an alkaline earth compound with a heat decomposable uranium compound and a heat decomposable lanthanide compound, said alkaline earth compound forming an alkaline earth oxide at the fusion temperature of the mixture;

heating the mixture to a temperature sufficient to fuse the alkaline earth compound, the uranium compound, and the lanthanide compound, and to form the alkaline earth oxide, said uranium and lanthanide compounds being decomposed during the heating;

mixing the fused mixture with a compound which forms a transition metal oxide selected from the group consisting of tungstic oxide and molybdic oxide at the fusion temperature of the mixture; and,

heating this mixture to a temperature sufficient to fuse the mixture and to form a phosphor selected from the group consisting of alkaline earth tungstate and alkaline earth molybdate, and activated by at least about 0.01%, based on the weight of said alkaline earth oxide, each of uranium and lanthanide.

3,265,629

COATING BY PHASE SEPARATION

Erik H. Jensen, Kalamazoo Township, Kalamazoo County, Mich., assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

No Drawing. Filed Dec. 22, 1958, Ser. No. 781,915

8 Claims. (Cl. 252—316)

1. A process for coating, en masse, a plurality of solid individual discrete particles selected from the group consisting of water-soluble and water-insoluble hydrophilic material, comprising the steps of

(1) coating en masse each of said individual discrete particles with a solid lipid material;

(2) suspending the coated particles in an aqueous solution of at least one encapsulating material;

(3) inducing phase separation, whereby to cause the formation of a phase rich in encapsulating material and the encapsulation of each of the solid individual suspended coated particles with said encapsulating material; and

(4) rigidifying the encapsulating material.

3,265,630

ENCAPSULATING LIPOPHILIC MATERIAL BY COACERVATION

Erik H. Jensen, Kalamazoo Township, Kalamazoo County, Mich., assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

No Drawing. Filed Dec. 22, 1958, Ser. No. 781,923

9 Claims. (Cl. 252—316)

1. A process for the production by coacervation of finely divided encapsulated solid lipophilic material which comprises: (1) intermixing the solid lipophilic material

to be encapsulated, an aqueous solution of a gelable colloid and an aqueous solution of a styrene maleic acid copolymer, at a pH at which the said gelable colloid and copolymer are oppositely charged and at a temperature above the gelation temperature of the said gelable colloid, whereupon a liquid phase rich in the said gelable colloid and copolymer separates from a liquid phase poor in said components, the said rich liquid phase encapsulating the lipophilic particles, and (2) setting the encapsulating mantle.

3,265,631

GUM GEL COMPOSITIONS AND COMPOSITIONS AND PROCESSES FOR THEIR PRODUCTION

Wesley A. Jordan, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Oct. 10, 1961, Ser. No. 144,040
16 Claims. (Cl. 252—316)

1. A gel composition consisting essentially of a gum selected from the group consisting of galactomannan and glucomannan gums and litharge, said litharge being present in an amount sufficient to crosslink said gum.

7. A process of preparing a gel comprising dispersing in an aqueous medium a gum selected from the group consisting of galactomannan and glucomannan gums and a sufficient amount of litharge to crosslink said gum.

3,265,632

AQUEOUS THERMALLY REVERSIBLE RIGID SODIUM HYDROXIDE GEL AND PROCESS FOR PREPARING SAME

Harry W. Leach, Chicago, Ill., assignor to Corn Products Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 9, 1963, Ser. No. 271,587
6 Claims. (Cl. 252—316)

1. A process for the preparation of a thermally reversible rigid sodium hydroxide gel which comprises dissolving amylose in water having a temperature of at least about 65° C., adding sodium hydroxide in concentrated form, and cooling the resulting mixture to a temperature sufficient to effect congelation, the proportion of amylose being sufficient to provide at least about 0.1% amylose on a dry weight per volume basis of the final composition, and the proportion of sodium hydroxide being sufficient to provide a final concentration of sodium hydroxide between about 4 and about 9 normal.

6. An aqueous thermally reversible rigid sodium hydroxide gel consisting essentially of aqueous sodium hydroxide at a concentration of between about 4 and about 9 normal and amylose as a gelling agent at a concentration of at least about 0.1% on a dry weight per volume basis.

3,265,633

ANTIOXIDANTS

Lee R. Mahoney, Garden City, Mich., assignor to Ford Motor Company Dearborn, Mich., a corporation of Delaware

No Drawing. Filed June 7, 1963, Ser. No. 286,179
2 Claims. (Cl. 252—404)

1. The process of stabilizing a normally oxidizable organic compound against oxidation comprising adding to such oxidizable organic compound a small but effective amount of 3-hydroxypyrene.

3,265,634

PROCESS FOR REGENERATING CATALYSTS

Robert G. Schultz, Vinita Park, and James M. Schuck, Webster Groves, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Nov. 1, 1963, Ser. No. 320,930
9 Claims. (Cl. 252—414)

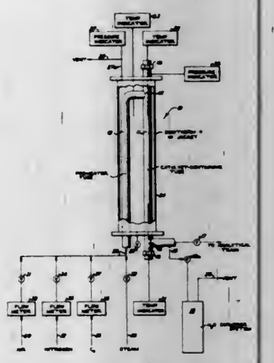
1. A process for the regeneration of spent cobalt oxide on carbon polymerization catalysts which comprises contacting a cobalt oxide on carbon catalyst composition which has become spent from use in the polymerization of olefins, with a dialkylacylamide having from 1 to about 6 carbon atoms in each alkyl group at a temperature of from about 125° C. to about 200° C. for a time period of at least about 8 hours, drying the dialkylacylamide treated catalyst composition.

3,265,635

OXIDATION CATALYST COMPRISING THE OXIDES OF COPPER, CHROMIUM, AND MOLYBDENUM

Robert S. Barker, Port Washington, N.Y., assignor to Halcon International Inc., a corporation of Delaware

Filed July 25, 1963, Ser. No. 297,534
5 Claims. (Cl. 252—437)



4. A catalyst adapted for the vapor phase oxidation of a member selected from the group consisting of propylene or isobutylene to the corresponding lower acrolein compound comprising the oxides of copper, molybdenum and chromium, and a phosphate, the proportions of said oxides being such that relative to a formula weight of copper as 1.0, the formula weights of molybdenum and chromium are each about 1.0, the catalyst being supported on a refractory material selected from the group consisting of silica, alumina, silicon carbide or pumice, the amount of phosphorus being about 15% based on the weight of the foregoing oxides exclusive of the support, the weight ratio of support to catalyst being about 10:1.

3,265,636

CATALYST FOR THE HYDROGENATION OF NITRO COMPOUNDS

Louis Spiegler, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 26, 1963, Ser. No. 267,941
1 Claim. (Cl. 252—447)

A hydrogenation catalyst consisting essentially of a non-porous carbon support having a surface area within the range of 20 to 150 square meters per gram, said non-porous carbon support being admixed with an activated porous carbon support having a surface area within the range of 200 to 1000 square meters per gram, a noble metal selected from the group consisting of platinum, palladium, and mixtures thereof being deposited on the total free surface of said admixed supports at a loading within the range of 0.05 to 1.0% by weight of said supports, the relative proportions of said carbons being in the range of about 4:1 to 20:1 of porous carbon to non-porous carbon, said noble metal being initially deposited on said non-porous carbon prior to being admixed with said activated porous carbon support.

3,265,637

MIXTURES OF MANGANO-CHROMIA-MANGANITE CATALYSTS

Alvin B. Stiles, Charleston, W. Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Original application Nov. 15, 1960, Ser. No. 69,384, now Patent No. 3,220,794, dated Nov. 30, 1965. Divided and this application Feb. 12, 1965, Ser. No. 440,049
4 Claims. (Cl. 252—465)

1. As a catalyst a mixture of discrete particles of
(1) mangano-chromia-manganite having an Mn:Cr ratio of 3:0.5 to 3:1.5, and
(2) mangano-chromia-manganite having an Mn:Cr ratio of 3:3.5 to 3:30.

3,265,638

ELECTROLYTE COMPOSITION

Robert M. Goodman, Elkins Park, and Robert J. Gibson, Jr., Narberth, Pa., assignors to The Franklin Institute, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 24, 1964, Ser. No. 354,432
4 Claims. (Cl. 252—518)

1. An electrolyte composition, particularly adapted for use in conjunction with electrodes employed in making electrical measurements on living organisms, which consists essentially of an approximately 0.85–0.95%, by weight, solution of sodium chloride in water, said solution being substantially saturated with silver chloride and containing polyvinyl alcohol in an amount providing a viscosity above that of said aqueous solution of sodium chloride and silver chloride alone.

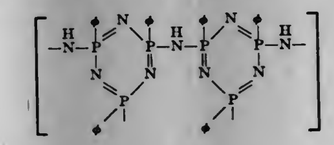
3,265,639

PHOSPHONITRILIC POLYMERS

Preston L. Veltman, Severna Park, and Bernard Grushkin, Silver Spring, Md., and Harry H. Sisler, Gainesville, Fla., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

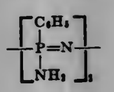
No Drawing. Filed Dec. 22, 1961, Ser. No. 161,430
4 Claims. (Cl. 260—2)

1. A highly crosslinked phosphonitrilic polymer which possesses the repeating structural unit



wherein ϕ represents phenyl.

2. A method for preparing the phosphonitrilic polymer of claim 1 which comprises heating a cyclic compound of the formula



to a temperature of from about 270° C. to below the decompositon temperature thereof for a time sufficient to cause the evolution of ammonia therefrom.

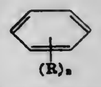
3,265,640

CROSSLINKED POLYMERS FROM α,α-DICHLORO-p-XYLENE AND POLYSUBSTITUTED BENZENES

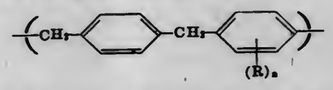
Wendell C. Overhults, Silver Spring, Arthur D. Ketley, Bethesda, and Frank X. Werber, Rockville, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Feb. 28, 1964, Ser. No. 348,269
8 Claims. (Cl. 260—2)

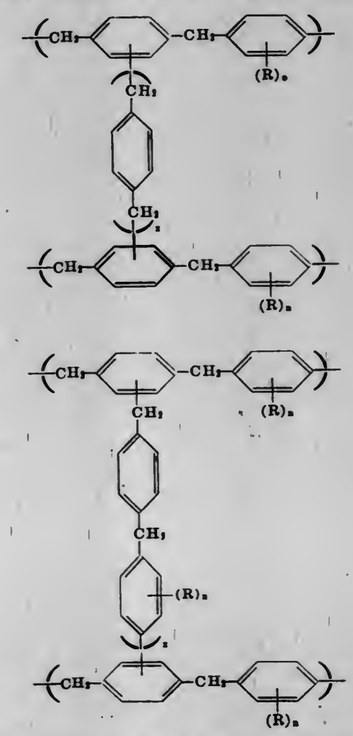
1. The process of forming a shaped crosslinked polymer which comprises reacting *a,a'*-dichloro-p-xylene and a polysubstituted benzene of the formula,



in a 1:1 mole ratio, in the presence of a catalytic amount of a Friedel-Crafts catalyst at a tempearture in the range 40–150° C. to form a soluble condensate polymer having the following recurring structural unit:

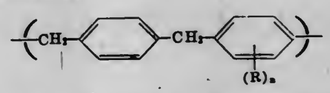


recovering said soluble polymer, adding a further catalytic amount of a Friedel-Crafts catalyst to said recovered soluble polymer, shaping said polymer into a desired shape at temperatures in the range 20–175° C. and curing the shaped polymer at temperatures of 135–300° C. to form a shaped crosslinked polymer containing intermittent structural units from the group consisting of:



and

with substantially all of the remaining intermittent units having the formula:



where in all of said preceding formulas, R is a member of the group consisting of an alkyl group containing 1 to 4 carbon atoms and alkylene groups containing 4 to 8 carbon atoms connected with adjacent benzene carbon atoms to form a cycloalkylene group, *n* is in integer of from 2 to 3 provided that when *n* is 3 at least two of the R groups are attached to adjacent carbon atoms on the benzene ring and *x* is at least 1.

3,265,641

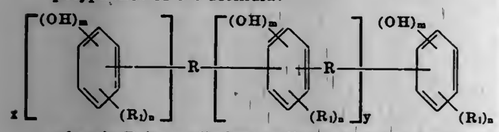
POLYURETHANES PREPARED FROM A MIXTURE OF A SUCROSE POLYETHER POLYOL AND AN OXYALKYLATED POLYPHENOL

Marco Wismer and Louis R. Le Bras, Gibsonia, and James F. Foote, Sarver, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

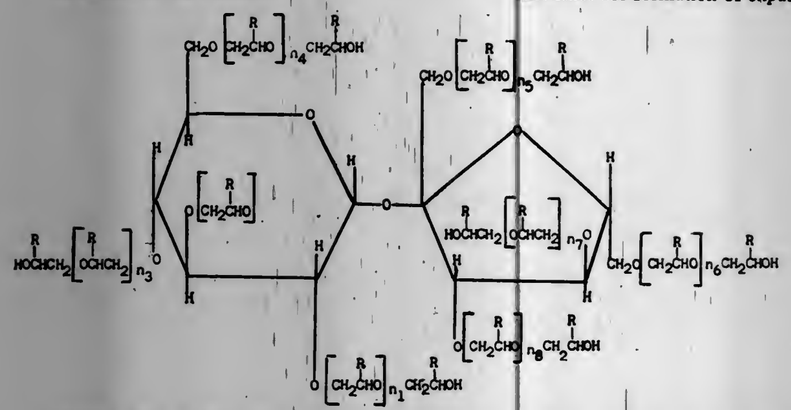
No Drawing. Filed Apr. 16, 1962, Ser. No. 187,935
14 Claims. (Cl. 260—2.5)

1. A polyurethane foam formed from a mixture comprising:

(A) a plurality of oxyalkylated polyhydroxy compounds, one of said polyhydroxy compounds being a polyphenol of the formula:



wherein R is an alkylene radical which has a molecular weight up to about 700, R_1 is selected from the class consisting of aliphatic radicals containing from 1 to 12 carbon atoms and halogen, m is a number from 1 to 3, n is a number from 0 to 3, x is a number from 1 to 3, and y is a number from 0 to 6; oxyalkylation of said polyphenol being effected by reaction with an alkylene oxide containing about 2 to about 4 carbon atoms, in a ratio of at least one mole of alkylene oxide for each hydroxyl group of said polyphenol; and one oxyalkylated polyhydroxy compound which is an oxyalkylation product of sucrose of the formula:



wherein R is selected from the class consisting of hydrogen or methyl, and n_1, n_2, n_3, n_4, n_5, n_6, n_7, and n_8 are whole numbers from 0 to 8 and their sums being in a range of about 2 to about 18;

(B) an organic polyisocyanate; and

(C) a blowing agent.

3,265,642

METHOD OF MANUFACTURING EXPANDABLE SYNTHETIC RESINS

Itaru Hatano and Kazuya Senuma, Kobe, Japan, assignors to Kanegafuchi Chemical Industry Company, Limited, Osaka, Japan, a corporation of Japan

No Drawing. Filed Jan. 11, 1963, Ser. No. 250,778
Claims priority, application Japan, Jan. 23, 1962, 37/2,486
7 Claims. (Cl. 260—2.5)

1. A method of manufacturing expandable synthetic resinous beads which includes the polymerization under pressure of a monomer selected from the group consisting of styrene, alpha-methyl styrene, methyl methacrylate, and mixtures of styrene, alpha-methyl styrene and methyl methacrylate in an aqueous suspension in the presence of a monomer soluble catalyzer, an expanding agent comprising a chemically inactive gas which is gaseous at atmospheric temperature and pressure, and a water soluble nitrite of from 0.0001% to 0.15% by weight of the total quantity of monomer, which water soluble nitrite is selected from the group consisting of sodium nitrite, potassium nitrite, and mixtures of sodium nitrite and potassium nitrite.

3,265,643

CELLULAR POLYSTYRENE AND METHOD OF MANUFACTURING THE SAME

Itaru Hatano and Kazuya Senuma, Kobe, and Tadashi Kasamatsu and Minoru Nishino, Tokyo, Japan, assignors to Kanegafuchi Chemical Industry Company, Limited, Osaka, Japan, a corporation of Japan

No Drawing. Filed Sept. 9, 1963, Ser. No. 312,816
Claims priority, application Japan, Oct. 4, 1962, 37/44,195
12 Claims. (Cl. 260—2.5)

1. The method of manufacturing expandable polymerized polystyrene particles which includes the polymerization in an aqueous suspension medium of a styrene monomer, adding a foaming agent to the polymerization system when the rate of conversion of the styrene monomer is about 80 to 98% of completion, the foaming agent being of the type having characteristics for expansion of polymerized polystyrene particles to from 60 to 400 cc./10 g., the foaming agent further comprising an aliphatic hydrocarbon having from 3 to 4 carbons, sufficient styrene being initially supplied to the system to provide the monomer for formation of expandable polymerized polystyrene particles and a residual quantity thereof equivalent to the quantity of solvent required for particle absorption and holding of the foaming agent, adding a nitrite carrier to the system when the rate of conversion of the styrene monomer is less than 98% complete, the quantity of nitrite carrier added being from 0.0003 to 0.0500% by weight of the total styrene in the system, and selectively introducing calcined perlite into the aqueous medium either during polymerization or after completion of polymerization.

3,265,644

PARTICLE-POLYMER COMPOSITIONS AND PROCESS FOR MAKING SAME

Daniel F. Herman, Princeton, Albert L. Resnick, Metuchen, and Dominic Simone, New Brunswick, N.J., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

Filed Feb. 18, 1963, Ser. No. 259,448
8 Claims. (Cl. 260—8)

1. A process for the polymerization of vinyl monomer on a discrete substrate in the form of particles, fibers or filaments to form a discrete, free-flowing product comprising the steps of:

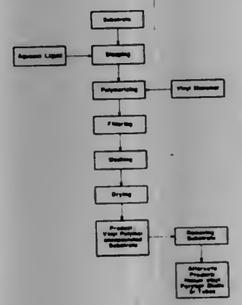
(a) steeping said substrate in an aqueous medium to saturate said substrate with said medium,

(b) forming a free-flowing slurry of said substrate and said aqueous medium,

(c) adding a liquid vinyl monomer to said slurry,

(d) maintaining vinyl monomer polymerization catalyst in said slurry,

(e) polymerizing said monomer; forming vinyl polymer on each individual particle, fiber or filament of said substrate,



(f) said substrate being selected from the class consisting of cellulose, wool, silica and asbestos,

(g) said vinyl monomer being selected from the class consisting of methacrylates, acrylates, styrene, ring-substituted styrenes, vinyl esters, vinyl halides, conjugated diolefins and acrylonitrile,

(h) said catalyst being soluble in at least one of said monomer and said medium and being selected from the class consisting of peroxides, persulfates, azo compounds and redox catalysts, and

(i) said medium being selected from the class consisting of water and aqueous solutions.

3,265,645

LACQUER COMPOSITIONS AND ARTICLES COATED THEREWITH

Charles H. Coney and William E. Wright, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

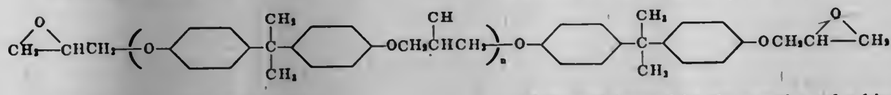
No Drawing. Filed Nov. 19, 1964, Ser. No. 412,310
14 Claims. (Cl. 260—15)

1. A lacquer coating composition, the essential constituents of which comprise in a solvent therefor:

(A) 20–40 parts of a mixed fatty acid ester of cellulose containing fatty acid radicals of 2 to 4 carbon atoms,

(B) 20–60 parts of an alkylated urea-formaldehyde resin,

(C) 10–30 parts of an epoxy compound selected from the group consisting of the polyglycidyl ethers of aliphatic polyols and compounds having the following structural formula:



wherein n is a value from 0 to 2,

(D) 0.1–10 parts of an acid catalyst, and

(E) 0.1–10 parts of an amine selected from the group consisting of the secondary and tertiary aliphatic amines wherein each aliphatic group contains 2–4 carbon atoms.

11. Metal surfaces having a coating thereover comprising the reaction products of the non-volatile components of claim 1.

3,265,646

RESINOUS COMPOSITIONS COMPRISING AN EPOXIDIZED ESTER OF A NEOPENTYL POLYHYDRIC ALCOHOL AND METHOD OF PRODUCING SAME

William M. Kraft, Verona, and Joseph Weisfeld, Orange, N.J., assignors, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed July 18, 1961, Ser. No. 124,798
10 Claims. (Cl. 260—18)

1. The resinous composition comprising (a) an epoxidized ester of a neopentyl polyhydric alcohol containing from 3 to 8 hydroxyl groups per molecule and monocarboxylic acid wherein each of the hydroxyl groups of said neopentyl polyhydric alcohol has been replaced by the acid radical of said monocarboxylic acid, one of said monocarboxylic acid radicals being an aliphatic monocarboxylic acid radical containing from 4 to 22 carbon atoms and from 1 to 3 oxirane groups and the remainder of said monocarboxylic acid radicals being members selected from the group consisting of aliphatic monocarboxylic acid radicals containing from 4 to 22 carbon atoms and from 1 to 3 oxirane groups, aliphatic monocarboxylic acid radicals containing from 4 to 22 carbon atoms, benzenoid monocarboxylic acid radicals, and mixtures thereof, said epoxidized ester having an oxirane content of approximately 4.0% to 8.0%; (b) a low molecular weight polyglycidyl ether which is the product of the condensation of epichlorohydrin with a polyhydric compound selected from the group consisting of polyhydric alcohols and polyhydric phenols, said ether having an average of 1.0 to 3.0 oxirane groups per molecule; and (c) an anhydride selected from the group consisting of 3,4-dimethyl - 6 - isobutenyltetrahydrophthalic anhydride, 3,4-dimethyl-6-isobutylhexahydrophthalic anhydride, and mixtures thereof, said anhydride being liquid at room temperature, said composition containing approximately 0.1 part to 10 parts by weight of said epoxidized ester per part by weight of said polyglycidyl ether and approximately 0.5 to 1.5 equivalents of said anhydride for each epoxide equivalent of said epoxidized ester and said polyglycidyl ether.

3,265,647

TROWELABLE EPOXY-POLYAMIDE COMPOSITION WITH GRADED FILLER

Louis F. Schaeffer, Jr., Landisville, and Alger J. Slosser, East Hempfield Township, Lancaster County, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 29, 1962, Ser. No. 169,607
5 Claims. (Cl. 260—18)

1. A trowelable nondragging short-bodied flooring composition which will not stick to the trowel during working comprising a well blended mixture of (a) from 8–20% by weight of a curable epoxy resin having a viscosity in the range of about 400–3000 centipoises at 75° F. and formed by the reaction of a bis-phenol with an excess of epichlorohydrin in the presence of an alkali, (b) a curing system for the epoxy resin having a viscosity in the range of 5000–18000 centipoises at 75° F. comprising from 1 to 10% by weight of a polyamide obtained by reacting a polymeric fat acid and a polyamine, and

(c) from 75 to 85% by weight of a graded, inorganic, mineral aggregate filler having a sieve analysis of

U.S. standard sieve No.:	Percent by weight retained
14	4–7
16	12–18
18	20–26
20	8–22
30	14–30

with the proviso that substantially 100% by weight of said graded filler pass through a No. 10 sieve and a maximum of 35% by weight pass through a No. 30 sieve.

3,265,648

CRYSTALLIZATION OF POLY-1-BUTENE IN THE PRESENCE OF STEARIC ACID OR BIPHENYL

John Boor, Jr., El Cerrito, and Edward A. Youngman, Lafayette, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 28, 1961, Ser. No. 162,970
2 Claims. (Cl. 260—23)

1. The method of accelerating the transformation of crystalline poly-1-butene from the crystal form which is characterized by a helical chain structure of 4-fold symmetry with an identity period of 6.8 A. and which is unstable at ambient temperatures to the crystal form which is characterized by a helical chain structure of 3-fold symmetry with an identity period of 6.5 A. and which is stable at ambient temperature, which comprises producing a melt of crystallizable poly-1-butene having homogeneously dispersed therein a crystallization modifying amount, in the range from 0.1 to 5% by weight, of stearic acid, and cooling said melt to a temperature between 0° and about 40° C.

3,265,649

PROCESS FOR REFINING POLYOLEFINS BY AN ADDITION OF METAL SALTS OF INORGANIC OR ORGANIC ACIDS

Volkert Faltings, Backemstr. 10, Gelsenkirchen-Buer, Germany; Franz-Josef Meyer, Landstr. 161, Gladbeck, Germany; and Alfred Schäffler, Droste-Hulshofstr. 23, Gelsenkirchen-Buer, Germany

No Drawing. Filed Jan. 8, 1962, Ser. No. 165,986
Claims priority, application Germany, Jan. 9, 1961, Sch 29,029
4 Claims. (Cl. 260—23)

1. A stabilized polymeric composition comprising a polyolefin containing the residue of a metal halide catalyst and, dispersed uniformly in said polyolefin, from 0.01 to 1.0% based on the weight of the polyolefin of a stabilizer selected from the group consisting of sodium and potassium stearate.

3,265,650

ARTIFICIAL SNOW COMPOSITIONS COMPRISING POLYVINYL ACETATE AND WATER

Robert J. Kerr, North Barrington, Ill., assignor to Robert J. Kerr, Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Filed May 20, 1963, Ser. No. 281,814
9 Claims. (Cl. 260—23)

1. A package comprising a sealed container charged under pressure with a self-spraying artificial snow composition comprising from ¼ to 2% by weight of a polyvinyl acetate homopolymer resin, from 30 to 50% by weight of a water immiscible organic solvent for said resin, from 2 to 15% by weight of at least one higher fatty acid as a bulking agent, from 5 to 20% by weight of a normally gaseous propellant, and from 30 to 50% by weight of water.

3,265,651

POLYSULFIDE-NEUTRALIZED PINE TAR COMPOSITIONS

Leonard H. Doppler, Peabody, and John F. Hardy, Andover, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

No Drawing. Filed Sept. 3, 1964, Ser. No. 394,342
7 Claims. (Cl. 260—24)

1. A composition of matter comprising a polysulfide polymer and a pine tar which has been partially neutralized by addition thereto of between about 30% to 80% of the total amount of a basic material selected from the group consisting of metal hydroxides and metal carbonates required to completely neutralize the untreated tar.

3,265,652

RESIN BINDERS

Peter T. Sarjeant, Williamsburg, Pa., and William E. Morris, Charleston, S.C., assignors to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 11, 1964, Ser. No. 351,194
4 Claims. (Cl. 260—25)

1. A resin binder which comprises 100 parts by weight of a phenol-aldehyde resole and between 30 to 100 parts by weight of urea in mutual solution and between 70 and 200 parts by weight of an aliphatic hydrocarbon-insoluble, aromatic hydrocarbon-soluble resin extract from pine wood intimately dispersed in said solution, the quantity of said urea being from 30 to 75% of the weight of said resin extract.

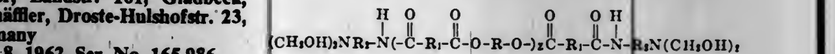
3,265,653

WATER-SOLUBLE FLEXIBILIZER FOR PHENOLIC RESINS COMPRISING A METHYLOLATED AMINE TERMINATED POLYESTER

John R. Le Blanc, Wilbraham, Mass., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Dec. 16, 1963, Ser. No. 330,557
10 Claims. (Cl. 260—29.3)

5. An aqueous phenol-formaldehyde resin having dissolved therein a water soluble methylolated amine terminated polyester corresponding to the following formula:



wherein R is selected from the group consisting of an aliphatic hydrocarbon of 2–18 carbon atoms, an aromatic hydrocarbon of 1 benzene ring, and an alicyclic hydrocarbon of 2–18 carbon atoms; R_1 is selected from the group consisting of an aliphatic hydrocarbon of 2–38 carbon atoms, an aromatic hydrocarbon of 1 benzene ring, and an alicyclic hydrocarbon of 2–38 carbon atoms; R_2 is an aliphatic hydrocarbon of 2–12 carbon atoms; and Z is an integer of from 1–50.

3,265,654

STABLE, AQUEOUS DISPERSIONS OF ETHYLENE COPOLYMERS

Dietrich Glabisch, Leverkusen, and Herbert Bartl, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

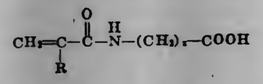
No Drawing. Filed May 15, 1962, Ser. No. 194,981
Claims priority, application Germany, May 26, 1961, F 34,024
6 Claims. (Cl. 260—29.6)

1. A process for production of stable aqueous dispersions of ethylene copolymers in the absence of conventional emulsifiers which comprises polymerizing ethylene in aqueous medium under pressures between 50 and 500

atmospheres and at temperatures between 50° and 100° C. with the aid of water-soluble substances capable of forming free radicals in the presence of

(A) 10 to 60 percent by weight, based on the weight of copolymer, of an ethylenically unsaturated polymerizable, non-ionic compound selected from the group consisting of esters of vinyl alcohol and an alkanoic acid having 2 to 5 carbon atoms, styrene, vinyl chloride, and acrylic and methacrylic esters of aliphatic saturated monohydric alcohols having from 1 to 4 carbon atoms, the ratio by weight between ethylene and said ethylenically unsaturated, polymerizable, non-ionic compound having a value which is not substantially below 1:1, and

(B) 5 to 30 percent by weight, based on the weight of copolymer, of an ethylenically unsaturated polymerizable acid selected from the group consisting of maleic acid semi-esters which are esterified with a saturated aliphatic monohydric alcohol of from 1 to 18 carbon atoms, ethylenically unsaturated polymerizable sulfonic acids, and amides of the formula:



wherein R is selected from the group consisting of H and CH_3 and x is an integer of from 1 to 17.

5. Stable aqueous dispersions of ethylene copolymers as prepared by the process of claim 1.

3,265,655

POLYVINYL ACETATE COMPOSITIONS

William F. Hill, Jr., South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 26, 1963, Ser. No. 311,649
3 Claims. (Cl. 260—29.6)

3. A process for producing plasticized polyvinyl acetate compositions capable of forming continuous, flexible coatings on substrates at room temperature which consists essentially of dispersing in an inert aqueous vehicle a substantially dry blend composition consisting essentially of finely-divided polyvinyl acetate and in admixture therewith about 5 to about 60 weight percent, based on the weight of polyvinyl acetate, of acrylamide.

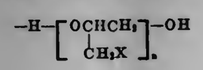
3,265,656

HIGH ACRYLONITRILE POLYMER SOLUTIONS CONTAINING POLYEPIHALOHYDRINS

Fred J. Lowes, Jr., Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 11, 1963, Ser. No. 329,902
6 Claims. (Cl. 260—29.6)

1. In the process of producing articles from a spinning solution of a fiber-forming polymer of acrylonitrile selected from the group consisting of polyacrylonitrile and interpolymers of acrylonitrile containing in the polymer molecule at least about 85 weight percent of acrylonitrile, the balance being at least one other monoethylenically unsaturated monomeric material that is copolymerizable with acrylonitrile, which polymer is dissolved as a spinnable composition in an aqueous saline solvent for said fiber-forming polymer: the step of dissolving in said spinning solution prior to spinning articles therefrom between about 5 and 25 weight percent, based on the polymer weight in said spinning solution, of an essentially water-insoluble polyepihalohydrin of the formula



wherein X is selected from the group consisting of chlorine and bromine and n is an integer of a value sufficient to provide an average molecular weight of between about 450 and 1200 and a viscosity at 100° F. between about 300 to 4000 centistokes.

3,265,657

PROCESS FOR GELLING AQUEOUS POLYVINYL ALCOHOL SOLUTIONS WITH CHROMIUM COMPOUNDS

Harold King Sinclair, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware.

No Drawing. Filed May 27, 1964, Ser. No. 370,721
5 Claims. (Cl. 260—29.6)

1. The process of preparing an aqueous polyvinyl alcohol composition, which remains fluid for at least a few seconds after preparation and spontaneously gels thereafter, which process comprises contacting a gellable fluid aqueous polyvinyl alcohol solution with a hexavalent chromium compound dissoluble therein to provide at least about 3×10^{-4} gram atom of hexavalent chromium per gram of polyvinyl alcohol, and a reducing agent dissoluble therein in amount at least effective to reduce said amount of hexavalent chromium to trivalent chromium but ineffective alone to gel said polyvinyl alcohol solution.

3,265,658

PROCESS FOR PRODUCING POLYETHYLENE IN THE PRESENCE OF CARBON BLACK

Otto Liethen, Karl-Albert Strasse 20, Duisburg-Beek, Germany, and Walter Rottig, Höhenweg 143, Oberhausen-Sterkrade-Nord, Germany

No Drawing. Filed Feb. 28, 1963, Ser. No. 261,832
Claims priority, application Germany, Jan. 16, 1958, R 22,504
4 Claims. (Cl. 260—41)

1. A process for producing compositions of carbon black and polyethylene by polymerization of ethylene at pressures up to approximately 100 kg./cm.² and at temperatures up to approximately 100° C. in the presence of catalysts consisting of mixtures of organometallic compounds of group 3 of Mendeleev's Periodic Table with compounds of metals of the 4th to 6th subgroups of that table which comprises carrying out the polymerization in the presence of more than about 50% by weight, based on the polymer, of carbon black having a particle size of up to 250 m., said carbon black having had any air contained in its pores displaced by an inert gas.

3,265,659

INHIBITION OF POLYMERIZATION

Tadahiro Kobayashi, Fuji-shi, Japan, assignor to Asahi Kasei Kogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan, a corporation of Japan

No Drawing. Original application June 13, 1963, Ser. No. 287,516. Divided and this application July 21, 1965, Ser. No. 482,658
4 Claims. (Cl. 260—45.9)

2. A composition comprising a polymer which is a product of a polymerizable monomer selected from the group consisting of styrene and p-methylstyrene, and 0.5 to 2,000 p.p.m. respectively of at least one stabilizer selected from the group consisting of acetonethiosemicarbazone, acetophenonethiosemicarbazone, acetoaldehydethiosemicarbazone, acetylthiosemicarbazide, phenylthiosemicarbazide, formylthiosemicarbazide, carbaminylthiosemicarbazide, iononethiosemicarbazone, acetonesemicarbazone, acetoaldehydesemicarbazone, acetophenonesemicarbazone, acetylsemicarbazide, phenylsemicarbazide, iononesemicarbazone, and semicarbazide.

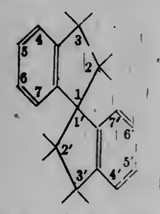
3,265,660

POLYOLEFIN COMPOSITIONS STABILIZED WITH THIODIORGANIC ESTERS AND HYDROXYSPIROHYDRINDENES

Robin Henry Burgess, Market Drayton, John Carswell McGowan, Harpenden, and Vivien Griffiths, Welwyn Garden City, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 29, 1960, Ser. No. 79,131
Claims priority, application Great Britain, Dec. 30, 1959, 44,282/59
19 Claims. (Cl. 260—45.85)

1. A composition comprising (1) an ester of a dialkanoic acid selected from the class consisting of diesters thiodiglycollic thiodipropionic and thiodibutyric acids with an aliphatic alcohol containing from ten to twenty carbon atoms, and (2) a hydroxyspirohydrindene having the formula:



in which at least one substituent at positions 5 and 6 and at least one of the substituents at positions 5′ and 6′ is a hydroxyl group, the others being selected from the class consisting of hydrocarbon, alkoxyl and hydroxyl groups and hydrogen atoms, and in which there is adjacent to at least one of said hydroxyl groups in each benzene ring a substituent selected from the class consisting of hydrocarbon, alkoxyl and hydroxyl groups and in which one substituent at each of positions 2 and 2′ is a hydrogen atom, the other substituents R— and R′— respectively being selected from the class consisting of hydrocarbon groups and hydrogen atoms, and the substituents at positions 3 and 3′ are in each case primary hydrocarbon groups $R''CH_2$— and $R'''CH_2$—, R″ and R‴ being selected from the class consisting of hydrocarbon groups and hydrogen atoms, there being from one to ten hydroxyl atoms provided to the composition by the hydroxyspirohydrindene to each sulfur atom provided to the composition by the thiodialkanoic acid ester.

3,265,661

2,4,6-TRIS(3,5-DI-TERT BUTYL-4-HYDROXYBENZYL) PHENYL ALKANOATES AND POLYPROPYLENE COMPOSITIONS STABILIZED THEREWITH

Albert L. Rocklin, Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 19, 1962, Ser. No. 188,843
4 Claims. (Cl. 260—45.85)

1. Polypropylene containing a stabilizing amount of 2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl)phenyl alkanoate, said alkanoate radical having up to 8 carbon atoms.

3. 2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl)phenyl alkanoate, said alkanoate radical having up to 8 carbon atoms.

3,265,662

MODIFIED HIGH PURITY 2,2-BIS(2,3-EPOXYPROPOXYPHENYL) PROPANE

Harry O. Kirwan and Harold C. Klassen, Louisville, Ky., assignors, by mesne assignments, to Celanese Coatings Company, a corporation of Delaware

No Drawing. Filed July 30, 1962, Ser. No. 213,109
6 Claims. (Cl. 260—47)

1. As a new composition of matter, a modified high purity diglycidyl ether of bisphenol comprising the reaction product of substantially pure crystallizable 2,2-bis(2,3-epoxypropoxyphenyl) propane with 0.5 to 2 parts per 100 parts diglycidyl ether of a curing agent selected from the group consisting of primary and secondary aromatic amines and polybasic acid anhydrides in an amount sufficient to inhibit crystallization, but insufficient to cure the composition without the use of additional curing agent.

3,265,663

POLYMERIC CONDENSATION PRODUCTS OF HALOMETHYLATED DIPHENYL ETHERS AND AMINES AND PROCESS FOR MAKING SAME

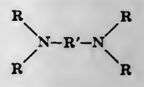
William G. Lloyd, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 13, 1962, Ser. No. 223,556
16 Claims. (Cl. 260—47)

1. A thermoplastic substantially linear condensation polymer obtained by the reaction in an inert polar solvent and at a temperature between about 20° C. and 100° C. of chemically equivalent amounts of (1) a halomethylated diphenyl ether containing not more than 4 halomethyl radicals selected from the group consisting of chloromethyl and bromomethyl radicals, said diphenyl ether having an average of from 1.5 up to 2.5 halomethyl groups per diphenyl ether nucleus, and (2) an amine selected from the group consisting of (a) secondary amines having the formula:



and (b) ditertiary amines having the formula:



wherein each R is individually selected from the group consisting of phenyl, alkyl radicals having from 1 to 10 carbon atoms, hydroxyalkyl radicals having from 2 to 6 carbon atoms and cycloalkyl radicals having from 5 to 6 carbon atoms, and wherein R and R taken together with the nitrogen atom form a ring containing 4 to 5 carbon atoms, and R′ is a bivalent organic hydrocarbon radical selected from the group consisting of polymethylene and phenylene.

3,265,664

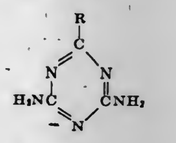
PARTIALLY CURED EPOXY RESINS

Richard W. Fulmer and Dwight E. Peerman, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

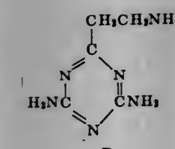
No Drawing. Filed Sept. 12, 1963, Ser. No. 308,359
The portion of the term of the patent subsequent to Oct. 26, 1982, has been disclaimed
4 Claims. (Cl. 260—47)

1. A process of producing a heat curable composition stable for extended periods of time at room temperature comprising: (I) reacting at temperatures of from about 100 to 210° C. (1) a polyglycidyl ether of a polyhydric phenol having an epoxy equivalent weight of from about 140–2000 with (2) a guanamine in an amount sufficient to cure said polyglycidyl ether to an infusible, insoluble polymer, said guanamine being selected from the group consisting of

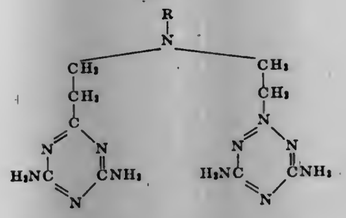
(A)



(B)

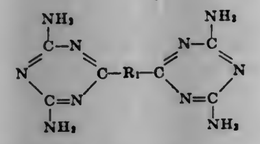


(C)



and

(D)



where R is an aliphatic hydrocarbon group containing from 4 to about 21 carbon atoms and R_1 is the divalent hydrocarbon group of dimerized fatty acids, said dimerized fatty acids having been prepared by polymerizing fatty acids of 5 to 22 carbon atoms; and (II) terminating the reaction by cooling the reaction mixture below 100° C. when 5 to 90% complete as determined by the decrease in oxirane oxygen content of the reaction mixture.

3,265,665

NOVEL COPOLYMERS OF ORGANIC ISOCYANATES AND ALDEHYDES

Gerald J. Mantell, Kansas City, Mo., and David Rankin, Kansas City, Kans., assignors, by mesne assignments, to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Sept. 1, 1961, Ser. No. 135,440
13 Claims. (Cl. 260—67)

1. A normally solid, tough, flexible copolymer produced by simultaneously adding as the sole reaction components to an inert liquid reaction medium maintained at a temperature between about minus 100° C. and 50° C. gaseous, substantially pure formaldehyde and at least one organic isocyanate having from two to about twenty-four carbon atoms and reacting said formaldehyde with said isocyanate under substantially moisture-free and oxygen-free conditions in the presence of a polymerization catalyst, said organic isocyanate being employed in an amount such that it is incorporated into the copolymer in the amount of 0.75 to 25 mole percent based on total moles of both formaldehyde and isocyanate, said copolymer being further characterized by insolubility in acetone, ethanol, benzene and tetrahydrofuran at room temperature, a Barcol hardness within the range of about 50 to 70 and a capability of being molded under pressure at 185° C.

3,265,666

POLYURETHANE RESIN FROM AN ORGANIC ISOCYANATE AND A POLYHYDRIC ALCOHOL ESTERIFIED WITH AN ALKYLATED DIPHENOL

Louise H. Brown, Santa Monica, and Ronald Swidler, Pasadena, Calif., assignors, by mesne assignments, to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed May 22, 1961, Ser. No. 111,497
12 Claims. (Cl. 260—77.5)

1. A polyurethane resin composition comprising the reaction product of an isocyanate selected from the group consisting of organic di- and polyisocyanates, and a chain extender comprising a polyhydric alcohol esterified with an alkylated phenol selected from the group consisting of hydroxyphenylstearic acid, methyl hydroxyphenyl stearate, hydroxyphenylene distearic acid, dimethyl hydroxyphenylene distearate and mixtures thereof, said esterified polyhydric alcohol containing at least two phenolic hydroxyl groups.

3,265,667

CROSS-LINKED POLYTHIOUREA RESINS

Theodore H. Szawlowski, Wonder Lake, Walter E. Kramer, Niles, and Charanjit Rai, Crystal Lake, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Dec. 31, 1962, Ser. No. 248,235
8 Claims. (Cl. 260—77.5)

1. The reaction product consisting of (1) about 2 parts of a linear polythiourea, prepared by the reaction of a polyamine having only 2 to 20 carbon atoms per molecule and 2 to 4 primary amino groups per molecule with carbon disulfide to form the dithiocarbamate and heating said dithiocarbamate to form the linear polythiourea, reacted with (2) about 1 part of an aliphatic amine having 2 to 10 methylene groups and at least 2 primary amino groups per molecule at a temperature of about 100° to about 250° C. for a time sufficient to eliminate hydrogen sulfide.

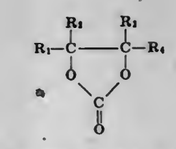
3,265,668

REACTION PRODUCTS OF AMINO-s-TRIAZINE AND ALKYLENE CARBONATES

Rostyslaw Dowbenko and Roger M. Christenson, Gibsonia, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 5, 1963, Ser. No. 270,795
17 Claims. (Cl. 260—77.5)

1. The hydroxyl-containing resinous reaction product of an amino-s-triazine and an alkylene carbonate having the structure



wherein R_1, R_2, R_3 and R_4 are members of the class consisting of hydrogen, alkyl, alkaryl, and aryl groups.

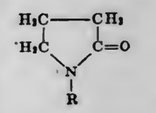
3,265,669

LIQUID AMINE HARDENER COMPOSITIONS FOR POLYURETHANE RESINS

Frank N. Hirosawa, Los Angeles, Calif., assignor to Furane Plastics Incorporated, Los Angeles, Calif., a corporation of California

No Drawing. Filed Aug. 19, 1963, Ser. No. 303,170
7 Claims. (Cl. 260—77.5)

1. A liquid room temperature curing agent for production of a thermosetting rubber-like composition from polyurethane prepolymers comprising an aromatic diamine having two active nitrogen-hydrogen bonds, dissolved in a N-substituted 2-pyrrolidone having the structure



where R is a member of the group consisting of a lower alkyl and a vinyl group.

3,265,670
CURING ETHYLENE-PROPYLENE COPOLYMERS

Charles E. Scott, Drexel Hill, Pa., assignor to Avisun Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Aug. 1, 1961, Ser. No. 128,369
2 Claims. (Cl. 260—79)

1. A curable composition comprising an ethylene-propylene copolymer, an organic peroxide, and from 0.2 to 2.0 parts per hundred by weight, based on the copolymer, of an alkali metal disalt of anthraquinone disulfonic acid as the sole sulfur-containing ingredient of the composition.

3,265,671
SULFIDE-CONTAINING POLYMERS WHICH ARE CURED WITH LITHIUM CYANOBOROHYDRIDE

John E. Mahan and William M. Hutchinson, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed June 14, 1961, Ser. No. 116,974
10 Claims. (Cl. 260—79.5)

1. A process comprising mixing lithium cyanoborohydride with the reaction product of an aliphatic mercaptan and a polymer having a viscosity of at least 200 poises at 25° C. selected from the group consisting of homopolymers of conjugated dienes of 4–12 carbon atoms and copolymers of said conjugated dienes and copolymerizable hydrocarbon monomers containing the $CH^2=C<$ group and heating the resulting mixture to cure the same.

3,265,672
ETHYLENE, LOWER ALKYL VINYL SULFIDE COPOLYMER

Rudolph Pariser and Dexter B. Pattison, Wilmington, Del., and Kurt L. Seligman, Beaumont, Tex., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 29, 1961, Ser. No. 163,070
5 Claims. (Cl. 260—79.7)

1. An elastomeric copolymer containing from about 25 to 70 percent by weight of monomer units of at least one lower alkyl vinyl sulfide, from about 0 to 10 percent by weight of monomer units of a compound of the formula

$$CH_2=CRR'$$

wherein R is selected from the group consisting of hydrogen and a methyl radical and R' is a radical selected from the group consisting of

$-COOH$, $-CONH_2$, $-COOCH_2CH_2OH$, $-COOCH_2-CH\!-\!CH$ (with O), $-COOCH_2-CH=CH_2$, $-COOCH_2CH_2Cl$, and $-CONHCH_2-CH=CH$

and from about 20 to 75 percent by weight of ethylene monomer units.

3,265,673
COPOLYMERS OF LONG-CHAINED ACRYLIC ESTERS WITH SULFUR CONTAINING ACRYLATES

Harry F. Richards, Concord, Calif., and Stephen A. Herbert, Jr., Weston, Conn., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 28, 1962, Ser. No. 247,880
7 Claims. (Cl. 260—79.7)

1. A new oil-soluble copolymer useful as a mineral lubricating oil additive, said copolymer being a copolymer of an acrylate ester of an acrylic acid and a C_8–C_{18} alkanol and a sulfur-containing acrylate ester having the formula

$$CH_2=C(R''')-COOR'-S-R''-Y$$

wherein R' and R'' are C_2–C_{18} alkyl radicals, R''' is selected from the group consisting of hydrogen and a methyl radical and Y is selected from the group consisting of —OH, —COOH, C=N and —SH radicals, said copolymer having a molecular weight of at least 5000.

3,265,674
COPOLYMER OF POLAR-SUBSTITUTED VINYL SULFIDES AND ALKYL ACRYLATES

Dervin Leo Flowers, Palo Alto, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Original application Oct. 10, 1960, Ser. No. 61,350, now Patent No. 3,206,400, dated Sept. 14, 1965. Divided and this application Mar. 26, 1965, Ser. No. 443,089
6 Claims. (Cl. 260—79.7)

1. As a new compound, a copolymer of C_{8-20} alkyl methacrylate and a vinyl sulfide having the formula $CH_2=CHS-R'-Y$ where R' is a C_{2-18} alkyl radical and Y is a polar radical selected from the groups consisting of —OH and —COOH, in the mol ratio of 1:10 to 10:1, respectively, and such that the end product contains at least 8 units selected from the ester and vinyl sulfide units and at least 2 of each group being present in the end product, said copolymer having a molecular weight of from about 1,000 to about 2,500,000.

3,265,675
VINYL 2,2-DIMETHYLALKYL ETHERS AND POLYMERS THEREOF

Hugh J. Hagemeyer, Jr., Alden E. Blood, and James D. Heller, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 2, 1962, Ser. No. 184,493
7 Claims. (Cl. 260—85.5)

1. A homopolymer of a vinyl 2,2-dimethylalkyl ether represented by the structural formula:

$$CH_2=CH-O-CH_2-C(CH_3)_2-(CH_2)_n-CH_3$$

wherein *n* stands for a whole number from 1 to 14 prepared by the process of reacting said vinyl 2,2-dimethylalkyl ethers in the presence of a catalyst selected from the group consisting of free radical, Ziegler and cationic catalysts, wherein said reaction is maintained within the temperature range of —80° C. to 100° C. and wherein said catalyst concentration is maintained within the range of 0.1 to 3 percent based on the weight of the monomer to be polymerized.

3. A copolymer of a vinyl 2,2-dimethylalkyl ether represented by the structural formula

$$CH_2=CH-O-CH_2-C(CH_3)_2-(CH_2)_n-CH_3$$

wherein *n* stands for a whole number from 1 to 14, and a vinyl comonomer selected from the group consisting of vinyl chloride, vinylidene chloride, acrylonitrile and methyl methacrylate prepared by the process of reacting said vinyl 2,2-dimethylalkyl ethers and said vinyl comonomer in the presence of a catalyst selected from the group consisting of free radical, Ziegler, and cationic catalysts, wherein said reaction is maintained within the temperature range of —80° C. to 100° C. and wherein said catalyst concentration is maintained within the range of 0.1 to 3 percent based on the weight of the monomers to be polymerized.

3,265,676
PROCESS FOR REGULATING MOLECULAR WEIGHT OF VINYLINDENE POLYMERS BY USING 3,5-DIMETHYLCYCLOHEXEN-2-ONE-1

Richard E. Delacretaz and Speros P. Nemphos, Springfield, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 18, 1964, Ser. No. 368,370
4 Claims. (Cl. 260—85.5)

1. In a process for polymerizing a free radical-polymerizable material of the group consisting of (a) a polar vinylidene monomer of the group consisting of acrylonitrile, methacrylonitrile, vinyl chloride, an alkyl acrylate, an alkyl methacrylate, and mixtures thereof, (b) mixtures of said polar vinylidene monomer with a copolymerizable monomer of the group consisting of a dialkyl maleate, a dialkyl fumarate, acrylic acid, methacrylic acid, a conjugated diene, a monovinylidene aromatic hydrocarbon, and mixtures thereof, and (c) mixtures of a non-polar vinylidene monomer with a copolymerizable polar monomer of the group consisting of a monoalkyl maleate, a monoalkyl fumarate, a dialkyl maleate, a dialkyl fumarate, maleic anhydride, acrylic acid, methacrylic acid, and mixtures thereof in the presence of a free radical polymerization initiator, the improvement which comprises conducting the polymerization in the presence of a free radical polymerization initiator, the improvement which comprises conducting the polymerization in the presence of 0.05–5% of 3,5-dimethylcyclohexen-2-one-1, based on the weight of the free radical-polymerizable material.

3,265,677
PROCESS FOR REGULATING MOLECULAR WEIGHT IN POLYMERIZATION OF VINYLIDENE MONOMERS USING 1-METHYLCYCLOHEXENE-1 AS REGULATOR

Richard E. Delacretaz and Speros P. Nemphos, Springfield, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 18, 1964, Ser. No. 368,371
5 Claims. (Cl. 260—88.7)

1. In a process for polymerizing a free radical-polymerizable material of the group consisting of (a) a polar vinylidene monomer of the group consisting of acrylonitrile, methacrylonitrile, vinyl chloride, an alkyl acrylate, an alkyl methacrylate, and mixtures thereof, (b) mixtures of said polar vinylidene monomer with a copolymerizable monomer of the group consisting of a dialkyl maleate, a dialkyl fumarate, acrylic acid, methacrylic acid, a conjugated diene, a monovinylidene aromatic hydrocarbon, and mixtures thereof, and (c) mixtures of a non-polar vinylidene monomer with a copolymerizable polar monomer of the group consisting of a monoalkyl maleate, a monoalkyl fumurate, a dialkyl maleate, a dialkyl fumarate, maleic anhydride, acrylic acid, methacrylic acid, and mixtures thereof in the presence of a free radical polymerization initiator selected from the group consisting of peroxy and azo catalysts, the improvement which comprises conducting the polymerization in the presence of 0.05–5% of 1-methylcyclohexene-1, based on the weight of the free radical-polymerizable material.

3,265,678
PROCESS FOR PREPARING POLYVINYL FLUORIDE

James Lee Hecht, Buffalo, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

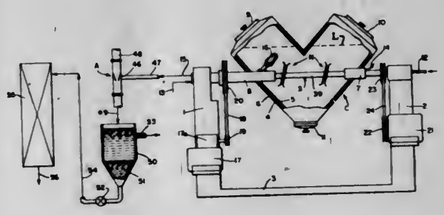
No Drawing. Filed May 18, 1961, Ser. No. 110,875
2 Claims. (Cl. 260—92.1)

1. In a process for the homopolymerization of vinyl fluoride wherein vinyl fluoride, water and a water-soluble free radical reaction initiator are introduced into a reactor maintained at a constant temperature and a super-atmospheric pressure, the contents of the reactor are maintained in a highly dispersed state, a slurry consisting substantially of vinyl fluoride polymer and water is removed from the reactor and the vinyl fluoride polymer recovered from the slurry, the improvement comprising introducing into the reactor a mono-olefin of from 3 to 7 carbon atoms to the extent of from about 10 to less than 10,000 parts per million parts by weight of vinyl fluoride.

3,265,679
CHEMICAL PRODUCT AND METHOD FOR ITS MANUFACTURE

Matthew B. Black III, Ridley Park, Ellsworth E. Faust, Phoenixville, William S. Barnhart, Lafayette Hill, and Raymond Netsch, North Wales, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Sept. 19, 1963, Ser. No. 310,007
11 Claims. (Cl. 260—92.1)



10. A free flowing granular polytetrafluoroethylene molding powder comprised of glomules of particles of a finely pulverized granular polytetrafluoroethylene powder having an air sedimentation sizes of less than 100 microns, said glomules having a dry sieve size in the range of from 300 to 3000 microns; a bulk density in the range of from 400 to 850 grams per liter; an uncompacted flow rating of at least 25; a compacted flow rating of at least 9; said glomules being sufficiently hard to withstand normal handling without disintegration but readily deformable under preforming pressures to produce essentially pore free moldings retaining at least 80% of the tensile strength of moldings produced from the original finely pulverized powder.

3,265,680
POLYMERIZATION OF ISOPRENE

Lawrence E. Forman, Akron, Ohio, Richard S. Stearns, Malvern, Pa., and Richard W. Kibler, Cuyahoga Falls, and Francis A. Bozzacco, Massillon, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 11, 1957, Ser. No. 683,234
17 Claims. (Cl. 260—94.2)

1. Process of polymerizing isoprene to produce a rubbery polyisoprene which, by infra-red analysis, exhibits at least about 75% cis-1,4-structure, not more than about 7 to 10% trans-1,4-structure, not more than about 10% 3,4-structure and essentially no 1,2-structure which process comprises contacting isoprene of a purity in excess of 90 mol percent with a hydrocarbon lithium containing a single atom of lithium per molecule, the hydrocarbon group in said hydrocarbon lithium containing from 1 to 40 carbon atoms, the amount of hydrocarbon lithium being sufficient to provide not more than 0.1 gram of carbon-linked lithium expressed as lithium metal for each 100 grams of isoprene and the polymerization system being essentially free from foreign materials other than hydrocarbons of non-acidic character.

3,265,681
PHOSPHORUS CONTAINING POLYOLS

Lester Friedman, Beachwood Village, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

No drawing. Original application June 11, 1962, Ser. No. 201,240, now Patent No. 3,139,450, dated June 30, 1964. Divided and this application Aug. 7, 1963, Ser. No. 300,665

2 Claims. (Cl. 260—953)

1. The α-hydroxy-β,β,β-trichlorophosphonic acid ester of a lower alkaneetherpolyol, said alkaneetherpolyol being the ether of a lower alkanepolyol having 3 to 6 carbon atoms and 3 to 6 hydroxyl groups, there being no more than one hydroxyl group attached to any carbon atom, with a member of the group consisting of lower alkylene glycols and poly lower alkylene glycols, said ester having a plurality of free alcoholic hydroxyl groups.

3,265,682
PEPTIDE COMPOUNDS

Urs Gloor, Riehen, Peter Quitt, Basel, Rolf Studer, Neuallschwil, and Karl Vogler, Riehen, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed May 29, 1962, Ser. No. 198,455
Claims priority, application Switzerland, June 1, 1961, 6,366/61; Dec. 1, 1961, 13,988/61
15 Claims. (Cl. 260—112.5)

1. A compound selected from the group consisting of compounds of the formula:

$$H_2N\text{—}R\text{—}CO\text{—}NH\text{—}R\text{—}CO\text{—}\left[NH\text{—}R\text{—}CO\right]_{n_2}\left[NH\text{—}R\text{—}CO\right]_{n_1}\text{—}X$$

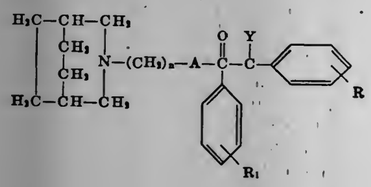
and acid addition salts thereof; wherein n_1 and n_2 are each a whole integer from 0 to 1; X is selected from the group consisting of hydroxy, alkoxy, amino, alkylamino, dialkylamino, and hydrazino; each R is the residue of an α-amino acid devoid of its α-amino and carboxyl group, at least one R being the residue of a diaminocarboxylic acid; and the molecule contains at least one long-chain aliphatic group selected from the group consisting of a long-chain aliphatic acyl substituent on a free amino group and a long-chain aliphatic substituent comprehended by X when X is selected from the group consisting of alkylamino and dialkylamino.

3,265,683
CERTAIN 3-ACYLAMIDOALKYL-3-AZABICYCLO [3.2.2]NONANE COMPOUNDS

Jack Bernstein, New Brunswick, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 16, 1963, Ser. No. 251,763
7 Claims. (Cl. 260—239)

1. A compound of the formula



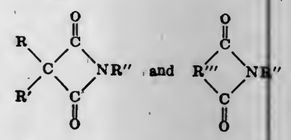
wherein A is a member of the group consisting of NH and N-lower alkyl, Y is a member of the group consisting of hydrogen, halogen, hydroxy and lower alkoxy, R and R_1 each is a member of the group consisting of hydrogen, halogen, lower alkyl, trihalomethyl and lower alkoxy, and n is an integer from 2 to 4, and physiologically acceptable acid addition and quaternary ammonium salts thereof.

3,265,684
PROCESS FOR PREPARING 1:1 KETENE-ISOCYANATE ADDUCTS

John E. Herweh, East Hempfield Township, Lancaster County, and Algirdas C. Poshkus, Lancaster, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

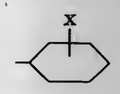
No Drawing. Filed Dec. 12, 1963, Ser. No. 329,985
3 Claims. (Cl. 260—239)

1. A process for preparing compounds selected from the class consisting of

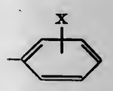


and

where R and R′ are selected from the group consisting of alkyl radicals of 1 to 12 carbon atoms and



where X is selected from the group consisting of hydrogen, halogen, —NO_2, alkyl, alkoxy, and aryl; where R″ is



where X is selected from the group consisting of hydrogen, halogen, —NO_2, alkoxy, alkyl and aryl and where R‴ is a cycloalkyl radical of from 3 to 6 carbon atoms; comprising reacting an acid chloride selected from the class consisting of an acid chloride of the formula RR′CHCOCl and an acid chloride of the formula R‴COCl with an isocyanate of the formula R″NCO in the presence of a tertiary amine.

3,265,685
PROCESS FOR THE PREPARATION OF LACTAMS

Hans-Joachim Schultze, Chur, Grisons, Johann Giesen, Haldenstein, Grisons, and Clau Berther, Chur, Grisons, Switzerland, assignors to Inventa A.G. fur Forschung und Patentverwertung, Zurich, Switzerland

No Drawing. Filed Nov. 4, 1963, Ser. No. 321,286
3 Claims. (Cl. 260—239.3)

1. Process for the preparation of a lactam which comprises in a first stage reacting a primary hydroxymethyl cycloalkane having at least 6 ring carbon atoms with sulfuric acid containing simultaneous oxidizing and nitrosating agents to form an oxime, and in a second stage, after substantial completion of the oxime formation, adding oleum to the reaction mixture to convert the oxime to the corresponding lactam.

3,265,686
2-AMINOMETHYLENE-3-OXO STEROIDS AND PREPARATION THEREOF

Raymond O. Clinton, East Greenbush, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 27, 1960, Ser. No. 4,882
30 Claims. (Cl. 260—239.5)

1. A 3-oxo-steroid having from seventeen to about twenty-three carbon atoms exclusive of ester radicals and being further substituted in the 2-position by the group-

ing B=N—C(R)= wherein B=N is selected from the group consisting of primary amino, and basic secondary and tertiary amino having a molecular weight less than about 200, and R is selected from the group consisting of hydrogen and lower-alkyl.

14. 2 - [(1 - pyrrolidyl)methylene] - 4 - androsten-17β-ol-3-one.

3,265,687
COMPLEX HYDRAZONES CONTAINING THE FERROCENE STRUCTURE

John W. Cusic, Skokie, and Peter Yonan, Chicago, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 29, 1963, Ser. No. 298,442
1 Claim. (Cl. 260—240)

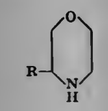
1 - diphenylmethyl - 4 - ferrocenylmethyleneaminopiperazine.

3,265,688
METHOD FOR PREPARING SUBSTITUTED MORPHOLINES

Fred Keller, Northridge, Calif., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed Apr. 15, 1963, Ser. No. 272,860
1 Claim. (Cl. 260—247)

A process of preparing compounds of the formula



wherein R is phenyl-lower alkyl which comprises treating 2-(phenyl-lower alkyl)-2-aminoethanol with a haloacetyl halide, refluxing the product with an alkali metal hydride and refluxing the resulting 5-(phenyl-lower alkyl) morpholone-3 with a member selected from the group consisting of an alkali metal aluminohydride and an alkali metal borohydride.

3,265,689
PROCESS FOR THE PRODUCTION OF SUBSTITUTED AZULENES

Klaus Hafner, Darmstadt, and Heinrich Pelster, Leverkusen, Germany, assignors to Studiengesellschaft Kohle G.m.b.H., Mulheim (Ruhr), Germany, a corporation of Germany

No Drawing. Filed Sept. 7, 1965, Ser. No. 485,159
Claims priority, application Germany, Mar. 25, 1960, St 16,278
3 Claims. (Cl. 260—247)

1. The process which comprises subjecting an azulene compound which is substituted in one of the positions 1 and 3 by hydrogen to the action of a complex acid selected from the group consisting of the fluoboric, perchloric, and hexachloro antimonic acids, in an inert solvent, introducing into the resulting reaction mixture a compound having the formula



wherein

R_1 is a member selected from the group consisting of alkyl, aralkyl and aryl,

R_2 is a member selected from the group consisting of hydrogen, alkyl, aralkyl, aryl and alkoxy, and

R_3 and R_4 are members selected from the group consisting of alkoxy and, taken together, oxygen,

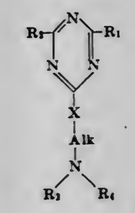
isolating the resulting precipitate and subjecting it to reaction with a compound selected from the group consisting of the CH—, OH—, SH—, and NH— acid organic compounds and the alkali metal salts thereof, the alkali metal hydroxides, the alkali metal hydrides and the Grignard compounds.

3,265,690
AMINOALKYLAMINO- AND AMINO-ALKOXY-1,3,5-TRIAZINES

Max Matter, Muri, Bern, and Roland Glatthard, Bern, Switzerland, assignors to Haco A.G., Bern, Switzerland

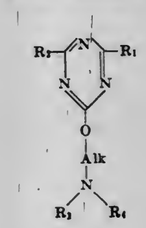
No Drawing. Filed Jan. 8, 1964, Ser. No. 336,358
Claims priority, application Switzerland, Jan. 11, 1963, 355/63
19 Claims. (Cl. 260—247.1)

1. A compound of the formula



where R_1 is a member selected from the group consisting of chlorine, alkoxy, alkylamino, dialkylamino, pyrrolidino, piperidino and morpholino, R_2 is a member selected from the group consisting of alkoxy, alkylamino, dialkylamino, pyrrolidino, piperidino and morpholino, X is a member selected from the group consisting of NH and N-lower alkyl, Alk is lower alkylene, R_3 and R_4 each is a member selected from the group consisting of hydrogen and lower alkyl, R_3 and R_4 collectively with the adjacent N is a member selected from the group consisting of pyrrolidino, piperidino and morpholino, the total number of carbon atoms in the radicals R_1 and R_2 ranging between 3 and 11 inclusive, and wherein R_3 may form a ring together with Alk and may also form a ring with the NH variant of X.

7. A compound of the formula



wherein R_1 is a member selected from the group consisting of chlorine, alkylamino, dialkylamino, pyrrolidino, piperidino, and morpholino, R_2 is a member selected from the group consisting of alkylamino, dialkylamino, pyrrolidino, piperidino and morpholino, Alk is lower alkylene, R_3 and R_4 each is a member selected from the group consisting of hydrogen and lower alkyl, and R_3 and R_4 collectively with the adjacent N are a member selected from the group consisting of pyrrolidino, piperidino and morpholino, the total number of carbon atoms in the radicals R_1 and R_2 ranging between 3 and 11 inclusive, and wherein R_3 may form a ring together with Alk.

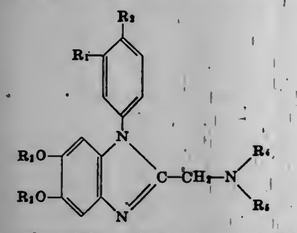
3,265,691

1-BENZYL-2-AMINOMETHYL-5,6-DIALKOXY-BENZIMIDAZOLES

Helmer Richter, Grafing, near Munich, and Dieter Rahtz, Berlin, Germany, assignors to Schering AG, Berlin, Germany

No Drawing. Filed Feb. 5, 1964, Ser. No. 342,820
Claims priority, application Germany, Feb. 9, 1963, Sch 32,737
27 Claims. (Cl. 260—247.5)

1. A compound selected from the group consisting of compounds of the formula



wherein R_1 is selected from the group consisting of hydrogen and lower alkoxy, wherein R_2 is selected from the group consisting of hydrogen, halogen and lower alkoxy, wherein R_3 is lower alkyl, wherein R_4 is selected from the group consisting of lower alkyl, lower hydroxyalkyl and cyclohexyl, wherein R_5 is selected from the group consisting of lower alkyl, lower hydroxyalkyl and hydrogen and wherein R_4 and R_5 together with the nitrogen atom are selected from the group consisting of morpholine, piperidine, pyrrolidine and piperazine, which later may be substituted by lower alkyl or lower hydroxyalkyl; and non-toxic acid addition salts thereof.

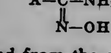
3,265,692

PROCESS FOR THE PREPARATION OF OXADIAZOLE DERIVATIVES

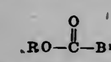
Kálmán Harsányi, Pál Kiss, Dezsö Korbonits, Ilona Malyáta, Ilona Erdélyi, Laszló Tardos, and György Leszkovszky, all of Budapest, Hungary, assignors to Chinoin Gyogyszer-es Vegyeszeti Termekek Gyara RT, Budapest, Hungary

No Drawing. Filed Mar. 19, 1964, Ser. No. 353,270
Claims priority, application Hungary, Mar. 22, 1963, CI 437; Mar. 29, 1963, CI 438
8 Claims. (Cl. 260—247.5)

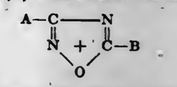
1. The method which comprises reacting an amidoxime of the formula:



wherein A is selected from the group consisting of alkyl amino substituted alkyl, hydroxy substituted alkyl, alkoxy substituted alkyl, acylamino substituted alkyl, alkylamino substituted alkyl, dialkylamino substituted alkyl, aryl substituted alkyl, substituted aryl substituted alkyl, heterocyclic substituted alkyl, cycloalkyl, aryl, amino substituted aryl, hydroxy substituted aryl, alkoxy substituted aryl, acylamino substituted aryl, alkylamino substituted aryl, dialkylamino substituted aryl, alkyl substituted aryl, halogeno substituted aryl, heterocyclic, amino subsituted heterocyclic, hydroxy substituted heterocyclic, alkoxy substituted heterocyclic, acyl-amino substituted heterocyclic, alkylamino substituted heterocyclic, dialkylamino substituted heterocyclic, alkyl substituted heterocyclic and halogeno-substituted heterocyclic radicals, with an ester of the formula:



wherein B^1 is selected from the group consisting of alkyl, amino substituted alkyl, hydroxy substituted alkyl, alkoxy substituted alkyl, acylamino substituted alkyl, alkylamino substituted alkyl, dialkylamino substituted alkyl, aryl substituted alkyl, substituted aryl substituted alkyl, heterocyclic substituted aralkyl, cycloalkyl, aryl, amino substituted aryl, hydroxy substituted aryl, alkoxy substituted aryl, acylamino substituted aryl, alkylamino substituted aryl, dialkylamino substituted aryl, alkyl substituted aryl, halogeno substituted aryl, heterocyclic, amino substituted heterocyclic, hydroxy substituted heterocyclic, alkoxy substituted heterocyclic, acyl-amino substituted heterocyclic, alkylamino substituted heterocyclic, dialkylamino substituted heterocyclic, alkyl substituted heterocyclic halogeno substituted heterocyclic radicals, and O alkyl in the presence of a substance selected from the group consisting of alkali metal alcoholates and alkaline earth alcoholates so as to directly obtain ring closure and form the corresponding 1,2,4-oxadiazole of the formula:



wherein A has the same definition as above, and wherein B is selected from the group consisting of alkyl, amino substituted alkyl, hydroxy substituted alkyl, alkoxy substituted alkyl, acylamino substituted alkyl, alkylamino substituted alkyl, dialkylamino substituted alkyl, aryl substituted alkyl substituted aryl, substituted alkyl, heterocyclic substituted alkyl, cycloalkyl, aryl, amino substituted aryl, hydroxy substituted aryl, alkoxy substituted aryl, acylamino substituted aryl, alkylamino substituted aryl, dialkylamino substituted aryl, alkyl substituted aryl, halogeno substituted aryl, heterocyclic, amino substituted heterocyclic, hydroxy substituted heterocyclic, alkoxy substituted heterocyclic, acyl-amino substituted heterocyclic, alkylamino substituted heterocyclic, dialkylamino substituted heterocyclic, alkyl substituted heterocyclic halogeno substituted heterocyclic radicals, and hydroxyl.

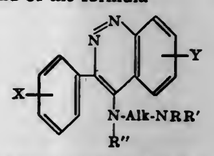
3,265,693

3-PHENYL-4-DIALKYLAMINOALKYLAMINO-CINNOLINES

Harman S. Lowrie, Glenview, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 13, 1964, Ser. No. 382,366
9 Claims. (Cl. 260—247.5)

1. A compound of the formula



wherein Alk is lower alkylene separating the nitrogens attached thereto by at least 2 carbon atoms; —NRR′ is selected from the group consisting of amino, di(lower alkyl)amino, 1-pyrrolidinyl, piperidino, morpholino, and 4-methyl-1-piperazinyl; R″ is selected from the group consisting of hydrogen and methyl; X is selected from the group consisting of hydrogen, methyl, methoxy, and chlorine; and Y is selected from the group consisting of hydrogen and methyl.

3,265,694

OXYALKYLATED ISOCYANURIC ACID

Wilhelm E. Walles, Midland, and James J. Davies, Mount Pleasant, Mich., assignors to The Dow Chemical Company, a corporation of Michigan

No Drawing. Original application July 25, 1960, Ser. No. 44,893. Divided and this application Oct. 14, 1963, Ser. No. 334,681
5 Claims. (Cl. 260—248)

1. The process for oxyalkylating cyanuric acid comprising reacting by contacting cyanuric acid with at least three molecular equivalents of an alkylene oxide in the presence of an acid catalyst and at a temperature of about 150° to 200° C.

3,265,695

MELAMINE CATALYST AND PROCESS

Elton Fisher, College Park, and Marcello T. Giachino, Ellicott City, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed June 12, 1963, Ser. No. 287,184
3 Claims. (Cl. 260—249.7)

1. The method of preparing melamine that comprises passing cyanic acid-ammonia vapor feed over a urea-phosphorus catalyst at a temperature of 325–485° C. and a pressure ranging from sub-atmospheric to about 6 atmospheres.

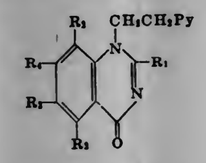
3,265,696

PYRIDYLETHYLATED 4 (1H)-QUINAZOLINONES AND DERIVATIVES THEREOF

Edgar S. Schipper, Clifton, N.J., assignor to Shulton, Inc., Clifton, N.J., a corporation of New Jersey

No Drawing. Filed July 2, 1964, Ser. No. 380,060
7 Claims. (Cl. 260—256.4)

1. A compound selected from the class consisting of pyridylethylated 4-(1H)-quinazolinones and non-toxic acid addition salts thereof, said pyridylethylated 4-(1H)-quinazolinones having the formula:



in which Py is selected from the group consisting of 2-pyridyl and 4-pyridyl; R_1 is selected from the group consisting of hydrogen and lower alkyl and R_2, R_3, R_4 and R_5 are selected from the group consisting of hydrogen, lower alkoxy bromine and chlorine.

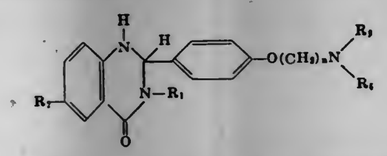
3,265,697

2-p-DIALKYLAMINOALKOXYPHENYL - 2,3 - DIHYDRO-4(1H)-QUINAZOLINONES AND THEIR DERIVATIVES

Edgar S. Schipper, Clifton, N.J., assignor to Shulton, Inc., Clifton, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 4, 1964, Ser. No. 394,604
8 Claims. (Cl. 260—256.4)

1. A compound selected from the class consisting of 2-p-dialkylaminoalkoxyphenyl - 2,3 - dihydro-4(1H)-quinazolinones and non-toxic acid addition salts thereof, said 2-p-dialkylaminoalkoxyphenyl - 2,3 - dihydro-4(1H)-quinazolinones having the formula:



in which R_1 is selected from the group consisting of hydrogen, lower alkyl, cyclo lower alkyl, allyl, homoveratryl, phenyl and substituted phenyl in which the substituent is selected from the group consisting of lower alkyl and halogen; R_2 is selected from the group consisting of hydrogen and halogen; R_3 and R_4 are selected from the group consisting of hydrogen and lower alkyl; and n is a whole number from 1 to 3.

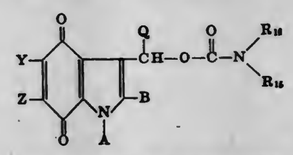
3,265,698

NOVEL SUBSTITUTED 3-(α-CARBAMOYLOXY-LOWER ALKYL)-4,7-INDOLOQUINONES

George Rodger Allen, Jr., Old Tappan, N.J., and John Frank Poletto, Nanuet, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Aug. 7, 1964, Ser. No. 388,312
20 Claims. (Cl. 260—268)

1. A member of the class consisting of 3-(α-carbamoyloxy-lower alkyl)-4,7-indoloquinones of the formula:



wherein A is selected from the group consisting of hydrogen, lower alkyl, ω-(halo)lower alkyl, ω-(lower alkylthio)lower alkyl, ω-(di-lower alkylsulfonium)lower alkyl halide, ω-(hydroxy)lower alkyl, ω-(tetrahydropyranyloxy)lower alkyl, ω-(azido)lower alkyl and ω-(mercapto)lower alkyl; B is selected from the group consisting of hydrogen, lower alkyl, halomethyl, aminomethyl, hydroxymethyl, lower alkoxymethyl, lower alkanoyloxymethyl, tetrahydropyranyloxymethyl, N-mono-(lower alkyl)carbamoyloxymethyl, lower alkanoylthiomethyl, lower alkoxycarbonyl, carboxamido, cyano, formyl, hydroxyiminomethyl, lower alkoxyiminomethyl, N⁴-lower alkylsemicarbazanomethyl and semicarbazanomethyl; Q is selected from the group consisting of hydrogen and lower alkyl; Y is selected from the group consisting of hydrogen, hydroxy, lower alkoxy, halogen, lower alkyl, lower alkylthio, amino, mono(lower alkyl)amino, di(lower alkyl)amino-, ω-(hydroxy)-lower alkylamino, ω-(di-lower alkylamino, mono(lower alkyl)amino, ω-(tri-lower alkylammonium)mono(lower alkyl)amino halide, lower cycloalkylamino, phenyl lower alkylamino and polymethyleneimino of from two to five carbon atoms; Z is selected from the group consisting of hydrogen, lower alkyl, bromine, lower alkoxy, amino and methylamino; R_{18} is selected from the group consisting of hydrogen, lower alkyl and phenyl; R_{16} is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, phenyl lower alkyl, phenyl, halo-substituted phenyl, lower alkoxy-substituted phenyl, naphthyl, ω-di(lower alkyl)amino-alkyl, lower cycloalkyl, ω-(cyano)lower alkyl, ω-(lower alkylthio)lower alkyl, ω-(lower alkoxy)lower alkyl, β-hydroxy)lower alkyl, γ-(hydroxy)lower alkyl and amino; and R_{15} and R_{16} taken together with N(itrogen) is selected from the group consisting of N-lower alkylpiperazino, N-(ω-hydroxy lower alkyl)piperazino, N-[(ω-di-lower alkylamino)lower alkyl]piperazino, morpholino, cyclopolymethyleneimino of from 2 to 5 carbon atoms and bis-lower carboalkoxymethyl.

3,265,699

PROCESS FOR PRODUCING LINEAR QUINACRIDONES OF SMALL PARTICLE SIZE

Edward E. Jaffe, Union, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 9, 1962, Ser. No. 165,234
1 Claim. (Cl. 260—279)

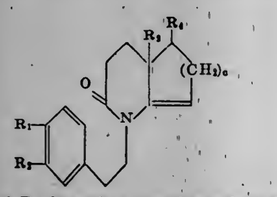
In a process for the regeneration of linear quinacridone from its solution in polyphosphoric acid to a pigment in small particle size, the improvement which consists of precipitating the pigment from the acid solution predominantly in the gamma crystal phase by the slow addition of a substantially anhydrous lower alkyl alcohol to said solution, said addition being made in not less than about one-half hour, and subsequently heating at the boil.

3,265,700
PROCESS FOR THE PRODUCTION OF SUBSTITUTED LACTAMS

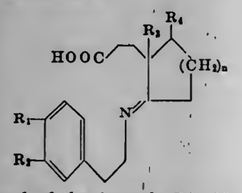
Richard E. Brown, Hanover, and Robert I. Meltzer, Rockaway, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed July 18, 1963, Ser. No. 296,088
1 Claim. (Cl. 260—289)

Process for the production of a compound of the formula:



wherein R_1 and R_2 is each a member selected from the group consisting of hydrogen and lower alkoxy, R_3 is lower alkyl, R_4 is a member selected from the group consisting of hydrogen, hydroxy and keto and n is an integer of from 1 to 2, which comprises contacting a compound of the formula:



with a compound of the formula R'—N=C=N—R' in which R' is a member selected from the group consisting of isopropyl, cyclohexyl and isobutyl.

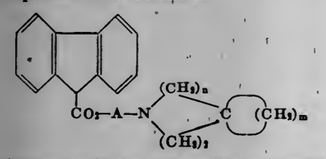
3,265,701
FLUORENE-9-CARBOXYLIC ACID ESTERS OF HYDROXYALKYL AZASPIRANES

Meier E. Freed, Philadelphia, Pa., and Leonard M. Rice, Minneapolis, Minn., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 10, 1963, Ser. No. 294,163
5 Claims. (Cl. 260—294.3)

1. 2-(3-azaspiro[5.5]undec-3-yl)ethyl-9-fluorene carboxylate.

3. A compound of the formula:



and the pharmaceutically acceptable acid addition salts thereof, wherein A is an alkylene group having from 2 to 4 carbon atoms; n is an integer from 1 to 2; and m is an integer from 4 to 7.

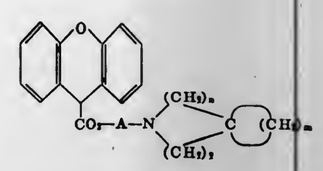
3,265,702
NOVEL XANTHENE-9-CARBOXYLIC ACID ESTERS OF HYDROXYALKYL AZASPIRANES

Meier E. Freed, Philadelphia, Pa., and Leonard M. Rice, Minneapolis, Minn., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 10, 1963, Ser. No. 294,139
5 Claims. (Cl. 260—294.3)

1. 3-(3-azaspiro[5.5]undec-3-yl)propyl xanthene-9-carboxylate.

3. A compound of the formula:



and the pharmaceutically acceptable acid addition salts thereof, wherein A represents alkylene having from 2 to 4 carbon atoms; n is an integer from 1 to 2, and m is an integer from 4 to 7.

3,265,703
PROCESS FOR PURIFYING 3-QUINUCLIDONE

Sidney Beinfest, Berkeley Heights, Phillip Adams, Murray Hill, Benedict Juliano, Elizabeth, and John F. Marshik, Summit, N.J., assignors, by mesne assignments, to Millmaster Onyx Corporation, a corporation of New York

No Drawing. Filed July 31, 1964, Ser. No. 386,745
6 Claims. (Cl. 260—294.7)

1. A process for purifying 3-quinuclidone contained in admixture with tarry impurities which comprises distilling it in the presence of an inert, organic diluent at a vapor temperature in the range of 90–180° C., the organic diluent having an atmospheric boiling point in the range of about 150–300° C., and condensing the resulting distillate to obtain a fraction consisting essentially of 3-quinuclidone and diluent.

3,265,704
PICOLINE ESTERS

Jean Heusser, Zurich, Switzerland, assignor to Hommel Aktiengesellschaft, Adliswil, Zurich, Switzerland

No Drawing. Filed Jan. 29, 1963, Ser. No. 254,580
Claims priority, application Switzerland, Jan. 30, 1962, 1,104/62
6 Claims. (Cl. 260—294.8)

1. A member selected from the group consisting of α-phenylbutyric acid-ω-hydroxy-γ-picolyl ester, benzoic acid-ω-hydroxy-γ-picolyl ester and the acid salts thereof with pharmaceutically acceptable acids.

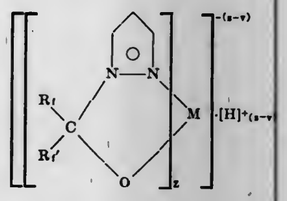
5. Methanesulfonate of α-phenylbutyric acid-ω-hydroxy-γ-picolyl ester.

3,265,705
METAL COMPLEXES OF PYRAZOLE-HALOKETONES AND PREPARATION THEREOF

Walter Mahler, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 9, 1965, Ser. No. 462,721
11 Claims. (Cl. 260—299)

1. The class of chelate complexes having the formula



wherein R_f and R_f' each has 1–6 carbon atoms and is selected from the group consisting of perhaloalkyl and ω-hydroperhaloalkyl; R_f and R_f' taken together are perhaloalkylene having 3–6 carbon atoms; M is an element having an atomic number within one of the ranges 21–30, 39–48, 57–80 and 90–94, with the provisos that when the element has an atomic number of 74, it is in the form WO_2, and when the element has an atomic number of 92, it is in the form UO_2; z is one-half the coordination number of M and is an integer from 1–4; v is the valence state of M and is an integer from 1–4; and $(z-v)$ is an integer from 0 to 1.

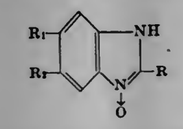
11. The process for preparing the chelate complexes of claim 1 which comprises the steps of contacting and reacting a metal pyrazolide $M(C_3H_3N_2)_z$ with a ketone R_fCOR_f', with M, R_f, R_f' and z being as defined in claim 1, at a temperature of 0–200° C., with the molar ratio of said pyrazole to said ketone being within the range 1:20 to 20:1, and thereafter recovering by conventional means from the reaction mixture said chelate complex.

3,265,706
PROCESSES FOR PREPARING CERTAIN 2-SUBSTITUTED BENZIMIDAZOLE COMPOUNDS

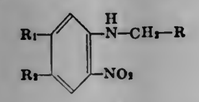
George Gal, Summit, and Meyer Sletzinger, North Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 19, 1965, Ser. No. 481,116
5 Claims. (Cl. 260—302)

1. A process for preparing compounds of the formula



where R is thiazolyl, isothiazolyl or thiadiazolyl; and R_1 and R_2 are each hydrogen, loweralkyl, halo, phenyl, halophenyl, thienyl, loweralkoxy, loweralkylthio, phenoxy or phenylthio, provided that when both R_1 and R_2 are other than halo, at least one of R_1 and R_2 is hydrogen, which comprises treating a compound of the formula



where R, R_1 and R_2 are as defined above, with a strong base in a solvent capable of dissolving the base.

3,265,707
PROCESS OF PREPARING 3,4,5-TRIAMINO-4H-1,2,4-TRIAZOLE

Ralph Grassing Child, Pearl River, N.Y., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Nov. 14, 1963, Ser. No. 323,582
3 Claims. (260—308)

1. The method of preparing guanazine which comprises contacting dimethylcyanamide and hydrazine at a temperature ranging from about 30° C. to about 250° C. for a period of time ranging from about one-half hour to about 24 hours.

3,265,708
N-PARAHYDROXYPHENYLMALEIMIDE AND PROCESSES FOR ITS PRODUCTION

Charles H. Stiteler, Hillsdale, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 1, 1964, Ser. No. 356,633
3 Claims. (Cl. 260—326.5)

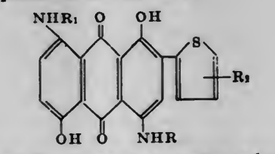
1. Symmetrical N-(4-hydroxyphenyl) maleimide having a melting point of 181°–182° C.

3,265,709
ANTHRAQUINONE DYESTUFFS AND PROCESS FOR THE PRODUCTION THEREOF

Kurt Klemm, Leverkusen, and Günter Gehrke, Cologne-Flittard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 14, 1962, Ser. No. 244,550
Claims priority, application Germany, Dec. 23, 1961, F 35,647
9 Claims. (Cl. 260—329.2)

1. A compound of the formula



wherein R and R_1 represent a member selected from the group consisting of hydrogen and a lower alkyl group and wherein R_2 represents a member selected from the group consisting of hydrogen, halogen, lower alkyl, phenyl and phenyl lower alkyl.

3,265,710
SOLVENTS EXTRACTS CONTAINING THIOPHENE GROUPS

George W. Ayers, Chicago, and William A. Krewer, Arlington Heights, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Dec. 26, 1961, Ser. No. 162,203
The portion of the term of the patent subsequent to Mar. 10, 1981, has been disclaimed
2 Claims. (Cl. 260—330.5)

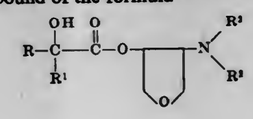
1. The amino product produced by the reaction of
(1) solvent extracts obtained in the solvent extraction of mineral lubricating oils using a solvent selective for aromatic compounds, said solvent extracts being complex, aromatic polynuclear sulfur and nitrogen-containing heterocyclic compounds characterized by having an average molecular weight of about 300 to 750, a combined sulfur content of about 0.9 to 4.5 wt. percent, and an average of about 1.7 to 3.5 aromatic rings per mean aromatic molecule;
(2) a sulfonating agent at a temperature sufficient to form the sulfonate of said solvent extracts;
(3) neutralizing said sulfonate product with an alkali metal hydroxide to form the alkali metal sulfonate salt thereof;
(4) fusing said alkali metal sulfonate salt with an alkali metal hydroxide at a temperature of about 600° F.–650° F. to form the alkali metal aryl oxide form thereof;
(5) acidifying said alkali-metal aryl oxide with a mineral acid to form the phenolic product and
(6) heating said phenolic-solvent extract product with ammonia in the presence of ammonium sulfite at about 205° to 210° F. to form the amino-solvent extract product.

3,265,711
AMINOTETRAHYDROFURYL ESTERS

Richard P. Pioch, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed May 24, 1965, Ser. No. 458,462
6 Claims. (Cl. 260—332.2)

1. A compound of the formula



wherein, when taken separately, R is phenyl and R^1 is selected from the group consisting of hydrogen, phenyl, tolyl, chlorophenyl, trifluoromethylphenyl, benzyl, thienyl, C_1–C_4 alkyl, C_3–C_7 cycloalkyl, bicycloheptyl, and bicycloheptenyl;

R and R^1, when taken together with the carbon atom to which they are attached, are 9-fluorenyl;

R^2, when taken separately, is selected from the group consisting of hydrogen and C_1–C_3 alkyl;

R^3, when taken separately, is selected from the group consisting of C_1–C_4 alkyl, cyclopropyl, cyclobutyl and allyl; and

R^2 and R^3, when taken together with the nitrogen atom to which they are attached, form a 5- to 7-membered heterocyclic ring selected from the group consisting of pyrrolidino, piperidino, methylpiperidino, hexamethyleneimino, morpholino, thiamorpholino, and 4-methylpiperazino.

3,265,712
THIOPHENE OXIDATION PROCESS AND PRODUCTS OBTAINED THEREBY

Thomas J. Jennings, Lafayette, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 14, 1964, Ser. No. 403,910
14 Claims. (Cl. 260—332.3)

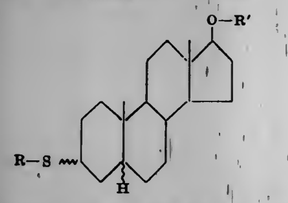
1. The process of producing thiomaleic anhydrides by contacting β,β-(non- to di-ethyl)thiophene and oxygen in the presence of a metallic oxide catalyst at a temperature from about 300° C. to about 550° C., said catalyst comprising oxygen combined with major amounts of vanadium and Group Va element having an atomic number of from 15 to 83.

3,265,713
3-MERCAPTOANDROSTAN-17β-OL AND ITS ACYLATE

Junichi Kawanami, Nishinomiya-shi, Hyogo Prefecture, Japan, assignor to Shionogi & Co., Ltd., Higashi-ku, Osaka, Japan

No Drawing. Filed Aug. 28, 1964, Ser. No. 392,903
5 Claims. (Cl. 260—397.5)

1. A steroid of the formula:



wherein the ripple mark (≀) is a generic indication of α- and β-configurations and R and R′ are each a member selected from the group consisting of hydrogen and acyl, the acyl being a carboxylic acyl group having from one to twelve carbon atoms and a molecular weight less than about 200.

3,265,714
PRODUCTION OF DIHALOCARBENE ADDUCTS

Gene C. Robinson, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed June 28, 1962, Ser. No. 205,850
8 Claims. (Cl. 260—345.2)

1. A process involving the generation of dihalocarbene and the proximate formation of dihalocarbene adducts which comprises the step of reacting together in an ether an initially essentially anhydrous mixture of an alkali metal hydroxide, a haloform and a dihalocarbene acceptor; said ether having a ratio of carbon atoms to oxygen atoms of up to about 3:1 and being selected from the group consisting of (1) R_1—O—R_2 where R_1 and R_2 are lower alkyl or phenyl, (2) tetrahydrofuran and ring alkylated derivatives thereof, (3) dioxane, (4) dioxolane, (5) tetrahydropyran, (6) dilower alkyl ethers of ethylene glycol, and (7) dilower alkyl ethers of polyethylene glycol, said haloform containing at least one halogen atom selected from the group consisting of chlorine and bromine, said ether being an ether of a saturated aliphatic polyhydroxy alcohol having from about 4 to about 50 carbon atoms.

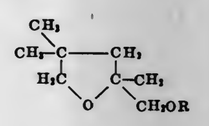
3,265,715
TETRAHYDRO-2,4,4-TRIMETHYLFURFURYL ALCOHOL AND ESTERS THEREOF

William H. Moore and Wayne V. McConnell, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 9, 1964, Ser. No. 395,309
14 Claims. (Cl. 260—347.4)

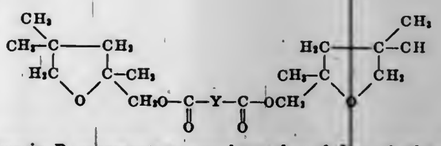
1. A compound having a formula selected from the formulas:

I.



and

II.



wherein R represents a member selected from hydrogen and



wherein X represents a member selected from alkyl having 1 to 17 carbon atoms, cyclohexyl, phenyl, methylphenyl, ethylphenyl, (alkoxy having 1 to 4 carbon atoms)-phenyl, halophenyl and nitrophenyl and Y represents a member selected from o-phenylene, m-phenylene, p-phenylene, tetrahydrophenylene, hexahydrophenylene and $(CH_2)_n$, wherein n represents a whole number from 1 to 8.

3,265,716
EPOXIDATION OF OLEFINS DURING THE SIMULTANEOUS AIR OXIDATION OF SECONDARY ALDEHYDES

Joseph B. Dickey, Edmund B. Towne, and James P. Hawk, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 9, 1963, Ser. No. 293,859
8 Claims. (Cl. 260—348.5)

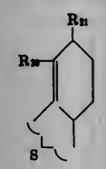
1. A low temperature, liquid phase, non-catalytic process of simultaneously producing an epoxide and a secondary aliphatic acid which comprises passing oxygen or an oxygen-containing gas through a liquid mixture of an olefin hydrocarbon selected from the group consisting of the cyclic, polycyclic and the straight and branched chain olefin hydrocarbons, and a secondary aliphatic aldehyde having the formula $C_nH_{2n}O$, wherein n is a whole number from 4 to 8, in which mixture the olefin to aldehyde ratio is from 1 to 2 to 1 to 20, at a temperature within the range of about 0° C. to about 60° C. at a pressure within the range of 15–50 p.s.i. absolute for a period of about 2 hours to about 14 hours and wherein said process is carried out without the addition of an acid thereto.

3,265,717
PENTACYCLIC STEROIDS AND PROCESS FOR THEIR PREPARATION

James Macfarlane Allison, Derek Burn, and Vladimir Petrow, London, England, assignors to The British Drug Houses Limited

No Drawing. Filed Apr. 6, 1964, Ser. No. 357,790
Claims priority, application Great Britain, Apr. 10, 1963, 14,447/63
35 Claims. (Cl. 260—397.3)

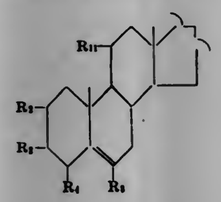
35. A compound having the formula



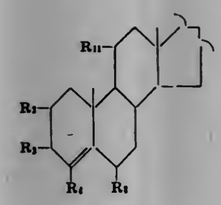
wherein

R_{20} is hydrogen or lower alkyl, R_{21} is oxo, oximo, hydroxy or lower alkanoyloxy, and S is a steroid nucleus selected from the following:

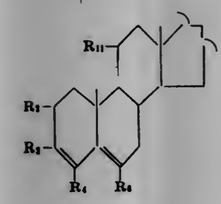
(a)



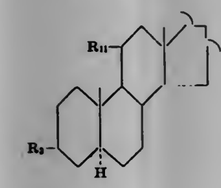
(b)



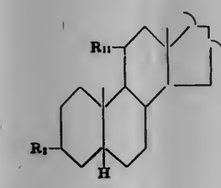
(c)



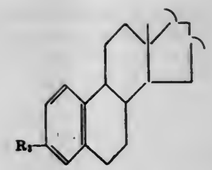
(d)



(e)



(f)



wherein

R_2 is hydrogen or α-methyl,

R_3 in (*a*) is hydroxyl, lower alkanoyloxy, or 3,3-lower alkylene dioxy, in (*b*) is oxo, in (*c*) and (*f*) is lower alkoxy, in (*d*) is β-hydroxy or oxo and in (*e*) is α-hydroxy or oxo,

R_4 is hydrogen or methyl,

R_6 in (*a*) and (*b*) is hydrogen, lower alkyl, or halogen and in (*c*) is hydrogen, formyl, $—CH_2N(CH_3)_2$, or —CH, and

R_{11} is hydrogen, α-hydroxyl, β-hydroxyl, or oxo, and

(*g*) the corresponding 1-dehydro derivatives of (*a*) and (*b*),

(*h*) the corresponding 6-dehydro derivatives of (*b*), and

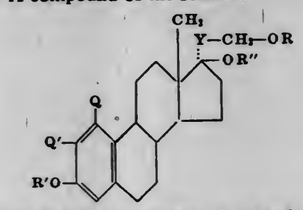
(*i*) the corresponding 9(11)-rehydro derivatives of (*a*) and (*b*) except where R_{11} is oxo.

3,265,718
17α-(3-HYDROXY-1-PROPYNYL) OR 17α-(3-HYDROXY-1-PROPENYL) SUBSTITUTED AROMATIC STEROIDS

Robert G. Christiansen, Schodack, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 13, 1965, Ser. No. 487,081
Claims priority, application Canada, Oct. 27, 1964, 915,017
18 Claims. (Cl. 260—397.5)

1. (A) A compound of the formula



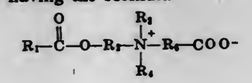
wherein Q is hydrogen or methyl; Q′ is hydrogen, methyl or lower-alkoxy; R and R′ are hydrogen, lower-alkyl, lower-alkenyl, cycloalkyl of 5–6 ring members, phenyl, phenyl-lower-alkyl, phenyl-lower-alkenyl, lower-carboxylic acyl, or nitro; R″ is hydrogen, lower-alkyl, lower-alkenyl, cycloalkyl of 5–6 ring members, phenyl-lower-alkyl, phenyl-lower-alkenyl, lower-carboxylic acyl, or nitro; and Y is C≡C or CH=CH; lower-carboxylic acyl in each instance having 1 to 12 carbon atoms and a molecular weight less than 250; (B) a compound of the above formula having a double bond in the 6,7- 7,8- or 9,11-position; or (C) a compound of the above formula having a double bond in the 6,7-position and a double bond in the 8,9-position.

3,265,719
BETAINES

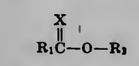
Frank M. Cowen, North Plainfield, N.J., and Gloria Bellis, New Rochelle, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Original application Dec. 28, 1959, Ser. No. 862,087, now Patent No. 3,225,074. Divided and this application Sept. 1, 1964, Ser. No. 398,142
5 Claims. (Cl. 260—404)

1. Betaines having the formula



where R_1 is an aliphatic hydrocarbon radical of from 10 to 20 carbon atoms selected from the group consisting of long chain saturated aliphatic and long chain alkenyl aliphatic radicals, R_2 and R_6 are alkylene radicals of from 1 to 12 carbon atoms, R_4 is a member of the group consisting of $-C_nH_{2n+1}$ in which n is a whole number from 1 to 10 and $-C_nH_{2n}.OH$ in which n is a whole number from 1 to 10 and R_3 is a member of the group consisting of R_4



and $-R_6COOMe$ in which R_1, R_2, R_4 and R_6 are as defined above and Me is a monovalent salt-forming radical.

3,265,720

MANUFACTURE OF DIBASIC LEAD PHTHALATE

Thomas Richard Barrow, Tynemouth, Northumberland, England, assignor to Associated Lead Manufacturers Limited, London, England, a British company

No Drawing. Filed Sept. 23, 1963, Ser. No. 310,882
Claims priority, application Great Britain, Sept. 21, 1962, 36,049/62
5 Claims. (Cl. 260—435)

1. A process for the preparation of dibasic lead phthalate which comprises mixing in a mixer litharge and phthalic anhydride as dry powders and in quantities which are approximately stoichiometric with sufficient water to produce a workable paste, heating the mixture for a period of two to three hours to a temperature between 75° C. and 100° C. with continued stirring and addition of further water in an amount sufficient merely to keep the mixture at an acceptable smooth consistency and finally discharging the paste from the mixer and drying and powdering it without filtration.

2. A process as claimed in claim 1, in which the water first added to the mixer includes an acid catalyst selected from the group consisting of formic acid, acetic acid and propionic acid.

4. A process as claimed in claim 1, in which the water first added to the mixer contains a wetting agent selected from the group consisting of long chain alkyl sulphates, ammonium stearate and potassium stearate.

3,265,721

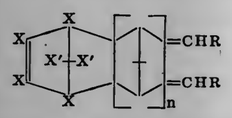
HEXACHLOROBICYCLO(2.2.1)HEPT-5-ENE - 2,3-DIMETHANOL DI-p-TOLUENESULFONATE AND METHOD OF SOLVOLYSIS THEREOF

Jerome G. Kuderna, Jr., and George R. Haynes, Modesto, Calif., assignors to Shell Oil Company, a corporation of Delaware

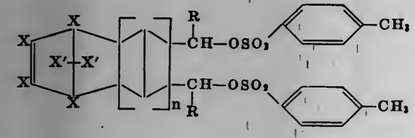
No Drawing. Filed Nov. 17, 1958, Ser. No. 774,129
4 Claims. (Cl. 260—456)

1. As a composition of matter, 1,4,5,6,7,7-hexachlorobicyclo(2.2.1)hept - 5 - ene-2,3-dimethanol di-p-toluenesulfonate.

2. The method for the preparation of a polyalkene of the formula:



comprising refluxing in aqueous ethyl alcohol containing potassium hydroxide a compound of the formula:



wherein X is halogen, X′ is selected from the group consisting of halogen and methoxy, R is selected from the group consisting of an alkyl radical of one to five carbon atoms and hydrogen, and n is a whole number from zero to one.

3,265,722

PROCESS FOR PREPARING AMMONIUM SALTS OF ALKYL PHENOL POLYGLYCOL ETHER SULFATES

James R. Dudley, La Grange Park, Ill., assignor to The Richardson Company, Melrose Park, Ill., a corporation of Ohio

No Drawing. Filed July 5, 1963, Ser. No. 293,143
4 Claims. (Cl. 260—458)

1. A method of producing an ammonium salt of an alkyl phenol polyglycol ether sulfate characterized by a relatively low degree of benzene ring sulfonation which comprises initially reacting a mole of the alkyl phenol polyglycol ether with between about 0.4 to 0.6 mole of sulfur trioxide, neutralizing the reaction product with ammonia to form the ammonium salt of the half ester and subsequently completing the formation of the ammonium salt of the polyglycol ether sulfate by reacting the half ester salt with sulfamic acid.

3,265,723

PREPARATION OF ACRYLONITRILE DIMER

William Lee Lehn, Dayton, Ohio, and George Raymond Nacci, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 18, 1963, Ser. No. 309,861
12 Claims. (Cl. 260—464)

1. The process which comprises the steps of heating acrylonitrile in the presence of water at a pH within the range of the pH of acrylonitrile containing 10% N aqueous acetic acid and a pH of 8, at a temperature of 250° C. to 350° C. at a pressure between 1000 pounds per square inch and 5000 pounds per square inch for a reaction time not in excess of 0.5 hour but sufficient to convert some acrylonitrile to 1,2-dicyanocyclobutane, the quantity of water being from about 10% to about 100% by weight of the acrylonitrile charged, and thereafter separating 1,2-dicyanocyclobutane.

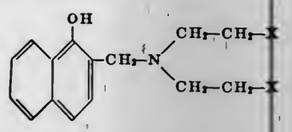
3,265,724

HYDROXY NAPHTHYLMETHYL-AMINO BIS PROPIONITRILE AND BIS PROPIONIC ACID

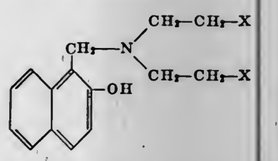
Mitchell F. Zienty, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Dec. 13, 1961, Ser. No. 159,151
5 Claims. (Cl. 260—465)

1. A compound selected from the group consisting of compounds of the formula—



and compounds of the formula—



wherein X is a member of the group consisting of —CN and —COOH.

3,265,725

PROCESS FOR THE PRODUCTION OF GAMMA-HALONITRILES BY THE 1,2 ADDITION OF ALPHA-HALONITRILES TO ACTIVATED OLEFINS

Harvey S. Klein, Berkeley, and Frederick F. Rust, Orinda, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 11, 1963, Ser. No. 315,665
12 Claims. (Cl. 260—465.4)

1. The process for the production of a γ-halonitrile product by the 1,2-addition of mono- to trihaloacetonitrile to the ethylene double bond of an olefinic compound of from 2 to 20 carbon atoms, said olefinic compound being an otherwise hydrocarbon compound having a single functional group selected from carbonyl, carboxy, carboalkoxy, or cyano wherein the non-carbon-carbon unsaturation of said functional group is conjugated with said ethylenic linkage, the ethylenic linkage being the only non-aromatic carbon-carbon unsaturation of the olefinic compound, in liquid, phase solution in inert solvent wherein the molar ratio of said haloacetonitrile to said olefinic compound is from about 5:1 to about 1:5, at a temperature from about 50° C. to about 200° C., in the presence of from about 0.005 mole to about 0.5 mole per mole of limiting reactant of a copper salt as catalyst.

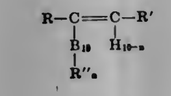
3,265,726

ORGANIC BORON AND NITROGEN CONTAINING COMPOUNDS

Joseph Green and Nathan Mayes, Dover, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Sept. 29, 1960, Ser. No. 59,459
7 Claims. (Cl. 260—465.9)

1. A method for the preparation of organoboron copolymers which comprises reacting an unsubtituted, unsaturated nitrile of a carboxylic acid containing an ethylenic linkage selected from the group consisting of monocarboxylic and discarboxylic acids having from 3 to 9 carbon atoms with a compound of the class



wherein R and R′ are each selected from the class consisting of hydrogen, alkyl radicals and alkenyl radicals, at least one R and R′ being an alkenyl radical and the total number of carbon atoms in R and R′ being from 2 to 8, R″ is a lower alkyl radical, and n varies from 0 to 4, while the reactants are in admixture with a catalytic amount of a free radical initiator for vinyl polymerizations.

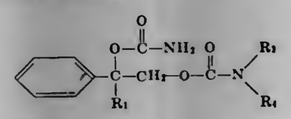
3,265,727

PHENYL ALKYL-1,2 DICARBAMATES

Charles D. Bossinger, Kankakee, and Kelley G. Taylor, Decatur, Ill., assignors to Armour Pharmaceutical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed June 26, 1962, Ser. No. 205,199
3 Claims. (Cl. 260—482)

1. Phenyl alkyl dicarbamate compounds characterized by the structural formula



wherein R_1 is selected from the class consisting of hydrogen, and an alkyl group containing 1 to 3 carbon atoms and R_3 and R_4 are selected from the class consisting of hydrogen and methyl.

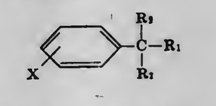
3,265,728

SUBSTITUTED PHENETHYL CARBAMATES

Charles D. Bossinger, Kankakee, and Kelley G. Taylor, Decatur, Ill., assignors to Armour Pharmaceutical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 18, 1962, Ser. No. 210,818
12 Claims. (Cl. 260—482)

1. Substituted phenyl alkyl carbamate compounds having the structural formula



wherein R_1 selected from the class consisting of carbamate and methylene carbamate, R_2 is selected from the class consisting of alkyl containing from 1 to 2 carbons, hydroxy alkyl containing from 1 to 2 carbons, hydroxy, and hydrogen, and R_3 is selected from the class consisting of hydrogen and alkyl containing from 1 to 2 carbons, and X is selected from the class consisting of halogen, methyl, methoxy, phenyl, nitro, and amino.

3,265,729

PROCESS OF PURIFYING PHTHALIC ACIDS

George P. Olsen, Chicago, Ill., and Delbert H. Meyer, Highland, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Mar. 29, 1963, Ser. No. 269,182
8 Claims. (Cl. 260—525)

1. A process for purifying phthalic acids which comprises forming an alkaline aqueous solution of a crude phthalic acid derived from one of the following: (1) the nitric acid oxidation of alkyl benzene, (2) the oxygen oxidation of alkyl benzenes and (3) the disproportionation of various inorganic salts of benzene di-, tri-, and tetra-carboxy acids, contacting said solution in the presence of gaseous oxygen with a supported noble metal catalyst, acidifying said solution to a pH below 7, whereby said acid precipitates, and thereafter recovering said acid having a reduced content of impurties relative to said crude acid.

3,265,730

HIGH ENERGY POLYMERIC SALTS OBTAINED BY REACTING UREA-FORMALDEHYDE POLYMERS WITH A STRONG INORGANIC ACID

Henry Philip Heubusch, Cheektowaga, N.Y., assignor, by mesne assignments, to Bell Aerospace Corporation, Wheatfield, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 24, 1959, Ser. No. 835,386
3 Claims. (Cl. 260—553)

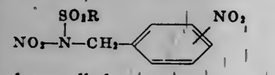
1. The process of making a polymeric substance characterized by its ability, upon heating, to decompose to render sufficient gaseous products as to render the substance useful as a rocket fuel and the like, which comprises mixing about one mole of urea with about one mole of formaldehyde at ambient temperature and pressure, inducing polymerization by elevating the temperature of the mixture to the order of about 80° C., adding about two moles of an acid selected from the group consisting of nitric acid, perchloric acid, sulfuric acid and phosphoric acid, and then removing water from the system and completing the polymerization process by heating the mixture under reduced pressure.

3,265,731
N-NITRO-N-(SUBSTITUTED BENZYL) ALKANESULFONAMIDES

Peter F. Epstein, El Cerrito, Calif., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 31, 1963, Ser. No. 320,497
2 Claims. (Cl. 260—556)

1. As a new composition of matter, a compound having the formula



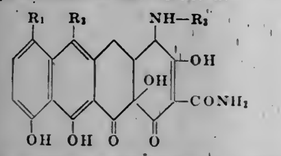
wherein R is a lower alkyl.

3,265,732
NOVEL 5a,6-ANHYDROTETRACYCLINES

Philip Andrew Miller, West Nyack, John Henry Edward James Martin, New City, and Lester Allen Mitscher, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Feb. 28, 1964, Ser. No. 348,294
14 Claims. (Cl. 260—559)

1. A compound selected from the group consisting of tetracycline precursors of the formula:



wherein R_1 is selected from the group consisting of hydrogen, chlorine and bromine, R_2 is selected from the group consisting of hydrogen and methyl and R_3 is selected from the group consisting of hydrogen and methyl; and the non-toxic acid-addition salts thereof.

3,265,733
PRODUCTION OF OXIMES OF CYCLO-ALIPHATIC KETONES

Helmut Doerfel and Paul Raff, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Aug. 23, 1963, Ser. No. 304,213
Claims priority, application Germany, Sept. 1, 1962, B 68,678
6 Claims. (Cl. 260—566)

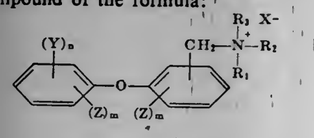
1. A process for the production of oximes of cycloalkanones having at least twelve ring carbon atoms by the reaction of hydroxylamine and said cycloalkanone in an aqueous heterogeneous reaction mixture which comprises carrying out the reaction in the presence of such an amount of salt dissolved in the aqueous phase that the concentration of said salt in the aqueous phase on completion of the reaction is at least 10% by weight, and maintaining a temperature between 50° and 150° C. and a pH between 6 and 14.

3,265,734
QUATERNARY AMMONIUM SALTS OF HALOMETHYL DIPHENYL ETHERS

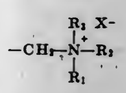
Eugene Kraiman, Cedar Grove, N.J., and Arthur F. Hasson, Woodside, and Edwin L. Sukman, New York, N.Y., assignors to Sun Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 24, 1963, Ser. No. 275,208
7 Claims. (Cl. 260—567.6)

1. A compound of the formula:



wherein Z is halogen selected from the group consisting of chlorine and bromine; *m* is an integer from 0 to 4 inclusive; Y is selected from the group consisting of hydrogen and quaternary ammonium radical having the formula:



n is an integer equal to 1 when Y is hydrogen and when Y is a quaternary ammonium radical *n* is an integer from 1 to 2 inclusive; R_1 and R_2 are selected from the group consisting of methyl, ethyl, isopropyl, hydroxy, lower alkyl and low molecular weight alkoxylated ethers thereof, and radicals wherein R_1 and R_2 together form a heterocyclic ring with N; R_3 is alkyl having from 4 to 18 carbon atoms and X^- is a water soluble anion selected from the group consiting of hydroxide, chlorine, bromine and an anion of a water-soluble acid which yields a water-soluble salt selected from the group consisting of nitrate, sulfate, methosulfate, ethosulfate, phosphate, ortho-phosphate, metaphosphate, pyrophosphate, formate, acetate, lactate, tartrate and citrate.

3,265,735
MANUFACTURE OF PARA-CHLOROANILINE AND PARA-AMINOPHENOL

Walter C. Bradbury, Wichita, Kans., assignor to Frontier Chemical Company, Division of Vulcan Materials Company, Wichita, Kans., a corporation of New Jersey

No Drawing. Filed June 15, 1964, Ser. No. 375,321
5 Claims. (Cl. 260—575)

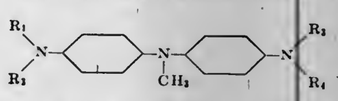
1. A process for the manufacture of p-chloroaniline as the principal product and p-aminophenol as a secondary product which comprises maintaining aqueous hydrochloric acid containing about 5 to 38% HCl, a solid adsorbent and a platinum metal catalyst in intimate contact in a reaction zone at a reaction temperature of between about 50° to 135° C. and at a pressure sufficient to maintain an aqueous liquid phase in said reaction zone but not greater than 50 p.s.i.g., adding nitrobenzene to said reaction zone in a proportion such as to give an HCl/nitrobenzene ratio between 4/1 and 8/1 and such that it is substantially completely adsorbed on said adsorbent without forming a separate organic phase in said reaction zone, thereby forming a reaction mixture which comprises an aqueous phase and a nitrobenzene-containing solid phase, contacting molecular hydrogen with said reaction mixture at said reaction temperature, mechanically separating the solid adsorbent and catalyst from the resulting aqueous liquid product, and recovering para-chloroaniline and para-aminophenol from said aqueous product.

3,265,736
4,4-DIAMINO-N-METHYLDIPHENYLAMINES

Edward L. Wheeler, Woodbury, Conn., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 25, 1963, Ser. No. 311,338
3 Claims. (Cl. 260—576)

1. A compound having the general formula



in which R_1, R_2 and R_3 are selected from the group consisting of alkyl radicals having 1 to 8 carbon atoms and cycloalkyl radicals having 5 to 8 carbon atoms, and R_4 is selected from the group consisting of secondary alkyl radicals having 3 to 8 carbon atoms and cycloalkyl radicals having 5 to 8 carbon atoms.

3,265,737
BORON AMINES AND PROCESS FOR FORMATION THEREOF

Norman E. Miller, Vermillion, S. Dak., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 3, 1964, Ser. No. 408,690
26 Claims. (Cl. 260—583)

1. A compound of the formula

$$M(B_{12}H_{11-y}X_yNRR^IR^{II})_n$$

wherein

M is a cation of valence 1–4 inclusive;
X is halogen;
R and R^I are selected from the class consisting of (1) individually, aliphatically saturated hydrocarbon of 1 through 18 carbon atoms, and (2) joined together, a divalent group selected from the class consisting of alkylene of 4 through 6 carbon atoms, ethereal oxygen-interrupted alkylene of 4 through 6 carbon atoms, and loweralkylamino-interrupted alkylene of 4 through 6 carbon atoms, which forms a ring with the amino nitrogen of the NRR^IR^{II} moiety;
R^{II} is aliphatically saturated hydrocarbon of 1 through 18 carbon atoms which can contain up to one diloweralkylamino substituent located on a carbon at least once removed from the carbon bonded to the amino nitrogen of the NRR^IR^{II} moiety; said R, R^I and R^{II} groups being bonded to the amino nitrogen of the NRR^IR^{II} moiety by a saturated aliphatic carbon;
y is a cardinal number of from 0 through 11; and
n is a positive whole number equal to the valence of M.

10. A compound of the formula

$$[BH_{2-y'}X'_{y'}\cdot mCH_3NR^{IV}R^V]_{n'}Z$$

wherein

R^{IV} and R^V are selected from the class consisting of (1) individually, alkyl groups of 1 through 4 carbon atoms in which R^{IV} can contain a dimethylamino substituent located on a carbon at least once removed from the carbon bonded to the amino nitrogen of the $CH_3NR^{IV}R^V$ moiety, and (2) joined together, a divalent group of the formula $—CH_2CH_2QCH_2CH_2—$ wherein Q is of the class consisting of $—CH_2—$ and $—N(CH_3)—$; R^{IV} and R^V being bonded to the amino nitrogen of the $CH_3NR^{IV}R^V$ moiety by a carbon bonded to at most one other carbon atom;
X' is selected from the group consisting of halogen and fluorosulfato;
y' is a cardinal number of 1 through 2;
m is a positive whole number equal to 2 divided by the number of nitrogens in the $CH_3NR^{IV}R^V$ moiety;
Z is an anion; and
n' is a positive whole number equal to the valence of Z.

3,265,738
RING EXPANSION OF CYCLOPENTENE CARBONYL COMPOUNDS

George a Boswell, Jr., Hayward, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 27, 1961, Ser. No. 140,986
5 Claims. (Cl. 260—586)

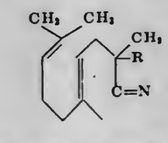
1. A method for expanding the ring of a cyclopentene compound which comprises reacting a cyclic alpha,beta-unsaturated carbonyl substituted hydrocarbon, wherein the carbonyl group is attached directly to the cyclopentene ring and the unsaturated bond in the alpha,beta position relative to the carbonyl group forms a part of the cyclopentene ring, with a mild oxidizing agent equivalent in strength to about a 2% permanganate solution at a temperature between 0° C. and 50° C., followed by acid hydrolysis of any epoxy compounds formed in the reaction mixture, the ring expansion being effected at a reaction time of from 2 hours to 2 days.

3,265,739
PREPARATION OF 2-OCTALONES

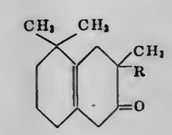
Jack H. Blumenthal, New Monmouth, N.J., assignor to International Flavors & Fragrances Inc., New York, N.Y., a corporation of New York

Filed Feb. 23, 1962, Ser. No. 175,028
4 Claims. (Cl. 260—586)

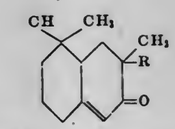
1. The process which comprises cyclizing the compound



where R is selected from the group consisting of H and a lower alkyl containing not more than 4 carbon atoms, by subjecting said compound to a strong mineral acid selected from the group consisting of concentrated sulfuric acid and a polyphosphoric acid to produce a cyclized substance selected from the group consisting of



and



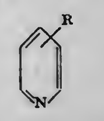
where R is as above.

3,265,740
PROCESS FOR CHLORINATING ACETONE AND ACETYLACETONE

Viktor Welunmayr, Landenberg, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 11, 1962, Ser. No. 209,217
2 Claims. (Cl. 260—593)

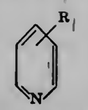
1. In a process for chlorinating acetone to hexachloroacetone wherein the acetone is contacted and reacted with chlorine at a temperature of from 70° C. to 110° C. to obtain a partially chlorinated acetone, and said partially chlorinated acetone is thereafter contacted and reacted with chlorine at a temperature of from 110° C. to 170° C. to obtain hexachloroacetone, the improvement which comprises carrying out the chlorinations in the presence of a catalyst of the formula



wherein R is selected from the group consisting of hydrogen, methyl, and ethyl, said catalyst being present in the reaction mixture in an amount of from 0.05% to 5.0% by weight of said acetone.

2. In a process for chlorinating acetylacetone to octachloroacetylacetone wherein the acetylacetone is contacted and reacted with chlorine at a temperature of from about 25° C. to 200° C., the improvement which comprises

carrying out the chlorination in the presence of a catalyst of the formula



wherein R is selected from the group consisting of hydrogen, methyl, and ethyl, said catalyst being present in the reaction mixture in an amount of from 0.05% to 5.0% by weight of said acetylacetone.

3,265,741

FLUOROALKOXY CONTAINING PHENYL ETHERS

William Arthur Sheppard, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 1, 1961, Ser. No. 86,301

6 Claims. (Cl. 260—613)

1. A compound of the formula,

$$Z_a'ArO(Z_c''ArO)_dArZ_b'''$$

wherein Ar is a benzene nucleus; each Z is a radical of the formula $X—R_f—O—$, wherein X is selected from the class consisting of hydrogen and fluorine, with said hydrogen being bonded to other than the oxygen bonded carbon atom, and R_f is a divalent perfluoroalkylene radical of up to 12 carbons; *a* and *b* are cardinal whole numbers of 1–3, *c* is a cardinal whole number of 0–2 and *d* is a cardinal whole number of 0–3.

3,265,742

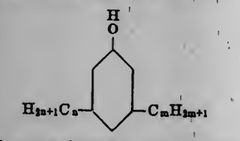
ALKYLATED PHENOLS

Ronald B. Spacht, Kent, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Original application Sept. 30, 1957, Ser. No. 686,833, now Patent No. 3,035,015, dated May 15, 1962. Divided and this application May 29, 1961, Ser. No. 113,069

2 Claims. (Cl. 260—619)

1. The butylated, styrenated 3,5-dialkyl phenol reaction products prepared by alkylating a mixture of phenols which boil at a temperature between 230° C and 270° C. conforming to the following structure;



wherein *m* and *n* are integers ranging from 1 to 4 and wherein the sum of *m* and *n* is an integer ranging from 3 to 5 with isobutene and subsequently styrene, said reaction product being prepared in the presence of an acidic alkylation catalyst selected from the group consisting of sulfuric acid, benzene sulfonic acid, toluene sulfonic acid, activated clays, stannic chloride, ferrous chloride, boron trifluoride, zinc chloride, ferrous halides, ferric halides, stannous halides, stannic halides, aluminum halide and aluminum oxide at a temperature between 50° and 150° C.

3,265,743

PRODUCTION OF DIHALOCARBENE ADDUCTS

Gene C. Robinson, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed May 14, 1962, Ser. No. 194,667

15 Claims. (Cl. 260—648)

1. A process involving the generation of dihalocarbene and the proximate formation of dihalocarbene adducts which comprises the step of reacting together an initially essentially anhydrous mixture with the reactants consisting essentially of a solid alkali metal hydroxide, a haloform, and a dihalocarbene acceptor, said haloform containing at least one halogen atom selected from the group consisting of chlorine and bromine.

3,265,744

PRODUCTION OF DIHALOCARBENE ADDUCTS

Gene C. Robinson, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Sept. 7, 1962, Ser. No. 222,173

8 Claims. (Cl. 260—648)

1. A process involving the generation of dihalocarbene and the proximate formation of dihalocarbene adducts which comprises the step of reacting together an initially essentially anhydrous mixture of an alkali metal hydroxide, a haloform, and a dihalocarbene acceptor in a cyclic sulfone solvent for the organic components of said mixture; said haloform containing at least 1 halogen atom selected from the group consisting of chlorine and bromine and said sulfone having a ratio of carbon atoms to sulfone groups of less than about 10:1 and being selected from the group consisting of (1) thiacycloalkane dioxide, (2) dithiacycloalkane, and (3) thiacycloalkene dioxide.

3,265,745

PRODUCTION OF DIHALOCARBENE ADDUCTS

Dietmar Seyferth, Arlington, Mass., and James M. Burlitch, Wheeling, W. Va., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Oct. 26, 1962, Ser. No. 233,463

13 Claims. (Cl. 260—648)

1. A process for the production of 1,1-dihalocyclopropanes which comprises the step of reacting together a mixture comprising a trihalomethyl substituted mercurial having the formula R—Hg—CX_3 wherein X is a halogen and R is a radical selected from the group consisting of alkyls, cycloalkyls, mononuclear aryls, haloalkyls, halocycloalkyls, halomononuclear aryls, fluorine, chlorine, bromine, and iodine and at a temperature of from about 0° C. to about 150° C.

3,265,746

METHOD OF MAKING PERFLUOROSTYRENE

Leo A. Wall, Washington, D.C., and Joseph M. Antonucci, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Jan. 18, 1962, Ser. No. 167,195

2 Claims. (Cl. 260—651)

1. The method of making perfluorostyrene which comprises reacting the Grignard reagent C_6F_5MgBr of pentafluorobromobenzene with trifluoroacetaldehyde and decomposing the reaction product thereof with acidulated water to produce pentafluorophenyltrifluoromethyl carbinol; reacting the pentafluorophenyltrifluoromethyl carbinol with sulfur tetrafluoride to produce β,β,β-trifluoro-α-fluoroethylpentafluorobenzene; and pyrolyzing said last-named compound in the presence of iron.

3,265,747

METHYLCHLOROFORM COMPOSITIONS

Charles L. Cormany, Wadsworth, William R. Dial, Akron, and Blaine O. Pray, Wadsworth, Ohio, assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Original application Feb. 3, 1958, Ser. No. 712,693. Divided and this application Feb. 18, 1964, Ser. No. 345,587

8 Claims. (Cl. 260—652.5)

2. A methylchloroform composition containing a stabilizing concentration of a ketone selected from the group consisting of lower dialkyl ketones, acetyl acetone, mesityl oxide, phorone, cyclohexanone and acetophenone.

3. A methylchloroform composition containing a stabilizing concentration of a ketone selected from the group consisting of lower dialkyl ketones, acetyl acetone, mesityl oxide, phorone, cyclohexanone and acetophenone and an organic epoxide selected from the group consisting of unsubstituted epoxides having up to 8 carbon atoms, glycidol and epichlorohydrin.

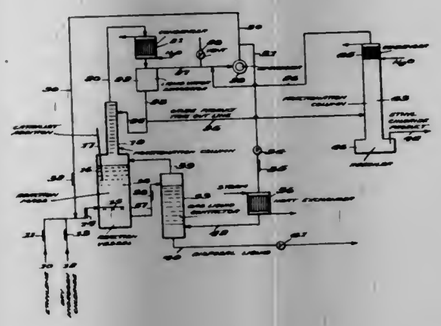
3,265,748

PROCESS FOR THE MANUFACTURE OF ETHYL CHLORIDE

David M. Hurt, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 26, 1963, Ser. No. 290,799

3 Claims. (Cl. 260—663)



1. In the process for preparing ethyl chloride comprising contacting hydrogen chloride and ethylene at a temperature from 25° C. to 75° C. in a reaction zone in the presence of anhydrous ferric chloride catalyst contained in a reaction medium, said reaction medium containing ethyl chloride as the major constituent, and wherein the vaporous effluent from the reaction zone is condensed into a separator where the liquid is separated from the effluent vapors, a portion of the separated liquid thereafter being distilled to obtain the product ethyl chloride, the improvement which comprises continuously removing a portion of said liquid ethyl chloride reaction medium from said reaction zone, contacting said removed liquid portion with superheated vapors recycled from the reaction zone thereby vaporizing the ethyl chloride and from 0.1 mole to 20 moles, per 100 moles of ethyl chloride, of other constituents having boiling points less than 150° C. at one atmosphere from said removed liquid portion, collecting and returning only said vaporized materials of said liquid portion to said reaction zone, and replenishing the catalyst as required by adding fresh catalyst to the reaction medium.

3,265,749

PRODUCTION OF POLYCYCLIC COMPOUNDS

Lawrence G. Cannell, Lafayette, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 30, 1964, Ser. No. 355,888

6 Claims. (Cl. 260—666)

1. The process for the production of polycyclic hydrocarbon which comprises pyrolyzing tricyclo(4.2.1.$0^{2,5}$) non-3-ene having from 0 to 1 additional endo ethylenic linkage connecting non-bridgehead carbon atoms, having as the only non-hydrogen ring substituents from 0 to 8 hydrocarbyl substituents independently having from 1 to 6 carbon atoms, said hydrocarbyls having only aromatic unsaturation, at a temperature from about 200° C. to about 500° C., and recovering from the resulting product mixture a bicyclo(4.2.1) hydrocarbon.

3,265,750

SEPARATION OF OLEFINS FROM PARAFFINS

David W. Peck, Charleston, Robert R. Gentry, St. Albans, and Henry E. Fritz, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 31, 1964, Ser. No. 356,070

10 Claims. (Cl. 260—666)

1. The method for separating an olefinically-unsaturated hydrocarbon from a mixture containing said unsaturated hydrocarbon and a more saturated hydrocarbon which comprises the steps of (1) contacting said mixture in the liquid phase with a bed of an at least partially dehydrated molecular sieve having a substantially uniform pore size of dimensions sufficient to permit benzene to pass into the pores thereof, (2) thereafter contacting said sieve containing adsorbed olefinically-unsaturated hydrocarbon with a paraffin having a boiling point at least 30° C. below that of the unadsorbed hydrocarbon to remove unadsorbed hydrocarbons from said bed, and (3) desorbing the adsorbed hydrocarbon from said sieve bed by contacting said sieve bed with a polar liquid.

3,265,751

INHIBITING POPCORN POLYMER FORMATION

George McCoy, Malvern, Alfred Case Whiton, Blue Bell, and Paul Gordon Haines, Lafayette Hill, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 17, 1964, Ser. No. 419,199

4 Claims. (Cl. 260—666.5)

1. The process of inhibiting the formation of popcorn polymers in olefin monomer recovery systems which comprises contacting said monomer with an inhibiting amount of a compound selected from the group consisting of N-hydroxymorpholine and N-hydroxypiperidine.

3,265,752

INHIBITING POPCORN POLYMER FORMATION

Alfred Case Whiton, Blue Bell, and Harry Elmer Albert, Lafayette Hill, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 17, 1964, Ser. No. 419,224

3 Claims. (Cl. 260—666.5)

1. The process of inhibiting popcorn polymer formation in olefin monomer recovery systems which comprises contacting said monomer with an inhibiting amount of a mixture comprising N-hydroxymorpholine and an N,N-dialkylhydroxylamine containing from one to six carbon atoms in each alkyl group.

3,265,753

NEW ALKYLTERPHENYLS AND METHOD OF MAKING SAME

Andre Goeb, Uriage, France, assignor to Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine, Paris, France, a corporation of France

No Drawing. Filed May 9, 1963, Ser. No. 279,339

Claims priority, application France, May 10, 1962, 897,164

21 Claims. (Cl. 260—671)

1. A new product comprising a mixture of ethylterphenyls which is liquid at ambient temperature and substantially at atmospheric pressure, which has a boiling point over 400° C. substantially at atmospheric pressure and which has an average molecular weight between 290 and 350.

3,265,754
HYDROCARBON REFINING PROCESS

Marcel Delassus, Mazingarbe, and Jeno Gombar, Bully-les-Mines, France, assignors to Houilleres du Bassin du Nord et du Pas-de-Calais, Douai, France, a French public establishment

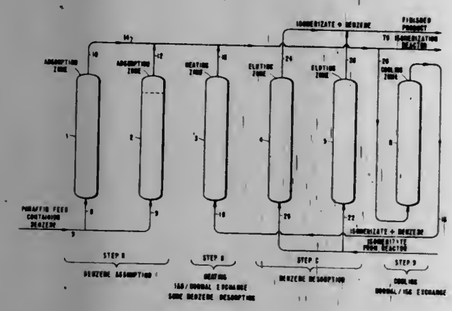
Filed Oct. 3, 1961, Ser. No. 142,627
Claims priority, application France, Oct. 5, 1960, 840,335
1 Claim. (Cl. 260—674)

A continuous process for refining hydrocarbon stock constituted essentially of benzene, and thiophene and its derivatives as contaminating agents, to eliminate said contaminating agents, said process consisting of treating a supply of said stock in the liquid phase with a mixture constituted of sulfuric acid with a titration of 85–92% H_2SO_4 and benzene monosulfonic acid to react the sulfuric acid and thiophene and produce separable sulfonation components of the latter, the volumetric ratio of said mixture to the quantity of benzene being approximately 1:1, said mixture containing 65 to 75% by weight of sulfuric acid and 35 to 25% by weight of benzene monosulfonic acid, the ratio of the benzene monosulfonic acid to benzene being such as to block sulfonation of the latter, the consumption of acid being about 1% by weight of refined benzene, the benzene loss rate being about 0.2%, and separating the thiophene reaction products from the benzene to produce which is contaminated by thiophene to an extent of only 1 p.p.m.

3,265,755
ADSORPTION PROCESS

Harry D. Evans, Oakland, and Richard J. Schoofs, Lafayette, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Mar. 19, 1962, Ser. No. 180,459
9 Claims. (Cl. 260—674)



1. A continuous cyclic adsorption process comprising adsorption in a plurality of sequentially operating zones each provided with an adsorbent selective for aromatics and wherein each zone, stepwise and in turn, passes through the following steps:

(A) A paraffin feed stream containing aromatics is introduced into the zone and a paraffin stream essentially free from aromatics is recovered therefrom,

(B) A stream comprising isomerizate and aromatics is introduced in an amount sufficient to heat at least a portion of the zone and a further amount of paraffin essentially free from aromatics is recovered therefrom,

(C) A hot isomerizate stream is introduced into the at least partially heated zone in an amount sufficient to elute the selectively adsorbed aromatics and a mixture comprising isomerizate and aromatics is recovered from the zone as the product of the process, and

(D) A portion of the cold paraffin stream essentially free from aromatics recovered from step A is passed through the zone in an amount sufficient to cool at least a portion of the zone and a stream comprising isomerizate and aromatics is recovered from the at least partially cooled zone, and introduced as the heating material for step B.

3,265,756
PROCESS FOR MAKING ETHYLENE

Horst G. Langer, Cochituate, Mass., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 26, 1963, Ser. No. 297,973
3 Claims. (Cl. 260—677)

1. The process for producing ethylene comprising heating trivinyltin hydroxide at a temperature at which ethylene is evolved.

3,265,757
CATALYTIC HYDROLYSIS OF CARBONYL SULFIDE

Ludo K. Frevel, Midland, and Leonard J. Kressley, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 11, 1964, Ser. No. 395,930
4 Claims. (Cl. 260—677)

1. A liquid phase process for the removal of carbonyl sulfide from hydrocarbons which comprises passing a liquid hydrocarbon having from 2 to 4 carbon atoms and containing carbonyl sulfide in a maximum amount of 35T p.p.m. (wherein T is the process temperature in degrees centigrade) and an amount of ion-free water of from 0.3A p.p.m. to 12T p.p.m. (wherein A equals the carbonyl sulfide concentration in the hydrocarbon and wherein T is the process temperature in degrees centigrade) over an alkaline, active alumina catalyst having from about 0.15 to about 3.0 percent by weight of sodium or potassium atoms attached thereto at a temperature of from 20 to 50° C. to thereby remove the carbonyl sulfide from said liquid hydrocarbon.

3,265,758
LOW MOLECULAR WEIGHT POLYMERS

Edward A. Hedman, Harrison, N.Y., and Curtis W. Ogren, Louisville, Ky., assignors to The Richardson Company, Melrose Park, Ill., a corporation of Ohio

No Drawing. Filed Mar. 6, 1963, Ser. No. 263,133
3 Claims. (Cl. 260—680)

1. A process of preparing a low molecular weight polybutadiene which comprises subjecting butadiene in the presence of a xylene to the action of a catalyst complex consisting essentially of a sodium isopropoxide, xylylsodium and sodium chloride.

3,265,759
POLYMERIZATION PROCESS USING DISPERSED SODIUM

Alfred R. Cain, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No drawing. Filed Apr. 25, 1963, Ser. No. 275,522
3 Claims. (Cl. 260—683.15)

1. The improvement in the dispersion polymerization of hydrocarbon olefinic monomer by a catalyst system which includes sodium, tetrakis(dimethylamino)silane and Ti_3AlCl_{12}, which method comprises dispersing the sodium in a blend of 25 to 75 percent (by weight) of a light mineral oil and 75 to 25 percent of petrolatum, and then polymerizing the monomer with a catalyst system comprising said dispersed sodium with dispersed tetrakis (dimethylamino)silane and Ti_3AlCl_{12}.

3,265,760
POLYMER BLENDS OF ACRYLOXY PHENONES

Stanley Tocker, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 14, 1962, Ser. No. 179,766
22 Claims. (Cl. 260—836)

1. A weather-resistant shaped article which comprises a blend of a polymer selected from the group consisting of polyesters and epoxy resins and polymers of unsaturated compounds having the structural formula:

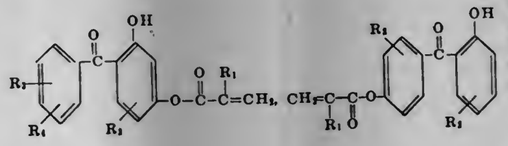


wherein

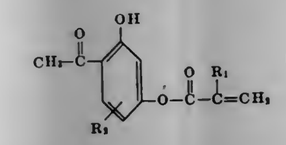
R_5 is selected from the group consisting of hydrogen, halogen and alkyl having 1–4 carbon atoms,

R_6 is selected from the group consisting of hydrogen, halogen, alkyl of 1–4 carbon atoms, carboalkoxy, phenyl, acetoxy, carboaryloxy, acetyl and cyano

with 0.5–20% by weight of a homopolymer of an unsaturated compound selected from the group consisting of:



and



wherein

R_1 is selected from the group consisting of hydrogen and alkyl having 1–3 carbon atoms, and

R_2, R_3 and R_4 are each selected from the group consisting of hydrogen, halogen, alkyl and alkoxy.

3,265,761
POLYURETHANE PREPOLYMER CONTAINING SUBSTITUTED UREA GROUPS AND METHOD OF PREPARATION

Anton J. Havlik, La Crescenta, Calif., and Alan B. Magnusson, Lancaster, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Apr. 28, 1964, Ser. No. 363,687
8 Claims. (Cl. 260—858)

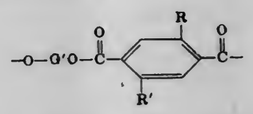
1. The method of preparation of a polyurethane prepolymer comprising reacting about one mole of 2,4-toluene diamine with about two moles of a previously produced intermediate under anhydrous conditions; said intermediate being the product of reacting about 2 moles of 2,4-toluene diisocyanate with about one mole of polyoxypropylene glycol under anhydrous conditions and in the presence of 0.03 weight percent ferric acetylacetonate, the average molecular weight of said polyoxypropylene glycol being about 2000.

3,265,762
SEGMENTED LINEAR COPOLYESTERS OF 2,5-DI-SUBSTITUTED TEREPHTHALIC ACIDS

Richard Keith Quisenberry, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 24, 1962, Ser. No. 232,876
6 Claims. (Cl. 260—860)

1. A segmented linear copolyester having an inherent viscosity of at least 0.3, as determined at 25° C. for a solution of 0.25 g. of the copolyester dissolved in a mixture of 75 milliliters of methylene chloride and 25 milliliters of trifluoroacetic acid, and characterized by alternating first and second polyester segments connected through ester linkages, the first polyester segment consisting essentially of a succession of 3 to about 200 recurring structural units of ethylene terephthalate, and the second polyester segment consisting essentially of a succession of 3 to about 200 recurring structural units of a glycol ester of a dicarboxylic acid represented by the formula



wherein G' is a divalent saturated hydrocarbon radical, selected from the group consisting of ethylene and tetramethylene, and R and R' are hydrocarbon radicals of 1 to 8 carbon atoms and are free from aliphatic unsaturation, the weight ratio of said first polyester segment to said second polyester segment being in the range from 60/40 to 95/5.

3,265,763
MAR-RESISTANT UNSATURATED POLYESTER RESINS

William George Deichert, Flushing, N.Y., and Irene Christensen, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Aug. 17, 1964, Ser. No. 390,197
17 Claims. (Cl. 260—872)

8. A hard, mar-resistant, cross-linked unsaturated polyester resin composition consisting essentially of the cured reaction product of (1) the esterification reaction product of reactants consisting essentially of fumeric acid and triethylene glycol, wherein said product has an acid number below about 30, (2) a glycol diacrylate which is the reaction product of a glycol selected from the group consisting of polyglycols having from 4 to 8 carbon atoms and monoglycols containing from 2 to 4 carbon atoms, inclusive, and an acid selected from the group consisting of acrylic acid and methacrylic acid, wherein (2) is present in an amount varying between about 10% and 40% by weight based on the total weight of (1) and (2), and (3) a polymerizable styrene in an amount varying between about 1% and 5% by weight based on the total weight of (1), (2) and (3).

17. An optical lens comprising a transparent base of polymethyl methacrylate having bonded to at least one surface thereof a hard, mar-resistant cross-linked unsaturated polyester resin composition consisting essentially of the cured reaction product of (1) the esterification reaction product of reactants consisting essentially of fumaric acid and a polyethylene glycol, wherein said glycol has between 6 and 26 carbon atoms and wherein said product has an acid number below about 30, (2) a glycol diacrylate which is the reaction product of a glycol selected from the group consisting of polyglycols having from 4 to 8 carbon atoms and monoglycols containing from 2 to 4 carbon atoms, inclusive, and an acid selected from the group consisting of acrylic acid and

methacrylic acid, wherein (2) is present in an amount varying between about 10% and 40% by weight based on the total weight of (1) and (2), and (3) styrene in an amount varying between about 1% and 5% by weight based on the total weight of (1), (2) and (3).

3,265,764

MAR-RESISTANT UNSATURATED POLYESTER RESINS

William George Deichert, Flushing, N.Y., and Irene Christensen and Wallace Burton Ramsey, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 21, 1964, Ser. No. 398,053
12 Claims. (Cl. 260—872)

8. A hard, mar-resistant, cross-linked unsaturated, polyester resin composition comprising the cured reaction product of (1) the esterification reaction product of reactants consisting essentially of fumaric acid, triethylene glycol and 2-ethyl-1,3-hexanediol, wherein said product has an acid number below about 30, (2) ethylene glycol dimethacrylate, wherein said hexanediol is present in (1) in an amount varying between 5 and 50 mol percent based on the total mols of the dihydric alcohols in the esterification reaction product, wherein (2) is present in an amount varying between about 10% and 40% by weight based on the total weight of (1) and (2), and (3) styrene in an amount varying between about 1% and 5% by weight based on the total weight of (1), (2) and (3).

11. A sheet of polymethyl methacrylate having bonded to the surface thereof a hard, mar-resistant, cross-linked, unsaturated polyester resin composition comprising the cured reaction product of (1) the esterification reaction product of reactants consisting essentially of fumaric acid, triethylene glyocl and 2-ethyl-1,3-hexanediol, wherein said product has an acid number below about 30, (2) ethylene glycol dimethacrylate, wherein said hexanediol is present in (1) in an amount varying between 5 and 50 mol percent based on the total mols of the dihydric alcohols in the esterification reaction product, wherein (2) is present in an amount varying between about 10% and 40% by weight based on the total weight of (1) and (2), and (3) a polymerizable styrene in an amount varying between about 1% and 5% by weight based on the total weight of (1), (2) and (3).

3,265,765

BLOCK POLYMERS OF MONOVINYL AROMATIC HYDROCARBONS AND CONJUGATED DIENES

Geoffrey Holden, Anaheim, and Ralph Milkovich, Buena Park, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 29, 1962, Ser. No. 169,674
10 Claims. (Cl. 260—876)

1. As a novel composition of matter, an unvulcanized elastomeric block copolymer having the general configuration

A—B—A

wherein each A is an independently selected non-elastomeric monovinyl aromatic hydrocarbon polymer block having an average molecular weight of 2,000–100,000 and a glass transition temperature above about 25° C. the total block A content being 10–50% by weight of the copolymer, and B is an elastomeric conjugated diene polymer block having an average molecular weight between about 25,000 and 1,000,000 and a glass transition temperature below about 10° C., said copolymer having been prepared with a lithium-based catalyst and having a tensile strength at 23° C. in excess of about 1400 pounds per square inch.

5. A new composition of matter comprising an elastomer of the group consisting of conjugated diene homopolymers and random copolymers of conjugated dienes with vinylaromatic hydrocarbons and 5–50% by weight of block copolymers according to claim 1.

3,265,766

PROCESS FOR POLYMERIZING A MONOVINYL AROMATIC MONOMER

Alva F. Harris, Wilbraham, Mass., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed June 5, 1962, Ser. No. 200,036
12 Claims. (Cl. 260—880)

2. A mass polymerization process which comprises (1) dissolving a catalyst mixture consisting of:

(a) at least 0.0001 part by weight of an arylethylene oxide,

(b) 0.05–1 part by weight of a monocarboxylic acid having a dissociation constant not higher than 1.0×10^{-4} at 25° C., and

(c) about 0.01 to 0.1 part by weight of a peroxy compound having a half-life of at least 10 hours in benzene at 100° C.

in 100 parts by weight of a polymerizable material comprising a monovinyl aromatic monomer of the group consisting of a monovinyl aromatic hydrocarbon, an ar-halo monovinyl aromatic hydrocarbon, and mixtures thereof (2) heating the polymerizable material at 75–125° C. until 15–45% conversion to polymer is obtained, the temperature being so regulated as to be in the 75–95° C. range when this conversion is obtained, (3) gradually raising the reaction temperature to 180–200° C. over a period of about 3–7 hours, and (4) maintaining the reaction temperature at 180–200° C. for about 0.5–5 hours.

7. The process of claim 2 wherein the polymerizable material contains a dissolved rubbery conjugated 1,3-diene polymer.

3,265,767

POLYMERIC PIGMENT CONTAINING AMIDE NITROGEN, AND HAVING AN ACRYLONITRILE CORE

John R. Caldwell and Edward H. Hill, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 25, 1962, Ser. No. 212,474
1 Claim. (Cl. 260—883)

A pigment adapted for incorporation in synthetic organic plastics essentially composed of discrete particles comprising a core of acrylonitrile polymer having diameters substantially less than 10 microns containing thereon a pigment surface coating, said surface coating consisting essentially of a cross-linked high polymer of (1) from about 30 to about 99.9% by weight of a monoethylenically unsaturated aliphatic amide selected from the group consisting of maleic amides, fumaric amides, itaconic amides, citroconic amides, and acrylamides wherein the nitrogen atoms of all these amides and the α-position of the acrylamides are joined by chemical bonds to two members selected from the group consisting of (a) lower alkyl and hydroxyalkyl radicals containing from 1 to 6 carbon atoms and (b) a hydrogen atom, (2) from about 0.1% to about 15% by weight of an organic cross-linking compound containing at least two non-conjugated ethylenically unsaturated bonds in at least a sufficient amount to form a cross-linked high polymer and (3) from none to about 70% by weight of a monoethylenically unsaturated organic compound copolymerizable with said monoethylenically unsaturated aliphatic amide, the sum of said percentages of components (1), (2) and (3)

being 100% with the amount of amide nitrogen therein being at least 8% by weight, said cross linked high polymer being insoluble in an organic solvent for said synthetic organic plastics.

3,265,768

COPOLYMER MIXTURES OF TETRAHYDROFURFURYL METHACRYLATE

Edward H. Mottus and Joseph E. Fields, Ballwin, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Nov. 19, 1962, Ser. No 238,706
27 Claims. (Cl. 260—885)

1. A process for making tetrahydrofurfuryl methacrylate and alkyl methacrylate copolymer mixture having improved viscosity-stability in the presence of a heavy duty barium detergent additive comprising heating at polymerizing temperatures in the presence of a free radical catalyst a major amount of an alkyl methacrylate monomer having not less than 6 and not more than 20 carbon atoms in the alkyl group for a time sufficient to polymerize at least a portion of said alkyl methacrylate to provide said stability, and then adding to the polymerizing alkyl methacrylate under polymerizing conditions a minor amount of tetrahydrofurfuryl methacrylate monomer based on said alkyl methacrylate in a manner to produce a mixture of copolymer species and continuing the polymerization until substantially all of the monomer content is incorporated in the polymer.

3,265,769

BIAXIALLY ORIENTED POLYPROPYLENE FILM CONTAINING BUTYL RUBBER

Albert N. Schaffhausen, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Oct. 9, 1961, Ser. No. 143,603
4 Claims. (Cl. 260—889)

2. A biaxially oriented film having a uniform thickness on the order of about 1 mil and a tensile strength exceeding that of unoriented isotactic polypropylene, said film being formed from an intimate blend of from 1 to 50 parts of butyl rubber which is a copolymer of isobutylene and a small amount of isoprene and correspondingly from 99 to 50 parts of isotactic polypropylene.

3,265,770

BUTYL RUBBER-POLYETHYLENE COMPOSITIONS

Douglas Cameron Edwards, Sarnia, Ontario, Canada, assignor to Polymer Corporation Limited, Sarnia, Ontario, Canada, a body corporate

No Drawing. Filed Mar. 12, 1963, Ser. No. 264,723
Claims priority, application Canada, Apr. 14, 1962, 846,831
15 Claims. (Cl. 260—889)

1. A process comprising blending 40–60 parts by weight of a rubbery copolymer of 80–99.9 weight percent isobutylene and 0.1–20 weight percent of at least one C_4–C_{14} diolefinic hydrocarbon with 60–40 parts by weight of a solid polyethylene and 0.1–10 parts by weight of an organic peroxide per 100 parts by weight of total polymers, at a temperature sufficiently elevated to obtain a homogeneous blending of the components with less than 50% peroxide decomposition; elevating the temperature and masticating the blend until more than 50% of the remaining undecomposed peroxide is decomposed; lowering the temperature to a point where vulcanization of the rubbery isobutylene-diolefinic hydrocarbon copolymer is substantially negligible; mixing into the blend a vulcanizing agent for the rubbery isobutylene-diolefinic hydrocarbon copolymer component of the blend and shaping and vulcanizing the thus prepared blend.

3,265,771

POLYPROPYLENE-POLYETHYLENE BLENDS

Richard Louis Ray, Leon Walter Gamble, and Earl Boue Claiborne, Baton Rouge, La., and George M. Coats, Berkeley Heights, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 13, 1961, Ser. No. 88,650
The portion of the term of the patent subsequent to Aug. 20, 1982, has been disclaimed
7 Claims. (Cl. 260—897)

1. A composition of matter of improved low temperature characteristics which comprises: 55 to 90 wt. percent of low pressure, isotactic polypropylene, and 10 to 45 wt. percent of a polyethylene having less than 0.10 methyl group per 100 carbon atoms, a wt. percent unsaturation of less than 0.05.

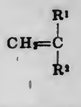
3,265,772

CROSS-LINKED BLENDED POLYMERS CONTAINING POLYMERIC ACRYLOXY BENZOPHENONES

Stanley Tocker, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

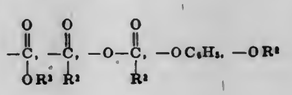
No Drawing. Filed Sept. 28, 1962, Ser. No. 227,066
11 Claims. (Cl. 260—898)

1. A cross-linked polymeric composition comprising a blend of a polymer of at least one polar vinylidene monomer having the formula



wherein R^1 is selected from one of the following groups:

—Cl, —Br, —F, —CHO, —CN, $-C_6H_5$



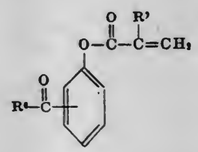
and



wherein R^3 and R^4 are each selected from the group consisting of alkyl and —H, R^8 is alkyl; and

wherein R^2 is selected from the group consisting of R^1, —H and alkyl of 1–4 carbon atoms;

and at least 0.01 mole percent of a polymer of a monomer



wherein

R^6 is selected from the group consisting of methyl and phenyl, and

R^7 is selected from the group consisting of methyl and —H;

characterized by its insolubility in a solvent in which the first homopolymer, prior to cross-linking, was soluble.

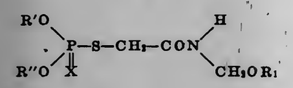
3,265,773

ALKOXYMETHYLENAMIDES OF O,O-DIALKYL-THIO- OR O,O-DIALKYL-DITHIOPHOSPHORYL-ACETIC ACIDS

Giuseppe Losco, Giorgio Rossi, and Giannantonio Michieli, all of Milan, Italy, assignors to Montecatini-Società Generale per l'Industria Mineraria e Chimica, Milan, Italy

No Drawing. Filed Feb. 28, 1961, Ser. No. 92,121
Claims priority, application Italy, Mar. 1, 1960, 3,555/60; Oct. 28, 1960, 18,772/60
21 Claims. (Cl. 260—943)

1. Phosphoric esters of the general formula



in which R′ and R″ are lower alkyl, X is taken from the group consisting of oxygen and sulfur, R_1 is taken from the group consisting of lower alkyl, allyl, propargyl, chloro lower alkyl, lower alkoxy lower alkyl and lower alkyl-mercapto lower alkyl.

3,265,774

PHOSPHORUS CONTAINING POLYOLS

Lester Friedman, Beachwood Village, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

No Drawing. Original application June 11, 1962, Ser. No. 201,240, now Patent No. 3,139,450, dated June 30, 1964. Divided and this application Aug. 7, 1963, Ser. No. 300,653
9 Claims. (Cl. 260—953)

1. A tertiary phosphite ester of a lower alkaneether-polyol having the formula



wherein R_1, R_2 and R_3 are an alkaneetherpolyol having 3 to 6 hydroxyl groups with one of the hydroxyl hydrogens removed, said alkaneetherpolyol being the ether of a lower alkanepolyol being the ether of a lower alkanepolyol having 3 to 6 carbon atoms and 3 to 6 hydroxyl groups, there being no more than one hydroxyl group attached to any carbon atom, with a member of the group consisting of lower alkylene glycols and poly lower alkylene glycols, said ester having a plurality of free alcoholic hydroxyl groups.

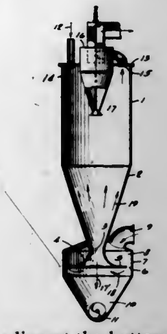
3,265,775

CONTINUOUS TREATMENT OF SUBDIVIDED MATERIAL WITH GAS

Wolfgang Friedrich, Braunschweig, Germany, assignor to Miag Muhlenbau und Industrie G.m.b.H., Braunschweig, Germany, a company of Germany

Filed Feb. 26, 1963, Ser. No. 261,108
Claims priority, application Germany, Feb. 27, 1962, M 51,950
2 Claims. (Cl. 263—53)

1. A method for the continuous treatment of granular and finely divided particles of material in a counterflowing highly compressible fluid flowing upwardly in which such material is treated without essential change as to form and weight of the particles, comprising the steps of effecting a continuous flow of the fluid in an upward direction with such fluid rising with decreasing velocity, introducing said material into said fluid flow in a direction counter thereto, continuously maintaining the velocity of said fluid at a rate higher than that required to maintain suspension of the material particles, and controlling the amount of material added per unit of time to the fluid to effect a compression of such material and thereby form successive clouds which reach a density sufficient to fall



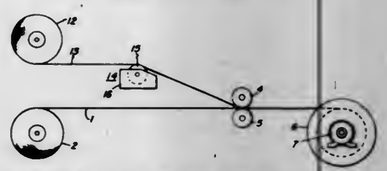
through an area adjacent the bottom of said fluid flow of maximum fluid velocity to an area adjacent thereto and thereat removing the material from said fluid.

3,265,776

REPRODUCING THERMOPLASTIC RECORDINGS

John L. Henkes, Jr., Loudonville, N.Y., assignor to General Electric Company, a corporation of New York

Filed Dec. 19, 1963, Ser. No. 331,694
3 Claims. (Cl. 264—1)



1. A method for reproducing a thermoplastic tape of the type recording information as thickness deformations in a first thin transparent thermoplastic layer supported by a flexible base layer, which tape is capable of reproducing information by bending of light impinging on said deformations, comprising the steps of applying a liquefied plastic material upon a flexible base thus forming a second tape, rolling the two tapes together so the liquefied plastic material is cast into the deformations of said first thermoplastic layer at a temperature which does not cause softening of said thermoplastic layer, maintaining the tapes in contact for a predetermined period of time to allow solidification of said plastic material in the form of a negative of said thickness deformations, and stripping the second tape from the thermoplastic tape to provide a duplicate tape.

3,265,777

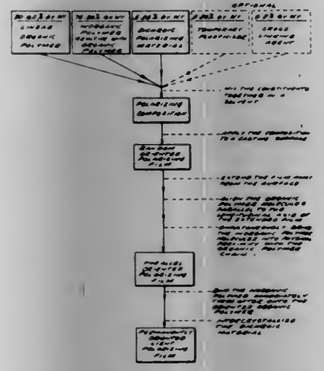
LIGHT POLARIZING FILM AND FIBRE FORMING METHOD

Alvin M. Marks, 153—16 10th Ave., and Mortimer M. Marks, 166—25 Cryders Lane, both of Whitestone, N.Y.

Original application July 29, 1963, Ser. No. 298,023. Divided and this application Sept. 1, 1964, Ser. No. 393,702
8 Claims. (Cl. 264—2)

1. A method of manufacture of stable, oriented, non-retractable, polymeric film which comprises the steps of:
(a) forming a crystallizable composition including at least 30 and not more than 60 parts by weight of a linear organic polymer and not more than 70 and at least 30 parts by weight of a polymer having an inorganic skeletal structure reactive with said organic polymer, in a suitable solvent,

(b) applying said composition to a casting surface,
(c) drying said cast composition to form a film of randomly oriented molecules,
(d) extending a portion of said film away from said surface by exerting on said film a force acting at an angle to said surface and resolvable into a lifting force component normal to said surface and a stretching force component parallel with said surface, thereby
(e) aligning the organic polymer molecules in a direction substantially parallel to the longitudinal axis of the extended film, and



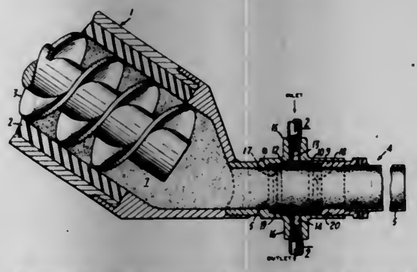
(f) simultaneously bringing the polymer having an inorganic skeletal structure into proximate reactive physical relationship with the thus-oriented organic molecules and into parallel orientation therewith to produce a retractable parallel oriented polymeric film, and
(g) binding the polymer having an inorganic skeletal structure onto the organic molecules thereby to form a stable, oriented, non-retractable polymeric film.

3,265,778

METHOD FOR EXTRUDING EXPLOSIVES

George L. Griffith, Coopersburg, Pa., assignor to Trojan Powder Company, Allentown, Pa., a corporation of New York

Filed Feb. 10, 1964, Ser. No. 343,844
5 Claims. (Cl. 264—3)



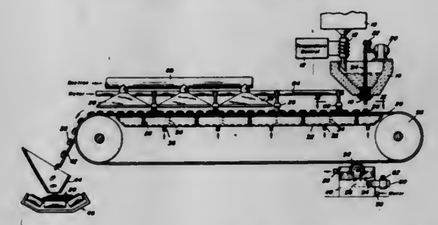
1. A process for extruding an explosive composition of extrudable consistency, comprising a primary explosive and sensitive to detonation at pressures in excess of about 60 p.s.i., and at elevated temperatures, in order to minimize pressure and heat-generation during extrusion, comprising confining said explosive composition within a passage of relatively small diameter to form an explosive column of substantial length therein, and moving the explosive column along the passage by application of a pressure below about 60 p.s.i. to one end thereof, while applying a film of liquid lubricant at a pressure within the range from the extrusion pressure to 50 p.s.i. greater than the extrusion pressure, between the surface of the explosive column and the wall of the passage, whereby the explosive composition is extruded safely at a pressure and temperature below that at which detonation of the explosive occurs.

3,265,779

METHOD AND APPARATUS FOR PELLETIZING PITCH

Stephen Gobla and William T. Tate, Gary, Ind., assignors to United States Steel Corporation, a corporation of Delaware

Filed Dec. 6, 1963, Ser. No. 328,675
6 Claims. (Cl. 264—5)



1. In a method of pelletizing fusible material which comprises depositing molten drops thereof successively on a moving support, the improvement comprising applying a film of liquid to the surface of said support and depositing said drops on said film, controlling the thickness of said film so that it will be substantially completely evaporated in the area of contact of said film and drops, thereby solidifying the surface of said drops adjacent said support and inhibiting adherence of the drops thereto.

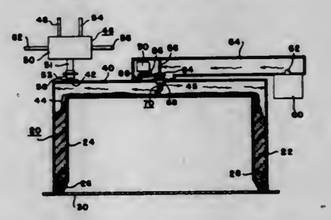
4. In an apparatus for pelletizing fusible material including a conveyor having a substantially flat surface and means to supply drops of molten material successively and substantially uniformly thereto, the improvement comprising film applying means including conveyor-contacting roller means engaging and frictionally driven by said conveyor, means to control the pressure of said roller against said conveyor, and means for supplying liquid to said roller, thereby applying to said conveyor ahead of the point at which the molten drops are deposited on film, a substantially continuous film of liquid of predetermined thickness, thereby flattening and solidifying the surface of said drops adjacent said conveyor.

3,265,780

METHOD CURING A FOAM INSITU USING A CHANGING MODE MICROWAVE GENERATOR

George B. Long, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

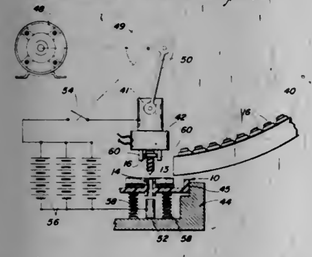
Filed Apr. 2, 1963, Ser. No. 269,975
2 Claims. (Cl. 264—26)



1. The process of filling a space with foam material comprising:
(a) inserting into said space heat-responsive reactive foam-forming material,

(b) inserting into said space a microwave antenna in operative relation with a microwave generator located outside said space,
(c) inserting into said space a rotatable microwave stirrer,
(d) reacting said foam-forming material within said space to form a foam,
(e) at the beginning of and during the reaction of said foam-forming material generating microwaves outside said space, transmitting said microwaves to said antenna and discharging said microwaves from said antenna within said space and
(f) repeatedly changing the mode of said microwaves discharged from said antenna by rotating said stirrer.

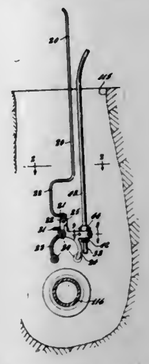
3,265,781
ASSEMBLY METHOD
Dean M. Peterson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 17, 1963, Ser. No. 288,219
6 Claims. (Cl. 264—27)



5. An assembly method using a thermoplastic base member having an upwardly extending collar thereon and at least one conductive contact screw having a head with a flat lower surface large enough to extend over a portion of and retain a conductive plate, with the assembly being subject to critical spacing considerations, comprising the steps of:
positioning the conductive plate to at least partially encompass the upwardly extending collar of the thermoplastic base member;
resiliently supporting the region of the base member including collar;
driving the conductive contact screw through the collar so that the flat lower surface lies over a portion of the conductive plate, said driving step being sufficient to compress the resilient support of said supporting step;
heating the collar sufficiently to soften at least a portion thereof; and
raising the base member a limited amount while holding the screw down to compress a portion of the collar between the screw and the plate to thereby expand the softened collar therebetween to form an integral washer over the portion of the plate lying under the flat surface of the screw head.

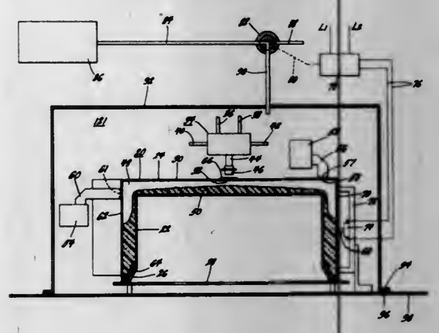
3,265,782
PROCESS FOR SEALING MAINS
Walter E. Rosengarten, Jr., 2895 Gradyville Road, Broomall, Pa., and Archibald T. Flower, Glenside, and David L. Buchanan, Flourtown, Pa.; said Flower and said Buchanan assignors to said Rosengarten, Broomall, Pa.
Original application May 7, 1962, Ser. No. 192,817, now Patent No. 3,178,793, dated Apr. 20, 1965. Divided and this application Jan. 25, 1965, Ser. No. 427,638
5 Claims. (Cl. 264—32)

1. A method of sealing an area of an underground conduit containing fluid under superatmospheric pressure, which comprises the steps of excavating a narrow shaft above an area of the conduit to be sealed, lowering into the excavation and disposing in open position partially surrounding the conduit a split elastomeric mold, closing said mold about the area of the conduit to be sealed, applying radially inward force to the outside of the mold to press said mold into tight radial engagement with the conduit leaving a completely annular space between said mold and the area of the conduit to be



sealed, introducing a hardenable sealing material into the space between the mold and the area of the conduit to be sealed under external pressure in excess of the pressure in the conduit and at the same time pushing out the gases in said space to the atmosphere ahead of the sealing material, and when the sealant fills the mold maintaining the tight engagement of said mold with said conduit and the pressure on said material in excess of the pressure in the conduit until the material has hardened.

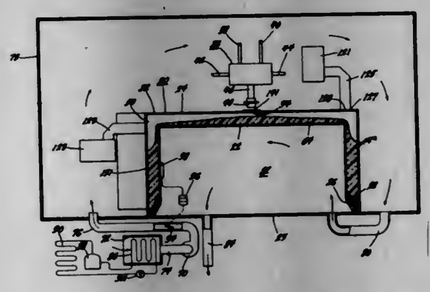
3,265,783
METHOD INCLUDING THE PREVENTING OF BULGING OF THE WALLS ENCLOSING A SPACE DURING THE MOLDING INSITU OF FOAMABLE PLASTIC MATERIALS
James W. Jacobs, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 2, 1963, Ser. No. 269,976
2 Claims. (Cl. 264—45)



1. The method of filling with a foam a structure having spaced flexible but non-extendible, substantially impervious sheet walls, providing a space therebetween, and capable of bulging outwardly when a pressure is exerted on their interior surfaces, comprising:
(a) placing said structure within a substantially fluid-tight chamber, in which a fluid, when introduced into said chamber contacts the outer surface of each of said walls,

(b) inserting into said space, foam-forming material,
(c) forming within said space a foam which, during its formation expands and exerts a varying outward pressure on said walls, having a tendency to cause bulging outwardly of said walls,
(d) during the formation of the foam, contacting the exterior surface of each of said spaced walls with a fluid which has been introduced into said fluid-tight chamber prior to the formation of said foam, and
(e) varying the pressure of said fluid to exert on the exterior of each of said walls an inwardly directed pressure substantially equal and opposite to that outward expansion pressure exerted by said foam during its formation, thereby preventing bulging of said walls.

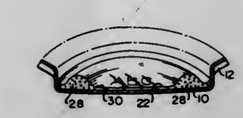
3,265,784
METHOD FOR THE MANUFACTURE OF A FOAM INSULATED CABINET WHEREIN THE CABINET IS COOLED DURING THE MOLDING TO PREVENT BULGING
James W. Jacobs, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 2, 1963, Ser. No. 269,977
4 Claims. (Cl. 264—45)



1. The method of insulating a cabinet having spaced sheet walls, providing an insulation space therebetween adjoining a storage compartment, said walls capable of bulging outwardly when a pressure is exerted on their interior surfaces, comprising:
(a) inserting into the insulation space, foam-forming material,
(b) forming within the insulation space a foam which increases in temperature, expands and exerts an outward pressure on said walls, having a tendency to cause bulging outwardly of said walls, and
(c) as the insulation space is substantially filled with the foamed material, forceably circulating a cooling fluid in heat transfer relation with the spaced walls, at a rate sufficient to prevent any substantial increase in the temperature of the foam and thereby prevent any substantial bulging of the spaced walls.

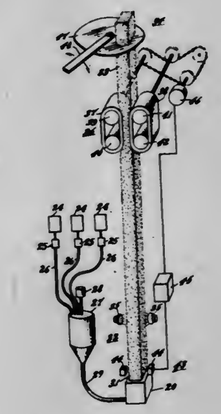
3,265,785
METHOD OF MOLDING A FOAMED PLASTIC SEALING LINER HAVING A TRANSPARENT CENTRAL PORTION
William C. Rainer, Barrington, R.I., assignor to Chemical Products Corporation, East Providence, R.I., a corporation of Rhode Island
Filed July 31, 1964, Ser. No. 386,660
10 Claims. (Cl. 264—45)

1. A method of preparing closures containing a protective and sealing liner material characterized by a transparent central portion which method comprises:
depositing a measured quantity of a vinyl resin plastisol containing a blowing amount of a chemical blowing agent in the interior of an inverted closure;
forming and gelling the plastisol within the closure under heat and by application of pressure at a temperature insufficient to substantially decompose the chemical blowing agent thereby producing a relatively thin web central portion having a web thickness of about 0.5 to 5 mils in thickness and a relatively thick outer ring portion;



heating the formed plastisol in the closure to a temperature sufficient to decompose the chemical blowing agent and to fuse the plastisol thereby providing a transparent fused central web portion and a cellular opaque ring portion of the vinyl plastisol.

3,265,786
METHOD AND APPARATUS FOR PRODUCING SHAPED POLYURETHANE FOAM STRIP
Walter D. Voelker, Philadelphia, Pa., assignor, by mesne assignments, to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Nov. 23, 1962, Ser. No. 239,616
8 Claims. (Cl. 264—54)



1. A method for continuous production of shaped polyurethane foam strip, which comprises:
(a) preparing a polyurethane foam-forming composition of flowable consistency;
(b) continuously directing said composition upwardly through a shaping vessel having a vertically directed passageway of upwardly increasing cross-sectional area passing therethrough, the rate of flow of said composition being adjusted to permit foam formation through reaction of the components thereof during passage of said composition through said passageway and said passageway having a cross-sectional configuration at its outlet corresponding to the desired cross-sectional configuration of the foam strip, whereby a polyurethane foam strip of the desired shape continuously emerges from the shaping vessel;

(c) heating the foam strip emerging from the shaping vessel to accelerate reaction between the components thereof and thereby develop appreciable tensile strength;
(d) subsequently applying a driving force to said foam strip to advance it at a rate proportionate to the rate of flow of the foam-forming composition to the shaping vessel so that the cross-sectional configuration of the foam strip emerging from the shaping vessel is maintained substantially the same as that of the passageway at its outlet; and
(e) continuously collecting the shaped polyurethane foam strip.

3,265,787
METHOD OF PROCESSING CERAMIC TYPE FERROELECTRIC MATERIALS

Ronald J. Brandmayr, Neptune, Arthur E. Brown, Red Bank, and Sam Di Vita and Robert J. Fischer, West Long Branch, N.J., assignors to the United States of America as represented by the Secretary of the Army

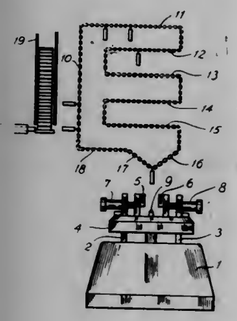
No Drawing. Filed Feb. 6, 1963, Ser. No. 256,771
6 Claims. (Cl. 264—56)

1. The method of processing ceramic type ferroelectric materials comprising confining a powder of the ferroelectric material in a metallic tube, swaging the metallic tube down over the ferroelectric material to precompact the material to a relatively high density, removing the swaged ferroelectric material from the tube, and then thermally maturing the ferroelectric material.

3,265,788
METHOD OF MANUFACTURING HOLLOW ARTICLES

Ebbe Rolf Arlø, Copenhagen, Denmark, assignor, by mesne assignments, to Esso Chemical Company Inc., New York, N.Y.

Filed Feb. 26, 1962, Ser. No. 197,807
3 Claims. (Cl. 264—94)

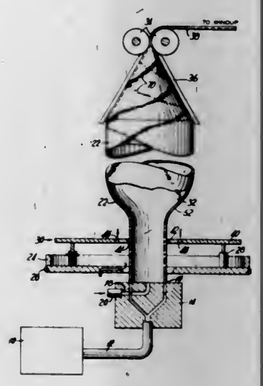


1. A method for manufacturing hollow articles from thermoplastic material in a molding machine which comprises in combination the steps of feeding a plurality of pre-formed tubular pieces of said material for further shaping in sequence upon an endless conveyor, holding said tubular pieces individually suspended from their top in vertical position during the feeding step upon said conveyor, heating said tubular pieces while they are suspended from their top and fed toward a molding station, routing a portion of the path of said conveyor directly adjacent the molding station, and moving the molding station of said molding machine into surrounding relationship about said tubular pieces while said pieces remain suspended from said conveyor to thereby perform the shaping of the article in said station and discharging the shaped article, and moving a subsequent tubular piece to a position adjacent said molding station.

3,265,789
METHOD AND APPARATUS FOR FORMING THERMOPLASTIC FILMS

Peter H. Hofer, Berkeley Heights, N.J., assignor to Union Carbide Corporation, a corporation of New York

Filed Nov. 30, 1960, Ser. No. 72,639
9 Claims. (Cl. 264—95)



1. In a method for forming thermoplastic film comprising extruding molten thermoplastic from a film-forming die, generally cooling the entire film surface and winding the cooled film on a roll, the improvement which comprises effecting simultaneously with the general cooling of the entire film surface a selective increase in the thickness of a narrow contiguous portion of a surface of the film by impinging from one to six narrow columns of cooling fluid in a substantially continuous traversing pattern on selected narrow contiguous portions of said film surface, the greatest cross-sectional dimension of said columns being substantially less than the distance between adjacent columns.

3,265,790
METHOD FOR FORMING BIAXIALLY ORIENTED FILM

Charles C. Kirk, Laurel, and Razmic S. Gregorian, Silver Spring, Md., assignors to W. R. Grace & Co., a corporation of Connecticut

No Drawing. Filed Jan. 31, 1963, Ser. No. 255,207
6 Claims. (Cl. 264—95)

1. The method of biaxially orienting an uncrosslinked polyolefin film to form a heat shrinkable film which comprises heating said film at a temperature within 10° C. below and 20° C. above its melting point and thereafter expanding said film under gaseous pressure while said film is juxtaposed to a layer of material selected from the group consisting of a rubber and a plastic, said group member having the characteristics of being readily oriented and after orientation, shrinking at a lower temperature than the uncrosslinked biaxially oriented polyolefin film.

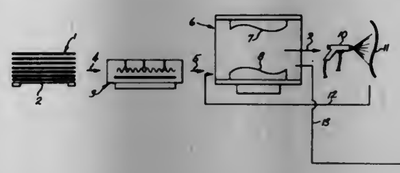
3,265,791
METHOD OF DIE-BAKING MOLDABLE WOOD FIBER PARTS

Philip E. Caron, Longview, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

Filed Feb. 20, 1963, Ser. No. 260,061
7 Claims. (Cl. 264—129)

1. A method of finishing a formed wood fiber part, comprising; placing the moldable wood fiber mat in a polished molding die; pressing the wood fiber mat in the

die at a pressure and temperature to plasticize the wood fibers and activate the resin binder system to form the desired contour; releasing the pressure; spraying the hot

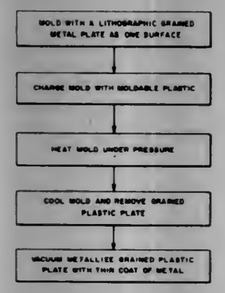


wood fiber part with a sealing material; immediately repressing the treated wood fiber part while in a hot condition to fully cure the sealing material and wood fiber part.

3,265,792
PROCESS FOR PREPARING A GRAINED LITHOGRAPHIC PLATE

Richard L. Wagner, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

Filed Oct. 4, 1963, Ser. No. 313,766
14 Claims. (Cl. 264—129)



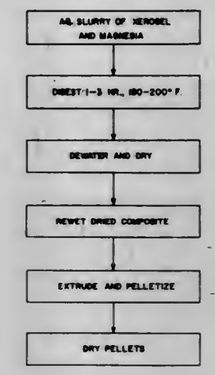
1. A process for preparing a grained lithographic plate which comprises the steps of (1) replicating the grinding of a lithographic grained metal master plate onto the surface of a moldable plastic substrate selected from the group consisting of polyolefins, polystyrene, poly[3,3-bis(chloromethyl) oxetane], cellulose mixed esters, condensation polymer of p, p'-isopropylidene diphenol and phosgene, poly(formaldehyde), and poly(methyl methacrylate) by heating the plastic under pressure in a mold in which the surface of the plastic comes into contact with the grained surface of said master plate, and (2) vacuum metallizing a thin coating of a metal selected from the group consisting of aluminum, zinc, copper, chromium, molybdenum, zirconium, titanium, nickel, magnesium and cadmium onto the grained surface of said plastic substrate, said graining being a microscopic surface roughness varying in depth from about 0.00015 inch to about 0.0015 inch.

3,265,793
PROCESS FOR PRODUCING EXTRUDED XEROGELS CONTAINING MAGNESIA PARTICLES

Robert R. Otremba, Chicago, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

Filed Aug. 16, 1963, Ser. No. 302,703
4 Claims. (Cl. 264—141)

1. A process for producing an extruded xerogel which comprises wetting a xerogel containing 5–35% magnesia particles having a surface area of at least 100 square meters per gram and a pore volume of at least 0.20 cc.

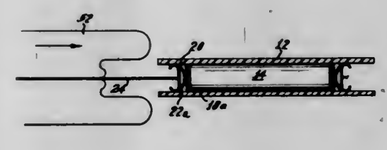


per gram with water to form an extrudable, wet, plastic mass, and extruding the said plastic mass through an extrusion die to form pellets.

3,265,794
METHOD OF MANUFACTURING CAPACITORS

William M. Robinson, Fairhaven, Mass., assignor to Cornell-Dubilier Electric Corporation, a corporation of Delaware

Filed Sept. 13, 1962, Ser. No. 223,473
9 Claims. (Cl. 264—249)



1. The method of manufacturing an encased capacitor comprising the steps of positioning a wound capacitor body within a tube of thermoplastic material, inserting in each end of the tube a terminal assembly including an imperforate metal end wall having an external annular formation, heating the ends only of said tube to the heat-softening temperature of the material, and forming said heated end material into intimate surface contact with the end walls and into intimate surface contact with the annular formations thereof and thereby to seal the ends of the capacitor and to press the respective terminal assemblies against the capacitor body.

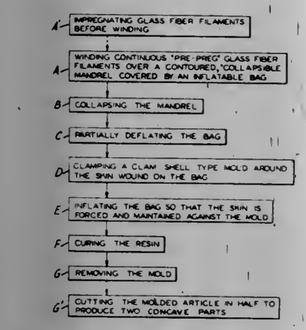
3,265,795
METHOD OF SKIN MOLDING

Jonas Medney, Oceanside, N.Y., assignor to Koppers Company, Inc., a corporation of Delaware

Filed May 25, 1964, Ser. No. 369,667
13 Claims. (Cl. 264—157)

1. The method of molding a resin bonded filament wound shell comprising the steps of:
(A) winding inelastic filaments under tension to form a filamentary skin, said winding step being performed on a contoured, collapsible mandrel having a plurality of different diameters which is covered by a flexible, fully inflated bag;
(B) collapsing the mandrel radially inward;

(C) partially deflating the bag;
(D) positioning a mold member having dimensions similar to the mandrel at comparable stations against the wound skin;

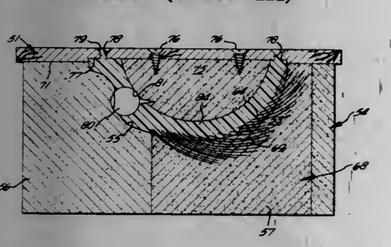


(E) fully reinflating the flexible bag whereby the skin is forced into contact with the mold member;
(F) curing the resin; and
(G) removing the skin from the mold.

3,265,796
METHOD FOR FABRICATING HUMAN HEAD REPLICAS AND THE LIKE HAVING HAIR SIMULATING FILAMENT EMBEDDED THEREIN

Vincent L. Rodriguez, Jr., 8928 Edda Villa Drive, Rosemead, Calif.

Filed Feb. 14, 1963, Ser. No. 258,575
3 Claims. (Cl. 264—221)

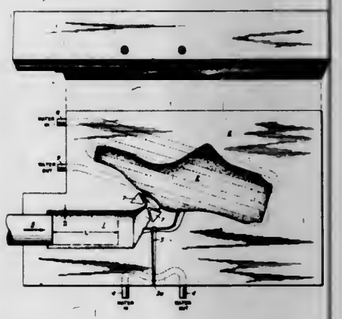


1. The method of casting a reproduction of the head of a human model and the like comprising the steps of
(1) making an impression of the features of the model in a body of hard-setting semi-fluid material to provide a primary female mold part defining a molding cavity having a casting surface,
(2) removing a selected part of the primary female mold part which corresponds to the hirsute scalp area of the head of the model,
(3) preparing from a hard-setting soluble material a secondary female mold part corresponding to the removed selected part of the primary female mold part, the secondary mold part having
(a) a casting surface,
(b) filaments of hair simulating material embedded in the secondary mold part substantially independently of each other and having ends projecting from the casting surface, and
(c) a configuration conforming to the outline of the primary mold part around the portion thereof from which the selected part was removed,
(4) inserting the secondary mold part into the primary mold part from which the selected part was removed so that the casting surface of the secondary mold part is substantially aligned with the primary mold part casting surface peripherally of the secondary mold part and so that the filaments extend from the secondary mold part casting surface into the molding cavity,
(5) casting the reproduction by introducing a hard-setting casting material into the assembled primary and secondary mold parts, the casting material being other than a solvent for the hard-setting soluble material,
(6) removing the cast reproduction and the secondary mold part from the primary mold part, and
(7) dissolving the hard-setting material of the secondary mold part from around said filament with a material which does not dissolve or alter the appearance of the casting material.

3,265,797
METHOD OF INJECTION MOLDING SOLID HEAVY SECTION

Albert Spaak, Little Falls, N.J., and Clifford L. Weir, Long Island, N.Y., assignors to W. R. Grace & Co., a corporation of Connecticut

Filed Aug. 30, 1962, Ser. No. 220,960
1 Claim. (Cl. 264—235)



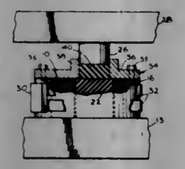
In the process for molding an article of heavy section by injecting a molten polyolefin plastic into a mold cavity and reservoir, sealing the system and thereafter simultaneously cooling the mold cavity while applying pressure to the molten polyolefin plastic in the reservoir to force polyolefin plastic from the reservoir into the mold cavity to compensate for the volume change attending the solidification of the polyolefin plastic in the mold cavity, the improvement which comprises continuing the cooling for a time sufficient to make the article rigid and removable from the mold but insufficient to completely solidify the polyolefin plastic in the central portion of the article, and thereafter heating the rigid article containing the unsolidified polyolefin plastic for at least about 4 hours at a temperature of from about 220° F. to about 260° F. so as to substantially eliminate voids in the final article.

3,265,798
PROCESS OF ISOSTATIC PRESSING OF CARBONACEOUS MATERIALS

Lowell A. Lyle, Jr., Torrance, Calif., assignor to Hitco, a corporation of California

Filed Oct. 31, 1962, Ser. No. 234,314
2 Claims. (Cl. 264—255)

1. An improved isostatic pressing method for uniformly debulking a concentrically wound carbon cloth article, which method comprises the steps of disposing a molded refractory carbon article comprising concentrically wound resin-impregnated carbon cloth having a cavity extending therethrough and positioned within the outer periphery thereof in a pressing zone against a rigid female die component, inserting a pressure-deformable heat stable solid elastomeric male die component within said cavity to fill the same, applying non-uniform pressure to and deforming said elastomeric male die below the elastic limit thereof so as to force said elastomeric male die component into closer contact with said article, uniformly distributing and transferring said pressure in said elastomeric component to said article while maintaining said article at an elevated temperature and maintaining said pressure and

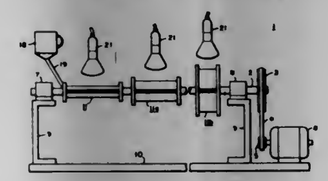


temperature until desired debulking of said article is effected, repeating said pressing operation on a second complementary carbon cloth article so as to debulk the same, and joining said first and second articles together, increasing said temperature and pressing the combined first and second articles in substantially the same manner as in said debulking operation until said resin is cured and until said first and second articles are permanently joined together.

3,265,799
METHOD OF MAKING TERMINAL BUSHINGS

James H. McWhirter, Sharon, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 11, 1961, Ser. No. 82,025
4 Claims. (Cl. 264—262)

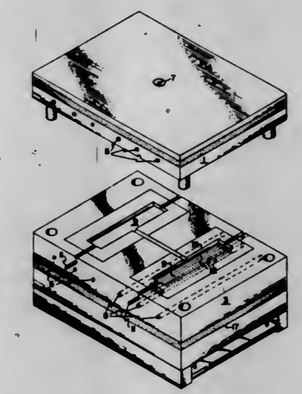


1. In the process of preparing a unitary laminated terminal bushing of a resinous composition including a centrally-disposed conductor stud, the steps comprising forming a plurality of cooperable tubes of graduated diameters of a resinous material in a manner to provide tubes of substantially uniform wall thickness and of substantially uniform dielectric strength, heating the several tubes of resinous material to thermoset the tubes to a solid and shrink the tubes whereby further substantial shrinkage occurs during the remaining steps of the process, wrapping conducting screening about several of said tubes, disposing the tubes together concentrically, introducing into the annular spaces between the tubes a liquid thermosettable composition which flows through the mesh of the screening and adheres to the inner and outer walls of the tubes, and curing the last-mentioned composition.

3,265,800
METHOD OF INJECTION MOLDING CROSS-LINKABLE COMPOSITIONS

Eugene J. Trunk, Somerville, Mass., assignor to Cabot Corporation, Boston, Mass., a corporation of Delaware

Filed Apr. 6, 1964, Ser. No. 357,690
8 Claims. (Cl. 264—328)



1. In a process for injection molding curable polyolefin compositions which comprises injecting into a mold cavity a charge comprising a thermally cross-linkable polyolefinic composition heated to above the minimum flow temperature but below the active cross-linking temperature thereof, the improvement which comprises seriatim:
(a) injecting said composition into a mold cavity heated to above said active cross-linking temperature,
(b) maintaining the resulting molded article in said mold cavity until substantially complete cross-linking has occurred,
(c) rapidly cooling substantially only the exterior surfaces of said article while in said mold cavity to form a form stabilizing skin thereon, thereby rendering said article form stable and distortion resistant, despite the fact that the central mass of said ware remains entirely deformable,
(d) ejecting said form stable and distortion resistant article from said mold cavity.

ELECTRICAL

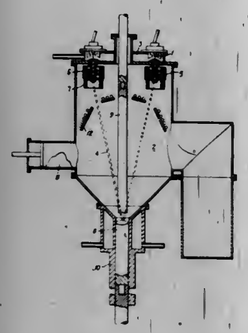
3,265,801
ELECTRON BEAM FURNACES

Norman Frank Eaton, Uplands, Swansea, Wales, assignor to Associated Electrical Industries Limited, London, England, a British company

Filed Aug. 22, 1961, Ser. No. 133,201
Claims priority, application Great Britain, Aug. 22, 1960, 28,989/60
7 Claims. (Cl. 13—31)

1. An electron beam furnace comprising an evacuated melting chamber, an ingot mould, means for supporting a vertically extending feed rod over the ingot in said melting chamber, a plurality of electron guns located in a separate electron gun chamber and directed downwardly, said electron gun chamber being adjacent to said melting chamber, means for evacuating said gun chamber to a lower pressure than the melting chamber, beam ducts connecting the melting chamber and the electron gun chamber, there being a beam duct associated with each electron gun through which the beam passes into the melting chamber and beam deflecting means asso-

ciated with each electron gun whereby the electron beams entering the melting chamber are deflected out of alignment with the beam ducts to tend to trap positive ions from entering the beam ducts and so reaching the cathode.



3,265,802
CAP FOR HERMETICALLY SEALED SEMICONDUCTOR

Gary Hillman, Livingston, and Allan Davis, Hazlet, N.J., assignors to Mitronics Inc., Murray Hill, N.J.

Filed Nov. 18, 1963, Ser. No. 324,516
8 Claims. (Cl. 174—15)



1. A header for an envelope adapted to enclose a semiconductor, said header comprising:

(a) an electrically insulating heat conducting first element having a first face and a second face opposite said first face,

(b) said first face of said first element adapted to be placed in heat conducting relation to said semiconductor,

(c) a heat conducting second element adjacent and substantially coextensive with the second face of said first element and in heat conducting relation therewith,

(d) at least one lead extending from a point outside said envelope to a point within the perimeter of the second face of said first element, said lead being substantially parallel to the second face of said first element, said lead further extending through said first element from the second face thereof to the first face thereof and adapted to be secured in electrical contact with a portion of said semiconductor,

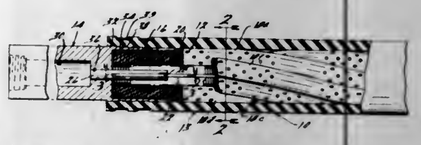
(e) at least one slot in said second element extending inwardly from the perimeter thereof, said slot providing a recess for one lead,

(f) the depth of said slot being greater than the thickness of said lead.

3,265,803
FLEXIBLE ELECTRICAL CABLE

Earl I. Grove, Walled Lake, Mich., assignor to Gar Wood Industries, Incorporated, Wayne, Mich., a corporation of Michigan

Filed Jan. 14, 1964, Ser. No. 337,602
3 Claims. (Cl. 174—15)

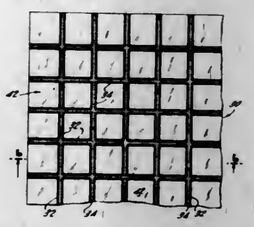


1. A flexible electrical cable assembly comprising a flexible electrical cable including a longitudinally extending coiled member, a flexible, elongated flat bar located within said coiled member, a hollow tube member extending partially within said coil member in clearance relationship therewith fixed to one end of said flat bar, and flexible electrical conductor means disposed circumferentially about said coiled member for conducting an electrical current; and a terminal member having a bore for matably and fixedly receiving a portion of said tube member and having means for fixedly receiving an end portion of said conductor means, and passage means in said terminal member in fluid communication with said tube member for defining a fluid passage through said terminal member and said tube member.

3,265,804
RADIATION SHIELDING LIGHT TRANSMITTER

Emanuel Berger and Vearl S. Wince, both of Newark, Ohio, assignors to Holophane Company, Inc., New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 403,806, Oct. 14, 1964. This application Oct. 27, 1965, Ser. No. 511,561
4 Claims. (Cl. 174—35)



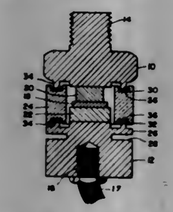
1. A radiation shielding light transmitting element comprising a light incident surface, a light emergent surface, light controlling means on said light emergent surface for directing light passing through said element, a grid of electrically conductive bars supported on said light incident surface and which expose a considerable portion of said light incident surface between said bars, and means for grounding said grid, said light controlling means comprising a plurality of prisms forming a network of valleys aligned with said bars.

3,265,805
SEMICONDUCTOR POWER DEVICE

Alan J. Carlan, Kenneth H. Wallhausen, and Ray H. Salinas, Monroeville, Willard E. Payne, Connellsville, and Barney P. Bazin, Jr., United, Pa., assignors to Power Components, Inc., Scottdale, Pa., a corporation of Pennsylvania

Filed Feb. 3, 1964, Ser. No. 341,908
4 Claims. (Cl. 174—52)

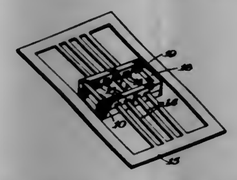
1. In a semiconductor device of the type in which a semiconductor element is housed within a surrounding envelope, the combination of solid substantially inflexible electrical contact members rigidly secured and electrically connected to opposite sides of said semiconductive element, a generally tubular housing of ceramic material surrounding the semiconductive element and extending between said contact members, means including flanges on the contact members extending along the axis of the semiconductor device for sealing opposite ends of the housing to the contact members, and a generally annular groove in one of said contact members forming a generally annular flange to which the housing is sealed and which has a degree of cantilever arm-type flexibility with respect to said one contact member enabling thermal expansion and contraction of the tubular housing along the axis of the semiconductor device, the flexibility of the annular flange being sufficient to prevent fracture of the semiconductive element under thermal expansion and contraction forces encountered in the operation of the semiconductor device.



3,265,806
ENCAPSULATED FLAT PACKAGE FOR ELECTRONIC PARTS

Darnall P. Burks, Williamstown, Mass., and John H. Fabricius, Stamford, Vt., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Apr. 5, 1965, Ser. No. 445,484
3 Claims. (Cl. 174—52)



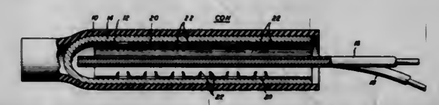
2. An assembly of mounted electronic parts comprising a nonconductive substrate, thin film metal terminals on the substrate interconnecting electronic parts thereon, electrical solder on the individual terminals, a plurality of external leads extending from the substrate having ends adhered to and in electrical contact with the respective solder on the terminals, a nonconducting frame joined to the substrate over the terminals and the ends of the leads, additional solder on the frame being bonded to the solder on the metal terminals, whereby the leads are electrically connected to the terminals secured in the assembly.

3,265,807
CONNECTOR FOR INSULATED CONDUCTORS

Donald T. Smith, Piscataway Township, Middlesex County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed July 24, 1964, Ser. No. 384,894
4 Claims. (Cl. 174—87)

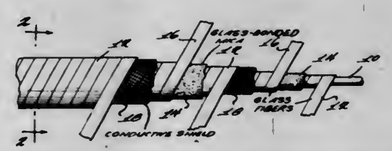
1. A deformable electrical connector for establishing contact with an insulated conductor, comprising an inner liner of relatively hard spring-like conductive material, an outer cover of relatively soft material, and a plurality of flat protuberances extending inwardly from said liner, said protuberances being aligned in separate rows each having major components transverse to the axis of said liner, said protuberances in each row having respective elongated bases aligned with each other and with the row, said liner having perforations forming therebetween webs of liner material supporting said protuberances, each of said perforations defining an edge extending along all the aligned bases of the aligned protuberances of one of said rows for urging the web at adjacent ones of said protuberances in a row to arch in substantially the same direction in response to force applied by a conductor upon any protuberance in a row when said outer liner is deformed about a conductor.



3,265,808
INSULATED HIGH TEMPERATURE ELECTRICAL CONDUCTOR AND PROCESS FOR MAKING SAME

David Binch, Burlington, Vt., assignor, by mesne assignments, to Haveg Industries, Inc., a wholly-owned subsidiary of Hercules Powder Company, New Castle, Del., a corporation of Delaware

Filed Dec. 3, 1963, Ser. No. 327,773
9 Claims. (Cl. 174—105)

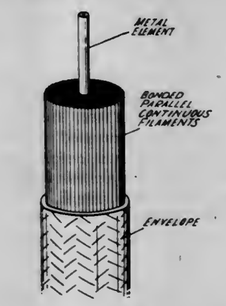


1. A high temperature electrical assembly comprising a conductor, a first layer of glass fibers superimposed on said conductor, a second layer of dielectric comprising glass-bonded mica superimposed on said first layer and a third layer of glass fibers superimposed on said second layer.

3,265,809
CABLES WITH BONDED ORGANIC FILAMENTARY INSULATION

Gilbert Morieras, Lyon, France, assignor to Societe Rhodeaceta, Paris, France

Filed Jan. 20, 1964, Ser. No. 338,570
Claims priority, application France, Jan. 29, 1963, 923,091
6 Claims. (Cl. 174—121)



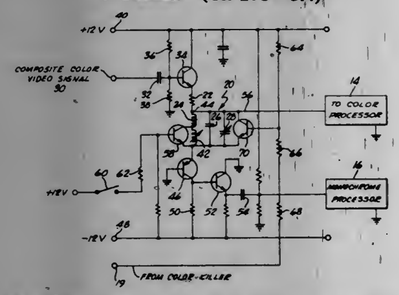
1. A cable comprising at least one substantially axial filiform metallic element surrounded by a composite textile structure consisting of a bundle of organic continu-

ous filament yarns substantially parallel to the axial metallic element and by at least one external braided envelope, said composite textile structure being impregnated by an organic bonding material, the axial metallic element having one dynamometric property selected from the group which consists of maximum working load and elongation at break greater than that of the remainder of the composite structure of the cable.

3,265,810
SIGNAL SEPARATION MEANS

Mervin L. Falk, Sunnyvale, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Apr. 4, 1963, Ser. No. 270,619
5 Claims. (Cl. 178—5.4)



1. A system for processing a plurality of signal components that form a composite signal comprising means for deriving a composite signal having different frequency components, a parallel resonant circuit having first and second terminals at the opposite ends thereof, said resonant circuit having a resonant frequency approximately equal that of a first of said frequency components, said first terminal coupled in series with the deriving means to receive said composite signal therefrom whereby said first component and a second component comprising the composite signal less said first component respectively appear at said first and second terminals, means coupled to said first and second terminals for separately processing said first and second components appearing thereat, and means coupled to the separate processing means for reconstituting the processed signal components to provide the composite signal.

3,265,811
TWO CHANNEL SIMULTANEOUS COLOR PROJECTION SYSTEMS

George W. Ellis, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York

Filed Apr. 30, 1963, Ser. No. 276,856
13 Claims. (Cl. 178—5.4)

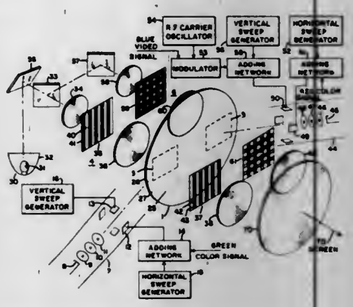
2. A projection system for displaying color information from a deformable light modulating means comprising:

(a) a source of light,

(b) a first optical channel for projecting light of at least a first color component of said color information including a first raster area on said deformable means which has impressed thereon deformations corresponding to the first color component information, and light masking means having a plurality of transparent and opaque areas,

(c) means for directing green light emitted by said source of the first color component through said first channel and focusing it into said opaque areas in the absence of deformations impressed on said raster area, said first color component light being deviated through said transparent areas in the presence of and with an intensity that is a function of said deformations,

(d) a second optical channel for projecting light of second and third color components of said color information including a second raster area on said deformable means which has impressed thereon deformations corresponding to the second and third color component information, and a second light masking means including transparent and opaque areas,

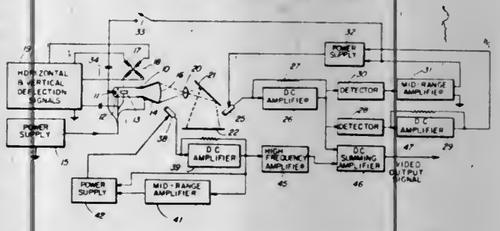


(e) means for directing light emitted by said source of the second and third color components through said second channel and focusing it onto areas of said second masking means opaque to both color components in the absence of deformations impressed on said second raster area, said second and third color component light being deviated through areas of said second masking means transparent thereto in the presence of and with an intensity that is a function of corresponding deformations on said second raster area.

3,265,812
VIDEO SIGNAL GENERATOR

Pierre Essinger, Yorktown Heights, Evon C. Greanias, Chappaqua, and Philip F. Meagher, Mount Kisco, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 31, 1963, Ser. No. 334,824
9 Claims. (Cl. 178—7.2)

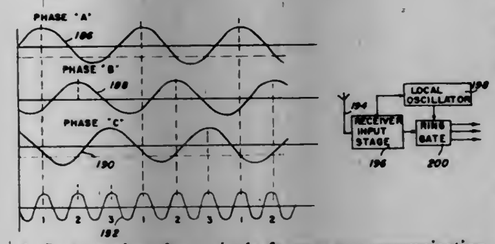


6. A video signal generator comprising means for creating and projecting onto an image to be transmitted a moving spot of light tracing a scan raster to explore incremental-area reflection brightness contrasts of said image, a source of electrical energization, a photomultiplier tube energized by said source and responsive to light energy reflected from said image for generating an electrical video signal, a video peak detector and low-pass video amplifier responsive to relatively slow changes in the peak amplitude of said video signal for controlling said energization source to vary the multiplication ratio of said tube inversely with said slow changes of said video signal peak amplitude, and a video peak detector and high-pass video amplifier responsive to more rapid changes in the peak amplitude of said video signal for controlling said energizing source to vary the multiplication ratio of said tube inversely with said rapid changes of said video signal peak amplitude.

3,265,813
PHASE SHIFT KEYING COMMUNICATION SYSTEM

Maynard D. McFarlane, Corona del Mar, and Cecil A. Crafts, Santa Ana, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Original application Apr. 28, 1958, Ser. No. 731,334, now Patent No. 3,112,448, dated Nov. 26, 1963. Divided and this application May 4, 1962, Ser. No. 192,568
11 Claims. (Cl. 178—88)



1. In a receiver for a single frequency communication wave modulated in keyed shifts of phase each a proper fraction of a cycle of which the denominator is a predetermined integer larger than 2,

a receiver for said wave producing voltage peaks corresponding to similar peaks present in the wave phase instantly transmitted,

a frequency multiplier generating a wave having voltage peaks coincident with voltage peaks of said communication wave in each transmitted phase thereof,

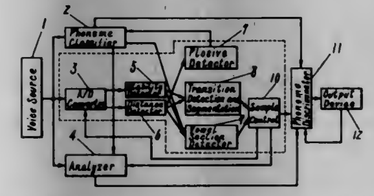
a ring counter circuit connected for stepped operation at the frequency of said generated wave and having a number of steps to complete a cycle equal to said integer and an output corresponding to each step, and

means selecting and applying to each said output a signal corresponding to each coincidence of wave peaks of said generated wave and said produced voltage of the instantly received wave.

3,265,814
PHONETIC TYPEWRITER SYSTEM

Kenichi Maeda, Kyoto, Toshiyuki Sakai, Takatsuki, and Shuji Doshita, Senboku County, Japan, assignors to Nippon Telegraph and Telephone Public Corporation, Tokyo, Japan, a corporation of Japan

Filed Nov. 30, 1964, Ser. No. 414,810
Claims priority, application Japan, Mar. 20, 1961, 36/9,323
8 Claims. (Cl. 179—1)

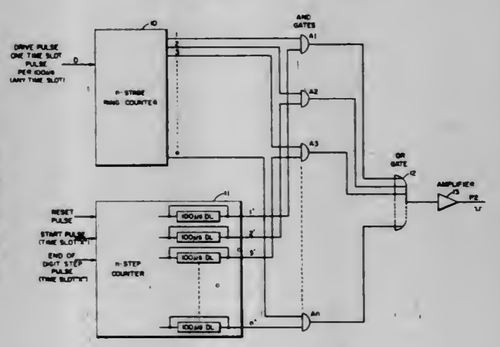


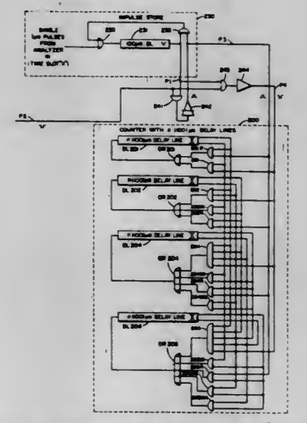
1. A phoneme recognition system comprising an input transducer, a phoneme classifier having its input connected to said transducer, an analog-to-digital converter having its input connected to said transducer and to a sample control circuit, an analyzer having one of its inputs connected to said transducer, a stability detector and a distance detector each having its input connected to the output of the analog-to-digital converter, a plosive detector, a transition detection circuit and a vowel section detection circuit, said plosive detector having its input connected to the output of the distance detector and its output connected to the phoneme classifier, said transition detection circuit having its inputs connected to the output of the stability detector and the distance detector, said vowel section detection circuit having its inputs connected to the outputs of the phoneme classifier, the stability detector and the distance detector, said sample control circuit having its inputs connected to the outputs of the transition detection circuit and the vowel section detector, a phoneme discriminator having its inputs connected to the outputs of the phoneme classifier, the sample control circuit and the analyzer, the analyzer including an input connected to one of the outputs of the phoneme classifier, the analyzer having another input connected to one of the outputs of the sample control circuit and an output device having its input connected to the phoneme discriminator.

3,265,815
TIME DIVISION MULTIPLEX MULTIPLE DIGIT STORE

William F. Bartlett, Rochester, N.Y., assignor, by mesne assignments, to Stromberg Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed Feb. 23, 1962, Ser. No. 175,226
8 Claims. (Cl. 179—15)



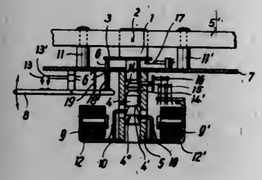


1. In a time division multiplex system, first and second pulse sources, means for said first source to generate a time slot pulse in the time of a specific time slot in each of the repetitive time frames, means for said second source to generate a time slot pulse in the time of said specific time slot only in the time of every *n*th time frame, where *n* is any integer greater than 1, and means responsive to coincident pulses from said first and second sources in the time of said specific time slot for terminating the generation of said pulses from said first source.

3,265,816
MULTI-POSITION HEAD FOR MAGNETIC RECORDERS

Walter Herterich, 7 L.v. Herterichstrasse, Dachau, Germany

Filed June 13, 1961, Ser. No. 116,799
6 Claims. (Cl. 179—100.2)

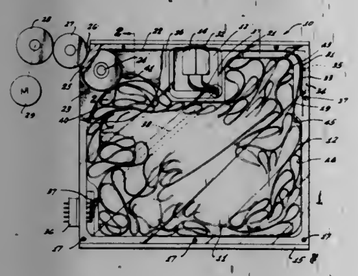


1. In a magnetic transducing device, in combination:
(a) a support defining a path for a magnetic tape;
(b) motor means for moving said tape in said path;
(c) a transducer head for scanning said tape while said tape moves in said path;
(d) shift rod means movable on said support, said rod means being connected to said head for joint movement and biased to move on said support for actuating movement of said head in a direction transverse of said path, said shift rod means being formed with a plurality of grooves spaced in said direction;
(e) first and second electrically releasable pawl means normally engaging said grooves for arresting said movement of said head in respective scanning positions spaced in siad transverse direction;
(f) first contact means engageable with said moving tape and in circuit with said first pawl means for releasing the same responsive to movement of a conductive portion of said tape in said path in one direction; and
(g) second contact means engageable with said moving tape and in circuit with said second pawl means for releasing the same responsive to movement of a conductive portion of said tape in said path in a direction opposite to said one direction.

3,265,817
MAGNETIC TAPE CARTRIDGE

Samuel Gilman, Arcadia, Calif., assignor to United Data Control, Inc., Pasadena, Calif., a corporation of Washington

Filed Jan. 12, 1962, Ser. No. 165,895
2 Claims. (Cl. 179—100.2)

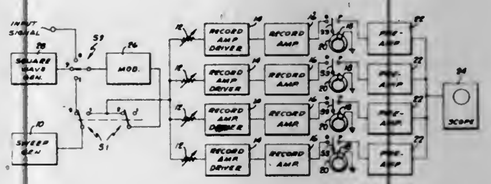


1. A magnetic tape cartridge wherein the environmental effects of dust, and the like, and handling of the tape are minimized despite the location of prime motive means for driving said tape exteriorly of said cartridge, said cartridge comprising: a cartridge housing sealed and closed except at one segment thereof wherein an opening in said housing is located; a bin for randomly storing a continuous loop of magnetic tape within said housing; a roller within said cartridge housing, a portion of said roller extending through said opening and forming with a circular member of said motive means pinching means for translating said tape; said opening being only large enough to enable said roller to engage said circular member; a head unit within said housing and integral therewith, said head unit engaging a portion of said tape; and guide means including a plurality of constant width elongated slots within said housing, said tape being guided to said head unit and about said roller via said slots and remaining within the confines of said housing except as it passes over said roller, said slot about said roller having an exit for feeding said tape tangentially to an adjacent guide within said bin, the width of said slots being dimensioned relative to the thickness of said tape to permit passage of a tape splice while preventing buckling of said tape as it passes from said bin to said head unit via said slots.

3,265,818
SIGNAL SYSTEM OPTIMIZATION IN MAGNETIC TAPE APPARATUS FOR PROCESSING CONTINUOUS NONPICTORIAL WIDEBAND SIGNALS

George N. Goossen, Redwood City, and Sidney S. Damron, Los Altos, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed May 28, 1962, Ser. No. 198,013
2 Claims. (Cl. 179—100.2)

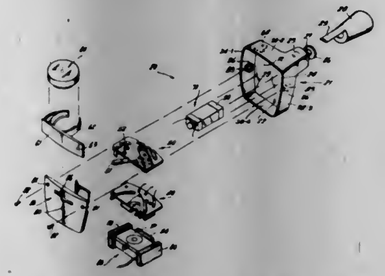


1. In a magnetic tape apparatus that processes a continuous wideband signal by recording transverse tracks of information on a longitudinally moving magnetic tape, such apparatus having a plurality of signal record and reproduce channels that process different portions of the continuous signal in a predetermined sequence, the combination comprising:
means for adjusting the gain of each signal channel separately and independently;
means for recording a frequency modulated sweep signal;
means for reproducing and displaying such sweep signal;
an equalization circuit having adjustable means for varying the resonant frequency characteristic in each of the signal reproduce channels;
means for recording a frequency modulated square waveform;
means for demodulating and reproducing such square waveform; and
means for further adjusting the equalization circuit to provide an accurate amplitude and phase of the signal portion in each reproduce channel relative to the signal portions in the other channels.

3,265,819
EAR INSERT HEARING AID

Frank A. Herrmann, Hartsdale, N.Y., assignor to Sonotone Corporation, Elmsford, N.Y., a corporation of New York

Filed May 15, 1963, Ser. No. 280,630
14 Claims. (Cl. 179—107)

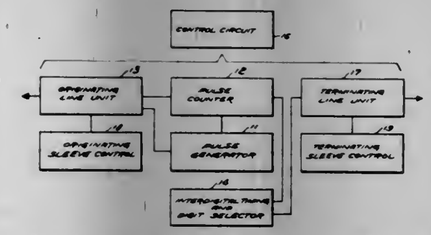


3. In a hearing aid device: a unitary housing having a bottom surface and a first continuous wall surface extending upward and generally perpendicular therefrom to establish a first volume; a portion of said bottom surface having a second continuous wall surface extending downward and generally perpendicular therefrom to establish a second volume; the upward terminus of said first continuous wall surface receiving a removable cover; said first and second volumes being continuous; the lateral cross-sectional area of said first volume being significantly greater than said second volume; said first volume dimensioned to fit and be held within a user's outer ear cavity between the antihelix, tragus and antitragus; said second volume dimensioned to project into the ear canal; a plurality of electrical components contained in said housing; said components disposed in parallel arrayed component spaces generally perpendicular to said bottom wall surfaces and extending to said cover; conducting means electrically interconnecting said plurality of electrical components; the removal of said cover exposing said electrical components, and a substantial portion of said conducting means.

3,265,820
APPARATUS FOR TESTING TELEPHONE SWITCHING SYSTEMS

Joseph G. Edwards, Greenlawn, N.Y., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 30, 1962, Ser. No. 220,434
14 Claims. (Cl. 179—175.21)

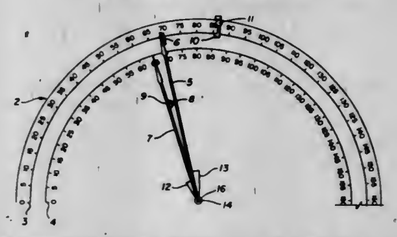


1. Apparatus for testing step-by-step telephone equipment having a plurality of outgoing and terminating lines comprising:
pulse generating means connected to said outgoing lines,
a counting device connected to the outgoing lines and coupled to the terminating lines, said device being supplied with pulses from said pulse generating means,
a control device limiting the output pulses of the counting means in accordance with predetermined digit control settings,
switching means actuated by the controlled pulses from the output of the counting means to apply at least one different pulse to each of the outgoing lines, and
means connected to the terminating lines for registering the outgoing transmitted pulses and signaling when all the pulses have been received.

3,265,821
METER PROTECTOR DEVICE FOR ELECTRIC MOTORS INCLUDING A DRIVEN INDICATOR ARM AND A SLAVE ARM AND A STOP MEANS FOR SEPARATING THEM UNDER OVERLOAD CONDITIONS

Melvin H. Rahm, 324 Judson St., and Dean H. Schmoker, Route 2, Longmont, Colo.

Filed Oct. 24, 1963, Ser. No. 318,702
10 Claims. (Cl. 200—56)

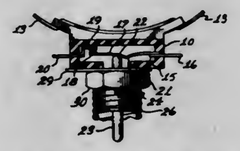


1. A protector for an electric circuit including a power source and a load comprising an electrical indicating meter including actuating means responsive to said load, a calibrated scale mounted on said meter, a driving arm mounted on said meter and connected to said actuating means for movement across said scale to indicate the load in said circuit, first contact means attached to said driving arm, a slave arm mounted on said meter for conjoint movement with said driving arm, second contact means attached to said slave arm, electrical means coupled to said first and second contact means for connecting and disconnecting said power source from said load, biasing means holding said drive arm adjacent said slave arm and thereby holding said second contact means against said first contact means to provide a closed circuit through said contact means, and stop means attached to said scale in position to contact and to stop said slave arm at a predetermined point and thereby separate said contact means when the current indicated by said drive arm exceeds said predetermined point.

3,265,822
TIRE PRESSURE INDICATING DEVICE

Jesse H. Moulton, 817 S. Country Club Drive, Mesa, Ariz. 85201

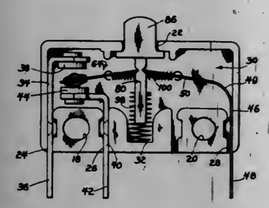
Filed Dec. 14, 1964, Ser. No. 418,145
2 Claims. (Cl. 200—61.24)



1. A vehicle tire pressure indicating and warning device comprising in combination:
(A) an insulated switch housing,
(B) means for demountably securing said insulated switch housing on a motor vehicle housing,

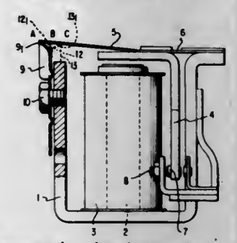
(C) a normally open control switch within said insulated switch housing including,
(D) a terminal fixed in said insulated switch housing,
(E) a spring contactor having one end fixed to said terminal,
(F) a contact on the outer free end of said spring contactor arranged to move relative to a second terminal contact fixed in said insulated switch housing,
(G) a raised convex portion on said spring contactor,
(H) a trip plunger pivotally mounted in said insulated switch housing having one inner end operatively engaging said raised convex portion of said spring contactor,
(I) and actuating road contacting rod,
(J) a universally deflectable spring fixed to the upper end of said actuating rod and having its other upper end fixed to said insulated switch housing and surrounding the lower outer end of said trip plunger so that lateral deflection of said universally deflectable spring causes the inside of said spring to engage the lower outer end of said trip plunger to actuate said switch to closed condition.

3,265,823
SNAP ACTION SWITCH WITH SHORT MOVEMENT DIFFERENTIAL
George J. Bury, Antioch, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Feb. 10, 1964, Ser. No. 343,644
2 Claims. (Cl. 200—67)



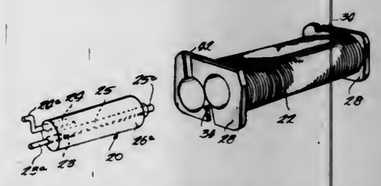
1. A snap switch mechanism comprising, actuator means for reciprocal movement between first and second positions, means biasing said actuator means to its first position, pivot means located on said actuator means, first and second fixed contact means disposed in spaced relationship, movable contact means normally engaging one of said fixed contact means and being movable to the other fixed contact means upon movement of said actuator means, said movable contact means comprising a member cooperable with pivot means on said actuator means and mounting the movable contact at the other end thereof, common terminal means comprising a flexible member including a first portion integrally joined to and angularly disposed to a second portion across a resilient hinge section to provide spring loading characteristics thereto, one of said first and second portions having a free end formed with means disposed in pivotal opposition to said contact carrying means on said actuator means, and spring means extending between said contact carrying means and one of the portions of said common terminal means, said resilient hinge section being of sufficient strength to overcome the pivotal movement of said contact means on said actuator means and cause movement of both the flexible member and said movable contact means about said resilient hinge section to provide a relatively small movement differential of said actuator means prior to snap action movement of said movable contact means between said first and second fixed contacts while also contributing to the resilient action of said biasing means.

3,265,824
ELECTROMAGNETIC CIRCUIT BREAKERS
Roger Salomon, La Verriere, France, assignor to Ducellier & Cie, Paris, France, a French corporation
Filed July 13, 1964, Ser. No. 381,971
Claims priority, application France, July 29, 1963, 942,982
9 Claims. (Cl. 200—87)



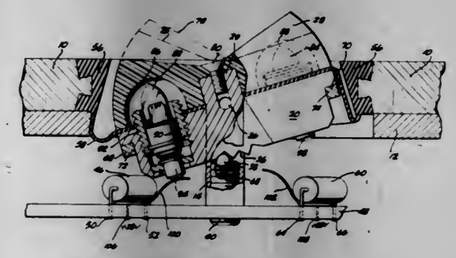
1. An electromagnetic circuit breaker comprising an electromagnet supported on a fixed frame, a movable armature carrying a contact element, a leaf spring fixed at one end to said frame and secured to said armature, a stop engaging the other end of said spring so as to elastically urge the armature in a direction opposite the attraction of the electromagnet, and means provided on said stop for varying the point of engagement lengthwise of said spring to thereby vary the flexibility of the leaf spring.

3,265,825
ELECTRICAL RELAY
William Forbes Barton, Rolling Meadows, Ill., assignor to Grigsby-Barton, Inc., a corporation of Illinois
Filed June 29, 1964, Ser. No. 378,551
15 Claims. (Cl. 200—87)



1. In a relay, the combination of a bobbin having a hollow core and two flanges of rectangular shape projecting radially and outwardly from opposite ends of the core, said core providing two longitudinal openings having axes arranged in parallel in a plane extending generally diagonally with respect to the flanges, two reed switches supported in said openings and each having terminals extending at opposite ends a short distance beyond the flanges, means on one flange defining a recess on the outer side of the flange extending radially and outwardly from one of said openings, one of said terminals of the one of said switches in said one opening being bent laterally and lying in said recess to orient the switch angularly in the opening, means on the other of said flanges defining a second recess on the outer side of the flange extending radially and outwardly from the other of said openings, one of said terminals of the other of said switches in said other opening being bent laterally and lying in said second recess to orient the switch angularly in the opening, a winding encircling said core and having leads at opposite ends of the core extending through openings formed in the flanges and located in different positions with respect to the edges of the flanges to form with said terminals different patterns of conducting members projecting from each flange, terminal pins extending outwardly from said winding between said flanges, an elongated flexible printed circuit having a central portion extending between said flanges adjacent said terminal pins, spaced portions connected to and bent up from opposite ends of said central portion and lying against the outer sides of said flanges adjacent said conducting members, and elongated flexible conducting elements extending along said portions between said conductive members and the respective terminal pins and connected individually at opposite ends to the pins and the members, said ends of said elements connected to said conductive members having different patterns corresponding to said different patterns of the members projecting from the respective flanges of said bobbin.

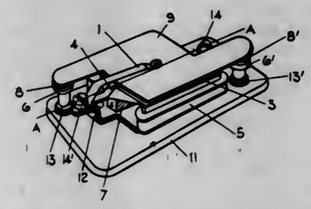
3,265,826
ROCKER SWITCH UTILIZING MAGNETIC REEDS
Gilbert D. Autry, Anaheim, and Lawrence L. Pankey, Placentia, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Feb. 10, 1965, Ser. No. 431,556
4 Claims. (Cl. 200—87)



1. A rocker switch comprising
a panel structure with a front and back surface and having a rectangular opening therein,
a rocker support structure mounted to said panel structure and having first and second projections extending toward the front surface and having a pivot pin therethrough,
a rocker having a projection positioned between the first and second projections of said rocker support and having end portions movable on said pivot pin to first and second positions,
first and second magnetic reed relays mounted behind the back surface of said rocker at the end portions, each relay having first and second magnetic reeds mounted so as to be normally separated from each other and to contact each other in the presence of a magnetic field,
first and second permanent magnets mounted on the respective first and second end portions of said rocker to respectively apply a magnetic field to said first or second relays when said rocker is in said first or second positions,
and terminal means coupled to the reeds of said first and second relays.

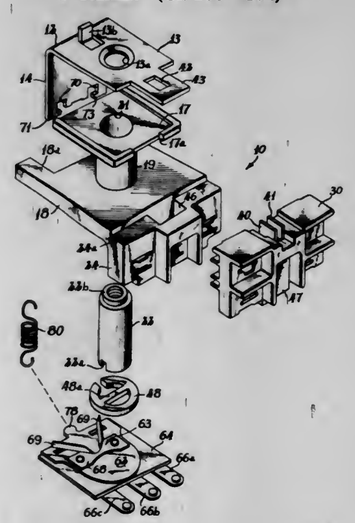
3,265,827
ELECTROMECHANICAL ADJUSTABLE POLARIZED RELAY
Mario Scata, Milan, Italy, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 30, 1965, Ser. No. 483,490
5 Claims. (Cl. 200—87)

1. An adjustable electromagnetic relay capable of operation in a plurality of modes, comprising:
a base,
a pair of electrical contacts supported on said base,
an armature,
said armature including an underlying armature portion forming a dihedral corner,
said dihedral corner constituting an edge about which the armature may be pivoted,
means supported on said base to act as a bearing surface against which said edge is seated,
means fastening said armature to said base to permit rotation about said edge,
said armature supporting a pair of electrical contacts positioned one on each side of said edge and facing respective ones of said pair of electrical contacts supported on said base with spacing between contacts to enable connection between a pair of facing contacts,



a leaf spring having first and second ends,
means for fastening the first end of said leaf spring to said base in a manner to permit rotation of the second end about the first end,
said second end of said leaf spring bringing pressure to bear on said armature to apply a mechanical bias urging the armature to a particular mode of behavior, and
means for applying a further bias to said armature including electromagnets is positioned on either side of said edge.

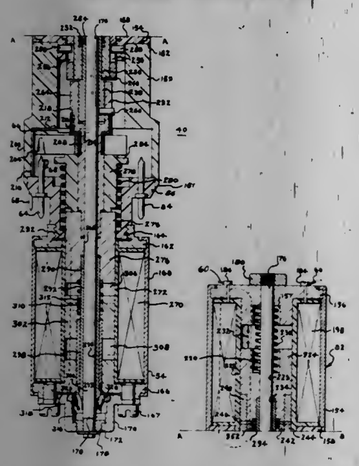
3,265,828
ELECTROMAGNETIC RELAY UTILIZING THE COIL BOBBIN TO FACILITATE ASSEMBLY THEREOF
Prentice R. Corn, Logansport, Ind., assignor to Essex Wire Corporation, Fort Wayne, Ind., a corporation of Michigan
Filed Jan. 28, 1965, Ser. No. 428,677
6 Claims. (Cl. 200—104)



1. In an electromagnetic relay, the combination of a magnetic frame member comprising a flat base and a flat leg extending at right angles from said base; a bobbin

including a central coil-supporting portion having an opening therethrough and first and second spaced, planar members, one of said members having a terminal-receiving portion extending at right angles thereto; there being a coil supported on said coil-supporting portion between said planar members; a terminal board supported in the plane of said terminal-receiving portion; said terminal board and said terminal-receiving portion having first cooperating interlocking means engaging said terminal board with said terminal-receiving portion; said flat base and said terminal board having second cooperating interlocking means engaging said flat base with said terminal-receiving portion; a core carried in said opening in said coil-supporting portion of said bobbin, said core extending beyond said planar members of said bobbin and said flat base and being affixed to said bobbin and said flat base to maintain said frame member, said bobbin, and said terminal board in assembled relationship.

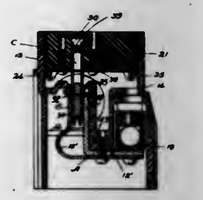
3,265,829
PROGRAMMING DEVICE AND SYSTEM
Akin Aksu, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Oct. 1, 1963, Ser. No. 312,981
20 Claims. (Cl. 200—111)



14. An improved electro-mechanical device for effecting an interconnection between circuit paths including a resilient spring arm, means in said device to drive said arm in a given movement, the said arm including two spring members biased inwardly each having tapered portions at their ends forming a cup shaped contact surface, a contact pin spaced from and secured relative to said spring members, said pin having its upper end beveled to fit within the arm cup shaped contact surface, said means for driving said arm operating to force said spring members and the contact surface thereof to engage the pin upper end and wipe along said pin whereby said spring members are deflected and loaded to press against said pin to maintain good contact.

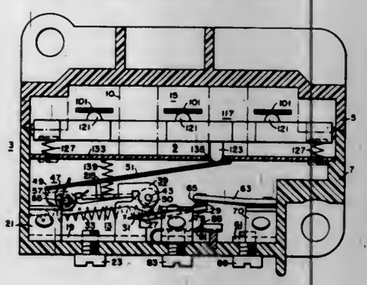
3,265,830
PULL-OUT SWITCH FOR BLADE TYPE FUSES
Herman H. Kobryner, Forest Hills, N.Y., assignor to Murry Manufacturing Corporation, Brooklyn, N.Y., a corporation of New York
Filed Apr. 1, 1964, Ser. No. 356,422
6 Claims. (Cl. 200—114)

1. In a pull-out switch having a tub portion including line and load terminals and a puller portion adapted to seat in said tub and contain a fuse of the blade type, the improvement therein for reducing the length of the current path comprising: a pair of clip-contact assemblies mounted in said puller for electrically contacting and mechanically retaining the fuse blades, each said assembly comprising a pair of spaced leaves biased inwardly for contacting the outside of the fuse blades on the inside surfaces of said leaves; and a pair of jaw assemblies



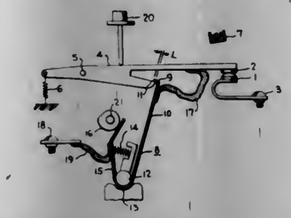
mounted in said tub and connected to said line and load terminals respectively, said jaw assemblies each comprising a pair of spaced contact blades at least one of which is biased inwardly and disposed to engage a clip contact assembly on the outside leaf surfaces opposite said fuse-contacting inside surface when said puller is seated in said tub.

3,265,831
THERMALLY RESPONSIVE ELECTRICAL CONTROL DEVICE
James B. Ramsey and Paul T. Anderson, Brighton Township, Beaver County, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 24, 1963, Ser. No. 283,000
13 Claims. (Cl. 200—116)



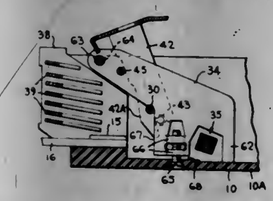
1. An electrical control device comprising a stationary contact, a movable contact supported for pivotal movement about a first axis, means comprising an overcenter spring operable to pivotally move said movable contact between an open position out of engagement with said stationary contact and a closed position in engagement with said stationary contact, a compensating bimetal disposed to operate said overcenter spring, a plurality of pole units, each pole unit comprising an actuating bimetal and means responsive to current flow to effect heating of said actuating bimetal, an actuating bar common to all of said pole units, means supporting said common actuating bar for pivotal movement about a second axis different from said first axis, and upon the occurrence of a predetermined amount of current in any of said pole units the associated current-flow responsive means operating to heat the associated actuating bimetal such that the associated actuating bimetal flexes to pivotally move said common actuating bar whereupon said common actuating bar operates said compensating bimetal to effect operation of said overcenter spring to pivotally move said movable contact from one of said positions to the other of said positions.

3,265,832
ELECTRICAL CONTROL DEVICE WITH ADJUSTABLE CALIBRATION LOCKING MEANS
David B. Powell, Bristol, Conn., assignor to General Electric Company, a corporation of New York
Filed Jan. 16, 1964, Ser. No. 338,081
4 Claims. (Cl. 200—116)



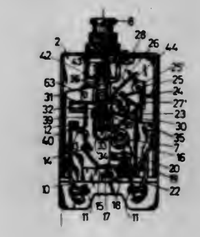
1. In an electric circuit breaker:
(a) a casing having a hole therein, said hole having an inner portion of a predetermined transverse dimension, and an outer, non-circular portion having a larger transverse dimension than said predetermined dimension of said inner portion;
(b) a cam mounted in said casing for calibrating said circuit breaker;
(c) a rotatable shaft supporting said cam for adjustment thereof;
(d) said shaft extending through said hole and including an outer portion accessible from outside said casing, said outer portion of said shaft being of lesser diameter than said larger transverse dimension of said outer portion of said hole;
(e) at least said outer portion of said shaft being composed of a thermoplastic material whereby the application of heat to said shaft causes said outer portion of said shaft to flow and fill said outer portion of said hole to prevent rotation of said shaft and said cam.

3,265,833
ELECTRIC CIRCUIT BREAKER OPERATING MECHANISM AND IMPROVED SUPPORTING PLATES THEREFOR
Frank H. Murphy, West Hartford, Conn., assignor to General Electric Company, a corporation of New York
Filed June 3, 1964, Ser. No. 372,193
3 Claims. (Cl. 200—116)



1. An electric circuit breaker comprising:
(a) an insulating casing having a generally planar bottom wall and surrounding peripheral side walls extending substantially perpendicular thereto;
(b) at least one relatively stationary contact supported on said bottom wall of said insulating casing;
(c) at least one movable contact movable into and out of engagement with said stationary contact;
(d) operating mechanism for moving said movable contact, said operating mechanism comprising a pair of sheet metallic plates supported in generally parallel spaced apart relation in said insulating casing, each of said plates having a first end portion in engagement with said bottom wall of said insulating casing at a point spaced from said relatively stationary contact, each of said plates having an opposite end portion extending adjacent said stationary contact;
(e) means supporting said opposite end portions of said plates each on one of said side walls of said insulating casing at a point spaced away from said bottom wall in a direction perpendicular to said bottom wall, and
(f) fastening means positively anchoring each of said plates to said bottom wall of said insulating casing, said fastening means engaging said plates at a point intermediate said end portions.

3,265,834
PUSHBUTTON-CONTROLLED POLYPHASE OVERLOAD CIRCUIT BREAKER
Jakob Ellenberger, Nurnberg, Germany, assignor to Ellenberger & Poensgen G.m.b.H., Nurnberg, Germany
Filed Aug. 18, 1964, Ser. No. 390,414
Claims priority, application Germany, Oct. 26, 1963, E 25,773
11 Claims. (Cl. 200—116)

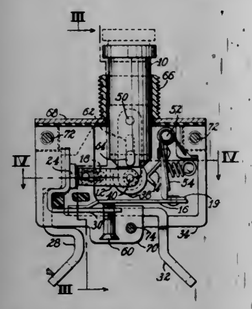


1. A pushbutton-controlled polyphase overload circuit breaker comprising a housing, a plurality of bimetal strips in said housing, each of said strips being located in a separate circuit, a locking lever pivotally mounted in said housing and acted upon by all of said bimetal strips and pivoted to its inactive position by any single bimetal strip, a pushbutton slidable in said housing, a control bridge movably mounted in said housing and interconnected with said pushbutton when the latter is depressed to the on position, a pawl pivotally mounted in said housing and engaging and locking said control bridge in the on position, a release spring biasing said control bridge toward the off position, a plurality of contact bridges secured to said control bridge and insulated from each other, each of said contact bridges being associated with one of said bimetal strips, a rocking lever engaging said locking lever and operable to pivot the latter to its inactive position independently of the action of said bimetal strips, spring means acting upon said rocking lever, a member connected to said pushbutton and holding said rocking lever in its inactive position against the action of said spring means; said last-named member releasing said rocking lever when a pull is exerted upon said pushbutton.

3,265,835
MINIATURE TRIP-FREE CIRCUIT BREAKER
Morris B. Wood, Amesbury, Mass.
(P.O. Box 546, Ipswich, Mass. 09138)
Filed Oct. 19, 1964, Ser. No. 404,793
9 Claims. (Cl. 200—116)

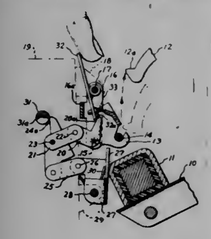
1. A circuit breaker having two pairs of contacts, one movable and one fixed in each pair, the fixed pair both facing in the same direction, a pair of terminal posts, to one of which one of the fixed contacts is secured, a plate to which the other of the fixed contacts is secured, a U-shaped common carrier for the movable contacts, shiftable toward and from the fixed contacts to open or close a circuit through the breaker, in combination with a U-shaped bimetallic strip arranged in spaced parallel relation to the contact carrier with one end secured to the contact plate

and the other end to the other in the pair of terminal posts and provided with a latch bar between its ends acting to hold the carrier against retraction from the fixed contacts



but movable with the strip away from contact carrier holding position to enable the movable contacts to be disengaged from the fixed contacts.

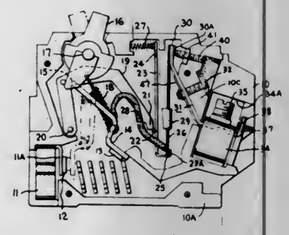
3,265,836
TRIP UNIT MECHANISM
George E. Gauthier, Plainville, and Charles F. Hobson, Jr., Southington, Conn., assignors to General Electric Company, a corporation of New York
Filed Jan. 25, 1965, Ser. No. 427,718
7 Claims. (Cl. 200—116)



1. A trip unit adapted for removable mounting in a multipole circuit breaker comprising: a casing enclosing said trip unit and having an aperture therein; a tripping assembly mounted on said trip unit and including a collapsible toggle linkage positioned in said aperture and biased toward a set straightened position for maintaining a tripping member in restraining engagement with a releasable means of said circuit breaker; said toggle linkage being collapsible upon the flow of overload currents of predetermined amplitude; pivoted lever means supported on said trip unit to engage a link of said toggle linkage, said lever being externally movable for opposing the bias of said toggle linkage and for collapsing said linkage and releasing said releasable means; and means supported on said lever for adjusting the static disposition of said lever whereby to selectively establish the set straightened position of said toggle linkage.

3,265,837
ELECTRIC CIRCUIT BREAKER PROVIDED WITH AN IMPROVED TERMINAL STRAP FOR MOUNTING A BIMETAL ELEMENT
Keith W. Klein, Simsbury, Conn., assignor to General Electric Company, a corporation of New York
Filed Oct. 22, 1964, Ser. No. 405,758
1 Claim. (Cl. 200—116)

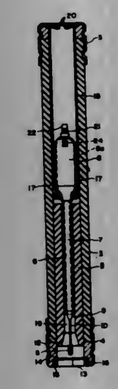
A current responsive device comprising:
(a) an insulating casing,
(b) an actuating member movably mounted in said insulating casing,
(c) a supporting member fixedly mounted in said insulating casing, said supporting member comprising an elongated strip of metallic material having a first end portion extending within said insulating casing and a second end portion accessible from outside of said insulating casing for connection to an external conductor,
(d) means fixedly mounting an intermediate portion of said metallic strip on said insulating casing,
(e) an elongated strip of bimetallic material having one end thereof fixedly mounted on said first end portion of said metallic strip within said insulating casing and having its other end in engagement with said actuating member,
(f) a wire connecting member carried by said second end portion of said metallic strip for connecting said metallic strip to an external conductor,
(g) said metallic strip including reinforcing means at said intermediate portion resisting bending movement of said intermediate portion,
(h) adjustable positioning means acting between said first end portion of said metallic strip and said casing, said positioning means acting on said first end portion of said metallic strip to bend said metallic strip between said first end portion and said intermediate portion to adjustably position said bimetallic strip in said casing,



(i) said cross-section of said metallic strip being reduced between said first end portion and said intermediate portion whereby positioning of said bimetallic strip in said casing is accomplished substantially entirely by bending of said metallic strip between said first end portion and said intermediate portion,
(j) means weakening said metallic strip between said second end portion and said intermediate portion whereby forces exerted on said second end of said metallic strip cause bending of said metallic strip substantially exclusively at said portion between said second end portion and said intermediate portion,
(k) said second end portion of said metallic strip including a terminal portion bent at right angles to the main portion of said end portion, said bent portion including a pair of outwardly directed lugs received in corresponding recesses in said insulating casing and supporting said metallic strip at its outermost end portion.

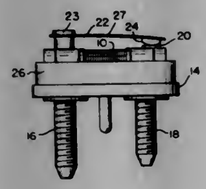
3,265,838
GAS PROPELLED FUSE LINK
Otto Ackermann, Irwin, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 14, 1963, Ser. No. 323,680
10 Claims. (Cl. 200—120)

1. A fuse unit comprising a fuse tube having a tubular, conducting guide cylinder disposed inside the fuse tube adjacent one end and a relatively smaller fuse bore adjacent the other end, a fuse link disposed adjacent said fuse bore and adaptable to be fused by a predetermined current, a capsule disposed within said guide cylinder and containing a compressed dielectric fluid, said capsule being secured to one end of said fuse link, fusible stopper means for said capsule adaptable to be fused by the heat of the arc which results when the fuse link fuses, whereby



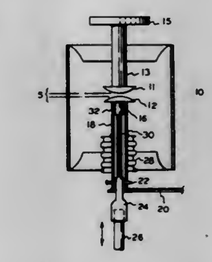
the compressed dielectric fluid may be released toward the arc to effect arc extinction, and means utilizing the pressure released by said capsule to cause propulsion ejection movement of said capsule axially along and within the guide cylinder toward said one end of the fuse tube.

3,265,839
THERMALLY-OPERABLE CIRCUIT BREAKER
Robert A. Johnson, Greece, N.Y., assignor to Fasco Industries, Inc., Rochester, N.Y., a corporation of New York
Filed Aug. 5, 1963, Ser. No. 299,940
2 Claims. (Cl. 200—122)



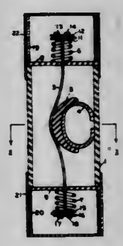
2. An automatically resetting, electric circuit breaker having a pair of contacts, a snap-action bimetallic armature electrically connected in series with the contacts for alternately opening and closing them in accordance with the heat produced in the armature by current flowing through it, a Joulean heating element continuously connected across the contacts in parallelism with said armature and mounted adjacent to but spaced from the armature for heating it during times when the contacts are held in their open position by the armature, whereby the reset time of the circuit breaker is lengthened, the value of said heating element being chosen in view of the supply voltage of the system in which it is intended for use and in view of the operating characteristics of the armature so that in service when a short circuit occurs in the load circuit said heating element will heat the armature sufficiently to prevent its reclosing once thermal equilibrium is established.

3,265,840
VACUUM TYPE CIRCUIT INTERRUPTER DEVICE
Elmer L. Luehring, Cleveland Heights, Ohio, assignor to Joslyn Mfg. and Supply Co., Chicago, Ill., a corporation of Illinois
Filed Dec. 12, 1963, Ser. No. 330,125
5 Claims. (Cl. 200—124)



5. A high voltage electric circuit interrupter having
first and second normally engageable and disengageable contacts,
first retaining means connected to retain said first contact,
second retaining means connected to normally retain said second contact,
said second retaining means comprising an operating temperature responsive solder joint,
a spring having one end connected to said second contact and its other end connected to a portion of said second retaining means whereby said spring, during operation, whenever, and after, the solder has melted biases said contacts substantially permanently together, and
control rod means connected through one of said retaining means to the associate one of said contacts and for, before the solder has melted, normally selectively disengaging and engaging said contacts.

3,265,841
ELECTRICAL FUSE WITH FORCED CURRENT INTERRUPTION
Henry Greber, 225 W. 80th St., Apt. 8D, New York, N.Y.
Filed Oct. 22, 1963, Ser. No. 317,973
4 Claims. (Cl. 200—132)



1. An electrical fuse with forced current interruption comprising: a housing, a fuse element in said housing which is conductively connected to the terminals of said fuse, said fuse element being exposed to a tensile stress exerted by at least one spring attached to one end of said fuse element, said fuse element being exposed simultaneously also to a force perpendicular to its axis exerted by at least one spring acting in a plane transverse to the fuse axis, said transverse spring acting through the intermediary of a segmented insulating body separating said

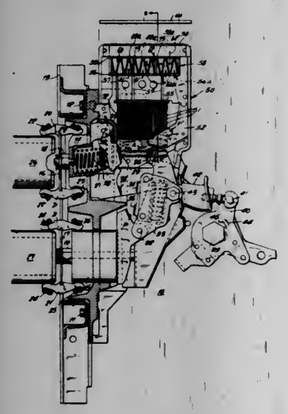
transversely acting spring from said fuse element, said body being inserted into the gap created by the two sections of the fuse element separated from each other when the fuse is blown.

3,265,842

ARC CHUTE MIXING CHAMBER FOR COOLING EXITING GASES EMPLOYING A REFLECTIVE SCREEN ARC BARRIER

Frank J. Pokorny, Hatboro, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed July 18, 1963, Ser. No. 295,932
2 Claims. (Cl. 200—144)



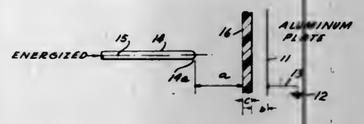
1. Interrupting means for circuit breakers having a pair of cooperating contacts comprising an arc chute housing containing a plurality of spaced parallel arc plates positioned above the cooperating contacts to provide a tortuous path for an upwardly moving arc formed during a tripping operation; upper and intermediate horizontally aligned baffle plates positioned at spaced intervals above said arc plates for defining a first chamber; first vertical barrier means vertically aligned between said upper and intermediate baffle plates for compartmentalizing said chamber; said upper and intermediate baffle plates each having elongated slots aligned transverse to the length of said baffle plates to permit upwardly moving gases generated during a tripping operation to pass through said first chamber to undergo cooling and deionization; the slots of said upper and intermediate baffle plates being offset relative to one another so that no direct line-of-sight exists for associated openings of said upper and intermediate baffle plates, corrugated reflective screen means mounted within and along the length of said chamber; said upper and intermediate baffle plates permitting the passage of gases into said chamber to be cooled and deflected by said corrugated reflective screen means; said corrugated screen means comprising a metallic reflective screen capable of dissipating a large amount of heat by radiation; the lower vertices of said corrugated screen means being aligned transverse to the length of said first chamber and engaging the surface of said intermediate baffle plate intermediate adjacent slots in said baffle plate; the upper vertices of said corrugated screen means being aligned transverse to the length of said first chamber and engaging the surface of said upper baffle plate intermediate adjacent slots in said upper baffle plate to cause any gases moving upwardly through said chamber to strike said screen means and be deflected to move transverse to the vertical direction to facilitate the deionization and cooling of the gases.

3,265,843

FLOATING INSULATING SHIELD

William A. Carter, Devon, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed June 15, 1965, Ser. No. 469,039
4 Claims. (Cl. 200—151)



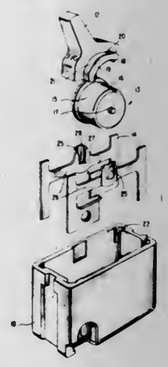
1. An arrangement for increasing the breakdown voltage between conductive elements of an electrical apparatus in a dielectric medium comprising, a first conductive member in said dielectric medium being at a first potential level, a second conductive member in said dielectric medium being a predetermined distance away from said first conductive member, said second conductive member being at a second potential level different from said first potential level, said potential levels creating a potential drop between said first and second conductive members thereby creating an electric stress between said conductive members, a floating dielectric insulating shield interposed between said conductive members and being a predetermined distance away from both said conductive members for decreasing the electric stress without increasing the separation between said conductive members, said floating dielectric insulating shield being preferably spaced from said second conductive member by a distance within the range of 3/8 to 5/8 of an inch regardless of the magnitude of said potential drop between said first and second conductive members.

3,265,844

MERCURY SWITCH

Leonard W. Cook, Warwick, R.I., assignor to General Electric Company, a corporation of New York

Filed Apr. 25, 1963, Ser. No. 275,719
7 Claims. (Cl. 200—152)



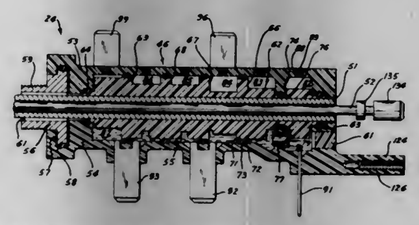
1. In a mercury switch
(a) a housing,
(b) a mercury button having aligned axially protruding terminals,
(c) spaced contact members mounted within said housing for supporting said button for rotational movement about an axis defined by said terminals,
(d) each of said contact members having an indentation extending from an edge thereof,
(e) said terminals being received in said indentations, and
(f) means for urging said terminals into engagement with said contact members.

3,265,845

CONTROL ASSEMBLY FOR WINDSHIELD CLEARING SYSTEM

Edmond F. Webb, Franklin, Mich., assignor to The Delman Company, Cookeville, Tenn., a corporation of Tennessee

Filed May 18, 1964, Ser. No. 367,943
3 Claims. (Cl. 200—152)



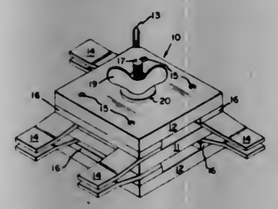
1. An electric switch comprising:
(a) a stationary housing of insulating material having a bore,
(b) sleeve means of insulating material positioned in said bore and rotatably mounted on said housing, said sleeve means having first portions dividing the bore into a plurality of separate chambers,
(c) an electrically conductive liquid positioned in and partially filling each of said chambers,
(d) an inert fluid in said chambers,
(e) electrical conductors mounted in said housing and projected into selected chambers,
(f) second portions on said sleeve means operative to displace said conductive liquid in response to rotation of the sleeve means relative to the housing into engagement with certain of said electrical conductors, and
(g) means coacting with the sleeve means and housing to hold the sleeve means in indexed positions relative to the housing means.

3,265,846

POLARITY REVERSING SWITCH

Hans Brechtel, Des Plaines, Ill., and Sidney D. Lapham, Martinez, Howard L. Knutson, San Carlos, and Lewis C. Tompkins, Lafayette, Calif., assignors to Electro-Coatings Inc., Emeryville, Calif., a corporation of Delaware

Filed June 15, 1964, Ser. No. 375,141
8 Claims. (Cl. 200—158)



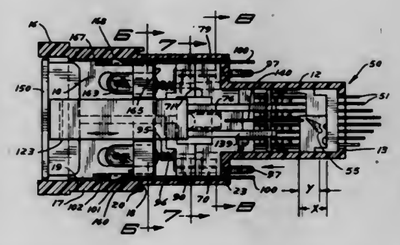
1. A high amperage polarity reversing switch mounted on a base for reversing current to an electromechanical tank, comprising: a stationary member having two pairs of external terminals, a movable member having internal terminal engaging conductors operable in a first position to form a circuit between pairs of said terminals and when in a second position to form a circuit between different pairs of said terminals, and contact engaging means axially aligned relative to said base for selectively engaging and disengaging said members in circuit forming positions, whereby the flow of current through said switch is reversed when the position of said movable member is changed from said first position to said second position.

3,265,847

PUSH BUTTON SWITCH HAVING INDICATOR MEANS

Charles E. Pain, Minneapolis, Minn., assignor to The Telex Corporation, Tulsa, Okla., a corporation of Delaware

Filed Jan. 16, 1964, Ser. No. 338,118
12 Claims. (Cl. 200—167)



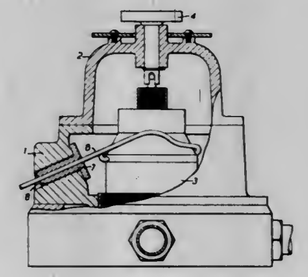
3. Electrical switching apparatus comprising in combination;
(a) an elongated hollow housing, said housing having at least a pair of complementary disposed inwardly opening longitudinally extending grooves;
(b) a base member stationarily mounted within said housing intermediate the ends thereof, said base member including a lateral aperture extending intermediate the grooves in said housing;
(c) actuator means having a pair of laterally disposed, longitudinally extending portions reciprocably journaled in said grooves and having a laterally extending portion extending intermediate one end of said longitudinally extending portions and disposed in the laterally extending aperture in said base member; and
(d) switching means stationarily mounted on one end of said housing in operative engagement with said actuator means.

3,265,848

FLAMEPROOF THERMOSTAT ASSEMBLIES

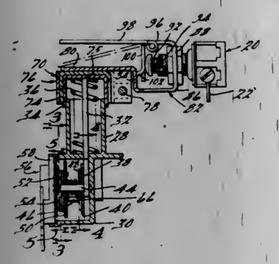
Hanus Reik, London, England, assignor to Isopad Limited

Filed Dec. 7, 1964, Ser. No. 416,268
5 Claims. (Cl. 200—168)



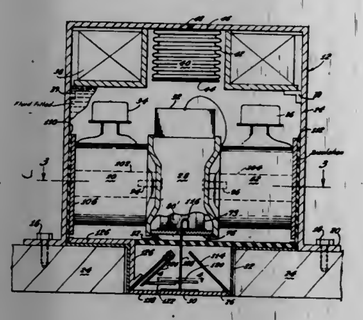
1. A flameproof thermostat assembly, comprising a flameproof housing, having a wall, a thermostat switch within said housing, means defining a bore through the wall of said housing, a bush removably located in said bore, the length of engagement of said bush in said bore and the gap therebetween being such as to render flameproof the joint between said bush and said housing, means for preventing fortuitous displacement of said bush from said bore, and a capillary tube connected to said switch and extending in sealed, gas-tight relation through said bush.

3,265,849
COMBINATION DIMMER SWITCH AND HEADLIGHT FLASHING APPARATUS
Elmer H. Heck and Don L. Dosh, Flint, Mich., assignors to D & H Devices, a partnership
Filed Nov. 19, 1963, Ser. No. 324,772
13 Claims. (Cl. 200—172)



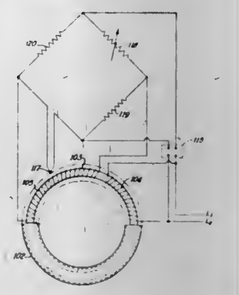
1. In a lighting system for an automotive vehicle including headlights having high and low beam lighting conditions, the improvement comprising: dimmer switch means actuable for switching the headlights of the vehicle between high and low beam lighting conditions, signal switch means actuable for turning at least one of the headlights on and off, and actuating mechanism assembly means common to both of said switch means and selectively actuable for actuating both of said switch means and including a movable actuating member common to both said switch means and movable for actuating both said switch means.

3,265,850
HIGH FREQUENCY HEATING GENERATOR FOR MICROWAVE OVENS
Paul W. Crapuchettes, Atherton, Calif., assignor to Litton Electron Tube Corporation, a corporation of Delaware
Filed Aug. 14, 1961, Ser. No. 131,266
7 Claims. (Cl. 219—10.55)



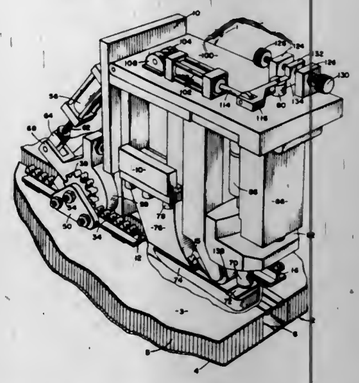
1. A microwave power unit comprising a magnetron, two magnetic coils mounted to provide a biasing magnetic field for said magnetron and a casing of magnetic material for said power unit located in the return magnetic path of said magnetic coils, a radiating element coupled to said magnetron, a movable conducting mode mixing element located in proximity with respect to said radiating element, and means for coupling pulses of energy from one of said magnetic coils to move said mode mixing element.

3,265,851
ELECTROMAGNETIC TRANSFORMER UNIT
Charles F. Schroeder, 2317 Valleybrook Drive, Toledo 15, Ohio
Filed Nov. 30, 1962, Ser. No. 241,208
3 Claims. (Cl. 219—10.77)



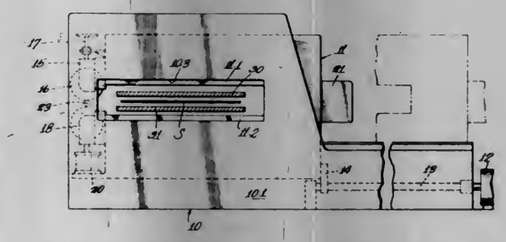
1. Heating apparatus of the character disclosed, comprising in combination, a magnetic core in the form of a magnetic loop closed on itself, a primary electrical winding wound on said core, a secondary electrical circuit closed on itself about the cross-section of said core and extending along the length of said magnetic core loop, a magnetic saturating means associated with said core for establishment of a selectable degree of magnetic saturation of said core thereby to adjustably fix the magnitude of current flow and heat generated by said secondary loop, and a temperature sensing means communicating in temperature sensing relation with said secondary loop, said temperature sensing means being operably associated with said saturation means to maintain the temperature of said secondary at a predetermined desired value.

3,265,852
RESISTANCE WELDED JOINT AND APPARATUS AND METHOD FOR MAKING SAME
James O. Laws, Hermosa Beach, Harold W. Bloom, Torrance, Howard C. Gillen, Inglewood, James B. Hamilton, Redondo Beach, Rocco P. Robelotto, Canoga Park, Earl R. Dumas, Lancaster, and Roderick G. Rohrberg, Inglewood, Calif., assignors to North American Aviation, Inc.
Filed Sept. 29, 1961, Ser. No. 141,804
46 Claims. (Cl. 219—80)



1. In welding apparatus: welding means for effecting a resistance weld between two relatively thin members, said welding means being adapted to perform resistance welding progressively along a welding path to join said two members, carriage means for mounting said welding means movably with respect to said members, and support means for supporting said carriage means entirely on said members on one side thereof.

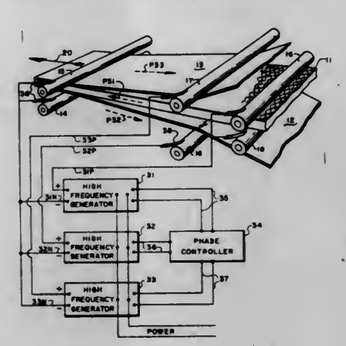
3,265,853
METHODS OF AND APPARATUS FOR WELDING
Irving R. Taylor and James F. Deffenbaugh, Warren, Ohio, assignors to Federal-Warco Division of The McKay Machine Company, Warren, Ohio
Filed Apr. 10, 1963, Ser. No. 272,116
5 Claims. (Cl. 219—82)



3. Apparatus for welding metal strip ends together, comprising means supporting the strip ends in overlapped relation, a carriage movable in a direction edgewise of said strip ends, a pair of roller electrodes carried by said carriage in opposed relation for engaging the overlapped strip ends therebetween and disposed at one side of said strip ends in one position of said carriage, means for passing welding current between said roller electrodes and through the interposed strip ends for welding the latter together, means for moving said carriage from said one position to cause said electrodes to traverse the strip ends from edge-to-edge and for returning said carriage to rest in said one position, a roller positioned at said strip ends on said one side and positioned intermediate and in operative alignment with said electrodes when said carriage is disposed in said one position and having a working face complementary to the desired working faces of said electrodes, means for effecting relative movement of said electrodes toward each other to selectively grip said roller and said strip ends therebetween, and means for rotating said electrodes and said roller with the latter gripped therebetween to maintain the desired contour of said working faces.

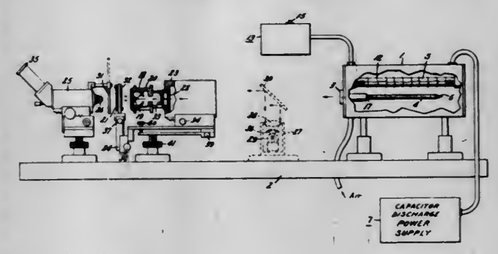
3,265,854
LAMINATED CELLULAR METALLIC PANEL
Paul Bliven, 344 Cayuga St., Salinas, Calif.
Filed Nov. 26, 1963, Ser. No. 328,154
8 Claims. (Cl. 219—117)

1. The process of laminating one surface of a metallic face sheet to a metallic core composed of sinuate metal strips in congruent face to face registry, with each strip joined to its adjacent strips at consecutive nodal intervals alternating from face to face of such each strip, edges of said strips forming a core surface, comprising: flowing said face sheet and core together so that they approach each other with their said surfaces in opposed substantially parallel relationship at a small extended angle, in such angle, causing a first high frequency current from a first source of current to flow in and along such face sheet, by causing a second high frequency current from a second source of current to flow in and along said core, establishing and relating said sources so that said currents are of sufficiently high frequency to produce skin effect so that each of said currents flows substantially entirely in a said surface, and so that said currents are related in frequency and in phase opposition so that due to said skin effect, due to their phase relationship, and due to the spaced proximity of such surfaces in extended relationship, said currents will exhibit a proximity effect to thereby localize the heating of said sheet and core to adjacent their such surfaces in opposed relationship in



such angle so that as said surfaces flow together at the apex of said angle the sheet and core will be welded together.

3,265,855
METHOD AND APPARATUS FOR DRILLING SMALL HOLES
James Frederic Norton, Alplaus, N.Y., assignor to General Electric Company, a corporation of New York
Filed Apr. 1, 1963, Ser. No. 269,650
11 Claims. (Cl. 219—121)



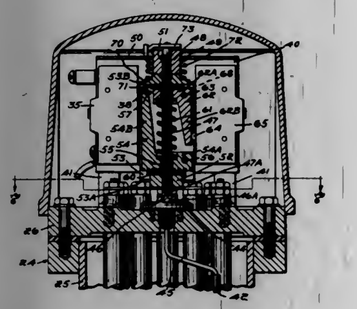
1. A method of forming relatively small holes in a material wherein a pulsed beam of coherent light produced by a laser is focused on the material to be pierced by means of a reflecting objective lens comprising the steps of
positioning a material to be pierced at a selected point relative to the focal point of a reflecting objective lens,
controlling the amount of electrical energy to be utilized by a laser device in generating a pulsed laser beam whereby the size of the hole produced in the material by the laser beam varies with the amount of electrical energy,
adjusting the cross section of the laser beam to be generated by positioning a limiting aperture intermediate the laser device and the reflecting objective lens and along the optical axis of the laser beam, and
utilizing the controlled amount of electrical energy to generate a pulsed laser beam which passes through the limiting aperture and is focused on the material to be pierced by means of the reflecting objective lens whereby the highly concentrated energy of the focused pulsed laser beam pierces a relatively small hole through the material.

3,265,856
WELDING APPARATUS
Shelby Cecil, Cleveland, Ohio, assignor to X3 Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 20, 1965, Ser. No. 498,649
14 Claims. (Cl. 219—130)



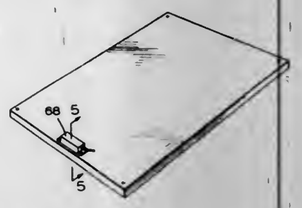
1. A welding cable comprising a flexible tubular electrically conductive core, a flexible resilient covering for said core, said core and said covering providing a gas-tight conduit for gas through said core, and connecting means at each end of said cable for connecting said core to means adapted to carry an electrode wire passing through said core and also adapted to carry gas passing through said core and adapted to conduct electrical current, said connecting means being adapted to make a gas-tight and electrically conductive connection wtih said conductive core.

3,265,857
HEAT EXCHANGER FOR PRE-HEATING FLUIDS
Gordon L. Benjamin, Jr., Barrington, R.I., assignor to Warren Electric Corporation, Warren, R.I., a corporation of Rhode Island
Filed Jan. 2, 1963, Ser. No. 249,049
7 Claims. (Cl. 219—331)



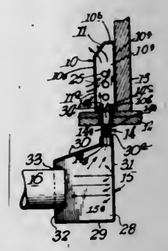
3. In a heat exchanger for use in pre-heating a fluid, a mount, electrical heating means for entry into said fluid supported by said mount, circuitry including said heating means and switch means supported by said mount, a second circuit including switch means supported by said mount, a temperature responsive unit including a part for entry into said fluid, and including a shaft movable axially in response to variations in the temperature of the fluid, and levers pivotally supported by said mount, one lever for each switch means and operatively engaging that switch means on an increase in the temperature of the fluid, both of said levers being bell cranks each having a short arm and a long arm, the short arms being located one above the other and having a bore through which said shaft freely extends, the longer arms of each lever being disposed towards the shorter arm of the other, a spring interposed between said short arms, a thrust member carried by said shaft below the lowermost short arm and engageable therewith on upward movement of said shaft, and means above the uppermost short lever arm resiliently engaging therewith.

3,265,858
HEATING PANEL
Andrew E. MacGuire, Toronto, Ontario, Canada, assignor of one-third each to Horace Roby, Port Credit, Peter Stewart, Downsview, and J. Arthur Male, Bramalea, Ontario, Canada
Filed Nov. 4, 1963, Ser. No. 321,716
7 Claims. (Cl. 219—345)



1. An electric heating panel comprising an electric conductor fixed within a homogeneous unitary body of a water soluble thermosetting polymerizable resin having an inert filler.

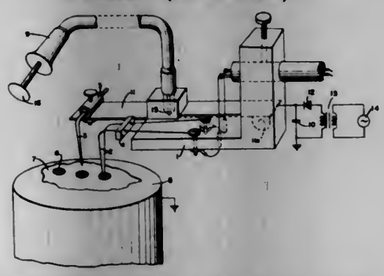
3,265,859
AIR DISTRIBUTION ASSEMBLY FOR AN ELECTRIC BASEBOARD HEATING SYSTEM
Anthony M. Castello and Francis W. Osborn, Wichita, Kans., assignors to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas
Filed Aug. 24, 1965, Ser. No. 482,156
10 Claims. (Cl. 219—367)



1. An air distribution assembly for an electric baseboard heating system which adapts said system for selectively providing forced air heating and cooling as well as gravity heating, comprising in combination:
(a) a plenum box for mounting below the floor of a room to be heated,
said plenum box being of generally rectilinear configuration and having front, rear, top, bottom and end walls enclosing an air chamber for receiving and supplying forced air,
said front and rear walls being arranged in opposed generally vertical alignment,
said front wall being provided with an inlet opening for said forced air facing said rear wall,
said top wall being provided with an outlet opening for said forced air,
said outlet opening being in the form of an elongated slot extending along the rearward portion of said top wall adjacent the upper end of said rear wall;
(b) a conduit for supplying forced air to said plenum box,
said conduit being aligned with and connected to said inlet opening and oriented to discharge a stream of forced air into said chamber and against said rear wall;
(c) a diffuser chute for mounting above said plenum box to extend through the floor of said room,

said chute having vertically-extending front and rear walls, upwardly and outwardly inclined end walls, an open bottom providing an air inlet, and an open top providing an air outlet,
said chute air inlet being aligned with and connected to said plenum box outlet opening,
the lower end portion of said chute having a restricted horizontal cross-section as compared with that of said plenum box and the horizontal cross-section of said chute enlarging in an upward direction; and
(d) a baseboard heater unit for mounting above the floor of said room at a baseboard level,
said heater unit including a horizontally elongated casing providing a vertically extending air heating space therein,
said casing having a horizontally elongated air outlet in the upper portion thereof for discharging air to said room, a corresponding horizontally elongated air inlet at a lower level in the front thereof for receiving air from said room, and a forced air inlet opening in the bottom thereof,
said casing forced air inlet being aligned with and connected to the said chute outlet opening,
said heater unit also including horizontally extending electric heating element means disposed in the paths of air flow between said casing room air and forced air inlets and said casing air outlet.

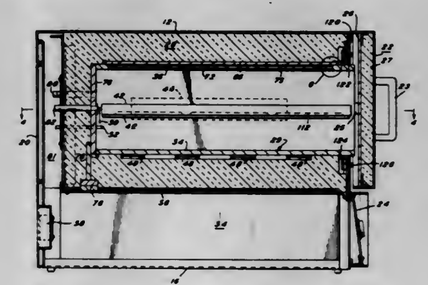
3,265,860
METHOD OF MARKING SEMICONDUCTOR CRYSTALS
Walter Klossika, Heilbronn (Neckar), Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Donau, Germany
Filed July 8, 1963, Ser. No. 293,535
Claims priority, application Germany, July 11, 1962, T 22,452
2 Claims. (Cl. 219—384)



1. A method for marking semiconductor crystals with specific properties, in particular with specific electrical properties, which comprises placing a whisker electrode onto a part of the surface of the semiconductor crystal which is to be marked and applying to this whisker electrode such a current that said part of the surface of semiconductor crystal is scorched, in consequence of which the surroundings of the electrode on the part on which the whisker electrode is placed visually differs from the other part of the semiconductor surface.

3,265,861
FOOD HEATING OVEN
Sidney H. Perlman, Riverton, N.J., assignor to Temperature Engineering Corporation, Riverton, N.J., a corporation of New Jersey
Filed Aug. 12, 1963, Ser. No. 301,309
5 Claims. (Cl. 219—399)

2. A food heating oven comprising a first housing, a second housing within said first housing, insulation between said housings, said second housing having walls sufficiently thick and made from a material having high conductivity so that said second housing will absorb heat and give up its heat quickly in the presence of food within said second housing, a shelf horizontally disposed within said second housing, said shelf having an upper layer sufficiently thick and made from a material of high conductivity so that said upper layer will give off its heat by conduction quickly in the presence of food supported thereon, infra-red heating means on said shelf below said upper layer thereof, the dimensions of such shelf being sufficiently smaller than the dimensions of said second housing so that the space above said shelf will be in thermal communication with the space below said shelf, means

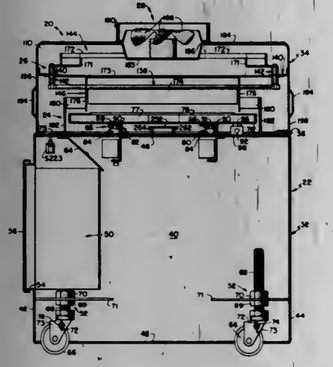


supporting said second housing within said first housing in a manner so that said second housing may be readily removed from its disposition within said first housing, said second housing comprising a tubular shell, electrical heaters on and supported by walls of said second housing, some of said electrical heaters supported by said housing being on the outside thereof, electrical means in a top wall of said second housing for cooking food by infra-red rays, means providing access into said second housing, and the walls and the top wall of said second housing having a thickness of approximately one-half inch and having a thermal conductivity approximating or greater than that of aluminum or high aluminum alloy.

3,265,862
TYPE FORM HEATER APPARATUS
Horace L. Smith, Jr., and Joseph M. Girone, Richmond, George B. Vogeleer, Hopewell, and William R. Pettigrew, Richmond, Va., assignors to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Dec. 14, 1964, Ser. No. 417,861
17 Claims. (Cl. 219—405)

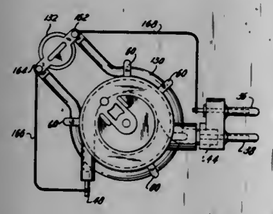
1. A heater for type forms and the like, comprising:
(a) a cabinet;
(b) a radiant heating unit in said cabinet;
(c) a tray positionable in said cabinet below the radiant heating unit in a general horizontal orientation for exposure to the radiant energy emanating from said radiant heating unit;
(d) means mounting said tray for movement into and out of said cabinet;
(e) control means for the radiant heating unit in said cabinet, said control means including a circuit incorporating normally closed temperature responsive switch means having a temperature sensitive actuator adapted to open the switch contacts when an object in contact with said actuator reaches a preselected temperature;
(f) a lifting plate carried by said tray, means locating said lifting plate laterally relative to said tray, and spring means biasing said lifting plate downward relative to said tray, said switch means being carried by said lifting plate; and

(g) positioning means located in the path traversed by the lifting plate during inward movement of said tray for automatically elevating said lifting plate and the switch means carried thereby relative to said tray coincident to the inward movement of said tray to thereby move the temperature sensitive actuator of said switch means into contact with an object on said tray, whereby said actuator will open said switch means and interrupt the circuit to said radiant heating unit when the tray supported object reaches a predetermined temperature,



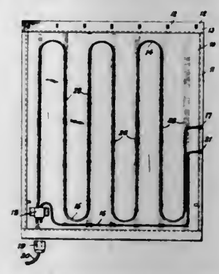
(h) said switch position means comprising cam means fixed relative to said cabinet and adapted to be engaged by said lifting plate as said tray is moved to the closed position, said cam means being configured to move said lifting plate upward relative to said tray against the force of said biasing means a distance sufficient to bring said temperature sensitive actuator into contact with the tray-supported object as said tray is closed and to retain said switch means in said elevated position until said tray is subsequently moved to its open position.

3,265,863
HEATER WITH TERMINAL MOUNT
Joseph A. Bender, Springfield, N.J., assignor to Vacuum Die Casting Corp., Newark, N.J., a corporation of Ohio
Filed Dec. 11, 1963, Ser. No. 329,792
18 Claims. (Cl. 219—481)



1. A rod-type heater comprising a resistor in a stiff sheath having two spaced ends, an insulation terminal block having two terminal pins the outer ends of which are adapted to receive the slidably detachable plug of an electrical supply cord, said block being fixedly mounted on one end of the sheath with the inner end of one of the pins electrically connected to said end of the resistor, the inner end of the other pin being spaced from the other end of the resistor and being exposed to receive a wired connection leading to the other end of the resistor.

3,265,864
HEATED DRAPERY LINING
Nathan Levinson, North Dartmouth, Mass., assignor to Cameo Curtains, Inc., New York, N.Y., a corporation of New York
Filed July 6, 1965, Ser. No. 472,755
3 Claims. (Cl. 219—545)



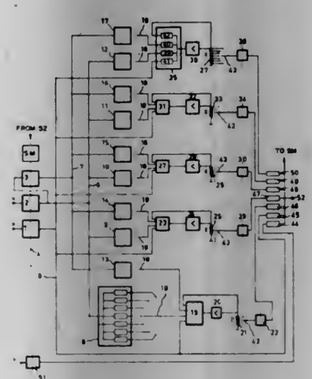
1. A drapery lining comprising a panel composed of a single layer of woven fabric, said panel having apertures at spaced horizontal intervals along its upper edge for engagement with suspension pins which support the drapery whereby said panel can be suspended adjacent to the drapery with its inner face toward the rear face of the drapery, a length of heating wiring arranged sinuously across the inner face of said panel to thereby position such wiring between said panel and the drapery, a male electrical connector located at one side edge of said panel, a female electrical connector located at the other side edge of said panel, the ends of said heating wiring being electrically connected to one of said connectors for receiving electric current from a source connected to said one connector, and wiring interconnecting said two connectors whereby electric current from a source connected to said one connector is available at the other of said connectors so that when one of the connectors of another identical panel is connected to said other connector electric current will flow through the heating wiring of the identical panel.

3,265,865
ELECTRICAL DUCT HEATER
Nathaniel E. Hager, Jr., Manheim Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Oct. 9, 1963, Ser. No. 314,905
6 Claims. (Cl. 219—549)



1. An electric duct heater comprising
(1) a housing and
(2) a rolled heating assembly positioned within the housing, the heating assembly comprising
(A) an electrically conductive metallic foil heating element having a thickness in the range of about 0.01–0.0001 inch and a width in the range of about ⅛–2 inches and having electrical power connections thereon,
(B) a paper support secured to said heating element, said supporting comprising
(a) a plane paper backing sheet and
(b) a corrugated paper sheet affixed thereto to form alternate grooves and ridges which, when said support is in a rolled configuration, define a multitude of parallel continuous air-conveying passages approximately half of which are lined at least in part with said heating element.

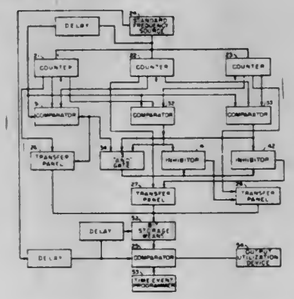
3,265,866
CORRECTOR FOR GUN FIRE CONTROL OF FIELD ARTILLERY PIECES
Torbern Teiling, Lidingo, Sweden, assignor to Arenco Electronics Aktiebolag, Vallingby, Sweden
Filed Dec. 13, 1962, Ser. No. 244,418
Claims priority, application Sweden, Dec. 18, 1961, 12,604/61
4 Claims. (Cl. 235—61.5)



1. An electric correction computer for field artillery gun fire control, comprising a common signal generating means for generating electrical signals proportional to x, $\sin x\pi$ and $\sin 2x\pi$, where x is proportional to the distance to the point of impact in the trajectory calculated from ballistic tables (the point of aim), a number of circuit branches corresponding to the number of ballistic disturbances, as for instance the initial muzzle velocity, air density, temperature and windage, a first summing means in each branch, said summing means having a plurality of inputs, means connecting the inputs of each summing means with the outputs of said signal generating means via individual impedances for at least two of said signals, said impedances of each branch being thus adapted that in output circuits of the various summing means, which include means for setting the magnitude of the output signals depending upon the deviations of the ballistic disturbances from the standard values, signals are obtained which vary with x and represent the influences of the respective disturbances on the projectile as a function of x.

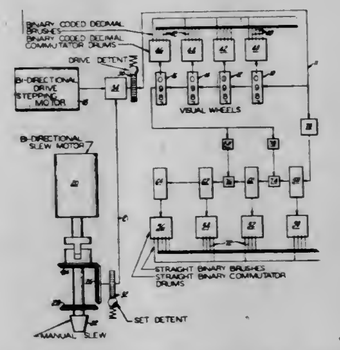
3,265,867
DIGITAL CLOCK SYSTEM
Douglas A. Venn, Suitland, Md., and Donald H. Jones, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed Nov. 6, 1961, Ser. No. 150,604
4 Claims. (Cl. 235—92)

1. A digital clock system comprising
a time information source;
a plurality of bit counters, each of said bit counters connected to said source to count the output thereof;
a plurality of first gating means, each of said first gating means connected to said source and to the outputs of two bit counters in said plurality thereof, and each of said first gating means adapted to pass the output of said source when the outputs of its respective bit counters are in a first selected relation;
second gating means of the "AND" variety; means connecting each of the outputs of said first gating means to said second gating means; said second gating means adapted to respond to input signal deviations from a second selected relation;
signal comparator means,
a plurality of signal transfer means interconnecting a first input of said signal comparator means and respective bit counters in said plurality thereof, each of said signal transfer means including gating means for signal interruption control;
means connecting the output of one of said first gating means in said plurality thereof to the signal interruption control gating means of one of said signal transfer means in said plurality thereof such that in the presence of an output signal from said one of said first gating means said one of said signal transfer means is operative;



means connecting the output of said second gating means to the signal interruption control gating means of the remainder of said signal transfer means in said plurality thereof such that said remainder of said transfer means are interrupted when the outputs of said first gating means are in said second selected relation;
coded bit programmer means;
means connecting the output of said bit programmer means to a second input of said signal comparison means such that said signal comparison means is operative when the signals applied to said first and second inputs thereof are in a third selected relation;
and means for utilizing the output of said pulse signal comparator.

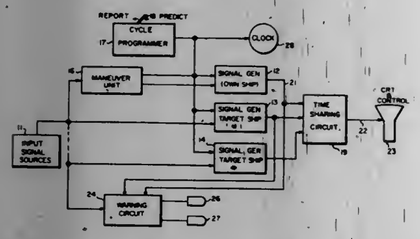
3,265,868
ENCODING DEVICE
Raymond H. Devanney, Berlin, Conn., assignor to Veeder-Root Incorporated, Hartford, Conn., a corporation of Connecticut
Filed Nov. 9, 1962, Ser. No. 236,560
14 Claims. (Cl. 235—92)



6. A digital converter comprising a first rotary counting mechanism, electrical readout means for transmitting electrical signals in the binary system in accordance with

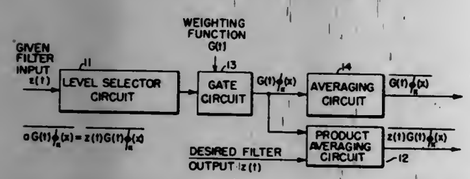
the count of the first rotary counting mechanism, a second rotary counting mechanism connected to be advanced with the first rotary counting mechanism for counting in synchronism therewith, and intermittent drive means driven by one of the rotary counting mechanisms for resetting the other rotary counting mechanism to its lowest count as said one rotary counting mechanism is advanced through its maximum count to its minimum count.

3,265,869
ANALOG PREDICTION COMPUTER
John W. Gray, Pleasantville, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed Aug. 3, 1962, Ser. No. 214,566
8 Claims. (Cl. 235—150.23)



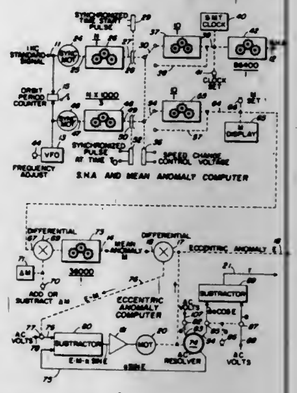
1. A prediction computer comprising,
a first signal converter having signals representative of the velocity of a first object impressed thereon,
a second signal converter having signals representative of the position and velocity of a second object impressed thereon,
display means having the outputs of said first and second signal converters imposed thereon and providing a visual display of relative positions of said first and second objects,
and relay means connected to said first and second signal converters for selectively placing said signal converters in a report mode and a prediction mode of operation, said relay means including means in said first converter operative in the report mode for reducing the output signals of said first converter to zero and operative in the prediction mode for converting said first signal converter to a pair of integrators, said relay means further including means in said second signal converter operative in the report mode for converting said second signal converter to a pair of signal inverters and operative in the prediction mode for converting said second signal converter to a pair of integrators.

3,265,870
SIGNAL TRANSLATION
Amar Gopal Bose, Philadelphia, Pa. (M.I.T. Department of Electrical Engineering, Cambridge, Mass. 02139)
Filed Nov. 16, 1956, Ser. No. 622,685
42 Claims. (Cl. 235—150.)



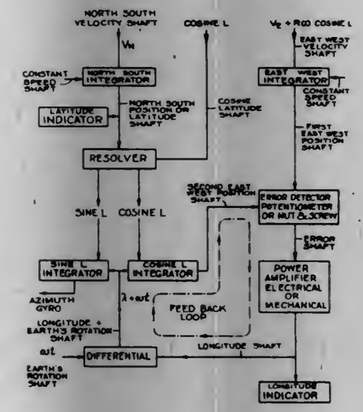
24. Signal translation apparatus comprising, a level selector circuit energized by an input signal, an averaging circuit, a product averaging circuit, means for coupling the output of said level selector circuit to said averaging circuit and said product averaging circuit, and a source of a second input signal coupled to said product averaging circuit.

3,265,871
SATELLITE TRUE POSITION COMPUTER
Theodore R. Willis, Plano, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Oct. 22, 1962, Ser. No. 232,052
7 Claims. (Cl. 235—150.27)



1. A satellite true position computing system comprising a mean anomaly computer, an eccentric anomaly computer, and a true anomaly computer;
said mean anomaly computer having a standard input for receiving a signal from a frequency standard, a variable frequency oscillator, a counter connected to said standard input and to said variable frequency oscillator to measure the ratio between the frequency of said frequency standard and the frequency of said variable frequency oscillator, an hour-angle shaft, first synchronous motor means responsive to the application of signal from said standard input to rotate said hour angle shaft at rate corresponding to the rate of change of the hour angle, means for synchronizing the position of the shaft with a time standard to indicate the correct hour angle, a mean-anomaly indicating shaft, second synchronous motor means responsive to the application of signal from said variable frequency oscillator to rotate said mean-anomaly indicating shaft at a rate corresponding to the rate of change of the mean anomaly of a satellite as determined by the adjustment of the frequency of said variable frequency oscillator, engaging means coupled between said second synchronous motor and said mean-anomaly indicating shaft for synchronizing the position of said mean-anomaly indicating shaft with the mean anomaly of the satellite.
said eccentric anomaly computer having an input shaft coupled to said mean-anomaly indicating shaft, an output eccentric-anomaly indicating shaft, means for establishing an eccentric voltage proportional to the eccentricity of the orbit of the satellite, means for establishing a difference voltage proportional to the difference in position of said input shaft and said mean-anomaly indicating shaft, servo means responsive to application of said eccentric voltage and said difference voltage for positioning said mean-anomaly indicating shaft to indicate the mean anomaly of said satellite;
said true anomaly computer having an input shaft coupled to said eccentric-anomaly indicating shaft, a true-anomaly indicating shaft, means for establishing first and second voltages that are functions of the eccentricity of the orbit of said satellite, computing and servo means coupled to said last mentioned input shaft and responsive to the application of said last mentioned voltages for positioning said true-anomaly indicating shaft such that its angular position corresponds to the true anomaly of the satellite.

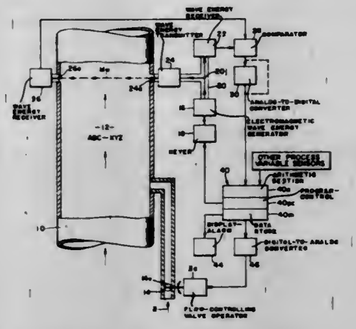
3,265,872
NAVIGATIONAL INSTRUMENT
Donald S. Bayley, Bedford Village, N.Y., assignor to M. ten Bosch, Inc., Pleasantville, N.Y., a corporation of New York
Filed Nov. 10, 1953, Ser. No. 391,361
17 Claims. (Cl. 235—150.271)



1. A longitude and latitude indicator comprising sources of east-west and north-south velocity information, integration means to integrate said information, a feed back computer system to give the longitude and a resolver for the latitude information to give sine of latitude information and cosine of latitude information and also including a first east-west position shaft receiving east-west velocity information, and a mechanical roller and rotating disc integrator for receiving cosine of latitude information from said resolver, and a second east-west position shaft receiving information from said cosine of latitude integrator and an error detector receiving and comparing information from said first and second east-west position shafts and a longitude indicator receiving longitude information from said detector.

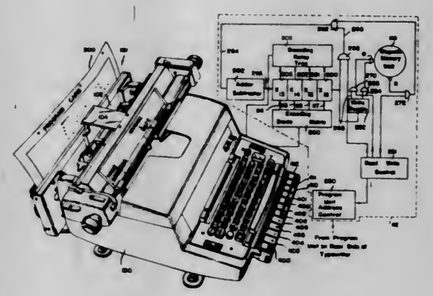
3,265,873
SYSTEM FOR MONITORING AND CONTROL OF MATERIAL IN A CONTINUING PROCESS
Harold T. Sawyer, Los Angeles, Calif., assignor of ten percent to George K. McKenzie and Harry P. Heubner (jointly), New York, N.Y., two percent to Harry P. Heubner, New York, N.Y., and two and one-half percent to Lawrence H. Hoerres, Hollywood, Calif.
Filed Oct. 10, 1961, Ser. No. 144,147
8 Claims. (Cl. 235—151.35)

6. A dynamic process monitoring and control system comprising means for controlling the supply of known process constituents, means for generating discrete bursts of electromagnetic wave energy within respective different frequency ranges each known to coincide with the characteristic resonant frequency of a known process constituent to be regulated, means for sequentially beaming wave energy bursts through constituents undergoing processing and for receiving the residue of said bursts after traversing said constituents under dynamic processing conditions, means for comparing the residue signals with stored signals representing the respective known constituents if present in the precise amount desired for the process, and means responsive to the magnitude and direction of variance thereof from the predetermined normal value



of said stored value for a given constituent to adjust, if necessary, the supply control for that constituent in the proper direction and amount thereby to restore the proportion of that constituent desired in the dynamic process.

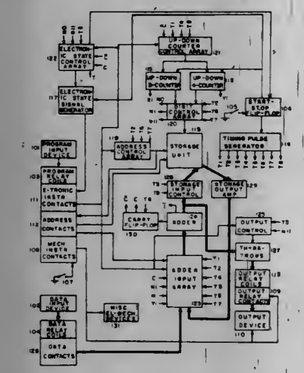
3,265,874
DATA PROCESSING DEVICES AND SYSTEMS
Winsor Soule, Jr., Berkeley, and Eugene P. Binnall, El Cerrito, Calif., assignors to SCM Corporation, New York, N.Y., a corporation of New York
Filed Dec. 27, 1961, Ser. No. 162,526
53 Claims. (Cl. 235—159)



52. In an electronic computer having a memory unit comprising a member mounted for rotation and having a magnetizable surface; an input-output unit comprising a typewriter having a carriage movable in a step-by-step manner across a printing position; and circuit means for transmitting a digit entered on the typewriter to said memory unit and for transmitting a digit retrieved from said memory unit to said typewriter, the improvement comprising: program means including a sensing station comprising a plurality of parallel sensing elements and a coded record member having separate programming instruction channels for each of said sensing elements and being movable relative to one another concomitantly with step-by-step movement of the carriage in either direction, said coded record member further having a program field containing a plurality of adjacent program instructions corresponding to adjacent carriage positions;

means effective in response to each of said program instructions to control the location into which each digit of a plural digit number entered on the typewriter is stored in said memory unit; and means for recording digits on the surface of said memory unit by a non-return-to-zero method whereby an erroneous digit entry may be corrected in the memory unit by repositioning the typewriter carriage at the location of the erroneous digit entry and then entering the correct digit.

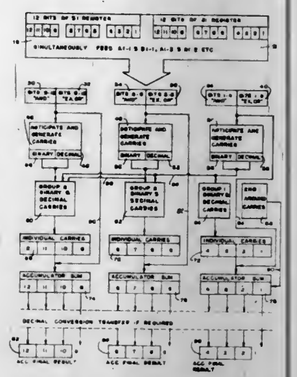
3,265,875
ELECTRONIC CALCULATOR
Richard K. Richards, 1821 Allen Ave., Ames, Iowa
Filed Nov. 19, 1962, Ser. No. 238,347
5 Claims. (Cl. 235—160)



3. A calculator comprised of storage means and calculating means where said storage means is comprised of at least three essentially identical addresses with each address being capable of storing one number, means for causing a first one of said addresses to function as and therefore be an accumulator, means for causing a second one of said addresses to function as and therefore be a multiplier register, means for causing the multiplication of the number in a third one of said addresses by the number in said multiplier register, and means for causing the product to appear in said accumulator, and where said means for causing said multiplication includes means for causing the number is said third address to be added repeatedly into said accomulator a number of times equal to the value of the highest order digit in said multiplier register, means for shifting each digit of the partial product thus generated in said accumulator to the next higher order position is said accumulator, means for shifting each digit in said multiplier register to the next higher order position in said multiplier register, means for adding one to the digit in a preselected position in a preselected address, means for repeating said repeated addition, said shifting, and said addition of one, and means for terminating said multiplication when the digit is said preselected position has been increased to a preselected value.

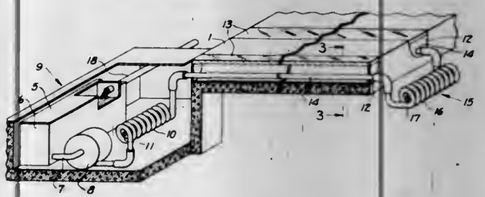
3,265,876
PARALLEL DATA ACCUMULATOR FOR OPERATING IN EITHER A BINARY OR DECIMAL MODE
Walter R. Lethin, Canton, Mass., assignor to Honeywell Inc., a corporation of Delaware
Filed Dec. 24, 1962, Ser. No. 246,758
12 Claims. (Cl. 235—173)

2. In an information processing apparatus, the improvement of a data accumulator for effecting arithmetic operations comprising in combination a memory register for storing a first operand, a memory register for storing a second operand, means for simultaneously transferring said first and second operands to a network means for generating and anticipating the carry signals required for the arithmetic operation, selectively programmed means for causing said network means to operate in accordance with binary or decimal arithmetic to provide a proper ac-



cumulator result, and memory register means for receiving and storing a final accumulator result of the arithmetic operation on said first and second operands as provided by said network means.

3,265,877
ILLUMINATING SYSTEM
Edward Keith Howell, Skaneateles, N.Y., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 160,485, Dec. 19, 1961. This application July 26, 1965, Ser. No. 477,641
4 Claims. (Cl. 240—1.2)

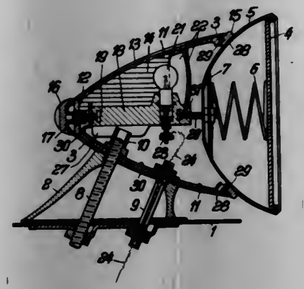


1. An illuminating system comprising, in combination, a reservoir of a liquid suspension of phosphorescent material which exhibits a lengthy after-glow emission, conduit means leading from said reservoir to an area to be illuminated and returning to said reservoir, said conduit means being transparent in the region of said area and in a portion entirely remote from said area, excitation means arranged adjacent said remote transparent portion of said conduit means for exciting the liquid suspension to render it luminous, and pump means for moving said phosphorescent liquid suspension through said conduit means, whereby the liquid suspension rendered luminous by said excitation means at said remote transparent portion illuminates the area to be lighted when passing through the transparent conduit portion in the region of said area.

3,265,878
REAR VISION MIRROR ASSEMBLY FOR A VEHICLE
Yorck Joachim Talbot, 80 Ebersstrasse, Berlin, Germany
Filed Mar. 31, 1964, Ser. No. 356,259
Claims priority, application Germany, Oct. 29, 1963, T 24,973
4 Claims. (Cl. 240—4.2)

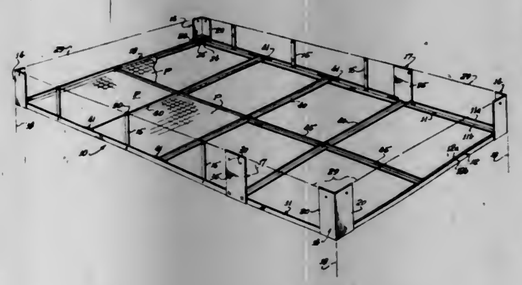
1. A rear view mirror assembly for a vehicle, comprising a housing adapted for being mounted on the vehicle, said housing being in the form of a substantially

frustoconical body of rotation and having a portion which is light-transmitting at least in part thereby to provide an outlet for light from an electric bulb, an intermediate member serving to mount a rear view mirror on the housing, said intermediate member being so mounted in relation to the housing as to be movable relative thereto for varying the direction of rear view given by the mirror without varying the direction of light emitted by a bulb, and means for holding an electric bulb in such a manner



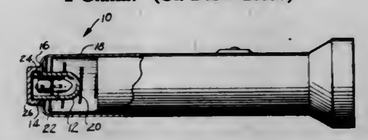
that light is emitted by the bulb in a direction substantially opposite to the direction of rear view given by the mirror, the bulb holding means being in the form of a tensioning member axially movable in the housing and in engagement with a nut at the tip of the housing and with the intermediate member carrying the mirror, in such a manner that by tightening the nut the adjustable intermediate member can be fixed in a desired position relative to the housing.

3,265,879
FRAME FOR DROP CEILING CONSTRUCTION
Harold H. Ford, Claremont, and Arthur W. Gilders, Pomona, Calif., assignors, by mesne assignments, to Emerson Electric Company, St. Louis, Mo., a corporation of Missouri
Filed Apr. 26, 1963, Ser. No. 276,046
12 Claims. (Cl. 240—9)



1. A frame structure for supporting panels in spaced relation to the ceiling of a room having a ceiling extending between a plurality of vertically extending side walls, said side walls having vertically extending studs topped by a horizontally extending plate, comprising:
a plurality of corner brackets of equal length each adapted to abut the ceiling and each adapted for attachment to a wall of the room, each corner bracket having a hole spaced from its upper end to be opposite the plate at the top of the studs when the bracket abuts the ceiling;
side rails supported by the corner brackets,
each rail being closely adjacent a side wall;
an intermediate panel supporting member extending between and supported by the side rails at opposite sides of the frame, said rails and intermediate supporting member being detachably connected together and cooperating to support panels substantially in a common plane parallel to said ceiling.
and hangers pivotally connected to the side rails and each provided with a hole located opposite the plate at the top of the studs in the side wall when the hangers abut the ceiling at their upper ends.

3,265,880
SPARE BULB HOLDER FOR FLASHLIGHTS
Leslie D. Whitman, Greenville, Ky.
Filed June 29, 1964, Ser. No. 378,589
1 Claim. (Cl. 240—10.66)



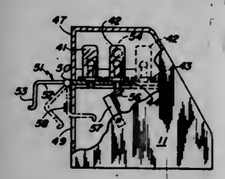
In a flashlight having a tubular case with a lamp at one forward end and a contact coil spring defining an interior storage area at the opposite rear end, a spare bulb holder comprising, in combination, a dome-shaped hollow cylinder providing capsule means for storing a spare bulb within the case of the flashlight, an internally threaded cap carried by said cylinder providing closure means for said cylinder, said cylinder having an annular flange intermediate its ends secured within an opening defined by said rear end of said case, one end of said cylinder being closed and being freely received within the storage area defined by the coils of the contact coil spring, and the opposite end of said cylinder defining an access opening for receiving a spare bulb and projecting outwardly of said rear end of said case, said opposite end of said cylinder projecting from said rear end of said flashlight case and having an external thread for threadedly receiving said screw cap to close said cylinder and confine said spare bulb received within said cylinder, said screw cap abutting the exterior of said rear end of said tubular case to effectively seal the interior of said cylinder, said cap being removable from said opposite end of said cylinder for removal of a spare bulb from the interior of said cylinder for use, said cylinder being in axial alignment with the longitudinal axis of said case and in spaced relationship with said spring, said spring making electrical contact between said case and batteries contained within said case independently of said cylinder.

3,265,881
LIGHT SOURCE FOR ILLUMINATED APPLIANCES
Hrair P. Hovnanian, Winchester, Horace F. McCarthy, North Andover, and Frank L. Rose, Methuen, Mass., assignors, by mesne assignments, to Tracor Inc., Austin, Tex., a corporation of Texas
Original application Sept. 5, 1962, Ser. No. 221,498, now Patent No. 3,195,536, dated July 20, 1965. Divided and this application Dec. 15, 1964, Ser. No. 433,242
6 Claims. (Cl. 240—11.2)

4. A light source for a fiber optic light-transmitting means, comprising:
(a) a housing defined by a plurality of walls;
(b) one of said walls having a first opening provided therein for carrying light to a fiber optic light-transmitting means;
(c) a plurality of lamps disposed adjacent said one wall such that one of said lamps is in light communication with said first opening and another of said lamps is remote from said first opening;

(d) a movable handle member having a portion thereof extending outside said housing through a second opening therein;

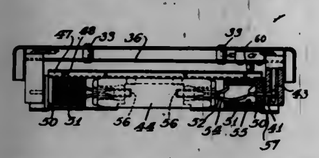
(e) means interconnecting said plurality of lamps with said handle such that movement of said handle causes both removal of said one lamp from light communication with said first opening and simul-



taneous movement of said other lamp into light communication with said first opening, the position of said lamps being determined as selected between the cooperative relationship of said handle with a wall of said housing and the cooperative relationship of said handle with said second opening; and

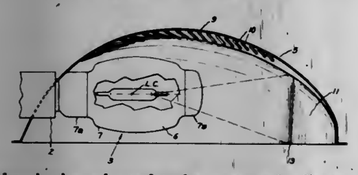
(f) means for energizing a lamp which is in light communication with said opening.

3,265,882
ULTRAVIOLET LAMP
Irving Naxon, Chicago, Ill., assignor to Naxon Utilities Corporation, a corporation of Illinois
Filed June 17, 1964, Ser. No. 375,774
4 Claims. (Cl. 240—11.4)



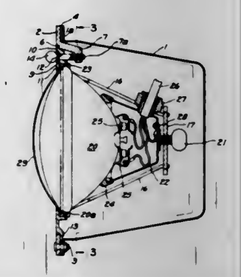
1. An ultraviolet lamp unit comprising a housing having two sections connected to one another, an ultraviolet tube assembly carried on one section, said assembly including a mercury vapor tube having electrodes in its ends, external electric heater elements disposed endwise beyond said tube, and a sleeve-like member of high thermal conductivity associated with said heater elements and formed to conduct heat longitudinally of said tube to the electrode portions thereof, said heater elements each comprising a spool-type insulated support for the wires of said heater elements, pin connections affixed to said insulated support, and bracket means on said one section for quickly and detachably connecting said pin connections thereto for supporting said tube on said one section.

3,265,883
LUMINAIRE
Joseph A. Tolbert, Flat Rock, N.C., assignor to General Electric Company, a corporation of New York
Filed Apr. 30, 1964, Ser. No. 363,776
3 Claims. (Cl. 240—25)



1. A luminaire adapted to be mounted adjacent a roadway comprising an elongated inverted bowl-shaped reflector having a rim extending in a plane and having reflecting surfaces on opposite sides with a contour which is paraboloidal in vertical and horizontal cross-section, a lamp comprising an elongated bulb having a base mounted at one end of said reflector and extending therein toward the other end thereof substantially along said plane, said lamp emitting a principal amount of light from its side portions toward said reflecting side surfaces of said reflector, and an additional amount of light from its end portion generally toward said other end of said reflector, the light source of said lamp being so positioned with respect to said reflecting side surfaces that said principal amount of light from said lamp is reflected therefrom downwardly and outwardly toward the center of the roadway in main beams on opposite sides of the luminaire, said reflector being formed with inwardly convex reflecting portions on its interior surface between said lamp end portion and said other end of said reflector and in the path of said additional amount of light for reflecting the same into said main beams.

3,265,884
FLOODLIGHT
Harold P. Kelley, Jr., Hendersonville, N.C., assignor to General Electric Company, a corporation of New York
Filed June 25, 1964, Ser. No. 377,974
5 Claims. (Cl. 240—26)

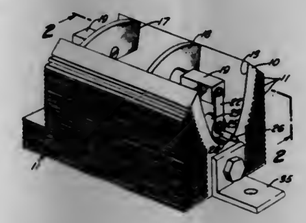


1. An underwater floodlight comprising a bowl-shaped housing having an open end, cover plate means having an apertured center secured to said housing with a gasket interposed between said cover plate means and said housing, means for mounting a sealed beam reflector type lamp within said housing including a mounting ring engaged with said apertured center, a protective grid screen secured between said lamp and said mounting ring, a plurality of clamp rods hingedly secured to said mounting ring by one end thereof and having their other ends secured to a clamp plate, a terminal protective cone held in sealing engagement with the reflector portion of the lamp by adjustable pressure applying means engaged in said clamp plate, and electrical conductor means secured in water-tight relation through said protective cone, said conductor means including a grounding wire secured in conducting relationship to said protective cone whereby the external exposed metal parts of said floodlight including the protective grid screen, the mounting ring and the cover plate means are positively grounded.

3,265,885
HIGH-INTENSITY AIR-COOLED ELECTRIC LAMP ASSEMBLY
Robert W. Porter, Campbell, Calif., assignor to Metro-Kalvar, Inc., Culver City, Calif., a corporation of Delaware
Filed Feb. 13, 1964, Ser. No. 344,633
5 Claims. (Cl. 240—47)

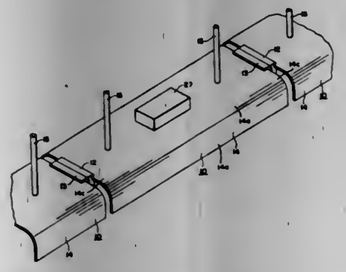
2. A lamp housing assembly for high intensity electric lamps of the type having a cylindrical transparent envelope positioned between coaxially disposed metallic terminals,

said lamp housing assembly comprising: a housing block formed of metal having high heat conductivity and defining a cavity of essentially parabolic cross section and having a focal axis extending the length of the housing block, said housing block having a plurality of integral cooling fins extending from opposite sides thereof; means for supporting said electric lamp by its terminals at the focal axis of said cavity; a dichroic coating on at least



selected portions of the surface of said cavity for transfer of radiant energy, principally in an invisible spectrum, into said housing block for conduction to said cooling fins; and means for passage of a cooling fluid including a passage formed in said housing block parallel to the focal axis of said housing, and orifices communicating with said passage and directed toward said lamp.

3,265,886
FLUORESCENT LUMINAIRE
John W. Wigert, Berea, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 30, 1963, Ser. No. 334,237
9 Claims. (Cl. 240—51.11)



9. In a lighting installation, in combination, a plurality of luminaires positioned adjacently in end-to-end relation, each said luminaire comprising:

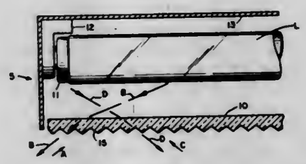
an electrically non-conductive light-reflective body member with lampholder means disposed proximate the ends thereof;

interlocking portions formed on the end surfaces of said luminaire for abutting and joining adjacent luminaires;

plug-in ballast means positioned on said luminaire intermediate the ends thereof, the components of said ballast means being enclosed in a case and removably mounted on said luminaire as a unit; and

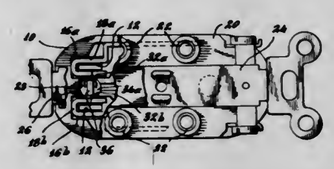
electrical lead members embedded within said body member and having exposed portions on each end surface of said luminaire which electrically contact corresponding end exposed portions on adjacent luminaires, said lead members having intermediate exposed portions for electrically contacting said ballast.

3,265,887
LUMINAIRE
Vearl S. Wince, Newark, Ohio, assignor to Holophane Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 23, 1965, Ser. No. 450,327
20 Claims. (Cl. 240—51.11)



1. The combination with a luminaire having a light source with opaque elements at each end and mounted adjacent said opaque elements via further opaque elements at each end of the luminaire housing; of a lens comprising an extended piece of transparent material having an upper and lower surface and extending substantially horizontally below the light source and below the opaque elements of said light source and said housing, a plurality of light cut-off prisms covering the lower surface of said lens and directing light in pre-determined patterns, a plurality of vertical surfaces formed in said lens intermediate a plurality of said cut-off prisms, said vertical surfaces occupying the areas at the ends of said lens and below and inwardly of said opaque elements, said vertical surfaces receiving light coming from said light source downwardly and toward said ends and reflecting and scattering said light in directions downward and away from said ends toward the transverse center of the said lens, the direction of said reflected and scattered light being such that an observer in a line of view of said opaque elements, looking upwardly toward a far end of said lens sees said reflected and scattered light instead of said opaque elements.

3,265,888
LIGHTED RECEPTACLE
Carl Bradford Adolphson, Jr., Easton, Conn., assignor to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Dec. 5, 1963, Ser. No. 328,248
1 Claim. (Cl. 240—73)



An electrical duplex outlet which comprises: a two part body of insulating material having a front surface and defining therein a first and a second receptacle, each including first and second cavities, said front surface defining first and second parallel slots in each receptacle communicating, respectively, with said first and second cavities, said body further including a wall portion extending between the first and second cavities of each receptacle, said wall defining first and second substantially cylindrical

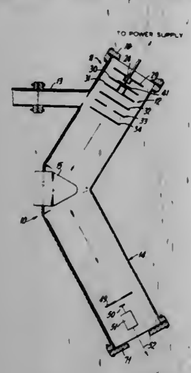
wells positioned, respectively, between each pair of first and second cavities and extending substantially perpendicular to said front surface but with its forward end being spaced therefrom, the opposite side of each well piercing said wall to define rectangular parallel slots communicating, respectively, with said first and second cavities; first electrical conductor means mounted in said body and including female contacts in each of said first cavities to be contacted by a connector blade inserted through a corresponding first slot; second electrical conductor means mounted in said body and including female contacts in each of said second cavities to be contacted by a connector blade inserted through a corresponding second slot; a first substantially cylindrical electrical lamp positioned within said first well with a substantial portion of the side wall of said first lamp intermediate its ends being in contact with, and supported by, the sides of said first well, the remaining portions of the side wall of said first lamp being positioned adjacent the corresponding parallel slots to illuminate said first and second cavities therethrough, said first lamp being connected across said first and second electrical conductor means to be energized therefrom; and a second substantially cylindrical lamp positioned within said second well with a substantial portion of the side wall of said second lamp intermediate its ends being in contact with, and supported by, the sides of said second well, the remaining portions of the side wall of said second lamp being positioned adjacent the corresponding parallel slots to illuminate said first and second cavities therethrough, said second lamp being connected across said first and second electrical conductor means to be energized therefrom.

3,265,889

ELECTRON IMPACT ION SOURCE FOR MASS SPECTROMETER WITH COINCIDENT ELECTRON BEAM AND ION BEAM AXES

Michael Doctoroff, Roslyn, N.Y., assignor to Veeco Instruments Inc., a corporation of New York

Filed Dec. 15, 1961, Ser. No. 159,623
8 Claims. (Cl. 250—41.9)



3. A mass spectrometer utilizing a stream of ions generated by means of a stream of electrons moving parallel to the optic axis of said spectrometer, said stream of ions moving colinearly with respect to said stream of electrons, comprising an ionizable medium, a source of electrons disposed on said optic axis, and a plurality of axially displaced, apertured electrodes in said ionizable medium, said electrodes including sequentially: a first electron focusing electrode, an electron accelerating electrode axially displaced from said source of electrons, a second electron focusing electrode, said first and second focusing electrodes and said electron accelerating electrode coacting to focus electrons from said source of electrons into a stream converging at a site on said axis at a given distance remote from said electron accelerating electrode, a voltage defining electrode at said site, said voltage defining electrode defining the initial energy of ions formed in a region in the vicinity of said site; an ion focusing electrode and an object electrode, said ion focusing, object and voltage defining electrodes coacting to extract, focus and accelerate the ions formed in said region into a stream of ions moving parallel to said given axis and beyond said object electrode and for preventing electrons within and ions formed within the region between said voltage defining and object electrodes from moving beyond said object electrode; said electron accelerating electrode, second electron focusing electrode and said voltage defining electrode further coacting to prevent ions formed in the region between said electron accelerating and voltage defining electrodes from emerging from said region; said electron accelerating electrode and said source of electrons further coacting to prevent ions formed in the region between said electron accelerating electrode and said source of electrons from emerging from said region; magnetic means disposed along said axis for deflecting the ions in said stream of ions in accordance with the momentum thereof, and ion current measuring means for measuring the current in the deflected stream of ions.

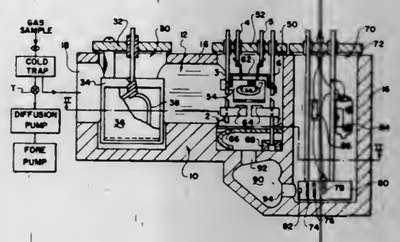
5. Apparatus for generating a stream of ions by means of a stream of electrons moving parallel to a given axis, said stream of ions moving colinearly with respect to said stream of electrons, said apparatus comprising an ionizable medium, a source of electrons disposed on said axis, and a plurality of axially displaced apertured electrodes in said ionizable medium, said electrodes including sequentially: a first electron focusing electrode; an electron accelerating electrode axially displaced from said source of electrons; a second electron focusing electrode, said first and second focusing electrodes and said electrons accelerating electrode coacting to focus electrons from said electron source into a stream converging at a site on said axis at a given distance remote from said second electron focusing electrode; a voltage defining electrode at said site, said voltage defining electrode defining the initial energy of ions formed in a region in the vicinity of said site; and means for extracting, directing and accelerating ions in a stream along said axis away from said site.

3,265,890

MASS SPECTROMETER LEAK DETECTOR

Walton E. Briggs, Lynnfield, Mass., assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed Dec. 20, 1963, Ser. No. 332,154
4 Claims. (Cl. 250—41.9)



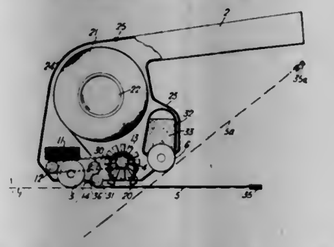
1. An improvement in mass spectrometer apparatus comprising a series flow arrangement of at least one gas flow inlet for connecting the apparatus to a gas sample source and to vacuum pumping means for the spectrometer apparatus, an electrical ionization device of the cold cathode discharge type, and a hot filament ion source of the mass spectrometer and mass spectrometer analyzer and collector means, the improvement wherein the cold cathode discharge device is arranged in series between one gas flow inlet and the hot filament ion source to intercept and pump a substantial portion of carbonizing gasses entering the gas flow inlet whereby filament contamination and sensitivity loss are limited.

3,265,891

COPY APPARATUS WITH MEANS TO APPLY A VAPORIZING AGENT TO THE ORIGINAL PRIOR TO EXPOSURE TO INFRARED RADIATION WHILE ADJACENT A COPY SHEET

Abraham Games, London, England, assignor to Imagic Limited, London, England, a British company

Filed Jan. 29, 1962, Ser. No. 169,358
Claims priority, application Great Britain, Feb. 1, 1961, 3,811/61
7 Claims. (Cl. 250—65)



1. Apparatus for producing a copy of an original comprising a housing moveable relative to the original to be copied, applicator means mounted in said housing to apply a coating of a vaporizing agent to a surface of the original while the original is located without said housing, supply means mounted in the housing to supply a copy material surface in adjacency with the coated surface of the original while the coated original is located without said housing, and infra-red radiation means mounted in said housing to heat image areas of the original and to transfer vaporizing agent to the surface of the copy material surface adjacent said original in a pattern corresponding to the original without introducing said original into said housing.

3. Apparatus for producing a copy of an original comprising a housing moveable relative to the original to be copied, applicator means mounted in said housing to apply a coating of a vaporizing agent to a surface of the original while the original is located without said housing, supply means mounted in the housing to supply a copy material surface in adjacency with the coated surface of the original while the coated original is located without said housing, infra-red radiation means mounted in said housing to heat image areas of the original and to transfer vaporizing agent to the surface of the copy material surface adjacent said original in a pattern corresponding to the original without introducing said original into said housing, and ink supply means to coat the vaporizing agent transferred to the copy sheet material to form a developed image of the original.

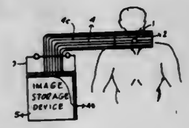
3,265,892

SCANNOGRAPH USING FLEXIBLE FIBER LIGHT CONDUCTORS

Edward Emanuel Sheldon, 30 E. 40th St., New York, N.Y.

Filed Dec. 4, 1961, Ser. No. 156,901
14 Claims. (Cl. 250—71.5)

1. A device for inspection comprising in combination luminescent means producing luminescent radiation, an image conductor comprising a plurality of fibers, said fibers having the property of conducting said radiation by internal reflection, said fibers having a core of material transparent for said radiation and having a high index of refraction, said fibers being provided with a coating of a lower index of refraction than said transparent core and of the thickness not exceeding a few microns for preventing the escape of said radiation from said fibers, said device further comprising photoelectric means mounted on the endfaces of all said fibers at one end of said fibers, and said luminescent means being mounted adjacent the opposite end of said fibers.

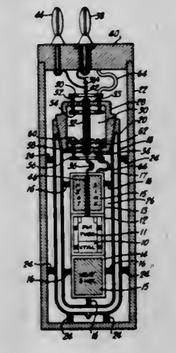


3,265,893

TEMPERATURE STABILIZED RADIOACTIVITY WELL LOGGING UNIT

Thomas A. Rabson and William R. Rabson, Houston, Tex., assignors, by mesne assignments, to PGAC Development Company, Houston, Tex., a corporation of Texas

Filed June 13, 1963, Ser. No. 287,692
11 Claims. (Cl. 250—71.5)

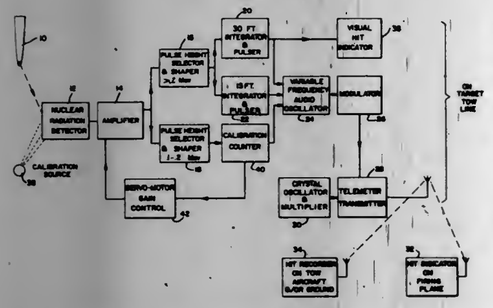


10. In a well logging system, a tubular housing, an elongated member having inner and outer tubular walls of stainless steel which are sealed at one end to define an evacuated zone therebetween, a hollow cover member removably secured in one end of said inner wall and having a tube extending through the center thereof, the space within said hollow cover member also being evacuated, a temperature regulating assembly comprising a first tubular sleeve of stainless steel positioned within said inner wall of said elongated member and having transverse end walls at either end thereof, a removable plug in one of said end walls, a wiring conduit of stainless steel extending through the length of said tubular sleeve and through said end walls, a second tubular sleeve within said inner wall and connected at one end to said one end wall of said first sleeve and closed at the other end thereof, a mass of material in said first tubular sleeve having substantial specific heat, a heat conducting rod in said first sleeve in intimate contact with said mass of material and connected to said removable plug, a radiation detecting unit positioned within said second sleeve, thermal insulating and shock mounting material positioned in said elongated member at either end of said temperature regulating assembly, and electric cable means extending through said opening in said cover member and said wiring conduit to said radiation detecting unit.

3,265,894
MISSILE SCORING SYSTEMS UTILIZING NUCLEAR RADIATION

Martin J. Cohen, West Palm Beach, David I. Carroll, Lantana, Henry C. Gibson, Jr., Palm Beach, Karl R. Grice, Jr., Lantana, and Roger F. Wernlund, Lake Worth, Fla., assignors to Franklin GNO Corporation, a corporation of Florida

Filed Mar. 1, 1963, Ser. No. 262,142
6 Claims. (Cl. 250—83.3)

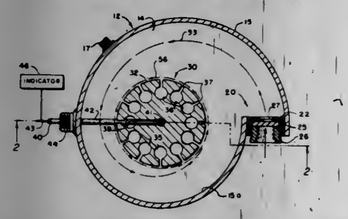


1. Apparatus for determining the spacial relationship of one object moving with respect to another, comprising a source of nuclear radiation positioned on one of said objects, a detector of said nuclear radiation positioned on the other of said objects for producing a detector signal as a function of the level of the radiation detected from said source, means including a bandpass filter connected to the output of said detector and utilizing substantially the entire detector signal during movement of said one object relative to the other for producing an output signal representing the distance between said objects substantially independent of the relative velocity of said objects, and indicating means responsive to said output signal.

3,265,895
DEVICE FOR DETECTING AND MEASURING HIGH ENERGY PARTICLES OF A PREDETERMINED ENERGY LEVEL

Edward J. Baker, Oakhurst, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed June 8, 1965, Ser. No. 462,459
7 Claims. (Cl. 250—83.3)

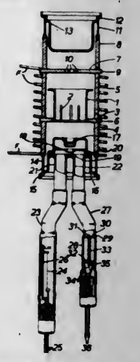


1. A device for detecting high energy particles of a preselected energy level within a radiation environment comprising an evacuated casing forming a cylindrical chamber and having opposed spaced discoidal walls with a peripheral arcuate wall therebetween, a portion of said peripheral wall containing means including a window capable of absorbing radiation incident thereupon and interacting with said radiation to introduce high energy charged particles into said chamber near said peripheral wall of energy level differing from said preselected energy level by a known amount dependent upon the material and thickness of said window, a cylindrical resonator structure positioned within said chamber, said resonator structure having an axis coincident with the axis of the chamber, said resonator structure including a plurality of angularly disposed cavity resonators opening outwardly into said chamber, means for producing a magnetic field within said chamber directed parallel to said coincident axes and substantially normal to the direction in which the charged particles are introduced into said chamber, said magnetic field in the region of said resonator structure being of uniform strength, said particles traversing a circular orbit adjacent the periphery of said resonator structure under the influence of said uniform magnetic field, those of said orbiting particles of said predetermined energy level interacting with the high frequency electrical field existing along said resonator structure to generate oscillatory energy within said cavity resonators, and indicating means coupled to said resonator structure for indicating the presence of said oscillatory energy and consequently the presence of particles of said predetermined energy level.

3,265,896
COLD CATHODE NEUTRON GENERATOR TUBE

Reuben Redstone and Peter Donald Lomer, Baldock, Mervyn Hillier, Letchworth, and Philip Owen Hawkins, Newbury, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed June 29, 1962, Ser. No. 207,853
Claims priority, application Great Britain, June 30, 1961, 23,823/61, 23,824/61
8 Claims. (Cl. 250—84.5)



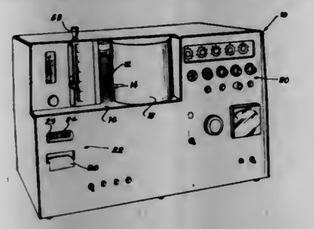
1. A pulsed neutron generator of the type specified in which the ion source comprises two parallel plate cathode members, each member being a thin flat disc penetrable by a magnetic field and disposed normal to a common axis, one of the cathode members having a small axial aperture defining the initial width of the ion beam, an anode member positioned between the said cathode members, the said anode having an axial aperture defining the width of the plasma in the ion source, and in which generator the target member is located on the said axis next to and a small distance from the cathode member having the said aperture to form therewith a single stage acceleration gap, and means for maintaining a magnetic field in the ion source, the field lines of the said magnetic field over the entire distance between the said cathode members being substantially parallel to the said axis.

3,265,897
RADIOACTIVE SAMPLE CHANGING AND MEASURING APPARATUS

Alexander Sinila, Dolton, Charles E. Soderquist, Jr., Chicago Heights, and Walter Meier, Chicago, Ill., assignors to Nuclear Data, Inc., Palatine, Ill., a corporation of Illinois

Filed Nov. 5, 1962, Ser. No. 235,476
17 Claims. (Cl. 250—106)

1. An apparatus for the handling of radioactive samples comprising a magazine adapted to receive a plurality of holders for said samples, a radiation counter, a rotable disc mounted on an axis intermediate said magazine and said radiation counter, said disc defining an aperture adapted to receive one of said holders, motor means for rotating said discs whereby the aperture therein is adapted to communicate with said magazine, said holders being arranged in said magazine in a vertical stack, a member having upper and lower holder engaging portions disposed within said magazine whereby a stack of holders can be supported by said member means for vertically moving said member and stack in a manner

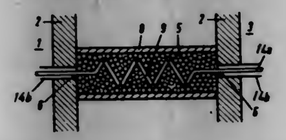


such that holders with samples to be counted are moved into position for insertion in said aperture and holders for samples previously counted move out of said aperture, said motor means being adapted to rotate said disc containing a holder for a sample to be counted into position adjacent said counter and said motor means being adapted to rotate said disc to return a holder for a sample previously counted to said magazine, means for initiating a counting operation after the positioning of said holder for a sample to be counted, means for recording the number of counts per unit of time for a given sample, and whereby said apparatus is adapted to automatically continue counting all of the samples in a magazine.

3,265,898
RADIATION-SHIELDING SYSTEM FOR WALL-PENETRATING PIPES

Wilhelm Lehmer, Munich, Germany, assignor to Linde Aktiengesellschaft

Filed Dec. 18, 1962, Ser. No. 245,457
Claims priority, application Germany, Jan. 4, 1962, G 33,944
4 Claims. (Cl. 250—108)



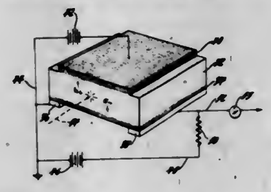
1. A system for conducting fluid between a first area contaminated with nuclear radiation and a second area to be maintained free of radiation comprising, in combination with a wall of a material adapted to absorb said radiation and disposed between said areas, a first tubular member extending through said wall and opening on opposite sides thereof for the conduction of fluid between said areas; fluid-permeable means axially spaced along said first member in the region of said wall for defining an enlongated compartment in said first member extending over at least a substantial fraction of the thickness of said wall; a second tubular member extending through said first tubular member with all-around clearance and opening on opposite sides of said wall for conducting fluid between said areas, said second member being provided with means forming a tortuous path for the fluid conducted therethrough, thereby impeding transmission of radiation through said second member; and a fluid-permeable packing of non-coherent discrete nu-

clear-radiation-absorbent bodies completely filling said compartment in the clearance between said second tubular member and said first tubular member and forming between them a multiplicity of small tortuous channels extending through said compartment.

3,265,899
SEMICONDUCTOR AMPLIFYING RADIATION DETECTOR

James W. Bergstrom, Troy, and Robert R. Bockemuehl, Birmingham, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 25, 1962, Ser. No. 212,253
2 Claims. (Cl. 250—211)

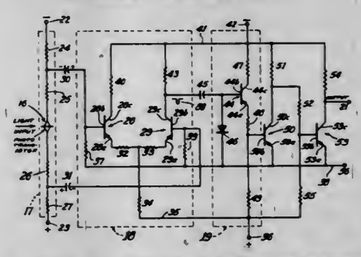


1. In radiation sensitive means, a body of intrinsic semiconductor means of low conductivity and in which the drift mobility of electrons and holes varies widely and one greatly exceeds the other, said body having opposed flat surfaces, a first diffused impurity area on one of the flat surfaces providing a thin layer of high electrical conductivity, a second diffused impurity area on the opposite face of the semiconductive means forming a rectifying contact with said opposite face and acting as a gating electrode, a plurality of spaced ohmic contacts applied to the first diffused area so that the thin layer of high electrical conductivity may be connected into an electric circuit and have current flow therethrough, a first source of electrical power connected across the first and second diffused areas to develop a field across the two, a second source of electrical power connected across the ohmic contacts to produce current flow through said thin layer so that incident radiation on the edges of said semiconductive body between the first and second diffused areas will produce a pulse in the current flowing through the thin layer due to the wide differential in drift mobility of electrons and holes and indicate the presence of radiation.

3,265,900
TAPE READER WITH INPUT CLIPPING CIRCUIT INCLUDING PHOTOSENSITIVE MEANS

Vernon Z. Smith, Wayne, Pa., assignor, by mesne assignments, to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

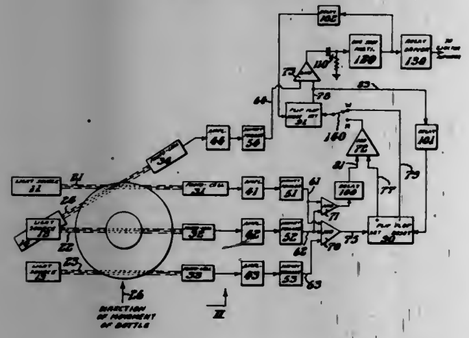
Filed Dec. 3, 1962, Ser. No. 242,341
7 Claims. (Cl. 250—214)



2. In a signal examining and indicating system for receiving input signals varying between a reference level and a second level to denote information content, certain of said input signals being subject to an undesired aberration in the reference level signal which occurs above a

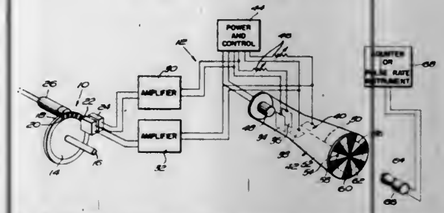
given amplitude level and said system further being subject to environmental and other noise also occurring above said given amplitude level, the improvement which comprises a clipping circuit comprising a series circuit coupled between two different planes of supply potential, said series circuit comprising a first impedance, a second impedance, a photosensitive semiconductor unit, a third impedance, and a fourth impedance, said clipping circuit passing a control signal responsive to a variation of said input signal below said given amplitude level, a difference amplifier including at least two input connections and one output connection, means for coupling the junction of said first and second impedances to one input connection of said difference amplifier, means for coupling the junction of said third and fourth impedances to the other of said input connections of said difference amplifier, a difference detector circuit for receiving the control signal from the difference amplifier whenever the variation of input signal indicates receipt of an input signal with a variation of information content, and means for coupling said output connection of the difference amplifier with said difference detector circuit to provide a positive indication of receipt of information-denoting signals in said system.

3,265,901
ELECTRONIC BOTTLE WIDTH SELECTOR
Paul J. Schneider, 18 9th Ave., Haddon Heights, N.J.
Filed Nov. 26, 1963, Ser. No. 326,147
9 Claims. (Cl. 250—223)



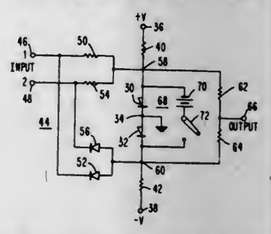
1. Apparatus for identifying bottles of different widths, said apparatus comprising; an inspection station having first and second light sources for projecting first and second parallel light beams spaced apart laterally by a distance less than the diameter of the wide bottles to be identified but greater than the diameter of the narrow bottles; conveyor means for transporting bottles to be identified one by one transversely through said first and second beams to intercept said beams; first and second photosensitive devices for receiving light respectively from said first and second light beams and for generating electrical output signals in response thereto; a first bistable flip-flop circuit; electronic means for coupling the output signals of said first and second photosensitive devices to said first bistable circuit to place said bistable circuit in one state or the other according to whether or not said first and second light beams are concurrently intercepted; a second bistable flip-flop circuit; a two-position selection switch having two input terminals and one output terminal; means coupling said two input terminals to opposite sides of said first bistable circuit; means coupling said output terminal of said switch to the input of said second bistable circuit to control the state of said second bistable circuit according to the state of said first bistable circuit and the position of said selection switch; and means for utilizing the output of said second bistable circuit as a signal for ejecting either a wide bottle or a narrow bottle according to the position of said selection switch.

3,265,902
PHOTOELECTRIC SHAFT ANGLE ENCODER
Sidney A. Wingate, Concord, Mass., assignor to Wayne-George Corporation, Newton, Mass., a corporation of Massachusetts
Filed Jan. 3, 1963, Ser. No. 249,296
8 Claims. (Cl. 250—233)



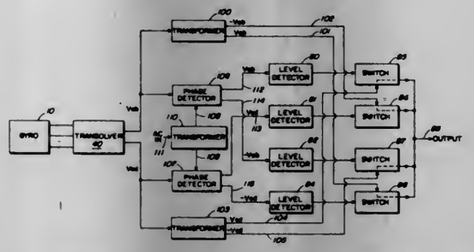
1. A shaft angle encoding system comprising code track means, illumination means for directing radiation to said track means, two photocell means directed respectively toward two spaced positions of said track means, said track means having first regions for directing radiation to said photocell means and second regions for obscuring radiation from said photocell means, said first regions and said second regions being alternately sequenced, adjoining ones of said first means and said second means constituting analogous cycles, said track means and said two photocell means being constrained for relative motion into a sequence of relative analog positions, said spaced positions of said track being 90° out-of-phase in terms of said cycles so that said two photocell means produce two signals representing out-of-phase vectors for said sequence of relative analog positions, a phase dividing circuit a sequence of impedances, said two signals being applied to said sequence of impedances, a plurality of taps between adjacent impedances of said sequence, a plurality of signals of differing phase appearing at said taps, phase responsive means for producing digital signals representing said signals of differing phase and flip-flop output means for generating an indication of one of said digital signals for one of said relative analog positions.

3,265,903
TUNNEL DIODE LOGIC CIRCUIT FOR ASYNCHRONOUS SIGNAL OPERATION
Algirdas J. Gruodis, Hyde Park, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 5, 1960, Ser. No. 60,640
12 Claims. (Cl. 307—88.5)



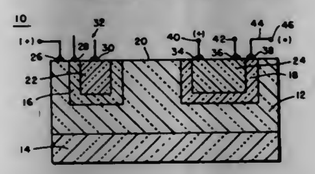
1. A switching circuit comprising at least two bistable semiconductor devices connected in series relation, biasing means for normally maintaining the devices in the same voltage state and permitting selective switching of the bistable semiconductor devices in response to input signals, and input and output circuits connected across the series connected bistable semiconductor devices.

3,265,904
SOLID STATE SYNCHRO AND SYNCHRONIZATION MEANS
Richard B. Spencer, Killeen, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed July 17, 1963, Ser. No. 295,775
16 Claims. (Cl. 307—88.5)



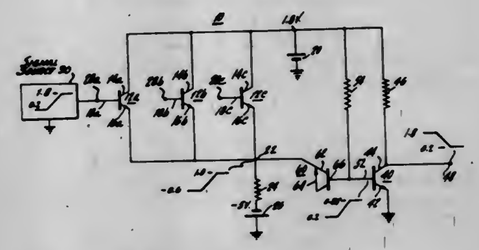
1. Means for converting a three-wire synchro signal defining an angular position θ between the rotor and stator elements of said synchro to a two-wire control signal defining the angle θ comprising, means converting said three-wire signal to a plurality of m signals having instantaneous amplitudes respectively proportional to sine $(\theta+n\phi)$ where n is an integer 0, 1, 2, 3 . . . $(m-1)$, and $\phi=360°/m$, means for demodulating each of said plurality of signals to develop therefrom envelope signals corresponding to the instantaneous amplitudes of each of said signals, signal monitoring means receiving said envelope signals, switching means receiving said plurality of signals and being responsive to and activated by said signal monitoring means to sequentially switch to a common output line predetermined portions of each of said plurality of signals in a predetermined continuous sequence.

3,265,905
INTEGRATED SEMICONDUCTOR RESISTANCE ELEMENT
Gordon McNeil, Long Branch, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Feb. 6, 1964, Ser. No. 343,162
3 Claims. (Cl. 307—88.5)



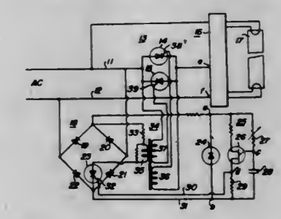
1. In combination, an epitaxial layer of integrated semiconductor material of a first conductivity type, a transistor having a collector, base and emitter, said collector including a portion of said layer, said base being a region of opposite conductivity type formed within said layer, said emitter being a region of first conductivity type formed within said base, and an electrically isolated resistance element in a resistance zone of said first conductivity type formed within said layer surrounded by an isolating zone of the opposite conductivity type, said isolating zone forming a first P-N junction with said resistance zone and a second P-N junction with said epitaxial layer, a direct-current potential applied to said isolating zone, and said direct-current potential being of a magnitude and polarity such that a reverse bias is maintained in said isolating zone with respect to said resistance zone and said epitaxial layer.

3,265,906
INVERTER CIRCUIT IN WHICH A COUPLING TRANSISTOR FUNCTIONS SIMILAR TO CHARGE STORAGE DIODE
Albert Feller, Cinnaminson, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 8, 1964, Ser. No. 402,540
5 Claims. (Cl. 307—88.5)



1. The combination comprising:
an output transistor of one conductivity type having an emitter electrode connected to a point of reference potential, a base and a collector;
an impedance element having one end connected at said collector;
means for applying operating potential between the other end of said impedance element and said point of reference potential;
a resistor connected at one end to the base of said output transistor;
means for connecting a bias source at the other end of said resistor in a polarity direction tending to forward bias the base-emitter diode of said output transistor, said resistor providing the sole path for base current in said output transistor in the quiescent "on" condition thereof;
a junction point;
a coupling transistor of said one conductivity type having a base connected directly to the base of said output transistor, and a collector and an emitter directly connected together and to said junction point; and
input means coupled to said junction point for varying the voltage thereat between first and second values in opposite polarity directions with respect to said reference potential for forward biasing and reverse biasing, respectively, the emitter-base diode of said coupling transistor.

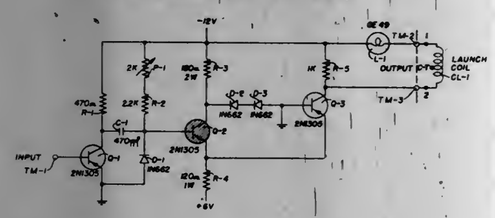
3,265,907
DIMMERS FOR DISCHARGE LAMPS
Mamoru Kurata and Atsuo Ichikawa, Yokohama, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed June 7, 1963, Ser. No. 286,315
Claims priority, application Japan, June 8, 1962, 37/29,744
2 Claims. (Cl. 307—88.5)



1. In a lighting circuit including a conduction controlling device connected in one of the A.C. power lines for supplying discharge lamps comprising in combination a dimmer comprising a rectifier bridge circuit having two

pairs of opposed apices; connections from the A.C. power lines respectively to one pair of opposed apices; output connections respectively from the other pair of opposed apices; a series circuit connected between said output connections; a silicon-controlled rectifier having a gating electrode and a primary winding of a transformer connected in series to comprise said series circuit; a variable phase pulse oscillator connected to the gate of said silicon rectifier for applying pulses thereto; said transformer having at least one secondary winding; and a circuit for supplying output voltage from said secondary winding to said conduction controlling device.

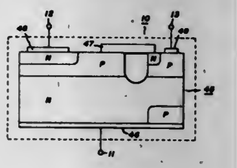
3,265,908
CURRENT PULSE GENERATOR
Robert A. Ragen, Hayward, Calif., assignor, by mesne assignments, to Friden, Inc., San Leandro, Calif., a corporation of Delaware
Filed May 3, 1963, Ser. No. 277,867
5 Claims. (Cl. 307—88.5)



4. In the circuit of the type described:
(a) a control pulse-generating network having an input and an output, said network including a resistive-capacitive subcircuit which produces a control pulse having a predetermined duration at said output in response to a pulse received at said input;
(b) first and second transistors, each having base, collector, and emitter electrodes, the emitter of said first transistor being connected to a voltage supply source through a load impedance, the emitter of said second transistor being connected to the emitter of said first transistor, the base of the second transistor being connected to a source of reference potential, and the collector of the first transistor being connected through unidirectional conducting means to said reference potential source for maintaining said first transistor unsaturated during conduction, and
(c) means biasing said first transistor to non-saturated conduction and said second transistor to cutoff;
(d) the base of said first transistor being connected to the output of said control pulse-generating network whereby a control pulse received therefrom terminates the conduction of the first transistor and causes conduction of the second transistor for a time interval equal to the duration of the control pulse thereby supplying a current pulse to an inductive load connected to the collector of the second transistor.

3,265,909
SEMICONDUCTOR SWITCH COMPRISING A CONTROLLED RECTIFIER SUPPLYING BASE DRIVE TO A TRANSISTOR
Finis E. Gentry, Skaneateles, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 3, 1963, Ser. No. 306,147
3 Claims. (Cl. 307—88.5)

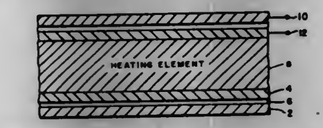
1. A semiconductor switching device adapted to be connected in a main current conducting path and switched between high and low impedance modes including in combination
(A) three terminals including
(a) a pair of main terminals adapted to be connected in a main current carrying path
(b) a gating terminal for switching the semiconductor switching device between its high and low impedance states,
(B) monocrystalline semiconductor switching means including
(a) a pair of semiconductor pellets
(1) one of said semiconductor pellets having three alternate layers of opposite conductivity type thereby forming a transistor with two outer layers of one conductivity type separated by a base region of opposite conductivity type, and
(2) the other one of said pair of semiconductor pellets consisting of four layers with alternate layers of opposite conductivity type forming a four layer semiconductor switch of the gate turn off type,
(3) said transistor having its two outer layers electrically connected between said pair of main terminals so that its three layers are in the main current conducting path of the switching device,



(4) an electrical connection between the base of said transistor and an outer layer of said four layer device which outer layer is of a conductivity type opposite to that of said base,
(5) an electrical connection between the opposite outer layer of said four layer device and one outer layer of said transistor whereby said four layer device supplies base current to said transistor,
(6) an electrical connection between said gating terminal and the internal layer of said four layer device which is adjacent the outer layer that is connected to the said transistor base layer whereby said gate turn off device can be rendered selectively conductive and non-conductive respectively in response to signals at said gate terminal thereby to render said transistor selectively conductive and non-conductive respectively and thus cause the switching device selectively to present a low and high impedance path respectively in the main current conducting path.

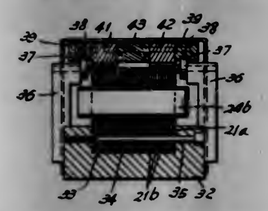
3,265,910
THERMIONIC CONVERTERS
Donald E. Thomas, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 18, 1962, Ser. No. 231,480
5 Claims. (Cl. 310—4)

1. In a nuclear reactor heat source, a thermionic energy converter comprising, a tubular anode of a refractory material and a tubular cathode of a heavy refractory metal which vaporizes at the temperature of operation disposed within said anode and adjacent the heat source, with a space being formed between said anode and cathode, said space being filled only with a halogen gas which forms a volatile compound of the cathode metal which is unstable



at the cathode temperature so as to deposit metal on the cathode surface.

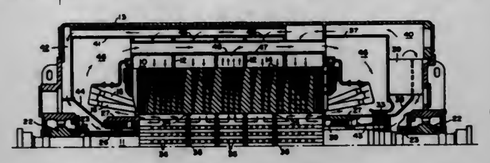
3,265,911
LINEAR ELECTRIC MOTOR
Elmer W. Madsen, Bristol, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Jan. 27, 1964, Ser. No. 340,233
10 Claims. (Cl. 310—12)



2. A linear electric motor and control circuit for producing an incremental linear movement comprising a frame, stator means mounted on said frame and formed to provide at least two pole pieces, winding means magnetically associated with the pole pieces, each of said pole pieces having an outer pole surface that is formed with equally spaced teeth, an elongate plunger having at least one longitudinal plunger surface formed to provide equally spaced plunger teeth extending transversely of said surface, means mounting the plunger for reciprocating movement with respect to the stator means to have the plunger surface travel along a linear path with the plunger teeth extending transversely of the path, the pole surfaces being aligned along said path with the teeth of the pole surfaces extending transversely of said path and being spaced to have a tooth of one pole surface and a tooth of the plunger being oppositely aligned while a similar tooth of the other pole surface is a fraction of the plunger tooth pitch misaligned from an oppositely disposed plunger tooth with either each plunger tooth or each pole surface tooth being formed into two portions with one portion being longitudinally displaced one half a tooth pitch from the other portion and a control circuit adapted to be connected to a source of electrical energy and the winding means to change the magnetic polarity of at least one of said pole pieces to effect a linear movement of the plunger that is the fraction of the tooth pitch of the plunger teeth.

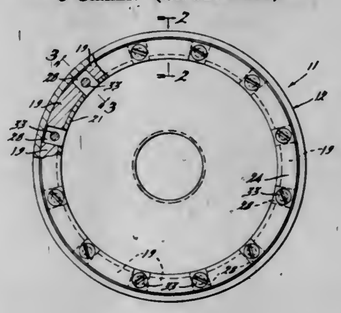
3,265,912
DYNAMOELECTRIC MACHINE
René A. Baudry, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 15, 1964, Ser. No. 374,934
8 Claims. (Cl. 310—59)

1. In a dynamoelectric machine having a stator core with a cylindrical bore therethrough and a rotor disposed in the bore with an annular air gap between the stator core and the rotor, said stator core having a plurality of longitudinal slots therein, winding conductors disposed in the slots, a plurality of longitudinal slots on the periphery of the rotor, field winding conductors disposed in the rotor slots, annular rotor barriers spaced longitudinally on the surface of the rotor, stator barriers radially aligned with the rotor barriers to divide the air gap transversely into a plurality of annular zones, said stator barrier comprising annular structures extending around the bore of



the stator core and having bases disposed in the slots of the stator core, said stator barriers being movable longitudinally of the stator core, and means in the stator slots for spacing said bases apart and locking the bases in position in the slots.

3,265,913
MAGNETIC RETAINING MEANS
Ira J. Irwin, Pontiac, Mich., assignor to Syncro Corporation, Oxford, Mich., a corporation of Michigan
Filed Dec. 5, 1963, Ser. No. 328,355
8 Claims. (Cl. 310—153)

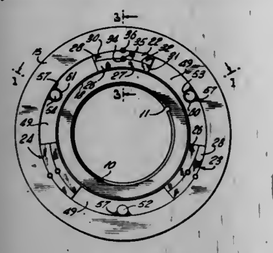


1. In an alternator assembly, a support ring having an annular cylindrical wall, a plurality of magnet assemblies in circumferentially spaced relation on said wall and having surfaces engaging the wall and concentric therewith, a pair of clamping rings in axially spaced relation on opposite sides of said magnet assemblies and concentric with said wall, means for drawing said clamping rings axially toward each other, said means comprising a plurality of fasteners extending axially between adjacent magnet assemblies, said fasteners being individually adjustable to draw said clamping rings toward each other, and facing protrusions on said clamping rings engaging the opposite sides of said magnet assemblies, said facing protrusions having a wedging action with respect to said magnet assemblies, whereby said magnet assemblies are firmly secured by frictional engagement with said support ring wall.

3,265,914
COLLECTOR RING ASSEMBLY
Robert J. Derber, Beloit, Wis., and Floyd R. Derby, Freeport, Ill., assignors, by mesne assignments, to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 21, 1964, Ser. No. 361,386
6 Claims. (Cl. 310—232)

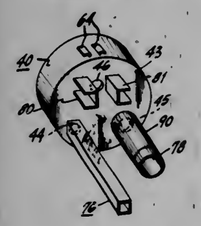
4. In a rotary collector ring assembly for electrical machines, a tubular shaft mounted hub, annular collector rings of conducting material arranged in axially spaced apart relation concentrically over the hub, the inner circular surface of each ring being appreciably radially spaced from the outer surface of the hub, pairs of cooperating wedge elements individual to each ring, arranged between

the ring and hub and mounting the ring on the hub, the wedge elements of each pair being arcuate and in relative wedging engagement in the circumferential direction of



the hub, and the pairs of wedge elements being relatively spaced circumferentially of the hub by an arcuate distance greater than the arcuate length of the wedge elements.

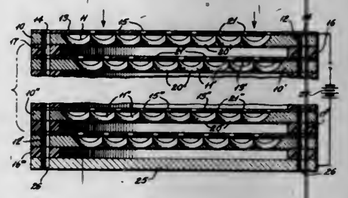
3,265,915
CATHODE RAY TUBE
John J. Thomas, Levittown, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 4, 1963, Ser. No. 249,362
5 Claims. (Cl. 313—70)



1. A cathode ray tube having a deflection zone in which beam deflection fields can be established for deflecting an electron beam in two mutually perpendicular directions, said tube comprising:
(a) a luminescent screen;
(b) an electron gun for projecting an electron beam along a path through said deflection zone toward said screen; and
(c) a tubular shield disposed in said deflection zone and surrounding said path;
(d) said tubular shield having two flat side portions, each of which is parallel to a different one of said mutually perpendicular directions.

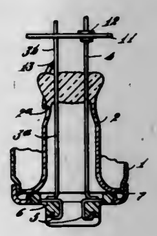
3,265,916
FOCUSED MESH ELECTRON MULTIPLIER
Marvin L. Vestal, Baltimore, Md., assignor to William H. Johnston Laboratories, Inc., Baltimore, Md., a corporation of Maryland
Filed Dec. 10, 1963, Ser. No. 329,540
7 Claims. (Cl. 313—105)

1. A plural stage electron multiplier for supplying an amplified output corresponding to an input from a stream of electrons or ions, and in which each stage comprises:
a dynode plate of electron-emissive material having the property of emitting a number of secondary electrons higher than the number of primary electrons or ions which strike it, said plate having surfaces defining a plurality of passages extending therethrough from one opposite face to the other, in square array, the surfaces defining each passage sloping outwardly in crater-like fashion from a central hole of radius r in one of said faces of the dynode plate to the opposite face in such fashion that the surfaces of each set of four adjacent ones of said passages define a cusp at radius R from the center of each one of said four holes, where R is substantially equal to $r+t$, t being the thickness of said plate between said opposite faces,
and, in at least each stage but the first stage in the direction of the stream of the electrons or ions, a focusing metal plate of thickness much smaller than that of said dynode plate having surfaces defining cylindrical passages substantially of radius r extending between opposite faces thereof, the passages of said focusing plate being of the same number and geometrical arrangement as the cusps in the dynode plate, said focusing plate having one of its opposite faces in metallic contact with the face of the dynode plate bearing said cusps, with the passages in the



focusing plate opposite the cusps, so that primary electrons passing through the passages in the focusing plate will strike the surfaces of the dynode plate adjacent said cusps to cause emission of secondary electrons therefrom;
said stages being spaced apart along the direction of the passages through the focusing plates, with each stage insulated from the others, and with the focusing plate of every stage except the first next adjacent the dynode plate of the previous stage, with the passages through the focusing plate opposite the said holes in the dynode plate,
means for biasing successive stages to successively higher positive voltages with respect to the first stage, and means for collecting electrons from the last stage.

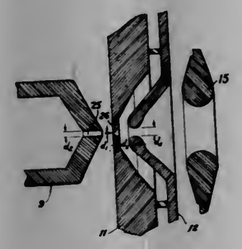
3,265,917
FAIL-SAFE ARC DISCHARGE LAMP WITH INTEGRAL ARC EXTINGUISHING MEANS
John G. Ray, Topsfield, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 31, 1963, Ser. No. 334,884
8 Claims. (Cl. 313—109)



1. An arc discharge lamp comprising a light transmissive arc tube, an insulating support wall having an insulative interior surface sealing the arc tube, an electrode structure on said support wall including a portion inside the arc tube terminating in an emissively coated member and a portion exposed to the atmosphere outside said support wall, a thin part of said support wall being

closely adjacent the outside portion of said electrode structure, and a conductor electrically connected to the inside portion of the electrode structure and extending to and terminating in an electrically isolated end at said wall part, whereby when the emissive coating of said electrode member is consumed by operation of the lamp, the arc in said tube is directed by said conductor to and produces an opening through said wall part toward the outside portion of the electrode structure, thereby to extinguish the arc by perforation of the wall.

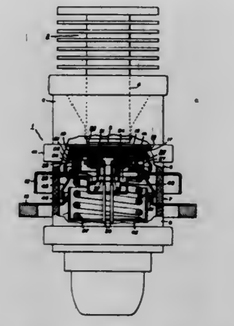
3,265,918
ION SOURCE HAVING PLASMA CONTROL MEANS
Andrew B. Wittkower, Billerica, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts
Filed June 18, 1962, Ser. No. 205,168
6 Claims. (Cl. 313—230)



5. In an ion source having a gas ionization chamber and an evacuated plasma forming chamber, plasma control means comprising an anode, an extractor electrode at a high potential with respect to that of said anode, said anode constituting a common partition between said ionization chamber and said plasma forming chamber and having an aperture therein adapted to communicate a controlled quantity of ions therebetween, said ion source producing a concentration of ions at said aperture sufficiently great so that there would be a tendency for space charge repulsion to produce a highly divergent beam upon extraction of positive ions at that point, and an annular member contiguous thereto disposed in concentric relationship to said aperture, said annular member being at the same electrical potential as that of said anode and being of sufficient length to form a region free of influence of the field effect of the extractor electrode until such time as said plasma has diffused to a sufficient extent to reduce space charge effects in the ion beam to be extracted therefrom, said annular member thus providing a drift space and exit aperture for said plasma and having a geometry adapted to provide optimum divergence characteristics of an ion beam emanating therefrom.

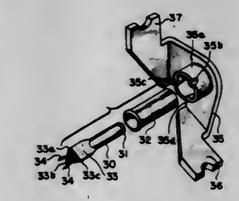
3,265,919
ELECTRIC DISCHARGE DEVICE WITH IMPROVED ELECTRODE SUPPORT
Robert E. Manfredi, Rolling Hills, Calif., Paul Koskos, Maplewood, N.J., and John W. Ammenheuser, Elsmere, N.Y., assignors to General Electric Company, a corporation of New York
Original application May 26, 1961, Ser. No. 112,992, now Patent No. 3,200,283, dated Aug. 10, 1965. Divided and this application Nov. 26, 1962, Ser. No. 245,345
6 Claims. (Cl. 313—238)

1. An electric discharge device comprising an electrode assembly, an envelope containing said assembly and including assembly positioning means engageable by said assembly, said envelope further including an annular contact member interposed and sealed between insulative wall sections of said envelope, said annular contact member including an inner rim disposed internally of said envelope, a cylindrical multiple spring finger contact member supported coaxially in said envelope on said inner rim, and the spring fingers of said multiple spring



finger contact member engaging a peripheral portion of said electrode assembly and being effective for both providing an annular conductive connection to said assembly and urging said assembly toward said assembly-positioning means.

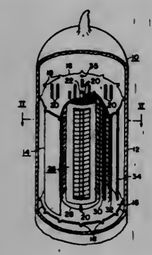
3,265,920
ELECTRON-DISCHARGE DEVICE CATHODE ASSEMBLY WITH RADIATION SHIELD
Joseph P. Fiore, Wheeling, Ill., assignor to The Rauland Corporation, a corporation of Illinois
Filed June 22, 1964, Ser. No. 376,799
8 Claims. (Cl. 313—240)



3. A cathode assembly for the electron gun of an electron discharge device, such as a cathode-ray tube, comprising:
a cathode cylinder bearing electron emitting material at one end and having an enlarged opposite end deformed into a triangular cross-section;
a radiation-shield cylinder disposed in nested concentric relation to said cathode cylinder having a mean diameter approximately equal to that of said enlarged end of said cathode cylinder;
said cylinders being joined in approximately line contact at the apices of said triangular cross-section of said cathode cylinder to secure said cylinders in a mechanical subassembly;
a support for said subassembly disposed about said shield cylinder;
and a second plurality of support elements disposed about said subassembly projecting radially between and into limited-area contact with said shield cylinder and said support to mechanically secure said subassembly to said support, said second plurality of support elements being displaced with respect to said

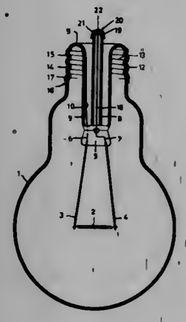
first plurality to establish a series of separated, thermally conductive paths between said cathode cylinder and said support individually having a length that is long compared to the physical separation of said cathode cylinder and said support.

3,265,921
ELECTRON DISCHARGE DEVICE
James P. Macdonell and Douglas G. Nolles, Bath, N.Y., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 13, 1962, Ser. No. 209,609
4 Claims. (Cl. 313—292)



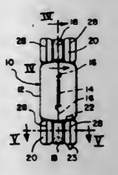
1. An electron discharge device comprising at least a cathode, a grid and an anode, said grid comprising two parallel side rods having lateral wires wound about said side rods, a shield member secured to said grid, said shield member comprised of two spaced apart curved portions attached to said side rods respectively along their length and a pair of connecting members secured to said curved portions on only one side.

3,265,922
ELECTRIC LAMP
Leo Henricus Verbeek, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 5, 1961, Ser. No. 143,142
Claims priority, application Netherlands, Oct. 24, 1960, 257,189
4 Claims. (Cl. 313—318)



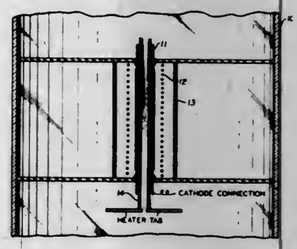
1. An electric lamp comprising a lamp bulb having a lamp neck including a hollow, annular-shaped stem tube, a filament in said lamp bulb, a center contact, a side contact structurally separate from said center contact, current supply wires connecting said filament with said contacts, a lamp pinch supporting said current supply wires, and an exhaust tube located in the hollow of said stem tube, said center contact being supported by a part of said exhaust tube.

3,265,923
BASELESS DOUBLE-ENDED ELECTRIC INCANDESCENT LAMP
Luigi M. Preziosi, East Orange, and John J. Zecca, Belleville, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 19, 1963, Ser. No. 266,192
10 Claims. (Cl. 313—318)



1. A baseless double-ended electric incandescent lamp comprising,
a length of vitreous tubing of substantially uniform diameter,
a press seal at each end of said tubing that extends across the full width of and closes off said tubing, said press seals comprising a pair of spaced elongated bosses and a recessed portion therebetween which extend from the ends of the respective seals toward the bulbous body portion of said tubing, each of said bosses having a transverse inwardly-tapered portion that is located immediately adjacent to and extends along the side edge of the associated recess,
an elongated filament extending longitudinally within said tubing, and
a lead-in conductor sealed through each of said press seals and attached to the end of the filament located at that end of the tubing,
each of said conductors being sealed through a portion of the respective press seals such that said filament is suspended within said tubing and the free ends of said conductors emerge from the ends of said seals,
the exposed ends of said lead-in conductors being bent around the ends of the respective press seals and seated within the recesses in said seals and thereby forming accurately located contacts for said lamp.

3,265,924
THERMIONIC TUBE HAVING NOVEL HEATER AND CATHODE
George W. Baker, Stamford, Conn., assignor to York Research Corporation, Stamford, Conn., a corporation of Delaware
Filed June 29, 1962, Ser. No. 206,365
10 Claims. (Cl. 313—337)



10. An electron discharge device comprising
an outer envelope,
a heater element therein being formed of tungsten and having an insulating surface thereon,
said heating element having at least one strand formed into a plurality of folds,
a cathode base therein,

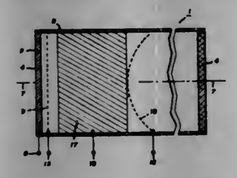
said cathode base being formed of an alloy of metal comprising approximately 92% platinum by weight and the remaining part being approximately 8% tungsten.

3,265,925
FIELD PERTURBING MEANS FOR PREVENTING BEAM SCALLOPING IN REVERSED FIELD FOCUSING SYSTEM
Max G. Bodmer, Short Hills, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 3, 1962, Ser. No. 207,294
9 Claims. (Cl. 315—3)



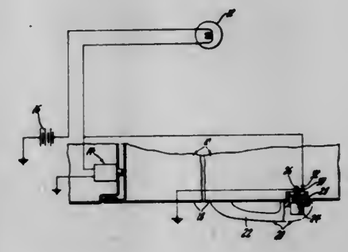
1. An electron discharge device comprising an electron gun for producing a converging electron beam, magnetic focusing means for producing a magnetic field for focusing said beam, and a collector electrode for said beam, means for shielding said gun and said beam from the magnetic field of said focusing means during convergence of the beam, means for introducing said beam into said magnetic field, said magnetic field having a strength sufficient to produce an imbalance of the forces governing the flow of said beam whereby an initial scalloping of said beam is caused to commence, magnetic field perturbing means adjacent said introducing means for symmetrically distorting said magnetic field and for producing an imbalance of the forces governing the flow of said beam, said last-mentioned means being placed between ¼ and ½ of a scallop wavelength from said introducing means to produce a cancellation of the scalloping effect of said magnetic field.

3,265,926
IMAGE FIELD FLATTENER FOR IMAGE CONVERTER TUBES
Kurt Schlesinger, Fayetteville, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 16, 1963, Ser. No. 309,172
16 Claims. (Cl. 315—16)



1. An electron-optical image field flattener for providing image formation between a planar cathode and a planar target in an electrostatic image converter tube, said image field flattener comprising:
(a) a planar mesh electrode spaced from said planar cathode along the axis of said image converter tube between said cathode and said target,
(b) a convex mesh electrode spaced from said planar mesh electrode along said axis between said planar mesh electrode and said target, the convex curvature of said convex mesh electrode extending toward said cathode,
(c) at least one ring electrode positioned along said axis between said planar and said convex mesh electrodes, and
(d) electrical terminals connected to said planar and said convex mesh electrodes and to said ring electrodes for applying potentials thereto to provide an electrostatic lens between said planar and said convex mesh electrodes so that an image from said planar cathode is area focused on said planar target.

3,265,927
LIGHT CONTROL MEANS
Stanley R. Massoll, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 12, 1963, Ser. No. 294,547
3 Claims. (Cl. 315—84)

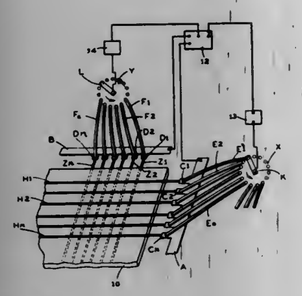


1. In combination with a vehicle body including a passenger compartment, light means for illuminating said compartment, a closure for said compartment movable between open and closed positions, latch means for holding said closure in closed position and movable between locked and unlocked positions, latch operating means for releasing said latch means in unlocked position, and a source of power, means for controlling the operation of said light means comprising, first switch means controlled by said closure, first control circuit means including said first switch means and connecting said light means across said source of power, said first switch means being responsive to opening movement of said closure to enable said first circuit means to energize said light means and thereby illuminate said passenger compartment, second normally open switch means, second control circuit means connecting said light means across said source of power, said second circuit means being independent of said first switch means and including said second switch means, and means on said latch operating means for closing said second switch means upon operation of said latch operating means in either position of said latch means to enable said second circuit means to energize said light means, thereby permitting illumination of said passenger compartment when said closure is locked in said closed position.

3,265,928
RADIANT ENERGY-CONTROLLED SCANNING SYSTEM
Hisashi Nishino, Sakai, Osaka, Japan, assignor to Minolta Camera Co. Ltd., Minami-ku, Osaka, Japan, a corporation of Japan
Filed Jan. 24, 1963, Ser. No. 253,546
9 Claims. (Cl. 315—155)

1. An electrical scanning system comprising a plurality of longitudinally spaced transversely extending first grid electrodes, a plurality of transversely spaced longitudinally extending second grid electrodes spaced from said first electrodes first and second terminal electrodes, means including first photo-resistance elements connecting each of said first grid electrodes to said first terminal electrode, means including second photo-resistance elements connecting said second grid electrodes to said second terminal

electrode, means applying an electrical signal between said terminal electrodes, a light guide extending from each of said first photosensitive elements and terminating in a first predetermined sequence along a first commutating path, a light guide extending from each of said second

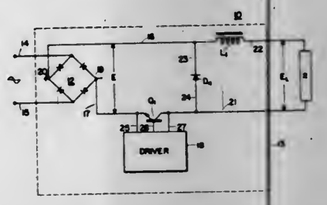


photosensitive elements and terminating in a second predetermined sequence along a second commutating path, means for traversing a light about said first commutating path and means for traversing a light about said second commutating path.

3,265,929
HIGH CURRENT COLD CATHODE GAS TRIODE CONTROL SYSTEM
Gilbert H. Relling, Chardon, Ohio, assignor to General Electric Company, a corporation of New York
Filed Dec. 19, 1963, Ser. No. 331,874
4 Claims. (Cl. 315—199)

1. A control mechanism for a first electric discharge device having anode, cathode, control, holding and starting electrodes and in which voltage continuously applied to the holding electrode maintains an arc for full space current conduction upon application of positive voltage to the control electrode, the improvement comprising:
- (a) means effective continuously to supply arc-maintaining voltage to the holding electrode, said means including a relay having an operating winding responsive to current flow to the holding electrode and a pair of contacts that are open when said current flow is substantially at arc-maintaining value and closed when said current flow is substantially below arc-maintaining value;
- (b) a source of alternating voltage;
- (c) a capacitor;
- (d) a rectifier;
- (e) means defining a charging circuit to said capacitor from said source through said rectifier and said pair of contacts, to cause the capacitor to be charged at a particular time of each alternate half cycles when the arc-maintaining current flow is not substantially maintained;
- (f) a second electric discharge device;
- (g) a transformer having a primary winding and a secondary winding;
- (h) means defining a short time constant discharge circuit for said capacitor through said second electric discharge device and the primary winding of said transformer;
- (j) means responsive to said source of alternating voltage, including an R-C network in the control electrode circuit of said second electric discharge device and effective to render said second electric discharge device conducting subsequent to said predetermined time each of said alternate half cycles;
- (k) and means defining a circuit from the secondary winding of said transformer to the starting electrode of said electric discharge device, said means including a spark gap effective to break down only when said capacitor discharges.

3,265,930
CURRENT LEVEL SWITCHING APPARATUS FOR OPERATING ELECTRIC DISCHARGE LAMPS
Walter F. Powell, Jr., Danville, Ill., assignor to General Electric Company, a corporation of New York
Filed May 3, 1962, Ser. No. 192,231
24 Claims. (Cl. 315—209)

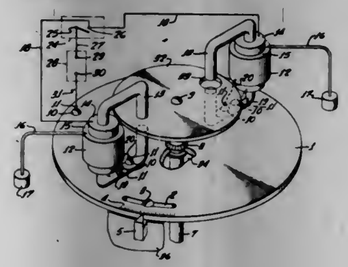


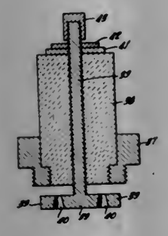
1. An apparatus for operating an electric discharge lamp from a power source, said apparatus comprising at least one energy storage element, a switching means, driver means responsive to a predetermined increase in the energy supplied to the electric discharge lamp to drive said switching means to a high impedance state and responsive to a predetermined decrease in said energy to drive said switching means to a low impedance state, and circuit means including input leads for connection with the power source and output leads for connection with the lamp to supply the output of the apparatus to the lamp, said circuit means including means to provide a path for the supply of energy from said energy storage element to said lamp when said switching means is driven to one state and to provide a path for the supply of energy from the power source to the lamp and for the storage of energy in said storage element when said switching means is driven to the other state whereby the said switching action controls the operation of the lamp and energy is supplied to the lamp during both states of said switching means.

3,265,931
MAGNETIC IGNITION DISTRIBUTOR
Martin E. Gerry, 13452 Winthrope St., Santa Ana, Calif.
Filed Sept. 21, 1964, Ser. No. 397,849
2 Claims. (Cl. 315—218)

1. In an internal combustion engine having an ignition system comprising an energy generation and distribution means, and fuel igniter devices,

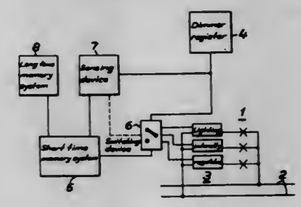
an electromagnetic apparatus comprising:
- an ignition inductor with a coil tightly wound on a magnetized core which has a slotted segment wherein a magnetic flux is established; and
- a rotatable disk of magnetic material with its peripheral edge rotatable in and passing through the said slotted segment of the said ignition inductor core; and
- a single hole in said disk located at the said peripheral edge of the said disk, for interrupting the said magnetic flux in the said slotted segment, causing a voltage to be induced in the said ignition inductor proportional to the product of the number of turns of the said ignition inductor and the flux rate of change with time, to cause a spark to jump a gap of an igniter device connected to said ignition inductor and igniting the fuel in a cylinder chamber into which the said igniter device is inserted and mechanically held thereby.





2. In an internal combustion engine having an ignition system comprising an energy generation and distribution means, and fuel igniter devices,
- a spark plug, comprising:
  - a disk-shaped firing plate at which center of one of its surfaces is mechanically attached a rod, which rod is inserted through the axis of an insulating member of said spark plug, and a high voltage is applied to the unattached end of said rod; and
  - said disk-shaped firing plate has tapered cylindrical holes with the smaller apertures of the said tapered cylindrical holes on the surface of the said disk-shaped firing plate to which the said rod is attached, and a pressure differential between the surfaces of the said disk-shaped firing plate exists, the higher pressure at the smaller said apertures of the said tapered cylindrical holes, and the fuel residual between the inner surface of the said disk-shaped firing plate and the spark plug insert is ignited, and pencil-shaped flames are directed from the said smaller apertures to the larger apertures of the said tapered cylindrical holes of the said disk-shaped firing plate into the cylinder chamber of the said internal combustion engine.

3,265,932
AUTOMATIC CONTROL EQUIPMENT FOR A STAGE LIGHTING SYSTEM
Bror Pettersson, Malmo, Sweden, Tomas Berg, Oslo, Norway, Erik Djurberg, Stockholm, and Sven Erik Johansson, Johanneshov, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Mar. 21, 1963, Ser. No. 267,016
8 Claims. (Cl. 315—292)



1. Automatically controlled stage lighting system comprising a number of individually controllable lamp groups, each having its own control circuit, each of said control circuits having at least one lighting intensity regulator, said regulators being remote controlled; said lighting system comprising a manually operated dimmer register, a long time memory system, preferably a punch card system, a short time memory system preferably a relay register and a sensing device; said manually operated dimmer register comprising a number of control circuits, so-called dimmers, said dimmers being arranged to deliver control signals to said lighting intensity regulators corresponding to the desired setting of said lamp groups, said long time memory system being arranged to record and to reproduce said control signals corresponding to said desired settings and having a capacity at least corresponding to the product of the number of lighting intensity regulators and a number of setting steps; said short time memory system having a number of memory circuits corresponding to the number of said lighting intensity regulators; said sensing device being common to a number of said lighting intensity regulators and being arranged for consecutive sensing of the control signal for the corresponding lighting intensity regulators and for transmitting these signals to the short time memory system; said short time memory system being arranged to record said control signals transmitted from the sensing device and to transmit them to the long time memory system, said long time memory system being arranged during reproduction to transmit to the short time memory system control signals recorded in the long time memory system; said short time memory system being arranged to record signals from the long time memory system and to transmit them to said lighting intensity regulators.

3,265,933
CONTROL CIRCUIT FOR OPERATING CIRCUIT INTERRUPTER AT A ZERO CURRENT POINT IN SYSTEM WAVE FORM
Elijah R. Perry, Portland, and John Durecka, Beaverton, Oreg., assignors, by mesne assignments, to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 24, 1963, Ser. No. 318,727
9 Claims. (Cl. 317—11)

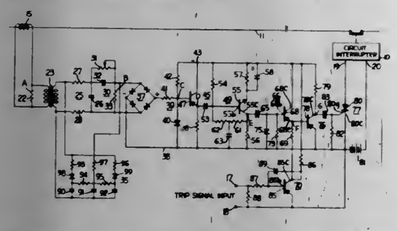
1. A control for signaling a circuit interrupter device in a system having a generally periodic system wave form to begin switching at a point in said system wave form ahead of a zero current point in order to effect switching at said zero current point, comprising:
- (a) coupling means adapted to be coupled to said system to provide an input signal representing an analog of said system wave form,

(b) a phase shifter connected to receive said input signals and to produce a wave form that is shifted ahead of said system wave form so as to have a zero crossing which is approximately coincident with said first point,

(c) a rectifier connected to receive said shifted wave form and to produce a rectified wave form having slope derivative discontinuities coincident with said first point,

(d) a clipping circuit connected to receive said rectified wave form and to produce an amplified clipped wave form having its peaks clipped but its valleys preserved,

(e) pulse producing means connected to receive the amplified clipped wave form and to produce a pulsed signal that has pulses of opposite polarity with the leading edge of one of said pulses being substantially coincident with the rising slope in the valley of said rectified wave form,



(f) means connected to receive the pulsed signal to amplify it and attenuate low frequency components thereof,

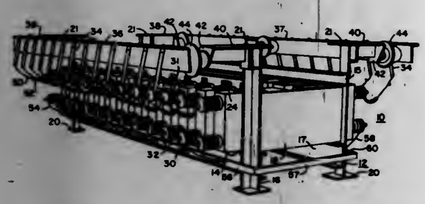
(g) means connected to receive the amplified attenuated pulsed signal and for amplifying said one pulse and for eliminating the other pulse of opposite polarity,

(h) means connected to receive the amplified said one pulse and for providing a zero current predicting signal of suitable magnitude and duration,

(i) switching means adapted to operate in response to said zero current predicting signal to initiate operation of said circuit interrupting device, and

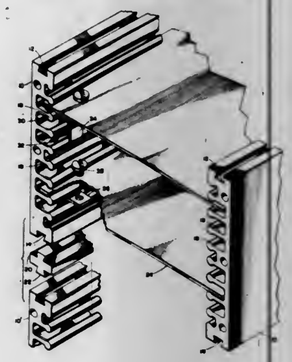
(j) trip signal input means to control transmission of said zero current predicting signal to said switching means.

3,265,934
CAPACITOR STACKING UNIT
William H. Cuttino, Bloomington, Ind., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 30, 1964, Ser. No. 341,364
3 Claims. (Cl. 317—99)



1. A compact, rigid, high voltage capacitor stacking unit comprising a box-like frame structure having a plurality of relatively short posts physically supported in an upright manner by interconnecting elongated members vertically spaced apart in substantially horizontal and parallel planes, a plurality of generally rectangularly shaped capacitors mounted between and secured to at least two of the vertically spaced apart members so that all capacitor insulating bushings and terminals face in an exposed and outward direction from the side of the box-like frame, each of said capacitors further being mounted on a side thereof having a narrow dimension in physical contact with the vertically spaced apart members to form a horizontal and parallel array of capacitors, bus means for interconnecting the capacitors in a given circuit pattern, said bus means including a continuous conductive bus bar extending along at least two opposite sides of the frame structure, and horizontal frame extension means insulatingly supporting said bus bars remotely and horizontally outwardly of said frame sides adjacent the capacitor bushings and terminals, said bus bars supporting a plurality of fuses connected between the bus bars and capacitors outwardly of the sides of the frame structure.

3,265,935
MODULAR CHASSIS
John R. Rosa, Danville, Calif., assignor, by mesne assignments, to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio
Filed Aug. 30, 1963, Ser. No. 305,741
8 Claims. (Cl. 317—101)



1. A modular chassis comprising: a plurality of pairs of side plate members, said side plate members having upper and lower edge surfaces with keyed slots extending along the outside said edge surfaces and having a plurality of horizontal rib-like projections equally spaced on at least one side surface thereof, component mounting members extending between said pairs of side plate members, and separately removable key members associated with said side plate keyed slot joining stacked pairs of side plate members.

3,265,936
MODULE ASSEMBLY
Michael Lazar, White Plains, N.Y., and Rocco J. Noschese, Rowayton, and Charles A. Gourley, Bethel, Conn., assignors to Burndy Corporation, a corporation of New York
Filed Oct. 21, 1963, Ser. No. 317,657
12 Claims. (Cl. 317—101)

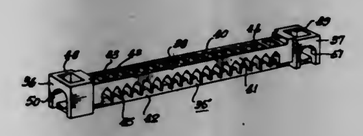
1. A connector assembly for electrical circuits, comprising: a plurality of printed circuit boards disposed about a central axis in nonparallel planes substantially corresponding to the side walls of a polyhedron, said boards having conductive surface portions thereon; connector means at one end of said axis including, a housing member having a plurality of circuit board receiving slots each having an end of one of said boards inserted therein, and a plurality of electrical contact members disposed within each slot engaging the conductive surfaces on the inserted boards; a housing member positioned at

the other end of said axis, including a plurality of slots each having another end of one of said boards inserted therein, said boards being positioned in their respective nonparallel planes; and means for interconnecting the



two side housing members, including a central spindle member extending therebetween engaging one housing member at one end thereof and the other housing member at the other end thereof.

3,265,937
ELECTRICAL DISTRIBUTION BOX AND NEUTRAL
Rex E. Sturdivan, Fullerton, Calif., assignor to Zinsco Electrical Products, Los Angeles, Calif., a corporation of California
Filed Dec. 9, 1963, Ser. No. 329,148
10 Claims. (Cl. 317—119)



1. A neutral terminal for an electrical distribution box comprising

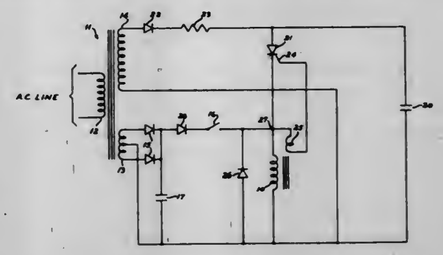
a unitary die cast metal conductor having first and second end portions and an elongated central portion,

said central portion including a pair of spaced parallel side walls and a bottom wall and a series of generally flat transverse ribs extending between said side walls and defining square smooth walled openings therebetween, each of said side walls having aligned transverse openings in communication with corresponding square openings, said bottom wall having a width substantially equal to the space between said side walls,

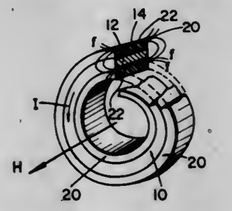
one of said end portions having parallel walls defining a square opening having an axis parallel to the axes of the square openings of said central portion, with at least one of said end portion walls having another opening in communication with the square opening in said one end portion.

3,265,938
ACTUATOR CIRCUIT FOR ELECTROMAGNETIC DEVICES
Bernard B. Dalen, Suffern, N.Y., assignor to Automatic Switch Company, Florham Park, N.J., a corporation of New York
Filed Jan. 17, 1964, Ser. No. 338,415
1 Claim. (Cl. 317—155.5)

In an electric circuit for controlling the operation of an electromagnetic device including a main winding and an armature movable upon magnetization of the device from one position to another, a primary power supply for supplying D.C. power to the main winding and having a maximum power value substantially equal to the steady state power required by the main winding for keeping the armature in its energized position, a capacitor, an auxiliary A.C. power supply connected across said capacitor and having a maximum power value greater than said primary power supply, said capacitor being charged by said auxiliary power supply, a control winding inductively coupled with said main winding, and a silicon controlled rectifier arranged in a series circuit with said main winding and capacitor, said control winding being connected to the gate of said silicon controlled rectifier, one side of said SCR being connected to said A.C. power supply through a half-wave rectifier and the other side being connected to said D.C. supply, whereby when said primary power source is connected to said main winding a current will be induced in said control winding causing said silicon controlled rectifier to conduct and allowing said capacitor to discharge through said main winding, said silicon controlled rectified thereafter automatically having its polarity reversed so that it becomes non-conducting and permits said capacitor to be recharged.

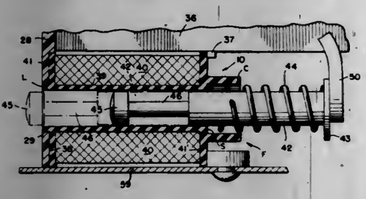


3,265,939
SUPERCONDUCTIVE COIL HAVING A FERROMAGNETIC LAYER THEREON
Leo Rinderer, Lausanne, Switzerland, assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed Sept. 20, 1963, Ser. No. 310,290
5 Claims. (Cl. 317—158)



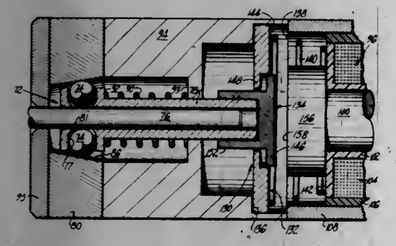
1. An improved spirally wound superconductive electromagnet coil for generating high magnetic fields from electric current flowing through the coil, the coil being wound from wire comprising adjacent layers in the wire of first and second superconductive materials, the first superconductive material having superconductive characteristics improved as compared to those of the second superconductive material, the first superconductive material being arranged in open layer form, the improvement comprising ferromagnetic material disposed in the said coil in the form of a spiral winding adjacent the spiral winding of the coil and being constructed and arranged to channel magnetic field lines within the spiral windings of the coil along a spiral path adjacent the said second superconductive material.

3,265,940
SOLENOID KICKER
John R. Brandell, 300 N. State St., Chicago, Ill.
Filed Apr. 10, 1964, Ser. No. 358,860
7 Claims. (Cl. 317—165)



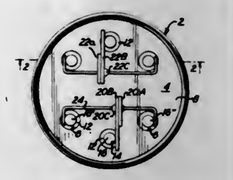
1. An electromagnetic solenoid comprising a winding form embodying a central sleeve and a pair of flanges secured on the sleeve in spaced relation, a wire coil applied upon the central sleeve in position confined by and between said flanges, said form having a collar coaxial with said sleeve and forming an extension projecting outwardly of a said flange at an end of said winding form, an armature rod mounted for axial sliding movement in said sleeve, said rod having an end disposed outwardly of said extension, and an armature stop flange on and extending radially outwardly of said outwardly disposed end of the rod in position to engage with said extension, to stop sliding movement of the rod into the sleeve, when the flange remote end of the rod reaches the extenson remote end of the form.

3,265,941
ELECTROMAGNETIC OPERATOR
John S. Lory, Bloomfield, Harry Ashworth, Thompsonville, and Hyman L. Gluck, West Hartford, Conn., assignors to Hi-G Incorporated, Windsor Locks, Conn., a corporation of Connecticut
Filed Sept. 24, 1963, Ser. No. 311,146
7 Claims. (Cl. 317—189)



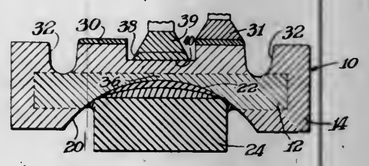
1. In an electrical switching mechanism having an electrical switch; a shiftable switch controller; a latch for retaining the switch controller in one operative position, said latch having a longitudinally reciprocable control member operable in one longitudinal direction for releasing the latch and a spring urging the control member in the opposite longitudinal direction; and an electromagnetic operator having an electromagnet and an armature longitudinally shiftable by the electromagnet in said one direction from an inactive position for actuating the control member in said one direction; the improvement wherein the electromagnetic operator comprises, an armature having an inner circular armature element connected to the control member and an outer annular armature element, one of said armature elements having an annular flange adapted for engagement with the other armature element, said flange being longitudinally spaced from the other armature element with the outer armature element in its inactive position; a magnetic core longitudinally spaced from the control member, an electric coil encircling the core, and a magnetic sleeve encircling the coil whereby upon energization of the electrical coil the outer armature element initially shifts independently of the inner armature element to develop momentum which assists upon engagement with the inner armature element in actuating the control member in said one direction.

3,265,942
APPARATUS PROVIDING COMPACT SEMICONDUCTOR UNIT
Albert Osborne, 200 Melbourne Road, Great Neck, N.Y.
Filed Mar. 27, 1961, Ser. No. 98,593
3 Claims. (Cl. 317—234)



1. A semiconductor package comprising:
(a) at least two semiconductors, each having at least two cooperating semiconductive elements;
(b) a relatively flat solid support disc having a plurality of separate spaced apart openings therein extending between opposite sides thereof and a narrow beveled surface around one side of said support disc;
(c) a plurality of electrically conductive rods extending through said support disc, one element of each of said semiconductors being directly physically and electrically connected on said one side of said support disc to a different one of said rods, and the other element of each of said semiconductors being electrically connected to still different ones of said rods;
(d) insulating collars fixed within each of said openings in said support disc with each of said rods passing through and being fixed in a different one of said insulating collars whereby said rods are electrically insulated from one another; and
(e) a cylindrical cap member having a beveled surface around the inner edge of the open end thereof and secured to said support disc to enclose said semiconductors and said rods on said one side of said support disc;
(f) said support disc and said cap member having their respective beveled surfaces in seating and sealing engagement across the entire interface therebetween.

3,265,943
DIFFUSED COLLECTOR TRANSISTOR
Joseph G. F. Bouchard, Manchester, and Lee A. Hermansen, Concord, N.H., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Aug. 3, 1962, Ser. No. 214,612
1 Claim. (Cl. 317—235)



A transistor comprising a body of semiconductor material having oppositely disposed pits defining a narrow web therebetween, said narrow web containing a diffused collector junction, an alloyed emitter junction in the pit on one side of said web, a massive ohmic collector

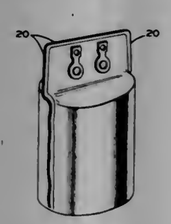
in the pit on the other side of said web, a moat determining the extent of said collector by extending through said diffused collector junction from said emitter side, and a ring-shaped base contact encircling said emitter within said moat.

3,265,944
DIAMOND-CUBIC BORON NITRIDE P-N JUNCTION
Robert H. Wentorf, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 31, 1961, Ser. No. 135,378
7 Claims. (Cl. 317—236)



1. A point contact p-n type rectification junction comprising p- and n-type semiconducting crystals taken from the class consisting of diamond crystals and cubic form of boron nitride crystals, said crystals being electrically connected in crystal-to-crystal point contact relationship.

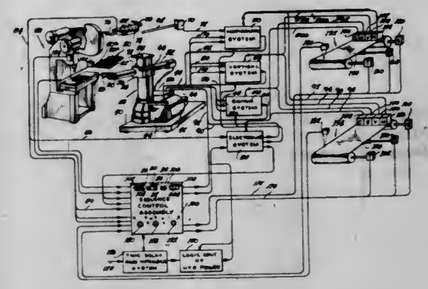
3,265,945
PACKAGED CAPACITOR AND METHOD OF MAKING THE SAME
Howard R. Jennings, Berkshire, and Livingston L. Rice, Williamstown, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Oct. 27, 1964, Ser. No. 406,823
2 Claims. (Cl. 317—258)



2. A halogenated oil-filled capacitor comprising a capacitance section having electrode tabs extending therefrom, said section and tabs being enveloped by a dielectric polyvinylfluoride film envelope, said film envelope conforming generally to the shape of said section; a halogenated oil completely filling the envelope, said envelope having been heat-sealed while the heat-seal area was covered with said halogenated oil; and said electrode tabs being terminated to contacts located on the outside of said envelope.

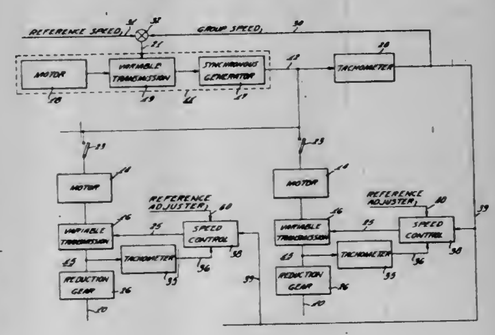
3,265,946
PLURAL TAPE FED MOTOR CONTROL SYSTEM WITH TAPE SEQUENCE CONTROLLER
Harry T. Johnson, Glenview, and Veljko Milenkovic, Park Ridge, Ill., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Aug. 3, 1961, Ser. No. 129,074
26 Claims. (Cl. 318—18)

1. Apparatus for recording and reproducing a program of information comprising a plurality of record media adapted to record chronologically a program of information, means for chronologically recording substantially identical information on each of said record media, means for sensing said recorded information on each of said record media, control means for energizing said means for recording to substantially simultaneously record said information on said media and alternatively for energizing said sensing means for sensing the information on each of said record media in a predetermined sequence, means for



resetting each of the record media with respect to the sensing means for sensing the beginning of the program of information on the respective record media, and means responsive to the condition of said record media and the chronological sensing of one of said record media to actuate said control means and initiate sensing of another of said record media when the chronological program of said one record media has been substantially completed.

3,265,947
PLURAL MOTOR GENERATOR-FED DRIVE CONTROL WITH VARIABLE CONTROL BETWEEN EACH DRIVE
Vernon Harold Woehler, Appleton, Wis., assignor, by mesne assignments, to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 4, 1963, Ser. No. 270,627
2 Claims. (Cl. 318—59)

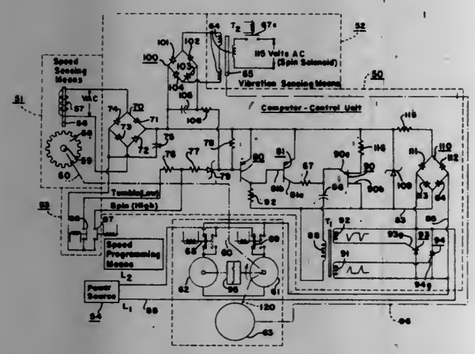


1. A variable speed drive for a device such as a paper machine having a plurality of rotatable elements, comprising
means providing a reference indicating a desired group speed for said drive,
a synchronous generator and means responsive to said reference to drive said generator at a speed that corresponds to said group speed,
a plurality of frequency responsive motors connected to be energized by said generator,
variable transmissions connecting said motors to said rotatable elements, and

speed control means associated with each said variable transmission for controlling said transmission to maintain the output speed of said transmission in a predetermined relation to said group speed and including means for comparing said transmission output speed and said group speed and means for adjusting said speed control means to vary said predetermined relation,

whereby said rotatable elements can be driven at different speeds which vary from said group speed.

3,265,948
MACHINE CONTROL SYSTEM
William L. Sones and George A. Neyhouse, Dayton, and James O. Elliott, Xenia, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 31, 1964, Ser. No. 393,264
12 Claims. (Cl. 318—227)



1. In an A.C.-induction motor control arrangement including a voltage source and an A.C.-induction motor means energizable therefrom, sensing means for at least one condition of operation of said A.C.-induction motor means as an electrical signalling, amplifier means for transfer of said signalling from said sensing means, the combination therewith comprising, semi-conductor static integrating control circuitry between said amplifier means and said A.C.-induction motor means, said static integrating control circuitry including silicon-control rectifier means gated from said amplifier means in proportion to said signalling whereby power supply from said voltage source is increased in response to decrease of signalling resulting from said sensing means as to condition of operation, and thereby power supply from said voltage source is decreased in response to increase of signalling resulting from said sensing means as to condition of operation of said A.C.-induction motor means, and reset bias means for repetition of control of said rectifier means.

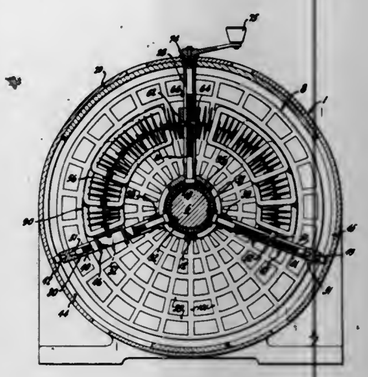
3,265,949
VARIABLE SPEED INDUCTION MOTOR
William S. Rouverol, 1014 Shattuck Ave., Berkeley, Calif.
Filed Sept. 20, 1963, Ser. No. 310,401
14 Claims. (Cl. 318—243)

10. A variable speed induction motor comprising:

a rotor provided with means for conducting induced currents therein and formed to provide a pair of axially spaced portions having a pair of opposed axially directed faces defining an annular space therebetween,

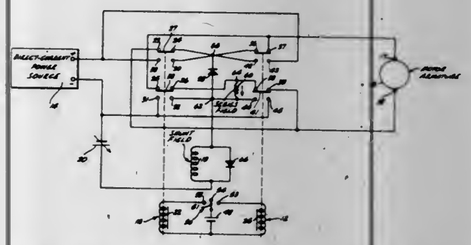
an elongated circumferentially extending pole piece in said space and having a pair of opposite axially spaced sides adjacent said faces respectively,

mounting means for supporting said pole piece for adjustable radial movement to different distances from the axis of said rotor for varying the speed of the motor,



said pole piece being formed to provide flexibility permitting the radius of curvature of the same to be changed during said adjustable movement.

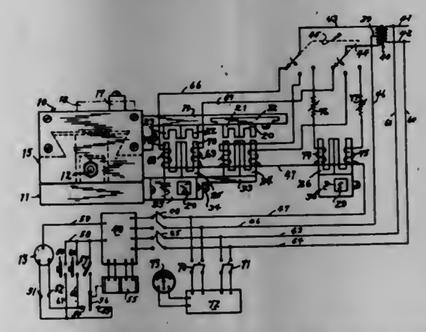
3,265,950
DIRECT-CURRENT MOTOR CONTROL APPARATUS
Victor J. Modiano, Anaheim, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed May 1, 1964, Ser. No. 364,112
5 Claims. (Cl. 318—261)



3. A motor control apparatus comprising a direct-current power source having first and second output terminals, the potential developed at said first output terminal being positive relative to the potential at said second output terminal; a direct-current motor including a shunt field winding and an armature having first and second input terminals; means connected to said shunt field winding for providing shunt field excitation; first and second switching means, each including first and second pairs of normally-open contacts and first and second pairs of normally-closed contacts; means for providing connections from said first output terminal of said direct-current power source in parallel through said first pairs of normally-open contacts of said first and second switching means to a first junction; means for providing connections from said second output terminal of said direct-current power source in parallel through said second pairs of normally-open contacts of said first and second switching means to a second junction; means for providing connections in the order named from said first input terminal of said armature serially through said first pair of normally-closed contacts of said second to said first junction and from said first junction switching means,

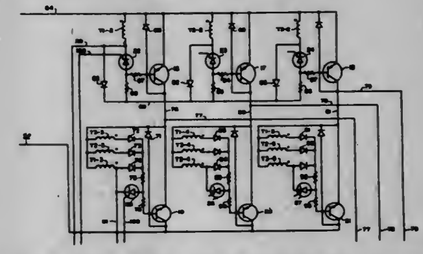
through said first pair of normally-closed contacts of said first switching means to said second input terminal of said armature; means for providing connections in the order named from said first terminal of said armature serially through said second pair of normally-closed contacts of said first switching means to a third junction and from said third junction serially through said second pair of normally-closed contacts of said second switching means to said second terminal of said armature; means connecting said second junction to said third junction; and a unidirectionally conducting device connected from said second junction to said first junction and poled to allow normal current flow toward said first junction.

3,265,951
POSITION SENSING SYSTEM
Henry H. Johnson, 494 58th St., Oakland 9, Calif.
Filed July 16, 1962, Ser. No. 209,835
15 Claims. (Cl. 318—467)



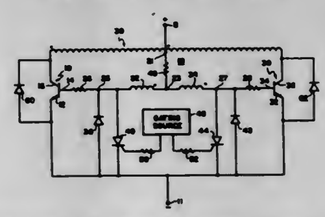
2. In a position sensing system to produce a control voltage suitable for use in locating the position of a first member to an exact position with respect to a relatively movable second member from any relative position within the travel range of the members, however far, the combination comprising, a first detector unit attached to one of said members, a first director rail attached to the other of said members, a second detector unit attached to one of said members, a second director rail attached to the other of said members; means to energize said detector units, said first director rail cooperating with said first detector unit as said first member moves from one end of desired travel to a point near said exact position and said second director rail cooperating with said second detector unit as said first member moves from the other end of desired travel to a point near said exact position with respect to said second member, with the cooperation of said first and second director rails with respective detector units causing voltage changes in said detector units, said control voltage being responsive to voltage changes in said detector units; with the director rails cooperating with the detector units to make said control voltage of zero value when said first member is at said exact position, and to make the contribution of said first detector unit to said control voltage greater than the contribution of said second detector unit when said first member is to one side of said exact position, and less when first member is to the other side of said exact position, said first and second director rails cooperating with respective detector units in a manner to cause said control voltage to change rapidly to become of substantial value as said first member moves a small distance in one direction from said exact position; then to make said control voltage remain approximately at this substantial value as said first member moves to its end of desired travel, however far, relative to said second members in the same direction, and to make said control voltage change rapidly to a substantial value as said first member moves a small distance in the other direction from said exact position, then to make said control voltage remain approximately at this substantial value as said first member continues in the same direction to the other end of desired travel, however far.

3,265,952
ELECTRONIC CIRCUITS
John H. Cutler, Waynesboro, Va., and Harold H. Britten, incompetent, Waynesboro, Va., by J. B. Stombock, committee, Waynesboro, Va., assignors to General Electric Company, a corporation of New York
Filed Aug. 9, 1962, Ser. No. 215,992
12 Claims. (Cl. 321—18)



1. In a circuit for selectively connecting a source of direct current to an alternating current load, first switching means switchable between high and low impedance states in response to a voltage above a predetermined magnitude, means connecting said first switching means in series with said source of direct current and said alternating current load, control means for selectively generating a voltage above said predetermined magnitude, voltage regulating means operative to produce an electric signal at an instant of time commensurate with the deviation of the power applied to said alternating current load from a predetermined value, second switching means switchable between high and low impedance states in response to said electric signal, and means serially connecting said control means and said second switching means to said first switching means to cause switching thereof upon concurrent occurrence of said generated voltage and the low impedance state of said second switching means.

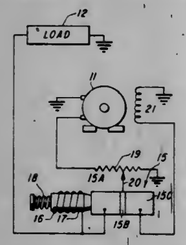
3,265,953
STATIC INVERTER
Armistead L. Wellford, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed Oct. 26, 1962, Ser. No. 233,211
10 Claims. (Cl. 321—45)



2. Apparatus for converting power from a unidirectional potential source to an alternating current power output comprising, input means for applying a unidirectional potential to said apparatus, said input means including a pair of input terminals, first and second transistors having base, emitter and collector electrodes, transformer means for applying the power from said unidirectional potential source to said transistors, said transformer means comprising first and second windings, said first winding

having a pair of end terminals and an intermediate position terminal, said intermediate position terminal being connected to one of said input means terminals and having said first winding end terminals interconnecting said transistor collector electrodes said transistor emitter electrodes being connected to the other of said input means terminals, said second winding having a pair of end terminals and being operative to apply drive to said transistors, one of said second winding end terminals being connected to the input of one of said transistors and the other of said second winding end terminals being connected to the input of said second transistor, first and second gate controlled rectifiers connected between said other input means terminals and said second winding end terminals respectively, and a pulse source coupled to said gate controlled rectifiers, the application of pulses from said pulse source to said gate controlled rectifiers alternately causing one of said gate controlled rectifiers to be rendered conductive to short circuit said second winding therethrough and thereby to cause a switching of conductivity between said transistors.

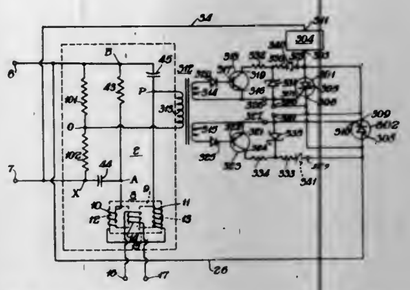
3,265,954
VOLTAGE REGULATOR UTILIZING SEMICONDUCTOR DEVICE
Gerald R. Broussard, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Original application Dec. 11, 1959, Ser. No. 858,874, now Patent No. 3,161,810, dated Dec. 15, 1964. Divided and this application June 9, 1964, Ser. No. 385,536
2 Claims. (Cl. 322—28)



1. A regulating device for maintaining a constant output voltage at the terminals of a D.C. generator provided with a field winding which includes solenoid means including a core mounted to produce differing axial forces responsive to different values of load current supplied by said generator; and plural layer transistor means interposed in series-circuit relationship between said field winding and a source of field current, said transistor means being mounted in relation to said core to receive said differing axial forces therefrom, the current gain of said transistor means varying substantially linearly with said differing axial forces.

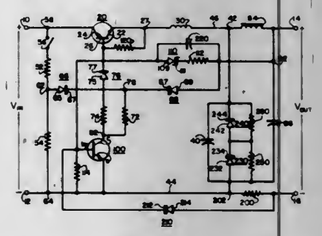
3,265,955
APPARATUS FOR INITIATING CONDUCTION
Walter J. Brown, Stamford, Conn., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed July 13, 1962, Ser. No. 209,617
12 Claims. (Cl. 323—22)

11. An electrical apparatus for initiating conduction in a controlled rectifier including in combination a controlled rectifier having an anode and a cathode and a gate, a phase-shifting network for producing an output voltage variable in phase relationship to an applied alternating voltage of substantially sine waveform, an NPN transistor, a D.C. power source, the collector of the transistor being connected to the positive terminal of the power source, the emitter of the transistor being connected to the gate of the rectifier, the cathode of the rectifier being connected to the negative terminal of the power source, the anode of said rectifier being connected through a load to said applied alternating voltage, and a step-down transformer coupling said transistor to said phase-shifting net-



work so as to vary the time of application of a firing signal of substantially square waveform to the rectifier from the transistor with respect to the initial application of each positive half-cycle of applied voltage to said anode of said controlled rectifier.

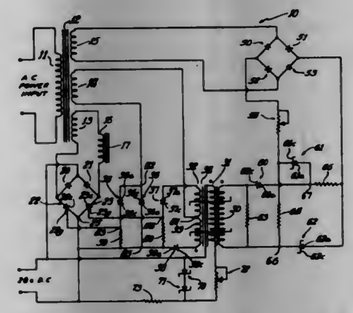
3,265,956
ELECTRICAL APPARATUS
Leland A. Schlabach, Wilkins Township, Allegheny County, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 20, 1962, Ser. No. 238,869
3 Claims. (Cl. 323—22)



3. A power supply comprising input terminals for connection to a direct current voltage source, output terminals for supplying a regulated direct current voltage to a load circuit, a controlled rectifier having main electrodes and a control electrode, inductance means, first capacitance means, the main electrodes of said controlled rectifier, said inductance means and said first capacitance means being serially connected to said input terminals, said output terminals being connected across said first capacitance means, first control signal means comprising resistance means and rectifier means connecting the control electrode of said controlled rectifier with said input terminals for a predetermined period of time upon start-up of the power supply, second control signal means comprising rectifier means connecting said output terminals in circuit relation with said first control signal means, said first and second control signal means providing control signals for switching said controlled rectifier from a non-conductive state to a conductive state, said inductance and first capacitance means being selected to cause said first capacitance means to be charged to a greater voltage magnitude than said source voltage when said controlled rectifier switches to its conductive state, causing said controlled rectifier to switch back to its non-conductive state and allow said first capacitance means to apply a direct current voltage pulse to said output terminals, a transistor having base,

collector, and emitter electrodes, voltage sensing means for producing an error signal when the voltage at said output terminals exceeds a predetermined magnitude, said voltage sensing means including a Zener diode connected between said output terminals and the base electrode of said transistor, second capacitance means, said second capacitance means being connected across said Zener diode to improve system response time, the collector and emitter electrodes of said transistor being connected in circuit relation with said first and second control signal means such that when said voltage sensing means applies an error signal to said transistor, the control signals from said first and second control signal means will be shunted through said transistor away from said controlled rectifier.

3,265,957
VOLTAGE REGULATOR CIRCUIT
Jay R. Borden, La Canada, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Original application Aug. 29, 1960, Ser. No. 52,675, now Patent No. 3,223,922, dated Dec. 14, 1965. Divided and this application Jan. 25, 1965, Ser. No. 438,451
2 Claims. (Cl. 323—22)



1. In a voltage regulator circuit for controlling the output voltage from an A.C. source, the combination of a transformer having a primary winding coupled to said source and a secondary winding, a controlled rectifier bridge circuit coupled to said secondary winding, means for energizing said bridge circuit from a source of D.C. voltage, a linear reactor intercoupled between said bridge circuit and said source of D.C. voltage, and a magnetic amplifier operative responsive to changes in voltage of said A.C. source for controlling the operation of said bridge circuit.

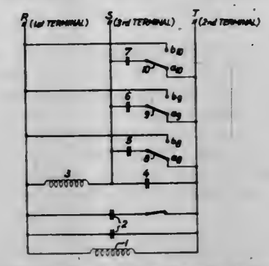
3,265,958
BALANCING A POLYPHASE CIRCUIT WITH A SINGLE PHASE LOAD
Gerhard Walter Seulen, Remscheid-Hasten, Germany, assignor to Allgemeine Elektricitäts-Gesellschaft, Berlin-Grunewald, Germany, and Deutsche Edelstahlwerke Aktiengesellschaft, Krefeld, Germany
Filed July 23, 1963, Ser. No. 297,043
Claims priority, application Germany, July 23, 1962, A 40,787
9 Claims. (Cl. 323—76)

1. A circuit arrangement for balancing a three-phase net having first, second and third terminals with each respective phase appearing across a set of two terminals, to which net a single-phase load is connected across said first and second terminals, said circuit arrangement comprising, in combination:

(a) a fixed inductance connected across said first and third terminals;

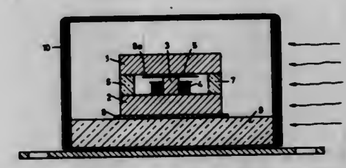
(b) a plurality of capacitors; and

(c) a plurality of switching means, one for each of said capacitors, for connecting the respective capacitor either across said second and third terminals or across said first and third terminals, as desired,



whereby the inductive reactance across said first and third terminals and the capacitative reactance across said second and third terminals may be increased together or decreased together.

3,265,959
HALL-VOLTAGE GENERATOR WITH MEANS FOR SUPPRESSING THERMOELECTRIC ERROR VOLTAGES
Klemens Wiehl, Friedrich Kuhrt, and Hans-Joachim Lippman, Nurnberg, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt and Erlangen, Germany, a corporation of Germany
Filed Mar. 13, 1963, Ser. No. 264,804
Claims priority, application Germany, May 8, 1962, S 79,336
7 Claims. (Cl. 323—94)



6. In a Hall-voltage generating device having a Hall plate and a magnetic circuit structure with a field gap in which the Hall plate is located, the combination of means for suppressing Hall-voltage zero errors due to thermoforces comprising a thermally good conducting base plate, said magnetic circuit structure being mounted on said base plate, and a thermally insulating layer interposed between said base plate and said structure, said Hall plate having two control-current terminals and two Hall-voltage electrodes, two current conductors electrically connected to said respective terminals and consisting of respective strips formed of the same material as said Hall plate, said two conductor strips extending toward each other and having respective ends in proximity to each other, and control-current leads connected to said respective strip ends.

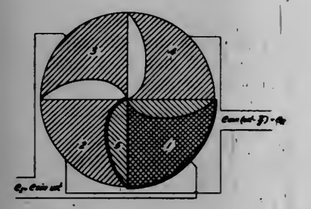
3,265,960
CAPACITIVE RESOLVER
Benjamin P. Blasingame, 2621 E. Menlo Blvd. Milwaukee, Wis.
Original application Oct. 8, 1959, Ser. No. 845,242, now Patent No. 3,172,023, dated Mar. 2, 1965. Divided and this application Oct. 16, 1964, Ser. No. 404,379
4 Claims. (Cl. 323—128)

1. A capacitive resolver for producing electrical signals related in phase to the angular disposition of two relatively rotatable members comprising a rotor member and a stator member, one of the members including four identical flat conductive plates which are symmetrically disposed

about an axis in coplanar fashion, each of said plates being bounded by a straight edge of length R extending radially from said axis, an arcuate peripheral edge of radius R, and a concavely curved edge described by the equation

$$r=\sqrt{2}R\sin\frac{\theta_1}{2}$$

wherein r is the radial distance from the center of the arcuate edge and θ_1 is the angle measured from said straight edge, a first time varying voltage impressed across one diagonally opposite pair of plates, and a second time varying voltage in quadrature with the first voltage impressed across the other diagonally opposite pair of plates, the other of the members including a single conductive plate extending raidally from said axis and ro-

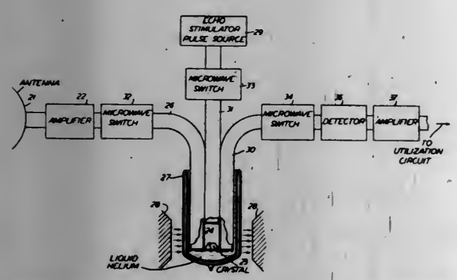


tatable thereabout, said single plate being mounted by a straight radially extending edge of length R, an arcuate peripheral edge of radius R, and a convexly curved edge described by the equation

$$r=\sqrt{2}R\sin\frac{\theta_2}{2}$$

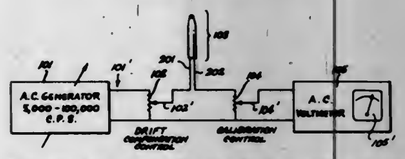
wherein r is the radial distance from the center of the last mentioned arcuate edge and θ_2 is the angle measured from the last mentioned straight edge, said single plate being axially spaced from the plates of said one member and capacitively associated therewith whereby a voltage is induced on the single plate having a phase angle with respect to one of the time varying voltages related to the angle of displacement of said single plate with respect to said four plates.

3,265,961
SPIN ECHO APPARATUS
William B. Mims, New York, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 25, 1962, Ser. No. 204,708
5 Claims. (Cl. 324—.5)



1. Pulse translating apparatus comprising a gyromagnetic medium,
means for differentially polarizing gyromagnetic elements in said medium to establish differential Larmor precession frequencies therein,
means for applying frequency modulated signal pulses to said medium for sequentially inducing phase divergent spin precession in groups of said elements having particular Larmor frequencies,
means for applying frequency modulated pulses to said medium for sequentially reversing the precessional phase relations to phase convergence in groups of said precessing elements having particular Larmor frequencies,
and means for detecting spin echo signals induced by the convergence of magnetic moments of elements in each of said groups.

3,265,962
METHOD OF AND APPARATUS FOR MICRO-SAMPLE CONDUCTIVITY MEASUREMENT
Carl L. Otto, Jr., Lummi Island, Wash.
Filed June 4, 1965, Ser. No. 461,402
12 Claims. (Cl. 324—30)

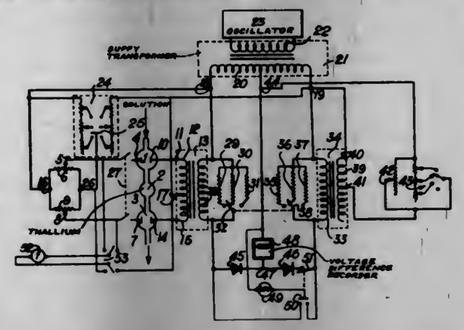


1. The method of measuring the electrical conductivity of a very small sample of liquid, comprising: gathering and holding said sample solely by means of capillary attraction; passing through the sample an alternating electrical current having a frequency of from about five thousand cycles per second to about one hundred thousand cycles per second; and providing from the extent of electrical current through the sample an indication which is a function of the electrical conductivity of said liquid.

3. In combination with a very small sample of a liquid, apparatus for holding the liquid sample and measuring the conductivity thereof, said apparatus comprising: a sample collector having a surface to which said liquid is drawn and retained solely by capillary attraction; spaced electrode surfaces forming a part of such collector surface; a source of alternating electromotive force of a frequency from about five thousand cycles per second to about one hundred thousand cycles per second electrically connected with said electrode surfaces; and means responsive to the extent of current through said electrode surfaces for indicating the conductivity of said liquid.

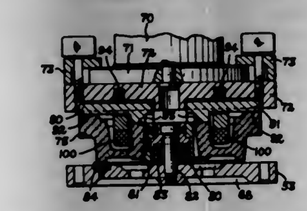
3,265,963
DEVICE FOR CONTINUOUSLY MEASURING THE DIFFERENCE BETWEEN THE CONDUCTIVITIES OF TWO LIQUIDS
Jean Chenouard, Clamart, and Roger Gabilly, l'Hay-les-Roses, France, assignors to Commissariat a l'Energie Atomique, Paris, France
Filed Apr. 12, 1962, Ser. No. 187,118
Claims priority, application France, Apr. 24, 1961, 859,627
7 Claims. (Cl. 324—30)

1. Apparatus for the continuous measurement of the difference between the conductivities of two liquids, comprising: two conductivity cells and means for directing said liquids through said cells; a supply transformer having primary and secondary windings; a first bridge having four branches which are respectively constituted by the said two conductivity cells and two coils, said two coils defining the primary winding of a second transformer having also a secondary winding; feeding means controllable from the first bridge connected to the secondary winding of said supply transformer; a comparison bridge having four branches which are defined, respectively, by the secondary winding of said second transformer, two identical coil portions, of the secondary winding of said supply transformer, and a coil comprising the secondary winding of a temperature controlled third trans-



former which also has a primary winding; and a measuring device connected across a comparison diagonal of said comparison bridge.

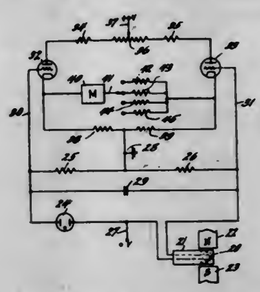
3,265,964
MAGNETIC INSPECTION OF IRON CASTINGS
Oral K. Hunsaker, Dayton, Ohio, assignor to The Dayton Malleable Iron Company, Dayton, Ohio, a corporation of Ohio
Filed Sept. 14, 1961, Ser. No. 138,025
4 Claims. (Cl. 324—37)



1. In non-destructive testing and inspection apparatus of the character described for testing and inspecting the acceptability of ferrous castings by testing the magnetic permeability of a portion only of each said casting, the combination which comprises an electromagnetic inspection head configured for interfitting relation with said castings for supporting said casting during testing and for contact therewith to induce therein a directed electromagnetic flux path, a magnetizing coil winding around at least a portion of said head for establishing therewith an electromagnetic field for inducing said directed flux path into said casting when in contact with said head, said coil winding being configured to conform to said portion of said casting to be tested, a magnetic measuring coil for detecting the quantity of magnetic induction induced into each said casting in contact with said head and within said magnetic field established by said magnetizing coil, and indicating means for indicating said quantity of magnetic induction detected by said coil and the acceptability or unacceptability of each of said mass produced castings.

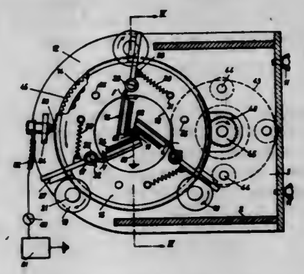
3,265,965
MAGNETOMETER UTILIZING A GAS DISCHARGE DEVICE WHOSE CONDUCTIVITY IS A FUNCTION OF THE MAGNETIC FIELD UNDER TEST
Harold C. Anderson, Silver Spring, Md., assignor to Litton Systems, Inc., College Park, Md.
Filed Mar. 12, 1962, Ser. No. 178,867
3 Claims. (Cl. 324—43)

1. In a magnetometer, a probe comprising a gaseous discharge device insertable into the magnetic field, means for applying a voltage potential to energize said discharge device, and means for determining the difference in the degree of ionization of said discharge device outside of said field and inside of said field as a measure of the strength of the magnetic field, said energizing means and ionization determining means including an electric bridge



having said discharge device in one arm thereof, a second discharge device in the other arm thereof, said second discharge device being disposed outside of said magnetic field whereby said bridge produces an error signal proportional to the difference in the degree of ionization of said discharge device and said second discharge device.

3,265,966
DEVICE HAVING CENTRIFUGAL FORCE RESPONSIVE MEANS FOR THE DETECTION OF FAULTS IN THE INSULATING SHEATH OF ELECTRIC CABLES AND THE LIKE
Paul Cathelin, Nogent-sur-Marne, and Christian Van den Burg, Vincennes, France, assignors to Société dite: Trefimetaux, Paris, France
Filed July 24, 1963, Ser. No. 297,302
7 Claims. (Cl. 324—54)



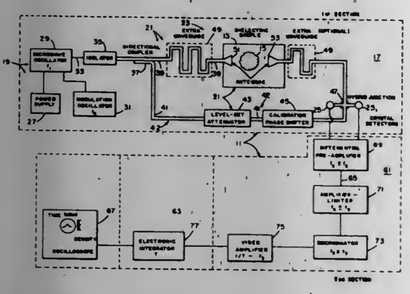
1. Apparatus for the automatic and continuous dielectric testing of the insulating sheath of an elongated element comprising an electrically conductive core embedded within an insulating sheath, the apparatus comprising a stationary support having an aperture provided therein for movement therethrough of said elongated element to be tested, a ring rotatably mounted on said support, said ring being adjacent said support aperture and being axially traversed by said elongated element, means to rotate the ring about its axis, brush means carried by the ring, means yieldably urging the brush means toward said axis to engage said insulating sheath, means to establish a difference of potential between said brush means and said conductive core, means to detect the passage of current between said brush means and said conductive core, said yieldably urging means comprising means mounting the brush means for swinging movement about at least one axis parallel to the axis of rotation of the ring, and weight means connected to the brush means to swing outwardly under the influence of centrifugal force upon rotation of the ring to swing the brush means inwardly.

3,265,967

MICROWAVE PLASMA DENSITY MEASUREMENT SYSTEM

Mark A. Heald, Swarthmore, Pa., assignor to the United States of America as represented by the United States Atomic Energy Commission

Continuation of application Ser. No. 153,271, Nov. 16, 1961. This application June 8, 1965, Ser. No. 462,457
3 Claims. (Cl. 324—58.5)



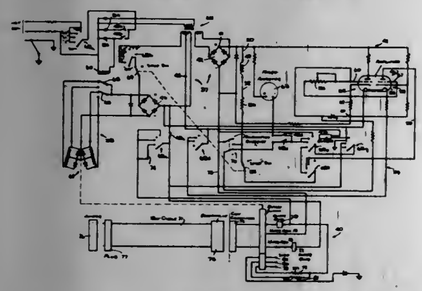
1. A frequency modulated microwave system for measuring the time varying density of a plasma, comprising producing frequency modulated microwaves that are split into a short path and a long path containing said plasma and joined to produce an interference signal carrying a phase modulation corresponding to the phase-shift produced by passing the microwaves through the plasma, said interference signal having its principal Fourier component at the harmonic N of the modulation frequency where N represents the number of interference cycles arising when said split microwaves are joined as a result of the frequency modulation excursion of the microwaves in passing through said plasma, recovering said Fourier component and integrating it to produce a continuous output signal directly corresponding to said plasma density when said plasma is transparent, while indicating unambiguously when the plasma is opaque.

3,265,968

AUTOMATIC APPARATUS FOR CHECKING MULTICONDUCTOR ELECTRICAL CABLES

Alvin V. Blodeau, Ledyard, Robert J. Francoeur, Waterford, and Robert F. Stein, Groton, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

Filed May 4, 1962, Ser. No. 192,545
10 Claims. (Cl. 324—66)



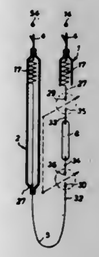
6. Electrical circuit checking apparatus comprising rotary switch means including a conductive ring, a plurality of contact members in normally closed contact therewith, a pair of oppositely extending selector arms rotatively mounted as a unit at the center of said ring and movable against successive individual diametrically opposed contact members to isolate them from said ring, drive means for automatically moving said arms stepwise to successive contact members around said ring, means for interconnecting said contact members with respective conductors of an electrical cable at one end thereof, electrical sensing means for sensing a preselected resistance in the respective conductor connected to each such isolated contact members and for providing electrical switching action upon sensing of such preselected resistance, and selector switch means electrically interconnecting said rotary switch means and said sensing means for selectively interconnecting at least one of said arms electrically with said sensing means and for establishing a predetermined electromechanical utilization for said switching action of said sensing means, said sensing means electrically interconnected with said drive means for stopping said drive means by said switching action, and switch means for interconnecting one of said arms with said ring, and indicator means included with said sensing means and energizable by said switching action upon sensing of said preselected resistance and calibration means included in said sensing means for adjusting the sensitivity of the sensing means to said resistance means coupled with said sensing means for adjusting its sensitivity to said resistances.

3,265,969

HIGH VOLTAGE PROBE APPARATUS WITH A PLURALITY OF DISCHARGE TUBE ISOLATING SPARK GAPS THEREIN

Robert Catu, Zurich, Switzerland, assignor to IPA Internationale Patent- und Lizenzanstalt, Vaduz, Liechtenstein

Filed Apr. 17, 1961, Ser. No. 103,559
Claims priority, application Switzerland, Apr. 19, 1960, 4,338/60; May 3, 1960, 5,049/60, 5,050/60; France, May 17, 1960, 827,380
5 Claims. (Cl. 324—72.5)



1. A voltage detecting apparatus comprising a first contact member, a first pair of spaced electrodes forming a first spark gap, a discharge tube, a second pair of spaced electrodes forming a second spark gap, a connecting conductor, and a second contact member all connected in series with each other, said discharge tube being connected between said first and second pairs of electrodes, one electrode of each of the said pairs being displaceable with respect to the other electrode of the respective pair, and means coupled to each pair of electrodes for jointly displacing the displaceable electrodes of the two pairs.

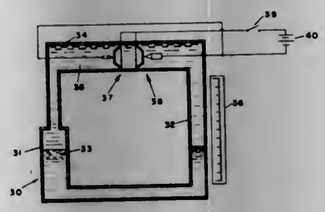
3,265,970

ELECTRICAL INPUT MEASURING DEVICE USING ION DRAG PUMPS AND PRESSURE INDICATION

Otmar M. Stuetzer, Hopkins, Minn., assignor, by mesne assignments, to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland

Filed May 28, 1962, Ser. No. 198,168
4 Claims. (Cl. 324—92)

1. A device for measuring an electrical quantity comprising pressure measuring means, means defining a closed flow path for an insulating liquid, an insulating liquid substantially filling said closed flow path, a pair of differential ion drag pumps positioned in said insulating liquid arranged in opposition and effecting thereby opposed independent ion drags on said insulating liquid when said pumps are energized, means for connecting the electrical



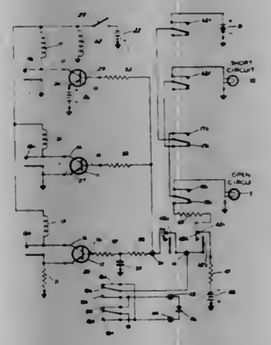
quantity to be measured to energize both said ion drag pumps to provide a pressure differential in said liquid by the differences in drag pressures created thereon by said differential drag pumps, and means for transmitting said pressure differential to said pressure measuring means.

3,265,971

APPARATUS FOR TESTING ASYMMETRICALLY CONDUCTING ELECTRICAL DEVICE FOR OPENS, SHORTS, AND POLARITY ORIENTATION

Liber Joseph Montone, Reading, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed July 11, 1963, Ser. No. 294,443
7 Claims. (Cl. 324—158)



1. Apparatus for testing asymmetrically conducting electrical devices, which comprises:

means for supplying a unidirectional test current connected during a predetermined time interval to an asymmetrically conducting electrical device to be tested, the magnitude of the voltage appearing across said device being dependent upon the conductivity thereof relative to the supplying means;

first voltage responsive means connected to said device during said predetermined time interval and operable from a first state to a second state, said means operating to said second state during said time interval if the conductivity of the device relative to the supplying means is lower than a first predetermined value thereof, and said means not operating to said second state and remaining in said first state if the conductivity of the device relative to the supplying means is higher than said first predetermined value;

second voltage responsive means connected to said device during said predetermined time interval and operable from a first state to a second state, in said second state said second voltage responsive means causing reversal of said device with respect to the supplying means, said second voltage responsive means operating to said second state during said predetermined time interval if the conductivity of the device relative to the supplying means is lower than a second predetermined value thereof, less than the first, and said second means not operating to said second state and remaining in said first state if the conductivity of the device relative to the supplying means is higher than said second predetermined value; and

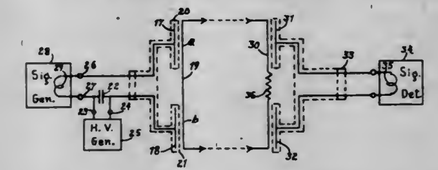
third voltage responsive means connected to said device during said predetermined time interval and operable from a first state to a second state, said third voltage responsive means operating to said second state at a time subsequent to the operation of said second voltage responsive means if upon reversal of the device the conductivity thereof relative to the supplying means is lower than said second predetermined value, said third means not operating to said second state and remaining in said first state for all other conditions of the device.

3,265,972

UNDERWATER ELECTRIC FIELD COMMUNICATION SYSTEM

Paul Curry, 2669 Main St., Santa Monica, Calif.

Filed Apr. 10, 1962, Ser. No. 186,514
3 Claims. (Cl. 325—28)



1. A method of communicating intelligence by electric field propagation comprising the steps of: (a) positioning a first pair of conducting plates in a propagating medium; (b) generating an alternating current signal; (c) applying said alternating current signal to opposite plates of said pair of plates to induce an electrostatic charge to said medium; (d) superimposing a direct current signal on said alternating current signal to supply a constant polarizing potential to said pair of plates; (e) transmitting a component of said alternating current signal into said medium as a varying electric potential difference; (f) positioning a second pair of plates in said medium at a remote point in the path of the transmitted signal; (g) receiving the transmitted signal by means of said second plates; (h) detecting the alternating current component to produce a representation of the alternating current signal generated at the transmitter.

3,265,973

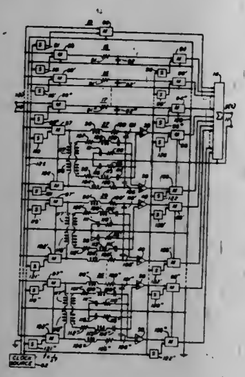
SYNTHESIS OF TWO-PORT NETWORKS HAVING PERIODICALLY TIME-VARYING ELEMENTS

Sidney Darlington, Passaic Township, Morris County, and Irwin W. Sandberg, Springfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 16, 1962, Ser. No. 195,200
13 Claims. (Cl. 328—14)

8. A periodically varying two-port network comprising a plurality of input modulators and a plurality of output modulators, a first subplurality of two-port linear transducers each connected between one input modulator and a corresponding one output modulator, a second

subplurality of lattice networks of two-port, linear transducers each connected between one pair of input modulators and a corresponding one pair of output modulators,



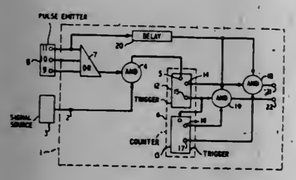
an input port, means for connecting one input of all of said input modulators to said input port, an output port, and means for connecting the outputs of all of said output modulators to said output port.

3,265,974

SIGNAL DETECTING METHODS AND DEVICES

Roy Thomas, Acton, London, England, assignor to English Electric-Leo Computers Limited, London, England, a British company

Filed Nov. 28, 1962, Ser. No. 240,500
Claims priority, application Great Britain, Nov. 30, 1961, 42,974/61
7 Claims. (Cl. 328—63)



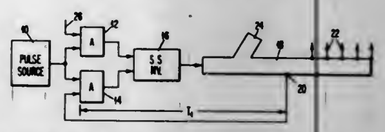
1. An electric apparatus for detecting any time displacement of individual electric pulses in a train of similar time-spaced pulses from their respective nominal times of occurrence, including input circuit connections for receiving as input pulses the pulses of the said train, generating means for generating during each nominal time period during which an input pulse should exist a predetermined plurality of time-spaced reference electric pulses, "AND" gating means electrically connected with the input circuit connections and with the generating means so as to receive both the input pulses and the reference pulses for producing gated pulses indicating periods of co-existence of a reference pulse and an input pulse, a multi-stable state device connected with the AND gating means so as to be triggered cyclically from one stable state to the next in sequence by successive gated pulses during each said nominal time period and to produce at output circuit connections thereof a unique output signal state according to the stable state thereof, the number of stable states of the device being at least equal to the number of reference pulses in the aforesaid plurality.

3,265,975

DELAY LINE CONTROLLED PULSE GENERATOR

Thomas I. Kirkpatrick, Los Gatos, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 19, 1963, Ser. No. 331,804
8 Claims. (Cl. 328—63)



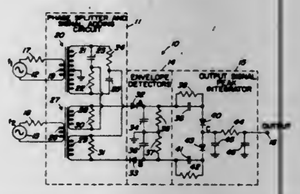
1. A pulse generating means comprising:
a source of pulses;
wave launching means;
a delay line having an input terminal and first and second output terminals;
means for coupling said wave launching means to the input terminal of said delay line for launching a wave down said delay line;
means for energizing said wave launching means to launch a first wave down said delay line;
impedance discontinuity means on said delay line to cancel the wave after a predetermined time;
a coincidence means;
means for coupling said first output terminal of said delay line to said coincidence means;
means for coupling said source of pulses to said coincidence means;
means for coupling the output of said coincidence means to drive said wave launching means so that coincidence of said first output and the output of said pulse source within a second shorter predetermined time permits another wave to be launched down said delay line; and
means for coupling said second output from said delay line to a utilization device.

3,265,976

COMBINED FREQUENCY AND PHASE DISCRIMINATOR

Samuel L. Broadhead, Jr., Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Feb. 24, 1964, Ser. No. 346,614
15 Claims. (Cl. 329—137)



10. A combined frequency and phase discriminator circuit connected to receive a first frequency input signal from a first signal source and a second frequency input signal from a second signal source for developing frequency difference output voltages and/or phase discriminator output voltages through the frequency difference, phase error, and overlapping ranges of discriminator operation, and including: first frequency input signal coupling means; dual output means from said first frequency input signal coupling means; means imparting a phase shift in the signal outputs transmitted to said dual output means; second frequency input signal coupling means; said second frequency input signal coupling means having dual secondary coupling elements with one of said dual coupling

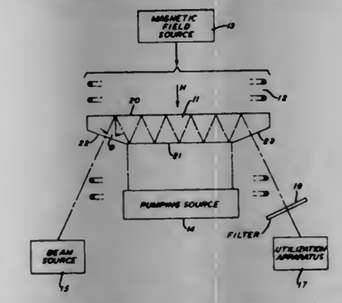
elements connected to receive a signal from one of said dual output means of the first signal coupling means, and the other secondary coupling element being connected to receive a signal from the other of said dual output means; each of said secondary coupling elements also being connected to a signal envelope detector portion; said signal envelope detector portion having two output connections to an output signal peak integrator section; said output signal peak integrator section including a frequency signal biasing network between each output from the signal envelope detector portion and two diodes connected cathode to anode between the two frequency signal biasing networks; and the common junction of said diodes being connected through capacitive circuit means to a voltage potential reference source and through resistive means to an output terminal.

3,265,977

CYCLOTRON RESONANCE LASER

Peter A. Wolff, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 26, 1965, Ser. No. 442,918
8 Claims. (Cl. 330—4.3)



1. Apparatus for the stimulated emission of radiation, comprising a crystal of material in which electrons have an effective mass less than the mass of a free electron and in which electrons having energies above the threshold level of a crystalline lattice vibration predominately release energy by collision, means for supplying below the level of said lattice vibration at least two cyclotron energy levels between the upper two of which a population inversion can be established, and means for applying to said crystal energy that selectively populates the cyclotron energy level next below said threshold level to establish said population inversion, whereby electrons of the selectively populated level predominately release energy by stimulated radiation.

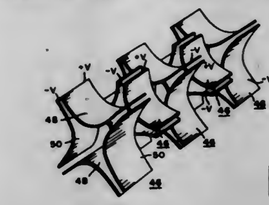
3,265,978

D.C. PUMPED QUADRUPOLE PARAMETRIC AMPLIFIER

Philippe A. Clavier, Trumansburg, Daniel C. Buck, Veteran Township, Chemung County, and Carl H. Scullin, Bressport, N.Y., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 17, 1959, Ser. No. 834,217
2 Claims. (Cl. 330—4.7)

1. A microwave amplifier comprising means for projecting an electron beam along an axis, a signal input coupling means, an interaction region, and a signal output coupling means spaced along said axis, said interaction region bounded by a plurality of electrodes symmetrically spaced about said axis, said electrodes arranged in a plurality of groups spaced end to end along said interaction region, said groups rotated about the axis progressively as the interaction region is traversed, electrostatic potentials applied to each of said groups to produce a spiral outwardly directed electric field within said interaction region, a magnetic field parallel to said axis, the signal input coupler responsive to an input signal to provide deflections of said beam from said axis, said magnetic field acting on said electron beam to



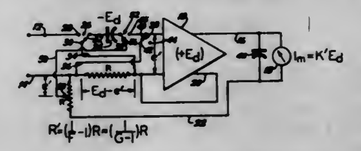
produce a spiral motion about said axis, said electric field within said interaction region adapted to increase the distance from said axis as it traverses said interaction region, said signal output coupler responsive to said deflections in said electron beam to produce an output signal that is an amplified signal representative of said input signal.

3,265,979

DRIFT-FREE D.C. AMPLIFIER

John J. J. Staunton, Oak Park, Ill., assignor, by mesne assignments, to Coleman Instruments Corporation, Maywood, Ill., a corporation of Delaware

Filed June 1, 1962, Ser. No. 199,342
9 Claims. (Cl. 330—9)



1. An improved periodically self-corrected drift-free D.C. amplifier circuit comprising D.C. amplifier means having pairs of input and output terminals, a signal input circuit having first and second circuit paths for applying a D.C. signal to the input terminals of said amplifier means, said first signal input circuit path comprising a memory capacitor connected to one input terminal of said amplifier means, and said second signal input circuit path comprising a feedback resistance connected to the second input terminal of said amplifier means, indicating means for the amplified D.C. signal connected to one output terminal of said amplifier means, a negative feedback loop connecting said indicating means to one terminal of said feedback resistance remote from said second input terminal, a common terminal connecting the other output terminal of said amplifier means and said second input terminal, and switching means for periodically switching said memory capacitor out of said first signal input path and across said feedback resistance to charge the memory capacitor from the amplifier output and then switching said memory capacitor back to said first signal circuit path to compensate for any drift in said amplifier means.

3,265,980

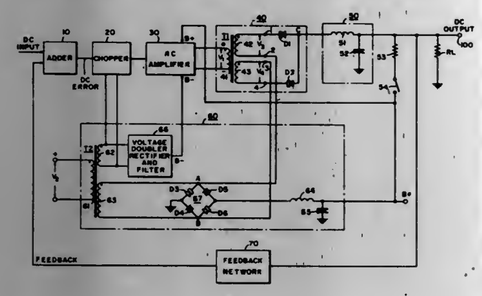
FULL WAVE SYNCHRONOUS DEMODULATOR

Francis T. Thompson, Penn Hills Township, Allegheny County, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 21, 1962, Ser. No. 218,318
6 Claims. (Cl. 330—10)

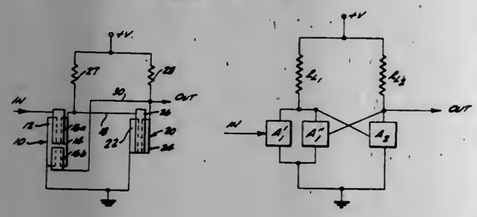
1. A synchronous demodulator comprising, a signal transformer having two secondary windings, each winding having two terminals, a diode connected to one

terminal of one winding, another diode connected to one terminal of the other winding of instantaneously opposite polarity, a first pair of output terminals, the ends of said diodes remote from the windings being connected to a common output terminal of said first pair, a power transformer having a secondary winding, a full wave bridge rectifier having a pair of input terminals connected to the secondary winding of the power transformer and



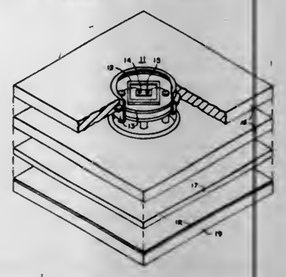
a second pair of output terminals to provide a rectified output, the other terminal of one secondary winding of the signal transformer being connected to one input terminal of the rectifier, and the other terminal of the other secondary winding of the signal transformer being connected to the other input terminal of the rectifier, one of the output terminals of said rectifier being connected to the other output terminal of said first pair of output terminals.

3,265,981
THIN-FILM ELECTRICAL NETWORKS WITH NON-RESISTIVE FEEDBACK ARRANGEMENT
Johann G. Dill, Costa Mesa, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 2, 1963, Ser. No. 327,263
10 Claims. (Cl. 330—19)



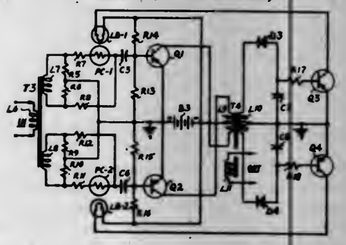
1. An electrical circuit comprising first semi-insulator means for amplifying a signal under the control of injected majority charge carriers, first and second control electrodes for independently controlling the flow of the majority charge carriers in said first semi-insulator means, means for applying an input signal to said first control electrode, further means coupled to said first semi-insulator means for obtaining a signal therefrom, said further means including second semi-insulator means for amplifying a signal under the control of injected majority charge carriers, said first and second control electrodes being constructed such that the ratio of the effective area of said second control electrode to the sum of the effective areas of said first and second control electrodes is determined by the portion of the output signal from said second semi-insulator means to be fed back to said first semi-insulator means, and feedback means for applying an output signal from said second semi-insulator means to said second control electrode.

3,265,982
COMMON EMITTER TRANSISTOR AMPLIFIER INCLUDING A HEAT SINK
Carl R. Wilhelmsen, Huntington Station, N.Y., assignor to Hazeltine Research Inc., a corporation of Illinois
Filed Oct. 24, 1963, Ser. No. 318,711
4 Claims. (Cl. 330—23)



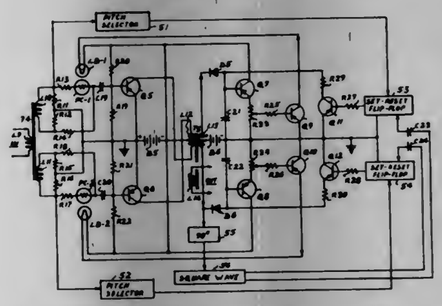
1. A transistor amplifier wherein the transistor is so constructed that the collector material is in physical contact with the transistor case, comprising:
means in physical contact with and external to said transistor case for dissipating heat generated during operation of said transistor;
means coupled between said heat dissipating means and an electrical reference potential conductor for electrically insulating said heat dissipating means, said case, and said collector from said electrical reference potential conductor;
means for supplying a bias potential to said collector;
means for supplying input signals to the base of said transistor;
and means coupling the emitter of said transistor to said electrical reference potential conductor;
whereby the combinaiton of said heat dissipaing means, said insulating means and said electrical reference potential conductor produces a capacitive reactance between the collector and emitter terminals and said transistor is arranged to operate in the common emitter configuration.

3,265,983
AMPLITUDE EQUALIZER OF SPEECH SOUND WAVES
Meguer V. Kalfaian, 962 Hyperion Ave., Los Angeles, Calif.
Filed Jan. 30, 1964, Ser. No. 341,240
3 Claims. (Cl. 330—123)



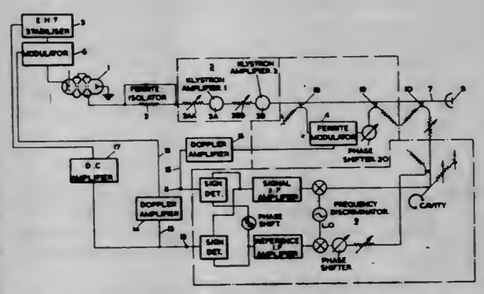
1. An arrangement for symmetric amplitude control of complex waves having asymmetric oppositely poled peaks, without peak wave distortion, the arrangement comprising a push-pull amplifier having first and second bridge circuits inputs and an output; each of said first and second bridge circuits comprising a center tapped impedance means having two end terminals connected to the two end terminals of a series-connected variably-controllable resistive element and a fixed-value resistor, respectively, for forming said first and second bridge inputs by coupling the junction terminals between said fixed-value and variably-controllable resistive elements of the said first and second impedance means to the said first and second inputs, respectively, from common parallel-connection of said center taps, means for generating said complex waves, and means for applying these waves in push-pull mode to said first and second impedance means, for amplifying said waves at the output of said amplifier; a phase shifting means connected to said output, the last said phase shifting means having first and second output-terminals; first and second unidirectionally energizable networks, each having a predetermined decaying but like time-constant; a reference amplitude level determining means for said first and second networks; first and second coupling means between said first and second output-terminals and said first and second networks, respectively, for energizing said networks in proportional magnitudes when the peak amplitudes of the phase shifted peaks of the amplified complex waves are above said reference level, at shifted time periods than the arrival of last said peaks at said output; means for translating said energization of the first and second networks into first and second controlling means; and means for varying said variably-controllable resistive elements of said first and second bridges by said first and second controlling means, respectively, for symmetrically compressing the admittance of the oppositely poled peaks of said generated complex waves to said output, and without distortion to the original waveshapes of said peaks by virtue of said phase shifted compression.

3,265,984
SYMMETRIC PEAK AMPLITUDE EQUALIZER OF COMPLEX SOUND WAVES, WITHOUT PEAK WAVE DISTORTION
Meguer V. Kalfaian, 962 Hyperion Ave., Los Angeles, Calif.
Filed Jan. 30, 1964, Ser. No. 341,285
4 Claims. (Cl. 330—123)



1. An arrangement for symmetric amplitude control of complex waves having asymmetric oppositely poled peaks, said control being in steady state steps between succeeding peaks, and without causing peak wave distortion, the arrangement comprising the following: a push-pull amplifier having first and second bridge circuit input and an output; each of said first and second bridge circuits comprising a center tapped impedance means having two end terminals connected to the two end terminals of a series-connected variably-controllable resistive element and a fixed-valve resistor, respectively, for forming said first and second bridge inputs by coupling the junction terminals between said fixed-value and variably-controllable resistive elements of the said first and second impedance means to the said first and second inputs, respectively, from common parallel-connection of said center taps; means for generating said complex waves, and means for applying these waves in push-pull mode to said first and second impedance means, for amplifying said waves at the output of said amplifier; first and second storage means, and first and second rectifier means connected in series with said first and second storage means, respectively; first and second normally non-conductive discharger means in parallel with said first and second storage means, respectively; a phase shifting means connected to said output, the last said means having first and second output-terminals; a reference amplitude level determining means for said phase shifting means; coupling means between said first and second output-terminals, and said first and second rectifiers, respectively, for unidirectional charging of said storage means, when the peak amplitudes of said phase shifted peaks are above said reference level; first and second peak selectors for deriving from said generated complex waves first and second signal-waves of said oppositely poled peaks at time periods substantially coincident with the respective peaks appearing at said output-terminals of the phase shifting means; means for applying the first and second signal waves to said first and second discharger means, respectively, for rendering said discharger means conductive and re-adjusting the charges in said storage means to the instant levels at said output-terminals of the phase shifting means; means for translating the charges of said first and second storage means into controlling means; and means for varying said variably-controllable resistive elements of said first and second bridges by said first and second controlling means, respectively, for symmetrically compressing the admittance of the oppositely poled peaks of said generated complex waves to said output, thereby effecting said stepwise symmetric amplitude equalization at said output, and without peak wave distortion by virtue of gain readjustments at time shifted periods than the original peaks arriving at said output.

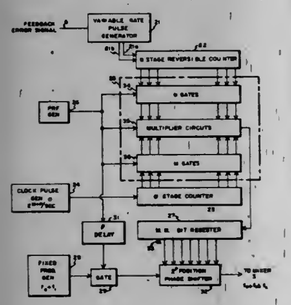
3,265,985
MICROWAVE OSCILLATOR HAVING FREQUENCY AND AMPLITUDE STABILIZATION MEANS
Stanley Bruce Marsh and Allan Stanley Wiltshire, Malvern, England, assignors to Minister of Aviation in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, Strand, London, England
Filed Dec. 19, 1961, Ser. No. 160,491
Claims priority, application Great Britain, Dec. 30, 1960, 44,872/60
11 Claims. (Cl. 331—6)



1. A stabilised microwave oscillation generator including an oscillator circuit operative at microwave frequencies and subject to amplitude and frequency errors in its output, comprising:
a microwave discriminator means connected to the output of said oscillator circuit and operative on said output for generating error signals in the form of a first output indicative of said amplitude error in the output of said oscillator circuit and a second output indicative of said frequency error in said oscillator output,

control means connected to said first output for controlling the microwave output amplitude of said oscillator circuit, and
control means connected to said second output for controlling the microwave frequency of oscillation of said oscillator circuit,
said oscillator circuit including amplifying means for controlling the output amplitude of said oscillator circuit,
said amplifying means including an output signal channel comprising a main waveguide and a branch waveguide,
the branch waveguide having an input and an output means each connected to the main waveguide,
said amplitude controlling means including a modulator in said branch waveguide connected to said first output and phase adjusting means in said branch waveguide.

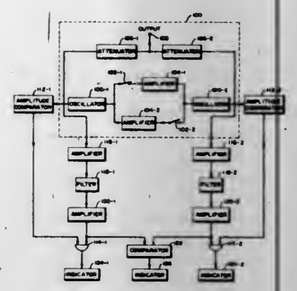
3,265,986
VARIABLE FREQUENCY OSCILLATORS
Robert L. Wyckoff, Holliston, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Apr. 25, 1962, Ser. No. 190,081
11 Claims. (Cl. 331—14)



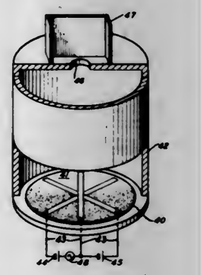
1. A variable frequency generator comprising:
a first source of frequency;
a second source of frequency;
means for counting the cycles of said frequency from said second source;
means for varying the phase of said frequency from said first source;
and means coupling said counting means to said means of varying phase to vary the frequency from said first source.

3,265,987
PARALLEL-CONNECTED CRYSTAL OSCILLATORS WITH CONTROLLABLE Q CIRCUITS
Alwin Hahnel, Rochester, N.Y., assignor to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware
Filed Feb. 15, 1965, Ser. No. 432,470
8 Claims. (Cl. 331—49)

1. In combination, a first oscillator including frequency-determining means for normally producing oscillations therefrom having a frequency within a predetermined frequency band, a second oscillator including frequency-determining means for normally producing oscillations therefrom having a frequency within said predetermined frequency band, the frequency-determining means of each of said respective first and second oscillators including switching means for selectively switching the Q of that frequency-determining means between a first given relatively high value thereof and a second given relatively low value thereof, the switching means of either one of said first and second oscillators being selectively set to provide said first given value of Q for the frequency-determining means thereof while the switching means of the other of said first and second oscillators is selectively set to provide said second given value of Q for the frequency-determining means thereof, injection means for selectively injecting oscillations from said one oscillator into the frequency-determining means of said other oscillator to synchronize the frequency of the oscillations of said other oscillator with the frequency of the oscillations of said one oscillator, a common output terminal, and coupling means for simultaneously applying the oscillations from each of said first and second oscillations to said common output terminal.

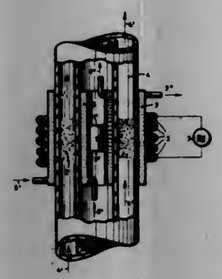


3,265,988
SUPERCONDUCTING METALLIC FILM MASER
Aly H. Dayem, Bernards Township, Somerset County, and Ping K. Tien, Chatham Township, Morris County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 13, 1963, Ser. No. 301,715
5 Claims. (Cl. 331—94)



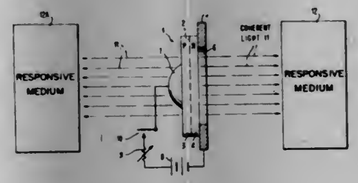
1. A maser comprising:
a resonant cavity;
a source of radiant energy for energizing said cavity;
said source comprising a multilayer structure including first, second and third conductively insulated superconducting strips;
electrical biasing means for inducing electron tunneling from said first strip to said second strip and from said second strip to said third strip;
and means for tuning said cavity to the frequency corresponding to the forbidden energy gap of said second superconducting strip.

3,265,989
LASER APPARATUS USING HIGH FREQUENCY ELECTRODELESS DISCHARGE PUMPING
Karl Gürs, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed Apr. 13, 1962, Ser. No. 187,318
Claims priority, application Germany, May 16, 1961, S 73,981
9 Claims. (Cl. 331—94.5)



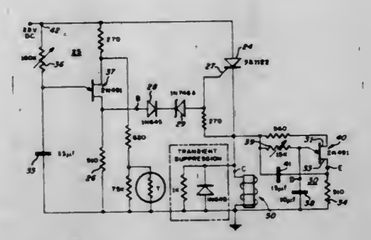
5. An apparatus for light amplification comprising a laser crystal, a vessel surrounding said crystal for holding a gas, and a high frequency coil for inducing electric currents in the gas and producing an electrodeless gas discharge, whereby the crystal is exposed to electrical pumping action by radiation from the plasma of the discharge.

3,265,990
STIMULATED EMISSION OF RADIATION IN SEMICONDUCTOR DEVICES
Gerald Burns, Peekskill, Frederick H. Dill, Putnam Valley, William P. Dumke, Chappaqua, Gordon J. Lasher, Briarcliff Manor, and Marshall I. Nathan, Mount Kisco, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 15, 1962, Ser. No. 230,607
13 Claims. (Cl. 331—94.5)



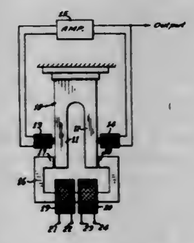
1. Apparatus exhibiting stimulated emission of radiation comprising:
a body of semiconductor material having a direct band gap and exhibiting a strong direct radiative transition in the vicinity of said band gap involving an energy less than that necessary to move a current carrier from the conduction band to the valence band; and
means including a p-n junction in said body and current supply means coupled to said junction for forward biasing said junction to inject electrical current carriers into said body in excess of a threshold density to produce stimulated emission of radiation at said energy less than that necessary to move a current carrier from the conduction band to the valence band.

3,265,991
SILICON CONTROLLED RECTIFIER CHOPPER CIRCUIT
Donald C. Ferguson, Scottsdale, Ariz., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Jan. 29, 1964, Ser. No. 340,978
3 Claims. (Cl. 331—111)



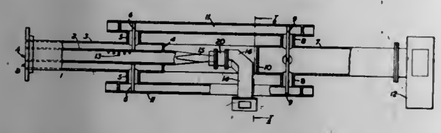
1. A chopper circuit comprising
a source of direct current,
a load,
a silicon controlled rectifier having cathode, anode and gate electrodes,
means for applying a pulse to said gate electrode to turn on said silicon controlled rectifier,
said cathode and anode electrodes being connected in series circuit with said source of direct current and said load,
a capacitor,
and an oscillator having an impedance element across which a voltage pulse is produced upon each cycle of the oscillator,
said capacitor being connected in series with said impedance element in shunt across said load,
said capacitor charging through said impedance element toward the potential developed across said load when said silicon controlled rectifier is turned on,
said voltage pulse adding to the charge of said capacitor to reverse-bias the cathode and anode electrodes of said silicon controlled rectifier thereby to turn off said silicon controlled rectifier.

3,265,992
PULSED OSCILLATOR WITH START STOP CONTROLS
Myron Pleasure, Jackson Heights, N.Y., assignor to Litton Systems, Inc., a corporation of Maryland
Filed Feb. 24, 1961, Ser. No. 91,540
14 Claims. (Cl. 331—156)



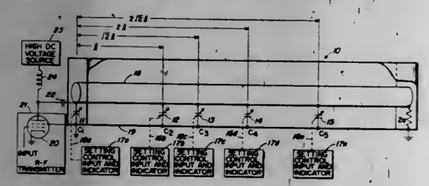
8. A signal source comprising a vibratory member having a resonant vibratory period, means coupled to said member to generate oscillations under control of the vibration of said member, and electric clamping means adjacent the vibrating portion of said vibratory member for instantaneously arresting vibration of said member at will.

3,265,993
INTEGRATED COUPLING UNIT FOR TWO INDEPENDENT WAVEGUIDE CHANNELS
Cyril Frank Davidson, Edgware, and Ivor Albert Ravenscroft, Radlett, England, assignors to Her Majesty's Postmaster General, London, England
Filed Feb. 13, 1964, Ser. No. 344,577
13 Claims. (Cl. 333—1)



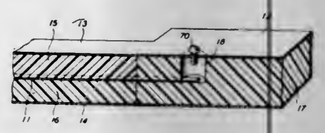
1. A waveguide coupling unit comprising a coaxial first waveguide section having circular inner and outer conductors, a circular second waveguide section longitudinally spaced apart from the first waveguide section, a plurality of further waveguides coupling together the first and second waveguide sections so that an electromagnetic disturbance present in either one of the first and second waveguide sections gives rise to an analogous disturbance in the other one of these sections, each of the further waveguides being displaced from the axes of both the first and second waveguide sections, a feeder waveguide section that extends between adjacent of the further waveguides and which is coupled to the interior of the said inner conductor of the first waveguide section, the unit providing thereby two separate microwave transmission paths one defined by the outer conductor of the first waveguide section in combination with the further waveguides and the second waveguide section and the other defined by the inner conductor of the first waveguide section in combination with the said feeder waveguide.

3,265,994
RADIO FREQUENCY COUPLING TRANSMISSION LINE CIRCUITRY
Warren B. Bruene, Cedar Rapids, and Vincent R. De Long, Marion, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed June 10, 1964, Ser. No. 373,955
18 Claims. (Cl. 333—17)



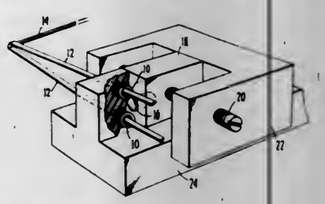
1. In a radio frequency transmission line coupling network, a multi pi-section transmission line having a center coaxial line conductor and an outer coaxial line conductive casing; multiple adjustable capacitors connected between the center coaxial conductor and the outer coaxial conductive casing at longitudinally spaced capacitor station locations along the transmission line; means for adjustably setting the capacitive value of capacitors located at the capacitor stations; a capacitor station located at the input end of the transmission line adjustable as a tuning capacitor regardless of the length of transmission line resonated for a desired frequency matching operation, with the capacitance of the capacitor station at the end of the length of transmission line resonated being adjusted as the loading capacitor for the frequency desired within the relative frequency range of adjustment of the increased transmission line length from the previous capacitor station, and with all other capacitor stations being adjusted to minimum capacity.

3,265,995
TRANSMISSION LINE TO WAVEGUIDE JUNCTION
Joji Hamasaki, Tokyo, Japan, assignor to Bell Telephone Laboratories Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 18, 1964, Ser. No. 352,739
6 Claims. (Cl. 333—21)



1. In combination, a section of two-conductor transmission line, a section of conductively bounded rectangular waveguide, means for coupling electromagnetic wave energy from one of said sections to the other of said sections, said means comprising a solely longitudinal extension of one conductor of said two-conductor transmission line section into said waveguide section, a region having a first dielectric constant extending between said longitudinally extended conductor and one of the broad walls of said waveguide section, the remainder of said waveguide section having a dielectric constant different than said first dielectric constant.

3,265,996
DELAY LINE
Neil L. Wiseman, Pleasanton, Calif., assignor to Friden, Inc., a corporation of Delaware
Filed Sept. 30, 1963, Ser. No. 312,674
10 Claims. (Cl. 333—30)

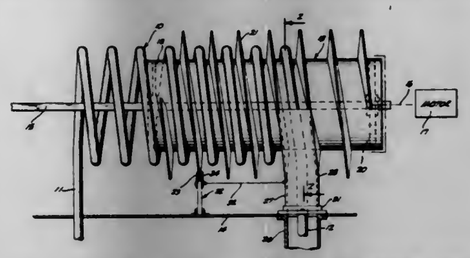


1. In an electromagnetic transducer for a traveling signal wave, an electric coil extended along the path of travel of said wave for interacting with said wave, the intensity of the action between said wave and each portion of said coil being a function of the intensity of a magnetic field at said portion of the coil, and means separate from said coil for producing a nonuniform magnetic field at said coil, the intensity of which field varies along said path of travel of said wave according to a desired, nonuniform, sensitivity profile for imposing a corrective alteration on the wave shape of an output signal from said transducer.

3,265,997
VARIABLE INDUCTOR
Roy H. Olson, Palos Verdes Estates, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 7, 1964, Ser. No. 402,217
4 Claims. (Cl. 333—73)

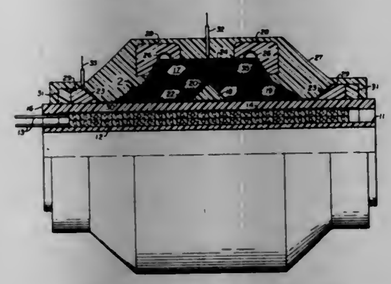
1. A variable inductor comprising a rigid conductive coil of uniform pitch and radius, said coil having input and output conductors; means for enveloping determinable portions of the turns of said rigid coil on two sides between successive turns thereof and on no less than one of the inner and outer sides of the turns thereof by a conductive material thereby to convert said determinable portions into a helical transmission line of substantially

constant impedance whereby the remaining portions of said coil provide a selected inductance; and means disposed about said output conductor and juxtaposed to at



least a portion of said conductive material adjacent thereto thereby to provide a stationary transmission line output form said variable inductor.

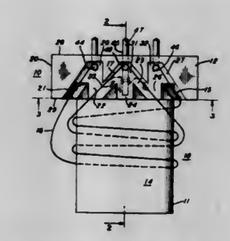
3,265,998
COMPACT HIGH VOLTAGE TRANSFORMER HAVING MORE UNIFORM EQUIPOTENTIAL LINE SPACING
Charles W. Park, Oakland, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 14, 1964, Ser. No. 359,804
9 Claims. (Cl. 336—70)



1. In a high voltage transformer of the class having solid insulation, the combination comprising a core, an annular primary winding disposed on said core, a multilayered annular secondary winding having a progressively smaller axial dimension, a discontinuous annular conductive shield disposed between said primary and secondary windings in coaxial relation thereto, said shield having outwardly flaring ends projecting from between said primary and secondary windings, and an insulative potting material disposed around said primary and secondary windings and having regions with differing dielectric constants related to the dielectric stress of the adjacent areas of said secondary winding, the portions of said insulative potting material which are situated within said flared ends of said shield having a high dielectric constant relative to adjacent portions of said potting material.

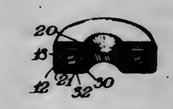
3,265,999
BOBBIN WITH SLOTTED FLANGE FOR TERMINAL ACCESS
Robert L. Kessel, Columbus, Ohio, assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 26, 1964, Ser. No. 370,175
7 Claims. (Cl. 336—192)

1. A bobbin comprising:
a winding member;
a winding space surrounding said winding member;
a support extending outwardly from said winding member, said support including an outer surface, an inner surface separating said support from said winding space, and a periphery interconnecting said outer and inner surfaces;
terminal means embedded in said support with a first portion protruding through said outer surface and a second portion protruding through said periphery; and



a plurality of individual spaces cut in the periphery of said support, said spaces being disposed side by side and each having a portion occupied by the second portion of a terminal, another portion extending through said inner surface to said winding space, and another portion opening into a counterpart portion of an adjacent space.

3,266,000
IMPREGNATED TOROIDAL TRANSFORMER HAVING RADIALLY SPACED WINDINGS
Mark Markarian, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Nov. 29, 1963, Ser. No. 327,134
3 Claims. (Cl. 336—229)



1. A transformer having a toroidal core with an open center not more than about ½ inch in width, a first winding layer toroidally wound on said core, a first spacer ring having a dielectric constant less than 3 around the core and against the radially outer portions of the first winding layer, a second spacer ring having a dielectric constant less than 3 within the open center of the core and against the radially inner portions of the first winding layer, each ring having an axial height greater than that of the first winding layer by an amount sufficient to clear that layer, a second winding layer toroidally wound on the ring-and-core assembly, and a dielectric impregnant between the winding layers and anchoring them in place.

3,266,001
TEMPERATURE SENSORS AND THEIR MANUFACTURE
Harry M. Landis, Norton, and Joseph W. Waseleski, Jr., Mansfield, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 19, 1963, Ser. No. 331,712
3 Claims. (Cl. 338—22)

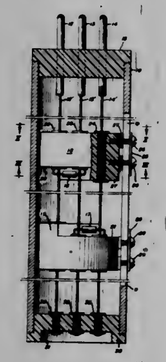
3. An NTC electrical temperature sensor having a voltage-adjustable repeatable resistance-breakdown temperature, comprising inner and outer substantially coaxial spaced malleable electrodes defining a substantially axially disposed annular space therebetween, a compacted mass of particles located in said space, the material composing said particles being selected from the group consisting

of inorganic insulators, inorganic semiconductors, crystalline organic conductors and glass, said mass surrounding said core throughout a substantial portion of the axial length of said annular space to form an annular conductive path between the electrodes, a number less than all of the particles in the mass being solid-phase interatomi-



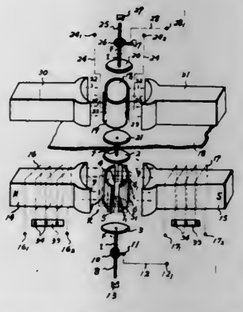
cally bonded to one another such that the compacted mass will be strengthened but have a resistivity greater than that of the resistivity of an equal solid mass of the material, particles lying adjacent to the inner and outer electrodes being solid-phase interatomically bonded thereto respectively to provide substantial holding strength between the electrodes and the mass.

3,266,002
CRYOGENIC PROBE
Edward W. O'Hanlon, Somerville, N.J., assignor to Malaker Laboratories, Inc., High Bridge, N.J., a corporation of New Jersey
Filed Dec. 7, 1962, Ser. No. 243,068
12 Claims. (Cl. 338—28)



2. A temperature-sensing probe comprising,
(a) a tubular housing,
(b) longitudinally-extending electrically-conductive guide means within the housing and having ends secured to the corresponding ends thereof,
(c) terminal means for connecting the guide means to an external electrical circuit,
(d) an insulating slider within the housing and movable along the said guide means,
(e) a temperature-sensing element carried by the slider, and
(f) means including said guide means for establishing positive electrical continuity between the sensing element and said terminal means only when the probe is subjected to cryogenic temperatures.

3,266,003
NON-CONTACT POINT A.C. AND D.C. RELAY HAVING DIRECTIONAL, TIME-LIMITING AND FORECASTING PROPERTIES
Yoriyuki Nieda, 5 Matsugaoka, Kanagawa-ku, Yokohama, Japan
Filed Nov. 9, 1962, Ser. No. 236,646
Claims priority, application Japan, Nov. 11, 1961, 36/40,449
3 Claims. (Cl. 338—32)

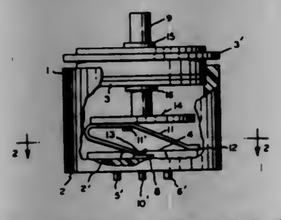


1. In a non-contact electrical relay the combination comprising spaced magnetic poles, electroconductive rotary shaft means operatively disposed between said spaced magnetic poles, said shaft means including electrical terminal connector means and semiconductor plate means, means mounting said shaft means on a rotary axis perpendicular to flux lines between said spaced magnetic poles, rotary coil means secured to said shaft means for rotation therewith and having a pair of electric leads, said semiconductor plates means comprising a hollow cylindrical body divided into a plurality of arcuate portions, each arcuate portion defining a pair of spaced edge faces, said arcuate portions being disposed with the edge face of one arcuate portion being opposed to the edge face of an adjacent arcuate portion, an electromotive force terminal member for each edge face of the semiconductor arcuate portions, an electrical connection between an electromotive force terminal member on one arcuate portion and an electromotive force terminal member on another arcuate portion, electrical connection means between one electric lead of said rotary coil means and one electromotive force terminal member, and electrical connection means between the other electric lead of said rotary coil means and another electromotive force terminal member.

3,266,004
POTENTIOMETER
Harvey M. Fox, 14 Stimson Ave., Lexington, Mass., and William A. Crossland, Waltham, Mass.; said Crossland assignor to said Fox
Continuation of application Ser. No. 312,546, Sept. 30, 1963. This application May 20, 1965, Ser. No. 457,333
1 Claim. (Cl. 338—174)

A potentiometer assembly having, in combination, a one-piece cylindrical insulating plastic housing having an integral wall closing off one end of the housing, the housing being open at the other end, a raised annular conductive-plastic track integrally molded upon the inner surface of said integral end wall coaxially with said housing and having an exposed surface which lies in a plane orthogonal to the axis of said housing, said track having a pair of ends separated by insulation integrally molded

thereto to produce a closed ring integral with said housing, the side wall of said housing extending from said integral end wall well beyond said track, thereby to shield said track from damage, a pair of electric terminals connected to said ends of the track and extending through said integral end wall to permit external connection to a source of electric potential, a conductive surface disposed upon said inner surface of said integral end wall at the center of the track and connected through the said integral end wall to a further external terminal, a cover fitted to close off said other end of the housing, said cover being supported on an annular internal step of said side wall and having an annular flange spaced from the said other end of said housing when the cover is seated on said step to permit panel mounting of said potentiometer, said cover having a tubular bearing-containing recess extending therethrough coaxially with said housing, a shaft extending from outside the cover through the recess along



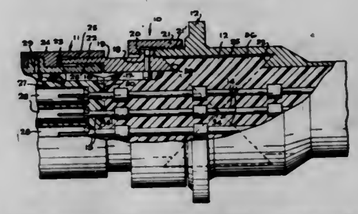
the axis of the cylindrical housing within the same and supported by the cover-recess bearings, said cover having a substantial thickness to stabilize said shaft, whereby orthogonality of the plane of the exposed surface of the track and said shaft is ensured, the shaft carrying near its inner end a pair of electrically connected conductive contactors one of which extends radially from the shaft to enagage and ride upon the exposed surface of the raised track and the other of which brushes against the said integral end wall conductive surface, said contactors comprising resilient integral arms of a conductive ring secured to an insulator disc fitted to the inner end of said shaft, the resilient arm of said one contactor and the resilient arm of said other contactor being bent from opposite ends of said conductive contactor ring, said one contactor arm extending radially away from the axis of said shaft and said other contactor arm extending radially toward said shaft axis.

3,266,005
APERTURED THIN-FILM CIRCUIT COMPONENTS
John W. Balde, Raritan Township, Hunterdon County, and Claude A. R. Kagan, Hopewell Township, Mercer County, N.J., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 15, 1964, Ser. No. 359,828
1 Claim. (Cl. 338—308)



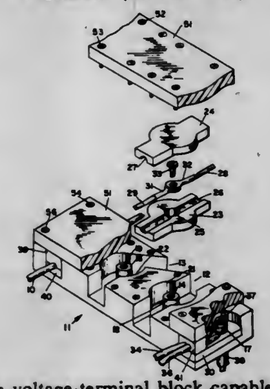
A thin-film resistor, which comprises:
an electrically nonconductive substrate; and
an electrically resistive thin film of tantalum nitride deposited on the substrate in a predetermined lattice-like pattern made up of a plurality of fine lines of the electrically resistive material approximately 1200 angstroms thick, 1 mil wide and 50 mils long forming electrically parallel paths and provided with a plurality of electrically resistive cross-connections approximately 1 mil long and 1 mil wide between the parallel paths at predetermined intervals to minimize the effect of any openings in the parallel paths on the electrical characteristics of the resistor and to improve the reliability of the resistor, the length of the portions of the parallel paths between the electrically resistive cross-connections limiting the variation in resistance of the resistor caused by openings in the parallel paths.

3,266,006
TEMPERATURE-COMPENSATED CLAMP SEAL
John R. Abbott, Sherman Oaks, Calif., assignor to Gray & Huleguard, Inc., Santa Monica, Calif., a corporation of California
Filed Feb. 12, 1962, Ser. No. 172,665
4 Claims. (Cl. 339—60)



1. A temperature compensated clamp assembly including the combination of
a plurality of coaxial members having different thermal coefficients of expansion,
said members being clamped together at first and second re-entrant frusto-conical interfaces,
said first and second interfaces tapering axially oppositely and having apices proximate the same location on the axis whereby relative thermal expansion and contraction of said members will not result in appreciable variation of the clamping force transmitted at said interfaces.

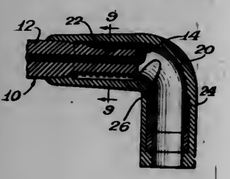
3,266,007
HIGH VOLTAGE TERMINAL BLOCK
Frederick R. Sullivan, Auburn, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed May 18, 1964, Ser. No. 368,102
9 Claims. (Cl. 339—198)



1. A high voltage terminal block capable of high altitude usage without arcing or corona disabilities comprised of:
(A) a terminal body having at least one transverse channel thereacross,
(B) a terminal post disposed in said channel to carry a set of electrical high voltage lead wires,

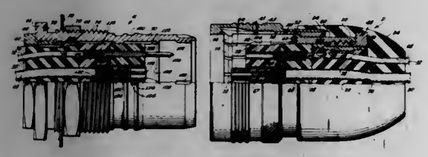
(C) fastening means to secure said electrical leads to said terminal post,
(D) a plurality of shaped resilient preformed inserts mounted in mating relationship in said channel,
(E) a first one of said shaped resilient inserts mounted beneath said electrical leads and extending along the bottom of said channel,
(F) a second resilient preformed insert mounted above and in mating contact with said electrical leads and said preformed insert to thereby totally encapsulate said electrical leads and said terminal post and prevent the possibility of possible high voltage arcing and corona effects to adjacent objects, and
(G) a top plate securely mounted on said terminal body and in contact with said second preformed insert to thereby assure the electrical integrity of said electrical lead wires.

3,266,008
ELECTRICAL TERMINAL AND METHOD OF APPLYING SAME TO CONDUCTORS
Howard A. Elliott, Detroit, Mich., assignor to Essex Wire Corporation, Fort Wayne, Ind., a corporation of Michigan
Filed Jan. 13, 1964, Ser. No. 337,291
2 Claims. (Cl. 339—223)



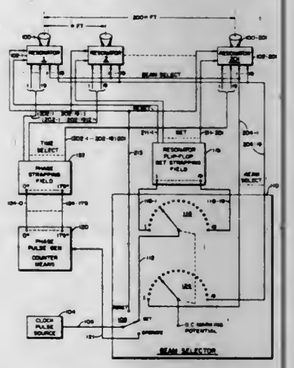
2. In combination,
an ignition cable having an outer sheath of electrical insulation material and an inner core of non-metallic fibrous strands coated with an electrically conductive carbonaceous material; said core having an end portion thereof extending beyond one end of said sheath and folded over said one end of said sheath;
said end portion of said core being impregnated with a conductive medium comprising a dispersion of carbon particles in a resinous base for binding the strands of said end portion of said core together, and
an electrical terminal having a ferrule portion of sheet metal extending around and tightly crimped onto said end of said sheath and the impregnated end portion of said core with said ferrule portion in electrically conductive engagement with said impregnated core.

3,266,009
MULTI-CONTACT ELECTRICAL CONNECTOR
Irving K. Jensen, Los Angeles, and Robert G. Pierce, Pico Rivera, Calif., assignors to Microdot, Inc., Pasadena, Calif., a corporation of California
Filed Dec. 8, 1961, Ser. No. 157,974
15 Claims. (Cl. 339—89)



1. In a multi-contact connector assembly for mating with a similar complementary multi-contact connector device of a multi-contact electrical connector, a housing shell formed with a rearwardly facing internal shoulder, insulating means comprising at least one body telescoped into said housing shell in abutment against said internal shoulder, a plurality of contact elements enclosed by said insulating means, a corresponding plurality of insulation-covered wires connected to the contact elements respectively, and
an elastomeric body abutting the rear end of said insulation means, said elastomeric body having a plurality of longitudinal passages therethrough embracing said insulation-covered wires, respectively;
an internally tapered follower sleeve constricting said elastomeric body into sealing engagement with said insulation-covered wires;
said follower sleeve abutting said insulating means and having a rearwardly directed peripheral shoulder at a position rearwardly of the internal shoulder in the housing shell;
retaining means disposed on the follower sleeve at the rearward end of the follower sleeve and in engagement with the rear end portion of the housing shell; and
annular spring means disposed on said follower sleeve and interposed between said peripheral shoulder of the follower sleeve and said retaining means under compression by the retaining means to exert a force against the follower sleeve in a direction for pressing the elastomeric body against the contact elements and for maintaining the insulating means under longitudinal compression and for providing a tolerance with respect to the longitudinal dimension of the insulating means.

3,266,010
PHASE CONTROL SYSTEM FOR USE IN PRODUCING A VARIABLE DIRECTION BEAM FROM A FIXED TRANSMITTING ARRAY
Barrie Brightman, Webster, and Charles R. Fisher, Jr., of Pittsford, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Oct. 25, 1963, Ser. No. 318,948
4 Claims. (Cl. 340—5)



1. Phase control apparatus for individually generating a given plurality of different sinusoidal signals all having the same frequency but having predetermined phase relationships with respect to each other, said apparatus comprising individual means for each of said signals including a low-pass filter, a bistable device having first and second inputs and an output, said device being switched from a first stable condition thereof to a second stable condition thereof in response to a pulse being applied to the first input thereof and being switched from said second stable condition thereof to said first stable condition thereof in response to a pulse being applied to the second input thereof, the output of said

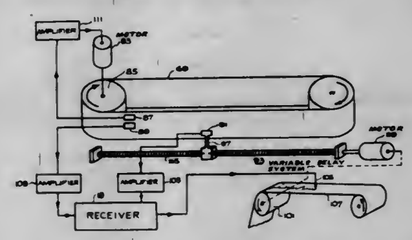
device having a first given signal level when said device is in its first stable condition and having a second given signal level when said device is in its second stable condition, and means for applying the output of said bistable device as an input to said filter; and common control means including a clock pulse source for generating periodic trigger pulses at a given repetition rate, commutator means including a cyclically-operated counter coupled to said clock pulse source for sequentially applying successive trigger pulses from said source to separate ones of a predetermined number of output terminals of said commutator means, and coupling means for connecting both the first and second inputs of each respective bistable device to a respective preselected one of said output terminals in accordance with a predetermined phase pattern, whereby each of said bistable devices produces a square-wave output signal having a fundamental frequency equal to said pulse repetition rate of said clock pulse source divided by twice said predetermined number of said output terminals of said commutator means and having a relative phase which depends on the initial stable condition of that bistable device and on that preselected one of said output terminals of said commutator means to which the first and second input terminals of that device are connected, said low-pass filter of each individual means passing only the fundamental frequency of the square-wave output signal applied as an input thereto.

3,266,011
HYDROPHONE
Frank Massa, Cohasset, Mass., assignor, by mesne assignments, to Dynamics Corporation of America, New York, N.Y., a corporation of New York
Filed Dec. 18, 1961, Ser. No. 160,021
6 Claims. (Cl. 340—8)



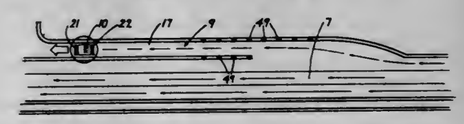
1. In an electroacoustic symmetrical transducer for operating underwater, the combination of a transducer element having a pair of opposite end faces in parallel planes and capable of generating an alternating voltage upon application of an alternating pressure to said end faces, electrode means associated with said transducer element for delivering said alternating voltage, a pair of similar rigid end plates on a common axis having spaced facing generally flat surface portions in parallel planes transverse to said common axis and having convex outer surfaces symmetrical about said common axis, the ratio of the projected area of each end plate to the area of each end face of said transducer element being in the approximate range of 10 to 100, means bonding said end faces of said transducer element to said facing generally flat surface portions of said end plates with said transducer element being symmetrically disposed on said common axis for defining a peripheral space between said end plates and around said external surface of said transducer element, cable means connected electrically to said electrode means and arranged to support said transducer at a peripheral point such that said end plates are maintained in symmetrical relation on said common axis, and low acoustic impedance means at least partially filling said peripheral space and arranged to provide support to said cable and end plates to maintain both end plates in symmetrical relation with said common axis such that the compliance of the transducer is substantially determined by the compliance of said transducer element.

3,266,012
CONTINUOUS WAVE APPARATUS WITH DELAY GATED FILTER
Tom Prickett, Jr., Richardson, and John P. Woods, Dallas, Tex., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 1, 1960, Ser. No. 66,550
3 Claims. (Cl. 340—15.5)



1. A geophysical continuous wave analyzing system for determining the travel time of a seismic signal of cyclically varying frequency received at a point remote from the point of generation of said signal and recorded on a record medium by comparing said seismic signal with a second signal of cyclically varying frequency having the same frequency variations as said seismic signal and recorded in side-by-side relationship with said seismic signal on said record medium, comprising:
(a) means for rotation of the record medium,
(b) a first detector mounted adjacent said record medium and adapted to detect said seismic signal and convert it to a first electrical signal,
(c) a second detector mounted adjacent said record medium and adapted to detect said second signal and convert said second signal to an electrical signal,
(d) a variable delay means connected to the output of said second detector,
(e) a filtering unit connected to the output of said first detector and the output of said delay means whereby the pass band of said filtering unit is controlled by the output from said delay means and said first signal is passed through said filtering unit when said first signal and the delayed second signal are in time phase with one another, and
(f) recording means connected to the output of said filtering unit and adapted to record the output of said filtering unit.

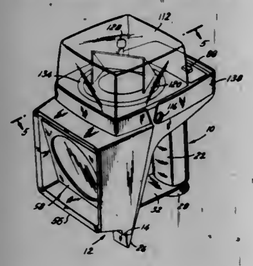
3,266,013
FREEWAY SAFETY DEVICE
Lothar V. B. Schmidt, 1246 Daniels Drive, Los Angeles, Calif.
Filed Apr. 24, 1964, Ser. No. 362,381
4 Claims. (Cl. 340—31)



4. A vehicle arresting device for stopping vehicles approaching freeway ramps in the wrong direction, and comprising, a framework sunk beneath the ramp surface, a

grating mounted on the top of the framework forming a continuation of said surface, a trip panel disposed at one end of the framework, an energy storage tank disposed within the framework, two cylinders secured within the framework for operation longitudinally thereof by said storage tank in response to actuation of the panel, a shaft mounted between longitudinal guides for movement in a rotational and longitudinal manner with respect to the framework, arrester jaws secured to the shaft and protruding radially therefrom, a floating linkage extending between the cylinders and the ends of the shaft causing rotation thereof, said jaws adapted to project through and above said grating in response to rotation of the shaft to engage a vehicle, and shock absorbers restraining longitudinal movement of the shaft and jaws with respect to the framework.

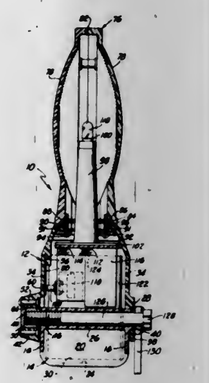
3,266,014
ROTATING BEACON LANTERN
Samuel S. Leotta, Hatboro, Pa., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Jan. 21, 1964, Ser. No. 339,128
10 Claims. (Cl. 340—50)



1. A rotating beacon lantern comprising a bearing plate having a bearing therein surrounded by openings, a source of light below said openings and passing a beam of light therethrough, a transparent disc rotatably supported in said bearing in closely parallel-spaced position with respect to said bearing plate, a mirror mounted on said disc by supports integrally formed therewith and being adapted to reflect said beam, and means for rotating said disc with the mirror thereon thereby converting the stationary beam of said source into a rotating beam, said transparent disc and said mirror supports constituting a single rigid unit of substantial strength.

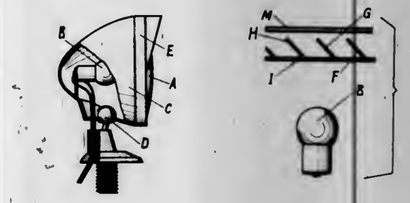
3,266,015
PORTABLE, BATTERY-OPERATED WARNING LIGHT FOR MOUNTING ON BARRICADES AND THE LIKE
Thomas E. Pickering, Newport, Calif. (% Paralta Equipment Company, 2147 E. 37th St., Los Angeles, Calif.), and Wayne M. Becker, Los Angeles, Calif.; said Becker assignor to said Pickering
Filed Mar. 19, 1962, Ser. No. 180,430
15 Claims. (Cl. 340—81)

1. A portable, battery-operated warning light, comprising:
a housing for receiving an electrical battery and containing an upper wall and a side wall;
an aperture in said upper wall;
a hollow lens assembly mounted on the upper wall of the housing in alignment with said aperture;
an elongated stem portion having a lamp-receiving socket at the upper end thereof extending through the aperture and into the interior of the lens assembly, the lower end of the stem portion being provided with a base portion removably fastened to the upper wall of the housing;
a switch assembly mounted on said base portion and depending into the housing, said assembly including a reciprocating actuating member positioned adjacent the side wall of the housing;
a small opening in said side wall in substantial alignment with the actuating member;
a flat resilient pressure transmitting member fastened within the housing so as to extend between the small



opening and the actuating member, said pressure transmitting member normally being positioned against the side wall of the housing to impede the entry of rain water and to give the appearance that the opening is blocked; and
contact means contained on the base portion interconnected with the lamp base and the switch assembly, said contact means being engaged by a battery positioned in the housing.

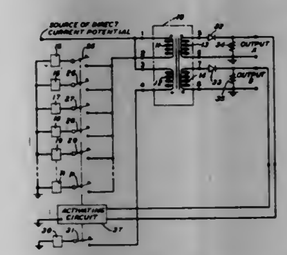
3,266,016
OUTSIDE SIGNAL FOR AUTOMOBILES
Mamoru Maruyama, % Maru-sho, Taisei Bldg., 78 6-chome, and Shigeru Maruyama, Sumiyoshi-cho, 426 Rokkakubashi-machi, both of Yokohama, Japan
Filed Aug. 6, 1964, Ser. No. 387,887
1 Claim. (Cl. 340—98)



A rear-view mirror combining the functions of a turn-indicator on automotive vehicles through use of a semi-opaque one-way mirror comprising: a housing having an opening; a semi-opaque one-way mirror having a mirror surface extending across said opening; mounting means for mounting an indicator lamp within said housing whereby direct and reflected rays are concentrated from the enclosed lamp on the mirror surface causing the mirror surface to glow and thus serve as a clearly visible turn-indicator while also functioning as a rear-view mirror when the lamp is not flashing; a baffle means being disposed within said housing intermediate said mirror and

mounting means for both directing and diverting light in a given direction when the lamp is flashing, the baffle means including a number of baffle blades set in a predetermined angle relative to the mirror, the surface of the blades facing the mirror being non-reflective and the surface of the blades facing the mounting means being reflective whereby light from the lamp is adapted to be directed away from the automobile driver and the rear-view mirror is adapted to function as a rear-image catcher when the lamp is flashing.

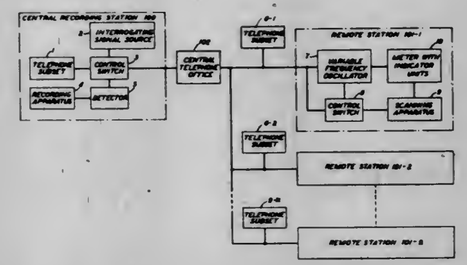
3,266,017
PLURAL ELECTRICAL PATHS MONITORED BY COMPARISON OF TRANSIENTS
Daniel Danielsen, Wall, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 2, 1962, Ser. No. 227,813
8 Claims. (Cl. 340—149)



1. An automatic path verifier comprising:
a plurality of substantially identical electrical paths;
means for selectively completing said paths;
means for producing a transient reference current;
means for comparing said reference current with the transient current induced when any of said paths is completed;
and means for inducing a corrective output signal when the number of completed paths is any number different than one.

3,266,018
TELEMETERING SYSTEM FOR READING REMOTELY LOCATED UTILITY METERS
Neil S. Higgins, Jersey City, N.J., assignor to American Telephone and Telegraph Company, New York, N.Y., a corporation of New York
Filed Oct. 4, 1962, Ser. No. 228,333
5 Claims. (Cl. 340—151)

1. A telemetering system that comprises
a central station including
a source of interrogating signal,
a plurality of remote stations,
transmission medium for sending said interrogating signal from said central recording station to said remote stations,
means at each of said remote stations for automatically converting said interrogating signal into a data signal representative of the reading of each of said remote stations, each of said converting means including
a meter having a plurality of indicator units, each of said indicator units including
a stationary dial face and an indicating pointer therefor secured to a rotatable shaft driven by said meter,
a plurality of code discs mounted on said rotatable shaft in substantially parallel spaced relation to said dial face, the annulus of each of said code discs being constructed of magnetic and nonmagnetic sectors according to a prearranged code, and
a plurality of switching means each of which is provided with a pair of magnetically actuated contacts separated by a gap and is disposed with respect to one of said code discs so that the gap between said contacts is closed whenever the edge of a magnetic sector of the respective disc is rotated by said shaft to be in juxtaposition with said gap,
a plurality of resistance networks corresponding to said plurality of indicator units, each of said resistance networks being provided with an input terminal, an output terminal, and a plurality of series-connected resistance elements in one-to-one correspondence with said switching means in each of said indicator units,

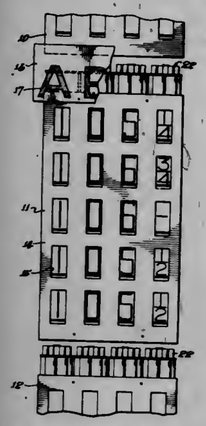


means for connecting each of said switching means in parallel with said corresponding resistance element so that the resistance of said network varies as said discs are rotated by said shaft with respect to said switching means,
means for sequentially applying said interrogating signal to the input terminal of each of said resistance networks,
oscillator means for developing from said sequentially applied interrogating signal a data signal comprising a sequence of components each having a frequency representative of the resistance of one of said networks,
common conducting means for connecting the output terminals of said networks to said oscillator, and
means for connecting said oscillator means to said transmission medium.

3,266,019
DISPLAY BOARD HAVING CONCENTRIC CYLINDER INDICATING ELEMENTS
Howard W. Beckwith, Malibu, Calif., assignor to Scantlin Electronics, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Aug. 24, 1962, Ser. No. 219,260
15 Claims. (Cl. 340—154)

1. In a board for displaying a plurality of symbols in a matrix of rows and columns, the combination of:
a plurality of symbol units, each of said symbol units comprising a pair of concentric cylinders, each cylinder having a series of symbols on the outer surface thereof, the outer cylinder having an aperture for viewing of the inner cylinder symbols;
a plurality of shafts arranged in a row, with each shaft carrying a plurality of symbol units in a column, each shaft and associated inner cylinder including means engageable to drive the inner cylinder in one direction when the shaft is rotated in said one direction, each shaft and associated outer cylinder including means engageable to drive the outer cylinder in the opposite direction when the shaft is rotated in said opposite direction;

column means for rotating each of said shafts in either direction a predetermined angle; and

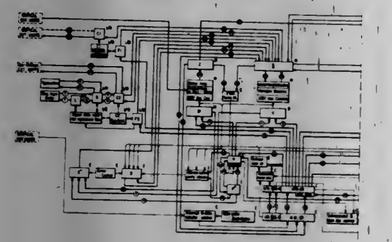


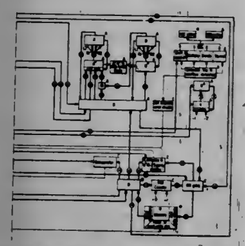
row means for engaging the cylinders of a row with the corresponding shafts for rotation therewith.

3,266,020
COMPUTER WITH ERROR RECOVERY

Adelbert W. Cheney, St. Paul, James C. Nelson, Rosemount, and William Weigler, St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 13, 1961, Ser. No. 137,805
55 Claims. (Cl. 340—172.5)



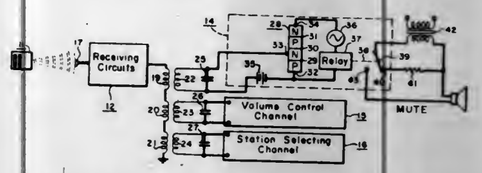


1. A system comprising in combination: an external unit; a computer responsive to signals from said external unit for executing a program in response to each signal; and means for indicating that said computer is incapable of functioning properly as a part of said system, said indicating means comprising a counter, means for adding a value to said counter when an error occurs in said computer, means for subtracting a value from said counter each time said computer executes a program in response to a signal from said external unit, and means responsive to a predetermined count in said counter for indicating that said computer is generating errors at a rate greater than the permissible rate of occurrence of errors of said system.

3,266,021
REMOTE CONTROL SYSTEM USING SEMICONDUCTOR SWITCHING DEVICES

Walter S. Druz, Hinsdale, Ill., and John Isabeau, Mountain View, Calif., assignors to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware

Continuation of application Ser. No. 109,329, May 11, 1961. This application Mar. 10, 1965, Ser. No. 440,067
8 Claims. (Cl. 340—171)



1. A remote control system for performing a predetermined control function in response to a received airborne command signal having a frequency above the range of audibility comprising:

means including a microphone and an amplifier for developing from said command signal an electrical control signal of a predetermined minimum duration and of a predetermined frequency related to that of said command signal;

a semiconductor switching device including input, output and control electrodes and having two operating states;

frequency selective means coupled between said signal developing means and said control electrode for applying to said control electrode only signals of a frequency substantially equal to that of said control signal;

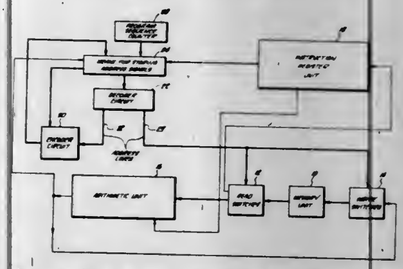
means normally maintaining said switching device in one of said operating states, but periodically conditioning said device during successive intervals individually short relative to said predetermined duration to respond to a coincidentally received control signal for actuating said device to its other operating state;

and control apparatus coupled to said switching device and responsive only to repeated actuation of said device to said other state during said successive intervals for performing a predetermined control function.

3,266,022
COMPUTER ADDRESSING SYSTEM

Robert C. Minnick, Menlo Park, and Edwin S. Lee III, Pasadena, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Jan. 8, 1962, Ser. No. 164,820
11 Claims. (Cl. 340—172.5)

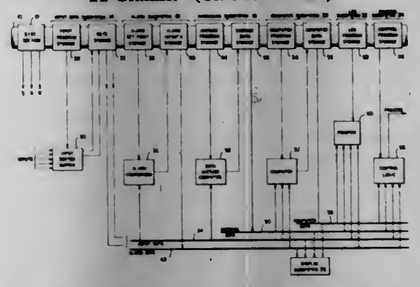


1. A stored program computer system the combination which comprises memory means having a plurality of memory locations containing digital signal bits therein including instruction signals, the instruction signals including at least one address therein, instruction storage means, arithmetic means, read and write circuit means coupled to said memory means and operative for serially transferring the signals between a memory location corresponding to an applied address signal and said instruction register means and arithmetic means, encoder means separate from the memory means and having an output circuit at which translated address signals are applied substantially in parallel corresponding to applied address signals, means coupled to the instruction register means and encoder means for applying a signal to the encoder means corresponding to a stored instruction address and means coupled to the parallel output signals from said encoder means for selectively applying a corresponding address signal to said read and write circuit means.

3,266,023
PARALLEL PROGRAM DATA SYSTEM

John V. Werme, Painesville, Ohio, assignor to Bailey Meter Company, a corporation of Delaware

Filed Feb. 23, 1962, Ser. No. 175,014
11 Claims. (Cl. 340—172.5)

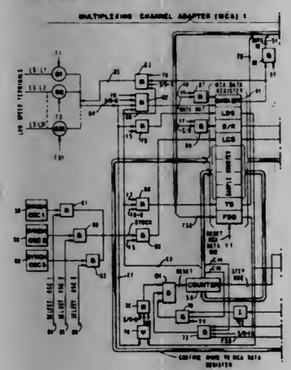


1. In a data handling system for performing a plurality of specific system functions, the combination comprising, a memory having a plurality of separate sections containing operational programs for each of the specific system functions respectively, and a plurality of functionally independent data handling subsystems associated with said memory sections respectively for performing the specific system functions in accordance with said operational programs.

3,266,024
SYNCHRONIZING APPARATUS

James R. Kersey and Harold R. Oeters, Poughkeepsie, and Robert M. Tomasulo, Staatsburg, N.Y., and Frederick M. Trapnell, Jr., Winchester, England, assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

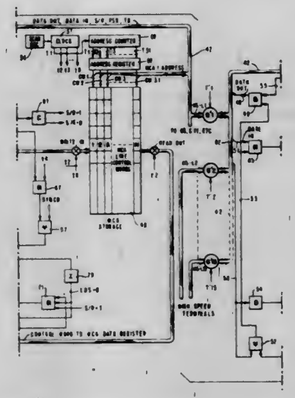
Filed May 31, 1962, Ser. No. 198,841
4 Claims. (Cl. 340—172.5)



1. Information transfer apparatus, comprising:

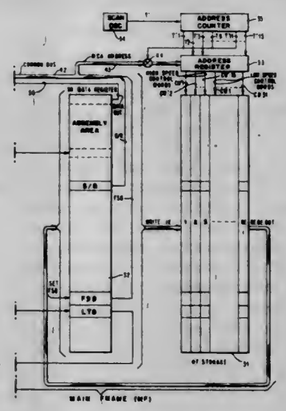
a line for receiving in a receiving mode, and sending in a sending mode, binary signals each signal being representative of an information element;

line storage means, connected to said line, for storing at first intervals as states a number of information elements, received from said line in said receiving mode and to be sent on said line in said sending mode,



said line storage means including control means for storing at said first intervals as a state a first timing signal which is reversed whenever a signal is received by said line storage means in said receiving mode and whenever a signal is sent by said line storage means in said sending mode;

message storing means, connected to said line storage means for storing at second intervals, coinciding with some of said first intervals, as states a plurality of information elements received from said line storage means in said receiving mode and to be sent to said line storage means in said sending mode,



said message storage means including control means for storing as a state a second timing signal;

comparison means connected to said line storage means and to said message storage means operable during said second intervals to compare said first timing signal stored in said line control means with said second timing signal stored in said message control means and for generating a comparison signal when the timing signals are stored as different states;

gating means connected to said comparison means, said message storage means and said line storage

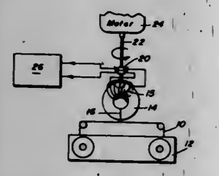
means operable by said comparison signal for transferring during said second intervals information elements between said line storage means and said message storage means; and

means operable after the transfer of said elements for changing the state of said second timing signal to agree with the state of said first timing signal.

3,266,025
MAGNETIC RECORDING HEAD WITH SPINNING FOR READOUT

Jacob Rabinow, Takoma Park, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Oct. 26, 1961, Ser. No. 147,960
3 Claims. (Cl. 340—174.1)



1. In a magnetic record playback system which includes a magnetic record having a plurality of adjacent binary bits recorded thereon, a transducing head having a gap located adjacent to the record, means for rotating said head about an axis passing through said gap and through one of said bits when said record is at rest to successively magnetically couple and decouple the head with one of said binary bits and thereby induce a signal in said head corresponding to the polarity of the recorded binary bit, and means for conducting said induced signal from said head during only portions of the revolutions of said head to thereby eliminate cross talk originating from bits adjacent to the bit confronting said gap.

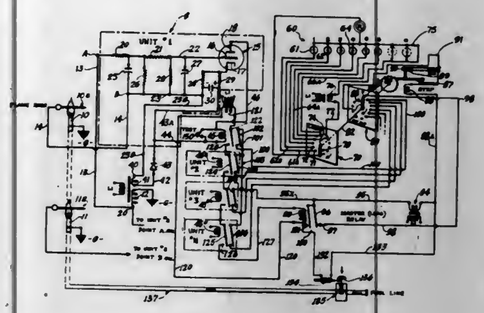
3,266,026
SUPERVISORY FLAME CONTROL

Ronald F. Plambeck, Chicago, Ill., assignor to Protection Controls, Inc., Skokie, Ill., a corporation of Illinois

Filed Mar. 4, 1960, Ser. No. 12,713
6 Claims. (Cl. 340—228)

1. In a flame supervisory system for a plurality of burners, and each including electrical flame-sensing means respectively operable to actuate a sensing relay responsive to the presence or absence of a flame at an appertaining burner, improvements comprising, namely: indicating means operably controlled by said sensing relay to search out and indicate which burner flame has failed, said indicating means including a plurality of indicating lamps, each designating a corresponding burner, an electromagnetically driven, rapid-acting stepping mechanism connected in a stepping circuit with a set of normally closed contacts on a master relay which are adapted to be opened on energization of said sensing relay, such that stepping occurs when said master relay is non-energized, and does not occur when said master relay is energized; a bank of search step contacts and a rotary search wiper cooperable therewith and actuated by said stepping mechanism, said wiper being connected in said stepping circuit to connect power thereto through any of said search contacts connected to power; contact means on each said sensing relay each connected to one of said search contacts and to a source of power and operable in a first predetermined operative condition of such sensing relay to connect stepping power to the apertaining search step contacts; chain contact means connected in a series circuit with said master relay and operable by each sensing relay in a second operative condition thereof to close an energizing circuit for the master relay whereby to hold the latter in actuated condition so long as all sensing relays are operated in the second-named condition and to drop out the master relay when any one of said sensing relays is in said predetermined first condition, such that stepping action as aforesaid will begin, and will continue, so long as said search and stepping wiper engages any search contact with power connected thereto by a sensing relay and will stop at the first search-step contact having no power thus connected thereto; a bank of lamp contacts and a lamp wiper cooperable therewith and driven by said stepping mechanism in step with said search wiper and connected in circuit with said lamps and lamp contacts to illuminate one of each of the same at each position corresponding to one of said search-step contacts; and dead index contact means included in said search-step contacts for automatically stopping said stepping action when all sensing relays are in the second-named operative condition.

3. A flame supervisory circuit comprising an electronic valve device having at least an anode, a cathode, and a control electrode for modifying anode current flow responsive to control voltage applied thereto; a flame-rectifier input circuit for said device comprising a source of alternating high voltage connected in a flame circuit to flame electrodes for conduction of a rectified unidirec-

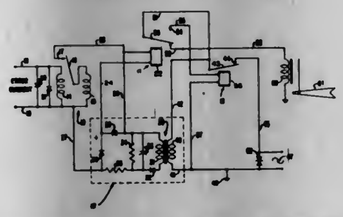


tional current thereacross, a first resistance connected in series with said flame circuit; a first capacitor in series with said first resistance, said first resistance and capacitor having a value providing a predetermined minimum impedance to alternating current flow in said flame circuit; said control electrode connecting through a second resistance many times higher in ohmic value than the first resistance to a junction with the first resistance and said first capacitor, said cathode connecting with said first capacitor in conjunction with the connection of the latter capacitor with one of said flame electrodes in said series circuit; and a second capacitor and third resistance respectively shunted across said control electrode and cathode, whereby said series circuit provides a low-impedance A.C. path for the flame electrodes, and said second and third resistances and second capacitor provide a high impedance signal input circuit for said control device to utilize rectified flame currrent derived from said series circuit to bias said control electrode positively at least a predetermined amount consistent with flow of substantial anode current to produce a first control condition; and means connecting with said cathode for rendering said control electrode substantially negative independently of rectifying action by said valve device in any part of said supervisory circuit, and in an amount at least equal to that of said positive bias to reduce the anode current to a desired minimum control value to produce a second control condition.

3,266,027
LOW-CURRENT ALARM FOR CATHODIC PROTECTION UNITS

Howard L. Nichols, Midland, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed June 17, 1963, Ser. No. 288,371
2 Claims. (Cl. 340—248)



1. An apparatus for monitoring an electrical circuit comprising:

(a) a galvanometer type meter relay having a set of contacts, a sensitive coil and a locking coil connected in circuit with said contacts, said locking coil being operable to add a contact-closing force to that of the sensitive coil;

(b) circuit means coupled to said sensitive coil for supplying a current representative of the electrical current being monitored by said apparatus;

(c) a load relay having a coil and contacts, a power supply coupled to the coil of said load relay to normally energize said load relay, the coil of said load relay in addition being coupled to one of the contacts of said meter relay;

(d) said power supply in addition being coupled to the other of the contacts of said meter relay, the contacts of said meter relay being disposed to short-circuit the coil of said load relay through the locking coil when the contacts of said meter relay close;

(e) an interrupting relay having a coil and contacts, a source of power, one side of said source of power being coupled to the contacts of said interrupting relay, the other side of said source of power being coupled to ground, the contacts of said interrupting relay in addition being coupled to the normally closed contacts of said load relay, one side of the coil of said interrupting relay being coupled to the normally open contacts of said load relay, the other side of the coil of said interrupting relay being coupled to ground; and

(f) an indicating device coupled to the normally closed contacts of said load relay and to ground whereby said load relay will supply power to said indicating device when said load relay is energized and interrupt said supply of power when said load relay is shorted.

3,266,028
VEHICLE DETECTOR WITH CAPACITOR STORAGE ELEMENT

Maurice K. Taylor, Weston, Ontario, Frank E. Paine, Toronto, Ontario, and Anthony L. Stelmach, Pierrefonds, Quebec, Canada, assignors to Ferranti-Packard Electric Limited, Toronto, Ontario, Canada

Filed Sept. 4, 1963, Ser. No. 306,513
Claims priority, application Canada, Mar. 9, 1963, 870,520
4 Claims. (Cl. 340—258)

1. A vehicle detector comprising:

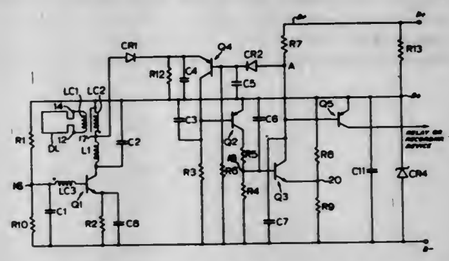
an electronic amplifying device having first and second control terminals and an output terminal, for supplying an output signal in response to the relative potential between said first and second control terminals;

a detector loop;

circuitry connected to said loop and said first input terminal for varying the potential of said first terminal in response to a change in the impedance of said loop;

a circuit connected to receive said output signal and connectable to operate a recording device in accord with a change in one sense, of said output signal;

a feedback terminal connected to said last mentioned circuit said circuit for producing at the feedback terminal, a feedback signal of a value which, if applied to a second control terminal of said electronic amplifying device, would compensate for the change at the first input terminal sufficiently to prevent substantive variation of said output signal;



a connection from said feedback terminal through a rectifier to said second control terminal; the orientation of the said rectifier being such that it presents a substantially open circuit to potentials at the feedback terminal in the sense of the change of the first control terminal relative to the second control terminal, which it is desired to record;

a capacitor connecting said second control terminal to a direct current datum, a leakage resistance connecting said second control terminal to a direct current datum of a potential in the same sense relative to the potential of said second control terminal as the sense of the change of the first control terminal which it is desired to record.

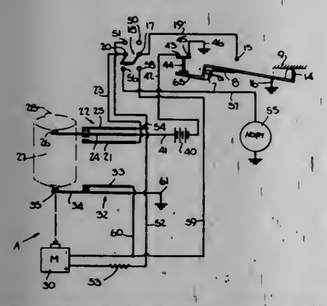
3,266,029
BURGLAR ALARM SYSTEM HAVING A DELAYED ALARM

Gerard M. Callahan, Flushing, N.Y., assignor to F & C Enterprises, Inc., Long Island City, N.Y., a corporation of New York

Filed Apr. 30, 1964, Ser. No. 363,903
8 Claims. (Cl. 340—274)

6. An alarm comprising an outer casing, a pivotally mounted spring biased control arm in said outer casing having a portion thereof extending from said outer casing, an electric circuit in said outer casing having a control contact adapted to be closed by said control arm, said control arm being grounded and having a rear tailstock, a pair of master contacts adapted to be closed by a master switch actuated by said tailstock, one of said master contacts being grounded, alarm means in said outer casing, a cam drum having first and second circumferentially spaced cams, a motor adapted to rotate said cam drum, a triple decker contact blade assembly having a long central blade and short upper and lower contact blades, said long contact blade having a cam follower in the path of said first cam, a double decker contact blade assembly comprising a long contact blade and a short contact blade, said long contact blade having a cam follower in the path of said second cam, a double throw double pole regulator switch in said outer casing having a pair of common contacts and a pair of first and second contacts, a battery source in circuit with the long blade of the triple decker contact blade assembly and with the other contact of the master switch, one of the common contacts of the regulator switch being

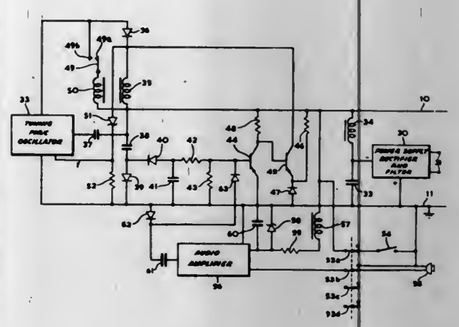
in circuit with said control contact, the other common contact of said regulator switch being in circuit with the upper blade of said triple decker contact blade assembly, one of said first contacts of the regulator switch being in circuit with said motor and with the short blade of the double decker contact blade assembly, the other first contact of said regulator switch being in circuit with said alarm means and one of the second contacts of the regulator switch being in circuit with the motor and with the lower short blade of the triple decker contact blade assembly whereby positioning the regulator switch to the first position and closing of the control contact by the control arm will first energize said motor to rotate the cam drum, stop the motor and close the circuit to the alarm means and whereby positioning of the regulator switch to the second position will break the circuit with the alarm means and will energize the motor to rotate the cam drum until the parts return to their original positions.



7. An alarm comprising an outer casing having alarm means therein, a power source in circuit with said alarm means, a master switch adapted to open and close said circuit, stationary and movable contacts in said circuit adapted to complete the circuit when they close, a spring motor adapted to move the movable contact to a position where it closes the stationary contact, said movable contact having a pivotally mounted rear arm, a hook adaped to cooperate with said rear arm to prevent the movable contact from moving, a pivotally mounted control arm mounted in and extending from said casing, said control arm having an upstanding tailstock positioned behind the rear arm of the movable contact and having a path of movement across at least a portion of the hook into engagement with said rear arm for rotating said rear arm about its pivot and out of the hook whereby actuation of the control arm will cause the tailstock to move the rear arm out from under the hook thereby permitting the movable contact to move to a position where it closes with the stationary contact and completes the circuit to the alarm means.

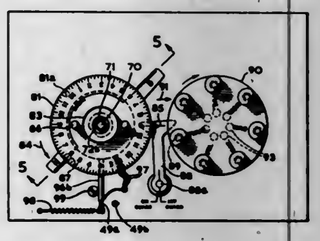
3,266,030
ALARM SYSTEM
John A. Sadler, Rexdale, Ontario, Canada, assignor, by mesne assignments, to Chubb-Mosler and Taylor Safes Ltd., Brampton, Ontario, Canada, a corporation of Canada
Filed Dec. 30, 1963, Ser. No. 334,290
4 Claims. (Cl. 340—276)

1. An alarm system comprising
an oscillator for supplying an oscillatory signal,
an alarm at a location remote from the oscillator,
a transmission line between the oscillator and the alarm for transmitting the oscillatory signal to the alarm,
the alarm including a signal receiver responsive to the oscillatory signal to hold the alarm inoperative when supplied with the oscillatory signal by the line,
a battery at said remote location for operating the alarm,
a direct current power supply located at the same end of the transmission line as the oscillator for providing a direct current voltage on the line,
means connecting the battery to the power supply through the line for charging the battery by the power supply,



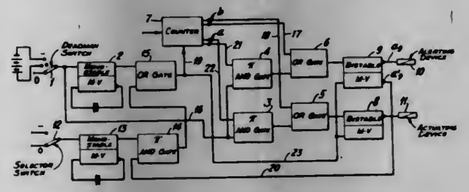
the receiver including means for rendering the alarm operative by the battery if the oscillatory signal is not received over the line and despite the presence of direct current voltage on the line, and
disturbance responsive means for interrupting the supply of oscillatory signal to the line whereby the alarm is operated.

3,266,031
ALARM SYSTEM
John A. Sadler, Rexdale, Ontario, Canada, assignor, by mesne assignments, to Chubb-Mosler and Taylor Safes Ltd., Brampton, Ontario, Canada
Filed Dec. 30, 1963, Ser. No. 334,291
3 Claims. (Cl. 340—276)



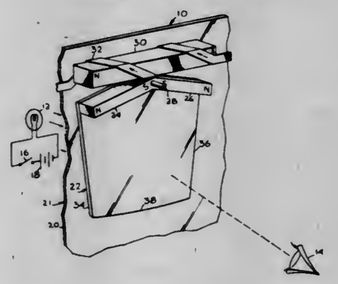
1. An alarm system comprising a first unit having means for detecting a disturbance, an alarm unit remote from the first unit, the alarm unit including a battery, an annunciator, and switching means operable to connect the annunciator across the battery in order to operate the annunciator, a line connecting the first unit and the alarm unit, a direct current power supply connected across the line for powering the first unit and supplying charging current over the line to the battery, non-rectifying resistive means connected in series between the line and the battery to conduct the charging current whereby the charging current flows through the resistive means and, in the event of a failure of the power supply, current flows from the battery through the resistive means and the line to power the first unit, the resistive means having normally a relatively low resistance, being relatively unheated by the charging current, being non-fusible by the current that flows through it from the battery in the event of a short circuit condition across the line but being rapidly heated by the last mentioned current and having a high positive temperature coefficient of resistance whereby the resistance of the resistive means rises rapidly in the event of such a short circuit condition to prevent rapid discharge of the battery, and means responsive to a short circuit condition across the line to operate the switching means to connect the annunciator across the battery.

3,266,032
SAFETY APPARATUS FOR VEHICLE OPERATED BY ONE PERSON
Hansrüdi Bühler, Wallisellen, Switzerland, assignor to Maschinenfabrik Oerlikon, Zurich, Switzerland
Filed Nov. 20, 1962, Ser. No. 238,868
Claims priority, application Switzerland, Nov. 24, 1961, 13,692/61
3 Claims. (Cl. 340—286)



1. Combined vehicle controlling and motorman alertness supervisory system comprising: a first monostable multivibrator having an input terminal and an output terminal; a first voltage source having different voltage polarity terminals; first switch means for connecting any one of said different voltage polarity terminals of said first voltage source to said input terminal of said first monostable multivibrator; first and second AND gates, each having two input terminals and an output terminal; first conductor means connected between said first switch means and one input of each of said first and second AND gates; a first OR gate having two input terminals and an output terminal, one input terminal being connected to said output terminal of said first monostable multivibrator; counter means including an input terminal and two output terminal means, one output terminal means providing slow count signals and the other output terminal means providing rapid count signals, the output terminal of said first OR gate being connected to the input terminal means of said counter means, said one output terminal means of said counter means being connected to one input terminal of each of said first and second AND gates; second and third OR gates, each having two input terminals and an output terminal, one of the input terminals of each said second and third OR gate being connected to said other output terminal means of said counter means, the other of the input terminals of each said second and third OR gates being connected with the output terminal of said first and second AND gates, respectively; first and second bistable multivibrators, each having two input terminals, the first bistable multivibrator having two output terminals and the second bistable multivibrator having one output terminal, said output terminals of each of said second and third OR gate being connected to one input terminal of the first and second bistable multivibrators, respectively; second conductor means connected between said output terminal of said first OR gate and another input terminal of each said first and second bistable multivibrator; alerting means connected to one output terminal of said first bistable multivibrator; actuating means for retarding the speed of the vehicle connected to said one output terminal if said second bistable multivibrator; a second voltage source having different voltage polarity terminals; a second monostable multivibrator including an input terminal and an output terminal; second switch means for connecting any one of said different polarity terminals of said second voltage source to said input terminal of said second monostable multivibrator; a fourth AND gate having two input terminals and an output terminal, one input terminal being connected to said output terminal of said second monostable multivibrator, the output terminal being connected to the other input of said first OR gate; and, third conductor means connected between the other output terminal of said first bistable multivibrator and the other input of said fourth AND gate.

3,266,033
DISPLAY PANEL HAVING STATIONARY AND MOVABLE POLARIZING ELEMENTS
Hugh F. Frohbach, Sunnyvale, Calif., assignor to Stanford Research Institute, Menlo Park, Calif., a corporation of California
Filed Nov. 23, 1962, Ser. No. 239,535
7 Claims. (Cl. 340—324)

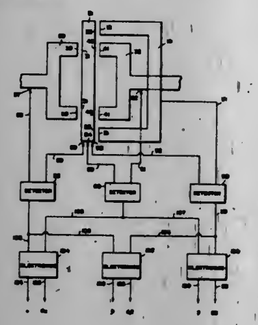


1. Apparatus for presenting a visual display of electrically represented information, comprising a source of light, a plurality of light switches disposed adjacent said source, each light switch being capable of defining a light transmitting and not transmitting state, each light switch including a first and a second element of optically polarizing material spaced opposite each other, and means for controlling said switches in response to said electrically represented information to permit light from said source to be transmitted through selected ones of said switches to thereby form a display, each means for controlling a light switch including a member of magnetizable material, means for selectively establishing first and second magnetic states in said member, first and second permanent magnets secured to said first element of optically polarizing material, and means pivotably mounting said first and second permanent magnets adjacent to said magnetizable member whereby the establishment of said first magnetic state in said magnetizable member attracts said first permanent magnet thereto, thereby pivoting said first element to a first rotational position and the establishment of said second magnetic state in said member attracts said second permanent magnet thereto, thereby pivoting said first element to a second rotational position.

3,266,034
CONTROL APPARATUS
Leo Spiegel, Clearwater, Fla., assignor to Honeywell Inc., a corporation of Delaware
Filed June 21, 1963, Ser. No. 289,628
5 Claims. (Cl. 340—347)

1. An angle pickoff of the class described comprising:
(a) base means having a first surface;
(b) a plurality of second surfaces;
(c) cooperative means situated on all of said surfaces;
(d) energizing means connected to said cooperative means;

(e) means mounting said plurality of second surfaces for rotation in juxtaposition with respect to said first surface and with respect to each other to form a plurality of pairs of surfaces, said cooperative means on one surface of each of said pairs coacting with said cooperative means on the other surface of each of said pairs upon relative rotation therebetween to provide output pulses;



(f) a plurality of mechanical inputs driving said plurality of second surfaces; and

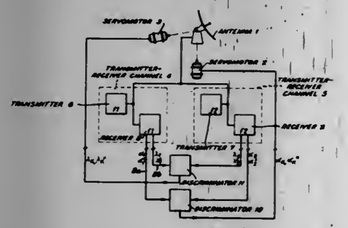
(g) means connected to receive said output pulses having electrical outputs indicative of the rotation and the rate of rotation of said plurality of second surfaces with respect to each other and with respect to said base means.

3,266,035

METHOD AND SYSTEM FOR REDUCING THE STATISTIC FLUCTUATIONS OF THE CONTROL SIGNAL IN ELECTRICAL FOLLOW-UP SERVOSYSTEMS, PARTICULARLY RADAR TARGET-TRACKING SYSTEMS

Frank Farner, Zurich, Switzerland, assignor to Albiswerk Zurich A. G., Zurich, Switzerland, a Swiss corporation

Filed June 23, 1964, Ser. No. 377,191
Claims priority, application Switzerland, June 28, 1963, 8,076/63
15 Claims. (Cl. 343—7.4)



1. The method of reducing the statistical fluctuations of the controlled variable in follow-up servosystems, which comprises deriving from the controlled variable a plurality of pilot signals whose respective fluctuations are mutually unrelated; producing respective error signals from said pilot signals; comparing said error signals; and selectively applying the one error signal of the smallest absolute magnitude for servocontrol of the controlled variable.

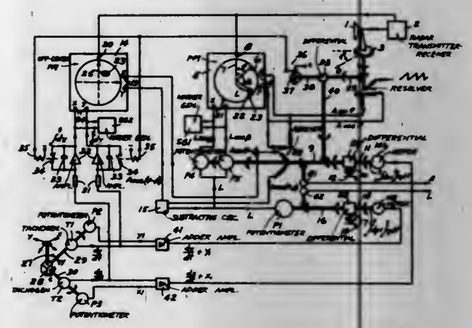
13. In a follow-up servosystem of a tracking radar having servocontrol means for varying the controlled variable constituted by the angular position of a radar antenna axis, the combination of means for reducing the statistical fluctuations of the servocontrol means comprising two radar transmitter-receiver channels having said antenna axis in common and providing respectively different signal frequencies from said antenna; means for providing error voltages indicative of the departure of the controlled variable from a reference value; discriminator means having inputs connected to said transmitter-receiver channels for selecting the one error voltage having the smaller amplitude; and circuit means connecting said discriminator means to said servocontrol means for applying said one error voltage to the follow-up control of said antenna axis.

3,266,036

RADAR SYSTEM FOR TARGET TRACKING

Åke Hugo Petrus Blomqvist and Karl Göran Folke Lind, Karlskoga, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden, a Swedish company

Filed May 20, 1964, Ser. No. 368,837
Claims priority, application Sweden, May 24, 1963, 5,800/63
6 Claims. (Cl. 343—11)



1. A radar system comprising transmitting and receiving means for radar signals including an antenna for scanning a substantial area about the antenna, a PPI scope for displaying the total area scanned by said antenna and any radar echoes received from said area, a substantially orthogonal range bearing display having a display screen for displaying a small selected section of said total scanned area and any radar echoes received from said selected section on a larger scale than on said PPI scope, variable position-selecting means for selecting the position of said selected section within said total scanned area, signal-responsive means for operating said position-selecting means to change the position of said selected section within said total scanned area, means for producing a movable marker on the display screen of said range bearing display, manual control means for moving said marker over the display screen of said range bearing display, signal-generating means connected to said manual control means for generating control signals representative of the movement and position of said manual control means, said control signals being supplied to said signal-responsive means operating said position-selecting means, whereby the position of said selected section within said total scanned area is dependent on the movement and position of said manual control means.

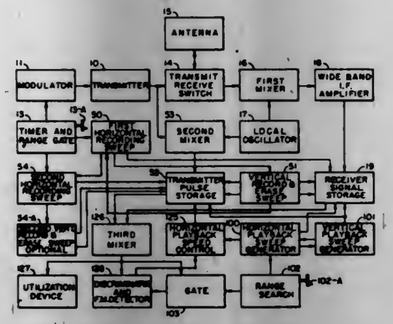
3,266,037

SEARCH RADAR SYSTEM

Robert M. Page, Camp Springs, Md. (% Naval Research Laboratory, Anacostia Station, Washington 25, D.C.)

Filed Apr. 13, 1950, Ser. No. 155,772
11 Claims. (Cl. 343—13)

2. A pulse-echo object locator system comprising, a pulse transmitter for producing pulses of oscillatory energy having a selected recurrence frequency, radiator means connected to the pulse transmitter for emitting the energy produced thereby and for intercepting return energy reflected from distant objects, receiver means connected to the radiator means for amplifying return signals and for delivering the same in carrier waveform to an output terminal, storage means coupled to said output terminal for retaining for a plurality of successive pulses amplified received signals obtained over a selected range interval



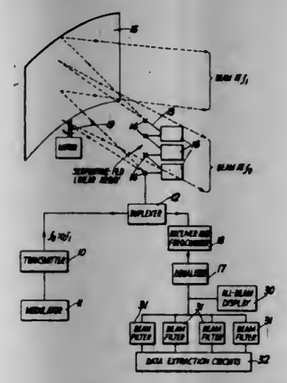
following each emitted pulse, playback control means connected to said storage means for controlling the playback of retained signals to reproduce in succession a portion of each stored range interval equal to the duration of the emitted pulses at substantially the same range for each, and integrating means for combining the playback signals.

3,266,038

RADAR SYSTEMS

Kenneth Milne and John Graham Flounders, London, England, assignors to Decca Limited, London, England, a British company

Filed Feb. 13, 1964, Ser. No. 344,781
20 Claims. (Cl. 343—17.2)



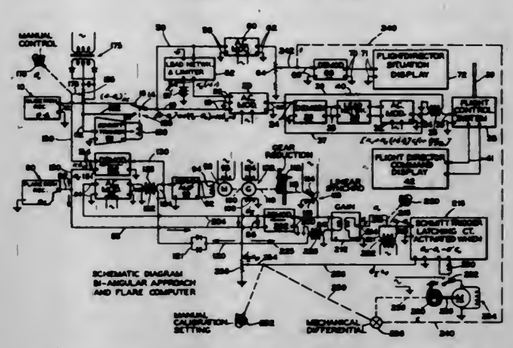
1. A radar system comprising a transmitter feeding a directional aerial, the transmitter producing pulses of radio frequency energy the frequency of which varies monotonically during each pulse, and the aerial being such that the direction of the radiated beam depends on the frequency of the signal and changes through at least several beam widths during each pulse, and a receiver including an equaliser having a delay substantially matching the total transmitter and aerial delay at all radiated frequencies so that all the radiated frequencies arrive simultaneously at the output of the equalizer.

3,266,039

ADJUSTABLE GAIN CONTROL MEANS FOR THE CONTROL SIGNAL OF A FLIGHT DIRECTOR SITUATION DISPLAY

Frederick Blancke Sylvander, Rutherford, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of New Jersey

Filed Dec. 31, 1962, Ser. No. 248,329
12 Claims. (Cl. 343—108)



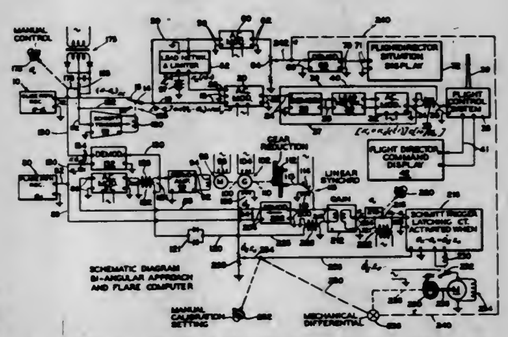
7. A control system for a flight director situation display means, said control system comprising means for varying the gain of a controlling signal applied through said system to said flight director situation display means, timing motor means for adjusting said gain control means, means for initiating operation of said timing motor means, differential signal responsive means for controlling said initiating means said differential signal responsive means including operator-operative means for varying the differential signal relationship at which initiation of operation of the timing motor means may be effected.

3,266,040

FLIGHT CONTROL SYSTEM RESPONSIVE TO APPROACH AND FLARE-OUT BI-ANGULAR ELEVATION TRANSMISSIONS

Jerry Doniger, Montvale, N.J., and Abraham Tatz, Levittown, N.Y.; said Doniger assignor to The Bendix Corporation, a corporation of Delaware; said Tatz assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

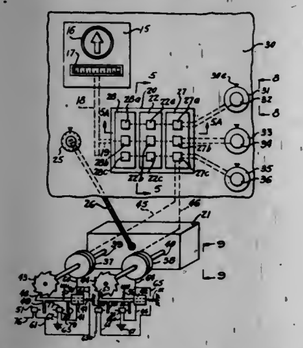
Filed Apr. 22, 1963, Ser. No. 274,476
8 Claims. (Cl. 343—108)



3. A control system of a flight vehicle, said control system being responsive to signals from a pair of land based signal transmitters; said control system comprising first and second means for receiving signals from said transmitters, control means for selectively connecting said first and second signal receiving means in controlling relation in said system, means responsive to an output signal from the second signal receiving means for effecting a rate sig-

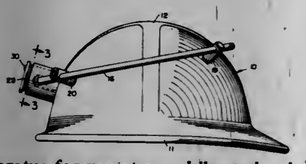
nal varying with the rate of change in the output signal provided by said second signal receiving means, and means for applying said rate signal to the output signal from the second signal reciving means so as to render said control means effective for selectively transferring the control of said system from said first signal receiving means to said second signal receiving means upon the rate of change in the signal provided by the second signal receiving means being at a predetermined value relative to the output signal provided by the second signal receiving means.

3,266,041
AIRCRAFT SINGLE RADIO NAVIGATION SYSTEMS FOR MULTI-STATION USE
Ben White Robins, 2404½ Metts Ave., Wilmington, N.C.
Filed Sept. 18, 1963, Ser. No. 309,735
13 Claims. (Cl. 343—112)



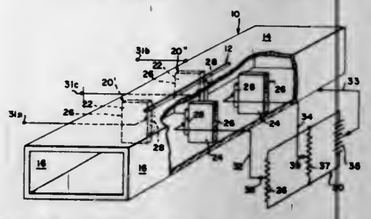
2. A radio signal receiving and directional indicating system for navigating aircraft during flight comprising a radio receiver means, converter means connected for receiving the signal output of the radio receiver means, course selector means interconnected and synchronized with said converter means, flight path deviation indicating means operably connected to said converter means, and unitary and multiple command tuning means for simultaneously tuning said radio receiver means and said course selector means to a selected ground signal station during flight of the aircraft.

3,266,042
ANTENNA CONSTRUCTION FOR MOBILE COMMUNICATION UNIT
Edward H. Mahoney and Paul Eugene Knight, Tulsa, Okla., assignors to Seismograph Service Corporation, Tulsa, Okla., a corporation of Delaware
Filed Apr. 2, 1964, Ser. No. 356,912
22 Claims. (Cl. 343—718)



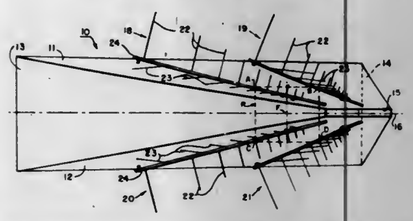
1. Apparatus for use at a mobile station in radio communication systems, said apparatus comprising a hat adapted to be worn by the operator at the mobile station and having a top portion, a partially open antenna ring extending around the exterior of said hat at a position below said top portion, and conductor means extending around said hat over an area at least coextensive with said ring and spaced from said ring to form a ground plane for the antenna ring.

3,266,043
IRIS CONTROLLED SLOT COUPLER
Frank J. Goebels, Jr., Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Mar. 14, 1963, Ser. No. 265,256
19 Claims. (Cl. 343—768)



1. An electronically variable waveguide slot coupler comprising, a rectangular waveguide having a slot in a broad wall thereof; iris means including semiconductor elements disposed in said waveguide transversely from both sides of said slot; and electrical control means external to said waveguide and including a voltage source electrically coupled to said elements for electrically biasing the same to alter the current distribution of energy propagated through said waveguide and control radiation from said slot.

3,266,044
BROAD-BAND ANTENNA FEED
Aaron D. Bresler, Merrick, N.Y., assignor to the United States of America as represented by the Secretary of the Army
Filed Apr. 13, 1964, Ser. No. 359,529
15 Claims. (Cl. 343—792.5)

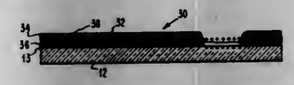


1. An antenna comprising two inclined metallic walls, first and second radiation means each mounted on one of said metallic walls, said radiation means being capable of radiating over a broad-band of frequencies, the phase centers of each said radiation means being always in a common plane, said common plane being perpendicular to each of said walls, and an axis being in said common plane bisecting the angle formed by said inclined walls, the displacement of each said phase centers from said axis being directly proportional to the wavelength of the radiation at all frequencies in said broad-band.

3,266,045
ELECTROPHOTOGRAPHIC PROCESS
Roland Michael Schaffert, Saratoga, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 226,376, Sept. 26, 1962. This application Oct. 19, 1965, Ser. No. 505,127
16 Claims. (Cl. 346—1)

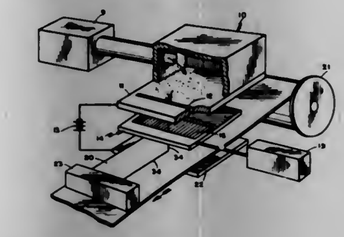
1. The use of a resin film structure in a process for producing a photographic record, including the steps of:
establishing an electrostatic charge pattern corresponding to an image to be recorded on a film structure of given optical characteristic comprising:
a smooth continuous obverse stratum of resin of relatively low melting point,

a reverse stratum, and
an intermediate stratum of material at least partially convertible, when heated with an electrostatic field applied thereto, to an optical characteristic of contrasting characteristic to be given optical characteristic of said film structure,



heating said film structure uniformly to a temperature sufficient to convert said intermediate stratum, thereby
imparting an optical characteristic of contrasting nature to said film structure in those areas corresponding to the electrostatic charge pattern, and
cooling said film structure uniformly for solidifying the same.

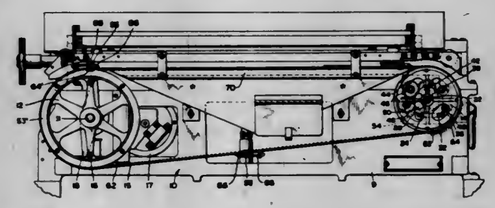
3,266,046
ELECTROSTATIC PRINTER
Sherman H. Boyd, San Diego, Calif., assignor, by mesne assignments, to Le Febure, Inc., Lawrence, Mass., a corporation of Delaware
Filed Jan. 24, 1961, Ser. No. 84,611
9 Claims. (Cl. 346—74)



1. The combination comprising:
a container for charged electroscopic particles, said container having an opening;
a plate outside the container and opposite said opening;
means to impose an electrical potential between said container and plate for directing said particles through said opening;
a grille interposed between said plate and opening;
means for varying the potential of selected portions of said grille, for controlling the passage of said particles, whereby only particles at a selected area may impinge on a printing medium placed in the space between said grille and plate.

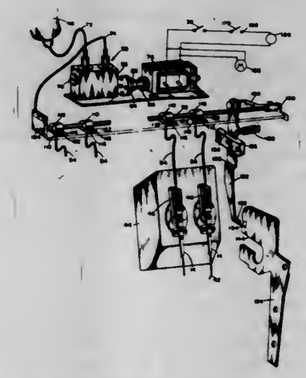
3,266,047
BELT DRIVE ASSEMBLY FOR FACSIMILE RECORDER
Douglas M. Zabriskie, Northvale, N.J., assignor to The Western Union Telegraph Company, New York, N.Y., a corporation of New York
Filed June 15, 1961, Ser. No. 117,309
11 Claims. (Cl. 346—139)

3. In a facsimile recorder of the kind employing electric writing on a recording medium, in combination: an endless belt of flexible organic material, stranded wires embedded longitudinally in the interior of the belt, cogs formed on the inner surface of the belt, a pair of belt carrying pulleys each having circumferentially spaced recesses on the periphery for engaging the cogs of the belt, a plurality of stylus holders affixed to the belt, styluses carried by said holders for writing electrically on said medium during a portion of travel of the belt, means rotatably supporting one of the pulleys for rotation on a fixed axis, tensioning means rotatably supporting the other of said pulleys on a floating axis with respect to said fixed axis, and drive means operatively connected to said tensioning means for driving said other pulley, said tensioning means comprising a plate, three idler gears rotatably mounted on said plate in mesh with each other, a first one of said gears having a shaft extending outwardly from the plate, a lever pivotally engaged at one end on said shaft, a second shaft rotatably carried by said lever near the other end thereof, a spur gear at one end of said second shaft engaged with the first idler gear, a tensioning member on said plate, a spring connected between said other



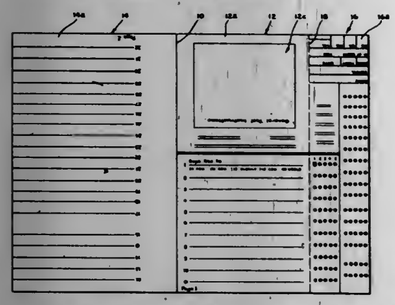
end of the lever and said tensioning member to bias the lever toward said member and away from said fixed axis, a drive shaft extending through said plate, and a second spur gear on said drive shaft engaged with another of said idler gears, said other pulley being axially mounted on said second shaft, said drive means being connected to said drive shaft, whereby said belt is maintained at predetermined tension between the pulleys as said lever pivots in response to varying load on said belt, so that the styluses are held in continuous contact with said recording medium while being carried along said portion of travel of the belt.

3,266,048
RECORDER AND INKING SYSTEM THEREFOR
Earl O. Schweitzer, Wickliffe, Ohio, assignor to Clevite Corporation, a corporation of Ohio
Continuation of application Ser. No. 265,394, Mar. 15, 1963. This application July 12, 1965, Ser. No. 471,067
21 Claims. (Cl. 346—140)



1. In a writing system for a recorder having at least one marking pen movable relative to a recording medium, the combination comprising: an ink supply manifold connected to the pen to supply recording ink thereto and mounted for rotary motion; a valve member operatively associated with said manifold and supported for movement between positions relative thereto for controlling the supply of ink to the pen; and means for rotating said manifold relative to said valve member to close said valve member to terminate the supply of ink to the pen.

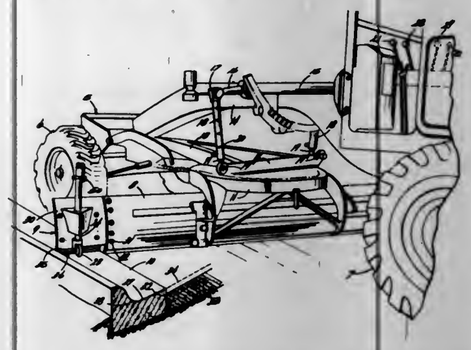
3,266,049
EXAMINATION PAPER
Morgan D. Parmenter, 56 Glencairn Ave., Toronto, Ontario, Canada
Filed June 26, 1964, Ser. No. 378,167
4 Claims. (Cl. 35—48)



1. A question and answer device comprising a first question sheet having questions and alternative answers thereon, a second question sheet having questions and alternative answers thereon, an answer strip having spaces for answers to questions on said first question sheet and on said second question sheet, the correct answer being indicated by marking the proper space, said first question sheet and said second question sheet being hinged together at a hinge line to constitute a book form and each having a longitudinal edge, the width of each of said question sheets being from its respective longitudinal edge to said hinge line, the width of said first question sheet being less than the width of said second question sheet, said answer strip having a longitudinal edge joining with the longitudinal edge of said first question sheet, said answer strip having a width greater than the difference in width between said first sheet and said second sheet whereby answers to questions on said second question sheet can be marked on the portion of said answer strip that extends beyond said second question sheet and answers to questions on said first question sheet can be marked on the portion of said answer strip that does not extend beyond said second question sheet.

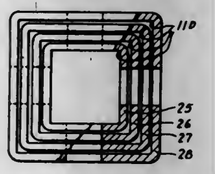
3,266,050
ROAD GRADER ATTACHMENT
Jay L. Reeder, 2614 6th St., Rockford, Ill.
Filed July 15, 1963, Ser. No. 295,067
4 Claims. (Cl. 37—156)

1. In a road grader, comprising a mobile supporting frame, an elongated upright scraper blade mounted on said frame crosswise relative thereto and substantially horizontally and movable with the grader to scrape material with which it is brought into contact to level the same accordingly as the blade is set as to elevation and longitudinal inclination with respect to a horizontal or ground level, and separately operable manually controlled means on said grader connected with said blade at two longitudinally spaced points for raising and lowering the blade relative to the grader at either or both ends, at least one of said connections being disconnectible, whereby to make the end remote from the other connection vertically shiftable independently of said connections, the improvement which consists of an extension blade detachably but rigidly secured to and extending longitudinally from the independently shiftable end of said scraper blade in substantially coplanar relation therewith but in upwardly offset relation to the lower edge thereof and defining with said lower edge a shouldered end on the blade assembly to ride along the top and inner surfaces of a curb along which the scraper blade is operated, whereby to scrape a fill material to a predetermined level below the top of the curb and at the same time also clear off any of such material deposited on the curb, and roller means mounted for vertical adjustability on the back of said extension



blade to run on the top surface of the curb for adjustable support of the outer end of the first blade and extension blade with the latter scraping with slight operating clearance relative to the top surface of the curb.

3,266,051
POLYGONAL, TELESCOPING, TUBULAR MEMBERS
Charles W. Attwood, 4077 2nd St., Wayne, Mich.
Filed July 2, 1962, Ser. No. 206,888
3 Claims. (Cl. 52—100)

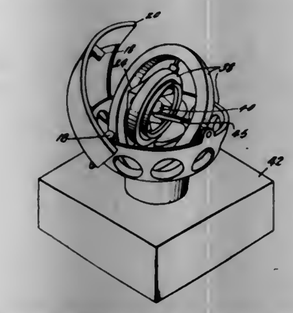


1. A set of telescoping elongated tubular members for load carrying structures,
(a) said members having geometrically similar polygonal transverse cross sections defined by pluralities of flat sides and longitudinal corners,
(b) one corner of each member being a weldment joining adjacent sides of the member,
(c) each of said weldment corners having a longitudinal inner protrusion of flash material and an outer surface,
(d) the outer surfaces of all of the corners of said members being substantially uniformly arcuate in transverse cross-section, and
(e) each member when said members are concentrically disposed having outer side surfaces dimensioned from the inner side surfaces of the next larger member by an amount close to or less than the extent of flash material protrusion from the weldment corner, whereby the location of said protrusion at the corner obviates interference with the next inner tubular member.

3,266,052
GUIDANCE SYSTEM TEST APPARATUS
Joseph Yamron, West Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Aug. 31, 1961, Ser. No. 135,348
6 Claims. (Cl. 73—1)

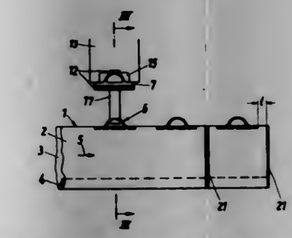
1. Testing apparatus for an inertial guidance system, including a stellar radiation sensor having an axis comprising, a member for supporting the guidance system,

means mounting the member for rotation about a fixed point with three degrees of freedom, a source of simulated stellar radiation generally directed at said point, means mounting the sources for rotation with two degrees of freedom about said point at an appreciable distance



therefrom, said simulated stellar source being rotatable about an axis substantially parallel to the polar axis of the earth, and means so mounting the stellar radiation sensor on the member that the stellar radiation sensor axis passes through said point to receive said simulated stellar radiation.

3,266,053
METHOD OF MANUFACTURING CARRIER BAGS OF WELDABLE MATERIAL
Kurt Rochla, Lengerich, Westphalia, Germany, assignor to Windmöller & Hölscher, Lengerich, Westphalia, Germany
Filed July 23, 1963, Ser. No. 296,966
Claims priority, application Germany, July 24, 1962, W 32,658
3 Claims. (Cl. 93—35)

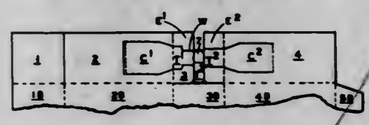


1. A method of manufacturing carrier bags of weldable material comprising the steps of intermittently moving a double-layer bag blank having at opposite sides thereof open and closed longitudinal edges, at least temporarily spacing said two layers from each other at said open longitudinal edge, inserting a pair of handles between said two layers after said two layers have been spaced from each other, welding each handle of said pair to one adjacent layer of said two layers, and combined welding and cutting in a direction normal to the direction of movement of said blank at the mid-point between two consecutive pairs of welded handles.

3,266,054
METHOD FOR TREATMENT OF HERNIAS
Marcos Jimenez, Apartado Postal No. 1784, Guadalajara, Jalisco, Mexico
Filed July 5, 1963, Ser. No. 293,070
1 Claim. (Cl. 128—334)

A method for the surgical treatment of hernia in a patient under local anesthesia comprising the steps of:
(a) making an incision to expose the inguinal canal which contain the hernial sac and the inguinal ring;
(b) dissecting out said sac;
(c) invaginating said sac through said ring into the abdominal cavity;
(d) implanting a plurality of strips of formaldehyde treated gelatin inside of the invaginated sac; and
(e) closing a suture at the base and around the sac thus burying said strips in the sac and the sac in said cavity to produce by local reaction a fibrosis in the form of a fibrotic patch firmly adbered posteriorly to the canal and ring whereby the hernia is healed from within.

3,266,055
RECLOSABLE CONTAINERS
Paul J. Graybill, 61 Sunset Hill Drive, Pine Orchard, Conn.
Filed May 18, 1964, Ser. No. 368,186
6 Claims. (Cl. 229—17)

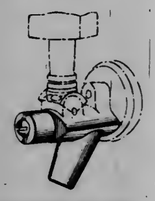


1. A dispensing container formed of foldable stock, having at least two articulated and at least partially adhered adjacent multiple layered wall sections thereof, one of said wall sections having at least two layers and the other at least three layers of stock therein, said two layered wall section being formed by the inwardly folded and adhered opposing end glue flaps of said container, one of said glue flaps having an anti-sift flap articulated thereto, said three layered wall section consisting of the adjacent container side wall, the narrow-end glue-flap outwardly rotated and at least partially adhered to said container wall and the downwardly folded anti-sift flap, said adjacent multiple walls affording structures suitable for the formation in said container of opening, dispensing, closing and securing means.

DESIGNS

AUGUST 9, 1966

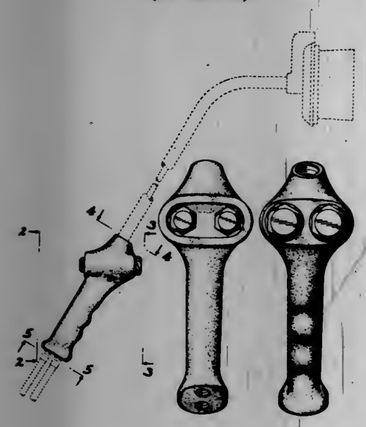
205,438
VALVE UNIT
Howard J. Hansen, Bay Village, Ohio, assignor to The Hansen Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 25, 1964, Ser. No. 81,867
Term of patent 14 years
(Cl. D2—3)



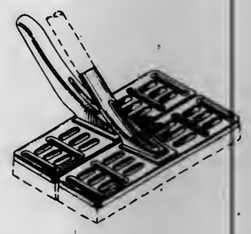
205,439
COAT
Johanna P. Schweiss, Webster Groves, Mo., assignor to The Grove Company, St. Louis, Mo., a corporation of Missouri
Filed Oct. 13, 1965, Ser. No. 87,449
Term of patent 14 years
(Cl. D3—4)



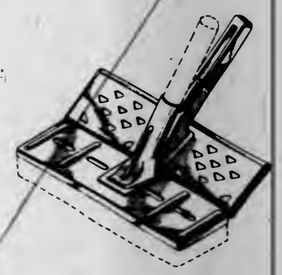
205,440
HANDLE AND VALVE COMBINATION FOR DISPENSING LIQUID TO A BRUSH, APPLICATOR OR THE LIKE
Thomas J. McMullen, 810 Cromwell Ave., Minneapolis, Minn.
Filed Jan. 19, 1965, Ser. No. 83,496
Term of patent 14 years
(Cl. D9—2)



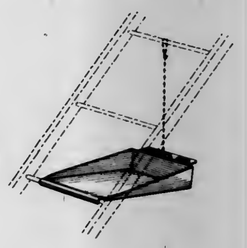
205,441
MOP
Raymond C. Tillinghast, Memphis, Tenn., assignor to Gem, Incorporated, Byhalia, Miss., a corporation of Mississippi
Filed Mar. 19, 1965, Ser. No. 84,356
Term of patent 14 years
(Cl. D9—2)



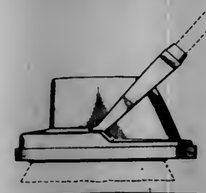
205,442
SPONGE MOP
Raymond C. Tillinghast, Memphis, Tenn., assignor to Gem, Incorporated, Byhalia, Miss., a corporation of Mississippi
Filed Apr. 26, 1965, Ser. No. 84,551
Term of patent 14 years
(Cl. D9—2)



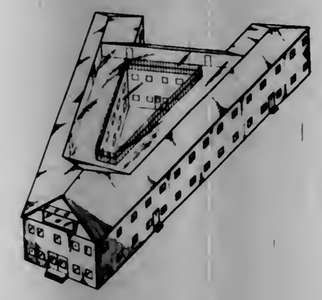
205,443
PAINT ROLLER TRAY
Donald W. Layman, 3355 S. Ash St., Denver, Colo.
Filed Oct. 14, 1965, Ser. No. 87,485
Term of patent 14 years
(Cl. D9—2)



205,444
FLOOR TREATING MACHINE
Frederick K. Storm, Jr., Glendale, Calif., assignor to Orbitor, Ltd., a limited partnership of Utah
Filed Oct. 23, 1965, Ser. No. 87,835
Term of patent 14 years
(Cl. D9—2)



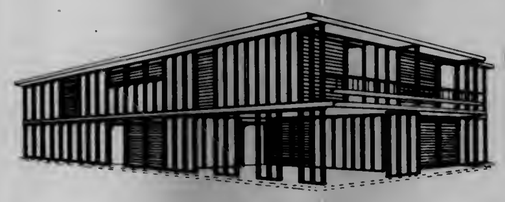
205,445
HOSPITAL
Grace L. Williams, 4914½ Milam, Houston, Tex.
Filed June 28, 1965, Ser. No. 85,936
Term of patent 14 years
(Cl. D13—1)



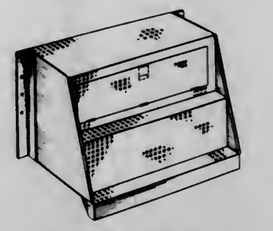
205,446
BUILDING
Kenneth P. Hooper, Kansas City, Mo., assignor to Zepi's Pizza, Inc., Jackson, Mo., a corporation of Missouri
Filed Nov. 10, 1965, Ser. No. 88,057
Term of patent 14 years
(Cl. D13—1)



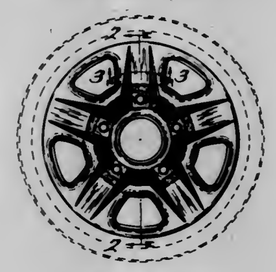
205,447
HOUSE
Donald D. Burris, Wayne, Pa., assignor to Certain-Teed Products Corporation, Ardmore, Pa., a corporation of Maryland
Filed Nov. 19, 1965, Ser. No. 88,160
Term of patent 14 years
(Cl. D13—1)



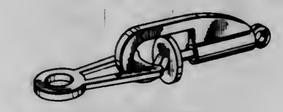
205,448
COMBINED FUEL TANK AND UTILITY COMPARTMENT
John L. Grove, Greencastle, Pa., assignor to Grove Manufacturing Co., Shady Grove, Pa., a corporation of Pennsylvania
Filed July 2, 1965, Ser. No. 86,004
Term of patent 14 years
(Cl. D14—3)



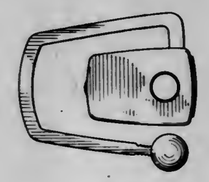
205,449
WHEEL
Donald J. Reid, Pleasant Ridge, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Dec. 20, 1965, Ser. No. 252
Term of patent 14 years
(Cl. D14—30)



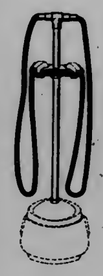
205,450
NECKLACE CLASP
Wesley W. Hester, 4749 Lorraine Drive, San Diego, Calif.
Filed Dec. 9, 1965, Ser. No. 178
Term of patent 14 years
(Cl. D17—3)



205,451
COMBINED KEYRING AND FLASHLIGHT
Sidney Schwartz, New York, N.Y., assignor to Bantam-Lite, Inc., New York, N.Y., a corporation of New York
Filed Aug. 12, 1965, Ser. No. 86,554
Term of patent 14 years
(Cl. D17—14)



205,452
COMBINED ELECTRIC HAIR CLIPPERS, VACUUM CLEANER AND STAND
John F. Wahl, Sterling, Ill., assignor to Wahl Clipper Corporation, Sterling, Ill., a corporation of Illinois
Filed May 4, 1965, Ser. No. 85,091
Term of patent 14 years
(Cl. D22—3)



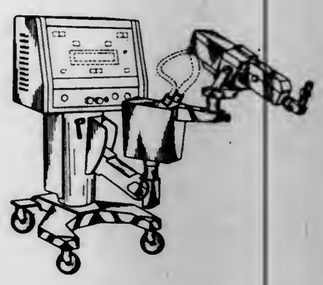
205,453
HAIR TRIMMER
Norman V. Christensen, 169 S. Catalina, Los Angeles, Calif.
Filed July 26, 1965, Ser. No. 86,295
Term of patent 14 years
(Cl. D22—5)



205,454
HIGH VOLTAGE CAPACITOR DISCHARGE GROUNDING RELAY
Jack S. Hawkins, San Jose, Calif., assignor to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of Delaware
Filed Apr. 30, 1963, Ser. No. 74,679
Term of patent 14 years
(Cl. D26—10)



205,455
LASER PHOTOCOAGULATOR
John T. Armbruster, Niagara Falls, and Irwin A. Bosack, Buffalo, N.Y., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Nov. 4, 1964, Ser. No. 82,467
Term of patent 14 years
(Cl. D26—14)



205,456
POLICEMAN'S RIOT PROD
Kelly M. Combs, 1726 Judah St., Santa Clara, Calif.
Filed June 1, 1965, Ser. No. 85,524
Term of patent 14 years
(Cl. D30—1)



205,457
INFLATABLE FISH TOY
Jack Bronte, 1151 Eventide Place, Beverly Hills, Calif. 90210
Filed Oct. 22, 1965, Ser. No. 87,793
Term of patent 14 years
(Cl. D34—2)



205,458
FLEXIBLE PULL STRAP FOR AN AERIAL TOY OR THE LIKE
Helmut Karl Bross, Altenberg uber Nurnberg, Germany, assignor of 50 percent to Frank T. Johmann, Berkeley Heights, N.J.
Filed Apr. 30, 1963, Ser. No. 74,674
Term of patent 14 years
(Cl. D34—15)



205,459
FLEXIBLE PULL STRAP FOR AN AERIAL TOY OR THE LIKE
Helmut Karl Bross, Altenberg uber Nurnberg, Germany, assignor of 50 percent to Frank T. Johmann, Berkeley Heights, N.J.
Filed Apr. 30, 1963, Ser. No. 74,675
Term of patent 14 years
(Cl. D34—15)



205,460
COMBINATION WEATHER VANE, NAME PLATE AND YARD ORNAMENT
Dale E. Doty, % Doty Manufacturing Company, E. Platte Ave., Fort Morgan, Colo.
Filed Oct. 9, 1964, Ser. No. 82,120
Term of patent 14 years
(Cl. D35—1)



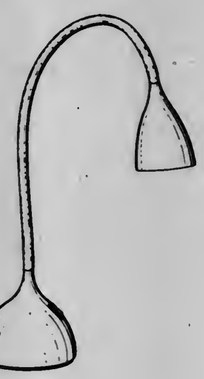
205,461
GLASS TUMBLER OR SIMILAR ARTICLE
James David McCormick, Carroll, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Nov. 1, 1965, Ser. No. 87,979
Term of patent 14 years
(Cl. D36—8)



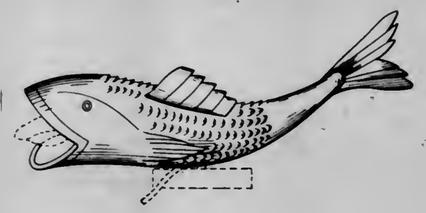
205,462
STOCKING
Paul R. Nestler, Walnut St., Green Lane, Pa.
Filed Apr. 26, 1965, Ser. No. 84,968
Term of patent 14 years
(Cl. D47—7)



205,463
PORTABLE TABLE LAMP, OR SIMILAR ARTICLE
Harry Zelenko, 10 E. 54th St., New York, N.Y.
Filed May 25, 1965, Ser. No. 85,451
Term of patent 14 years
(Cl. D48—20)



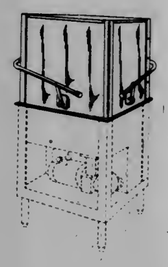
205,464
LAMP OR SIMILAR ARTICLE
Milan Mudrinich, 35—25 92nd St., Jackson Heights, N.Y. 11372
Filed Sept. 10, 1965, Ser. No. 86,938
Term of patent 14 years
(Cl. D48—20)



205,465
LIGHTER
Ahasuerus George Breman, Arnhem, Netherlands, assignor to Handelsonderneming Gebrs. Nan Poppel N.V., Assen, Netherlands, a corporation of the Netherlands
Filed Mar. 9, 1965, Ser. No. 84,157
Term of patent 7 years
(Cl. D48—27)



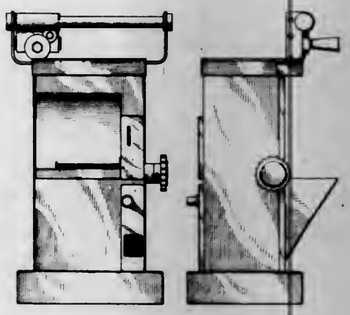
205,466
COMMERCIAL DISHWASHING MACHINE
David A. Meeker and Gerald B. Fox, Troy, Ohio, % The Hobart Manufacturing Company, 711 Penn Ave., Troy, Ohio
Filed Aug. 25, 1964, Ser. No. 81,436
Term of patent 14 years
(Cl. D49—1)



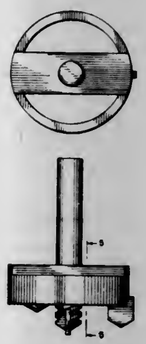
205,467
MEASURING TAPE
Michel Quenot, Besancon, France, assignor to Etablissements Quenot & Cie., Besancon, France, a firm of France
Original design application June 23, 1964, Ser. No. 80,530, now Patent No. 203,622, dated Feb. 1, 1966. Divided and this application July 20, 1965, Ser. No. 86,446
Claims priority, application France Feb. 6, 1964
Term of patent 14 years
(Cl. D52—7)



205,468
VENDING MACHINE FOR LAMINATING SHEET OR CARD-LIKE ARTICLES
Lyman D. Dunn, Chicago, and Stanley Gembicki, Des Plaines, Ill., assignors to Marian Company, Chicago, Ill., a corporation of Illinois
Filed May 21, 1965, Ser. No. 85,402
Term of patent 14 years
(Cl. D52—3)



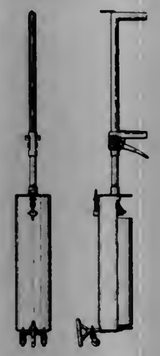
205,469
MASONRY DRILL BIT
Charles L. Pedersen, Englewood, Colo., assignor of one-half interest to Lee Holmes and David P. Chenault, both of Littleton, Colo.
Filed Oct. 6, 1965, Ser. No. 87,334
Term of patent 14 years
(Cl. D54—4)



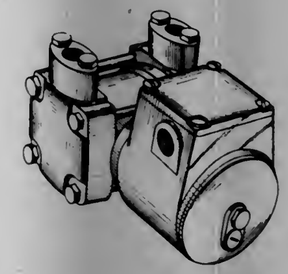
205,470
NUT
Donald J. Reid, Pleasant Ridge, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Nov. 5, 1965, Ser. No. 88,011
Term of patent 14 years
(Cl. D54—9)



205,471
ADHESIVE GUN
Roy H. Stein, 3920 Zephyr St., Wheat Ridge, Colo.
Filed Oct. 4, 1965, Ser. No. 87,301
Term of patent 14 years
(Cl. D54—13)



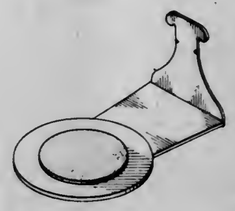
205,472
DIFFERENTIAL PRESSURE TRANSMITTER
Roger B. Kerr, Topsfield, Clement F. Taylor, Danvers, and Frank Baranowski, Jr., Lynnfield Center, Mass., assignors to General Electric Company, a corporation of New York
Filed Dec. 15, 1965, Ser. No. 184
Term of patent 14 years
(Cl. D55—1)



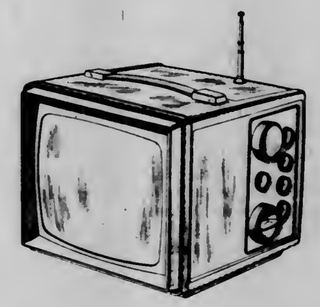
205,473
ROLL WINDER FOR PAPERMAKING AND THE LIKE
Henry R. Patterson, Jr., West Chester, Pa., assignor to Beloit Eastern Corporation, Downingtown, Pa., a corporation of Delaware
Filed Aug. 12, 1964, Ser. No. 81,261
Term of patent 14 years
(Cl. D55—1)



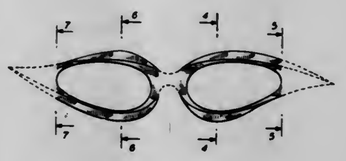
205,474
MUSICAL DRUM HOLDER
Emil L. Farnlund, Anaheim, Calif., assignor to Farnlund & Webster Co., Anaheim, Calif., a partnership
Filed May 3, 1965, Ser. No. 85,062
Term of patent 14 years
(Cl. D56—1)



205,475
PORTABLE TELEVISION RECEIVER
Frank M. Grunwald, North Syracuse, and John C. Adams, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York
Filed Oct. 29, 1964, Ser. No. 82,375
Term of patent 14 years
(Cl. D56—4)



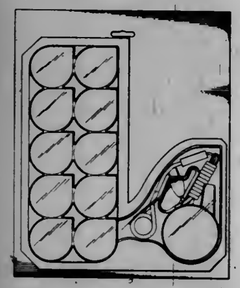
205,476
SPECTACLE FRAME FRONT
Dale E. Megee, New York, N.Y., assignor to Liberty Optical Manufacturing Co., Inc., Newark, N.J.
Filed Sept. 16, 1965, Ser. No. 87,032
Term of patent 14 years
(Cl. D57—1)



205,477
SPECTACLE FRAME FRONT
Dale E. Megee, New York, N.Y., assignor to Liberty Optical Manufacturing Co., Inc., Newark, N.J.
Filed Sept. 16, 1965, Ser. No. 87,033
Term of patent 14 years
(Cl. D57—1)



205,478
PACKAGE OF COMESTIBLES AND IMPLEMENTS FOR PREPARING SAME
William C. Christine, Catasuqua, and Joseph E. Pierce, Allentown, Pa., assignors to Allen Electronics, Inc., Bethlehem, Pa., a corporation of Pennsylvania
Filed Sept. 2, 1965, Ser. No. 86,806
Term of patent 14 years
(Cl. D58—2)



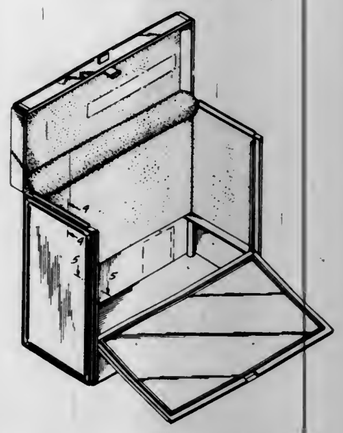
205,479
JUG OR THE LIKE
Benjamin A. Certo, Springfield, and Edward Killmer, Woodbridge, N.J., assignors to Chevron Research Company, a corporation of Delaware
Filed Sept. 25, 1964, Ser. No. 81,875
Term of patent 14 years
(Cl. D58—5)



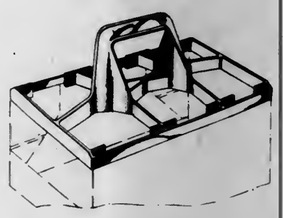
205,480
BOTTLE
Dennis L. Thomte, 4124 65th St., Urbandale, Iowa, and Andrew R. Tossett, P.O. Box 1546, Minot, N. Dak.
Filed Nov. 2, 1964, Ser. No. 82,417
Term of patent 14 years
(Cl. D58—9)



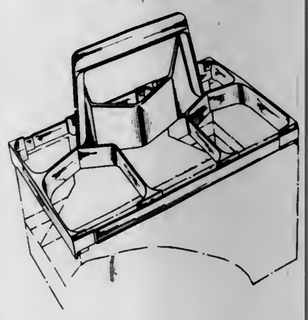
205,481
DISPLAY BOX
Samuel Braun, Rye, N.Y., assignor to B. C. N. Design Products, Inc., Long Island, N.Y., a corporation of New York
Filed Sept. 27, 1965, Ser. No. 87,162
Term of patent 14 years
(Cl. D58—12.7)



205,482
TOP FOR A CARRIER FOR BOTTLES OR THE LIKE
Kenneth D. Bixler, Huntington, and Robert E. Ralphs, Katonah, N.Y., assignors to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed May 28, 1965, Ser. No. 85,505
Term of patent 14 years
(Cl. D58—26)



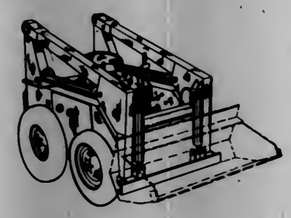
205,483
TOP FOR A CARRIER FOR BOTTLES OR THE LIKE
Kenneth D. Bixler, Huntington, and Robert E. Ralphs, Katonah, N.Y., assignors to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed May 28, 1965, Ser. No. 85,506
Term of patent 14 years
(Cl. D58—26)



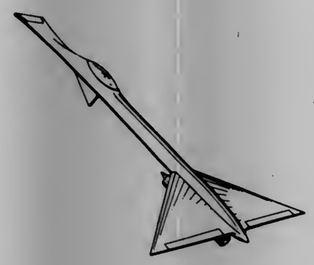
205,484
BOAT
Paul A. Lindh, 42 Bateman Ave., Newport, R.I.
Filed Feb. 8, 1965, Ser. No. 83,736
Term of patent 14 years
(Cl. D71—1)



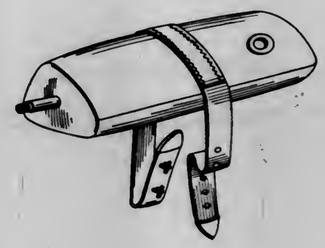
205,485
SELF-PROPELLED LOADING DEVICE
James L. Juhl and Lyle H. Tufty, both of Hudson, Iowa
Filed Mar. 29, 1965, Ser. No. 84,470
Term of patent 14 years
(Cl. D14—3)



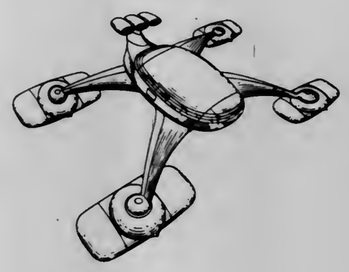
205,486
DUCK NOSE AIRCRAFT OR THE LIKE
Mike Tecton, 5101 45th St. NW., Washington, D.C. 20016
Filed Sept. 3, 1965, Ser. No. 86,839
Term of patent 14 years
(Cl. D71—1)



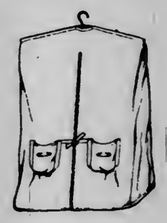
205,487
PERSONNEL AND CARGO UNDERWATER RETRIEVAL UNIT
Barney L. Goldwater, 50 Vanderbilt Ave., New York, N.Y., and Louis R. Despres, 299 Townsend Ave., New Haven, Conn.
Filed Oct. 1, 1965, Ser. No. 87,267
Term of patent 7 years
(Cl. D71—1)



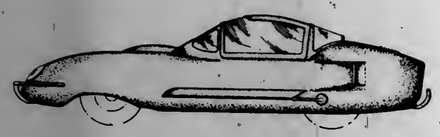
205,488
HYDROFOIL VEHICLE
Kenneth I. Drabble, deceased, late of Boise, Idaho, by Dolores A. Drabble, administratrix, Boise, Idaho, assignor to United Hydro-Dynamics Corporation, a corporation of Missouri
Filed Oct. 18, 1965, Ser. No. 87,583
Term of patent 7 years
(Cl. D71—1)



205,489
PORTABLE CONTAINER FOR INFANTS' ACCESSORIES
Dorothy S. Nagy and Louis Nagy, both of 6617 53rd St., Sacramento, Calif.
Filed Apr. 12, 1965, Ser. No. 84,741
Term of patent 14 years
(Cl. D87—5)



205,490
VEHICLE
Edward D. Bell, 5830 Denny Ave., Los Angeles County, Calif.
Filed Oct. 22, 1965, Ser. No. 87,747
Term of patent 14 years
(Cl. D90—8)



205,491
TIRE
Gerald Kunz, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Dec. 27, 1965, Ser. No. 331
Term of patent 14 years
(Cl. D90—20)



LIST OF DESIGN PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 9TH DAY OF AUGUST, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Adams, John C.: *See*—
Grunwald, Frank M., and Adams. 205,475.
Allen Electronics, Inc.: *See*—
Christine, William C., and Pierce. 205,478.
American Optical Co.: *See*—
Armbruster, John T., and Bosack. 205,455.
Anchor Hocking Glass Corp.: *See*—
McCormick, James D. 205,461.
Armbruster, John T., and I. A. Bosack, to American Optical Co. Laser photocoagulator. 205,455, 8–9–66, Cl. D26—14.
Bantam-Lite, Inc.: *See*—
Schwartz, Sidney. 205,451.
Baranowski, Frank, Jr.: *See*—
Kerr, Roger B., Taylor, and Baranowski. 205,472.
B.C.N. Design Products, Inc.: *See*—
Braun, Samuel. 205,481.
Bell, Edward D. Vehicle. 205,490, 8–9–66, Cl. D90—8.
Beloit Eastern Corp.: *See*—
Patterson, Henry R., Jr. 205,473.
Bixler, Kenneth D., and R. E. Ralphs, to Diamond International Corp. Top for a carrier for bottles or the like. 205,482, 8–9–66, Cl. D58—26.
Bixler, Kenneth D., and R. E. Ralphs, to Diamond International Corp. Top for a carrier for bottles or the like. 205,483, 8–9–66, Cl. D58—26.
Bosack, Irwin A.: *See*—
Armbruster, John T., and Bosack. 205,455.
Braun, Samuel, to B.C.N. Design Products, Inc. Display box. 205,481, 8–9–66, Cl. D58—12.7.
Bronte, Jack. Inflatable fish toy. 205,457, 8–9–66, Cl. D34—2.
Bross, Helmut K., 50% to F. T. Johmann. Flexible pull strap for an aerial toy or the like. 205,458, 8–9–66, Cl. D34—15.
Bross, Helmut K., 50% to F. T. Johmann. Flexible pull strap for an aerial toy or the like. 205,459, 8–9–66, Cl. D34—15.
Burris, Donald D., to Certain-Teed Products Corp. House. 205,447, 8–9–66, Cl. D13—1.
Certain-Teed Products Corp.: *See*—
Burris, Donald D. 205,447.
Certo, Benjamin A., and E. Killmer, to Chevron Research Co. Jug or the like. 205,479, 8–9–66, Cl. D58—5.
Chenault, David P.: *See*—
Pedersen, Charles L. 205,469.
Christensen, Norman V. Hair trimmer. 205,453, 8–9–66, Cl. D2—5.
Christine, William C., and J. E. Pierce, to Allen Electronics, Inc. Package of comestibles and implements for preparing same. 205,478, 8–9–66, Cl. D58—2.
Chevron Research Co.: *See*—
Certo, Benjamin A., and Killmer. 205,479.
Combs, Kelly M. Policeman's riot prod. 205,456, 8–9–66, Cl. D30—1.
Despres, Louis R.: *See*—
Goldwater, Barney L., and Despres. 205,487.
Diamond International Corp.: *See*—
Bixler, Kenneth D., and Ralphs. 205,482.
Bixler, Kenneth D., and Ralphs. 205,483.
Doty, Dale E. Combination weather vane, name plate and yard ornament. 205,460, 8–9–66, Cl. D35—1.
Drabble, Dolores A.: *See*—
Drabble, Kenneth I. 205,488.
Drabble, Kenneth I., deceased, by D. A. Drabble, administratrix, to United Hydro-Dynamics Corp. Hydrofoil vehicle. 205,488, 8–9–66, Cl. D71—1.
Dunn, Lyman D., and S. Gembicki, to Marlan Co. Vending machine for laminating sheet or card-like articles. 205,468, 8–9–66 Cl. D52—3.
Farnlund, Emil L., to Farnlund & Webster Co. Musical drum holder. 205,474, 8–9–66, Cl. D56—1.
Farnlund & Webster Co.: *See*—
Farnlund, Emil L. 205,474.
Fox, Gerald B.: *See*—
Meeker, David A., and Fox. 205,465.
Meeker, David A., and Fox. 205,466.
Gem, Inc.: *See*—
Tillinghast, Raymond C. 205,441.
Tillinghast, Raymond C. 205,442.
Gembicki, Stanley: *See*—
Dunn, Lyman D., and Gembicki. 205,468.
General Electric Co.: *See*—
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Grunwald, Frank M., and Adams. 205,475.
Goldwater, Barney L., and L. R. Despres. Personnel and cargo underwater retrieval unit. 205,487, 8–9–66, Cl. D71—1.
Goodrich, B. F., Co., The: *See*—
Kunz, Gerald. 205,491.
Grove Co., The: *See*—
Schweiss, Johanna P. 205,439.
Grove, John L., to Grove Mfg. Co. Combined fuel tank and utility compartment. 205,448, 8–9–66, Cl. D14—3.
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Grove, John L. 205,448.
Grunwald, Frank M., and J. C. Adams, to General Electric Co. Portable television receiver. 205,475, 8–9–66, Cl. D56—4.
Hansen, Howard J., to The Hansen Mfg. Co. Valve unit. 205,438, 8–9–66, Cl. D2—3.
Hansen Mfg. Co., The: *See*—
Hansen, Howard J. 205,438.
Hawkins, Jack S., to Jennings Radio Mfg. Corp. High voltage capacitor discharge grounding relay. 205,454, 8–9–66, Cl. D26—10.
Hester, Wesley W. Necklace clasp. 205,450, 8–9–66, Cl. D17—3.
Holmes, Lee: *See*—
Pedersen, Charles L. 205,469.
Hooper, Kenneth P., to Zepi's Pizza, Inc. Building. 205,446, 8–9–66, Cl. D13—1.
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Hawkins, Jack S. 205,454.
Johmann, Frank T.: *See*—
Bross, Helmut K. 205,458.
Bross, Helmut K. 205,459.
Kelsey-Hayes Co.: *See*—
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Kerr, Roger B., C. F. Taylor, and F. Baranowski, Jr., to General Electric Co. Differential pressure transmitter. 205,472, 8–9–66, Cl. D55—1.
Killmer, Edward: *See*—
Certo, Benjamin A., and Killmer. 205,479.
Kunz, Gerald, to The B. F. Goodrich Co. Tire. 205,491, 8–9–66, Cl. D90—20.
Layman, Donald W. Paint roller tray. 205,443, 8–9–66, Cl. D9—2.
Liberty Optical Mfg. Co., Inc.: *See*—
Megee, Dale E. 205,476.
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McCormick, James D., to Anchor Hocking Glass Corp. Glass tumbler or similar article. 205,461, 8–9–66, Cl. D36—8.
McMullen, Thomas J. Handle and valve combination for dispensing liquid to a brush, applicator or the like. 205,440, 8–9–66, Cl. D9—2.
Meeker, David A., and G. B. Fox. Commercial dishwashing machine. 205,465, 8–9–66, Cl. D49—1.
Meeker, David A., and G. B. Fox. Commercial dishwashing machine. 205,466, 8–9–66, Cl. D49—1.
Megee, Dale E., to Liberty Optical Mfg. Co., Inc. Spectacle frame front. 205,476, 8–9–66, Cl. D57—1.
Megee, Dale E., to Liberty Optical Mfg. Co., Inc. Spectacle frame front. 205,477, 8–9–66, Cl. D57—1.
Mudrinich, Milan. Lamp or similar article. 205,464, 8–9–66, Cl. D48—2.
Nagy, Dorothy S. and L. Portable container for infants' accessories. 205,489, 8–9–66, Cl. D87—5.
Nagy, Louis: *See*—
Nagy, Dorothy S. and L. 205,489.
Nestler, Paul R. Stocking. 205,462, 8–9–66, Cl. D47—7.
Patterson, Henry R., Jr., to Beloit Eastern Corp. Roll winder for papermaking and the like. 205,473, 8–9–66, Cl. D55—1.
Pedersen, Charles L.; ½ to L. Holmes and D. P. Chenault. Masonry drill bit. 205,469, 8–9–66, Cl. D54—4.
Pierce, Joseph E.: *See*—
Christine, William C., and Pierce. 205,478.
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Quenot, Michel. 205,467.
Quenot, Michel, to Quenot & Cie., Etablissements. Measuring tape. 205,467, 8–9–66, Cl. D52—1.
Ralphs, Robert E.: *See*—
Bixler, Kenneth D., and Ralphs. 205,482.
Ralphs, Robert E.: *See*—
Bixler, Kenneth D., and Ralphs. 205,483.
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Reid, Donald J., to Kelsey-Hayes Co. Nut. 205,470, 8–9–66, Cl. D54—9.
Schwartz, Sidney, to Bantam-Lite, Inc. Combined keyring and flashlight. 205,451, 8–9–66, Cl. D17—14.
Schweiss, Johanna P., to The Grove Co. Coat. 205,439, 8–9–66, Cl. D3—4.
Stein, Roy H. Adhesive gun. 205,471, 8–9–66, Cl. D54—13.
Storm, Frederick K., Jr., to Orbitor, Ltd. Floor treating machine. 205,444, 8–9–66, Cl. D9—2.
Taylor, Clement F.: *See*—
Kerr, Roger B., Taylor, and Baranowski. 205,472.
Tecton, Mike. Duck nose aircraft or the like. 205,486, 8–9–66, Cl. D71—1.

Thomte, Dennis L., and A. R. Tossett. Bottle. 205,480, 8–9–66, Cl. D58—9.
Tillinghast, Raymond C., to Gem, Inc. Mop. 205,441, 8–9–66, Cl. D9—2.
Tillinghast, Raymond C., to Gem, Inc. Sponge mop. 205,442, 8–9–66, Cl. D9—2.
Tossett, Andrew R.: *See*—
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Wahl Clipper Corp.: *See*—
Wahl, John F. 205,452.
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Williams, Grace L. Hospital. 205,445, 8–9–66, Cl. D13—1.
Zelenko, Harry. Portable table lamp, or similar article. 205,463, 8–9–66, Cl. D48—20.
Zepi's Pizza, Inc.: *See*—
Hooper, Kenneth P. 205,446.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 9TH DAY OF AUGUST, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ABDJ Stock: *See*—
Holm, Sune E., and Eklund. 3,265,100.
ACF Industries, Inc.: *See*—
Anderson, Clifford E. 3,265,354.
Goldman, Charles B. 3,265,222.
AMP Inc.: *See*—
Aksu, Akin. 3,265,829.
Abbott, John R., to Gray & Huleguard, Inc. Temperature-compensated clamp seal. 3,266,006, 8–9–66, Cl. 339—60.
Abbott Laboratories: *See*—
Schoepke, Hollis G., and Swett. 3,265,576.
Ackermann, Hermann F., Jr. Right angle drafting triangle. 3,264,738, 8–9–66, Cl. 33—108.
Ackermann, Otto, to Westinghouse Electric Corp. Gas propelled fuse link. 3,265,838, 8–9–66, Cl. 200–120.
Acme Tool, Inc.: *See*—
Burner, Donald L. 3,265,431.
Adair, James C.: *See*—
Goodell, Richard R., and Adair. 3,264,875.
Adams, George E., G. H. Whale, and J. H. A. Hanson, to Dunlop Rubber Co. Ltd. Method for the manufacture of wheels. 3,264,719, 8–9–66, Cl. 29—159.01.
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Burger, Jack E., and Polly. 3,264,981.
Schulze, Erwin F. C. 3,265,385.
Adelman, Robert L., to E. I. du pont de Nemours and Co. Process of preparing non-woven polymer bonded fabric and article. 3,265,527, 8–9–66, Cl. 117—62.
Aden, Douglas W., to Nedaco Inc. Article dispenser for suspended articles. 3,265,176, 8–9–66, Cl. 194—2.
Adler, Franklin P., to Pullman Inc. Doorpost locking arrangement for railway cars. 3,265,015, 8–9–66, Cl. 105—378.
Adolphson, Carl B., Jr., to Hubbell, Harvey, Inc. Lighted receptacle. 3,265,888, 8–9–66, Cl. 240–073.
Aerojet-General Corp.: *See*—
Rosa, John R. 3,265,935.
Abo, Kenneth A., to General Motors Corp. Roller track apparatus. 3,265,450, 8–9–66, Cl. 308—6.
Air Products and Chemicals Inc.: *See*—
Farkas, Adalbert, Miller, Mills, and Orchin. 3,265,468.
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Smith, Donald E. 3,264,830.
Turbett, George R. 3,264,855.
Akerley, Robert G., to United Shoe Machinery Corp. Shoe lasting machines. 3,264,666, 8–9–66, Cl. 12—12.
Aksu, Akin, to AMP Inc. Programming device and system. 3,265,829, 8–9–66, Cl. 200—111.
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Bramming, Carl. 3,265,486.
Albert, Harry E.: *See*—
Whiton, Alfred C., and Albert. 3,265,752.
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Alburger, William P., to Fox Products Co. Latch means for devices having a pivoted operating arm. 3,264,888, 8–9–66, 74—102.
Alexander, Emmett L., and H. L. Bules, to George E. Failing Co. Magazine for storing and handling drill pipe in rotary drilling rig. 3,265,138, 8–9–66, Cl. 175—52.
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Alix, Hans, and S. Schuhmann, to Roland Offsetmaschinenfabrik Faber & Schleicher AG. Supervisory device for supervising a sheet stack of a sheet printing press. 3,265,387, 8–9–66. Cl. 271—62.
Allen, Charles M., to Battelle Development Corp. Lubricant. 3,265,617, 8–9–66, Cl. 252—25.
Allen, Clifford W., to Westinghouse Air Brake Co. Valve assembly with liquid-seal electrical plug connection. 3,265,352, 8–9–66, Cl. 251—129.
Allen, George Rodger, Jr., and J. F. Poletto, to American Cyanamid Co. Novel substituted 3-(a-carbamoyloxy-lower alkyl)-4,7-indoloquinones. 3,265,698, 8–9–66, Cl. 260—268.
Allen, Kenneth M., and C. H. Harper, to Allen-Harper. Inc. Vibrating conveyor. 3,265,196, 8–9–66, Cl. 198—220.
Allen, Kenneth M., to Potato chip sorter. 3,265,206, 8–9–66, Cl. 209—104.
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Perry, Elijah R., and Durecka. 3,265,933.
Westman, Dean P. 3,265,150.
Woehler, Vernon H. 3,265,947.
Allison, James M., D. Burn, and V. Petrow, to The British Drug Houses Ltd. Pentacyclic steroids and process for their preparation. 3,265,717, 8–9–66, Cl. 260—397.3.
Allmanna Svenska Elektriska Aktiebolaget: *See*—
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Deichert, William G., Christensen, and Ramsey. 3,265,764.
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Freed, Meier E., and Rice. 3,265,702.
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American Hospital Supply Corp.: *See*—
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American Metal Products Co.: *See*—
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Anderson, Francis L., ½ to W. E. Hamm. Grease gun or the like. 3,265,252, 8–9–66, Cl. 222—262.
Anderson, Harold C., to Litton Systems, Inc. Magnetometer utilizing a gas discharge device whose conductivity is a function of the magnetic field under test. 3,265,965, 8–9–66, Cl. 324—43.
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Anderson, Paul E., and A. C. Kengott, to Western Electric Co., Inc. Apparatus for automatically feeding and cutting helical film resistors. 3,264,787, 8–9–66, Cl. 51—37.
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Anderson, Warren L., to Halliburton Co. Means and techniques useful in establishing quality of cement bonds in cased bore holes. 3,265,151, 8–9–66, Cl. 181—.5.

Anderson, William S., to Shell Oil Co. Lubricants containing copolymers of 4-methyl-1-pentene. 3,265,622, 8–9–66, Cl. 252—59.

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Andersson, Gosta H.: *See*—
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Andersson, Yngve E. H. and G. H. Means and method for effecting automobile repairs. 3,264,723, 8–9–66, Cl. 29—401.

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Antos, Joseph. Slide projection system. 3,264,937, 8–9–66, Cl. 88—28.

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Ariga, Masahiko, T. Arai, and T. Tarumi, to O-M Ltd. Silver bobbin creel changing apparatus for spinning machine. 3,265,323, 8–9–66, Cl. 242—131.

Arlo, Ebbe R., to Esso Chemical Co. Inc. Method of manufacturing hollow articles. 3,265,788, 8–9–66, Cl. 264—94.

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Ray, Charles L., and Baarson. 3,265,211.

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Bossinger, Charles D., and Taylor. 3,265,728.

Armstrong Cork Co.: *See*—
Hager, Nathaniel E., Jr. 3,265,865.
Herweh, John E., and Poshkus. 3,265,684.
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Lory, John S., Ashworth, and Gluck. 3,265,941.

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Kralt, Teunis, Hendrik, Asma, and Lindner. 3,265,577.

Associated Electrical Industries Ltd.: *See*—
Eaton, Norman F. 3,265,801.

Atlantic Refining Co., The: *See*—
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Atlantic Research Corp.: *See*—
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De Fries, Myron G., and Sherwood. 3,265,557.

Atsumi, Kunio, and H. Wada, to Suzuki Motor Co., Ltd. Cushioned torque-limiting centrifugal clutch. 3,265,172, 8–9–66, Cl. 192—55.

Atterbury, Stanley T. Bicycle storage. 3,265,405, 8–9–66, Cl. 280—287.

Attwood, Charles W. Polygonal, telescoping, tubular members. 3,266,051, 8–9–66, Cl. 52—100.

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Autry, Gilbert D., and L. L. Pankey, to Hughes Aircraft Co. Rocker switch utilizing magnetic reeds. 3,265,826, 8–9–66, Cl. 200—87.

Avco Corp.: *See*—
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Ayers, George W., and W. A. Krewer, to Union Oil Co. of California. Solvents extracts containing thiophene groups. 3,265,710, 8–9–66, Cl. 260—330.5.

Ayres, Walter D., Jr., to B. H. Bunn Co. Control for conveyorized bundle tying system. 3,264,976, 8–9–66, Cl. 100—4.

BMA Triebwerkbau Gesellschaft m.b.H.: *See*—
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BSR Ltd.: *See*—
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Baarson, Robert E.: *See*—
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Baatrup, Johannes V., to Danfoss ved ing. M. Clausen. Gas burner provided with a thermocouple element pin contact catch. 3,265,539, 8–9–66, Cl. 136—219.

Babb, Jerry W., J. T. Bowen, R. P. Shea, and R. M. Walp, to Preco, Inc. Slope and grade control for paving machines. 3,264,958, 8–9–66, Cl. 94—46.

Babcock & Wilcox Co., The: *See*—
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Bach, Harold E., and L. G. Gilbert, to National Electric Welding Machines Co. Wire feeding device. 3,265,258, 8–9–66, Cl. 226—112.

Bacroix, Marcel, to Centre de Recherches de Pont-a-Mousson. Device for buttwelding metal sheets. 3,264,277, 8–9–66, Cl. 228—44.

Badger Co., Inc., The: *See*—
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Doerfel, Helmut, and Raff. 3,265,733.
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Schmitt, Manfred C. L. 3,265,058.

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Baird, Jack D., to J. J. Milligan, C. S. Phillips, and R. T. Zimmerman. Apparatus for rotating the cloth roll of a loom. 3,265,094, 8–9–66, Cl. 139—1.

Baker, C. P., & Co.: *See*—
Grob, Erwin. 3,265,625.

Baker, Edward J., to United States of America, Army. Device for detecting and measuring high energy particles of a predetermined energy level. 3,265,895, 8–9–66, Cl. 250—83.3.

Baker, George W., to York Research Corp. Thermionic tube having novel heater and cathode. 3,265,924, 8–9–66, Cl. 313—337.

Baker Oil Tools, Inc.: *See*—
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Baker, William R., and K. Halbach, to United States of America, Atomic Energy Commission. Apparatus for producing and purifying plasma. 3,265,583, 8–9–66, Cl. 176—7.

Balaguer, Rodolfo R., to Patent Holdings Corp. Method for assembling primary batteries. 3,265,537, 8–9–66, Cl. 136—175.

Balde, John W., and C. A. R. Kagan, to Western Electric Co., Inc. Apertured thin-film circuit components. 3,266,005, 8–9–66, Cl. 338—308.

Baldwin, James F., and A. T. Cape, to Coast Metals, Inc. Alloys for high temperature use containing chromium, tungsten, nickel, cobalt. 3,265,494, 8–9–66, Cl. 75—171.

Baldwin, Maurice F. Wheel cover having resilient plastic retaining means. 3,265,441, 8–9–66, Cl. 301—37.

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Baltimore Aircoil Co., Inc.: *See*—
Bradley, Wilson E. 3,265,372.

Baltimore Brushes, Inc.: *See*—
Campbell, Richard A., and Blood. 3,264,672.

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Baptie, Alexander L., to Microcard Corp. Holder for sheet microfilm. 3,264,770, 8–9–66, Cl. 40—158.

Barber, Richard P., and J. D. Turner, to Burlington Industries, Inc. Continuous method of imparting wet and dry crease resistance to cellulosic materials through reaction with formaldehyde. 3,265,463, 8–9–66, Cl. 8—116.4.

Barenyi, Bela, and H. Haselmann, to Daimler-Benz Aktiengesellschaft. Windshield wiper arrangement. 3,264,670, 8–9–66, Cl. 15—250.27.

Bargel, Gunter, to Holstein & Kappert. Apparatus for transferring bottles and similar containers. 3,265,182, 8–9–66, Cl. 198—20.

Barker, Robert S., to Halcon International Inc. Oxidation catalyst comprising the oxides of copper, chromium, and molybdenum. 3,265,635, 8–9–66, Cl. 252—437.

Barnes, Frank A. Shotgun sight. 3,264,771, 8–9–66, Cl. 42—76.

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Barnes, Leslie: *See*—
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Barrow, Thomas R., to Shell Oil Co. Manufacture of dibasic lead phthalate. 3,265,721, 8–9–66, Cl. 260—435.

Bartels, Alfred F. A., to Nordischer Maschinenbau Rud. Method of opening up the belly cavity of unslaughtered fish. 3,264,681, 8–9–66, Cl. 17—45.

Bartelt Engineering Co., Inc.: *See*—
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Bartl, Herbert: *See*—
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Bartlett, William F., to Stromberg Carlson Corp. Time division multiplex-multiple digit store. 3,265,815, 8–9–66, Cl. 179—15.

Bartlo, John S., and V. R. Grundmann, to Package Machinery Co. Heat sealing means for packaging machines. 3,264,799, 8–9–66, Cl. 53—379.

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Barton, William F., to Grigsby-Barton, Inc. Electrical relay. 3,265,825, 8–9–66, Cl. 200—87.

Barts, Guenter: *See*—
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Battelle Development Corp.: *See*—
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Battisti, Sylvester J.: *See*—
Nickol, Henry A., and Battisti. 3,265,127.

Baudry, Rene A., to Westinghouse Electric Corp. Dynamoelectric machine. 3,265,912, 8–9–66, Cl. 310—59.

Bauer, Gerald C., to The Mead Corp. Container closing machine. 3,264,795, 8–9–66, Cl. 53—128.

Baum, Theodore M., to Koppers Co., Inc. Machine element mounting means. 3,264,953, 8–9–66, Cl. 93—36.

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Bayley, Donald S., to M. Ten Bosch, Inc. Navigational instrument. 3,265,872, 8–9–66, Cl. 235—150.271.

Bayliss, Carl W. Collapsible and adjustable trellis. 3,264,783, 8–9–66, Cl. 47—45.

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Beals, Max D., to American Metal Climax, Inc. Two-piece valley flashing. 3,264,790, 8–9–66, Cl. 52—14.

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Beck, Marlin E. Tamping plug. 3,264,992, 8–9–66, Cl. 102—30.

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Beckwith, Howard W., to Scantlin Electronics, Inc. Display board having concentric cylinder indicating elements. 3,266,019, 8–9–66, Cl. 340—154.

Beer, Henri B., to Amalgamated Curacao Patents Co. N.V. Method of chemically plating base layers with precious metals of the platinum group. 3,265,526, 8–9–66, Cl. 117—50.

Beguin, Maurice, to Le Portescap S.A. Clock with release mechanism. 3,264,817, 8–9–66, Cl. 58—21.15.

Behrens, Erroll W. Push cart attachment. 3,265,297, 8–9–66, Cl. 235—1.

Beinfest, Sidney, P. Adams, B. Juliano, and J. F. Marshik, to Millmaster Onyx Corp. Process for purifying 3-quinuclidone. 3,265,703, 8–9–66, Cl. 260—294.7.

Beitzel, Horace C., to Bucyrus-Erie Co. Walking equipment for dragline excavators and the like. 3,265,145, 8–9–66, Cl. 180—8.

Beitzerl, Arvene R., A. E. Green, and H. L. Meyer, to Jervis B. Webb Co. Overhead tow conveyor. 3,265,012, 8–9–66, Cl. 104—170.

Belliveau, Robert F.: *See*—
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Bell Corp.: *See*—
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Bell, Edward R.: *See*—
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Bodmer, Max G. 3,265,925.
Bond, Walter L. 3,265,528.
Danielsen, Daniel. 3,266,017.
Darlington, Sidney, and Sandberg. 3,265,973.
Dayem, Aly H., and Tien. 3,265,988.
Hamasaki, Joji. 3,265,995.
Kessel, Robert L. 3,265,999.
Mims, William B. 3,265,961.
Smith, Donald T. 3,265,807.
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Cowen, Frank M., and Bellis. 3,265,719.

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Bendix Corp., The: *See*—
Cripe, Maxwell L. 3,265,446.
Dombeck, Edward K. 3,265,164.
Doniger, Jerry, and Tatz. 3,266,040.
Eldred, Wendell E. 3,265,554.
Gilbert, Emerson D., and Deyerling. 3,265,163.
Katz, Norman H., and Lindley. 3,265,381.
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Sylvander, Frederick B. 3,266,039.

Benjamin, Gordon L., Jr., to Warren Electric Corp. Heat exchanger for pre-heating fluids. 3,265,857, 8–9–66, Cl. 219—331.

Bennett Respiration Products, Inc.: *See*—
Gage, Herbert L., Jr. 3,265,061.

Bensinger, Wolf-Dieter, H.-O. Derndinger, H. Lamm, and W. Springer, to Daimler-Benz Aktiengesellschaft. Rotary-piston internal combustion engine of trochoidal construction. 3,265,045, 8–9–66, Cl. 123—8.

Berenbaum, Arthur, to Philco Corp. Dryer control apparatus. 3,264,750. 8–9–66, Cl. 34—45.

Berg Mfg. & Sales Co.: *See*—
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Berg, Tomas: *See*—
Pettersson, Bror, Berg, Djurberg, and Johansson. 3,265,932.

Berger, Arthur J. Adjustable cam. 3,264,897, 8–9–66, Cl. 74—568.

Berger, Emanuel, and V. S. Wince, to Holophane Co., Inc. Radiation shielding light transmitter. 3,265,804, 8–9–66, Cl. 174—35.

Berger, Hans. Inside door lock. 3,265,423, 8–9–66, Cl. 292—67.

Berger, Hans. Inside door lock. 3,265,425, 8–9–66, Cl. 292—202.

Berger, Leo J., Jr., to Scans Associates, Inc. Flow measuring device. 3,264,870, 8–9–66, Cl. 73—205.

Berggren, Loring J., and C. T. Hathaway, to Monsanto Co. Method for coating of biaxially oriented film. 3,265,552, 8–9–66, Cl. 156—244.

Bergstrom, James W., and R. R. Bockemuehl, to General Motors Corp. Semiconductor amplifying radiation detector. 3,265,899, 8–9–66, Cl. 250—211.

Berlinsky, Anthony A., W. T. Fay, and M. J. Brennan, to United States of America, Commerce. Apparatus for measuring area. 3,264,739, 8–9–66, Cl. 33—123.

Bernhardt, Heinz, and F. Teuber; said Teuber assor. to said Bernhardt. Container for shoe polish and the like. 3,265,238, 8–9–66, Cl. 220—43.

Bernstein, Jack, to E. R. Squibb & Sons, Inc. Certain 3-acylamidoalkyl-3-azabicyclo [3.2.2] nonane compounds. 3,265,683, 8–9–66, Cl. 260—239.

Berther, Clau: *See*—
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Bessant, Albert D., to Himpelm Engineers Ltd. Endless chain conveyors. 3,265,193, 8–9–66, Cl. 198—182.

Best, Leslie G.: *See*—
Carter, Edward R., Holbrow, Best, and Denhan. 3,265,254.

Betts, Robert E., to United States of America, Army. Focused exploding bridge wire. 3,264,990, 8–9–66, Cl. 102—28.

Betts, Robert E., and N. P. Williams, Jr., to United States of America, Army. Focused exploding bridge wire assembly for electric igniters. 3,264,991, 8–9–66, Cl. 102—28.

Beynon, John C., to United States of America, Atomic Energy Commission. Magnetic recording readout for flowmeter. 3,264,871, 8–9–66, Cl. 73—231.

Bidlack, Jerald D., to Cadillac Gage Co. Digital servo actuators. 3,264,947, 8–9–66, Cl. 91—384.

Bidwell, Howard, 50% to R. Bidwell. Apparatus for preparing paper stocks. 3,265,558, 8–9–66, Cl. 162—252.

Bidwell, Rachel: *See*—
Bidwell, Howard. 3,265,558.

Bierlein, Carl A.: *See*—
Shellhause, Ronald L., and Bierlein. 3,264,885.

Biggs, Ariel C., to Angeles Metal Trim Co. Building construction. 3,265,217, 8–9–66, Cl. 211—90.

Bilancia, Raymond A., to Coach and Car Equipment Corp. Rockerless walk-over seat. 3,265,435, 8–9–66, Cl. 297—101.

Bliodeau, Alvin V., R. J. Francoeur, and R. F. Stein, to General Dynamics Corp. Automatic apparatus for checking multiconductor electrical cables. 3,265,968, 8–9–66, Cl. 324—66.

Binch, David, to Haveg Industries, Inc., a wholly-owned subsidiary of Hercules Power Co. Insulated high temperature electrical conductor and process for making same. 3,265,808, 8–9–66, Cl. 174—105.

Binnall, Eugene P.: *See*—
Soule, Winsor, Jr., and Binnall. 3,265,874.

Black, Ernest P.: *See*—
Clelland, James B., Ferris, and Black. 3,265,517.

Black, Matthew B., III, E. E. Fraust, W. S. Barnhart, and R. Netsch, to Pennsalt Chemicals Corp. Chemical product and method for its manufacture. 3,265,679, 8–9–66, Cl. 260—92.1.

Black, Sivalls & Bryson, Inc.: *See*—
Thurley, John, and Lowry. 3,265,113.

Blackhurst, Robert V.: *See*—
Davies, David O., and Blackhurst. 3,265,291.

Blasingame, Benjamin P. Capacitive resolver. 3,265,960, 8–9–66, Cl. 323—128.

Bliven, Paul. Laminated cellular metallic panel. 3,265,854, 8–9–66, Cl. 219—117.

Block, Harold, to Futurex Products Corp. Tweezers. 3,264,909, 8–9–66, Cl. 81—43.

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Van der Ster, Johannes, and Bloem. 3,264,832.

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Campbell, Richard A., and Blood. 3,264,672.

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Blumenfeld, Charles M. Swimming pool cleaning apparatus. 3,265,079, 8–9–66, Cl. 134—167.

Blumenthal, Jack H., to International Flavors & Fragrances, Inc. Preparation of 2-octalones. 3,265,739, 8–9–66, Cl. 260—586.

Board, Richard G., and N. H. Shapiro. Retractable safety belts. 3,265,440, 8–9–66, Cl. 297—388.

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Bodmer, Max G., to Bell Telephone Laboratories, Inc. Field perturbing means for preventing beam scalloping in reversed field focusing system. 3,265,925, 8–9–66, Cl. 315—3.

Boehm, Walter G., to Jervis B. Webb Co. Tilting discharge carrier for conveyors. 3,265,190, 8–9–66, Cl. 198—155.

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Bofors, Aktisbolaget: *See*—
Blomqvist, Ake H. P., and Lind. 3,266,036.

Boggild, Robert, and W. L. Dale. Toy extruder. 3,264,685, 8–9–66, Cl. 18—12.

Bolotin, Abraham I. Auxiliary sun glare shield. 3,265,434, 8–9–66, Cl. 296—97.

Bolton, Douglas H. H., F. Pawling, and M. C. Potts, to Dowty Mining Equipment Ltd. Roof support assembly suitable for use in mines. 3,264,945, 8–9–66, Cl. 91—170.

Boman, William H., and C. S. Churchill, to General Motors Corp. Transmission control linkage. 3,264,892, 8–9–66, Cl. 74—473.

Bond, Walter L., to Bell Telephone Laboratories, Inc. Method of forming metal carbide coating on carbon base. 3,265,528, 8–9–66, Cl. 117—95.

Boumaie, Oliver W., to The Lapointe Machine Tool Co. Indexing mechanism for machine tools. 3,264,903, 8–9–66, Cl. 74—825.

Boumail, Sydney C., Jr., to Peumail Chemicals Corp. Process for the purification of rolling mill oil. 3,265,212, 8–9–66, Cl. 210—74.

Boun, John, Jr., and S. A. Youngman, to Shell Oil Co. Crystallization of polyolefins in the presence of stearic acid or laurenyl. 3,265,648, 8–9–66, Cl. 260—23.

Borden, Jay R., to Borg-Warner Corp. Voltage regulator circuit. 3,265,957, 8–9–66, Cl. 323—22

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Donaldson, Desmond M. 3,265,126.
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Boseinger, Charles D., and K. G. Taylor, to Armour Pharmaceutical Co. Phenyl alkyl-1,2 thiaramates. 3,265,827, 8–9–66, Cl. 260—282.

Boseinger, Charles D., and K. G. Taylor, to Armour Pharmaceutical Co. Substituted phenethyl thiaramates. 3,265,829, 8–9–66, Cl. 260—282.

Boswell, George A., Jr., to Shell Oil Co. Ring expansion of cycloalkane carboxy compounds. 3,265,738, 8–9–66, Cl. 260—398.

Botterill, John R., to Alfred Peters Mascthines and Armaturenfabrik AG. Veneer-cracking system. 3,265,102, 8–9–66, Cl. 144—56.

Bouchard, Joseph J. S., and L. A. Hermanson, to Sprague Electric Co. Diffused selector transistor. 3,265,942, 8–9–66, Cl. 317—235.

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Haines, Hard L. and Bourne. 3,265,108.

Bowden, L. S. Automatic vacuum control systems for aircraft fuel lines. 3,265,089, 8–9–66, Cl. 137—112.

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Bird, Jerry W., Bowen, Ward, and Shea. 3,264,668.

Bower, William H. Oil drain nip tool. 3,264,850, 8–9–66, Cl. 166—105.

Bowerman, Dudley, to Gas Appliance Supply Corp. Method of locating the end of pipes. 3,264,723, 8–9–66, Cl. 29—407.

Bowerman, Dudley, to Gas Appliance Supply Corp. Machine for locating the end of manifold pipes. 3,265,173, 8–9–66, Cl. 228—17.

Bowers, Philip S. Soil sampling device. 3,264,877, 8–9–66, Cl. 73—421.

Boyd, Sherman L., to Ledeburn, Inc. Electrostatic printer. 3,265,816, 8–9–66, Cl. 346—74.

Boydell, Kenneth E., and J. J. Weaver, to Dowty Hydraulic Units, Ltd. Gear pumps and motors. 3,265,004, 8–9–66, Cl. 103—126.

Bradbury, Walter J., to Scientific Chemicals Inc. Manufacture of para-chloroaniline and para-chlorophenol. 3,265,745, 8–9–66, Cl. 260—580.

Bradley, William L., to Baltimore Aircoil Co., Inc. Air distribution system. 3,265,371, 8–9–66, Cl. 261—30.

Braithwaite, John B., and Philip Morris, Inc. Device for testing the end of cigarette rods. 3,265,076, 8–9–66, Cl. 131—21.

Brandenburg, Carl, to Gilbert Industries Inc. Automatic flame regulator for glass forming and welding machine. 3,265,488, 8–9–66, Cl. 65—29.

Braun, George V., and C. Herrmann, to Herrmann Mfg. Co. Steel sump or water mixing valve. 3,264,994, 8–9–66, Cl. 137—268.

Brassell, John L. Swimming device. 3,264,646, 8–9–66, Cl. 9—310.

Brautigam, Donald J., T. Brown, S. D. Wix, and E. J. Gardner, to United States of America, Navy. Method of processing ceramic-type ferroelectric materials. 3,265,767, 8–9–66, Cl. 264—61.

Brandt, James V., to Lovell Mfg. Co. Bodies wringer. 3,264,685, 8–9–66, Cl. 15—256.

Brenan, Charles, to Commonwealth Scientific Corporation. Ultrasonic inspection unit for cars having extensible wheels. 3,265,151, 8–9–66, Cl. 181—0.5.

Brenner, Hans, to Ingenieurbüro H. Brenner und Co. Transporting or receiving device for objects having extensible suction. 3,265,422, 8–9–66, Cl. 294—64.

Brentschneider, Karl E., to Trade Development Inc. Apparatus for removing oil from water. 3,265,231, 8–9–66, Cl. 210—83.

Brennan, Martin J. See—
Partridge, Anthony W., and Brennan. 3,264,794.

Brewer, David J., to United States of America, Army. Automatic antenna test. 3,265,944, 8–9–66, Cl. 324—58.

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Brieger, Hyman, and W. J. Smith, to Ramsey Motors Dept. Transmission. 3,264,902, 8–9–66, Cl. 74—794.

Brietzke, Richard W. Reamer for removing, holding and driving axle shafts and bushings in the bearing. 3,265,440, 8–9–66, Cl. 308—8.

Briggs, Walter L., to Marinus Research Dept. Mine countermeasure sled device. 3,265,029, 8–9–66, Cl. 102—19.

Brightman, Harry, and J. L. Shaw, Jr., to Ramsey Dynamics Dept. Phase-control system for use in producing variable frequency pulse from a fixed transmitting array. 3,265,911, 8–9–66, Cl. 307—106.

Brisley, Frank O.: See—
Marzocchi, Alfred, Brisley, and Dillon. 3,265,520.

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Kawaguchi, Hiroshi, Okanishi, and Tsuiuura. 3,265,588.

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British Drug Houses Ltd., The: See—
Allison, James M., Burn, and Petrow. 3,265,717.

Britten, Harold H. See—
Cutler, John H., Britten, and Stombock. 3,265,952.

Broadhead, Samuel L., Jr., to Collins Radio Co. Combined frequency and phase discriminator. 3,265,976, 8–9–66, Cl. 329—127.

Brodsky, David L., to Saco Products, Inc. Chromatography cabinet. 3,265,214, 8–9–66, Cl. 210—198.

Brooner, Bernard F., to Premier Injection Mouldings Ltd. Actuating unit for valves or switches. 3,264,584, 8–9–66, Cl. 74—1.5.

Brooks, B. L., Co. See—
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Brooks, Winfred M., and S. M. Moberg, to B. L. Brooks Co. Saddle seal. 3,265,428, 8–9–66, Cl. 292—307.

Brossard, Frank P., to Dezaco Inc. Flood gate. 3,264,829, 8–9–66, Cl. 61—28.

Brossard, Gerald E., to Texas Instruments Inc. Voltage regulator utilizing semiconductor device. 3,265,954, 8–9–66, Cl. 323—28.

Brown, Arthur E., and H. Stern, to General Electric Co. Propulsor. 3,265,027, 8–9–66, Cl. 114—66.5.

Brown, Kenneth G. Dispenser having deformable article discharge means. 3,265,244, 8–9–66, Cl. 221—202.

Brown, Louise H., and H. Swidler, to Armour and Co. Polyurethane resin from an organic isocyanate and a polyglycol acetal esterified with an alkylated diphenol. 3,265,668, 8–9–66, Cl. 260—77.5.

Brown Oil Tools, Inc. See—
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Brown, Richard E., and K. L. Meltzer, to Warner-Lambert Pharmaceutical Co. Process for the production of substituted acetams. 3,265,719, 8–9–66, Cl. 260—559.

Brown, Richard W., to Honeywell Inc. Burner control apparatus. 3,265,111, 8–9–66, Cl. 158—28.

Brown, Walter L., to Sprague Electric Co. Apparatus for initiating construction. 3,265,955, 8–9–66, Cl. 317—22.

Brown, Wilbur A., C. H. Fawcett, E. W. Gegan, and J. D. Boyden, to Monsanto Co. Packaging apparatus. 3,264,794, 8–9–66, Cl. 53—28.

Bruelier, Antoine, to Ateliers Nitrom Societe Anonyme. Servo steering of vehicles. 3,264,846, 8–9–66, Cl. 91—382.

Brugos, Warren S., and T. S. Deloney, to Collins Radio Co. Radio frequency coupling transmission line circuitry. 3,265,984, 8–9–66, Cl. 333—

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Degner, Carl O., Satterell, and Garbera. 3,265,392.

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Rosenquist, Walter B., Jr., Flower, and Buchanan. 3,265,782.

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Davies, Phillippe A., Buck, and Scullin. 3,265,975.

Buckwalter, Erik, and E. Kindritzer, to International Standard Electric Corp. Arrangement for controlled departure of cargo pneumatic tube carriers. 3,265,335, 8–9–66, Cl. 243—

Buckwalter, Erik. See—
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Buehler, Hugo P., to Beloit Corp. Roll suspension. 3,264,

Buehler, Richard C., to Wagner Electric Corp. Thermal valve. 3,265,447, 8–9–66, Cl. 165—32.

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Bulle, Robert J., and W. J. Seager, to Union Oil Co. of California. Chromatographic apparatus and process. 3,264,801, 8–9–66, Cl. 23—67.

Bunker, Hammond, to Massachusetts Institute. Safety apparatus for vehicle operated by one person. 3,265,

Burch, Jerusalem D. See—
Alexander, Emmett L., and Burch. 3,265,

Burke, Stanley J., and Chas. D. Marmon Assocs. 3,264,

Burke, Stanley J., and Chas. D. Marmon Assocs. 3,265,

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Burnsweaver, Glen. Miniature manikin. 3,264,

Burns, John T. Fuel vent treatment apparatus. 3,265,

Burpee, Jack S., and R. A. Daly, to Electrosonic Analysis Ltd. Ultrasonic grader. 3,264,

Burpee, Ronald E., C. Richardson, and J. Griffin, to Imperial Chemical Industries Ltd. Polyolefin compositions combined with the inorganic ester and polyorganosiloxane. 3,265,

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Burton, Darnall R., and C. H. Hamilton, to Sprague Electric Co. Encapsulation by package of electronic parts. 3,265,

Burton, Jack V. See—
Ely, Reiter L., Jr., Burton, and Dennen.

Burlington Industries, Inc. See—
Farmer, Richard J., and Turner.

Burtner, James L. See—
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Burn, Derek: See—
Allison, James M., Burn, and Petrow. 3,265,717.

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Lazar, Michael, Noachese, and Gaurley. 3,265,936.

Burnell, Vernon G. Pamphlet assembly and stapling machine. 3,265,274, 8–9–66, Cl. 227—7.

Burner, Donald L., to Acme Tool, Inc. Pipe transfer elevator. 3,265,431, 8–9–66, Cl. 294—86.25.

Burns, Gerald, F. H. Dill, W. P. Dumke, G. J. Lasher, and M. I. Nathan, to International Business Machines Corp. Stimulated emission of radiation in semiconductor devices. 3,265,990, 8–9–66, Cl. 331—94.5.

Burroughs Corp.: See—
Di Mino, Alfonso. 3,265,034.
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Burroughs, Louis R., to Electro-Voice, Inc. Acoustical device with protective screen. 3,265,153, 8–9–66, Cl. 181—31.

Burton, Calvin A., to Lamson Corp. Warehouse conveyor system. 3,265,186, 8–9–66, Cl. 198—79.

Bury, George J., to Illinois Tool Works Inc. Snap-action switch with short movement differential. 3,265,823, 8–9–66, Cl. 200—67.

Buss, Waldeen C., to Chevron Research Co. Chromium-containing hydrofining catalysts. 3,265,615, 8–9–66, Cl. 208—254.

Butler Mfg. Co.: See—
Hungerford, Albert O., and Jackson. 3,265,556.

Butzko, Robert L. Doughnut package. 3,265,260, 8–9–66, Cl. 229—2.5.

CSF-Compagnie Generale de Telegraphie Sans Fil: See—
Freytag, Jean-Pierre, and Shroff. 3,265,495.

Cabot Corp.: See—
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Yount, Emory N., and McKinnon. 3,265,350.

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Marullo, Gerlando, Fornasieri, and Cadorin. 3,265,606.

Cain, Alfred R., to Firestone Tire & Rubber Co. Polymerization process using dispersed sodium. 3,265,759, 8–9–66, Cl. 260—683.15.

Caldwell, John R., and C. C. Dannelly, to Eastman Kodak Co. Breathable fabric with a layer of water-swellable elastomer. 3,265,529, 8–9–66, Cl. 117—135.5.

Caldwell, John R., and E. H. Hill, to Eastman Kodak Co. Polymeric pigment containing amide nitrogen, and having an acrylonitrile core. 3,265,767, 8–9–66, Cl. 260—883.

Call, Anthony J. Axial flow compressors for jet engines. 3,265,290, 8–9–66, Cl. 230—122.

Califano, Frank L., and P. N. Shutak, to The Flintkote Co. Sheet handling system. 3,264,917, 8–9–66, Cl. 83—94.

Callahan, Gerard M., to F & C Enterprises, Inc. Burglar alarm system having a delayed alarm. 3,266,029, 8–9–66, Cl. 340—274.

Camco, Inc.: See—
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Tausch, Gilbert H. 3,265,134.

Cameo Curtains, Inc.: See—
Levinson, Nathan. 3,265,864.

Campbell, Richard A., and C. R. Blood, to Baltimore Brushes, Inc. Reversible paint roller tray. 3,264,672, 8–9–66, Cl. 15—257.06.

Cannell, Lawrence G., to Shell Oil Co. Production of polycyclic compounds. 3,265,749, 8–9–66, Cl. 260—666.

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Baldwin, James F., and Cape. 3,265,494.

Cappel, Fred, to Dravo Corp. Method of and apparatus for regulating the speed of sintering strands. 3,265,377, 8–9–66, Cl. 263—28.

Carlan, Alan J., K. H. Wallhausen, R. H. Salinas, W. E. Payne, and B. P. Bazin, Jr., to Power Components Inc. Semiconductor power device. 3,265,805, 8–9–66, Cl. 174—52.

Carlisle, Ernest J. Portable record player. 3,265,894, 8–9–66, Cl. 274—15.

Carlisle, Howard W., to The Cincinnati Milling Machine Co. Method and apparatus for forming presses. 3,264,854, 8–9–66, Cl. 72—63.

Carlson, Edward H. Hand exerciser. 3,265,389, 8–9–66, Cl. 272—68.

Carney, Delmar E., and C. A. Gartz, Jr., to Libbey-Owens-Ford Glass Co. Method and apparatus for melting glass. 3,265,485, 8–9–66, Cl. 65—134.

Caron, Philip E., to Weyerhaeuser Co. Method of die-baking moldable wood fiber parts. 3,265,791, 8–9–66, Cl. 264—129.

Carpenter, Keith H., to General Motors Corp. Electrohydraulic accessory power supply. 3,264,671, 8–9–66, Cl. 15—250.30.

Carrier Corp.: See—
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Osborne, William T. 3,264,841.
Ostrander, William S. 3,265,122.

Carroll, David I.: See—
Cohen, Martin J., Carroll, Gibson, Grice, and Wernlund. 3,265,894.

Carter, Albert S., to E. I. du Pont de Nemours and Co. Composite propellant containing nitroglycerin. 3,265,543, 8–9–66, Cl. 149—19.

Carter, Edward R., R. F. Holbrow, L. G. Best, and A. R. Denham; said Holbrow assor. to said Carter. Stacked barrels containing collapsible bags. 3,265,254, 8–9–66, Cl. 222—386.5.

Carter, Paul R., M. A. Harvey, and A. R. Lynch (now by change of name A. R. Pollis), to United States Steel Corp. Method of coating silicon steel in conjunction with box annealing thereof preparatory to die punching. 3,265,600, 8–9–66, Cl. 204—145.

Carter, William A., to I-T-E Circuit Breaker Co. Floating insulating shield. 3,265,843, 8–9–66, Cl. 200—151.

Case, J. I., Co.: See—
Bulin, Shelley A. 3,264,706.
Bulin, Shelley A. 3,265,451.

Castellani, Eugene E., and R. D. De Mars, deceased (by D. De Mars, legal representative), to International Business Machines Corp. Cobalt-nickel alloy plating baths. 3,265,596, 8–9–66, Cl. 204—43.

Castello, Anthony M., and F. W. Osborn, to The Coleman Co., Inc. Air distribution assembly for an electric baseboard heating system. 3,265,859, 8–9–66, Cl. 219—367.

Catallo, Frank: See—
Cohn, Eugene, Catallo, and Snyder. 3,265,271.

Catallo, Frank, to Samcoe Holding Corp. Fabric feeding system. 3,265,270, 8–9–66, Cl. 226—175.

Caterpillar Tractor Co.: See—
Goloff, Alexander. 3,265,052.
Hall, James D., and Rehberg. 3,265,880.
Wagner, Harold H. 3,265,084.

Cathelin, Paul, and C. Van Den Burg, to Societe dite: Treflmetaux. Device having centrifugal force responsive means for the detection of faults in the insulating sheath of electric cables and the like. 3,265,966, 8–9–66, Cl. 324—54.

Catu, Robert, to IPA International Patent- und Lizensan-Stalt. High voltage probe apparatus with a plurality of discharge tube isolating spark gaps therein. 3,265,969, 8–9–66, Cl. 324—72.5.

Cecil, Shelby, to X 3 Corp. Welding apparatus. 3,265,856, 8–9–66, Cl. 219—130.

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Willis, Cullie B., Jr., and Ceely. 3,265,442.

Celanese Coatings Co.: See—
Kirwan, Harry O., and Klassen. 3,265,662.

Centre de Recherches de Pont-a-Mousson: See—
Bacroix, Marcel. 3,265,277.
Lorang, Pierre E. 3,265,410.

Chaber, Morton D., and J. F. Friden, to Ronson Corp. Spout structure. 3,265,256, 8–9–66, Cl. 222—534.

Champlain Co., Inc.: See—
Lewis, Clarence A., and O'Brien. 3,264,983.

Chemetron Corp.: See—
Miller, Bruce D., Thornton, and Reigel. 3,264,836.

Chemical Products Corp.: See—
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Chen, Yian-Nian, to Sulzer Bros. Ltd. Combustion gas stack for steam generating plant. 3,265,040, 8–9–66, Cl. 122—4.

Cheney, Adelbert W., J. C. Nelson, and W. Weigler, to Sperry Rand Corp. Computer with error recovery. 3,266,020, 8–9–66, Cl. 340—172.5.

Chenouard, Jean, and R. Gabilly, to Commissariat a l'Energie Atomique. Device for continuously measuring the difference between the conductivities of two liquids. 3,265,963, 8–9–66, Cl. 324—30.

Cheung, Yau T. Fortune cooky machine. 3,265,016, 8–9–66, Cl. 107—1.

Chevron Research Co.: See—
Buss, Waldeen C. 3,265,615.
Flanders, Robert L. 3,265,611.

Chicago Bridge & Iron Co.: See—
Maier, Richard C. 3,265,115.

Chieger, George, to Fruehauf Corp. Container construction. 3,265,235, 8–9–66, Cl. 220—4.

Child, Ralph G., to American Cyanamid Co. Process of preparing 3,4,5-triamino-4H-1,2,4-triazole. 3,265,707, 8–9–66, Cl. 260—308.

Childree, Herman T., to General Dynamics Corp. Ignitor-burner assembly. 3,265,114, 8–9–66, Cl. 158—123.

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Ferbitz, Russell C., and Chocholek. 3,264,901.

Christensen, Irene: See—
Deichert, William G., and Christensen. 3,265,763.
Deichert, William G. Christensen, and Ramsey. 3,265,764.

Christenson, Roger M.: See—
Dowbenko, Rostyslaw, and Christenson. 3,265,668.

Christiansen Robert G., to Serling Drug Inc. 17a-(3-hydroxy-1-propynyl) or 17a-(3-hydroxy-1-propenyl) substituted aromatic steroids. 3,265,718, 8–9–66, Cl. 260—397.5.

Chubb-Mosler and Taylor Safes Ltd.: See—
Sadler, John A. 3,266,030.
Sadler, John A. 3,266,031.

Chudzik, Bruno, to E. I. du Pont de Nemours and Co. Bonding process. 3,264,731, 8–9–66, Cl. 29—486.

Chumley, Calvin L., to National Rejectors, Inc. Paper currency detector having magnetic and optical sensing means. 3,265,205, 8–9–66, Cl. 209—75.

Churchill, Charles E.: See—
Boman, William H., and Churchill. 3,264,892.

Cincinnati Milling Machine Co., The: See—
Carlisle, Howard W. 3,264,854.

Citroen, Andre, Societe Anonyme: See—
Bruelier, Antoine. 3,264,946.

Claiborne, Earl B.: See—
Ray, Richard L., Gamble, Claiborne, and Coats. 3,265,771.

Clanton, Raymond W., and C. W. Howe, said Howe assor. to said Clanton. Machine for molding concrete blocks. 3,264,702, 8–9–66, Cl. 25—41.

Clark, George M.: See—
Smith, Horace V., and Clark. 3,265,086.

Clark, John E.: See—
Pickup, Edmund, and Clark. 3,264,815.

Boman, William H., and C. E. Churchill, to General Motors Corp. Transmission control linkage. 3,264,892, 8–9–66, Cl. 74—473.

Bond, Walter L., to Bell Telephone Laboratories, Inc. Method of forming metal carbide coating on carbon base. 3,265,528, 8–9–66, Cl. 117—95.

Bonnafe, Oliver W., to The Lapointe Machine Tool Co. Indexing mechanism for machine tools. 3,264,903, 8–9–66, Cl. 74—825.

Bonsall, Rodney T., Jr., to Pennsalt Chemicals Corp. Process for the purification of rolling mill oil. 3,265,212, 8–9–66, Cl. 210—73.

Boor, John, Jr., and E. A. Youngman, to Shell Oil Co. Crystallization of poly-1-butene in the presence of stearic acid or biphenyl. 3,265,648, 8–9–66, Cl. 260—23.

Borden, Jay R., to Borg-Warner Corp. Voltage regulator circuit. 3,265,957, 8–9–66, Cl. 323—22.

Borg-Warner Corp.: *See*—
Donaldson, Desmond M. 3,265,126.
Borden, Jay R. 3,265,957.
Smith, Vernon Z. 3,265,900.

Bosch, M. Ten, Inc.: *See*—
Bayley, Donald S. 3,265,872.

Bose, Amar G. Signal translation. 3,265,870, 8–9–66, Cl. 235—150.

Bossinger, Charles D., and K. G. Taylor, to Armour Pharmaceutical Co. Phenyl alkyl-1,2 dicarbamates. 3,265,727, 8–9–66, Cl. 260—482.

Bossinger, Charles D., and K. G. Taylor, to Armour Pharmaceutical Co. Substituted phenethyl carbamates. 3,265,728, 8–9–66, Cl. 260—482.

Boswell, George A., Jr., to Shell Oil Co. Ring expansion of cyclopentene carbonyl compounds. 3,265,738, 8–9–66, Cl. 260—586.

Botterill, John R., to Alfred Teves Maschinen-und Armaturenfabrik KG. Vehicle-braking system. 3,265,162, 8–9–66, Cl. 188—86.

Bouchard, Joseph G. F., and L. A. Hermansen, to Sprague Electric Co. Diffused collector transistor. 3,265,943, 8–9–66, Cl. 317—235.

Bourne, Henry A. Jr.: *See*—
Haden, Elard L., and Bourne. 3,265,139.

Bowden, J. E. Automatic tension control systems for oil well drill lines. 3,265,359, 8–9–66, Cl. 254—173.

Böwe Böhler & Weber KG Maschinenfabrik: *See*—
Fuhring, Heinrich. 3,264,848.

Bowen, John T.: *See*—
Babb, Jerry W., Bowen, Walp, and Shea. 3,264,958.

Bower, William H. Oil drum cap lock. 3,264,850, 8–9–66, Cl. 70—165.

Bowman, Dudley, to Gas Appliances Supply Corp. Method for closing the ends of pipes. 3,264,729, 8–9–66, Cl. 29—475.

Bowman, Dudley, to Gas Appliance Supply Corp. Machine for closing the ends of manifold pipes. 3,265,279, 8–9–66, Cl. 228—17.

Boxrud, Phillip E. Soil sampling device. 3,264,877, 8–9–66, Cl. 73—421.

Boyd, Sherman H., to LeFebure, Inc. Electrostatic printer. 3,266,046, 8–9–66, Cl. 346—74.

Boydell, Kenneth R., and C. D. Weaver, to Dowty Hydraulic Units Ltd. Gear pumps and motors. 3,265,004, 8–9–66, Cl. 103—126.

Bradbury, Walter C., to Frontier Chemical Co. Manufacture of para-chloroaniline and paraaminophenol. 3,265,735, 8–9–66, Cl. 260—575.

Bradley, Wilson E., to Baltimore Aircoil Co., Inc. Air distribution system. 3,265,372, 8–9–66, Cl. 261—30.

Braginets, Paul A., and G. A. La Cas, to Philips Morris, Inc. Double edge razor blade dispenser. 3,265,198, 8–9–66, Cl. 206—16.

Bramming, Carl, to Aladdin Industries Inc. Automatic flame regulator for glass forming and welding machine. 3,265,486, 8–9–66, Cl. 65—162.

Brand, George W., and P. Hartmann, to Hartmann Mfg. Co. Fluid pump or motor having roller vanes. 3,264,944, 8–9–66, Cl. 91—82.

Brandell, John R. Solenoid kicker. 3,265,940, 8–9–66, Cl. 317—165.

Brandmayr, Ronald J., A. E. Brown, S. Di Vita, and R. J. Fischer, to United States of America, Army. Method of processing ceramic-type ferroelectric materials. 3,265,787, 8–9–66, Cl. 264—56.

Brandt, James W., to Lovell Mfg. Co. Clothes wringer. 3,264,849, 8–9–66, Cl. 68—258.

Brebant, Charles, to Commissariat a L'Energie Atomique. Dimensional inspection bench for parts having cylindrical bodies. 3 264,741, 8–9–66, Cl. 33—172.

Brechtel, Hans, S. D. Lapham, H. L. Knutson, and L. C. Tompkins, to Electro-Coating Inc. Polarity reversing switch. 3,265,846, 8–9–66, Cl. 200—158.

Bredtschneider, Kut B., to Crane Co. Segmental disc stem connection for valves. 3,265,351, 8–9–66, Cl. 251—88.

Brennan, Martin J.: *See*—
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Bresler, Aaron D., to United States of America, Army. Broad-band antenna feed. 3,266,044, 8–9–66, Cl. 343—792.5.

Bretford Mfg., Inc.: *See*—
Petrick, Edward J. 3,265,346.

Breting, Ulysses A., and M. D. Smith, to General Motors Corp. Transmission. 3,264 902, 8–9–66, Cl. 74—764.

Brettner, Richard W. Bracket for receiving, holding and locking and elongated post member to the bracket. 3,265,342, 8–9–66, Cl. 248—188.

Briggs, Walton E., to National Research Corp. Mass spectrometer leak detector. 3,265,890, 8–9–66, Cl. 250—41.9.

Brightman Barrie, and C. R. Fisher, Jr., to General Dynamics Corp. Phase control system for use in producing a variable direction beam from a fixed transmitting array. 3,266,010, 8–9–66, Cl. 340—5.

Brisley, Frank O.: *See*—
Marzocchi, Alfred, Brisley, and Dillon. 3,265,530.

Bristol-Banyu Research Institute, Ltd.: *See*—
Kawaguchi, Hiroshi, Okanishi, and Tsukiura. 3,265,588.

Bristol Siddeley Engines Ltd.: *See*—
Hunt, Michael S. 3,265,294.

British Drug Houses Ltd., The: *See*—
Allison, James M., Burn, and Petrow. 3,265,717.

Britten, Harold H.: *See*—
Cutler, John H., Britten, and Stombock. 3,265,952.

Broadhead, Samuel L., Jr., to Collins Radio Co. Combined frequency and phase discriminator. 3,265,976, 8–9–66, Cl. 329—137.

Brodsky, David L., to Esco Products, Inc. Chromatography cabinet. 3,265,214, 8–9–66, Cl. 210—198.

Brooker, Bernard F., to Premier Injection Mouldings Ltd. Actuating unit for valves or switches. 3,264,884, 8–9–66, Cl. 74—17.8.

Brooks, E. J., Co.: *See*—
Brooks, Winfred M., and Moberg. 3,265,426.

Brooks, Winfred M., and S. M. Moberg, to E. J. Brooks Co. Shackle seal. 3,265,426, 8–9–66, Cl. 292—307.

Broussard, Frank P., to Texaco Inc. Flood gate. 3,264,829, 8–9–66, Cl. 61—28.

Broussard, Gerald R., to Texas Instruments Inc. Voltage regulator utilizing semiconductor device. 3,265,954, 8–9–66, Cl. 322—28.

Brown, Arthur E., and H. Stern, to General Electric Co. Propulsor. 3,265,027, 8–9–66, Cl. 114—66.5.

Brown, Kenneth G. Dispenser having deformable article discharge means. 3,265,244, 8–9–66, Cl. 221—103.

Brown, Louise H., and R. Swidler, to Armour and Co. Polyurethane resin from an organic isocyanate and a polyhydric alcohol esterified with an alkylated diphenol. 3,265,666, 8–9–66, Cl. 260—77.5.

Brown Oil Tools, Inc.: *See*—
Edwards, Joe E., Jr. 3,265,132.

Brown, Richard E., and R. I. Meltzer, to Warner-Lambert Pharmaceutical Co. Process for the production of substituted lactams. 3,265,700, 8–9–66, Cl. 260—289.

Brown, Richard W., to Honeywell Inc. Burner control apparatus. 3,265,111, 8–9–66, Cl. 158—28.

Brown, Walter J., to Sprague Electric Co. Apparatus for initiating conduction. 3,265,955, 8–9–66, Cl. 323—22.

Brown, Wilber A., C. H. Fawkner, E. W. Geigel, and C. D. Rhodes, to Monsanto Co. Packaging apparatus. 3,264,794, 8–9–66, Cl. 53—29.

Brueder, Antoine, to Andre Citroen Societe Anonyme. Servo steering of vehicles. 3,264,946, 8–9–66, Cl. 91—382.

Bruene, Warren B., and V. R. DeLong, to Collins Radio Co. Radio frequency coupling transmission line circuitry. 3,265,994, 8–9–66, Cl. 333—17.

Brunswick Corp.: *See*—
Degner, Carl O., Satchell, and Gatfield. 3,265,392.

Buchanan, David L.: *See*—
Rosengarten, Walter E., Jr., Flower, and Buchanan. 3,265,782.

Buck, Daniel C.: *See*—
Clavier, Philippe A., Buck, and Scullin. 3,265,978.

Buckwald, Fritz, and H. Kudritzki, to International Standard Electric Corp. Arrangement for controlled dispatch of stored pneumatic tube carriers. 3,265,325, 8–9–66, Cl. 243—25.

Bucyrus-Erie Co.: *See*—
Beitzel, Horace C. 3,265,145.

Budzien, Hugo F., to Beloit Corp. Food dehydrator. 3,264,753, 8–9–66, Cl. 34—112.

Bueler, Richard C., to Wagner Electric Corp. Control valve. 3,265,447, 8–9–66, Cl. 303—52.

Buell Ltd.: *See*—
Tyler, George B. 3,264,805.

Buhl, Robert F., and M. L. Yeagle, to Union Oil Co. of California. Chromatographic apparatus and process. 3,264,801, 8–9–66, Cl. 55—67.

Buhler, Hansrudi, to Maschinenfabrik Oerlikon. Safety apparatus for vehicle operated by one person. 3,266,032, 8–9–66, Cl. 340—286.

Bules, Herschel L.: *See*—
Alexander, Emmett L., and Bules. 3,265,138.

Bulin, Shelley A., to J. I. Case Co. Machine element. 3,264,706, 8–9–66, Cl. 29—6.

Bulin, Shelley A., to J. I. Case Co. Machine element. 3,265,451, 8–9–66, Cl. 308—8.

Bultman, Frederick H.: *See*—
Rosenstein, William, and Bultman. 3,265,035.

Bunn, B. H., Co.: *See*—
Ayres, Walter D., Jr. 3,264,976.

Buonamici, Gino. Adjustable manikin. 3,264,257, 8–9–66, Cl. 223—68.

Burch, Julius G. Gas well treatment apparatus. 3,265,133, 8–9–66, Cl. 166—177.

Burger, Jack E., and F. M. Polly, to Addressograph-Multigraph Corp. Tandem printer. 3,264,981, 8–9–66, Cl. 101—144.

Burgess, Robin H., J. C. McGowan, and V. Griffiths, to Imperial Chemical Industries Ltd. Polyolefin compositions stabilized with thio diorganic esters and hydroxyspirohydrindenes. 3,265,660, 8–9–66, Cl. 260—45.85.

Burkmeyer, John B.: *See*—
Haigh, Arthur A., and Burkmeyer. 3,265,025.

Burks, Darnall P., and J. H. Fabricius, to Sprague Electric Co. Encapsulated flat package for electronic parts. 3,265,806, 8–9–66, Cl. 174—52.

Burley, John W.: *See*—
Ely, Berten E., Jr., Burley, and Clement. 3,265,092.

Burlington Industries, Inc.: *See*—
Barber, Richard P., and Turner. 3,265,463.

Burlitch, James M.: *See*—
Seyferth, Dietmar, and Burlitch. 3,265,745.

Burn, Derek: *See*—
Allison, James M., Burn, and Petrow. 3,265,717.

Burndy Corp.: *See*—
Lazar, Michael, Noschese, and Gaurley. 3,265,936.

Burnell, Vernon G. Pamphlet assembly and stapling machine. 3,265,274, 8–9–66, Cl. 227—7.

Burner, Donald L., to Acme Tool, Inc. Pipe transfer elevator. 3,265,431, 8–9–66, Cl. 294—86.25.

Burns, Gerald, F. H. Dill, W. P. Dumke, G. J. Lasher, and M. I. Nathan, to International Business Machines Corp. Stimulated emission of radiation in semiconductor devices. 3,265,990, 8–9–66, Cl. 331—94.5.

Burroughs Corp.: *See*—
Di Mino, Alfonso. 3,265,034.
Minnick, Robert C., and Lee. 3,266,022.

Burroughs, Louis R., to Electro-Voice, Inc. Acoustical device with protective screen. 3,265,158, 8–9–66, Cl. 181—31.

Burton, Calvin A., to Lamson Corp. Warehouse conveyor system. 3,265,186, 8–9–66, Cl. 198—79.

Bury, George J., to Illinois Tool Works Inc. Snap-action switch with short movement differential. 3,265,823, 8–9–66, Cl. 200—67.

Buss, Waldeen C., to Chevron Research Co. Chromium-containing hydrofining catalysts. 3,265,615, 8–9–66, Cl. 208—254.

Butler Mfg. Co.: *See*—
Hungerford, Albert O., and Jackson. 3,265,556.

Butsko, Robert L. Doughnut package. 3,265,260, 8–9–66, Cl. 229—2.5.

CSF-Compagnie Generale de Telegraphie Sans Fil: *See*—
Freytag, Jean-Pierre, and Shroff. 3,265,495.

Cabot Corp.: *See*—
Doppler, Leonard H., and Hardy. 3,265,651.
Trunk, Eugene J. 3,265,800.

Cadillac Gage Co.: *See*—
Bidlack, Jerald D. 3,264,947.
Yount, Emory N., and McKinnon. 3,265,350.

Cadorin, Dante: *See*—
Marullo, Gerlando. Fornasieri, and Cadorin. 3,265,606.

Cain, Alfred R., to Firestone Tire & Rubber Co. Polymerization process using dispersed sodium. 3,265,759, 8–9–66, Cl. 260—683.15.

Caldwell, John R., and C. C. Dannelly, to Eastman Kodak Co. Breathable fabric with a layer of water-swellable elastomer. 3,265,529, 8–9–66, Cl. 117—135.5.

Caldwell, John R., and E. H. Hill, to Eastman Kodak Co. Polymeric pigment containing amide nitrogen, and having an acrylonitrile core. 3,265,767, 8–9–66, Cl. 260—883.

Call, Anthony J. Axial flow compressors for jet engines. 3,265 290, 8–9–66, Cl. 230—122.

Califano, Frank L., and P. N. Shutak, to The Flintkote Co. Sheet handling system. 3,264,917, 8–9–66, Cl. 83—94.

Callahan, Gerard M., to F & C Enterprises, Inc. Burglar alarm system having a delayed alarm. 3,266,029, 8–9–66, Cl. 340—274.

Camco, Inc.: *See*—
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Tausch, Gilbert H. 3,265,134.

Cameo Curtains, Inc.: *See*—
Levinson, Nathan. 3,265,864.

Campbell, Richard A., and C. R. Blood, to Baltimore Brushes, Inc. Reversible paint roller tray. 3,264,672, 8–9–66, Cl. 15—257.06.

Cannell, Lawrence G., to Shell Oil Co. Production of polycyclic compounds. 3,265,749, 8–9–66, Cl. 260—666.

Cape, Arthur T.: *See*—
Baldwin, James F., and Cape. 3,265,494.

Cappel, Fred, to Dravo Corp. Method of and apparatus for regulating the speed of sintering strands. 3,265,377, 8–9–66, Cl. 263—28.

Carlan, Alan J., K. H. Wallhausen, R. H. Salinas, W. E. Payne, and B. P. Bazin, Jr., to Power Components Inc. Semiconductor power device. 3,265,805. 8–9–66, Cl. 174—52.

Carlisle, Ernest J. Portable record player. 3,265,394, 8–9–66, Cl. 274—15.

Carlisle, Howard W., to The Cincinnati Milling Machine Co. Method and apparatus for forming presses. 3,264,854. 8–9–66, Cl. 72—63.

Carlson, Edward H. Hand exerciser. 3,265,389, 8–9–66, Cl. 272—68.

Carney, Delmar E., and C. A. Gartz, Jr., to Libbey-Owens-Ford Glass Co. Method and apparatus for melting glass. 3,265,485, 8–9–66, Cl. 65—134.

Caron, Philip E., to Weyerhaeuser Co. Method of die-baking moldable wood fiber parts. 3,265,791, 8–9–66, Cl. 264—129.

Carpenter, Keith H., to General Motors Corp. Electro-hydraulic accessory power supply. 3,264,671, 8–9–66, Cl. 15—250.30.

Carrier Corp.: *See*—
McGrath, William L. 3,265,371.
Osborne, William T. 3,264,841.
Ostrander, William S. 3,265,122.

Carroll, David I.: *See*—
Cohen, Martin J., Carroll, Gibson, Grice, and Wernlund. 3,265,894.

Carter, Albert S., to E. I. du Pont de Nemours and Co. Composite propellant containing nitroglycerin. 3,265,543, 8–9–66, Cl. 149—19.

Carter, Edward R., R. F. Holbrow, L. G. Best, and A. R. Denham; said Holbrow assor. to said Carter. Stacked barrels containing collapsible bags. 3,265,254, 8–9–66, Cl. 222—386.5.

Carter, Paul R., M. A. Harvey, and A. R. Lynch (now by change of name A. R. Pollis), to United States Steel Corp. Method of coating silicon steel in conjunction with box annealing thereof preparatory to die punching. 3,265,600, 8–9–66, Cl. 204—145.

Carter, William A., to I-T-E Circuit Breaker Co. Floating insulating shield. 3,265,843, 8–9–66, Cl. 200—151.

Case, J. I., Co.: *See*—
Bulin, Shelley A. 3,264,706.
Bulin, Shelley A. 3,265,451.

Castelliani, Eugene E., and R. D. De Mars, deceased (by D. De Mars, legal representative), to International Business Machines Corp. Cobalt-nickel alloy plating baths. 3,265,596, 8–9–66, Cl. 204—43.

Castello, Anthony M., and F. W. Osborn, to The Coleman Co., Inc. Air distribution assembly for an electric baseboard heating system. 3,265,859, 8–9–66, Cl. 219—367.

Catallo, Frank: *See*—
Cohn, Eugene, Catallo, and Snyder. 3,265,271.

Catallo, Frank, to Samcoe Holding Corp. Fabric feeding system. 3,265,270, 8–9–66, Cl. 226—175.

Caterpillar Tractor Co.: *See*—
Goloff, Alexander. 3,265,052.
Hall, James D., and Rehberg. 3,265,380.
Wagner, Harold H. 3,265,084.

Cathelin, Paul, and C. Van Den Burg, to Societe dite: Trefimetaux. Device having centrifugal force responsive means for the detection of faults in the insulating sheath of electric cables and the like. 3,265,966, 8–9–66, Cl. 324—54.

Catu, Robert, to IPA International Patent- und Lizenzan-Stalt. High voltage probe apparatus with a plurality of discharge tube isolating spark gaps therein. 3,265,969, 8–9–66, Cl. 324—72.5.

Cecil, Shelby, to X 3 Corp. Welding apparatus. 3,265,856, 8–9–66, Cl. 219—130.

Ceely, Frederick J.: *See*—
Willis, Cullie B., Jr., and Ceely. 3,265,442.

Celanese Coatings Co.: *See*—
Kirwan, Harry O., and Klassen. 3,265,662.

Centre de Recherches de Pont-a-Mousson: *See*—
Bacroix, Marcel. 3,265,277.
Lorang, Pierre E. 3,265,410.

Chaber, Morton D., and J. F. Friden, to Ronson Corp. Spout structure. 3,265,256, 8–9–66, Cl. 222—534.

Champlain Co., Inc.: *See*—
Lewis, Clarence A., and O'Brien. 3,264,983.

Chemetron Corp.: *See*—
Miller, Bruce D., Thornton, and Reigel. 3,264,836.

Chemical Products Corp.: *See*—
Rainer, William C. 3,265,785.

Chen, Yian-Nian, to Sulzer Bros. Ltd. Combustion gas stack for steam generating plant. 3,265.040, 8–9–66, Cl. 122—4.

Cheney, Adelbert W., J. C. Nelson, and W. Weigler, to Sperry Rand Corp. Computer with error recovery. 3,266,020, 8–9–66, Cl. 340—172.5.

Chenouard, Jean, and R. Gabilly, to Commissariat a l'Energie Atomique. Device for continuously measuring the difference between the conductivities of two liquids. 3,265,963, 8–9–66, Cl. 324—30.

Cheung, Yau T. Fortune cooky machine. 3,265,016, 8–9–66, Cl. 107—1.

Chevron Research Co.: *See*—
Buss, Waldeen C. 3,265,615.
Flanders, Robert L. 3,265,611.

Chicago Bridge & Iron Co.: *See*—
Maier, Richard C. 3,265,115.

Chieger, George, to Fruehauf Corp. Container construction. 3,265,235, 8–9–66, Cl. 220—4.

Child, Ralph G., to American Cyanamid Co. Process of preparing 3,4.5-triamino-4H-1,2,4-triazole. 3,265,707, 8–9–66, Cl. 260—308.

Childree, Herman T., to General Dynamics Corp. Ignitor-burner assembly. 3,265,114, 8–9–66, Cl. 158—123.

Chinoin Gyogyszer-es Vegyeszeti Termakek Gyara RJ.: *See*—
Harsanyi, Kalman, Kiss, Tardos, and Leszkovsky. 3,265,692.

Chocholek, Stanley E.: *See*—
Ferbitz, Russell C., and Chocholek. 3,264,901.

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Christiansen Robert G., to Serling Drug Inc. 17a-(3-hydroxy-1-propynyl) or 17a-(3-hydroxy-1-propenyl) substituted aromatic steroids. 3,265,718, 8–9–66, Cl. 260—397.5.

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Sadler, John A. 3,266,030.
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Clark, John E.: *See*—
Pickup, Edmund, and Clark. 3,264,815.

Clark, Walter E., C. L. Fitzgerald, and G. D. Davis, to United States of America, Atomic Energy Commission. Addition of lithium values in conversion of fission-product wastes to a glass-like solid for disposal. 3,265,627, 8–9–66, Cl. 252—301.1.

Class, Willy, E. Lehre, and R. Roger, to Mahle Komm-Ges. Process for making forged light metal pistons with ring supports. 3,264,717, 8–9–66, Cl. 29—156.5.

Clausen, ved ing. M., Danfoss: *See*—
Baatrup, Johannes V. 3,265,539.

Clavier, Philippe A., D. C. Buck, and C. H. Scullin, to Westinghouse Electric Corp. D.C. pumped quadrupole parametric amplifier. 3,265,978, 8–9–66, Cl. 330—4.7.

Clay, Horace A., and W. Yurochko. Pool cover and anchor means therefor. 3,264,656, 8–9–66, Cl. 4—172.

Clelland, James B., S. W. Ferris, and E. P. Black, to Sun Oil Co. Hydrodechlorination processes and products of chlorinated asphaltenes and thermoplastic hydrocarbon resins. 3,265,517, 8–9–66, Cl. 106—270.

Clement, Claude: *See*—
Lavergne, Jean-Claude, Clement, and Dutriau. 3,265,610.

Clement, Ira T.: *See*—
Ely, Berten E., Jr., Burley, and Clement. 3,265,092.

Clevite Corp.: *See*—
Schweitzer, Earl O. 3,266,048.

Clinton, Raymond O., to Sterling Drug Inc. 2-aminomethylene-3-oxo steroids and preparation thereof. 3,265,686, 8–9–66, Cl. 260—239.5.

Cloyd, Harold S., to Nosco Plastics, Inc. Collapsible container. 3,265,240, 8–9–66, Cl. 220—84.

Coach and Car Equipment Corp.: *See*—
Bilancia, Raymond A. 3,265,435.

Coast Metals, Inc.: *See*—
Baldwin, James F., and Cape. 3,265,494.

Coats, George M.: *See*—
Ray, Richard L., Gamble, Claiborne, and Coats. 3,265,771.

Coes, Loring, Jr., and E. Milias, to Norton Co. Cybernetic grinding. 3,264,788, 8–9–66, Cl. 51—165.

Coffman, Joe W., to Tocnifar Corp. Pin registration system of producing slide transparencies for overhead projection. 3,264,767, 8–9–66, Cl. 40—102.

Cohen, Felix. Sprinkler head protector. 3,265,310, 8–9–66, Cl. 239—201.

Cohen, Martin J., D. I. Carroll, H. C. Gibson, Jr., K. R. Grice, Jr., and R. F. Wernlund, to Franklin Gno Corp. Missile scoring systems utilizing nuclear radiation. 3,265,894, 8–9–66, Cl. 250—83.3.

Cohn, Eugene, F. Catallo, and S. P. Snyder, to Samcoe Holding Corp. Multiple web feeding system. 3,265,271, 8–9–66, Cl. 226—177.

Coleman Co., Inc., The: *See*—
Castello, Anthony M., and Osborn. 3,265,859.

Coleman Instruments: *See*—
Staunton, John J. J. 3,265,979.

Colgate Palmolive Co.: *See*—
Inamorato, Jack T. 3,265,624.

Collins Radio Co.: *See*—
Broadhead, Samuel L., Jr. 3,265,976.
Bruene, Warren B., and V.R. De Long. 3,265,994.
Spencer, Richard B. 3,265,904.
Willis, Theodore R. 3,265,871.

Combustion Engineering, Inc.: *See*—
Juchtern, Charles D. 3,265,044.
Kane, Robert A., and Kochey. 3,264,826.
Vuia, Romul E. 3,265,038.
Winship, Ralph D., and Anderson. 3,265,039.

Commercial Shearing & Stamping Co.: *See*—
Williams, Arthur J. 3,265,088.

Commissariat a l'Energie Atomique: *See*—
Brebant, Charles. 3,264,741.
Chenouard, Jean, and Gabilly. 3,265,963.

Commissariat a l'Energie Atomique, and Comision Nacional Atomica: *See*—
Pottier, Paul, and Macchiaverna. 3,265,471.

Compagnie Francaise Thomson-Houston: *See*—
Gallet, Georges L. 3,265,473.

Compagnie Francaise Thomson-Houston: *See*—
Touze, Pierre, Tobelem, and Gau. 3,265,033.

Compagnie Saliniere de la Camargue Salicam: *See*—
Jullien, Agricol. 3,265,228.

Compo Shoe Machinery Corp.: *See*—
Peterson, Evald O., Prahl, and Vitka. 3,264,915.

Concordia Maschinen- und Elektrizitats-Gesellschaft m.b.H.: *See*—
Nill, Rudolf. 3,265,089.

Coney, Charles H., and W. E. Wright, to Eastman Kodak Co. Lacquer compositions and articles coated therewith. 3,265,645, 8–9–66, Cl. 260—15.

Congoleum-Nairn Inc.: *See*—
Harkins, Joseph C., Jr., Ehrenfeld, and Eitzel. 3,265,548.

Conn, Theodore R.: *See*—
Paddock, Chester I. 3,265,407.

Consolidated Electrodynamics Corp.: *See*—
Paul, Herman L., Jr. 3,264,718.

Constable, Charles F., to Lansing Bagnall Ltd. Industrial truck. 3,265,158, 8–9–66, Cl. 187—9.

Continental Can Co., Inc.: *See*—
Weselik, Leslie J. 3,265,185.

Continental Oil Co.: *See*—
Haden, Elard L., and Bourne. 3,265,139.

Control Data Corp.: *See*—
Rabinow, Jacob. 3,266,025.

Control Print Machinery Manufacturers Corp.: *See*—
Price, Lewis C., Jr. 3,264,979.

Controls Co. of America: *See*—
Danek, August J. 3,264,879.

Convery, Robert J., to Sun Oil Co. Wax refining. 3,265,609, 8–9–66, Cl. 208—26.

Conway, Hugh G., and R. C. V. Armstrong, to Short Brothers & Harland Ltd. Control system of vehicles adapted for vertical take-off and landing. 3,265,330, 8–9–66, Cl. 244—23.

Cook, Leonard W., to General Electric Co. Mercury switch. 3,265,844, 8–9–66, Cl. 200—152

Coombs, Verner D., to General Electric Co. Fatigue testing shake table apparatus. 3,264,865, 8–9–66, Cl. 73—71.6.

Coon, John S.: *See*—
Malone, Bobby W., and Coon. 3,265,619.

Cooper, Richard C. Nuclear reactor viewing system. 3,265,584, 8–9–66, Cl. 176—19.

Coordes, John E., to United States of America, Army. Auxiliary wheel drive mechanism. 3,265,147, 8–9–66, Cl. 180—44.

Cormany, Charles L., W. R. Dial, and B. O. Pray, to Pittsburgh Plate Glass Co. Methylchloroform compositions. 3,265,747, 8–9–66, Cl. 260—652.5.

Corn, Prentice R., to Essex Wire Corp. Electromagnetic relay utilizing the coil bobbin to facilitate assembly thereof. 3,265,828, 8–9–66, Cl. 200—104.

Corn Products Co.: *See*—
Leach, Harry W. 3,265,632.
Meisel, Harry. 3,265,533.

Cornell-Dubilier Electric Corp.: *See*—
Robinson, William M. 3,265,794.

Cornell, John A., to Williams Gold Refining Co., Inc., H. D. Justi Division. Composite tooth and veneer gel composite formed of non-volatile dimethacrylate as the sole polymerizable constituent. 3,265,202, 8–9–66, Cl. 206—63.5.

Cossairt, Keith R., and H. B. Montague, to Martin-Marietta Corp. Ground-effect machine employing recirculation and controlled distribution of lift. 3,265,141, 8–9–66, Cl. 180—7.

Couser, Chester F. Ground conditioning implement. 3,265,137, 8–9–66, Cl. 172—307.

Cowen, Frank M., and G. Bellis, to American Cyanamid Co. Betaines. 3,265,719, 8–9–66, Cl. 260—404.

Cowlishaw Walker & Co. Ltd.: *See*—
Parfitt, Norman L. C. 3,265,014.

Crafts, Cecil A.: *See*—
McFarlane, Maynard D., and Crafts. 3,265,813.

Crain, Robert L., and E. K. Pierce, Jr., to Gray Tool Co. Well completion equipment. 3,265,409, 8–9–66, Cl. 285—27.

Crane Co.: *See*—
Bredtschneider, Kurt B. 3,265,351.
Hasen, George E., and Korzenowski. 3,265,398.

Crapuchettes, Paul W., to Litton Electron Tube Corp. High frequency heating generator for microwave ovens. 3,265,850, 8–9–66, Cl. 219—10.55.

Crawford, Clarence L., to Technikoil, Inc. Method for pyrolyzing solid carbonaceous materials. 3,265,608, 8–9–66, Cl. 208—11.

Cripe, Maxwell L., to The Bendix Corp. Braking system with intermittent anti-skid device. 3,265,446, 8–9–66, Cl. 303—21.

Croissant, Stanley W., to Wagner Electric Corp. Automatic adjusting mechanism. 3,265,161, 8–9–66, Cl. 188—79.5.

Crollie, John W.: *See*—
Powling, Philip S., and Crollie. 3,264,797.

Crompton & Knowles Corp.: *See*—
Morrill, Frank B. 3,264,690.

Cronin, John E., to E. I. du Pont de Nemours and Co. Conveyor conduit. 3,265,445, 8–9–66, Cl. 302—64.

Cronite Co., Inc., The: *See*—
Gillis, Edmund A. 3,264,982.

Cross, Alan: *See*—
Storchheim, Samuel, and Cross. 3,264,726.

Crossland, William A.: *See*—
Fox, Harvey M., and Crossland. 3,266,004.

Croswhite, Howard L., to Ford Motor Co. Dual capacity fluid pressure operated clutch servo. 3,265,175, 8–9–66, Cl. 192—87.

Crown Rubber Co.: *See*—
Johnson, Donald C. 3,264,761.

Cullen, John S. Method of making sorptive getter structure. 3,264,725, 8–9–66, Cl. 29—420.

Currie, William E., to Parker-Hannifin Corp. Flared tube coupling joint and method for making the same. 3,265,413, 8–9–66, Cl. 285—334.4.

Curry, Paul. Underwater electric field communication system. 3,265,972, 8–9–66, Cl. 325—28.

Curti, Paul. Atomizer. 3,265,312, 8–9–66, Cl. 239—355.

Cusic, John W., and P. Yonan, to G. D. Searle & Co. Complex hydrazones containing the ferrocene structure. 3,265,687, 8–9–66, Cl. 260—240.

Cutler-Hammer, Inc.: *See*—
Doniger, Jerry, and Tatz. 3,266,040.

Cutler, John H., and H. H. Britten, incompetent (by J. B. Stombock, committee), to General Electric Co. Electronic circuits. 3,265,952, 8–9–66 Cl. 321—18.

Cuttino, William H., to Westinghouse Electric Corp. Capacitor stacking unit. 3,265,934, 8–9–66, Cl. 317—99.

Cyr, Rob R., to The New York Air Brake Co. Pump. 3,265,295, 8–9–66, Cl. 230—207.

Czarnecki, Adolph, to Anchor Steel & Conveyor Co. Low profile floor conveyor. 3,265,013, 8–9–66, Cl. 104—172.

D & H Devices: *See*—
Heck, Elmer H., and Dosh. 3,265,849.

Dalen, Bernard B., to Automatic Switch Co. Actuator circuit for electromagnetic devices. 3,265,938, 8–9–66, Cl. 317—155.5.

Daimler-Benz Aktiengesellschaft: *See*—
Barenyi, Bela, and Haselmann. 3,264,670.
Bensinger, Wolf-Dieter, Derndinger, Lamm, and Springer. 3,265,045.
Fiala, Ernst J. H. 3,264,784.

Dainippon Screen Seizo Kabushiki Kaisha (Dainippon Screen Mfg. Co., Ltd.): *See*—
Machida, Yoshihiro, and Nishida. 3,264,889.

D'Alba, Anthony R., to Trico Products Corp. Windshield cleaning system. 3,264,669, 8–9–66, Cl. 15—250.02.

Dale, James T. Motion picture viewer and film advance mechanism. 3,265,457, 8–9–66, Cl. 352—129.

Dale, William L.: *See*—
Boggild, Robert, and Dale. 3,264,685.

Dalton, Harold R. Adhesive coated sheets and method of manufacture. 3,265,555, 8–9–66, Cl. 161—161.

Damron, Sidney S.: *See*—
Goossen, George N., and Damron. 3,265,818.

Danek, August J., to Controls Co. of America. Timer. 3,264,879, 8–9–66, Cl. 74—3.5.

Dangauthier, Marcel, to Societe d'Etudes et d'Applications Industrielles Commerciales et Immobilieres "Inter-Technique." Air supply nozzle of utility in particular for the aeration or heating of vehicles. 3,264,971, 8–9–66, Cl. 98—22.

Daniels, Edward G., and A. J. Parcellas, to The Upjohn Co. Process for purification of bovine growth hormone. 3,265,579, 8–9–66, Cl. 167—74.

Danielsen, Daniel, to Bell Telephone Laboratories, Inc. Plural electrical paths monitored by comparison of transients. 3,266,017, 8–9–66, Cl. 340—149.

Dannelly, Clarence C.: *See*—
Caldwell, John R., and Dannelly. 3,265,529.

Darlington, Sidney, and I. W. Sandberg, to Bell Telephone Laboratories, Inc. Synthesis of two-port networks having periodically time-varying elements. 3,265,973, 8–9–66, Cl. 328—14.

Davidson, Cyril F., and I. A. Ravenscroft, to Her Majesty's Postmaster General. Integrated coupling unit for two independent waveguide channels. 3,265,993, 8–9–66, Cl. 333—1.

Davies, David O., and R. V. Blackhurst, to Rolls-Royce Ltd. Axial flow compressors particularly for gas turbine engines. 3,265,291, 8–9–66, Cl. 230—122.

Davies, James J.: *See*—
Walles, Wilhelm E., and Davies. 3,265,694.

Davis, Allan: *See*—
Hillman, Gary, and Davis. 3,265,802.

Davis, Carl P., to Georgia-Pacific Corp. Tissue dispenser with a movable dispensing sheet. 3,265,242, 8–9–66, Cl. 221—63.

Davis, Francis W. Vented cigarette holder. 3,265,074, 8–9–66, Cl. 131—198.

Davis, George D.: *See*—
Clark, Walter E., Fitzgerald, and Davis. 3,265,627.

Day, Richard D.: *See*—
Neitzel, Joseph C., and Day. 3,264,689.

Dayem, Aly H., and P. K. Tien, to Bell Telephone Laboratories, Inc. Superconducting metallic film maser. 3,265,988, 8–9–66, Cl. 331—94.

Dayton Malleable Iron Co., The: *See*—
Hunsaker, Oral K. 3,265,964.

De Barr, John W., Sr. Automatic tracker. 3,264,968, 8–9–66, Cl. 95—86.

Decca Ltd.: *See*—
Milne, Kenneth, and Flounders. 3,266,038.

Decker, Milton R., and J. L. Kukowski, to Purolator Products, Inc. Filter assembly having the enclosure embedded in the bottom member. 3,265,213, 8–9–66, Cl. 210—136.

Deere & Co.: *See*—
Gilbert, Leland G., Johnson, and Grauerholz. 3,265,428.
Malcolm, Robert L. 3,265,226.
Polzin, Donald H. 3,265,174.

Deffenbaugh, James F.: *See*—
Taylor, Irving R., and Deffenbaugh. 3,265,853.

Degner, Carl O., F. E. Satchell, and E. W. Gatfield, to Brunswick Corp. Lightweight bowling ball. 3,265,392, 8–9–66, Cl. 273—63.

Deichert, William G., and I. Christensen, to American Cyanamid Co. Mar-resistant unsaturated polyester resins. 3,265,763, 8–9–66, Cl. 260—872.

Deichert, William G., I. Christensen, and W. B. Ramsey, to American Cyanamid Co. Mar-resistant unsaturated polyester resins. 3,265,764, 8–9–66, Cl. 260—872.

De Jarnett, Frank D. Fluid-packed drill pipe. 3,265,091, 8–9–66, Cl. 138—114.

De Jean, Ronald A., and A. N. Beasley, to Eastman Kodak Co. Process for recovering refined ethyl alcohol by plural distillation. 3,265,594, 8–9–66, Cl. 203—84.

Delacretaz, Richard E., and S. P. Nemphos, to Monsanto Co. Process for regulating molecular weight of vinylindene polymers by using 3,5-dimethylcyclohexen-2-one-1. 3,265,676, 8–9–66, Cl. 260—85.5.

Delacretaz, Richard E., and S. P. Nemphos, to Monsanto Co. Process for regulating molecular weight in polymerization of vinylidene monomers using 1-methylcyclo hexene-1 as regulator. 3,265,677, 8–9–66, Cl. 260—88.7.

Delaney, John M. Load lowering device. 3,265,358, 8–9–66, Cl. 254—158.

Delassus, Marcel, and J. Gombar, to Houilleres du Bassin du Nord et du Pas-de-Calais. Hydrocarbon refining process. 3,265,754, 8–9–66, Cl. 260—674.

Delman Co., The: *See*—
Webb, Edmond F. 3,265,845.

De Long, Vincent R.: *See*—
Bruene, Warren B., and De Long. 3,265,994.

Denham, Anthony R.: *See*—
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Derber, Robert J., and Derby. 3,265,914.

Derndinger, Hans-Otto: *See*—
Bensinger, Wolf-Dieter, Derndinger, Lamm, and Springer. 3,265,045.

Deters, Elmer M., to Red Jacket Mfg. Co. Centrifugal pump. 3,265,001, 8–9–66, Cl. 103—102.

Devanney, Raymond H., to Veeder-Root Inc. Encoding device. 3,265,868, 8–9–66, Cl. 235—92.

Devoe & Raynolds Co.: *See*—
Kirwan, Harry O., and Klassen. 3,265,662.

Deyerling, Gerard P.: *See*—
Gilbert, Emerson D., and Deyerling. 3,265,163.

De Young, Charles E., and I. E. Gandee, to National Tank Co. Liquid distribution method. 3,265,080, 8–9–66, Cl. 137—12.

De Young, Edwin L., to Standard Oil Co. Lubricants containing a hydrocarbon diester of 1-1'-di-a-hydroxy ethyl ferrocene. 3,265,621, 8–9–66, Cl. 252—49.7.

Dial, William R.: *See*—
Cormany, Charles L., Dial, and Pray. 3,265,747.

Diamond, Herrick R., to SCM Corp. Joint constructions. 3,265,418, 8–9–66, Cl. 287—189.36.

Diamond International Corp.: *See*—
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Dickey, Joseph B., E. B. Towne, and J. P. Hawk, to Eastman Kodak Co. Epoxidation of olefins during the simultaneous air oxidation of secondary aldehydes. 3,265,716, 8–9–66, Cl. 260—348.5.

Dickson, Woodrow J., and F. W. Jenkins, to Petrolite Corp. Corrosion inhibition. 3,265,512, 8–9–66, Cl. 106—14.

Di-Dro Engineering Co.: *See*—
Williamson, Floyd M. 3,264,858.

Diefendorf, Russell J., to General Electric Co. Article comprising several layers of pyrolytic graphite and substrate coated with said layers. 3,265,519, 8–9–66, Cl. 117—8.

Dieffenbach, Harry N., to Mark Systems, Inc. Removable film process magazine. 3,264,962, 8–9–66, Cl. 95—13.

Dietlin, Jacques. Apparatus for transforming a rectilinear movement into a rotary movement. 3,264,949, 8–9–66, Cl. 92—31.

De Mars, Richard D.: *See*—
Castellani, Eugene E., and De Mars. 3,265,596.

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Castellani, Eugene E., and De Mars. 3,265,596.

Dietrich, Werner: *See*—
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Diggens, George W., to Sprague Electric Co. Hermetically sealed capacitor. 3,264,708, 8–9–66, Cl. 29—25.31.

Dill, Frederick H.: *See*—
Burns, Gerald, Dill, Dumke, Lasher, and Nathan. 3,265,990.

Dill, Johann G., to Hughes Aircraft Co. Thin-film electrical networks with non-resistive feedback arrangement. 3,265,981, 8–9–66, Cl. 330—19.

Dillio, Rocco F. Can cleaner. 3,264,675, 8–9–66, Cl. 15—504.

Dillon, James J.: *See*—
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Dilpare, Armand L., to Lundy Electronics and Systems, Inc. Two-stage timer mechanism. 3,264,948, 8–9–66, Cl. 91—411.

DiMino, Alfonso, to Burroughs Corp. Coating apparatus with cooling back-up roll. 3,265,034, 8–9–66, Cl. 118—68.

Djurberg, Erik: *See*—
Pettersson, Bror, Berg, Djurberg, and Johansson. 3,265,932.

Di Vita, Sam: *See*—
Brandmayr, Ronald J., Brown, Di Vita, and Fischer. 3,265,787.

Dobbie, Robert W., to Ranco Inc. Refrigerating system and suction pressure responsive throttling valve therefor. 3,264,842, 8–9–66, Cl. 62—217.

Dobriken, Harold L., to Berg Mfg. & Sales Co. Brake actuator. 3,264,951, 8–9–66, Cl. 92—64.

Doctoroff, Michael, to Veeco Instruments Inc. Electron impact ion source for mass spectrometer with coincident electron beam and ion beam axes. 3,265,889, 8–9–66, Cl. 250—41.9.

Doebbeling Susie E., and J. W. Faucett, to Miles Laboratories, Inc. Process of purifying glucose oxidase, 3,265,587, 8–9–66, Cl. 195—66.

Doerfel, Helmut, and P. Raff, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of oximes of cycloaliphatic ketones. 3,265,733, 8–9–66, Cl. 260—566.

Doevenspeck, Heinz, to Gesellschaft fur Getreidehandel Aktiengesellschaft. Process and apparatus for changing the charge of particles. 3,265,605, 8–9–66, Cl. 204—165.

Dombeck, Edward K., to The Bendix Corp. Dual cylinder brake. 3,265,164, 8–9–66, Cl. 188—152.

Donaldson, Desmond M., to Borg-Warner Corp. Heat exchanger. 3,265,126, 8–9–66, Cl. 165—140.

Donev, George S. Parking meter for prepaid parking and user identification. 3,265,178, 8–9–66, Cl. 194—54.

Doniger, Jerry, and A. Tatz; said Doniger assor., to The Bendix Corp., and said Tatz assor., to Cutler-Hammer, Inc. Flight control system responsive to approach and flare-out bi-angular elevation transmissions. 3,266,040, 8–9–66, Cl. 343—108.

Doppler, Leonard H., and J. F. Hardy, to Cabot Corp. Polysulfide-neutralized pine tar compositions. 3,265,651, 8–9–66, Cl. 260—24.

Dosh, Don L.: *See*—
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Maeda, Kenichi, Sakai, and Doshita. 3,265,814.

Douglas Aircraft Co., Inc.: *See*—
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Frevel, Ludo K., and Kressley. 3,265,757.
Juckniess, Paul R. 3,265,492.
Langer, Horst G. 3,265,756.
Lowes, Fred J., Jr. 3,265,656.
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Walles, Wilhelm E., and Davies. 3,265,694.

Dowbenko, Rostyslaw, and R. M. Christenson, to Pittsburgh Plate Glass Co. Reaction products of amino-s-triazine and alkylene carbonates. 3,265,668, 8–9–66, Cl. 260—77.5.

Downes, Leonard O. Structural framing system. 3,265,416, 8–9–66, Cl. 189—36.

Dowty Fuel Systems Ltd.: *See*—
Tyler, Stanley R., and Manson. 3,265,000.

Dowty Hydraulic Units Ltd.: *See*—
Boydell, Kenneth R., and Weaver. 3,265,004.
Elmer, Arthur E. H. 3,265,047.

Dowty Mining Equipment Ltd.: *See*—
Bolton, Douglas H. H., Pawling, and Potts. 3,264,945.

Doyle, Dewey I., Jr., and G. H. Ferguson, to Doyle Vacuum Cleaner Co. Floor treating machines. 3,264,674, 8–9–66, Cl. 15—328.

Doyle Vacuum Cleaner Co.: *See*—
Doyle, Dewey I., Jr., and Ferguson. 3,264,674.

Draper Corp.: *See*—
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Dravo Corp.: *See*—
Cappel, Fred. 3,265,377.

Drazdik, Hans, and E. Jacobi. Suspension ceiling. 3,264,792, 8–9–66, Cl. 52—508.

Droegkamp, Robert E.: *See*—
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Knight, Sidney G. 3,264,950.
Knight, Sidney G. 3,265,220.
Schuetz, John R. 3,265,149.

Druz, Walter S., and J. Isabeau, to Zenith Radio Corp. Remote control system using semiconductor switching devices. 3,266,021, 8–9–66, Cl. 340—171.

Ducellier & Cie: *See*—
Salomon, Roger. 3,265,824.

Du Charme, Paul E. Automatic taper-cut hair clippers. 3,264,735, 8–9–66, Cl. 30—202.

Duck, Edward W.: *See*—
Wyllie, Kenneth I., and Duck. 3,265,616.

Dudley, James R., to The Richardson Co. Process for preparing ammonium salts of alkyl phenol polyglycol ether sulfates. 3,265,722, 8–9–66, Cl. 260—458.

Duesenberg, Denny D., to Ford Motor Co. Honing stone holder. 3,264,789, 8–9–66, Cl. 51—204.

Dulaney, Clarence L., and M. L. Owens, Jr., to Monsanto Co. Hydrocarbon conversion. 3,265,612, 8–9–66, Cl. 208—130.

Dull, Thomas J.: *See*—
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Dumas, Earl R.: *See*—
Laws, James O., Bloom, Gillen, Hamilton, Robelotto, Rohrberg, and Dumas. 3,265,852.

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Adams, George E., Whale, and Hanson. 3,264,719.
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Carter, Albert S. 3,265,543.
Chudzik, Bruno. 3,264,731.
Cronin, John E. 3,265,445.
Felton, Herman R., and Williams. 3,264,862.
Freeman, John T. 3,264,682.
Halliwell, Ronald H. 3,265,591.
Hecht, James L. 3,265,678.
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Mahler, Walter. 3,265,705.
Miller, Norman E. 3,265,737.
Pariser, Rudolph W., Pattison, and Seligman. 3,265,672.
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Perry, Elijah R., and Durecka. 3,265,933.

Durnbaugh, James A., W. C. Evans, W. G. McLaughling, and T. L. Nordman, to Honeywell Inc. Cabinet structure. 3,265,419, 8–9–66, Cl. 287—189.36.

Dutriau, Robert: *See*—
Lavergne, Jean-Claude, Clement, and Dutriau. 3,265,610.

Dynamics Corp. of America: *See*—
Massa, Frank. 3,266,011.

Easterly, Donald O., to Eastman Kodak Co. Electric drive camera stop. 3,265,458, 8–9–66, Cl. 352—169.

Eastern Chain Works, Inc.: *See*—
Rosenberg, Thomas. 3,264,821.

Eastman Kodak Co.: *See*—
Bodmer, Edward J., Murphy, and Sterrett. 3,265,503.
Caldwell, John R., and Dannelly. 3,265,529.
Caldwell, John R., and Hill. 3,265,767.
Coney, Charles H., and Wright. 3,265,845.
De Jean, Ronald A., and Beasley. 3,265,594.
Dickey, Joseph B., Towne, and Hawk. 3,265,716.

Eastman Kodak Co.,: *See*—Continued
Easterly, Donald O. 3,265,458.
Ettischer, Helmut. 3,264,960.
Fox, Charles J. 3,265,496.
Hagemeyer, Hugh J., Jr., Blood, and Heller. 3,265,675.
Johnson, Robert B. 3,265,320.
Johnston, Gerald J. 3,265,501.
Lafontant, Alix M., Ferris, Vreeland, and Weyl. 3,265,263.
Moore, William H., and McConnell. 3,265,715.
Peterson, Dean M. 3,265,781.
Shute, Charles F. 3,265,383.
Shute, Charles F. 3,265,384.
Smith, David S. 3,265,272.
Thomson, Henry A. 3,265,266.
Tuttle, Clifton M., and Fox. 3,264,961.
Urbach, Franz. 3,265,595.
Weissberger, Arnold, and Kibler. 3,265,506.
Yudelson, Joseph S. 3,265,505.

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Russell, Robert C. 3,265,173.

Eaton, Norman F., to Associated Electrical Industries Ltd. Electron beam furnaces. 3,265,801, 8–9–66, Cl. 13—31.

Ebertz, Helmut, to Zeiss Ikon Aktiengesellschaft. Single lens mirror reflex camera with exposure meter. 3,264,964, 8–9–66, Cl. 95—42.

Echeagaray, Ignacio P. Recording blank. 3,265,524, 8–9–66, Cl. 117—36.8.

Eckelberry, Patrick J., and F. H. Loy, to Honeywell Inc. Burner control indicator. 3,265,112, 8–9–66, Cl. 158—28.

Eclipse Fuel Engineering Co.: *See*—
Spielman, Lyle S. 3,265,376.

Edman, Carl A., and P. Kranz, to General Electric Co. Hair curling and drying apparatus with magnetic coupling. 3,265,075, 8–9–66, Cl. 132—9.

Edwards, David L. Holder and dispenser for longitudinally disposed material. 3,265,201, 8–9–66, Cl. 206—56.

Edwards, Douglas C., to Polymer Corp. Butyl rubber-polyethylene compositions. 3,265,770, 8–9–66, Cl. 260—889.

Edwards High Vacuum International Ltd.: *See*—
Pearse, Anthony G. E. 3,264,746.

Edwards, Joe E., Jr., to Brown Oil Tools, Inc. Retrievable packer and anchor apparatus. 3,265,132, 8–9–66, Cl. 166—120.

Edwards, Joseph G., to Western Electric Co., Inc. Apparatus for testing telephone switching systems. 3,265,820, 8–9–66, Cl. 179—175.21.

Egan, Frank W., & Co.: *See*—
Soloduk, Fred. 3,264,686.

Ehlert, Harry C., to Camco, Inc. Well packer. 3,265,131, 8–9–66, Cl. 166—120.

Ehlinger, Marcel. Inhaler. 3,265,067, 8–9–66, Cl. 128—196.

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Harkins, Joseph C., Jr., Ehrenfeld, and Eltzel. 3,265,548.

Ellerman, George E.: *See*—
Triplett, Benny L., Fasnacht, McWilliams, and Ellerman. 3,265,516.

Eltzel, Robert J.: *See*—
Harkins, Joseph C., Jr., Enrenfeld, and Eltzel. 3,265,548.

Eklund, Edgar A.: *See*—
Holm, Sune E., and Eklund. 3,265,100.

Elberg, Max, and P. Gancel, to Societe Anonyme D.B.A. Spot-type disk brakes. 3,265,160, 8–9–66, Cl. 188—73.

Eldred, Wendell E., to The Bendix Corp. Laminated tensile load carrying member having laminated end fittings. 3,265,554, 8–9–66, Cl. 161—143.

Electric Storage Battery Co., The: *See*—
Ruetschi, Paul. 3,265,534.

Electro-Coating Inc.: *See*—
Brechtel, Hans, Lapham, Knutson, and Tompkins. 3,265,846.

Electro-Voice, Inc.: *See*—
Burroughs, Louis R. 3,265,153.

Elias, James A., to Armco Steel Corp. Elimination of enamel fishscaling in iron and steel sheets. 3,265,541, 8–9–66, Cl. 148—16.6.

Elle, George T., to Radio Corp. of America. Method of fabricating semiconductor devices. 3,264,707, 8–9–66, Cl. 29—25.3.

Ellenberger, Jakob, to Ellenberger & Poensgen. Pushbutton-controlled polyphase overload circuit-breaker. 3,265,834, 8–9–66, Cl. 200—116.

Ellenberger & Poensgen: *See*—
Ellenberger, Jakob. 3,265,834.

Elliott, Dean H., to North American Aviation, Inc. Fluid flow controller. 3,265,090, 8–9–66, Cl. 138—45.

Elliott, Howard A., to Essex Wire Corp. Electrical terminal and method of applying same conductors. 3,266,008, 8–9–66, Cl. 339—223.

Elliott, James O.: *See*—
Sones, William L., Neyhouse, and Elliott. 3,265,948.

Ellis, Edna E. Disposable hair net. 3,265,076, 8–9–66, Cl. 132—49.

Ellis, George W., to General Electric Co. Two-channel simultaneous color projection systems. 3,265,811, 8–9–66, Cl. 178—5.4.

Ellmore, William A., to Ampex Corp. Magnetic tape machine. 3,265,318, 8–9–66, Cl. 242—74.

Elmer, Arthur E. H., to Dowty Hydraulic Units Ltd. Cooling fans. 3,265,047, 8–9–66, Cl. 123—41.12.

Ely, Berten E., Jr., J. W. Burley, and I. T. Clement, to Pennsylvania Fluorocarbon Co., Inc. FEP-fluorocarbon tubing. 3,265,092, 8–9–66, Cl. 138—118.

Emerson Electric Co.: *See*—
Ford, Harold H., and Gilders. 3,265,879.

Emmeus, Nils I. A., and P. G. M. Flodin, to Pharmacia Fine Chemicals Inc. Gel filtration apparatus. 3,265,215, 8–9–66, Cl. 210—287.

Engelbard Industries, Inc.: *See*—
Wozniak, Theodore A. 3,265,204.

English Electric-Leo Computers Ltd.: *See*—
Thomas, Roy. 3,265,974.

Epstein, Peter F., to Stauffer Chemical Co. N-nitro-N-(substituted benzyl)alkanesulfonamides. 3,265,731, 8–9–66, Cl. 260—556.

Erban, Richard T. Variable speed transmission. 3,264,890, 8–9–66, Cl. 74—196.

Erdely, Ladislas, to Pechiney Compagnie de Produits Chimiques et Electrometallurgiques. Process and apparatus for studying currents. 3,264,869, 8–9–66, Cl. 73—189.

Erhard, Hermann. Handle construction. 3,265,168, 8–9–66, Cl. 190—57.

Erikson, Carl F., to Sundstrand Corp. Machine tools. 3,264,905, 8–9–66, Cl. 77—3.

Erkan, Gunadus: *See*—
Fitzpatrick, Edward E., and Erkan. 3,264,721.

Esco Products, Inc.: *See*—
Brodsky, David L. 3,265,214.

Essex Wire Corp.: *See*—
Corn, Prentice R. 3,265,828.
Elliott, Howard A. 3,266,008.

Essinger, Pierre, E. C. Greanias, and P. F. Meagher, to International Business Machines Corp. Video signal generator. 3,265,812, 8–9–66, Cl. 178—7.2.

Esso Chemical Co. Inc.: *See*—
Arlo, Ebbe R. 3,265,788.

Esso Research and Engineering Co.: *See*—
Salvesen, Robert H., Weisgerber, and Rudel. 3,265,568.
Siegel, Joel R. 3,265,474.

Ethyl Corp.: *See*—
Robinson, Gene C. 3,265,714.
Robinson, Gene C. 3,265,743.
Robinson, Gene C. 3,265,744.
Seyferth, Dietmar, and Burlitch. 3,265,745.

Ettischer, Helmut, to Eastman Kodak Co. Photoelectric exposure control systems for cameras. 3,264,960, 8–9–66, Cl. 95—10.

Evans, William C.: *See*—
Durnbaugh, James A., Evans, McLaughling, and Nordman. 3,265,419.

Evans, Gregg J.: *See*—
Vlehe, Frederick W. 3,264,713.

Evans, Harry D., and R. J. Schoofs, to Shell Oil Co. Adsorption process. 3,265,755, 8–9–66, Cl. 260—674.

F & C Enterprises, Inc.: *See*—
Callahan, Gerard M. 3,266,029.

FMC Corp.: *See*—
Tidridge, William A., Goldstein, and Sproul. 3,265,513.

Fabricius, John H.: *See*—
Burks, Darnall P., and Fabricius. 3,265,806.

Failing, George E., Co.: *See*—
Alexander, Emmett L., and Bules. 3,265,138.

Fairbanks Morse Inc.: *See*—
Derber, Robert J., and Derby. 3,265,914.

Falk, Mervin L., to Ampex Corp. Signal separation means. 3,265,810, 8–9–66, Cl. 178—5.4.

Falls Industries Inc.: *See*—
Reys, John. 3,265,124.

Faltings, Volkert, F.-J. Meyer, and A. Schaffer. Process for refining polyolefins by an addition of metal salts of inorganic or organic acids. 3,265,649, 8–9–66, Cl. 260—23.

Fannon, John J., Jr., to Hupp Corp. Method of welding. 3,264,732, 8–9–66, Cl. 29—487.

Fanter, Edward P., to Diamond International Corp. Carton. 3,265,285, 8–9–66, Cl. 229—51.

Fantes, Karl H., and C. F. O'Neill, to Glaxo Laboratories Ltd. Process of purifying interferon with alumino-silicate adsorbents. 3,265,581, 8–9–66, Cl. 167—78.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Glabisch, Dietrich, and Bartl. 3,265,654.
Klemm, Kurt, and Gehrke. 3,265,709.

Farbwerke Hoechst Aktiengesellschaft vormals: *See*—
Helmecke, Rolf, and Reuter. 3,265,514.

Farkas, Adalbert, F. Miller, G. A. Mills, and M. Orchin, to Air Products and Chemicals Inc., and Tidewater Oil Co. Process for forming dicobalt octacarbonyl. 3,265,468, 8–9–66, Cl. 23—203.

Farner, Frank, to Albiswerk Zurich A.G. Method and system for reducing the statistic fluctuations of the control signal in electrical follow-up servosystems, particularly radar target-tracking systems. 3,266,035, 8–9–66, Cl. 343—7.4.

Farquhar, Melville T., to Reynolds Metals Co. Shipping and dispensing carton. 3,265,283, 8–9–66, Cl. 229—7.

Fasco Industries, Inc.: *See*—
Johnson, Robert A. 3,265,839.

Fasnacht, James J.: *See*—
Triplett, Benny L., Fasnacht, McWilliams, and Ellerman. 3,265,516.

Faucett, James W.: *See*—
Doebbeling, Susie E., and Faucett. 3,265,587.

Faust, Ellsworth E.: *See*—
Black, Matthew B., III, Faust, Barnhart, and Netsch. 3,265,679.

Faust, Ernest H. Automobile anti-skid chain assembly attachment. 3,265,110. 8–9–66, Cl. 152—242.

Fawkner, Charles H.: *See*—
Brown, Wilber A., Fawkner, Geigel, and Rhodes. 3,264,794.

Fay, William T.: *See*—
Berlinsky, Anthony A., Fay, and Brennan. 3,264,739.

Federal-Warco Division of The McKay Machine Co.: *See*—
Taylor, Irving R., and Deffenbaugh. 3,265,853.

Federkiel, Wilhelm: *See*—
Luetzel, Gerhard, Rohland, Rartter, Barts, Dietrich, Federkiel, and Mueller. 3,265,461.

Feed Service Corp.: *See*—
Bouschart, Kenneth, and Myer. 3,264,866.

Feller, Albert, to Radio Corp. of America. Inverter circuit in which a coupling transistor functions similar to charge storage diode. 3,265,906. 8–9–66. Cl. 307—88.5.

Felton, Herman R., and J. W. Williams, to E. I. du Pont de Nemours and Co. Process and device for analyzing binary fluid mixtures. 3,264,862, 8–9–66, Cl. 73—25.

Fend, Fritz, to Fichtel & Sachs A.G. Breaker unit for the ignition system of an internal combustion engine. 3,265,051, 8–9–66, Cl. 123—148.

Fend, Heinrich: *See*—
Zangerle, Walter, and Fend. 3,265,096.

Ferbitz, Russell C., and S. E. Chocholek, to Rockwell-Standard Corp. Limited slip differential. 3,264,901, 8–9–66, Cl. 74—711.

Ferdinand, Irwin J., and D. R. Lopatka, to S. A. Hirsh Mfg. Co. Knockdown steel shelving and cabinet hardware therefor. 3,265,455, 8–9–66, Cl. 312—295.

Ferguson, Donald C., to Sperry Rand Corp. Silicon controlled rectifier chopper circuit. 3,265,991, 8–9–66, Cl. 331—111.

Ferguson, Gerald H.: *See*—
Doyle, Dewey I., Jr., and Ferguson. 3,264,674.

Ferguson, Sammy J.: *See*—
Liang, Max M., Markakis, and Ferguson. 3,265,317.

Feroy, Arne. Hydraulic mechanisms having biased vanes and balanced end members. 3,265,006, 8–9–66, Cl. 103—136.

Ferranti-Pachard Electric Ltd.: *See*—
Taylor, Maurice K., Paine, and Stelmach. 3,266,028.

Ferris, James: *See*—
Lafontant, Alix M., Ferris, Vreeland, and Weyl. 3,265,263.

Ferris, Seymour W.: *See*—
Cielland, James B., Ferris, and Black. 3,265,517.

Ferro Corp.: *See*—
Schlensker, Fred W. 3,264,793.

Fiala, Ernst J. H., to Daimler-Benz Aktiengesellschaft. System for locking and unlocking actuators provided in a motor vehicle. 3,264,784, 8–9–66, Cl. 49—24.

Fichtel & Sachs A.G.: *See*—
Fend, Fritz. 3,265,051.

Fields, Joseph E.: *See*—
Mottus, Edward H., and Fields. 3,265,768.

Finelli, Patrick L., to Polaroid Corp. Photographic apparatus. 3,264,963, 8–9–66, Cl. 95—13.

Fiore, Joseph P., to The Rauland Corp. Electron-discharge device cathode assembly with radiation shield. 3,265,920, 8–9–66, Cl. 313—240.

Firestone Tire & Rubber Co.: *See*—
Cain, Alfred R. 3,265,750.
Forman, Lawrence E., Stearns, and Kibler. 3,265,680.

Fischel, Eduard M., to General Precision Inc. Gyros with compensated flexure pivots. 3,264,880, 8–9–66, Cl. 74—5.

Fischer, H. G., & Co.: *See*—
Fischer, Warren G., and Walberg. 3,265,306.

Fischer, Warren G., and A. C. Walberg, to H. G. Fischer & Co. Spray gun. 3,265,306, 8–9–66, Cl. 239—15.

Fischer, Wilhelm A., to Max-Planck-Institut fur Eisenforschung and Phonix-Rheinrohr Aktiengesellschaft Vereinigte Hutten- und Rohrenwerke. Apparatus for measuring temperatures of iron and steel melts. 3,264,874, 8–9–66, Cl. 73—343.

Fisher, Charles R., Jr.: *See*—
Brightman, Barrie, and Fisher. 3,266,010.

Fisher, Elton, and M. T. Giachino, to W. R. Grace & Co. Melamine catalyst and process. 3,265,695, 8–9–66, Cl. 260—249.7.

Fitch, Frederick T., and J. G. Smith, to W. R. Grace & Co. Sols of zirconia and hafnia with actinide oxides. 3,265,626, 8–9–66, Cl. 252—301.1.

Fitzgerald, Curtis L.: *See*—
Clark, Walter E., Fitzgerald, and Davis. 3,265,627.

Fitzpatrick, Edward E., and G. Erkan, to TRW Semiconductors, Inc. Apparatus for positioning and aligning a plurality of pins. 3,264,721, 8–9–66, Cl. 29—200.

Flintkote Co., The: *See*—
Califano, Frank L., and Shutak. 3,264,917.

Flitz, John L., to General Motors Corp. Molding assembly for internal combustion engine blocks. 3,264,693, 8–9–66, Cl. 22—131.

Flodin, Per G. M.: *See*—
Emmeus, Nils I. A., and Flodin. 3,265,215.

Flounders, John G.: *See*—
Milne, Kenneth, and Flounders. 3,266,038.

Flower, Archibald T.: *See*—
Rosengarten, Walter E., Jr., Flower, and Buchanan. 3,265,782.

Flowers, Dervin L., to Shell Oil Co. Copolymer of polar-substituted vinyl sulfides and alkyl acrylates. 3,265,674, 8–9–66, Cl. 260—79.7.

Foerster, George S., to The Dow Chemical Co. Aluminum base pellet alloys containing copper and magnesium and process for producing the same. 3,265,493, 8–9–66, Cl. 75—142.

Folden, Denver C.: *See*—
Woodhall, Edwin S., Appleby, and Folden. 3,265,549.

Foley, Dennis D., to American Radiator & Standard Sanitary Corp. Production of age hardenable tantalum-based alloys. 3,265,540, 8–9–66, Cl. 148—2.

Foote, James F.: *See*—
Wismer, Marco Le Bras, and Foote. 3,265,641.

Ford, Harold H., and A. W. Gilders, to Emerson Electric Co. Frame for drop ceiling construction. 3,265,879, 8–9–66, Cl. 240—9.

Ford Motor Co.: *See*—
Croswhte, Howard L. 3,265,175.
Duesenberg, Denny D. 3,264,789.
Foxwell, William J. 3,265,148.
Mahoney, Lee R. 3,265,633.
Nickol, Henry A., and Battisti. 3,265,127.
Sendelbach, Ralph E. 3,264,804.
Stockton, Thomas R., and Lewicki. 3,265,081.

Ford, Paul A., ½ to T. M. Reed. Transfer mechanism having worm driven reciprocating plates. 3,265,195, 8–9–66, Cl. 198—218.

Forman, Lawrence E., R. S. Stearns, and R. W. Kibler, to The Firestone Tire & Rubber Co. Polymerization of isoprene. 3,265,680, 8–9–66, Cl. 260—94.2.

Fornasieri, Eraldo: *See*—
Marullo, Gerlando, Fornasieri, and Cadorin.

Foster, Edwin E., to Majik-Ironers, Inc. Ironing board. 3,265,017, 8–9–66, Cl. 108—82.

Foster, Richard C.: *See*—
Ward, Albert N., Watson, and Foster.

Foster Wheeler Corp.: *See*—
Lee, Frank A., and Kratsios.
Willis, Cullie B., Jr., and Ceely.

Fox, Charles J., to Eastman Kodak Co. Photoconductive substances for electrophotography. 3,265,496, 8–9–66, Cl. 96—1.

Fox, Harvey M., and W. A. Crossland, said Crossland assor. to said Fox. Potentiometer. 3,266,004, 8–9–66, Cl. 338—174.

Fox Products Co.: *See*—
Alburger, William P.

Fox, Robert A.: *See*—
Tuttle, Clifton M., and Fox.

Foxwell, William J., to Ford Motor Co. Tractor battery support. 3,265,148, 8–9–66, Cl. 180—68.5.

Franciosi, Giovanni F. Conveying device for elongated materials. 3,265,184, 8–9–66, Cl. 198—33.

Francoeur, Robert J.: *See*—
Bilodeau, Alvin V., Francoeur, and Stein.

Franklin Gno Corp.: *See*—
Cohen, Martin J., Carroll, Gibson, Grice, and Wernlund.

Franklin Institute, The: *See*—
Goodman, Robert M., and Gibson.

Frazza, Everett J., and W. O. Fugate, to American Cyanamid Co. Preparation and fungicidal use of tetracyanodithiadiene. 3,265,565, 8–9–66, Cl. 167—33.

Freed, Meier E., and L. M. Rice, to American Home Products Corp. Fluorene-9-carboxylic acid esters of hydroxyalkyl azaspiranes. 3,265,701, 8–9–66, Cl. 260—294.3.

Freed, Meier E., and L. M. Rice, to American Home Products Corp. Novel xanthene-9-carboxylic acid esters of hydroxyalkyl azaspiranes. 3,265,702, 8–9–66, Cl. 260—294.3.

Freeman, John T., to E. I. du Pont de Nemours and Co. Calendar bank size indicator. 3,264,682, 8–9–66, Cl. 18—2.

Freier, Gerald H., to V-M Corp. Self-supporting center spindle for phonograph record changers. 3,265,393, 8–9–66, Cl. 274—10.

Frevel, Ludo K., and L. J. Kressley, to The Dow Chemical Co. Catalytic hydrolysis of carbonyl sulfide. 3,265,757, 8–9–66, Cl. 260—677.

Freytag, Jean-Pierre, and A. M. Shroff, to CSF-Compagnie Generale de Telegraphie Sans Fil. Method of manufacturing cathodes. 3,265,495, 8–9–66, Cl. 75—208.

Friden, Inc.: *See*—
Ragen, Robert A.
Wiseman, Neil L.

Friden, John F.: *See*—
Chaber, Morton D., and Friden.

Friedman, Donald J. Corrective shoe. 3,265,063, 8–9–66, Cl. 128—80.

Friedman, Lester, to Union Carbide Corp. Phosphorus containing polyols. 3,265,681, 8–9–66, Cl. 260—953.

Friedman, Lester, to Union Carbide Corp. Phosphorus containing polyols. 3,265,774, 8–9–66, Cl. 260—953.

Friedman & Maere: *See*—
Hainz, Richard.

Friedrich, Wolfgang, to Miag Muhlenbau und Industrie G.m.b.H. Continuous treatment of subdivided material with gas. 3,265,775, 8–9–66, Cl. 263—53.

Fringer, Rolly P.: *See*—
Miller, Melvin W., and Fringer.

Fritz, Henry E.: *See*—
Peck, David W., Gentry, and Fritz.

Frohbach, Hugh F., to Stanford Research Institute. Display panel having stationary and movable polarizing elements. 3,266,033, 8–9–66, Cl. 340—324.

Frontier Chemical Co.: *See*—
Bradbury, Walter C.

Fruehauf Corp.: *See*—
Chieger, George.

Frye, Norman V. Fence or like construction. 3,265,364, 8–9–66, Cl. 256—19

Fuentevilla, Manuel, to Pennsalt Chemicals Corp. Method and apparatus for continuous freeze dryer. 3,264,747, 8–9–66, Cl. 34—5.

Fuentevilla, Manuel E., to Pennsalt Chemicals Corp. Drying tray. 3,264,756, 8–9–66, Cl. 34—237.

Fugate, Wesley O.: *See*—
Frazza, Everett J., and Fugate.

Fulk, Walter F.: *See*—
Smock, George E., Fulk, Stream, and Leaman.

Fulmer, Richard W., and D. E. Peerman, to General Mills, Inc. Partially cured epoxy resins. 3,265,664, 8–9–66, Cl. 260—47.

Funk, Charles F. Method of cladding metal surfaces. 3,264,696, 8–9–66, Cl. 22—203.

Furane Plastics Inc.: *See*—
Hirosawa, Frank N.

Fürst, Stefan, to W. Reiners. Automatic yarn-winding machine. 3,265,316, 8–9–66, Cl. 242—35.6.

Futurex Products Corp.: *See*—
Block, Harold.

Gabilly, Roger: *See*—
Chenouard, Jean, and Gabilly.

Gage, Herbert L., Jr., to Bennett Respiration Products, Inc. Respiration apparatus. 3,265,061, 8–9–66, Cl. 128—29.

Gage, Raymond T. Archer's bow. 3,265,055, 8–9–66, Cl. 124—24.

Gal, George, and M. Sletzinger, to Merck & Co., Inc. Processes for preparing certain 2-substituted benzimidazole compounds. 3,265,706, 8–9–66, Cl. 260—302.

Gallet, Georges L., to Compagnie Francaise Thomson-Houston. Metalized ceramic members. 3,265,473, 8–9–66, Cl. 29—195.

Gallo, John, Sr. Tubular saw cutter with chip removal means. 3,265,104, 8–9–66, Cl. 145—130.

Gamble, Leon W.: *See*—
Ray, Richard L., Gamble, Claiborne, and Coats.

Gancel, Pierre: *See*—
Elberg, Max, and Gancel.

Gandee, Irvine E.: *See*—
De Young, Charles E., and Gandee.

Gar Wood Industries, Inc.: *See*—
Grove, Earl I.

Garbin, John G., to Pittsburgh Plate Glass Co. Glass sheet bending mold with horizontal support surfaces. 3,265,489, 8–9–66, Cl. 65—291.

Garrison, Jack W., W. F. Porter, and E. F. Schmitz, to United States Gypsum Co. Fiber forming apparatus. 3,265,483, 8–9–66, Cl. 65—14.

Gartz, Clarence A., Jr.: *See*—
Carney, Delmar E., and Gartz.

Garwood, William E., to Mobil Oil Corp. Method for upgrading hydrocarbon oils. 3,265,613, 8–9–66, Cl. 208—213.

Gas Appliances Supply Corp.: *See*—
Bowman, Dudley.
Bowman, Dudley.

Gas-Fired Products, Inc.: *See*—
Horne, William P.

Gasch, Robert H., Jr.: *See*—
Amdur, Elias J., Gasch, and White.

Gatfield, Edward W.: *See*—
Degner, Carl O., Satchell, and Gatfield.

Gatti, Alberto. Hydraulically moved control devices of the lower pressing plunders in moulds for tiles and the like objects in ceramic. 3,264,703, 8–9–66, Cl. 25—84.

Gatza, Casper J. Pressure vapor heat system. 3,265,304, 8–9–66, Cl. 237—67

Gaurley, Charles A.: *See*—
Lazar, Michael, Noschese, and Gaurley.

Gauthier, Alfred, G.m.b.H.: *See*—
Rentschler, Waldemar T.
Starp, Franz W. R.

Gauthier, George E., and C. F. Hobson, Jr., to General Electric Co. Trip unit mechanism. 3,265,836, 8–9–66, Cl. 200—116.

Gehrke, Gunter: *See*—
Klemm, Kurt, and Gehrke.

Geigel, Eugene W.: *See*—
Brown, Wilber A., Fawkner, Geigel, and Rhodes.

General Dynamics Corp.: *See*—
Bilodeau, Alvin V., Francoeur, and Stein.
Brightman, Barrie, and Fisher.
Childree, Herman T.
Kaarlela, William T.
Potter, Richard D.

General Electric Co.: *See*—
Brown, Arthur E., and Stern.
Cook, Leonard W.
Coombs, Verner D.
Cutler, John H., and Britten.
Diefendorf, Russell J.
Edman, Carl A., and Kranz.
Ellis, George W.
Gauthier, George E., and Hobson.
Gentry, Finis E.
Hall, Robert N.
Henkes, John L., Jr.
Howell, Edward K.
Kelley, Harold P., Jr.
Klein, Keith W.
Manfredi, Robert E., Koskos, and Ammenheuser.
Miles, Alfred.
Murphy, Frank H.
Norton, James F.
Omer, Kenner S.
Parke, Robert M.
Powell, David B.
Powell, Walter F., Jr.
Read, Philip L.
Reiling, Gilbert H.
Schlesinger, Kurt.
Spacil, Henry S.
Summers, Erwin R., and Rosenberry.
Tolbert, Joseph A.
Wellford, Armistead L.
Wentorf, Robert H., Jr.

General Filter Co.: *See*—
Scholten, John J.

General Foods Corp.: *See*—
Mitchell, Robert M.

General Industries Co., The: *See*—
Harrison, Robert R.

General Mills, Inc.: *See*—
Fulmer, Richard W., and Peerman.
Jordan, Wesley A.

General Motors Corp.: *See*—
Aho, Kenneth A.
Ananian, Lucas G., and Stallard.
Bergstrom, James W., and Bockemuehl.
Boman, William H., and Churchill.
Breting, Ulysses A., and Smith.
Carpenter, Keith H.

General Motors Corp.: *See*—Continued
Flitz, John L.
Gorsky, Rudolph J.
Helms, Harold E., Johnson, and Pyne.
Jacobs, James W.
Jacobs, James W.
Kesling, Keith K.
La Flame, Frank E.
Long, George B.
Massoll, Stanley R.
Popovich, George, and Szczepanski.
Shellhause, Ronald L., and Bierlein.
Sones, William L., Neyhouse, and Elliott.
Stott, Thomas C. F., and Maina.
Turunen, John R.

General Precision Inc.: *See*—
Fischel, Eduard M.
Gray, John W.

General Time Corp.: *See*—
Morrison, David, and Robinson.

Gentry, Finis E., to General Electric Co. Semiconductor switch comprising a translator triggered by an SCR. 3,265,909, 8–9–66, Cl. 307—88.5.

Gentry, Robert R.: *See*—
Peck, David W., Gentry, and Fritz.

Georgia-Pacific Corp.: *See*—
Davis, Carl P.

Gerber Products Co.: *See*—
Krupp, Robert F.

Geroplastics, Inc.: *See*—
Moore, Arnold S.

Gerry, Martin E. Magnetic ignition distributor. 3,265,931, 8–9–66, Cl. 315—218.

Gesellschaft fur Getreidehandel Aktiengesellschaft: *See*—
Doevenspeck, Heinz.

Gesellschaft fur Lind'S Eismaschinen Aktiengesellschaft: *See*—
Jakob, Fritz.

Gevaert Photo-Producten N.V.: *See*—
Willems, Jozef F., and Van Veelen.
Willems, Jozef F., and Van Veelen.

Giachino, Marcello T.: *See*—
Fisher, Elton, and Giachino.

Gibbon, Norman, J. A. Paivanas, and D. L. J. Wang, to Union Carbide Corp. Thermal insulation. 3,265,236, 8–9–66, Cl. 220—9.

Gibson, Robert J., Jr.: *See*—
Goodman, Robert M., and Gibson.

Giesen, Johann: *See*—
Schultze, Hans-Joachim, Giesen, and Berther.

Gifford, William E. Heat exchanger having oscillating fluid for receiving and discharging heat. 3,265,123, 8–9–66, Cl. 165—104.

Gilbert, Emerson D., and G. P. Deyerling, to The Bendix Corp. Shock absorber. 3,265,163, 8–9–66, Cl. 188—88.

Gilbert, Leland G., J. G. Johnson, and W. W. Grauerholz, to Deere & Co. Logging tractor bumper 3,265,428, 8–9–66, Cl. 293—1.

Gilbert, Lyle G.: *See*—
Bach, Harold E., and Gilbert.

Gilders, Arthur W.: *See*—
Ford, Harold H., and Gilders.

Gillen, Howard C.: *See*—
Laws, James O., Bloom, Hamilton, Robelotto, Dumas, Rohrberg, and Gillen.

Gillette Co., The: *See*—
Samsing, Rolf A.

Gillis, Edmund A., to The Cronite Co., Inc. Wiper for intaglio engraving presses. 3,264,982, 8–9–66, Cl. 101—164.

Gilman, Samuel, to United Data Control, Inc. Magnetic tape cartridge. 3,265,817, 8–9–66, Cl. 179—100.2.

Giovannetti Machine S.p A.: *See*—
Stefanutti, Sergio.

Girone, Joseph M.: *See*—
Smith, Horace L., Jr., Girone, Vogeleer, and Pettigrew.

Glabisch, Dietrich, and H. Bartl, to Farbenfabriken Bayer Aktiengesellschaft. Stable, aqueous dispersions of ethylene copolymers. 3,265,654, 8–9–66, Cl. 260—29.6.

Glasby, Francis G., and E. B. Robinson; said Glasby assor. to Robinson & Sons Ltd. Method of making spirally wound containers. 3,264,950, 8–9–66, Cl. 93—94.

Glaser, Hellmut L., to Owens-Corning Fiberglas Corp. Method of coating continuous sodium silicate fibers. 3,265,479, 8–9–66, Cl. 65—3.

Glass, Marvin I., & Associates: *See*—
Glass, Marvin I., and Licitis.

Glass, Marvin I., and G. Licitis, to Marvin I. Glass & Associates. Self-propelled toy steam-type locomotive. 3,264,782, 8–9–66, Cl. 46—243.

Glatthard, Roland: *See*—
Matter, Max, and Glatthard.

Glaxo Laboratories Ltd.: *See*—
Fantes, Karl H., and O'Neill.

Glicksman, Milton, to Multi-Flex Seals, Inc. Sealing threaded nut construction. 3,265,107, 8–9–66, Cl. 151—7.

Gloor, Urs, P. Quitt, R. Studer, and K. Vogler, to Hoffman-LaRoche Inc. Peptide compounds. 3,265,682, 8–9–66, Cl. 260—112.5.

Gluck, Hyman L.: *See*—
Lory, John S., Ashworth, and Gluck.

Gobla, Stephen, and W. T. Tate, to United States Steel Corp. Method and apparatus for pelletizing pitch. 3,265,779, 8–9–66, Cl. 264—5.

Godfrey, John N.: *See*—
De Fris, Myron G., and Godfrey.

Goeb, Andre, to Societe d'Electro Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine. Alkylterphenyls and method of making same. 3,265,753, 8–9–66, Cl. 260—671.

Goebels, Frank J., Jr., to Hughes Aircraft Co. Iris controlled slot coupler. 3,266,043, 8–9–66, Cl. 343—768.

Goldberg, Martin, to E. R. Squibb & Sons, Inc. Benzothiadiazinesulfonamide 1,1-dioxide composition. 3,265,573, 8–9–66, Cl. 167—65.

Goldman, Charles B., to ACF Industries, Inc. Railway car cushioning device. 3,265,222, 8–9–66, Cl. 213—43.

Goldstein, David: *See*—
Tidridge, William A., Goldstein, and Sproul.

Goldsworthy, William B.: *See*—
Wojciechowski, Francis X., and Goldsworthy.

Goloff, Alexander, to Caterpillar Tractor Co. Valve guides. 3,265,052, 8–9–66, Cl. 123—188.

Gombar, Jeno: *See*—
Delassus, Marcel, and Gombar.

Goodell, Richard R., and J. C. Adair, to Shell Oil Co. Gravity meter clamp. 3,264,875, 8–9–66, Cl. 73—382.

Gooderidge, Jean. Traction device for a unit for pulling an elongated element. 3,265,269, 8–9–66, Cl. 226—172.

Goodhue, Lyle D., to Phillips Petroleum Co. Insect repelling compositions and methods. 3,265,566, 8–9–66, 167—33.

Goodman, Robert M., and R. J. Gibson, to The Franklin Institute. Electrolyte composition. 3,265,638, 8–9–66, Cl. 252—518.

Goodrich, Gordon A., C. E. Grubb, E. S. Baxter, and J. A. Sneller, to Amrol, Inc. Clip member. 3,265,420, 8–9–66, Cl. 287—189.36.

Goodyear Tire & Rubber Co., The: *See*—
Hunter, Edward E.
Spacht, Ronald B.
Woodhall, Edwin S., Appleby, and Folden.
Yazell, Harold N., Jr.

Goossen, George N., and S. S. Damron, to Ampex Corp. Signal system optimization in magnetic tape apparatus for processing continuous nonpictorial wideband signals. 3,265,818, 8–9–66, 179—100.2.

Gordon, Evelyn L. Device for handling dentures. 2,265,078, 8–9–66, Cl. 134—166.

Gorman, Harry. Laminated paper records. 3,265,396, 8–9–66, Cl. 274—42.

Gorsky, Rudolph J., to General Motors Corp. Variable ratio lever mechanism. 3,264,896. 8–9–66, Cl. 74—516.

Gotschall, Ralph W.: *See*—
Monroe, William R., and Gotschall.

Grace, W. R. & Co.: *See*—
Fisher, Elton, and Giachino.
Fitch, Frederick T., and Smith.
Kirk, Charles C., and Gregorian.
Overhults, Wendell C., Ketley, and Werber.
Spaak, Albert, and Weir.
Veltman, Preston L., Grushkin, and Sisler.

Graf, Armin: *See*—
Kuster, Heinz, and Graf.

Grant, William, Sons, Ltd.: *See*—
Woodruffe-Peacock, Thomas W.

Grauerholz, Waldean W.: *See*—
Gilbert, Leland G., Johnson, and Grauerholz.

Gray & Huleguard, Inc.: *See*—
Abbott, John R.

Gray, John W., to General Precision, Inc. Analog prediction computer. 3,265,869, 8–9–66, Cl. 235—150.23.

Gray Tool Co.: *See*—
Crain, Robert L., and Pierce.

Graybill, Paul J. Recloasable containers. 3,266,055, 8–9–66, Cl. 229—17.

Greanias, Evon C.: *See*—
Essinger, Pierre, Greanias, and Meagher.

Greber, Henry. Electrical fuse with forced current interruption. 3,265,841, 8–9–66, Cl. 200—132.

Green, Augustus E.: *See*—
Beitzerl, Arvene R., Green, and Meyer.

Green, Joseph, and N. Mayes, to Thiokol Chemical Corp. Organic boron and nitrogen containing compounds. 3,265,726, 8–9–66, Cl. 260—465.9.

Greeno, J. R. Co., The: *See*—
Goldmeyer, Clifford, and Dull.

Gregor, Harry P.: *See*—
Kilburn, Robert W., and Gregor.

Gregorian, Razmic S.: *See*—
Kirk, Charles C., and Gregorian.

Griesser A.G.: *See*—
Griesser Friedrich.

Griesser, Friedrich, to Griesser A.G. Method and apparatus for producing Venetian blind slats. 3,264,724, 8–9–66, Cl. 29—417.

Griffith, George L., to Trojan Powder Co. Method for extruding explosives. 3,265,778, 8–9–66, Cl. 264—3.

Griffiths, Vivien: *See*—
Burgess Robin H., McGowan, and Griffiths.

Grigsby-Barton, Inc.: *See*—
Barton, William F.

Grob, Erwin, to C. P. Baker & Co. Liquid detergent. 3,265,625, 8–9–66, Cl. 252—152.

Grobman, William, to Samuel M. Langston Co. Method for manufacturing a taped box. 3,264,954, 8–9–66, Cl. 93—36.

Gross, Robert. Photo-album. 3,265,072, 8–9–66, Cl. 129—20.

Grove, Earl I., to Gar Wood Industries, Inc. Flexible electrical cable. 3,265,803, 8–9–66, Cl. 174—15.

Grubb, Charles E.: *See*—
Goodrich, Gordon A., Grubb, Baxter, and Sneller.

Grube, Dietrich, K. Warnke, and F. Sommerfeld, to Schloemann Aktiengesellschaft. Machines for annealing the welded seams of longitudinally welded tubes. 3,265,378, 8–9–66, Cl. 266—3.

Gruber, Elmer J., to Surgical Appliance Industries, Inc. Truss pad and method of manufacture. 3,265,064, 8–9–66, Cl. 128—95.

Gruenenfelder, Albert L. Rubber band propelled arrow gun. 3,265,054, 8–9–66, Cl. 124—22.

Grundmann, Volker R.: *See*—
Bartlo, John S., and Grundmann. 3,264,799.
Gruodis, Algirdas J., to International Business Machines Corp. Tunnel diode logic circuit for asynchronous signal operation. 3,265,903, 8–9–66, Cl. 307—88.5.
Grushkin, Bernard: *See*—
Veltman, Preston L., Grushkin, and Sisler. 3,265,639.
Guest, Kenneth E., to Safety First Products Corp. Wiping action dispensing structure. 3,265,248, 8–9–66, Cl. 222—4.
Guffan, Samuel. Adjustable window shade. 3,265,116, 8–9–66, Cl. 160—121.
Guido, Johannes. Finishing road. 3,264,710, 8–9–66, Cl. 29—33.
Guild, Charles L., to Shell Oil Co. Expansible mandrel. 3,264,834, 8–9–66, Cl. 61—53.72.
Guindon, Bertrand E.: *See*—
Nichols, Edward C., and Guindon. 3,265,095.
Gulf Oil Corp.: *See*—
Mantell, Gerald J., and Rankin. 3,265,665.
Gurs, Karl, to Siemens & Halske Aktiengesellschaft. Laser apparatus using high frequency electrodeless discharge pumping. 3,265,989, 8–9–66, Cl. 331—94.5.
Gysin, Fritz, to A. & R. Wiedemar. Cylinder lock. 3,264,852, 8–9–66, Cl. 70—358.
Haco A. G.: *See*—
Matter, Max, and Glatthard. 3,265,690.
Haden, Elard L., and H. A. Bourne, Jr., to Continental Oil Co. Roller cone drill bit. 3,265,139, 8–9–66, Cl. 175—356.
Hafner, Klaus, and H. Pelster, to Studiengesellschaft Kohle G.m.b.H. Process for the production of substituted azulenes. 3,265,689, 8–9–66, Cl. 260—247.
Hagan, Hugh J. Combine header control. 3,264,808, 8–9–66, Cl. 56—214.
Hagemeyer, Hugh J., Jr., A. E. Blood, and J. D. Heller, to Eastman Kodak Co. Vinyl 2,2-dimethylalkyl ethers and polymers thereof. 3,265,675, 8–9–66, Cl. 260—85.5.
Hager, Nathaniel E., Jr., to Armstrong Cork Co. Electrical duct heater. 3,265,865, 8–9–66, Cl. 219—549.
Hahnel, Alwin, to Stromberg Carlson Corp. Parallel-connected crystal oscillators with controllable Q circuits. 3,265,987, 8–9–66, Cl. 331—49.
Haigh, Arthur A., and J. B. Burkmeyer. Boat for house trailers. 3,265,025, 8–9–66, Cl. 114—60.
Haines, Paul G.: *See*—
McCoy, George, Whiton, and Haines. 3,265,751.
Hainz, Richard, to Friedmann & Maere. Test stand for fuel injection pumps. 3,264,868, 8–9–66, Cl. 73—119.
Halbach, Klaus: *See*—
Baker, William R., and Halbach. 3,265,583.
Halcon International Inc.: *See*—
Barker, Robert S. 3,265,635.
Hall, James D., and T. R. Rehberg, to Caterpillar Tractor Co. Resilient push dozer. 3,265,380, 8–9–66, Cl. 267—1.
Hall, James L., to Kaiser Aluminum & Chemical Corp. Bending device. 3,264,859, 8–9–66, Cl. 72—412.
Hall, Robert N., to General Electric Co. Crystal growing apparatus. 3,265,469, 8–9–66, Cl. 23—273.
Hallden, Karl W., to The Hallden Machine Co. Flying press. 3,264,920, 8–9–66, Cl. 83—311.
Hallden Machine Co., The: *See*—
Hallden, Karl W. 3,264,920.
Halliburton Co.: *See*—
Anderson, Warren L. 3,265,151.
Halliday, James C.: *See*—
Severino, Paul J., and Halliday. 3,265,099.
Halliwell, Ronald H., to E. I. du Pont de Nemours and Co. Separation of butadiene from butenes by distilling in the presence of an aqueous solution of silver salts. 3,265,591, 8–9–66, Cl. 203—33.
Halls, Gordon A., and L. Barnes, to Rolls-Royce Ltd. Gas turbine jet propulsion engine igniter. 3,264,825, 8–9–66, Cl. 60—39.82.
Halstead Metal Products, Inc.: *See*—
Mitchell, George A., and Lill. 3,264,857.
Hamasaki, Joji, to Bell Telephone Laboratories, Inc. Transmission line to waveguide junction. 3,265,995, 8–9–66, Cl. 333—21.
Hamilton, James B.: *See*—
Laws, James O., Bloom, Gillen, Robelotto, Dumas, Rohrberg, and Hamilton. 3,265,852.
Hamilton, John B., ½ to J. P. Harbord. Boats. 3,265,026, 8–9–66, Cl. 114—61.
Hamilton, Thomas, to Westinghouse Electric Corp. Filament support-wire detector and ejector. 3,265,097, 8–9–66, Cl. 140—71.6.
Hamm, William E.: *See*—
Anderson, Francis L. 3,265,252.
Hammelmann, Paul. Swinging nozzle device for cleaning pipes, storage tanks and the like. 3,265,309, 8–9–66, Cl. 239—187.
Hamrich, James C., to Jet Line Products, Inc. Sleeve mold for forming passageway in concrete structures. 3,265,349, 8–9–66, Cl. 249—177.
Haney, William E.: *See*—
La Bombard, Nelson J., and Haney. 3,265,436.
Hanfland, Curt H. Safety nut. 3,265,109, 8–9–66, Cl. 151—21.
Hanson, John H. A.: *See*—
Adams, George E., Whale, and Hanson. 3,264,719.
Hanson-Van Winkle-Munning Co.: *See*—
Schantz, Donald H. 3,265,475.
Hapad, Inc.: *See*—
Kirchner, George J., and Hauser. 3,265,071.
Harbord, John P.: *See*—
Hamilton, John B. 3,265,026.
Harden, Keith L. Key blank dispenser. 3,265,245, 8–9–66, Cl. 221—124.
Hardesty, George K. C. Illuminated fixed indicia indicating device. 3,264,769, 8–9–66, Cl. 40—130.
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Doppler, Leonard H., and Hardy. 3,265,651.
Harkins, Joseph C., Jr., F. E. Ehrenfeld, Jr., and R. J. Eltzel, to Congoleum-Nairn Inc. Processes for preparing decorative surface coverings. 3,265,548, 8–9–66, Cl. 156—79.
Harlan, James T., Jr., and E. R. Bell, to Shell Oil Co. Process for polymerizing unsaturated monomers using high energy ionizing radiation. 3,265,604, 8–9–66, Cl. 204—154.
Harnish, James R., to Westinghouse Electric Corp. Refrigeration system with accumulator means. 3,264,837, 8–9–66, Cl. 62—117.
Harnish, James R., to Westinghouse Electric Corp. Heat pumps for simultaneous cooling and heating. 3,264,839, 8–9–66, Cl. 62—160.
Harnish, James R., to Westinghouse Electric Corp. Air conditioning systems with reheat coils. 3,264,840, 8–9–66, Cl. 62—173.
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Allen, Kenneth M., and Harper. 3,265,196.
Harpold, Eddie D., to La Bolsa Tile Co. Drainage line construction. 3,264,828, 8–9–66, Cl. 61—11.
Harris, Alva F., to Monsanto Co. Process for polymerizing a monovinyl aromatic monomer. 3,265,766, 8–9–66, Cl. 260—880.
Harris, James E., to Honeywell Inc. Temperature regulating valve. 3,265,303, 8–9–66, Cl. 236—80.
Harrison, Robert R., to The General Industries Co. Denture cleaners. 3,265,369, 8–9–66, Cl. 259—108.
Harsanyi, Kalman, P. Kiss, L. Tardos, and G. Leszkoszky, to Chinoin Gyogyszer-es Vegyeszeti Termekek Gyara RJ. Process for the preparation of oxadiazole derivatives. 3,265,692, 8–9–66, Cl. 260—247.5.
Hart Chemical Corp.: *See*—
Jackson, William F. 3,265,569.
Hart, Richard E., to Douglas Aircraft Co., Inc. Method of controlling predatory fish. 3,264,772, 8–9–66, Cl. 43—4.5.
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Wochnowski, Waldemar, Harte, and Iwen. 3,265,209.
Harte, Heinz, J. Iwen, and W. Wochnowski. Method of and apparatus for air classification. 3,265,210, 8–9–66, Cl. 209—136.
Hartmann Mfg. Co.: *See*—
Brand, George W., and Hartmann. 3,264,944.
Hartmann, Philip: *See*—
Brand, George W., and Hartmann. 3,264,944.
Hartupee, Perry B., to Powr-Lok Corp. Differential. 3,264,900, 8–9–66, Cl. 74—711.
Harvey, Mahlon A.: *See*—
Carter, Paul R., Harvey, and Lynch. 3,265,600.
Haselmann, Heinrich: *See*—
Barenyi, Bela, and Haselmann. 3,264,670.
Hasen, George E., and A. Korzenowski, to Crane Co. Fabricated stuffing box with gland eye-bolt arrangement. 3,265,398, 8–9–66, Cl. 277—105.
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Stark, Max, and Haspenplaugh. 3,265,073.
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Kraiman, Eugene, Hasson, and Sukman. 3,265,734.
Hatano, Itaru, and K. Senuma, to Kanegafuchi Chemical Industry Co. Ltd. Method of manufacturing expandable synthetic resins. 3,265,642, 8–9–66, Cl. 260—2.5.
Hatano, Itaru, K. Senuma, T. Kasamatsu, and M. Nishino, to Kanegafuchi Chemical Industry Co., Ltd. Cellular polystyrene and method of manufacturing the same. 3,265,643, 8–9–66, Cl. 260—2.5.
Hatebur Bernhard Frits: *See*—
Huber, Hans. 3,264,853.
Hathaway, Charles T.: *See*—
Berggren, Loring J., and Hathaway. 3,265,552.
Hauni Werke Korber & Co. K.G.: *See*—
Menge, Gunter. 3,265,183.
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Hauser, Emil D. W.: *See*—
Kirchner, George J., and Hauser. 3,265,071.
Haveg Industries, Inc.: *See*—
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Havlik, Anton J., and A. B. Magnusson, to United States of America, Army. Polyurethane prepolymer containing substituted urea groups and method of preparation. 3,265,761, 8–9–66, Cl. 260—858.
Hawk, James P.: *See*—
Dickey, Joseph B., Towne, and Hawk. 3,265,716.
Hayashi, Teruo, S. Tsuji, and S. Anazawa, to Nippon Electric Co. Ltd. Semiconductor devices. 3,264,712, 8–9–66, Cl. 29—155.5.
Haydock, Raymond S., ½ each to R. S. Haydock, Jr., and S. L. Haydock. TV snack table. 3,265,019, 8–9–66, Cl. 108—119.
Haydock, Raymond S., Jr.: *See*—
Haydock, Raymond S. 3,265,019.
Haydock, Sandra L.: *See*—
Haydock, Raymond S. 3,265,019.
Hayes, Charles F.: *See*—
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Hayes, Gerald R. and C. F., to Hayes Machine Co. Packaging machine. 3,264,798, 8–9–66, Cl. 53—374.
Hayes Machine Co.: *See*—
Hayes, Gerald R. and C. F. 3,264,798.
Hazeltine Research Inc.: *See*—
Wilhelmsen, Carl R. 3,265,982.
Heald, Mark A., to United States of America, Atomic Energy Commission. Microwave plasma density measurement system. 3,265,967, 8–9–66, Cl. 324—58.5.
Healey, John E., Jr., and E. B. Moore. Anastomosis surgical instruments. 3,265,069, 8–9–66, Cl. 128—334.
Heathcote, Harold T. Spindle drafting apparatus for textile fibers. 3,264,811, 8–9–66, Cl. 57—51.
Heberlein Patent Corp.: *See*—
Kuster, Heinz, and Graf. 3,264,814.

Hecht, James L., to E. I. du Pont de Nemours and Co. Process for preparing polyvinyl fluoride. 3,265,678, 8–9–66, Cl. 260—92.1.
Heck, Elmer H., and D. L. Dosh, to D & H Devices. Combination dimmer switch and headlight flashing apparatus. 3,265,849, 8–9–66, Cl. 200—172.
Hedman, Edward A., and C. W. Ogren, to The Richardson Co. Low molecular weight polymers. 3,265,758, 8–9–66, Cl. 260—680.
Heiman, Donald K. Cutting fluid. 3,265,620, 8–9–66, Cl. 252—33.6.
Hein, Ewald, E. Klein, and W. Kramer, to Siegner Maschinenbau G.m.b.H. Cooling bed for rolled workpieces. 3,265,187, 8–9–66, Cl. 198—107.
Heller, James D.: *See*—
Hagemeyer, Hugh J., Jr., Blood, and Heller. 3,265,675.
Helmecke, Rolf, and M. Reuter, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for the manufacture of substances having porous structure. 3,265,514, 8–9–66, Cl. 106—122.
Helms, Harold E., K. O. Johnson, and J. A. Pyne, to General Motors Corp. Heat dispersing swivel rocket nozzle liner. 3,265,314, 8–9–66, Cl. 239—591.
Henderson, Bennett M., and R. L. Woodruff, to Shell Oil Co. Lubricating oil compositions. 3,265,618, 8–9–66, Cl. 252—32.5.
Henderson, Harry M. Floral holder for caskets and the like. 3,265,338, 8–9–66, Cl. 248—27.8.
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Henkes, John L., Jr., to General Electric Co. Reproducing thermoplastic recordings. 3,265,776, 8–9–66, Cl. 264—1.
Her Majesty's Postmaster General: *See*—
Davidson, Cyril F., and Ravenscroft. 3,265,993.
Herb, Philip J., to The Thomas & Betts Co., Inc. Wire guides for terminal attaching machines. 3,264,860, 8–9–66, Cl. 72—457.
Herbert, Stephen A., Jr.: *See*—
Richards, Harry F., and Herbert. 3,265,673.
Herbon, Leroy J., to American Motors Corp. Cooling system. 3,265,048, 8–9–66, Cl. 123—41.14.
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Hickman, John S., to Inland Steel Products Co. Three-ply temperature-regulating panel. 3,265,121, 8–9–66, Cl. 165—49.
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Jaffe, Edward E., to E. I. du Pont de Nemours and Co. Process for producing linear quinacridones of small particle size. 3,265,699, 8–9–66, Cl. 260—279.
Jaggi, Markus, to Heberlein Paten Corp. Process for producing composite yarn structure. 3,264,816, 8–9–66, Cl. 57—160.
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Jarman, Edward R. 3,265,106.
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Jennings, Thomas J., to Shell Oil Co. Thiophene oxidation process and products obtained thereby. 3,265,712, 8–9–66, Cl. 260—332.3.
Jensen, Erik H., to The National Cash Register Co. Coating by phase separation. 3,265,629, 8–9–66, Cl. 252—316.
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Jillson, Betty. Restraining vest. 3,265,065, 8–9–66, Cl. 128—134.
Jiminez, Marcos. Method for treatment of hernias. 3,266,054, 8–9–66, Cl. 128—334.
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Johnson, Henry H. Position sensing system. 3,265,951, 8–9–66, Cl. 318—467.
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Kane, Frank A., III, deceased (by Mrs. F. A. Kane, Jr., administratrix). Rhythmic aerator actuated float for indicating water level. 3,265,388, 8–9–66, Cl. 272—8.
Kane, Robert A., and E. L. Kochey, Jr., to Combustion Engineering, Inc. Method of peaking a power plant system. 3,264,826, 8–9–66, Cl. 60—73.
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Kastan, Howard, to Lockheed Aircraft Corp. Splicing device for structural panel sections. 3,265,417, 8–9–66, Cl. 189—36.
Katehis, George. Combination swimming aid and respirator. 3,265,066. 8–9–66, Cl. 128—145.
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Kawanami, Junichi, to Shionogi & Co., Ltd. 3-mercaptoandrostan-17β-ol and its acylate. 3,265,713, 8–9–66, Cl. 260—397.5.
Keller, Fred, to Rexall Drug and Chemical Co. Method for preparing substituted morpholines. 3,265,688, 8–9–66, Cl. 260—247.
Keller, H. V., Mfg. Co.: *See*—
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Kenrick, Joseph F. and J. J. Holding device. 3,265,261, 8–9–66, Cl. 224—29.
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Kerr, Robert J., to Robert J. Kerr, Inc. Artificial snow compositions comprising polyvinyl acetate and water. 3,265,650, 8–9–66, Cl. 260—23.
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Kilness, Luther E. One-way reversible clutch for wrench. 3,265,171, 8–9–66, Cl. 192—43.2.
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Anderson, Richard D. 3,264,913.
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Malmstrom, Homer E., and Martiny. 3,264,749.
Sager, Karl E. 3,265,560.
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Wurzburg, Otto B., and Kunze. 3,265,510.
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Kurtz, Leonard D. Suture needle. 3,265,070, 8–9–66, Cl. 128—339.
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Le Blanc, John R., to Monsanto Co. Water-soluble flexibilizer for phenolic resins comprising a methylolated amine terminated polyester. 3,265,653, 8–9–66, Cl. 260—29.3.
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Luetzel, Gerhard, W. Rohland, A. Tartter, G. Barts, W. Dietrich, D. Federkiel, and R. Mueller, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Dye and hexahydro-1,3,5-triacryloyl-s-triazine or derivative thereof composition and dyeing therewith. 3,265,461, 8–9–66, Cl. 8—84.
Luke, Jack. Coin push chute. 3,265,179, 8–9–66, Cl. 194—92.
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Mach, Horst, and H.-J. Peter, to International Standard Electric Corp. Pneumatic tube system switching points. 3,265,326, 8–9–66, Cl. 243—29.
Machida, Yoshihiro, and F. Nishida, to Dainippon Screen Seizo Kabuishiki Kaisha (Dainippon Screen Mfg. Co., Ltd.). Electronic engraving machine. 3,264,889, 8–9–66, Cl. 74—110.
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Mahoney, Edward H., and P. E. Knight, to Seismograph Service Corp. Antenna construction for mobile communication unit. 3,266,042, 8–9–66, Cl. 343—718.
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Manfredi, Robert E., P. Koskos, and J. W. Ammenheuser, to General Electric Co. Electric discharge device with improved electrode support. 3,265 919, 8–9–66, Cl. 313—238.
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Marburger, Fred R. Pistol holder construction. 3,265,259, 8–9–66, Cl. 224—2.
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McEntee, Frank J., Jr. Heat-exchange method and apparatus. 3,264,751, 8–9–66, Cl. 34—57.
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McNeil, Gordon, to United States of America, Army. Integrated semiconductor resistance element. 3,265,905, 8–9–66, Cl. 307—88.5.
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Potter, Robert E. Main bearing seal remover. 3,264,722, 8–9–66, Cl. 29—235.
Poupitch, Ougljesa J., to Illinois Tool Works Inc. Container package and carrier. 3,265,203, 8–9–66, Cl. 206—65.
Powell, David B., to General Electric Co. Electrical control device with adjustable calibration locking means. 3,265,832, 8–9–66, Cl. 200—116.
Powell, Walter F., Jr., to General Electric Co. Current level switching apparatus for operating electric discharge lamps. 3,265,930, 8–9–66, Cl. 315—209.
Power Components Inc.: *See*—
Carlan, Alan J., Wallhausen, Salinas, Payne, and Bazin. 3,265,805.
Powling, Philip S., and J. W. Crollie, to Neilsons Gaiety Ltd. Apparatus for the production of Christmas crackers. 3,264,797, 8–9–66, Cl. 53—285.
Powr-Lok Corp.: *See*—
Hartupee, Perry B. 3,264,900.
Prahl, Frederick A., Jr.: *See*—
Peterson, Evald O., Prahl, and Vitka. 3,264,915.
Pratley, George M., to Pratley Igniters (Proprietary) Ltd. Method of delayed ignition in blasting. 3,264,987, 8–9–66, Cl. 102—27.
Pratley Igniters (Proprietary) Ltd.: *See*—
Pratley, George M. 3,264,987.
Preco, Inc.: *See*—
Babb, Jerry W., Bowen, Shea, and Walp. 3,264,958.
Shea, Reford P. 3,264,959.
Premier Injection Mouldings Ltd.: *See*—
Brooker, Bernard F. 3,264,884.
Premier Tool Worker, Inc.: *See*—
Soennichsen, Soenke. 3,264,955.
Preziosi, Luigi M., and J. J. Zecca, to Westinghouse Electric Corp. Baseless double-ended electric incandescent lamp. 3,265,923, 8–9–66, Cl. 313—318.
Pribble, Ferdinand C., to Honeywell Inc. Electrically recording paper. 3,265,531, 8–9–66, Cl. 117—216.
Price, David E., and H. J. Wagner, to Roehr Products Co., Inc. Method of forming composite metal bodies. 3,264,697, 8–9–66, Cl. 22—204.
Price, Harold A.: *See*—
Reid, William P., and Price. 3,265,412.
Reid, William P., and Price. 3,265,414.
Price, Lewis C., Jr., to Control Print Machinery Manufacturers Corp. Coding apparatus. 3,264,979, 8–9–66, Cl. 101—35.
Prickett, Tom, Jr., and J. P. Wood, to The Atlantic Refining Co. Continuous wave apparatus with delay gated filter. 3,266,012, 8–9–66, Cl. 340—15.5.
Procter & Gamble Co., The: *See*—
Janikse, Cornelis H. 3,265,507.
Protection Control, Inc.: *See*—
Plambeck, Ronald F. 3,266,026.
Prottengeler, Fritz, to Artos Maschinenbau, Dr. Ing. Meier. Drive for tentering chains. 3,264,704, 8–9–66, Cl. 26—57.
Prutton Corp.: *See*—
Prutton, Howard D. 3,264,664.
Prutton, Howard D., to Prutton Corp. Article forming machine. 3,264,664 8–9–66, Cl. 10—12.
Pruzansky, Jacob: *See*—
Steinberg, Meyer, Pruzansky, and Kramer. 3,265,602.
Pullman Inc.: *See*—
Adler, Franklin P. 3,265,015.
Purolator Products, Inc.: *See*—
Decker, Milton R., and Kukowski. 3,265,213.
Pyne, James A.: *See*—
Helms, Harold E., Johnson, and Pyne. 3,265,314.
Quadri, Inc.: *See*—
Offray, Sam. 3,264,766.
Quiklista Ltd.: *See*—
Wood, Cecil E. C. 3,264,967.
Quisenberry, Richard K., to E. I. du Pont de Nemours and Co. Segmented linear copolyesters of 2,5-disubstituted terephthalic acids. 3,265,762, 8–9–66, Cl. 260—860.
Quitt, Peter: *See*—
Gloor, Urs, Quitt, Studer, and Vogler. 3,265,682.
Raasch, Hans, to Walter Reiners. Automatic yarn-knotting and tensioning device. 3,265,421, 8–9–66, Cl. 289—2.
Rabinow, Jacob, to Control Data Corp. Magnetic recording head with spinning for readout. 3,266,025, 8–9–66, Cl. 340—174.1.
Rabson, Thomas A. and W. R. Rabson, to PGAC Development Co. Temperature stabilized radioactivity well logging unit. 3,265,893. 8–9–66, Cl. 250—71.5.
Rabson, William R.: *See*—
Rabson, Thomas A. and W. R. 3,265,893.
Radio Corp. of America: *See*—
Elie, George T. 3,264,707.
Feller, Albert. 3,265,906.
Thomas, John J. 3,265,915.
Raff, Paul: *See*—
Doerfel, Helmut, and Raff. 3,265,733.
Ragen, Robert A., to Friden, Inc. Current pulse generator. 3,265,908, 8–9–66, Cl. 307—88.5.
Rahm, Melvin H., and D. H. Schmoker. Meter protector device for electric motors including a driven indicator arm and a slave arm and a stop means for separating them under overload conditions. 3,265,821, 8–9–66, Cl. 200—56.
Rahn, Richard, to Schloemann Aktiengesellschaft. Coil expander. 3,265,321, 8–9–66, Cl. 242—78.1.
Rahtz, Dieter: *See*—
Richter. Helmer, and Rahtz. 3,265,691.
Rai, Charanjit: *See*—
Szawlowski, Theodore H., Kramer, and Rai. 3,265,667.
Rainer, William C., to Chemical Products Corp. Method of molding a foamed plastic sealing liner having a transparent central portion. 3,265,785, 8–9–66, Cl. 264—45.
Ralston, W., & Co., Ltd.: *See*—
McColgan, Arnold J. 3,265,241.
Ramsey, James B., and P. T. Anderson, to Westinghouse Electric Corp. Thermally responsive electrical control device. 3,265,831, 8–9–66, Cl. 200—116.
Ramsey, Wallace B.: *See*—
Deichert, William G., Christensen, and Ramsey. 3,265,764.
Ranco Inc.: *See*—
Dobbie, Robert W. 3,264,842.
Rankin, David: *See*—
Mantell, Gerald J., and Rankin. 3,265,665.
Rasmussen, Robert F., to Honeywell Inc. Automatic and manual control apparatus for aircraft. 3,265,332, 8–9–66, Cl. 244—76.
Rauland Corp., The: *See*—
Fiore, Joseph P. 3,265,920.
Ravenscroft, Ivor A.: *See*—
Davidson, Cyril F., and Ravenscroft. 3,265,993.
Ray, Charles L., and R. E. Baarson, to Armour and Co. Froth flotation with an amine composition. 3,265,211, 8–9–66, Cl. 209—166.
Ray, John G., to Sylvania Electric Products Inc. Fail-safe arc discharge lamp with integral arc extinguishing means. 3,265,917, 8–9–66, Cl. 313—109.
Ray, Richard L., L. W. Gamble, E. B. Claiborne, and G. M. Coats, to Esso Research and Engineering Co. Polypropylene-polyethylene blends. 3,265,771, 8–9–66, Cl. 260—897.
Raytheon Co.: *See*—
Wyckoff, Robert L. 3,265,986.
Read, Philip L., to General Electric Co. Sorption vacuum pump. 3,264,803, 8–9–66, Cl. 55—208.
Red Jacket Mfg. Co.: *See*—
Deters, Elmer M. 3,265,001.
Redcay, Aaron K., to The Badger Co., Inc. Apparatus and method of fractionation of ethyl benzene. 3,265,590, 8–9–66, Cl. 203—21.
Redden, Warren C. Automatic unloading conveyor assembly. 3,265,188, 8–9–66, Cl. 198—146.
Redstone, Rueuben, P. D. Lomer, M. Hillier, and P. O. Hawkins, to United Kingdom Atomic Energy Authority. Cold cathode neutron generator tube. 3,265,896, 8–9–66, Cl. 250—84.5.
Reed, Edwin G. Anti-personnel bomb. 3,264,985, 8–9–66, Cl. 102—4.
Reed, Thomas M.: *See*—
Ford, Paul A. 3,265,195.
Reeder, Jay L. Road grader attachment. 3,266,050, 8–9–66, Cl. 37—156.
Rehberg, Thomas R.: *See*—
Hall, James D., and Rehberg. 3,265,380.
Regan, Edward V. B., and N. E. Shoemaker; said Shoemaker assor. to said Regan. Seat. 3,265,438, 8–9–66, Cl. 297—380.
Reid, Jack M., and P. L. Michael, to American Gas Assn. Apparatus for pinpointing leaks in buried pipes. 3,264,864, 8–9–66. Cl. 73—69.
Reid, William P., and H. A. Price; said Price assor. to said Reid. Sealed pipe coupling assembly. 3,265,412, 8–9–66, Cl. 285—323.
Reid, William P., and H. A. Price; said Price assor. to said Reid. Sealed pipe joint. 3,265,414, 8–9–66, Cl. 285—348.
Reigel, George W.: *See*—
Miller, Bruce D., Thornton, and Reigel. 3,264,836.

Reik, Hanus, to Ibopad Ltd. Flameproof thermostat assemblies. 3,265,848, 8–9–66, Cl. 200—168.
Reiling, Gilbert H., to General Electric Co. High current cold cathode gas triode control system. 3,265,929, 8–9–66, Cl. 315—199.
Reiners, Walter: *See*—
Furst, Stefan. 3,265,816.
Raasch, Hans. 3,265,421.
Reising, Eugene G. Firearm. 3,264,939, 8–9–66, Cl. 89—145.
Reniker, William E., and R. W. Wagner, to Ampex Corp. Article separating apparatus. 3,265,208, 8–9–66, Cl. 209—111.8.
Renker-Belipa G.m.b.H., Firma: *See*—
Kosche, Horst. 3,265,497.
Rentschler, Waldemar T., to Gauthier Alfred G.m.b.H. Photographic shutter having multiple escapement mechanisms. 3,264,965, 8–9–66, Cl. 95—53.
Research and Development Pty. Ltd.: *See*—
Warman, Charles H. 3,265,002.
Resnick, Albert L.: *See*—
Herman, Daniel F., Resnick, and Simone. 3,265,644.
Reuter, Martin: *See*—
Helmecke, Rolf, and Reuter. 3,265,514.
Rexall Drug and Chemical Co.: *See*—
Keller, Fred. 3,265,688.
Reynolds, Metals Co.: *See*—
Farquhar, Melville T. 3,265,283.
Reys, John, to Falls Industries Inc. Coated graphite products. 3,265,124, 8–9–66, Cl. 165—133.
Rheem Mfg. Co.: *See*—
McCarthy, Joseph H., Jr. 3,265,041.
Rhine, Jules A. Gear checker. 3,264,744, 8–9–66, Cl. 33—179.5.
Rhodes, Chester D.: *See*—
Brown, Wilber A., Fawkner, Geigel, and Rhodes. 3,264,794.
Rice, Harold W., and D. R. Scott, to Robertshaw Controls Co. Excessive temperature cut-off control. 3,265,299, 8–9–66, Cl. 236—21.
Rice, James R., and D. A. Ballard, to The Dow Chemical Co. Methods and compositions for control of marine organisms. 3,265,567, 8–9–66, Cl. 167—38.6.
Rice, Leonard M.: *See*—
Freed, Meier E., and Rice. 3,265 701.
Freed, Meier E., and Rice. 3,265,702.
Rice, Livingston L.: *See*—
Jennings, Howard R., and Rice. 3,265,945.
Richards, Harry F., and S. A. Herbert, Jr., to Shell Oil Co. Copolymers of long-chained acrylic esters with sulfur-containing acrylates. 3,265 673, 8–9–66, Cl. 260—79.7.
Richards, Richard K. Electronic calculator. 3,265,875, 8–9–66, Cl. 235—160.
Richardsen Co., The: *See*—
Dudley, James R. 3,265,722.
Hedman, Edward A., and Ogren. 3,265,758.
Lucas, Gordon B. 3,265,538.
Richter Helmer, and D. Rahtz, to Schering AG. 1-benzyl-2-aminomethyl-5,6-dialkoxy benzimidazoles. 3,265,691, 8–9–66, Cl. 260—247.5.
Riegler, Ernst, to Kalle Aktiengesellschaft. Apparatus for shirring sausage casings. 3,264,680, 8–9–66, Cl. 17—42.
Rigon, Pietro. Shoe heel, particularly for men's footwear and ladies' sports footwear. 3,264,762, 8–9–66, Cl. 36—34.
Rimar, Eugene. Buckshot-loads for shotgun-shells. 3,264,996, 8–9–66, Cl. 102—91.
Rinderer, Leo, to National Research Corp. Superconductive coil having a ferromagnetic layer thereon. 3,265,939, 8–9–66, Cl. 317—158.
Ringgenberg, Howell V. Oil pump. 3,265,005, 8–9–66, Cl. 103—126.
Rissler, Lennius R., to Westinghouse Electric Corp. Floor structures for storage distribution areas. 3,265,157, 8–9–66, Cl. 186—1.
Ritter, George F., Jr., to Libbey-Owens-Ford Glass Co. Method and apparatus for press bending and tempering glass sheets. 3,265,484, 8–9–66, Cl. 65—104.
Robbins, Albert L. to United Staple Co., Inc. Stapling device. 3,265,278, 8–9–66, Cl. 227—132.
Robelotto, Rocco P.: *See*—
Laws, James O., Bloom, Gillen Hamilton, Dumas, Rohrberg, and Robelotto. 3,265,852.
Roberson, Cletis L., to Owen-Corning Fiberglas Corp. Apparatus for producing uniform continuous fibers. 3,265,476, 8–9–66, Cl. 65—1.
Robertshaw Controls Co.: *See*—
McFarlane, Maynard D., and Crafts. 3,265,813.
Rice, Harold W., and Scott. 3,265,299.
Robins, Ben W. Aircraft single radio navigation system for multistation use. 3 266,041, 8–9–66, Cl. 343—112.
Robinson, Ernest B.: *See*—
Glasby, Francis G., and Robinson. 3,264,956.
Robinson, Gene C., to Ethyl Corp. Production of dihalocarbene adducts. 3,265,743, 8–9–66, Cl. 260—648.
Robinson, Gene C., to Ethyl Corp. Production of dihalocarbene adducts. 3,265,744, 8–9–66, Cl. 260—648.
Robinson Ralph C.: *See*—
Morrison, David, and Robinson. 3,264,818.
Robinson & Sons Ltd.: *See*—
Glasby, Francis G., and Robinson. 3,264,956.
Robinson, William M., to Cornell-Dubilier Electric Corp. Method of manufacturing capacitors. 3,265,794, 8–9–66, Cl. 264—249.
Roby, Horace: *See*—
MacGuire, Andrew E. 3,265 858.
Rochester Envelope Co., Inc.: *See*—
Lum, Donald. 3,265,288.
Rochla, Kurt, to Windmoller & Holscher. Method of manufacturing carrier bags of weldable material. 3,266,053, 8–9–66, Cl. 93—35.
Rocklin, Albert L., to Shell Oil Co. 2,4,6-tris (3,5-di-tert butyl-4-hydroxybenzyl) phenyl alkanoates and polypropylene compositions stabilized therewith. 3,256,661, 8–9–66, Cl. 260—45.85.
Rockwell-Standard Corp.: *See*—
Ferbitz, Russell C., and Chocholek. 3,264,901.
Rodriguez, Vincent L., Jr. Method for fabricating human head replicas and the like having hair simulating filament embedded therein. 3,265,796, 8–9–66, Cl. 264—221.
Roehr Products Co., Inc.: *See*—
Price, David E., and Wagner. 3,264,697.
Roffelsen, Franciscus. Apparatus for making heat exchanger conduits with a wire coil helically wound thereon. 3,265,276, 8–9–66, Cl. 228—17.
Roger, Rudolf: *See*—
Class, Willy, Lehre, and Roger. 3,264,717.
Rogers, Howard G., and H. W. Lutes, to Polaroid Corp. Diffusion transfer photographic process utilizing development restrainers. 3,265,498, 8–9–66, Cl. 96—3.
Rogers, Stuart M., to Allied Chemical Corp. High-speed tow-stage bleaching of cotton cloth. 3,265,462, 8–9–66, Cl. 8—109.
Rohland, Werner: *See*—
Luetzel, Gerhard, Rohland, Tartter, Barts, Dietrich, Federkiel, and Mueller. 3,265,461.
Rohrberg, Roderick G.: *See*—
Laws, James O., Bloom, Gillen, Hamilton, Robelotto, Dumas, and Rohrberg. 3,265,852.
Röhrig, Veit: *See*—
Neunsig, Heinrich, and Röhrig. 3,265,597.
Rohrman, Frederick A., to United States of America, Navy. Electrochemical destruction of mines. 3,265,598, 8–9–66, Cl. 204—141.
Roland, Max G., to Maromatic Co., Inc. Tumbler identifying key reader. 3,264,742, 8–9–66, Cl. 33—174.
Roland Offsetmaschinenfabrik Faber & Schleicher AG.: *See*—
Alix, Hans, and Schuhmann. 3,265,387.
Rolls-Royce Ltd.: *See*—
Davies, David O., and Blackhurst. 3,265,291.
Halls, Gordon A., and Barnes. 3,264,825.
Romney, Russell H. Pack carrier. 3,265,260, 8–9–66, Cl. 224—6.
Ronson Corp.: *See*—
Chaber, Morton D., and Friden. 3,265,256.
Roper, Ralph E., to Wallace Expanding Machine, Inc. Method and apparatus for forming sheet metal corner members. 3,264,730, 8–9–66, Cl. 29—475.
Rosa, John R., to Aerojet-General Corp. Modular chassis. 3,265,935, 8–9–66, Cl. 317—101.
Rose, Frank L.: *See*—
Hovnanian, Hrair P., McCarthy, and Rose. 3,265,881.
Rosen, Karl I. J. Device for feeding yarn to multifeed circular knitting machines. 3,264,845, 8–9–66, Cl. 66—132.
Rosenberg, Thomas, to Eastern Chain Works, Inc. Chain for lamps and the like. 3,264,821, 8–9–66, Cl. 59—78.1.
Rosenberger, Harold E., to Bausch & Lomb Inc. Low power optical system for microscope. 3,264,938, 8–9–66, Cl. 88—57.
Rosenblatt, Solomon, to United Aircraft Corp. Radiator sealing scheme. 3,265,125, 8–9–66, Cl. 165—134.
Rosengarten, Walter E., Jr., A. T. Flower, and D. L. Buchanan, said Flower and said Buchanan assors. to said Rosengarten. Process for sealing mains. 3,265,782, 8–9–66, Cl. 264—32.
Rosenstein, William, and F. H. Bultman, to Walker Mfg. Co. Feeding and coating device. 3,265,035, 8–9–66, Cl. 118—211.
Ross, Robert E., and L. F. Johnson, to Libbey-Owens-Ford Glass Co. Bending mold with peripheral heat absorber. 3,265,488, 8–9–66, Cl. 65—288.
Rossi, Giorgio: *See*—
Losco, Giuseppe, Rossi, and Michieli. 3,265,773.
Rottig, Walter: *See*—
Liethen, Otto, and Rottig. 3,265,658.
Rouverol, William S. Variable speed induction motor. 3,265,949, 8–9–66, Cl. 318—243.
Rucker, Klaus G., to E. I. du Pont de Nemours and Co. Ignition assembly resistant to actuation by radio frequency and electrostatic energies. 3,264,988, 8–9–66, Cl. 102—28.
Rucker, Klaus G., to E. I. du Pont de Nemours and Co. Ignition assembly resistant to actuation by radio frequency and electrostatic energies. 3,264,989, 8–9–66, Cl. 102—28.
Rudel, Harry W.: *See*—
Salvesen, Robert H., Weisgerber, and Rudel. 3,265,568.
Ruder, Nils T. A. Stands for electric-light fittings and the like. 3,265,341, 8–9–66, Cl. 248—123.
Rudolph, Rome R., C. Strutz, Jr., and F. C. Strutz, to Carl Strutz & Co., Inc. Squeegee drive mechanism. 3,264,980, 8–9–66, Cl. 101—40.
Ruetschi, Paul, to The Electric Storage Battery Co. Electric battery. 3,265,534, 8–9–66, Cl. 136—26.
Russell, John E. Automobile trailer hitch. 3,265,406, 8–9–66, Cl. 280—406.
Russell, Robert C., to Eaton Mfg. Co. Sliding clutch gear. 3,265,173, 8–9–66, Cl. 192—67.
Rust, Frederick F.: *See*—
Klein, Harvey S., and Rust. 3,265,725.
Ryan, John W., to Mattel, Inc. Animated sounding figure toy. 3,264,778, 8–9–66, Cl. 46—118.
SCM Corp.: *See*—
Diamond, Herrick R. 3,265,418.
Soule, Winsor, Jr., and Binnall. 3,265,874.
Zeamer, Aaron C., and Pappas. 3,265,180.
Sachnika, Norman H., to Texsteam Corp. Pig handling valve. 3,265,083, 8–9–66, Cl. 137—268.
Sadler, John A., to Chubb-Mosler and Taylor Safes Ltd. Alarm system. 3 266,030, 8–9–66, Cl. 340—276.
Sadler, John A., to Chubb-Mosler and Taylor Safes Ltd. Alarm system. 3,266,031, 8–9–66, Cl. 340—276.
Safety First Products Corp.: *See*—
Guest, Kenneth E. 3,265,248.

Sager, Karl E., to Kimberly-Clark Corp. Suction box cover for a papermaking machine. 3,265,560, 8–9–66, Cl. 162—374.

St. Clair, Maurice W. Quiz answer sheet with correct answer and item analysis indicia. 3,264,760, 8–9–66, Cl. 35—48.

St. Regis Paper Co.: *See*—
O'Neal, Harry D., and Wheeler. 3,265,098.

Sakai, Toshiyuki: *See*—
Maeda, Kenichi, Sakai, and Doshita. 3,265,814.

Salinas, Ray H.: *See*—
Carlan, Alan J., Wallhausen, Payne, Bazin, and Salinas. 3,265,805.

Sallo, Jerome S., to Honeywell Inc. Electroless plating. 3,265,511, 8–9–66, Cl. 106—1.

Salomon, Roger, to Ducellier & Cie. Electromagnetic circuit-breakers. 3,265,824, 8–9–66, Cl. 200—87.

Salvesen, Robert H., G. A. Weisgerber, and H. W. Rudel, to Esso Research and Engineering Co. Wax-water emulsions containing pyrethrum in the phase. 3,265,568, 8–9–66, Cl. 167—42.

Samcoe Holding Corp.: *See*—
Catallo, Frank. 3,265,270.
Cohn, Eugene, Catallo, and Snyder. 3,265,271.

Samsing, Rolf A., to The Gillette Co. Display stand for hang-up cards. 3,265,216, 8–9–66, Cl. 211—57.

Sandberg, Irwin W.: *See*—
Darlington, Sidney, and Sandberg. 3,265,973.

Sanders Associates, Inc.: *See*—
Sullivan, Frederick R. 3,266,007.

Sandvikens Jernverak Aktiebolag: *See*—
Wickstrom, Arthur S. 3,265,347.

Sanford, Walter E., Jr. Holder for dial indicators. 3,265,343, 8–9–66, Cl. 248—205.

Sarjeant, Peter T., and W. E. Morris, to West Virginia Pulp and Paper Co. Resin binders. 3,265,652, 8–9–66, Cl. 260—25.

Satchell, Fred E.: *See*—
Degner, Carl O., Satchell, and Gatfield. 3,265,392.

Sawyer, Harold T., 10% to G. K. McKenzie and H. P. Heubner (jointly), 2% to H. P. Heubner, and 2½% to L. H. Hoerres. System for monitoring and control of material in a continuing process. 3,265,873, 8–9–66, Cl. 235—151.35.

Scanland, Joseph E., to American Machine & Foundry Co. Towel cabinet. 3,265,454, 8–9–66, Cl. 312—38.

Scans Associates, Inc.: *See*—
Berger, Leo J., Jr. 3,264,870.

Scantlin Electronics, Inc.: *See*—
Beckwith, Howard W. 3,266,019.

Scaramucci, Domer. Remote control hydraulic line stripper. 3,265,399, 8–9–66, Cl. 277—198.

Scata, Mario, to International Standard Electric Corp. Electromechanical adjustable polarized relay. 3,265,827, 8–9–66, Cl. 200—87.

Schaefer, Louis F., Jr., and A. J. Slosser, to Armstrong Cork Co. Trowelable epoxy-polyamide composition with graded filler. 3,265,647, 8–9–66, Cl. 260—18.

Schaeffer, George A., and N. White. Steaming and pressing device. 3,264,765, 8–9–66, Cl. 38—141.

Schaffert, Roland M., to International Business Machines Corp. Electrophotographic process. 3,266,045, 8–9–66, Cl. 346—1.

Schaffhausen, Albert N., to Minnesota Mining and Mfg. Co. Biaxially oriented polypropylene film containing butyl rubber. 3,265,769, 8–9–66, Cl. 260—889.

Schaffer, Alfred: *See*—
Faltings, Volkert, Meyer, and Schaffer. 3,265,649.

Schantz, Donald H., to Hanson-Van Winkle-Munning Co. Buffing compositions. 3,265,475, 8–9–66, Cl. 51—304.

Schein, Francis, and B. Le Boucher, to Inatitut Francais du Petrole des Carburants et Lubrifiants. Process for protecting metals against corrosion at elevated temperatures. 3,265,601, 8–9–66, Cl. 204—147.

Schere, R. P., Corp.: *See*—
Kath, Alfred W. 3,264,802.

Schering AG.: *See*—
Richter, Helmer, and Rahtz. 3,265,691.
Werres, Horst, and Pieroh. 3,265,561.

Schibbye, Lauritz B., to Svenska Rotor Maskiner Aktiebolag. Screw rotor machine. 3,265,292, 8–9–66, Cl. 230—143.

Schibbye, Lauritz B., to Svenska Rotor Maskiner Aktiebolag. Vacuum pump of the screw rotor type and method for operating the same. 3,265,293, 8–9–66, Cl. 230—143.

Schilling, William H., to Hydraulic Engineering Corp. Hydraulic jack synchronizing system. 3,265,357, 8–9–66, Cl. 254—89.

Schipper, Edgar S., to Shulton Inc. Pyridylethylated 4 (1H)-quinazolinones and derivatives thereof. 3,265,696, 8–9–66, Cl. 260—256.4.

Schipper, Edgar S., to Shulton, Inc. 2-p-dialkylaminoalkoxyphenyl-2,3-dihydro-4 (1H)-quinazolinones and their derivatives. 3,265,697, 8–9–66, Cl. 260—256.4.

Schlabach, Leland A., to Westinghouse Electric Corp. Electrical apparatus. 3,265,956, 8–9–66, Cl. 323—22.

Schlensker, Fred W., to Ferro Corp. Fastening device for cladding panel. 3,264,793, 8–9–66, Cl. 52—511.

Schlesinger, Kurt, to General Electric Co. Image field flattener for image converter tubes. 3,265,926, 8–9–66, Cl. 315—16.

Schlesinger, Martin D., and R. W. Hiteshue, to United States of America, Interior. Binder and surface coating made from coal and asphalt. 3,264,957, 8–9–66, Cl. 94—9.

Schloemann Aktiengesellschaft: *See*—
Grube, Dietrich, Warnke, and Sommerfeld. 3,265,378.
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Schmidt, Lothar V. B. Freeway safety device. 3,266,013, 8–9–66, Cl. 340—31.

Schmitt, Manfred C. L., to Bahco, Aktiebolaget. Air heater using volatile fuels. 3,265,058, 8–9–66, Cl. 126—110.

Schmitt, Vernon R. Flexible dynamic seal. 3,264,943, 8–9–66, Cl. 91—42.

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Schober, Erhard, A. Janson, H. Schlueter, and E. Wilhelm, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Dyeing textile material with vat and sulfur dyes. 3,265,459, 8–9–66, Cl. 8—34.

Schoepke, Hollis G., and L. R. Swett, to Abbott Laboratories. Substituted amino thiatriazoles useful in counteracting hypertension. 3,265,576, 8–9–66, Cl. 167—65.

Scholten, John J., to General Filter Co. Packaged unit water aeration and filtration apparatus. 3,265,870, 8–9–66, Cl. 261—3.

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Schroeder, Charles F. Electromagnetic transformer unit. 3,265,851, 8–9–66, Cl. 219—10.77.

Schroeder, Hans J., to BMA Triebwerkbau Gesellschaft m.b.H. Heat exchanger. 3,265,120, 8–9–66, Cl. 165—6.

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Schulman, James H., R. D. Kirk, and P. King, to United States of America, Navy. Method of preparing transparent luminescent screens. 3,265,523, 8–9–66, Cl. 117—33.5.

Schultz, Bennett V., R. F. Beliveau, and E. S. Stahl, to Tecnifax Corp. Overhead projection stage for transparencies. 3,264,936, 8–9–66, Cl. 88—24.

Schultz, Robert G., and J. M. Schuck, to Monsanto Co. Process for regenerating catalysts. 3,265,634, 8–9–66, Cl. 252—414.

Schultze, Hans-Joachim, J. Giesen, and C. Berther, to Inventa A.G. fur Forschung und Patentverwertung. Process for the preparation of lactams. 3,265,685, 8–9–66, Cl. 260—239.3.

Schulze, Erwin F. C., to Addressograph-Multigraph Corp. Removable idler roller assembly. 3,265,385, 8–9–66, Cl. 271—51.

Schwartzman, Gilbert. Spin welded package. 3,264,676, 8–9–66, Cl. 15—569.

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Scolari, Giuseppe E. Method of enhancing the effect of X-ray and radium treatment. 3,265,574, 8–9–66, Cl. 167—65.

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Scragg, Frederick, to Ernest Scragg & Sons Ltd. Apparatus for twisting yarn. 3,264,812, 8–9–66, Cl. 57—58.76.

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Seffinga, Geert. 3,264,745.

Seetru Ltd.: *See*—
Varga, Otto H. 3,265,353.

Seffinga, Geert, to Sec N.V. Seffinga Engineering Co. Process and apparatus for freezing and freeze-drying liquid substances, and apparatus for carrying out said process. 3,264,745, 8–9–66, Cl. 34—5.

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Semon, Lorentz H., Sr., deceased, by E. R. Semon, administrator. Lock nut assembly. 3,265,108, 8–9–66, Cl. 151—8.

Sendelbach, Ralph E., to Ford Motor Co. Oil bath air cleaner. 3,264,804, 8–9–66, Cl. 55—223.

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Severino, Paul J., and J. C. Halliday. Actuating circuit sensitive to low conductance media and control device using said circuit. 3,265,099, 8–9–66, Cl. 141—95.

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Sheldon, Edward E. Scanograph using flexible fiber light conductors. 3,265,892, 8–9–66, Cl. 250—71.5.

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Boor, John, Jr., and Youngman. 3,265,648.
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Jennings, Thomas J. 3,265,712.
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Shiozaki, Eini, and K. Katsumata, to Mansei Kogyo Kabushiki Kaisha. Liquefied gas pouring valve in gas lighter. 3,265,101, 8–9–66, Cl. 141—295.

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Schipper, Edgar S. 3,265,697.

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Shute, Charles F., to Eastman Kodak Co. Automatic feeder for X-omat. 3,265,384, 8–9–66, Cl. 271—36.

Siebertz, Karl, to Siemens & Halske Aktiengesellschaft. Method of making contacts to a semiconductor using a comb-like intermediary. 3,264,715, 8–9–66, Cl. 29—155.55.

Siegel, Joel R., to Esso Research and Engineering Co. Hydrocarbon oils having improved water tolerance. 3,265,474, 8–9–66, Cl. 44—62.

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Sinila, Alexander, C. E. Soderquist, and W. Meier, to Nuclear Data, Inc. Radioactive sample changing and measuring apparatus. 3,265,897, 8–9–66, Cl. 250—106.

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Skogman, John: *See*—
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Skubic, LeRoy F., to The Paltier Corp. Stack stabilizer for tires. 3,265,224, 8–9–66, Cl. 214—10.5.

Skufca, Francisco. Transporter truck for industrial establishments. 3,265,404, 8–9–66, Cl. 280—79.3.

Slater, Thomas, Jr. Drinking fountain attachment for faucet. 3,265,307, 8–9–66, Cl. 239—025.

Slayter, Games, deceased, by The Park National Bank of Newark, executor, to Owens-Corning Fiberglas Corp. Method for forming crystal-free glass fibers. 3,265,478, 8–9–66, Cl. 65—2.

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Sloan, Charles S., to C. S. Sloan. Method of producing an electronic unit. 3,264,727, 8–9–66, Cl. 29—471.1.

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Smith, Donald T., to Bell Telephone Laboratories, Inc. Connector for insulated conductors. 3,265,807, 8–9–66, Cl. 174—87.

Smith, Ernest G. Overhead door retaining means. 3,265,118, 8–9–66, Cl. 160—209.

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Smith, Horace V., and G. M. Clark, to Metrol Corp. Fluid flow control system. 3,265,086, 8–9–66, Cl. 137—552.

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Smith, Roy R., Jr., to R. P. M. Smith Corp. Web length control device for rotary printing press. 3,264,984, 8–9–66, Cl. 101—227.

Smith, Vernon Z., to Borg-Warner Corp. Tape reader with input clipping circuit including photosensitive means. 3,265,900, 8–9–66, Cl. 250—214.

Smock, George E., W. F. Fulk, R. M. Stream, and H. E. Leaman, to Owens-Corning Fiberglas Corp. Apparatus for delivering multi-filament strands. 3,265,481, 8–9–66, Cl. 65—9.

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Snyder, Gerson. 3,265,402.

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Soonpaa, Henn H., to Litton Systems, Inc. Formation of grain boundary photo-orienter by electrolytic etching. 3,265,599, 8–9–66, Cl. 204—143.

Soule, Winsor, Jr., and E. P. Binnall, to SCM Corp. Data processing devices and system. 3,265,874, 8–9–66, Cl. 235—159.

Spaak, Albert, and C. L. Weir, to W. R. Grace & Co. Method of injection molding solid heavy section. 3,265,797, 8–9–66, Cl. 264—235.

Spacht, Ronald B., to The Goodyear Tire & Rubber Co. Alkylated phenols. 3,265,742. 8–9–66, Cl. 260—619.

Spacil, Henry S., to General Electric Co. Method of forming a composite member with a metallic coating. 3,265,521, 8–9–66, Cl. 117—22.

Spencer, Richard B., to Collins Radio Co. Solid state synchro and synchronization means. 3,265,904, 8–9–66, Cl. 307—88.5.

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Spiegel, Leo, to Honeywell inc. Control apparatus. 3,266,-034, 8–9–66, Cl. 340—347.
Spiegler, Louis, to E. I. du Pont de Nemours and Co. Catalyst for the hydrogenation of nitro compounds. 3,265,636, 8–9–66, Cl. 252—447.
Spielman, Lyle S., to Eclipse Fuel Engineering Co. Air heating burners. 3,265,376, 8–9–66, Cl. 263—19.
Spier, I Martin. Reinforcement for a pole. 3,265,401, 8–9–66, Cl. 280—11.37.
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Starre, Gerrit, to North American Philips Co., Inc. Dry shaver having rotary inner cutter end and oscillating shear plate. 3,264,734, 8–9–66, Cl. 30—43.5.
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Stiles, Alvin B., to E. I. du Pont de Nemours and Co. Mixtures of mangano-chromia-manganite catalysts. 3,265,637, 8–9–66, Cl. 252—465.
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Stockton, Thomas R., and R. T. Lewicki, to Ford Motor Co. Centrifugal fluid pressure governor assembly. 3,265,081, 8–9–66, Cl. 137—54.
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Clelland, James B., Ferris, and Black. 3,265,517.
Convery, Robert J. 3,265,609.
Sundberg, Erik G., to Tudor, Aktiebolaget. Accumulator electrode sheath. 3,265,535, 8–9–66, Cl. 136—54.
Sundin, Anders E., to Hydrauliska Industrie Aktiebolaget. Crane with folding boom which passes close to but clears its mast. 3,265,219, 8–9–66, Cl. 212—35.
Sundstrand Corp.: *See*—
Erikson, Carl F. 3,264,905.
Superior Electric Co., The: *See*—
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Svenska Rotor Maskiner Aktiebolag: *See*—
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Schibbye, Lauritz B. 3,265,292.
Schibbye, Lauritz B. 3,265,293.
Sveuson, Ernest J., to Odin Corp. Apparatus for determining optimum machining condition. 3,264,873, 8–9–66, Cl. 73—432.
Swan, William H., to Hoover Ball and Bearing Co. Fluid lock device. 3,264,899, 8–9–66, Cl. 74—586
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Schoepke, Hollis G., and Swett. 3,265,576.
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Brown, Louise H., and Swidler. 3,265,666.
Swords, Robert W. Machine tool spindle assembly. 3,264,-906, 8–9–66, Cl. 77—5.
Sylvander, Frederick B., to The Bendix Corp. Adjustable gain control means for the control signal of a flight director situation display. 3,266,039, 8–9–66, Cl. 343—108.
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Sylvester, Edmund Q. Mold purging apparatus and method. 3,265,348, 8–9–66, Cl. 249—109.
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Szawlowski, Theodore H., W. E. Kramer, and C. Rai, to Union Oil Co. of California. Cross-linked polythiourea resins. 3,265,667, 8–9–66, Cl. 260—77.5.
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Tabbert, Paul C. Hospital stretcher with drop end. 3,265,-432, 8–9–66, Cl. 296—20.
Talbot, Yorck J. Rear vision mirror assembly for a vehicle, 3,265,878, 8–9–66, Cl. 240—4.2.
Tartter, Arnold: *See*—
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Tavera, Antonio. Prepacked coffee containing cartridge. 3,264,973, 8–9–66, Cl. 99—295.
Tax, Johann, also known as Hans Tax. Tower crane with auxiliary hoist. 3,265,360, 8–9–66, Cl. 254—173.
Taylor, Irving R., and J. F. Deffenbaugh, to Federal-Warco Division of The McKay Machine Co. Methods of and apparatus for welding. 3,265,853, 8–9–66, Cl. 219—82.
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Bossinger, Charles D., and Taylor. 3,265,728.
Taylor, Maurice K., F. E. Paine, and A. L. Stelmach, to Ferranti-Pachard Electric Ltd. Vehicle detector with capacitor storage element. 3,266,028, 8–9–66, Cl. 340—258.
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Ten Bosch, Maurits, and J. F. Kishel, to M. Ten Bosch, Inc. Altitude and vertical velocity meter. 3,264,876, 8–9–66, Cl. 73—386.
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Landis, Harry M., and Waseleski. 3,266,001.
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Thomas, Andrew L., to Whirlpool Corp. Door actuating means for material handling box. 3,265,231, 8–9–66, Cl. 214—307.
Thomas & Betts Co., Inc., The: *See*—
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Thomas, John J., to Radio Corp. of America. Cathode ray tube. 3,265,915. 8–9–66, Cl. 313—70.
Thomas, Roy, to English Electric-Leo Computers Ltd. Signal detecting methods and devices. 3,265,974, 8–9–66, Cl. 328—63.
Thomas, William O. Latching mechanism for connecting a truck to a trailer platform. 3,265,403, 8–9–66, Cl. 280—43.11.
Thompson Francis T., to Westinghouse Electric Corp. Full wave synchronous demodulator. 3,265,980, 8–9–66, Cl. 330—10.
Thomson, Henry A., to Eastman Kodak Co. Means for restraining webs during threading. 3,265,266, 8–9–66, Cl. 226—39.
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Tidridge, William A., D. Goldstein, and J. S. Sproul, to FMC Corp. Carbon-containing refractories. 3,265,513, 8–9–66. Cl. 106—56.
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Averill, Eugene F., and Kloostra. 3,264,972.
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Tocker, Stanley, to E. I. du Pont de Nemours and Co. Polymer blends of acryloxy phenones. 3,265,760, 8–9–66, Cl. 260—836.
Tocker, Stanley, to E. I. du Pont de Nemours and Co. Cross-linked blended polymers containing polymeric acryloxy benzophenones. 3,265,772, 8–9–66, Cl. 260—898.
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Trenkenshuh, Leonard J. Device for anchor testing. 3,264,-663, 8–9–66, Cl. 73—95.
Trenkenshuh, Leonard J. Device for anchor testing. 3,264,-867, 8–9–66, Cl. 73—95.
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Trico Products Corp.: *See*—
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Triplett, Benny L., J. J. Fasnacht, D. E. McWilliams, and G. E. Ellerman, to Pittsburgh Plate Glass Co. Glass fiber sizing composition. 3,265,516, 8–9–66, Cl. 106—213.
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Tucker, Jasper J. 3,265,146.
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Turbett, George R., to Air Reduction Co., Inc. Demountable hollow armature wire straightener. 3,264,855, 8–9–66, Cl. 72—79.
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Tutthill, Fred E., to Kenco Pump Division of the American Crucible Products Co. Submersible pump. 3,264,999, 8–9–66, Cl. 103—87.
Tuttle, Clifton M., and R. A. Fox, to Eastman Kodak Co. Photographic apparatus for recording, processing, and projecting data. 3,264,961, 8–9–66, Cl. 95—12.
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Aschauer, George R. 3,265,169.
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Udd, John C., to The North American Coal Corp. Process for producing metal oxides by decomposition of metal sulfates. 3,265,464, 8–9–66, Cl. 23—142.
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Friedman, Lester. 3,265,774.
Gibbon, Norman, Paivanas, and Wang. 3,265,236.
Leis, Donald G., and Mills. 3,265,593.
Hill, William F., Jr. 3,265,655.
Hofer, Peter H. 3,265,789.
McGary, Charles W., Jr., and Patrick. 3,265,234.
Pache, Robert A., Peters, and Versteeg. 3,265,237.
Peck, David W., Gentry, and Frits. 3,265,750.
Pines, Arthur N., and Zientek. 3,265,623.

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Buhl, Robert F., and Yeagle. 3,264,801.
Szawlowski, Theodore H., Kramer, and Rai. 3,265,667.
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United Aircraft Corp.: *See*—
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Peterson, John H. 3,265,336.
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Yamron, Joseph. 3,266,052.
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Gilman, Samuel. 3,265,817.
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Redstone, Ruenben, Lomer, Hillier, and Hawkins. 3,265,896.
United Shoe Machinery Corp.: *See*—
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Betts, Robert E. 3,264,990.
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Bresler, Aaron D. 3,266,044.
Coordes, John E. 3,265,147.
Havlik, Anton J., and Magnusson. 3,265,761.
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McNeil, Gordon. 3,265,905.
Murray, Eugene J. 3,265,545.
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Clark, Walter E., Fitzgerald, and Davis. 3,265,627.
Heald, Mark A. 3,265,967.
Hovis, Victor M., Jr., and Palmer. 3,264,912.
Kass, Irvin E. 3,265,152.
Maropis, Nicholas. 3,264,863.
Park, Charles W. 3,265,998.
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Rohrman, Frederick A. 3,265,598.
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Winter, David H. 3,265,142.
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Wheeler, Edward L. 3,265,736.
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Upjohn Co., The: *See*—
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Nelson, John W. 3,265,580.
Steel, Robert. 3,265,589.
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Willems, Jozef F., and Van Veelen. 3,265,502.
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Miller, Harold L. 3,264,785.
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Croissant, Stanley W. 3,265,161.
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CLASSIFICATION OF PATENTS

ISSUED AUGUST 9, 1966

NOTE.—First number, class; second number, subclass; third number, patent number

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150	3,264,655	475	3,264,729	77.45:	3,264,814	110	3,264,889	1.5	3,265,497	49	3,265,525
4–172	3,264,656		3,264,730	157	3,264,815	196	3,264,890	3	3,265,498	50	3,265,526
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82	3,264,659	30–34.1	3,264,733	22.5	3,264,818	477	3,264,893	61	3,265,501	135.5	3,265,529
351	3,264,660	43.5	3,264,734	83	3,264,819		3,264,894	66	3,265,502	216	3,265,531
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39	3,265,460	33–27	3,264,736	59–78.1	3,264,821	516	3,264,896	75	3,265,504	118–61	3,265,033
84	3,265,461	76	3,264,737	60–35.6	3,264,822	568	3,264,897	76	3,265,505	68	3,265,034
109	3,265,462	108	3,264,738	39.38:	3,264,823	574	3,264,898	100	3,265,506	211	3,265,035
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310	3,264,663	174	3,264,742	73	3,264,826	764	3,264,902	134	3,265,508		3,265,039
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105	3,264,668	12	3,264,748	39	3,264,830	171	3,265,494	211	3,264,975	123–8	3,265,045
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308	3,264,673	112	3,264,753	149	3,264,838	38	3,264,907	144	3,264,981	119	3,265,050
328	3,264,674	124	3,264,754	160	3,264,839	81–3	3,264,908	164	3,264,982	148	3,265,051
504	3,264,675	151	3,264,755	173	3,264,840	43	3,264,909	181	3,264,983	188	3,265,052
569	3,264,676	237	3,264,756	196	3,264,841	82–3	3,264,910	227	3,264,984		3,265,053
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42	3,264,680	48	3,264,760	65–1	3,265,476	25	3,264,914	28	3,264,988	126–92	3,265,057
45	3,264,681		3,266,049		3,265,477	71	3,264,915		3,264,989	110	3,265,058
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2.4	3,264,683	34	3,264,762	3	3,265,479	94	3,264,917		3,264,991	128–1	3,265,059
5	3,264,684	37–43	3,264,763	4	3,265,480	160	3,264,918	30	3,264,992	27	3,265,060
12	3,264,685	156	3,266,050	9	3,265,481	237	3,264,919	43	3,264,993	29	3,265,061
	3,264,686	38–77	3,264,764		3,265,482	311	3,264,920	70.2	3,264,994		3,265,062
16	3,264,687	141	3,264,765	14	3,265,483	342	3,264,921	79	3,264,995	80	3,265,063
30	3,264,688	40–36	3,264,766	104	3,265,484	365	3,264,922	91	3,264,996	95	3,265,064
19–64.5	3,264,689	102	3,264,767	134	3,265,485	427	3,264,923	98	3,264,997	134	3,265,065
112	3,264,690	124	3,264,768	162	3,265,486	575	3,264,924	103–1	3,264,998	145	3,265,066
144.5	3,264,691	130	3,264,769	270	3,265,487	84–380	3,264,925	87	3,264,999	196	3,265,067
22–57.2	3,264,692	158	3,264,770	288	3,265,488	411	3,264,926	97	3,265,000	321	3,265,068
131	3,264,693	42–76	3,264,771	291	3,265,489		3,264,927	102	3,265,001	334	3,265,069
200	3,264,694	43–4.5	3,264,772	66–132	3,264,845	85–9	3,264,928	103	3,265,002		3,266,054
200.5	3,264,695	17	3,264,773	196	3,264,846	88–1.5	3,264,930	126	3,265,003	339	3,265,070
203	3,264,696	42.14:	3,264,774	68–23	3,264,847	14	3,264,929		3,265,004	586	3,265,071
204	3,264,697	42.39:	3,264,775	210	3,264,848	22.5	3,264,931		3,265,005	129–20	3,265,072
23–142	3,265,464	44–62	3,265,474	256	3,264,849	24	3,264,932	136	3,265,006	22	3,265,073
	3,265,465	46–74	3,264,776	70–165	3,264,850		3,264,933	153	3,265,007	131–198	3,265,074
143	3,265,466	81	3,264,777	312	3,264,851		3,264,934	162	3,265,008	132–9	3,265,075
166	3,265,467	118	3,264,778	358	3,264,852		3,264,935	235	3,265,009	49	3,265,076
203	3,265,468	120	3,264,779	72–10	3,264,853		3,264,936	104–25	3,265,010	133–8	3,265,077
273	3,265,469	221	3,264,780	63	3,264,854	28	3,264,937	93	3,265,011	134–166	3,265,078
301	3,265,470	243	3,264,782	79	3,264,855	57	3,264,938	170	3,265,012	167	3,265,079
334	3,265,471	244	3,264,781	202	3,264,856	89–145	3,264,939	172	3,265,013	136–26	3,265,534
24–30.5	3,264,698	47–45	3,264,783	281	3,264,857	90–3	3,264,940	105–30	3,265,014	54	3,265,535
73	3,264,699	49–24	3,264,784	351	3,264,858	11	3,264,941	378	3,265,015	86	3,265,536
134	3,264,700	26	3,264,785	412	3,264,859	91–35	3,264,942	106–1	3,265,511	175	3,265,537
249	3,264,701	70	3,264,786	457	3,264,860	42	3,264,943	14	3,265,512	177	3,265,538
25–41	3,264,702	51–37	3,264,787	73–1	3,266,052	82	3,264,944	56	3,265,513	219	3,265,539
84	3,264,703	165	3,264,788	4	3,264,861	170	3,264,945	122	3,265,514	137–12	3,265,080
26–57	3,264,704	204	3,264,789	25	3,264,862	382	3,264,946	193	3,265,515	54	3,265,081
28–76	3,264,705	304	3,265,475	67	3,264,863	384	3,264,947	213	3,265,516	119	3,265,082
29–6	3,264,706	52–14	3,264,790	69	3,264,864	411	3,264,948	270	3,265,517	268	3,265,083
25.3	3,264,707	100	3,266,051	71.6	3,264,865	92–31	3,264,949	107–1	3,265,016	508	3,265,084
25.31:	3,264,708	221	3,264,791	78	3,264,866	51	3,264,950	108–82	3,265,017	512.15:	3,265,085
25.42:	3,264,709	508	3,264,792	95	3,264,867	64	3,264,951	109	3,265,018	552	3,265,086
33	3,264,710	511	3,264,793	119	3,264,868	162	3,264,952	119	3,265,019	560	3,265,087
96	3,264,711	53–29	3,264,794	189	3,264,869	93–35	3,266,053	129	3,265,020	596.12:	3,265,088
155.5	3,264,712	128	3,264,795	205	3,264,870	36	3,264,953	112–25	3,265,021	596.16:	3,265,089
	3,264,713	140	3,264,802	231	3,264,871		3,264,954	113–120	3,265,022	138–45	3,265,090
	3,264,714	251	3,264,796	343	3,264,874	37	3,264,955	114–20	3,265,023	114	3,265,091
155.55:	3,264,715	285	3,264,797	382	3,264,875	94	3,264,956	45	3,265,024	118	3,265,092
155.6	3,264,716	374	3,264,798	386	3,264,876	94–9	3,264,957	60	3,265,025	145	3,265,093
156.5	3,264,717	379	3,264,799	419	3,264,872	46	3,264,958	61	3,265,026	139–1	3,265,094
157.1	3,264,718	55–1	3,264,800	421	3,264,877		3,264,959	66.5	3,265,027	26	3,265,095
159.01:	3,264,719	67	3,264,801	432	3,264,873	95–10	3,264,960	77	3,265,028	59	3,265,096
182	3,265,472	208	3,264,803		3,264,878	12	3,264,961	122	3,265,029	140–71.6	3,265,097
183.5	3,264,720	223	3,264,804	74–3.5	3,264,879	13	3,264,962	182	3,265,030	141–5	3,265,098
195	3,265,473	238	3,264,805	5	3,264,880		3,264,963	187	3,265,031	95	3,265,099
200	3,264,721	346	3,264,806	5.34:	3,264,883	42	3,264,964	218	3,265,032	284	3,265,100
235	3,264,722	56–25.4	3,264,807	5.7	3,264,881	53	3,264,965	117–2	3,265,518	295	3,265,101
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417	3,264,724	400.12:	3,264,809	17.8	3,264,884	85	3,264,967		3,265,520	144–178	3,265,103
420	3,264,725	400.16:	3,264,810	18.2	3,264,885	86	3,264,968	22	3,265,521	145–130	3,265,104
	3,264,726	57–51	3,264,811	40	3,264,886	89	3,264,969	25	3,265,522	147–4	3,265,105
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Design Patents

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37	3,264,675	37	3,265,472	37	3,265,865	41	3,265,715	42	3,265,893	47	3,265,655
	3,264,679		3,265,489		3,265,870		3,265,716		3,265,904		3,265,750
	3,264,750		3,265,517		3,265,900		3,265,767		3,265,954	48	3,264,691
	3,264,807		3,265,534		3,265,910	42	3,264,687		3,266,012		3,264,749
	3,264,849		3,265,542		3,265,912		3,264,689		3,266,027		3,264,753
	3,264,863		3,265,548		3,265,915		3,264,777	43	3,264,683		3,264,754
	3,264,865		3,265,555		3,265,944		3,264,829		3,264,851		3,264,763
	3,264,878		3,265,600		3,265,956		3,264,838		3,265,260		3,264,770
	3,264,888		3,265,625		3,265,967		3,264,875	44	3,265,808		3,264,774
	3,264,892		3,265,638		3,265,971		3,264,881	45	3,264,701		3,264,835
	3,264,910		3,265,641		3,265,980		3,265,017		3,264,705		3,264,866
	3,264,916		3,265,647		3,266,014		3,265,060		3,264,837		3,264,913
	3,264,918		3,265,652	38	3,264,775		3,265,069		3,264,839		3,264,921
	3,264,954		3,265,668		3,264,811		3,265,080		3,264,840		3,264,944
	3,264,957		3,265,670		3,264,834		3,265,083		3,264,952		3,264,950
	3,264,980		3,265,679		3,265,204		3,265,086		3,264,978		3,265,024
	3,264,992		3,265,684		3,265,214		3,265,114		3,264,993		3,265,035
	3,265,049		3,265,701		3,265,530		3,265,131		3,265,059		3,265,118
	3,265,063		3,265,702		3,265,785		3,265,132		3,265,198		3,265,121
	3,265,071		3,265,740		3,265,844		3,265,133		3,265,283		3,265,145
	3,265,092		3,265,751		3,265,857		3,265,134		3,265,637		3,265,149
	3,265,202		3,265,752	39	3,265,479		3,265,151		3,265,862		3,265,169
	3,265,212		3,265,778	40	3,265,171		3,265,252		3,265,952		3,265,170
	3,265,240		3,265,782	41	3,264,786		3,265,354		3,265,953		3,265,174
	3,265,243		3,265,786		3,264,912		3,265,361	46	3,264,974		3,265,220
	3,265,303		3,265,788		3,265,042		3,265,409		3,265,006		3,265,246
	3,265,315		3,265,799		3,265,155		3,265,491		3,265,307		3,265,287
	3,265,352		3,265,805		3,265,207		3,265,567		3,265,791		3,265,560
	3,265,402		3,265,829		3,265,335		3,265,594		3,265,962		3,265,621
	3,265,406		3,265,831		3,265,389		3,265,612	47	3,265,234		3,265,914
	3,265,444		3,265,838		3,265,529		3,265,675		3,265,591		3,265,947
	3,265,448		3,265,842		3,265,627		3,265,871		3,265,593		3,265,960
	3,265,468		3,265,843		3,265,645						

DESIGN PATENTS

4	205,444	5	205,443	14	205,485	31	205,455	31	205,483	37	205,448
	205,450		205,460	20	205,472		205,463		205,487		205,462
	205,453		205,469	21	205,449		205,464	34	205,438		205,473
	205,454		205,471		205,470		205,475		205,461		205,478
	205,456	8	205,486	22	205,440		205,476		205,465	38	205,484
	205,457	11	205,488	24	205,439		205,477		205,466	41	205,441
	205,474	12	205,452		205,446		205,481		205,491		205,442
	205,489		205,368	29	205,479		205,482	37	205,447	42	205,445
	205,490	14	205,480	31	205,451						

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

August 9, 1966 Volume 829 Number 2

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 151,508 (HOMELITE), Home Electric Lighting Company, Electric generating plants; **Reg. No. 424,967,** same, Homelite Corporation, Gasoline-engine driven blower units for supplying and exhausting air and gases and for general ventilating purposes, etc.; **Reg. No. 546,629,** same, Water pumps, portable chain saws, and paving breakers; **Reg. No. 663,733,** same, Textron, Inc., Portable flood lights; **Reg. No. 770,727,** same, Outboard engines, filed May 17, 1966, D.C., S.D.N.Y., Doc. 66/1426, *Textron, Inc.* v. *North American Homelight of Westchester, Inc. et ano.*

Reg. No. 242,517 (FLORA MIR in script), Flora Mir Candy Shop, Confectionery—namely, candies, glazed fruits, sweetmeats, etc., filed Dec. 7, 1965, D.C.N.J. (Newark), Doc. 1295–65, *Flora Mir Candy Corporation* v. *Flora Mir Candy Corporation of New Jersey et al.* Consent judgment and injunction for plaintiff May 11, 1966.

Reg. No. 273,405 (THE SCHOLASTIC), The Scholastic Publishing Company, Semi-monthly magazine, filed July 21, 1965, D.C., E.D.N.Y. (Brooklyn), Doc. 65C–750, *Scholastic Magazines, Inc.* v. *Scholastic Films.* Order of discontinuance May 20, 1966.

Reg. No. 378,913 (THE BAT MAN AND DESIGN), Detective Comics, Inc., Cartoons published in a series; **Reg. No. 382,770** (BAT MAN AND DESIGN), same, Magazine; **Reg. No. 864,709** (BATMAN AND DESIGN), National Periodical Publications, Inc., Comic magazines, filed July 5, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 66C–630, *National Periodical Publications, Inc.* v. *Parisi Industries, Inc. et al.*

Reg. No. 382,770. (See Reg. No. 378,913.)

Reg. No. 424,967. (See Reg. No. 151,508.)

Reg. No. 518,686 (HUDSON in script), Hudson Pulp & Paper Corporation, Paper towels, paper napkins, and paper toilet tissue; **Reg. No. 722,723** (HUDSON), same, Paper bags; **Reg. No. 757,981,** same, Paper bags and multiwall paper bags, and tissue paper, facial tissue, cleansing tissue, etc., filed May 11, 1966, D.C.N.J. (Newark), Doc. 489–66, *Hudson Pulp & Paper Corp.* v. *Hudson General Paper Corporation.*

Reg. No. 546,629. (See Reg. No. 151,508.)

Reg. No. 574,742 (BIG BOY), Robert C. Wian Enterprises, Inc., Hamburger sandwiches, filed Mar. 9, 1966, D.C., S.D. Calif. (San Diego), Doc. 3503–SD–C, *Robert C. Wian Enterprises, Inc.* v. *Big Boy Drive-Through, Inc.* Action dismissed with prejudice May 17, 1966.

Reg. No. 613,009 (EMBA), Mutation Mink Breeders Association, Mink fur pelts; **Reg. No. 670,052** (AUTUMN HAZE), same, filed Mar. 30, 1966, D.C., S.D.N.Y., Doc. 66/926, *Emba Mink Breeders Association* v. *Rosenbaum & Hochberg, Inc.* Cause dismissed (notice May 27, 1966). Same, filed July 14, 1966, D.C., S.D.N.Y., Doc. 66/2109, *Emba Mink Breeders Association* v. *Rosolle Furs, Inc.*

CONDITION OF TRADEMARK APPLICATIONS AS OF JUNE 30, 1966

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	27,463
Date of oldest new application	February 10, 1965
Date of oldest amended application (filing date)	April 25, 1963

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF (Acting), Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	6–23–65	7–15–63
(II) F. H. WETHERBEE (Acting), Classes 1, 3, 6, 7, 9, 10, 18, 22, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	2–10–65	4–25–63
Renewals (All Classes)	6–30–66	
Sec. 12(c) Publications (All Classes)	6–30–66	

Applications filed during the month of June—2,575

Registrations Issued—441—No. 812,332 to No. 812,772
Renewals Issued—70

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

Reg. No. 661,981 (SCOOPY ETC. AND DESIGN), Safe-T Pacific Baking Co., Edible cones for ice cream, edible cones for chili, filed May 26, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c945, *Safe-T Pacific Company* v. *Illinois Baking Corporation et al.* Same, filed June 29, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c1213, *Safe-T Pacific Company* v. *Ibco, Inc. et al.* Action transferred from District of Delaware (Wilmington), filed May 26, 1966, Doc. 3212, pursuant to stipulation for change of venue dated June 27, 1966.

Reg. No. 663,733. (See Reg. No. 151,508.)

Reg. No. 670,052. (See Reg. No. 613,699.)

Reg. No. 722,057 (DIXIE FRY), Prepared Products Company, Inc., Crust mix to be used in the frying of foods, filed May 26, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66–897–PH, *Prepared Products Company* v. *Dixie Fried Chicken, Inc.*

Reg. No. 722,723. (See Reg. No. 518,686.)

Reg. No. 724,612 (DYNATECH), Dynatech Corporation, Engineering consulting services in the fields of thermal engineering, analytical design, fluid mechanics, etc., filed May 31, 1966, D.C. Ariz. (Phoenix), Doc. 6004 Phx., *Dynatech Corporation* v. *Dyna-Tech, Inc.*

Reg. No. 738,875 (GLAD), Union Carbide Corporation, Plastic bags; **Reg. No. 739,033**, same, Plastic wrap; **Reg. No. 791,139**, same, Plastic drinking straws, filed May 20, 1966, D.C., S.D.N.Y., Doc. 66/1466, *American Can Co.* v. *Union Carbide Corp.*

Reg. No. 739,033. (See Reg. No. 738,875.)

Reg. No. 757,981. (See Reg. No. 518,686.)

Reg. No. 770,727. (See Reg. No. 151,508.)

Reg. No. 791,139. (See Reg. No. 738,875.)

Reg. No. 804,709. (See Reg. No. 378,913.)

Erratum

In the OFFICIAL GAZETTE, July 19, 1966, vol. 828, page TM 112, under the heading "Trademark Suits," first column, lines 21 and 22, for "Kuik Serve 12¢ Hamburgers" read *Quik Serve 12¢ Hamburgers.*

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 154,907. McCrory Corporation, New York, N.Y. Filed Oct. 10, 1962.

TEMP MASTER

Class 2—Receptacles

For Insulated Jugs and Insulated Chests.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Fans.

First use Aug. 30, 1962.

SN 184,187. Toho Rayon Company Limited, Chuo-ku, Tokyo, Japan. Filed Jan. 7, 1964.

Beslon

Priority claimed under Sec. 44(d) on Japanese applications filed Aug. 30, 1963; Reg. Nos. 650,700, dated Aug. 21, 1964, 657,499, dated Nov. 5, 1964, 662,678, dated Dec. 25, 1964, 669,579, dated Mar. 6, 1965, 671,197, dated Mar. 26, 1965, and 674,587, dated Apr. 28, 1965.

Class 1—Raw or Partly Prepared Materials

For Synthetic Fibers.

Class 32—Furniture and Upholstery

For Beds, Bedding Bags, Pillows, Hammocks, Mattresses, Cushions, Mats, and Awnings.

Class 39—Clothing

For Men's, Women's, and Children's Suits, Uniforms, Jackets, Coats, Overcoats, Topcoats, Raincoats, Mantles, Sweaters, Vests, Collars, Cardigans, Undergarments, Sleeping Apparel, Bathrobes, Kimonos, Shirts, Formals, Slacks, Stockings, Gloves, Mufflers, Shawls, Hats, Ties, Caps, Skirts; Men's and Boys' Trousers; Children's Apparel; Students' Suits; Women's Evening Gowns, Dresses, Foundation Garments, Chemises, Slips, Petticoats, Brassieres, Skirts, Blouses, Negligees, Cuffs, Scarfs, Neckerchiefs, Night Caps, Skull Caps, Handkerchiefs, and Clothwrappers.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Knitted, Netted Textile Fabrics, Cloth Which Can Be Used for Bedding Covers, Quilts and Comforters, Pillow Cases, Bed Sheets, Blankets, Curtains, Drapes, Table-Cloths, Wall Cloths; and Specially Woven or Knitted Fabric for Use as Mosquito Nets, Carpets, and Fur-Type Carpets.

Class 43—Thread and Yarn

For Yarn and Thread.

SN 184,790. Butler Engineering Associates, Inc., Hillside, N.J. Filed Jan. 17, 1964.



Owner of Reg. Nos. 424,828, 519,897, and 528,194.

Class 6—Chemicals and Chemical Compositions

For Rust, Corrosion and Scale Inhibitors in Boilers and Return Lines, and Chemical Preparations To Prevent Scale and Rust Formations and Dissolving Boiler Scale Formations.

First use on or about Jan. 3, 1939.

Class 52—Detergents and Soaps

For Descalers, Degreasers, and Preparations for Removing Sludge, Rust, Scale, and Corrosion Formations.

First use on or about Oct. 20, 1944.

SN 190,103. National Research Corporation, Cambridge, Mass. Filed Apr. 1, 1964.



Owner of Reg. Nos. 594,193, 647,460, and others.

Class 1—Raw or Partly Prepared Materials

For Vacuum Aluminized Polyethylene Terephthalate Film and Other Vacuum Metallized Plastics.

First use in or about March 1955.

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Refractory Metal Wrought Parts Such as Spun and Forged Hot Gas Nozzles.

First use at least as early as 1959.

Class 14—Metals and Metal Castings and Forgings

For Metal Powders, Refractory Metals (viz, Tantalum, Columbium, Molybdenum, Tungsten, and Their Alloys) in the Form of Ingots, Discs, Powder, Strip, Wire, Plate, Sheet, Tubing, Preforms, and Semi-Wrought Parts; Superconductive Metal Ribbon; and Tubing Clad With Tantalum.

First use in or about March 1959.

Class 21—Electrical Apparatus, Machines, and Supplies

Specialty Wrought Parts of the Refractory Metals Such as Tantalum Headed Pin Terminals for Electrolytic Capacitors; and Tungsten and Molybdenum Parts for Electronic and X-Ray Tubes, and Superconductive Magnetic Coils.
First use at least as early as 1959.

Class 26—Measuring and Scientific Appliances

For Tantalum Thermowells for Electric Junction Thermocouples.
First use at least as early as 1964.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Refractory Metal Wrought Parts Such as Heating Elements and Vaporizing Boats, for Containing a Material To Be Vaporized in a Furnace.
First use at least as early as 1959.

SN 193,827. VDO Tachometer Werke Adolf Schindling GmbH, Frankfurt am Main, Germany. Filed May 19, 1964.

TEMPOSTAT

Owner of German Reg. No. 762,203, dated Sept. 25, 1961.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Speed Controlling Devices for Automotive Vehicles.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Mechanical Speed Controlling Devices for Automotive Vehicles.

SN 214,311. Hupp Corporation, Cleveland, Ohio. Filed Mar. 17, 196.

HUPP

Class 12—Construction Materials

For Curtain Wall and Erection Parts; Window Structures; Balustrades and Parts; Wall Panels; Movable Walls; Room Partitions; Fire Doors; Industrial Doors; and Ornamental Doors.
First use Sept. 16, 1963, on curtain wall and erection parts.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Window and Door Hardware and Parts; Door Operators; Specialty and Industrial Hardware; Material Handling Equipment—Namely, Trolley Track Systems, Monorail Systems, Chain Conveyors, Floor Type Carousel Conveyors and Parts Thereof; and Curtain Hangers.
First use Sept. 13, 1963, on window hardware and parts.

Class 19—Vehicles

For Vehicle Heaters, Air Conditioners, and Defrosting Fans.
First use Apr. 10, 1959, on vehicle heaters.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Infra-Red Ovens and Heaters; Type Form Heaters, Ink Drying Heaters, and Quartz Infra-Red Lamps and Parts Therefor; Electric Ovens; Electric Ranges, and Electric Space Heaters.
First use Dec. 14, 1960, on electric ovens.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hydraulic Motors and Pumps; Gears and Gear Assemblies; Diesel, Gas, Gasoline, and Liquid Petroleum Internal Combustion Engines; Vises; Power Units and Parts Therefor; Monorail Cranes, Automatic Dispatch Systems, Power Conveyors, and Parts Thereof.
First use Mar. 14, 1958, on hydraulic pumps.

Class 24—Laundry Appliances and Machines

For Clothes Washing Machines; Gas and Electric Clothes Drying Laundry Machines; Combined Washing and Drying Laundry Machines; and Commercial Laundry and Dry Cleaning Equipment.
First use Aug. 18, 1963, on clothes washing machines.

Class 31—Filters and Refrigerators

For Refrigerators and Freezers and Filters Therefor.
First use Jan. 10, 1963, on refrigerators.

Class 32—Furniture and Upholstery

For Cabinets, Bookcases, Lockers, and Shelving.
First use Aug. 14, 1964, on lockers.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Infra-Red Gas Heaters and Parts Thereof; Industrial Gas Ovens; Oil Stoves and Ranges; Space Heaters (Oil and Gas); Heat Pumps, Air Conditioners, Dehumidifiers; Oil and Gas Furnaces and Filters Therefor Sold Therewith.
First use Mar. 19, 1957, on infra-red gas heaters.

Class 50—Merchandise Not Otherwise Classified

For Ladders.
First use Nov. 26, 1963, on ladders.

SN 214,713. Stonetree Chemical Corporation, Chicago, Ill. Filed Mar. 22, 1965.

AUTOMAT

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrically Operated Products—Namely, Can Opener, Deep Fryer, Fry Pan, Toaster, Waffle Iron, Percolator, Blender, Mixer, and Shoe Polisher.

Class 44—Dental, Medical, and Surgical Appliances

For Hair Drier.
First use Mar. 15, 1965.

SN 218,480. Raytheon Company, Lexington, Mass. Filed May 10, 1965.

RAYTHEON

Owner of Reg. Nos. 208,886, 628,591, and many others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electro-Mechanical Components—Namely, Knobs, Connectors, Jacks, Binding Posts, Knob Locks and Shaft Locks; Circuit Modules; Photoelectric Cell Operated Electro-Optical Devices.
First use 1951.

Class 26—Measuring and Scientific Appliances

For Recording Storage Tubes, Image Correlators—Namely, a Photogrammetric Instrument Used in Automatic Mapping; and Lasers and Accessories—Namely, Power Supplies, Motor-Driven Rotating Prisms and Output Monitors.
First use 1948.

SN 218,515. Chimiotex S.A., Geneva, Switzerland. Filed June 9, 1966.

MODAL

Owner of Swiss Reg. No. 210,128, dated Apr. 22, 1965.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Fabrics for Men's or Women's Apparel.

Class 43—Thread and Yarn

For Natural and Synthetic Yarns for Use in Making Said Fabrics.

SN 220,000. Kistler Instrument Corporation, Clarence, N.Y. Filed May 28, 1965.

KIC

Class 21—Electrical Apparatus, Machines, and Supplies

For Amplifiers.

Class 26—Measuring and Scientific Appliances

For Crystal Transducers for Pressure, Force, Acceleration, and Vibration Measurements, Impedance Matching Circuitry and Calibration Equipment for Use With Crystal Transducers.
First use March 1960.

SN 220,534. Monsanto Company, St. Louis, Mo. Filed June 7, 1965.

CHEMGRASS

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Man-Made Grass Floor Coverings for Indoor and Outdoor Use Made of Synthetic Fibers or Filaments.

Class 50—Merchandise Not Otherwise Classified

For Man-Made Grass and Man-Made Grass Coverings.
First use May 13, 1965.

SN 220,535. Monsanto Company, St. Louis, Mo. Filed June 7, 1965.

CHEMGRASS

CHEMSTRAND

Owner of Reg. Nos. 757,538, 758,996, and others.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Man-Made Grass Floor Coverings for Indoor and Outdoor Use Made of Synthetic Fibers or Filaments.

Class 50—Merchandise Not Otherwise Classified

For Man-Made Grass and Man-Made Grass Coverings.
First use May 13, 1965.

SN 223,614. Safeway Stores, Incorporated, Oakland, Calif. Filed July 19, 1965.

Owner of Reg. Nos. 663,638, 696,764, and others.

Class 2—Receptacles

For Plastic Bags and Plastic Waste Baskets.
First use Aug. 28, 1964, on plastic waste baskets.

Class 10—Fertilizers

For Peat, Peat Moss, and Compost (All Three Items Used as Soil Conditioners), Liquid Fish Base Fertilizer, Sulfate of Ammonia (Used as a Fertilizer), and Soil Conditioner.
First use Jan. 9, 1962, on peat.

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Garden Hose.
First use Feb. 12, 1963.

Class 37—Paper and Stationery

For Plastic Wrap.
First use Oct. 19, 1964.

SN 223,859. Rheem Manufacturing Company, New York, N.Y. Filed July 21, 1965.

TIPPER TIE

Owner of Reg. Nos. 665,973 and 667,999.

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Metal Clip Fasteners for Sealing Casings and Enclosures for the Packaging of Meat and Other Products.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Machines and Parts Thereof for Applying the Fasteners.
First use Apr. 1, 1953.

SN 224,141. Forté-Fairbairn Inc., Needham Heights, Mass. Filed July 26, 1965.

Forté

Owner of Reg. Nos. 713,313 and 794,862.

Class 39—Clothing

For Ladies' Cashmere and Camel Hair Coats and Sweaters.
First use June 22, 1965.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Piece Goods Composed of Cashmere.
First use July 9, 1965.

SN 226,876. M. Caullier & Delaoutre, Societe a Responsabilite Limitee, Tourcoing (Nord), France. Filed Sept. 1, 1965.

GWENDACRIL

Priority claimed under Sec. 44(d) on French Reg. No. 7,057, dated Apr. 24, 1965 (Tourcoing); Natl. Inst. No. 247,404.

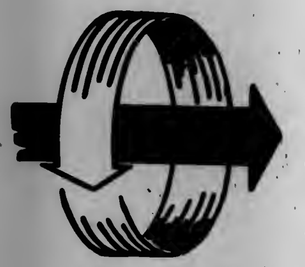
Class 39—Clothing

For Outer and Under Clothing—Namely, Coats, Overcoats, Suits, Frocks, Dresses, Skirts, Waistcoats, Hats, Bodices, Shirts, Underwear, Neckties, Stockings, Socks, Gloves, Bathing Suits, Corsets and Girdles.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Knitted, Netted, and Textile Fabrics for Making Clothing of All Kinds, Draperies, and Upholstery.

SN 228,888. Deublin Company, Northbrook, Ill. Filed Sept. 29, 1965.



Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Rotating Pipe Unions.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Rotating Unions for Installation on Machine Tools.

First use during 1945.

SN 228,889. Deublin Company, Northbrook, Ill. Filed Sept. 29, 1965.

DEUBLIN

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Rotating Pipe Unions.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Rotating Unions for Installation on Machine Tools.

First use during 1945.

SN 230,992. Golden Dawn Foods, Inc., Sharon, Pa. Filed Oct. 22, 1965.

GOLDEN DAWN

Owner of Reg. Nos. 342,519, 715,524, and others.

Class 6—Chemicals and Chemical Compositions

For Bleach, Ammonia, Starch, and Fabric Softener.
First use March 1945.

Class 37—Paper and Stationery

For Wax Paper, Toilet Tissue, and Facial Tissue.
First use June 1955.

Class 45—Soft Drinks and Carbonated Waters

For Canned and Bottled Carbonated Beverages.
First use August 1936.

Class 46—Foods and Ingredients of Foods

For Potato Chips, Pretzels, Flour, Cookies, Spices, Food Flavoring Extracts, Frozen Vegetables, Frozen Fruits, Frozen Waffles, Frozen Fish Sticks, Vegetable Oils, Food Syrups, Chili Sauce, Cheese, Coffee, Tea, Canned Fruits, Canned Vegetables, Salt, Breakfast Cereals, Salad Dressing, Evaporated Milk, Fruit Jellies, Fruit Preserves, Peanut Butter, Pickles, Mustard, Catsup, Soups, Canned Fish, Canned and Frozen Fruit Juices, Vinegar, Cranberry Sauce, Ice Cream, Margarine, Butter, Fluid and Powdered Milk, Powdered Pickle Relish, Olives, Apple Butter, Spaghetti, Noodles, Mincemeat, Prepared Pie Crust, Fresh Dates, Canned Mushrooms, Vegetable Shortening, Rice, Unpopped Popcorn, Meatless Sandwich Spread, Canned Cherries, Dried Beef, Marshmallow Creme, Meatless Sauce, Canned Peppers, Prepared Horseradish, Fresh Fruits, and Fresh Vegetables.
First use August 1935.

Class 52—Detergents and Soaps

For Liquid and Powder Detergents for Household Use.
First use September 1955.

SN 232,802. Filatures Prouvost & Cie, La Lainiere de Roubaix, Société en Commandite par Actions, Roubaix (Nord), France. Filed Nov. 17, 1965.

PROUVOST extensible 888

Owner of French Reg. No. 9,794, dated Dec. 22, 1964 (Roubaix); Natl. Inst. No. 241,123; and U.S. Reg. Nos. 729,773, 729,788, and 729,794.

Class 39—Clothing

For Outer and Under Clothing—Namely, Coats, Overcoats, Suits, Frocks, Dresses, Skirts, Waistcoats, Hats, Bodices, Shirts, Underwear, Neckties, Stockings, Socks, Gloves, Bathing Suits, Corsets and Girdles.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Knitted, Netted, and Textile Fabrics for Making Clothing of All Kinds, Draperies, and Upholstery.

Class 43—Thread and Yarn

For Yarns and Threads Made of Wool, Cotton, Linen, Silk, Rayon, and Synthetic and Artificial Fibers.

SN 233,762. Viking Glass Company, New Martinsville, W. Va. Filed Dec. 1, 1965.



Owner of Reg. Nos. 410,576 and 412,085.

Class 8—Smokers' Articles, Not Including Tobacco Products

For Glass Ash Trays, Humidors, and Cigarette Boxes, Trays and Jars.

Class 33—Glassware

For Glass Table, Cooking, and Bar Ware, Bottles, Jugs, Jars, Vases, Candy Boxes and Covers, Baskets, Serving Trays, and Pin Trays.

First use on or about Aug. 1, 1944; on or about Aug. 23, 1941, as to "Viking."

SN 234,860. Lundell Manufacturing Company, Incorporated, Cherokee, Iowa. Filed Dec. 20, 1965.

Lundell

Class 12—Construction Materials

For Prefabricated Buildings and Parts Thereof—Namely, Prefabricated Beams, Interlocking Roof and Wall Panels, Window and Door Frames, Foundation Flashings, and Snap-On Insulation Panels, Used for Assembly Into Prefabricated Buildings of Various Sizes and Shapes, Used for All Purposes.
First use July 1961.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Farm Machinery—Namely, Hay Conditioners, Mowers, Choppers, Windrowers, Wafer Machines, Wheel Rakes, Windrow Turners, Row Crop Harvesters, Shredders, Forage Blowers, Unloaders, Elevators, Spreaders, Wagon Hoists, Wagon Gears, Spreader and Feeder Wagons, Farm Tractors, Snow Scoops, Dozer Blades, Discs, and Livestock Head Gates.
First use Sept. 1, 1945.

SN 237,294. Bird Electronic Corporation, Solon, Ohio. Filed Jan. 26, 1966.



The drawing is lined for the color blue, but any other color may be used.

Class 21—Electrical Apparatus, Machines, and Supplies

For Radio Apparatus—Namely, Electrical Coaxial Line Power Attenuators, Electrical Filters, and Electrical Switches.

Class 26—Measuring and Scientific Appliances

For Electrical Meters.

First use Dec. 31, 1945.

SN 237,295. Bird Electronic Corporation, Solon, Ohio. Filed Jan. 26, 1966.

BIRD

Class 21—Electrical Apparatus, Machines, and Supplies

For Radio Apparatus—Namely, Electrical Coaxial Line Power Attenuators, Electrical Filters, and Electrical Switches.

Class 26—Measuring and Scientific Appliances

For Electrical Meters.

First use Dec. 31, 1945.

SN 237,296. Bird Electronic Corporation, Solon, Ohio. Filed Jan. 26, 1966.



The drawing is lined for the color blue, but any other suitable color may be used.

Class 21—Electrical Apparatus, Machines, and Supplies

For Radio Apparatus—Namely, Electrical Coaxial Line Power Attenuators, Electrical Filters, and Electrical Switches.

Class 26—Measuring and Scientific Appliances

For Electrical Meters.

First use Dec. 31, 1945.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.
[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 139,763. Mitsubishi Rayon Company Limited, Chuo-ku, Tokyo, Japan. Filed Mar. 13, 1962.

Hipolan

Priority claimed under Sec. 44(d) on Japanese application filed Sept. 21, 1961; Reg. No. 703,500, dated Apr. 6, 1966.
For Raw Fibers.

SN 194,938–A. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.

WEYERHAEUSER

Owner of Reg. No. 614,708.
For Wood Pulp, Wood Fiber, Comminuted Tree Bark, and Chemically Impregnated Wood Fiber.
First use August 1950.

SN 229,888. L. Teweles Seed Co., Milwaukee, Wis. Filed Oct. 11, 1965.

FORGHAGE

For Hybrid Forage Sorghum Seed.
First use Sept. 30, 1965.

SN 231,604. L. Teweles Seed Co., Milwaukee, Wis. Filed Oct. 24, 1965.

SUPER XT

Applicant disclaims the word "Super" apart from the mark as shown, without waiver of common law rights.
For Seed Corn.
First use on or about Oct. 19, 1965.

SN 231,605. L. Teweles Seed Co., Milwaukee, Wis. Filed Oct. 24, 1965.

SILAGER

For Seed Corn.
First use on or about Oct. 19, 1965.

SN 231,745. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Oct. 28, 1965.

TYVEK

For Sheets and Laminates of Man-Made Fibers for General Use in the Industrial Arts.
First use Sept. 27, 1965.

SN 234,020. Ford Motor Company, Dearborn, Mich. Filed Dec. 6, 1965.

FORD

For Supported and Unsupported Vinyl Film and Sheet.
First use Nov. 2, 1961.

SN 234,743. General Aniline & Film Corporation, New York, N.Y. Filed Dec. 16, 1965.

GANSTAR

Owner of Reg. No. 797,006.
For Polyester Film and Film Base.
First use July 19, 1965.

SN 235,418. The Ohio Leather Company, Girard, Ohio. Filed Dec. 28, 1965.

SULTAN

For Leather.
First use Oct. 25, 1965.

SN 238,631. W. R. Grace & Co., New York, N.Y. Filed Feb. 11, 1966.

VYPEL

For Vinyl Plastic Material in Pellet or Powder Form.
First use Dec. 17, 1965.

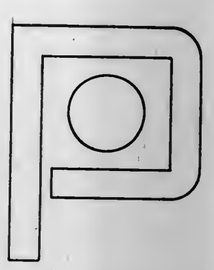
SN 242,933. Fred Rueping Leather Company, Fond du Lac, Wis. Filed Apr. 7, 1966.

CHIEFTAN

For Leathers.
First use Sept. 29, 1965.

Class 2 — Receptacles

SN 168,218. Packaging Corporation of America, Evanston, Ill., by assignment and change of name from Packaging Corporation of America, Evanston, Ill. Filed May 6, 1963.



For Receptacles Formed of Fibrous and/or Plastic Material.
First use on or about July 24, 1962.

SN 197,963. Kleer-Vu Industries, Inc., New York, N.Y. Filed July 16, 1964.

sonikap

For Ultrasonically Sealed, Fabricated Tubes of Heat Shrinkable Plastic Used on the Tops of Bottles and Containers To Prevent Tampering and Inhibit Evaporation.
First use Apr. 15, 1964.

SN 211,370. Mattel, Inc., Hawthorne, Calif. Filed Feb. 4, 1965.

BARBIE

For Plastic Ware and Tea Sets, Specifically, Plates, Saucers, Cups, Pots, Pitchers, and Eating Utensils for Use by Children in the Consumption of Food and Drink.
First use 1961.

SN 216,748. Tower Packaging Company, Wheeling, Ill. Filed Apr. 16, 1965.

TOWER TANDEM-POUCH

For Two Plastic Bags in One.
First use Apr. 2, 1965.

SN 221,386. Martin-Brower Corporation, Chicago, Ill. Filed June 17, 1965.



The mark consists of the letters "MB."
For Paper Bags.
First use May 10, 1965.

SN 224,617. Hy-Way Heat Systems, Inc., Youngstown, Ohio. Filed July 30, 1965.

HY-WAY HOTANK

The drawing is lined for the color red, but the use of the particular color forms no part of the mark. No claim is made to the word "Hotank" apart from the mark as shown, applicant's common law rights, however, being reserved. Owner of Reg. No. 628,705 and others.
For Apparatus for the Heated Storage of Heavy Asphalt, Tar, Pitch, and Other Liquids.
First use Oct. 15, 1956.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 213,166. Shwayder Brothers, Inc., Denver, Colo. Filed Mar. 2, 1965.

CONTOURA

For Luggage.
First use Jan. 12, 1964.

SN 216,347. Since 1868 Crescent Corporation, d.b.a. Crescent Corporation, New York, N.Y. Filed Apr. 12, 1965.

LIDO

For Non-Leather Luggage.
First use March 1965.

SN 221,333. Amity Leather Products Co., West Bend, Wis. Filed June 17, 1965.

SNAP HAPPY

No claim is made to the exclusive use of the word "Snap" apart from the mark as shown.
For Adjustable Closures Incorporated as a Component Part of Finished Products—Namely, Billfolds, Card-Cases, Pass-Cases, Key Cases, Purses, and Portfolios.
First use on or about May 25, 1965.

Class 4 — Abrasives and Polishing Materials

SN 218,294. Marvin L. Hodapp, d.b.a. Lum-N-Ite Manufacturing Co., Xenia, Ohio. Filed May 7, 1965.

LUM-N-ITE

For Cleaner-Polisher for Aluminum Windows and Doors.
First use on or about Oct. 1, 1957.

SN 237,996. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Feb. 3, 1966.



No registration rights are claimed in the words "Lapidary Products" as a name for goods.
For Coated Abrasives.
First use Mar. 3, 1965.

Class 6 — Chemicals and Chemical Compositions

SN 191,638. R. C. Williamson, Richmond, Va. Filed Apr. 20, 1964.

MR. ABLE



For Liquefied Petroleum Gas.
First use Oct. 14, 1962.

SN 194,050. The Glidden Company, Cleveland, Ohio. Filed May 22, 1964.

TERPEX

For Liquid Terpene Polymer Sold for Use in the Industrial Arts.
First use Feb. 23, 1948.

SN 219,341. Heatbath Corporation, Springfield, Mass. Filed May 20, 1965.

MORPHOS

For Mildly Acidic Chemical Preparation for Use as a Rust Inhibitor and for Phosphatizing Iron and Steel Articles.
First use Jan. 5, 1959.

SN 223,742. Stauffer Chemical Company, New York, N.Y. Filed July 19, 1965.

STAUFFER

Owner of Reg. Nos. 657,610, 777,192, and others.
For Industrial Chemicals and Agriculture Chemicals—Namely, Herbicides, Insecticides, Fungicides, Fumigants, Nematocides, Defoliants, Seed Protectants, Acaricides, Stickers, and Spreaders.
First use 1884.

SN 230,731. Whitmoyer Laboratories, Inc., Myerstown, Pa. Filed Oct. 20, 1965.

SAN-O-FEC

For Disinfectant and Sanitizer.
First use on or about Dec. 1, 1947.

SN 231,259. Sonneborn Building Products, Inc., Des Plaines, Ill. Filed Oct. 22, 1965.

SONOTHANE

Owner of Reg. No. 643,122.
For Liquid Sealer and Hardener for Concrete Surfaces.
First use on or about Sept. 18, 1964.

SN 231,776. Sternco Industries, Inc., Allendale, N.J. Filed Oct. 28, 1965.

CHLOR-OUT

For Preparation for Removing Chlorine From Water Intended for Aquarium Use.
First use Jan. 15, 1957.

SN 232,009. National Lead Company, New York, N.Y. Filed Nov. 2, 1965.

NYKON

For Organic Ammonium Montmorillonite for Thickening Lubricants.
First use Jan. 21, 1964.

SN 232,302. Florasynth Laboratories, Incorporated, Bronx, N.Y. Filed Nov. 8, 1965.

CASSIASYNTH

For Synthetic Organic Chemicals, Particularly Aromatics, and Essential Oils.
First use Oct. 8, 1965.

SN 233,114. Malmstrom Chemical Corp., Linden, N.J. Filed Nov. 22, 1965.

POWDERTROL

For Lanolin Product in Powder Form for Use in the Manufacture of Cosmetic and Toilet Preparations.
First use Oct. 7, 1965.

SN 234,165. American Cyanamid Company, Wayne, N.J. Filed Dec. 8, 1965.

AEROHEAT

Owner of Reg. No. 419,808.
For Chemical Preparation for Use as a Medium for the Heat Treatment of Metals.
First use December 1943.

SN 234,167. Armour Pharmaceutical Company, d.b.a. Rehels Chemical Company, Chicago, Ill. Filed Dec. 8, 1965.

AEROHYDROL

For Aluminum Chlorohydroxide for Use in the Manufacture of Antiperspirants.
First use Nov. 24, 1965.

SN 234,168. Armour Pharmaceutical Company, d.b.a. Rehels Chemical Company, Chicago, Ill. Filed Dec. 8, 1965.

REHYDROL

For Aluminum Chlorohydroxide for Use in the Manufacture of Antiperspirants.
First use Nov. 24, 1965.

SN 234,209. S. S. Kresge Company, Detroit, Mich. Filed Dec. 8, 1965.

Kmart

Owner of Reg. Nos. 784,920, 739,786, and others.
For Spray Starch.
First use on or before Sept. 1, 1965.

SN 234,225. Nuclear Products Company, Cleveland, Ohio. Filed Dec. 8, 1965.



Owner of Reg. No. 774,336.
For Compound Which Will Not Freeze at Low Temperatures, for Detecting Leaks in Fluid Lines.
First use Nov. 22, 1965.

SN 234,226. Nuclear Products Company, Cleveland, Ohio. Filed Dec. 8, 1965.

REAL COOL SNOOP

Owner of Reg. Nos. 724,962 and 774,337.
For Compound Which Will Not Freeze at Low Temperatures, for Detecting Leaks in Fluid Lines.
First use Nov. 22, 1965.

SN 234,274. The FR Corporation, Bronx, N.Y. Filed Dec. 9, 1965.

VITALITH

For Developers of All Types of Litho and Photomechanical Films and Paper.
First use May 28, 1965.

SN 234,372. Thompson-Hayward Chemical Company, Kansas City, Kans. Filed Dec. 10, 1965.

SPINWET

For Wetting Agent.
First use Sept. 21, 1962.

SN 234,374. Thompson-Hayward Chemical Company, Kansas City, Kans. Filed Dec. 10, 1965.

CHARG-A-PAK

For Battery Electrolyte.
First use Jan. 12, 1962.

SN 234,382. Thompson-Hayward Chemical Company, Kansas City, Kans. Filed Dec. 10, 1965.

T-MULZ

For Emulsifiers for Use in Insecticide and Herbicide Formulations.
First use Sept. 8, 1965.

SN 234,427. Philip A. Hunt Chemical Corporation, Palisades Park, N.J. Filed Dec. 13, 1965.

GRAPH-O-PRINT

For Compositions for Use in Electrostatic Printing.
First use Apr. 2, 1964.

SN 237,625. Big Kernel Pet Foods, Inc., Chicago, Ill. Filed Jan. 27, 1966.

K

For Preparations for Killing and Repelling Animal Pests, and Chemicals for Use in Bath and Spray Liquids for Animal Pets for Aromatic and Vermin Killing Purposes.
First use Sept. 9, 1965.

SN 243,039. Thompson-Hayward Chemical Company, Kansas City, Kans. Filed Apr. 8, 1966.

KREMULSO

For Disinfectant.
First use as early as Apr. 14, 1932.

Class 7 — Cordage

SN 242,631. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Apr. 4, 1966.

CARNIVAL

For Decorative Ribbon.
First use Mar. 21, 1966.

Class 10 — Fertilizers

SN 212,829. Tennessee Corporation, New York, N.Y. Filed Feb. 25, 1965.

TENCOR

Owner of Reg. No. 618,056.
For Fertilizer.
First use on or about Oct. 12, 1954.

SN 233,758. Tide Products, Inc., Edinburg, Tex. Filed Dec. 1, 1965.

FARMACY

For Fertilizers.
First use on or about Oct. 29, 1965.

Class 12 — Construction Materials

SN 194,938. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.

WEYERHAEUSER

Owner of Reg. No. 614,708.
For Rough and Dressed Lumber; Millwork; Shakes and Shingles; Paneling; Doors; Moulding; Gutters; Plywood; Hardboard; Particleboard; Flakeboard; Siding; Wood Veneers or Panels Overlaid With Kraft Papers; Countertops; Wooden Building Steps; Laminated Wood Arches, Laminated Wood Beams, Laminated Wood Decking, Laminated Wood Stringers, Laminated Wood Mullions, and Laminated Wood Crossarms; Movable Building Partitions; Thermal and Acoustic Insulation Material; and Paper Honeycomb Material.
First use Mar. 12, 1948.

SN 194,939. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.



The mark consists of a stylized coniferous tree within a triangle. Owner of Reg. Nos. 698,826 and 722,722.
For Rough and Dressed Lumber; Millwork; Shakes and Shingles; Paneling; Doors; Moulding; Gutters; Plywood; Hardboard; Particleboard; Flakeboard; Siding; Wood Veneers or Panels Overlaid With Kraft Papers; Countertops; Wooden Building Steps; Laminated Wood Arches, Laminated Wood Beams, Laminated Wood Decking, Laminated Wood Stringers, Laminated Wood Mullions, and Laminated Wood Crossarms; Movable Building Partitions; Thermal and Acoustic Insulation Material; and Paper Honeycomb Material Which May Be Used in Wall Partitions, Doors, Desk Tops, or Furniture Parts, or May Be Used as Shock Absorbing Material or Container Partitions.
First use Aug. 20, 1959.

SN 224,562. Structural Products, Inc., Charlotte, Mich. Filed July 29, 1965.

OMNI

Owner of Reg. No. 690,541.
For Metal Posts, Room Dividers Fabricated From Combinations of Metal, Glass, Wood, and/or Wood Substitutes, Metal Stairposts, and Metal Wall and Panels Divider Supports.
First use Sept. 25, 1958.

SN 228,540. Koppers Company, Inc., Pittsburgh, Pa. Filed Sept. 24, 1965.

BYERLYTE

For Asphaltic Paving Emulsions and Compositions for Maintenance, Road Work, Patching, Surface Treating, Retreading, and Crack Filling on Highways.
First use 1894.

SN 233,253. Dierks Forests, Inc., Kansas City, Mo. Filed Nov. 24, 1965.



Owner of Reg. Nos. 605,994, 786,656, and others.
For Lumber.
First use Apr. 22, 1965.

SN 233,611. Limestone Products Corporation of America, Newton, N.J. Filed Nov. 30, 1965.

LIME CREST

Owner of Reg. No. 530,450 and others.
For Crushed, Screened Calcitic Limestone for Use as a Build-Up Roofing Aggregate.
First use Aug. 1, 1955.

SN 236,182. Diamond Alkali Company, Cleveland, Ohio. Filed Jan. 11, 1966.

BESSEMER

For Portland Cement and Mortar Cement.
First use at least as early as November 1920.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 219,274. J. A. Sexauer Mfg. Co. Inc., White Plains, N.Y. Filed May 19, 1965.

VISIBLE STOCK CONTROL

For Plumbing Parts, Materials and Tools, in the Nature of Screws, Bolts, Nuts, Rings, Pins, Caps, Stems, Bushings, Plugs, Tubes, Tail Pieces, Metal Washers, Couplings, Faucet Repair Parts, Balls, and Sets of the Foregoing Plumbing Fittings.
First use during January 1960.

SN 216,582. Emhart Corporation, Hartford, Conn. Filed Apr. 15, 1965.

CORBIN

Applicant disclaims the representation of a hose clamp, without relinquishing or forfeiting any of its common-law rights therein. Owner of Reg. Nos. 103,605, 703,129, and others.
For Hose Clamps.
First use 1956; 1940 as to "Corbin" in a different form.

SN 223,157. Price-Pfister Brass Mfg. Co., Pacoima, Calif. Filed July 12, 1965.

CONTESSA

For Bathroom and Kitchen Fittings for Sinks, Lavatories, Showers and Bath Tubs, and Parts Therefor.
First use October 1964.

SN 224,563. Structural Products, Inc., Charlotte, Mich. Filed July 29, 1965.

OMNI

Owner of Reg. No. 690,541.
For Poles for Mounting and Supporting Cabinets and Shelves; Ceiling and Floor Connectors, Adapters and Pedestals for Poles; Brackets for Mounting on Poles; and Shelf, Door, and Cabinet Hardware.

SN 226,121. Bartlett-Snow-Pacific Inc., San Francisco, Calif. Filed Aug. 20, 1965.

CORROSIRON PEP

Owner of Reg. Nos. 109,187 and 337,573.
For Corrosion Resistant Pipe, Pipe Fittings, and Joints.
First use May 21, 1965.

SN 226,946. Rubberized Safety Products, Inc., Pittsburgh, Pa. Filed Sept. 1, 1965.

SAF T PAK

For Actuating Mechanism for Releasing Gas in Life-Saving Equipment.
First use July 8, 1965.

SN 227,666. Fluid Dynamics, Incorporated, New York, N.Y. Filed Sept. 13, 1965.

DYNAFLOW

For High Pressure Valves.
First use Aug. 10, 1965.

SN 228,499. Zero Manufacturing Co., Burbank, Calif. Filed Sept. 23, 1965.

ALUMA-TRAK

For Drawer Slides for Extending Chassis or Electronic Equipment From Cabinets, Consoles, Racks, and the Like.
First use Sept. 18, 1964; Oct. 30, 1963, as to "Alum-A-Trak."

SN 232,818. Continental Oil Company, Ponca City, Okla. Filed Nov. 17, 1965.

CARLON

Owner of Reg. No. 698,420.
For Tubular Goods.
First use 1962.

SN 234,413. Gra-Tec, Inc., Los Altos, Calif. Filed Dec. 13, 1965.



For Hydraulic and Pneumatic Pipe and Tube Fittings.
First use Mar. 5, 1965.

SN 234,720. Armstrong General Corp., Claremont, Calif. Filed Dec. 16, 1965.

ACC WATR-SAVR

For Flushing Devices for Toilet Tanks and the Like.
First use Sept. 16, 1965.

SN 243,624. Associated Spring Corporation, Bristol, Conn. Filed Apr. 18, 1966.

MICRO-EDGE

For Metal Stampings.
First use Apr. 7, 1966.

Class 14—Metals and Metal Castings and Forgings

SN 220,329. Sylvania Electric Products, Inc., New York, N.Y. Filed June 3, 1965.

ACCU-PRINT

For Metal Material Lithographed in Coils for Fabrication Into Parts.
First use Feb. 26, 1965.

SN 230,197. Rossborough Supply Company, Cleveland, Ohio. Filed Oct. 14, 1965.

SHOT CAP

For Metallic Mix for Treating the Surface of Molten Metal Within Molds.
First use Aug. 24, 1965.

Class 15—Oils and Greases

SN 230,611. A. W. Chesterton Company, Everett, Mass. Filed Oct. 20, 1965.

FET

For Penetrating Oil.
First use at least as early as Aug. 28, 1964.

Class 16—Protective and Decorative Coatings

SN 196,090. American Cement Corporation, Los Angeles, Calif. Filed June 22, 1964.

ROCK-GLAZE

For Clear Sealer and Finish for Concrete, Tile, Slate, Masonry, and the Like.
First use June 11, 1964; at least as early as July 1961 in another form.

SN 225,554. The Glidden Company, Cleveland, Ohio. Filed Aug. 12, 1965.

VACRALIN

For Spray-Type Vinyl Resins for Metal Containers for Foods and Beverages.
First use July 9, 1965.

SN 225,957. Interchemical Corporation, New York, N.Y. Filed Aug. 18, 1965.

BARAFENE

For Coatings Used To Prevent Permeation of Volatile Ingredients, Oils, and Oxygen Through Polyolefin Containers.
First use on or about Sept. 20, 1963.

SN 226,374. Piedmont Paint Manufacturing Co., Greenville, S.C. Filed Aug. 24, 1965.

PIEDMONT

For Industrial Coatings Used on Industrial Buildings, Machinery, Metal Surfaces and Maintaining Finished Wood Trim—Namely, Exterior Fume Resistant Paint, Deluxe Baking Enamel, Clear Gloss Lacquer, Superspar Clear Varnish, Interior Varnish (Low Sheen), and Exterior Semi-Gloss Paint.
First use May 18, 1965.

SN 229,301. Sears, Roebuck and Co., Chicago, Ill. Filed Oct. 4, 1965.

COLOR SCAPE

For House Paint for Wood and Masonry.
First use on or about Aug. 10, 1965.

SN 234,679. Fred'k A. Stresen-Reuter, Inc., Bensenville, Ill. Filed Dec. 15, 1965.

OCTOATE

For Driers for Paints.
First use Dec. 12, 1944.

Class 17—Tobacco Products

SN 217,249. The American Tobacco Company, New York, N.Y. Filed Apr. 26, 1965.



Applicant makes no claim of exclusive right in a pictorial representation of smokers' pipes apart from the mark shown in the drawing.
For Pipe Tobacco.
First use Apr. 22, 1965.

SN 219,105. The American Tobacco Company, New York, N.Y. Filed May 18, 1965.



For Smoking Tobacco.
First use May 10, 1965.

SN 221,928. Armstead B. Hudnell, Winston-Salem, N.C. Filed June 24, 1965.

FINGER FAIR CONTROL TIP

For Cigarettes.
First use June 10, 1965.

SN 230,755. The Antonio Company, Inc., Tampa, Fla. Filed Oct. 21, 1965.

Antonio "GO GO"

For Cigarillos.
First use Sept. 3, 1965.

SN 233,165. The American Tobacco Company, New York, N.Y. Filed Nov. 23, 1965.

For Cigars.
First use Aug. 19, 1965.

SN 233,451. Brown & Williamson Tobacco Corporation, Louisville, Ky. Filed Nov. 29, 1965.

CORONET

Owner of Reg. No. 771,400.
For Cigarettes.
First use July 20, 1961.

SN 233,542. Universal Cigar Corporation, New York, N.Y. Filed Nov. 29, 1965.

PALMERO

For Cigars.
First use Nov. 12, 1965.

SN 233,579. Charles & Co., Inc., New York, N.Y. Filed Nov. 30, 1965.

C AND C

Owner of Reg. No. 411,938.
For Smoking Tobacco.
First use December 1923.

SN 239,945. Universal Cigar Corporation, New York, N.Y. Filed Mar. 1, 1966.

S.M.S.

For Cigars.
First use November 1965.
Subj. to Intf. with SN 234,019.

Class 18—Medicines and Pharmaceutical Preparations

SN 168,664. American Home Products Corporation, New York, N.Y. Filed May 13, 1963.

MEDI-PETS

For Specially Flavored Tablets of Anticonvulsant Preparation for Veterinary Use.
First use Apr. 19, 1963.

SN 218,422. Guardian Chemical Corporation, Long Island City, N.Y. Filed May 10, 1965.

IODASEPT

For Topical Iodine-Containing Antiseptic.
First use Sept. 30, 1964.

SN 216,903. Walgreen Co., Chicago, Ill., assignee of Walgreen Laboratories, Inc., Chicago, Ill. Filed Apr. 19, 1965.

WALGREEN

Owner of Reg. No. 413,516.
For Children's 1¼ Grain Aspirin Tablets, Beef, Iron and Wine Liquid, Boric Acid Crystals, Boric Acid Powder, Brewer's Yeast Tablets, Burn Ointment, Camphorated Oil, Cascara Aromatic, Castor Oil, Celenate Ointment, Celenate Powder, Chamomile Flowers, Chewable Vitamin Tablets, Chloroform Liniment, Cod Liver Oil, Cod Liver Oil Tablets, Cold Capsules, Contact Lens Soaking Solution, Contact Lens Wetting Solution, Cough Syrup, Cough Syrup for Children, Cream of Tartar, Decongestant Tablets, Decongestant Vaporizer Spray, Decongestant Capsules, Dicalcium Phosphate Tablets, Elixir Terpin Hydrate and Codeine, Epsom Salts, Essence of Peppermint, Eye Drops, First Aid Antiseptic, First Aid Cream, First Aid Spray, Flaxseed Meal, Whole Flaxseed, Fortified Ointment With Cod Liver Oil, Geriatric Elixir, Geriatric Formula, Geriatric Tables, Halibut Liver Oil Capsules With Viosterol, Headache and Pain Tablets, Hematinic Tablets, Laxative Tablets, Liver and Iron Tablets, Medicinal Glycerine, Alum Powder, Aluminum Chloride Solution, Antacid Liquid, Antacid Tablets, Antibiotic Lozenges, Antibiotic Mouth Wash, Antibiotic Nasal Drops, Antihistamine Capsules, Antihistamine Cough Syrup, Antihistamine Tablets, Antiseptic Mouth Wash, Antitussive Cough Syrup, Aromatic Spirits of Ammonia, Aspirin-Phenacetine-Caffeine Tablets, Aspirin Tablets Buffered, Mint Flavored Milk of Magnesia, Milk of Magnesia Tablets, Mineral Oil, Multiple Vitamin Drops, Multiple Vitamin Solution, Multiple Vitamin Tablets, Multiple Vitamin Tonic, Mustard Powder, Nasal Spray, Oil of Cloves, Oil of Eucalyptus, Oil of Wintergreen, Olive Oil, Pain Relief Rub, Paregoric (Camphorated Tincture of Opium), Protein Wafers, Rubbing Alcohol, Saltpeter, Senna Leaves, Sodium Bicarbonate, Sodium Fluoride, Sodium Perborate Compound, Spirit of Camphor, Sulphur, Suppositories, Sweet Oil, Sweet Spirits Nitre, Therapeutic Vitamin Tablets, Therapeutic Vitamin and Mineral Tablets, Thiamin Chloride Tablets, Throat Lozenges, Tincture Arnica, Tincture Benzoin, Tincture Green Soap, Vaginal Hygienic Powder, Vaginal Suppositories, Vitamin and Mineral Tablets, Vitamin Drops, Wheat Germ Oil.
First use prior to Jan. 1, 1926, on alum powder.

SN 221,044. Guardian Chemical Corporation, Long Island City, N.Y. Filed June 14, 1965.

phos-phaid

For Medicinal Preparation for Adjusting the pH of Urine and Particularly for a Urinary Acidifier.
First use Oct. 16, 1964.

SN 221,219. Stiefel Laboratories, Inc., Oak Hill, N.Y. Filed June 15, 1965.

BRALOX

For Scrub Particles of Synthetic Aluminum Oxide Incorporated as an Ingredient in a Medicinal Preparation for the Treatment of Acne.
First use June 2, 1965.

SN 222,315. Vit-A-Way, Inc., Fort Worth, Tex. Filed June 29, 1965.

BEEF STAMNA

Owner of Reg. No. 693,572.
For Protein, Mineral, and Vitamin Feed Supplement for Livestock.
First use May 1, 1965.

SN 222,316. Vit-A-Way, Inc., Fort Worth, Tex. Filed June 29, 1965.

DAIRY STAMNA

Owner of Reg. No. 693,572.
For Protein, Mineral, and Vitamin Feed Supplement for Livestock.
First use May 1, 1965.

SN 222,322. Vit-A-Way, Inc., Fort Worth, Tex. Filed June 29, 1965.

PASTURE STAMNA

Owner of Reg. No. 693,572.
For Protein, Mineral, and Vitamin Feed Supplement for Livestock.
First use May 1, 1965.

SN 222,323. Vit-A-Way, Inc., Fort Worth, Tex. Filed June 29, 1965.

VIT-A-VEAL

For Protein, Mineral, and Vitamin Feed Supplement for Livestock.
First use May 1, 1965.

SN 224,067. The Cal-Min Company, Brawley, Calif. Filed July 23, 1965.

CAL-MIN

For Pet Food Mineral Supplement.
First use Mar. 20, 1947.

SN 230,031. Colgate-Palmolive Company, New York, N.Y. Filed Oct. 13, 1965.

TRIDALON

Owner of Reg. No. 626,099.
For Antacid-Anticholinergic Preparation.
First use on or about Sept. 7, 1965.

SN 231,831. Les Laboratoires Dausse Societe Anonyme, Paris (Seine), France. Filed Oct. 29, 1965.

ATURGYL

Priority claimed under Sec. 44(d) on French Reg. No. 534,970, dated July 9, 1965 (Seine); Natl. Inst. No. 256,220.
For Pharmaceutical Preparations for the Treatment of Coryzas and of Seasonary and Vaso-Motor Rhinitis.

SN 232,518. Blair Laboratories, Inc., Yonkers, N.Y. Filed Nov. 12, 1965.

CIG-EX

For Medical Preparation for Use as an Aid To Help Curb the Smoking Habit.
First use Nov. 4, 1965.

SN 232,781. Richard J. Hill, d.b.a. Rilco Products, San Francisco, Calif. Filed Nov. 16, 1965.

CHIPPER-SELTZER

For Analgesic Effervescent Salt.
First use on or about Apr. 2, 1963.

SN 233,050. American Home Products Corporation, New York, N.Y. Filed Nov. 22, 1965.

DERMOPRESS

For Medicated Wet Dressing.
First use Oct. 26, 1965.

SN 233,069. Bowman-Braun Pharmaceuticals, Inc., Canton, Ohio. Filed Nov. 22, 1965.

IVY-NOX

For Preparation for the Treatment and Prevention of Poison Ivy, Poison Oak, and Insect Bites.
First use 1960.

SN 234,135. Mead Johnson & Company, Evansville, Ind. Filed Dec. 7, 1965.

DUOTROP-PB

For Antispasmodic/Anticholinergic Preparation.
First use on or prior to Oct. 16, 1965.

SN 234,560. Geigy Chemical Corporation, Ardsley, N.Y. Filed Dec. 14, 1965.

METRIX

For Preparation for the Treatment of Diabetes.
First use Nov. 30, 1965.

SN 235,490. Bristol-Myers Company, New York, N.Y. Filed Dec. 29, 1965.

VERSAPEN

For Medicinal and Pharmaceutical Preparation—Namely, an Antibiotic.
First use July 7, 1965.

SN 235,591. Societe des Usines Chimiques Rhone-Poulenc, Paris, France. Filed Dec. 30, 1965.

Labrodax

Owner of French Reg. No. 526,369, dated Dec. 17, 1964 (Paris); Natl. Inst. No. 237,116.
For Hepatodigestive Antispasmodic, Anticephalic, Antimigraine and Anticolitic Pharmaceutical Preparation.

SN 237,383. Richardson-Merrell, Inc., Cincinnati, Ohio. Filed Jan. 26, 1966.

CLOTOL

Owner of Reg. No. 140,485.
For Pharmaceutical Preparations, Specifically Chloral Hydrate, Used as a Hypnotic.
First use Nov. 24, 1965.

SN 240,482. Sterling Drug Inc., New York, N.Y. Filed Mar. 9, 1966.

WINTOSAN

Owner of Reg. No. 767,832.
For Anthelmintic for Veterinary Use.
First use Feb. 23, 1966.

SN 240,527. Laboratory Robaina, Inc., Hialeah, Fla. Filed Mar. 9, 1966.

ACETOLIA

For Liquid Compound for External Treatment of Skin Eruptions, Irritations, and Infections.
First use 1930.

SN 240,657. The Reese Chemical Company, Cleveland, Ohio. Filed Mar. 10, 1966.

AURAPHENE

For Ear Drops.
First use May 1958.

SN 241,076. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 15, 1966.

BANMINTH

For Anthelmintic Preparation for Veterinary Use.
First use Mar. 10, 1966.

SN 241,141. Geigy Chemical Corporation, Ardsley, N.Y. Filed Mar. 16, 1966.

GOSEL

For Hematinic Preparation.
First use Feb. 18, 1966.

SN 244,377. A. H. Robins Company, Incorporated, Richmond, Va. Filed Apr. 27, 1966.

ROBITRAN

For Anticholinergic Tranquilizer Medicinal Preparation.
First use Apr. 18, 1966.

SN 244,379. A. H. Robins Company, Incorporated, Richmond, Va. Filed Apr. 27, 1966.

DONNATRAN

For Antispasmodic Tranquilizer Medicinal Preparation.
First use Apr. 18, 1966.

Class 19—Vehicles

SN 186,573. Societa OSCA, Bologna, Italy. Filed Feb. 12, 1964.



The word "Bologna" is disclaimed apart from the mark as shown. Priority claimed under Sec. 44(d) on Italian application filed Sept. 25, 1963; Reg. No. 170,189, dated June 15, 1965.
For Automobiles and Parts Therefor.

SN 216,853. Molded Fiber Glass Body Company, Union City, Pa. Filed Apr. 19, 1965.

ANCHOR SAILBOAT

The word "Sailboat" is disclaimed apart from the mark as shown.
For Small Boats for Cruising and Sailing.
First use in or about June 1959.

SN 242,316. Arcoa, Inc., Portland, Oreg. Filed Mar. 31, 1966.



The drawing is lined for red and blue. Owner of Reg. No. 746,032.
For Truck Bodies.
First use Mar. 16, 1966.

Class 20—Linoleum and Oiled Cloth

SN 228,403. Poly Resins, Los Angeles, Calif. Filed Sept. 22, 1965.

Decor ✶ Dek

For Sheet Surface Covering Material Comprising Resilient Plastic Composition Coverings for Floors, Walls, Decks, and the Like, and Applicable to Concrete, Wood, Particle Board, Lightweight Cellular Concrete, Metal, and All Existing Surfaces.
First use July 7, 1964.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 156,532. Switchcraft, Inc., Chicago, Ill. Filed Nov. 2, 1962.

MICRO-PLUG

For Miniature Phone Plugs.
First use Sept. 29, 1960.

SN 198,532. Burndy Corporation, Norwalk, Conn. Filed July 27, 1964.

HUG-A-BUG

For Dielectric Enclosure for Electrical Service Connectors.
First use Apr. 15, 1964.

SN 200,241. The Finney Company, Bedford, Ohio. Filed Aug. 20, 1964.

COLOR VE-LOG

No claim is made to the word "Color" apart from the mark as a whole.
For Antennas.
First use July 1, 1964.

SN 201,232. Outercom Electronics Corporation, Charlotte, N.C. Filed Sept. 3, 1964.



The word "Tuway" and the representation of the automobile and any representation of the goods are disclaimed apart from the mark as shown. Owner of Reg. Nos. 729,120, 779,789, and 779,790.
For Radio Receivers and Transmitters and Transistor and Speaker Units Therefor.
First use Aug. 1, 1963; July 1, 1958, as to "Outercom."

SN 201,233. Outercom Electronics Corporation, Charlotte, N.C. Filed Sept. 3, 1964.

Outercontrol

Owner of Reg. Nos. 729,120, 779,789, and 779,790.
For Radio Receivers and Transmitters and Transistor and Speaker Units Therefor.
First use Aug. 1, 1963.

SN 202,423. Duro-Test Corporation, North Bergen, N.J. Filed Sept. 23, 1964.

DECORESCENT

For Incandescent and Fluorescent Lamps.
First use Aug. 19, 1964.

SN 206,159. General Bronze Corporation, Garden City, N.Y. Filed Nov. 13, 1964.

Brach

Owner of Reg. No. 550,626.
For Radio and Television Antennas.
First use 1906.

SN 207,988. Sigma Instruments, Inc., South Braintree, Mass. Filed Dec. 11, 1964.

For Electromechanical Relays, Reed Relays, Electromechanical Magnetically Latching Relays, Acoustical Switches, Stepping Motors, Stepping Motor Drives, Stepping Motor Switch Combinations, Magnetic Amplifiers, Photo Relays, Light Sources for Photo Relays, Transistor Amplifiers, Servo-Mechanisms, Transformers and Rectifier Assemblies.
First use January 1963.

SN 213,178. Wells Mfg. Corporation, Fond du Lac, Wis. Filed Mar. 2, 1965.

AMPCO

Owner of Reg. Nos. 540,878 and 540,879.
For Automotive Ignition Service Parts, the Major Components Being: Capacitors, Caps, Rotors, Coils, Condensers, Resistors, Points, and Voltage Regulators.
First use Feb. 22, 1965.

SN 215,422. Mallory Electric Corporation, Detroit, Mich. Filed Mar. 31, 1965.

EARLY-WARNING LIFE-LITE SYSTEM

The word "System" is disclaimed apart from the mark as shown.
For Vehicle Brake Light Switch.
First use Dec. 14, 1964.

SN 215,652. Quality Audionics, Inc., New York, N.Y. Filed Apr. 2, 1965.

AUTOPHONIC

For Components for Sound Systems and Magnetic Tape Cartridges.
First use June 1964.

SN 216,131. Automatic Fire Alarm Company, New York, N.Y. Filed Apr. 9, 1965.

AFA

For Fire Alarm and Signaling Equipment.
First use at least as early as December 1934.
Subj. to Intf. with SN 222,099.

SN 216,631. Technical Appliance Corporation, Sherburne, N.Y. Filed Apr. 15, 1965.

PARALOG

For Antennas.
First use May 10, 1963.

SN 217,325. Ferro Corporation, Cleveland, Ohio. Filed Apr. 26, 1965.

ADAPT-O-MATIC

For Sheathed Electrical Heating Elements.
First use Oct. 31, 1962.

SN 217,412. Solid State Products, Inc., Salem, Mass. Filed Apr. 26, 1965.

SSPI

For Electrical Semiconductor Devices and Circuits Incorporating Semiconductor Devices.
First use Mar. 21, 1959.

SN 217,586. Yardney Electric Corporation, New York, N.Y. Filed Apr. 28, 1965.

CADOXEL

For Electrochemical Cells and Batteries, and Parts Thereof.
First use Mar. 24, 1965.

SN 221,469. Consolidated Electronics Industries Corp., Skokie, Ill. Filed June 18, 1965.

OHMITRAN

For Electrical Circuit Components—Namely, Variable Transformers.
First use in or about March 1965.

SN 222,099. American Fire Dispatch, Inc., Los Angeles, Calif. Filed June 28, 1965.

AFD

For Electrical Protection Equipment, Including Fire Alarm Boxes, Fire-Detecting and Alarm Devices, Watchmen's Tour Stations, Sprinkler Supervisory and Water Flow Alarm Devices, Vault Alarm Devices, and Intruder, Hold-Up and Burglar Alarm Apparatus.
First use in or about February 1954.
Subj. to Intf. with SN 216,131.

SN 223,452. Radio Shack Corporation, Boston, Mass. Filed July 15, 1965.

SELECTaCOM

For Two-Way Wireless Intercom Systems.
First use March 1965.

SN 226,204. BIC, Inc., Seattle, Wash. Filed Aug. 23, 1965.

BIC

The drawing is lined for grey. Owner of Reg. No. 785,921.
For Sleeves for Binding, Insulating and Coding Purposes for Use With Wire, Wire Terminals and Joints, Pipes, and Tools.
First use Nov. 13, 1964.

SN 226,796. S. Smith & Sons (England) Limited, Cricklewood, Middlesex, England. Filed Aug. 30, 1965.

SINTOX

Owner of British Reg. No. 571,792, dated Sept. 23, 1936; and U.S. Reg. Nos. 370,078, 642,877, and others.
For Ceramic Insulators for Sparking Plugs.

SN 227,067. Lee Rahle, d.b.a. Enerco, Seattle, Wash. Filed Sept. 2, 1965.

ENERCO

For Flashers—Namely, Flasher Control for Cyclic Switching of a 120 Volt, 60 Cycle, A.C. Power.
First use June 1, 1965.

SN 227,589. Koehler Manufacturing Company, Marlboro, Mass. Filed Sept. 10, 1965.

1-2-SEE

For Table Lamps.
First use June 19, 1965.

SN 228,438. Belden Manufacturing Company, Chicago, Ill. Filed Sept. 23, 1965.

sli

For Electrical Wire and Electrical Cables.
First use June 28, 1965.

SN 229,501. Continental Electronics Manufacturing Company, Dallas, Tex. Filed Oct. 7, 1965.

PROLOG

For Electrical and Electronic Equipment—Namely, Automatic Programming Equipment for Radio and Television Broadcasting and Subscriber Music Stations, and Parts and Accessories Therefor.
First use Aug. 6, 1965.

SN 230,666. Lenox, Incorporated, Trenton, N.J. Filed Oct. 20, 1965.

LENOX

Owner of Reg. Nos. 119,736, 769,522, and others.
For Electric Lamps and Bases Therefor.
First use 1940.

SN 230,819. E. W. Gilson, Cincinnati, Ohio. Filed Oct. 21, 1965.

DRINK-LITE

For Battery Operated, Portable Signal Light.
First use Sept. 7, 1965.

SN 231,405. Emerson Electric Co., St. Louis, Mo. Filed Oct. 23, 1965.

VAPORLUME

For Electrical Lighting Fixtures.
First use Oct. 11, 1965.

SN 231,746. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Oct. 28, 1965.

TYVEK

For Flexible Sheet for Electrical Insulation.
First use Sept. 27, 1965.

SN 234,523. Aeroflex Laboratories Incorporated, Plainview, N.Y. Filed Dec. 14, 1965.

For Vibration and Shock Mountings for Electronic Equipment Used in Aircraft, in Ships and on the Ground, in Both Moving and Stationary Installations—Namely, Helical Isolation Systems and Brushless Torque Motors for Servo Equipment.
First use on or about June 1, 1963.

SN 235,489. Bradley-Rogers Corporation, Chicago, Ill. Filed Dec. 29, 1965.

TEL-A-CUP

For Electric Coffeemakers.
First use April 1963.

SN 235,675. International Telephone and Telegraph Corporation, New York, N.Y. Filed Jan. 3, 1966.

SURPRENANT

For Electrical Wire and Insulation.
First use Dec. 14, 1965.

Class 22—Games, Toys, and Sporting Goods

SN 189,449. Doll Bottles, Inc., Brooklyn, N.Y. Filed Mar. 24, 1964.

BUBBLY

For Plastic Toy Doll Feeding Utensils in Which Simulated Edible Material Vanishes and Reappears.
First use Aug. 20, 1962.

SN 199,647. The Williams Gold Refining Company of Canada Limited, Fort Erie, Ontario, Canada, assignee of Williams Gold Refining Company Incorporated, Buffalo, N.Y. Filed Aug. 10, 1964.

WILLIAMS

For Artificial Fishing Lures and Fishing Lines.
First use about November 1923 on artificial fishing lures; in commerce about November 1923.

SN 209,626. Eric F. Nickel, d.b.a. Nickel & Nickel Mfg., Greenfield, Ohio. Filed Jan. 8, 1965.

"Bastro" 4 in ONE Lure

No claim of exclusive right is made to "4 In One Lure," apart from the mark as used.
For Fishing Lures.
First use Nov. 6, 1963.

SN 212,028. Mattel, Inc., Hawthorne, Calif. Filed Feb. 15, 1965.

SKIPPER

Owner of Reg. No. 774,892.
For Toy Drawing Instrument, Specifically, a Light Box Having a Translucent or Transparent Surface Plate To Aid in Tracing Configurations on Paper or the Like.
First use spring of 1964.

SN 213,230. Louis Marx & Co., Inc., New York, N.Y. Filed Mar. 3, 1965.

THE MATTERHORN

For Toy Sports Car Racing Sets.
First use Feb. 5, 1965.

SN 219,717. Ralph F. Kocher, d.b.a. Scale Auto Racing Accessories Co., Mount Prospect, Ill. Filed May 25, 1965.

SARA

For Scale Auto Racing Components.
First use at least as early as Feb. 20, 1965.

SN 220,521. Magiband Products, San Francisco, Calif. Filed June 7, 1965.

MAGIBAND

For Magnetic Fly and Lure Holder.
First use June 2, 1965.

SN 227,252. Cleinman & Sons, Inc., Providence, R.I. Filed Sept. 7, 1965.

Linda Anne

For Toy Jewelry.
First use July 1, 1960.

SN 231,272. Beulah Harris Stolpen, d.b.a. The Rolling Reader Publishing Co., Westport, Conn. Filed Oct. 22, 1965.

ROLL 'N READ

Owner of Reg. No. 694,179.
For Equipment Sold as a Unit for Playing Educational Games.
First use May 17, 1963.

SN 234,131. Louis Marx & Co., Inc., New York, N.Y. Filed Dec. 7, 1965.

WWSA 05

For Toy Guns, Toy Gun Sets, Toy Sleuth Sets and Accessories, Such Sets Consisting of Pistols, Silencers, Bullets, Holsters, Spy Scopes, Rifles, Shells, Identification Cards, Buttons, Barrel Extensions, Walkie-Talkies, Grenades, Message Missiles, and Homing Toners.
First use Sept. 30, 1965.

SN 234,454. Model Products Corporation, Mount Clemens, Mich. Filed Dec. 13, 1965.

DYN-O-BRAKES

For Brake Mechanism for Toy Slot Racer.
First use Aug. 13, 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 211,837. Peters & Russell, Inc., Springfield, Ohio. Filed Feb. 11, 1965.

"PRESSURE MAGIC"

For Electrically Operated Water Pumps.
First use Nov. 13, 1964.

SN 222,557. John Dusenbery Co. Inc., Clifton, N.J. Filed July 2, 1965.

DUSENBERY

For Machines for Slitting and Rewinding Paper, Film, Foil, and the Like.
First use Mar. 2, 1959.

SN 222,898. ACF Industries, Incorporated, St. Louis, Mo. Filed July 8, 1965.

ACF

Owner of Reg. Nos. 439,662, 534,520, and 577,500.
For Carburetors, Fuel Pumps, and Parts Thereof.
First use May 15, 1927.

SN 223,998. George H. Kelley, San Francisco, Calif. Filed July 22, 1965.

PLANT EASE

For Garden Tool.
First use July 1, 1965.

SN 224,144. A. & R. Metal Products Co., Inc., Milwaukee, Wis. Filed July 26, 1965.

ARMETCO

For Automobile Engine Components and Accessories.
First use Jan. 30, 1965.

SN 225,029. H. D. Hudson Manufacturing Company, Chicago, Ill. Filed Aug. 5, 1965.

TEN-O-MATIC

For Pumps for Power Sprayers.
First use on or about Mar. 16, 1965.

SN 226,074. Pekay Machine & Engineering Co., Inc., Chicago, Ill. Filed Aug. 19, 1965.

PEKAY

For Foundry Machinery and Parts Therefor, for Conditioning, Treating, and Handling Granular Foundry Materials—Namely, Buckets, Hoppers, Conveyors, and Parts Therefor, Aerators, Mullers, Mixer-Mullers, Blenders, Mold Counters, Bucket Elevators, and Cooling Systems.
First use December 1947.

SN 228,947. William W. Showler, d.b.a. Concentric System Company, Greensboro, N.C. Filed Sept. 29, 1965.

KWIK SET

For Furniture Wood Cutting Tools.
First use July 6, 1960.

SN 228,948. William W. Showler, d.b.a. Concentric System Company, Greensboro, N.C. Filed Sept. 29, 1965.

CONCENTRO

For Furniture Wood Cutting Tools.
First use July 6, 1960.

SN 229,283. Petersen Engineering Co., Inc., Sunnyvale, Calif. Filed Oct. 4, 1965.

RUBBER LOCK

For Retainers for Teeth for Earth Digging Equipment.
First use Jan. 29, 1959.

SN 230,903. Royal Merchandise Corporation, Jackson Heights, N.Y. Filed Oct. 21, 1965.

POWERHOUSE

For Wrenches.
First use May 28, 1965.

SN 232,574. Maysteel Products Corp., Mayville, Wis. Filed Nov. 12, 1965.

SM

For Automatic Pay-Out and Take-Up Reels for Hose and Electric Cables and Cords.
First use Oct. 26, 1965.

SN 232,893. Bardmatic Corporation, Evanston, Ill. Filed Nov. 18, 1965.

BARD-MATIC

For Domestic Food Waste System.
First use 1953.

SN 232,956. Aggressive Floor Machine Corporation, New Castle, Pa. Filed Nov. 19, 1965.



For Floor Scrubbing Machines and Supplies Therefor.
First use Oct. 19, 1965.

SN 233,461. Com-Tech, Inc., Beverly Hills, Calif. Filed Nov. 29, 1965.

MAKE A NAME FOR YOURSELF

For Machine for Embossing Pressure-Sensitive Tape Used for Labeling and Marking in Identification Systems.
First use Oct. 13, 1965.

SN 233,478. E. Leybold's Nachfolger, Cologne-Bayental, Germany. Filed Nov. 29, 1965.



Owner of U.S. Reg. Nos. 712,106, 744,503, and others.
For Vacuum Pumps and Rotary Piston Pumps.
First use August 1964; in commerce November 1964.

SN 234,005. Cushman Foundry, Inc., Cincinnati, Ohio. Filed Dec. 6, 1965.

CAMCO

For Plungers for Use in Conjunction With Candy Mold Boards.
First use Apr. 18, 1963.

SN 234,023. Formost Packaging Machines, Inc., Seattle, Wash. Filed Dec. 6, 1965.

FORMOST

For Packaging Machines.
First use Mar. 20, 1964.

SN 234,284. Lift Parts Mfg., Inc., Elk Grove Township, Cook County, Ill. Filed Dec. 9, 1965.



Applicant disclaims exclusive right to the term "Lift Truck" apart from the mark as a whole. Owner of Reg. Nos. 741,574 and 764,646.
For Replacement Parts for Industrial Lift Trucks.
First use June 15, 1965; July 1953 as to "LPM."

SN 234,703. Keystone Casing Supply, Inc., Carnegie, Pa. Filed Dec. 14, 1965.

JETTYER

For Apparatus, Equipment, and Machinery for Netting and Encasing Meat.
First use Nov. 21, 1964.

Class 26—Measuring and Scientific Appliances

SN 146,942. The Transitel International Corporation, Paramus, N.J. Filed June 14, 1962.

TRANSICODE

For Electronic Solid-State Supervisory Control Systems for Use in the Transmission of Signals Between a Central Location and a Plurality of Remote Locations.
First use January 1962.

SN 203,657. Harris-Intertype Corporation, Cleveland, Ohio. Filed Oct. 9, 1964.

FOTOTRONIC

For Photographic Type Composing Machines.
First use July 29, 1964.

SN 218,011. K-Hill Signal Company, Inc., Uhrichsville, Ohio. Filed May 4, 1965.

K-HILL

For Directional and Totalflow Traffic Counters and Pedestrian Traffic Counters.
First use July 4, 1926.

SN 218,247. Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany. Filed May 7, 1965.



Priority claimed under Sec. 44(d) on German application filed Mar. 20, 1965; Reg. No. 803,371, dated Apr. 26, 1965. The word "Rapid" and the representation of the goods are disclaimed apart from the mark as shown.
For Film Cassettes and Unexposed Photographic Films.

SN 220,494. Graflex, Inc., Rochester, N.Y. Filed June 7, 1965.

Messenger

For Audio Visual Equipment—Namely, Film Strip Projectors, and Audio Visual Equipment Enclosures.
First use Mar. 5, 1965.

SN 228,793. Dynapar Corporation, Gurnee, Ill. Filed Sept. 27, 1965.

ROTOPULSER

For Rotary Transducers for Converting Mechanical Motors Into Digital Voltage Pulses, for Providing Numerical Readout and Actuation of Automatic Control Functions.
First use Dec. 19, 1958.

SN 229,135. Scientific Data Systems, Inc., Santa Monica, Calif. Filed Oct. 1, 1965.

SIGMA

For Digital Computers and Digital Data Processing Equipment Using Digital Computers.
First use Sept. 17, 1965.

SN 234,522. Aeroflex Laboratories Incorporated, Plainview, N.Y. Filed Dec. 14, 1965.



Owner of Reg. Nos. 594,457 and 739,726.
For Inertial Platforms for Aerospace and Sea-Borne Use, Computers for Measuring Distances on Oblique Aerial Photographs and Rectifying Same, Aerial Mapping Cameras for Scientific Purposes, Gyroscopes, Gyro Stabilizer Platforms, Simulators for Astronautic Training, Recording Cameras, Velocity Meters, Tracking Systems for Moving Objects, Vehicle Motion Simulators, and Vibration Isolation Analyzers.
First use on or about June 1, 1963; July 10, 1950, in a different form.

SN 239,583. The Brearley Company, Rockford, Ill. Filed Feb. 25, 1966.



Owner of Reg. No. 694,440.
For Bathroom Scales.
First use Jan. 18, 1963.

Class 30—Crockery, Earthenware, and Porcelain

SN 208,455. Flintridge China Company, Pasadena, Calif. Filed Dec. 18, 1964.

ROYAL DEVON

For China Dinnerware.
First use July 1964.

Class 31—Filters and Refrigerators

SN 232,786. Interstate Battery System of America, Inc., Dallas, Tex. Filed Nov. 16, 1965.

mr. PRO

Owner of Reg. Nos. 733,348 and 768,658.
For Oil Filters.
First use Apr. 1, 1963.

SN 234,874. Horst Wolfgang Bentz, d.b.a. Melitta-Werke Bentz & Sohn, Minden, Westphalia, Germany. Filed Dec. 20, 1965.

Kafilpa

Owner of German Reg. No. 795,537, dated Jan. 2, 1964.
For Filter Paper.

SN 234,976. Vacair Laboratories, Ltd., Baltimore, Md. Filed Dec. 20, 1965.

AIRTRIX

For Air Cleaners and Filters.
First use Nov. 30, 1965.

Class 32—Furniture and Upholstery

SN 184,603. Barker Bros., Division of City Products Corporation, Los Angeles, Calif., assignee of Barker Bros. Corp., Los Angeles, Calif. Filed Jan. 15, 1964.

BEL-AIRE

For Mattresses and Box Springs.
First use January 1953.

SN 221,648. Slick Industrial Company, d.b.a. Illinois Shade Division of Slick Industrial Company, Chicago Heights, Ill. Filed June 21, 1965.

LITE-CHEK

For Window Shades.
First use May 18, 1965.

SN 230,077. Rack Engineering Company, Connellsville, Pa. Filed Oct. 13, 1965.

VERS-A-TOOL

For Industrial Storage Cabinets.
First use Sept. 1, 1965.

SN 233,011. Russ Stonier Designs, Inc., Chicago, Ill. Filed Nov. 19, 1965.

SPINDLE-FLEX

For Carved Poles for Use as Decorative Room Dividers and as Decorative Accessories.
First use on or before July 8, 1965.

SN 234,012. Drexel Enterprises, Inc., Drexel, N.C. Filed Dec. 6, 1965.

COLLAGE

For Bedroom, Dining Room, Occasional, and Upholstered Furniture.
First use Oct. 20, 1965.

SN 234,192. Federated Department Stores, Inc., d.b.a. Bullock's, Los Angeles, Calif. Filed Dec. 8, 1965.

WYNFAIR

For Bedroom, Living Room, and Dining Room Wood and Upholstered Furniture.
First use July 25, 1961.

Class 33 — Glassware

SN 222,246. Anchor Hocking Glass Corporation, Lancaster, Ohio. Filed June 29, 1965.

Owner of Reg. No. 376,781.
For Glass Jars, Food Containers, Bottles, Receptacles for Liquids, Coffee Jars, Cosmetic Jars, Jugs, Flower Pots, Refrigerator Jars and Covers, Percolator Tops, Ovenware, Cooking Utensils, Pie Plates, Custard Cups, Casserole and Covers, Meat Loaf Pans, Mixing Bowls, Servers, Cooking Pans, Dinnerware, Tableware, Stemware, Dishes, Tumblers, Cups, Saucers, Plates, Trays, Platters, Bowls, Candy Dishes, Creamers, Goblets, Pitchers, Mugs, and Drinking Glasses.
First use 1938 on jars, bottles, tumblers, and tableware.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 205,688. Goodrid Incinerator Co. Pty, Limited, Sydney, New South Wales, Australia. Filed Nov. 6, 1964.



The exclusive use of the words "Frusto Conical Air Intake; Rotating Through 360° for Complete Furnace Coverage" as shown in applicant's mark is disclaimed apart from the mark as a whole. Owner of Australian Reg. No. 188,243, dated June 12, 1964.
For Incinerators and Furnaces or Firing Chambers Being Parts Thereof, Requiring Air for Combustion.

SN 223,205. Allied Thermal Corporation, New Britain, Conn. Filed July 13, 1965.

IMPERIALINE

For Grills and Registers for Air Distribution Systems.
First use at least as early as 1960.

SN 233,656. Tjernlund Manufacturing Company, St. Paul, Minn. Filed Nov. 30, 1965.

AUTO-DRAFT

For Draft Inducers for Warm Air Heating Systems.
First use at least as early as September 1958.

SN 234,058. Niagara Blower Company, New York, N.Y. Filed Dec. 6, 1965.

FNF

For Industrial and Commercial Apparatus for Refrigerating Air, and Other Gases, by Direct Contact With a Cold Liquid, Which Includes an Antifreeze Component; and Apparatus for Reconcentrating Such Liquid.
First use on or about Apr. 21, 1965.

SN 234,218. Lenox, Incorporated, Trenton, N.J. Filed Dec. 8, 1965.

LENOX

Owner of Reg. Nos. 692,619, 769,524, and others.
For Candlesticks, Non-Electric Lamps, and the Bases Therefor.
First use 1900.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 211,094. O.K. Tire and Rubber Co., Littleton, Colo. Filed Feb. 1, 1965.

TRUCKSTAR

For Tread Rubber.
First use on or about Jan. 7, 1965.

SN 226,312. United States Brass Corporation, d.b.a. Flexible Connector Co. of America, Plano, Tex. Filed Aug. 23, 1965.

DUB-L-WALL

Owner of Reg. No. 707,322.
For Corrugated Metal Hose Used for Gas and Liquid Lines.
First use July 2, 1958.

Class 36 — Musical Instruments and Supplies

SN 215,651. Quality Audionics, Inc., New York, N.Y. Filed Apr. 2, 1965.

AUTOPHONIC

For Mobile Tape Stereo Systems and Prerecorded Magnetic Tape Cartridges for Use Therewith.
First use June 1964.

SN 226,746. Ivers & Pond Piano Co., Inc., Memphis, Tenn. Filed Aug. 30, 1965.

IVERS & POND

Owner of Reg. No. 675,587.
For Pianos, Player Pianos, and Parts Thereof.
First use Jan. 1, 1920, on player pianos.

SN 228,188. John M. Pocisk, d.b.a. Atila Records, Toledo, Ohio. Filed Sept. 20, 1965.

ATILA

For Grooved Phonograph Records.
First use Apr. 30, 1965.

Class 37 — Paper and Stationery

SN 202,659. American Carbon Paper Corporation, Chicago, Ill. Filed Sept. 25, 1964.

TABINDER

For Materials in Kit Form Used for, and in Conjunction With, the Binding of Continuous Forms and the Like Into Books.
First use Aug. 14, 1964.

SN 212,312. Hassenfeld Bros., Inc., Pawtucket, R.I. Filed Feb. 18, 1965.

G.I. JOE

Owner of Reg. No. 773,150.
For Notebook Binders and Pencil Cases, the Latter Comprising Pencils, Erasers, Rulers, Paint Tablets, and Mixing Cup, Writing Paper, and Crayons.
First use on or about Jan. 24, 1964.

SN 216,182. Milprint, Inc., Milwaukee, Wis. Filed Apr. 9, 1965.

MILSHEEN

Owner of Reg. Nos. 442,593, 647,492, and others.
For Lacquer Forming a Component Part of Paper Used for Packaging Purposes.
First use Mar. 9, 1965.

SN 222,012. Eberhard Faber Inc., Wilkes-Barre, Pa. Filed June 25, 1965.

"GO"

For Ball Pens, Fountain Pens, Pencils, Mechanical Pencils, Liquid Markers, and Erasers.
First use June 18, 1965.

SN 226,330. American Carbon Paper Corporation, Chicago, Ill. Filed Aug. 24, 1965.

NEWSTAB

For Carbon Backed Papers.
First use on or about Mar. 20, 1965.

SN 226,331. American Carbon Paper Corporation, Chicago, Ill. Filed Aug. 24, 1965.

TARATAB

For Carbon Backed Papers.
First use Jan. 23, 1964.

SN 226,332. American Carbon Paper Corporation, Chicago, Ill. Filed Aug. 24, 1965.

SUPERTAB

For Carbon Backed Papers.
First use Apr. 9, 1964.

SN 229,546. Paper Mate Manufacturing Company, Santa Monica, Calif. Filed Oct. 7, 1965.

EPIC

For Ball Point Pens.
First use Sept. 16, 1965.

SN 232,694. Hollymatic Corporation, Park Forest, Ill. Filed Nov. 15, 1965.

Hollymatic

The drawing is lined for red, but color is not a part of the mark. Owner of Reg. Nos. 515,256 and 603,617.
For Separator Paper Sheets for Portioned Food Products, the Portioned Food Product Being in the Nature of Ground Meat Patties.
First use Oct. 1, 1964.

Class 38 — Prints and Publications

SN 196,551. Patricia Ann Orders, Los Angeles, Calif. Filed June 26, 1964.

THE RESEARCHER

For Pamphlet Pertaining to Geneology, Issued Periodically.
First use December 1963.

SN 211,354. General Features Corporation, New York, N.Y. Filed Feb. 4, 1965.

CHILD CARE

For Syndicated Newspaper Feature Published in Daily Newspapers.
First use 1942.

SN 229,101. MacFadden-Bartell Corporation, New York, N.Y. Filed Oct. 1, 1965.



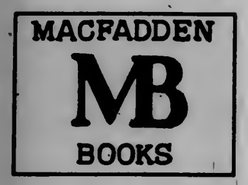
Applicant disclaims any exclusive right to the term "Publication."
For Magazines.
First use Feb. 1, 1963.

SN 229,176. Helen B. Andelin, Clovis, Calif. Filed Oct. 4, 1965.



For Books and Booklets of Lesson Outlines.
First use Mar. 15, 1965.

SN 230,407. MacFadden-Bartell Corporation, New York, N.Y. Filed Oct. 18, 1965.



Applicant disclaims any exclusive right in the term "Books."
For Books.
First use Nov. 15, 1961.

SN 231,912. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Nov. 1, 1965.



The word "Prints" is disclaimed apart from the mark as shown.
For Greeting Cards.
First use Oct. 18, 1965.

Class 39—Clothing

SN 171,895. The H. D. Lee Company, Incorporated, Kansas City, Mo. Filed June 26, 1963.

LEE LEENS

Owner of Reg. No. 736,468.
For Trousers.
First use May 9, 1961.

SN 189,784. Kenrich Shoe Corporation, Maysville, Ky., by change of name from Lucky Stride Shoes, Inc., Maysville, Ky. Filed Mar. 27, 1964.

the soft touch of Edith Henry

The name "Edith Henry" is that of a living person, whose consent is of record. Owner of Reg. Nos. 602,458 and 653,453.
For Shoes.
First use prior to Jan. 1, 1961.

SN 195,296. Hart Schaffner & Marx, Chicago, Ill. Filed June 10, 1964.

VIRACLE

Owner of Reg. No. 559,384.
For Fabrics Made Up Into Finished Apparel—Namely, Men's Suits, Coats, Trousers, Vests, Overcoats, and Topcoats.
First use Apr. 10, 1951.

SN 197,999. Strozzi Incorporated, Chicago, Ill. Filed July 16, 1964.

ORSINI

For Men's Shirts and Neckwear.
First use on or about Aug. 15, 1963, on shirts.

SN 201,291. Katz Underwear Company, Honesdale, Pa. Filed Sept. 4, 1964.

Katz zzz

Owner of Reg. No. 595,197.
For Women's Pajamas, Nightgowns, Robes, Negligees, and Underwear.
First use Oct. 18, 1962; July 1899 as to "Katz."

SN 202,343. Aldens, Inc., Chicago, Ill., by assignment and change of name from Aldens, Inc., d.b.a. Shoppers World, Chicago, Ill. Filed Sept. 22, 1964.

CONROY

Owner of Reg. Nos. 410,003 and 410,004.
For Men's Shirts and Pajamas, and Boys' and Men's Trousers.
First use Mar. 12, 1964.

SN 202,764. Cobbs Corner Casuals, Inc., New York, N.Y. Filed Sept. 28, 1964.



The drawing is lined for red and blue. Applicant disclaims the wording "Created in France—Now Made in U.S.A." apart from the mark as shown.
For Women's Dresses, Slacks, Jackets, and Skirts.
First use Sept. 9, 1964.

SN 210,079. A. M. Burns, Inc., Scarsdale, N.Y. Filed Jan. 18, 1965.

A·M·BURNS

"A. M. Burns" is the name of the president of applicant, whose consent is of record.
For Men's, Women's, and Children's Clothing—Namely, Suits, Slacks, Jackets, Overcoats, Topcoats, Hats, Caps, Shirts, Ties, Underwear, Socks, Handkerchiefs, Scarves, Ascots, Sweaters, Vests, Gloves, Skirts, Blouses, Belts, Suspenders, Shorts, Bathing Suits, and Bath and Beach Robes.
First use in or about December 1957.

SN 213,689. Maxwell, Cooper & Co., Limited, London, England. Filed Mar. 9, 1965.

MAXLIM

Priority claimed under Sec. 44(d) on British Reg. No. 873,873, dated Jan. 5, 1965.
For Maternity Clothing.

SN 215,669. The Vested Gentry, Inc., Valley Forge, Pa. Filed Apr. 2, 1965.



For Women's Sportswear and Casual Wear—Namely, Dresses, Shifts, Skirts, Shorts, Shirts, Vests, Jackets, and Suits.
First use in about March 1961.

SN 215,719. Fit-Rite Pants Company, Inc., New York, N.Y. Filed Apr. 5, 1965.

"DOEREX"

For Rayon Fibers Incorporated Into Fabrics, Used for Trousers and Slacks.
First use Feb. 2, 1965.

SN 219,051. William F. Niemi Co., Seattle, Wash. Filed May 17, 1965.



For Flexible Sheet Material Used as a Component of Jackets.
First use Mar. 19, 1965.

SN 221,613. Les Fils de Valton & Cie, Troyes, Aube, France. Filed June 21, 1965.



The word "Amiral" means "Admiral." Owner of French Reg. No. 5,372, dated Jan. 14, 1964 (Troyes); Natl. Inst. No. 222,526.
For Knitwear—Namely, Sweaters, Skirts, Suits, T-Shirts, Baby Napkins, Playsuits, Vests, Trunks, Briefs, Pajamas, Dressing Gowns, Swim Suits, Bikinis, Slacks, Blazers, Baby Diapers, and Bibs.

SN 222,249. Beltex Hosiery Corporation, Baltimore, Md. Filed June 29, 1965.

FLIP-ONS

For Ladies' Slippers.
First use Aug. 1, 1964.

SN 222,409. J. C. Penney Company, New York, N.Y. Filed June 30, 1965.

PIMA PRINCE

Applicant disclaims the word "Pima" apart from the mark as shown. Owner of Reg. No. 686,955.
For Men's Underwear.
First use Apr. 9, 1959.

SN 222,739. J. C. Penney Company, New York, N.Y. Filed July 6, 1965.

CAROL EVANS

"Carol Evans" identifies a living individual whose consent is of record. Owner of Reg. Nos. 790,029 and 391,625.
For Girls' Underwear and Hosiery.
First use May 21, 1965.

SN 222,756. Joseph Resnick Company, Inc., New York, N.Y. Filed July 6, 1965.



For Boys' Sport and Dress Shirts.
First use January 1955.

SN 223,877. Desco Shoe Corporation, New York, N.Y. Filed July 21, 1965.

lively
WALKING INSOLE

Applicant disclaims the term "Insole" apart from the mark as shown.
For Ladies' Shoes.
First use Mar. 5, 1965.

SN 224,165. City Products Corporation, Des Plaines, Ill. Filed July 26, 1965.

LITTLE MAJESTY

Owner of Reg. No. 369,901.
For Infants' Anklets.
First use December 1955.

SN 225,931. Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed Aug. 18, 1965.

KOOL KENNY KLOTH

Applicant disclaims the word "Kloth" apart from the mark as a whole.
For Fabric Made Up Into Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers, and Vests.
First use July 22, 1965.

SN 226,446. A. R. Hyde & Sons Company, Cambridge, Mass. Filed Aug. 25, 1965.



For Athletic Footwear.
First use February 1965.

SN 226,562. Palm Beach Company, Portland, Maine. Filed Aug. 26, 1965.

RELAXABLES

Owner of Reg. No. 640,058.
For Men's and Boys' Suits, Slacks, and Sportcoats.
First use June 18, 1965.

SN 226,938. Wallace A. Justus, and Daryl R. A. Justus (joint venture), d.b.a. Daryl of Dearborn, Dearborn, Mich. Filed Sept. 1, 1965.

ORIGINALS by DARYL OF DEARBORN

The words "Originals by" and "of Dearborn" are disclaimed apart from the mark as shown. The name "Daryl" in "Daryl of Dearborn" is the name of a living individual whose consent is of record.
For Neckties.
First use September 1960.

SN 227,017. The Electric Storage Battery Company, Philadelphia, Pa. Filed Sept. 2, 1965.

STUDY BUDDY

For Sound Reducing Ear Muffs.
First use Aug. 10, 1964.

SN 227,849. Leather Coats, Inc., New York, N.Y. Filed Sept. 15, 1965.

LEATHER WORLD

The word "Leather" is disclaimed apart from the mark as shown.
For Leather Coats and Jackets.
First use Aug. 3, 1965.

SN 229,079. Dotty Dan, Inc., Lamesa, Tex. Filed Oct. 1, 1965.

miss pops by dotty Dan

The mark is fanciful and does not refer to a living individual. Owner of Reg. No. 607,722.
For Girls' Dresses, Blouses, Shorts, Slacks, Beach Robes, Jackets, Sunsuits, and Coats.
First use Sept. 19, 1965.

SN 230,004. Sam Snead Enterprises, Inc., Louisville, Ky. Filed Oct. 12, 1965.

Sam Snead

The mark as used in most instances is a facsimile of the signature of Sam Snead.
For Clothing—Namely, Footwear, Shirts, Slacks, Shorts, Jackets, and Hats.
First use Jan. 2, 1954.

SN 230,160. F. Jacobson & Sons, Inc., New York, N.Y. Filed Oct. 14, 1965.

EXCEL-EZE

Owner of Reg. Nos. 170,068, 170,125, and 526,908.
For Men's Shirts, Swim Trunks, Beach Jackets, Beach Shirts and Trunks, Beach Robes, and Pajamas.
First use Aug. 13, 1965.

SN 230,168. Kayser-Roth Corporation, New York, N.Y. Filed Oct. 14, 1965.

MISS FREDERICS

The name "Miss Frederics" is fanciful. Owner of Reg. Nos. 400,151, 677,772, and others.
For Women's and Children's Hosiery, and Women's and Children's Tights and Stretch Pants.
First use July 16, 1965.

SN 230,169. Kayser-Roth Corporation, New York, N.Y. Filed Oct. 14, 1965.

MISS FREDERICS OF JOHN FREDERICS

The name "Miss Frederics" is fanciful and "John Frederics" is the name of an individual who died on Oct. 24, 1964. Owner of Reg. Nos. 400,151, 677,772, and others.
For Women's and Children's Hosiery, and Women's and Children's Tights and Stretch Pants.
First use July 16, 1965.

SN 230,231. Caldor, Inc., Norwalk, Conn. Filed Oct. 15, 1965.

MARC MITCHELL

The name "Marc Mitchell" is fictitious.
For Shirts, Jackets, Sweaters, Pajamas, Socks, Panties, Hosiery, Dresses, and Blouses.
First use June 17, 1963.

SN 230,232. Caldor, Inc., Norwalk, Conn. Filed Oct. 15, 1965.

ROBIN CHERYL

The name "Robin Cheryl" is fictitious.
For Shirts, Jackets, Sweaters, Pajamas, Socks, Panties, Hosiery, Dresses, and Blouses.
First use June 17, 1963.

SN 230,713. Joseph Schultz and Sons, Inc., Miami, Fla. Filed Oct. 20, 1965.

SHINGLE SHACK

For Women's Dresses.
First use Sept. 30, 1965.

SN 231,166. William McKinley, Brooklyn, N.Y. Filed Oct. 22, 1965.



Applicant disclaims the representation of the shoe heel apart from the mark as shown.
For Shoe Heels.
First use June 10, 1965.

SN 231,773. Peter Pan Foundations, Inc., New York, N.Y. Filed Oct. 28, 1965.

SHAPE FILL

For Brassieres.
First use Oct. 14, 1965.

SN 235,248. Adele Fashions, Inc., New York, N.Y. Filed Dec. 27, 1965.

LADY ETHEL

For Ladies' Dresses.
First use Dec. 14, 1965.

SN 235,277. Commonwealth Shoe & Leather Co., Inc., Whitman, Mass. Filed Dec. 27, 1965.

MANSFIELDS

Owner of Reg. No. 287,262.
For Boots and Shoes.
First use Mar. 6, 1931.

SN 235,327. O'Bryan Bros., Inc., Nashville, Tenn. Filed Dec. 27, 1965.

DUCK HEAD

Owner of Reg. No. 53,255.
For Coats, Vests, Trousers, Overalls, and Men's and Ladies' Dungarees and Shirts.
First use 1924.

Class 40—Fancy Goods, Furnishings, and Notions

SN 215,236. Man's World Hairpieces, Inc., Miami, Fla. Filed Mar. 29, 1965.



For Men's Wigs, Men's Hairpieces and Toupees.
First use Feb. 5, 1965.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 200,760. Klopman Mills, Inc., Rockleigh Borough, N.J. Filed Aug. 27, 1964.

FAIRWAY

For Greige and Finished Fabrics in the Piece for Use in Home Furnishings and in the Industrial Field.
First use July 10, 1964.

SN 224,692. ACSA—Applicazioni Chimiche S.p.A., Milan, Italy. Filed Aug. 2, 1965.

LEAFIL

Priority claimed under Sec. 44(d) on Italian application filed Feb. 13, 1965; Reg. No. 170,076, dated June 15, 1965.
For Knitted and Woven Fabrics Composed of Synthetic Threads and Yarns as Yard Goods and for Fabrication Into Garments.

SN 226,182. V.I.P. Fabrics, Inc., New York, N.Y. Filed Aug. 20, 1965.

V.I.P

For Textile Fabrics, in the Piece, for Over-the-Counter Trade (i.e., for Use by Women Making Garments at Home), and for Sale to Manufacturers of Women's Wear Primarily in the Dress and Blouse Field.
First use Apr. 6, 1964.

SN 232,125. Georgia Fabrics Inc., New York, N.Y. Filed Nov. 4, 1965.

SINGAPORE

For Fabrics Composed of Cotton and Synthetic Fibers Used for Making Men's Clothing.
First use November 1960.

SN 232,290. City Products Corporation, Chicago, Ill. Filed Nov. 8, 1965.

LOOMCREST

Owner of Reg. Nos. 352,614 and 724,270.
For Rugs.
First use Oct. 15, 1965.

SN 232,470. Maiden Knitting Mills, Inc., Maiden, N.C. Filed Nov. 10, 1965.

STRETCHMAID

For Knitted Piece Goods, Such as Used in Swimwear, Men's and Women's Sportswear, Infants' and Children's Sleepers, and Outerwear.
First use Aug. 1, 1965.

SN 232,751. N.Z. Woolpack & Textiles Limited, Foxton, New Zealand. Filed Nov. 15, 1965.

GAYLEEN

Owner of New Zealand Reg. No. 64,108, dated June 22, 1959.
For Textile Carpets, Floor Rugs, and Fiber and Summer Rugs.

SN 232,752. N.Z. Woolpack & Textiles Limited, Foxton, New Zealand. Filed Nov. 15, 1965.

CORDELLA

Owner of New Zealand Reg. No. 56,703, dated July 1, 1955.
For Textile Carpets, Floor Rugs, and Fiber and Summer Rugs.

SN 232,753. N.Z. Woolpack & Textiles Limited, Foxton, New Zealand. Filed Nov. 15, 1965.

BRUSSELLA

Owner of New Zealand Reg. No. 56,704, dated July 1, 1955.
For Textile Carpets, Floor Rugs, and Fiber and Summer Rugs.

SN 234,177. Cone Mills Corporation, Greensboro, N.C. Filed Dec. 8, 1965.

POLY VOUS

For Textile Fabrics in the Piece of Cotton and Synthetic Fibers.
First use July 29, 1965.

SN 234,210. S. S. Kresge Company, Detroit, Mich. Filed Dec. 8, 1965.

Kmart

Owner of Reg. Nos. 783,902, 791,329, and others.
For Curtains.
First use in or before May 1964.

SN 234,639. Victor B. Handal & Bro., Inc., New York, N.Y. Filed Dec. 15, 1965.

SIESTA

For Sheets, Pillow Cases, Pillow Protectors, and Shower Curtains.
First use May 31, 1950.

SN 234,642. Victor B. Handal & Bro., Inc., New York, N.Y. Filed Dec. 15, 1965.

VITRO

For Sheets, Pillow Cases, Pillow Protectors, and Shower Curtains.
First use May 31, 1950.

Class 43 — Thread and Yarn

SN 224,691. ACSA—Applicazioni Chimiche S.p.A., Milan, Italy. Filed Aug. 2, 1965.

LEAFIL

Priority claimed under Sec. 44(d) on Italian application filed Feb. 13, 1965; Reg. No. 170,076, dated June 15, 1965.
For Synthetic Threads and Yarns.

SN 225,842. Yates Johnson Yarn Sales, Inc., Spartanburg, S.C. Filed Aug. 16, 1965.

JAY-VELLE

For Yarns and Threads.
First use Aug. 2, 1965.

SN 234,069. Roselon Yarns, Inc., Philadelphia, Pa. Filed Dec. 6, 1965.

UNIFIL

For Yarn.
First use Nov. 11, 1965.

SN 234,276. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Dec. 9, 1965.

NYTELLE

For Synthetic Textile Yarns.
First use Oct. 6, 1965.

Class 44 — Dental, Medical, and Surgical Appliances

SN 212,921. Tronex Research Corporation, Denver, Colo. Filed Feb. 26, 1965.

PERMA-DRI

For Moisture Sensitive Detection Pads With the Covercases Therefor, and Electrical Control and Speaker Equipment To Stop Bed Wetting.
First use Nov. 10, 1964.

SN 218,169. The American White Cross Laboratories, Inc., New Rochelle, N.Y. Filed May 6, 1965.

WHITE CROSS

Owner of Reg. Nos. 540,747, 579,566, and 588,925.
For First Aid Kit Containing Sterile Adhesive Bandages, Sterile Gauze Bandages, Gauze Pad, Absorbent Cotton, Adhesive Tape, and Antiseptic Unit.
First use May 1, 1963.

SN 219,720. The Monitor Instrument Co., Inc., Hamden, Conn. Filed May 25, 1965.

monit-aire

For Medical Electronic Apparatus for Monitoring Respirators, Pulmonary Ventilators, and Other Therapeutic Devices Used by Doctors in Hospitals.
First use Apr. 27, 1965, on electronic apparatus for monitoring respirators.

SN 223,543. Dunhill International, Inc., Ravenna, Ohio. Filed July 16, 1965.

LULLABY

For Infant Feeding Equipment, Specifically Apparatus Used in Preparing Nourishment To Be Fed to Infants, e.g., Nipples, Bottle Holders, and Strainers.
First use on or about Dec. 1, 1932.

SN 223,645. Cot-N-Chips Co., Rochester, N.Y. Filed July 19, 1965.

SANKINS 5 IN 1

For Sanitary Napkins.
First use on or about June 1, 1965.

SN 223,896. Merck & Co., Inc., Rahway, N.J. Filed July 21, 1965.

OCUMETER

For Eye Drop Dispenser, Furnishing Drops of Uniform Size for Ophthalmic Medications.
First use June 21, 1965.

SN 229,117. Eugene W. Olsen, d.b.a. Olsen Surgical Service-Repairing, Oakland, Calif. Filed Oct. 1, 1965.

WHITE TIP

For Electro-Surgical Handle for Holding a Cutting or Cauterizing Electrode, or the Like.
First use Aug. 3, 1965.

SN 230,285. The Procter & Gamble Company, Cincinnati, Ohio. Filed Oct. 15, 1965.

DISCLOSING BUDS

For Oral Hygiene Indicators To Be Dipped in Water and Swabbed on the Teeth After Which Bacteria and Debris Are Revealed.
First use May 20, 1965.

SN 231,977. C. R. Bard, Inc., Murray Hill, N.J. Filed Nov. 2, 1965.

QUALITY INTEGRITY SERVICE BARD SINCE 1907

The words "Quality," "Integrity," "Service," and "Since 1907" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 543,992, 773,752, and others.
For Catheters, Packaged Catheterization Kits, Catheterization Trays, Urinary Drainage and Collection Devices and Components, Urinary Appliances, Urological Instruments and Appliances, Devices for Intravenous Therapy and Intravenous Anesthesia, Prostheses for Surgery, Medical and Surgical Tubing, Drainage Receptacles, Filter Masks, Enema Administration Units, Oxygen Administration Units for Non-Cyclic Direct Feeding of Oxygen to the Patient, Specimen Collection Devices, Syringes, Stone Dislodgers, Bougies, Stylets, Followers, Filiforms, Fulgurating and Meatotomy Electrodes, Resectoscope and Cystoscope Accessories, Venous Pressure Measuring Devices, and Sterilizers.
First use at least as early as 1958; at least as early as 1942 as to "Bard."

SN 232,087. The Pioneer Rubber Company, Willard, Ohio. Filed Nov. 3, 1965.

PYLON

For Powder for Coating Products Such as Surgical Gloves.
First use Mar. 4, 1964.

SN 232,635. Brunswick Corporation, Chicago, Ill. Filed Nov. 10, 1965.

MONOKIT

For Disposable Physiological Fluid Transfer Sets for Use in Hospitals, Clinics, Doctors' Offices, and the Like, in Transferring Fluid to or From the Human Body.
First use January 1965.

SN 233,817. The Pelton & Crane Company, Charlotte, N.C. Filed Dec. 2, 1965.

INSTRU-CLAVE

For Sterilizers.
First use Oct. 6, 1965.

Class 45—Soft Drinks and Carbonated Waters

SN 218,433. Howard D. Johnson Company, Wollaston, Mass. Filed May 10, 1965.

HoJo

For Carbonated Soft Drinks.
First use Apr. 29, 1965.
Subj. to Intf. with SN 236,744.

SN 236,744. Alec C. Gunter, Clearbrook, Va. Filed Jan. 18, 1966.

Ho-Ko

For Chocolate Beverage Soft Drinks.
First use Jan. 30, 1964.
Subj. to Intf. with SN 218,433.

Class 46—Foods and Ingredients of Foods

SN 172,524. The H. J. Seiler Co., Inc., Boston, Mass. Filed July 5, 1963.



The lining in the drawing is an actual part of the mark and does not represent color. Applicant disclaims the words "Caterers Since 1873," "of New England," and the map representation of the New England area.
For Frozen Foods—Namely, Clam Chowder, Fish Chowder, Chicken Croquettes, Shrimp Croquettes, Clam Croquettes, Scallop and Lobster Croquettes, Haddock au Gratin, Macaroni and Cheese, English Muffins, Ice Cream; Fresh Bakery Products—Namely, English Muffins and Scotch Muffins; and Canned Products—Namely, Clam Chowder.
First use April 1958; 1873 as to the mark "Seiler's."

SN 178,778. The Creamette Company, Minneapolis, Minn. Filed Oct. 11, 1963.

A-B-C-ettes

For Alimentary Pastes.
First use June 29, 1962.

SN 179,995. Central Soya Company, Inc., Fort Wayne, Ind. Filed Oct. 29, 1963.

MASTER MIX DOG FOOD

Applicant disclaims the words "Dog Food." The drawing is lined for the colors red and brown. Owner of Reg. Nos. 531,457 and 725,116.
For Dog Food in the Shape of Cylindrical Annuli and Including as Ingredients Meat and Fish Meal, and the Following Grain: Soybean, Corn, Wheat, and Oats.
First use Aug. 28, 1963.

SN 188,284. Mrs. Smith's Pie Company, Pottstown, Pa. Filed Mar. 9, 1964.

"Mello-Rich"

For Bakery Products—Namely, Fruit, Cream, Custard, Cheese, and Mince Pies.
First use September 1952.

SN 203,853. American Dairy Queen Corporation, Minneapolis, Minn. Filed Oct. 13, 1964.

BRAZIER

Owner of Reg. Nos. 738,023, 767,646, and others.
For Coffee, Tea, and Hot Chocolate.
First use Jan. 15, 1964.

SN 210,985. The Quaker Oats Company, Chicago, Ill. Filed Jan. 29, 1965.

Satellites

For Cookies.
First use Dec. 16, 1964.

SN 211,180. Edmund Mayer, Inc., New York, N.Y. Filed Feb. 2, 1965.



The word "Beef" is disclaimed apart from the mark as shown. The drawing is lined for the colors red and blue.
For Fresh and Frozen Cuts of Beef, and Beef Carcasses.
First use May 1, 1964.

SN 211,507. Thomas Carvel, Yonkers, N.Y. Filed Feb. 8, 1965.

CLEAR PAK JR.

For Ice Cream, Frozen Custard, Ice Milk, Sherbets, and Fruit Ices, Marketed Solely in Applicant's Own Retail Outlets and Those of Applicant's Licensees.
First use at least as early as Jan. 31, 1951.

SN 218,554. Industrias de Peixe Nossa Senhora de Fatima Lda.—INOS, Lourenco Marques, Mocambique, Republic of South Africa. Filed May 11, 1965.

PAMELIA

Priority claimed under Sec. 44(d) on South African Reg. No. 64/4798, dated Dec. 15, 1964.
For Canned Prawns.

SN 218,904. The Pillsbury Company, d.b.a. Consumer Research Associates, Minneapolis, Minn. Filed May 14, 1965.

SGT. TOPPIT

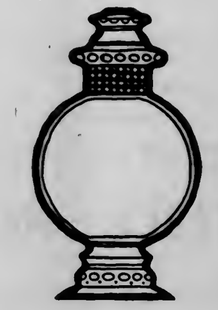
Applicant disclaims the word "Toppit" apart from the mark as shown.
For Dry Powders for Sprinkling in the Dry State on Food Products for Flavoring Same.
First use Apr. 6, 1965.

SN 219,712. Idaho Trout Processors Company, Boise, Idaho. Filed May 25, 1965.

RAINBOW SPRINGS

Applicant disclaims the word "Rainbow," apart from the mark as shown, without waiving any common law rights thereto.
For Fresh and Frozen Rainbow Trout.
First use at least as early as Mar. 13, 1965.

SN 219,829. Stouffer Foods Corporation, Cleveland, Ohio. Filed May 26, 1965.



For Candies.
First use Feb. 6, 1962.

SN 221,271. Home Town Foods, Inc., Jacksonville, Fla. Filed June 16, 1965.



For Ice Cream, Sherbet, and Fluid Milk.
First use Jan. 6, 1931.

SN 221,342. Central Soya Company, Inc., Fort Wayne, Ind. Filed June 17, 1965.

PEARL

For Frozen Dressed Chickens and Turkeys.
First use in or before July 1930.

SN 221,793. Chock Full O' Nuts Corporation, New York, N.Y. Filed June 23, 1965.

Heavenly

Owner of Reg. No. 632,806.
For Coffee.
Firs use July 1, 1953.

SN 229,436. Thomas J. Lipton, Inc., Englewood Cliffs, N.J. Filed Oct. 6, 1965.

CHICKEN BARONET

Applicant disclaims the word "Chicken" apart from the mark as shown.
For Dehydrated, Prepared Dinner Product, the Principal Components of Which Are Chicken, Noodles, Sauce, and Lesser Ingredients.
First use Sept. 3, 1965.

SN 229,950. Corn Products Company, New York, N.Y. Filed Oct. 12, 1965.

STABLE MATE

For Horse Feed.
First use at least as early as Sept. 10, 1962.

SN 230,164. Jewel Tea Co., Inc., Melrose Park, Ill. Filed Oct. 14, 1965.

CHEF CUT

Applicant disclaims the word "Cut" apart from the mark as shown. Owner of Reg. No. 711,299.
For Frozen Dressed Poultry.
First use Aug. 23, 1965.

SN 230,200. Standard Fruit and Steamship Company, New Orleans, La. Filed Oct. 14, 1965.

SUNNY BUNCH

For Fresh Bananas.
First use July 22, 1965.

SN 230,357. Bunte Candies Inc., Oklahoma City, Okla. Filed Oct. 18, 1965.

HIDE 'N' SEEK

For Candy—Namely, Easter Candies.
First use Jan. 1, 1962.

SN 230,382. Green Bay Food Company, Green Bay, Wis. Filed Oct. 18, 1965.

CHOPINOWSKIE

Owner of Reg. No. 713,988.
For Dill Pickles.
First use on or about Aug. 4, 1959.

SN 230,661. Lekas & Drivas, Inc., Brooklyn, N.Y. Filed Oct. 20, 1965.

ARISTOCRATIC

Owner of Reg. Nos. 112,909, 729,245, and others.
For Olive Oil (Edible), Marmalade, Preserves, and Candy.
First use May 12, 1916, on olive oil.

SN 230,818. General Mills, Inc., Minneapolis, Minn. Filed Oct. 21, 1965.

UNYUMS

For Cereal Derived Snack Products.
First use Sept. 2, 1965.

SN 232,915. Gibraltar Industries, Inc., Chicago, Ill. Filed Nov. 18, 1965.

PAM

For Vegetable Product To Be Sprayed on for Coating the Cooking Surfaces of Utensils Used for Greaseless Baking, Frying, or Broiling, To Prevent Foods From Sticking.
First use Sept. 27, 1958.

SN 233,095. General Foods Corporation, White Plains, N.Y. Filed Nov. 22, 1965.

SANKA SUPREME

Owner of Reg. Nos. 175,372 and 299,962.
For Coffee.
First use Oct. 15, 1965.

SN 233,245. The Gorton Corporation, Gloucester, Mass., assignee of Blue Water Seafoods, Inc., Cleveland, Ohio. Filed Nov. 24, 1965.

BLUE WATER

No exclusive right in the word "Seafoods" is claimed apart from the mark as shown. Owner of Reg. Nos. 204,061, 416,514, and 635,295.
For Frozen Seafoods.
First use Feb. 15, 1964.

SN 245,424. Southern Fruit Distributors, Inc., d.b.a. Southern Fruit Distributors, Orlando, Fla. Filed May 11, 1966.



The "smiling clown" does not represent any particular living individual. No claim is made to the showing of the beverage in the glass. Owner of Reg. Nos. 92,795, 380,079, and 771,995.
For Fruit Flavored Canned Drinks Containing Fruit Juice or Fruit Juices as a Base.
First use at least as early as July 13, 1959.

SN 245,425. Southern Fruit Distributors, Inc., d.b.a. Southern Fruit Distributors, Orlando, Fla. Filed May 11, 1966.

CIRCUS

Owner of Reg. Nos. 92,795, 380,079, and 771,995.
For Fruit Flavored Canned Drinks Containing Fruit Juice or Fruit Juices as a Base.
First use at least as early as July 13, 1959.

SN 245,426. Southern Fruit Distributors, Inc., d.b.a. Southern Fruit Distributors, Orlando, Fla. Filed May 11, 1966.

CIRCUS



The "smiling clown" does not represent any particular living individual. No claim is made to the showing of the beverage in the glass. Owner of Reg. Nos. 92,795, 380,079, and 771,995.
For Fruit Flavored Canned Drinks Containing Fruit Juice or Fruit Juices as a Base.
First use at least as early as July 13, 1959.

Class 47 — Wines

SN 216,754. United Vintners, Inc., d.b.a. Italian Swiss Colony, San Francisco, Calif. Filed Apr. 16, 1965.

Rhine Meister

The word "Meister" is the German equivalent of the English word "master." No claim is made to the word "Rhine" apart from the mark as shown.
For Wine.
First use Feb. 24, 1965.

SN 216,755. United Vintners, Inc., d.b.a. Italian Swiss Colony, San Francisco, Calif. Filed Apr. 16, 1965.

Rhine Skeller

No claim is made to the word "Rhine" apart from the mark as shown.
For Wine.
First use Mar. 26, 1965.

SN 228,192. L. N. Renault & Sons, Inc., Egg Harbor City, N.J. Filed Sept. 20, 1965.

BLONDE LADY

For Wines.
First use Sept. 14, 1965.

Class 48 — Malt Beverages and Liquors

SN 234,021. Fubrmann & Schmidt Brewing Company, Shamokin, Pa. Filed Dec. 6, 1965.

INNSBRAU

For Fermented Malt Beverages, Particularly Beer and Ale.
First use on or about Dec. 1, 1965.

SN 235,330. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Dec. 27, 1965.

REDI-HOP

For Hop Extract Preparation.
First use Oct. 19, 1965.

SN 235,331. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Dec. 27, 1965.

HOPP-II

For Hop Extract Preparation.
First use Oct. 19, 1965.

Class 49 — Distilled Alcoholic Liquors

SN 184,033. Cockburn & Campbell Ltd., Edinburgh, Scotland. Filed Jan. 10, 1964.

The LAIRD o' COCKPEN'S



Owner of British Reg. No. 440,573, dated Sept. 10, 1923.
For Whisky.

SN 214,639. Cochrane, Blair & Company (Distillers) Limited, Glasgow, Scotland, assignee of Gilmore & Co., South San Francisco, Calif. Filed Mar. 22, 1965.

KING'S GOLD

For Blended Scotch Whisky.
First use Feb. 5, 1965; in commerce Mar. 12, 1965.

Class 50 — Merchandise Not Otherwise Classified

SN 194,939–H. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.



The mark consists of a stylized coniferous tree within a triangle. Owner of Reg. Nos. 698,826 and 722,722.
For Moladble Laminated Wood Church Crosses.
First use Mar. 1, 1960.

SN 203,018. Robert McMichael, Inc., New York, N.Y. Filed Sept. 30, 1964.

homemaker

The drawing is lined for the colors red and blue, but no claim is made to color.
For Gift Packages Containing an Assortment of Household Goods—Namely, Foods, Soaps, Scouring Pads, Deodorants, Cosmetics, and Medicinals.
First use Sept. 4, 1964.

SN 209,941. Monogram Models, Inc., Morton Grove, Ill. Filed Jan. 14, 1965.

DARRYL STARBIRD

"Darryl Starbird" identifies a living individual whose consent is of record.
For Hobby-Type Kits for Assembling Model Automobiles.
First use Apr. 29, 1963.

SN 228,341. Dejay Compo Company, North Hollywood, Calif. Filed Sept. 22, 1965.

dejay

For Decorative Ornaments and Artifacts.
First use Jan. 2, 1962.

SN 231,851. Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed Oct. 29, 1965.

TUPPER TOYS

Applicant disclaims the word "Toys" apart from the mark as shown. Owner of Reg. Nos. 797,112 and 797,114.
For Bird House and Feeder.
First use Sept. 17, 1965.

SN 233,462. Com-Tech, Inc., Beverly Hills, Calif. Filed Nov. 29, 1965.

MAKE A NAME FOR YOURSELF

For Embossable Pressure-Sensitive Tape Used for Labeling and Marking in Identification Systems.
First use Oct. 13, 1965.

SN 237,080. Oscar S. Callier and John Meyer (partnership), d.b.a. Good Trip Co., St. Louis, Mo. Filed Jan. 24, 1966.

GOOD TRIP

For Lantern Rigs.
First use June 12, 1965.

Class 51 — Cosmetics and Toilet Preparations

SN 162,691. Avon Products, Inc., New York, N.Y. Filed Feb. 14, 1963.

AVON HEAVENLY HUES

Owner of Reg. Nos. 724,313, 790,101, and others.
For Eye Shadow.
First use Feb. 5, 1963.

SN 184,307. Parfumerie Lubin Societe Anonyme, Paris, France. Filed June 9, 1966.

idole

LUBIN

The word "Idole" may be translated as "idol." Owner of U.S. Reg. Nos. 267,526 and 554,139.
For Perfume and Toilet Water.
First use September 1962; in commerce April 1963.

SN 221,067. Les Parfums Sterle, Paris, France. Filed June 14, 1965.

EAU FORTE

The French words "Eau Forte" mean "strong water." Owner of French Reg. No. 521,894, dated May 12, 1964 (Seine); Natl. Inst. No. 225,617.
For Perfumes and Toilet Water.

SN 229,743. Block Drug Company, Inc., Jersey City, N.J. Filed Oct. 11, 1965.

WERNET'S

Owner of Reg. Nos. 209,957, 503,955, and others.
For Preparations for the Cleaning and Polishing of Dentures, and for Holding Dentures in the Mouth.
First use on or about Sept. 1, 1948.

SN 230,078. Redken Laboratories, Inc., Van Nuys, Calif. Filed Oct. 13, 1965.

CLIMATRESS

For Hair Spray.
First use Sept. 13, 1965.

SN 232,210. Richard Hudnut, Morris Plains, N.J. Filed Nov. 5, 1965.

SMOOTH SET

Owner of Reg. No. 584,832.
For Hair Rinse.
First use Dec. 18, 1957.

SN 232,665. Chesebrough-Pond's Inc., New York, N.Y. Filed Nov. 15, 1965.

CLEAN-CONTROL

For Women's Hair Dressing.
First use Oct. 5, 1965.

SN 232,703. Lehn & Fink Products Corporation, Bloomfield, N.J. Filed Nov. 15, 1965.

SECRET OF THE SEA

Owner of Reg. No. 741,032.
For Cosmetic Cream and Cosmetic Emulsion for the Face and Body, Cosmetic Mask, Hand Cream, Cleansing Cream, Suntan Lotion, Face Powder, Makeup Foundation, and Bath Oil.
First use February 1961 on cosmetic cream.

SN 233,823. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Company, Los Angeles, Calif. Filed Dec. 2, 1965.

SPECIAL AGENT

For Men's Toiletries—Namely, Hair Dressing, Cologne, Shaving Cream, and After Shave Lotion.
First use Nov. 5, 1965.
Subj. to Intf. with SN 239,563.

SN 234,352. Kayser-Roth Corporation, New York, N.Y. Filed Dec. 10, 1965.

IT'S CRICKET

For Men's Cologne and After Shave Lotion.
First use Oct. 27, 1965.

SN 234,363. Pure Pharmacal Company, Houston, Tex. Filed Dec. 10, 1965.

BABY EARL

For Body Lotion and Bath Oil for Babies.
First use at least as early as Nov. 15, 1965.

SN 234,423. Hope Chemical Corporation, Garden City, N.Y. Filed Dec. 13, 1965.

BLADE

For Pre-Shave Lotion.
First use Nov. 9, 1964.

SN 234,529. Harriet Hubbard Ayer, Inc., New York, N.Y. Filed Dec. 14, 1965.

SIMPLY PINK

For Lipstick.
First use Mar. 24, 1948.

SN 234,701. S. S. Kresge Company, Detroit, Mich. Filed Dec. 14, 1965.

Kmart

Owner of Reg. Nos. 743,912, 791,329, and others.
For Mouthwashes.
First use on or before Oct. 19, 1965.

SN 234,769. Quality Products Co., Inc., Brooklyn, N.Y. Filed Dec. 16, 1965.

Santé

For Hair Conditioner.
First use June 24, 1965.

SN 234,802. Chesebrough-Pond's Inc., New York, N.Y. Filed Dec. 17, 1965.

Pond's COLD CREAM C

The words "Cold Cream" are disclaimed apart from the mark as shown.
For Toilet and Cosmetic Preparations—Namely, Cold Cream.
First use Nov. 16, 1965.

SN 234,923. Mercantile Stores Company, Inc., New York, N.Y. Filed Dec. 20, 1965.

Royal Wave

The word "Wave" is disclaimed apart from the mark as shown.
For Permanent Hair Waving Lotion.
First use Jan. 19, 1965.

SN 235,228. Rayette-Faberge, Inc., New York, N.Y. Filed Dec. 23, 1965.

LIMENTO

For Personal Deodorant.
First use Dec. 1, 1965.

SN 236,760. JFM Toiletries, Inc., d.b.a. Frank Pond Associates, Port Washington, N.Y. Filed Jan. 18, 1966.

JFM

For Men's Toiletries—Namely, Cologne, After Shave Lotion, and Talcum Powder.
First use Aug. 5, 1965.

SN 236,907. Max Factor & Co., d.b.a. Max Factor, Hollywood, Calif. Filed Jan. 20, 1966.

GRAN TURISMO

The Italian words "Gran Turismo" mean "grand touring."
For After Shave Lotion, Cologne, Hair Dressing, Pre-Electric Shave Lotion, Talc, and Deodorant.
First use Jan. 7, 1966.

SN 237,027. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics, Los Angeles, Calif. Filed Jan. 21, 1966.

CANTIQUE

The English meaning of the French word "Cantique" is "hymn."
For Cologne.
First use Jan. 3, 1966.

SN 237,028. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics, Los Angeles, Calif. Filed Jan. 21, 1966.

SONIC

For Cologne.
First use Jan. 3, 1966.

SN 237,809. Buty-Wave Products Co., Inc., Los Angeles, Calif. Filed Feb. 2, 1966.

FIRMÉ

For Permanent Wave Preparation and Styling Gel.
First use Apr. 20, 1965.

SN 237,925. Beardmore, Inc., East Rutherford, N.J. Filed Feb. 3, 1966.

CORESSA

For Bath Water Perfume.
First use before Oct. 31, 1965.

SN 237,942. DeMert & Dougherty, Inc., d.b.a. Vogue Laboratories, Chicago, Ill. Filed Feb. 3, 1966.

GRAND AWARD

For Aerosol Hair Spray.
First use on or about Nov. 1, 1965.

SN 238,056. Alexandra de Markoff Sales Corporation, New York, N.Y. Filed Feb. 4, 1966.

COLORIFIC

Owner of Reg. No. 704,388.
For Mascara.
First use August 1964.

SN 239,563. World Wide Perfumes, Inc., Montgomery, Ala. Filed Feb. 24, 1966.

U.S. SECRET AGENT

For After-Shave Lotion.
First use Nov. 22, 1965.
Subj. to Intf. with SN 233,823.

Class 52 — Detergents and Soaps

SN 166,968. The Barcolene Co., Boston, Mass. Filed Apr. 18, 1963.

all clear!

For Household Cleaner for Windows, Mirrors, Chrome, Enamel, and Tile, Distributed as a Household Item in Retail Grocery and Department Stores.
First use Mar. 5, 1963.

SN 218,761. Gunk Laboratories, Inc., River Forest, Ill. Filed May 13, 1965.

GUNK

Owner of Reg. Nos. 298,969, 763,670, and others.
For Cleaning and Degreasing Compounds for Industrial and Household Purposes.
First use at least as early as May 1957.

SN 218,762. Gunk Laboratories, Inc., River Forest, Ill. Filed May 13, 1965.

ENGINE BRITE

The word "Engine" is disclaimed apart from the mark as shown.
For Preparation for Cleaning and Degreasing Engines.
First use at least as early as February 1960.

SN 231,333. Chester Whitfield Smith, d.b.a. Whitfield Chemical Company, Detroit, Mich. Filed Oct. 22, 1965.

WHIT-STEEM

For Industrial Liquid Detergent Cleaner.
First use June 1962.

SN 231,725. Carolina Company, Inc., d.b.a. The Carolina Soap & Candle Makers, Southern Pines, N.C. Filed Oct. 28, 1965.

SACHET SOAPS

Applicant disclaims the exclusive right to use the word "Soaps" apart from the mark as shown.
For Toilet Soap.
First use on or about Mar. 1, 1965.

SN 233,572. The Barcolene Company, Boston, Mass. Filed Nov. 30, 1965.

PRY

For Paint Remover.
First use Apr. 18, 1951.

SN 233,773. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Dec. 2, 1965.

SPRAY SOLV

Applicant disclaims the exclusive use of the word "Spray" apart from the mark.
For Stain Remover for Use in Dry Cleaning.
First use Apr. 9, 1963.

SN 234,763. New Castle Fluid Chemical Company, New Castle, Pa. Filed Dec. 16, 1965.

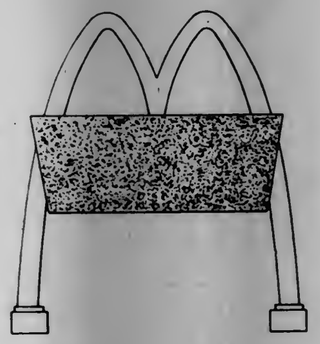
BRUSH MAGIC

No claim is made to the word "Brush," apart from the mark as shown.
For Cleaning Solution for Combs and Brushes, and the Like.
First use Nov. 26, 1965.

SERVICE MARKS

Class 100 — Miscellaneous

SN 163,741. McDonald's Corporation (Delaware corporation), Chicago, Ill., by merger of and change of name from McDonald's Corporation (Illinois corporation), Chicago, Ill. Filed Mar. 1, 1963.



Owner of Reg. No. 764,841.
For Restaurant Services.
First use on or about Sept. 25, 1962.

SN 180,772. Rodeway Inns of America, Phoenix, Ariz. Filed Nov. 8, 1963.



Applicant disclaims any right to protection in the use of the words "Solid Comfort" and "Old Fashioned Rates" separate and apart from the mark as shown. The drawing is lined for the colors blue, green, brown, and orange.
For Motel Services.
First use Nov. 5, 1962.

SN 190,422. Parliament House Motor Inns, Inc., Kansas City, Mo. Filed Apr. 6, 1964.

PARLIAMENT HOUSE

Applicant disclaims the word "House" apart from the mark as shown.
For Motel Services.
First use Feb. 2, 1962.

SN 190,428. Parliament House Motor Inns, Inc., Kansas City, Mo. Filed Apr. 6, 1964.

BARON OF BEEF

Applicant disclaims the words "of Beef" apart from the mark as shown.
For Restaurant Services.
First use June 2, 1962.

SN 192,130. The Bullfighter Restaurants, El Paso, Tex. Filed Apr. 24, 1964.



For Restaurant Services.
First use Oct. 12, 1963.

SN 199,102. Poland's Millennium of Christianity-Chicagoland Observance, Chicago, Ill. Filed Aug. 3, 1964.



Applicant disclaims the representation of the cross shown in the mark.
For Organization Services for Others—Namely, Organizing and Staging Historical and Religious Events, and the Dissemination of Information Concerning the Events.
First use Apr. 7, 1964.

SN 205,433. La Casa Pizzaria, Inc., Omaha, Nebr. Filed Nov. 3, 1964.



LA CASA

For Restaurant Service.
First use Jan. 1, 1953.

SN 207,072. National Association for Stock Car Auto Racing Inc., Daytona Beach, Fla. Filed Nov. 27, 1964.



Owner of Reg. Nos. 563,185 and 650,254.
For Regulating and Governing of Stock Automobile Races, and Testing of Automobiles and Automotive Products.
First use Jan. 1, 1964.

SN 214,591. WOFAC Corporation, Haddonfield, N.J. Filed Mar. 19, 1965.

MENTO

For Management Consultant and Industrial Engineering Services.
First use September 1964.

SN 219,937. World Wildlife Fund, Incorporated, Washington, D.C. Filed May 27, 1965.

WORLD WILDLIFE FUND

For Preservation of Endangered Species of Flora and Fauna by Such Means as Maintaining Game Preserves, Furnishing Equipment and Facilities to Governmental Agencies and Educational Institutions To Aid in the Sound Management of Natural Resources.
First use June 1962.

SN 221,389. J. Ray McDermott & Co., Inc., New Orleans, La. Filed June 17, 1965.



The drawing is lined for red and blue.
For Designing and Engineering Offshore Platforms (Including Platforms for the Exploration and Production of Oil and Gas, Light Houses, and Platforms for Sulfur Production), Mooring Systems, Loading Docks, Power Plants, Industrial Plants, Pipelines, Drainage Systems, Oil and Gas Production Systems, Petroleum Processing Facilities, Instrumentation Systems, Lighting Systems, Wharves, Bulkheads, Piers, Bridges, Roads, Wellheads, and Ships.
First use at least as early as Sept. 30, 1962.

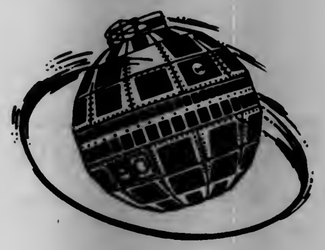
SN 221,616. Linen Supply Association of America, Miami Beach, Fla. Filed June 21, 1965.

LINEN SUPPLY ASSOCIATION OF AMERICA

For Trade Association Services—Namely, the Promotion of the Interests of Linen Supply Businesses Throughout the United States.
First use 1912.

Class 101 — Advertising and Business

SN 188,929. Telstar Productions & Publications, Inc., Westport, Conn. Filed Mar. 17, 1964.



For Promoting the Sale of the Goods and Services of Others by Providing Clients With Television and Radio Audience Participation Games and With Taped Radio and Television Programs of a General Entertainment Nature.
First use Sept. 9, 1963.

SN 204,074. Charles Scott Kelly and David Kelly (joint owners), d.b.a. Pixy Farm, Hudson, Wis. Filed Oct. 15, 1964.

PIXY-PAK

Owner of Reg. No. 761,024.
For Retail Food Store Services.
First use on or about Nov. 16, 1962.

SN 210,822. Texas Gas Transmission Corporation, Owensboro, Ky. Filed Jan. 27, 1965.

HOMEMAKER'S HOLIDAY

For Promotional and Advertising Programs To Promote Use and Sale of Gas Appliances of Others in Homes and Industry Through Contests, Conventions, Home Shows, Exhibitions, Demonstrations, and Appliance Shows.
First use Sept. 15, 1964.

SN 213,976. Homestead Valve Manufacturing Company, Coraopolis, Pa. Filed Mar. 12, 1965.

Jenny

Owner of Reg. Nos. 292,074, 576,205, and others.
For Business and Advertising Services—Namely, Installation and Maintenance of Self-Service Car Washing Equipment.
First use Nov. 27, 1964.

SN 214,011. The Right of Way Company, Lafayette, La. Filed Mar. 12, 1965.

ROWCO

The drawing is lined for red.
For Services Rendered to Companies Planning To Install New Pipe Lines and Transmission Systems—Namely, Making Title Searches, Acquiring Necessary Right of Way, and Settling Damage Claims.
First use Jan. 1, 1961.

SN 214,471. Shopping With Nancy, Chicago, Ill. Filed Mar. 18, 1965.

NANCY TAYLOR

The name "Nancy Taylor" is fictitious.
For Advertising Promotion of Products, Services, and Business Establishments.
First use prior to 1953.

SN 215,819. Southern Professional Football League, Huntsville, Ala. Filed Apr. 5, 1965.

SOUTHERN PROFESSIONAL FOOTBALL LEAGUE

The exclusive use of the words "Professional Football League" is disclaimed apart from the mark as shown.
For Performing Professional Football League Association Services—Namely, Promoting the Interests of Professional Football Teams by Disseminating Information to Press, Radio, and Television; Establishing Game Rules; Officiating at Games and Performing Other Similar Activities.
First use Apr. 8, 1963.

SN 218,934. Tulsa Fittings Corporation, Tulsa, Okla. Filed May 13, 1965.

TUF-T-COR

For Custom Tool Design Services—Namely, Engineering and Designing of Special Return Bends and Headers for Manufacturers in the Petroleum and Chemical Industries.
First use Apr. 15, 1965.

SN 220,197. Bradfute Corporation, Eastchester, N.Y. Filed June 2, 1965.

EASY-CASH

For Promoting the Sales of Goods and Services by Others by Means of Games or Contests.
First use Mar. 1, 1965.

SN 221,210. Schneider, Hill and Spangler, Inc., Philadelphia, Pa. Filed June 15, 1965.



For Personnel Placement Services.
First use March 1964.

SN 231,392. Crager G.M.C., Inc., Tulsa, Okla. Filed Oct. 23, 1965.



For Sale of New and Used Trucks.
First use June 1, 1965.

Class 102 — Insurance and Financial

SN 96,364. Securance Service, Inc., d.b.a. Securance Inc., Gibsonburg, Ohio. Filed May 3, 1960.

SECURANCE

For Insurance Agency Services.
First use Dec. 28, 1955.

SN 194,939–K. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.



The mark consists of a stylized coniferous tree within a triangle. Owner of Reg. Nos. 698,826 and 722,722.
For Financial Services—Namely, Financing Home Construction Performed for Others.
First use January 1963.

SN 206,133. Combined Registry Company, Chicago, Ill. Filed Nov. 13, 1964.

COMBINED REGISTRY COMPANY

For Accident and Health Insurance Brokerage Service.
First use November 1922.

SN 217,216. Security General Life Insurance Company, Oklahoma City, Okla. Filed Apr. 23, 1965.

SECURITY-MASTER

For Insurance Services—Namely, Underwriting Life Insurance.
First use Dec. 1, 1964.

SN 217,321. Family Life Insurance Company, Seattle, Wash. Filed Apr. 26, 1965.



For Life and Accident Insurance Underwriting Service.
First use no later than Mar. 16, 1961.

SN 218,817. United National Life Insurance Company, Mesa, Ariz. Filed May 13, 1965.



Applicant disclaims any exclusive right to use the representation of the outline of the United States apart from the mark as shown.
For Underwriting Life Insurance.
First use June 25, 1964.

Class 103 — Construction and Repair

SN 173,958. Union Oil Company of California, Los Angeles, Calif., assignee of The Pure Oil Company, Palatine, Ill. Filed July 29, 1963.

TRUKCARE

For Inspection of the Mechanical Condition of Automotive Trucks and Trailers, and the Rendering of Light Mechanical Repairs to Same.
First use on or about Nov. 1, 1962.

SN 181,847. Big O Tire Dealers, Inc., Englewood, Colo. Filed Nov. 26, 1963.

BIG O

For Tire Recapping and Retreading Services.
First use on or about Nov. 15, 1962.

SN 210,050. Reit-Price Manufacturing Company, Union City, Ind. Filed Jan. 15, 1965.



For Maintenance Services for Dry Cleaning Floors and Other Flat Surfaces.
First use Jan. 9, 1963.

SN 217,066. Wells Television, Inc., New York, N.Y. Filed Apr. 21, 1965.

WELLS

Owner of Reg. No. 754,029.
For Rental, Servicing, and Maintenance of Communication Equipment—Namely, Nurses' Call Units and Television Equipment in Hospitals, Hotels, and the Like.
First use Mar. 10, 1947.

Class 104 — Communication

SN 163,215. Charles W. Balthrope, San Antonio, Tex. Filed Feb. 21, 1963.

LUCKY LICENSE NUMBER PRODUCTION

Applicant disclaims the words "License Number" and "Production" apart from the mark as shown.
For Radio Audience Participtation Game Based on a Contest Involving Periodic Drawing of Automobile License Numbers and Issuing Prizes in Connection Therewith.
First use Apr. 5, 1950.

SN 218,487. Second Thursday Corporation, Nashville, Tenn. Filed May 10, 1965.

THE NASHVILLE SOUND

The word "Nashville" is disclaimed apart from the mark as shown.
For Radio Broadcasting Services, Featuring Western, Country, Folk, Popular, and Religious Music.
First use Apr. 23, 1963.

Class 106 — Material Treatment

SN 210,142. Malzone Sports, Inc., Tampa, Fla. Filed Jan. 18, 1965.

SPEED-COTE

For Treatment of Fabrics—Namely, Applying Lettering and Designs to the Goods of Others.
First use Nov. 19, 1964.

SN 219,115. Edge-Craft Process Co., Inc., New York, N.Y. Filed May 18, 1965.

DURA-SEALED

For Cutting and Edging Tapes of Others.
First use Mar. 19, 1952.

SN 223,142. Minox Corporation, New York, N.Y. Filed July 12, 1965.

MINOX

Owner of Reg. No. 721,951.
For Photographic Processing and Printing Services.
First use February 1954.

Class 107 — Education and Entertainment

SN 188,836. American Quarter Horse Association, Amarillo, Tex. Filed Mar. 17, 1964.



For Collecting and Recording the Pedigrees of Quarter Horses in the United States; Stimulating Interest in Quarter Horses by Aiding in the Staging of Horse Shows.
First use on or about Mar. 15, 1940.

SN 200,242. General Cinema Corporation, Boston, Mass. Filed Aug. 20, 1964.

CINEMA I & II

The word "Cinema" is disclaimed apart from the mark as shown.
For Operation and Maintenance of Theaters for the Exhibition of Motion Pictures, Wherein the Theaters Have a Common Lobby With Two Separate Auditoriums Opening Into Such Lobby.
First use May 30, 1963.

SN 209,667. David C. Cook Publishing Company, Elgin, Ill. Filed Jan. 11, 1965.

CHRISTIAN GROWTH

For Operating a Book Club for Children.
First use Sept. 2, 1964.

SN 216,298. Charles R. Gordon, d.b.a. Gordon's Fifth Avenue Gallery, New York, N.Y. Filed Apr. 12, 1965.

ARTFILATELIA

For Exhibitions and Public Displays of Paintaings and Sculpture as Portrayed on International Postage Stamps.
First use Nov. 17, 1964.

SN 228,516. Columbia Broadcasting System, Inc., New York, N.Y. Filed Sept. 24, 1965.

INTERNATIONAL HOUR

For Entertainment Services—Namely, the Title of a Television Program Featuring Entertainment of Various Types.
First use June 17, 1961.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

812,332. PEEL-A-WAY. W. Glenn Wunderly Co., d.b.a. Peel-A-Way Scientific. SN 202,647. Pub. 5–24–66. Filed 9–24–64.

812,333. GOLCONDA. Golconda Corporation. SN 215,412. Pub. 5–24–66. Filed 3–31–65.

812,334. SAND OF THE SOUTH. Wedron Silica Company. SN 217,960. Pub. 5–24–66. Filed 5–3–65.

812,335. COTILLION. Armour and Company. SN 219,107. Pub. 5–24–66. Filed 5–18–65.

812,336. CARVASTONE. Nadir Mining Company. SN 224,957. Pub. 5–24–66. Filed 8–4–65.

812,337. BECKSEAL. Beckwith-Arden Inc. SN 226,406. Pub. 5–24–66. Filed 8–25–65.

812,338. VELVALITE. Archer-Daniels-Midland Company. SN 226,979. Pub. 5–24–66. Filed 9–2–65.

812,339. VELVAPLAST. Archer-Daniels-Midland Company. SN 226,981. Pub. 5–24–66. Filed 9–2–65.

812,340. ZIP-SLIP. Archer-Daniels-Midland Company. SN 226,985. Pub. 5–24–66. Filed 9–2–65.

812,341. THE STURDY BIRD. Stone Mountain Grit Co., Inc. SN 228,296. Pub. 5–24–66. Filed 9–22–65.

812,342. VYCRON 55 POLYESTER A BEAUNIT FIBER. Beaunit Corporation. SN 228,322. Pub. 5–24–66. Filed 9–22–65.

812,343. LUBE PLUG. Montello, Inc. SN 232,712. Pub. 5–24–66. Filed 11–15–65.

Class 2—Receptades

812,344. NATURAL SPRAY. Lanvin-Charles of the Ritz, Inc. SN 201,846. Pub. 5–24–66. Filed 9–14–64.

812,345. PULL-OPEN. PepsiCo, Inc., by change of name from Pepsi-Cola Company. SN 202,300. Pub. 5–24–66. Filed 9–21–64.

812,346. WHITE HOUSE. Whit-Mor Mfg. Co., Inc. SN 202,400. Pub. 5–24–66. Filed 9–22–64.

812,347. TWIN PAK. Keyes Fibre Company. SN 210,681. Pub. 5–24–66. Filed 1–26–65.

812,348. CRUCIFORM. Weyerhaeuser Company. SN 214,492. Pub. 5–24–66. Filed 3–18–65.

812,349. BOX-CRAFTERS. Box-Crafters, Inc. SN 217,524. Pub. 5–24–66. Filed 4–28–65.

812,350. FEDERAL HOUSEWARES AND DESIGN. Nibot Corporation. SN 219,256. Pub. 5–24–66. Filed 5–19–65.

812,351. OD AND DESIGN. Oneida Ltd. SN 219,807. Pub. 5–24–66. Filed 5–26–65.

812,352. JETSTERS. National Can Corporation. SN 220,019. Pub. 5–24–66. Filed 5–28–65.

Class 4—Abrasives and Polishing Materials

812,353. ARMOGLOSS. Armour and Company. SN 192,884. Pub. 5–24–66. Filed 5–7–64.

812,354. IAP. Industrial Air Products Co. MULTIPLE CLASS (Classes 4, 6, 18, and 34). SN 197,584. Pub. 5–24–66. Filed 7–10–64.

812,355. GOLCONDA. Golconda Corporation. SN 215,413. Pub. 5–24–66. Filed 3–31–65.

812,356. TEXSTEEL. International Steel Wool Corporation. SN 223,032. Pub. 5–24–66. Filed 7–9–65.

Class 6—Chemicals and Chemical Compositions

812,354. (See Class 4 for this trademark.)

812,357. ARCADENE. Atlantic Research Corporation. SN 189,531. Pub. 5–24–66. Filed 3–25–64.

812,358. ARCANE. Atlantic Research Corporation. SN 189,532. Pub. 5–24–66. Filed 3–25–64.

812,359. GRANDPA PIDGEON AND DESIGN. Pidgeon Vitrified China Company. SN 194,219. Pub. 5–24–66. Filed 5–25–64.

812,360. PASHEA'S AND DESIGN. Private Brands, Inc., d.b.a. Pashea's. SN 201,867. Pub. 5–24–66. Filed 9–14–64.

812,361. DC AND DESIGN. Dominion Chemical Company. SN 216,672. Pub. 5–24–66. Filed 4–16–65.

812,362. RUTIOX. British Titan Products Company Limited. SN 217,707. Pub. 5–24–66. Filed 4–30–65.

812,363. HZ-1. Air Products and Chemicals Inc. SN 222,901. Pub. 5–24–66. Filed 7–8–65.

812,364. THERMOFIN. Carl Spaeter Gesellschaft m.b.H. SN 224,473. Pub. 5–24–66. Filed 7–28–65.

812,365. CONOCO. Continental Oil Company. SN 225,472. Pub. 5–24–66. Filed 8–11–65.

812,366. GLASS H. FMC Corporation. SN 226,948. Pub. 5–24–66. Filed 8–19–65.

812,367. FORMATINT. Formaglas, Inc. SN 226,437. Pub. 5–24–66. Filed 8–25–65.

Class 8—Smokers' Articles, Not Including Tobacco Products

812,368. FLAME (DESIGN). Mylflam Metallwaren Dr. Maltner Kommanditgesellschaft. SN 201,958. Pub. 5–24–66. Filed 9–15–64.

Class 9—Explosives, Firearms, Equipments, and Projectiles

812,369. T. Etat Francais Représenté par le Ministre des Armées, Délégation Ministérielle pour l'Armement (Direction des Poudres). SN 198,724. Pub. 5–24–66. Filed 7–20–64.

Class 12—Construction Materials

812,370. POLY-PILE. The Schlegel Manufacturing Company. SN 194,522. Pub. 5–24–66. Filed 5–28–64.

812,371. DRY BOND. Product Development Company. SN 199,760. Pub. 5–24–66. Filed 8–12–64.

812,372. "PARTITIONER." Rockaway Metal Products Corp. SN 201,148. Pub. 5–24–66. Filed 9–2–64.

812,373. SWEPCO. Southwestern Petroleum Corporation. SN 201,239. Pub. 5–24–66. Filed 9–3–64.

812,374. CARB-I-TEX. Basic Carbon Corporation. SN 202,668. Pub. 5–24–66. Filed 9–25–64.

812,375. WIDESCOPE. Widescope, Incorporated. SN 216,546. Pub. 5–24–66. Filed 4–14–65.

812,376. A-H PRODUCTS AND DESIGN. Anti-Hydro Waterproofing Co. SN 216,651. Pub. 5–24–66. Filed 4–16–65.

812,377. SUPER PLY AND DESIGN. Superior Concrete Accessories, Inc. SN 216,886. Pub. 5–24–66. Filed 4–19–65.

812,378. STARRCO. Starrco Company, Inc., assignee of John J. Starr, d.b.a. Starrco Company. SN 217,060. Pub. 5–24–66. Filed 4–21–65.

812,379. SUPERTIE. Superior Concrete Accessories, Inc. SN 217,574. Pub. 5–24–66. Filed 4–28–65.

812,380. MEADOWBROOK. The MacGillis & Gibbs Company. SN 217,748. Pub. 5–24–66. Filed 4–30–65.

812,381. SILVER BAY. Doughboy Industries, Inc. SN 217,867. Pub. 5–24–66. Filed 5–3–65.

812,382. SILVER LAKE. Doughboy Industries, Inc. SN 217,868. Pub. 5–24–66. Filed 5–3–65.

812,383. SILVER OCEAN. Doughboy Industries, Inc. SN 217,869. Pub. 5–24–66. Filed 5–3–65.

812,384. SILVER SEA. Doughboy Industries, Inc. SN 217,870. Pub. 5–24–66. Filed 5–3–65.

812,385. MISCELLANEOUS DESIGN. Marble Products Company of Georgia, d.b.a. Marble Products Company. SN 218,305. Pub. 5–24–66. Filed 5–7–65.

812,386. FIX'T 4-GOOD AND DESIGN. Specialized Coatings, Inc. SN 218,703. Pub. 5–24–66. Filed 5–12–65.

812,387. CONSTRUCTO SEAL. The Valspar Corporation. SN 219,288. Pub. 5–24–66. Filed 5–19–65.

812,388. ROYAL VERSA-TILE. Royal Tile Manufacturing Company. SN 220,155. Pub. 5–24–66. Filed 6–1–65.

812,389. "HURRIPANE." James F. Klein. SN 222,946. Pub. 5–24–66. Filed 7–8–65.

812,390. NUCON AND DESIGN. Harbison-Walker Refractories Company. SN 223,405. Pub. 5–24–66. Filed 7–15–65.

812,391. SM THE HOUSE THAT QUALITY BUILT AND DESIGN. Schnee-Morehead, Inc. SN 224,648. Pub. 5–24–66. Filed 7–30–65.

812,392. VERSA-TILE. M. H. Detrick Company. SN 225,297. Pub. 5–24–66. Filed 8–9–65.

812,393. PRESDFLAKE. Masonite Corporation. SN 225,579. Pub. 5–24–66. Filed 8–12–65.

812,394. DELTONE. Del Valle, Kahman & Co. SN 225,936. Pub. 5–24–66. Filed 8–18–65.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

812,395. ZIPLON. Yoshida Kogyo K.K. SN 202,402. Pub. 5–24–66. Filed 9–22–64.

812,396. DEXLOCK. Dexter Industries, Inc. SN 215,604. Pub. 5–24–66. Filed 4–2–65.

812,397. UNDERCOVER. Amway Corporation. SN 224,902. Pub. 5–24–66. Filed 8–4–65.

812,398. HYDROBOLT. VSI Corporation. SN 226,692. Pub. 5–24–66. Filed 8–27–65.

812,399. SWORD. Searchway, Incorporated. SN 228,843. Pub. 5–24–66. Filed 9–28–65.

812,400. GRO-TUB. Hankscraft Company. SN 229,089. Pub. 5–24–66. Filed 10–1–65.

812,401. THOM BUOY. Laurence E. Thom, d.b.a. Thom Buoy Company. SN 229,148. Pub. 5–24–66. Filed 10–1–65.

812,402. REDYFLO. Woodford Manufacturing Co. SN 229,165. Pub. 5–24–66. Filed 10–1–65.

Class 15—Oils and Greases

812,403. THRIFT WAY. Thriftway Gas Stations, Inc. SN 206,778. Pub. 5–24–66. Filed 11–23–64.

Class 16—Protective and Decorative Coatings

812,404. AP. Ball Brothers Company Incorporated. SN 189,534. Pub. 5–24–66. Filed 3–25–64.

812,405. D·H·R AND DESIGN. Finnaren & Haley, Inc., assignee of Denny, Hilborn & Rosenbach Incorporated. SN 199,457. Pub. 5–24–66. Filed 8–7–64.

812,406. DURAQUA. Maas & Waldstein Co. SN 218,559. Pub. 5–24–66. Filed 5–11–65.

812,407. KAYBARITE. The Bishop and Babcock Corporation. SN 222,650. Pub. 5–24–66. Filed 7–6–65.

812,408. CRESTALL. EmCor, Inc. SN 225,940. Pub. 5–24–66. Filed 8–18–65.

Class 17—Tobacco Products

812,409. BOSWELL'S BEST. Freeman & Gossage, Inc. SN 192,703. Pub. 5–24–66. Filed 5–5–64.

812,410. ORMOND JUNIOR ETC. AND DESIGN. Rinsoz & Ormond S.A. SN 219,270. Pub. 5–24–66. Filed 5–19–65.

812,411. VAN ROSSEM'S TROOST AND DESIGN. N.V. Koninklijke Tabakfabriek, Koffiebranderij en Theehandel J. & A. C. Van Rossem, d.b.a. Royal Tobacco Works J. & A. C. Van Rossem. SN 223,253. Pub. 5–24–66. Filed 7–13–65.

812,412. BOLERO. Universal Cigar Corporation. SN 230,723. Pub. 5–24–66. Filed 10–20–65.

Class 18—Medicines and Pharmaceutical Preparations

812,354. (See Class 4 for this trademark.)

812,413. AMWAY. Amway Corporation. SN 223,500. Pub. 5–24–66. Filed 7–16–65.

812,414. AMWAY AND DESIGN. Amway Corporation. SN 223,501. Pub. 5–24–66. Filed 7–16–65.

812,415. NATUR-LAB. Fred Meyer, Inc. SN 229,989. Pub. 5–24–66. Filed 10–12–65.

812,416. COM-VAC L. Bandy Laboratories, Inc. SN 230,355. Pub. 5–24–66. Filed 10–18–65.

812,417. PRODINE. Whitmoyer Laboratories, Inc. SN 230,740. Pub. 5–24–66. Filed 10–20–65.

812,418. PALFIUM. The G. F. Harvey Company, Inc. SN 234,419. Pub. 5–24–66. Filed 12–13–65.

812,419. PALLIA. Smith Kline & French Laboratories. SN 234,676. Pub. 5–24–66. Filed 12–15–65.

812,420. DULCEPRIN. Abbott Laboratories. SN 234,796. Pub. 5–24–66. Filed 12–17–65.

812,421. ASPEN. L. T. York Company. SN 234,983. Pub. 5–24–66. Filed 12–20–65.

812,422. CONTRABETIS. Bristol-Myers Company. SN 234,991. Pub. 5–24–66. Filed 12–21–65.

812,423. LOROXIDE-HC. Dermik Pharmacal Co., Inc. SN 235,033. Pub. 5–24–66. Filed 12–16–65.

Class 19—Vehicles

812,424. HANDEE. Redden Platt, d.b.a. Plant City Body & Iron Works. SN 202,103. Pub. 5–24–66. Filed 9–17–64.

812,425. TRAVEL CRUISER. Travel Equipment Corporation. SN 203,355. Pub. 5–24–66. Filed 10–5–64.

812,426. IMP. Thiokol Chemical Corporation. SN 204,105. Pub. 5–24–66. Filed 10–15–64.

812,427. CHALLENGER. Mickey Thompson Enterprises, Inc. SN 205,473. Pub. 5–24–66. Filed 11–3–64.

Class 20 — Linoleum and Oiled Cloth

812,428. SOMDAL. La Manufacture de Feutres de Mouzon (Anciens Etablissements Roger Sommer & Ses Fils). SN 218,876. Pub. 5–24–66. Filed 5–14–65.

812,429. DALSOM. La Manufacture de Feutres de Mouzon (Ancien Etablissements Roger Sommer & Ses Fils). SN 219,887. Pub. 5–24–66. Filed 5–27–65.

812,430. STYLE-MATES. Multicolor Corporation. SN 226,070. Pub. 5–24–66. Filed 8–19–65.

Class 21 — Electrical Apparatus, Machines, and Supplies

812,431. TC-TRIM AND DESIGN. JFD Electronics Corporation. SN 163,845. Pub. 5–24–66. Filed 3–4–63.

812,432. THE FERRARA LINE. A. W. Pistol Inc. SN 189,013. Pub. 5–24–66. Filed 3–18–64.

812,433. FGP. Ultra Carbon Corporation. SN 199,931. Pub. 5–24–66. Filed 8–14–64.

812,434. DYNATONE AND DESIGN. Edmund Eberdt, d.b.a. Eberdt Company. SN 201,192. Pub. 5–24–66. Filed 9–3–64.

812,435. ADTEC. Advanced Technology Corporation. SN 201,637. Pub. 5–24–66. Filed 9–11–64.

812,436. BLINK-A-LITE. Utility Sales Corporation. SN 202,970. Pub. 5–24–66. Filed 9–29–64.

812,437. FANON-MASCO. Fanon Electronic Industries, Inc. SN 202,991. Pub. 5–24–66. Filed 9–30–64.

812,438. SEALED CURRENT AND DESIGN. Sel-Rex Corporation. SN 204,197. Pub. 5–24–66. Filed 10–16–64.

812,439. PORTA-TAPE. Telepro Industries Incorporated. SN 210,821. Pub. 5–24–66. Filed 1–27–65.

812,440. SANDAMPER. Sandamp Systems Inc. SN 210,989. Pub. 5–24–66. Filed 1–29–65.

812,441. HORIZON HAZE. Joslyn Mfg. and Supply Co. SN 212,009. Pub. 5–24–66. Filed 2–15–65.

812,442. GUARDAC. Lorain Products Corporation. SN 212,018. Pub. 5–24–66. Filed 2–15–65.

812,443. DEPENDAC. Lorain Products Corporation. SN 212,019. Pub. 5–24–66. Filed 2–15–65.

812,444. CUE-SWITCH. Industrial Electronic Engineers, Inc. SN 212,539. Pub. 5–24–66. Filed 2–23–65.

812,445. MARK 10. Delta Products, Inc. SN 213,848. Pub. 5–24–66. Filed 3–11–65.

812,446. REPRESENTATION OF CHEVRON (DESIGN). Standard Oil Company of California. SN 214,194. Pub. 5–24–66. Filed 3–15–65.

812,447. EKTACOM. Fisher Berkeley Corporation. SN 217,326. Pub. 5–24–66. Filed 4–26–65.

812,448. TOASTERBORD. Johns-Manville Corporation. SN 219,577. Pub. 5–24–66. Filed 5–24–65.

812,449. MAGIC HAND. Beech Aircraft Corporation. SN 221,335. Pub. 5–24–66. Filed 6–17–65.

Class 22 — Games, Toys, and Sporting Goods

812,450. ROYAL YO-YO TOPS AND DESIGN. Royal Tops Manufacturing Co., Inc. SN 121,434. Pub. 5–24–66. Filed 6–5–61.

812,451. ROYAL MONARCH YO-YO TOPS AND DESIGN. Royal Tops Manufacturing Co., Inc. SN 136,593. Pub. 5–24–66. Filed 1–25–62.

812,452. ORBIT-WHEEL AND GUIDANCE SYSTEM. Paul Sakwa. SN 193,048. Pub. 5–24–66. Filed 5–8–64.

812,453. SPRA-ME-HOOP. The Mayhew Company. SN 202,289. Pub. 5–24–66. Filed 9–21–64.

812,454. SPIN-ART. Technomatic Corporation. SN 208,513. Pub. 5–24–66. Filed 12–16–64.

812,455. DIAL-A-WINNER. Arnold Hartley, d.b.a. Specialized Mass Markets. SN 208,574. Pub. 5–24–66. Filed 12–21–64.

812,456. STRETCH TO HEALTH. Healthways. SN 209,262. Pub. 5–24–66. Filed 1–4–65.

812,457. PLOT-A-RACE. Harold A. Harrison. SN 209,784. Pub. 5–24–66. Filed 1–12–65.

812,458. MIDWAY. The Avalon Hill Company. SN 210,070. Pub. 5–24–66. Filed 1–18–65.

812,459. FUTURISTA. Monogram Models, Inc. SN 220,125. Pub. 5–24–66. Filed 6–1–65.

812,460. TORTURE TRACK. Ideal Toy Corporation. SN 223,420. Pub. 5–24–66. Filed 7–15–65.

812,461. "PATIO PONY." Columbia Toy Products, Inc. SN 223,641. Pub. 5–24–66. Filed 7–19–65.

812,462. BED BUG. Lakeside Industries, Inc. SN 224,103. Pub. 5–24–66. Filed 7–23–65.

812,463. SKEEJIT. Wolverine Shoe and Tanning Corporation. SN 224,279. Pub. 5–24–66. Filed 7–26–65.

812,464. KNAUTSCHFRATZE. Charles Gregor Creations Incorporated. SN 224,945. Pub. 5–24–66. Filed 8–4–65.

812,465. COUNT YOUR FINGERS. Joseph L. Marzo. SN 225,044. Pub. 5–24–66. Filed 8–5–65.

812,466. CROSS COURT. Sandy Frederick Kraemer. SN 225,165. Pub. 5–24–66. Filed 8–6–65.

812,467. BABY SECRET. Mattel, Inc. SN 225,587. Pub. 5–24–66. Filed 8–12–65.

812,468. TRIK-MASTER. Cypress Gardens Skis, Inc. SN 225,842. Pub. 5–24–66. Filed 8–13–65.

812,469. HOT LINE. Edwin F. Wolff. SN 225,693. Pub. 5–24–66. Filed 8–13–65.

812,470. GO-GO. Brumberger Co., Inc. SN 225,722. Pub. 5–24–66. Filed 8–16–65.

812,471. MAJOR'S RAIDERS. John Shearman Donaldson, d.b.a. J. Shearman Donaldson. SN 226,836. Pub. 5–24–66. Filed 8–31–65.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

812,472. DOCKWORKER. Otis Elevator Company. SN 163,566. Pub. 5–24–66. Filed 3–4–63.

812,473. HONEMATIC. Honematic Machine Corporation. SN 182,265. Pub. 5–24–66. Filed 12–3–63.

812,474. IFCO AND DESIGN. IFCO, Inc., d.b.a. Industrial Furnace Company, Inc. SN 204,070. Pub. 5–24–66. Filed 10–15–64.

812,475. ROTEX AND DESIGN. Rotex Punch Company, Inc. SN 205,007. Pub. 5–24–66. Filed 10–28–64.

812,476. RAYMOND. Combustion Engineering, Inc. MULTIPLE CLASS (Classes 23, 26, and 34). SN 208,890. Pub. 5–24–66. Filed 12–28–64.

812,477. DUOBOX. Sverre Munck Aksjeselskap. SN 211,393. Pub. 5–24–66. Filed 2–4–65.

812,478. LAFAYETTE. Lafayette Radio Electronics Corporation. SN 217,551. Pub. 5–24–66. Filed 4–28–65.

812,479. MINIROUNDER. Arburg Maschinenfabrik Hehl & Söhne. SN 217,695. Pub. 5–24–66. Filed 4–30–65.

812,480. ROLLWAY AND DESIGN. Rollway Bearing Company, Inc. SN 217,935. Pub. 5–24–66. Filed 5–3–65.

812,481. CORCORAN LOUISVILLE FILM TRAYS AND DESIGN. Matt. Corcoran Company. SN 217,991. Pub. 5–24–66. Filed 5–4–65.

812,482. TANGI-MATIC. Threadwell Tap and Die Company. SN 218,926. Pub. 5–24–66. Filed 5–14–65.

812,483. THREADWELL. Threadwell Tap and Die Company. SN 219,156. Pub. 5–24–66. Filed 5–18–65.

812,484. THREADWELL ETC. AND DESIGN. Threadwell Tap and Die Company. SN 219,369. Pub. 5–24–66. Filed 5–20–65.

812,485. PERSONNA. Philip Morris Incorporated. SN 220,312. Pub. 5–24–66. Filed 6–3–65.

812,486. MISCELLANEOUS DESIGN. Firma Ferdinand Bernhard Schmetz. SN 222,018. Pub. 5–24–66. Filed 6–25–65.

812,487. CLIPPER-VAC. Rheem Manufacturing Company. SN 223,907. Pub. 5–24–66. Filed 7–21–65.

812,488. REO-MATIC. Wheel Horse Products, Inc. SN 224,671. Pub. 5–24–66. Filed 7–30–65.

812,489. TURN-O-MATIC. J. L. Gilbert Incorporated. SN 230,145. Pub. 5–24–66. Filed 10–14–65.

812,490. POGO PIC. Murray L. Jayne, d.b.a. General Pneumatics. SN 230,163. Pub. 5–24–66. Filed 10–14–65.

812,491. CEV. Johnson Products, Inc. SN 230,255. Pub. 5–24–66. Filed 10–15–65.

812,492. EDGEGARD. Baker Instruments, Inc. SN 231,963. Pub. 5–24–66. Filed 10–7–65.

Class 26 — Measuring and Scientific Appliances

812,476. (See Class 23 for this trademark.)

812,493. SPERRY. Automation Industries, Inc. SN 190,581. Pub. 5–24–66. Filed 4–8–64.

812,494. PLANALOG. Planalog Inc., by change of name from Management Studies, Inc. SN 191,423. Pub. 5–24–66. Filed 4–17–64.

812,495. AN ACCURA T SYSTEM LENS AND DESIGN. Accura, Ltd. SN 197,806. Pub. 5–24–66. Filed 7–14–64.

812,496. FLAW-FINDER. E. W. Pike & Co., Inc. SN 198,077. Pub. 5–24–66. Filed 7–17–64.

812,497. ACRISON. Acrison Incorporated. SN 198,308. Pub. 5–24–66. Filed 7–22–64.

812,498. SENTINEL. Johnson-Williams, Inc. SN 198,561. Pub. 5–24–66. Filed 7–27–64.

812,499. DYNERTIAL. Brittain Industries, Inc. SN 200,320. Pub. 5–24–66. Filed 8–21–64.

812,500. PEEL-A-WAY. W. Glenn Wunderly Co., d.b.a. Peel-A-Way Scientific. SN 202,648. Pub. 5–24–66. Filed 9–24–64.

812,501. ACME. Acme Ruler & Advertising Company, Limited. SN 203,908. Pub. 5–24–66. Filed 10–12–64.

812,502. DIADUR. Firma Dr. Johannes Heidenhain. SN 204,252. Pub. 5–24–66. Filed 10–19–64.

812,503. UPJOHN VANGUARD OF MEDICINE. The Upjohn Company. SN 204,529. Pub. 5–24–66. Filed 10–21–64.

812,504. VARIPASS. Optics Technology, Inc. SN 205,330. Pub. 5–24–66. Filed 11–2–64.

812,505. LINK. General Precision, Inc. SN 210,556. Pub. 5–24–66. Filed 1–25–65.

812,506. HATCH-LINER. Gregory S. Dolgorukov, d.b.a. Dolgorukov Manufacturing Company. SN 211,993. Pub. 5–24–66. Filed 2–15–65.

812,507. BEAUTI-LITE. Art-Craft Optical Company, Inc. SN 213,086. Pub. 5–24–66. Filed 3–2–65.

812,508. GT GENERAL TALLY AND DESIGN. General Tally Co. SN 213,108. Pub. 5–24–66. Filed 3–2–65.

812,509. TEACH-R-GUIDE. Teach-R-Guide Corp. SN 213,622. Pub. 5–24–66. Filed 3–8–65.

812,510. STOP-LITE. Products Engineering Co. SN 213,711. Pub. 5–24–66. Filed 3–9–65.

812,511. MAGNA-WAND. Dr. Leonard Streitfeld, d.b.a. The Magna-Wand Company. SN 219,363. Pub. 5–24–66. Filed 5–20–65.

812,512. THREADWELL, ETC. AND DESIGN. Threadwell Tap and Die Company. SN 219,370. Pub. 5–24–66. Filed 5–20–65.

Class 27 — Horological Instruments

812,513. SHARP. Sharp Watch Corporation. SN 219,624. Pub. 5–24–66. Filed 5–24–65.

Class 28 — Jewelry and Precious-Metal Ware

812,514. LINGUETTE. General Graphics, Inc. SN 178,121. Pub. 5–24–66. Filed 10–1–63.

812,515. RICARDO. Ricardo, Inc. SN 226,286. Pub. 5–24–66. Filed 8–23–65.

Class 29 — Brooms, Brushes, and Dusters

812,516. LINT PIC-UP. Helmac Products Corporation. SN 172,741. Pub. 5–24–66. Filed 7–10–63.

Class 31 — Filters and Refrigerators

812,517. DICED ICE. Borg-Warner Corporation. SN 193,925. Pub. 5–24–66. Filed 5–21–64.

812,518. SPUDTROL. Industrial Refrigeration and Equipment Company. SN 203,660. Pub. 5–24–66. Filed 10–9–64.

812,519. MISCELLANEOUS DESIGN. Karmaxin Products Corporation. SN 211,654. Pub. 5–24–66. Filed 2–9–65.

812,520. EATON AND DESIGN. Eaton Yale & Towne Inc., by change of name and merger of Eaton Manufacturing Company. SN 215,714. Pub. 4–26–66. Filed 4–5–65.

812,521. ABEDEM. Société d'Etudes, de Recherches et d'Applications pour l'Industrie. SN 218,702. Pub. 5–24–66. Filed 5–12–65.

812,522. MELACEL. Pall Corporation. SN 219,902. Pub. 5–24–66. Filed 5–27–65.

812,523. NEFCO. Nefco Filter Corporation. SN 224,230. Pub. 5–24–66. Filed 7–26–65.

Class 32 — Furniture and Upholstery

812,524. HIDE-A-GAP. Wilshire Bedding Company, Inc., d.b.a. Wilshire Bedding Co., Inc. SN 206,671. Pub. 5–24–66. Filed 11–20–64.

812,525. VISTEM VEEFILE. Visirecord, Inc. SN 213,918. Pub. 5–24–66. Filed 3–11–65.

812,526. EDGECRAFT. The Mica Corporation. SN 216,320. Pub. 5–24–66. Filed 4–12–65.

812,527. PAN-WORLD. Drexel Enterprises, Inc. SN 227,016. Pub. 5–24–66. Filed 9–2–65.

812,528. PRIDE TRIMBLE AND DESIGN. Trimble Products Incorporated. SN 227,629. Pub. 5–24–66. Filed 9–10–65.

Class 34 — Heating, Lighting, and Ventilating Apparatus

812,354. (See Class 4 for this trademark.)

812,476. (See Class 23 for this trademark.)

812,529. FROST GUARD. Gas-Fired Products, Inc., by change of name from Bright Leaf Industries, Incorporated. SN 190,330. Pub. 5–24–66. Filed 4–6–64.

812,530. INFRA RED HI-FLUX. Hupp Corporation. SN 194,183. Pub. 5-24-66. Filed 5-25-64.

812,531. FAST. Lake Chemi al Co. SN 196,453. Pub. 5-24-66. Filed 6-25-64.

812,532. ROTOTHERM. Artisan Industries, Inc. SN 212,379. Pub. 5-24-66. Filed 2-19-65.

812,533. AQUADUCT AND DESIGN. Aquaduct Humidity Corporation. SN 213,840. Pub. 5-24-66. Filed 3-11-65.

812,534. CUMAPART. Eclipse Fuel Engineering Co. SN 214,097. Pub. 5-24-66. Filed 3-15-65.

812,535. SNUFFER COOKER AND DESIGN. Leslie Gilbert Thomas. SN 214,800. Pub. 5-24-66. Filed 3-23-65.

812,536. FASTEAM. Komo Corporation. SN 215,371. Pub. 5-24-66. Filed 3-29-65.

812,537. TERMINAIR. H. H. Robertson Company. SN 219,615. Pub. 5-24-66. Filed 5-24-65.

812,538. CIRC-L-JET. Turner Corporation. SN 219,929. Pub. 5-24-66. Filed 5-27-65.

812,539. COLUMBIA TORCHES. American Electric and Machine Co., Inc. SN 220,996. Pub. 5-24-66. Filed 6-14-65.

812,540. WATERLOO. Dynamics Corporation of America. SN 221,482. Pub. 5-24-66. Filed 6-18-65.

812,541. WATERLOO AND DESIGN. Dynamics Corporation of America. SN 221,483. Pub. 5-24-66. Filed 6-18-65.

812,542. FITZ AIRE. The Fitzpatrick Company. SN 225,750. Pub. 5-24-66. Filed 8-16-65.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

812,543. SURE-FITZ. The Fitzgerald Manufacturing Company. SN 222,566. Pub. 5-24-66. Filed 7-2-65.

812,544. ULTRA-FLO. Martin Tire and Supply, Inc. SN 222,589. Pub. 5-24-66. Filed 7-2-65.

Class 36—Musical Instruments and Supplies

812,545. LA GITANA. Thomas Edward Knatt. SN 214,347. Pub. 5-24-66. Filed 3-17-65.

812,546. SURF A-LELE AND DESIGN. Ancil A. Swagerty, d.b.a. Swagerty Specialties Company. SN 219,632. Pub. 5-24-66. Filed 5-24-65.

812,547. CHANTE RECORDS AND DESIGN. Louis Alfieri, d.b.a. Chanté Records. SN 219,856. Pub. 5-24-66. Filed 5-27-65.

Class 37—Paper and Stationery

812,548. ABC. Burroughs Corporation. SN 150,754. Pub. 9-17-63. Filed 8-8-62.

812,549. CLASS-IT. Lakeside Central Company. SN 198,749. Pub. 5-24-66. Filed 7-29-64.

812,550. FLEXETTE. Hammermill Paper Company. SN 203,708. Pub. 5-24-66. Filed 10-9-64.

812,551. SYNOPTIC. Synoptic International S.A.M. SN 204,932. Pub. 5-24-66. Filed 10-27-64.

812,552. HOPPER BULKOPAQUE. Georgia-Pacific Corporation. SN 211,358. Pub. 5-24-66. Filed 2-4-65.

812,553. ION-O-FILM. Cellu-Craft Products Corp. SN 212,186. Pub. 5-24-66. Filed 2-17-65.

812,554. 2-B SYSTEM AND DESIGN. Beckman and Beerbohm. SN 216,251. Pub. 5-24-66. Filed 4-12-65.

812,555. DRAFTSMAN. Microdealers, Inc. SN 225,590. Pub. 5-24-66. Filed 8-12-65.

Class 38—Prints and Publications

812,556. GIV-A-GIFT. Giv-A-Gift, Inc. SN 180,729. Pub. 5-24-66. Filed 11-8-63.

812,557. SYSTEMS DESIGNER'S HANDBOOK AND DESIGN. Benwill Publishing Corporation. SN 186,808. Pub. 5-24-66. Filed 2-17-64.

812,558. KELLY. Manson News Distributors, Inc. SN 196,283. Pub. 5-24-66. Filed 6-23-64.

812,559. SCIENTEST. World Book Encyclopedia Science Service, Inc. SN 206,491. Pub. 5-24-66. Filed 11-18-64.

812,560. PHOTOFACT IMO ETC. AND DESIGN. Howard W. Sams & Co., Inc. SN 213,364. Pub. 5-24-66. Filed 3-4-65.

812,561. CYCLE AND DESIGN. Joseph P. Haley, d.b.a. Haley & Son. SN 215,072. Pub. 5-24-66. Filed 3-26-65.

812,562. COIN ROUNDUP. General Features Corporation. SN 222,929. Pub. 5-24-66. Filed 7-8-65.

812,563. COMMUNITY REVIEW. Woodland Hills Coordinating Council, Inc. SN 226,814. Pub. 5-24-66. Filed 8-30-65.

812,564. STRIPPER. KVP Sutherland Paper Company. SN 227,300. Pub. 5-24-66. Filed 9-7-65.

812,565. "RECORD-O-LOPE." R. John Taylor Sr., d.b.a. John Taylor and Associate. SN 227,358. Pub. 5-24-66. Filed 9-7-65.

812,566. COLOR-ME-AGAIN. McGraw-Hill, Inc. SN 227,427. Pub. 5-24-66. Filed 9-8-65.

812,567. THE CONSERVATION VOLUNTEER. State of Minnesota. SN 228,203. Pub. 5-24-66. Filed 9-20-65.

812,568. TRANS-ARTYPE. Artype Incorporated. SN 228,605. Pub. 5-24-66. Filed 9-27-65.

812,569. OAG. The Reuben H. Donnelley Corporation. SN 228,813. Pub. 5-24-66. Filed 9-28-65.

812,570. REPAIR-MASTER. Master Publications, Inc. SN 229,835. Pub. 5-24-66. Filed 10-11-65.

812,571. "SLING-SHOTS." The Wear-Flex Corporation. SN 230,464. Pub. 5-24-66. Filed 10-18-65.

812,572. ICR AND DESIGN. The Institute for Cybercultural Research, Incorporated. SN 231,421. Pub. 5-24-66. Filed 10-23-65.

812,573. THE LION. The International Association of Lions Clubs. SN 240,952. Pub. 5-24-66. Filed 3-16-66.

Class 39—Clothing

812,574. HELEN LIEBERT. Wembley, Inc. SN 195,477. Pub. 5-24-66. Filed 6-11-64.

812,575. RO-MARK. Unishops, Inc. SN 196,486. Pub. 5-24-66. Filed 6-25-64.

812,576. MISS ELAINE'S COFFEE BREAK'R. Sel-Mor Garment Company, Inc. SN 197,183. Pub. 5-24-66. Filed 7-6-64.

812,577. CAMPUS CLIX. Bristol Manufacturing Corporation. SN 200,546. Pub. 5-24-66. Filed 8-25-64.

812,578. SKI-DOODLER. David and David, Inc. SN 201,191. Pub. 5-24-66. Filed 9-3-64.

812,579. VENTILON. San's Clothing Factory Ltd. SN 201,968. Pub. 5-24-66. Filed 9-15-64.

812,580. MR. MURRAY. Atlantic Thrift Centers, Inc. SN 203,149. Pub. 5-24-66. Filed 10-2-64.

812,581. SELECT . . . DON'T . . . SETTLE . . . Barney's Clothes, Inc. SN 203,250. Pub. 5-24-66. Filed 10-5-64.

812,582. SAFE-T-PONCHO. Carlson Products Corp. SN 203,644. Pub. 5-24-66. Filed 10-9-64.

812,583. SAFE-T-CAPE. Carlson Products Corp. SN 203,645. Pub. 5-24-66. Filed 10-9-64.

812,584. MADRIDS. E. E. Taylor Corporation SN 204,421. Pub. 5-24-66. Filed 10-20-64.

812,585. FUTURE FASHION. Future Fashions, Inc. SN 206,359. Pub. 5-24-66. Filed 11-17-64.

812,586. WHITE LAMB BRAND AND DESIGN. The Borden Company. SN 209,233. Pub. 5-24-66. Filed 1-4-65.

812,587. YES YES. Glamorise Foundations, Inc. SN 209,602. Pub. 5-24-66. Filed 1-8-65.

812,588. KIDETS AND DESIGN. Kidets, Inc. SN 209,611. Pub. 5-24-66. Filed 1-8-65.

812,589. GLENGARRY. Glengarry Sportswear, Inc. SN 209,693. Pub. 5-24-66. Filed 1-11-65.

812,590. CONTESSA SAVINI. Casa Del Bronzetti, Inc. SN 210,084. Pub. 5-24-66. Filed 1-18-65.

812,591. TWEENS AND DESIGN. Quality Mills, Inc. SN 210,897. Pub. 5-24-66. Filed 1-28-65.

812,592. ALEXA AND DESIGN. Scharff Corporation. SN 211,195. Pub. 5-24-66. Filed 2-2-65.

812,593. WEATHERCASTER. Modern Jacket Company. SN 212,341. Pub. 5-24-66. Filed 2-18-65.

812,594. PIN-UPS. Admiral Shoe Corporation, d.b.a. Mutual Shoe Sales Company. SN 212,628. Pub. 5-24-66. Filed 2-24-65.

812,595. MADE BY PEOPLE WHO CARE FOR PEOPLE . . . WHO CARE. Jaymar-Ruby, Inc., d.b.a. Jamar. SN 213,139. Pub. 5-24-66. Filed 3-2-65.

812,596. SURE-GUARD. American Optical Company. SN 213,391. Pub. 5-24-66. Filed 3-5-65.

812,597. WEATHER CHANGER. The Joseph & Feiss Company. SN 213,985. Pub. 5-24-66. Filed 3-12-65.

812,598. TIP TOP. Tip-Top Hosiery Mills, Inc. SN 216,025. Pub. 5-24-66. Filed 4-7-65.

812,599. YORGALL. Societe Nouvelle Coudurier, Fructus, Descher. SN 216,627. Pub. 5-24-66. Filed 4-15-65.

812,600. MILCRAFT. The National Dollar Stores, Ltd. SN 218,128. Pub. 5-24-66. Filed 5-5-65.

812,601. MISS HARRIDGE. Bond Stores, Inc. SN 218,266. Pub. 5-24-66. Filed 5-7-65.

812,602. XL/10. Bond Stores, Inc. SN 218,268. Pub. 5-24-66. Filed 5-7-65.

812,603. ACTION-FREE. Illinois Glove Company. SN 218,644. Pub. 5-24-66. Filed 5-12-65.

812,604. "MISS ME" AND DESIGN. Jayward, Inc. SN 219,883. Pub. 5-24-66. Filed 5-27-65.

812,605. DIAMOND POINT. William B. Kessler, Inc. SN 220,666. Pub. 5-24-66. Filed 6-8-65.

812,606. ADJUSTO-LEG. Lewel Manufacturing Co., Inc. SN 222,170. Pub. 5-24-66. Filed 6-28-65.

812,607. ROSE D'AZUR. House of d'Azur, Inc. SN 222,484. Pub. 5-24-66. Filed 7-1-65.

812,608. THE BRA THAT LAUNCHED A THOUSAND SHAPES. La Resista, Inc. SN 222,949. Pub. 5-24-66. Filed 7-8-65.

812,609. INSTANT WEAR. Hortex Manufacturing Co., Inc. SN 224,861. Pub. 5-24-66. Filed 8-3-65.

812,610. GOLDEN AWARD. Piedmont Shirt Company. SN 227,177. Pub. 5-24-66. Filed 9-3-65.

812,611. SPIDER 230. Atlas Shirt Company, Inc. SN 227,812. Pub. 5-24-66. Filed 9-15-65.

812,612. BEAUTIFUL BRYANS. Beautiful Bryans, Inc. SN 228,117. Pub. 5-24-66. Filed 9-20-65.

812,613. POP'S PAL. Barrow Manufacturing Company. SN 228,980. Pub. 5-24-66. Filed 9-30-65.

812,614. CHUCKS. Converse Rubber Corporation. SN 228,994. Pub. 5-24-66. Filed 9-30-65.

Class 40—Fancy Goods, Furnishings, and Notions

812,615. VANITY FAIR. Standard Pyroxoloid Corporation. SN 221,418. Pub. 5-24-66. Filed 6-17-65.

812,616. COSMETICALLY YOURS. Cosmetically Yours, Inc. MULTIPLE CLASS (Classes 40 and 51). SN 226,128. Pub. 5-24-66. Filed 8-20-65.

812,617. THREAD-LINE ETC. AND DESIGN. Orco Products, Inc. SN 231,199. Pub. 5-24-66. Filed 10-22-65.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

812,618. TERRY-TOTE AND DESIGN. Beulah M. Robbins. SN 204,407. Pub. 5-24-66. Filed 10-20-64.

812,619. CATCH-ALL. Indian Head Mills, Inc. SN 212,323. Pub. 5-24-66. Filed 2-18-65.

812,620. CARIBE AND DESIGN. Sondra Manufacturing Co., Inc. SN 213,809. Pub. 5-24-66. Filed 3-10-65.

812,621. THE ROYAL FAMILY OF FOOTWEAR FABRICS. United States Rubber Company. SN 216,366. Pub. 5-24-66. Filed 4-12-65.

812,622. YORGALL. Societe Nouvelle Coudurier, Fructus, Descher. SN 216,628. Pub. 5-24-66. Filed 4-15-65.

812,623. DYNEX. Advance Process Supply Co. SN 218,048. Pub. 5-24-66. Filed 5-5-65.

812,624. CUSHION-CLOUD AND DESIGN. Calfoam Corporation of America. SN 222,466. Pub. 5-24-66. Filed 7-1-65.

812,625. NEEDLEWOVEN. Beacon Manufacturing Company. SN 224,702. Pub. 5-24-66. Filed 8-2-65.

812,626. TREE TOP. Reliable Textile Company, Inc. SN 224,885. Pub. 5-24-66. Filed 8-3-65.

812,627. MELANIE. Glen Raven Mills, Inc. SN 227,281. Pub. 5-24-66. Filed 9-7-65.

812,628. DESIGN OF YOUNG WOMAN WITH BOLT OF CLOTH. Waumbec Mills Incorporated. SN 227,371. Pub. 5-24-66. Filed 9-7-65.

812,629. BATESPREAD. Bates Manufacturing Company, Incorporated. SN 227,387. Pub. 5-24-66. Filed 9-8-65.

812,630. STE-VELOUR. J. P. Stevens & Co., Inc. SN 227,886. Pub. 5-24-66. Filed 9-15-65.

812,631. TOTUSPORKUS. Cone Mills Corporation. SN 228,810. Pub. 5-24-66. Filed 9-28-65.

812,632. SERVI-I-STRETCH. Service Knitting Mills, Inc. SN 229,923. Pub. 5-24-66. Filed 10-8-65.

812,633. NIFTY-FIFTY. Cone Mills Corporation. SN 230,615. Pub. 5-24-66. Filed 10-20-65.

812,634. POLY CONE. Cone Mills Corporation. SN 230,616. Pub. 5-24-66. Filed 10-20-65.

Class 43—Thread and Yarn

812,635. YORGALL. Societe Nouvelle Coudurier, Fructus, Descher. SN 216,629. Pub. 5-24-66. Filed 4-15-65.

812,636. TIOGA YARNS AND DESIGN. The National Silk Company, Incorporated, d.b.a. Tioga Yarn Company. SN 229,853. Pub. 5-24-66. Filed 10-11-65.

Class 44—Dental, Medical, and Surgical Appliances

812,637. FIBERAY AND DESIGN. Tracor Inc., assignee of Avco Corporation. SN 175,240. Pub. 5-24-66. Filed 8-19-63.

812,638. SITZ-ET. Baxter Laboratories, Inc. SN 199,167. Pub. 5-24-66. Filed 8-4-64.

812,639. PEEL-A-WAY. W. Glenn Wunderly Co. SN 202,649. Pub. 5-24-66. Filed 9-24-64.

812,640. SANI JOCK. Sturm & Scheinberg, Inc. SN 219,740. Pub. 5-24-66. Filed 5-25-65.

812,641. PURSETTES PLUS. Purex Corporation, Ltd., d.b.a. Campana Corporation. SN 225,597. Pub. 5-24-66. Filed 8-12-65.

812,642. AUTO KIT. Johnson & Johnson. SN 227,149. Pub. 5–24–66. Filed 9–3–65.

Class 46 — Foods and Ingredients of Foods

812,643. LAKECREST. Sylvan Seal Milk, Inc., d.b.a. Plant #37–067. SN 195,022. Pub. 5–24–66. Filed 6–5–64.

812,644. TYNE BRAND. Tyne Brand Products Limited. SN 196,404. Pub. 5–24–66. Filed 6–24–64.

812,645. SALAD DELITES. Richfield Foods, Inc. SN 196,559. Pub. 5–24–66. Filed 6–26–64.

812,646. KRESTO INSTANTANEO ETC. AND DESIGN. Pet Milk Company, assignee, by mesne assignment, of Food Merchandisers, Inc. SN 197,382. Pub. 5–24–66. Filed 7–8–64.

812,647. DELI-FRESH. United Grocers, Ltd. SN 197,449. Pub. 5–24–66. Filed 7–8–64.

812,648. DESERT SUPREME. Tempeco Groves. SN 200,391. Pub. 5–24–66. Filed 8–21–64.

812,649. MION PURAFRY. Mion Enterprises, Inc. SN 205,751. Pub. 5–24–66. Filed 11–6–64.

812,650. NUTRIPROT. Astra Nutrition AB. SN 207,260. Pub. 5–24–66. Filed 12–2–64.

812,651. BLUE MOON. France E. Kellogg Co. SN 208,200. Pub. 5–24–66. Filed 12–15–64.

812,652. MANTA. Koninklijke Fabrieken C. J. van Houten & Zoon N.V., by change of name from C. J. van Houten & Zoon N.V. SN 210,676. Pub. 5–24–66. Filed 1–26–65.

812,653. PROTANOX. Flavor Corporation of America. SN 212,997. Pub. 5–24–66. Filed 3–1–65.

812,654. QUALITY INN. California Canners and Growers. SN 214,607. Pub. 5–24–66. Filed 3–22–65.

812,655. FREDDI REDDI. Freddi Reddi Corporation. SN 218,100. Pub. 5–24–66. Filed 5–5–65.

812,656. DOMINO. American Sugar Company. SN 221,687. Pub. 5–24–66. Filed 6–22–65.

812,657. DOMINO. American Sugar Company. SN 221,688. Pub. 5–24–66. Filed 6–22–65.

812,658. SUGARIPE AND DESIGN. Mayfair Packing Company. SN 224,869. Pub. 5–24–66. Filed 8–3–65.

812,659. LADY TABOR. Tabor City Foods, Inc. SN 229,597. Pub. 5–24–66. Filed 10–7–65.

812,660. DOWN-EAST. National Dairy Products Corporation. SN 230,275. Pub. 5–24–66. Filed 10–15–65.

812,661. REPRESENTATION OF ROMAN GLADIATOR (DESIGN). Roman Meal Company. SN 231,235. Pub. 5–24–66. Filed 10–22–65.

Class 47 — Wines

812,662. TORONADO. United Vintners, Inc., d.b.a. Italian Swiss Colony. SN 228,219. Pub. 5–24–66. Filed 9–20–65.

Class 50 — Merchandise Not Otherwise Classified

812,663. YELLOW LEG. Pallet Devices, Inc. SN 209,719. Pub. 5–24–66. Filed 1–11–65.

812,664. RU/SONIC. Ru-Son Products Co. SN 212,820. Pub. 5–24–66. Filed 2–25–65.

812,665. KONE-LITE. Traffic Standard, Incorporated. SN 224,987. Pub. 5–24–66. Filed 8–4–65.

812,666. SCHED-U-WELL. Kentucky Metals, Inc. SN 226,058. Pub. 5–24–66. Filed 8–19–65.

812,667. PLASTI-PRINT. Tri-Pack Corporation. SN 232,617. Pub. 5–24–66. Filed 11–12–65.

Class 51 — Cosmetics and Toilet Preparations

812,616. (See Class 40 for this trademark.)

812,668. MISCELLANEOUS DESIGN. Helene Curtis Industries, Inc. SN 152,379. Pub. 5–24–66. Filed 9–4–62.

812,669. COIFFURE ITALIENNE. Max Factor & Co., d.b.a. Max Factor. MULTIPLE CLASS (Classes 51 and 52). SN 185,145. Pub. 5–24–66. Filed 1–22–64.

812,670. HY-OL. Dr. Babor & Co. MULTIPLE CLASS (Classes 51 and 52). SN 199,660. Pub. 5–24–66. Filed 8–11–64.

812,671. QUICK COVER. Avon Products, Inc. SN 206,500. Pub. 5–24–66. Filed 11–19–64.

812,672. UPSWEEP. The Nestle-LeMur Company. SN 210,460. Pub. 5–24–66. Filed 1–22–65.

812,673. CABALLERO. Charles V. Perfumers, Inc. SN 213,706. Pub. 5–24–66. Filed 3–9–65.

812,674. PRESTIGE. Northern Laboratories. SN 220,684. Pub. 5–24–66. Filed 6–8–65.

812,675. BIO-PLEX. Ellen Kaye Laboratories, Inc. SN 224,211. Pub. 5–24–66. Filed 7–26–65.

812,676. PERMETTE. Caryl Richards, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 225,815. Pub. 5–24–66. Filed 8–16–65.

812,677. PERSIAN LEATHER AND DESIGN. Caswell-Massey Co., Ltd. SN 227,558. Pub. 5–24–66. Filed 9–10–65.

Class 52 — Detergents and Soaps

812,669. (See Class 51 for this trademark.)

812,670. (See Class 51 for this trademark.)

812,676. (See Class 51 for this trademark.)

812,678. HP AND DESIGN. Hampton Chemical and Equipment Corp. SN 227,670. Pub. 5–24–66. Filed 9–13–65.

812,679. FOREVER SPRING. John T. Stanley Co., Inc. SN 228,414. Pub. 5–24–66. Filed 9–22–65.

812,680. ULTRALIN. Lever Brothers Company. SN 232,406. Pub. 5–24–66. Filed 11–9–65.

812,681. SHINEY NEW. Bristol-Myers Company. SN 233,873. Pub. 5–24–66. Filed 12–3–65.

Service Marks

Class 100 — Miscellaneous

812,682. OFFICIAL UNITED STATES AUTO CLUB AND DESIGN. United States Auto Club, Inc. SN 196,210. Pub. 5–24–66. Filed 6–22–64.

812,683. WITHDRAWN.

812,684. HS CRACKING. Stone & Webster Engineering Corporation. MULTIPLE CLASS (Classes 100 and 103). SN 205,120. Pub. 5–24–66. Filed 10–29–64.

812,685. NAPM AND DESIGN. National Association of Punch Manufacturers. SN 212,230. Pub. 5–24–66. Filed 2–17–65.

812,686. JACK'S AND DESIGN. Jack's Franchising Company Incorporated. SN 218,120. Pub. 5–24–66. Filed 5–5–65.

812,687. MANTRONICS. R. P. Benz, d.b.a. the Executive Engineering Company. SN 220,266. Pub. 5–24–66. Filed 6–3–65.

812,688. MISCELLANEOUS DESIGN. Propulsion Systems, Inc. MULTIPLE CLASS (Classes 100 and 103). SN 224,881. Pub. 5–24–66. Filed 8–3–65.

812,689. PSI AND DESIGN. Propulsion Systems, Inc. MULTIPLE CLASS (Classes 100 and 103). SN 224,882. Pub. 5–24–66. Filed 8–3–65.

Class 101 — Advertising and Business

812,690. URN-ING PLAN. Hills Bros. Coffee, Inc. SN 137,523. Pub. 5–24–66. Filed 2–8–62.

812,691. DIPLOMATIC APPLIANCE COMPANY AND DESIGN. Imexco International Corporation, d.b.a. Diplomatic Appliance Company. SN 150,690. Pub. 5–24–66. Filed 8–7–62.

812,692. HOUSE OF YEARS. W. & J. Sloane, Inc. SN 160,141. Pub. 5–24–66. Filed 1–3–63.

812,693. GLS. Charles E. Murman, d.b.a. Great Lakes Sales Company. SN 171,162. Pub. 5–24–66. Filed 6–17–63.

812,694. DISCOUNT GIFT. D.G.S., Inc. SN 178,890. Pub. 5–24–66. Filed 10–14–63.

812,695. L LAZCO AND DESIGN. The Lazar Company. SN 180,311. Pub. 5–24–66. Filed 11–1–63.

812,696. SNAP. Society of National Association Publications, Incorporated. SN 205,117. Pub. 5–24–66. Filed 10–29–64.

812,697. TIME RULES MAN AND DESIGN. Galen A. Merrill, Inc. SN 208,597. Pub. 5–24–66. Filed 12–21–64.

812,698. DUPLI-LITH. Commercial Letter, Inc. SN 212,288. Pub. 5–24–66. Filed 2–18–65.

812,699. WISHING WELL ANTIQUES. Wishing Well Antiques. SN 225,385. Pub. 5–24–66. Filed 8–9–65.

812,700. LMS. Local Merchants Stamps Corporation. SN 226,451. Pub. 5–24–66. Filed 8–25–65.

Class 102 — Insurance and Financial

812,701. FIRST NATIONAL BANK OF ARIZONA 1ST AND DESIGN. First National Bank of Arizona. SN 150,409. Pub. 5–24–66. Filed 8–3–62.

812,702. SIC INSURANCE GROUP AND DESIGN. Southwestern Investment Company. SN 171,396. Pub. 5–24–66. Filed 6–19–63.

812,703. S.I.C. FINANCE SIC AND DESIGN. Southwestern Investment Company. SN 171,397. Pub. 5–24–66. Filed 6–19–63.

812,704. SIC AND DESIGN. Southwestern Investment Company. SN 171,398. Pub. 5–24–66. Filed 6–19–63.

812,705. F·N·C·B AND DESIGN. First National Credit Bureau, Incorporated. SN 226,433. Pub. 5–24–66. Filed 8–25–65.

Class 103 — Construction and Repair

812,684. (See Class 100 for this trademark.)

812,688. (See Class 100 for this trademark.)

812,689. (See Class 100 for this trademark.)

812,706. ROTO AIR-SWEEP AND DESIGN. William Kredit, d.b.a. Kredit Heating Company. SN 169,458. Pub. 5–24–66. Filed 5–22–63.

812,707. HONE LAP CO. Honelapco, Inc. SN 172,822. Pub. 5–24–66. Filed 7–11–63.

812,708. SPLAT. Concrete Thermal Casings, Inc. SN 176,889. Pub. 5–24–66. Filed 9–13–63.

812,709. Z CRETE. Concrete Thermal Casings, Inc. SN 177,497. Pub. 5–24–66. Filed 9–23–63.

812,710. CLUSTER SHOT. Dresser Industries, Inc. SN 182,604. Pub. 5–24–66. Filed 12–9–63.

812,711. MVA. American Building Maintenance Co. of California, d.b.a. American Building Maintenance Company. SN 219,504. Pub. 5–24–66. Filed 5–24–65.

812,712. VANAC. Vasco Metals Corporation. SN 226,483. Pub. 5–24–66. Filed 8–25–65.

812,713. CHIEF PEST PROOFER AND DESIGN. Redd Pest Control Company, Inc. SN 231,205. Pub. 5–24–66. Filed 10–22–65.

Class 104 — Communication

812,714. COMMUNICATIONS CENTER AND DESIGN. The Mountain States Telephone and Telegraph Company. SN 197,414. Pub. 5–24–66. Filed 7–8–64.

Class 105 — Transportation and Storage

812,715. AIR SHUTTLE AND DESIGN. Eastern Air Lines, Inc. SN 119,446. Pub. 5–24–66. Filed 5–5–61.

812,716. AIR-SHUTTLE. Eastern Air Lines, Inc. SN 126,442. Pub. 5–24–66. Filed 8–22–61.

812,717. TRANSEAIR TRAVEL. Transeair Travel, Inc. SN 182,225. Pub. 5–24–66. Filed 12–2–63.

812,718. FROM MAINE'S COOL BREEZE TO THE FLORIDA KEYS! AND DESIGN. Lincoln Park Van Lines. SN 182,629. Pub. 5–24–66. Filed 12–9–63.

812,719. WELLS FARGO THE PONY EXPRESS AND DESIGN. Wells Fargo & Company Express, S.A., S.M. SN 233,848. Pub. 5–24–66. Filed 12–2–65.

Class 107 — Education and Entertainment

812,720. CARNEGIE INSTITUTE OF TECHNOLOGY ETC. AND SEAL. Carnegie Institute of Technology. SN 123,464. Pub. 5–24–66. Filed 7–6–61.

812,721. SPRINGNATIONALS. Bristol International Speedway, Inc., d.b.a. Bristol International Dragway. SN 217,442. Pub. 5–24–66. Filed 4–27–65.

812,722. GOLD STAR PICTURES AND DESIGN. George A. Hormel II. SN 222,702. Pub. 5–24–66. Filed 7–6–65.

812,723. SATURDAY NITE U.S.A. Show Biz, Inc. SN 224,346. Pub. 5–24–66. Filed 7–27–65.

812,724. THE AMERICAN COLLEGE TESTING PROGRAM AND DESIGN. American College Testing Program, Inc., d.b.a. The American College Testing Program. SN 230,120. Pub. 5–24–66. Filed 10–14–65.

Collective Membership Marks

Class 200

812,725. PORT OF SIOUX CITY RIVER-CADE AND DESIGN. Port of Sioux City River-Cade Association. SN 222,746. Pub. 5–24–66. Filed 7–6–65.

812,726. MEMBER AMERICAN INDUSTRIAL BANK ASSOCIATION ETC. AND DESIGN. American Industrial Bankers Association. SN 230,345. Pub. 5–24–66. Filed 10–18–65.

Certification Marks

Class A — Goods

812,727. DEUTSCHES EXPORT-WEINSIEGEL AND DESIGN. Deutsche Landwirtschafts-Gesellschaft e.V. SN 196,580. Pub. 5–24–66. Filed 6–9–64.

812,728. PDI CERTIFIED PLUMBING AND DRAINAGE INSTITUTE AND DESIGN. Plumbing and Drainage Institute. SN 233,630. Pub. 5–24–66. Filed 11–30–65.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1—Raw or Partly Prepared Materials

812,729. St. Regis Paper Company, New York, N.Y. SN 238,578. Filed 2–10–66.

TRIP-L-PLY

For Polyethylene-Polypropylene Composite Film.
First use June 22, 1964.

Class 2—Receptades

812,730. Henry F. Ortlieb Brewing Company, Philadelphia, Pa. SN 172,332. Filed P.R. 7–2–63; Am. S.R. 6–9–66.

PULL 'N POUR

For Metal Cans for Malt Beverages—Namely Beer.
First use Apr. 5, 1963.

812,731. C-Thru Products, Inc., Brooklyn, N.Y. SN 202,226. Filed P.R. 9–21–64; Am. S.R. 6–14–66.

C-thru

For Bags of Synthetic Resinous Materials.
First use Aug. 24, 1960.

Class 6—Chemicals and Chemical Compositions

812,732. Chas. Schaefer Sons, Inc., Elizabeth, N.J. SN 201,152. Filed P.R. 9–2–64; Am. S.R. 6–2–66.

SNOWHITE BRINE CHIPS

For Sodium Chloride Used in a Water Softening Machine To Wash the Bed of Resins or Zeolite After a Period of Use, To Regenerate the Said Resins in Order That the Resins Are Effective in Softening the Hard Water Passing Through the Water Softening Machine.
First use Apr. 9, 1964.

812,733. Rockland Chemical Co., Inc., West Caldwell, N.J. SN 229,029. Filed P.R. 9–30–65; Am. S.R. 5–25–66.

SPONGE-ON

For Insecticides.
First use May 12, 1965.

Class 18—Medicines and Pharmaceutical Preparations

812,734. Drug Service Incorporated, Bridgeport, Conn., assignee of Welton Laboratories, Inc., Clifton, N.J. SN 186,583. Filed P.R. 2–12–64; Am. S.R. 5–27–66.

WELTON

For Pharmaceuticals.
First use October 1957.

812,735. Kwit-Smoke, Inc., Winston-Salem, N.C. SN 188,376. Filed P.R. 3–10–64; Am. S.R. 5–26–66.

STOP SMOKE HABIT

For Antiseptic Mouth Wash To Help Curb the Smoking Habit.
First use May 12, 1960.

Class 22—Games, Toys, and Sporting Goods

812,736. Buddy Schoellkopf Products Inc., Dallas, Tex. SN 173,705. Filed P.R. 7–24–63; Am. S.R. 4–18–66.

MARINE SAFETY "Seal" OF AMERICA

For Floating Sporting Goods, viz Swim and Water Ski Belts, Floating Boat Cushions, and Buoyant Vests.
First use at least as early as May 1, 1963, on buoyant water ski vests.

812,737. Hassenfeld Bros., Inc., Pawtucket, R.I. SN 190,726. Filed P.R. 4–9–64; Am. S.R. 7–15–65.

BAGATELLE GUN

For Equipment Sold as a Unit for Playing a Bagatelle Type Game.
First use on or about Feb. 28, 1964.

812,738. Hassenfeld Bros., Inc., Pawtucket, R.I. SN 212,314. Filed P.R. 2–18–65; Am. S.R. 6–13–66.

RUB-ONS

For Picture Transfer Sets.
First use on or about Oct. 1, 1964.

812,739. Recreation Products, Inc., Brooklyn, N.Y. SN 217,658. Filed P.R. 4–29–65; Am. S.R. 6–1–66.

SLA-TOP

For Pool and Billiard Tables.
First use Mar. 24, 1965.

812,740. Recreation Products Inc., Brooklyn, N.Y. SN 218,221. Filed P.R. 5–6–65; Am. S.R. 5–23–66.

SLATE-PHENOLIC

For Billiard Table Tops.
First use Feb. 2, 1965.

812,741. Bagley Mfg. Co., Inc., Winterhaven, Fla. SN 222,811. Filed P.R. 7–7–65; Am. S.R. 5–10–66.

NO SLICE

For Anti-Friction Preparation for Application to Golf Clubs.
First use February 1963.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

812,742. The Patterson Kelley Co., Inc., East Stroudsburg, Pa. SN 187,793. Filed P.R. 3–2–64; Am. S.R. 5–2–66.

P-K VORTEX

For Materials Mixing and Blending Equipment.
First use on or about Mar. 23, 1961.

Class 32—Furniture and Upholstery

812,743. Weyerhaeuser Company, Tacoma, Wash. SN 194,938–F. Filed P.R. 6–4–64; Am. S.R. 6–9–66.

WEYERHAEUSER

For Furniture Parts Such as Desk Tops, Table Tops, and Dishwasher Tops, and Cabinets Such as Radio and Phonograph Cabinets.
First use Oct. 1, 1962.

Class 37—Paper and Stationery

812,744. David Kahn, Inc., North Bergen, N.J. SN 191,181. Filed P.R. 4–15–64; Am. S.R. 5–16–66.

WITH WEAREVER I. C. YOU SEE THE INK LEVEL

For Writing Pens.
First use at least as early as October 1956.

Class 38—Prints and Publications

812,745. Outstanding Young Americans, Inc., Montgomery, Ala. SN 213,038. Filed P.R. 3–1–65; Am. S.R. 5–24–66.

OUTSTANDING YOUNG MEN OF AMERICA

For Annual Biographical Compilation.
First use Jan. 8, 1965.

812,746. Putman Publishing Company, Chicago, Ill. SN 218,023. Filed P.R. 5–4–65; Am. S.R. 5–31–66.

FOOD WEEK

For Magazine.
First use Apr. 26, 1965.

812,747. Kennedy Sinclaire, Inc., Monclair, N.J. SN 218,648. Filed P.R. 5–12–65; Am. S.R. 6–7–66.

YOUR FINANCIAL FUTURE

For Booklets Prepared Periodically for Distribution by Others.
First use May 1965.

812,748. Colorado Magazine, Inc., Denver, Colo. SN 221,898. Filed P.R. 6–24–65; Am. S.R. 5–24–66.

COLORFUL COLORADO

For Magazine.
First use May 20, 1965.

812,749. Travel Research International, Inc., New York, N.Y. SN 226,395. Filed P.R. 8–24–65; Am. S.R. 6–9–66.

The National Travel Trends Quarterly Index

For Periodical Report of Market Survey Results in the Travel Field Sold Only by Subscription.
First use May 26, 1965.

812,750. Watson Publications, Inc., Chicago, Ill. SN 227,370. Filed P.R. 9–7–65; Am. S. R. 5–25–66.

TRAFFIC MANAGEMENT

For Magazine Serving the Field of Freight Transportation and Physical Distribution, Including Manufacturing, Service, and Distribution Industries and Government Agencies Utilizing Motor Carrier, Rail, Air, Water, Warehousing, and Private Freight Transportation Services.
First use Jan. 1, 1962.

Class 39—Clothing

812,751. Sidney Shepard, New York, N.Y. SN 224,250. Filed P.R. 7–26–65; Am. S.R. 6–2–66.

AN ORIGINAL TIERED NUTRIA

For Fur Garments—Namely, Coats and Jackets, Made Wholly or in Part of Nutria.
First use May 20, 1965.

Class 44—Dental, Medical, and Surgical Appliances

812,752. Armstrong Engineering Consultants, Inc., Butler, N.J. SN 182,699. Filed P.R. 12–10–63; Am. S.R. 6–8–66.

AN Armstrong PRODUCT

For Closed Circulating, Freezing or Cooling Systems to and From Patients for Use During Surgical Operations, Hypothermia Systems To Assist in Localized Cooling on Patients for Medical or Surgical Use, and Medical Instrument Sterilization Equipment for the Medical and Surgical Field.
First use Feb. 28, 1963.

Class 45—Soft Drinks and Carbonated Waters

812,753. Gini International Limited, Evanston, Ill., assignee of Crush International Inc., Evanston, Ill. SN 204,366. Filed 10–20–64.



The mark consists of the conformation and marking of a bottle, used as the container for applicant's goods.
For Soft Drinks.
First use on or about Oct. 1, 1963.

Class 46—Foods and Ingredients of Foods

812,754. International Foodcraft Corporation, Brooklyn, N.Y. SN 193,380. Filed P.R. 5–13–64; Am. S.R. 6–13–66.

COLOREZE

For Glycerated Vegetable Gum for Use in Coloring Candy.
First use Jan. 31, 1964.

812,755. Midwest Biscuit Company, Burlington, Iowa. SN 215,426. Filed P.R. 3–31–65; Am. S.R. 3–17–66.

BURLINGTON

For Cookies and Crackers.
First use July 6, 1964.

812,756. Schluderberg-Kurdle Company, Inc., Baltimore, Md. SN 215,902. Filed P.R. 4–6–65; Am. S.R. 5–31–66.

MADE UP TO A STANDARD—NOT DOWN TO A PRICE

For Pork Sausage, Canned and Smoked Hams, Smoked Bacon, Canned and Frozen Chicken and Luncheon Meats.
First use January 1962.

812,757. The Fasweet Company, Jonesboro, Ark. SN 221,031. Filed P.R. 6–14–65; Am. S.R. 5–31–66.



The mark consists of the conformation of a bottle used as a container for applicant's goods.
For Concentrated Non-Calorific Sweetener for Foods and Beverages.
First use May 11, 1965.

Class 47—Wines

812,758. E. & J. Gallo Winery, d.b.a. Gallo Vineyards, Modesto, Calif. SN 201,677. Filed P.R. 9–11–64; Am. S.R. 8–3–65.

HEARTY BURGUNDY OF CALIFORNIA

For Burgundy Wine.
First use Apr. 29, 1964.

812,759. S. Martinelli & Company, Watsonville, Calif. SN 215,240. Filed P.R. 3–29–65; Am. S.R. 6–6–66.

GOLDEN APPLE

For Apple Wine.
First use February 1960.

Class 48—Malt Beverages and Liquors

812,760. Henry F. Ortlieb Brewing Company, Philadelphia, Pa. SN 201,861. Filed P.R. 9–14–64; Am. S.R. 6–9–66.

Philadelphia's Famous Beer

For Beer.
First use Dec. 30, 1963.

Class 50—Merchandise Not Otherwise Classified

812,761. Milton Bradley Company, Springfield, Mass. SN 213,939. Filed P.R. 3–12–65; Am. S.R. 5–24–66.

TOTE-EASY

For Combination Educational Teaching Unit Comprising a Flannel Board, Chalk Board, Peg-Board, and Chart Holder.
First use Nov. 13, 1964.

812,762. Raymond W. Prentice, d.b.a. Prentice Nursery and Decorating Company, Seattle, Wash. SN 237,624. Filed 1–27–66.

PRENTICE ROCK

For Simulated Rock for Decorative and Landscaping Purposes.
First use Aug. 16, 1963.

Class 51—Cosmetics and Toilet Preparations

812,763. Harbour Islanders, Ltd., Harbour Island, Bahamas. SN 193,668. Filed P.R. 5–18–64; Am. S.R. 10–28–65.

Oleander THE SCENT REMINDING Jasmine

For Toilet Water.
First use Feb. 18, 1964.

812,764. Helena Rubinstein, Inc., New York, N.Y. SN 218,801. Filed P.R. 5–13–65; Am. S.R. 5–17–66.

STRONG AND LONG

For Nail Hardener and Conditioner.
First use Dec. 15, 1964.

812,765. Clairol Incorporated, New York, N.Y. SN 219,678. Filed P.R. 5–25–65; Am. S.R. 5–24–66.

MOONGOLD

For Hair Tinting, Dyeing, and Coloring Preparation.
First use March 1950.

812,766. Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. SN 238,149. Filed P.R. 2–7–66; Am. S.R. 6–2–66.

ALO-hands

For Hand Lotion.
First use Feb. 8, 1963.

Class 52—Detergents and Soaps

812,767. The Herbert Stanley Co., Inc., Winnetka, Ill. SN 201,839. Filed P.R. 9–14–64; Am. S.R. 6–1–66.

BEAUTI-FI

For Preparation for Cleaning, Removing Wax and Conditioning Finishes on Wood Furniture.
First use on or about Aug. 4, 1964.

812,768. Chanel Industries, Inc., New York, N.Y. SN 233,456. Filed 11–29–65.

EVERY WOMAN ALIVE LOVES CHANEL NO 5

For Toilet Soap.
First use September 1964.

Service Marks

Class 100 — Miscellaneous

812,769. Hugh V. McHugh, d.b.a. Nationwide Motel Broker, Sioux City, Iowa. SN 214,667. Filed P.R. 3–22–65; Am. S.R. 6–6–66.

NATION MOTEL WIDE BROKER

For Real Estate Broker Services Specializing in the Sale of Motels.
First use Feb. 14, 1965.

Class 103 — Construction and Repair

812,770. Accurate Electro Plating, Inc., Philadelphia, Pa. SN 149,156. Filed P.R. 7–17–62; Am. S.R. 3–20–66.

NOBLIZING by ACCURATE

For Electro Plating Service.
First use Apr. 13, 1962.

Class 106 — Material Treatment

812,771. Paul E. Fowler, Portsmouth, Ohio. SN 199,518. Filed P.R. 8–6–64; Am. S.R. 6–14–66.

BEST PHOTO

The word "Photo" is disclaimed apart from the mark as shown. The drawing is lined for the colors blue and red.
For Photographic Processing Services.
First use June 1962.

Class 107 — Education and Entertainment

812,772. International Textbook Company, Scranton, Pa. SN 210,566. Filed P.R. 1–25–65; Am. S.R. 1–12–66.

WOMEN'S INSTITUTE FOR CONTINUING STUDY

For Services Consisting of Furnishing Education and Training by Correspondence.
First use Jan. 1, 1965.

TRADEMARK REGISTRATIONS RENEWED

28,050. SPECIAL AND DESIGN. Cl. 23. 3–31–1896.
28,491. 20 MULE TEAM PICTURE (DESIGN). Cl. 52. 6–30–1896.
50,248. ASTHMALENE. Cl. 18. 3–6–06.
51,448. MOUNTAIN VALLEY. Cl. 45. 4–17–06.
53,041. LANA. Cl. 51. 5–22–06.
54,135. D IN DIAMOND (DESIGN). Cl. 37. 6–19–06.
54,383. CARNATION. Cl. 46. 6–26–06.
54,463. DENTYNE. Cl. 46. 6–26–06.
54,610. ROCK SPRING AND DESIGN. Cl. 45. 6–26–06.
54,661. "CHOICE" (XX) EXTRA ETC. Cl. 14. 6–26–06.
55,841. BAKER'S. Cl. 46. 8–21–06.
56,605. HORSE SHOE NAIL (DESIGN). Cl. 13. 10–9–06.
56,989. LUTE. Cl. 16. 10–30–06.
57,616. WAGNER. Cl. 49. 11–13–06.
204,435. WISH-RING AND DESIGN. Cl. 28. 10–20–25.
210,235. BAKELITE. Cl. 5. 3–9–26.
210,242. CHOCOLATE SOLDIER. Cl. 45. 3–9–26.
210,522. BAKELITE. Cl. 16. 3–16–26.
211,200. BAKELITE. Cl. 1. 4–6–26.
213,866. "THIORUBROL." Cl. 18. 6–8–26.
213,869. LACPININ. Cl. 18. 6–8–26.
213,892. ECLAT AND DESIGN. Cl. 51. 6–8–26.
213,991. SPRINGTIME IN CIRCLE DESIGN. Cl. 51. 6–8–26.
214,223. DESIGN OF MAN AND CIRCLES. Cl. 37. 6–15–26.
214,234. STONE MOUNTAIN. Cl. 45. 6–15–26.
214,272. RIVERSIDE. Cl. 37. 6–15–26.
214,388. SILVER DEW DROPS. Cl. 46. 6–22–26.
214,530. BAYUK PHILADELPHIA HAND MADE PERFECTO AND DESIGN. Cl. 17. 6–29–26.
215,325. COURT LINEN LEDGER. Cl. 37. 7–13–26.
215,461. LUXOR. Cl. 51. 7–20–26.
216,099. VELO. Cl. 12. 8–3–26.
216,288. BUCKEYE CORD. Cl. 35. 8–10–26.
216,437. TP AND REPRESENTATION OF A TEPEE. Cl. 15. 8–10–26.
216,439. COLAS. Cl. 16. 8–10–26.
217,037. CRATER LAKE. Cl. 46. 8–24–26.
218,007. IDEAL. Cl. 51. 9–14–26.
218,124. CORALIE. Cl. 39. 9–21–26.
219,122. DULCINEE. Cl. 51. 10–12–26.
219,550. DAY-BRIGHT. Cl. 21. 10–19–26.
220,169. FORTUNA. Cl. 46. 11–2–26.
220,773. SOUNDREST. Cl. 32. 11–16–26.
220,901. BUSCH AND DESIGN. Cl. 45. 11–16–26.
221,178. OX-O-GLOSS AND DESIGN. Cl. 16. 11–23–26.
221,179. OX-O-NAMEL AND DESIGN. Cl. 16. 11–23–26.
221,230. CHINO-GLOSS. Cl. 16. 11–23–26.
221,233. SATINOID. Cl. 16. 11–23–26.
221,428. BUSCH AND DESIGN. Cl. 45. 11–30–26.
420,136. RAILITE. Cl. 23. 3–26–46.
420,876. NUODEX. Cl. 6. 5–7–46.
421,381. SUNSWEPT. Cl. 51. 5–28–46.
421,445. HORSE SHOE AND DIAMOND (DESIGN). Cl. 23. 6–4–46.
421,447. VITA-WAVE. Cl. 29. 6–4–46.
421,746. F IN CIRCLE (DESIGN). Cl. 19. 6–18–46.
421,950. COMMODORE. Cl. 17. 6–25–46.
421,990. BUTTERSCOTCH. Cl. 17. 6–25–46.
422,207. BEACON AND DESIGN. Cl. 34. 7–9–46.
422,229. B & W AND DESIGN. Cl. 34. 7–9–46.
422,801. MAIS OUI. Cl. 52. 8–13–46.
423,006. VPI. Cl. 37. 8–20–46.
423,866. KEE-POFF AND DESIGN. Cl. 6. 9–10–46.
424,174. MILNESIA. Cl. 18. 9–24–46.
424,717. CILLENTA. Cl. 18. 10–22–46.
424,899. DO ALLOY. Cl. 23. 10–29–46.
424,900. LIFE-TIME. Cl. 39. 10–29–46.
424,970. SLEEP-A-WYLE. Cl. 39. 10–29–46.
425,191. OCYLITE. Cl. 6. 11–5–46.
425,291. HULA SPINNER. Cl. 22. 11–12–46.
425,346. RO-MAY. Cl. 46. 11–12–46.
425,347. RO-TEL. Cl. 46. 11–12–46.
425,407. EVERYDAY. Cl. 37. 11–19–46.

TRADEMARK REGISTRATIONS CANCELED

Section 8

526,526. VERDOL. Cl. 52. 6–20–50.

The following registrations issued June 21, 1960

699,608. INDUFOAM. Cl. 1.
699,609. INDUPLEX. Cl. 1.
699,610. INDUFILM. Cl. 1.
699,624. COBBLER HIDE. Cl. 3.
699,626. REPLICAF. Cl. 3.
699,628. REPRESENTATION OF FAIRY QUEEN ETC. Cl. 4.
699,629. WHERE RESEARCH IS THE KEY TO TOMORROW. Cl. 4.
699,633. PATRICIAN. Cl. 5.
699,634. BRITECAST. Cl. 5.
699,636. SANI-POOL. Cl. 6.
699,637. CLARADE. Cl. 6.
699,645. PEGLO. Cl. 6.
699,650. DRIOX. Cl. 6.
699,651. AERO. Cl. 6.
699,657. MAGIKARPET. Cl. 10.
699,658. BROADLAWN BARNYARD GOLD. Cl. 10.
699,660. PARDEE AND DESIGN. Cl. 12.
699,663. TIGACLAD. Cl. 12.
699,664. PORT-A-KORRAL AND DESIGN. Cl. 12.
699,666. FONDU FYRE AND DESIGN. Cl. 12.
699,674. SELCO. Cl. 12.
699,678. KANT-MIS. Cl. 13.
699,679. ENNA. Cl. 13.
699,691. FORM-SAVER. Cl. 16.
699,694. SHIELD YOUR HEALTH NATURALLY AND DESIGN. Cl. 18.
699,697. PROLONGAL. Cl. 18.
699,702. TENBECETIN. Cl. 18.
699,709. SRB–1000. Cl. 18.
699,710. T.R. AND DESIGN. Cl. 18.
699,711. PUSH AND DESIGN. Cl. 18.
699,719. BISAMIN. Cl. 18.
699,723. THALOIN. Cl. 18.
699,733. TAD. Cl. 19.
699,738. SALTY. Cl. 19.
699,739. ENNA. Cl. 19.
699,741. RAMBLERS. Cl. 20.
699,752. NICOLET. Cl. 21.
699,756. SQUEE-G-VAC. Cl. 21.
699,757. TRANSOMITE. Cl. 21.
699,759. TORTUFLEX AND DESIGN. Cl. 22.
699,760. BLUSHING BRIDE. Cl. 22.
699,763. MICROMODELS. Cl. 22.
699,765. SAVAGE MINNOW AND DESIGN. Cl. 22.
699,769. AGGRETATOR. Cl. 23.
699,770. COFFEE CABINET. Cl. 23.
699,772. CONCRETE TRACTOR. Cl. 23.
699,787. PER-O-COLOR. Cl. 26.
699,791. AUTOMATIC METERMAN. Cl. 26.
699,799. ROGER JEAN-PIERRE. Cl. 28.
699,800. KOLD-TRUX. Cl. 31.
699,801. PERM-A-RACK. Cl. 32.
699,803. FORWARD TREND ETC. AND DESIGN. Cl. 32.
699,804. "SEE-ALL" SILENT DETECTIVE. Cl. 32.
699,806. BARONET. Cl. 32.
699,807. LINEAL AND DESIGN. Cl. 32.
699,808. LOWELL AND DESIGN. Cl. 32.
699,809. ENNA. Cl. 32.
699,810. SILENT STEEL. Cl. 32.
699,814. CHARKY ETC. AND DESIGN. Cl. 34.
699,826. MEDRECO. Cl. 36.
699,831. DINOLOFT. Cl. 37.
699,833. TEL-E-PEN. Cl. 37.
699,839. CAS AND DESIGN. Cl. 38.
699,847. THE NEW ENGLAND JOURNAL OF PODIATRY. Cl. 38.
699,858. HESPERIA GAZETTE. Cl. 38.
699,859. THE SANTA FE SCENE. Cl. 38.
699,866. CAMADURA. Cl. 39.
699,868. CRAFTIQUE. Cl. 39.
699,873. INTERFLEX. Cl. 39.
699,874. I'CILLE. Cl. 39.
699,876. ANNISILK. Cl. 39.
699,886. CIRCOLAIR. Cl. 39.
699,893. PRINCESS GABY. Cl. 39.
699,896. CUSHION-TIP. Cl. 40.
699,906. ECSTASY. Cl. 42.
699,908. BEAUTYWARM. Cl. 42.
699,909. BAT-RITE. Cl. 42.
699,912. SUPERFLEECE. Cl. 42.
699,917. POLATHERM. Cl. 44.
699,920. VITA-TONE. Cl. 44.
699,922. UMBILICLAMP. Cl. 44.
699,926. BALL O' SUNSHINE. Cl. 46.
699,928. MATADOR. Cl. 46.
699,929. HARVEST. Cl. 46.
699,946. LADDER MAGIC. Cl. 50.
699,948. EASY WAY. Cl. 50.
699,949. BAKELITE. Cl. 50.
699,950. UNION CARBIDE AND DESIGN. Cl. 50.
699,952. ROLLEY. Cl. 51.
699,953. ROLLEY. Cl. 51.
699,955. KULTURE. Cl. 51.
699,956. CLICHE. Cl. 51.
699,959. PERMA-DEW. Cl. 51.
699,963. PERCOLOR. Cl. 51.
699,974. REPRESENTATION OF CUBE-SHAPED BOX. Cl. 100.
699,975. INSURATRIP. Cl. 102.
699,976. "JONNY QUEENS" AND REPRESENTATION OF A BOY. Cl. 102.
699,984. THE BIG WHEEL. Cl. 107.
699,989. CREEP-HEET. Cl. 21.
699,990. CREATIVE DOLL CRAFTS. Cl. 22.
699,995. HABITANT PEA SOUP. Cl. 46.
699,996. LAZY-LIME AND DESIGN. Cl. 46.
700,002. LATHA-SPONGE. Cl. 52.
700,003. CAROLINA GIFT MART. Cl. 101.
700,004. FINE FABRIC SOURCES ETC. AND DESIGN. Cl. 200.

Section 18

629,304. TURBODIESEL. Cl. 23. 6–19–56.
709,660. SNAP TAB. Cl. 39. 1–10–61.
715,977. ROCKVILLE. Cl. 12. 5–30–61.
738,289. REGENCY. Cl. 42. 9–25–62.
750,595. GLENBALLY. Cl. 39. 6–4–63.
772,165. INDY 500. Cl. 19. 6–30–64.
781,282. SWING-OUT. Cl. 21. 12–8–64.
781,951. GOLDEN DOLPHIN. Cl. 13. 12–22–64.
786,076. ANGEL EYES. Cl. 39. 3–2–65.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

216,883. COLFIX. Cl. 12. 8–24–26. Colfix, Limited, Chevron Asphalt Company, San Francisco, Calif. Amended to appear:

COLFIX

558,372. XEROX. Cl. 101. 4–29–52. The Haloid Company. Xerox Corporation, Rochester, N.Y. Amended to appear:

XEROX

733,508. SAUERS AND DESIGN. Cl. 46. 6–26–62. Gilster Milling Company, doing business as Gilster Milling Co., Chester, Ill. Corrected: In the statemcnt, column 1, line 1, "Co., Inc." should be deleted and *Company* should be inserted.

743,977. PROVET. Cl. 6. 1–22–63. American Home Products Corporation, doing business as Ayerst Laboratories, New York, N.Y. Amended: In the statement, column 2, line 2, after "purposes" *for distribution by veterinarians only* is inserted.

783,811. PERMOBOND. Cls. 1 and 5. 1–26–65. United States Rubber Company, New York, N.Y. Amended to appear:

PERMOBOND

791,695. PROVET. Cl. 18. 6–29–65. American Home Products Corporation, New York, N.Y. Amended: In the statement, column 2, line 1, after "preparations" *for distribution by veterinarians only* is inserted.

INDEX OF REGISTRANTS

AUGUST 9, 1966

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

Abbott Laboratories, North Chicago, Ill. 812,420, pub. 5–24–66. Cl. 18.
Accura, Ltd., Franklin Square, N.Y. 812,495, pub. 5–24–66. Cl. 26.
Accurate Electro Plating, Inc., Philadelphia, Pa. 812,770. Cl. 103.
Acme Ruler & Advertising Co., Ltd., Toronto, Ontario, Canada. 812,501, pub. 5–24–66. Cl. 26.
Acrison Inc., Passaic, N.J. 812,497, pub. 5–24–66. Cl. 26.
Admiral Shoe Corp., d.b.a. Mutual Shoe Sales Co., Manchester, N.H. 812,594, pub. 5–24–66. Cl. 39.
Advance Process Supply Co., Chicago, Ill. 812,623, pub. 5–24–66. Cl. 42.
Advanced Technology Corp., Timonium, Md. 812,435, pub. 5–24–66. Cl. 21.
Air Products and Chemicals Inc., Allentown, Pa. 812,363, pub. 5–24–66. Cl. 6.
Alberi, Louis, d.b.a. Chante Records, West Moorestown, N.J. 812,547, pub. 5–24–66. Cl. 36.
Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. 812,766. Cl. 51.
American Building Maintenance Co. of Calif., d.b.a. American Building Maintenance Co., San Francisco, Calif. 812,711, pub. 5–24–66. Cl. 103.
American College Testing Program, Inc. d.b.a. The American College Testing Program, Iowa City, Iowa. 812,724, pub. 5–24–66. Cl. 107.
American Cyanamid Co., New York, N.Y. 699,651, canc. Cl. 6.
American Electric and Machine Co., Inc., Upper Saddle River, N.J. 812,539, pub. 5–24–66. Cl. 34.
American Home Products Corp.: *See*—
Ayerst, McKenna & Harrison Ltd.
American Home Products Corp., d.b.a. Ayerst Laboratories, New York, N.Y. 743,977. Am. 7(d). Cl. 6.
American Home Products Corp., New York, N.Y. 791,695. Am. 7(d). Cl. 18.
American Industrial Bankers Association, Washington, D.C. 812,726, pub. 5–24–66. Cl. 200.
American Optical Co., Southbridge, Mass. 812,596, pub. 5–24–66. Cl. 39.
American Sugar Co., New York, N.Y. 812,656–7, pub. 5–24–66. Cl. 46.
Amway Corp., Ada, Mich. 812,397, pub. 5–24–66. Cl. 13.
Amway Corp., Ada, Mich. 812,413–14, pub. 5–24–66. Cl. 18.
Anheuser-Busch, Inc., St. Louis, Mo. 220,901, ren. 8–9–66. Cl. 45.
Anheuser-Busch, Inc., St. Louis, Mo. 221,428, ren. 8–9–66. Cl. 45.
Anti-Hydro Waterproofing Co., Newark, N.J. 812,376, pub. 5–24–66. Cl. 12.
Aquaduct Humidity Corp., Birmingham, Mich. 812,533, pub. 5–24–66. Cl. 34.
Arbogast, Fred, Co., Inc.: *See*—
Arbogast, Fred.
Arbogast, Fred, to Fred Arbogast Co., Inc., Akron, Ohio. 425,291, ren. 8–9–66. Cl. 22.
Arburg Maschinenfabrik Hehl & Sohne, Lossburg/Wurttemberg, Germany. 812,479, pub. 5–24–66. Cl. 23.
Archer-Daniels-Midland Co., Minneapolis, Minn. 812,338–40, pub. 5–24–66. Cl. 1.
Armour and Co., Chicago, Ill. 812,353, pub. 5–24–66. Cl. 4.
Armour and Co., Chicago, Ill. 812,335, pub. 5–24–66. Cl. 1.
Armour Shirt Co., Ltd., London, England. 699,873, canc. Cl. 39.
Armstrong Engineering Consultants, Inc., Butler, N.J. 812,752. Cl. 44.
Art-Craft Optical Co., Inc., Rochester, N.Y. 812,507, pub. 5–24–66. Cl. 26.
Artisan Industries, Inc., Waltham, Mass. 812,532, pub. 5–24–66. Cl. 34.
Artype Inc., Crystal Lake, Ill. 812,568, pub. 5–24–66. Cl. 38.
Arvin Industries, Inc., Columbus, Ind. 699,814, canc. Cl. 34.
Asphalt Cold Mix (1925) Ltd.: *See*—
Asphalt Cold Mix Ltd.
Asphalt Cold Mix Ltd., to Asphalt Cold Mix (1925) Ltd., London, England, to The Flintkote Co., New York, N.Y. 216,439, ren. 8–9–66. Cl. 16.
Associated Products, Inc., Chicago, Ill., to Richard Hudnut, Morris Plains, N.J. 421,381, ren. 8–9–66. Cl. 51.
Astra Nutrition AB, Molndal, Sweden. 812,650, pub. 5–24–66. Cl. 46.
Atlantic Research Corp., Alexandria, Va. 812,357–8, pub. 5–24–66. Cl. 6.
Atlantic Thrift Centers, Inc., New York, N.Y. 812,580, pub. 5–24–66. Cl. 39.
Atlas Shirt Co., Inc., New York, N.Y. 812,611, pub. 5–24–66. Cl. 39.
Automation Industries, Inc., El Segundo, Calif. 812,493, pub. 5–24–66. Cl. 26.
Avalon Hill Co., The, Baltimore, Md. 812,458, pub. 5–24–66. Cl. 22.
Avon Products, Inc., New York, N.Y. 812,671, pub. 5–24–66. Cl. 51.
Ayerst Laboratories: *See*—
American Home Products Corp.
Ayerst, McKenna & Harrison Ltd., to American Home Products Corp., New York, N.Y. 424,717, ren. 8–9–66. Cl. 18.
Babcock & Wilcox Co., The, New York, N.Y. 422,229, ren. 8–9–66. Cl. 34.
Babor, Dr., & Co., Bad Aachen, Germany. 812,670, pub. 5–24–66. Multiple Class (Classes 51 and 52).
Bagger, Einer G., New York, N.Y., to Granat Bros., Inc., San Francisco, Calif. 204,435, ren. 8–9–66. Cl. 28.
Bagley Mfg. Co., Inc., Winter Haven, Fla. 812,741. Cl. 22.
Bakelite Corp., to Union Carbide Corp., New York, N.Y. 210,235, ren. 8–9–66. Cl. 5.
Bakelite Corp., to Union Carbide Corp., New York, N.Y. 210,522, ren. 8–9–66. Cl. 16.
Bakelite Corp., to Union Carbide Corp., New York, N.Y. 211,200, ren. 8–9–66. Cl. 1.
Baker Instruments, Inc., Chandler, Ariz. 812,492, pub. 5–24–66. Cl. 23.
Baker, Walter, & Co., Ltd., Boston, Mass., to General Foods Corp., White Plains, N.Y. 55,841, ren. 8–9–66. Cl. 46.
Ball O'Sunshine Products, Inc., Sun Prairie, Wis. 699,926, Cl. 16.
Ball O'Sunshine Products, Inc., Sun Prairie, Wis. 699,926, canc. Cl. 46.
Bandy Laboratories, Inc., Temple, Tex. 812,416, pub. 5–24–66. Cl. 18.
Barberton Aluminum Specialties Inc., Barberton, Ohio. 699,946, canc. Cl. 50.
Barney's Clothes, Inc., New York, N.Y. 812,581, pub. 5–24–66. Cl. 39.
Barrow Mfg. Co., Winder, Ga. 812,613, pub. 5–24–66. Cl. 39.
Basic Carbon Corp., Sanborn, N.Y. 812,374, pub. 5–24–66. Cl. 12.
Bates Mfg. Co., Inc., Lewiston, Maine. 812,629, pub. 5–24–66. Cl. 42.
Bayer, Pretzfelder & Mills, Inc., New York, N.Y. 699,752, canc. Cl. 21.
Bayuk Cigars, Inc., Philadelphia, Pa. 214,530, ren. 8–9–66. Cl. 17.
Baxter Laboratories, Inc., Morton Grove, Ill. 812,638, pub. 5–24–66. Cl. 44.
Beacon Mfg. Co., Swannanoa, N.C. 812,625, pub. 5–24–66. Cl. 42.
Beacon Steel Products Co., to Beacon Steel Products Co., Inc., Westminster, Md. 422,207, ren. 8–9–66. Cl. 34.
Beacon Steel Products Co., Inc.: *See*—
Beacon Steel Products Co.
Beaunit Corp., New York, N.Y. 812,342, pub. 5–24–66. Cl. 1.
Beckwith-Arden Inc., Watertown, Mass. 812,337, pub. 5–24–66. Cl. 1.
Beautiful Bryans, Inc., Chattanooga, Tenn. 812,612, pub. 5–24–66. Cl. 39.
Beckman and Beerbohm, Madison Heights, Mich. 812,554, pub. 5–24–66. Cl. 37.
Beech Aircraft Corp., Wichita, Kans. 812,449, pub. 5–24–66. Cl. 21.
Benwill Publishing Corp., Brookline, Mass. 812,557, pub. 5–24–66. Cl. 38.
Benz, R. P., d.b.a. The Executive Engineering Co., Oxnard, Calif. 812,687, pub. 5–24–66. Cl. 100.
Bishop and Babcock Corp., The, Birmingham, Mich. 812,407, pub. 5–24–66. Cl. 16.
Bonafide Mills, Inc., New York, N.Y. 699,741, canc. Cl. 20.
Bon-Bon Co., New York, N.Y., to Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 54,463, ren. 8–9–66. Cl. 46.
Bond Stores, Inc., New York, N.Y. 812,601–2, pub. 5–24–66. Cl. 39.
Borden Co., The, New York, N.Y. 812,586, pub. 5–24–66. Cl. 39.
Borg-Warner Corp., Chicago, Ill. 812,517, pub. 5–24–66. Cl. 31.
Botany Industries, Inc., from Botany Mills, Inc., South San Francisco, Calif. 699,952–3, canc. Cl. 51.
Botany Mills, Inc.: *See*—
Botany Industries, Inc.
Bourjois, Inc.: *See*—
Societe La France Toilet Goods Co., Inc.
Bourjois, Inc., New York, N.Y. 422,801, ren. 8–9–66. Cl. 52.
Box-Crafters, Inc., Amityville, N.Y. 812,349, pub. 5–24–66. Cl. 2.
Bradley, Milton, Co., Springfield, Mass. 812,761. Cl. 50.
British Titan Products Co. Ltd., Billingham, Durham, England. 812,362, pub. 5–24–66. Cl. 6.
Bristol International Speedway, Inc., d.b.a. Bristol International Dragway, Bristol, Tenn. 812,721, pub. 5–24–66. Cl. 107.
Bristol Mfg. Corp., Bristol, R.I. 812,577, pub. 5–24–66. Cl. 39.
Bristol-Myers Co.: *See*—
Fitch, F. W., Co., The.
Bristol-Myers Co., New York, N.Y. 812,422, pub. 5–24–66. Cl. 18.

Bristol-Myers Co., New York, N.Y. 812,681, pub. 5–24–66. Cl. 52.
Brittain Industries, Inc., Hawthorne, Calif. 812,499, pub. 5–24–66. Cl. 26.
Broadlawn Products, Inc., Orion, Ill. 699,658, canc. Cl. 10.
Bruesselbach Chemical Co.: *See*—
Bruesselbach, William.
Bruesselbach, William, d.b.a. Bruesselbach Chemical Co., Denver, Colo. 699,963, canc. Cl. 51.
Brumberger Co., Inc., Brooklyn, N.Y. 812,470, pub. 5–24–66. Cl. 22.
Builder's Supplies, Inc.: *See*—
Designed Concretes Co.
Burroughs Corp., Detroit, Mich. 812,548, pub. 9–17–63. Cl. 37.
Butcher, Charles F., to Durham Duplex Razor Co., Sheffield, England. 28,050, ren. 8–9–66. Cl. 23.
Califoam Corp. of America, Compton, Calif. 812,624, pub. 5–24–66. Cl. 42.
California Canners and Growers, San Francisco, Calif. 812,654, pub. 5–24–66. Cl. 46.
Capewell Horse Nail Co., The, to The Capewell Mfg. Co., Hartford, Conn. 56,605, ren. 8–9–66. Cl. 13.
Capewell Mfg. Co., The: *See*—
Capewell Horse Nail Co., The.
Carew Mfg. Co., South Hadley Falls, Mass., to Byron Weston Co., Dalton, Mass. 215,325, ren. 8–9–66. Cl. 37.
Carlson Products Co., New York, N.Y. 812,582–3, pub. 5–24–66. Cl. 39.
Carnation Co.: *See*—
Pacific Coast Condensed Milk Co.
Carnegie Institute of Technology, Pittsburgh, Pa. 812,720, pub. 5–24–66. Cl. 107.
Carolina Gift Mart, Charlotte, N.C. 700,003, canc. Cl. 101.
Casa Dei Bronzetti, Inc., Lawrence, Mass. 812,590, pub. 5–24–66. Cl. 39.
Caswell Shoes, Inc., Lynn, Mass. 699,868, canc. Cl. 39.
Caswell-Massey Co., Ltd., New York, N.Y. 812,677, pub. 5–24–66. Cl. 51.
Cellu-Craft Products Corp., New Hyde Park, N.Y. 812,553, pub. 5–24–66. Cl. 37.
Century Engineering Corp., Cedar Rapids, Iowa. 699,989, canc. Cl. 21.
Chanel Industries, Inc., New York, N.Y. 812,768. Cl. 52.
Chrysler Corp., Highland Park, Mich. 420,136, ren. 8–9–66. Cl. 23.
Citrus Products Co., Chicago, Ill., to Monarch Citrus Products Co., Doraville, Ga. 210,242, ren. 8–9–66. Cl. 45.
Citrus Products Co., Chicago, Ill., to Monarch Citrus Products Co., Doraville, Ga. 214,234, ren. 8–9–66. Cl. 45.
Clairol Inc., New York, N.Y. 812,765. Cl. 51.
Clay-Adams, Inc., New York, N.Y. 699,922, canc. Cl. 44.
Cleveland Paper Mfg. Co., The, Cleveland, to The Mead Corp., Dayton, Ohio. 214,223, ren. 8–9–66. Cl. 37.
Coat Craft Co., Philadelphia, Pa. 699,866, canc. Cl. 39.
Coffee Cabinet Corp.: *See*—
Seeburg Corp., The.
Cold Spring Granite Co., Cold Spring, Minn. 715,977, canc. Cl. 12.
Colfix, Ltd. Chevron Asphalt Co., San Francisco, Calif. 216,883. Am. 7(d). Cl. 12.
Colgate & Co., Jercey City, N.J., to Colgate-Palmolive Co., New York, N.Y. 213,892, ren. 8–9–66. Cl. 51.
Colgate-Palmolive Co.: *See*—
Colgate & Co.
Colorado Magazine, Inc., Denver, Colo. 812,748. Cl. 38.
Columbia Toy Products, Inc., Kansas City, Mo. 812,461, pub. 5–24–66. Cl. 22.
Combustion Engineering, Inc., Windsor, Conn. 812,476, pub. 5–24–66. Multiple Class (Classes 23, 26, and 34).
Commercial Letter, Inc., St. Louis, Mo. 812,698, pub. 5–24–66. Cl. 101.
Concrete Thermal Casings, Inc., Seattle, Wash. 812,708–9, pub. 5–24–66. Cl. 103.
Cone Mills Corp., Greensboro, N.C. 812,631, pub. 5–24–66. Cl. 42.
Cone Mills Corp., Greensboro, N.C. 812,633, pub. 5–24–66. Cl. 42.
Cone Mills Corp., Greensboro, N.C. 812,634, pub. 5–24–66. Cl. 42.
Consolidated Millinery Co., Chicago, Ill. 218,124, ren. 8–9–66. Cl. 39.
Continental Oil Co., Ponca City, Okla. 812,365, pub. 5–24–66. Cl. 6.
Contributors Advisory Service: *See*—
Wilson, Roy P.
Converse Rubber Corp., Malden, Mass. 812,614, pub. 5–24–66. Cl. 39.
Coordinated Sales, Inc., Chicago, Ill. 781,951, canc. Cl. 13.
Corcoran, Matt., Co., Louisville, Ky. 812,481, pub. 5–24–66. Cl. 23.
Cosmetically Yours, Inc., Yonkers, N.Y. 812,616, pub. 5–24–66. Multiple Class (Classes 40 and 51).
C-Thru Products, Inc., Brooklyn, N.Y. 812,731. Cl. 2.
Cummins Engine Co., Inc., Columbus, Ind. 629,304, canc. Cl. 23.
Curtis, Helen, Industries, Inc., Chicago, Ill. 812,668, pub. 5–24–66. Cl. 51.
Cypress Gardens Skis, Inc., Cypress Gardens, Fla. 812,468, pub. 5–24–66. Cl. 22.
D.G.S. Inc., Chicago, Ill. 812,694, pub. 5–24–66. Cl. 101.
Datom Industries, Inc., The, Orange, N.J. 699,757, canc. Cl. 21.
David and David, Inc., Long Island City, N.Y. 812,578, pub. 5–24–66. Cl. 39.
Day-Brite Reflector Co., to Emerson Electric Co., St. Louis, Mo. 219,550, ren. 8–9–66. Cl. 21.
Del Valle, Kahman & Co., San Francisco, Calif. 812,394, pub. 5–24–66. Cl. 12.
Delta Products, Inc., Grand Junction, Colo. 812,445, pub. 5–24–66. Cl. 21.
Denver Tent & Awning Co., The, Denver, Colo. 699,948, canc. Cl. 50.
Dermik Pharmacal Co., Inc., Syosset, N.Y. 812,423, pub. 5–24–66. Cl. 18.
Designed Concretes Co., from Pioneer Builder's Supplies, Inc., Los Angeles, Calif. 699,666, canc. Cl. 12.
Detrick, M. H., Co., Chicago, Ill. 812,392, pub. 5–24–66. Cl. 12.
Deutsche Landwirtschafts-Gesellschaft E.V., Frankfurt, Germany. 812,727, pub. 5–24–66. Cl. A.
Dexter Industries, Inc., Grand Rapids, Mich. 812,396, pub. 5–24–66. Cl. 13.
Diamond Calk Horse Shoe Co., to Diamond Tool and Horseshoe Co., Duluth, Minn. 421,445, ren. 8–9–66. Cl. 23.
Diamond Tool and Horseshoe Co.: *See*—
Diamond Calk Horse Shoe Co.
Diedre Products, Inc., Forest Hills, N.Y. 699,956, canc. Cl. 51.
Dill & Collins Co., Philadelphia, Pa., to The Mead Corp., Dayton, Ohio. 54,135, ren. 8–9–66. Cl. 37.
Di-Noc Chemical Arts, Inc., Cleveland, Ohio. 699,831, canc. Cl. 37.
DoAll Co., The, to DoAll Co., Des Plaines, Ill. 424,899, ren. 8–9–66. Cl. 23.
Dolgorukov, Gregory S., Detroit, Mich. 812,506, pub. 5–24–66. Cl. 26.
Dominion Chemical Co., Petersburg, Va. 812,361, pub. 5–24–66. Cl. 6.
Donaldson, John S., d.b.a. J. Shearman Donaldson, Chatham, N.J. 812,471, pub. 5–24–66. Cl. 22.
Donnelley, Reuben H., Corp., The, New York, N.Y. 812,569, pub. 5–24–66. Cl. 38.
Doughboy Industries, Inc., New Richmond, Wis. 812,381–4, pub. 5–24–66. Cl. 12.
Douglas Furniture Corp., Chicago, Ill. 699,807–8, canc. Cl. 32.
Dresser Industries, Inc., Dallas, Tex. 812,710, pub. 5–24–66. Cl. 103.
Drexel Enterprises, Inc., Drexel, N.C. 812,527, pub. 5–24–66. Cl. 32.
Drug Service Inc., Bridgeport, Conn., from Welton Laboratories, Inc., Clifton, N.J. 812,734. Cl. 18.
Durham Duplex Razor Co.: *See*—
Butcher, Charles F.
Dyer, D. L., d.b.a. Hobby Stationers, Kansas City, Mo., to Western Art, Inc., Colorado Springs, Colo. 425,407, ren. 8–9–66. Cl. 37.
Dynamics Corp. of America, New York, N.Y. 812,540–1, pub. 5–24–66. Cl. 34.
Eastern Air Lines, Inc., New York, N.Y. 812,715–16, pub. 5–24–66. Cl. 105.
Eaton Yale & Towne Inc., from Eaton Mfg. Co., Cleveland, Ohio. 812,520, pub. 4–26–66. Cl. 31.
Eberdt, Edmund, d.b.a. Eberdt Co., Sutton, Quebec, Canada. 812,434, pub. 5–24–66. Cl. 21.
Eclipse Fuel Engineering Co., Rockford, Ill. 812,534, pub. 5–24–66. Cl. 34.
Elsa Canning Co.: *See*—
Roettele, Carl A.
Emcor, Inc., Des Plaines, Ill. 812,408, pub. 5–24–66. Cl. 16.
Emerson Electric Co.: *See*—
Day-Brite Reflector Co.
Empire Brush Works, to Empire Brushes, Inc., Port Chester, N.Y. 421,447, ren. 8–9–66. Cl. 29.
Empire Brushes, Inc.: *See*—
Empire Brush Works.
Enna Ltd., Greenford, England. 699,809, canc. Cl. 32.
Enna Ltd., Perivale, Greenford, England. 699,679, canc. Cl. 13.
Enna Ltd., Perivale, Greenford, England. 699,739, canc. Cl. 19.
Etat Francais Represente Par Le Minstre Des Armees, Delegation Ministerielle Pour l'Armement (Direction Des Poudres, Paris, France. 812,369, pub. 5–24–66. Cl. 9.
FMC Corp., New York, N.Y. 812,366, pub. 5–24–66. Cl. 6.
Factor, Max, & Co., d.b.a. Max Factor, Hollywood, Calif. 812,669, pub. 5–24–66. Multiple Class (Classes 51 and 52).
Fanon Electronic Industries, Inc., Newark, N.J. 812,437, pub. 5–24–66. Cl. 21.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 699,697, canc. Cl. 18.
Fasweet Co., The, Jonesboro, Ark. 812,757. Cl. 46.
Felber, Julius, Hillside, N.J. 699,765, canc. Cl. 22.
Ferrell Mfg. Co., Groton, N.Y. 699,738, canc. Cl. 19.
Fine Fabric Sources, New York, N.Y. 700,004, canc. Cl. 200.
Finnaren & Haley, Inc., from Denny, Hilborn & Rosenbach Inc., Philadelphia, Pa. 812,405, pub. 5–24–66. Cl. 16.
Firma Dr. Johannes Heidenhain, Traunreut uber Traunstein, Upper Bavaria, Germany. 812,502, pub. 5–24–66. Cl. 26.
Firma Ferdinand Bernhard Schmetz, Herzogenrath, Germany. 812,486, pub. 5–24–66. Cl. 23.
First National Bank of Arizona, Phoenix, Ariz. 812,701, pub. 5–24–66. Cl. 102.
First National Credit Bureau, Inc., Detroit, Mich. 812,705, pub. 5–24–66. Cl. 102.
Fisher Berkeley Corp., Emeryville, Calif. 812,447, pub. 5–24–66. Cl. 21.
Fitch, F. W., Co., The, Des Moines, Iowa, to Bristol-Myers Co., New York, N.Y. 218,007, ren. 8–9–66. Cl. 51.
Fitzgerald Mfg. Co., The, Torrington, Conn. 812,543, pub. 5–24–66. Cl. 35.
Fitzpatrick Co., The, Chicago, Ill. 812,542, pub. 5–24–66. Cl. 34.

Flavor Corp. of America, Northbrook, Ill. 812,653, pub. 5–24–66. Cl. 46.
Flintkote Co., The: *See*—
Asphalt Cold Mix Ltd.
Foresight Ventures, Inc., Oakland, Calif. 772,165, canc. Cl. 19.
Foreman Mfg. Co., Chicago, Ill., to Motor Wheel Corp., Lansing, Mich. 421,746, ren. 8–9–66. Cl. 19.
Formaglas, Inc., Chelsea, Mass. 812,367, pub. 5–24–66. Cl. 6.
Fowler, Paul E., Portsmouth, Ohio. 812,771. Cl. 106.
Freddi Reddi Corp., Los Angeles, Calif. 812,655, pub. 5–24–66. Cl. 46.
Freeman & Gossage, Inc., San Francisco, Calif. 812,409, pub. 5–24–66. Cl. 17.
Future Fashions, Inc., New York, N.Y. 812,585, pub. 5–24–66. Cl. 39.
Gallo, E. & J., Winery, d.b.a. Gallo Vineyards, Modesto, Calif. 812,758. Cl. 47.
Gas-Fired Products, from Bright Leaf Industries, Inc., Charlotte, N.C. 812,529, pub. 5–24–66. Cl. 32.
Gateway Chemicals, Inc.: *See*—
Sears, Roebuck and Co.
General Features Corp., New York, N.Y. 812,562, pub. 5–24–66. Cl. 38.
General Foods Corp.: *See*—
Baker, Walter & Co., Ltd.
General Graphics, Inc., Allwood, Clifton, N.J. 812,514, pub. 5–24–66. Cl. 28.
General Precision, Inc., Hillcrest, Binghamton, N.Y. 812,505, pub. 5–24–66. Cl. 26.
General Tally Co., Lynn, Mass. 812,508, pub. 5–24–66. Cl. 26.
Georgia-Pacific Corp., Portland, Oreg. 812,552, pub. 5–24–66. Cl. 37.
Gerber Cheese Co., Inc.: *See*—
Gerber & Co., Inc.
Gerber & Co., Inc., to Gerber Cheese Co., Inc., New York, N.Y. 220,169, ren. 8–9–66. Cl. 46.
Gibbs, T. R., Medicine Co., Inc., Washington, D.C. 699,710–11, canc. Cl. 18.
Gides, Inc., Beverly Hills, Calif. 699,694, canc. Cl. 18.
Gilbert, J. L., Inc., Chamblee, Ga. 812,489, pub. 5–24–66. Cl. 23.
Gilster Milling Co., d.b.a. Gilster Milling Co., Chester, Ill. 733,508, cor. Cl. 46.
Gini International Ltd., from Crush International Inc., Evanston, Ill. 812,753. Cl. 45.
Glv-a-Gift, Inc., Miami, Fla. 812,556, pub. 5–24–66. Cl. 38.
Glamorise Foundations, Inc., New York, N.Y. 812,587, pub. 5–24–66. Cl. 39.
Glen Raven Mills, Inc., New York, N.Y. 812,627, pub. 5–24–66. Cl. 42.
Glengarry Sportswear, Inc., Norristown, Pa. 812,589, pub. 5–24–66. Cl. 39.
Glenn of California, Arcadia, Calif. 699,806, canc. Cl. 32.
Glitter Products, Inc., Detroit, Mich. 699,628, canc. Cl. 4.
Golconda Corp., Chicago, Ill. 812,333, pub. 5–24–66. Cl. 1.
Golconda Corp., Chicago, Ill. 812,355, pub. 5–24–66. Cl. 4.
Graham Bros. & Co., Chicago, Ill., to The Procter & Gamble Co., Cincinnati, Ohio. 53,041, ren. 8–9–66. Cl. 51.
Granat Bros., Inc.: *See*—
Bagger, Elmar O.
Gregor, Charles, Creations Inc., Metairie, La. 812,464, pub. 5–24–66. Cl. 22.
Habitant Soup Co., Manchester, N.H. 699,995, canc. Cl. 46.
Hagan Chemicals & Controls, Inc., Pittsburgh, Pa. 699,637, canc. Cl. 6.
Haley, Joseph P., d.b.a. Haley & Son, Napa, Calif. 812,561, pub. 5–24–66. Cl. 38.
Haloid Co. Xerox Corp., Rochester, N.Y. 588,372. Am. 7(d). Cl. 101.
Hammermill Paper Co., Erie, Pa. 812,550, pub. 5–24–66. Cl. 37.
Hampton Chemical and Equipment Corp., Fairfield, N.J. 812,678, pub. 5–24–66. Cl. 52.
Hankscraft Co., Reedsburg, Wis. 812,400, pub. 5–24–66. Cl. 13.
Hanna Paint Mfg. Co., The, Columbus, Ohio. 221,230, ren. 8–9–66. Cl. 16.
Hanna Paint Mfg. Co., The, Columbus, Ohio. 221,233, ren. 8–9–66. Cl. 16.
Harbison-Walker Refractories Co., Pittsburgh, Pa. 812,390, pub. 5–24–66. Cl. 12.
Harbour Islanders, Ltd., Harbour Island, Bahamas. 812,763, Cl. 51.
Harrison, Harold A., Chicago, Ill. 812,457, pub. 5–24–66. Cl. 22.
Hartley, Arnold, d.b.a. Specialized Mass Markets, New York, N.Y. 812,455, pub. 5–24–66. Cl. 22.
Harvey, G. F., Co., Inc., The, Yonkers, N.Y. 812,418, pub. 5–24–66. Cl. 18.
Hassenfeld Bros., Inc., Pawtucket, R.I. 812,737–8. Cl. 22.
Healthways, Los Angeles, Calif. 812,456, pub. 5–24–66. Cl. 22.
Helmac Products Corp., Flint, Mich. 812,516, pub. 5–24–66. Cl. 29.
Heymann, Rodney D., d.b.a. Giant Chemical Co., Coudersport, Pa. 699,723, canc. Cl. 18.
Hills Bros. Coffee, Inc., San Francisco, Calif. 812,690, pub. 5–24–66. Cl. 101.
Hobby Stationers: *See*—
Dyer, D. L.
Hobson-Houghton & Co. Ltd., Sheffield, England. 54,661, ren. 8–9–66. Cl. 14.
Hollingshead, R. M., Corp., Camden, N.J. 423,866, ren. 8–9–66. Cl. 6.
Honelapco, Inc., North Hollywood, Calif. 812,707, pub. 5–24–66. Cl. 103.
Honematic Machine Corp., Worcester, Mass. 812,473, pub. 5–24–66. Cl. 23.
Hormel, George A., II, Los Angeles, Calif. 812,722, pub. 5–24–66. Cl. 107.
Hortex Mfg. Co., Inc., El Paso, Tex. 812,609, pub. 5–24–66. Cl. 39.
Hosmer Machine and Lumber Co., Inc., Contoocook, N.H. 699,733, canc. Cl. 19.
House of d'Azur, Inc., Skokie, Ill. 812,607, pub. 5–24–66. Cl. 39.
House of O'Gara, Inc., Chicago, Ill. 699,917, canc. Cl. 44.
Hudnut, Richard: *See*—
Associated Products, Inc.
Humphrey, Stanley A., Excelsior, Minn. 699,772, canc. Cl. 23.
Hupp Corp., Cleveland, Ohio. 812,530, pub. 5–24–66. Cl. 34.
I'Clile Creations, Inc., St. Paul, Minn. 699,874, canc. Cl. 39.
Ideal Toy Corp., Hollis, N.Y. 812,460, pub. 5–24–66. Cl. 22.
Ifco, Inc., d.b.a. Industrial Furnace Co., Inc., Cleveland, Ohio. 812,474, pub. 5–24–66. Cl. 23.
Illinois Glove Co., Skokie, Ill. 812,603, pub. 5–24–66. Cl. 39.
Imexco International Corp. d.b.a. Diplomatic Appliance Co., Washington, D.C. 812,691, pub. 5–24–66. Cl. 101.
Independent Bridal Gown, Inc., New York, N.Y. 699,876, canc. Cl. 39.
Indian Head Mills, Inc., New York, N.Y. 812,619, pub. 5–24–66. Cl. 42.
Industrial Air Products Co., Portland, Oreg. 812,354, pub. 5–24–66. Multiple Class (Classes 4, 6, 18, and 34).
Industrial Electronic Engineers, Inc., North Hollywood, Calif. 812,444, pub. 5–24–66. Cl. 21.
Industrial Refrigeration and Equipment Co., Portland, Oreg. 812,518, pub. 5–24–66. Cl. 31.
Institute for Cybercultural Research, The, New York, N.Y. 812,572, pub. 5–24–66. Cl. 38.
Insur-A-Trip, Inc., Charlotte, N.C. 699,975, canc. Cl. 102.
International Association of Lions Clubs, The, Chicago, Ill. 812,573, pub. 5–24–66. Cl. 38.
International Foodcraft Corp., Brooklyn, N.Y. 812,754. Cl. 46.
International Seaway Trading Corp., Cleveland, Ohio. 786,076, canc. Cl. 39.
International Steel Wool Corp., Springfield, Ohio. 812,356, pub. 5–24–66. Cl. 4.
International Textbook Co., Scranton, Pa. 812,772. Cl. 107.
Jack's Franchising Co., Inc., Birmingham, Ala. 812,686, pub. 5–24–66. Cl. 100.
Jayne, Murray L., d.b.a. General Pneumatics, Chicago, Ill. 812,490, pub. 5–24–66. Cl. 23.
Jaymar-Ruby, Inc., d.b.a. Jaymar, Michigan City, Ind. 812,595, pub. 5–24–66. Cl. 39.
Jayward, Inc., East Rockaway, N.Y. 812,604, pub. 5–24–66. Cl. 39.
Jed Electronics Corp., Brooklyn, N.Y. 812,431, pub. 5–24–66. Cl. 21.
Johns-Manville Corp., New York, N.Y. 812,448, pub. 5–24–66. Cl. 21.
Johnson Furniture Co., Grand Rapids, Mich. 699,803, canc. Cl. 32.
Johnson & Johnson, New Brunswick, N.J. 812,642, pub. 5–24–66. Cl. 44.
Johnson Products, Inc., Muskegon, Mich. 812,491, pub. 5–24–66. Cl. 23.
Johnson-Williams, Inc., Mountain View, Calif. 812,498, pub. 5–24–66. Cl. 26.
Joseph & Feiss Co., The, Cleveland, Ohio. 812,597, pub. 5–24–66. Cl. 39.
Joslyn Mfg. and Supply Co., Chicago, Ill. 812,441, pub. 5–24–66. Cl. 21.
KVP Sutherland Paper Co., Kalamazoo, Mich. 812,564, pub. 5–24–66. Cl. 38.
Kahn, David, Inc., North Bergen, N.J. 812,744. Cl. 37.
Karmazin Products Corp., Wyandotte, Mich. 812,519, pub. 5–24–66. Cl. 31.
Kaye, Ellen, Laboratories, Inc., St. Paul, Minn. 812,675, pub. 5–24–66. Cl. 51.
Kellogg, France E., Co., Milwaukee, Wis. 812,651, pub. 5–24–66. Cl. 46.
Kelly-Springfield Tire Co., New York, N.Y., to The Kelly-Springfield Tire Co., Cumberland, Md. 216,288, ren. 8–9–66. Cl. 35.
Kentucky Metals, Inc., Louisville, Ky. 812,666, pub. 5–24–66. Cl. 50.
Kessler, William B., Inc., Hammonton, N.J. 812,605, pub. 5–24–66, Cl. 39.
Keyes Fibre Co., Waterville, Maine. 812,347, pub. 5–24–66. Cl. 2.
Kidets, Inc., Hialeah, Fla. 812,588, pub. 5–24–66. Cl. 39.
Klein, James F., Cleveland, Ohio. 812,389, pub. 5–24–66. Cl. 12.
Kline Smith, & French Laboratories, Philadelphia, Pa. 812,419, pub. 5–24–66. Cl. 18.
Knatt, Thomas E., Cambridge, Mass. 812,545, pub. 5–24–66. Cl. 36.
Komo Corp., Kokomo, Ind. 812,536, pub. 5–24–66. Cl. 34.
Koninklijke Fabrieken, C. J. van Houten & Zoon N.V., from C. J. van Houten & Zoon N.V., Weesp, Netherlands. 812,652, pub. 5–24–66. Cl. 46.
Kraemer, Sandy F., Colorado Springs, Colo. 812,466, pub. 5–24–66. Cl. 22.
Kredit, William, d.b.a. Kredit Heating Co., St. Paul, Minn. 812,706, pub. 5–24–66. Cl. 103.
Krupka, S. G., Co. Inc., to Ostermoor & Co., Inc., Bridgeport, Conn. 220,773, ren. 8–9–66. Cl. 32.
Kwit-Smoke, Inc., Winston-Salem, N.C. 812,735. Cl. 18.
Lafayette Radio Electronics Corp., Syosset, N.Y. 812,478, pub. 5–24–66. Cl. 23.

Lake Chemical Co., Chicago, Ill. 812,531, pub. 5–24–66. Cl. 34.
Lakeside Central Co., Chicago, Ill. 812,549, pub. 5–24–66. Cl. 37.
Lakeside Industries, Inc., Minneapolis, Minn. 812,462, pub. 5–24–66. Cl. 22.
La Manufacture De Feutres De Mouzon (Anciens Etablissements Roger Sommer & Ses Fils), Paris, Seine, France. 812,428, pub. 5–24–66. Cl. 20.
La Manufacture De Feutres De Mouzon (Anciens Etablissements Roger Sommer & Ses Fils), Paris, Seine, France. 812,429, pub. 5–24–66. Cl. 20.
Lancer of California: *See*—
Mabs, Inc.
Lane Ltd.: *See*—
Lane Tobacco, Ltd.
Lane Tobacco, Ltd., to Lane Ltd., New York, N.Y. 421,950, ren. 8–9–66. Cl. 17.
Lane Tobacco, Ltd., to Lane Ltd., New York, N.Y. 421,990, ren. 8–9–66. Cl. 17.
La Resista, Inc., Bridgeport, Conn. 812,608, pub. 5–24–66. Cl. 39.
Lavin-Charles of The Ritz, Inc., New York, N.Y. 812,344, pub. 5–24–66. Cl. 2.
Lazar Co., The, Chicago, Ill. 812,695, pub. 5–24–66. Cl. 101.
Lehman Bros., Inc., Jersey City, N.J. 221,178, ren. 8–9–66. Cl. 16.
Lehman Bros., Inc., Jersey City, N.J. 221,179, ren. 8–9–66. Cl. 16.
Lehn & Fink Products Corp., d.b.a. Tussy Cosmetics, Bloomfield, N.J. 699,959, canc. Cl. 51.
Leigh Chemist, Inc., New York, N.Y., to Shulton, Inc., Clifton, N.J. 219,122, ren. 8–9–66. Cl. 51.
Lever Bros. Co.: *See*—
Luxor, Ltd.
Lever Bros. Co., New York, N.Y. 812,680, pub. 5–24–66. Cl. 52.
Lewel Mfg. Co., Inc., New York, N.Y. 812,606, pub. 5–24–66. Cl. 39.
Lincoln Park Van Lines, Lincoln Park, N.J. 812,718, pub. 5–24–66. Cl. 105.
Lindy Pen Co., Inc., Culver City, Calif. 699,833, canc. Cl. 37.
Local Merchants Stamps Corp., Angola, Ind. 812,700, pub. 5–24–66. Cl. 101.
Lorain Products Corp., Lorain, Ohio. 812,442, pub. 5–24–66. Cl. 21.
Lorain Products Corp., Lorain, Ohio. 812,443, pub. 5–24–66. Cl. 21.
Loumac Supply Corp., New York, N.Y. 699,801, canc. Cl. 32.
Lowe Bros. Co., The, to The Lowe Bros. Co., Dayton, Ohio. 56,989, ren. 8–9–66. Cl. 16.
Lowenstein, M., & Sons, Inc., New York, N.Y. 699,912, canc. Cl. 42.
Lowy & Mund, Inc., New York, N.Y. 699,626, canc. Cl. 3.
Ludlow Mfg. & Sales Co., from Ludlow Papers, Inc., Needham Heights, Mass. 699,608–10, canc. Cl. 1.
Luxco Inc., La Crosse, Wis. 699,810, canc. Cl. 32.
Luxor, Ltd., Chicago, Ill., to Lever Bros. Co., New York, N.Y. 215,461, ren. 8–9–66. Cl. 51.
Maas & Waldstein Co., Newark, N.J. 812,406, pub. 5–24–66. Cl. 16.
Mabs, Inc., d.b.a. Lancer of California, Los Angeles, Calif. 709,660, canc. Cl. 39.
MacGillis & Gibbs Co., The, Milwaukee, Wis. 812,380, pub. 5–24–66. Cl. 12.
Maeder-Squier Co., Dallas, Tex. 699,791, canc. Cl. 26.
Manson News Distributors, Inc., Rochester, N.Y. 812,558, pub. 5–24–66. Cl. 38.
Marble Products Co. of Georgia, d.b.a. Marble Products Co., Atlanta, Ga. 812,385, pub. 5–24–66. Cl. 12.
Martin Tire and Supply, Inc., Wichita, Kans. 812,544, pub. 5–24–66. Cl. 35.
Martinelli, S., & Co., Watsonville, Calif. 812,759. Cl. 47.
Marzo, Joseph L., Muncie, Ind. 812,465, pub. 5–24–66. Cl. 22.
Masonite Corp., Chicago, Ill. 812,393, pub. 5–24–66. Cl. 12.
Master Publications, Inc., Los Angeles, Calif. 812,570, pub. 5–24–66. Cl. 38.
Massachusetts Podiatry Society, Inc., The, Boston, Mass. 699,847, canc. Cl. 38.
Massengill, S. E., Co., The, Bristol, Tenn. 699,702, canc. Cl. 18.
Massengill, S. E., Co., The, Bristol, Tenn. 699,709, canc. Cl. 18.
Mattel, Inc., Hawthorne, Calif. 812,467, pub. 5–24–66. Cl. 22.
Mayer, B. W., & Cohan, Ltd., New York, N.Y. 699,893, canc. Cl. 39.
Mayfair Packing Co., San Jose, Calif. 812,658, pub. 5–24–66. Cl. 46.
Mayhew Co., The, Independence, Mo. 812,453, pub. 5–24–66. Cl. 22.
McGraw-Hill, Inc., New York, N.Y. 812,566, pub. 5–24–66. Cl. 38.
McHugh, Hugh V., d.b.a. Nationwide Motel Broker, Sioux City, Iowa. 812,769. Cl. 100.
Mead Corp., The: *See*—
Cleveland Paper Mfg. Co., The.
Dill & Collins Co.
Medical Recordings Co., Inc., Houston, Tex. 699,826, canc. Cl. 36.
Mell Mfg. Co., Chicago, Ill. 781,282, canc. Cl. 21.
Merrill, Galen A., Inc., St. Paul, Minn. 812,697, pub. 5–24–66. Cl. 101.
Meyer, Fred, Inc., Portland, Oreg. 812,415, pub. 5–24–66. Cl. 18.
Mica Corp., The, Culver City, Calif. 812,526, pub. 5–24–66. Cl. 32.
Microdealers, Inc., Waltham, Mass. 812,555, pub. 5–24–66. Cl. 37.
Micromodels, Ltd., London, England. 699,763, canc. Cl. 22.
Midwest Biscuit Co., Burlington, Iowa. 812,755. Cl. 46.
Milnesia, Inc., Brooklyn, N.Y. 424,174, ren. 8–9–66. Cl. 18.
Minerals & Chemicals Corp. of America, Menlo Park, N.J. 699,614, canc. Cl. 5.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 699,629, canc. Cl. 4.
Mion Enterprises, Inc., Payne, Ohio. 812,649, pub. 5–24–66. Cl. 46.
Modern Jacket Co., St. Louis, Mo. 812,593, pub. 5–24–66. Cl. 39.
Monarch Citrus Products Co.: *See*—
Citrus Products Co.
Monogram Models, Inc., Morton Grove, Ill. 812,459, pub. 5–24–66. Cl. 22.
Montello, Inc., Sand Springs, Okla. 812,343, pub. 5–24–66. Cl. 1.
Morris, Philip, Inc., New York, N.Y. 812,485, pub. 5–24–66. Cl. 23.
Motor Wheel Corp.: *See*—
Foreman Mfg. Co.
Mountain States Telephone and Telegraph Co., The, Denver, Colo. 812,714, pub. 5–24–66. Cl. 104.
Mountain Valley Spring Co., St. Louis, Mo. 51,448, ren. 8–9–66. Cl. 45.
Multicolor Corp., Florence, Mass. 812,430, pub. 5–24–66. Cl. 20.
Murman, Charles E., d.b.a. Great Lakes Sales Co., Cleveland, Ohio. 812,693, pub. 5–24–66. Cl. 101.
Myflam Metallwaren Dr. Maltner Kommanditgesellschaft, Frankfurt am Main, Germany. 812,368, pub. 5–24–66 Cl. 8.
My Maid, Fort Atkinson, Wis. 699,756, canc. Cl. 21.
N.V. Koninklijke Tabakfabriek Koffiebranderij en Theehandel J. & A. C. Van Rossem, d.b.a. Royal Tobacco Works J. & A. C. Van Rossem, Rotterdam, Netherlands. 812,411, pub. 5–24–66. Cl. 17.
Nadir Mining Co., Salt Lake City, Utah. 812,336, pub. 5–24–66. Cl. 1.
National Association of Punch Manufacturers, Oakland, Calif. 812,685, pub. 5–24–66. Cl. 100.
National Can Corp., Chicago, Ill. 812,352, pub. 5–24–66. Cl. 2.
National Dairy Products Corp., Chicago, Ill. 812,660, pub. 5–24–66. Cl. 46.
National Dollar Stores, Ltd., The, San Francisco, Calif. 812,600, pub. 5–24–66. Cl. 39.
National Silk Co. Inc., d.b.a. Tioga Yarn Co., South Coventry, Conn. 812,636, pub. 5–24–66. Cl. 43.
Natone Co., Los Angeles, Calif. 700,002, canc. Cl. 52.
Nebraska Consolidated Mills Co., Omaha, Nebr. 699,928–9, canc. Cl. 46.
Nefco Filter Corp., Stoughton, Wis. 812,523, pub. 5–24–66. Cl. 31.
Nestle-LeMur Co., The, New York, N.Y. 812,672, pub. 5–24–66. Cl. 51.
Nibot Corp., Chicago, Ill. 812,350, pub. 5–24–66. Cl. 2.
Norman Industries, Inc., Chicago, Ill. 699,804, canc. Cl. 32.
Northern Laboratories, Manitowoc, Wis. 812,674, pub. 5–24–66. Cl. 51.
Nuodex Products Co., Inc., Elizabeth, N.J., to Tenneco Chemicals, Inc., New York, N.Y. 420,876, ren. 8–9–66. Cl. 6.
Oneida Ltd., Oneida, N.Y. 812,351, pub. 5–24–66. Cl. 2.
Optics Technology, Inc., Belmont, Calif. 812,504, pub. 5–24–66. Cl. 26.
Orco Products, Inc., Dayton, Ohio. 812,617, pub. 5–24–66. Cl. 40.
Ortlieb, Henry F., Brewing Co., Philadelphia, Pa. 812,730. Cl. 2.
Ortlieb, Henry F., Brewing Co., Philadelphia, Pa. 812,760. Cl. 48.
Ostermoor & Co., Inc.: *See*—
Krupka, S. G., Co. Inc.
Otis Elevator Co., New York, N.Y. 812,472, pub. 5–24–66. Cl. 23.
Outstanding Young Americans, Inc., Montgomery, Ala. 812,745. Cl. 38.
Pacific Coast Borax Co., San Francisco, to United States Borax & Chemical Corp., Los Angeles, Calif. 28,491, ren. 8–9–66. Cl. 52.
Pacific Coast Condensed Milk Co., Seattle, Wash., to Carnation Co., Los Angeles, Calif. 54,383, ren. 8–9–66. Cl. 46.
Packaging Consultants Inc., Washington, D.C. 699,974, canc. Cl. 100.
Pail Corp, Glen Cove, N.Y. 812,522, pub. 5–24–66. Cl. 31.
Pallet Devices, Inc., Des Plaines, Ill. 812,663, pub. 5–24–66. Cl. 50.
Palm Beach Co., Portland, Maine. 750,595, canc. Cl. 39.
Pardee, C. G., Co., Inc., Long Island City, N.Y. 699,660, canc. Cl. 12.
Paterson, John, & Co., Ltd., Glasgow, Scotland. 526,526, canc. Cl. 52.
Patterson Kelley Co., Inc., The, East Stroudsburg, Pa. 812,742, pub. 8–9–66. Cl. 23.
Pennsylvania Refining Co., Butler, Pa. 699,645, canc. Cl. 6.
Pepsi Co. Inc., from Pepsi-Cola Co., New York, N.Y. 812,345, pub. 5–24–66. Cl. 2.
Pereles Bros., Inc., Milwaukee, Wis., to Service Heel Co., Inc., Lawrence, Mass. 424,900, ren. 8–9–66. Cl. 39.
Perfumers, Charles V., Inc., New York, N.Y. 812,673, pub. 5–24–66. Cl. 51.
Perrot, Arnold, Nidau-Bienne, Bern, Switzerland. 699,787, canc. Cl. 26.
Perry Knitting Co., The, Perry, N.Y. 424,970, ren. 8–9–66. Cl. 39.
Pet Milk Co., St. Louis, Mo., from Food Merchandisers, Inc., New York, N.Y. 812,646, pub. 5–24–66. Cl. 46.

Pidgeon Vitrified China Co., Bridgeton, Mo. 812,359, pub. 5–24–66. Cl. 6.
Piedmont Shirt Co., Greenville, S.C. 812,610, pub. 5–24–66. Cl. 39.
Pike, E. W., & Co., Inc., Elizabeth, N.J. 812,496, pub. 5–24–66. Cl. 26.
Pinon Publishing Co., Santa Fe, N. Mex. 699,859, canc. Cl. 38.
Pistol, A. W., Inc., New Rochelle, N.Y. 812,432, pub. 5–24–66. Cl. 21.
Planalog Inc., to Management Studies, Inc., Philadelphia, Pa. 812,494, pub. 5–24–66. Cl. 26.
Platt Luggage, Inc., Chicago, Ill. 699,624, canc. Cl. 3.
Platt, Redden, d.b.a. Plant City Body & Iron Works, Plant City, Fla. 812,424, pub. 5–24–66. Cl. 19.
Plumbing and Drainage Institute, Oak Park, Ill. 812,728, pub. 5–24–66. Cl. A.
Port of Sioux City River-Cade Assoc., Sioux City, Iowa. 812,725, pub. 5–24–66. Cl. 200.
Posner, I., Inc., New York, N.Y. 699,955, canc. Cl. 51.
Prentice, Raymond W., d.b.a. Prentice Nursery and Decorating Co., Seattle, Wash. 812,762. Cl. 50.
Private Brands, Inc., d.b.a. Pashea's, Kansas City, Mo. 812,360, pub. 5–24–66. Cl. 6.
Procter & Gamble Co., The: *See*—
Graham Bros. & Co.
Product Development Co., New Haven, Conn. 812,371, pub. 5–24–66. Cl. 12.
Products Engineering Co., Tinley Park, Ill. 812,510, pub. 5–24–66. Cl. 26.
Propulsion Systems, Inc., Port Washington, N.Y. 812,688, pub. 5–24–66. Multiple Class (Classes 100 and 103).
Propulsion Systems, Inc., Port Washington, N.Y. 812,689, pub. 5–24–66. Multiple Class (Classes 100 and 103).
Purex Corp., Ltd., d.b.a. Campana Corp., Lakewood, Calif. 812,641, canc. Cl. 44.
Putman Publishing Co., Chicago, Ill. 812,746. Cl. 38.
Quality Mills, Inc., Mount Airy, N.C. 812,591, pub. 5–24–66. Cl. 39.
Queens National Bank of New York, The, Springfield Gardens, N.Y. 699,976, canc. Cl. 102.
Recreation Products, Inc., Brooklyn, N.Y. 812,739–40. Cl. 22.
Redd Pest Control Co., Inc., Jackson, Miss. 812,713, pub. 5–24–66. Cl. 103.
Reed, Frank S. 699,678, canc. Cl. 13.
Reid, Rose M., Los Angeles, Calif. 699,886, canc. Cl. 39.
Reliable Textile Co., Inc., New York, N.Y. 812,626, pub. 5–24–66. Cl. 42.
Renard Linoleum and Rug Co., St. Louis, Mo. 738,289, canc. Cl. 42.
Renole Mfg. Corp., New York, N.Y. 699,896, canc. Cl. 40.
Results, Inc., Coral Gables, Fla. 699,984, canc. Cl. 107.
Rheem Mfg. Co., New York, N.Y. 812,487, pub. 5–24–66. Cl. 23.
Rheinische Gummi- und Celluloid-Fabrik, Mannheim-Neckarau, Germany. 699,759, canc. Cl. 22.
Ricardo, Inc., Denver, Colo. 812,515, pub. 5–24–66. Cl. 28.
Richards, Caryl, Inc., New York, N.Y. 812,676, pub. 5–24–66. Multiple Class (Classes 51 and 52).
Richfield Foods, Inc., Cairo, Ga. 812,645, pub. 5–24–66. Cl. 46.
Ries, Jacob, Bottling Works, Inc.: *See*—
Ries, Jacob.
Ries, Jacob, to Jacob Ries Bottling Works, Inc., Shakopee, Minn. 54,610, ren. 8–9–66. Cl. 45.
Rinsoz & Ormond S.A., Vaud, Switzerland. 812,410, pub. 5–24–66. Cl. 17.
Riverside Fibre & Paper Co., to Riverside Paper Corp., Appleton, Wis. 214,272, ren. 8–9–66. Cl. 37.
Riverside Paper Corp.: *See*—
Riverside Fibre & Paper Co.
Robertson, H. H., Co., Pittsburgh, Pa. 812,537, pub. 5–24–66. Cl. 34.
Rockaway Metal Products Corp., Inwood, N.Y. 812,372, pub. 5–24–66. Cl. 12.
Rockland Chemical Co., Inc., West Caldwell, N.J. 812,733. Cl. 6.
Rockwood Chocolate Co., Inc.: *See*—
Rockwood & Co.
Rockwood & Co., New York, to Rockwood Chocolate Co., Inc., Brooklyn, N.Y. 214,388, ren. 8–9–66. Cl. 46.
Robbins, Beulah M., Washington, D.C. 812,618, pub. 5–24–66. Cl. 42.
Roddis Plywood Corp., Marshfield, Wis. 699,663, canc. Cl. 12.
Roettele, Carl A., d.b.a. Elsa Canning Co., to R. Roettele, Elsa, Tex. 425,346, ren. 8–9–66. Cl. 46.
Roettele, Carl A., Elsa, Tex. 425,347, ren. 8–9–66. Cl. 46.
Roettele, Rosemary: *See*—
Roettele, Carl A.
Roger Jean-Pierre, S.A., Paris, France. 699,799, canc. Cl. 28.
Rogue River Packing Corp.: *See*—
Rogue River Valley Canning Co.
Rogue River Valley Canning Co., Medford, Oreg., to Rogue River Packing Corp., San Francisco, Calif. 217,037, ren. 8–9–66. Cl. 46.
Rollway Bearing Co., Inc., Liverpool, N.Y. 812,480, pub. 5–24–66. Cl. 23.
Roman Meal Co., Tacoma, Wash. 812,661, pub. 5–24–66. Cl. 46.
Rotex Punch Co., Inc., San Leandro, Calif. 812,475, pub. 5–24–66. Cl. 23.
Royal Tile Mfg. Co., Fort Worth, Tex. 812,388, pub. 5–24–66. Cl. 12.
Royal Tops Mfg. Co., Inc., Long Island City, N.Y. 812,450–1, pub. 5–24–66. Cl. 22.
Rubinstein, Helena, Inc., New York, N.Y. 812,764. Cl. 51.
Ruggiero, Viola, New Rochelle, N.Y. 699,990, canc. Cl. 22.
Ru-Son Products Co., Kearny, N.J. 812,664, pub. 5–24–66. Cl. 50.
S.L.I.A. Sicule Lombarde Industrie Associate, Codogno (Milan), Italy. 699,996, canc. Cl. 46.
St. Regis Paper Co., New York, N.Y. 812,729. Cl. 1.
Sakwa, Paul, Washington, D.C. 812,452, pub. 5–24–66. Cl. 22.
Sams, Howard W., & Co., Inc., Indianapolis, Ind. 812,560, pub. 5–24–66. Cl. 38.
Sandamp Systems Inc., Watertown, Mass. 812,440, pub. 5–24–66. Cl. 21.
San's Clothing Factory Ltd., Kowloon, Hong Kong. 812,579, pub. 5–24–66. Cl. 39.
Schaefer, Chas., Sons, Inc., Elizabeth, N.J. 812,732. Cl. 6.
Scharff Corp., Los Angeles, Calif. 812,592, pub. 5–24–66. Cl. 39.
Schlegel Mfg. Co., The, Rochester, N.Y. 812,370, pub. 5–24–66. Cl. 12.
Schluderberg-Kurdle Co., Inc., Baltimore, Md. 812,756. Cl. 46.
Schnee-Morehead, Inc., Irving, Tex. 812,391, pub. 5–24–66. Cl. 12.
Schoellkopf, Buddy, Products Inc., Dallas, Tex. 812,736. Cl. 22.
Seagram, Joseph E., & Sons, Inc.: *See*—
Texas Pacific Coal and Oil Co.
Searchway, Inc., Bridgeport, Conn. 812,399, pub. 5–24–66. Cl. 13.
Sears, Roebuck and Co., from Gateway Chemicals, Inc., Chicago, Ill. 699,636, canc. Cl. 6.
Sears, Roebuck and Co., Chicago, Ill. 699,906, canc. Cl. 42.
Seeburg Corp., The, from Coffee Cabinet Corp., Chicago, Ill. 699,770, canc. Cl. 23.
Sel-Mor Garment Co., Inc., St. Louis, Mo. 812,576, pub. 5–24–66. Cl. 39.
Sel-Rex Corp., Nutley, N.J. 812,438, pub. 5–24–66. Cl. 21.
Service Heel Co., Inc.: *See*—
Pereles Bros., Inc.
Service Knitting Mills, Inc., New York, N.Y. 812,632, pub. 5–24–66. Cl. 42.
Sharp Watch Corp., New York, N.Y. 812,513, pub. 5–24–66. Cl. 27.
Shaw, Sylvanus J., Jr., d.b.a. The Woodlawn Co., Cranford, N.J. 699,657, canc. Cl. 10.
Shell Union Oil Corp., San Francisco, Calif., to Shell Oil Co., New York, N.Y. 423,006, ren. 8–9–66. Cl. 37.
Shepard, Sidney, New York, N.Y. 812,751. Cl. 39.
Show Biz, Inc., Nashville, Tenn. 812,723, pub. 5–24–66. Cl. 107.
Shulton, Inc.: *See*—
Leigh Chemist, Inc.
Sinclair, Kennedy, Inc., Montclair, N.J. 812,747. Cl. 38.
Skinner, William, & Sons, New York, N.Y. 699,909, canc. Cl. 42.
Sloane, W. & J., Inc., New York, N.Y. 812,692, pub. 5–24–66. Cl. 101.
Slumberest Co., Georgetown, Ky. 699,908, canc. Cl. 42.
Smidth, F. L., & Co., to F. L. Smidth & Co., New York, N.Y. 216,099, ren. 8–9–66. Cl. 12.
Societe d'Etudes, de Recherches et d'Applications pour l'Industrie, Brussels, Belgium. 812,521, pub. 5–24–66. Cl. 31.
Societe La France Toilet Goods Co., Inc., to Bourjois, Inc., New York, N.Y. 213,991, ren. 8–9–66. Cl. 51.
Societe Nouvelle Coudurier, Fructus, Descher, Villeurbanne, France. 812,599, pub. 5–24–66. Cl. 39.
Societe Nouvelle Coudurier, Fructus, Descher, Villeurbanne, France. 812,622, pub. 5–24–66. Cl. 42.
Societe Nouvelle Coudurier, Fructus, Descher, Villeurbanne, France. 812,635, pub. 5–24–66. Cl. 43.
Society of National Association Publications, Inc., Washington, D.C. 812,696, pub. 5–24–66. Cl. 101.
Sondra Mfg. Co., Inc., New York, N.Y. 812,620, pub. 5–24–66. Cl. 42.
Sonken-Galamba Corp., Kansas City, Kans. 699,664, canc. Cl. 12.
Sonneborn, L., Sons, Inc., New York, N.Y. 699,691, canc. Cl. 16.
Southwestern Investment Co., Amarillo, Tex. 812,702, pub. 5–24–66. Cl. 102.
Southwestern Investment Co., Amarillo, Tex. 812,703, pub. 5–24–66. Cl. 102.
Southwestern Investment Co., Amarillo, Tex. 812,704, pub. 5–24–66. Cl. 102.
Southwestern Petroleum Corp., Fort Worth, Tex. 812,373, pub. 5–24–66. Cl. 12.
Spaeter, Carl, Gesellschaft m.b.H., Duisburg, Germany. 812,364, pub. 5–24–66. Cl. 6.
Specialized Coatings, Inc., Passaic, N.J. 812,386, pub. 5–24–66. Cl. 12.
Standard Oil Co. of California, San Francisco, Calif. 812,446, pub. 5–24–66. Cl. 21.
Standard Pyroxoloid Corp., Leominster, Mass. 812,615, pub. 5–24–66. Cl. 40.
Stanley, Herbert, Co., Inc., The, Winnetka, Ill. 812,767. Cl. 52.
Stanley, John T., Co., Inc., New York, N.Y. 812,679, pub. 5–24–66. Cl. 52.
Starrco Co., Inc., from John J. Starr, d.b.a. Starrco Co., St. Louis, Mo. 812,378, pub. 5–24–66. Cl. 12.
State of Minnesota, St. Paul, Minn. 812,567, pub. 5–24–66. Cl. 38.
Sterling Drug, Inc.: *See*—
Winthrop Chemical Co., Inc.
Stevens, J. P., & Co., Inc., New York, N.Y. 812,630, pub. 5–24–66. Cl. 42.

Stone Mountain Grit Co., Inc., Lithonia, Ga. 812,341, pub. 5–24–66. Cl. 1.
Stone & Webster Engineering Corp., Boston, Mass. 812,684, pub. 5–24–66. Multiple Class (Classes 100 and 103).
Streitfeld, Leonard Dr., Hammonton, N.J. 812,511, pub. 5–24–66. Cl. 26.
Stulman-Emrick Lumber Co., Inc., Brooklyn, N.Y. 699,674, canc. Cl. 12.
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Superior Concrete Accessories, Inc., Franklin Park, Ill. 812,377, pub. 5–24–66. Cl. 12.
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Sverre Munck Aksjeselskap, Bergen, Norway. 812,477, pub. 5–24–66. Cl. 23.
Swagerty, Ancil A., d.b.a. Swagerty Specialties Co., San Clemente, Calif. 812,546, pub. 5–24–66. Cl. 36.
Sylvan Seal Milk, Inc., d.b.a. Plant #37–067, Philadelphia, Pa. 812,643, pub. 5–24–66. Cl. 46.
Synoptic International S.A.M., Hector-Otto, Monaco. 812,551, pub. 5–24–66. Cl. 37.
Tabor City Foods, Inc., Tabor City, N.C. 812,659, pub. 5–24–66. Cl. 46.
Tafts Asthmalene Co., New York, N.Y., to Wallace & Tiernan Inc., East Orange, N.J. 50,248, ren. 8–9–66. Cl. 18.
Takahashi, C. T., & Co., Inc., Seattle, Wash. 699,633, canc. Cl. 5.
Taylor, E. E., Corp., Freeport, Maine. 812,584, pub. 5–24–66. Cl. 39.
Taylor, John R., Sr., d.b.a. John Taylor and Associate, Fort Lauderdale, Fla. 812,565, pub. 5–24–66. Cl. 38.
Teach-R-Guide Corp., Trenton, N.J. 812,509, pub. 5–24–66. Cl. 26.
Technomatic Corp., Chicago, Ill. 812,454, pub. 5–24–66. Cl. 22.
Telepro Industries Inc., Cherry Hill, N.J. 812,439, pub. 5–24–66. Cl. 21.
Tempeco Groves, Tempe, Ariz. 812,648, pub. 5–24–66. Cl. 46.
Tenneco Chemicals, Inc.: *See*—
Nuodex Products Co., Inc.
Texas Pacific Coal and Oil Co., to Joseph E. Seagram & Sons, Inc., Fort Worth, Tex. 216,437, ren. 8–9–66. Cl. 15.
Thiokol Chemical Corp., Bristol, Pa. 812,426, pub. 5–24–66. Cl. 19.
Thom, Laurence E., d.b.a. Thom Buoy Co., Seattle, Wash. 812,401, pub. 5–24–66. Cl. 13.
Thomas, Leslie G., Tucson, Ariz. 812,535, pub. 5–24–66. Cl. 34.
Thompson, Mickey, Enterprises, Inc., Long Beach, Calif. 812,427, pub. 5–24–66. Cl. 19.
Threadwell Tap and Die Co., Greenfield, Mass. 812,482–4, pub. 5–24–66. Cl. 23.
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Thriftway Gas Stations, Inc., Baltimore, Md. 812,403, pub. 5–24–66. Cl. 15.
Tip-Top Hosiery Mills, Inc., Asheboro, N.C. 812,598, pub. 5–24–66. Cl. 39.
Tractor, Inc., Austin, Tex., from Avco Corp., Wilmington, Mass. 812,637, pub. 5–24–66. Cl. 44.
Traffic Standard, Inc., New Haven, Conn. 812,665, pub. 5–24–66. Cl. 50.
Transeair Travel, Inc., Pittsburgh, Pa. 812,717, pub. 5–24–66. Cl. 105.
Tranter Mfg. Inc., Lansing, Mich. 699,800, canc. Cl. 31.
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Travel Research International, Inc., New York, N.Y. 812,749. Cl. 38.
Trimble Products Inc., Southern Pines, N.C. 812,528, pub. 5–24–66. Cl. 32.
Tri-Pack Corp., Chicago, Ill. 812,667, pub. 5–24–66. Cl. 50.
Turner Corp., Sycamore, Ill. 812,538, pub. 5–24–66. Cl. 34.
Tyne Brand Products Ltd., North Shields, Northumberland, England. 812,644, pub. 5–24–66. Cl. 46.
Ultra Carbon Corp., Bay City, Mich. 812,433, pub. 5–24–66. Cl. 21.
Union Carbide Corp.: *See*—
Bakelite Corp.
Union Carbide Corp., New York, N.Y. 699,949, canc. Cl. 50.
Union Carbide Corp., New York, N.Y. 699,650, canc. Cl. 6.
Union Carbide Corp., New York, N.Y. 699,950, canc. Cl. 50.
Unishops, Inc., Jersey City, N.J. 812,575, pub. 5–24–66. Cl. 39.
United Grocers, Ltd., Richmond, Calif. 812,647, pub. 5–24–66. Cl. 46.
United States Auto Club, Inc., Indianapolis, Ind. 812,682, pub. 5–24–66. Cl. 100.
United States Borax & Chemical Corp.: *See*—
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United States Rubber Co., New York, N.Y. 783,811. Am. 7(d). Multiple Class (Classes 1 and 5).
United States Rubber Co., New York, N.Y. 812,621, pub. 5–24–66. Cl. 42.
United Vintners, Inc., d.b.a. Italian Swiss Colony, San Francisco, Calif. 812,662, pub. 5–24–66. Cl. 47.
Universal Cigar Corp., New York, N.Y. 812,412, pub. 5–24–66. Cl. 17.
Univis Lens Co., The, Dayton, Ohio. 699,920, canc. Cl. 44.
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Upstart Industries, Brooklyn, N.Y. 699,760, canc. Cl. 22.
Utility Sales Corp., Waltham, Mass. 812,436, pub. 5–24–66. Cl. 21.
VSI Corp., Pasadena, Calif. 812,398, pub. 5–24–66. Cl. 13.
Valspar Corp., The, Rockford, Ill. 812,387, pub. 5–24–66. Cl. 12.
Van Gorp Mfg., Inc., Pella, Iowa. 699,769, canc. Cl. 23.
Vasco Metals Corp., Latrobe, Pa. 812,712, pub. 5–24–66. Cl. 103.
Victor Press, Victorville, Calif. 699,858, canc. Cl. 38.
Visirecord, Inc., Copiague, N.Y. 812,525, pub. 5–24–66. Cl. 32.
Wagner, John, & Sons, Philadelphia, to John Wagner Wines and Spirits Co., Ivyland, Pa. 57,616, ren. 8–9–66. Cl. 49.
Wagner, John, Wines and Spirits Co.: *See*—
Wagner, John, & Sons.
Wallace & Tiernan Inc.: *See*—
Tafts Asthmalene Co.
Warner-Lambert Pharmaceutical Co.: *See*—
Bon-Bon Co.
Watson Publications, Inc., Chicago, Ill. 812,750. Cl. 38.
Waumbec Mills Inc., New York, N.Y. 812,628, pub. 5–24–66. Cl. 42.
Wear-Flex Corp., The, Milwaukee, Wis. 812,571, pub. 5–24–66. Cl. 38.
Wedron Silica Co., Chicago, Ill. 812,334, pub. 5–24–66. Cl. 1.
Wembley, Inc., New Orleans, La. 812,574, pub. 5–24–66. Cl. 39.
Weston, Byron, Co.: *See*—
Carew Mfg. Co.
Wheel Horse Products, Inc., South Bend, Ind. 812,488, pub. 5–24–66. Cl. 23.
Wells Fargo & Co. Express, S.A., S.M., Mexico City, Mexico. 812,719, pub. 5–24–66. Cl. 105.
Western Art, Inc.: *See*—
Dyer, D. L.
Weyerhaeuser Co., Tacoma, Wash. 812,348, pub. 5–24–66. Cl. 2.
Weyerhaeuser Co., Tacoma, Wash. 812,743. Cl. 32.
Whit-Mor Mfg. Co., Inc., New York, N.Y. 812,346, pub. 5–24–66. Cl. 2.
Whitmoyer Laboratories, Inc., Myerstown, Pa. 812,417, pub. 5–24–66. Cl. 18.
Widescope, Inc., Northfield, Ill. 812,375, pub. 5–24–66. Cl. 12.
Wilshire Bedding Co., Inc., d.b.a. Wilshire Bedding Co., Inc., Montebello, Calif. 812,524, pub. 5–24–66. Cl. 32.
Wilson, Roy P., d.b.a. Contributors Advisory Service, Columbus, Ohio. 699,839, canc. Cl. 38.
Winthrop Chemical Co., Inc., to Sterling Drug, Inc., New York, N.Y. 425,191, ren. 8–9–66. Cl. 6.
Wishing Well Antiques, Silver Spring, Md. 812,699, pub. 5–24–66. Cl. 101.
Wolff, Edwin F., Indianapolis, Ind. 812,469, pub. 5–24–66. Cl. 22.
Wolo A.G., (Wolo Ltd.), Zurich, Switzerland. 213,866, ren. 8–9–66. Cl. 18.
Wolo A.G., (Wolo Ltd.), Zurich, Switzerland. 213,869, ren. 8–9–66. Cl. 18.
Wolverine Shoe and Tanning Corp., Rockford, Mich. 812,463, pub. 5–24–66. Cl. 22.
Woodford Mfg. Co., Des Moines, Iowa. 812,402, pub. 5–24–66. Cl. 13.
Woodland Hills Coordinating Council, Inc., Woodland Hills, Calif. 812,563, pub. 5–24–66. Cl. 38.
Woodlawn Co., The: *See*—
Shaw, Sylvanus J., Jr.
World Book Encyclopedia Science Service, Inc., Houston, Tex. 812,559, pub. 5–24–66. Cl. 38.
Wunderly, W. Glenn, Co., d.b.a. Peel-A-Way Scientific, Pasadena, Calif. 812,332, pub. 5–24–66. Cl. 1.
Wunderly, W. Glenn Co., d.b.a. Peel-A-Way Scientific, Pasadena, Calif. 812,500, pub. 5–24–66. Cl. 26.
Wunderly, W. Glenn, Co., Pasadena, Calif. 812,639, pub. 5–24–66. Cl. 44.
York, L. T., Co., Kansas City, Mo. 812,421, pub. 5–24–66. Cl. 18.
Yoshida Kogyo K.K., Chiyoda-ku, Tokyo, Japan. 812,395, pub. 5–24–66. Cl. 13.

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OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
August 16, 1966 Volume 829 Number 3

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of June 1966

Examiner affirmed	242
Examiner affirmed in part	59
Examiner reversed	76
Total	377

Guidelines to Examination of Programs

The following are guidelines which the Patent Office proposes to adopt for the examination of applications for patent on programming methods and apparatus. Comments as to these guidelines will be considered if received on or before October 4, 1966, on which date a public hearing on the matter will be held at 10:00 a.m. in Room 3886B of the Department of Commerce Building. All persons wishing to be heard orally at that time are requested to notify the Commissioner of Patents of their intended appearance.

EDWARD J. BRENNER,
July 6, 1966. *Commissioner of Patents.*

In considering these guidelines, it should be understood that, since it is not an analysis of judicial holdings, they must be considered as a tentative, theoretical analysis of applicable statutory law. It may well be that, when particular facts in particular applications are considered, modification in some instances may become necessary.

The term "program" has been loosely applied by authors discussing the patentability of processes and apparatus under our statutes.

For the purposes of this paper it is unnecessary to arrive at formal or precise definition of this term or of related terms such as "computer" or "data processor" since these are merely adaptations of the concept of "automatic control" which the Patent Office heretofore has been treating as within the classes of invention called for in 35 U.S.C. 101 as either apparatus or processes.

For example, the Jacquard looms of Class 139, Textiles, Weaving, subclass 59 and indented subclasses have presented for many years the concept of processes and apparatus that include a program. It is of no moment whether a "program device" is termed a Jacquard card belt, a player piano roll, a plug board or a magnetic tape and the corresponding "program" is termed a weaving design, a musical composition, a switching scheme or a document listing a series of instructions which a machine will execute, for its patentability is based on the presence or lack of statutory subject matter and this must be determined on the basis or a particular disclosure of subject matter.

It is not intended to indicate that there are no special, unresolved problems in the field of "programs" for electronic computers, such as where a program is a printed document, yet is acceptable directly by a computer having devices which can sense the printed characters on the program document.

Process

Special problems of patentability arise in the computer, data processing and automatic control field that revolve around mathematical processes and equations. These problems may be more generically stated as the broad field of algorithms which are conclusions based upon a precise or mathematical premise and line of reasoning.

For example the prediction as to the winner in a presidential election made by a programmed "general purpose" computer is based on an algorithm, not generally publicized, which has been evolved from a line of reasoning based on known factors and is analogous to a mathematical formula. Similarly, business practices or methods may be reduced to an algorithm.

Mathematical process discoveries and mathematical formulas used therein may not be patented although they may be of enormous importance (e.g., $e=mc^2$). The mathematical process falls as a statutory process as defined by the Supreme Court in *Cochrane* v. *Deener*, 94 U.S. 780, 1877 C.D. 242, since it is not a treatment of "materials or substances." Processes in the electrical field were considered in the Telephone Cases 126 U.S. 1 (1887) and the electric telegraph case *O'Reilly* v. *Morse*, 15 How. (56 U.S.) 62 (1853).

Mathematical formulas are not included within 35 U.S.C. 101 since they are not a process, a machine, a manufacture, a composition of matter, or useful improvements thereof.

Other decisions treating similar non-statutory processes as "mental processes" are:

In re Abrams, 38 CCPA 945, 1951 C.D. 264, 648 O.G. 663, 188 F.2d 165, 89 USPQ 266.

In re Shao Wen Yuan, 38 CCPA 967, 1951 C.D. 286, 648 O.G. 967, 188 F.2d 377, 89 USPQ 324.

These processes were for, or were characterized by, an algorithm.

Processes of doing business and of evaluating data likewise are characterized by an algorithm.

Thus certain useful and important processes are non-statutory as being merely expressions of an algorithm while other useful processes are statutory since they deal with tangible things and substances. For convenience they may be distinguished as "algorithm" and "utility" processes, respectively.

To distinguish between algorithm and utility processes becomes difficult in the case of a programmed general purpose computer unless the distinction between a *result* of method or apparatus operation and the *function* of the method steps or apparatus components is maintained.

The *result* of a programmed operation of a computer may be the mathematical transformation of data according to an algorithm but the *functioning* of the computer is the change

New Applications Received During June 1966

Patents	7746
Designs	399
Plant Patents	8
Reissues	16
Total	8169

Issue—August 16, 1966

Patents	1430	No. 3,266,056 to No. 3,267,485, incl.
Designs	91	No. 205,492 to No. 205,582, incl.
Total	1521	

in state of certain electrical or mechanical devices within the computer according to the algorithm, as distinguished from the individual or total computational result of the components thereof.

Thus a process, defined as a series of steps for the manipulation or evaluation of data, even though it is required to be carried out by a programmed computer, would be an algorithm process. A process defined as a series of steps for causing a sequence of changes in state of components of the computer, even though the sequence is dictated by an algorithm, would be a utility process.

Since the general purpose computer usually is programmed solely in terms of an algorithm and but infrequently in terms of the machine functioning of its components, it would be possible to define the process solely in algorithm terms and thus not be within the statute and not in utility function terms so as to be within the statute.

Where a process is a combination of algorithm and utility steps, its patentability is measured by viewing the process as a whole against the background of the prior art, as evidenced by references, including that which can be judicially noticed, to determine whether the process is characterised solely by the algorithm. Mere inclusion of algorithm steps *per se* does not render a process non-statutory since the algorithm may illuminate or exemplify the utility steps.

35 U.S.C. 112, third paragraph, authorizes a claim, when expressed as a "step for performing a specified function without the recital of structure, material or act in support thereof," but this does not sanction the claiming of a result only, since this has been construed repeatedly by the courts as not such that would promote the progress of science and useful arts. "Function" here must be construed as a utility function, as a means to an end, not the end or result itself.

However, a process, which includes utility steps that may or may not be old *per se*, recited in proper interrelation and illuminated by the inclusion of steps which set forth an algorithm to be solved as a result of the utility operations, may yield some new and unobvious *utility* and thus may be patentable over the prior art that does not teach this utility and how to obtain it. For example, a known programmed computer may be combined with and monitor and control a known chemical reactor in a manner to carry out a new and unobvious algorithm by a procedure applied to a material and thus be possibly patentable as where a new, unobvious compound results.

In summary, a process carried out by a programmed apparatus is (a) non-statutory where the process as claimed merely states the algorithm and is (b) unpatentable over the prior art where the prior art shows (i.e., makes obvious) all the statutory subject matter although not applied to the same algorithm. However, where the algorithm expressed in the process results in a new utility function for the statutory subject matter of the claim and this utility function is not presented by the prior art, the algorithm is illuminating and may be limiting in the process. But in no case would the fact of inclusion of the algorithm vitiate the statutory subject matter of the process.

APPARATUS

Apparatus within the field of programmed devices is always some form of machine or other manufacture under 35 U.S.C. 101.

In the case of a programmed computer or other machine, evaluation of patentability of the combination claimed follows by analogy that set forth above for processes. The program itself (if this is considered to be the algorithm) and the physical embodiment for effectuating that program (as a structural device) require no further treatment.

Apparatus may be defined in many instances in terms of a paraphrase of a process definition, i.e., in terms of "means for" carrying out the "function" of each step of that process. If the "function" is a *machine function* such a means encompasses statutory subject matter, but where the "means" is modified only by a statement of the *result* to be effected (such as the analysis of intellectual information in accordance with an algorithm), definition is non-statutory.

35 U.S.C. 112, third paragraph, specifically relates "function" to the structure or material in support of the function and not to a result which the structure or material cannot give. A claim to a series of means for carrying out the successive steps of a mathematical algorithm tells nothing of the structure of a machine capable of so operating as to result in solving the algorithm, but merely claims, in effect, the non-statutory algorithm.

Similarly to the case of the process, a claim which includes both statutory apparatus features and non-statutory features may be patentable on the basis of the new utility of the statutory apparatus features, but only if properly claimed so as to be restricted to apparatus significantly different from the prior art.

A programable machine, such as a general purpose computer, with its various parts not interconnected to perform any useful combined operation is merely a "warehouse" of unrelated parts. It may well be that the same machine, with a program device correctly related thereto, may yield a novel and useful machine combination due to the new interrelation of parts. In other words, the fact that such a prior art machine can have its parts interrelated by a program device in a new way to carry out machine functions of a specialized character may well result in a new patentable combination, unless there is a prior art teaching that would make the interrelations and results thereof obvious.

A machine which has as a part thereof a program device to cause the entire combination to carry out machine functions is embraced within the patent statute the same as any other special purpose machine and the fact that portions of the complete machine take the form of a replaceable program device is of no moment.

Claims to apparatus frequently are directed to less than the total apparatus disclosure and the aforegoing considerations are applicable to any such subcombination.

However, when the subcombination is that portion of a programmed machine which is interchangeably related to the machine and is determinative of the choice of algorithm to be carried out by the total machine, special considerations may arise because of the various usage of the terms "program" or "computer program."

The term "program" has been applied indiscriminately both (a) to the algorithm which the machine is intended to solve as a result of its functioning and (b) to the physical device which is associatable with the machine and becomes a part of that machine so as to cause the total combination to be capable of yielding the result.

A "program," when this term designates an algorithm, has no physical connotations, but is an intellectual concept and is not, *per se*, statutory subject matter.

A "program" may be a physical device which may take many different forms, such as printing on a piece of paper, electric or magnetic discontinuities on a recording media or cam-like protuberances or recesses, which is capable in proper relation to other physical devices of yielding a combination functioning to solve algorithms as a result.

The physical modification of a program *device* may express the algorithmic meaning by a printed word, letter or symbol easily interpreted by the human mind according to the prearranged convention of language or by a coded arrangement of physical discontinuities which similarly may be interpreted, but with greater difficulty, by the human mind. These same physical modifications can be sensed by the machine to control the kind or sequence of the operations of various portions of the machine so that its function is in accordance with the algorithm. (Note that some machines optically sense print and are controlled in accordance with the printing, but not its *meaning*.)

Since these program devices include symbols which can be interpreted in an intellectual sense the numerous cases on "printed matter" may apply such as the following Board decisions:

Ex parte Gwinn, 716 O.G. 15, 1957 C.D. 18, 112 USPQ 439,
Ex parte Ehnes, 107 USPQ 282,
Ex parte Dere, 118 USPQ 541,
Ex parte Stonge, 124 USPQ 238,
Ex parte des Granges, 1964 C.D. 265, 803 O.G. 899, 142 USPQ 41,

and the court decision to which reference is made therein.

Thus a program device which has in combination novel structure apart from the symbols or a novel relationship of the symbols to structure so that the combination functions to give a useful result, may qualify as a statutory machine or article of manufacture. Where the program device, as to all features and interrelations, is made obvious by prior art, the meaning or intelligence conveyed by the symbology of the physical representations thereon being the sole novelty, such being non-statutory subject matter, may not impart patentability to that which is old.

It is of extreme importance to an inventor who has devised an overall combination of a programmed machine that is patentable to be able to obtain a patent on the program device as a subcombination of that machine. This is particularly the case where the subcombination is to be sold separately from the machine, being evolved for interchangeable use with other correlative subcombinations.

Where the subcombination is defined in terms of its own novel structure and resultant utility, no problems in determining patentability exist.

Where the subcombination is defined in terms of the old structure of a known subcombination and thus is unpatentable for this reason, the fact that the claim also includes language indicating merely a sought for result or an intended use in an unclaimed combination cannot cause that which is old to be patentable.

The following is presented as a summary and as such must be construed in the context of the preceding discussion.

(1) The examination of process claims entails:
- (A) A determination whether or not there is a disclosure of a statutory process under 35 U.S.C. 100(b) and 101. Mere disclosure of an algorithm process in the absence of a utility process is insufficient under 35 U.S.C. 112, first paragraph.
- (B) A determination of whether or not the claims are in whole or in part to a utility process.
  - (a) Patentability of a utility process or of the utility steps of a process which have both utility and algorithm steps must be on the basis of prior art which is cited or is indicated to have been judicially noted (as under 35 U.S.C. 103).
  - (b) Patentability cannot be predicated on an algorithm process alone. Where a process has both utility and algorithm steps, patentability cannot be predicated on the algorithm but the algorithm steps do not vitiate the claim.
- (C) A search for, and an application of, the prior art to the statutory subject matter set out by the claims. The prior art is constituted by any known machine, any known process, any known algorithm or any other pertinent known information available in the prior art to render obvious the claimed process under 35 U.S.C. 101, 102, 103.

(2) The examination of apparatus claims entails:
- (A) A determination of whether or not there is a clear disclosure of apparatus coming under the statutes, particularly 35 U.S.C. 101 and 112, first paragraph.
- (B) A determination of whether or not the claims are in whole or in part to apparatus coming under the patent statutes.
  - (a) The claims may set forth structure or a means for carrying out an apparatus function.
    - (i) Where this function is that which an apparatus is capable of carrying out, it is a statutory definition of that apparatus or its equivalents under 35 U.S.C. 112, third paragraph.
    - (ii) Where this function is not one which apparatus can carry out but is merely a designation of the result of, or the meaning to be accorded to, the operation of the apparatus, only a non-statutory algorithm is claimed thereby.
  - (b) The presence in the claim of a statement of the algorithm practiced by the apparatus does not vitiate the statutory apparatus set forth therein but may illuminate a novel apparatus function of that apparatus.
  - (c) The claim may set forth less than the total disclosed apparatus. The program device, apart from the programable machine with which it is to function, may be a proper subcombination, if the claim defines that which provides an apparatus function; but such device is not a proper subcombination where its sole characteristic is the meaning, algorithm or result ascribed to a physical feature of the program device.
- (C) A search for, and application of, the prior art to the statutory apparatus set out in the claim. The prior art is constituted by any known process, any known apparatus, any known algorithm, or any other pertinent known information available in the prior art to render obvious the claimed apparatus under 35 U.S.C. 101, 102, and 103.
  - (a) The fact that known programable machine components could be programmed by appropriate interconnections to carry out the machine functions set out in a claim does not in and of itself anticipate or make obvious the invention claimed. However, additional prior art may make obvious the necessary interconnection.
  - (b) A program device for a programable machine is unpatentable which differs from the prior art only by reason of the meaning or algorithm ascribed to the symbology represented on the program device and the analogy to printed matter law to which there has been reference should be followed.
  - (c) A program device which is a proper subcombination of a disclosed combination may be patentable *per se* by reason of its novel structure and functions.

No Entries in Punched Cards for Organic Phosphorous Compound Patents After July 1, 1966

No further entries will be made by the Patent Office in the punched card file for mechanized search of organic phosphorous compound patents after July 1, 1966. The offer of cards containing new material, published March 22, 1966 (824 O.G. 1199), is, accordingly, withdrawn. A refund of payment will be made to each party who tendered a renewal subscription for such cards.

The file containing cards for patents issued before July 1, 1966, may still be purchased at the price of $40 and machine searches may still be obtained, in accordance with the notice published February 1, 1966 (823 O.G. 1), but only with respect to patents issued before July 1, 1966.

RICHARD A. SPENCER,
Director, Office of Research, Development and Analysis.
July 5, 1966.

Patents Available for Licensing or Sale

2,744,434. MULTIPURPOSE POCKET-SIZE HARMONICA WITH SELECTIVE KEY-CHANGE MEANS. Olaf J. Olson, 1017 14th St., Apt. 35, Sacramento, Calif., 95814.

3,029,831. VALVE CONNECTION. Leland L. Leete, 2150 Auburn Blvd., Sacramento, Calif.

3,067,310. MICROFILM ELECTRIC HEATERS. Frank C. Wals, et al. Correspondence to: Anderson, Spangler & Wymore, Suite 2114, 1700 Broadway, Denver, Colo., 80202.

3,215,917. ELECTRICALLY-DRIVEN TIMING DEVICE. Willard E. Buck, Boulder, Colo. Correspondence to: Anderson, Spangler & Wymore, Suite 2114, 1700 Broadway, Denver, Colo., 80202.

3,238,650. SOLE PLATE FOR LAUNDERING IRONS. Warwick and Warwick, 434 Broadway, Long Branch, N.J., 07740.

3,257,725. HOT DOG SLITTER. Roger Dignard, 243 E. Mason St., Berlin, N.H.

The following 2 patents are offered by: Marcus L. Bates, 6904 N. Russell Ave., Odessa, Tex., 79760.

2,986,908. SHAFT COUPLING.

3,066,748. CORE SAMPLING APPARATUS.

The Bunker-Ramo Corporation is willing to grant non-exclusive licenses under the following patent upon reasonable terms. Applications for license may be addressed to: Director, Patents and Licensing, The Bunker-Ramo Corporation, 8433 Fallbrook Ave., Canoga Park, Calif., 91304.

2,587,532. SYSTEM FOR MAGNETIC STORAGE OF DATA.

General Electric Company is prepared to grant non-exclusive licenses under the following 40 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 3 patents may be addressed to: Patent Counsel, Major Appliance & Hotpoint Division, General Electric Company, Appliance Park, Louisville, Ky., 40225.

2,493,084. COUNTERBALANCE MEANS FOR OVEN DOORS.

2,561,836. WATER FILLING APPARATUS.

2,649,765. SELF-CLEANING STRAINER ARRANGEMENT FOR DISHWASHING MACHINES.

Applications for license under the following 37 patents may be addressed to: General Electric Company, Flight Propulsion Division, 1000 Western Ave., West Lynn, Mass., 01905, Attn: Patent Counsel.

3,075,353. SUPERSONIC COMBUSTION.

3,085,400. COOLING VANE FOR ELASTIC FLUID TURBINES.

3,090,656. RECIRCULATION LUBRICATION SYSTEM.

3,106,062. TORQUE AND POWER SENSING AND CONTROL SYSTEM FOR GAS TURBINE ENGINES.

3,139,724. DUAL FUEL COMBUSTION SYSTEM.

3,143,401. SUPERSONIC FUEL INJECTOR.

3,146,590. POWER SYSTEM WITH ENERGY DIVIDING MEANS.

3,146,938. SHROUDING OF COMPRESSOR STATOR VANES.

3,146,992. TURBINE SHROUD SUPPORT STRUCTURE.

3,150,471. METHOD OF MATCHING DUPLEX BEARINGS.

3,154,311. SEALING MEANS.

3,156,828. PROTECTIVE CONTROL FOR PARALLELED ALTERNATOR SYSTEM.

3,165,294. ROTOR ASSEMBLY.

3,166,903. JET ENGINE STRUCTURE.

3,168,999. GAS TURBINE INLET SHIELD.

3,169,369. COMBUSTION SYSTEM.

3,172,621. AIRFOIL.

3,174,709. VECTORABLE THRUST MECHANISM.

3,176,465. VAPOR FUEL INJECTOR FLAMEHOLDER.

3,182,178. WELDING METHOD AND APPARATUS.

3,182,182. RATIO COMPUTER.

3,186,070. PROTECTIVE COATINGS AND PROCESS FOR PRODUCING THE SAME.

3,186,491. HELICOPTER DRIVE SYSTEM UTILIZING TIP MOUNTED FANS.

3,187,506. AIR INDUCTION SYSTEM.

3,188,047. PILOT VALVE.

3,192,712. LOAD BALANCING ARRANGEMENT FOR ANNULAR VARIABLE AREA JET EXHAUST NOZZLE.

3,193,185. COMPRESSOR BLADING.

3,201,938. RECUPERATIVE ARRANGEMENT FOR GAS TURBINE ENGINES.

3,203,666. BLADED ROTOR CONSTRUCTION.

3,212,731. FAN POWERED AIRCRAFT.

3,212,733. COUPLING SYSTEM.

3,216,455. HIGH PERFORMANCE FLUIDYNAMIC COMPONENT.

3,216,654. TURBOFAN ENGINE.

3,222,017. ENGINE MOUNTING.

3,227,240. AIR MINGLING SOUND SUPPRESSOR FOR JET ENGINES.

3,229,933. CRUISE FAN POWERPLANT.

3,237,918. VARIABLE STATOR VANE.

Adjudicated Patents

(Ct. Cls.) Smith Patent No. 2,603,226 (134—4), for METHOD FOR PREVENTING AND REMOVING ACCUMULATIONS OF FOREIGN MATERIALS. Claims 1 to 5 *Held* valid and infringed; claim 7 *Held* invalid. *Yosemite Chemical Co.* v. *U.S.*, 360 F.2d 948; 149 USPQ 635.

(Ct. Cls.) Thompson, Runge and Lyon Patent No. 2,743,319 (179—100.2), for SCANNING MECHANISM FOR MAGNETIC TAPE RECORDERS. Claims 1 to 3, 8, 9, 11 and 12 *Held* invalid. *Soundscriber Corp.* v. *U.S.*, 360 F.2d 954; 149 USPQ 640.

(Ct. Cls.) Thompson, Runge, and Lyon Patent No. 2,750,449 (179—100.2), for LONG PLAYING MAGNETIC TAPE RECORDER. Claims 6, 15, 16 and 18 *Held* invalid. *Id.*

(Ct. Cls.) Lyon Patent No. 2,803,413 (242—68.3), for REEL CLAMP AND HANDLE FOR MAGNETIC TAPE. Claim 1 *Held* valid and infringed. *Id.*

(Ct. Cls.) Lyon and Thompson Patent No. 2,826,642 (179—100.2), for ERASER FOR MAGNETICALLY RECORDED BULK TAPE IN ROLL FORM. Claims 1 and 2 *Held* invalid. *Id.*

(Ct. Cls.) Lyon Patent No. 2,845,495 (179—100.2), for LONG PLAYING TAPE RECORDING APPARATUS. Claims 7 to 9 *Held* invalid. *Id.*

(Ct. Cls.) Lyon Patent No. 2,915,595 (179—100.2), for DUAL CHANNEL MAGNETIC TAPE RECORDER. Claims 1, 3 and 4 *Held* invalid. *Id.*

(D.C. Mich.) Kern Patent No. 2,668,396 (134—505.26), for GAS REGULATOR. Claims 1 to 8 *Held* valid and infringed. *Rehrig Controls Co.* v. *Maxitrol Co.*, 253 F. Supp. 896; 149 USPQ 19.

(D.C. Calif.) Lugash Patent No. 2,837,227 (214—77), for LOAD ELEVATOR FOR MOTOR TRUCKS, *Held* valid and infringed. *Lugash* v. *Santa Anita Mfg. Corp.*, 254 F. Supp. 96; 148 USPQ 635.

(D.C. Ohio) Hussey Patent No. 2,940,085 (4—135), for SAFETY RAIL FOR BATHTUBS, *Held* valid and infringed. *Frohock-Stewart Inc.* v. *Reed Cromex Corp.*, 254 F. Supp. 120; 149 USPQ 125.

(D.C. Calif.) Lugash Patent No. 2,989,196 (214—77), for HYDRAULIC HOIST FOR VEHICLES, *Held* invalid. *Lugash* v. *Santa Anita Mfg. Corp.*, 254 F. Supp. 96; 148 USPQ 635.

Erratum

In the OFFICIAL GAZETTE, issue of June 14, 1966, vol. 827, p. ix, under the heading "List of Patentees," column 2, lines 54 to 57, strike out "Gardner, Edwin A., to E. A. Gardner, and S. P. Sturtevant. High speed method of manual orchard fruit picking, and picker transportation and fruit delivery apparatus for the same. 3,255,900, 6–14–66, Cl. 214—83.1"; p. xxiii, column 2, line 25, strike out "Gardner, Edwin A. 3,255,900."

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JULY 1, 1966

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action: New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7-1-63	11-14-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—G. D. MITCHELL, Manager. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	1-29-63	2-20-61
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager. Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	7-1-63	4-13-62
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	7-1-63	7-11-60
COMPOSITIONS AND MOLDING, GROUP 150—M. STERMAN, Manager. Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	7-23-63	2-26-60
COATING AND LAMINATING, GROUP 160—J. R. LIBERMAN, Manager. Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	6-4-63	12-4-61
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager. Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	11-16-62	10-11-61
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager. Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1-11-63	12-18-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER AND ELEMENTS, GROUP 210—M. L. LEVY, Manager. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	12-31-62	10-19-61
SECURITY, GROUP 220—S. BOYD, Manager. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	8-26-63	1-16-62
INFORMATION TRANSMISSION, GROUP 230—E. J. SAX, Manager. Communications; Multiplexing Techniques; Facsimile and Related Art.	4-4-63	12-22-61
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—E. J. SAX, Manager. Data Processing, Computation and Conversion; Storage Devices and Related Art.	12-28-62	2-6-61
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—F. M. STRADER, Manager. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	12-17-62	7-31-61
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager. Optics; Radiant Energy; Measuring.	1-8-63	8-8-61
PHYSICS, GROUP 280—R. L. EVANS, Manager. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	9-18-63	10-25-62
DESIGNS, GROUP 290—S. BOYD, Manager. Industrial Arts; Household, Personal and Fine Arts.	5-17-65	9-21-64

Total number of pending applications (excluding Designs)	196,314
Total number of Design applications pending	4,534
Total number of applications awaiting action (excluding Designs)	145,101
Total number of Design applications awaiting action	2,563
Date of oldest new application awaiting action	Nov. 16, 1962
Date of oldest amended application awaiting action	Feb. 26, 1960

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during August 1966, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1965*.

Patents ..... Numbers 2,477,558 to 2,490,820, inclusive

Plant Patents ..... Numbers 858 to 869, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	10-5-64	2-19-64
MANUFACTURING; METAL, PLASTICS WORKING; MACHINE TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders.	3-3-64	3-6-62
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	7-7-64	4-30-63
FLUID HANDLING, GROUP 360—T. J. HICKEY, Manager Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	5-18-64	11-7-62
HEAT AND POWER ENGINEERING, GROUP 370—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration, Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	8-17-64	11-14-63
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, Etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletry.	10-14-63	1-3-62
CIVIL ENGINEERING, GROUP 420—T. J. HICKEY, Manager Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	7-1-64	6-26-62
TEXTILES AND APPAREL, GROUP 440—W. S. COLE, Manager Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	7-1-64	6-21-62
TRANSPORTATION, GROUP 450—A. BERLIN, Manager Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	7-16-64	7-22-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	7-1-64	1-24-63
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—A. RUEGG, Manager Printing; Typewriters; Stationery; Material Treatment.	7-1-64	7-25-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE CONSTANTE DOMENIGHETTI

No. 7554. Decided March 10, 1966

[53 CCPA —; 356 F.2d 1009; 148 USPQ 678]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—JUDICIAL NOTICE—TUBELESS PNEUMATIC MEMBERS.

"We think that we must take judicial notice of the well-known tubeless pneumatic members which, in cooperation with peripheral flanges, define a fluid tight chamber, the pressure of which may be regulated by a valve. We may not ignore the extensive public knowledge that tubeless tires existed long prior to the time appellant filed his application."

2. PATENTABILITY—OBVIOUSNESS—35 U.S.C. 103.

"35 U.S.C. 103 prohibits the granting of a patent on an invention where, considering the differences between the claimed subject matter and the prior art, the subject matter would have been obvious to one of ordinary skill in the art to which the invention pertains."

3. SAME—PARTICULAR SUBJECT MATTER—VIBRATABLE ROLLER.

The refusal of a certain claim to apparatus comprising a freely vibratable roller, as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 760,102.

AFFIRMED.

Alan K. Roberts for appellant.

Clarence W. Moore (*L. F. Parker* of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

This appeal presents rejected claim 26 for our consideration.[1] The issue is whether the invention defined by the appealed claim is obvious under the terms of 35 U.S.C. 103. We find that the decision of the Board must be affirmed.

An analysis of the invention is facilitated through the use of FIGS. 1 and 2 of appellant's disclosure as originally filed.

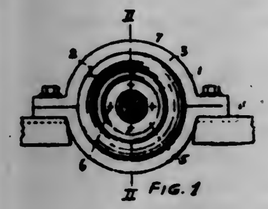


FIG. 1



FIG. 2

According to the specification,

> • • • the invention provides a method and related device to keep the frame of a road roller of the vibrating type, free from the vibrations as generated by the shaft of vibrating roll.
>
> Said method is characterized in that a fluid cushion, preferably kept under an adjustable pressure, is interposed between the vibrating component of a machine, and the components thereof which are to be kept free from vibrations.

[1] In application Ser. No. 760,102, filed Sept. 10, 1958. Four claims stand allowed.

Referring to FIGS. 1 and 2, "shaft" 1 provides an axis for vibratable roller which is not shown. The "semi-toroidal case" 3, shown in two parts, is rigidly attached to the "frame". Case 3 has a "toroidal groove" 3′ which provides a seat for the "flexible hose" 8 which, in turn, enclosed a "pneumatic cushion" 2. In the disclosed embodiment where the shaft does not rotate, "annular disk" 5 is rigidly secured to shaft 1. The "pneumatic cushion" 2 is "secured" to the outer periphery of the disk and provided with a "valve" 7 for the adjustment of inside pressure.

As pointed out in appellant's brief:

> The application is not directed to a pioneer invention, but is rather directed to an improved construction of a pneumatic support. The principal advantages of the invention include the ability to provide improved resistance to the axal as well as radial forces to which a freely vibratable roller is subjected.

From appellant's brief we learn that the "flexible hose" (8) encloses a "pneumatic cushion" (2) meaning air, and that the pneumatic cushion is not an "inner tube," similar to those utilized in some automobile tires. Thus, in essence, what appellant is claiming to be patentable here is his use of a tubeless pneumatic member in an otherwise old combination of elements.

The embodiment shown operates as follows to prevent the transmission of vibrations from the shaft to the frame. Vibrations from vertical shaft displacements are damped upon transmission to the flexible hose containing air under pressure. Vibrations from horizontal shaft displacements, shown in FIG. 2 by arrows A and B, are also damped by the flexible hose in cooperation with the annular disk and the toroidal groove.

The appealed claim is as follows:

> 26. Apparatus comprising a freely vibratable roller, a shaft supporting said roller and adapted to vibrate therewith, two parallel annular discs in face to face relation supported in concentric relation on said shaft, said discs including peripheral flanges in facing relationship and defining a groove, a flexible toroidal pneumatic ring, said ring having annular edges in spaced relation, said annular edges being supported in the grooves defined by the peripheral flanges in sealing relation to define a fluid tight chamber in said ring, means detachably coupling said annular disc together, two rigid semi-circular members cooperatively arranged to encircle said ring, lugs on said members, a frame, means adjustably connecting said lugs together and to said frame, each said member being provided with a concave seat conforming to the shape of the ring, said ring being supported in each said seat such that said semi-circular portions prevent lateral movement of the ring while the ring damps substantially all vibration of said roller.

A reading of the claim indicates that the structure which appellant is asserting to be his invention may be regarded as a type of clamp which squeezes the annular edges of the pneumatic ring into sealed relation and while doing so affords a very firm grip on the pneumatic ring to prevent failure due to axial forces.

The references relied on are as follows:

Kerridge, 2,671,386, March 9, 1954.
Stroud, 2,259,942, October 21, 1941.
Simmons, 2,000,196, May 7, 1935.
Materout (French), 1,101,776, October 11, 1955.

The rejection of the Examiner, affirmed by the Board, is stated as follows:

> Claim 26 is considered unpatentable over Kerridge in view of Stroud or Simmons and when further considering the state of the art as indicated by the French patent. * * *

The primary reference, Kerridge, shows the basis structure of appellant's claimed roller and discloses a solution to the same problem solved by appellant. Thus, Kerridge discloses a vibrating road roller analogous to appellant's invention and reduces the vibrations transmitted from the vibrating roller to the frame by inserting resilient blocks and flexible mounted bushings as part of the connecting means between the roller and the frame. As stated in appellant's brief:

> It can thus be readily seen that the contemplated damping of vibration of Kerridge is entirely different from that of the appellant's invention.

Stroud, concerned with the reduction of the vibrations transmitted from gyrating means to a frame, discloses a pneumatic support as the damping means. FIG. 3 from Stroud is herein reproduced:

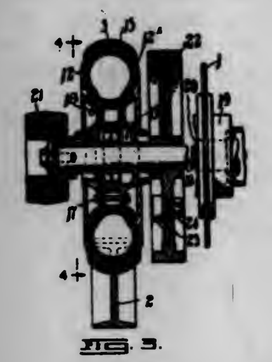
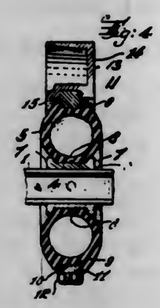


FIG. 3.

Referring to the above figure, shaft 11 of the gyrating means supports a housing 15. According to Stroud, the housing 15 forms an inner seat for an annular pneumatic tube 12. The resiliency of the pneumatic tube may be controlled via valve 18, and vibrations of shaft 11 are damped before reaching frame 2.

Simmons discloses a pneumatic suspension for vehicles. FIG. 4 is reproduced below.



Referring to the above figure it is seen that a pneumatic cushion 5 surrounds axle 1 and damps vibrations transmitted to frame 13.

We think that Kerridge teaches a solution to the same problem as that with which applicant is concerned, differing only in the means through which damping of vibrations is accomplished. Stroud teaches vibrational damping means closely resembling appellant's means. Stroud shows two parallel annular disks in face to face rela-

tionship supported in concentric relation on the shaft. We note that this arrangement corresponds to appellant's rotatable shaft embodiment utilizing bearings. We think, contrary to appellant's analysis, the annular disks in Stroud include peripheral flanges in facing relationship and defining a groove.

Appellant also argues that the center line of the frame in Stroud is offset from the axle of the shaft and that this offset would lead to serious damping problems in his device. While we accept this analysis, we note Simmons discloses a configuration with no offset, just as in appellant's construction.

Appellant also argues that his invention provides for damping the vibrations resulting from lateral shaft displacements. Simmons mentions this specific problem and both Simmons and Stroud, as appellant, disclose *some* lateral restriction of the resilient member. Appellant discloses in his specification that the toroidal groove 3′ is not intended to combat severe lateral displacements.

Finally, appellant argues that none of the references teach peripheral flanges in facing relationship and defining a groove which in cooperation with the flexible hose 8 define a fluid tight chamber. Stroud allegedly fails in this respect because he teaches an outer member and an inner tube. Absent the inner tube, Stroud does not teach an airtight chamber.

[1] We think that we must take judicial notice of the well-known tubeless pneumatic members which, in cooperation with peripheral flanges, define a fluid tight chamber, the pressure of which may be regulated by a valve. We may not ignore the extensive public knowledge that tubeless tires existed long prior to the time appellant filed his application.

[2] 35 U.S.C. 103 prohibits the granting of a patent on an invention where, considering the differences between the claimed subject matter and the prior art, the subject matter would have been obvious to one of ordinary skill in the art to which the invention pertains. [3] Since we find the decision of the Board to have been proper on this issue, we affirm.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

CLAYTON MARK & COMPANY *v.* WESTINGHOUSE ELECTRIC CORPORATION

No. 7523. Decided March 10, 1966

[53 CCPA —; 356 F.2d 943; 148 USPQ 672]

1. TRADEMARK—CONFUSING SIMILARITY—"MARK 75" FOR CIRCUIT BREAKERS AND "MARK" FOR ELECTRICAL CONDUITS.

On the issue of confusing similarity between appellant's mark "MARK 75" for circuit breakers and appellee's mark "MARK" for electrical conduit, where the court found that the latter mark "is in fact a family name employed by a family business to indicate the origin of its wares" but that the term "Mark" has "an unusually large number of meanings," that "It is also commonly used in an entirely different sense in combination with a numeral to designate a particular model or type," and that "Purchase of 'MARK 75' breakers would * * * be on a very discriminating basis, by persons who not only know what they are buying and why but who is producing it," *Held* that "This being so, we do not see that any confusion as to origin of the goods is likely by reason of the factors relied on by appellant, namely, that 'MARK' electrical conduit and 'MARK 75' circuit breakers may be bought from the same distributors, used by the same contractors, in the same structure, and included in the same specification sheets."

2. SAME—SAME—SAME.

In determining the likelihood of confusion between appellant's mark "MARK 75" sought to be registered for circuit breakers and appellee-opposer's registered trademark "MARK" for electrical conduit, *Held* that "In spite of the obvious similarity, we consider the trademarks to be of different types," that "Appellant's mark is not simply opposer's mark with the 'mere' addition of '75'"; and that "That addition converts what has every appearance of being a name of some sort into a trademark of the type- or model-designating variety."

APPEAL from the Patent Office. Opposition No. 41,551.

AFFIRMED.

Jerome Gilson for appellant.

Arthur S. Steward, Ralph H. Swingle for appellee.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Trademark Trial and Appeal Board (142 USPQ 48) dismissing appellant's opposition to registration of "MARK 75" by Westinghouse Electric Corporation for "circuit breakers," application Serial No. 109,928, filed December 8, 1960, claiming first use January 10, 1959.

Appellant Clayton Mark & Company's opposition is based primarily on long prior use and registration of "MARK" as a trademark for electrical conduit, i.e., steel pipe used in electrical wiring to protect the conducting wires. This is apparently included in the goods named in its Registration No. 664,928, July 29, 1958, for "tubing, pipe, unions for connecting pipes or rods, and filters." Opposer has two other registrations of the same word, or name, for goods more remote from circuit breakers in particular and electrical goods in general, No. 160,916, October 31, 1922, and No. 664,043, July 8, 1958. The earliest registration was issued to Mark Manufacturing Company and the other two to its successor, Clayton Mark & Company. Clayton Mark III testified that the company was founded by his grandfather, that his father was associated with it, and that he himself had been employed continuously by it from 1938 when he graduated from college and had worked for the company eight previous summers.

Passing for the moment the probable impact on the public of the trademark "MARK," it is clear that it is in fact a family name employed by a family business to indicate the origin of its wares.

"MARK 75" was adopted by Westinghouse Electric Corporation as its designation for a new line of industrial circuit breakers—devices which open an electrical circuit when it is overloaded—designed to have an interrupting capacity of 75,000 amperes at 240 volts A.C.[1] and the line was promoted by advertising emphasizing that fact.

"Mark" is a term with an unusually large number of meanings—as a noun alone nearly a column in Webster's unabridged dictionary. It is a family name, a proper name, and the name of the author of the second Gospel of the New Testament. It is also commonly used in an entirely different sense in combination with a numeral to designate a particular model or type. Some examples from the record are: "DC–8 Mark IV" airplanes, "Mark 5" shotgun shells, "Mark Ten"

[1] Apparently 75,000 amperes is the capacity of the largest unit in the line, which covers a range of 20,000–75,000. The interrupting capacity of the Westinghouse "standard" line of circuit breakers is from 5,000 to 50,000 amperes. This refers to the ability to interrupt fault currents without injuring the circuit breaker.

panelboards, "Mark 16" layout tools, "Mark 313" electric cooking appliance, "Mark III" capacitors, "Mark III" boilers, "Mark II" oil furnaces, "Mark IV" electron beam welders, and "Mark 8" color television. There are many others. Webster's Third New International Dictionary (Merriam) recognizes this usage, citing as an example a nuclear power plant known as "Mark I." There is evidence of a General Dynamics "TRIGA Mark III" reactor.

When Westinghouse made a search on its proposed trademark "MARK 75" it found that Minneapolis-Honeywell Company was already using the same trademark on a slide projector but obtained consent to its use on circuit breakers. We cite this merely as an added example of this type of "mark" designation.

The price range of "MARK 75" circuit breakers is from $40 to $600. They are not sold in stores. The line contains between 150 and 160 different styles only 20 to 25 of which are stocked, the rest being manufactured only to order. A highly trained electrical engineer, not a mere electrician, is required to select the proper circuit breaker for the particular installation. Being more expensive than ordinary circuit breakers, it would appear that "MARK 75" breakers would not be used if ordinary breakers would be adequate. Purchase of "MARK 75" breakers would therefore be on a very discriminating basis, by persons who not only know what they are buying and why but who is producing it. We think it highly improbable that a buyer of a "MARK 75" breaker would not know it was a Westinghouse product.

[1] This being so, we do not see that any confusion as to origin of the goods is likely by reason of the factors relied on by appellant, namely, that "MARK" electrical conduit and "MARK 75" circuit breakers may be bought from the same distributors, used by the same contractors, in the same structure, and included in the same specification sheets.

[2] In spite of the obvious similarity, we consider the trademarks to be of different types. Appellant's mark is not simply opposer's mark with the "mere" addition of "75." That addition converts what has every appearance of being a name of some sort into a trademark of the type- or model-designating variety.

The record shows that opposer uses "MARK" as a house designation, the way Westinghouse uses the dominant portion of its corporate name, on conduits of various types bearing the designations "ELECTRICTUBE," "GALVAKOTE," "HOTKOTE," and "ENAMELKOTE." Its advertising features these products collectively as "MARK Conduit" but also prominently associates with the above type designations its company name as "Clayton Mark & Co." We believe that in general purchasers of "MARK Conduit" would be aware of the fact that it comes from a company named Mark and not Westinghouse.

We have here pointed out what appears to us to be the salient features of this case. There are, of course, others mentioned in the briefs and record and in the Board's opinion. Having considered all of these, we find no reason to disagree with the decision of the Board and it is therefore affirmed.

AFFIRMED.

MARTIN, *J.*, dissents.

U.S. Court of Customs and Patent Appeals

IN RE ROBERT L. CLARKE

No. 7489. Decided March 10, 1966

[53 CCPA —; 356 F.2d 987; 148 USPQ 665]

1. PATENTABILITY—ANTICIPATION—35 U.S.C. 102(a) AND (b).

"The reference relied on by the Patent Office as an anticipation within the meaning of 35 U.S.C. 102(a), is a publication of Stetter et al. (Stetter) appearing in vol. 91 of Chemiche Berichte, pp. 1982–8, under date of September 15, 1958. Since that date of publication is less than one year prior to the application date herein there is no question of a statutory time bar under 35 U.S.C. 102(b). It is acknowledged by appellant that since Stetter shows a compound which falls within the scope of the generic claim it is an anticipation, provided Stetter is available as a reference."

2. SAME—AFFIDAVIT UNDER RULE 131—*In re Stempel* CONSTRUED.

"Apparently appellant cannot, or cares not to show specific data as to the prior invention of the species Compound VII of Stetter. Could he, this case would be governed by *In re Stempel*, 44 CCPA 820, 241 F.2d 755, 113 USPQ 77, holding in a genus-species case that all the applicant can be required to show is priority with respect to so much of the claimed invention as the reference happens to show; when he has done that he has disposed of the reference."

3. SAME—SAME—A RULE 131 AFFIDAVIT IS ADMISSIBLE.

"As explicitly called for in Rule 131, the affidavit of the *applicant* is indeed admissible; the weight to be given it is another question * * *."

4. SAME—SAME—INDIRECT ANTEDATING.

"It is clear from *In re Shokal*, * * * that appellant may, by a proper showing, overcome a reference which discloses a species within the generic claim, although he may not be able to show completion of that species prior to the effective date of the reference, where the reference is not a statutory time bar. Thus, indirect antedating of a reference is permitted in a proper case * * *."

5. SAME—SAME—REQUIREMENTS OF RULE 131.

"Rule 131(a) requires that facts be offered which show 'completion of the invention' prior to the effective date of the reference in order to establish prima facie a case of prior inventorship. The term 'completion' is further defined by the requirement of subsection (b) of Rule 131 that the facts must establish either reduction to practice, or conception coupled with due diligence until a subsequent actual reduction to practice or the filing of the application. The requirement for such *facts* in establishing prima facie a case of prior inventorship has been articulated in the decision of this court in *In re Garratt*, 20 CCPA 878, 882, 63 F.2d 113, 115, 16 USPQ 369, 372. See *Ex parte Stalego*, 135 USPQ 37, 38 (Pat. Off. Bd. App. 1961)."

6. SAME—SAME—REFERENCE DISCLOSURE IS THE IMPORTANT CONSIDERATION.

"We are completely appreciative of the thousands of compounds encompassed within the claims, but it is not the entire scope of the claims which is determinative of the issue here. Rather, it is how much the *reference* shows of the claimed invention that is crucial to the requirement of what the affidavit must show. * * * If the question of how much need be shown in antedating affidavits is cast in terms of *support* for the *claims*, then an applicant would be required to show as much as is required by 35 U.S.C. 112 to *support* a generic *claim*. However, we think such analysis in terms of support for the claims to be erroneous and improper here."

7. SAME—SAME—*In re Stempel* CONSTRUED—35 U.S.C. 102(a).

"* * * in *Stempel* * * * the reference showed but a single compound within a claimed class of compounds, and appellant, showing facts probative of a reduction to practice of the *identical* compound, was able to overcome the reference. It is easily recognized that in *Stempel* 'the invention' had not been described in a reference prior to the activities of appellant. Under the rule in *Stempel* an applicant has the burden of proving priority with respect to so much of the claimed invention as the reference happens to show. The rejection is proper under 35 U.S.C. 102(a), * * * not because the reference describes the invention, but merely because the appealed claims read upon, or encompass, the reference disclosure."

8. SAME—SAME—INDIRECT ANTEDATING—OBVIOUSNESS—GENERIC INVENTION—SCOPE OF SAME INVENTION VARIED IN CLAIMS.

"We believe the rule in *Stempel* supplements our decision in *In re Shokal* * * * and that rule for antedating references is not limited to fact situations where the inventor can show priority as to the *identical* compound described in the reference. It seems that in an appropriate case an applicant should not be prevented from obtaining a patent to an invention where a compound described in a reference would have been obvious to one of ordinary skill in the art in view of what the affiant proves was completed with respect to the invention prior to the effective date of the reference. This is particularly true where the inventor had already appreciated that the invention was generic in nature from his work on diverse species and was endeavoring to determine by exercise of reasonable diligence the precise scope of the invention. Claims do define 'the invention,' but in a given case may be of varying scope while still defining the same invention; what is 'the invention' should not be confused with the scope thereof in this area of the law dealing with establishing prima facie a case of prior inventorship."

9. SAME—SAME—SAME—APPLICANT POSSESSED SO MUCH OF THE INVENTION AS TO ENCOMPASS THE REFERENCE DISCLOSURE.

"* * * antedating affidavits must contain facts showing a completion of 'the invention' commensurate with the extent the invention is shown in the reference, whether or not it be a showing of the identical disclosure of the reference. In our view, where it can be concluded that facts, offered in a Rule 131 affidavit in support of a general allegation of conception and reduction to practice of the invention, would persuade one of ordinary skill in the art to a reasonable certainty that the applicant possessed *so much of the invention as to encompass the reference disclosure*, then that showing should be accepted as establishing prima facit a case of inventorship prior to the reference, sufficient for the purpose of overcoming the reference in an ex parte case. * * * Upon satisfying that test, species of the reference falling within the claim may be antedated indirectly."

10. SAME—SAME—SAME—SINGLE SPECIES MAY ANTEDATE DIFFERENT SPECIES OF REFERENCE.

"* * * we think in an appropriate case a single species could be sufficient to antedate indirectly a different species of a reference."

11. SAME—SAME—ISOPROPYL AND METHYL SPECIES.

"Here, the isopropyl species of Stetter which must be antedated is the first member of a structurally homologous series in which R in the structure depicted * * * is 'a branched-chain alkyl radical. The first affidavit of appellant shows both the preparation of the methyl compound, the first member of the alkyl series, and a determination that the methyl compound has diuretic activity. While other members of the alkyl series, or even the branched-chain alkyl series, might be said to be structurally evident or prima facie obvious to one skilled in the art upon preparation of the methyl species, the evidence is *inadequate* to show that appellant considered any other members of those series to be part of the invention. The fact that the species shown in the affidavit are members of an homologous series, e.g. alkyl, is not necessarily conclusive that alkyl is of such significance that another member of the series is part of the invention."

12. SAME—SAME—REDUCTION TO PRACTICE OF SEVERAL DIVERSE SPECIES OTHER THAN THE REFERENCE SPECIES.

Upon considering the effect of an affidavit filed under Rule 131, showing the reduction to practice of two species from the claimed class of compounds wherein "R" is more broadly defined but is methyl or phenyl in the two species, to overcome a reference publication disclosing a compound encompassed by the claimed genus and "R" is isopropyl, *Held* that "Where it could be shown that such a diverse substituent as phenyl was then known to have properties related to those of the methyl species, it would indicate that the invention is relatively independent of the nature of the R substituent"; that "That being so, a compound structurally further removed could be effective to antedate the compound of the reference"; that "Thus, an R substituent even more diverse than methyl might serve to antedate isopropyl where it is also shown that the structure of the R substituent is of relatively little effect in the compound as a whole"; that "However, the affidavit does not show the phenyl species to have properties similar to methyl, and hence there is no evidence of such independence in the record"; and that "We must conclude that the showing only of the making of the phenyl species is of little probative value on the issue of whether the isopropyl species is antedated."

APPEAL from the Patent Office. Serial No. 836,911.

AFFIRMED.

Laurence and Laurence (*Dean Laurence*, *Herbert I. Sherman* of counsel) for appellant.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

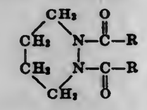
The issue in this appeal from the Board of Appeals is whether Rule 131 affidavits that show certain facts about species of a claimed genus, and that also allege conception of the genus, are sufficient to antedate indirectly a reference disclosing a different species within the claimed genus. This issue arises with respect to generic claims 1 and 2 in appellant's application Serial No. 836,911, filed August 31, 1959, for "1,2-Diacylhexahydropyridazines and Preparation Thereof."

The claims read:

1. 1,2-diacylhexahydropyridazine in which each acyl is —CO—R wherein R is a member of the group consisting of hydrogen and a hydrocarbon radical having from one to nine carbon atoms.

2. 1,2-bis(lower-alkanoyl)hexahydropyridazine.

The hexahydropyridazines are a type of bis-amides which are disclosed as having antiviral and diuretic activity with low toxicity in mammals. Structurally, the compounds may be represented thus:



Claim 1: R=H or 1-9 carbon "hydrocarbon" radical. Claim 2: R=lower alkyl.

The definition of R as "hydrocarbon" is disclosed in the application as:

* * * In the above general formula * * *, when the R's represent separate radicals, they are preferably identical. When R represents a hydrocarbon radical, it preferably stands for an aliphatic hydrocarbon radical, either saturated or unsaturated, straight or branched; a cycloalkyl radical; a monocarbocyclic aromatic hydrocarbon radical; or a combination of the foregoing radicals. Thus, included in the definition of R are alkyl, for example, methyl, ethyl, propyl, *isopropyl*, butyl, tertiary-butyl, hexyl, octyl and nonyl; alkenyl, for example, vinyl, 1-propenyl, allyl, 3-hexenyl and 4-octenyl; alkynyl, for example, ethynyl, propargyl and 3-hexynyl; cycloalkyl, for example, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, 4-methylcyclohexyl, 2,6-dimethylcyclohexyl, and cyclooctyl; cycloalkylalkyl, for example, cyclopentylethyl and cyclohexylmethyl; monocarbocyclic aryl, for example, phenyl, p-tolyl, 3,5-dimethylphenyl and 3-ethylphenyl; and monocarbocyclic aryl-lower-alkyl, for example, benzyl, 2-phenylethyl and 3-phenylpropyl. [Emphasis ours.]

Appellant further discloses a genus of compounds, having the same properties, in which the two R's of the above structure can be joined to form an alpha, beta-lower-alkylene bridge (hereinafter referred to as bridge compounds).[1]

[1] From the record it appears that there is no generic claim in the case covering *both* the alpha, beta-lower-alkylene bridge compounds and the non-bridge compounds.

[1] The reference relied on by the Patent Office as an anticipation within the meaning of 35 U.S.C. 102(a), is a publication of Stetter et al. (Stetter) appearing in vol. 91 of Chemiche Berichte, pp. 1982–8, under date of September 15, 1958. Since that date of publication is less than one year prior to the application date herein there is no question of a statutory time bar under 35 U.S.C. 102(b). It is acknowledged by appellant that since Stetter shows a compound which falls within the scope of the generic claim it is an anticipation provided Stetter is available as a reference.

Referring to the structure diagrammed above, Stetter shows a compound in which the R groups are each isopropyl (Stetter's Compound VII), and a second compound in which the two R groups taken together are an ethylene bridge between the amide groups, thus forming a second ring (Stetter's Compound XI). Stetter shows Compound VII to be an intermediate in a chemical synthesis which can be described broadly as the preparation of cyclic diamines by opening the rings of intermediate bicyclic compounds.[2]

In an attempt to remove Stetter as a reference under section 102(a), appellant filed a first affidavit under Rule 131 that shows reduction to practice, prior to the effective date of Stetter, of two compounds in which R in the structure shown above is respectively methyl and phenyl, and also an ethylene bridge compound, Stetter's Compound XI. On the basis of that showing, the Examiner allowed four claims: claim 3, a broad or "generic" claim to bridge compounds which includes the bridge Compound XI of Stetter; and three species claims, claim 4 to the methyl species, claim 5 to the phenyl species, both of these being species within rejected claim 1, and claim 6 specifically to the bridge compound, Compound XI of Stetter.

The first affidavit did not, however, relate to the isopropyl species, the Stetter Compound VII, which falls within the scope of claims 1 and 2 on appeal. Since the Examiner considered that affidavit insufficient to remove the generic claims 1 and 2 anticipating Compound VII, appellant filed a second affidavit which alleges conception of the generic invention prior to the effective date of Stetter. [2] Apparently appellant cannot, or cares not to show specific data as to the prior invention of the species Compound VII of Stetter. Could he, this case would be governed by *In re Stempel*, 44 CCPA 820, 241 F.2d 755, 113 USPQ 77, holding in a genus-species case that all the applicant can be required to show is priority with respect to so much of the claimed invention as the reference happens to show; when he has done that he has disposed of the reference.

Because of its import, the body of the second affidavit is reproduced in full:

I, ROBERT L. CLARKE, being duly sworn, depose and say that:

I am the Robert L. Clarke who is the applicant in the above-identified application and who executed on April 30, 1962 the Antedating Affidavit submitted with the response filed May 1, 1962 in the above-identified application;

In the United States of America prior to September 15, 1958, I conceived the broad idea of the generic invention described in the above-identified application and embodied in claims 1 and 2 thereof and I carried out the preparation of and had testing done on exemplary compounds as described in said antedating affidavit for the purpose of verifying the operability of said broad idea of the generic invention and I concluded from said preparation and testing of the exemplary compounds that the broad idea of the generic invention was operative as I conceived it;

And further I say not.

[2] Specifically, N,N′-diisobutyryl hydrazine is alkylated with tetramethylene bromide; the resultant 1,2-diisobutyryl piperidazine (Stetter's Compound VII) is saponified to piperidazine, which is then condensed with succinic acid anhydride to produce 1 2-succinyl piperidazine (Stetter's Compound XI), then reduced to 10-aza-quinolizidine which in the hydrogenating dissociation undergoes ring opening to 1,6-diaza-cyclodecane, the final product, for which no utility is mentioned.

It is the position of the Patent Office that the second affidavit is of little evidentiary value[3] since it is no more than a self-serving declaration in the nature of a conclusion unsupported by corroborating affidavits or documentary exhibits, M.P.E.P. 715.05. The Patent Office contends further that, since the proof is merely that appellant preceded Stetter as to two species,[4] the species in Stetter which remains not antedated is a sufficient basis on which to reject the generic invention of claims 1 and 2, M.P.E.P. 715.03, and *In re Steenbock*, 23 CCPA 1244, 83 F.2d 912, 30 USPQ 45. In the Solicitor's view, a claim which reads on species in a reference should be denied unless *each* of the species is directly antedated by a showing of prior reduction to practice thereof.

Appellant's position is equally absolute, that a reference can be antedated by proof of prior inventorship of *any* species since generic and species claims are directed to "substantially the same overall invention * * *." Appellant also refers to the rule of interference practice, that reduction to practice of a single species may be considered proof of reduction to practice of a generic count.

Those absolute and opposite positions reflect on the failure of Rule 131, calling for antedating with respect to "the invention," to provide for the modern problems inherent in chemical Markush genus-species situations, not foreseen in 1880[5] when the antedating affidavit practice began.

[4] It is clear from *In re Shokal*, 44 CCPA 854, 242 F.2d 771, 113 USPQ 283, that appellant may, by a proper showing, overcome a reference which discloses a species within the generic claim, although he may not be able to show completion of that species prior to the effective date of the reference, where the reference is not a statutory time bar. Thus, indirect antedating of a reference is permitted in a proper case and the Solicitor's view is contrary to existing law. However, we do not find, on the facts of this case, that appellant has established prior inventorship of so much of the invention, as defined in claims 1 and 2, as is necessary to antedate indirectly the species of the reference.

[5] Rule 131(a) requires that facts be offered which show "completion of the invention" prior to the effective date of the reference in order to establish prima facie a case of prior inventorship. The term "completion" is further defined by the requirement of subsection (b) of Rule 131 that the facts must establish either reduction to practice, or conception coupled with due diligence until a subsequent actual reduction to practice or the filing of the application. The requirement for such *facts* in establishing prima facie a case of prior inventorship has been articulated in the decision of this court in *In re Garratt*, 20 CCPA 878, 882, 63 F.2d 113, 115, 16 USPQ 369, 372. See *Ex parte Stalego*, 135 USPQ 37, 38 (Pat. Off. Bd. App. 1961).

Appellant does not challenge the factual showing requirement of Rule 131 as being an invalid exercise of the power granted the Com-

[3] The Examiner said it was "incompetent," a clear misuse of the legal term. [3] As explicitly called for in Rule 131, the affidavit of the *applicant* is indeed admissible; the weight to be given it is another question, with which we deal herein.

[4] Appellant says 3 species; this question is considered infra, footnote 8.

[5] McCrady, Patent Office Practice, 252 (4th ed., 1959).

missioner under 35 U.S.C. 6 as relating to prima facie showings in an ex parte case, or as being contrary to long-established practice, M.P.E.P. 715.03. Appellant argues that the two affidavits must be considered together, and that the facts to support the statements that the generic invention was conceived are supplied by the first affidavit. Appellant further argues that the first affidavit shows three species, and that "the two affidavits together are sufficient to constitute the requisite prima facie showing of inventorship, thereby to antedate * * * the Stetter et al. reference."

We argee that the two affidavits should be considered together. Appellant is not relying on the second affidavit alone. Although not essential, the second refers to the first in such manner as to incorporate it by reference. Further, the affidavit states that exemplary compounds in the first affidavit were prepared and tested, and that

> * * * from said preparation and testing of the exemplary compounds [appellant concluded] that the broad idea of the generic invention was operative as I conceived it * * *.

We think those statements may be taken as an allegation that the generic invention was reduced to practice. The isopropyl species of the Stetter reference is indeed mentioned in the specification, and thus amounts to a subsequent constructive reduction to practice of that species by appellant. However, there is no factual showing of *diligence* connecting the allegation of conception of the genus (and there is no allegation of conception of the isopropyl species per se) to a corresponding constructive reduction to practice. Thus we must take appellant's position to be that the species shown in the first affidavit are the factual support required to give legal effect to the otherwise bald allegation of conception and reduction to practice of the entire genus; in short, we view appellant's position to be that the two affidavits taken together represent an actual reduction to practice of the invention represented in the generic claims.

[6] We are completely appreciative of the thousands of compounds encompassed within the claims, but it is not the entire scope of the claims which is determinative of the issue here. Rather, it is how much the *reference* shows of the claimed invention that is crucial to the requirement of what the affidavit must show. *In re Stempel*, supra. If the question of how much need be shown in antedating affidavits is cast in terms of *support* for the *claims*, then an applicant would be required to show as much as is required by 35 U.S.C. 112 to *support* a generic *claim*. However, we think such analysis in terms of support for the claims to be erroneous and improper here. We would add that an analysis in terms of the law involving "genus" and "species" does not promote a disposition of the issue here.

[7] Thus, in *Stempel*, supra, the reference showed but a single compound within a claimed class of compounds, and appellant, showing facts probative of a reduction to practice of the *identical* compound, was able to overcome the reference. It is easily recognized that in *Stempel* "the invention" had not been described in a reference prior to the activities of appellant. Under the rule in *Stempel* an applicant has the burden of proving priority with respect to so much of the claimed invention as the reference happens to show. The rejection is proper under 35 U.S.C. 102(a), *In re Steenbock*, supra, not because the reference describes the invention, but merely because the appealed claims read upon, or encompass, the reference disclosure.

[8] We believe the rule in *Stempel* supplements our decision in *In re Shokal*, supra, and that rule for antedating references is not limited to fact situations where the inventor can show priority as to the *identical* compound described in the reference. It seems that in an appropriate case an applicant should not be prevented from obtaining a patent to an invention where a compound described in a reference would have been obvious to one of ordinary skill in the art in view of what the affiant proves was completed with respect to the invention prior to the effective date of the reference. This is particularly true where the inventor had already appreciated that the invention was generic in nature from his work on diverse species and was endeavoring to determine by exercise of reasonable diligence the precise scope of the invention. Claims do define "the invention," but in a given case may be of varying scope while still defining the same invention; what is "the invention" should not be confused with the scope thereof in this area of the law dealing with establishing prima facie a case of prior inventorship.

[9] It follows from the above views that antedating affidavits must contain facts showing a completion of "the invention" commensurate with the extent the invention is shown in the reference, whether or not it be a showing of the identical disclosure of the reference. In our view, where it can be concluded that facts, offered in a Rule 131 affidavit in support of a general allegation of conception and reduction to practice of the invention, would persuade one of ordinary skill in the art to a reasonable certainty that the applicant possessed *so much of the invention as to encompass the reference disclosure*, then that showing should be accepted as establishing prima facie a case of inventorship prior to the reference, sufficient for the purpose of overcoming the reference in an ex parte case. See *In re Shokal*, supra, 44 CCPA at 859. Upon satisfying that test, species of the reference falling within the claim may be antedated indirectly. On a review of all the evidence presented here, we conclude that appellant has not established that to be the case.

We think that all types of evidence should be considered, whether the facts are with reference to considerations of structure alone, or properties, or both. As noted in *In re Shokal* (with a caveat that support is not the controlling factor), 44 CCPA at 857, 242 F.2d at 773, 113 USPQ at 285:

> It appears to be well settled that a single species can rarely, if ever, afford sufficient support for a generic claim. *In re Soll*, 25 CCPA (Patents) 1309, 97 F.2d 623, 38 USPQ 189; *In re Wahlforss et al.*, 28 CCPA (Patents) 867, 117 F.2d 270, 48 USPQ 397. The decisions do not however fix any definite number of species which will establish completion of a generic invention and it seems evident therefrom that such number will vary, depending on the circumstances of particular cases. Thus, in the case of a small genus such as the halogens, consisting of four species, a reduction to practice of three, or perhaps even two, might serve to complete the generic invention, while in the case of a genus comprising hundreds of species, a considerably large number of reductions to practice would probably be necessary.

[10] Thus, we think in an appropriate case a single species could be sufficient to antedate indirectly a different species of a reference.

[11] Here, the isopropyl species of Stetter which must be antedated is the first member of a structurally homologous series in which R in the structure depicted above is a branched-chain alkyl radical. The first affidavit of appellant shows both the preparation of the methyl compound, the first member of the alkyl series, and a determination

that the methyl compound has diuretic activity. While other members of the alkyl series, or even the branched-chain alkyl series, might be said to be structurally evident or prima facie obvious to one skilled in the art upon preparation of the methyl species, the evidence is *inadequate* to show that appellant considered any other members of those series to be part of the invention. The fact that the species shown in the affidavit are members of an homologous series, e.g. alkyl, is not necessarily conclusive that alkyl is of such significance that another member of the series is part of the invention.

Further, there is no evidence here that one of ordinary skill in the art would have considered, or that appellant himself considered that the isopropyl species reasonably could be expected to have properties [6] related to that found for the methyl species, such that the isopropyl species would be properly included within the invention. We fail to find facts showing appellant had any appreciation that the invention was of such scope as to include *or point to* the isopropyl species of Stetter.[7] The requirement is for facts and not conclusions alone, *In re Garratt*, supra.

[12] Although a phenyl species is also shown in the first affidavit, appellant's position is not strengthened thereby. There is no evidence that, prior to the effective date of Stetter, appellant determined that the phenyl species was part of the invention. In our view, the affidavit showing with respect to phenyl is little related to that portion of the genus, the alkyl and branched-chain alkyl series, within which lies the isopropyl species of Stetter. We recognize that a showing with respect to another *type* of substituent within the genus claim, though not within the alkyl or branched-chain alkyl series thereof, could be relevant on the question of antedating the isopropyl species of the reference. Where it could be shown that such a diverse substituent as phenyl was then known to have properties related to those of the methyl species, it would indicate that the invention is relatively independent of the nature of the R substituent. That being so, a compound structurally further removed could be effective to antedate the compound of the reference. Thus, an R substituent even more diverse than methyl might serve to antedate isopropyl where it is also shown that the structure of the R substituent is of relatively little effect in the compound as a whole. However, the affidavit does not show the phenyl species to have properties similar to methyl, and hence there is no evidence of such independence in the record. We must conclude that the showing only of the making of the phenyl species is of little probative value on the issue of whether the isopropyl species is antedated.[8]

On the facts before us we are not convinced that the showings in the affidavits are adequate to antedate indirectly Compound VII of Stetter. We cannot say that it is reasonable to conclude from the affidavit showings that so much of the invention as encompasses the reference species was in appellant's possesion, and thereby reduced to practice prior to the effective date of the reference.

[6] We mean simply the common property or properties possessed by all the species which qualify them for inclusion in a genus. It is the common property or properties which define and delimit the genus.

[7] It is clear that if appellant's proofs were satisfactory here to establish the genus of claim 2, he would carry claim 1 as well.

[8] What is pointed out here about the relevancy of showings with regard to the phenyl species may be true of the showings with regard to the ethylene bridge species (Stetter's Compound XI), shown and tested and found to have antiviral activity in the first affidavit, but apparently only relevant on the factor of relative independence because the bridge compound is outside the claimed genus.

For the reasons discussed the decision of the Board is affirmed.

AFFIRMED.

WORLEY, *Chief Judge*, and RICH, *J.*, concur in the result.

ALMOND, *J.*, concurring.

While I agree that to prevail appellant must present evidence to "persuade one of ordinary skill in the art to a reasonable certainty that the applicant possessed *so much of the invention as to encompass the reference disclosure*," and while I agree that appellant has failed to meet that test, I cannot agree with the manner in which the majority applies that test to reach this result.

My basic disagreement with the majority stems from what I believe to be its preoccupation with statements which serve to dilute or misconceive the above test. An example of this is the statement just preceding the above quoted test which reads:

> It follows from the above views [referring to a discussion of *Stempel* and *Shokal*] that antedating affidavits must contain facts showing a completion of "the invention" commensurate with the extent the invention is shown in the reference, whether or not it be a showing of the identical disclosure of the reference.

This should not be taken to mean that a "commensurate" showing is all that is required to overcome the disclosure in a prior art reference, else the facts of this case would require reversal of the Board's decision. Appellant's affidavit shows: (1) preparation of the methyl species; (2) testing of the latter compound and determining its diuretic activity; (3) preparation of the ethylene bridge species; (4) testing of the latter compound and determining its antiviral activity; and (5) preparation of the phenyl species.

By contrast, Stetter shows, as far as the issue here is concerned: (1) preparation of the isopropyl species.

Manifestly, appellant's showing is at least commensurate with the reference disclosure.

I consider it also to be of more than passing significance that Stetter is completely silent as to a utility (property) for any of the compounds therein disclosed, a fact not mentioned by the majority. While the majority indicates complete approval of the *Stempel* principle and its extension in this case, this is not borne out by its treatment on the merits. In *Stempel*, and in *In re Wilkinson*, 50 CCPA 701, 304 F.2d 673, 134 USPQ 171, this court laid down the rule that a reference disclosure may be antedated by a Rule 131 affidavit which shows only as much of the claimed invention as is disclosed by the reference. In the latter case, we held that an applicant need not establish utility in a Rule 131 affidavit if the reference does not disclose a utility. Yet the majority clearly requires a showing of utility. This is so, in my view, not because the reference discloses a utility but because such a showing would serve to link together the compounds which were prepared prior to the date of the reference, thereby evidencing "possession" by appellant of the compounds closely related in structure to the tested compounds. It is this linking function which a showing of common utility (property) serves that makes it important in a case involving indirect antedating of a reference disclosure.[9]

[9] I do not mean to intimate, however, as I feel the majority has, that a showing of common utility is the *only* means by which indirect antedating can be accomplished. For example, the mere preparation of sufficient representative compounds would be enough, it seems to me, where as here, the reference is silent as to utility. The spirit of *Stempel* and *Wilkinson* would appear to permit such.

I also wish it made clear that I would not limit the evidence necessary to establish the independence of R to groups *within the genus claim*. As a matter of establishing this scientific fact, which is all that is involved, the best evidence *as to the effect of R* on the properties exhibited by a chemical compound may well come from a consideration of compounds outside the genus, so long as the remainder of the molecule remains the same.

The area of the law dealt with in this appeal is important. At the minimum, I think the bar and the Patent Office should be aware of all the pertinent facts of record and our thinking with regard to those facts—hence this concurring opinion. I perceive definite harm in propounding a test governing the issue presented by this appeal, and then resorting to other statements not in keeping with that test.

PATENT SUITS

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2,803,413. (See 2,743,319.)

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3,153,852. (See 3,120,056.)

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3,206,306. (See 3,120,056.)

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Re. 25,634. (See 2,923,824.)

Re. 26,014. (See 3,159,744.)

Des. 178,803. (See 3,101,972.)

Des. 195,254. (See 3,151,503.)

Des. 200,858. (See 3,197,576.)

PATENTS

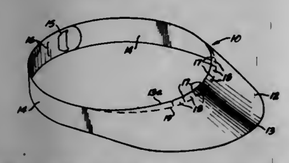
GRANTED AUGUST 16, 1966

GENERAL AND MECHANICAL

3,266,056
DISPOSABLE VISOR CAP CONSTRUCTION

Edmund J. De Villers and Charles H. Worch, Columbus, Ohio, assignors to Paperlynen Company, Columbus, Ohio, a corporation of Ohio

Filed Sept. 28, 1960, Ser. No. 59,099
3 Claims. (Cl. 2—12)

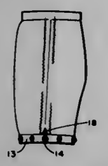


1. A disposable visor cap blank comprising a one-piece, substantially flat body of flexible sheet material formed with a forwardly disposed bill-forming section of generally crescent shape and a pair of rearwardly projecting, angularly divergent headband-forming webs extending respectively from opposite ends of said bill-forming section, the bill-forming section of said body having oppositely disposed, arcuately curved outer and inner edges each having an identical radius of curvature along the entire periphery of said curved outer and inner edges of said bill-forming section, and each of said headband-forming webs having opposite, relatively parallel, longitudinal edges disposed, respectively, in tangential relation to the outer and inner edges of said bill-forming section and forming smooth, uninterrupted continuations thereof, whereby a plurality of such bodies may be cut from a single sheet of material with the curved inner edge of one of said bodies disposed in contiguous, nesting relationship to the curved outer edge of an adjacent body, and said headband-forming webs being provided toward the outer ends thereof with relatively engageable tab and slot means by which said headband-forming webs may be detachably interlocked with one another when said body is positioned about the head of a wearer.

3,266,057
WEARING APPAREL

Elizabeth H. Phelps, Box 44, Skyland, N.C.

Filed Feb. 24, 1964, Ser. No. 346,824
2 Claims. (Cl. 2—227)

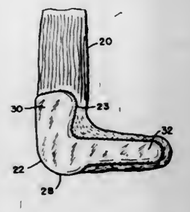


1. Wearing apparel comprising the combination of a pair of shorts having two leg portions and two elongated tubular members adapted to be attached to said leg portions; a plurality of gripper type fasteners disposed in spaced relation and mounted on the interior, adjacent the extremity, of each of said leg portions; a plurality of fasteners mounted on the exterior surface of each of said tubular members adapted to coact with said gripper type fasteners to detachably connect said tubular members to said leg portions, and identification means on at least one of said tubular members and one of said leg portions to insure that the proper tubular member be connected to its matching leg portion.

3,266,058
PADDED FOOT PROTECTOR FOR THE BEDRIDDEN

Yolan R. Guttman, Bronx, N.Y. (Box 304, Radio City Station, New York 19, N.Y.)

Filed May 26, 1964, Ser. No. 370,203
2 Claims. (Cl. 2—239)



1. A foot protector for the bedridden comprising, in combination, a sock having toe, foot, heel, and ankle covering portions adapted to completely cover the toes, foot, heel, and ankle of a wearer, a pad comprising a rear heel covering portion and a pair of side covering portions, and means fixing said pad within said sock with said rear portion secured to the heel covering portion of said sock and one of said side portions extending along and being secured to each side of said foot covering portion of said sock substantially all the way to the toe covering portion of said sock, said pad thereby being adapted to protect the heel and thee sides of a wearer's foot.

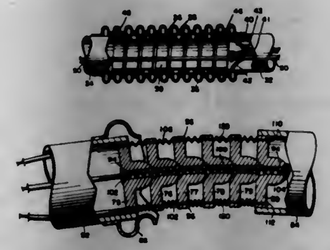
3,266,059
PRESTRESSED FLEXIBLE JOINT FOR MECHANICAL ARMS AND THE LIKE

Allen M. Stelle, Calabasas, Calif., assignor to North American Aviation, Inc.

Filed June 19, 1963, Ser. No. 289,076
4 Claims. (Cl. 3—12.3)

1. A flexible joint comprising:
(a) at least one prestressed unit comprising:
(1) at least one inner helically arranged channel-shaped flexible strip member, said inner channel-shaped member opening generally radially outwardly and having a compressive spring characteristic directed generally radially outwardly,
(2) at least one outer helically arranged channel-shaped flexible strip member, said outer channel-shaped member opening generally radially inwardly and having a compressive spring characteristic directed generally radially inwardly,
(3) said inner and outer channel-shaped strip members wound in interengaging opposition so that said cooperating strip members form said prestressed unit,
(b) respective ones of at least one pair of rigid tubular members secured to and spaced apart by said prestressed unit, and

(c) at least one actuator means extending through one of said rigid members to circumferentially spaced points about the periphery of the other of said rigid members,
(d) said actuator means secured at said points so that controlled movement of said actuator means flexes said prestressed unit and displaces said prestressed unit and the other of said rigid members.
2. A flexible joint comprising:
(a) a plurality of aligned interengaging segments,
(b) a plurality of similar apertures in said segments,
(c) at least one tension spring means associated with said segments urging said segments into interengagement,
(d) a plurality of compression spring means positioned between adjacent ones of said segments and further positioned in alignment with respective ones of said apertures,



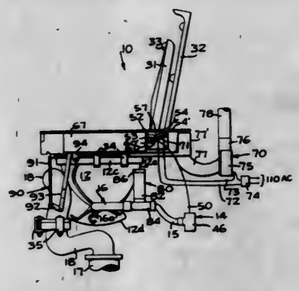
(e) said tension and compression spring means prestressing said segments into a flexible prestressed unit,
(f) respective ones of at least one pair of rigid tubular members connected to and spaced apart by said prestressed unit,
(g) a first actuator means extending through one of said rigid members, through respective ones of said apertures and said compression spring means, and terminating at circumferentially spaced points about the periphery of the other of said rigid members, and
(h) a second actuator means extending through one of said rigid members, helically about the periphery of said prestressed unit, and through the other of said rigid members,
(i) said first actuator means connected at said circumferentially spaced points so that controlled movement of said first actuator means flexes said prestressed unit and displaces said unit and the other of said rigid members without movement of said second actuator means.

3,266,060
FLUSHING AND VENTILATING TOILET UNIT

Clarence A. Springer, 345 N. Sunnyvale, Sunnyvale, Calif.

Continuation of application Ser. No. 192,868, May 7, 1962, now Patent No. 3,149,346, dated Sept. 22, 1964. This application Sept. 20, 1963, Ser. No. 310,313
4 Claims. (Cl. 4—213)

1. A toilet unit comprising a closet bowl with an opening, a seat cover pivotally mounted above said closet bowl for movement between opened and closed positions, air conducting means defining an air passageway along the opening of said closet bowl, flue means communicating with said air conducting means for forming a passageway for the escape of air to reduce odor, blower means communicating with said flue means, linkage means connected to said seat cover and responsive to the movement of said seat cover to the open position to activate said blower means for urging air to flow from said air conducting means into said flue means and responsive to the movement of said seat cover to the closed position to deactivate said blower means, a toilet seat pivotally mounted above said closet bowl and below said seat cover for movement between opened and closed positions and connected to said linkage means and damping means con-

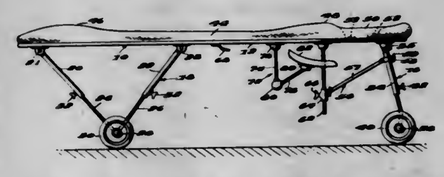


nected through said linkage means to said toilet seat and said seat cover for regulating the movement of said toilet seat and said seat cover toward the closed position.

3,266,061
COUCH

Robert E. Fuechsel, Box 189, Riverton, Wyo.

Filed Nov. 26, 1963, Ser. No. 325,942
2 Claims. (Cl. 5—60)



1. A couch comprising an elongate frame, said frame including a flat rigid support surface, a pair of front leg members and a pair of rear leg members for supporting said frame in a substantially horizontal position, said frame having an opening adjacent the front leg members, a cushion attached to and covering substantially the support surface of said frame, said cushion providing a planar surface adapted to conform to the contour of the body of a person lying face downwardly thereon with the face of the person positioned in the opening of said frame, a pair of straps extending across said opening, a table connected to said front leg members, said table being positioned below said opening and adapted to support reading material thereon, said reading table being removably secured to said front leg members and being adapted to be moved to a position beneath said couch away from said opening and means for maintaining said table in said position, said elongate frame having inwardly curved side edges to permit the arms of a person lying on said table to hang downwardly therefrom without interference by the frame and adjustable arm supports extending from said frame.

3,266,062
RETRACTABLE BED

Cyril B. Rogers, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan

Filed Feb. 26, 1962, Ser. No. 175,899
4 Claims. (Cl. 5—118)

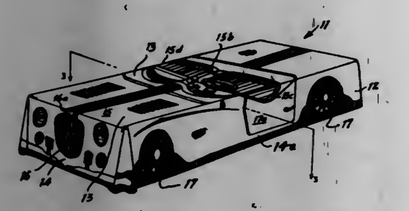
1. In combination, an operator's compartment having vehicular controls therein, a bed disposed in said compartment movable vertically between a raised position adjacent the ceiling of the said operator's compartment and

a lowered position, means for locking said bed in the said raised position, means for supporting said bed from the



sides of said operator's compartment in the said lowered position, and means for moving said bed between the said raised and lowered positions.

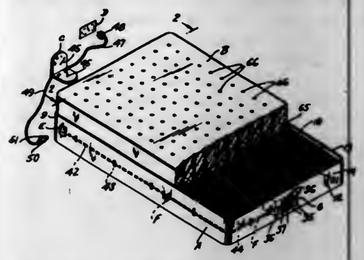
3,266,063
BEDSPREAD
Sidney Shapiro, New York, N.Y., assignor to Inventions of North America, Limited, Ottawa, Ontario, Canada, a corporation of Canada
Filed July 12, 1965, Ser. No. 470,987
2 Claims. (Cl. 5—334)



1. An integral bedspread comprising a substantially flat body having an upper portion, a front portion, and a plurality of side portions, said upper portion of said body having a planar design positionally inscribed thereupon of the hood and seat portions of a vehicle, each of the side portions of said body having a planar design positionally inscribed thereupon of the wheel portions of a vehicle, the representation of the seat portion of said vehicle upon the upper portion of said body extending downwardly along at least one of the side portions of said body so as to give an apparent depth dimension thereto, the front portion of said body having a planar design positionally inscribed thereupon of the grille and headlight portions of a vehicle; said bedspread, when draped upon a bed, causing said bed to take the realistic dimensional form of said vehicle.

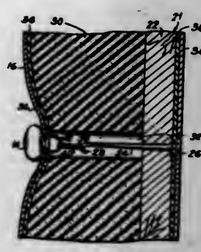
3,266,064
VENTILATED MATTRESS-BOX SPRING COMBINATION
Murray Figman, 153—54 75th Ave., Flushing, N.Y.
Filed Mar. 29, 1963, Ser. No. 269,209
3 Claims. (Cl. 5—347)

1. A combination ventilating box spring and mattress comprising a box spring, a mattress supported thereon, said box spring receiving an air circulator, electrical connections to the circulator on the inside of the box spring, and a permeable upper wall through which air may pass upwardly and said mattress having a plurality of passageways therethrough, said spring having an upwardly extending lip around the upper periphery thereof, engaging and cutting off air flow except through said mattress from the box spring, said combination spring and mattress con-



sisting of a lower circulating compartment, said mattress being positioned upon the upper wall and said mattress being about the same height and width as the box spring and said mattress having a series of spaced restriction vertical openings over the entire top face thereof.

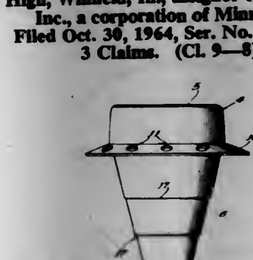
3,266,065
TUFTED UPHOLSTERY CUSHION
Sigmund Bereday, 11 Suchville, Bayamon, Puerto Rico
Filed Jan. 21, 1965, Ser. No. 426,816
5 Claims. (Cl. 5—356)



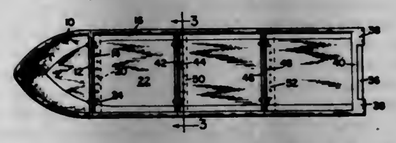
1. An upholstered seat element comprising in combination a rigid frame member, a resilient pad adjacent to said frame member and having a hole extending therethrough said frame member having secured thereto an upstanding hook positioned within the hole of said resilient pad, an upholstery cover extending over said pad and secured to said frame member, said cover having an opening aligned with the hole of said pad, a readily replaceable anchoring member in contact with the external surface of said cover and having secured thereto connecting means extending through the opening in said cover into the hole in said pad for connecting said anchoring member to said hook, said anchoring member being attached to the upstanding hook on the frame by depressing the resilient pad and upholstery cover until the connecting means secured to the anchoring member is engaged over the hook and then releasing the depressed pad and cover, and the length of said connecting means being such that said anchoring member bears against said cover to compress the portion of said resilient pad near said anchoring member.

3,266,066
UPHOLSTERY CUSHION CONSTRUCTION
Sigmund Bereday, 11 Suchville, Bayamon, Puerto Rico
Filed Jan. 21, 1965, Ser. No. 427,059
3 Claims. (Cl. 5—361)

1. An upholstered seating unit for use in furniture and the like comprising a resilient padding, a preformed upholstery cover over said resilient padding, a sheet of slippery material between said padding and cover to reduce friction between it and the cover to a minimum, and said upholstery cover being free to move with respect to said slippery sheet due to its smooth surface whereby to facilitate the initial application of the upholstery cover by sliding it over the slippery sheet and padding and preventing wrinkling of the upholstery cover on the seating unit during use.



3,266,067
SECTIONAL BOAT CONSTRUCTION
Winfred W. Windle, Winwood Road, Sutton, Mass.
Filed Feb. 25, 1965, Ser. No. 435,197
5 Claims. (Cl. 9—2)

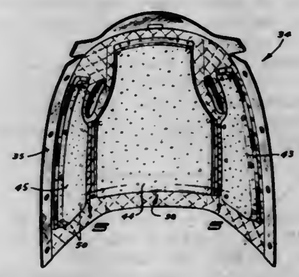


1. A sectional boat comprising a series of separate sections each of which includes a bottom, a forward wall, a rearward wall, and side walls connecting the same,
means securing and holding in spaced relation at least one of said forward walls with respect to the rearward wall of the next forward section,
said secured walls forming between them a passage for the induction of air to an area at the bottom of the boat, between the sections, the induced air tending to break suction between the bottom and the water as the boat progresses.

3,266,068
BUOY
Jack G. High, Winfield, Ill., assignor to MSL Industries, Inc., a corporation of Minnesota
Filed Oct. 30, 1964, Ser. No. 407,635
3 Claims. (Cl. 9—8)

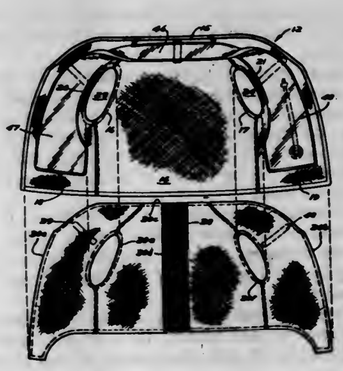
3. A device affording a buoy that is convertible to an anchor, comprising: an integral hollow body having an end wall of substantial area and shaped so that said device floats with said end wall up and when weighted sinks with said end wall down, said end wall being provided with a hole; an integral plug and eye insertable into the hole to which watercraft may be moored; and an integral loop at the small end of the body to receive an anchor rope.

3,266,069
BUOYANT GARMENT STRUCTURE
Maurice H. O'Link, St. Cloud, Minn., assignor to Stearns Manufacturing Company, St. Cloud, Minn., a corporation of Minnesota
Filed July 17, 1964, Ser. No. 383,375
1 Claim. (Cl. 9—341)



A buoyant garment of the type indicated having in combination,
unitary slab portions of buoyant material respectively forming the back and chest portions of a garment,
coarse mesh material overlying and containing each of said slab portions separately,
lacing means joining said slab portions securing one side edge portion of each of said chest portions and the shoulder portions thereof to corresponding edge portions of said back portion to form a vest-like garment,
a shell forming a garment, and
means removably securing said vest-like garment to the inner side of said shell.

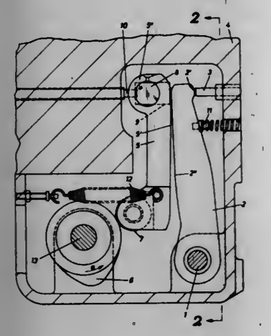
3,266,070
INFLATABLE GARMENT STRUCTURE
Maurice H. O'Link, St. Cloud, Minn., assignor to Stearns Manufacturing Company, St. Cloud, Minn., a corporation of Minnesota
Filed Dec. 24, 1964, Ser. No. 421,054
3 Claims. (Cl. 9—342)



1. A buoyant garment comprising
a shell comprising a back panel and chest panels integral therewith,

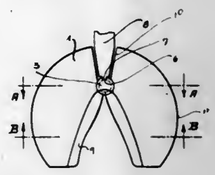
an integral lining member for said back and chest panels,
said lining member being unsecured at the bottom and secured to the side edge portions of said chest panels and the upper edge portion of said back panel,
said chest and back panel respectively having arm holes formed therebetween, said lining member having arm holes in register with said arm holes,
said lining member being secured to said chest and back panels about said arm holes and thus forming passages at each shoulder portion of said garment between said arm holes and the adjacent outer edge portions of said chest and back panels,
a plurality of straps respectively secured at their free ends to the inner side of said lining member adjacent said arm holes and the upper center portion of said lining member forming loops, and
a unitary inflatable member disposed between said lining member and said chest panels and having a portion extending through and being disposed within said loops and said passages.

3,266,071
CAM-CONTROLLED APPARATUS FOR THROWING OUT THE BOLTS FROM THE COUNTER PUNCH OF BOLT PRESSES OR THE LIKE
Heinrich Nebendorf, Wuppertal-Ronsdorf, Germany, assignor to Firma Gebr. Hilgeland, Wuppertal-Ronsdorf, Germany, a corporation of Germany
Filed Mar. 29, 1965, Ser. No. 443,494
3 Claims. (Cl. 10—11)



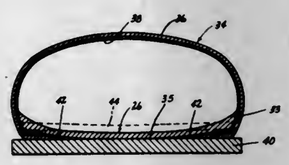
1. An apparatus for the throwing out of bolts from the counter punch of a bolt press or the like, comprising
a housing,
a thrower lever swingably mounted in said housing,
cam means rotatably mounted in said housing,
an intermediate lever pivotally mounted in said housing and controlled in its swinging movement by said cam means, so that said thrower lever moves toward a thrower pin by means of said cam-operated intermediate lever,
said thrower lever having a convex-faced back face,
said intermediate lever having its pivot means disposed in the swinging plane of said thrower lever and engaging said convex-faced back face of said thrower lever, and
a spindle disposed coaxially with said thrower pin and mounted in said housing for axial movement in engagement with said pivot means of said intermediate lever, and
said pivot means of said intermediate lever being adjustable in axial direction of said spindle by adjustment of the latter.

3,266,072
APPARATUS FOR PROCESSING SHOE ENDS
Herbert Schindler, Pirmasens, Germany, assignor to Schon & Cie. G.m.b.H., Pirmasens, Germany
Filed Aug. 23, 1965, Ser. No. 481,698
Claims priority, application Germany, Aug. 21, 1964, Sch 35,656
4 Claims. (Cl. 12—12)



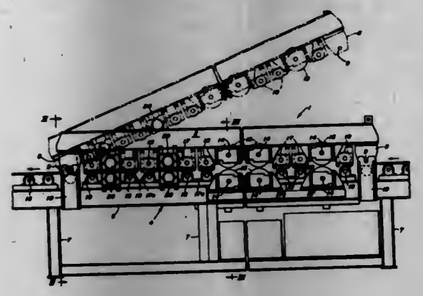
1. Apparatus for processing shoe ends comprising wiper halves having respective working edges, arcuate guide means on said halves, cooperating guide means engaged with said arcuate guide means and providing a common pivot axis for the same whereby the working edges can be displaced toward each other, and fixed means supporting said cooperating guide means; said cooperating guide means being a cylindrical body including upper and lower disc-like extremities of at least approximately equal diameters which extremities define an annular groove therebetween, the arcuate guide means being arcuate ridges on said halves, said ridges riding in said annular groove, said cylindrical body further having a radial opening and said fixed means including a projection engaging in said radial opening to hold the cylindrical body in stationary position, said halves including heel portions diametrally opposed to said working edges relative to said common pivot axis, said fixed means extending between and limiting the displacement of said heel portions towards each other so that the heel portions do not contact each other.

3,266,073
METHOD OF MAKING FORM FITTING SHOE STRUCTURE
Francis M. Gilkerson, 5029 N. Lake Drive, Milwaukee 17, Wis.
Original application Apr. 4, 1960, Ser. No. 15,764, now Patent No. 3,091,042, dated May 28, 1963. Divided and this application Dec. 26, 1961, Ser. No. 162,094
3 Claims. (Cl. 12—142)



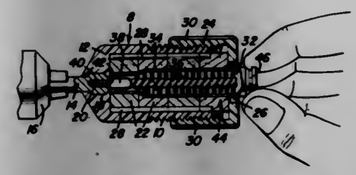
1. The method of making a contoured shoe structure comprising the steps of providing a last modified in comparison with a regular last in having the bottom feathered around the periphery thereof to a depth of substantially five thirty-seconds of an inch and inwardly substantially five-eighths of an inch, and in having the area within the inner line of the feathering of a depth of substantially one-sixteenth of an inch feathered outwardly to merge with the feathered periphery, and casting insoles conforming to the bottom of said modified shoe last to provide cast insoles for use in shoes of otherwise regular construction.

3,266,074
FLAT GLASS WASHER
Robert L. Wehr, Harmony, Pa., assignor to Bilco, Zelienople, Pa., a corporation of Pennsylvania
Filed Aug. 13, 1965, Ser. No. 479,564
2 Claims. (Cl. 15—77)



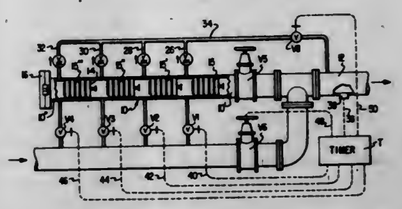
1. In a glass sheet washer for cleaning glass sheets or continuous ribbon passing therethrough, the combination of
(a) a rigid rectangular bottom frame having side members and spaced transverse connecting members,
(b) a rigid rectangular top frame having side members and spaced tranverse connecting members,
(c) a bracket member depending from each of the four corners of said top frame and corresponding bracket support members mounted on said bottom frame for supporting said top frame in overlying spaced relation with said bottom frame,
(d) means spaced longitudinally of said top and bottom frames for washing and drying glass sheets moving therebetween, and
(e) means between said depending brackets at one end of said top frame and their bottom frame supporting brackets providing a pivotal support for vertical pivotal movement of said top frame relative to said bottom frame.

3,266,075
SHELL CASE CLEANER
Thomas A. Conrad, P.O. Box 128, Port Angeles, Wash.
Filed Aug. 10, 1964, Ser. No. 388,556
10 Claims. (Cl. 15—104.03)



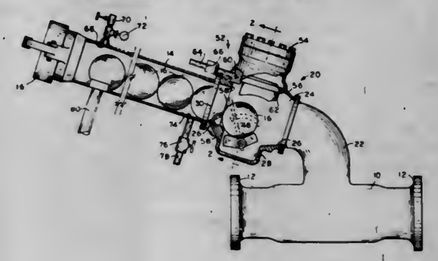
7. A cartridge case cleaning device comprising a generally cylindrical housing open at one end for receiving a cartridge case to be cleaned, a brush fixed centrally in the housing in spaced relation thereto and engageable in the case, at least one cleaning ring in the housing encircling the brush and thereby defining an angular recess between the ring and the brush for receiving the case, means for connecting the housing to a source of power for rotation thereby, said ring being compressible, and a cap threaded for adjustment on the open end portion of the housing for compressing and retaining the ring therein, said cap having an opening therein for the passage of the case.

3,266,076
SYSTEM FOR CLEANING PIPELINES
John A. Surber, Tulsa, Okla., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 20, 1964, Ser. No. 412,722
15 Claims. (Cl. 15—104.06)



1. In combination with a pipeline adapted to contain a fluid flowing under pressure and at least one pig for passage through said pipeline, apparatus for injecting said pig into said pipeline comprising pipe means adapted to contain said pig connected at one end to said pipeline and having a diameter essentially the same as the diameter of said pipeline, the connection between said pipeline and said pipe means having a radius of curvature sufficiently large to allow said pig to pass smoothly without binding from said pipe means into said pipeline, launching conduit means connecting said pipeline upstream of said connection with said pipe means behind said pig, launching valve means in said launching conduit means, differential pressure valve means in said pipeline upstream of said connection and downstream of said launching conduit means, and means for selectively and automatically controlling operation of said pressure differential valve means and said launching valve means so that said launching valve means opens as said differential pressure valve means closes, whereby upon closure of said differential pressure valve pressure fluid is passed through said launching conduit means behind said pig to force said pig into said pipeline.

3,266,077
SPHERE LAUNCHER
Robert E. Elliott and Jerry W. Riggs, Tulsa, Okla., assignors to Frank Wheatley Corporation, Tulsa, Okla., a corporation of Oklahoma
Filed May 24, 1965, Ser. No. 458,057
8 Claims. (Cl. 15—104.06)



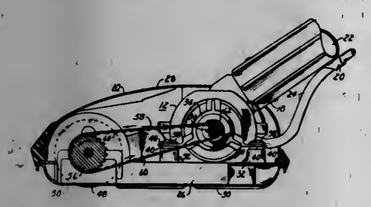
1. A device for launching spheres into a pipeline comprising:
a body having a passageway of a diameter to permit free passage of spheres therethrough, the body having a closed lower recess intermediate its length, one end of the body adapted to receive a sphere storage barrel and the other to connect to a pipeline;

a horizontal shaft rotatably supported in the body recess below and substantially in a plane perpendicular the passageway, one end of the shaft extending sealably externally of the body;

a cradle member affixed to and pivoted by said shaft within said body, the cradle member having oppositely extending arm portions defining, in a vertical plane of the body passageway axis, an obtuse V, the first leg of the cradle extending toward the end of the body adapted to receive the storage barrel and the second leg of the cradle extending toward the end of the body adapted for connection to a pipeline, the cradle pivoted by said shaft between a first and second extreme position, in the first position the first leg of the cradle lies substantially within the said lower recess permitting a sphere to roll onto the cradle and the second leg extending upwardly into the passageway, and in the second extreme position the second leg lies substantially within said lower recess permitting a sphere resting on the cradle to roll off and out of the body, the first leg extending upwardly in the passageway; and

handle means affixed to the shaft externally of the body.

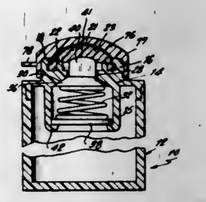
3,266,078
CLEANING APPARATUS PROTECTION MECHANISM
Raymond L. Brown, Banksville, N.Y., and John J. Kowalewski, Riverside, Conn., assignors to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed Apr. 3, 1964, Ser. No. 357,174
6 Claims. (Cl. 15—319)



1. In a surface cleaning element wherein a surface cleaning brush is coupled for rotation with a driven toothed gear which is rotated by an endless toothed belt which is, in turn, rotated by an electric motor-driven toothed driving gear, first means for preventing the teeth of the endless belt from getting out of engagement with the teeth of the driving gear and preventing relative circumferential disengagement therebetween in the event that the cleaning brush becomes overloaded in order to positively overload the driving gear and its motor, whereby the current input to said motor is increased and second means for turning off the motor in response to the overload current input whereby breakage of the belt and damage to the motor are prevented.

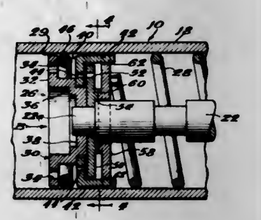
3,266,079
SPIN WELDED APPLICATOR
Gilbert Schwartzman, 20 Wilmot Circle, Scarsdale, N.Y.
Filed Apr. 2, 1964, Ser. No. 356,916
1 Claim. (Cl. 15—569)

An applicator comprising a housing, a first flange having a swaged lip integral with said housing, said housing having a web extending transversely thereof, said web having an opening therein forming a valve seat, a rib on said web surrounding said opening, a cover secured to said housing between said lip and said rib, a spring-pressed valve member provided with a valve head having a rounded end surface, said valve member being secured in said housing and movable with respect to said valve seat to control fluid flow through said opening, a resilient cylindrical porous body disposed in the space between said cover and said web, said body when not compressed being of such dimensions that said body is thicker than the space between said cover and said housing, said body having a diameter substantially greater than said opening and no greater than said rib, said body being engaged by said valve head so as to be continuously under compression with said body being laterally movable over



said rounded end surface, said applicator being fillable through said cover and said body so that after filling lateral movement of said body enable said body to form a labyrinth stop, a second flange integral with and extending outwardly of said housing normal thereto, a downwardly extending lip integral with said second flange extending downardly from said second flange inwardly of the peripheral edge thereof, and a container having an upper portion of reduced wall thickness, said upper portion surrounding and abutting said downwardly extending lip and being fused thereto.

3,266,080
VALVE MEANS FOR HYDRAULIC DOOR CLOSER
Elbert M. Spencer, Wildwood, Ill., assignor to The Illinois Lock Co., a corporation of Illinois
Filed Apr. 15, 1964, Ser. No. 359,919
7 Claims. (Cl. 16—52)



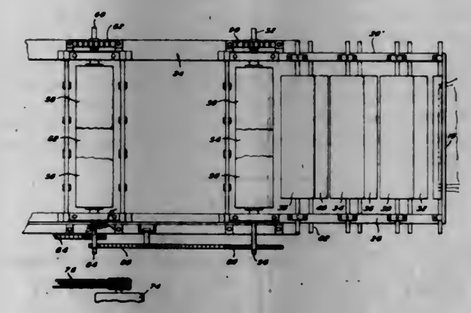
1. An adjustable valve means for a hydraulic door closer having a cylinder containing hydraulic fluid, a rod in said cylinder slidable in the cylinder between a position of extension and a return position of closure, and a spring urging the rod toward the position of closure, comprising: first and second valve members mounted about said rod for movement relative to each other, one of said valve members being mounted for movement with said rod, said first valve member having fluid passage means therein and said second valve member having a plurality of different sized fluid passage openings therein; and cooperating indexing means associated with said first and second valve members for aligning the openings of said members so that turning of said rod will move said members relative to each other to align said first member passage means with a second member opening to adjust the rate of flow of hydraulic fluid through said valve members as said rod moves in opposition to said fluid to the position of closure.

3,266,081
HANDLE FOR KNIVES AND THE LIKE
Karl Helm, Solingen-Wald, Germany, assignor to C. Friedr. Ern, Solingen-Wald, Germany
Filed Feb. 24, 1964, Ser. No. 346,671
Claims priority, application Germany, Feb. 26, 1963, E 24,397; Dec. 24, 1963, E 26,112
11 Claims. (Cl. 16—110)



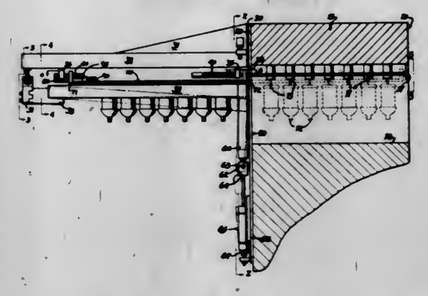
1. A handle for knives and the like, comprising an elongated carrier having a peripheral surface and a pair of elongated side faces extending substantially radially of and inwardly from said peripheral surface, said peripheral surface being provided with a plurality of circumferential ribs and with circumferential recesses extending between said side faces and alternating with said ribs; and a plurality of arcuate strips each comprising an arcuate median portion snugly received in one of said recesses and a pair of bent-over end portions each abutting against one of said side faces, the coloration of said strips being different from the coloration of said ribs so that the median portions of said strips and said ribs together form a decorative pattern of zera stripes.

3,266,082
TOW STRETCHER
Richard A. Brandl, Bridgeport, Pa., assignor to Heplon, Inc., West Conshohocken, Pa., a corporation of Pennsylvania
Filed Dec. 19, 1962, Ser. No. 245,887
6 Claims. (Cl. 18—1)



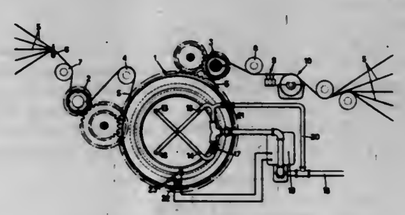
2. Apparatus for stretching filaments comprising a first means for stretching filaments including a plurality of freely rotatable drag rollers, means for selectively locking at least one of said drag rollers, and a second means for stretching filaments a predetermined amount subsequent to the stretching of the filaments by the first means, said second means including a plurality of rollers adapted to be rotated at different speeds increasing in the direction of travel of the filaments and with which the filaments will serially contact the same, and each of said first and second means being continuously operable.

3,266,083
APPARATUS FOR MAKING BLOWN PLASTIC ARTICLES
Donald P. Kemp, Perrysburg, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed July 5, 1963, Ser. No. 293,101
5 Claims. (Cl. 18—1)



1. In an apparatus for removing integral waste portions from a plurality of formed plastic articles retained on a movable carriage by means on said carriage engaging the waste portions only of each of said articles, the articles freely depending from the carriage, the improvements of an abutment plate underlying the carriage and interposed between said waste portions and said articles to engage the articles only upon relative movement of the engaging means and said plate, and means for relatively moving said engaging means and said abutment plate to tear the waste portions from the articles, so that the articles fall freely from the carriage.

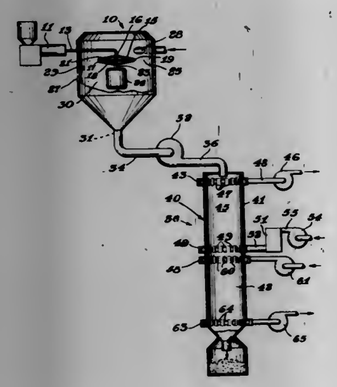
3,266,084
APPARATUS FOR THE HOT STRETCHING OF THREADS AND ESPECIALLY OF SYNTHETIC TEXTILE FILAMENTS
Xavier Thery, 132 Rue d'Ypres, Wambrechies, France
Filed Sept. 10, 1964, Ser. No. 395,435
Claims priority, application France, Sept. 11, 1963, 947,224
3 Claims. (Cl. 18—1)



1. A device for stretching textile threads, said device comprising a heated rotatably mounted drum provided with a plurality of peripheral grooves for receiving said threads, rotatably mounted guiding means for said threads positioned upstream and downstream of said heated drum, and means for rotating said drum and guiding means at different speeds with the downstream guiding means turning at a tangential speed greater than and the

upstream guiding means at a tangential speed less than that of said drum, each guiding means comprising a row of parallel discs which touch each other at their central portions, the principal surfaces of said discs sloping away from said central portions so that threads led between said discs are gripped thereby.

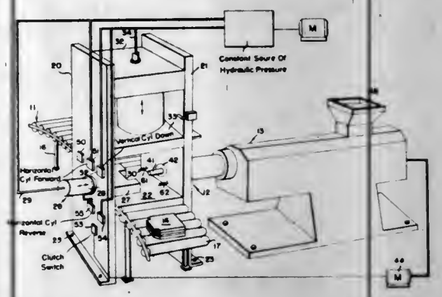
3,266,085
APPARATUS TO MANUFACTURE PARTICULATE THERMOPLASTIC RESINOUS MATERIAL
Kenneth F. Nacke, Saginaw, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 20, 1964, Ser. No. 353,449
3 Claims. (Cl. 18—2.6)



1. Apparatus adapted to manufacture particulate thermoplastic resinous material comprising in cooperative combination means to supply a continuous stream of a heat plastified thermoplastic resinous material, a rotor comprising a generally circular body defining an internal cavity, a plurality of circumferential passageways, the passageways providing a means of communication between the cavity and the periphery of the rotor, means to rotate the rotor at a speed sufficient to cause melt fracture of the thermoplastic resinous material when supplied to the cavity of the rotor in heat plastified form an enclosure containing the rotor, the enclosure so constructed and arranged so as to retain the particles of thermoplastic resinous material generated therein, means to forward particulate thermoplastic resinous material from the enclosure to a heat treating apparatus, the heat treating apparaus comprising in cooperative combination a heating zone adapted to receive the thermoplastic resinous material, heat the surface thereof to a molten state and cause contraction of the particles to a generally spherical form, a cooling zone adjacent to the heating zone, the cooling zone adapted to receive particles from the heating zone and cool the surfaces thereof below the thermoplastic temperature.

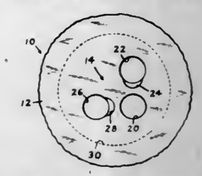
3,266,086
MOLDING APPARATUS
Igor I. Markevitch, Wayne, N.J., assignor to Arnav Industries, Inc., Little Ferry, N.J., a corporation of Delaware
Filed May 1, 1963, Ser. No. 277,183
6 Claims. (Cl. 18—4)

1. Apparatus for clamping a mold closed under pressure and automatically locking the mold comprising a mold having first and second cover plates, means for opening and closing said cover plates, catch means secured to one of said plates, gravity operated locking means pivotally mounted upon the other of said plates for cooperating with said catch means, a clamping station for receiving said mold, vertically movable means at said clamping station for clamping said mold closed under pressure, horizontally movable means for clamping a mold



laterally at said clamping station, said horizontally movable means having an adapter which has a recess for receiving a conforming side of said mold, and an extruder nozzle fixed laterally relative to said horizontally movable means for pressing into an aperture in the wall of a mold that is clamped against said extruder by said horizontally movable means.

3,266,087
SPINNERET PLATE FOR MELT-SPINNING
James E. Opfell, Colonial Heights, Harry A. Miller, Claremont, and Lloyd D. Caison, Hopewell, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Mar. 8, 1965, Ser. No. 437,822
3 Claims. (Cl. 18—8)

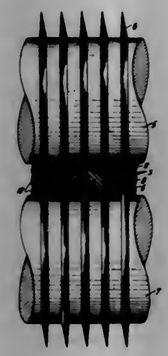


1. A spinneret plate for melt-spinning which comprises a plate containing at least one group of a plurality of orifices, all except one of said orifices being notched inwardly towards the one said orifice, said orifices being so spaced that coalescence occurs among the extruded strands of each group resulting in a multilobal funicular body of cloverleaf cross-section; with the outer edge of the notches of said orifices approaching the edge of the unnotched orifice but never touching it; and with each group of said orifices having a counterbore on the polymer melt face of said plate.

3,266,088
METHOD AND APPARATUS FOR PRODUCING COKE
Hermann Schenck, Intzestrasse 1, and Werner Wenzel, Prinz Heinrich Strasse 29, both of Aachen, Germany
Original application July 5, 1962, Ser. No. 207,751. Divided and this application Feb. 21, 1964, Ser. No. 352,709
Claims priority, application Germany, July 20, 1961, Sch 30,016; Dec. 5, 1961, Sch 30,667
1 Claim. (Cl. 18—9)

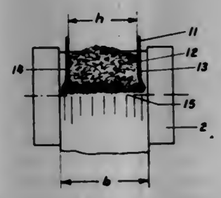
A device for forming self-supporting compressed shapes of fine-grained bituminous material, which comprises a pair of rollers forming a nip; and means for feeding fine-grained bituminous material into the nip of said roller

pair; each roller having a plurality of axially spaced, circumferentially extending parallel projecting means, the projecting means of opposing rollers being substantially in alignment, each of said projecting means having a substantially right triangle cross-section tapering radially outwardly, with a hypotenuse surface complementary to a hypotenuse surface on the corresponding opposing project-



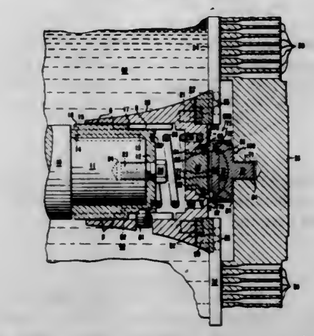
ing means, the opposing complementary surfaces overlapping with each of said projecting means extending beyond the center line of said nip, whereby the total extension of opposing projecting means traverses the entire height of said nip in unidirectional to form passages through the compressed bituminous material, said complementary surfaces being in juxtaposed relation and said passages having spaced parallel wall portions.

3,266,089
ROLL PASS FOR ROLLING METAL PARTICLES
Eckard Gehring, Duesseldorf-Kaiserswerth, Germany, assignor to Schloemann Aktiengesellschaft, Duesseldorf, Germany
Filed Aug. 19, 1964, Ser. No. 390,703
Claims priority, application Germany, Aug. 27, 1963, Sch 33,766
1 Claim. (Cl. 18—9)



A roll pass for rolling metal particles, particularly powder and granules, into strips, comprising two co-acting rolls, and means for feeding metal particles to the roll pass, one of the rolls being a smooth cylindrical roll, and the other being formed with a roll-pass opening of the breadth, in the axial direction of the rolls, of the strip to be produced, and of a depth equal to the thickness of the strip to be produced, and the feeding means being adapted to feed particles to the roll pass over a breadth less than the breadth of the roll pass, but yet of such a breadth that owing to the spreading of the particles in the roll gap they will completely fill the roll pass.

3,266,090
MELT CUTTER APPARATUS
Robert Howard Gomey, Orange, Tex., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 4, 1964, Ser. No. 408,802
8 Claims. (Cl. 18—12)

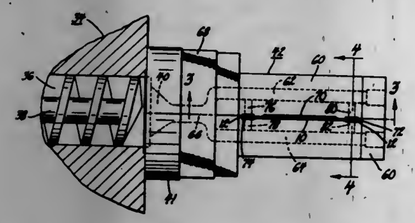


1. An improved rotary melt cutter apparatus for producing pellets from a strand or strands of a partly molten thermoplastic resin in cooperation with an extrusion die, said extrusion die having a planar die surface intersected by one or more extrusion orifices, said improved rotary melt cutter apparatus adapted to be driven rotationally by a rotating shaft structure, means for connecting said rotating shaft structure to a rotating knife holder assembly, said rotating knife holder assembly mounted and supported on said shaft and in cooperative association with said planar die surface and said orifices of said extrusion die such that the axis of rotation of said holder assembly is substantially perpendicular to the planar die surface and such that the plane of rotation of said rotating knife holder assembly is maintained adjacent and in alignment parallel to said planar die surface and said orifices, means for urging said rotating knife holder assembly axially toward said planar die surface and said orifices, and adjustable thrust bearing means cooperating with the die surface and knife holder assembly to limit the movement of said rotating knife holder assembly toward said planar die surface and maintain a predetermined knife-to-die clearance without wear for long operating periods independently of shaft structure movement.

3,266,091
APPARATUS FOR MANUFACTURING ELECTRICAL INSULATION
Eugene C. Quear, Pascal J. Eflin, and John M. Sell, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Michigan
Original application Nov. 21, 1958, Ser. No. 775,398, now Patent No. 3,214,621, dated Oct. 10, 1965. Divided and this application July 29, 1964, Ser. No. 392,981
1 Claim. (Cl. 18—13)

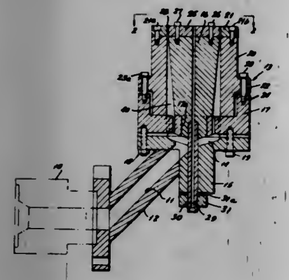
A die for directing plastic material around the marginal edges of a moving length of insulating material to form wear resistant marginal edges of substantially U-shaped cross-section along the marginal edges of said insulating material comprising, a slot formed in said die for receiving said moving length of insulating material, first and second passages disposed on opposite sides of said slot and extending transversely thereof, first and second die passages of a cross-section greater than said slot, each in communicating relationship with a respective edge of said slot and extending parallel therewith, a first pair of feeder passages extending transversely of said first and second passages and said die passages, each communicating be-

tween one of said die passages and a respective one of said first and second passages, and a second pair of feeder passages extending transversely of said first and second



passages and said die passages, each communicating between the other one of said die passages and a respective one of said first and second passages.

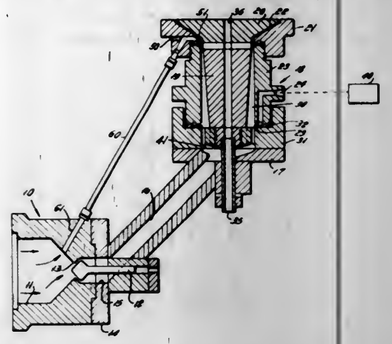
3,266,092
BALANCED FLOW DIE
Herbert O. Corbett, Canandaigua, N.Y., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Aug. 27, 1962, Ser. No. 219,469
4 Claims. (Cl. 18—14)



1. A balanced flow die for extruding plastic film comprising an extruding orifice, a chamber leading to said extruding orifice, and a member for introducing molten plastic into said chamber; said member having a first and second plurality of flow passages extending therethrough which passages have elongated, annular, concentric shapes, the flow passages in said first plurality having adjacent ends and the flow passages in said second plurality having adjacent ends, said ends being tapered and nested with respect to one another, and the flow passages of said first plurality radially overlapping the adjacent ends of the flow passages of said second plurality.

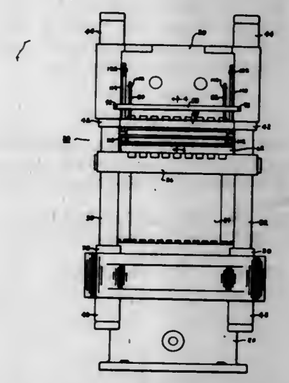
3,266,093
APPARATUS FOR PRODUCING LAMINATED PRODUCTS
Herbert O. Corbett, Bridgeport, Conn., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Sept. 14, 1964, Ser. No. 396,436
5 Claims. (Cl. 18—14)

1. An extrusion apparatus for extruding laminated film products; said extrusion apparatus including an extruder and an extrusion die connected to said extruder; said extrusion die defining a flow path for fluid products and having a die outlet section, said extruder having a control valve therein and a first and second outlet conduit; said first and second outlet conduits extending from said extruder at a location in front of and behind said control valve, respectively; and first and second channels in said



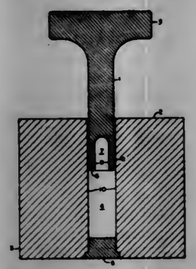
extrusion die; said first and second flow channels extending into said flow path; said first and second flow channels being connected to said first and second outlet conduits, respectively.

3,266,094
MOLDING APPARATUS
John E. Borah, 815 Mishawaka Ave., Mishawaka, Ind.
Filed Feb. 29, 1960, Ser. No. 11,533
11 Claims. (Cl. 18—16)



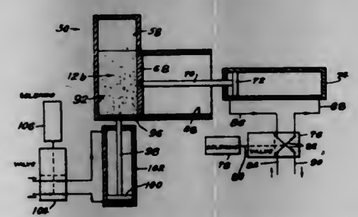
1. In a mold manipulating apparatus for use in conjunction with a press having adjacent upper and lower platens and a mold having a top and bottom and upper and lower intermediate sections: a pair of horizontally disposed tracks movable vertically and relative to both said adjacent platens and spaced laterally from one another and extending from the press, means suspending said tracks between said upper and lower platens in spaced relation thereto for determining the downward travel of said tracks, the lower intermediate mold section having a portion supported by said tracks and movable from a position between said top and bottom mold sections to a position beyond the press, means operatively connected to said upper intermediate mold section for determining the downward travel of said upper section to a point spaced above said lower intermediate section, means on said portion for rotating said lower mold section to an inverted position when it is removed from the press, and means for locking said section selectively in its normal position and in its inverted position.

3,266,095
PRESSURE VESSEL SEAL
Ralph P. Levey, Jr., Oak Ridge, and Roy L. Huddleston, Knoxville, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 2, 1963, Ser. No. 327,563
2 Claims. (Cl. 18—16)



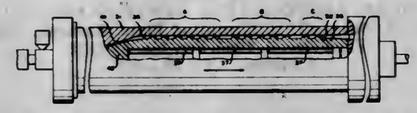
1. In a pressure vessel comprising a female die member, a fluid pressure-transmitting medium disposed within said die member, and a piston member slidably inserted in said die member, the improved sealing means for preventing passage of said pressure-transmitting medium between said piston member and said die member comprising, in combination, a coaxial annular wall, said wall integrally affixed to said piston member at that end of said piston member inserted in said die, said annular wall having an outer radius substantially equal to the internal radius of said die, and an O-ring encircling said annular wall adjacent the free end thereof, said fluid, increasing in pressure upon insertion of said piston into said die member, expanding said annular wall in a substantially radial direction to maintain said O-ring in sealing contact with said die member.

3,266,096
PRE-PACKING APPARATUS
Grant L. Thomas, Roselle, and George H. Logan, Park Ridge, Ill., assignors to Logan Engineering Co., Chicago, Ill., a corporation of Illinois
Filed Dec. 23, 1963, Ser. No. 332,408
2 Claims. (Cl. 18—16)



2. Apparatus for pre-packing material that is loose and highly non-uniform in density comprising, in combination, a series of connected packing chambers in angular relationship to one another and having driven pusher plates successively movable therein in directions transverse to one another and along the respective packing chambers between retracted and advanced positions, means for actuating the pusher plates in a successive order to effect successive increases of packing pressure on the material in transverse directions in said packing chambers, a first die member having a cavity therein for receiving said material from the last of said series of connected packing chambers, a second die member having a cavity adjacent, aligned and communicating with the cavity in said first die member, means comprising a pair of rams movable in the cavities in said first and second die members and movable together for effecting movement of said material from the cavity in the first die member to the cavity in the second die member, and means for thereafter effecting further compression of the material between the rams of said pair and in the cavity of the second die member.

3,266,097
EXTRUSION APPARATUS
Olaf E. Larsen, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 13, 1964, Ser. No. 389,348
4 Claims. (Cl. 18—30)

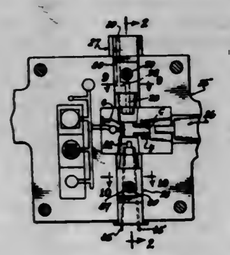


1. Plasticizing means for preparing a plastic mass for extrusion, comprising:

a body having an elongated, generally circular cross section opening therethrough; and

a dispersion mandrel in said opening, said mandrel comprising a central core forming an annular passage in said opening between said body and said core, and a plurality of teeth circumferentially spaced on said core and extending outwardly therefrom substantially through said annular passage, each of said teeth being inclined from said core toward said body in the direction of flow of said plastic mass therethrough, said teeth being positioned in at least two transverse rows spaced longitudinally along said core, an upstream row and a downstream row, the circumferential spacing between teeth being smaller in said downstream row than in said upstream row.

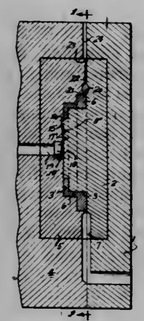
3,266,098
BREATHER FOR DIE CASTING AND OTHER MOLDS
Harry R. Bucy, 627 S. Glenwood Place, Burbank, Calif.
Filed Oct. 25, 1963, Ser. No. 318,963
2 Claims. (Cl. 18—42)



1. In a mold comprising a pair of metal components movable into juxtaposition with each other to define a cavity into which molten material is to be introduced under pressure, in which the juxtaposed surfaces of said components seal the said cavity against the passage between said surfaces of air or gas from the mold cavity to atmosphere incident to said introduction of molten material, the provision on one of said components of a breather passage means associated wholly with said one of said components, said breather passage means including relatively moving elements carried by one only of said components, and in which said mold includes means for moving at least one of said elements into such juxtaposition relative to the other as an incident to moving

said components into mold closing juxtaposition, so that the entrance to said breather passage means is so reduced in width by such movement of at least one of said elements that only air and gas may pass therethrough and in which said relatively movable elements include at least one element mounted for movement into and out of cooperative relationship with another element on said one of said mold components as said mold is closed and opened, respectively, with resultant completion of a breather passage means leading from the mold cavity through said movably mounted one of said elements to a surface thereof forming a portion of the exterior surface of said mold.

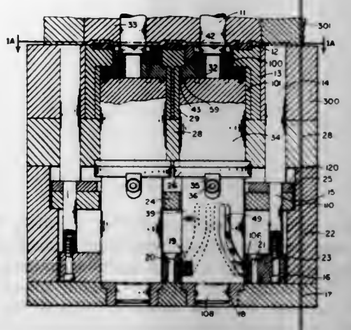
3,266,099
MOLD PARTING LINE VENTING MEANS
Harry R. Bucy, 625 S. Glenwood Place, Burbank, Calif.
Filed Dec. 3, 1963, Ser. No. 327,626
9 Claims. (Cl. 18—42)



1. In a mold comprising at least two relatively movable metal components having parting line faces serving at least in part to define a cavity in said mold into which molten material is introduced under pressure, the combination of vent means affording passage means for the escape of gas and air from the cavity; said vent means being formed in and extending parallel to at least a portion of the parting line face of at least one of said components which is juxtaposed to the mating face of the other of said components when said components are juxtaposed to form the mold; said vent means extending from the mold cavity to a point of communication with atmosphere and including an orifice portion spaced from the mold cavity and comprising a short, wide groove in said one parting line face which is of such shallow depth as to be capable of permitting only gas and air to flow therethrough and said vent means further including a deeper portion disposed upstream of and communicating with said orifice portion and adapted to receive molten material from the mold cavity and to cause received molten material to be congealed therein before reaching said orifice portion.

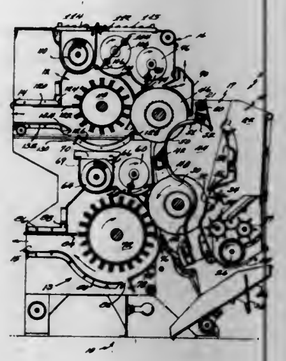
3,266,100
MOLDING APPARATUS
Paul J. Belanger, Leominster, Mass., assignor to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware
Continuation of application Ser. No. 92,809, Mar. 2, 1961. This application Nov. 18, 1963, Ser. No. 324,495
9 Claims. (Cl. 18—45)

8. A collapsible core die assembly adaptable to form an indentation in a molded thermoplastic article; said assembly comprising; a plurality of adjacent moveable segments forming a ring and each having a lip facing outwardly and adapted to form said indentation in said thermoplastic article; said segments being mounted on a retainer means; radial slots in said retainer means; said segments each being individually slideable in one of said slots and each segment carrying a cam follower at the bottom thereof; said cam followers being mounted in cam tracks in an underlying face cam which face cam comprises the end surface of a cylindrical barrel cam; said



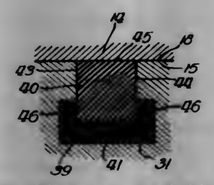
barrel cam having cam follower tracks on the cylindrical surface thereof; and second cam followers engaged in said barrel cam follower tracks and being attached to an actuating ejector means whereby when said actuating ejector means is raised, said second cam followers will slide in the barrel cam follower tracks and rotate said barrel cam, thus turning said face cam tracks and causing said cam follower pins to move radially with respect to said face cam.

3,266,101
HIGH CAPACITY GIN STAND
Eugene H. Brooks and Richard M. Shelburne, Sherman, Tex., assignors to Hardwicke-Etter Company, Sherman, Tex.
Filed June 26, 1962, Ser. No. 205,245
9 Claims. (Cl. 19—57)



1. A dual gin stand of high ginning capacity comprising: a casing having a top, a bottom, an inlet side and an outlet side; means defining with said inlet side a single roll chamber; an upper ginning stage disposed within said casing, said upper stage including an upper saw cylinder lying partially in said roll chamber and further including upper doffing means opposite said upper saw cylinder; a lower ginning stage within said casing, said lower stage including a lower saw cylinder lying partially in said roll chamber below and parallel to said upper saw cylinder, said lower stage further including lower doffing means opposite said lower saw cylinder and lower mote handling means disposed adjacent said lower saw cylinder above said lower doffing means and below said upper doffing means, said lower mote handling means including an upper surface covering a portion of said handling means; separate, vertically spaced lint exhaust ducts communicating with said upper and lower doffing means and extending to said outlet side, each of said ducts being defined at least in part by a scroll spaced from the respective doffing means, the scroll associated with said lower doffing means providing an air inlet passage through the bottom of said casing to a low pressure point adjacent said lower saw cylinder, and the lower surface of the scroll associated with said upper doffing means defining with the upper surface of said lower mote handling means an air inlet passage which is disposed between said exhaust ducts and which extends through the outlet side of said casing to a low pressure point adjacent said upper saw cylinder, said air inlet passages thereby providing for efficient operation of said gin stages by supplying air for carrying away lint from said saw cylinders and doffing means, the arrangement of said upper stage above said lower stage thereby reducing the floor space occupied by said gin stand.

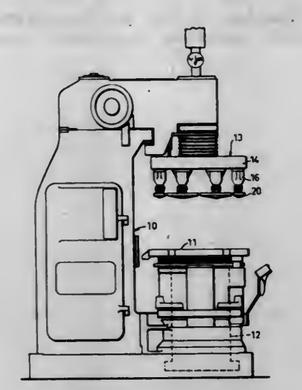
3,266,102
BODILY ACTUABLE CORE BOX SEAL
Edwin F. Peterson, P.O. Box 151, Neponset, Ill.
Filed Apr. 14, 1964, Ser. No. 359,694
12 Claims. (Cl. 22—13)



1. A core box sealing means carried in the parting line surface area of one core box section for sealing contact with a complementary surface area of a mating core box section comprising a seal confining chamber in said one core box section having an upright entry slot and a cross slot imbedded within said section, said entry slot providing communication between said parting line surface area and said cross slot, a sponge rubber cushion nested in said cross slot, a solid rubber seal connected with said cushion and slidably guided within said upright entry slot, said cushion providing a retaining means for said seal and functioning to orient said connected seal within said upright slot in a normal inoperative position with a portion of said seal projecting outwardly above said parting line surface area to a predetermined elevated position.

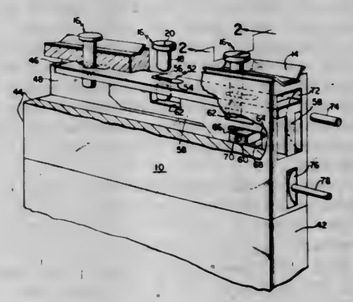
3,266,103
PRESS HEADS
Erik Ivarsson, Halmstad, Sweden, assignor to Aktiebolaget Malcus Holmquist, Halmstad, Sweden, a corporation of Sweden
Filed May 8, 1964, Ser. No. 366,008
Claims priority, application Sweden, May 14, 1963 5,318/63
6 Claims. (Cl. 22—46)

1. A moulding machine comprising a press head and means supporting same in a vertically-fixed position, a table beneath said press head for supporting a mould flask filled with moulding sand, means for moving the said table vertically toward said head for compressing the sand within the flask, the improvement in accordance with which said press head comprises a plurality of vertically-disposed cylinders each having a piston disposed for vertical movement therein, a piston rod depending from each piston through the lower end of its respective cylinder, a press plate carried at the lower end of each said piston rod for reception in said flask in pressing engagement with the sand therein, means normally urging the respective pistons to positions of rest intermediate of the ends of their respective cylinders, said cylinders being inter-



connected above their respective pistons to define a closed normally-constant volume hydraulic system operative during said vertical movement of the table toward the press head for utilizing the resulting upward displacement of those presser plates which initially engage the sand in said flask for transmitting fluid pressure to the pistons of other said presser plates for projecting the latter downwardly into engagement with the said sand, and for maintaining a fixed relation between the maximum pressures exerted by the respective plates when all of them engage the sand.

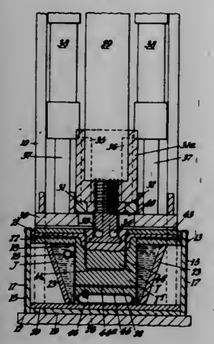
3,266,104
CONTINUOUS CASTING APPARATUS HAVING A QUICKLY DISCONNECTABLE STARTER BAR
Justin E. Foldessy, Ogden Dunes, Ind., and Francis Gallucci, North Huntington Township, Westmoreland County, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Dec. 26, 1963, Ser. No. 333,383
7 Claims. (Cl. 22—57.2)



1. Apparatus for continuous casting comprising a starter bar having a transverse passage therein, a slidable

plate movable between two positions in said passage, a chill plate on the upper end of said starter bar and quickly disconnectable therefrom, and means secured to said chill plate and adapted to be engaged by said slidable plate in one position thereof and to be disengaged in another position thereof.

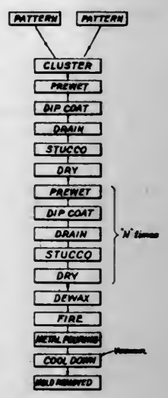
3,266,105
METHOD OF AND PRESS FOR THE MANUFACTURE OF DRAWN SHEET GOODS
John William Lawrence, Rothley, England, assignor to Jewel Engineering (Leicester) Limited, Leicester, England
Filed Apr. 11, 1963, Ser. No. 272,256
Claims priority, application Great Britain, Apr. 24, 1962, 15,463/62
9 Claims. (Cl. 22—67)



1. A method of making complementary male and female press tools for the production, on a press, of articles drawn to shape from sheet material, said press having a movable platen and a stationary flask disposed below and in alignment with the platen, said method comprising the steps of securing to the movable platen, while this is retracted, an element adapted to form a core for the male press tool to be cast, supporting and locating within initially molten casting material contained in the flask a perforated master specimen of the article ultimately to be formed by repetition pressing on the same press, so that said master specimen becomes filled with such material, thereupon causing the platen to descend to the extent of immersing said core-forming element in the molten casting material then confined within the master specimen, cooling the molten casting material whilst maintaining it under pressure and until it solidifies, thereby producing an in situ cast male press tool which is keyed to said element and has exterior surface contours conforming with the interior wall contours of the master specimen and an in situ cast female press tool the complementary interior surface contours of which conform with the exterior contours of the said master specimen, retracting the platen and thereupon removing the master specimen from the cast male tool.

6. A press for the production of articles drawn to shape from sheet material comprising in combination a bed, a flask fitted in said bed for containing molten casting material, means for heating and melting material in said flask and means for cooling molten material in the flask, a movable punch platen above and in alignment with the flask, said punch platen being adapted to carry a core-forming element of a male press tool, means adapted to carry a master specimen and locate said specimen within molten casting material in the flask, and an inflatable bag located at the bottom of the flask for pressurising the molten casting material remaining in the flask after cooling of said material has commenced.

3,266,106
GRAPHITE MOLD AND FABRICATION METHOD
Nick G. Lirones, North Muskegon, Mich., assignor to Howe Sound Company, New York, N.Y., a corporation of Delaware
Filed Sept. 20, 1963, Ser. No. 310,354
7 Claims. (Cl. 22—129)

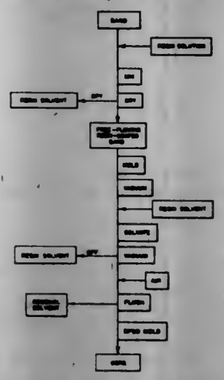


5. In the method of producing a mold about a disposable pattern which is removed to define a mold cavity, the steps of wetting the surface of the pattern with an aqueous dip coat composition the essential solids of which consist of graphite flour and colloidal graphite, covering the surface of the pattern while wet with the dip coat composition with a graphite stucco, repeating the operations of wetting with the dip coat composition and stuccoing for a number of times with intervening drying, wetting the built up layers with a dip coat composition the essential solids of which consist of a ceramic flour and colloidal graphite, covering the surface while wet with the dip coat composition with a ceramic stucco, and repeating the operations of wetting with the dip coat composition and stuccoing a number of times with intervening drying until a mold of the desired thickness and strength is built up about the pattern, and in which the colloidal graphite in the dip coat composition applied in the outer layers is present in an amount within the range of 1.5 to 10 percent by weight of the total weight of the ceramic flour and the colloidal graphite.

3,266,107
COATED MOLD AND METHOD OF COATING SAME
Daniel E. Groteke, Louisville, Ky., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 2, 1964, Ser. No. 380,047
11 Claims. (Cl. 22—192)

5. The process which comprises applying a high ductility, conductive base layer on a mold surface, superimposing thereon at least one intermediate layer consisting of a blend of the material forming the base layer with a refractory metal oxide coating, and superimposing an overlay composed of a refractory metal oxide.

3,266,108
FOUNDRY CORE FABRICATION PROCESS
Edward B. Dunning, Minneapolis, Minn., and Roger H. Kottke, Hatboro, Pa., assignors to Archer-Daniels-Midland Company, Minneapolis, Minn., a corporation of Delaware
Filed Jan. 8, 1964, Ser. No. 336,376
12 Claims. (Cl. 22—193)



3. The process for the formation of foundry cores, which comprises mixing sand with a resin solution, drying the resultant mixture to form free-flowing, resin-coated sand, placing said coated sand in a mold and compressing said coated sand therein to form a core, pressurizing said mold with a solvent to solvate said resin while maintaining said core under compression in said mold and subsequently reducing the pressure in said mold to remove said solvent, and removing the resultant core from said mold.

3,266,109
COUPLING-CLAMP
Carl Thomas, Hamburg-Bergedorf, Germany, assignor to Jurid Werke G.m.b.H., Glinde, near Hamburg, Germany
Filed Feb. 4, 1965, Ser. No. 430,251
6 Claims. (Cl. 24—20)



1. A clamp comprising a resilient band having one of its ends formed with a plurality of teeth extending on the external surface thereof and having the other of its ends formed with only one inwardly directed tooth, said other end being arranged to overlap said one end and said teeth being formed for gripping engagement with each other, in which a groove extending parallel to the longitudinal axis of the clamp is formed in the row of teeth located on the external surface of the clamp, and in which a spring disposed adjacent to the inwardly directed tooth is arranged to engage in said groove.

3,266,110
SEAT BELT BUCKLE
Frank L. Davis, Fort Salonga Road, Northport, Long Island, N.Y.
Filed June 1, 1965, Ser. No. 460,121
5 Claims. (Cl. 24—78)

1. A seat belt buckle comprising
a channel form frame having a back and connected parallel side walls,
the back wall having aligned spaced transverse slots and the side walls having notches at one end of the frame,
a latch lever overlying the back wall and having angularly extended hook lugs at the inner end pivotally engaged in said slots and an operating handle at the opposite end projecting beyond that end of the frame,
said latch lever having a securing tongue in the intermediate portion of the same inclined toward the back wall,
an end fitting for the belt webbing adapted to enter between the side walls of the frame into position between the latch lever and said back wall, said end fitting having a lock shoulder engageable by said



inclined securing tongue of the latch lever and having shoulders to enter said notches in the ends of the side walls,
a pin extending between said side walls above said latch lever,
a coiled spring on said pin having one end in engagement with the inner end of the latch lever and the opposite end in engagement over the top of the latch lever,
a cover extending over said frame and having flanges at opposite ends in engagement with opposite ends of said side walls, and
means on said frame for adjustably securing a length of belt webbing thereto.

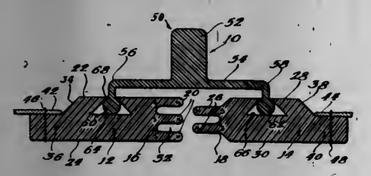
3,266,111
HOLDING DEVICE FOR AN OBJECT
Donald J. Abel, Midland Park, N.J. (712 Summit Ave., Franklin Lakes, N.J. 07417)
Filed Dec. 29, 1961, Ser. No. 163,190
3 Claims. (Cl. 24—81)



3. A holder for an object in combination with a support for the holder, the support having an upper and a lower edge, the holder comprising a substantially open receptacle formed from a member having sufficient size and character to impart spring qualities thereto, the top of the holder at the front being flared inwardly and downwardly, a central portion integrally formed with and downwardly directed from the base of the flared portion, the central portion further being turned inwardly in a substantially horizontal plane through the lower edge of the support when in normal position, the inwardly directed end of the horizontally turned portion being upwardly directed in hook formation for releasable engagement with the lower edge of the support, and an end portion integrally formed with and downwardly directed from the base of the first mentioned downwardly directed

portion at each end, corresponding points on each downwardly directed central and end portions being substantially equidistant from the longitudinal vertical plane of the support, each end portion further being curved inwardly and downwardly and then inwardly and upwardly and further extended upwardly in substantially U-shape formation with the troughs protruding below the horizontal plane, the inner end of each U-shape formation at the top further being extended inwardly and downwardly in upwardly spaced alignment with the corresponding end of the upwardly directed inner end of the central portion and adapted for releasable attachment to the upper edge of the support.

3,266,112
PERMANENT MAGNET FASTENER
Thomas P. Heckman, 533 Edgewood Road, Lombard, Ill.
Filed May 14, 1964, Ser. No. 367,385
15 Claims. (Cl. 24—201)



1. A closure comprising a first and a second member of material capable of maintaining magnet polarization, the first of said members having a surface provided with a groove extending therein and the second of said members being provided with a ridge extending outwardly from a surface thereof adapted to mate with the groove and be removably accommodated therein, said ridge having a first magnetic pole of one polarity disposed therein remote from the surface of the second member and a second magnetic pole of opposite polarity to the first pole disposed adjacent to the surface of the second member, and said first member having a first magnetic pole adjacent to the groove and adjacent to the surface of the first member of the same polarity as the first pole of the second member and a second pole of opposite polarity to the first pole of said first member disposed adjacent to the groove and remote from the surface of said first member.

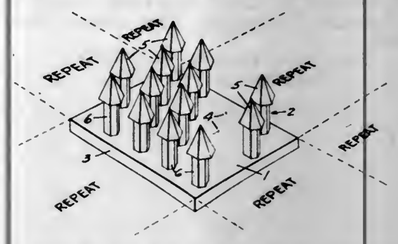
3,266,113
INTERREACTING ARTICLES
William C. Flanagan, Jr., Hudson Township, St. Croix County, Wis., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Dec. 14, 1964, Ser. No. 423,889
22 Claims. (Cl. 24—204)

1. A fastener consisting of a complementary pair of interengaging unitary articles each having a functional surface comprising multiple rows of flexible cam elements emanating from a relatively rigid backing member which remains essentially flat during engagement and disengagement of the articles, in which:

(1) the elements comprise stems terminating in enlarged shaped heads which bear against the element heads of the other article during engagement and disengagement, said heads being substantially nondeformable,

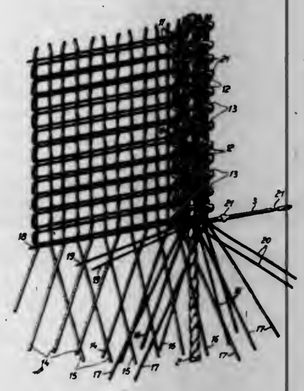
(2) the spaces between the heads of the individual elements of one of the pair of articles are smaller than the space occupied by the head of each element of the other article, and

(3) the rows of elements have vacant element positions to provide empty spaces at intervals over said



functional surfaces so as to allow deflection of the elements during engagement and disengagement.

3,266,114
SLIDING CLASP FASTENERS
Adolf Gerlach and Paul Hillringhaus, Wuppertal-Barmen, and Kurt Lehmbach, Norderney, Germany, assignors to Novi Patentverwertungs-G.m.b.H., Wuppertal-Barmen, Germany, a company of Germany
Continuation of application Ser. No. 9,108, Feb. 16, 1960.
This application Mar. 19, 1964, Ser. No. 353,217
Claims priority, application Germany, Feb. 21, 1959, H 35,690
12 Claims. (Cl. 24—205.1)

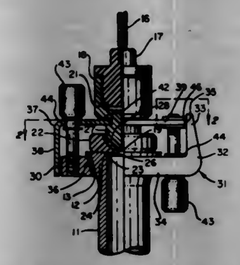


1. The method of continuously forming strip material from which sliding clasp fasteners with stringer tape portions may be cut, said method comprising the steps of: deforming a monofilar synthetic plastic thread at uniformly longitudinally spaced intervals; weaving the deformed thread conjointly with textile threads; reversing the direction of the deformed thread at successive deformations during the course of said weaving step; and causing alternate deformations to project outwardly beyond one edge of the stringer tape portion of said material during said weaving step whereby said alternate deformations form a series of coupling elements for the sliding clasp fastener.

3,266,115
CLAMP MEANS FOR JOINTS FORMED BETWEEN TUBES
Edvard M. Pedersen, Palo Alto, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Sept. 29, 1964, Ser. No. 400,084
5 Claims. (Cl. 24—263)

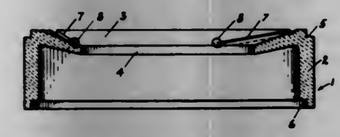
1. A clamp means for joints formed between tubes comprising a pair of L-shaped angle members each having a leg and base, there being an opening formed in the

leg of each of said angle members, said members arranged with the base of one member extending towards the other member in spaced overlapping relationship with



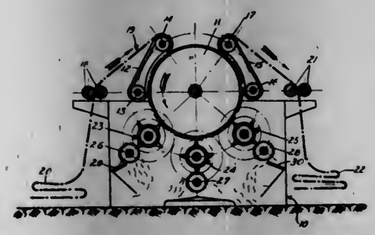
respect to the face on the free end of the leg of the other member, and means carried by said members to urge the same towards one another to clamp the joint.

3,266,116
SUPPORT FOR CERAMIC WARE
Raymond W. Rush, Beaver, Pa., assignor to Mayer China Company, Beaver Falls, Pa., a corporation of Pennsylvania
Filed Aug. 12, 1963, Ser. No. 301,419
2 Claims. (Cl. 25—153)



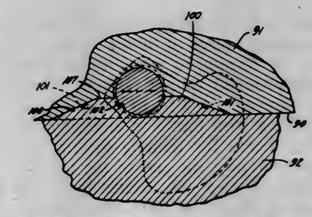
1. As an article of manufacture for mounting glazed ceramic ware upon suitable setters and spiders for movement through a firing kiln, a spherical porous body of readily frangible fired refractory material having an outside diameter less than three-quarters of an inch.

3,266,117
DEVICE FOR THE REMOVAL OF CORE LENGTHS FROM CHENILLE
Piotr Filippovich Sapilevsky, U.S.S.R., assignor to Moscovsky Experimentalny Zavod Iskoosstvennoi Kozhi e mekha, Moscow, U.S.S.R.
Filed Sept. 5, 1963, Ser. No. 306,908
5 Claims. (Cl. 26—2)



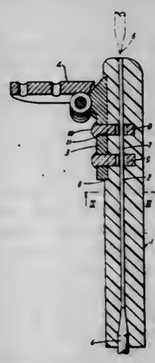
1. An apparatus for removing cut core lengths from chenille adhesively secured to a fabric backing in the manufacture of imitation persian lamb cloth, said apparatus comprising means for feeding a composite web of chenille and fabric backing, a horizontally disposed rotatably mounted cylinder, driven conveyor belts engaging a portion of the upper surface of said cylinder on opposite sides of the cylinder axis, said web passing between said belts and said cylinder and engaging the lower peripheral surface of said cylinder, a plurality of intermittently driven rotary combs spaced around the lower peripheral surface of said cylinder, each comb including a plurality of angularly spaced pairs of toothed comb sets and means for intermittently engaging the teeth of each pair of comb sets with the chenille of said web to remove cut core lengths therefrom and a rotary cleaning brush engaging each rotary comb to remove core lengths therefrom.

3,266,118
CRANKSHAFT
Christopher M. Drew, Hazel Crest, Ill., assignor to Wyman-Gordon Company, Worcester, Mass., a corporation of Massachusetts
Filed Aug. 15, 1963, Ser. No. 302,432
5 Claims. (Cl. 29—6)



1. A method of forming a dynamically balanced crankshaft having ninety degree displaced throws, comprising the steps of; forging the crankshaft in position with the planes of each of its throws inclined to the parting plane of the forging dies.

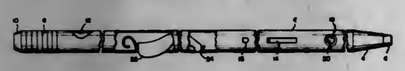
3,266,119
MANUFACTURE OF SPECTACLE FRAME SIDE PIECES
Herbert L. Thorn, Onslow Village, Guildford, Surrey, and Walter Conway, Guildford, Surrey, England, assignors to Optoplast Manufacturing Company Limited, and The Trident Optical Company Limited
Original application May 8, 1961, Ser. No. 108,591, now Patent No. 3,155,763, dated Nov. 3, 1964. Divided and this application May 5, 1964, Ser. No. 365,004
Claims priority, application Great Britain, May 16, 1960, 17,199/60
3 Claims. (Cl. 29—20)



1. A method of making a hinged side piece for a spectacle frame comprising the steps of forcing at least one element projecting from a hinged member and formed to engage a reinforcing wire into a side piece blank from one face to extend tranversely to the center line of the

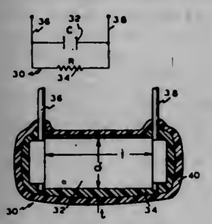
blank but to terminate short of the opposite face of the side piece blank, and introducing a reinforcing wire longitudinally into the blank and into engagement with said element to hold the hinge member in position as well as to reinforce the side piece.

3,266,120
MACHINE FOR MAKING UMBRELLA TUBES
Isadore Caplan, Brighton, N.Y., assignor of one-half to Markin Tubing, Inc., Rochester, N.Y., a corporation of New York
Filed Aug. 12, 1963, Ser. No. 301,460
18 Claims. (Cl. 29—25)



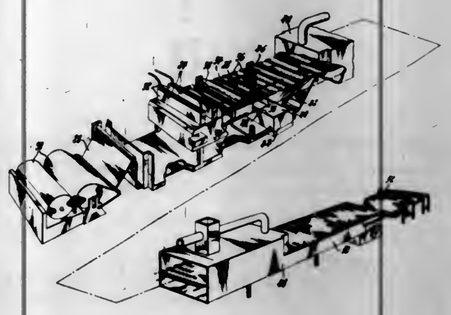
1. A machine for making umbrella tubes, comprising means for holding a piece of tubing in an operating position, means for forming a plurality of latch receiving slots in predetermined spaced relation in said piece of tubing, means for feeding a tip to engage the shank in one end of the tubing with the head engaging the extremity of the tubing, means for holding the tip in the tubing, and means for swaging the end of the tubing containing the tip to firmly engage the tubing about the shank of the tip to rigidly retain the tip in the tubing.

3,266,121
METHOD OF MAKING A CAPACITOR-RESISTOR CONSTRUCTION
Charles C. Rayburn, Falls Church, Va., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Feb. 14, 1963, Ser. No. 258,449
8 Claims. (Cl. 29—25.42)



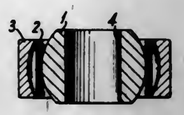
1. The method of making a capacitor-resistor construction comprising the steps of convolutely winding electrode foils and plastic dielectric films to provide a coiled capacitor body with exposed electrode foil edge portions at each end of said body portion and with the outermost convolution of said body being of dielectric material, applying leads to each end of said body to contact and traverse a plurality of the electrode foil edge portions to form an electrical connection therewith, thereafter applying a carbon resin material having resistive characteristics directly to the outer surface of said outer convolution of dielectric material with sufficient portions of said resistive material contacting the exposed electrode foil edge portions of said capacitor body to thermally and electrically connect the resistive material to the electrode foil edge portions with portions of said resistive material being thermally and electrically connected with said leads, thereby to form at least one capacitor connection and at least one resistor connection to said leads accomplishing dissipation of heat throughout the capacitor-resistor body to assure relatively uniform functioning thereof.

3,266,122
METHOD OF MANUFACTURING A SPRING SEAT COMPONENT
Gerard J. O'Kane, Columbus, and Vernon R. Robb, Hilliard, Ohio, and Donald E. Gunlock, Birmingham, and George C. Kinde, Mount Clements, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 17, 1964, Ser. No. 419,085
3 Claims. (Cl. 29—91.1)



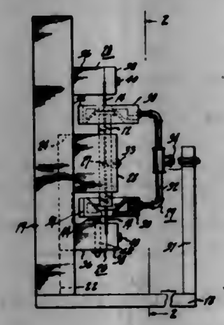
1. A method of making a load bearing mat subassembly for a spring assembly consisting of placing zig-zag springs in an automatic feed hopper, automatically releasing and positioning said springs one at a time onto a feed conveyor, conveying said springs through an adhesive applicator whereby said springs become coated with adhesive, having a continuous piece of fabric pass adjacent said feed conveyor, having said feed conveyor positioning and releasing said adhesive coated springs on said fabric, passing said adhesive coated springs and said fabric through a curing oven for curing said adhesive and bonding said springs to said fabric and cutting said fabric in desired lengths for the desired number of springs in each unit.

3,266,123
METHOD OF PRODUCING BEARINGS
Albert R. McCloskey, Fairfield, Conn., assignor to The Heim Universal Corporation, Fairfield, Conn., a corporation of Connecticut
Filed Apr. 7, 1965, Ser. No. 448,910
6 Claims. (Cl. 29—149.5)



1. A method of producing a self-aligning bearing comprising an inner member having a convex spherical outer surface, an outer member having a hole therethrough with a concave spherical inner surface, and an intermediate member having a first layer of self-lubricating material and a second layer of curable adhesive material adhering the first layer to one of the members, said method including the steps of preforming an inner member so that it has a convex outer surface, preforming an outer member so that it has concave inner surface, placing a layer of self-lubricating material and a layer of curable adhesive material between the inner and outer members with a layer of curable adhesive material adjacent to the member to which the layer of self-lubricating material is to be adhered, telescoping the members, interlocking the members by deforming one of the preformed members in a radial direction throughout the length of the space between the members and simultaneously bending the self-lubricating material and the adhesive material into a tight fit with the surfaces of the inner and outer members while the curable adhesive material is still uncured, and subsequently curing the curable adhesive material to bond the layer of self-lubricating material to one of the members.

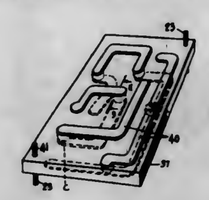
3,266,124
METHOD OF AND APPARATUS FOR SEALING GLASS-TYPE ENVELOPES
John Lysak, Colonia, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 1, 1962, Ser. No. 191,585
8 Claims. (Cl. 29—155.5)



6. The method of making a reed switch having an elongated tubular glass envelope, said envelope having sealed through the ends thereof oppositely disposed closely spaced and overlapping elongated reed elements,
said method including the steps of supporting a tubular glass member in a vertical position,
inserting a first reed element into said tubular member from one end thereof,
inserting a second reed element from the other end of said tubular element and positioning said second reed element so that the inner ends of said reeds are in a predetermined overlapping spaced relation with the outer ends of said reeds extending through the open ends of said tubular glass member,
providing a purging gas at the lower end of said glass member for purging the air from the interior of said member,
and thereafter applying sealing fires to the open ends of said tubular member to seal said ends vacuum tight to said reeds.

7. Apparatus for assembling and sealing a glass tube onto a pair of elongated connectors which comprises:
a pair of connector clamps each adapted to support a connector in extending relation towards the other of said connectors,
a glass tube support disposed between said clamps,
one of said connector clamps being movable with respect to the other of said clamps for accurately positioning connectors held in said clamps with respect to each other,
means for purging air from a glass tube supported by said tube support,
a pair of annular burners each having a sectorial opening in the periphery thereof,
and means for moving said burners to a position where the burners substantially surround portions of said tube for sealing said tube onto said reeds.

3,266,125
METHOD FOR MAKING ELECTRICAL CIRCUIT MODULES
Jan Tobolski, Los Angeles, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed Nov. 13, 1962, Ser. No. 236,903
3 Claims. (Cl. 29—155.5)

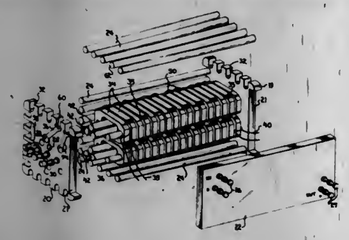


1. The process for making integrated electrical circuit modules incorporating pellet type electrical components comprising the steps of:
employing the use of a template which positions and temporarily retains said components in a desired pattern with the ends of said components being disposed in parallel first and second spaced planes, said first spaced plane of component ends being accessible;
placing a first heat conductive sheet in contact with said first plane of component ends, said sheet including a layer of solder, said solder being in direct contact with the ends of said components;
heating a portion of said sheet to the extent of soldering together said sheet and said contacting component ends forming a unitary unit;
removing said unitary unit from said template making said second plane of component ends accessible;
placing a second heat conductive sheet having a layer of solder thereon in contact with said second plane of component ends, heating said second sheet to the extent of soldering together said second sheet and said component ends located in said second plane;
said resultant unit defining an area intermediate said first and second sheets, said area being partially occupied by said components;
placing the resultant unit into a mold thereby allowing entry to said area through only one edge of said resultant unit;
completely filling said unoccupied area with a liquified, normally solid non-electrically conducting material;
solidifying said conducting material;
removing the unit from the mold; and
removing selected portions of said sheets from said non-electrically conducting material, remaining portions of said sheets defining electrical interconnections for said components.

3,266,126
MAGNETIC CORE ASSEMBLY METHOD
Edward C. Dowling, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Original application Nov. 21, 1961, Ser. No. 153,988, now Patent No. 3,150,355, dated Sept. 22, 1964. Divided and this application Dec. 27, 1963, Ser. No. 342,322
2 Claims. (Cl. 29—155.5)

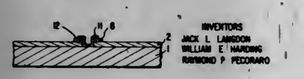
1. In a method of assembling magnetic core devices the steps comprising securing a plurality of magnetic cores each of which has at least one aperture to a flexible tape member having spaced slots therein with each core aperture aligned with a tape slot, the said cores being positioned on said tape in sets of four cores with the first and last core of a set on one side of the tape and the second and third core of a set on the opposite side of the tape, folding said tape to position the first

and second cores of a set adjacent to each other with first and second core apertures in alignment, folding said tape to position the third and fourth cores of the same set adjacent to each other with the third and fourth core



apertures in alignment with the first and second cores being adjacent to the third and fourth cores and with the tape between any two adjacent cores, and inserting conductive rods through the core apertures and tape slots.

3,266,127
METHOD OF FORMING CONTACTS ON SEMICONDUCTORS
William E. Harding Poughkeepsie, and Jack L. Langdon and Raymond P. Pecoraro, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Jan. 27, 1964, Ser. No. 340,344
5 Claims. (Cl. 29—155.5)



1. In the process of forming a contact and an interconnection on a semiconductor having an oxide coating thereon, the steps comprising:

selectively depositing a highly conductive, easily soldered, oxide-adhering metal on an oxide-coated semiconductor to form an interconnection on the oxide surface;

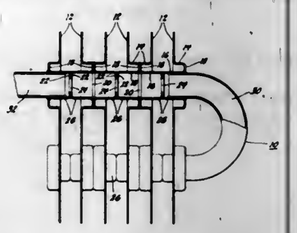
etching a contact area through a portion of said interconnection and through the oxide coating to the surface of the semiconductor;

selectively depositing an aluminum ohmic contact in the etched contact area so as to cover the semiconductor surface and to overlap at least on a portion of the interconnection adjacent the etched contact area; and

heating the semiconductor, having said interconnection metal and said contact metal deposited thereon, to a temperature sufficient to cause the alloying of the aluminum contact with the surface of the semiconductor.

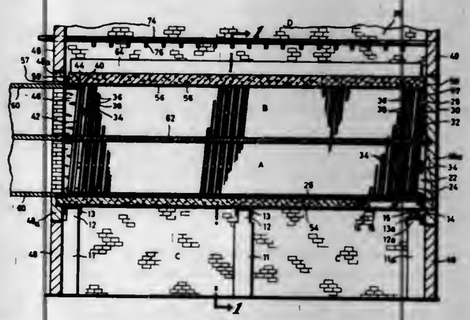
3,266,128
METHOD OF MAKING A HEAT EXCHANGER
James W. Jacobs, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application May 16, 1961, Ser. No. 110,397, now Patent No. 3,202,211. Divided and this application Feb. 18, 1965, Ser. No. 433,748
1 Claim. (Cl. 29—157.3)

A method for manufacturing a heat exchanger having a plurality of separate fin elements each having integral tube forming portions, comprising the steps of, reversely drawing an interior portion of a first flat sheet to form a first large tubular projection extending from one side of the first sheet and to form a relatively smaller open-ended tubular projection integral with the first projection and arranged interiorly and concentrically of the first projection to extend past the opposite side of the first sheet, reversely drawing an interior portion of a second flat sheet to form a second large tubular projection extending from one side of the second sheet and to form a relatively smaller open-ended tubular projection integral with the second large tubular projection and arranged interiorly and concentrically of the second large tubular projection to extend past the opposite side of the second sheet, maintaining a continuous spaced relationship between the un-



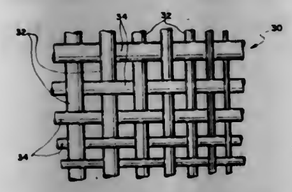
deformed portions of the first and second sheets by aligning and bonding the first and second large tubular projections with one another in abutting relationship, and aligning and bonding the smaller tubular projections of said first and second sheets in abutting relationship with the smaller tubular projections of additional sheets of a configuration similar to said first and second sheets whereby a conduit is formed through said spaced apart sheets.

3,266,129
METHOD OF CONSTRUCTING HEAT EXCHANGERS
Franklin Fröhlich, 39 St. Leonhardstrasse, St. Gallen, Switzerland
Original application Nov. 3, 1961, Ser. No. 150,012, now Patent No. 3,207,213, dated Sept. 21, 1965. Divided and this application Aug. 3, 1965, Ser. No. 479,448
1 Claim. (Cl. 29—157.3)



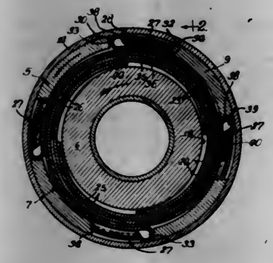
The method of constructing a core for a heat exchanger which comprises the steps of providing a rigid L-shaped support having a first leg inclined at an acute angle of approximately 10° to 30° relative to a horizontal plane and a second leg inclined at an obtuse angle less than approximately 110° relative to said first leg; loosely stacking upon said second leg a plurality of heat exchanger plates with spacing members interposed therebetween, the edges of said plates engaging said first leg; pivoting said support gradually to a position in which said first leg is substantially horizontal; arranging a vertical support adjacent the free end of said stack of plates to define an interstice; and pressing a plastic mass of a settable material into the interstice to hold said plates in the stacked relationship.

3,266,130
METHOD OF MAKING A PERMEABLE AIRFOIL SKIN
Ardelle Glaze, Fort Wayne, Ind., assignor to Fort Wayne Metals, Inc., a corporation of Indiana
Filed Oct. 21, 1965, Ser. No. 499,747
10 Claims. (Cl. 29—163.5)



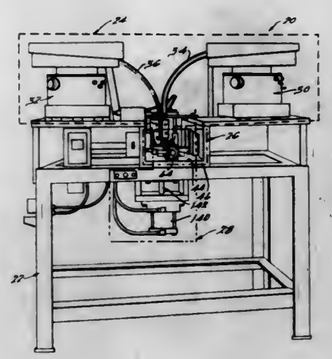
1. The method of making a permeable airfoil skin material comprising the steps of providing a plurality of mutually parallel warp wires, interlacing with said parallel wires a plurality of mutually parallel weft wires running transverse to said first mentioned wires to thereby form a woven fabric sheet, varying the spacing between certain of said adjacent parallel wires, bonding said wires to intersecting weft wires, and rolling said sheet to form a smooth surface thereon.

3,266,131
METHOD OF MAKING A CLUTCH BAND
Edwin E. Mallory, Niles, Mich., and Sidney L. Schell, South Bend, Ind.; said Mallory assignor to National-Standard Company, Niles, Mich., a corporation of Delaware, and said Schell assignor to John M. Dodwell, Buchanan, Mich.
Filed May 22, 1964, Ser. No. 369,419
3 Claims. (Cl. 29—173)



1. The method of making a clutch band comprising the steps of forming an outer end portion of the terminal end of a strip of flat spring steel into arcuate transverse cross-sectional configuration and of a thickness substantially equal to the thickness of said strip, forming a fold of tubular configuration and of a thickness substantially equal to the thickness of said strip between said outer end portion and the adjacent inner portion of said strip with the concave side of said outer end portion opposite the outer face of said inner end portion, forming said strip into generally spiral shape, securing the side edges of said outer end portion to said inner end portion, and thereby provide an anchor at said terminal end having an opening through said fold extending transversely of and at the outer end of said anchor and a channel extending from the inner end of said outer end portion to the opening in said fold, heat treating said formed strip, quenching said formed strip, stress relieving said formed strip, reshaping said formed strip into spiral configuration, and heat setting said reshaped strip.

3,266,132
MULTIPLE PART ASSEMBLY MACHINE
Allen C. Wideburg, Chicago, and Albert P. Anderson, Des Plaines, Ill., assignors to Huck Manufacturing Company, Detroit, Mich., a corporation of Michigan
Filed Oct. 13, 1964, Ser. No. 403,511
16 Claims. (Cl. 29—208)



1. Apparatus for assembling a first member coaxially into an opening in a second member comprising: selecting and locating means being actuable between a first operative condition for selecting the first and second members and receiving the members from receiving locations in positions with their axes in parallel and a second operative condition for moving the first and second members transversely of their axes and locating the first and second members at a fixed assembly location with the first member in coaxial alignment with the opening of the second member, feed means for feeding the first and second members to said selecting and locating means at said receiving locations, assembly means generally located at said assembly location and actuable with said selecting and locating means in said second condition with the members located at said assembly location for moving the first and second members relatively to each other into assembly relation, and sensing means operatively connected with said selecting and locating means and said assembly means for selectively actuating said selecting and locating means and said assembly means in a preselected sequence, said preselected sequence comprising actuation of said selecting and locating means from said first condition to said second condition and actuation of said assembly means after said selecting and locating means has been actuated to said second condition.

3,266,133
APPARATUS FOR DISPENSING AND ASSEMBLING OPEN RINGS TO GROOVED SHAFTS
Theodore W. Kalbow, Berwyn, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 26, 1965, Ser. No. 428,046
12 Claims. (Cl. 29—211)

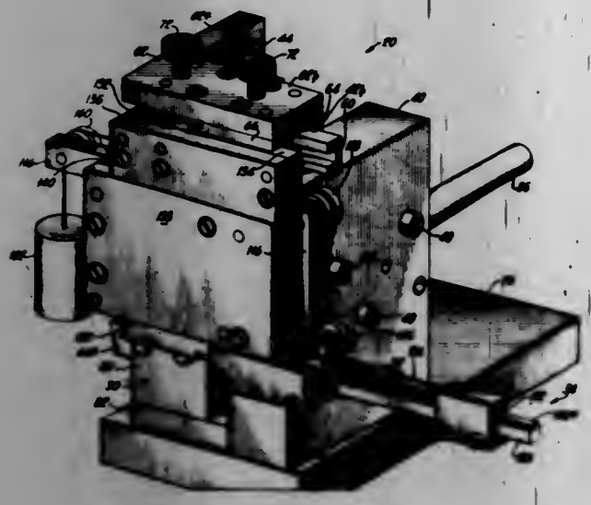
1. An apparatus for assembling open rings on grooved elongated elements comprising

a receptacle for receiving a plurality of elongated elements disposed in generally parallel relation,

structure defining an element conveying path for discharging elongated elements from the receptacle in sequence,

a movably mounted element receiving means movable between a first position disposed in the path to receive an elongated element from the conveying path and a second position spaced from the first position,

ring holding means spaced from the element receiving means in its first position and adapted to mount a ring in a position in which the ring receives the elongated element when the element receiving means is in its second position to mount the ring on the elongated element,



and means movable into the path in a timed relation with the movement of the element receiving means away from its first position for engaging at least one of the elongated elements in the path to prevent the discharge of an elongated element from the conveying path when the element receiving means is not in its first position.

3,266,134

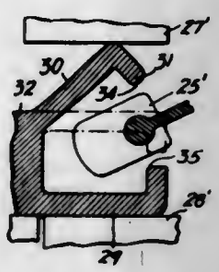
the empty eye by peripherally supporting said unit and forcing the same axially toward said eye while so supported and until the unit abuts against said control arm about said eye to limit further insertion into said eye.

3,266,135

METHOD OF MAKING AND ASSEMBLING A SLIDER

Louis H. Morin, 125 Beechwood Ave., Bronx, N.Y.

Filed Feb. 19, 1963, Ser. No. 259,613
6 Claims. (Cl. 29—408)



1. The method of forming a slider body to facilitate attachment of coupled stringers therewith and in compressing flared wall portions of the slider body in retaining the scoops of stringers against displacement from the slider body, which comprises casting a slider body having walls spaced and joined by a web at a wide end portion of the slider body with one wall flared with respect to the opposed wall to form wide admission passages at sides of the slider body for reception of scoops of separable fastener stringers, positioning the scoops of a pair of stringers in and between the walls of the slider body, and then compressing said flared wall to retain the scoops of the stringers against displacement from the slider body.

removing the boards from the stream for a predetermined distance, and

re-immersing the boards into the same stream at a subsequent work station located upstream for soldering the tinned leads to the printed circuit.

5. An apparatus for mass soldering printed wiring boards having components mounted thereon with leads contacting the printed circuit comprising:

a continuously circulating solder system, including a main reservoir, a pumping reservoir and a subsidiary reservoir, an external inclined stream trough for pretinning and soldering having an upstream section and a downstream section, said downstream section flowing into the subsidiary reservoir, an inclined overflow from the subsidiary reservoir to the main reservoir, pumping means raising the solder from beneath the surface of the main reservoir to the pumping reservoir and then onto the upstream section of the inclined stream trough and heating means to keep the circulating solder in a molten condition throughout the system,

a conveyor for carrying printed wiring boards in a plane parallel to the inclined stream trough of the solder system so that the circuits are brought into contact with the stream,

a first work station located in the introductory downstream section of the stream trough having means for producing concentrated vibrations in a localized portion of the stream from beneath the surface at a frequency from slightly below 60 cycles to 200,000 cycles in order to clean and pretin component leads at the lead areas, said means comprising one or more tapered vibrators situated transverse to the conveyorized movement of boards through the stream,

a depressed intermediate stream trough section where the conveyor-carried board is out of contact with the stream, and

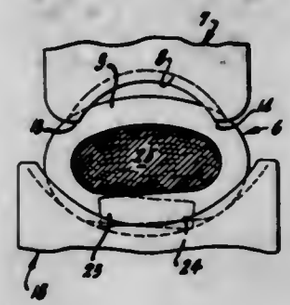
a second work station upstream having means directing the [illegible]

3,266,138

METHOD OF APPLYING CLIPS

Maynard J. G. Tipper, Oakland, Calif., assignor to Rheem Manufacturing Company, New York, N.Y., a corporation of California

Filed Sept. 11, 1964, Ser. No. 395,707
3 Claims. (Cl. 29—509)



1. The method of forming a seal around a flexible resilient article by means of a generally U-shaped clip comprising the steps of:

providing, in straddling relation with said article, a generally U-shaped clip having a pair of opposed generally parallel legs and a relatively straight crown connecting corresponding ends of said legs with the junctures of said crown and legs formed to arcs of a circle,

engaging the crown of said clip at said junctures with a punch having a pair of spaced pressure points registering with said junctures at points inwardly of the oppositely outwardly facing sides of said legs,

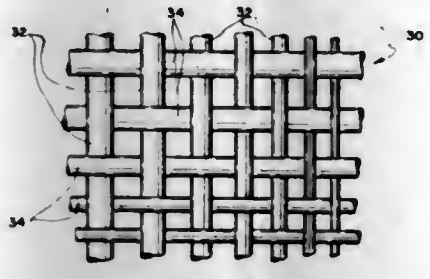
deforming said clip by engaging the free ends of the legs of said clip with a die having a pair of parallel side-by-side grooves formed along their lengths to arcs of a circle and respectively receiving one of said ends therein, urging said punch and die toward each [illegible]

3,266,130

METHOD OF MAKING A PERMEABLE AIRFOIL SKIN

Ardelle Glaze, Fort Wayne, Ind., assignor to Fort Wayne Metals, Inc., a corporation of Indiana

Filed Oct. 21, 1965, Ser. No. 499,747
10 Claims. (Cl. 29—163.5)



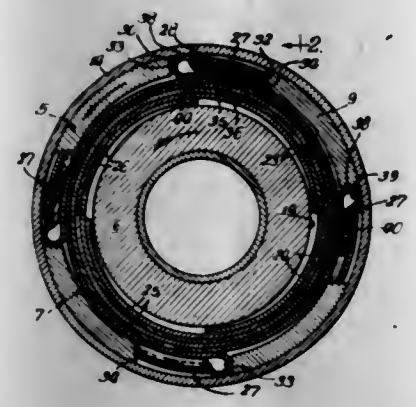
1. The method of making a permeable airfoil skin material comprising the steps of providing a plurality of mutually parallel warp wires, interlacing with said parallel wires a plurality of mutually parallel weft wires running transverse to said first mentioned wires to thereby form a woven fabric sheet, varying the spacing between certain of said adjacent parallel wires, bonding said wires to intersecting weft wires, and rolling said sheet to form a smooth surface thereon.

3,266,131

METHOD OF MAKING A CLUTCH BAND

Edwin E. Mallory, Niles, Mich., and Sidney L. Schell, South Bend, Ind.; said Mallory assignor to National-Standard Company, Niles, Mich., a corporation of Delaware, and said Schell assignor to John M. Dodwell, Buchanan, Mich.

Filed May 22, 1964, Ser. No. 369,419
3 Claims. (Cl. 29—173)



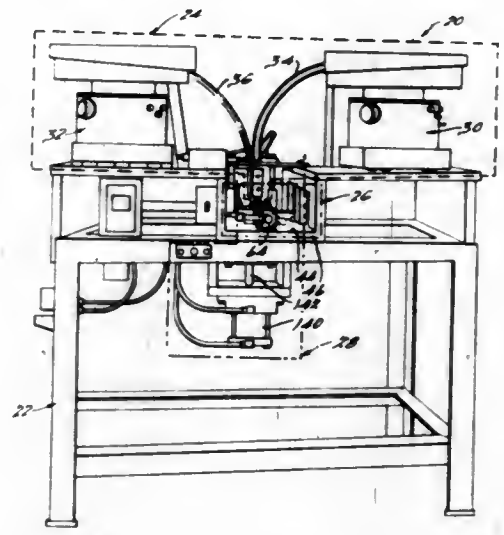
1. The method of making a clutch band comprising the steps of forming an outer end portion of the terminal end of a strip of flat spring steel into arcuate transverse cross-sectional configuration and of a thickness substantially equal to the thickness of said strip, forming a fold of tubular configuration and of a thickness substantially equal to the thickness of said strip between said outer end portion and the adjacent inner portion of said strip with the concave side of said outer end portion opposite the outer face of said inner end portion, forming said strip into generally spiral shape, securing the side edges of said outer end portion to said inner end portion, and thereby provide an anchor at said terminal end having an opening through said fold extending transversely of and at the outer end of said anchor and a channel extending from the inner end of said outer end portion to the opening in said fold, heat treating said formed strip, quenching said formed strip, stress relieving said formed strip, reshaping said formed strip into spiral configuration, and heat setting said reshaped strip.

3,266,132

MULTIPLE PART ASSEMBLY MACHINE

Allen C. Wideburg, Chicago, and Albert P. Anderson, Des Plaines, Ill., assignors to Huck Manufacturing Company, Detroit, Mich., a corporation of Michigan

Filed Oct. 13, 1964, Ser. No. 403,511
16 Claims. (Cl. 29—208)



1. Apparatus for assembling a first member coaxially into an opening in a second member comprising: selecting and locating means being actuable between a first operative condition for selecting the first and second members and receiving the members from receiving locations in positions with their axes in parallel and a second operative condition for moving the first and second members transversely of their axes and locating the first and second members at a fixed assembly location with the first member in coaxial alignment with the opening of the second member, feed means for feeding the first and second members to said selecting and locating means at said receiving locations, assembly means generally located at said assembly location and actuable with said selecting and locating means in said second condition with the members located at said assembly location for moving the first and second members relatively to each other into assembly relation, and sensing means operatively connected with said selecting and locating means and said assembly means for selectively actuating said selecting and locating means and said assembly means in a preselected sequence, said preselected sequence comprising actuation of said selecting and locating means from said first condition to said second condition and actuation of said assembly means after said selecting and locating means has been actuated to said second condition.

3,266,133

APPARATUS FOR DISPENSING AND ASSEMBLING OPEN RINGS TO GROOVED SHAFTS

Theodore W. Kalbow, Berwyn, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 26, 1965, Ser. No. 428,046
12 Claims. (Cl. 29—211)

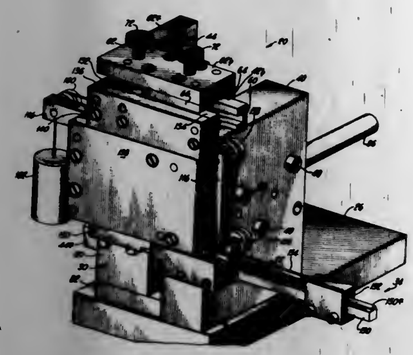
1. An apparatus for assembling open rings on grooved elongated elements comprising

a receptacle for receiving a plurality of elongated elements disposed in generally parallel relation,

structure defining an element conveying path for discharging elongated elements from the receptacle in sequence,

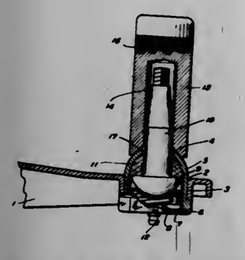
a movably mounted element receiving means movable between a first position disposed in the path to receive an elongated element from the conveying path and a second position spaced from the first position,

ring holding means spaced from the element receiving means in its first position and adapted to mount a ring in a position in which the ring receives the elongated element when the element receiving means is in its second position to mount the ring on the elongated element,



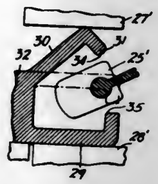
and means movable into the path in a timed relation with the movement of the element receiving means away from its first position for engaging at least one of the elongated elements in the path to prevent the discharge of an elongated element from the conveying path when the element receiving means is not in its first position.

3,266,134
METHOD OF MANIPULATING A CARTRIDGE-TYPE BALL-JOINT
Milton A. Moskovitz, St. Louis County, Mo. (7 Chapel Hill, St. Louis, Mo.)
Original application Sept. 23, 1963, Ser. No. 310,791. Divided and this application Apr. 7, 1965, Ser. No. 448,564
2 Claims. (Cl. 29—401)



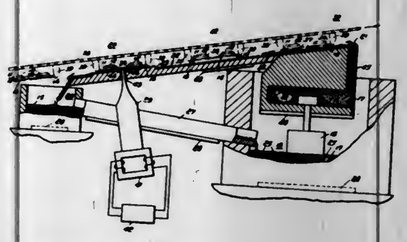
1. In the method of replacing a permanently assembled ball-joint unit in the eye of a control arm without complete disassembly of said control arm, and wherein said unit is of the type having a shell whose one end is externally convex and that has an opening therethrough through which the shank of a stud projects outwardly from the shell, the other end of said shell being closed and radially enlarged so that the shell can be inserted into said eye from only one direction, and wherein said ball-joint units are of differing sizes; said method including pressing against said convex surface of said shell in substantially tangential and annular engagement therewith while supporting said arm until said unit is displaced from said eye, and then replacing a like cartridge unit into the empty eye by peripherally supporting said unit and forcing the same axially toward said eye while so supported and until the unit abuts against said control arm about said eye to limit further insertion into said eye.

3,266,135
METHOD OF MAKING AND ASSEMBLING A SLIDER
Louis H. Morin, 125 Beechwood Ave., Bronx, N.Y.
Filed Feb. 19, 1963, Ser. No. 259,613
6 Claims. (Cl. 29—408)



1. The method of forming a slider body to facilitate attachment of coupled stringers therewith and in compressing flared wall portions of the slider body in retaining the scoops of stringers against displacement from the slider body, which comprises casting a slider body having walls spaced and joined by a web at a wide end portion of the slider body with one wall flared with respect to the opposed wall to form wide admission passages at sides of the slider body for reception of scoops of separable fastener stringers, positioning the scoops of a pair of stringers in and between the walls of the slider body, and then compressing said flared wall to retain the scoops of the stringers against displacement from the slider body.

3,266,136
MASS SOLDERING APPARATUS AND METHOD USING VIBRATORY ENERGY
Ernst A. Gutbler, Atkinson, N.H., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 29, 1963, Ser. No. 268,996
5 Claims. (Cl. 29—471.1)



1. A method of mass soldering printed wiring boards having components mounted thereon with leads contacting the printed circuit comprising the steps of:
moving a succession of wiring boards into a flowing solder stream with the printed circuit contacted by the leads on the lower surface of the board,
cleaning and pretinning component leads at a first work station downstream by providing concentrated vibrations directed towards the leads at a localized portion of the stream from below the surface at a frequency from slightly below 60 cycles to 200,000 cycles,

removing the boards from the stream for a predetermined distance, and
re-immersing the boards into the same stream at a subsequent work station located upstream for soldering the tinned leads to the printed circuit.

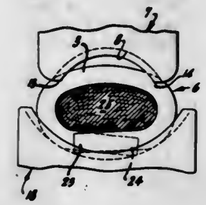
5. An apparatus for mass soldering printed wiring boards having components mounted thereon with leads contacting the printed circuit comprising:
a continuously circulating solder system, including a main reservoir, a pumping reservoir and a subsidiary reservoir, an external inclined stream trough for pretinning and soldering having an upstream section and a downstream section, said downstream section flowing into the subsidiary reservoir, an inclined overflow from the subsidiary reservoir to the main reservoir, pumping means raising the solder from beneath the surface of the main reservoir to the pumping reservoir and then onto the upstream section of the inclined stream trough and heating means to keep the circulating solder in a molten condition throughout the system,
a conveyor for carrying printed wiring boards in a plane parallel to the inclined stream trough of the solder system so that the circuits are brought into contact with the stream,
a first work station located in the introductory downstream section of the stream trough having means for producing concentrated vibrations in a localized portion of the stream from beneath the surface at a frequency from slightly below 60 cycles to 200,000 cycles in order to clean and pretin component leads at the land areas, said means comprising one or more tapered vibrators situated transverse to the conveyorized movement of boards through the stream,
a depressed intermediate stream trough section where the conveyor-carried board is out of contact with the stream, and
a second work station upstream having means directing the flowing solder stream against the leads to solder them to the wiring board circuit and to refinish the wiring board circuits.

3,266,137
METAL BALL CONNECTION TO CRYSTALS
Cecil L. De Mille, Santa Ana, John G. Quetsch, Jr., Anaheim, and Frank J. Sala, Costa Mesa, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed June 7, 1962, Ser. No. 200,813
3 Claims. (Cl. 29—473.1)



1. A method of providing an electrode connection to a region of a silicon crystal which comprises:
forming an electrically insulating mask on a surface of the crystal, with an aperture in the mask;
depositing a layer of gold on the crystal in the aperture;
depositing a layer of tin upon a layer of gold;
heating the crystal to at least 232° C. to alloy said layers to said crystal, forming an alloy of gold, tin and silicon;
contacting the alloy in said aperture with an electrode of silver;
and heating the assembly to alloy bond the silver electrode to the crystal through said aperture.

3,266,138
METHOD OF APPLYING CLIPS
Maynard J. G. Tipper, Oakland, Calif., assignor to Rheem Manufacturing Company, New York, N.Y., a corporation of California
Filed Sept. 11, 1964, Ser. No. 395,707
3 Claims. (Cl. 29—509)

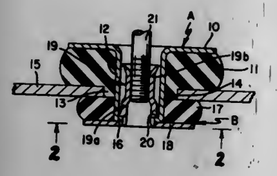


1. The method of forming a seal around a flexible resilient article by means of a generally U-shaped clip comprising the steps of:
providing, in straddling relation with said article, a generally U-shaped clip having a pair of opposed generally parallel legs and a relatively straight crown connecting corresponding ends of said legs with the junctures of said crown and legs formed to arcs of a circle,
engaging the crown of said clip at said junctures with a punch having a pair of spaced pressure points registering with said junctures at points inwardly of the oppositely outwardly facing sides of said legs,
deforming said clip by engaging the free ends of the legs of said clip with a die having a pair of parallel side-by-side grooves formed along their lengths to arcs of a circle and respectively receiving one of said ends therein, urging said punch and die toward each other thereby constraining said free ends to move toward each other along adjacent spaced parallel circular paths of travel, whereby said clip is deformed to the shape of a generally circular ring with the free end portions of said legs in side by side relation,
continuing to urge said punch and die together until said ring is partially flattened and simultaneously permitting said crown to bow outwardly between said pressure points in response to the resisting pressure of said article.

3,266,139
METHOD OF ASSEMBLING VEHICLE BODY MOUNT PARTS
James E. Adams, Toledo, Ohio, assignor, by mesne assignments, to The Bishop and Babcock Corporation, Toledo, Ohio, a corporation of Ohio
Filed Feb. 4, 1963, Ser. No. 255,809
4 Claims. (Cl. 29—509)

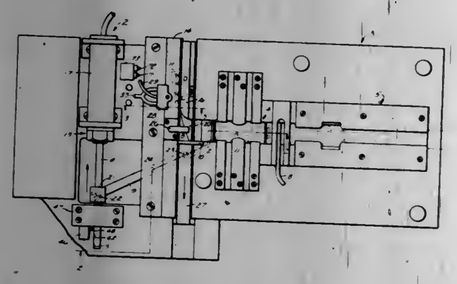
1. The method of assembling a pair of body mount parts on an apertured vehicle frame part in which one part includes a disc-like head having a first depending sleeve provided with an inturned lip at the lower end for insertion through the frame aperture and in which the other part includes a disc-like head having a second upstanding sleeve of a size to fit inside said first sleeve, there being cylindrical rubber blocks disposed between said heads and the frame part respectively, the step which comprises pressing the body mount parts toward each other compressing the rubber blocks and extending said second sleeve into said first sleeve, and concomitantly causing a staking punch to move into said second sleeve with a sliding fit, said punch having a staking implement movable with the punch and operative after a predeter-

mined movement of the latter to fracture the metal at the lower end of said second sleeve and cause same to



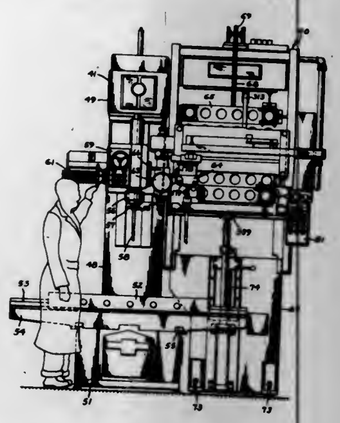
move laterally outward to lie over and in intimate contact with said inturned lip.

3,266,140
TRANSFER AND POSITIONING APPARATUS
Joachim H. Ohme, East Orange, and Arthur H. Werner, Wayne, N.J., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 11, 1963, Ser. No. 264,203
2 Claims. (Cl. 29—563)



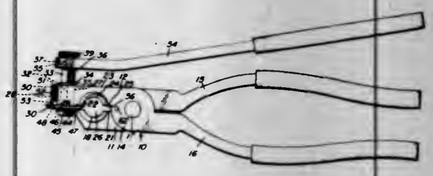
1. In an apparatus for advancing an article,
a mounting member for receiving the article and upon which the article is advanced,
a transfer means mounted for sliding movement on said mounting member, said transfer means including:
(1) a cam having a surface sloping both downward and to one side for guiding the article thereover and between said mounting member and transfer means; and
(2) a pair of pawls vertically spaced and extending through said transfer means for advancing the article along said mounting member;
(3) a leaf spring mounted on said transfer means and engaging said pawls for urging said pawls toward said mounting member;
a positioning member for engaging a portion of the article advanced over said cam surface;
means for advancing the article over the cam surface of the transfer means and against the positioning member to turn the article 90 degrees and position the article at a predetermined position on the mounting member; and
means for reciprocating the transfer means to reciprocate said pawls whereupon said pawls are moved against the leaf spring and over the article and thereafter said pawls are moved in the opposite direction to contact the article and advance the article away from said positioning member and along the mounting member.

3,266,141
TOOL CHANGER
Alden H. Jacobson, Paxton, Fred A. Anderson and Harry W. Ostlund, Holden, and John J. McCabe, Worcester, Mass., assignors to The Heald Machine Company, Worcester, Mass., a corporation of Delaware
Filed Oct. 4, 1963, Ser. No. 313,943
17 Claims. (Cl. 29—568)



1. In a tool changer for use with a storage rack having rectilinearly-arranged cubicles for holding tools with their axes horizontal, comprising
(a) a carrier mounted for vertical sliding movement over the face of the rack and having a horizontal track,
(b) a bracket mounted on the carrier and slidable horizontally along the track, and
(c) a presenter mounted on the carrier for pivotal movement about an axis parallel to the said track from a first position in alignment with the axis of one of the said tools to a second position perpendicular to the said axis.

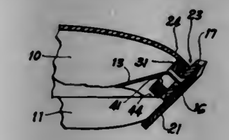
3,266,142
CABLE GRIPPING AND SHEATH CUTTING TOOL
Carl Stackawicz, 73 N. Midland Ave., Kearny, N.J.
Filed Aug. 12, 1964, Ser. No. 389,153
5 Claims. (Cl. 30—90.5)



1. A ply gripping and cutting tool for BX cable to be gripped on the sheath thereof and cut through a convolution of the sheath, said tool comprising a pair of pivotally connected jaws, handles connected with said jaws for opening and closing the jaws, said jaws having opposed gripping faces thereon forming an opening having its axis disposed laterally of said jaws and said gripping faces having ridges in helical prolongation from jaw to jaw and valleys in helical prolongation from jaw to jaw for a section of BX cable to be disposed between said jaws and be gripped by said gripping faces, an angularly movable cutter carried on said one of said jaws and having a projection with a cutting edge along a side of said

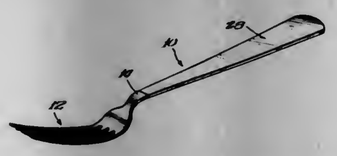
projection, detent means having separably engageable portions united with said one of said jaws and said cutter and means relatively biasing said portions to separably engage in response to angular movement of said cutter to an index position wherein said projection of said cutter is over the end of a corresponding one of said ridges between an adjacent pair of said valleys on said one of said jaws, and an operating arm connected with said cutter for angular movement of said arm to be transmitted to said cutter when said arm is angularly moved.

3,266,143
SEALING MEANS FOR A HAIR CLIPPER
Ernest C. Rangus, Lombard, Ill., assignor to Supreme Products Corporation, Chicago, Ill.
Filed Aug. 20, 1963, Ser. No. 303,333
3 Claims. (Cl. 30—224)



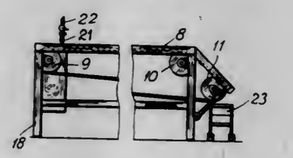
1. A hair clipper comprising: a hollow casing enclosing a driving mechanism, one end of said casing having an upper part and a lower part, the upper part being open and said lower part extending beyond said open end of said upper part; a fixed shearing blade secured to said lower part and extending upwardly parallel to said open end to define a space therebetween, a movable shearing blade positioned in said space parallel to said fixed shearing blade and said open end and driven by a link extending from said driving mechanism, said mechanism being adapted to reciprocate said movable shearing blade in a direction parallel to said fixed shearing blade to provide a shearing function therewith, said movable blade being spaced from said open end to provide a clearance space therebetween; and means for sealing said clearance space comprising a readily compressible pad bonded to the side of said movable blade facing said open end for reciprocation therewith, said pad being of such thickness that it extends beyond said clearance space, said pad being intromitted in said open end, said pad having such transverse dimensions in its decompressed state as to accommodate to the transverse dimensions of said open end with a resilient plugging fit, and said portion of said pad between said movable blade and said open end being laterally unconfined to permit ready flexing thereof with virtually no additional load being imposed on said driving mechanism.

3,266,144
NOVELTY FEEDING DEVICE, SUCH AS A NOVELTY FORK, SPOON, OR THE LIKE
Irving H. Fishlove, 712 N. Franklin St., Chicago, Ill.
Filed Nov. 18, 1964, Ser. No. 412,085
6 Claims. (Cl. 30—322)



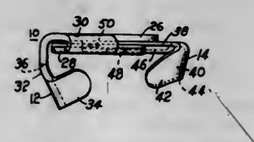
1. A novelty device comprising a handle having a flat top and having the appearance of a conventional handle for such purpose, a feeding end having a neck portion, said feeding end and neck portion having the appearance of a conventional feeding end and neck for such purpose, means between said neck and said handle connecting said feeding end to said handle so that said neck may be moved adjacent the forward end of said handle and when so positioned present the appearance of a conventional feeding device for such purpose, said means comprising a rod and a tubular member with the rod sliding within the tubular member, said rod and tubular member extending longitudinally with the handle, said feeding end adapted to be moved forwardly of said handle to extend a distance forwardly of said handle.

3,266,145
PLANT FOR THE MANUFACTURE OF CHEESE
Ejner Andersen, Horsens, Denmark, assignor to Aktieselskabet Paasch & Silkeborg Maskinfabrikker, Silkeborg, Denmark, a Danish corporation
Filed Dec. 13, 1963, Ser. No. 330,458
Claims priority, application Denmark, Dec. 15, 1962, 5,452
6 Claims. (Cl. 31—44)



1. A plant for the continuous manufacture of cheese from milk which has been subjected to a preliminary treatment for coagulation comprising: endless flexible means having a plurality of mutually adjacent substantially small coagulating moulds comprising cells of a cross-section, each corresponding to a coagulating grain of a desired small shape, said cells formed by partitions fixed to said flexible means, means for continuously moving said first named means with said moulds, at least one wide mouth dispensing spout positioned for feeding pretreated uncoagulated milk to said small moulds as said small moulds pass beneath said spout, and means for removing whole each of the coagulating grains of said desired small shape from said endless flexible means, and means for receiving said whole coagulating grains to later form a cheese mass.

3,266,146
TOOTH CAP
William A, Bedford, Jr., Littleton, Colo., assignor, by mesne assignments, to Cado Corporation, a corporation of Colorado
Filed May 25, 1962, Ser. No. 197,668
4 Claims. (Cl. 32—12)

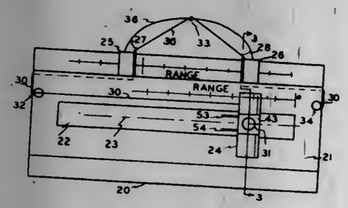


1. A cap assembly for attachment to the tooth of an animal of the type described, comprising forward and rear portions, each having tooth gripping means, said forward and rear portions having cooperating means adapted to permit adjustment of the spacing therebetween, and means retaining such portions in frictional engagement.

3,266,147
DENTAL CAVITY LINERS
Henry M. Goldman, 1163 Beacon St., Brookline, Mass.
No Drawing. Filed July 2, 1962, Ser. No. 207,040
7 Claims. (Cl. 32—15)

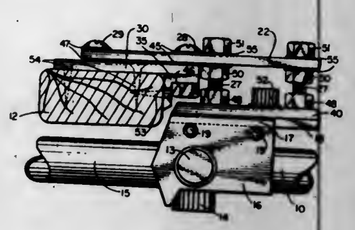
1. A liner for a tooth cavity that has been prepared for filling and particularly for use in place of a cement base where there are deep-seated defects caused by caries, said liner comprising a thin, flexible sheet and first and second intimately mixed substances carried by said sheet as a dry coating, each being dry and distributed throughout the area of the sheet so that each substance becomes a coat for the cavity when the liner is applied thereto, said first substance being calcium hydroxide and the second substance being opaque to X-rays and inert with respect to the first substance and being at least one of the indicators from the group consisting of barium sulfate, bismuth sub-nitrate, and bismuth sub-carbonate.

3,266,148
ASW TACTICAL PLOTTER
David B. Heald, 5247 N. 17th Ave., Phoenix, Ariz.
Filed May 26, 1965, Ser. No. 459,136
4 Claims. (Cl. 33—30)



4. An improved elliptical plotter, comprising:
(a) an elongated planar transparent base member having at least one straight edge of given length;
(b) an elongated planar transparent plate member affixed to said base member, having an elongated slot along a major axis of said plate member and having first and second ends;
(c) a first range scale on said plate member extending parallel to said axis;
(d) a first range cursor slidably mounted in said slot to move along said slot substantially the full length of said plate member;
(e) a second cursor slidably mounted on said base member along said straight edge having a first tip with a first hole therein;
(f) a third cursor movably mounted on said base member along said straight edge having a second tip with a second hole therein, said second and third cursors movable along susbtantially all of said straight edges without interfering with said first range cursor;
(g) a second range scale on said base member extending parallel to said axis;
(h) a first binding post on said range cursor;
(i) a second binding post at said first end of said plate member;
(j) a third hole in said second end of said plate member;
(k) a flexible string member, at least twice the length of said base member, affixed to said first binding post extending through said third hole in said plate, through the said first and second holes in said first and second tips and affixed to said second binding posts, said flexible member being capable of guiding a drawing implement in an elliptical path of variable size depending upon the position of said range and first and second cursors.

3,266,149
BOW SCOPE MOUNT
Larkin Y. Powell, Fairchild U.S. Air Force Base, Wash., assignor to SKA Scope Mount, Inc., Spokane County, Wash., a corporation of Washington
Filed May 13, 1963, Ser. No. 279,963
2 Claims. (Cl. 33—46)



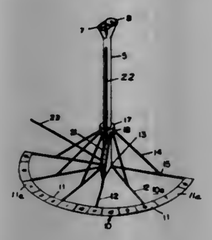
1. A mounting device for mounting a telescopic sight upon an archery bow of the nature aforesaid, comprising in combination, a planar lateral bow bracket having means for attaching it to the lateral face of a bow of commerce, a rearward bow bracket having means for attaching to the rearward face of the bow and substantially perpendicularly to said planar bow bracket a rectangular plate-like body member rotatably connecting in its central portion with, and lying parallel to said planar lateral bow bracket and said substantially perpendicular rearward bow bracket; means of securing the adjusted angle between the longer axis of said body member and said lateral bow bracket member; and a plate-like scope mounting table and two horizontal alignment screws connecting it with the rearward portion of said body member, said screws adapted to adjustably position said scope mounting table at a predetermined angle measured on a horizontal plane with reference to said body member.

3,266,150
APPARATUS FOR CORRECTING THE SWERVING OF THE STEERING WHEELS OF AN AUTOMOTIVE VEHICLE
Ferruccio Mussano, 134 D'Echallens Ave., Lausanne, Switzerland
Filed Sept. 17, 1964, Ser. No. 397,331
4 Claims. (Cl. 33—46)



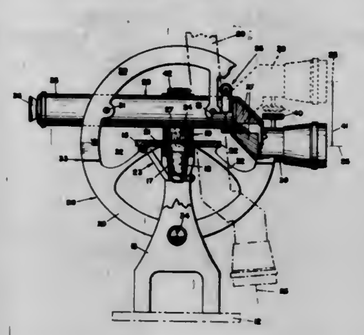
1. Apparatus for correcting the swerving of the steering wheels of an automotive vehicle, characterized by the fact that it comprises a set of two indentical legs which can be fitted respectively to the rim of each of the steering wheels of a vehicle which has a tendency to swerve, each of the said legs comprising a tube, the lower end of which is fastened to a foot having the shape of a fork with two arms, the said fork being provided with an air-bubble level, an adjustable arm support capable of sliding along said tube, the ends of the two fork arms and the end of adjustable arm being intended to be engaged below the circular bead of said rim, respectively, in the corners of an equilaterial triangle, the base corners of which are represented physically by the tips of the fork, the upper end of the said rod being fastened in a tubular ferrule forming the support of a camber-angle indicator, a pointer rigidly connected with the said support and located parallel to the longitudinal axis of the tubular ferrule, indicating the value of the said angle on a graduated scale fastened to the indicator, the said indicator being capable of pivoting on a transverse pin which connects the support to the indicator, the upper part of the indicator being provided with a sighting telescope with collimator and a horizontal flat surface of circular shape in contact with a similar surface provided on the lower portion of a part serving as support for a sighting scale oriented in the direction of the other adjustable leg, the upper portion of the said part being provided with a collimator telescope and with an air-bubble level, the part being capable of pivoting on a vertical pin connecting the two circular surfaces in contact with each other, the said pin being formed of a screw, the shank of which is engaged in a return spring, all in such a manner that when the steering wheel of the vehicle is placed in neutral position and each leg is fitted on the respective rim of the steering wheels of the vehicle, the collimator of the upper telescope of one of the legs is adjusted to the zero of the sighting scale of the other leg, whereupon the collimator of the upper telescope of the other leg is adjusted to the zero of the sighting scale of the first leg so as to obtain a sighting line parallel to the axle of the said steering wheels; thereupon the values corresponding to the negative or positive toe (toe-in or toe-out) of the said wheels is read from the collimators of each of the telescopes of the camber-angle indicators, and the angle of toe is corrected by means of the steering members provided for this purpose in order to correct by means of the lower telescopes the zero sightings of the respective opposite scales.

3,266,151
PORTABLE SUN DIALS
Raymond E. Berent, 440 NE. 155th Terrace, Miami, Fla.
Filed Sept. 29, 1964, Ser. No. 400,132
7 Claims. (Cl. 33—62)



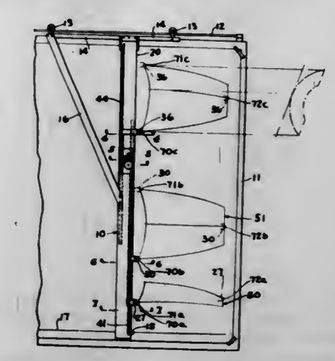
1. A portable and collapsible sun dial comprising a vertical, ground penetrating support, a dial comprising a web of flexible fabric carried by said support and, adapted to be spread upon the ground, hour indicating figures upon the face of the web and a gnomon of elongated rod like formation pivotally carried by the support and swingable in a vertical plane to cast its shadow upon the web and upon the hour indicating figures upon said web.

3,266,152
THEODOLITE
Robert J. Handhansen, Rte. 2, Box 32, Hayden Lake, Idaho
Filed Mar. 4, 1963, Ser. No. 262,754
3 Claims. (Cl. 33—69)



1. A theodolite having an optical member rotatable about three axes meeting normally at a point, comprising:
a stand mounted base rotatable about a vertical axis;
standards carried by said base;
a horizontal axle supported by said standards;
a frame journaled for turning about the axis of said axle, and including
a support for an optical member carried by said frame and journaled for turning about an axis normal to said axle; and
an optical member mounted upon said support with its axis normal to said last named turning axis.

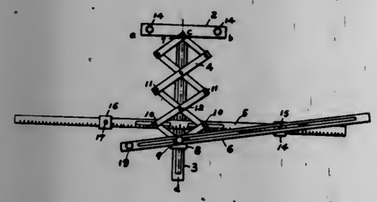
3,266,153
GEOMETRIC INSTRUMENT
Fred P. Wilhelm, 23943 Grunalt, Warren, Mich.
Filed July 24, 1964, Ser. No. 384,826
8 Claims. (Cl. 33—77)



1. In a projecting and plotting device, two followers and one pointer, a separate driving connection between each of said followers and said pointer, with said pointer and said followers movable along the same straight line, with said pointer moving in response to the movement of one of said followers through a distance equal to that of the follower multiplied by the sine of a predetermined angle, with the driving connection of the pointer to the other follower being inoperative in the process of such movement, with said pointer moving in response to the movement of the second follower through a distance equal

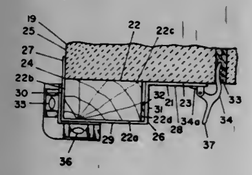
to that of the second follower multiplied by the cosine of the same angle, with the driving connection between the pointer and the first follower being inoperative in the process of said last movement.

3,266,154
HOMOCENTROGRAPH
Ching-Yuan Neou, 211 Louisiana Ave., Bridgeport, Conn.
Filed Feb. 23, 1966, Ser. No. 529,331
1 Claim. (Cl. 33—77)



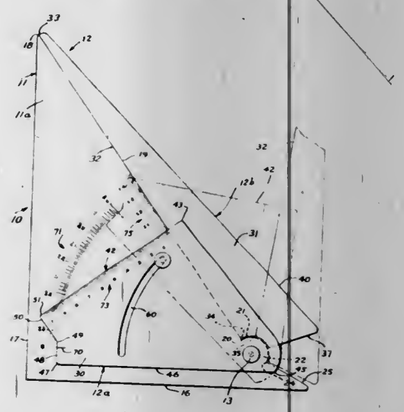
A device for establishing distant points of convergence to facilitate the perspective drawing, graphical analysis, the aligning of moving objects to a designated spot, and etc.; comprising a T-section, a zigzag linkage having one end attached to the intersecting point of the lower edge of the bar of the said T-section and the centerline of its leg and the other end attached to a pin on a center slider to be moved along the said centerline of the said leg, a graduated cross-bar riding on the said leg with slots to receive pins on the said zigzag linkage and having adjustable guide posts held at predetermined distances from the centerline of the said leg, perspective arm having slot to engage pins on the said guide posts and the said center slider, means for drawing perspective lines along the said perspective arm.

3,266,155
CORNER PLUMB
Gottfried Staub, 2866 Kingston Drive, Madison, Wis.
Filed Sept. 25, 1964, Ser. No. 399,172
6 Claims. (Cl. 33—85)



1. In combination, a corner plumb for use in the construction of masonry structures, comprising:
(a) an elongated straight edge member having two pairs of parallel sides,
(b) a plurality of substantially rigid brackets adapted to support said straight edge member in plumb relation with one side thereof being in planar alignment with one wall forming the corner of a structure and an adjacent side thereof being flush against the other wall forming said corner,
(c) each of said brackets having a three sided channel, first and second end portions extending from said channel, and attachment means for removably attaching said bracket to a wall corner block,
(d) said channel having a base portion and two parallel side portions, said base portion and at least one of said side portions having vertically disposed flat inner surfaces engaging flush against adjacent sides of said straight edge member,
(e) said first end portion extending from one of said channel side portions and having an inner surface which is in the same plane as the inner surface of said one of said side portions,
(f) said attachment means comprising a blade pivotably mounted on said second end portion for movement about a vertical axis and spring means for pivoting said blade toward said first end portion to detachably engage a single corner block located therebetween and support said channel and said straight edge member at a wall corner, and
(g) level indicator means on said corner plumb for determining whether said straight-edge member is plumb.

3,266,156
DRAFTSMAN'S AND ENGINEER'S DRAWING AND TRIGONOMETRIC INSTRUMENT
Victor Debs, 103 St. Marks Place, Staten Island, N.Y.
Filed Oct. 15, 1964, Ser. No. 404,026
15 Claims. (Cl. 33—93)

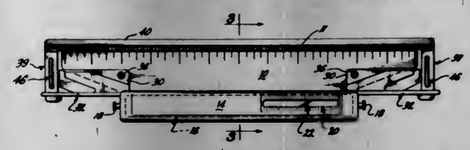


1. An instrument comprising a first flat member having a straight edge, a second member having a first portion in the plane of said first member, and a second portion fixed relative to said first portion and overlying said flat member and having sliding contact therewith, means to pivot said second portion to said first member, said straight edge of said first member being in a line passing through the axis of said pivot means, said first portion of said second member having a straight edge adapted to abut the straight edge of said first member in one relative position of said first and second members, and being in a line passing through the axis of said pivot means, and said second portion of said second member having a straight edge at right angles to the straight edge of said second member and crossing said straight edge of said first member.

3,266,157
STYLE GRIPPING RULER
Leslie L. de Mathe, 2448 30th Ave. W., Seattle, Wash.
Filed Feb. 3, 1964, Ser. No. 341,979
1 Claim. (Cl. 33—108)

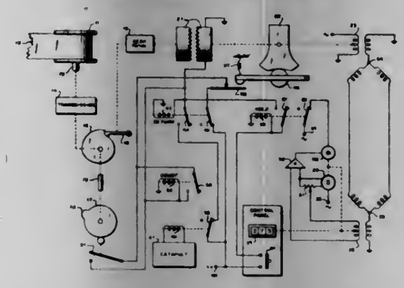
As a ruling device, a combination, comprising:
A blade member having a straight ruling edge;
A bar located along the length and closely adjacent the ruling edge of said blade member;
An arm on each end of said bar extending transverse the adjacent end of said blade member;

Guide means near the rear of each end of said blade member to slidably receive an arm and permitting movement of said bar toward and away from said ruling edge and on occasion to overlying relation to said blade member behind said ruling edge;



Cam means on said blade member operable to raise said bar as it is moved to overlying relation to said blade member; and
Means to guide and facilitate movement of said blade in a direction normal to its ruling edge.

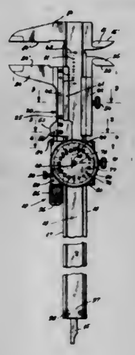
3,266,158
RUNOUT DISTANCE COUNTER FOR CATAPULT BRIDLE ARRESTER
Harry J. Campbell, Doylestown, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Dec. 3, 1964, Ser. No. 415,833
10 Claims. (Cl. 33—139)



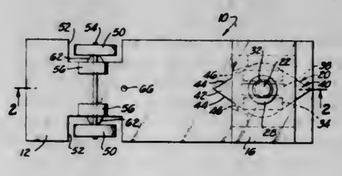
1. A run out distance indicator for a rapidly discharged object comprising:
a length of material one end of which is attached to said object;
a drum attached to the other end of said material for rolling up and storing said material when not extended, said drum adapted to pay out said material upon discharging said object;
a counter having a readable dial adapted to rotate in proportion to the rotation of said drum;
a connecting means between said drum and said dial adapted to connect said dial and said drum when engaged; and
switching means actuated by a predetermined reference position of said drum to engage said connecting means.

3,266,159
DIAL GAUGE VERNIER CALIPER
Jule A. Scholl, 170 E. 83rd St., New York, N.Y.
Filed Mar. 16, 1964, Ser. No. 352,065
10 Claims. (Cl. 33—147)

1. A vernier caliper, comprising a long caliper bar having at least one fixed jaw at one end, a main carriage frame slidably mounted on said bar, another jaw at one end of said frame disposed parallel to said fixed jaw for cooperating therewith in making a measurement, said frame having a threaded bore at its other end, a short rack gear carried by said frame and extending rearwardly thereof, a second carriage frame slidably mounted on said caliper bar, a dial gauge carried by said second carriage frame, said gauge having a circular scale, a pointer on a pin shaft rotatable around said scale, said pin shaft extending outwardly of said gauge into said second carriage frame, a pinion gear on said pin shaft meshed with said rack gear, a rotatable connecting shaft carried by the second carriage frame and extending forwardly thereof, said connecting shaft terminating in a threaded end engaged in said threaded bore, and a locking screw on the second carriage frame engageable on said bar to lock said second carriage frame in a stationary position, whereby said main carriage frame will be moved toward and away from the second carriage frame when said locking screw is locked on said caliper bar while said rack gear moves and rotates said pinion gear to rotate said pointer on said scale for indicating a micrometric measurement on said scale.



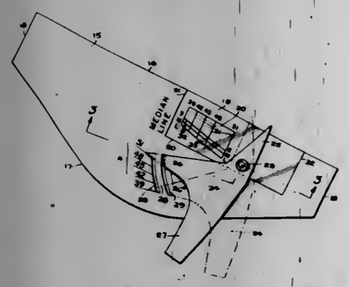
3,266,160
DRAFTING DEVICE
Paul J. Tolen, 8217 Beverly Blvd., Los Angeles 48, Calif.
Filed May 6, 1963, Ser. No. 278,350
1 Claim. (Cl. 33—174)



In a drafting device adapted to be utilized in making layouts for parking lots and parking structures, the combination of: a chassis template scaled to a predetermined scale in reference to the size of a conventional automobile, said conventional automobile having front wheel side turning limits defining a maximum turning radius; a set of rear wheels mounted on said chassis at the rear extremity thereof and a front wheel assembly mounted at the front of said chassis, said rear wheel and front wheel assembly mounting the chassis for movement over the surface of a drawing; the front wheel assembly including an axle having front wheel means mounted thereupon, rotatable means operably connected to the chassis for mounting the front wheel means and axle movable in side turning movements relative to the chassis, motion limiting means operably connected to said front wheel means for

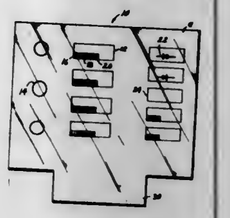
exact movement with said front wheel means in said side turning movements, said motion limiting means including oppositely transversely disposed, angled motion limiting surfaces; and stop means mounted on the chassis forming transversely spaced stop surfaces transversely outward of and adapted for engagement by said surfaces on said motion limiting means to limit the side turning movements of the wheel means to precalculated side turning limits and, therefore, a maximum turning radius corresponding to the scale of the chassis and thereby corresponding to the maximum turning movement and maximum turning radius of said conventional automobile.

3,266,161
TOOTH SELECTOR FOR DENTURES
Isadore Wiener, Philadelphia, Pa., assignor to Universal Dental Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 16, 1964, Ser. No. 404,242
1 Claim. (Cl. 33—174)



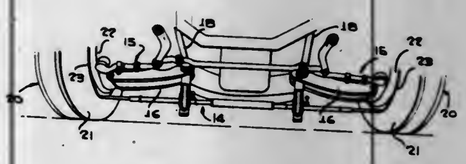
An instrument designed for use in association with a previously prepared bite block for selecting artificial teeth required for a denture comprising: a flat elongated flexible member adapted to be disposed in surface engagement with the labial face of the bite block, said member having a pair of orthogonally related reference lines respectively adapted for linear registry with a horizontally extending high lip line and a vertically extending median line marked on the bite block in conformity with the corresponding lines of the denture to be prepared, indexing means rotatably mounted on said member, and a scale on said member associated with said rotatable indexing means, said indexing means having a pair of angularly related pointers respectively adapted to simultaneously traverse the labial face of the bite block and said scale whereby when one of said pointers is brought into registry with a distal line marked on the bite block the other of said pointers indicates on the scale the overall width of the set of teeth to be selected for use in preparing the denture in accordance with the markings on the bite block, and a transparent window section in said flexible member to one side of its median line through which may be observed the occlusal plane of the bite block when the instrument is bent about the labial face of the bite block with the high lip lines of the instrument and of the bite block in exact registry with one another, said transparent window section being inscribed with a grid formed of laterally spaced vertically extending lines respectively denoting several sets of maxillary anterior teeth each of a different overall distal width and of vertically spaced slope lines arranged in intersecting relation to said vertical width-denoting lines, the points of intersection of said slope lines with each vertical line indicating different lengths of teeth in a set thereof of a given overall width as measured from the high lip reference line of said member to any one of said points of intersection in said grid.

3,266,162
PRODUCTION AID
Ann T. Burke, Bayshore, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Feb. 9, 1965, Ser. No. 431,315
1 Claim. (Cl. 33—174)



A templet to check manufactured printed circuit boards which comprises:
a transparent body portion,
a plurality of component outlines imprinted on said body portion at the desired positions of components on finished boards, and
indicia imprinted on said body portion at the outlines of said components,
said indicia including symbols which match symbols on said components,
so that a mismatch is readily observable to indicate the mounting of the wrong component, and
a plurality of color bands imprinted on said body portion within preselected ones of said outlines,
said color bands covering part of said component outlines and positioned to register with color bands on coded components for checking the correctness of the value of said components.

3,266,163
TORSION BAR HEIGHT GAUGE
Edward D. Wilkerson, 280 E. Northfield Road, Livingston, N.J.
Filed Dec. 12, 1962, Ser. No. 244,164
21 Claims. (Cl. 33—181)



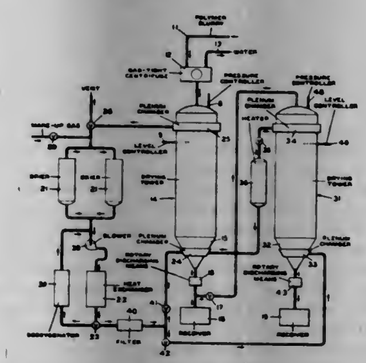
3. A torsion bar height gauge comprising an elongated main tube, a tubular extension telescoped upon said main tube at each end thereof, a reference element at each of the non-telescoped ends of the tubular extensions adapted to provide reference points alignable with a wheel rim lip, a pair of contact bodies, each of said contact bodies including first and second telescoped portions, said first portions being provided with first securing means at one end thereof adapted for attachment to an automobile torsion bar, said second portions being provided with second securing means adapted for slidably mounting each of the second portions upon the main tube, and clamping means for maintaining respective first and second portions of each of said contact bodies in a preselected position.

3,266,164
DRYING PULP AND PAPER BY A HIGH FREQUENCY ELECTRIC FIELD
William N. Bennett, Fitchburg, Mass., assignor to Fitchburg Paper Company, Fitchburg, Mass., a corporation of Delaware
Filed Apr. 3, 1963, Ser. No. 270,370
8 Claims. (Cl. 34—1)



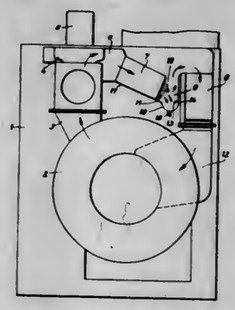
1. In the method of drying paper the step comprising subjecting a wet paper sheet to a high frequency electric field sufficient to cause certain of the moisture in the sheet to be vaporized, by passing the sheet in wet form past and between a pair of sets of electrodes which are connected to a high frequency source in the absence of crushing, sizing, or calendering, then applying materials in fluid form to the paper web to further process the same, further drying the paper web to a predetermined degree of moisture by further subjecting the now processed web to a further high frequency electric field by again passing the sheet past and between a pair of sets of electrodes which are connected to a high frequency source, and simultaneously adjusting said electrodes in each of said sets of electrodes with respect to the path traveled by the wet sheet and with respect to each other to thus control the drying action thereof.

3,266,165
PROCESS AND APPARATUS FOR SEGREGATIVE DRYING OF NYLON–6
Basil G. Apostle, Richmond, Albert H. Wiesner, Petersburg, Fred W. Le Noir, Hopewell, and Orvill E. Snider, Petersburg, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Oct. 1, 1964, Ser. No. 400,678
7 Claims. (Cl. 34—28)



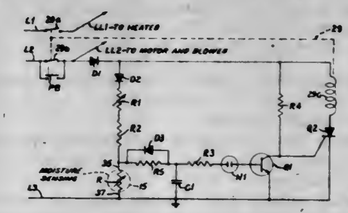
1. A process for segregative drying of nylon–6 polymer particles which comprises continuously feeding wet nylon–6 particles containing about 5%–20% by weight of water to the top layer of a cylindrical body of nylon–6 particles in a drying zone; continuously passing said body of particles downwardly at a velocity of not above about 30 feet per hour while maintaining said body in a single compact cylindrical mass of constant diameter and with height:diameter ratio in the range 5:1–20:1, terminating in a frusto-conical bottom discharge section with sides inwardly and downwardly sloping at an angle of about 5°–40° from the vertical and having ratio of maximum:minimum diameter in the range of 3:1–12:1; continuously passing upward through said body an inert drying gas having a temperature in the range of from about 80° C. to about 180° C., as it first contacts said particles and being at superatmospheric pressure not less than about 10 p.s.i.g., in amount of from about 40 to about 140 standard cubic feet of gas for each pound of particles on a dry basis; maintaining said particles in contact with said gas for a time of from about 1 hour to about 2 days; continuously removing dried particles at the bottom of said conical section; and withdrawing the resulting moist gas from the top layer of said cylindrical body of nylon–6 particles.

3,266,166
METHOD AND APPARATUS FOR THE CONDENSATION IN DRY-CLEANING MACHINES
Heinrich Führing, Augsburg, Germany, assignor to Max Bohler and Ferdinand Weber, Augsburg, Germany
Filed Oct. 30, 1962, Ser. No. 234,175
Claims priority, application Germany, Nov. 4, 1961, B 64,668
12 Claims. (Cl. 34—32)



1. A method of condensing the solvent vapours and gases from a dry-cleaning machine comprising the steps of passing the air laden with solvent from the cleaning drum under pressure through a closed condenser assembly to condense the solvent; spraying the air with a finely divided liquid mist subsequent to its exiting from said closed condenser assembly to completely condense the solvent, and to humidify or enrich the air with droplets of the finely divided liquid mist prior to its return to the drum; causing the solvent and the liquid to be directed to a tank for collection; and recirculating the humidified air to said drum.

3,266,167
DRYER CONTROL
Francis Flanegan, Brockton, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Apr. 5, 1963, Ser. No. 270,901
7 Claims. (Cl. 34—45)



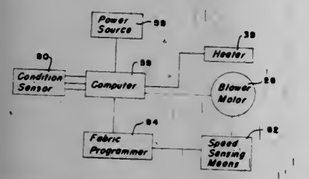
1. A control for a dryer having means for agitating items of a load to be dried and electrode means adapted to contact items of the load to establish a current path

therethrough, the resistance of said path being a function of the moisture contents of the items of the load contacting said electrodes; said control comprising a source of unidirectional current, a voltage divider which is connected across said source and includes said path for providing a voltage which is a function of the resistance of said path, a capacitor, a nonlinear resistance network which connects said divider to said capacitor and through which said voltage is applied to said capacitor, said network permitting said capacitor to discharge more rapidly than to charge, switching means adapted when actuated to terminate the drying cycle of said dryer, an electrical circuit interconnecting said capacitor with said switching means thereby to terminate said drying cycle when the charge on said capacitor reaches a predetermined level whereby said control is biased to respond to the wettest items in a load exhibiting nonuniform drying rates and whereby said switching means is not actuated until these wettest items reach a predetermined dryness.

3,266,168
DOMESTIC DRYER APPARATUS

William L. Sones, Dayton, James O. Elliott, Xenia, and George A. Neyhouse, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 31, 1964, Ser. No. 393,198
9 Claims. (Cl. 34—45)



1. In a domestic dryer apparatus, the combination of means for tumbling articles to be dried, means for circulating heated air through said tumbling means, A.C. induction motor means for driving said air circulating means, semiconductor switch means in power supply relationship with said A.C. induction motor means, means for deriving a control voltage responsive to the speed of said motor means, computer means for processing said control voltage for controlling conductivity of said semiconductor switch means to maintain said A.C. induction motor means at a predetermined speed norm, and fabric programmer means for infinitely varying said control voltage within predetermined limits to operate said motor means at variable speeds for producing a circulation of heated air corresponding to particular types of fabrics being processed during the operative cycles of the dryer apparatus.

3,266,169
VACUUM FREEZE DRYING APPARATUS

Horace L. Smith, Jr., Richmond, Va., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia

Filed Oct. 31, 1962, Ser. No. 234,285
9 Claims. (Cl. 34—58)

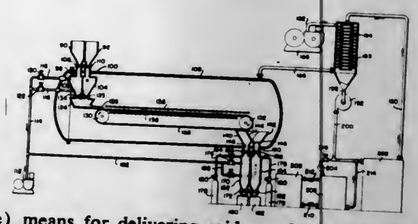
1. Apparatus for freeze drying liquid and semiliquid products comprising, in combination:

(a) a vacuum chamber;

(b) means for maintaining said vacuum chamber at a pressure not exceeding about 0.180 inch of mercury absolute;

(c) means outside said vacuum chamber for reducing the product to a fine frozen powder including a vessel, means for spraying the product into the vessel, a source of inert gas, means for refrigerating said gas, means for effecting an upward flow of the refrigerated gas through said vessel to thereby contact and freeze said product, and a cyclone type separator for separating the frozen product from the gas;

(d) a continuously operating conveyor disposed in the vacuum chamber;



(e) means for delivering said powder to one end of said conveyor and spreading it thereon in a thin layer of substantially uniform thickness;

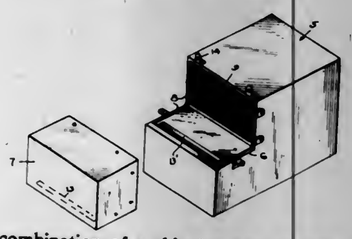
(f) means for applying heat to the frozen product on said conveyor to sublime the water therefrom; and

(g) means for removing said product and the water vapor sublimed from said product from the chamber.

3,266,170
HARDWARE AND SHIPPING CONTAINER

Robert Lawrence III, Hollywood, Fla., assignor to Heinicke Instruments Co., Hollywood, Fla., a corporation of Florida

Filed Feb. 6, 1964, Ser. No. 343,034
2 Claims. (Cl. 34—90)



2. The combination of a shipping and hardware container, that comprises a shipping housing for the support of a hardware container, the housing being stepped at one end for providing a horizontal wall for the support of the hardware container and a vertical wall comprising a filter, the hardware container being formed hollow and open upon one side to overlie the filter, a bottom of the hardware container being slotted to communicate with a corresponding slot formed in the horizontal wall, means for supporting an article of hardware in the hardware container, the article of hardware having been previously cleaned to remove contamination, an air circulating blower in the housing for circulating filtered air through the hardware container and over the article of hardware and back to the housing through the slots, the hardware container being removably held upon the step and an air seal between the housing and the hardware container.

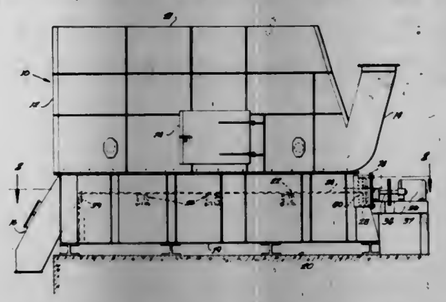
3,266,171
DRIER APPARATUS

Maurice J. Erisman, Oak Park, and Leonard M. Kaczmarski, Chicago, Ill., assignors to Link-Belt Company, a corporation of Illinois

Filed Oct. 22, 1962, Ser. No. 232,141
6 Claims. (Cl. 34—164)

2. In a drier including a housing having a material feed and a discharge chute and hot air inlet and exhaust ports, a material bed supporting assembly positioned

between said inlet and exhaust ports and comprising a plurality of rods rotatably supported in spaced parallel

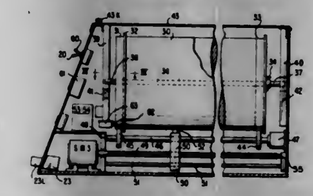


relationship with each other and means drivingly connected to said rods to reciprocate concurrently alternate rods in opposite directions about their longitudinal axes.

3,266,172
AUTOMATED INSTRUCTIONAL DEVICE

Paul J. Heinberg, 1437 Franklin St., Iowa City, Iowa

Filed Sept. 16, 1963, Ser. No. 309,240
11 Claims. (Cl. 35—8)



1. In an audio-visual teaching machine having means for presenting in step-wise sequence successive frames of visual stimulus, an audio record medium comprising a plurality of parallel endless storage tracks disposed on the medium in sequence and in order of material stored on said visual record medium, each track carrying an audio stimulus related to one of the frames of visual stimulus, and control means for independently presenting the audio and visual stimuli to a user in such a way as to allow that user to make a response to the presented stimulus, the improvement which comprises means for supporting and rotating the said audio record medium about the longitudinal axis thereof transverse to the parallel record tracks, a scanning head for scanning said record tracks in sequence, motor means for advancing said scanning head to different ones of said parallel tracks to scan same, and means for synchronizing the movement of said scanning head with the movement of said visual record medium so that as successive frames of said visual record medium are presented for visual display successive ones of said record tracks are scanned by said scanning head, and means for translating the signals produced by said scanning head into an audio stimulus.

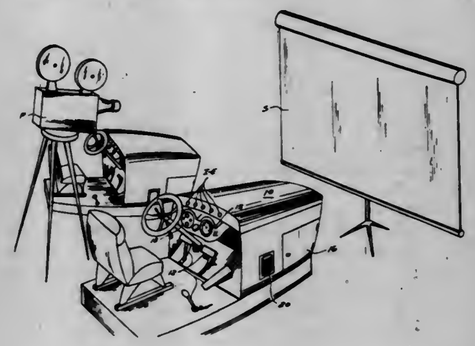
3,266,173
TRAINING APPARATUS

Gene H. Sheridan, Woodland Hills, Calif., assignor to General Precision, Inc., Binghamton, N.Y., a corporation of Delaware

Continuation of application Ser. No. 180,428, Mar. 19, 1962. This application Jan. 10, 1964, Ser. No. 337,096
29 Claims. (Cl. 35—11)

19. Automobile training apparatus, comprising, in combination: a student's station having a plurality of controls simulating those of an automobile;

film projector means for displaying discrete sequences of visual stimulus information to said student's station from film means having recorded thereon at selected intervals along its length encoded groups of pulses, each group corresponding to the desired operation of a certain one or a certain group of said controls during the display of each said discrete sequence; decoding means having a plurality of output conductors responsive to said pulse groups for energizing respective ones of said output conductors associated with respective of said pulse groups;

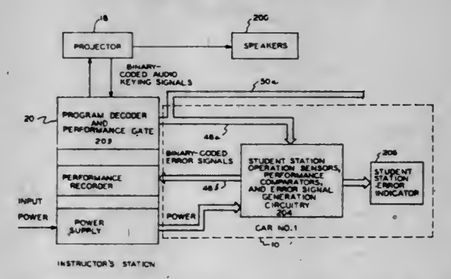


and circuit means including switch means and error indicator means operatively coupled to each of said output conductors, each of said switch means being operatively coupled to certain ones of said simulated controls, whereby the desired operation of said controls actuates said switch means when the latter's output conductor is energized to inhibit operation of said error indicator means.

3,266,174
TRAINING APPARATUS

Harold D. Bechtol and Robert J. Clark, Binghamton, N.Y., assignors to General Precision, Inc., Binghamton, N.Y., a corporation of Delaware

Filed Sept. 22, 1964, Ser. No. 398,218
11 Claims. (Cl. 35—11)



1. Automobile driver training apparatus, comprising, in combination:

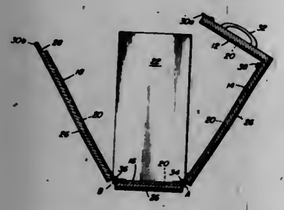
a plurality of simulated automobile driver stations for simultaneously training a plurality of students, each of said stations including a respective plurality of simulated controls operable by a student; motion picture projection means for providing a sequence of scenes capable of being viewed simultaneously from each of said stations; means for automatically generating a sequence of different electrical signals in timed relation to the provision of said sequence of scenes, each of said electrical signals being coded to

correspond to a desired operation of one or more of said simulated controls; a group of error-indicating means individual to each of said stations and visible by the student at each respective station, each of the error-indicating means in each group being associated with a respective class of error, each said class of error being associated with mis-operation of one or a selected group of said controls; comparison means associated with each station, responsive to the operation of the controls at said station and responsive to the one of the electrical signals generated at a given time for comparing the operation of a selected one or a selected group of said controls with the desired operation associated with said coded electrical signal and for providing error signals upon mis-operation of said one or said selected group of controls;

first circuit means associated with each station for applying error signals generated at said station selectively to the error-indicating means associated with said station, to indicate the class of error being committed to the student at said station;

and recorder means including a first plurality of marking devices and a second marking means, each of said marking devices being connected to be operated upon the occurrence of each said error signal at a respective station, and said second marking means being connected to be operated by said coded electrical signals to record indicia indicative of the nature of the desired operation of said coded electrical signals.

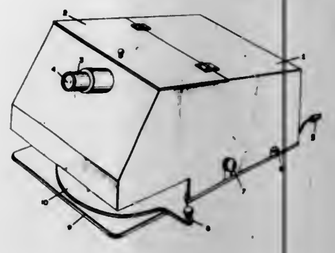
3,266,175
FORCE MEASURING EDUCATIONAL KIT
Robert F. Palumbi, Baltimore, Md., assignor of twenty-five percent to Walter G. Finch and twenty-five percent to H. Kemp MacDaniel, both of Baltimore, Md.
Filed Feb. 14, 1964, Ser. No. 344,918
9 Claims. (Cl. 35—19)



1. A demonstration kit, comprising, a case having a bottom side, a pair of opposite sides hingedly connected to said bottom side, said pair of opposite sides being unfoldable with respect to said bottom side to form a rigid co-planar structure therewith, a top side mounted on one of said opposite sides and removably secured to the other of said opposite sides, said top side being for elevating one end of said rigid co-planer structure to form an inclined plane, and a pair of panels removably positioned between said pair of opposite sides and said bottom and top sides to form said case, and demonstration means positioned within said case.

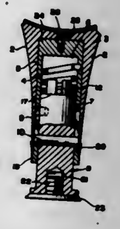
3,266,176
ORBITAL SIMULATOR
Jefferson P. Waldrop, 4333 Grassmere Lane, Dallas, Tex.
Filed Feb. 25, 1963, Ser. No. 260,488
12 Claims. (Cl. 35—47)

1. A space illusion device comprising: a casing having a viewing opening therein; a movable surface in said casing and having thereon representations of the surface features of a heavenly body, at least a portion of said movable surface being in the line of sight of said viewing opening; a second movable surface in said casing and having small fluorescent spots on a dark background to represent stars, said second movable surface being located behind said first movable surface relative to said viewing opening and having at least a portion thereof located in a line of sight extending from said viewing opening immediately above said first movable surface to said second movable



surface; a source of light in said casing for illuminating said first movable surface so that it will be visible from said viewing opening; a source of black light in said casing for causing said fluorescent spots to glow; and means for moving said movable surfaces in opposite senses relative to each other, whereby the view from the viewing opening gives the illusion that the viewer is moving in space relative to a heavenly body and to the stars.

3,266,177
ADJUSTABLE HEEL FOR SHOES
Milford R. Holden, Doyon Trailer Park, Waterville, Maine
Filed July 12, 1965, Ser. No. 470,973
3 Claims. (Cl. 36—36)



1. An adjustable heel for a woman's shoe, comprising a heel body portion adapted to be attached to a shoe, said heel body portion having the configuration of a conventional shoe heel corresponding to a particular style designation and formed with a central bore, heel adjusting means seated within said central bore and secured to the heel body portion, the heel adjusting means comprising a cylindrical shaped housing having a concentric opening therein, and a pair of similar, oppositely disposed bayonet type slots formed in the wall thereof, an elongated heel member positioned within the concentric opening and adapted for axial movement thereof, said elongated heel member having a transverse passage adapted to receive a pin member, spring means interconnecting the heel member and the housing, a pin member seated in said passage and having its end portions projecting into the bayonet type slots of the housings, whereby the heel member may be moved axially of the housing against the tension of the spring to a desired selected position at the election of the user.

3,266,178
FORM FITTING INSOLE FOR SHOES
Francis M. Gilkerson, 5029 N. Lake Drive, Milwaukee 19, Wis.
Original application Apr. 4, 1960, Ser. No. 19,764, now Patent No. 3,091,042, dated May 28, 1963. Divided and this application Apr. 15, 1963, Ser. No. 272,900
2 Claims. (Cl. 36—43)
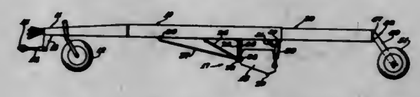


1. A contoured insole for factory application in stock shoes comprising an arched surface for supporting the longitudinal arch of a foot, a concave forepart, and a concave heel portion, said contoured insole including a thickened peripheral edge area about the whole insole and a thinned central area, the periphery of the upper surface being greater than the periphery of the bottom surface and tapering to minimums at the front and rear ends of the insole, said insole having a volume substantially equal to that of a equivalent ordinary insole of substantially uniform thickness.

3,266,179
DIGGING ATTACHMENT
Norman R. Golden, 531 S. Broad, Carlinville, Ill.
Filed Aug. 23, 1963, Ser. No. 304,079
2 Claims. (Cl. 37—86)

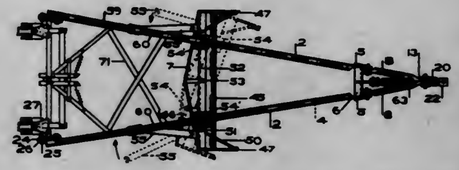
1. A digging attachment for a vehicle of the type having a hydraulic pressure system and a piston-cylinder device thereon operated by said system, said digging attachment comprising an inner member, means for pivotally attaching said inner member to said vehicle, means for connecting said inner member to said piston-cylinder device, whereby, when said piston-cylinder device is actuated, said inner member pivots relative to said vehicle about said pivotally attaching means, a longitudinally extending outer member rotatably mounted at one end on said inner member for rotation of said outer member about its longitudinal axis, means interacting between said outer member and said inner member for rotating said outer member relative to said inner member, a first sprocket journalled for rotation in the other end of said outer member, a second sprocket disposed in spaced relation with respect to said first sprocket and journalled in said outer member, said first and second sprockets being rotatable in a substantially co-planar disposition, a continuous digging chain having spaced digger blades thereon extending around said sprockets and being driven thereby, a hydraulic motor mounted on said outer member and having a rotary output connected in driving relation with said second sprocket, and means connecting said hydraulic motor with said hydraulic system for driving said motor.

3,266,180
LAND LEVELER
Wayne G. Toland, Stockton, Calif.; Lillian M. Toland, heir of said Wayne G. Toland, deceased, assignor to International Harvester Company
Filed May 21, 1962, Ser. No. 198,408
19 Claims. (Cl. 37—153)



1. A land leveling machine comprising an elongated main beam having hitch means at the forward end thereof for connection to a propelling vehicle, a leveling blade mounted on said main beam, a tail beam conforming generally to the shape of the main beam and having sliding telescopic cooperation therewith to form a rigid supporting frame for the blade, supporting wheels mounted on the rear end of said tail beam to support the latter and the rear portion of the main beam, said tail beam being slidable relative to the main beam from an operating position of the machine with said wheels a substantial distance rearwardly of said leveling blade to a ground-engaging transport position with said wheels adjacent and supporting the blade, and force transmitting means mounted on one of said beams and operatively connected to the other said beam for telescoping said beams.

3,266,181
SOIL LEVELLING AND DIKING MACHINE
Walter Olafson, Box 5, Rolling Hills, Alberta, Canada
Filed June 8, 1964, Ser. No. 373,337
3 Claims. (Cl. 37—169)



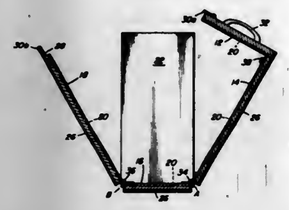
1. In a land levelling machine having an elongated truss frame, with a transverse land levelling blade horizontally suspended thereunder, for swinging movement thereon; a linkage between the front of the frame and a tractor-supporting hitch plate; power operable means on the linkage to raise and lower the front end of the frame on the hitch plate; a pair of spaced caster wheels supporting the rear of the frame, and each provided with a crank; a tie bar pivotally connecting the cranks of the caster wheels for synchronized turning of same; a pair of normally parallel trip bars, each pivotally mounted on the frame; one end of each trip bar spring loaded against a roller positioned therebetween, and rotatably carried by the tie bar; said spring loaded trip bars normally and resiliently maintaining the caster wheels lengthwise aligned with the frame, and prevented from dog trailing, when said machine is operating; a pair of adjusting bars, each having one end connected to one end of the blade; and the other ends of said latter bars connected to the frame, for holding the blade in adjusted positions across the frame.

3,266,182
IRONING COVER FOR SEWING MACHINE LID
Sandra Cournoyer, 2457 Fernandez Drive, Sacramento, Calif.
Filed Aug. 6, 1964, Ser. No. 387,973
2 Claims. (Cl. 38—140)

1. A covering specifically adapted for use with the lid of a sewing machine cabinet foldable from an open posi-

and recorder means including a first plurality of marking devices and a second marking means, each of said marking devices being connected to be operated upon the occurrence of each said error signal at a respective station, and said second marking means being connected to be operated by said coded electrical signals to record indicia indicative of the nature of the desired operation of said coded electrical signals.

3,266,175
FORCE MEASURING EDUCATIONAL KIT
Robert F. Palumbi, Baltimore, Md., assignor of twenty-five percent to Walter G. Finch and twenty-five percent to H. Kemp MacDaniel, both of Baltimore, Md.
Filed Feb. 14, 1964, Ser. No. 344,918
9 Claims. (Cl. 35—19)

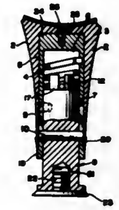


1. A demonstration kit, comprising, a case having a bottom side, a pair of opposite sides hingedly connected to said bottom side, said pair of opposite sides being unfoldable with respect to said bottom side to form a rigid co-planar structure therewith, a top side mounted on one of said opposite sides and removably secured to the other of said opposite sides, said top side being for elevating one end of said rigid co-planer structure to form an inclined plane, and a pair of panels removably positioned between said pair of opposite sides and said bottom and top sides to form said case, and demonstration means positioned within said case.

3,266,176
ORBITAL SIMULATOR
Jefferson P. Waldrop, 4333 Grassmere Lane, Dallas, Tex.
Filed Feb. 25, 1963, Ser. No. 260,488
12 Claims. (Cl. 35—47)

1. A space illusion device comprising: a casing having a viewing opening therein; a movable surface in said casing and having thereon representations of the surface features of a heavenly body, at least a portion of said movable surface being in the line of sight of said viewing opening; surface; a source of light in said casing for illuminating said first movable surface so that it will be visible from said viewing opening; a source of black light in said casing for causing said fluorescent spots to glow; and means for moving said movable surfaces in opposite senses relative to each other, whereby the view from the viewing opening gives the illusion that the viewer is moving in space relative to a heavenly body and to the stars.

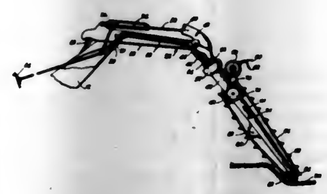
3,266,177
ADJUSTABLE HEEL FOR SHOES
Milford R. Holden, Doyon Trailer Park, Waterville, Maine
Filed July 12, 1965, Ser. No. 470,973
3 Claims. (Cl. 36—36)



1. An adjustable heel for a woman's shoe, comprising a heel body portion adapted to be attached to a shoe, said heel body portion having the configuration of a conventional shoe heel corresponding to a particular style designation and formed with a central bore, heel adjusting means seated within said central bore and secured to the heel body portion, the heel adjusting means comprising a cylindrical shaped housing having a concentric opening therein, and a pair of similar, oppositely disposed bayonet type slots formed in the wall thereof, an elongated heel member positioned within the concentric opening and adapted for axial movement thereof, said elongated heel member having a transverse passage adapted to receive a pin member, spring means interconnecting the heel member and the housing, a pin member seated in said passage and having its end portions projecting into the bayonet type slots of the housings, whereby the heel member may be moved axially of the housing against the tension of the spring to a desired selected position at the election of the user.

surface being greater than the periphery of the bottom surface and tapering to minimums at the front and rear ends of the insole, said insole having a volume substantially equal to that of a equivalent ordinary insole of substantially uniform thickness.

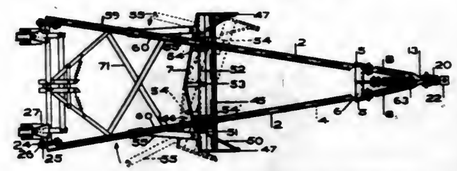
3,266,179
DIGGING ATTACHMENT
Norman R. Golden, 531 S. Broad, Carlinville, Ill.
Filed Aug. 23, 1963, Ser. No. 304,079
2 Claims. (Cl. 37—86)



1. A digging attachment for a vehicle of the type having a hydraulic pressure system and a piston-cylinder device thereon operated by said system, said digging attachment comprising an inner member, means for pivotally attaching said inner member to said vehicle, means for connecting said inner member to said piston-cylinder device, whereby, when said piston-cylinder device is actuated, said inner member pivots relative to said vehicle about said pivotally attaching means, a longitudinally extending outer member rotatably mounted at one end on said inner member for rotation of said outer member about its longitudinal axis, means interacting between said outer member and said inner member for rotating said outer member relative to said inner member, a first sprocket journalled for rotation in the other end of said outer member, a second sprocket disposed in spaced relation with respect to said first sprocket and journalled in said outer member, said first and second sprockets being rotatable in a substantially co-planar disposition, a continuous digging chain having spaced digger blades thereon extending around said sprockets and being driven thereby, a hydraulic motor mounted on said outer member and having a rotary output connected in driving relation with said second sprocket, and means connecting said hydraulic motor with said hydraulic system for driving said motor.

ing position of the machine with said wheels a predetermined distance rearwardly of said leveling blade to a ground-engaging transport position with said wheels adjacent and supporting the blade, and force transmitting means mounted on one of said beams and operatively connected to the other said beam for telescoping said beams.

3,266,181
SOIL LEVELLING AND DIKING MACHINE
Walter Olafson, Box 5, Rolling Hills, Alberta, Canada
Filed June 8, 1964, Ser. No. 373,337
3 Claims. (Cl. 37—169)

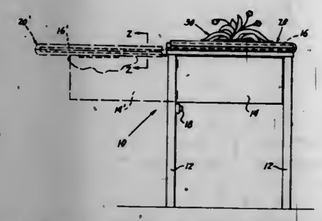


1. In a land levelling machine having an elongated truss frame, with a transverse land levelling blade horizontally suspended thereunder, for swinging movement thereon; a linkage between the front of the frame and a tractor-supporting hitch plate; power operable means on the linkage to raise and lower the front end of the frame on the hitch plate; a pair of spaced caster wheels supporting the rear of the frame, and each provided with a crank; a tie bar pivotally connecting the cranks of the caster wheels for synchronized turning of same; a pair of normally parallel trip bars, each pivotally mounted on the frame; one end of each trip bar spring loaded against a roller positioned therebetween, and rotatably carried by the tie bar; said spring loaded trip bars normally and resiliently maintaining the caster wheels lengthwise aligned with the frame, and prevented from dog trailing, when said machine is operating; a pair of adjusting bars, each having one end connected to one end of the blade; and the other ends of said latter bars connected to the frame, for holding the blade in adjusted positions across the frame.

3,266,182
IRONING COVER FOR SEWING MACHINE LID
Sandra Cournoyer, 2457 Fernandez Drive, Sacramento, Calif.
Filed Aug. 6, 1964, Ser. No. 387,973
2 Claims. (Cl. 38—140)

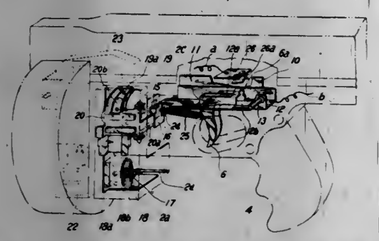
1. A covering specifically adapted for use with the lid of a sewing machine cabinet foldable from an open posi-

tion exposing a sewing machine for use and a closed position overlying the sewing machine for protection, said covering comprising a first surface and a second surface, said first surface when said lid is in open position comprising an upper ironing surface, and said second surface comprising a top covering when the lid is in closed posi-



tion, said surfaces being stitched together along three sides, the fourth side being open to define a pocket adapted to be slipped over said lid, fastener means on said second surface, and a decorative element releasably secured to said fastener means for exposure on the top of the sewing machine when the lid is in closed position.

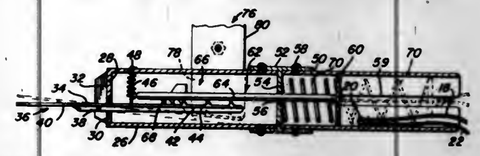
3,266,183
CAP TAPE APPLYING DEVICE
Eiji Tada, Ichikawa-shi, Japan, assignor to Tada Manufacturing Co., Ltd., Tokyo, Japan
Filed Apr. 8, 1965, Ser. No. 446,599
Claims priority, application Japan, Aug. 3, 1964, 39/61,210
3 Claims. (Cl. 42—57)



1. A device for applying a cap tape to a toy gun, comprising a presser, which holds a cap tape against a rotary feed drum serving as an anvil, within a cap tape chamber said presser being pivoted swingably to the vicinity of said rotary feed drum, a sliding frame, which is housed in a gun body, engaging with or disengaging from a cover of said cap tape chamber to lock or open said cover, and a catch pin projecting outward from said sliding frame through a longitudinal slot provided on one side of said gun body.

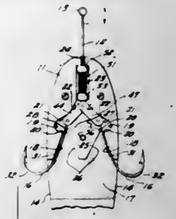
3,266,184
SPRING-LOADED LINE CASTING GUN
James M. Brown, 914 2nd Ave. SE., Minot, N. Dak.
Filed Nov. 2, 1964, Ser. No. 408,215
4 Claims. (Cl. 43—19)

1. A baited line casting gun for attachment to the handle-equipped end of a rod and reel, said gun comprising an elongated barrel, a divider fixed in a median portion thereof converting an interior portion of said barrel into a forward chamber and a rearward chamber, means for mounting said barrel in a ready-to-operate casting position on the fishing rod, a baited line casting plunger comprising a head slidable in said forward chamber, said head being provided with a rod passing slidably through said divider and into the rearward chamber, said rod being provided with detents confined in said rearward chamber, a spring biased latch pivotally mounted on a rearward portion of said barrel and having a forward end portion projecting into said rearward chamber and provided with detents releasably engageable with the



detents on the plunger rod, a rearward portion of said latch projecting beyond the corresponding end of said barrel and being provided with a fingergrip providing a trip for conveniently releasing said latch, and a coil spring surrounding said rod and interposed between the plunger head and divider.

3,266,185
FISH LURE
George Abramson, Jr., 2916 W. Borchard Ave., Santa Ana, Calif.
Filed July 3, 1964, Ser. No. 380,175
10 Claims. (Cl. 43—35)



4. A fish lure comprising:
a body having an axis and a cavity therein; attachment means for connecting said lure to a fishing line, said attachment means being movable forward and rearward along said axis;
a fish hook disposed at least partially within said cavity, said fish hook having a shank extending generally longitudinally of the body with a bight portion at the rearward end of said shank;
positioning means including said attachment means for causing said fish hook to move from a retracted position wholly within said cavity to an extended position where the bight portion projects outside of the cavity, said positioning means moving said hook forward relative to said body when said attachment means is moved forward relative to said body, said positioning means including first and second cam portions fixed to said body which portions apply force to the shank at different points and cause the rearward end of said shank to be swung outwardly as the shank is moved forward relative to those cam portions.

3,266,186
TOY GROUND INSTALLATIONS HAVING SELF-PROPELLED TOY VEHICLES THEREON
Alfred Einfalt, Nurnberg, Bavaria, Germany, assignor to Gebruder Einfalt, Nurnberg, Bavaria, Germany, a firm
Filed Nov. 4, 1963, Ser. No. 321,062
Claims priority, application Germany, Dec. 24, 1962, E 24,084
11 Claims. (Cl. 46—202)

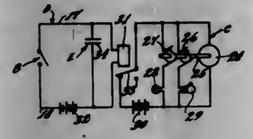
1. A toy ground installation comprising a plurality of self-propelled toy vehicles, a plate with an inner area simulating a camping ground and being surrounded by a

closed track for guiding the operation of said self-propelled toy vehicles running thereon; a plurality of movable toy objects arranged within said inner area; a control system of interconnected control members mounted beneath said plate, said control system having a plurality of movable parts projecting through a corresponding plu-



rality of apertures in said plate for effecting movement of the movable toy objects within said inner area; said control system also having at least one control member projecting into the path of travel of said vehicles on said track and being operative under the control of a vehicle moving along said track to effect movement of said movable toy objects through said control system.

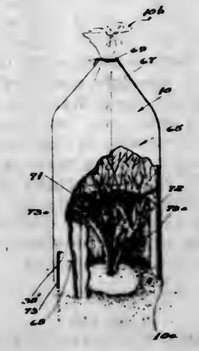
3,266,187
MAGNETICALLY ACTIVATED CONTROLS FOR TOYS
William Feisher, 8512 Fayette St., Philadelphia, Pa.
Filed Dec. 26, 1962, Ser. No. 247,014
2 Claims. (Cl. 46—239)



1. Magnetically activated controls for toys comprising an action-initiator including a permanent magnet; a series trigger circuit within said toy including a normally-open switch, a source of electromotive force, and a relay coil; a capacitor electrically paralleling said relay coil; said switch comprising a first resilient blade connected to one side of said series circuit, a second resilient blade connected to the other side of said circuit, and means for keeping said blades in spaced apart and electrically insulated relationship; a toy operating circuit within said toy including a self-contained source of electromotive force and normally-open contacts, operatively associated with said relay coil, which close to activate said circuit when said coil is energized; a magnetic field of force emanating from said initiator closing said normally-open switch to energize said relay coil and cause closure of the contacts in said toy operating circuit, said relay coil remaining energized after withdrawal of said initiator until said capacitor has discharged.

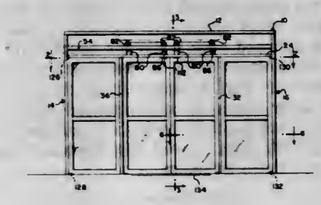
3,266,188
PLANT SHIPPER AND SHELTER
Larry J. Budd, Elmhurst, Ill., assignor to Pallet Devices, Inc., Des Plaines, Ill., a corporation of Illinois
Filed June 6, 1963, Ser. No. 285,978
5 Claims. (Cl. 47—28)

2. A plan shelter comprising,
a multi-sided open ended corrugated paperboard tube, a weather resistant flexible paper tube enveloping the multi-sided corrugated paperboard tube with an upper end of said paper tube extended above said paperboard tube,
means for securing the paper tube with the multi-sided corrugated paperboard tube for supporting a lower end of said paper tube,
ground stakes disposable about the perimeter of the plant shelter having means for attachment with said tubes, and



means for holding said upper end of said paper tube closed and tapered to a peak so as to reduce any tendency for snow to accumulate thereon and with said paper tube including its upper end being of sufficient strength to be self-supporting when in combination with said multi-sided corrugated paper board tube while the paper board tube is in an expanded position for enclosing a plant.

3,266,189
PREFABRICATED SLIDING AND SWINGING DOOR STRUCTURE
John P. Eby, 7426 230th SW., Edmonds, Wash.
Filed Nov. 1, 1963, Ser. No. 320,760
5 Claims. (Cl. 49—152)



1. A prefabricated sliding and swinging door structure comprising: (a) an elongated generally horizontal upper main frame member, (b) an intermediate horizontal frame member generally parallel to, spaced below and connected at its ends to said upper frame member, the distance between said upper main and said intermediate horizontal frame member defining an operating area for a door actuating mechanism, (c) a pair of spaced-apart intermediate generally vertical frame members attached to and depending inwardly from the ends of said intermediate horizontal frame member and which between them define a door area, said intermediate vertical frame members and said intermediate horizontal frame member being divided in their construction to define an unobstructed car-

rier frame and door channel between the faces of said divided frame members, (d) a track means disposed above said intermediate horizontal frame member generally in alignment with said channel, (e) a pair of carrier frames with each carrier frame including a horizontally disposed upper carrier member and having attached to the outer end thereof a vertical carrier member, each said carrier frame being attached to brackets extending through said channel means with said brackets having rollers supported on said track, (f) a door for each carrier member, each said door being coaxially pivotally connected at its top to the upper carrier member and at its bottom to a plate secured to the lower end of said vertical carrier member, (g) an actuating mechanism supported in said operating area adapted to be operably connected to said carrier frames for sliding said carrier frames in and out of said door area, and (h) break-away lock means for each carrier frame and door including an angle bracket attached to the inner end of and extending below each upper carrier member and a slot extending entirely through the door mounted in said carrier for receiving said angle bracket to permit the door to pivot in either direction, and resilient break-away latching means for resiliently and detachably engaging said door to said angle bracket.

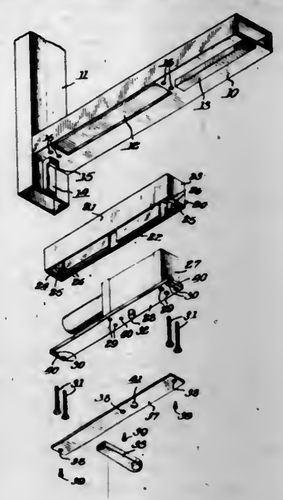
3,266,190
WEATHER STRIP STRUCTURES
Norman C. Jackson, Sheffield Lake Village, Ohio, assignor to The Standard Products Company, Cleveland, Ohio, a corporation of Ohio
Filed June 17, 1963, Ser. No. 288,169
4 Claims. (Cl. 49—489)



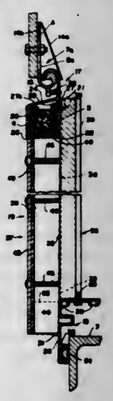
4. A weather strip structure, comprising an elongated one-piece barrier member of flexible form-retaining resin film material and having a base and inturned edge walls overlying the edge portions of said base, and an elongated body of pile fibers adhesively secured to said base between said inturned edge walls for cooperative weather-stripping engagement with an associated structure, said barrier member also having barrier flanges extending from the inner edges of said inturned edge walls and being at least substantially as high as said pile fibers and lying along both sides of said pile fibers for engagement with said associated structure.

3,266,191
DOOR CLOSER MOUNTING
Alvin Donald Dugan, Jr., 96 Brookwood Road, Rochester 10, N.Y.
Filed Feb. 26, 1964, Ser. No. 347,516
2 Claims. (Cl. 49—504)

1. In combination with a hollow door frame header having an opening in one of its sides, a door closer mounting member having opposing first and second open sides and being closed at its other sides and at its ends, said mounting member being secured to said door frame header and projecting substantially therefrom, said first open side communicating with said opening in said door frame header; and a door closer mechanism mounted inside said mounting member and extending from said second open side through said first open side substantially into said door frame header through said opening in said door frame header so that said door closer mechanism is partially within said door frame header and partially substantially extended therefrom inside said mounting member.



3,266,192
WINDOW SASH ASSEMBLY
Arthur H. Kolm, W. 198 S. 11043 Racine Ave., Rte. 3, Muskegon, Wis.
Filed July 24, 1963, Ser. No. 297,288
1 Claim. (Cl. 49—397)



In a top hung movable sash assembly having light transmitting panels therein for closing a building opening, in combination,

(a) a sash hanger member suitably secured to the building structure within and extending transversely of said opening to be closed by said sash and having a substantially J-shaped rearwardly disposed bottom portion,

(b) a sash top member extending transversely across the upper portion of said building opening and having a planar rear wall provided with an upper portion curved forwardly of said wall for overlapping and substantially closing the J-shaped opening hanger member for pivotally suspending said sash member and a downwardly opening lower portion extending forwardly from the lower portion of said rear wall and having inturned bottom flanges for reception of one end of light transmitting panels and insertion of and retention of sealing means therefor,

(c) a sash bottom member extending transversely of the bottom of said building opening and having a vertically disposed front face overlapping said opening in substantial vertical alignment with said sash top member rear wall and having a top planar face extending rearwardly from the top portion of said front face,

(d) sash end members extending vertically between adjacent ends of said sash top and bottom members and having a front face underlying and connected to the sash top member planar rear wall and a rearwardly extending face overlying the end of and connected to the end of the sash bottom member top wall,

(e) a plurality of light transmitting panel members extending between said sash top and bottom members with the adjacent panel vertical marginal edges thereof in overlapped relation, each said panel having its upper end received in said sash top member lower portion and sealed therein by insertion of a suitable elastic sealing strip, said panels having their bottom marginal portions overlapping the vertical face of said sash bottom member in abutting relation and attached thereto by suitable fasteners,

(f) strut means for connecting said overlapped panel marginal edges together and to said top and bottom sash members comprising,

(1) a vertically disposed web member overlapping the rear wall of the sash top member for attachment thereto and depending therefrom for bearing engagement upon the top planar face of said bottom member,

(2) a pair of longitudinally disposed spaced arms extending outwardly from said web member for reception of fastening members and terminating in laterally extending portions for support of said panels,

(3) a longitudinally extending cap portion overlying said laterally extending portions for reception of fastening members securing said overlapped panel ends in fixed relation to said strut means, and

(4) a vertically disposed portion extending rearwardly of said web member and engaging the top face of said bottom sash member for attachment thereto by a suitable fastener.

3,266,193
SAND SUPPLY CONTAINER
James D. McCune, La Porte, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed June 11, 1964, Ser. No. 374,431
2 Claims. (Cl. 51—12)

1. An apparatus for supplying sand to a sand cleaning device comprising:

an enclosed vessel for receiving an abrasive material,

partition means dividing the vessel into sections, said partition means extending across the vessel from one side to the other and from the bottom of the vessel to a point near its top,

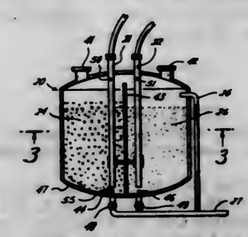
access means in said vessel for providing a separate access to each section,

valved nozzle means extending through the bottom of said vessel into each section,

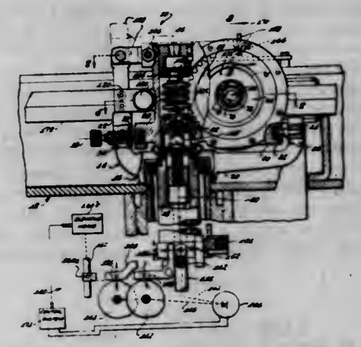
pipe means extending through said vessel into each section to a point below the level of material in said vessel, said pipe means at said point being axially aligned with said valved nozzle means,

means for supplying a gas under pressure to said valved nozzle means, and

means for diverting gas from said supplying means to a place in said vessel above the level of material therein, which place is in communication with the space in said vessel above the top of said partition means common to each section of said vessel.



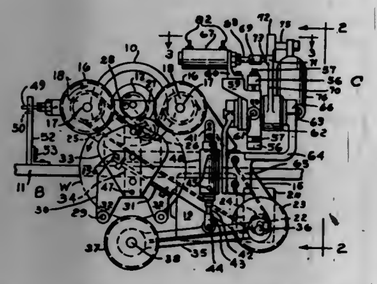
3,266,194
MACHINE FOR GRINDING CONICAL DRILL POINTS
James C. Winslow, Sierra Madre, Calif., assignor to Winslow Product Engineering Corporation, Arcadia, Calif., a corporation of California
Continuation of application Ser. No. 161,175, Dec. 21, 1961. This application Aug. 5, 1963, Ser. No. 301,697
17 Claims. (Cl. 51—94)



1. A drill pointing machine comprising a frame; a drill support on said frame including a first part mounted on the frame for oscillation on and reciprocating along a given axis, a second part pivotally supported on said first part for rocking on an axis transverse to said given axis, and a rotary drill chuck on said second part for gripping a drill to be pointed and rotating the drill on an axis coincident with the axis of the drill and transverse to said given axis and said pivot axis; means for synchronously oscillating and reciprocating said first part; cooperating engageable means on said frame and said second part for causing the latter to rock on said pivot axis between positions in which the drill axis is transverse to said given axis and in synchronism with oscillation and reciprocation of said first part, whereby the tip of the drill in said chuck moves along a defined path; a rotary grinding wheel on said frame having a coaxial grinding surface positioned to contact the drill tip during movement of the latter between a first point and a second point along said path and to clear the drill tip during movement of the latter along said path from said second point to said first

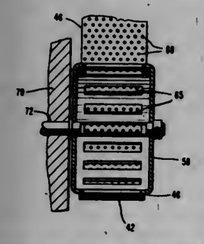
point, said rotation axis being disposed at a predetermined angle to said grinding surface when the drill tip is at said first point and rocking of said part on said pivot axis causing the angle between said rotation axis and said grinding surface to change during movement of the tip across the grinding surface to said second point; and means for rotating said chuck in synchronism with movement of the drill tip along said path.

3,266,195
EDGE GRINDING
George E. Bonin, Addison, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Original application Feb. 26, 1962, Ser. No. 175,424, now Patent No. 3,186,134, dated June 1, 1965. Divided and this application Oct. 16, 1964, Ser. No. 404,345
11 Claims. (Cl. 51—97)



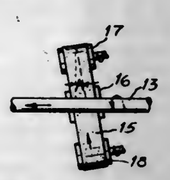
1. Edge grinding apparatus comprising, rotating abrasive means, chuck means for receiving and operably retaining a workpiece, means for manipulating said chuck means between an operating position with a workpiece in engagement with said rotating abrasive means and an idler position for receiving and removing a workpiece, means for pivoting said chuck means when in its operating position about an axis passing through the engagement between the workpiece and the rotating abrasive means, and means forming a part of said manipulating means for maintaining the workpiece in contact with the rotating abrasive means under a predetermined constant pressure when said chuck means is in its operating position.

3,266,196
TAPE CLEANING MEANS
Eugene B. Barcaro, Norristown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 22, 1962, Ser. No. 232,148
2 Claims. (Cl. 51—135)



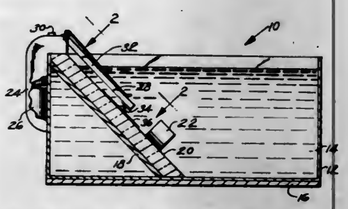
1. A tape cleaning device for cleaning a magnetic tape comprising a vacuum means, a cleaning tape having perforations throughout its width and a coating of dry polishing agent in the area between said perforations on the top side of said cleaning tape, drive means for moving said magnetic tape and said cleaning tape in the same direction and over said vacuum means with the bottom side of said cleaning tape contacting said vacuum means and said top side of said cleaning tape simultaneously contacting said magnetic tape while said tapes move over said vacuum means, said drive means being operative to move said cleaning tape over said vacuum means at a lower speed than said magnetic tape for abrasively contacting said magnetic tape during the movement thereof to loosen particles from said magnetic tape so that the loosened particles pass through said perforations into said vacuum means.

3,266,197
COATED ABRASIVE APPARATUS
Dirck J. Olton, Loudonville, N.Y., assignor to Norton Company, Troy, N.Y., a corporation of Massachusetts
Filed May 6, 1964, Ser. No. 365,291
3 Claims. (Cl. 51—137)



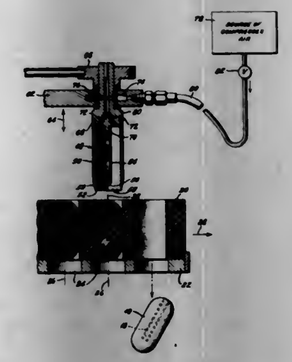
1. In an abrasive belt machine wherein a coated abrasive belt is tracked over at least two rotatable pulleys and in operation is subjected at a point intermediate said pulleys to forces tending to untrack it from its normal path of travel over said pulleys, the improvement comprising a rigid flat-surfaced back-up member behind said abrasive belt and in intimate contact therewith at said point intermediate said pulleys, said back-up member having in the flat surface thereof in contact with said belt a plurality of grooves extending in the direction of travel of said belt.

3,266,198
RAZOR BLADE SHARPENER
Bernard M. Schramko, R.D. 4, Quakertown, Pa.
Filed Aug. 6, 1964, Ser. No. 387,836
8 Claims. (Cl. 51—158)



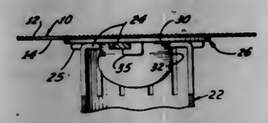
1. A razor blade sharpener comprising, in combination, a hollow, rectangular container, said container providing reservoir storage for water or other suitable solution for sharpening razor blades, a rectangular magnet plate carried by said container providing a means for securing said container to a metallic surface to prevent moving of said container while in operation, an angular metallic plate carried within said container providing resting means for an arcuately configurated glass which provides means for honing a razor blade, a pair of spring clips carried within said container providing means for securing said glass within said container, an elongated arm and an elongated leaf spring providing a means for holding said razor blade against said glass, and a battery and motor housing carried by said container providing a means for housing electrical components of said sharpener.

3,266,199
METHOD FOR FORMING SPONGES
James R. Bryson, Lutherville, Md., assignor to Washington Ethical Labs, Incorporated, Washington, D.C., a corporation of the District of Columbia
Original application Oct. 14, 1963, Ser. 315,963, now Patent No. 3,228,145, dated Jan. 11, 1966. Divided and this application July 20, 1965, Ser. No. 482,973
6 Claims. (Cl. 51—323)



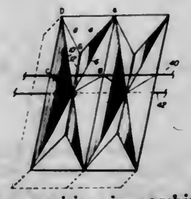
1. The method of forming a cylindrical sponge having rounded portions at both ends comprising the steps of machining opposite sides of a slab of foam material about the axis of the sponge to form the rounded end portions, and making an annular cut through the slab with an annular cutting edge rotating about the axis of the sponge.

3,266,200
ABRASIVE DEVICE
Aleck Block, Los Angeles, Calif., assignor to Merit Products, Inc., Los Angeles, Calif., a corporation of California
Filed June 4, 1964, Ser. No. 372,609
5 Claims. (Cl. 51—377)



1. In an apparatus of the character described, means for mounting an abrasive disk member on a rotary drive member, comprising:
- a boss on one of said two members formed with a neck of reduced diameter;
- resilient elements on the other of said two members to yieldingly embrace the neck of the boss to yieldingly retain the disk member on the boss;
- hook elements on the disk separate from the resilient elements positioned radially outward from the center of the disk and pointing in one circumferential direction; and
- radially outward elements on the drive member for hook engagement by said hook elements to positively prevent axial separation of the two members and to interlock the two members for rotation in the opposite circumferential direction, said hook elements engaging the radially outward elements in response to rotation of the disk member in said opposite circumferential direction when said resilient elements embrace the neck of the boss.

3,266,201
DOUBLE CANTILEVER ROOF STRUCTURE
Victor Frederick Christ-Janer, New Canaan, Conn., assignor to Mobil Oil Corporation, a corporation of New York
Filed Dec. 14, 1962, Ser. No. 244,751
2 Claims. (Cl. 52—18)



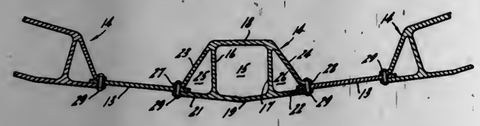
1. A structure comprising in combination triangular panels connected together to provide one edge of the structure in the shape of a V, a first triangular panel section positioned in the opposite end of the structure on a plane generally perpendicular to the plane formed by said V-shaped edge of the structure, a base edge of said first triangular panel section forming the opposite edge of said structure from said V-shaped edge, said first triangular panel positioned with two additional second triangular panels to form three surfaces of a tetrahedron shaped section, said second panels having a common apex joined at the bottom of said V-shaped edge and at least two other similar third triangular panels separately joined along their longest edge coextensively with the two bottom edges of said tetrahedron shaped section in a manner to extend divergently upwardly therefrom so that a pair of similar remaining edges, one each of said third triangular panels form said V-shaped edge.

3,266,202
CEILING HANGER
Stanley Furer, Great Neck, N.Y., assignor to F & S Wrought Iron Manufacturing Corporation, Brooklyn, N.Y.
Filed Oct. 3, 1961, Ser. No. 142,687
6 Claims. (Cl. 52—39)



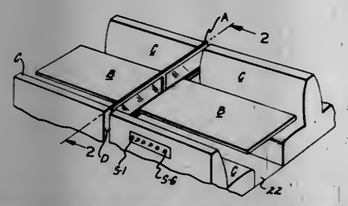
1. The combination which comprises, as one element thereof, a downwardly opening channel forming part of a ceiling, said channel having a horizontal web and downwardly extending side walls, the opening of the channel being narrower than the interior thereof; and, as another element thereof, a hanger for pipes and other objects desired to be suspended from the ceiling, the hanger being of sheet material thinner than the width of the opening of the channel, said hanger including a top portion having shoulders at the opposite edges thereof, said shoulders being in seated engagement with the channel walls, said hanger also including a stamped out tongue portion projecting upwardly and outwardly therefrom, the width of the tongue being less than the width of the opening of the channel, and said tongue extending into said channel to prevent rotation of the hanger into unlocked position.

3,266,203
STRUCTURE FOR ATOMIC BLAST RESISTANCE
Frank M. Krantz, Ellicott City, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 3, 1963, Ser. No. 277,967
4 Claims. (Cl. 52—80)



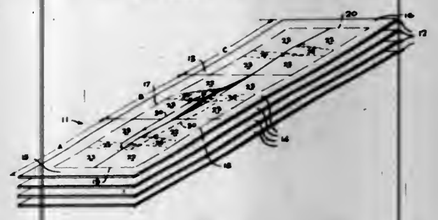
3. A metallic structure having high blast resistance consisting of a polygonal section and a hemispherical section attached together, said polygonal section including a plurality of flat panels and a plurality of column-ribs connecting adjacent panels thereby forming an enclosed chamber, said column-ribs each comprising,
a hollow column having first and second parallel sides,
first and second flanges extending outwardly in opposite directions, one each from an end each of said parallel sides,
a first web extending angularly from the other end of said first parallel side and in a direction toward said first flange, said web having a foot extending in a substantially parallel direction with said first flange, and
a second web extending angularly from the other end of said second parallel side and in a direction toward said second flange, said second web having a foot extending in a substantially parallel direction with said second flange.

3,266,204
RESTAURANT BOOTH DIVIDER AND ACTUATING MECHANISM THEREFOR
Ernest Andrews, 369 Woodland Drive, San Pedro, Calif.
Filed July 25, 1963, Ser. No. 297,588
6 Claims. (Cl. 52—173)



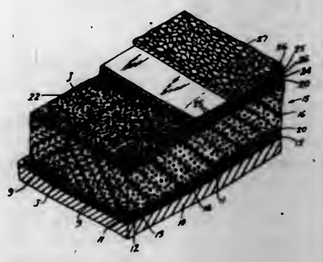
1. In combination with two restaurant booths including two tables with seats on opposite sides thereof, which tables have adjacent parallel ends separated by a first distance, a divider assembly disposed between the separated ends of the tables comprising:
(a) a rectangular panel, the longitudinal edges of which are parallel to the upper surface of said tables, said panel being of lesser thickness than said first distance, with said panel being sufficiently wide that when disposed between said tables in a first position the upper longitudinal edge thereof will be substantially flush with the upper surfaces of said tables;
(b) vertical guide means occupying fixed positions relative to said tables for engaging predetermined vertically extending areas of said panel to permit movement of said panel between said first position and a second position, with the upper longitudinal edge of said panel when in said second position being a substantial distance above the upper surfaces of said tables;
(c) power means for moving said panel to said first or second position or one therebetween; and
(d) means for controlling said power means.

3,266,205
WARPED FLOOR BUILDING CONSTRUCTION
Esa M. Khoury, 20401 Napa St., Canoga Park, Calif.
Filed July 23, 1963, Ser. No. 297,141
8 Claims. (Cl. 52—175)



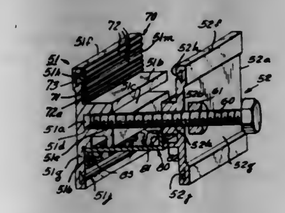
1. In a multistory building, a plurality of superposed, vertically spaced floors formed to provide continuous ramp means extending from floor to floor, comprising a first tier of vertically spaced inclines, a second tier of vertically spaced inclines, said tiers being in parallel planes and spaced laterally a substantial distance, the inclines of said first tier sloping similarly to each other, the inclines of said second tier sloping similarly to each other but oppositely to those of said first tier, a first tier of vertically spaced rectangular hyperbolic paraboloidal transition sections extending between individual inclines of said tiers of inclines, respectively, a second tier of vertically spaced, rectangular, hyperbolic paraboloidal transition sections extending between individual inclines of said tiers of inclines respectively, said transition sections extending parallel to each other with the sections of one tier being warped oppositely to those of the other tier, the corners of greatest deflection of said sections of one tier being adjacent the corners of greatest deflection of the other tier.

3,266,206
INSULATED BUILT UP ROOF AND INSULATION THEREFOR
John N. Cosby and Richard K. Eberts, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed July 3, 1962, Ser. No. 207,259
4 Claims. (Cl. 52—309)



1. A composite roof structure comprising a roof deck, a layer of insulation of substantially uniform thickness covering the deck, the insulation a plurality of relatively large, substantially rectangular units in edge abutting relation, each unit consisting of a rectangular core of rigid urethane foam of uniform composition throughout the core, containing at least 50% closed cells, having a thickness of from ¼ inch to 8 inches, a compressive strength of at least 10 pounds per square inch with no more than 5% deformation, a density of from 1.1 to 4 pounds per cubic foot, a flexural strength of at least 20 pounds per square inch, and a k value not exceeding 0.24 B.t.u. per hr. per sq. ft. per inch thickness per °F., and a layer of felt saturated with a bituminous water-proofing material and coated with a bituminous water-proofing coating material factory bonded to each of the opposite surfaces of said urethane foam so that said units as laid each have the foam core protected by said felt covering the opposite sides thereof, at least one of said layers of felt having a layer of anti-stick material on the side opposite the urethane foam core, said roof structure having on said layer of insulating alternating layers of water-proof coating and bonding material and felt with the top coating layer on the top felt layer having a wear-resistant surface.

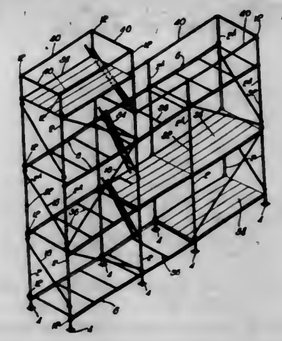
3,266,207
EXTERIOR PANEL WALL ASSEMBLY
Herbert L. Bruun, Jr., Pleasant Valley, Titusville, N.J.
Filed June 15, 1962, Ser. No. 202,901
16 Claims. (Cl. 52—459)



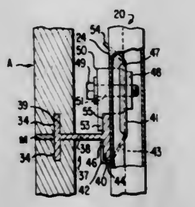
1. A water-tight exterior panel wall mounting assembly for positioning and securing building panel members comprising: first and second elongated batten means, each of said first and second batten means including a central portion having first and second arms extending therefrom in opposite directions; said central portion and said first and second arms forming a first substantially flat face; said central portion having projections extending outwardly along the face of said first and second batten means opposite said first face; said projections forming a channel; said projections of first and second batten means being positioned to face one another; first and second exterior panels; fastening means cooperating with the channels of said first and second batten means rigidly clamping the horizontal marginal edges of said panels between the first arms and second arms of said first and second batten means; gutter means having a substantially flat surface being positioned in abutting relationship between said first and second batten means and being beneath the central portion of said first batten means said gutter means including means for diverting any liquid falling upon said gutter means outside of the region between said first and second batten means and to the exterior side of the wall.

3,266,208
SCAFFOLDING
William Farnham Maggs, Banstead, Surrey, and Frederick William Mullett, Thornton Heath, Surrey, England, assignors to Acrow (Engineers) Limited, London, England
Filed Jan. 16, 1964, Ser. No. 338,163
Claims priority, application Great Britain, Jan. 17, 1963, 2,172/63
3 Claims. (Cl. 52—650)

1. Scaffolding comprising at least four uprights and at least one rectangular member which extends horizontally between the said uprights, couplers adjustably and releasably positioned on the uprights at any desired height, each coupler having a socket therein, each upright being provided with a number of small blocks on its surface at predetermined regular intervals against which the couplers engage, each of the horizontal rectangular members comprising two longitudinal members connected together by means of a number of cross bars, each longitudinal members being provided at each end with a hook engaging a socket in a coupler.

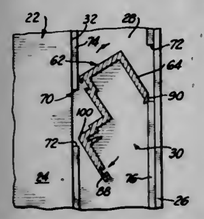


3,266,209
ANCHORING SYSTEM FOR THE INSTALLATION OF SLABS ON VERTICAL AND OVERHEAD SURFACES
Jules Scott Zibell, Tate, Ga., assignor to The Georgia Marble Company, Atlanta, Ga., a corporation of Georgia
Original application Dec. 27, 1960, Ser. No. 78,477. Divided and this application Sept. 6, 1963, Ser. No. 308,047
4 Claims. (Cl. 52—665)



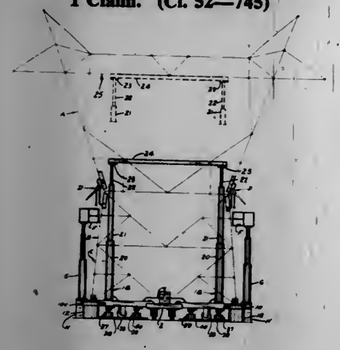
1. An anchoring system for slab facing materials having kerfs formed in the peripheral edges thereof comprising a plurality of U-shaped channel struts having re-entrant portions formed on the legs thereof and secured in spaced relation with respect to each other to structural members forming the structure on which said slabs are to be anchored, an H-shaped channel member, a first clip part having a hook formed on the end thereof, said first clip part having lateral flanges on two sides engaged with the edges of the re-entrant portions of a strut member from the inside thereof, a second clip part, an extension on said second clip part which, with said hook substantially enclose one of the flanges of said H-shaped channel member, a pair of laterally extending flanges on said second clip part bearing on the outside edges of the re-entrant portions of said strut opposite the flanges on said first clip part, and screw means for drawing said clip parts together and clamping said H-shaped channel member to said strut.

3,266,210
MULLION AND RAIL COMPOSITE CURTAIN WALL CONSTRUCTION
Abraham Grossman, Northridge, Calif., assignor, by mesne assignments, to Aluminum Extrusion Company, Los Angeles, Calif., a corporation of California
Filed Dec. 19, 1961, Ser. No. 160,554
3 Claims. (Cl. 52—690)



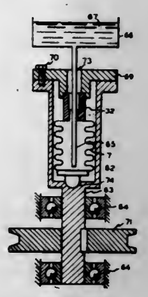
1. In a curtain wall construction for a building, the combination of: a plurality of spaced apart, vertically oriented mullions, each of which includes longitudinally extending, laterally opening channels constituted by confronting side walls and a base portion, said side walls including receptacle means; and a plurality of rails having extremities slidably received within said channels when disposed obliquely relative to said side walls, said rails being rotatable about their longitudinal axes upon registry of said extremities thereof with said receptacle means whereby said rail extremities rotate into and supportively engage said receptacle means and said rails and said mullions define a plurality of closure receiving openings.

3,266,211
METHOD OF ERECTING AN ELECTRICAL POWER TRANSMISSION TOWER
Franklin Hughes, 2050 W. Camelback Road, Phoenix, Ariz.
Filed Aug. 19, 1963, Ser. No. 302,881
1 Claim. (Cl. 52—745)



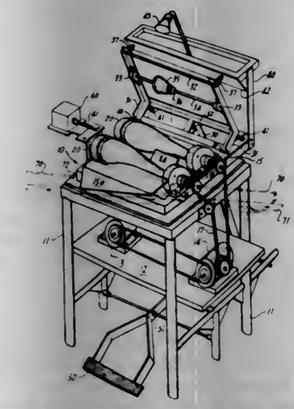
The method of erecting steel towers for high tension electrical transmission lines comprising the steps of erecting substantially equally spaced concrete foundation piers in the earth at the corners of an imaginary geometrical configuration, inserting tower engaging support members in each of the foundation piers, positioning an erecting frame with the main body thereof disposed substantially centrally of the geometrical configuration and extending at least one removably secured support arm from the main body to each of the foundation piers, positioning an adjustable jack on each of the support arms adjacent the foundation piers, interconnecting the tops of each jack by removable members for supporting the lower portion of a tower section which is to be elevated, connecting each jack to a source of fluid pressure disposed on said main body, erecting the top section of a multiple section tower wherein each section is of the same general dimension as said geometrical configuration and includes interconnected vertical and horizontal structural components, positioning the ends of the horizontal structural components on said piers, engaging the horizontal structural components with said interconnecting members and raising the said top section of said transmission tower by introducing fluid into each jack, positioning and assembling the next lower section of said tower beneath said top section with the respective horizontal ends of the next lower portion resting temporarily on said piers, lowering said jacks and said interconnecting members by withdrawing the fluid from said jacks to thereby bring the adjacent surfaces of said top section and said next lower section in proximity to one another, fastening the adjacent surfaces of said top and said next lower sections together, engaging the horizontal structural components of said next lower section with said interconnecting members and elevating the same by reintroducing fluid into the jacks and placing and assembling a third section of said tower beneath said top and said next lower sections with the respective horizontal ends of the third section resting on said piers, withdrawing the reintroduced fluid from said jacks to lower the interconnecting members to thereby bring the adjacent surfaces of said next lower sections and said third section in proximity to one another, fastening the adjacent surfaces of said third section and said next lower section together and securing the pier engaging ends of the third section to its respective tower engaging support member, and connecting transmission lines and insulators to the top section of said tower.

3,266,212
METHOD AND APPARATUS FOR FILLING BELLOWS
Elmer Sylvester Monroe, Jr., Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Original application Jan. 31, 1962, Ser. No. 170,091, now Patent No. 3,146,947, dated Sept. 1, 1964. Divided and this application Feb. 25, 1963, Ser. No. 260,704
2 Claims. (Cl. 53—22)



1. An improved method for filling a bellows unit for a thermostatic trap assembly with an incompressible liquid, said bellows unit comprising a metallic bellows member having a longitudinally extending expansible hollow portion provided with circumferentially extending annular corrugations symmetrical to a central axis and cooperating upper and lower end closure portions, the upper one of said closure portions having an open central portion, said method comprising rotating said member in air about a vertical axis substantially perpendicular to the planes of said annular corrugations and substantially coincident with the central axis of symmetry of said corrugations at sufficiently high rotational speed to produce a centrifugal acceleration of about several hundred gravities on the member and the air within it while restraining the bellows unit against longitudinal expansion and lateral distortion and simultaneously introducing a deaerated incompressible liquid under pressure into the member adjacent said lower end closure portion through said open central portion of said upper end closure portion and permitting air to simultaneously escape through said central portion as it is separated by centrifugal action from and displaced by the introduced liquid, and sealing the member in closed condition when completely filled with the deaerated incompressible liquid.

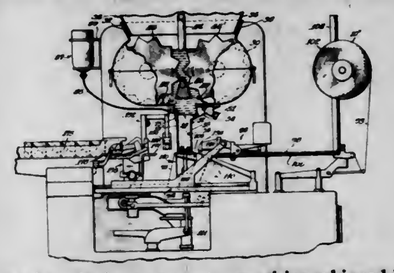
3,266,213
BOTTLE WRAPPING APPARATUS
Sidney Harris, Squaw Run Road, Pittsburgh, Pa., and Anthony P. Dempsey, Pittsburgh, Pa.; said Dempsey assignor to said Harris
Filed Mar. 15, 1963, Ser. No. 265,397
17 Claims. (Cl. 53—49)



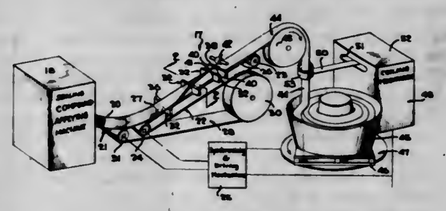
1. In semi-automatic equipment for wrapping a metallic foil cover about a bottle that has a tapered neck portion; apparatus for tightening a cover that is prepositioned about the bottle comprising: a frame, a generally horizontal working table supported by said frame, a pair of contoured, horizontally-extending drive rollers rotatably mounted on said table for cooperatively receiving the bottle and prepositioned cover thereupon, means for rotatably driving said driver rollers about their axes, an idler roll having at least a partially tapered longitudinal contour, means supported by said frame supporting said idler roll having at least a partially tapered longitudinal contour, means supported by said frame supporting said idler roll for movement between an operative position wherein said idler roll is adjacent said pair of drive rollers and an inoperative position, said idler roll support means operatively carrying said idler roll for permitting rotation of said idler roll about an axis that is parallel to the axes of said driving rollers.

3,266,214
APPARATUS FOR MAKING PACKAGED WHIPPED BUTTER IN STICK OR BRICK FORM
Sivert Kramme, 5837 S. Talman Ave., Chicago, Ill.
Original application Sept. 19, 1960, Ser. No. 56,918, now Patent No. 3,175,917, dated Mar. 9, 1965. Divided and this application Nov. 25, 1964, Ser. No. 425,984
8 Claims. (Cl. 53—122)

4. In a whipped butter molding and wrapping machine having a vertical open-ended whipped butter-receiving conduit having a butter inlet end at the upper portion thereof and a butter outlet end at the bottom thereof, a mold for forming a brick or stick of whipped butter, means for moving said mold beneath the bottom of said butter-receiving conduit and for lining said mold with wrapping paper and filling the same with whipped butter from said outlet end of said conduit, and means for moving the resultant wrapper lined and whipped butter filled mold away from said conduit to a butter discharging and wrapping station, the improvement comprising whipped butter flow retarding means positioned within said butter-receiving conduit, said butter flow retarding means comprising at least one vertically extending plate having perforations therein which provide sufficient drag to prevent downward flow of the whipped butter under force of gravity through the conduit when said mold is moved away from the bottom of said conduit.

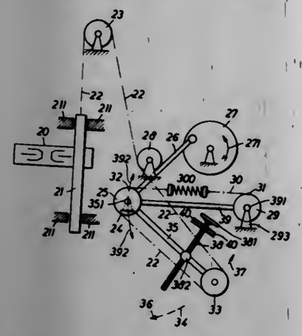


3,266,215
CAN END PACKAGING APPARATUS
Charles T. Walter, Lemont, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 28, 1963, Ser. No. 268,633
12 Claims. (Cl. 53—177)



1. A can end packaging apparatus comprising means for mechanically assembling a plurality of individual can ends in stacked aligned face-to-face engaged relation for feeding to a transporting conveyor means, conveyor means for transporting the plurality of stacked can ends aligned in face-to-face engagement along a path of predetermined length from a can end finishing machine toward a can end coil receiving means, means for feeding a strip of material having an adhesive on a longitudinal edge thereof from a supply roll in overlying relationship to the conveyor means, forming means adjacent the predetermined path for overlapping longitudinal edges of the strip of material and progressively encasing the strip of material about a plurality of can ends being transported by the conveyor means, sealing means positioned beyond the forming means for sealing the overlapped longitudinal edges of the strip of material, means positioned between the said end of the predetermined path and the coil receiving means for guiding the encased can ends away from the predetermined path and preventing the rupture of the strip of material encasing the can ends during the aforementioned guiding, and coiling means associated with the coil receiving means, said coiling means being operative to coil the completely encased plurality of can ends onto the coil receiving means.

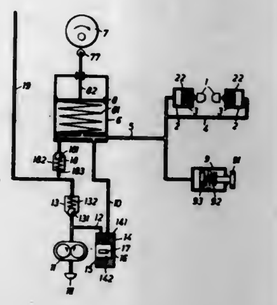
3,266,216
DRIVING MECHANISM FOR ADJUSTABLE UP-AND-DOWN ACTIVATION OF THE SEALING JAWS OF A PACKAGING MACHINE
Gerrit van den Bos, Weert, Netherlands, assignor to Hamac-Hansella Aktiengesellschaft, Viersen, Germany, a corporation of Germany
Filed Dec. 19, 1963, Ser. No. 331,663
Claims priority, application Germany, July 24, 1963, H 49,813
8 Claims. (Cl. 53—180)



1. In a packaging machine in which a tube of heat-sealable material is filled with successive charges of merchandise and provided with longitudinally spaced-apart transverse heat seals between said charges in order to form individual merchandise-filled packages, said heat seals being created by a pair of spaced-apart heated jaws arranged on either side of said tube, said jaws being movable toward each other to clamp said tube between them and thereby form a seal in said tube, then downwardly to advance said tube, then away from each other to release said tube, and then upwardly to their initial position preparatory to the formation of another seal in said tube:
an adjustable drive mechanism for effecting the upward and downward movements of said sealing jaws comprising a roller rotatable about an axis fixed with respect to the machine frame, a roller rotatable about an axis adjustable in an arcuate path with respect to a fixed axis on the machine frame, and a roller rotatable about an axis reciprocable in an arcuate path with respect to a fixed axis on the machine frame, all of said axes being parallel, a cable fastened at one end to said sealing jaws and extending over said fixed roller and adjustable roller and having its other end secured to said reciprocable roller, means for reciprocating said reciprocable roller through a swing of constant length in order to impart upward and downward movement to said sealing jaws, and means for adjusting the position of said adjustable roller between the fixed point about which said reciprocable roller swings and the arcuate path along which said reciprocable roller swings, in order to vary the upward and downward stroke of said sealing jaws.

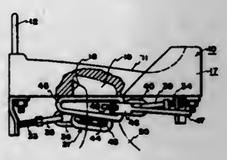
3,266,217
APPARATUS FOR HYDRAULIC CONTROL OF THE TRANSVERSE SEALING JAWS OF A PACKAGING MACHINE
Gerrit van den Bos, Weert, Netherlands, assignor to Hamac-Hansella Aktiengesellschaft, Viersen, Germany, a corporation of Germany
Filed Dec. 19, 1963, Ser. No. 331,664
Claims priority, application Germany, July 19, 1963, H 49,763
11 Claims. (Cl. 53—180)

1. In a packaging machine in which a tube of packaging material is drawn between a pair of sealing jaws, the jaws being movable toward each other to clamp the tube between them and produce a transverse seal in the tube, and away from each other to release the tube:
hydraulic apparatus for controlling said movements of said jaws comprising a piston-cylinder device allocated to each of said jaws, said jaws being connected to the pistons of their respective devices, a piston pump communicating with said cylinders through a



conduit, means for moving the piston of said pump through alternate pressure and suction strokes, a regulating valve, an auxiliary pump adapted to communicate with said piston pump through said regulating valve, and means for controlling said regulating valve to establish communication between said auxiliary pump and piston pump only during the suction stroke of said piston pump.

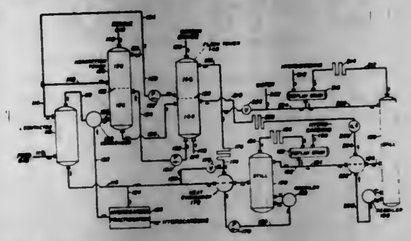
3,266,218
AUXILIARY SADDLE CONSTRUCTION
Wayne I. Pentz, Morgan, Utah
Filed Mar. 8, 1965, Ser. No. 437,789
5 Claims. (Cl. 54—44)



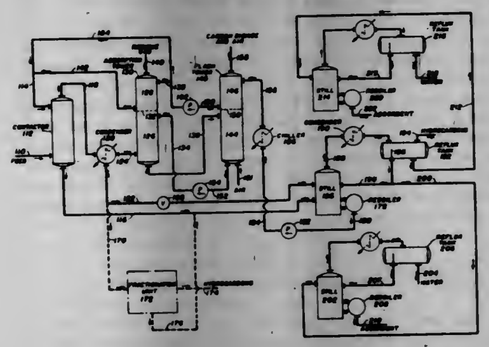
2. In combination, a primary saddle having an upstanding saddle horn, an auxiliary saddle member and clamping means affixed to the underside of said auxiliary saddle member for releasably and clampingly securing said auxiliary saddle member to said saddle horn.

3,266,219
REMOVAL OF ACID CONSTITUENTS FROM GAS MIXTURES
Byron B. Woertz, Crystal Lake, Ill., assignor, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Dec. 27, 1962, Ser. No. 247,699
11 Claims. (Cl. 55—48)

1. The process of removing gaseous acid gas from admixture with gaseous C_1–C_3 alkane hydrocarbons, which comprises contacting said gaseous admixture with an acid gas selected from the group consisting of carbon dioxide and hydrogen sulfide solvent consisting essentially of methyl dimethoxyacetate, under conditions resulting in selective absorption of said acid gas, and separating the unabsorbed components of said gaseous admixture from said solvent.



3,266,220
PROCESS FOR REMOVING ACIDIC CONSTITUENTS FROM GASEOUS MIXTURES
Byron B. Woertz, Crystal Lake, Ill., assignor, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Dec. 27, 1962, Ser. No. 247,700
12 Claims. (Cl. 55—48)



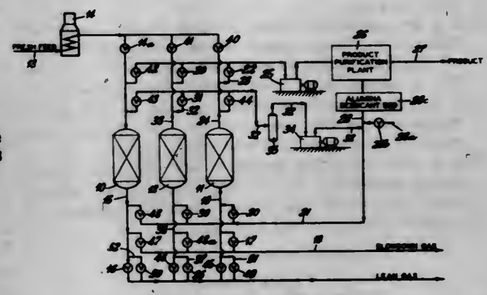
1. The process of removing gaseous acid gas of the group consisting of carbon dioxide and hydrogen sulfide from admixture with gaseous C_1–C_3 alkane hydrocarbons which comprises contacting said gaseous admixture with a solvent consisting essentially of at least one ether of a carbonitrile of the formula,

$$R—O—R'—CN$$

wherein R and R' are aliphatic radicals containing 1 to 4 carbon atoms, under conditions resulting in selective absorption of said acid gas, and separating the unabsorbed components of said gaseous admixture from said solvent.

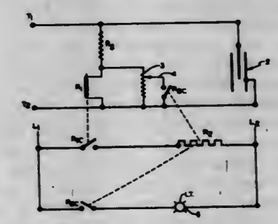
3,266,221
ETHYLENE RECOVERY FROM GAS MIXTURES
William F. Avery, Buffalo, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed June 2, 1964, Ser. No. 372,030
8 Claims. (Cl. 55—58)

1. A process for recovering ethylene from a gas mixture containing nitrogen as the principal constituent and at least ethylene and carbon dioxide as minor constituents, comprising the steps of providing said gas mixture and an adsorption zone of crystalline zeolitic molecular sieve bodies having voids between the bodies; introducing said gas mixture as feed at the inlet end contacting same with the molecular sieve zone at first subatmospheric pressure and temperature of 0–150° C., thereby selectively coadsorbing said ethylene and carbon dioxide in the molecular sieve and trapping part of said gas mixture in said voids; discharging an ethylene and carbon dioxide-depleted effluent from the exit end of said molecular sieve zone; establishing at least an ethylene-carbon dioxide coadsorption front at the inlet end and progressively moving such front longitudinally through said molecular sieve zone to a predetermined location intermediate said inlet and exit ends and terminating the introduction of said gas mixture to the molecular sieve zone; removing at least most of the nitrogen portion of the void space gas through the exit end of said zone whereby cocurrently depressurizing the zone from the first pressure to a second



lower pressure being less than one-half the first pressure; introducing carbon dioxide purge gas to the exit end of said molecular sieve zone and flowing said carbon dioxide longitudinally toward the inlet end thereby displacing the adsorbed ethylene and being itself adsorbed, and discharging a desorbate from the inlet end comprising ethylene and carbon dioxide; partially removing the adsorbed carbon dioxide displacement gas from the molecular sieve zone thereby reactivating the zone for subsequent contact with the feed gas mixture; separating the ethylene and carbon dioxide in the desorbate and withdrawing the separated ethylene as product; and recycling the desorbed carbon dioxide displacement gas and the carbon dioxide separated from the product ethylene as at least part of said carbon dioxide purge gas.

3,266,222
VOLTAGE INDICATOR ARRANGEMENT FOR ELECTROSTATIC PRECIPITATORS
Gilbert H. Johnson, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Nov. 29, 1963, Ser. No. 327,036
1 Claim. (Cl. 55—104)

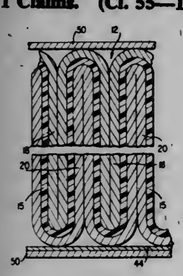


In an electrostatic precipitator arrangement for cleaning a dirty gas stream, an improved load indicator arrangement for indicating that a preselected maximum-

minimum voltage range is being delivered to said precipitator comprising:

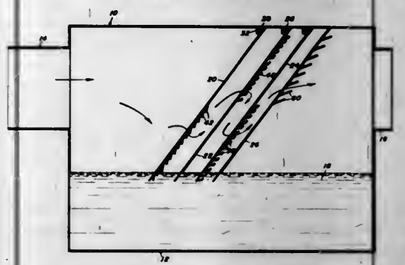
(a) a first circuit for delivering a high voltage to said precipitator connected thereacross;
(b) a second circuit for delivering a low voltage to said load indicator connected thereacross;
(c) a first relay member with a resistor in series therewith connected across said first circuit, said first relay member being responsive to operate at a preselected voltage range upon reaching a preselected voltage level across said first circuit;
(d) an adjustable variable resistor circuit shunting said first relay member to adjust the minimum voltage of the preselected maximum-minimum voltage range of said first relay member;
(e) a second relay member connected across said second circuit, said second relay member being a time delay relay;
(f) a first switching means in said second circuit responsive to the operation of said first relay member of said first circuit to cause said second relay member to operate after a preselected time period;
(g) a second switching means in said second circuit responsive to the operation of said second relay member to operate said load indicator; and,
(h) a third switching means in said variable resistor circuit responsive to the operation of said second relay member in said second circuit to operate said variable resistor in said first circuit.

3,266,223
DIFFUSION APPARATUS
Thorpe Dresser, Markham, and Reading B. Smith, Flossmoor, Ill., assignors to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware
Filed Oct. 6, 1961, Ser. No. 143,323
11 Claims. (Cl. 55—158)



1. An apparatus for separating a fluid mixture which consists essentially of a flexible film which is more permeable to a first component of the fluid mixture and less permeable to a second component of the fluid mixture, said film being reinforced on one side by a first supporting flexible sheet material permeable to said mixture and on the other side by a second supporting flexible sheet material permeable to said mixture to form a fluid-separating unit, said fluid-separating unit being formed into a plurality of adjacent convoluted sections having lengths extending between the turns of said convolutions, each of said plurality of convoluted sections being so disposed that said first and second supporting sheets form opposed essentially contacting surfaces with itself along the extended lengths of the convoluted sections, an inlet means communicating with the convoluted surface of said first supporting flexible sheet material on one side of said film, to deliver a fluid mixture to said surface, and an outlet means communicating with the convoluted surface of said second supporting flexible sheet material on the opposite side of the film from said first supporting material for recovering the separated fluid product.

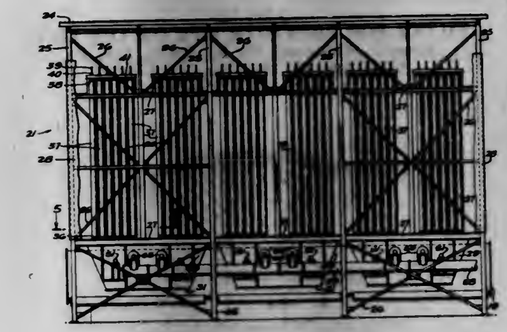
3,266,224
GAS PURIFICATION APPARATUS
Julius J. Ferretti, Mineola, N.Y., assignor to J. W. Todd Ferretti, New York, N.Y.
Filed Aug. 13, 1963, Ser. No. 301,809
3 Claims. (Cl. 55—241)



1. In a device for purifying gas apparatus comprising a casing having end walls, side walls, a bottom wall and a top wall, an inlet duct provided in one of said end walls and an outlet duct provided in the other of said end walls, said inlet and outlet ducts being adjacent said top wall; at least three parallel separator plates disposed transversely within the casing, in an abutting, sealing relationship with the side walls and top wall of the said casing, said plates having their bottom edges spaced above said bottom wall and being inclined so that the bottom edges are closer to the inlet than the upper edges thereof, the lower portion of said casing containing a supply of liquid having a height greater than the lower level of said separator plates such that said separator plates divide said casing into a series of parallel chambers, each of said separator plates having a plurality of apertures therein to provide communication between the said chambers, said apertures in the first of said separator plates are situated only in the lower portion of said separator plates and the apertures in the second of said separator plates are situated in the upper portion of said separator plate, with such sequence of openings being repeated for the remainder of said separator plates to provide a zigzag path of flow for the gases as they travel through the casing, each of said apertures having deflectors adjacent thereto, said deflectors being struck out of and attached to said separator plate on the downstream surface thereof, in relation to the intake end of said casing, to direct the flow of the gases from one adjacent separator plate to the next adjacent separator plate, the free edge portion of said struck-out deflectors on the first of said separator plates extending in a first direction, the free edge portions of the struck-out deflectors on each of the remainder of the plates extending in a second direction substantially different from said first direction, and means to discharge a sheet of liquid down the upstream surface of at least two separator plates so as to mix the gas and liquid as they pass through the chambers defined by said separator plates.

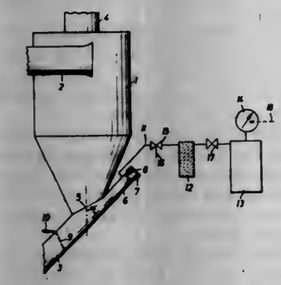
3,266,225
BAG HOUSE FACILITY
Gordon W. Barr, Pasadena, Calif., assignor to Southwestern Portland Cement Company, Los Angeles, Calif., a corporation of West Virginia
Filed Aug. 4, 1965, Ser. No. 752,986
27 Claims. (Cl. 55—273)

1. In a filtering facility for removing contaminants carried in a gas stream, said facility being of the type having a main frame, a plurality of groups of flexible tubular filters stationarily supported at their opposite ends by said main frame and continuously open at one end into collector means for filtered contaminants, the walls of said tubular filters being unrestrained and free to collapse against one another and thereby substantially cut off flow along their interiors, and means for delivering the gas stream to said filters under super-atmospheric pressure through the continuously open end thereof thereby normally maintaining said filters inflated; that improvement which comprises means for removing adhering contaminants from the filter walls of one of said filter groups by momentarily drawing a partial vacuum on the filters thereof to collapse the filter walls against one another



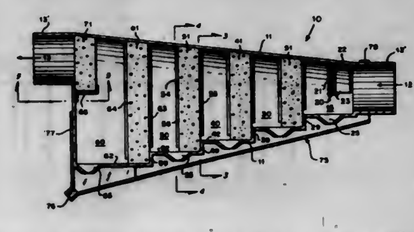
thereby substantially cutting off gas flow along said collapsed filters, and means for thereafter suddenly resuming the supply of said contaminated gas to said collapsed group of filters to reinflate the filter walls abruptly and with snap action to dislodge adhering contaminants by the snap action reinflation thereby allowing dislodged contaminants to fall by gravity through said continuously open end of said filters for collection in said collection means.

3,266,226
SUPERVISORY APPARATUS FOR DUST SEPARATORS OPERATING AT OTHER THAN ATMOSPHERIC PRESSURES
Franz Müller, Bensberg Refrath, Wilhelm Görtz, Spich, Siegkreis, and Kurt Schmillen, Cologne-Holweide, Germany, assignors to Klöckner-Humboldt-Deutz Aktiengesellschaft, Cologne-Deutz, Germany, a corporation of Germany
Filed Oct. 18, 1963, Ser. No. 317,349
Claims priority, application Germany, Oct. 18, 1962, K 48,007
6 Claims. (Cl. 55—274)



1. With a dust-from-gas seperator, particularly for heat exchange between gases and fine-granular solids, having a separator chamber whose operating pressure differs from ambient atmospheric pressure, and having dust outlet means communicating therewith and defining a dust flow path therefrom, the combination of supervisory apparatus comprising an air inlet means located outside of said flow path and communicating with said dust outlet means near said chamber, said air inlet means comprising a tubular member connected with said dust outlet means and orifice means disposed on said tubular member, said orifice means usually providing communication between the ambient atmosphere and said chamber through said tubular member and part of said outlet means, and a sensing device communicating with said air inlet means, said sensing device being responsive to changes in gas flow through said orifice means as indicative of dust-discharge trouble.

3,266,227
WATER AND MIST ENTRAINMENT SEPARATOR
Bruno T. Plizak, Philadelphia, and Albert C. Check, Sr., Ambler, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed May 29, 1963, Ser. No. 284,264
1 Claim. (Cl. 55—426)

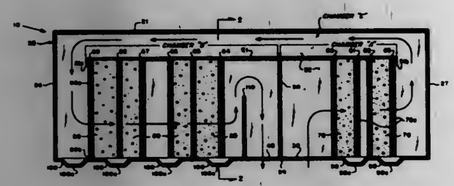


A device for separating and eliminating entrained liquid from a fluid medium comprising:

an elongated longitudinally extending hollow body member having a bottom wall of stepped-conical configuration of increasing cross-sectional area along its length, said stepped configuration forming a plurality of baffles a portion of each depending below the preceding one,
an inlet means at the smaller end of said member in a plane normal to the longitudinal axis of said member,
an outlet means at the larger end of said member in a plane normal to said longitudinal axis and transversely offset above said inlet means, said fluid medium flowing from said inlet means to said outlet means,
a plurality of coalescing means secured transversely in spaced relationship within said member and in a plane with each of said baffles for coalescing entrained liquid in said fluid medium, said coalescing means comprising open-pore foam material having a forward face directed toward the flow path and a rearward face directed away from the flow path, said baffles preventing the coalesced fluid from running back towards said inlet means during a change of attitude of said device,
a plurality of discharge means aligned directly below and in a plane with said rearward faces of said foam material for enabling efficient drainage of said coalesced fluid while minimizing pressure loss in the device,
screen means adjacent said inlet opening and extending from the top of said body member a distance sufficient to cover a portion of said inlet means for initially coalescing the entrained liquid and deflecting the liquid fluid medium in a downward direction,
a discharge means directly below said screen means and in the bottom of said member providing efficient drainage for the coalesced fluid from said screen means,

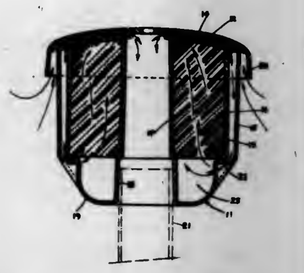
a coalescing means covering said outlet means for coalescing entrained liquid in said fluid medium and for preventing coalesced fluid from passing into said outlet means during a change of attitude of said device,
a discharge means directly below said coalescing means covering said outlet means and in the bottom of said member for providing efficient drainage of the coalesced fluids, and
drainage means secured to the lower portion of said member and extending along the longitudinal length of said member for accumulating and evacuating said coalesced fluid from said discharge means.

3,266,228
SEPARATOR FOR REMOVING LIQUID FROM A FLUID MEDIUM
Bruno T. Plizak, Philadelphia, and Albert C. Check, Sr., Chalfont, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 1, 1965, Ser. No. 436,390
1 Claim. (Cl. 55—426)



A device for separating and eliminating entrained liquid from a fluid medium comprising:
an elongated rectangular hollow housing member having top, bottom, side and end walls;
a longitudinal partition extending along the length of said body member and secured to said side walls forming a plenum chamber below said top wall and a passage means above said bottom wall, and openings at the ends thereof between said plenum chamber and said passage means;
a transverse partition normal to the length of said member secured between said longitudinal partition and said side and bottom walls and separating said passage means into inlet and outlet chambers;
an inlet means in said bottom wall adjacent to said transverse partition for communication with said inlet chamber, and an outlet means in said bottom wall adjacent to said transverse partition for communication with said outlet chamber, thereby causing the fluid medium to serially flow from said inlet means through said inlet chamber, plenum and outlet chamber to said outlet means;
a first and a second plurality of coalescing means secured to said bottom and side walls and said longitudinal partition in spaced relationship to each other within said inlet and outlet chambers respectively and interposed along the flow path of the fluid medium for sharply changing the direction of flow, said coalescing means comprising open-pore foam material having a forward face directed toward the flow path and a rearward face directed away from said flow path for coalescing entrained liquid in said fluid medium;
a plurality of discharge ports in the bottom wall of said housing member, directly below and in a plane with said rearward faces of said foam material, said discharge ports enabling efficient drainage of the coalesced fluid while minimizing pressure loss in the separator; and
a transverse baffle secured in the bottom and side walls of said housing member adjacent the outlet means for precluding any coalesced fluid in said outlet chamber from passing to said outlet means and said transverse partition precluding any coalesced fluid from passing between said inlet chamber and said outlet chamber during a change of attitude of said separator, thereby causing the coalesced fluid to discharge through said discharge ports.

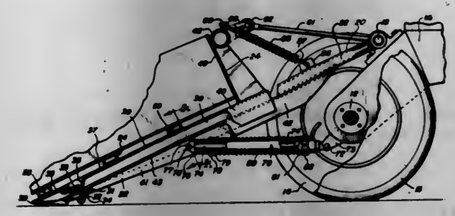
3,266,229
FILTER FOR BREATHER PIPE OR THE LIKE
Henry J. Witkowski, 561 E. 18th St., Erie, Pa.
Filed Apr. 22, 1963, Ser. No. 274,588
1 Claim. (Cl. 55—505)



An air filter comprising
a hollow integral body made of a molded plastic material and having a generally cylindrical outer wall,
a generally cylindrical center wall,
and a bottom,
said walls being secured together and defining an annular space therein having one open end,
said center wall having an open ended center space therein,
said outer wall being molded inwardly adjacent the bottom to form a plurality of circumferentially spaced apart lug members extending radially inwardly in said annular space toward and terminating short of said center wall and forming substantially flat shoulders facing the open end of said annular space,
a removable cover for said filter having a downwardly extending, generally cylindrical wall portion slightly less in size than said outer wall,
and a downwardly extending flange slightly greater in size than said outer wall and spaced apart therefrom,
said wall portion on said cover resting at its lower end on said shoulders of said lug members and defining a space between said cover wall portion and said center wall, and a space between said cover wall portion and said outer wall,
a hollow cylindrical filter member made of foam plastic material having air passages therethrough filling the space between said cover wall portion and said center wall and having a portion of its lower end resting on said shoulders of said lug members and being supported thereby,
said body having a counterbore in its bottom and having the end of a breather member tightly received in said counterbore,
said cover having circumferentially spaced apart, radially extending ribs resting on said center wall and said outer wall and spacing said cover from said walls,
said ribs having spaced lugs thereon engaging the outer surface of said center wall to locate said cover,

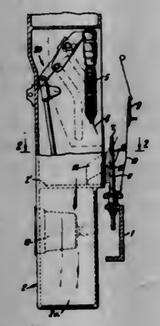
the entire lower end and the entire upper end of said foam material being unobstructed except for said shoulders and said ribs whereby air from said annular space may enter the lower end of said foam material and escape through the upper end of said foam material.

3,266,230
RADIAL FLOAT PLATFORM FOR HARVESTERS
William R. Rowbotham, Hamilton, Ontario, Canada, assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Continuation of application Ser. No. 375,414, June 8, 1964. This application Apr. 26, 1965, Ser. No. 453,551
10 Claims. (Cl. 56—208)



1. A vehicle, a pair of arm means pivoted on the vehicle on a horizontal axis, ram means connected to the vehicle at one end and having universal connection with said arm means at the other end, a platform, ball and socket connections supporting said platform on the arm means adjacent the forward end thereof, and stabilizing means between said arm means and the rearward end of said platform.

3,266,231
THREAD HOLDING DEVICE FOR USE ON SPINNING MACHINES
Siegfried Roller, Fellbach, Wurttemberg, and Gustav Idler, Strumpfelbach, Wurttemberg, Germany, assignors to Firma C. Eugen Maier Metallverarbeitung G.m.b.H., Fellbach, Wurttemberg, Germany
Filed Dec. 17, 1963, Ser. No. 331,303
Claims priority, application Germany, Jan. 18, 1963, M 55,473
1 Claim. (Cl. 57—53)



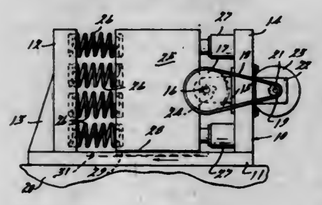
For use on a spinning machine comprising a spindle bench having a plurality of rotatable spindles mounted thereon, a carriage arranged alongside said bench and movable relative to said bench, said carriage having means on said carriage for removing a fully wound spool from a spindle on said spindle bench, means for directing an air stream against at least one of the spindles in a direction for maintaining newly wound thread thereon in position prior to the insertion of a new spool on the spindle, said last-mentioned means comprising means defining an interior compartment in said carriage, a blower mounted in said compartment and arranged to direct air therein for pressurizing said compartment, and means defining a discharge channel extending from said compartment and terminating in an opening disposed for directing a stream of air against at least one spindle in a direction obliquely upwardly for retaining the threads formed thereon in position so that they will not fall down under the influence of gravity.

3,266,232
POLYPROPYLENE ROPE STABILIZATION PROCESS
Henry D. Dawburn and Joseph W. Arnett, Waynesboro, Va., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Original application June 3, 1963, Ser. No. 284,912, now Patent No. 3,197,953, dated Aug. 3, 1965. Divided and this application Mar. 11, 1965, Ser. No. 444,496
4 Claims. (Cl. 57—157)



1. Process for treating a polypropylene rope containing a twisted central heart strand and, around the heart strand, at least one wrap having at least three strands in side by side relationship, with the direction of any adjacent wraps being opposite to each other, and with the twist in the strands in any wrap being opposite in direction to that of the wrap which contains the strands, which process comprises heating the said rope to a temperature of from about 135° F. to about 300° F. but below the softening point of the polypropylene and stretching the rope from about 5 to about 50 percent while it is in the heated state whereby the said rope will not readily unwind, untwist and fray when cut.

3,266,233
INERTIA PROPULSION DEVICE
Arthur W. Farrall, 639 Collingwood Drive, East Lansing, Mich.
Filed Sept. 4, 1964, Ser. No. 394,501
4 Claims. (Cl. 60—7)



1. In a reaction impulse device, a base, a heavy inertia member on said base mounted for movement toward one and the other end thereof, actuating means disposed be-

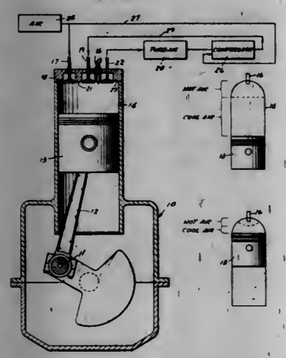
tween said inertia member and base, means for slowly advancing said inertia member to a cocked position to stress said actuating means relative to said inertia member and base, means for releasing said inertia member from said cocked position to permit said actuating means to react thereon and apply a power impulse to said base, and a body to which the base is rigidly secured, said body providing a reactive force to said cocking movement.

3,266,234

COMPRESSION IGNITION ENGINE AND METHOD OF OPERATING SAME

Harvey A. Cook, Cleveland, Ohio, assignor to TRW Inc., a corporation of Ohio

Filed Nov. 13, 1964, Ser. No. 410,992
7 Claims. (Cl. 60—13)



1. The method of operating a compression ignition engine including a cylinder, a piston reciprocable in said cylinder, and a fuel injector delivering fuel to said cylinder which comprises introducing a charge of relatively cool air into said cylinder, shortly thereafter introducing a charge of relatively hot air from outside said cylinder into said cylinders above said charge of cool air to provide stratified air charges of varying temperatures in the cylinder with the hot air charge surrounding said fuel injector, injecting fuel into the stratified charges, and compressing the resulting mixture in said cylinder with said piston to cause ignition of said fuel.

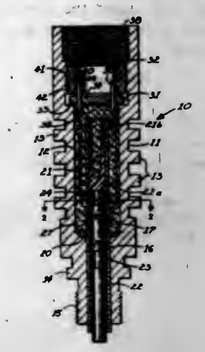
3,266,235

CONTROL APPARATUS

William L. Carlson, Jr., Bloomington, Minn., assignor to Honeywell Inc., a corporation of Delaware

Filed Nov. 2, 1964, Ser. No. 408,146
12 Claims. (Cl. 60—23)

1. A thermal actuator comprising: a body member having therein a pressure chamber and an elongated passage communicating with said pressure chamber; a thermally expansible material in said chamber; and a generally cup-shaped sealing and force transmitting member having a closed end and an open end and a laterally deformable wall portion, said member being connected to said body member only by being tightly fitted into said elongated passage in sliding engagement with the walls of said body member surrounding said passage and with the open end of the member in communication with said pressure chamber so that expansion of the material in said chamber is effective to drive said member outwardly from the chamber and to laterally deform the wall portion of said member to force it more tightly into engagement with the walls surrounding said elongated passage, said sealing and force transmitting



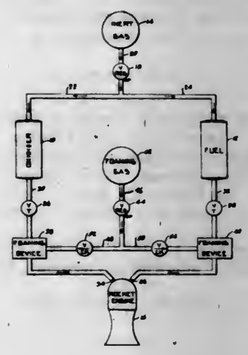
member being characterized in that it has an axial length greater than its stroke in said passage.

3,266,236

CONTROLLABLE THRUST ROCKET ENGINE

Richard E. Biehl, Pearl River, N.Y., and Joseph F. Loprete, Wayne, N.J., assignors to Curtiss-Wright Corporation, a corporation of Delaware

Filed July 17, 1963, Ser. No. 295,670
11 Claims. (Cl. 60—39.03)



8. A method for controlling thrust output in a propulsion system having a rocket motor and means for injecting a propellant under pressure into said rocket motor, said method comprising:

(a) regulating the pressure of said propellant upstream of said injector means in response to variations in thrust demand so that the pressure of said propellant is regulated in accordance with increases and decreases in thrust demand;

(b) supplying a foaming agent under constant pressure which constant pressure is less than the pressure of said propellant at least during maximum thrust demand and greater than the pressure of said propellant at reduced levels of thrust demand;

(c) dispersing said foaming agent into said propellant when the pressure of said propellant is reduced below the constant pressure of said foaming agent for foaming said propellant such that the density of said propellant is decreased with increases in the amount of foaming agent dispersed therein; and

(d) injecting said foamed propellant into the combustion chamber of said rocket motor whereby the weight flow of said propellant is reduced for reducing the thrust output of said rocket motor in accordance with a reduction in thrust demand.

3,266,237

CONTROLLED EXTINGUISHMENT AND RE-IGNITION OF SOLID PROPELLANT ROCKET MOTORS

Charles J. Crowell, Jr., and Frederick L. Haake, Oxnard, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed Sept. 30, 1963, Ser. No. 312,792
8 Claims. (Cl. 60—35.3)



4. A method of stopping and starting a burning solid propellant motor which comprises the steps of:

subliming the propellant surface under an explosive force,

at least a portion of an extinguishing material in granular form selected from the group consisting of the alkali halides and sulphur; coating said surface with a layer of said extinguishing material to reflect radiant energy from the flame zone and permanently extinguishing the motor, re-igniting the extinguisher propellant motor on command; whereby a stop-start propellant motor operation is achieved.

3,266,238

ROCKET WITH INTERNAL RESTRICTION

Emery C. Wilkerson, Chesterfield County, Va., assignor to Texaco Experiment Incorporated, Richmond, Va., a corporation of Virginia

Filed Mar. 28, 1963, Ser. No. 268,620
4 Claims. (Cl. 60—35.5)



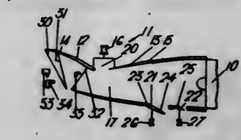
1. A reaction propelled device comprising a container, a pressurized expansible propelling medium in said container, an outlet nozzle at one end of the container communicating with the interior thereof, closure means for said nozzle, at least one partition member mounted interiorly of the container between the outlet nozzle and the other end of the container dividing the container into at least two chambers for the expansible propelling medium, and at least one orifice through each of the partition members restricting the flow of said pressurized expansible propelling medium between said chambers whereby, when said closure means is opened, the initial thrust level due to said propelling medium escaping through the nozzle will be high due to high equilibrium pressure in all said chambers, and whereby the thrust level will decrease as the pressure in the chamber in direct communication with the nozzle falls to a reduced level determined by the restricted flow rate through said orifice, said restricted rate also serving to increase duration of thrust.

3,266,239

APPARATUS FOR CONTROLLING THE POSITION OF A PART OR PARTS

James Reginald Simpson, Derby, and Norman Roberts, Hucknall, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain

Filed Dec. 14, 1964, Ser. No. 417,955
Claims priority, application Great Britain, Dec. 24, 1963, 51,018
19 Claims. (Cl. 60—35.6)



1. Control apparatus comprising fine and coarse control members, first and second rams which are respectively arranged to control the fine and coarse control members, the second ram having a control piston, first and second passages which are adapted to be supplied with a pressure fluid, and which are respectively open to opposite sides of the control piston, first and second vent valves, opening of which respectively causes a reduction of pressure in the first and second passages, a movable member which is movable by the first ram and which has two abutments which are respectively engageable with the first and second vent valves, the movable member being movable between a mid-position in which it engages neither vent valve and two further positions in which it respectively engages and effects opening of a selected vent valve, and means ensuring that, if the first ram is disposed adjacent the end of its travel in the direction in which it makes the fine control member exercise maximum control, it causes the movable member to effect opening of the first vent valve and so bring the coarse control member into operation, if the first ram should thereafter move in the opposite direction the movable member will move to the said mid-position in which the coarse control member will be stationary, and, if the first ram continues to move in the said opposite direction, the movable member will then effect opening of the second vent valve so as to move the coarse control member towards its inoperative position.

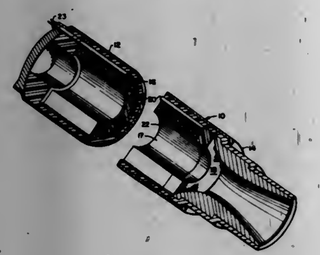
2. Control apparatus for controlling operation of a spill flap and a dump flap in a supersonic intake comprising first and second rams which are respectively arranged to control the spill flap and the dump flap, the second ram having a control piston, first and second passages which are adapted to be supplied with a pressure fluid and which are respectively open to opposite sides of the control piston, first and second vent valves opening of which respectively causes a reduction of pressure in the first and second passages, a movable member which is movable by the first ram and which has two abutments which are respectively engageable with the first and second vent valves, the movable member being movable between a mid-position in which it engages neither vent valve and two further positions in which it respectively engages and

effects opening of a selected vent valve, and means ensuring that, if the first ram is disposed adjacent the end of its travel in the direction in which it makes the spill flap exercise maximum control, it causes the movable member to effect opening of the first vent valve and so bring the dump flap into operation, if the first ram should thereafter move in the opposite direction the movable member will move to the said mid-position in which the dump flap will be stationary, and, if the first ram continues to move in the said opposite direction, the movable member will then effect opening of the second vent valve so as to move the dump flap towards its inoperative position.

3,266,240
THRUST CONTROL OF SOLID PROPELLANT ROCKETS

Lubomyr Kurylko, Alexandria, Va., and Louis Zernow, Glendora, and David V. Paulson, Long Beach, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

Filed Apr. 12, 1962, Ser. No. 186,900
19 Claims. (Cl. 60—35.6)

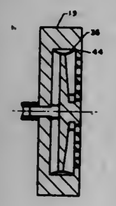


1. A gas generator comprising in combination a housing, a gas generating grain mounted in said housing, said gas generating grain having a burning surface, means in said housing associated with said gas generating grain for igniting said grain, and shaped charge means located in said gas generating grain for perforating the grain upon ignition to form recesses therein for communication with the burning surface to increase the area of the burning surface and thereby provide increased gas pressure.

3,266,241
PROPELLANT INJECTOR

John L. Jennings, Cupertino, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 29, 1963, Ser. No. 298,327
7 Claims. (Cl. 60—35.6)

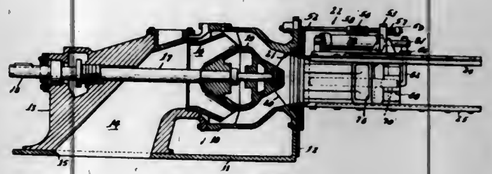


1. In a liquid propellant injection system of injecting a propellant into a combustion chamber comprising a source of liquid propellant, a propellant injector having a plurality of fluid passages therethrough and at least one injection orifice in fluid communication with each of said passages, fluid conducting means connecting said source of liquid propellant to said propellant injector and means for injecting a gaseous density control medium into said liquid propellant downstream from said source of liquid propellant and upstream of said propellant injector whereby a gas-liquid of lower density than said liquid propellant is formed for injection into said combustion chamber, the improvement comprising means, located in said fluid passages at a plurality of predetermined points downstream from said means for injecting a gaseous density control medium, for breaking up coalesced gas phase whereby the gas liquid medium flowing through said injection orifice is substantially uniform.

3,266,242
JET PROPELLED WATER CRAFT

George R. Aschauer, Racine, Wis., assignor to Twin Disc Clutch Company, Racine, Wis., a corporation of Wisconsin

Filed May 17, 1963, Ser. No. 281,104
19 Claims. (Cl. 60—35.54)



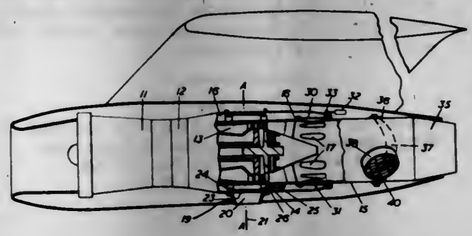
1. In jet propelled water craft having nozzle passage means and pumping means for discharging water through the nozzle means as a reaction propulsive jet, control means for regulating the jet flow comprising a housing carried by the craft and above the water line and through which the nozzle passage means extends, said housing including upper and lower flat surfaces which partially define said passage means, the passage means also being partly defined by unitary slidable door means which includes a vertical, flexible door having a flexing capability relative to the plane thereof throughout its length and rigidity against pressures acting transversely thereof, means for mounting said door on said surfaces and in said passage means for shifting and flexing to vary the cross sectional area of said passage means, and means for positioning the door means to vary the ratio of jet to craft speed.

3,266,243
GAS TURBINE JET PROPULSION ENGINE

Samuel David Thomas, Allestree, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a company of Great Britain

Filed June 23, 1964, Ser. No. 377,184
Claims priority, application Great Britain, July 15, 1963, 28,016/63
6 Claims. (Cl. 60—35.54)

1. A gas turbine jet propulsion engine comprising compressor means, combustion equipment, turbine means, a jet pipe and a jet nozzle all arranged in flow series along a horizontal longitudinal axis, an axially extending passage arranged to receive some of the air compressed by the compressor means, a stub pipe communicating with and extending radially from said passage, a fixed propulsion nozzle at the radially outer end of said stub pipe and arranged such that, in normal use, it may direct the compressor air from said passage substantially vertically downwardly to provide direct lift, a valve device adapted to permit and prevent flow of air through said propulsion nozzle, at least one exhaust nozzle having its axis inclined to the said horizontal longitudinal axis of the engine and communicating with said jet pipe, and deflector means disposed within said jet pipe and movable

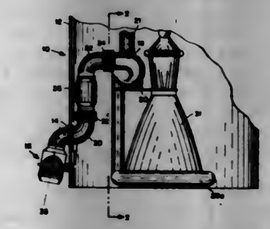


between two positions, in the first of which it permits exhaust gas flow through said jet pipe and prevents exhaust gas flow through each exhaust nozzle and in the second of which it prevents exhaust gas flow through the jet pipe and permits exhaust gas flow through each exhaust nozzle.

3,266,244
LIQUID-FUELED ROCKET ROLL CONTROL DEVICE

William A. Schulze, 1303 Hermitage Ave. SE., and Herbert W. Fuhrmann, 207 Marsheutz Ave. SW., both of Huntsville, Ala.

Filed Jan. 28, 1963, Ser. No. 254,514
3 Claims. (Cl. 60—35.55)

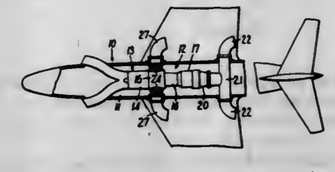


1. A roll control device for use in a liquid fueled rocket wherein a turbine is used to drive the rocket's fuel pumps comprising a hollow exhaust duct system for said turbine, said duct system being connected to the turbine exhaust and to the external wall of the rocket, an exit nozzle including a flexible tubular section having a plurality of interconnected ribbed sections, said nozzle having one end thereof secured to said duct system in fluid communication with said turbine exhaust and its other end open to the atmosphere, said tubular section being provided at opposite ends thereof with a pair of flanged elements, each of said flanged elements having a pair of arm members disposed on diametrically opposite sides of said tubular section, said arm members of the first of said flanged elements extending therefrom to a point intermediate said pair of flanged elements, said arm members of the second of said flanged elements extending therefrom to said intermediate point for pivotal connection to said arm members of the first of said flanged members, said pivotal connection comprising a shaft fixed to one of the arms extending from the flanged element on the end of the tubular section which is open to atmosphere, said shaft being rotatable within an aperture in the corresponding arm in the pair of arm members extending from the flanged element on the end of the tubular section which is secured to said duct system, and means connected to said shaft for adjusting the position of said nozzle to control the direction of gas flow from said nozzle to the atmosphere.

3,266,245
AIRCRAFT

John Albert Mullins, Darley Abbey, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a company of Great Britain

Filed Apr. 21, 1964, Ser. No. 361,512
Claims priority, application Great Britain, Apr. 25, 1963, 16,418/63
9 Claims. (Cl. 60—35.55)

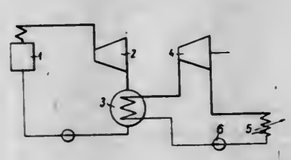


7. An aircraft having aircraft structure, a gas turbine jet engine mounted within said structure, first and second bearings arranged on opposite sides of the engine and mounted in said structure, rotatable jet nozzles which are spaced from said engine and which are respectively rotatable in said bearings, ducts arranged to receive streams of compressed air from the engine, and tubular connector members each of which is detachably and slidably connected both to a nozzle and to a duct.

3,266,246
BINARY VAPOR GENERATING SYSTEMS FOR ELECTRIC POWER GENERATION

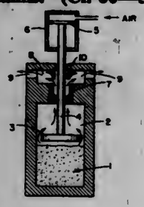
Laszlo Heller and Laszlo Forgo, Budapest, Hungary, assignors to "Licencia" Találmányokat Értékesitö Vállalat, Budapest, Hungary, a firm

Filed Feb. 1, 1963, Ser. No. 255,628
8 Claims. (Cl. 60—38)



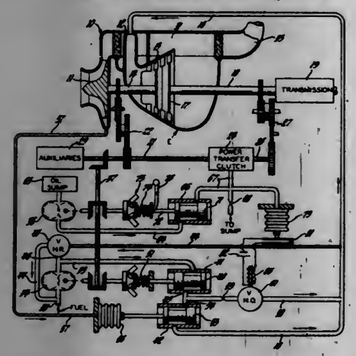
5. A binary vapor generating system comprising, in combination, a first stage having a substantially closed circulation path containing water, and including a first vaporizing means, a first heat engine, and first condensing means connected between the outlet of said heat engine and the inlet of said vaporizing means; and a second stage having a substantially closed circulation path containing a second fluid medium having a critical temperature less than that of water and a freezing point substantially less than the prevailing lowest ambient air temperature and substantially less than the freezing temperature of water, and including a second vaporizing means, a second heat engine, and air-cooled second condensing means connected between the exhaust of said second heat engine and the inlet of said second vaporizing means; said first condensing means and said second vaporizing means being in heat exchange relation whereby the heat of the exhaust steam is utilized to vaporize said second medium.

3,266,247
SOLID PROPELLANT BURNING CONTROL SYSTEMS
Robert W. Mann, Lexington, Mass., William S. Griffin, Fairview Park, Ohio, and Charles H. Marston, Berwyn, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 1, 1963, Ser. No. 292,170
6 Claims. (Cl. 60—39.02)



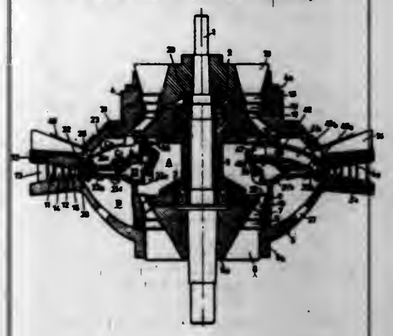
1. A hot gas generator comprising, in combination,
a combustion chamber having an outlet in one wall thereof for delivering combustion gases produced therein to a utilization device;
a solid propellant grain accommodated within said combustion chamber;
a ram fixedly positioned within said chamber, said ram having a plurality of tubular elements projecting from one face thereof;
and means for forcing said solid propellant after its ignition against said ram whereby the open ends of said tubular elements pierce the gas-solid interface of said solid propellant, said tubular element thereafter acting as heat transfer means for conducting heat from the flame zone back to the gas-solid interface of said solid propellant grain.

3,266,248
GAS TURBINE ENGINE FUEL AND POWER REGULATING SYSTEM
Kenneth G. Leslie, Fenton, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 6, 1964, Ser. No. 349,969
7 Claims. (Cl. 60—39.16)



1. A control for a free turbine type gas turbine engine having a gas generator including a turbine and having a power output turbine rotatable independently of the gas generator turbine, and including a variable-torque-controllable coupling between the said turbines, the control including
means for supplying fuel to the gas generator,
primary fuel control means operable to meter the fuel supplied to the gas generator to cause it to operate on a predetermined characteristic,
means operative to control the torque of the said coupling,
means responsive to a condition of the gas generator indicative of capability of the gas generator to assume a torque load regulating the said torque control, and
means responsive to a condition indicative of minimal transmission of torque by the said coupling effective to supplement the fuel supplied by the primary fuel control to the gas generator.

3,266,249
INTERNAL COMBUSTION TURBINE ENGINE
Sergio Simioni, Piazza in Lucina 16, Rome, Italy
Filed Aug. 27, 1963, Ser. No. 304,769
6 Claims. (Cl. 60—39.36)

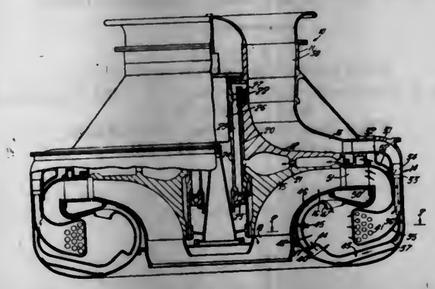


1. An internal-combustion turbine engine comprising
(I) stator means including
(a) axially disposed compressor guide vanes, and
(b) radially disposed turbine guide vanes;
(II) axially directed impeller means including
(a) compressor impeller blades forming, together with said compressor guide vanes, an axial-flow compressor, and
(b) turbine impeller blades forming, together with said turbine guide vanes, a radial-flow turbine;
(III) said stator means and said impeller means defining therebetween a space essentially consisting of
(a) an air compression chamber communicating at one location through a check valve with the discharge side of said compressor, at a second location through an additional check valve with an annular combustion chamber, and a third location through another check valve with ducts conducting air from further compressors and other combustion gases into said compression chamber, and of
(b) nozzle means formed by a portion of said combustion chamber for discharging the combustion gases into said radial-flow turbine.

3,266,250
COMBUSTION EQUIPMENT FOR A GAS TURBINE ENGINE
Frederick Freeman, Derby, and Herbert Frank Smith, Allenton, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed Jan. 20, 1964, Ser. No. 338,966
Claims priority, application Great Britain, Jan. 31, 1963, 4,127/63
3 Claims. (Cl. 60—39.36)

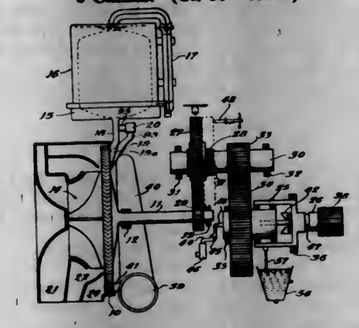
1. Annular combustion equipment for a gas turbine engine comprising an annular combustion chamber having a substantially elliptical cross-section within which

there is a combustion zone, an annular inlet passage which receives air flowing in a radially outward direction and which extends around the greater part of the wall of the combustion chamber, a plurality of angularly spaced-apart dilution air chutes which extend into the inlet passage and which communicate with the combustion chamber downstream of the combustion zone, means ensuring that one portion of the air supplied to the inlet passage passes via the chutes and into the combustion chamber so as to dilute the combustion gases, while another portion of



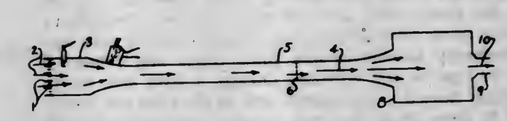
the air supplied to the inlet passage passes between said chutes and is supplied to the combustion zone so as to support combustion thereat, means for dividing the said other portion of air into two parts one of which forms a primary air supply to the combustion chamber and the other of which forms a secondary air supply therefor, and an annular outlet passage which is disposed between the combustion chamber and the inlet end of the inlet passage and which is adapted to receive the diluted combustion gases and to discharge them from the combustion equipment in a radially inward direction.

3,266,251
BURN RATE CONTROL VALVE FOR CARTRIDGE STARTER
Donald J. Kacek, Rockford, Ill., assignor to Sundstrand Corporation, a corporation of Illinois
Filed Oct. 10, 1963, Ser. No. 315,316
6 Claims. (Cl. 60—39.47)



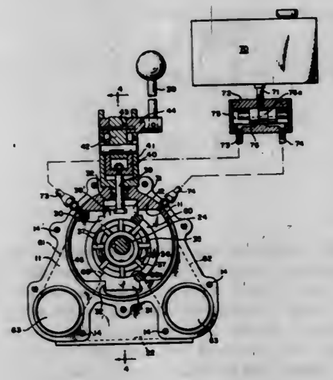
1. In an engine starter, a rotatable gas turbine wheel having means connected therewith for driving an engine, means providing a fuel combustion chamber, hot gas nozzle means disposed for directing combustion gases to said turbine wheel for rotating the latter, conduit means connecting said combustion chamber with said nozzle means, and pressure regulating relief valve means for maintaining a constant burn rate in the combustion chamber under varying temperature and pressure conditions, said regulating valve means being constantly in communication with said conduit means and responsive to flow through the valve means to increase the valve opening to reduced pressure upon increased flow caused by a pressure increase or a temperature rise in the chamber and decrease the valve opening to increase pressure upon decreased flow.

3,266,252
RESONANT PRESSURE GENERATING COMBUSTION MACHINE
John Wesley Hughes, Rte. 1, Box 82, Jamestown, N.C.
Filed Mar. 4, 1964, Ser. No. 349,329
6 Claims. (Cl. 60—39.77)



3. A resonant pressure generating combustion machine including in combination: a combustion chamber for the burning of a fuel-air mixture, means for charging the air in the combustion chamber with fuel, means for igniting the fuel-air mixture, a one way air intake valve on the combustion chamber, a hot accumulator, an exhaust tube connecting the combustion chamber and the hot accumulator, said hot accumulator comprising means to provide reversed exhaust gas flow to resonantly compress said fuel-air mixture in said combustion chamber.

3,266,253
VARIABLE SPEED HYDRAULIC TRANSMISSION
Raymond W. Bryant, 2348 Alki Ave., Apt. 203, Seattle, Wash.
Filed Sept. 24, 1964, Ser. No. 398,914
2 Claims. (Cl. 60—53)



1. A unitary power transmission mechanism comprising in combination, a pump unit and a motor unit; said pump unit comprising a case defining a pump chamber and said motor unit comprising a case enclosing a cylindrical motor chamber; said cases being joined substantially in coaxial adjacency to and separated by a middle plate; an impeller equipped driven pump motor mounted in the pump chamber; an impeller equipped rotor mounted in the motor chamber; a cylindrical valve ring provided with guiding lugs at the top and bottom thereof slidably fitted in guideways in the pump chamber, said valve ring being fitted about the pump rotor as a dam

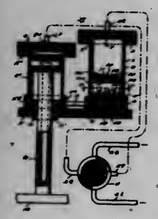
across the pressure medium circuit and formed in its opposite side walls with fluid passages through which the fluid pressure medium of the circuit will be pumped by driving of the pump rotor and forcibly circulated in the circuit for driving the motor rotor; means for shifting the valve ring in the pump case relative to the pump rotor to establish the volume and direction of flow of the pressure medium delivered to the motor by the pump for driving it comprising an adjusting linkage attached to the valve ring and connected with an adjusting member disposed exteriorly of the pump case operable for controlling direction and volume of flow of the pressure medium in the circuit with shifting of the valve ring relative to the pump rotor, such adjusting member comprising a guide frame fixed to the pump case, a U-shaped yoke longitudinally slidable in said guide frame and connected at its base to said adjusting linkage, a lever arm eccentrically hinged to an opposite end of the yoke and adapted to pivot about the hinge point to longitudinally slide said yoke radially toward and away from said pump case such that said valve ring is radially movable within said pump chamber; and fluid medium supply means exterior to the pump and motor unit comprising a storage tank for the pressure medium, a valve interconnecting said storage tank and opposite sides of said pump chamber, and a valve member slidably fitted in said valve and adapted to shift position in response to differential pressure changes at the opposite sides of said pump chamber such that pressure fluid from said storage tank is directed only to the side of the pump chamber constituting the suction side.

3,266,254

HYDRAULIC CYLINDER AND PISTON SAFETY MEANS

Harry R. Bucy, 625 S. Glenwood Place, Burbank, Calif.

Filed Apr. 22, 1965, Ser. No. 452,449
7 Claims. (Cl. 60—54.5)



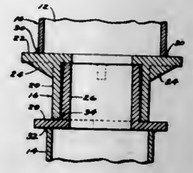
1. A safety means for use with a hydraulic motor means of the type comprising a hydraulically operated cylinder and piston and a fluid supply and return system including valve means operable to effect the imposition of hydraulic pressure on the desired face of the piston within the cylinder with resultant relative axial movement between the piston and cylinder and in which the piston is connected to and operates a piston rod guided in one end of the cylinder; said safety means comprising a hydraulic flow and pressure responsive instrumentality interposed in that portion of the system extending between the system valve means and that end of the cylinder in which the piston rod is guided, said instrumentality comprises an enclosed cylinder having a freely reciprocable piston element therein effecting fluid tight engagement with the wall surface of said enclosed cylinder, in which one end of the interior of said cylinder at one side of said freely reciprocable piston is connected to a hydraulic fluid flow to and from the system valve means, in which the interior of said cylinder at the other side of said freely reciprocable piston is connected for hydraulic fluid flow to and from the piston rod guiding end of the cylinder of said motor means, and in which said enclosed cylinder and piston include normally closed valve means and fluid conduit means associated therewith, said normally closed valve means being positioned to be opened by engagement with said freely reciprocable piston incident to the approach thereof into juxtaposition with an end of said enclosed cylinder with resultant opening of a passage for fluid flow from the end of said enclosed cylinder at which said normally open valve means has been opened by said freely reciprocable piston to the end of said cylinder at the opposite side of said freely reciprocable piston.

3,266,255

DRIVE-FIT TRANSITION SLEEVE

John J. Dougherty, Cedar Grove, N.J. (262 Rutherford Blvd., Clifton, N.J.)

Filed Dec. 10, 1963, Ser. No. 329,566
2 Claims. (Cl. 61—53)



1. A composite pile comprising a sectional body having an upper section and a lower section spaced therefrom, a transition sleeve interposed between and connecting the adjacent ends of said sections, said sleeve including a cylindrical pipe having a flange on one end of the body of the pipe, projecting transversely and inwardly and outwardly of the body of the pipe, the inside diameter of the body of the pipe being equal throughout its length, the bottom end of the upper section being welded to the flange on said pipe, another pipe having a cylindrical body fitted inside the first-named pipe, the lengths of the bodies of said pipes being equal, a flange on the end of the second-named pipe opposite to the flange on the first-named pipe, the diameter of the outside of the body of said second-named pipe varying throughout its length whereby said second-named pipe is wedge fitted inside the first-named pipe with the free end of each pipe abutting the flange of the associated pipe, the top end of the lower section being welded to the flange on said second-named pipe, said bottom section being offset inwardly from said upper section.

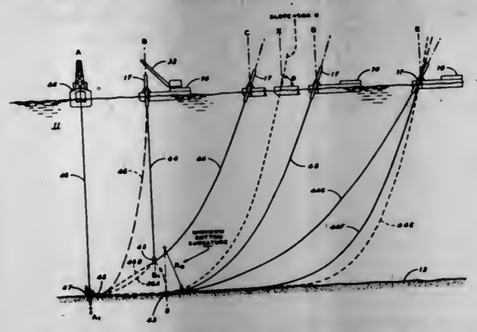
3,266,256

METHOD FOR LAYING SUBMARINE PIPE LINES

William R. Postlewaite, Menlo Park, and Milton Ludwig, Berkeley, Calif., assignors to Chevron Research Company, a corporation of Delaware

Filed Mar. 27, 1963, Ser. No. 268,368
7 Claims. (Cl. 61—72.3)

1. The method of laying a submarine pipe line at a predetermined location in deep water on an underwater bottom from a barge on the surface of a body of water comprising obtaining for a selected pipe the minimum radius within the elastic limit of said pipe of the curve of tangency of a pipe line made of said pipe in contact at a lower end portion thereof with an underwater bottom at said predetermined location while said pipe-line is supported at an upper end portion thereof in tension from a barge at the surface of a body of water, obtaining the depth of said water at said location, determining for said depth of water the amount of the slope of said upper end portion of said pipe line when the portion of said pipe line adjacent said underwater bottom is disposed in the said curve of said radius and said pipe line is disposed in the form of a catenary between said bottom and said barge and laying said pipe line at said location from said barge while controlling the tension in said pipe line to adjust the slope thereof at said barge to an amount which does not exceed the said amount determined therefor.

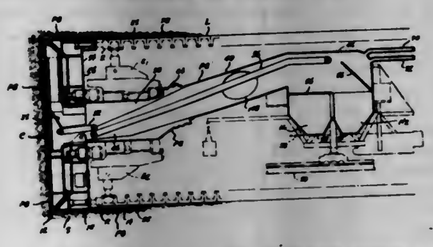


3,266,257

SHIELD TUNNELING METHOD AND MECHANISM

Raymond J. L. Larrouze, Neuilly sur Seine, Pierre F. Gesta, Montesson, and Pierre J. M. Goussault, Paris, France, and Douglas F. Winberg, Bellevue, and Richard J. Robbins, Seattle, Wash., assignors to James S. Robbins and Associates, Inc., Seattle, Wash., a corporation of Washington

Filed May 31, 1963, Ser. No. 284,604
24 Claims. (Cl. 61—85)



1. The method of tunneling comprising moving a shield mounted rotary cutterhead forwardly into material to be mined while rotating such cutterhead, delivering compressed air to pressurize the face of the tunnel forwardly of a transverse bulkhead portion of the shield and contiguous the cutterhead, removing mined material from the cutterhead region successively through the cutterhead, an opening in the bulkhead, and a conveyor tube means hermetically sealed at its forward end to said bulkhead about the opening therein, and extending rearwardly of bulkhead from said opening to a discharge station, and hermetically sealing the pressurized zone at the face of the tunnel from the unpressurized remaining portion of the tunnel, situated rearwardly of the bulkhead.

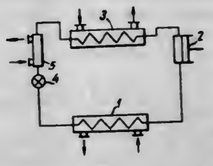
3,266,258

METHOD OF INCREASING A VAPOUR COMPRESSING REFRIGERATING MACHINE COOLING EFFECT

Lev Markovich Rosenfeld, Leningrad, Vjacheslav Valerjanovich Arkhangelsky, Lyubertsy, and Ilja Lvovich Gerlovin, Leningrad, all of U.S.S.R., assignors to Leningradsky Tekhnologichesky Institute Cholodilnoi Promyshlennosti

Filed Aug. 13, 1964, Ser. No. 389,402
8 Claims. (Cl. 62—3)

1. In a vapor type refrigerator which includes a compressor, an evaporator, a condenser, a thermostatic valve, a first conduit connecting said compressor to said evaporator, a second conduit connecting said compressor to said condenser, a third conduit connecting said condenser to said thermostatic valve, a fourth conduit for connecting said thermostatic valve to said evaporator and refrigerant circulating in said conduits, a thermoelectric cooler about said third conduit for lowering the temperature of refrigerant in said third conduit comprising a plurality of cooler elements, each of said cooler elements including a copper prism disposed around said third conduit and provided with side faces, semi-conductor thermoelectric junction elements disposed against said side faces and extending beyond the ends of said prisms, the interface between said semi-conductor thermoelectric junction elements and the side faces of said prisms being adjacent the regions of the cold junctions of thermoelectric junction elements, further apertured copper elements abutting the extending portions of said thermoelectric junction elements, the interface between said extending portions and said further apertured copper elements being adjacent the regions of the hot junctions of said thermoelectric junction elements, and means for feeding coolant through the apertures of said further apertured copper elements for reducing the temperature of the hot junctions.

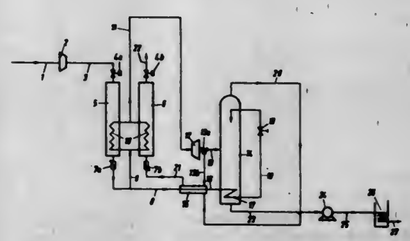


3,266,259

PROCESS FOR PRODUCING OXYGEN BY FRACTIONATION OF AIR AT LOW TEMPERATURES IN SMALL INSTALLATIONS

Rudolf Becker, Munich-Solln, Germany, assignor to Linde Aktiengesellschaft

Filed Jan. 24, 1963, Ser. No. 253,591
Claims priority, application Germany, Jan. 26, 1962, G 34,110
3 Claims. (Cl. 62—14)



1. A process for the low temperature separation of oxygen from air, which process comprises:
(1) compressing raw air to about 6–8 atmospheres;
(2) passing the compressed air through a regenerator to cool it and to deposit water and carbon dioxide impurities inside the regenerator;
(3) dividing the resultant cooled and cleaned air into two portions;
(4) passing the first portion of about 85–80% of the total cooled and cleaned air through coils embedded in the regenerators whereby the air is reheated;
(5) expanding said reheated air while doing external work;

(6) dividing the resultant expanded first portion into two parts;

6(a) passing the first part of about 15–45% of the first portion into a rectification column;

6(b) passing the second part of the first portion to a mixing point;

(7) passing the cooled second portion through the bottom of the rectification column and in indirect heat exchange relationship with the contents of said column, whereby the second portions acts as a heating medium for rectification and is thereby liquefied;

(8) expanding the liquefied second portion;

(9) passing the resultant expanded second portion into the upper zone of the rectification column;

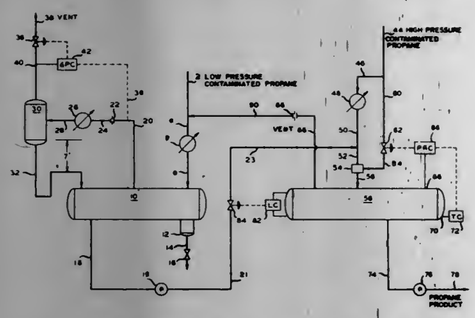
(10) rectifying the expanded second portion step (9) and the first part of the first portion step 6(a) in said rectification column to produce a bottoms fraction of oxygen and an overhead fraction of air partially depleted of oxygen;

(11) withdrawing liquid oxygen from the bottom of said rectification column only in a quantity of one-tenth to one-third of the oxygen content of the compressed raw air step (1);

(12) passing the overhead to the mixing point of step 6(b) and mixing it with the second part of the first portion; and

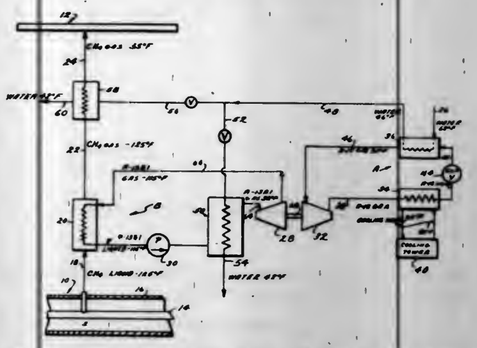
(13) passing the resultant gaseous mixture of the overhead and second part of the first portion, as scavenging gas, to a regenerator containing deposited H_2O and CO_2 therein, whereby the scavenging gas removes said impurities from the regenerator.

3,266,260
VENTING OVERHEAD CONDENSER RESPONSIVE TO PRESSURE DIFFERENTIAL
Carl S. Kelley, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 23, 1963, Ser. No. 318,358
8 Claims. (Cl. 62—21)



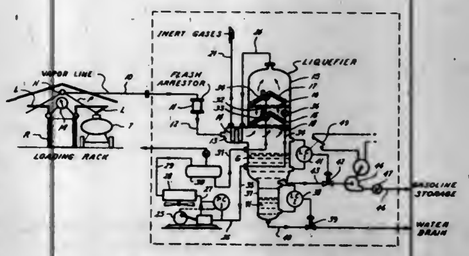
1. Apparatus comprising, in combination, a first vessel, a first and second inlet conduit to said first vessel, a first outlet conduit in a lower portion of said vessel, a second outlet conduit in an upper portion of said vessel in communication with a second vessel, a cooling means disposed so as to cool at least a portion of said second outlet conduit, a third outlet conduit in communication with the lower portion of said second vessel and said first vessel, a vent conduit in an upper portion of said second vessel, a valve means in said vent conduit, means for providing a pressure in said first vessel greater than the pressure in said second vessel, pressure sensing means disposed so as to determine the difference in pressure in said first and second vessels, and control means for actuating said valve means responsive to a signal from said pressure sensing means.

3,266,261
METHOD AND APPARATUS FOR EVAPORATING LIQUEFIED GASES
James H. Anderson, 1615 Hillock Lane, York, Pa.
Filed Nov. 27, 1964, Ser. No. 414,239
9 Claims. (Cl. 62—52)



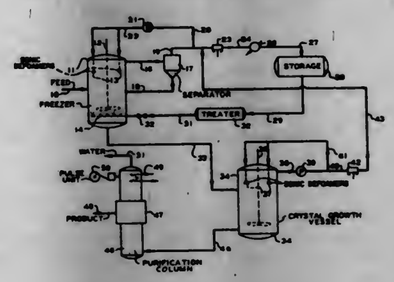
9. A method of vaporizing a liquefied gas from a source thereof maintained at superatmospheric pressure and low temperature and simultaneously producing power comprising: withdrawing a stream of liquefied gas from said source; raising the pressure of a stream of condensed working fluid; passing the pressurized stream of working fluid in heat exchange relationship with a stream of warm fluid at a higher temperature from a heat source to thereby vaporize said working fluid; extracting mechanical work from said pressurized stream of working fluid by partial expansion thereof in a first stage; dividing the partly expanded working fluid into first and second streams; extracting additional work by further expanding said first stream in a second stage; condensing said first and second streams and simultaneously vaporizing said stream of liquefied gas, said first stream being condensed by passing it in heat exchange relationship with said stream of liquefied gas, said second stream being condensed by passing it in heat exchange relationship with the stream of liquefied gas after it has given up heat to said first stream.

3,266,262
VAPOR RECOVERY METHOD AND SYSTEM
Edward L. Moragne, 4723 Nenana Drive, Houston, Tex.
Filed Jan. 14, 1965, Ser. No. 425,481
14 Claims. (Cl. 62—54)



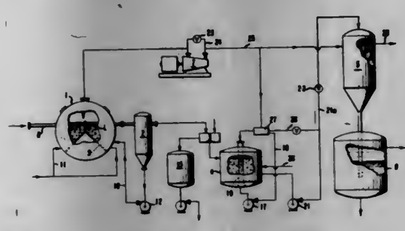
1. The method of recovering liquefiable components from vapors evolved during the filling of tanks with volatile hydrocarbon liquids, comprising, cooling the vapors in a first chilling stage to a dew point temperature for water vapor present in the vapors effective to condense and separate the water from the vapors, thereafter cooling the water-freed vapors in a second chilling stage to a lower temperature effective to condense and separate therefrom the condensable hydrocarbon components remaining in the vapors, and recovering the condensed hydrocarbons.

3,266,263
CONCENTRATION OF AQUEOUS SOLUTIONS BY CRYSTALLIZATION WITH SONIC DEFOAMING
Lyle W. Pollock, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 11, 1962, Ser. No. 201,654
5 Claims. (Cl. 62—58)



1. A process for concentrating an aqueous solution which comprises the steps of contacting said aqueous solution with carbon dioxide so as to form a slurry of ice crystals and aqueous solution in a crystal forming zone; passing vaporous carbon dioxide to a first sonic defoaming means positioned within said crystal forming zone; withdrawing vaporous carbon dioxide from said crystal forming zone; passing said slurry from said crystal forming zone to a crystal growth zone; maintaining the temperature in said crystal growth zone at least 1 to 2° F. below that in said crystal forming zone so as to provide for continuous growth of said ice crystals; passing vaporous carbon dioxide to a second sonic defoaming means positioned within said crystal growth zone; withdrawing carbon dioxide from said crystal growth zone; maintaining the pressure within said crystal growth zone lower than the pressure within said crystal forming zone; permitting said ice crystals to grow within said crystal growth zone; and separating a concentrated aqueous solution from the slurry withdrawn from said crystal growth zone.

3,266,264
SALINE WATER CONVERSION
Hans Svanoe, North Warren, Pa., assignor, by mesne assignments, to Struthers Scientific and International Corporation, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 43,827, July 19, 1960. This application July 21, 1965, Ser. No. 473,609
4 Claims. (Cl. 62—123)



1. Crystallization apparatus, comprising:

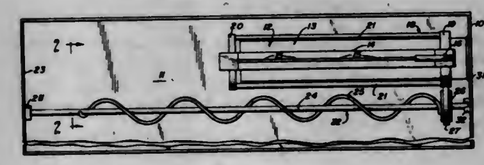
(a) means defining a crystallization chamber;

(b) a baffle within said chamber and providing at least one leg portion projecting angularly with respect to a wall surface portion of said chamber, each leg portion at its outer extremity being in abutment with said wall surface portion, said baffle serving to set off within said chamber a liquid space adapted to contain solution to be treated;

(c) means for maintaining turbulent flow of liquid in said liquid space; and

(d) means for the introduction of vaporizable liquid refrigerant into said liquid space and adjacent the outer extremity of each leg portion, each of said leg portions, adjacent its outer extremity, and in cooperation with said wall surface, being adapted to provide a comparatively constricted path of flow of refrigerant into said liquid space, said chamber providing a vapor space adapted to receive vaporized refrigerant.

3,266,265
ICE MAKER WITH ICE SPREADER FOR RECEIVER
Wynn G. Winkler, St. Paul, Minn., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Nov. 2, 1964, Ser. No. 407,992
2 Claims. (Cl. 62—344)

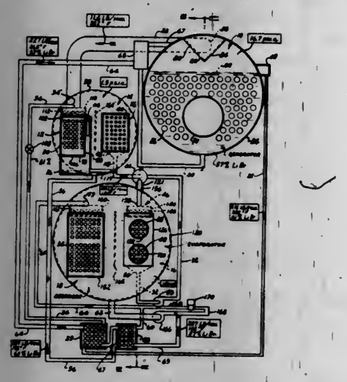


2. In an ice maker for producing loose masses of ice, apparatus comprising: a receiver, having a bottom, in which said loose masses are received; an ice maker above which bottom having powered rotatable means for removing ice therefrom in said loose mass; a driven ice spreader means above said bottom for distributing said ice away from said ice maker and along said bottom; power transfer means for driving said ice spreader means from said powered removing means comprising interengaging yielding friction drive members on said removing means and said ice spreader means; and releasable mounting means for said ice spreader means urging said friction members toward each other on releasing movement of the ice spreader means from said mounting means.

3,266,266
DOUBLE EFFECT ABSORPTION REFRIGERATION MACHINE
John Graham Reid, Jr., Grosse Pointe, Mich., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 2, 1963, Ser. No. 299,547
7 Claims. (Cl. 62—476)

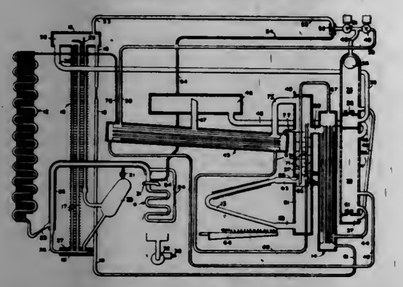
1. In an absorption refrigeration machine comprising a first generator and a second generator arranged so that refrigerant vapor from the first generator and refrigerant-absorbent solution from the first generator pass in heat exchange relation with one another in the second generator to release additional refrigerant vapor from the solution: the improvement comprising the formation of the first generator as a first horizontal solution shell having a series of horizontal firetubes located below the solution level; said second generator comprising a second horizontal shell, and a series of heat exchange tubes extending within the second shell below the solution level in the first shell; means for passing refrigerant vapor from the first generator into the second generator tubes; conduit means for gravitationally passing liquid refrigerant-absorbent solution from the first shell into the second shell and over the outer surfaces of the second generator heat exchange tubes to release refrigerant from

the solution; means for receiving condensed refrigerant from the second generator tubes comprising a first chamber located at the outlet ends of the tubes, a second chamber, and a restricted passage between the first and second



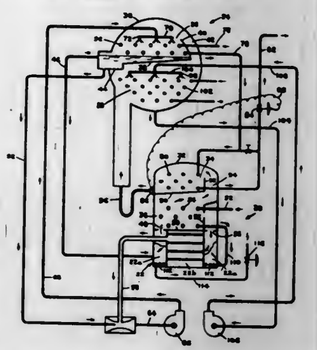
chambers for passing condensed refrigerant and flashed vapor into the second chamber; and an additional passage between the second chamber and interior of the second generator shell to permit flashed vapor to pass into the second shell.

3,266,267
ABSORPTION REFRIGERATION
Richard H. Merrick and Richard A. English, Indianapolis, Ind., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed May 20, 1964, Ser. No. 368,932
2 Claims. (Cl. 62—476)



1. An absorption refrigeration machine comprising:
an absorber section for the absorption of refrigerant vapor;
an evaporator section for evaporation of a refrigerant liquid and cooling of a refrigeration load;
a generator section for vaporizing refrigerant and concentrating absorbent solution;
a condenser section for liquefying refrigerant vapor formed in said generator section;
a refrigerant heat exchanger, having a first side and a second side, for passing a fluid through said first side in heat exchange relation with a fluid passing through said second side thereof;
first refrigerant passage means extending directly between said first side of said refrigerant heat exchanger and said condenser section for passing refrigerant from said condenser section through said first side of said refrigerant heat exchanger;
first fixed refrigerant flow restriction means disposed in said first refrigerant passage means;
second refrigerant passage means extending between said first side of said refrigerant heat exchanger and said evaporator section, for passing refrigerant from said first side of said refrigerant heat exchanger to said evaporator section;
second fixed refrigerant flow restriction means disposed in said second refrigerant passage means;
third refrigerant passage means extending between said evaporator section and said second side of said refrigerant heat exchanger, for passing refrigerant and absorbent solution contaminating said refrigerant having refrigerant absorbed therein from said evaporator section through said second side of said refrigerant heat exchanger in heat exchange relation with refrigerant passing through said first side thereof to evaporate refrigerant from said absorbent solution, thereby cooling the refrigerant passing through the first side of said refrigerant heat exchanger, and recovering useful work from the refrigerant absorbed in the absorbent solution which contaminates the refrigerant passed through said evaporator section; and
fourth refrigerant passage means extending from said second side of said refrigerant heat exchanger to said absorber section, for passing refrigerant from said second side of said refrigerant heat exchanger to said absorber section.

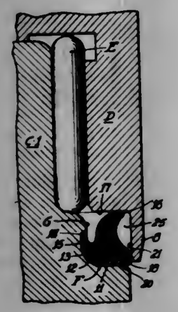
3,266,268
SUB-COOLING STEAM CONDENSATE IN TUBE SIDE OF HEAT EXCHANGER FOR AN ABSORPTION REFRIGERATION SYSTEM
Ronald C. Van Meerbeke, Keyport, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Jan. 19, 1965, Ser. No. 426,637
4 Claims. (Cl. 62—489)



1. A heat exchange means for a closed cycle absorption refrigeration system in which a brine solution is circulated and which system has an absorber, an evaporator, a generator, a condenser, and conduit means operatively connecting these components to form said system, said heat exchange means comprising:
(a) casing operatively disposed intermediate the absorber and the generator,
(b) the casing having a shell side portion and a tube side portion formed therein,
(c) the shell side portion in communication with the strong solution which flows from the generator to the absorber subsequent to passing therethrough;
(d) the tube side portion in communication with the weak solution which flows from the absorber to the generator subsequent to passing in indirect heat exchange relationship with the strong solution in the casing,

(e) a steam condensate tube bundle disposed in the tube side portion of the casing to pass condensate therein in indirect heat exchange relationship with the weak solution whereby steam condensate will be subcooled below the saturation temperature at atmospheric pressure prior to discharge from the casing of the heat exchange means.

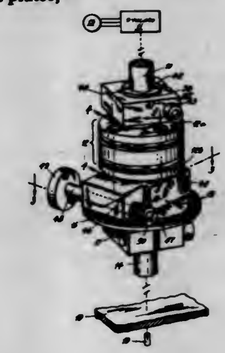
3,266,269
SEALING ELEMENT
Raymond E. Stokely, Rockford, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 25, 1962, Ser. No. 232,977
1 Claim. (Cl. 64—17)



A sealing device for a universal joint having a cylindrically shaped trunnion rotatably received within a bearing having a flat radially extending surface, comprising an annular member having a body adapted to fit about the cylindrical surface of said trunnion, means on one side of said body adapted to prevent movement of said annular member in one axial direction thereof, said annular member having a first annular lip projecting radially inward from a radially inner side thereof and adapted to flex in a radial direction of said annular member for sealing against the outer surface of said trunnion, said annular member also having a second annular sealing lip projecting from another side of said member opposite said one side and adapted to seal against said flat radially extending surface of said bearing, said second lip being adapted to flex in a radially outwardly direction to accommodate axial movement of said bearing relative to said trunnion.

3,266,270
PRECISION COUPLING AND ADJUSTABLE ZEROING DEVICE
Jerome Yutkowitz, Brooklyn, N.Y., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 5, 1964, Ser. No. 387,814
1 Claim. (Cl. 64—24)

A flexible precision adjustable coupling arrangement for coupling together a pair of shafts which may be misaligned comprising:
(a) a flexible coupling having
(1) a pair of metallic end plates each having a central passage therethrough and a split hub extending outwardly thereof,
(2) a metallic inner center plate disposed intermediate of said end plates and having a central passage therethrough aligned with said passages of said end plates,
(3) flexible metallic discs disposed intermediate said inner and end plates,
(4) said plates and discs being each provided with four apertures symmetrically disposed about said central passages and extending axially thereof, said apertures of said plates and discs being aligned,
(5) washers disposed intermediate said discs and plates and aligned with said apertures and in abutting relation with said discs and plates,
(6) walls defining an opposing pair of said apertures in said inner plate being provided with threads,
(7) first screw means extending inwardly from said end plates through said apertures and threadingly mating into said opposing pair of apertures in said inner plate,
(8) said first screw means being free to move lengthwise within said end plates,
(9) second screw means extending outwardly from said inner plate through the other of said apertures in said discs and end plates and bolted at said end plates,

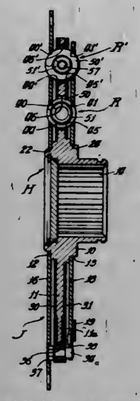


(10) said second screw means being free to move lengthwise within said innner plate,
(b) a first clamp affixing one of said split hubs of said coupling to one of said shafts,
(c) means for selectively clamping the other of said shafts to the other of said split hubs,
(d) an indexing turntable disposed about the other of said shafts and affixed thereto and carrying a spiroid gear,
(e) an adjustable turning means pinned for rotation with the other of said split hubs and carrying a rotatable pinion and disposed intermediate said turntable and said other hub with said gear and pinion in operative engagement,
(f) whereby said shafts are coupled together and one of said shafts can be rotatably indexed and referenced with respect to the other of said shafts by said turning means and thereafter clamping said other end of said coupling to said other shaft.

3,266,271
VIBRATION DAMPENER ASSEMBLY
Clinton V. Stromberg, Allen Park, Mich., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed June 8, 1964, Ser. No. 373,156
10 Claims. (Cl. 64—27)

1. In a torsional vibration dampener, a rotatable torque input member; a rotatable torque output member; an intermediate member frictionally engaged with one of said members; first resilient means interposed between said input member and said friction member; second resilient means interposed between said input member and said

output member, said first and second resilient means and said friction member providing a first path for torque transmitted from said input member to said output mem-

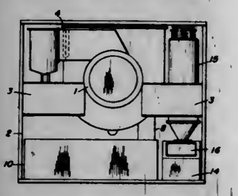


ber; and means for establishing a second path for the transfer of torque between said input member and said output member which is parallel to said first path.

3,266,272
COLORED FLAME CANDLE AND THE METHOD FOR MAKING SAME
William M. Fredericks, 172½ S. Madison Ave., Spokane, Wash.
No Drawing. Filed Feb. 17, 1965, Ser. No. 433,472
6 Claims. (Cl. 67—22)

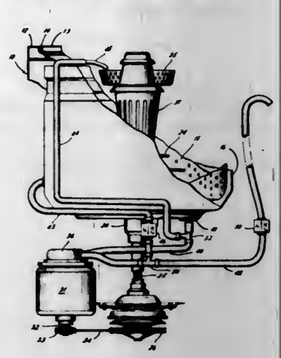
1. A colored flame candle consisting of a wick, flame coloring metallic salts in a body of a solid, alcohol derivative of urea, small additions of a combustible stiffening agent for added strength and rigidity, and a combustible sealing and coating agent.

3,266,273
GARMENTS DRY WASHING MACHINE
Ugo Pranovi, Via Stazione 12, Alte Ceccato, Vicenza, Italy
Filed Apr. 8, 1964, Ser. No. 358,262
Claims priority, application Italy, Apr. 11, 1963, 7,631/63
2 Claims. (Cl. 68—12)



1. A garments dry washing machine comprising a casing, a drum in the casing, an air filter having a cover forming a handle resting on a seat in the top wall of said casing, said air filter depending from said top wall, a lint filter having a cover provided with a handle and resting on a seat in said top wall of said casing, said lint filter extending throughout the height of said casing and dipping at its lower end in a tank at the bottom of said casing, and a distiller arranged along a side wall of said casing at the bottom thereof and having an inclined opening closed by a door in the front wall of said casing, said door being arranged above the normal solvent level in said distiller, a solvent filter being superimposed on said distiller.

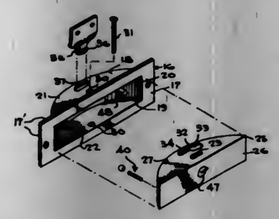
3,266,274
LAUNDRY APPARATUS
Joseph A. Schwing, Penndel, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed June 16, 1964, Ser. No. 375,437
8 Claims. (Cl. 68—18)



6. Laundry apparatus comprising: a rotatable container for fluid within which fabrics are washed; means for agitating the fluid and fabrics within said container; transmission means including elements selectively rotatable either in a forward or a reverse sense, rotation in one sense being effective to rotate the container to centrifuge fluid from fabrics within said container in achievement of one phase of a washing cycle, and rotation in the other sense being effective to drive the agitator means while the container remains substantially stationary in achievement of another phase; a single pump including a pair of ports, said pump being driven by reversible elements of said transmission means; means for handling said fluid during said phases and providing either for discharge of fluid as it is centrifuged from said container upon rotation thereof, or for circulation of fluid from said container to fluid treating means from which said fluid returns gravitationally to said container as said agitator is driven, said means for handling fluid including fluid drain conduit means for said container connected to one port of said pump, and fluid discharge conduit means connected to the other port of said pump and operable, when said pump is rotated in its one direction, to provide for flow of fluid from said container through said drain conduit means for delivery to the discharge conduit means; and control means operable, when said pump is rotated in its other direction, to prevent substantial reverse flow of fluid from said pump into said container through said drain conduit means and to provide for the mentioned circulation of fluid from said container to the fluid treating means.

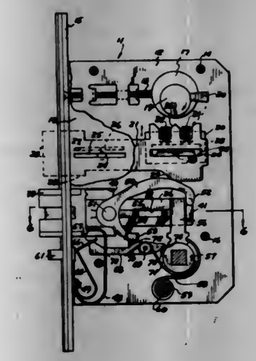
3,266,275
LATCH AND LOCK STRUCTURE
Wallace E. Atkinson, Petersburg, Va., assignor to Long Manufacturing Company Inc., Petersburg, Va., a corporation of Virginia
Filed Jan. 21, 1965, Ser. No. 426,946
7 Claims. (Cl. 70—70)

1. A combined latch and lock adapted to be mounted on separable parts of a container adjacent a line of separation therebetween, comprising a keeper to be affixed to one of the separable parts, a latching unit on a surface of the other of said separable parts including a housing member defining a well of substantially circular segment configuration concentric with an axis spaced outwardly from said surface of the associated separable part and opening outwardly thereof, a movable latch member of substantially coresponding configuration to said well nested therein, means supporting said latch member for circumferential displacement along an arcuate path about said axis from a normal latching position nested in registering relation in said well to a release position displaced circumferentially from said latching position in one direction, said housing member and latch member having keeper re-



ceiving apertures therein to receive a portion of said keeper in said latch member when said separable container parts are in a closed position, and said latch member including means for latching the keeper portion therein against withdrawal therefrom and for freeing the keeper portion for withdrawal when said latch member occupies said latching and release positions respectively.

3,266,276
DOOR LOCK
Leon Yulkowski, 244 W. Sheffield, Pontiac, Mich.
Filed Aug. 26, 1964, Ser. No. 392,093
12 Claims. (Cl. 70—110)



1. In a door lock including a housing, a faceplate, and an elongated reciprocal latch bolt therein, having a normal spring-biased operative position and a retracted position;

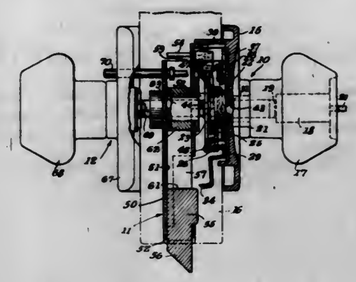
the improvement comprising inner and outer manually rotatable spring-biased control hubs journaled within the housing, the inner hub continuously in operative engagement with the latch bolt for retracting it;

latch bolt engaging means movably mounted on the latch bolt and having a control means movable into and out of operative engagement with the outer hub;

resilient means on the latch bolt normally biasing said control means into a disengaged position relative to said outer hub; and

cam means in said housing movable against said latch bolt engaging means for moving said control means into engagement with said outer hub.

3,266,277
MORTISE CYLINDER DEAD-LOCK
Abraham Chesler, P.O. Box 125, Woodmere, N.Y.
Filed Oct. 5, 1964, Ser. No. 401,332
9 Claims. (Cl. 70—150)



1. A mortise cylinder dead-lock having inner and outer knobs that control means for retracting a spring latch, said outer knob being provided with a key-operated cylinder lock, said dead-lock comprising:

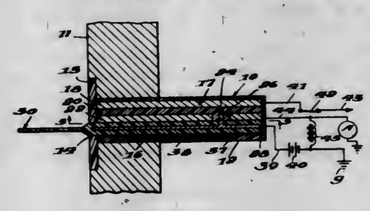
(a) a rocker plate provided with a dead-locking extension and normally biased to a position in which the extension is retracted out of the path of retractive movement of the latch,

(b) means operated by the cylinder lock, when turned in one direction by a key, to move the rocker plate to a position in which the extension thereof is projected into the path of retractive movement of the latch to dead-lock the same,

(c) a trip lever biased to automatically latch the rocker plate in the latter position, and

(d) cam means engaged by the cylinder lock-operated means, when turned in the opposite direction by a key, to trip said trip lever and, thereby, release the rocker plate to its normal biased position.

3,266,278
LOCKING DEVICE
John J. Esnitt, % Bank of Montreal, Hollis St., Halifax, Nova Scotia, Canada
Filed June 7, 1963, Ser. No. 286,386
7 Claims. (Cl. 70—277)



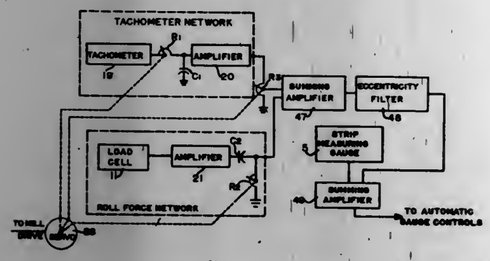
1. The combination of a circuit maker and breaker having a housing with a keyway therein, contact means in said housing adapted to be connected in a circuit with latch actuating means, a further contact in said housing adapted to be connected to a source of electricity, and a key adapted to complete said circuit; said contact means having a flat surface exposed to said keyway, at least one contact embedded in said surface, a movable plate in said housing disposed adjacent the keyway opposite said contact means, said key having a conductor embedded therein, one end of said conductor forming a contact in the side of said key and the other end of said conductor forming a further contact in the key whereby the contacts

of said key engage the contacts in said housing to complete the circuit when said kay is inserted in said keyway, and means resiliently urging said movable plate against said key to assure firm engagement of the contacts.

3,266,279
AUTOMATIC GAUGE CONTROL SYSTEM FOR ROLLING MILLS

William G. Wright, Peterborough, Ontario, Canada, assignor to Canadian General Electric Company, Limited, Toronto, Ontario, Canada, a corporation of Canada

Filed Oct. 30, 1963, Ser. No. 320,110
7 Claims. (Cl. 72—8)



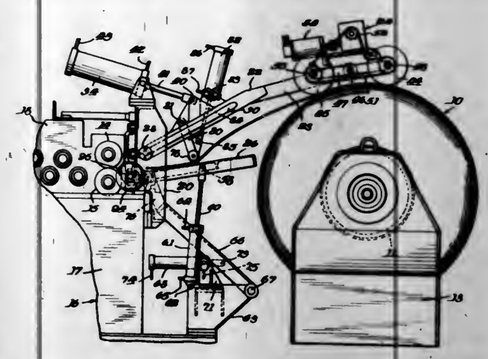
1. In apparatus for performing work upon a moving strip by a pair of rolls between which said strip is advanced; gauging means positioned along the path of said strip at some distance from the bite of said rolls for measuring the thickness of the strip after it leaves the rolls and for producing an electrical signal representative of the thickness being measured; said gauging means measuring the thickness of the strip at a time interval after reduction thereof and thereby introducing a transport delay in the control system; means for generating a first electrical signal representative of the rate of change of roll separating force; first circuit means having a time constant approximately equal to one half said transport delay for converting said first signal to a decaying signal having a generally exponential wave form; means for generating a second electrical signal representative of the rate of change of separation of said rolls; second circuit means having a time constant approximately equal to one half said transport delay for converting said second signal to a decaying signal having a generally exponential wave form; and means for summing said exponential signals and comparing the sum thereof with the electrical signal from said gauging means, the signal output from said last mentioned means substantially eliminating the effects of said transport delay and therefore a signal useful in said control system for controlling gauge automatically.

3,266,280
COIL THREADING MECHANISM

Chester M. Wilg, Chicago, Ill., assignor to F. J. Littell Machine Company, Chicago, Ill., a corporation of Illinois

Filed Dec. 19, 1963, Ser. No. 331,707
5 Claims. (Cl. 72—134)

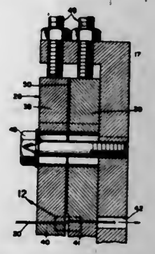
1. In uncoiling apparatus of the character described, the combination with supporting structure and a coil of metal stock material supported thereby and which is to be uncoiled, of a stripping finger pivotally supported by said supporting structure and adapted to have an operative position in contact with the coil for stripping the leading end of the material from the coil and for momentarily retaining contact therewith, a pair of spaced apron sections also pivotally supported by said supporting structure and having a substantially horizontal positon adjacent the coil for contact with the leading end of the material so as to support the same as it uncoils, said stripping finger having a location in the space between the apron sections, power means for oscillating the stripping finger whereby the finger can be moved in the proper direction for directing the leading end of the material along the length of the apron sections as the material has contact with the sections, an arm pivoted to said supporting structure, a power carriage carried by the free end of the arm, power means associated with the supporting structure and with the arm for oscillating the arm, said power carriage having a pair of front journalled wheels and a pair of rear journalled wheels, and a power source carried by the power carriage for driving said wheels, whereby when the said wheels of the power carriage are caused to frictionally contact the coil the said coil is caused to rotate.



3,266,281
SHEET MATERIAL FORMING APPARATUS

Arnold Fust, Huntingdon Valley, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 5, 1963, Ser. No. 270,921
5 Claims. (Cl. 72—177)

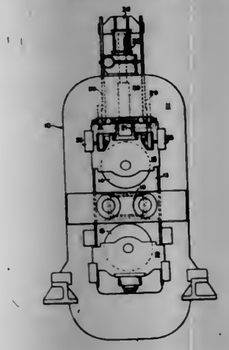


1. In apparatus for forming a substantially flat strip of full hard austenitic stainless steel into a strip of predetermined U-shaped cross-section, the combination comprising: drawbench means, means for mounting a supply of sheet material at one end of said drawbench means, a plurality of bending die means mounted on and adjacent said one end of said drawbench means, a plurality of forming die means mounted on an adjacent the other end of said drawbench means, means for advancing said sheet material through said plurality of bending dies and said plurality of forming dies, each of said bending die means having a male element and a complimental female member spaced therefrom to admit a thickness of sheet material therebetween for movement longitudinally of said drawbench means, said plurality of bending die means being effective to progressively bend said sheet material from a flat condition to a cross-sectional form of U-shape without exceeding the elastic limit of the material, said plurality of forming die means each including leading male and female members with opposed surfaces separated a distance equal to the thickness of said sheet material and extending parallel to its direction of advancement to define a first passageway, and trailing male and female members with like opposed parallel surfaces defining a second passageway, said first and second passageways being laterally offset one with respect to the other relative to the direction of advancement of said sheet material and being operative to stretch the same beyond its elastic limit, means associated with said forming die means to vary the offset distance between said first and said second passageways, and additional means associated with each of said plurality of forming die means to vary the longitudinal distance between said leading male and female members and said trailing male and female members.

3,266,282
APPARATUS FOR AUTOMATICALLY POSITIONING AND SUPPORTING A MEMBER

Jeremiah Wagner O'Brien, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 21, 1963, Ser. No. 282,094
Claims priority, application Great Britain, June 1, 1962, 21,183/62
4 Claims. (Cl. 72—238)



3. In combination with a rolling mill including a pair of rolls 14 and 15 having bearing chocks 16 carried at their opposite ends,

a device for positioning and supporting the bearing chocks 16 of one of said rolls 14 in a predetermined position for removal of the roll, said device including

a beam 21 for supporting said bearing chocks 16 of said one roll when said bearing chocks are brought to said roll removal position,

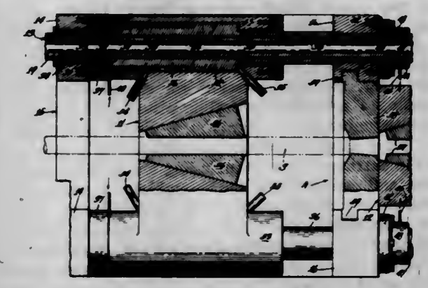
a movable bar 29 selectably engageable with said bearing chocks 16 of said one roll thereby to place said bearing chocks 16 of said one roll into two positions relative to said beam 21, in which in one position by virtue of the bar said bearing chocks 16 are carried by the bar and urged against said beam 21, and in said second position by virtue of said bar said bearing chocks 16 are free of said bar and supported by the beam 21,

an arm 39 carried by said bar 29 displaceable when said bearing chocks 16 of said one roll are brought to said roll removal position, said displacement of said arm 39 causing movement of said bar 29 to effect relative movement between said bearing chocks 16 and said beam 21 upon the movement of said bearing chocks 16 in a direction towards said roll removal position and means 28 connected to said bar 29 for moving said bar, bearing chocks 16 of said one roll and said beam 21 into said roll removal position.

3,266,283
DRAWBENCH APPARATUS

John S. Miller, Poland, Ohio, assignor to The McKay Machine Company, Youngstown, Ohio

Filed June 25, 1963, Ser. No. 290,454
9 Claims. (Cl. 72—284)

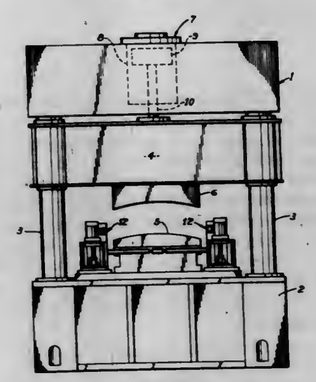


1. A drawbench comprising a fixed die station having a stock entry side and a stock exit side, first and second carriages on the entry and exit die station sides respectively and each having means for gripping the stock, and a pair of concentric, fluid cylinder assemblies for respectively urging said first carriage toward said die station to push one end of a length of gripped stock therethrough and for urging said second carriage away from said die station to pull the remainder of the length of gripped stock therethrough.

3,266,284
COMBINED DRAWING DIE PRESS AND STRETCH FORMING APPARATUS

Stanley M. Dolney, Parma, Ohio, assignor to The Cyril Bath Company, Solon, Ohio, a corporation of Ohio

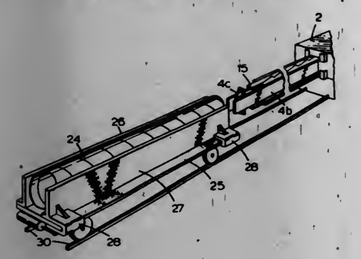
Filed Mar. 5, 1964, Ser. No. 349,621
1 Claim. (Cl. 72—297)



A die drawing press and stretch unit combination, a ram movable along an upright path, ram power means for driving the ram, a frame at one side of the ram path, a carriage member, an elevator member, one of said members being mounted for movement on the frame, and the other member being mounted on said one member for movement relative thereto, the carriage member for movement in opposite directions to advanced and retracted positions along a fixed path transversely of said

ram path, the elevator member for movement along a predetermined path to raised and lowered positions, a stock gripper carried by one of the members for movement to raised and lowered positions by the elevator member and to advanced and retracted positions by the carriage member, power means to operate the gripper for gripping a margin of a piece of stock, yieldable carriage power means operatively connected to the carriage member for moving the carriage member to its said positions, selectively, elevator power means for moving the elevator member to its said positions, selectively, and said ram power means, elevator power means, and carriage power means each being operable independently of the others for effecting said movements of the ram, carriage member, and elevator member independently of each other, the power means for the elevator member including a reversible hydraulic piston and cylinder elevator assemblage, a first pump, a circuit connecting the first pump to said elevator assemblage, the power means for the carriage member including a reversible hydraulic piston and cylinder carriage assemblage, a second pump, a second circuit connecting said second pump and carriage assemblage, said circuits being separate from each other and operable independently of each other and of the power means of the ram, means to control each circuit independently of the other circuit, means to control the ram power means independently of the circuits.

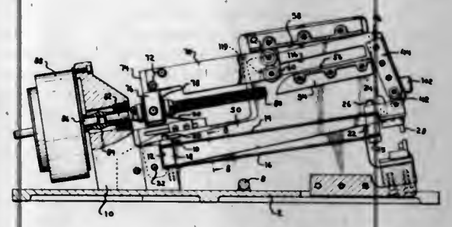
3,266,285
PRODUCTION OF TUBING
Erling Jensen, 20 Pall Mall, London SW. 1, England
Filed Jan. 25, 1963, Ser. No. 253,826
Claims priority, application Great Britain, Jan. 26, 1962, 3,129/62
14 Claims. (Cl. 72—304)



1. A method of converting circular section sheet metal tubing into non-circular section tubing, which comprises the steps of: effecting an initial flattening of the tubing, locating the initially flattened tubing upon an expansible mandrel with said mandrel extending inside the tubing throughout the entire length of the tubing, deforming the tubing further into the desired non-circular cross-section by expanding said mandrel uniformly throughout the length of the tubing, restoring the mandrel to release the tubing and separating the tubing from the restored mandrel by effecting relative axial movement between the tubing and the mandrel.

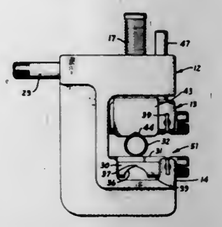
3,266,286
COMPRESSING DEVICE
Stuart L. Parsons, Harrisburg, Werner Otto Peter Henkel, New Cumberland, and William Roderick Over, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Oct. 18, 1963, Ser. No. 317,373
5 Claims. (Cl. 72—413)

1. A press comprising a pair of coextensive cantilevers having corresponding fixed ends and corresponding free ends, means rigidly connecting said free ends to each other, a first die mounted on said free ends, a second die mounted for cooperation with said first die upon movement of said first die towards said second die along a predetermined path, means for flexing said cantilevers to cause movement of said first die towards said second die comprising, actuator plate means extending beside said cantilevers, said plate means being pivotally mount-



ed on an axis extending transversely of said cantilevers adjacent to said fixed ends, a link having one of its ends pivotally connected to said free ends of said cantilevers and having its other end pivotally connected to said actuator plate, and means for swinging said actuator plate means about said pivotal axis thereby to flex said cantilevers and move said first die towards said second die along said predetermined path.

3,266,287
APPARATUS FOR CLOSING AND OPENING A METAL TUBE
John B. Gill, Box 2127, Torrance, Calif.
Filed Mar. 29, 1962, Ser. No. 183,581
7 Claims. (Cl. 72—416)

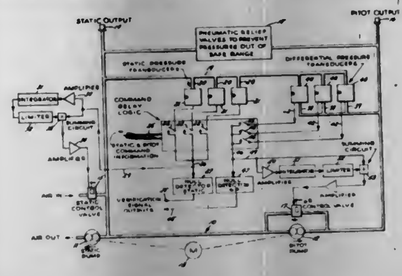


1. An apparatus for pinching closed and squeezing open a deformable tube, comprising a frame having a first section and a second section at a spaced distance from said first section, a rotatable die pivotally mounted in and carried by said first section, means for moving said first section toward and away from said second section, and a rotatable die pivotally mounted in and carried by said second section for providing opposed die surfaces similar to those of the die in the first section.

3,266,288
AUTOMATIC PRESSURE GENERATING AND REGULATING SYSTEM
John H. Andresen, Jr., Hewitt, N.J., and James Albert Fitzpatrick, Bayside, N.Y., assignors to Intercontinental Dynamics Corporation, Englewood, N.J.
Filed Apr. 30, 1964, Ser. No. 363,964
3 Claims. (Cl. 73—4)

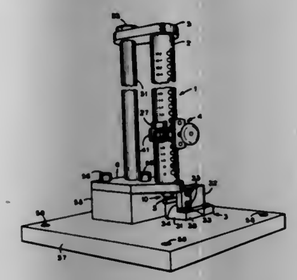
1. In an automatic pressure generating and regulating system for providing a pressure referenced to a vacuum, including pump means for creating a vacuum, and control valve means for bleeding air to said system to obtain desired pressures, the improvement comprising: a plurality

of pressure transducers, each producing a null at a predetermined value of pressure; an amplifying circuit having a proportional and an integral output, means for selectively



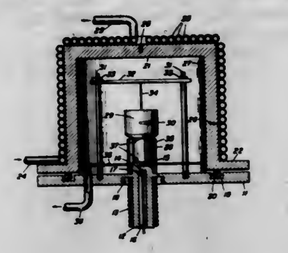
connecting one of said transducers to said amplifying circuit, and means for summing said outputs, connected to said control valve and the selectively actuated transducer.

3,266,289
DROP HAMMER IMPACT TESTER
Robert L. Stamy, Houston, Tex., assignor to Hughes Tool Company, Houston, Tex., a corporation of Delaware
Filed Sept. 11, 1963, Ser. No. 308,111
2 Claims. (Cl. 73—12)



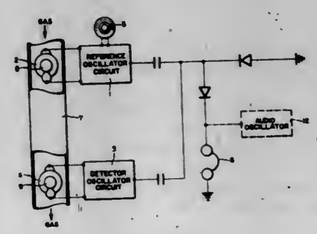
1. In a drop hammer impact tester, a release mechanism for raising, positioning and releasing a circumferentially slotted drop hammer which is free falling within a vertically disposed guide tube having an elongated generally vertical slot therethrough and a multiplicity of short circumferential indexing slots extending horizontally from said vertical slot, said release mechanism comprising a ring member having a hole therethrough and adapted to be slidably mounted on said guide tube for longitudinal and circumferential movements with respect thereto, a barrel member secured to the ring member, extending transversely therefrom and terminating in a plate having a hole therethrough in horizontal transverse alignment with said ring hole, and a pin member transversely slidable through said holes in the ring and plate and passing through the interior of said barrel member, the outer end of said pin projecting from said plate and the inner end being adaptable for passing through the vertical and horizontal slots in the guide tube and into the circumferential slot of said drop hammer, whereby said release mechanism may be used to raise and lower said drop hammer when the pin is extended through said vertical slot and into the drop hammer slot and may be rotated with said pin passing through any of the horizontal slots and into the drop hammer slot to bring said drop hammer to rest at a predetermined vertical position, and said pin may be retracted from the drop hammer slot to initiate a free fall of the hammer.

3,266,290
MEASUREMENT OF THERMAL CONDUCTIVITY
Gottfried Christian Haacke, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Mar. 19, 1964, Ser. No. 353,204
1 Claim. (Cl. 73—15)



An apparatus for thermal conductivity measurement comprising: a sample support, means for maintaining the sample support at a substantially constant temperature, a heat sink, provision for incorporating a sample in heat exchanging relationship with each of and between the sample support and the heat sink, means for holding the heat sink against the sample and the sample against the sample support, a chamber surrounding the heat sink, and having a comparatively large area as compared with the heat sink, means for maintaining the chamber at a constant temperature, means for sealing and evacuating the space between the heat sink and said chamber, and means for measuring the temperature of each of the sample support, the heat sink, and the chamber.

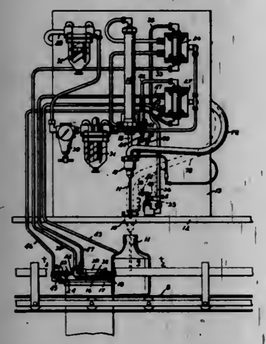
3,266,291
PIEZO CRYSTAL FLUID ANALYZER
William H. King, Jr., Florham Park, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Oct. 29, 1962, Ser. No. 233,671
3 Claims. (Cl. 73—23)



1. In an analyzer comprising in combination, a first detection device having a piezoelectric element bearing a substrate which interacts with one component of a fluid being analyzed; a second detection device having a piezoelectric element which does not substantially interact with said component; a first oscillating circuit means for oscillating one of said detection devices; a second oscillating circuit means for oscillating the other of said detection devices; indicating means to compare the oscillations of said first and second oscillating circuit means whereby the net oscillations are determined; the improvement comprising a variable circuit element operatively connected in one of said oscillating circuit means to change the

frequency of oscillation of said oscillating circuit means in response to a change in the magnitude of said variable circuit element.

3,266,292
METHOD FOR DETECTING VOLATILE ORGANIC CONTAMINANTS IN REUSABLE CONTAINERS
Robert L. Bailey, Spokane, Wash., assignor, by mesne assignments, to National Distillers and Chemical Corporation, a corporation of Virginia
Filed June 8, 1964, Ser. No. 373,310
5 Claims. (Cl. 73—23)



5. A method of inspecting reusable open end containers, such as bottles, jars and the like used for packaging liquid foodstuffs, for the presence of volatile organic contaminants in the containers, the method comprising:

(a) moving a succession of reusable open end containers which have been prepared for reuse prior to packaging the foodstuffs therein in a line past an atmospheric sampler,

(b) stopping each container adjacent the atmospheric sampler,

(c) inserting a tubular sampler through the open end of the stopped container into the interior of the stopped container,

(d) applying vacuum to the tubular sampler to remove a sample from the interior of the container,

(e) passing the removed sample to a detection cell capable of detecting organic vapors and gases,

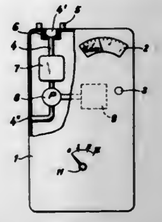
(f) rendering unusuable for refilling any container detected to have organic vapors and gases in the interior thereof,

(g) flushing the detection cell with uncontaminated atmosphere after each sample has passed therethrough and before a sample is removed from another container in the succession of containers,

(h) and intercontrolling the stopping of each container with the insertion of the sampler.

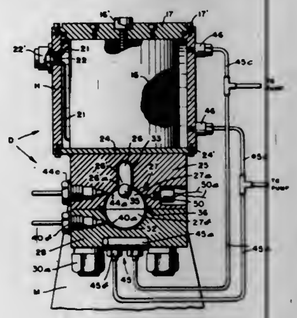
3,266,293
PORTABLE GAS ANALYZER
Rolf Hübner, Gabelsbergerstr. 31, Dortmund, Germany
Filed Dec. 7, 1964, Ser. No. 416,655
Claims priority, application Germany, Dec. 5, 1963, H 51,047
10 Claims. (Cl. 73—23)

6. An instrument for the analysis of atmospheric samples, comprising a housing provided with conduit means forming a passage for gas to be analyzed, sensor means for said gas in said passage, indicator means controlled by said sensor means on said housing, suction means in said housing for drawing ambient gas through said passage, drive means for said suction means in said housing, an electric power source in said housing for said drive means, actuating means on said housing for rendering said power source effective to supply operating current to said sensor means, indicator means and drive



means, and timer means in said housing controlled by said actuating means for deactivating said drive means at the end of a predetermined operating period.

3,266,294
HYBRID IMPULSE BOMB
Robert J. Geres, China Lake, Calif., assignor to the United States of America, as represented by the Secretary of the Navy
Filed July 6, 1964, Ser. No. 380,716
7 Claims. (Cl. 73—35)



1. A hybrid propellant test system for evaluating bipropellant ingredients, comprising in combination:

a pair of mated and pressure sealed heads comprising a primary head and a secondary head, including means defining therein a spherical primary chamber and a vertically disposed, closed-end tubular secondary chamber terminating in operative communication with said primary chamber through a normally open port formed at one end of said secondary chamber;

a spherical member formed of ferromagnetic material disposed within said primary chamber adapted to be seated in a contiguous relationship with the surfaces of said port to close the port and establish a seal between the chambers, and to be displaced therefrom for opening said port;

a housing including means defining a pair of horizontally supported shafts fixed to opposite sides thereof for accommodating end-to-end inversion of said housing;

means securing said pair of heads to one end of said housing with the secondary chamber being disposed between the housing and the primary chamber, whereby said secondary chamber may be inverted from an upwardly opening disposition to a downwardly opening disposition through an inversion of said housing;

an electrical source-connected electromagnet fixed within said housing operatively energized through an imposed electrical charge for establishing magnetic field having a density adjacent said port sufficient for retaining said spherical member against displacement and in a seated relationship with respect to the surfaces of said port when said secondary chamber is in a downwardly opening disposition, and to be de-energized for releasing said spherical member for gravity induced displacement to thus open said port;

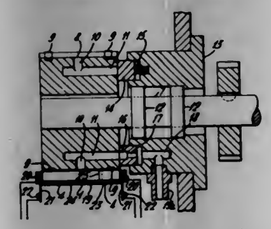
coupling means releasably connecting said heads in a pressure sealed and mated disposition, whereby said heads may be separated for accommodating an insertion of a bipropellant ingredient within said secondary chamber and a sealing of the chamber by disposing the spherical member in a seated relationship with said port when said housing is inverted to dispose the secondary chamber in an upwardly opening disposition;

a liquid propellant ingredient charging system connected with said primary chamber for charging said primary chamber with a second bipropellant ingredient when said electromagnet is energized and said spherical member is retained in its seated disposition;

electrical circuit switch, connected between said electromagnet and said source, selectively operable for de-energizing said electromagnet for thus releasing said spherical member to open said port so that propellant ingredients contained in said chambers may be caused to contact each other for initiating an ignition thereof; and

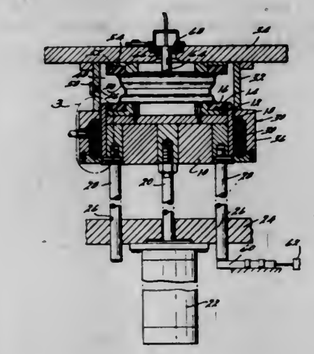
transducer means mounted in one head of said pair of heads communicating with said primary chamber for monitoring pressures established through an initiated ignition of said propellant ingredients.

3,266,295
MANUFACTURE OF HOLLOW ARTICLES
David Theodore Nelson Williamson, Deptford, London, England, assignor to The Molins Organisation Limited, London, England, a British company
Filed July 1, 1963, Ser. No. 291,905
Claims priority, application Great Britain, July 6, 1962, 26,111/62
17 Claims. (Cl. 73—38)



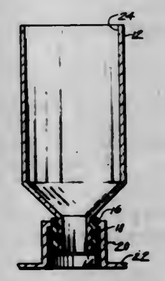
4. A testing device for testing the wrappers of wrapped rods having unwrapped ends, the device including sealing means having parts arranged to engage the rod closely forming a chamber around at least the greater part of the exterior of the wrapper and sealing off the exterior of the wrapper from the unwrapped ends of the rod, suction means to apply suction to the said chamber, said chamber and sealing means being so disposed that the action of the suction means establishes a difference in air pressure between the interior of the rod and a space surrounding the exterior of the wrapper, and that any air flow occurring as a result of the establishment of such pressure difference is an air flow through the wrapper into said chamber, whereby any such air flow beyond a predetermined minimum indicates a leak in the wrapper, means to enable air to enter the rod through one of its unwrapped ends and closure means to close the other of the unwrapped ends of the rod.

3,266,296
METHOD AND APPARATUS FOR INSPECTING ANNULAR WORKPIECES
Robert T. Hall, Orchard Lake, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Aug. 28, 1963, Ser. No. 305,131
6 Claims. (Cl. 73—40)



3. Apparatus for inspecting wheel rims or the like to determine the presence of leaks therein including an annular diaphragm engageable with a rim to be inspected adjacent the axially opposite edges thereof, said diaphragm being operable to enclose a space surrounding the radially outer surface of the rim, means for preasurizing said diaphragm to move it radially inwardly of said rim and pressurize the enclosed space around said rim and means disposed generally within the area bounded by said rim for detecting ultrasonic vibrations produced by air passing through leaks in the rim upon pressurization of the space surrounding the rim.

3,266,297
COMPRESSION LEAK TESTER
Henry L. Powers, P.O. Box 82, Lynnville, Ind.
Filed Dec. 30, 1963, Ser. No. 334,244
1 Claim. (Cl. 73—49.7)



A compression leak tester comprising, in combination, a clear plastic container providing container means for water to observe bubbles in internal combustion engine

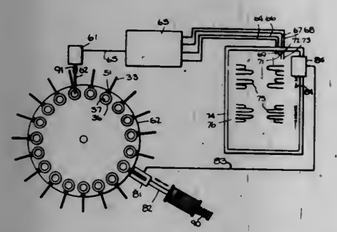
cooling system, a circular rubber gasket carried by said container providing sealing means between the neck of said container and the walls of the filler neck of the radiator of said internal combustion engine, and said gasket of said device is cylindrical in configuration and its outer periphery engages the inner periphery of the upper extremity of the opening of said filler neck to provide an airtight seal between said container and said radiator.

3,266,298

MEANS AND METHOD FOR THE IDENTIFICATION OF SAMPLES FOR BLOOD TYPING

Edwin C. Whitehead, Sloatsburg, William J. Smythe, Rye, and Jack Isreeli, Tuckahoe, N.Y., assignors to Technicon Instruments Corporation, Chauncey, N.Y., a corporation of New York

Filed July 30, 1963, Ser. No. 298,772
32 Claims. (Cl. 73—53)



22. A method for the identification of analysis results of material in accordance with the identity of the supply of the material for a plurality of supplies of material, comprising the following steps: providing for each supply of material, a set of two containers joined by a common member with a portion of said each supply in each of such two containers, said common member having two arrays of indicia respectively disposed in different locations on said common member and each array identifying the associated container; severing each of said common members between said arrays of indicia whereby each container has an array of indicia attached thereto; operatively positioning one of said containers of each of said sets in an analysis apparatus; sequentially off-taking and analyzing the contents of each of said containers and providing signals responsive to the results of each such analysis; sequentially sensing the indicia on each of said containers in said analysis apparatus and providing signals responsive to the respective identity represented thereby; and sequentially recording the signals responsive to the results of the analysis of the contents of each container and the identity of such container in correlation while said containers are in said analysis apparatus.

3,266,299

CONSTANT FLOW PRESSURE FILTER APPARATUS

Roy L. Swank, 4400 SW. Scholls Ferry Road, Portland, Oreg.

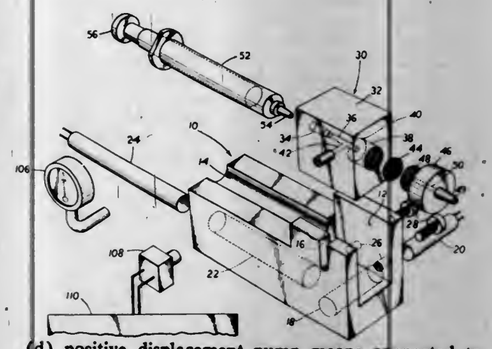
Filed June 14, 1965, Ser. No. 469,034
8 Claims. (Cl. 73—61)

1. Constant-flow pressure filter apparatus for measuring the amount of aggregate material in fluid blood, comprising

(a) a conduit comprising a block of material having therethrough a stepped passageway providing a downstream-facing shoulder,

(b) a filter screen seated against the shoulder of the passageway and having a multiplicity of openings of substantially uniform and predetermined size disposed across said passageway for the collection on the screen of aggregate material in the fluid blood as the latter is forced through the screen,

(c) a filter screen retainer having a passageway therethrough secured in the passageway of the block downstream from the shoulder and pressing against the screen with the passageway through the retainer communicating with the passageway through the block,



(d) positive displacement pump means connected to the conduit inlet for passing blood fluid through the conduit at a constant rate,

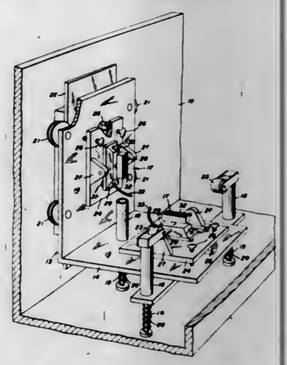
(e) and pressure measuring means communicating with the conduit ahead of the filter screen for measuring the pressure developed while filtering the fluid blood, the degree of pressure increase being a measure of the amount of aggregate material in the blood.

3,266,300

APPARATUS FOR THE ULTRASONIC TESTING OF WHEELS

Edward T. Graboski, Penn Hills Township, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of Delaware

Filed Nov. 7, 1963, Ser. No. 322,227
3 Claims. (Cl. 73—71.5)



1. Apparatus for the ultrasonic testing of wheels including a tank, a pair of spaced rollers journaled horizontally in said tank and adapted between them to support a wheel rotatably in a generally vertical plane, the combination therewith of a generally horizontal base plate between said rollers, spring means constantly urging said plate toward the position of a wheel resting on said rollers, posts upstanding on said plate, rollers journaled on said posts adapted to engage said wheel and maintain a fixed spacing between it and said plate, said plate having a vertical extension, vertical ways in said tank,

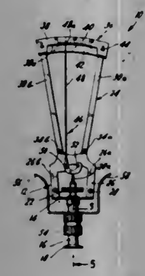
means on said extension engaging said ways to guide vertical movement of said plate, and a transducer mounted on said plate.

3,266,301

TONOMETER

Edward J. Sovatkin, New York, N.Y., assignor to J. Sklar Manufacturing Co., Long Island City, N.Y., a corporation of New York

Filed Mar. 14, 1963, Ser. No. 265,259
5 Claims. (Cl. 73—80)



1. A tonometer comprising a support including a depending housing terminating in a pedestal which is adapted to rest against the cornea when said housing is held in a vertical attitude, an indentation plunger mounted in said housing for axial reciprocation on a vertical axis when said housing is in said vertical attitude and extendible below said pedestal for measuring ocular tension by registering the depth of indentation in said cornea, a scale-mounting frame operatively connected to said support and extending upwardly therefrom, a scale assembly having indicia thereon mounted on the end of said scale-mounting frame remote from said support and disposed in an inclined viewing position extending substantially at an acute angle to said vertical axis, said acute angle being selected such that said indicia can be readily viewed from above when said housing is in said vertical attitude, and an indicating mechanism operatively connected to said indentation plunger and including a pointer directed toward said scale assembly for registering the depth of indentation of said cornea, said scale assembly extending relative to said vertical axis to cause an unbalancing force which tends to cant said housing out of said vertical attitude, said scale-mounting frame being integrally formed with offsetting members extending from said vertical axis to cause a corresponding counterbalancing of said tonometer which counteracts said unbalancing force.

3,266,302

DISPLACEMENT MEASURING MEANS

Elson B. Spangler, Bloomfield Hills, and William J. Kelly, Clawson, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Continuation of application Ser. No. 239,708, Nov. 23, 1962. This application June 9, 1965, Ser. No. 462,650
7 Claims. (Cl. 73—105)

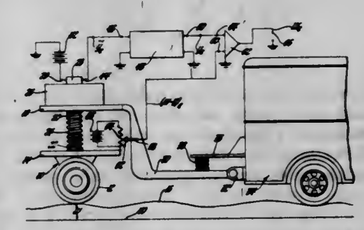
1. Means for measuring the extent of surface undulations of an object throughout the frequency range of the undulations with respect to a reference direction and comprising:

surface contacting means adapted to traverse and maintain contact with the surface of the object under examination,

acceleration responsive means adapted to be connected with a voltage source for developing an output signal voltage variable in accordance with acceleration of the contacting means normally of the reference direction due to surface undulations below a predetermined frequency,

frequency selective coupling means interposed between the acceleration responsive means and the contacting means and adapted to transmit acceleration below the predetermined frequency and to attentuate acceleration above the predetermined frequency,

integrating means connected with the acceleration responsive means responsive to the output signal voltage developed thereby and operative to perform a double integration thereof and develop an output signal voltage variable in accordance with the extent of surface undulations of the object below the predetermined frequency,



displacement measuring means interposed between the contacting means and the acceleration responsive means and adapted to be connected with a voltage source for developing an output signal voltage variable in accordance with the extent of relative displacements between the contacting means and the acceleration responsive means due to acceleration of the contacting means above the predetermined frequency,

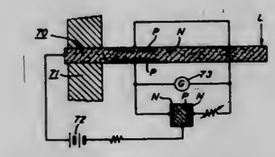
and summing means connected with the integrating means and the measuring means for summing the output signal voltages developed thereby and operative to develop an output signal voltage variable in accordance with the extent of surface undulations of the object throughout the frequency range of the undulations.

3,266,303

DIFFUSED LAYER TRANSDUCERS

William G. Pfann, Far Hills, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Original application Jan. 4, 1961, Ser. No. 80,672. Divided and this application Oct. 11, 1963, Ser. No. 315,436
5 Claims. (Cl. 73—141)



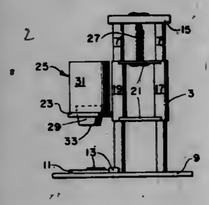
1. A diffused layer strain gage comprising a base layer of a semiconductor material of a given conductivity type, at least two diffused layers formed in essentially opposing surfaces of said base layer and having a conductivity type which is opposite to that of the base layer thus forming p-n junctions and electrical bias means including a galvanometer and standard resistors for connecting the said junctions as adjacent arms of a Wheatstone bridge.

3,266,304
VISIBLE VALVE STEM CAP AIR GAUGE
Jacob Cohen, 1637 W. Chase Ave., Chicago 26, Ill., and Michael J. Kane, 5220 S. Emerald St., Chicago, Ill.
Filed Jan. 17, 1964, Ser. No. 338,468
1 Claim. (Cl. 73—146.8)



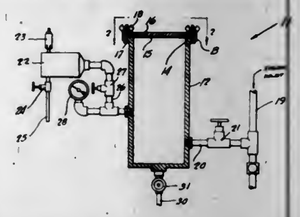
In combination, a tubular valve stem for a pneumatic tire, said stem having an open end and being internally and externally threaded, normally closed valve means threadedly secured within said valve stem and having a depressible valve rod to open said valve means, a valve stem cap having internal threads threadedly received over the open end of said stem and pressure gauge means within said valve stem cap, the improvement in the valve stem cap comprising, an annular shoulder formed in said cap, a plate member formed of plastic having an annular rim abutting on one side against said shoulder, the other side thereof adapted to seat against the top of said valve stem and seal the same against the escape of air when said cap is tightened, a valve rod actuator depending from the center of said plate and adapted to engage and force said valve rod downward when said cap is tightened, and at least one opening in said plate to allow air to pass from said valve means to said pressure gauge means, slight unscrewing of said valve cap causing partial closing of said valve means and upward movement of said annular shoulder, thereby permitting air from the tire to displace said plate rim from sealing engagement with said stem and to escape into the atmosphere.

3,266,305
TEST PANEL PRINTER
Fred Novekoff, Davenport, Iowa, assignor to the United States of America, as represented by the Secretary of the Army
Filed Feb. 13, 1964, Ser. No. 344,792
6 Claims. (Cl. 73—150)



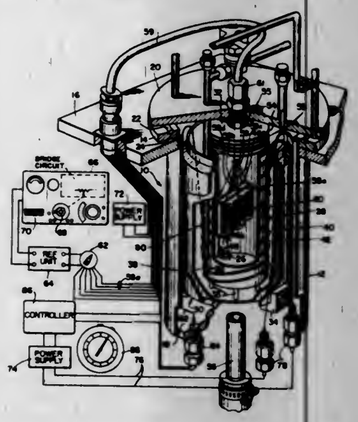
1. Apparatus for applying a synthetic fingerprint upon a coated panel comprising a frame supported for vertical movement between an upper position, a release position, and a lower position, said release position being interjacent said upper position and said lower position, and an applicator, said applicator being freely carried on said frame between said upper position and said release position and being freely disposed upon said panel and released from said frame in response to movement of said frame between said release position and said lower position.

3,266,306
HUMIDITY RESISTANCE TESTER
Vernon E. Arnold, 1812 Ross Place SE., and Shary D. Holmes, 2605 Christine NE., both of Albuquerque, N. Mex.
Filed Apr. 17, 1964, Ser. No. 360,485
6 Claims. (Cl. 73—150)



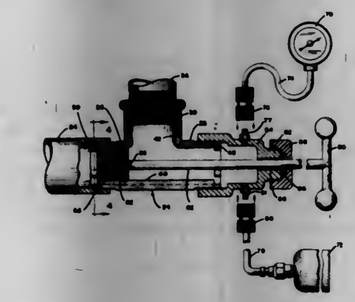
1. An apparatus for testing the resistance of surface materials to humidity comprising a humidity chamber having an open end, a source of steam under pressure, conduit means communicatively connecting said source to said chamber, means to detachably clamp a sample surface in sealing relationship on said open end, whereby to expose the sample surface to the steam in the chamber, an auxiliary steam chamber, a discharge conduit connected to said auxiliary chamber, and bleeder conduit means connecting said first-named chamber to said auxiliary steam chamber and including an adjustable valve for bleeding off excess steam from the first-named chamber to maintain a predetermined steam pressure in said first-named chamber.

3,266,307
ADIABATIC CALORIMETER
Francis de Winter, Cambridge, Mass., assignor to Dynatech Corporation, Cambridge, Mass.
Filed Dec. 8, 1964, Ser. No. 416,800
10 Claims. (Cl. 73—190)



1. Thermal measurement apparatus comprising
A. a calorimetric guard barrier,
B. a sample unit
(1) disposed within and spaced from said guard barrier,
(2) adapted to support a sample having edges and a pair of opposed surfaces, and
(3) having a pair of heater plates for supporting engagement with said opposed surfaces of the sample,
C. means for supplying electrical energy to said heater plates at a pre-determined rate,
D. means for maintaining said guard barrier at the temperature of said heater plates, and
E. means for indicating the temperature of the sample.

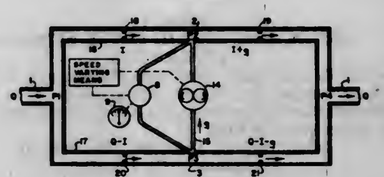
3,266,308
GAS METER CHANGE-OVER FITTING
Thomas R. Howarth, Highland, Ind., assignor to Eclipse Fuel Engineering Co., Rockford, Ill., a corporation of Illinois
Filed Nov. 12, 1963, Ser. No. 322,951
2 Claims. (Cl. 73—201)



1. A gas meter change-over fitting of the character described and designed for connection in a service line leading from the outlet of a gas meter, said fitting comprising a T having first and second aligned inlet legs presenting a common cylindrical bore therethrough, and a medial outlet leg presenting a lateral cylindrical bore intersecting the common bore, said first inlet leg being adapted for connection to the meter outlet, said outlet leg being adapted for connection to a portion of the service line leading to a service outlet, a valve plug formed of resilient material and slidably disposed within said common bore and movable between an inoperative position wherein it is disposed in and seals off the second inlet leg thus establishing communication between the first inlet leg and the outlet leg, and an operative position wherein it is disposed in and seals off the first inlet leg thus establishing communication between the second inlet leg and the outlet leg, a guide cap removably received over the outer end of the second inlet leg, an operating rod projecting through and slidable in said guide cap, said valve plug being formed with a threaded socket therein, the inner end of said operating rod being threaded for removable reception in said threaded socket to the end that the operating rod may be removably connected to the valve plug in push-pull relationship, said T being formed with an elongated spline thereon internally of said common bore, the outer face of said valve plug being provided with a spline-receiving recess which slidably receives said spline and coacts therewith to prevent rotative movement of the valve plug within said common bore and thus facilitate threaded engagement between the operating rod and valve plug, and means for introducing gas under pressure to the interior of said guide cap.

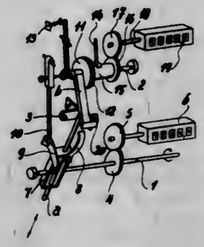
3,266,309
MASS FLOWMETER
Bernard Fishman, New York, and Frederick Ryder, Lynbrook, N.Y., assignors, by mesne assignments, to Flotron Inc., a corporation of New Jersey
Filed Dec. 19, 1962, Ser. No. 245,776
5 Claims. (Cl. 73—205)

1. A mass flowmeter adapted to measure the mass flow rate of an effectively incompressible fluid passing therethrough comprising a main conduit, a pair of branched conduits interconnected to said main conduit intermediate the ends thereof, two pairs of flow restrictors, a respective pair of said flow restrictors positioned in each of said branched conduits in spaced apart relationship along the path of flow of fluid therein, variable speed pumping means for pumping fluid from one of said branched conduits at a location intermediate one pair of flow restrictors



into the other of said branched conduits at a location intermediate the other pair of flow restrictors, and means for varying the speed of said pumping means to maintain the differential pressure across two of said flow restrictors constant whereby the speed of said variable speed pumping means is inversely proportional to the mass flow rate of fluid.

3,266,310
COMPENSATING MEANS FOR A METER SUCH AS A GAS METER
Rudolf Ruffer, Mainz-Kastel, Germany, assignor to Elster & Co., A.G., Mainz-Kastel, Germany, a corporation of Germany
Filed Mar. 24, 1964, Ser. No. 354,830
Claims priority, application Germany, Nov. 9, 1962, R 33,853; Mar. 26, 1963, R 34,807
24 Claims. (Cl. 73—233)



1. Transmission comprising:
(a) a driving lever and a pivot mounting for said driving lever providing it for rotation about the pivot mounting, the driving lever extending outwardly from the pivot mounting to termination in a working end,
(b) a driven lever and a pivot mounting for said driven lever, the driven lever extending from its pivot mounting to termination in a free end, the driven lever being disposed in the path of the driving lever upon rotation of the driving lever so that the working end portion of the driving lever engages and pivots the driven lever about its pivot mounting, the angle α,
(c) one of said levers being adjustable in its mounting so that the effective length extending from the mounting to the working end thereof can be adjusted and the magnitude of the angle α depends on said effective length,
(d) primary input means for rotating the driving lever about its pivot,

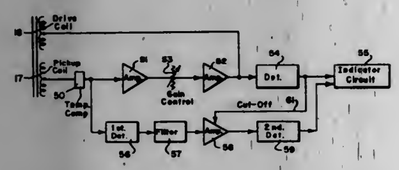
(e) transmission output means operatively connected with the driven lever for operation thereof in response to movement of the driven lever by the driving lever,

whereby response of the output means to the operation of the input means can be varied by adjustment of the effective length of the driving lever.

3,266,311
CRYOGENIC LIQUID LEVEL SENSING APPARATUS

Howard P. Andreasen, West Des Moines, and Donald H. Munzenmaier, Des Moines, Iowa, assignors to Delavan Manufacturing Company, Inc., West Des Moines, Iowa, a corporation of Iowa

Filed May 12, 1964, Ser. No. 366,723
11 Claims. (Cl. 73—290)



1. Cryogenic liquid level sensing apparatus which comprises

(a) a transducer having a mechanically oscillatory element arranged for contact by a cryogenic liquid whose level is to be sensed,

(b) driving means for producing oscillation of said element,

(c) pickup means for producing an A.–C. output signal in response to oscillation of said element,

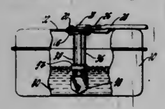
(d) means responsive to changes in said output signal for indicating contact of said oscillatory element by said liquid,

(e) and means for detecting modulation of said output signal by boiling of said cryogenic liquid at the surface of said oscillatory element.

3,266,312
LEVEL INDICATOR SENDING UNIT

Richard B. Coleman and Neal E. Neese, Lansing, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 17, 1964, Ser. No. 345,413
8 Claims. (Cl. 73—313)

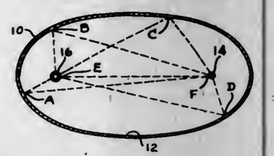


1. A liquid level sending unit comprising a first cover at one end adapted to be fixed to the top wall of a tank, a second cover spaced from said first cover, filtering means at the other end of said unit and supported by said second cover for submergence in said tank, a conduit on said first cover and defining a suction passage leading through both covers to said filtering means, multiple rods fixed to said covers and extending along a length portion of said conduit, a resistance element extending along one of said rods with one end of said element electrically connected to a second of said rods, a float movable along said length portion of said conduit and carrying contact means slidable on said resistance and one other of said rods, and terminals on said second and one other rods.

3,266,313
RADIANT ENERGY MEASURING DEVICE AND METHOD

Ralph S. Litterst, Bradford, Pa., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Feb. 7, 1962, Ser. No. 171,646
10 Claims. (Cl. 73—355)

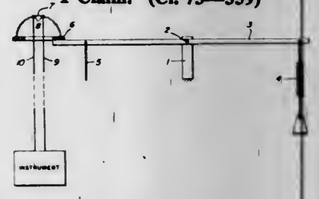


1. In an apparatus for measuring temperature of a body through about 360° thereof, a hollow cylinder, the internal opening in a plane perpendicular to the longitudinal axis of which is an ellipse, said cylinder having a radiant energy reflective internal surface, a temperature sensitive element disposed substantially parallel to said longitudinal axis through one focal point of said ellipse, and means for maintaining said body substantially parallel to said longitudinal axis through the other focal point of said ellipse.

3,266,314
THERMOCOUPLE SUPPORT

Frank M. West, Swansea, Mass., assignor to Honeywell Inc., a corporation of Delaware

Filed June 10, 1963, Ser. No. 286,713
1 Claim. (Cl. 73—359)



A thermocouple, including, lead wires, a support comprising a mesh of metallic material of a curved-shaped configuration, a hot junction comprising a first wire made of one metallic material forming an extension of one of the lead wires, a second wire made of a different metallic material forming an extension of another one of the lead wires, the free ends of said first and second wires being positioned to contact spaced-apart portions of the mesh and an electrically conductive solder extending along the mesh between the ends of the first and second wires, a base supporting said support at a location spaced from the hot junction of the thermocouple, a beam on which said base and the parts carried thereby are mounted, a post on which said beam is pivotally mounted so that said thermocouple hot junction may be rotated about said post as a pivot, a tension spring biasing said thermocouple hot junction for motion in one direction, and a cable for moving said thermocouple hot junction extending along the curved-shaped mesh between the ends of the first and second wires in the opposite direction into contact with a moving object whose outer surface temperature is to be measured.

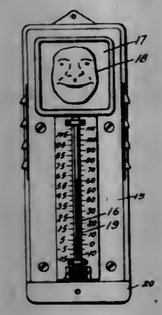
3,266,315
WEATHER EFFECT INDICATORS

John J. Shively, 515 E. 89th St., New York, N.Y.

Filed Mar. 12, 1963, Ser. No. 264,646
4 Claims. (Cl. 73—362.1)

1. In an indicating device, in combination, a support, a simulated face mask of flexible material on said support, and thermally responsive means mounted on said

support in operative connection with said mask and adapted to flex said mask to differing simulated facial

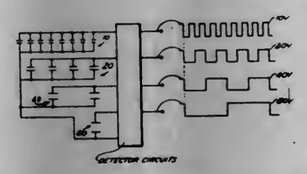


expressions in response to pre-selected changes in temperature affecting said thermally responsive means.

3,266,316
DIGITAL TEMPERATURE SENSOR

Ronald H. Jones and William O. Evans, Jr., San Diego, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Nov. 26, 1963, Ser. No. 326,305
1 Claim. (Cl. 73—362)



Means for electrically indicating temperature comprising;

a first and second set of assembled dielectric bodies, each body being of a material the dielectric constant of which is unique throughout a distinct limited temperature range, said temperature ranges of the bodies being uniformly spaced, and the temperature ranges of the bodies of the first set being twice the temperature range of the bodies of the second set;

spaced terminals on each body, leads for coupling the pairs of terminals of bodies of each set in parallel so that the dielectric constant between the leads of each set successively increases and decreases as the function of temperature, and

means for, respectively, detecting the dielectric constant of each set and generating different binary voltages which can be coded in terms of temperature.

3,266,317
THERMO-RESPONSIVE DEVICES

Lyndon W. Burch, 3 River St., Boston, Mass., and Hadley K. Burch, Pittsfield, Vt.

Filed July 26, 1963, Ser. No. 298,813
13 Claims. (Cl. 73—363.3)

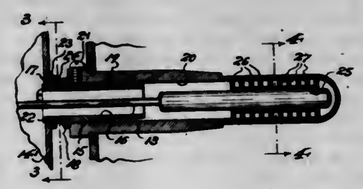
1. A thermo-responsive device comprising first, second, third and fourth elements of elongated configuration disposed in the named order in, at least in part, coextensive relation to one another, said first element enclosing said second said third and said fourth elements at least in part, at least one of said elements having a coefficient of thermal expansion different from that of another of said elements, a connection between one end portion of said first element and an adjacent end portion of said second element, a connection between the remaining end portion of said second element and an adjacent end portion of said third element, a connection between the remaining end portion of said third element and an adjacent end portion of said fourth element, said remaining end portion of said third element and said adjacent end portion of said fourth element extending out of said one end portion of said first element, and a connection between the remaining end portions of said first and said fourth elements, the junction between said third and said fourth elements being movable in a direction transverse to the general direction of said first element.



3,266,318
THERMOSENSITIVE DEVICE FOR TEMPERATURE INDICATION AND/OR CONTROL

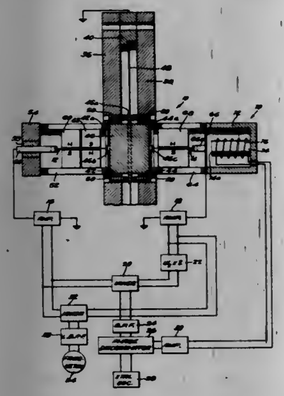
Vincent V. Abajian, 52 Evergreen Drive, North Caldwell, N.J., and Richard Abajian, 289 W. Stevens Ave., Wyckoff, N.J.

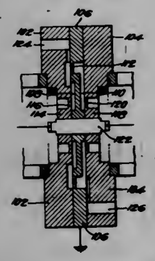
Filed Apr. 3, 1963, Ser. No. 270,244
6 Claims. (Cl. 73—368)



1. A thermosensitive device comprising a thermometric bulb, an outwardly opening well to normally enclose said bulb and adapted to have a closed inner end portion immersed in a fluid to be tested, the interior diameter of said well substantially exceeding the exterior diameter of the bulb, and a heat transfer means of good conductivity interposed between the bulb and the walls of the well, said means comprising a sleeve adapted to embrace the bulb and having a multiplicity of longitudinally spaced apart transverse radial fins extending therefrom toward the walls of the well, so as to inhibit the circulation of air from the open end of the well and provide heat conductive paths leading to the bulb from said walls, and said thus spaced apart fins also providing intervening air trapping cells whereby heat is further transmitted through the trapped air to the bulb.

3,266,319
VIBRATING STRING TRANSDUCER DEVICES AND SYSTEMS EMPLOYING THE SAME
Paul J. Holmes, Laguna Beach, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Original application Dec. 27, 1957, Ser. No. 705,578, now Patent No. 3,153,351, dated Oct. 20, 1964. Divided and this application May 6, 1964, Ser. No. 365,535
7 Claims. (Cl. 73—398)

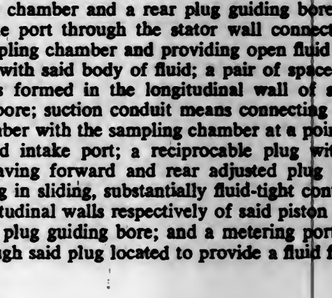




1. In a fluid pressure measuring system, the combination of a frame, a fluid pressure responsive element, a pair of elastic strands each of which has connection with said element and with said frame to afford each of said strands an initial tension and to dispose said strands such that movement of said element due to fluid pressure thereon causes an increase in tension in one of said strands and a corresponding decrease in the tension in the other of said strands, means for vibrating each of said strands at a natural frequency corresponding to its tension, and means responsive to a change in fluid pressure on said element to determine the difference in the changes in frequency of vibration of said strands and to vary accordingly the tensions of said strands to cause the difference in frequencies of vibration thereof to vary linearly and directly with variations in fluid pressure on said element throughout a given range thereof.

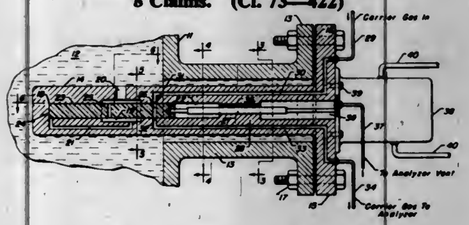
3,266,320
VECTOR BALANCED PRESSURE RATIO TRANSDUCER
Edward F. Abrams, Los Angeles, William C. Plunk, San Pedro, and Alexander Silver, Tarzana, Calif., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed June 13, 1963, Ser. No. 287,582
3 Claims. (Cl. 73—407)

1. A force balance instrument comprising:
a balance beam having a fulcrum;
a first force applying means operatively connected to said beam for exerting on the latter a first force which produces a first moment in one direction on the beam;
a frame pivotally mounted on an axis approximately parallel to the pivot axis of the beam;
a second force applying means mounted on said frame;
flexure means forming a connection between said second force applying means and said beam at a point



thereon substantially on said pivotal axis of said frame whereby said second force applying means exerts on said beam a second force which produces on said beam a second moment opposing said first moment;
an arm pivoted intermediate its end on said frame on an axis parallel to said pivot axis thereof and attached at one end to said flexure means; and
an adjustable counterweight on the other end of said arm.

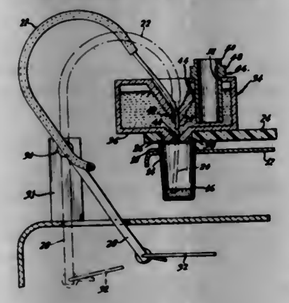
3,266,321
SAMPLE VALVE
Ellsworth R. Fenske, Palatine, and James H. McLaughlin, Lyons, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Dec. 28, 1964, Ser. No. 421,523
8 Claims. (Cl. 73—422)



1. A fluid sampling valve comprising a probe-like stator member adapted to extend through an opening of a fluid container and into a body of fluid to be sampled therein; a plug-retaining cavity formed within the tip portion of said stator and extending longitudinally thereof, said cavity defining a forward piston chamber, an intermediate sampling chamber and a rear plug guiding bore; a sample intake port through the stator wall connecting with said sampling chamber and providing open fluid communication with said body of fluid; a pair of spaced carrier gas ports formed in the longitudinal wall of said plug guiding bore; suction conduit means connecting said piston chamber with the sampling chamber at a point spaced from said intake port; a reciprocable plug within said cavity having forward and rear adjusted plug positions and being in sliding, substantially fluid-tight contact with the longitudinal walls respectively of said piston chamber and said plug guiding bore; and a metering port extending through said plug located to provide a fluid flow path

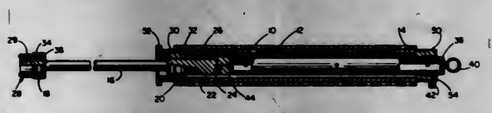
therethrough and across said sampling chamber from the intake port to the suction conduit during a portion of the plug travel from forward to rear adjusted positions, and to register with said carrier gas ports when the plug is in its rear adjusted position.

3,266,322
AUTOMATIC LIQUID SAMPLE SUPPLY AND WASH APPARATUS FOR AUTOMATIC ANALYSIS SYSTEM
Kent Negersmith, Yonkers, and Theodore Bilichnansky, Pleasant Valley, N.Y., assignors to Technicon Instruments Corporation, Chauncey, N.Y., a corporation of New York
Filed June 15, 1964, Ser. No. 375,187
15 Claims. (Cl. 73—423)



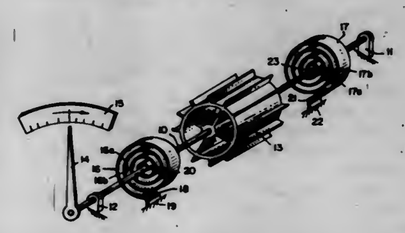
1. Liquid-sample supply apparatus, comprising a carrier for a series of liquid-sample containers, receptacle means for providing another liquid, a take-off device movable into and out of said containers and said receptacle means, respectively, for withdrawing liquid therefrom, means to intermittently move said take-off device and said carrier relative to each other to position successive sample containers at said take-off device, and means automatically operable in relation to said intermittent movement for moving said take-off device into and out of said containers and receptacle means, respectively, said receptacle having an opening and said take-off device comprising a tube movable through a first position at which an end of said tube is disposed within said receptacle to a second position at which said tube extends through said opening with said end thereof disposed within one of said containers.

3,266,323
DEEP OCEAN ENVIRONMENTAL SAMPLER
Chester L. Buchanan, Camp Springs, Jervis J. Gennari, Oxon Hill, and Howard E. Barnes, District Heights, Md., and Walter L. Brundage, Jr., Woodbridge, Va., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 27, 1963, Ser. No. 334,855
4 Claims. (Cl. 73—425.4)



1. A device for acquiring samples of water from a surrounding body of water and maintaining the sample at substantially the temperature and pressure of the water from which the sample is taken which comprises:
a linear cylindrical container having upper and lower ends;
rod means adapted to extend through said container coaxial with said container;
a first piston on one end of said rod means;
a second piston on said rod means spaced from said first piston;
said first piston adapted to be extended with said rod means from said lower end of said container;
said second piston confined within said container and movable with said rod means within the confines of said container between said lower end and said upper end thereof;
pushing and pulling means connected to said rod means providing means for moving said rod and said pistons relative to said container and for moving said first piston out of and into the lower end of said container simultaneously with movement of said second piston between said lower and upper ends of said container, whereby a sample of water is trapped between said first and second pistons within said container by movement of said second piston from said lower end of said container to said upper end thereof simultaneously with movement of said first piston extended from said lower end of said container into said lower end of said container when said device is located within a body of surrounding water;
sealing means on each of said pistons which prevent any of the trapped water sample from leaking from said container and upon any pressure change lock said rod and pistons within said container, orifice means in said second piston which provides a convenient means of extracting the trapped water sample from said container for close study; and
valve means for closing and opening said orifice as desired.

3,266,324
SPRING SYSTEM FOR MEASURING INSTRUMENTS
Richard G. Jewell, Swampscott, Mass., assignor to General Electric Company, a corporation of New York
Filed Dec. 27, 1963, Ser. No. 333,838
3 Claims. (Cl. 73—432)



1. A measuring instrument comprising a shaft,
means for applying a measurement torque to said shaft variable in accordance with a quantity to be measured,
spring means coupled to said shaft providing a torque resisting said measurement torque variable as a function of displacement of said shaft,
and indicator means coupled to said shaft,
said spring means comprising a pair of oppositely wound coils, arranged to produce torques on said shaft in opposite directions, each fastened to said shaft at one end and having the other end secured to a stationary support,
said coils being formed of bonded materials having negative temperature coefficients of elasticity and different temperature coefficients of expansion whereby a tendency of said coils to progressively decrease in stiffness with an increase in coil temperature due to a reduction of the modulus of elasticity of said materials is compensated by a progressive increase in the

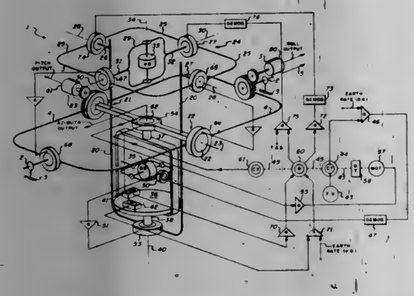
stiffness of said coils with said coil temperature increase due to warping of the coils caused by differential expansion of said materials so that the resisting torque provided by said spring means is relatively insensitive to temperature changes over an extended temperature range of operation of said instrument.

3,266,325

GYROSCOPIC APPARATUS

Max A. Schaffer, Williston Park, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Feb. 26, 1963, Ser. No. 261,005
11 Claims. (Cl. 74—5.34)



1. A three axis gyroscopic stable reference apparatus for navigable craft comprising,
(1) a first gimbal pivotably supported on said craft for movement about the roll axis of said craft,
(2) a second gimbal pivotably supported on said first gimbal for movement about the pitch axis of said craft,
(3) a pair of gyroscopes pivotably mounted on said second gimbal,
(4) pick-off means connected to said pair of gyroscopes for providing attitude information with respect to said craft about three mutually perpendicular references axes,
(5) at least one of said gyroscopes of said pair being a two degree of freedom gyroscope,
(6) an element pivotably mounted on said second gimbal,
(7) means coupled to said element for stabilizing said element in azimuth,
(8) and means including a pair of acceleration responsive means mounted on said element and having their sensitive axes orthogonally disposed with respect to each other in a normally horizontal plane for providing signals representative of the tilt of said azimuth stabilized element in horizontal, mutually orthogonal directions respectively for stabilizing said first and second gimbals in roll and pitch respectively.

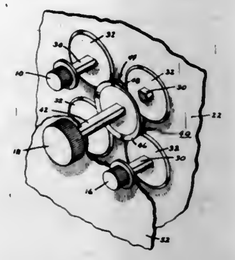
3,266,326

MASTER CONTROL ASSEMBLY FOR AN AUDIO VOLUME CONTROL SYSTEM

William F. Scanlon, Decatur, Ill., assignor to General Electric Company, a corporation of New York

Filed Jan. 4, 1965, Ser. No. 423,191
3 Claims. (Cl. 74—10.45)

1. In a control device having a plurality of individual manually controllable mechanisms, a master control mechanism for conjointly operating each of said individual control mechanisms, said master control mechanism comprising a rotatable driving wheel in continuous frictional engagement with each of said individual control mechanisms, whereby the operation of said master control



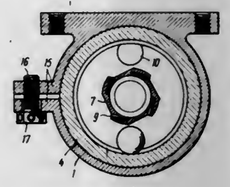
mechanism uniformly adjusts the settings of the individual control mechanisms but is not affected when each of said individual control mechanisms is adjusted.

3,266,327

PNEUMATIC BALL-TYPE VIBROMOTOR

Efim Isaakovich Felixon, Moscow, U.S.S.R., assignor to Nauchno-Issledovatelsky i Konstruktorsky Institute ispytalelnykh mashin Pribour i sredstr izmerenia mass, Moscow, U.S.S.R.

Filed Apr. 24, 1964, Ser. No. 364,060
5 Claims. (Cl. 74—87)



1. A pneumatic ball-type vibromotor comprising: a housing, means for fastening said housing to a structure to be subjected to vibration, a ring having an inner race secured in said housing, said housing and said ring defining a chamber, means for supplying compressed air into said chamber and arranged centrally within the same, and a ball within said chamber and movable along the inner race of said ring under the pressure of compressed air supplied through said means therefor.

3,266,328

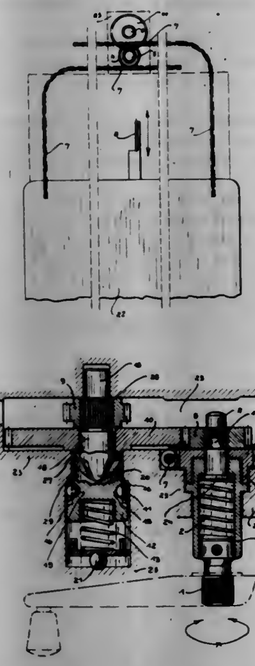
DRIVING DEVICE FOR A SLIDING ROOF

Anton Rott, Frankfurt am Main, Germany, assignor to H. T. Golde G.m.b.H. & Co. KG, Frankfurt am Main, Germany

Filed June 5, 1963, Ser. No. 285,779
Claims priority, application Germany June 9, 1962, G 35,177
16 Claims. (Cl. 74—89.17)

1. Apparatus comprising a displaceable element, first and second means connected to said element to enable displacement of the latter, first drive means in continuous engagement with the first means, second drive means adapted to engage the second means with the displaceable element moved to a predetermined position, input means, and transmission means normally coupling said source to at least said first drive means, said transmission means

being responsive to movement of said element to said position to isolate said first drive means from said input



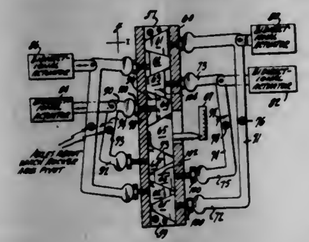
means and couple said second drive means to said input means.

3,266,329

MECHANICAL MOVEMENT

Harry M. Sellers, Riviera Beach, and James G. Seymour, Palm Beach, Fla., assignors to Radio Corporation of America, a corporation of Delaware

Filed Nov. 27, 1964, Ser. No. 414,346
4 Claims. (Cl. 74—110)



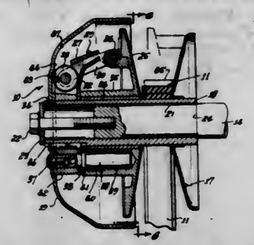
1. In combination,
an elongated housing;
a slidable element in the housing;
two like groups of non-aligned, adjacent bearings in the housing, one group on one side of the slidable element and the other group on the other side of the slidable element; and
means for concurrently driving one of the bearings in one group in a first direction substantially perpendicular to the length dimension of the housing and releasing a corresponding bearing in the other group to permit movement thereof in a direction opposite to the first direction, to effect the movement of the slidable element.

3,266,330

POWER TRANSMISSION

Louis C. Galleher, Los Angeles, Calif., assignor, by mesne assignments, to Clarence E. Fleming, Jr., and Clifford R. Anderson, Jr., both of Pasadena, Calif.

Filed June 15, 1964, Ser. No. 377,170
27 Claims. (Cl. 74—230.17)



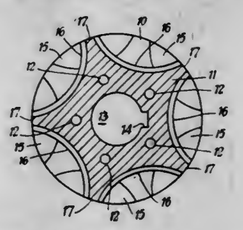
1. In a variable speed pulley having a rotatable shaft and a pair of opposed conical pulley flanges positioned thereon and providing therebetween a V-shaped groove for a pulley belt, with one of the pulley flanges being movable axially of the rotatable shaft, the improvement comprising:
an arm pivotally held to the pulley and movable toward and away from the rotatable shaft;
means urging said arm inwardly toward the rotatable shaft; and
a ramp plate having a cam surface for slidably engaging the outer end of the pivoted arm with a first portion of the cam surface adjacent the rotatable shaft being at an acute angle to the rotatable shaft, said cam surface of the ramp plate having a short second portion extending outwardly from the first portion, which second portion is substantially perpendicular to the rotatable shaft.

3,266,331

SPROCKET WHEELS

Arthur Thomas Charles Burrows, Stevenage, England, assignor to Geo. W. King Limited, Hertfordshire, England, a British company

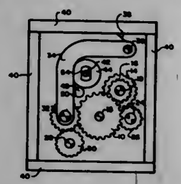
Filed July 6, 1964, Ser. No. 380,272
Claims priority, application Great Britain, July 23, 1963, 29,209/63
2 Claims. (Cl. 74—243)



1. A sprocket wheel comprising:
an inner disc portion having a plurality of arcuate recesses formed about its periphery and with a plurality of equally spaced spurs positioned around the periphery of the disc and between each of said plurality of arcuate recesses,
an outer disc portion positioned on each side of said inner disc portion, said outer disc portions having facing, aligned arcuate recesses corresponding with the number of recesses in said inner disc portion, said arcuate recesses formed by said outer disc portions being staggered in relation to said arcuate recesses of said inner disc portion, whereby successive chain links at right angles to each other will be

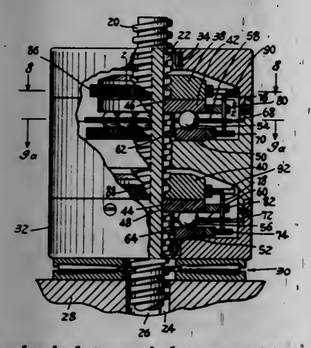
seated in the separate arcuate recesses of said inner and outer discs with said spurs engaging the alternate chain links which are lying in the plane of the peripheral surface of said sprocket wheel.

3,266,332
INSTRUMENTATION TRANSMISSION APPARATUS
William W. Mission, Mountain View, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Dec. 12, 1963, Ser. No. 330,064
10 Claims. (Cl. 74—354)



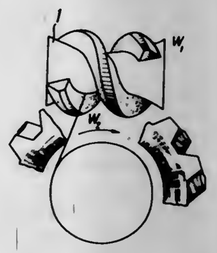
1. A multispeed transmission comprising:
rotary means rotatably mounted for providing successive speed changing sections;
first drive means operatively coupled to said first rotary means for coacting therewith;
second drive means rotatably mounted adjacent to said rotary means and out of engagement therewith for being selectively coupled to one of said speed changing sections;
engaging means including a plurality of idler members each of which is rotatably supported on a different support member adjacent to a different one of said speed changing sections and adjacent to said second drive means and including speed selection means for actuating said support members to selectively engage a single idler member with its associated speed changing section and with said second drive means while holding the remaining idler members out of engagement with their associated speed changing sections and said second drive means.

3,266,333
MECHANICAL TRANSMISSION
Arthur M. Maroth, % Maroth Engineering Company, Grumman Hill Road, Wilton, Conn.
Filed June 1, 1964, Ser. No. 371,415
13 Claims. (Cl. 74—424.8)



1. A mechanical transmission comprising, in combination:
(a) a toothed driven member,
(b) a threaded rotary driving member turnable and axially movable and engaged with the teeth of the driven member to provide for actuation of the latter in response to axial movement of the driving member and to enable the driving member to experience a reverse, return axial movement by turning and without requiring retrograde movement of the driven member,
(c) a rotary cam held against axial movement,
(d) means for intermittently turning the driving member in response to continuous turning of the rotary cam,
(e) a second rotary cam disposed opposite the first cam and mounted for solely axial movement,
(f) roller elements between and engaged with the cams,
(g) a driven cage engaged with said roller elements,
(h) means effecting an axial drive between the second cam and said driving element,
(i) said cams having opposed wavy surfaces of complementary contour, formed by receding and advancing portions of each cam, said receding portions having a lesser circumferential length than said advancing portions.

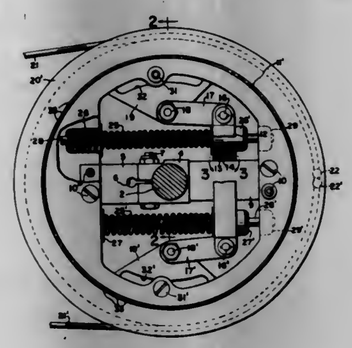
3,266,334
MODIFIED GLOBOID GEARING
Pavel Samollovich Zak, Moscow, U.S.S.R., assignor to Vsesoyuzny Nauchno-Issledovatelsky i Proektno-Tekhnologichesky Institute Ugoljnogo Mashinostrojenija, Moscow, U.S.S.R.
Filed May 14, 1964, Ser. No. 367,369
4 Claims. (Cl. 74—458)



1. An enveloping worm gearing comprising a worm having opposite ends constituting an entering end and an exit end, said worm including a thread wound thereon along a continuous curved line which deviates from a normal helical line, said curved line being tangential with said helical line at an intermediate point of extremus and deviating from said line from said extremus point towards the entering end of the worm, and a worm gear having teeth enveloping said worm and including working surfaces conjugate with said worm.

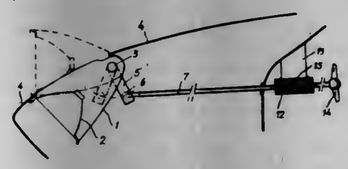
3,266,335
CONTROL LINE REGULATOR
William S. Wright, Jr., Orange, Calif., assignor to Pacific Scientific Company, San Francisco, Calif., a corporation of California
Filed Feb. 10, 1964, Ser. No. 343,532
2 Claims. (Cl. 74—501.5)

1. A control line regulator comprising a thin substantially flat bar-like body member having a hub portion adapted to be attached to a regulator shaft to be driven by said body member, said body member radiating outwardly on opposite sides from said shaft, a pair of slightly spaced annular ring bearings positioned radially outwardly of the regulator shaft and fixedly supported on the ends of said body member, a pair of annular ring sheaves turnably supported upon said ring bearings and adapted to receive control cables, a cross-head normally slidable along said regulator body member within the hollow interior of said ring bearings, linkage connectors connecting the ends of said cross-head to said ring sheaves and rig load compression springs interposed between said ring bearings and said cross-head and acting through said linkage connectors for urging said ring sheaves to turn in opposite directions to maintain the cables under rig tension, the application of a control load to one of the cables



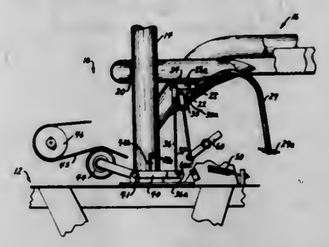
connected to one of said annular ring sheaves acting through its linkage connector to tilt said cross-head and locking the same upon said regulator body member and effecting a control movement of said regulator, said regulator body member, said cross-head and said rig load compression springs all being contained within the confines of said ring cable sheaves, thereby constituting a compact narrow lightweight regulator.

3,266,336
MOTOR VEHICLE HEADLAMPS OF ADJUSTABLE INCLINATION
Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a corporation of France
Filed Apr. 10, 1964, Ser. No. 358,884
Claims priority, application France, Apr. 12, 1963, 931,517, Patent 1,361,555
3 Claims. (Cl. 74—503)



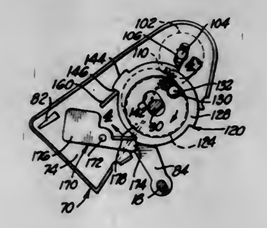
1. An arrangement for a disappearing pivot headlight comprising a shaft upon which said headlight is mounted, said shaft being rotatably mounted in a vehicle, a link fixed to said shaft, an actuating rod pivotally connected to said link, a sleeve in which said rod is slidably and non-rotatably mounted, said sleeve having external screw threads thereon, a fixed bushing in which said screw threads are threaded, means for axially latching said rod to said sleeve in at least two predetermined positions, whereby upon a sliding motion of said rod actuated by the operator said rod will cause said headlight to move from an operative position to a retracted position within said vehicle or vice versa and a rotatable motion of said rod and sleeve will secure adjustments in the inclination of said headlight.

3,266,337
FOOT OPERATOR ARRANGEMENT
James H. Obermeyer, Posey County, Ind., assignor to Hahn, Inc., Evansville, Ind., a corporation of Indiana
Filed Oct. 18, 1963, Ser. No. 317,310
1 Claim. (Cl. 74—512)



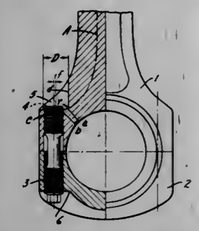
A control mechanism for a mounted-driver agricultural vehicle having a framework defined by a wheel-mounted rotatable front portion and a wheel-mounted rear portion, said rotatable front portion adapted to mount first and second operating mechanisms for a power source thereon, the control mechanism comprising foot controls for said first and second operating mechanisms pivotally mounted on said rear portion and each movable in a single vertical plane irrespective of any movement of said rotatable front portion, a first link depending from and movable with one of said foot controls loosely interconnecting with said first operating mechanism, and a second link depending from and movable with the other of said foot controls loosely interconnecting with said second operating mechanism.

3,266,338
ROTATION CONTROL UNIT FOR TOWEL DISPENSERS
J. C. Layton, La Habra, and Council A. Tucker, Glendale, Calif., assignors to Towlsaver, Inc., Los Angeles, Calif., a corporation of California
Original application Apr. 18, 1960, Ser. No. 22,943, now Patent No. 3,140,060, dated July 7, 1964. Divided and this application Apr. 30, 1964, Ser. No. 363,759
4 Claims. (Cl. 74—565)



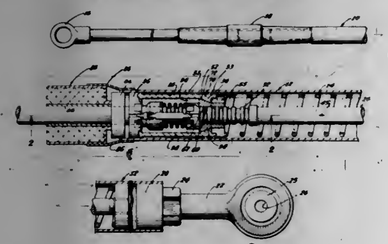
1. In a mechanism adapted to control the rotation of a rotary member, the combination of: a rotary element operatively connected to said rotary member for rotation therewith; a pivotal element pivotally secured to said rotary element for movement with respect to said rotary element, said pivotal element having first and second dogging surfaces thereupon; a fixed dog located adjacent said pivotal element and engageable with said first dogging surface to prevent rotation of said rotary element in one direction; a movable dog located adjacent said pivotal element and engageable with said second dogging surface to prevent rotation of said rotary element in the other direction; and means for restraining said pivotal element against free movement with respect to said rotary element.

3,266,339
CONNECTING ROD
Ernst Schlechtendahl, Auf dem Sturren, Germany, assignor to Furstlich Hohenzollernsche Huttenverwaltung, Laucherthal, Germany
Filed Nov. 21, 1963, Ser. No. 325,259
Claims priority, application Germany, Nov. 28, 1962, F 38,409
9 Claims. (Cl. 74—579)



1. A connecting rod including a connecting rod body having a bearing half section at one end of a rod portion thereof, a complementary bearing half section, means connecting said two half sections together, said means including differentially threaded screws passed through aligned bores in said bearing half sections, said screws being in screw-threaded relation within the bores of said first-named bearing half section, said screws each having threaded end portions protruding beyond the ends of the bores closest to said rod portion, said first-named half section having outwardly open recesses at opposite sides of said rod portion said recesses terminating in surfaces extending from said bores, generally transversely of the axes of said bores and toward the axis of said rod portion, said recesses being in the general form of bores with axes extending parallel to said first-named bores.

3,266,340
RELEASABLE LOCK FOR LOADED MEMBER
Jay A. Harper, Gardena, Calif., assignor to Acme Machine Works, Inc., Hawthorne, Calif., a corporation of California
Filed June 11, 1964, Ser. No. 374,437
16 Claims. (Cl. 74—584)



1. In a mechanism for releasably holding a member against a load force exerted on the member in a given direction, the combination of:

a shoulder on the member facing in the opposite direction;

latch means having a latch shoulder for engagement with the shoulder on the member to oppose the load force, said latch means being retractable in a direction transverse to the direction of the load force to release the member,

at least one of said two shoulders being inclined relative to the direction of the load force for cam action between the two shoulders to create a component force to urge retraction of the latch means in reaction to the load force;

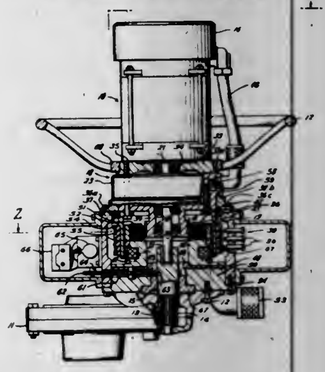
blocking means adjacent the latch means movable along a path transversely of said transverse direction between an effective position blocking retraction of the latch means and a release position freeing the latch means,

said latch means and blocking means having two mutually contacting shoulders respectively with at least one of the two last mentioned shoulders inclined relative to said transverse direction to urge retraction of the blocking member in reaction to said component force;

retaining means to releasably retain the blocking means at its effective position, said retaining means being releasable by movement in a direction laterally of said path; and

locking means manually retractable from an effective position blocking release action of the retaining means to a position releasing the retaining means.

3,266,341
DRIVE MECHANISM
Maurice C. Lucky, Houston, Tex., assignor to Cameron Iron Works, Inc., Houston, Tex.
Filed Mar. 15, 1965, Ser. No. 439,593
25 Claims. (Cl. 74—626)

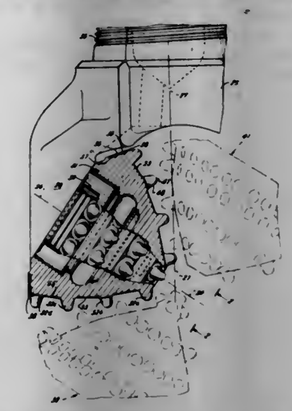


1. A combination manual and power operated drive mechanism comprising, in combination, a self-locking speed reduction unit having a housing, an input shaft, and an output shaft, brake means having a stationary section and a rotatable section with the rotatable section attached to the housing of the speed reduction unit to hold the housing against rotation when the brake means are engaged, power means for driving the input shaft of the speed reduction unit when the brake means are engaged, means for mounting the housing of the speed reduction unit and the power means to prevent their having any relative motion, and means for manually rotating the housing of the speed reduction unit to drive the output shaft when the brake means are disengaged.

3,266,342
METHOD OF FORMING ROLLER CONE CUTTER
John B. Coulter, Jr., and James B. Steen, Fort Worth, Tex., assignors to Chicago Pneumatic Tool Company, New York, N.Y., a corporation of New Jersey
Original application Oct. 26, 1962, Ser. No. 233,219, now Patent No. 3,223,188, dated Dec. 14, 1965. Divided and this application Mar. 16, 1965, Ser. No. 440,206
7 Claims. (Cl. 76—108)

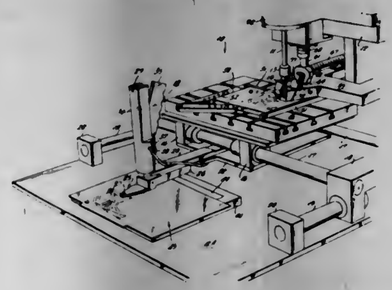
1. The method of making a roller cutter for an earth boring drill which comprises: rotating a steel workpiece about its axis while moving a set of forming tools toward and through the surface of the workpiece to cut away a series of circumferential grooves, thus leaving a series of

circumferential ridges on the surface of the workpiece; positioning a selected one of the ridges in alignment with the axis of an end mill; and rotating the end mill and simultaneously moving it toward the selected ridge to mill



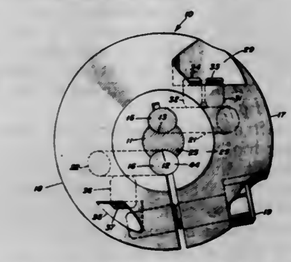
away two transverse recesses in the ridge, with the axis of the end mill located between the two recesses; and continuing the rotating and axial movement of the end mill until the portion of the ridge between the recesses is converted into a tooth having a circular cross section.

3,266,343
PHOTO TRANSFER DRILLING MACHINE
Walter Jellig, Franklin Square, N.Y., assignor to Sperry Rand Corporation, Ford Instrument Company Division, Long Island City, N.Y., a corporation of Delaware
Filed Oct. 22, 1963, Ser. No. 317,996
5 Claims. (Cl. 77—64)



3. A machine of the class described including a work table, a device for operating upon blanks supported on said work table, first means mounting said device for vertical movement toward and away from said work table, second means mounting said work table for movement in a horizontal plane relative to said device, positioning means including first and second sections mounted for relative horizontal movement, one of said sections including a table for supporting a master and the other of said sections including locating means positioned above said table, third means securing one of said sections and said work table to each other for horizontal movement in unison whereby selected relative positioning of said locating means and a point on a master supported by said table automatically moves said work table to a correct position relative to said device, a clamp for maintaining said work table in fixed position while said device is in operation, fourth means for operating said clamp into a holding position, a quick release connecting means between said clamp and said fourth means, guide means carried by said clamp for directing movement of said device.

3,266,344
COUNTERSINK ATTACHMENT
Eugene P. Supernor, Worcester, Mass., assignor to The Heald Machine Company, Worcester, Mass., a corporation of Delaware
Filed Aug. 29, 1963, Ser. No. 305,274
4 Claims. (Cl. 77—66)



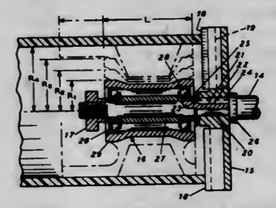
1. A countersink attachment for a drill having two flutes, comprising

(a) a main body having a bore through which the drill is adapted to pass and having a means for locking the body in place on the drill,

(b) a tool passing through the main body, the tool having a cutting edge emerging from the main body at a portion which faces the point of the drill, and having a cylindrical surface adapted to lie in a flute of the drill adjacent the said edge, and

(c) a dummy element passing through the main body and adapted to lie in the other flute at the said portion of the main body, a straight passage being provided through the main body for the tool and a straight passage being provided for the dummy element, the passages extending at substantial angles to the axis of the said bore, the passages being of circular cylindrical form and the angle being such that a horizontal plane perpendicular to the axis of the bore intersects on the surface of the passages an elliptical plane figure a substantial portion of which lies on the surface of the said flute.

3,266,345
PIPE FACING TOOL
Carl S. Weisner, Pleasant Hill, and Thomas F. Brudenell, Taft, Calif., assignors to Chevron Research Company, a corporation of Delaware
Filed Oct. 1, 1963, Ser. No. 313,083
1 Claim. (Cl. 77—73)



A tool adapted to be supported on and rotated by a hand held power tool for facing the end edge of circular hollow plastic pipe to prepare said pipe to be joined to the end edge of another pipe of the same type and diameter comprising:

(a) a shaft member,

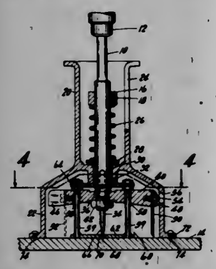
(b) a removably supported, cylindrical guide member journaled on said shaft member, said guide mem-

ber being dimensioned slightly smaller than said pipe to be faced so as to be longitudinally positionable within said pipe, said guide member engaging the inside longitudinal surface of said plastic pipe and being at least as long in longitudinal engagement with said pipe as the outside diameter of said guide member,

(c) a disc like cutter support member, said cutter support member being fixed to said shaft member so as to be rotatable thereby and to be movable with respect to the longitudinal axis of said pipe with said shaft, at least one cutting blade adjustably positioned radially of said cutter support member at a face thereof engageable with the end edge of said pipe, said blade including a formed cutting surface adapted to cut an inside chamfer on the inside end edge of said pipe,

(d) side shaft member adapted to be driven by the said power tool whereby said guide member may be moved longitudinally within said pipe and said cutting blades may be brought into end edge engagement with said pipe so as to face the end edge of said pipe perpendicular to said shaft and to chamfer the inside end edge of said pipe.

3,266,346
HOLE CUTTER
Marvin C. Voissem, Appleton, Wis., assignor to Badger Plug Company, Appleton, Wis., a corporation of Wisconsin
Filed Mar. 2, 1964, Ser. No. 348,454
10 Claims. (Cl. 77—79)



1. A hole cutting tool comprising a spindle, a cutter blade holder mounted on the spindle, a cutter blade on the holder in a position radially offset from the axis of the spindle, a casing enclosing the blade and having a bearing in which the spindle is rotatable and axially movable between advanced and retracted positions, stop means on the casing for limiting the retractive movement of the spindle and holder, and a floating ejector having a rear portion interposed between the stop means and the cutter blade holder and engageable with the stop means upon retraction of the spindle, said ejector including support elements for which the cutter blade holder provides bearings in which the support elements are freely movable, and a stripper plate carried by the support elements and adapted to strip severed workpieces from the forward end of the spindle.

3,266,347
SEAL INSTALLATION AND SETTING TOOL
Walter A. Robertson, Grant Park, Ill., assignor to Allen Products, Inc., Grant Park, Ill., a corporation of Illinois
Filed July 16, 1964, Ser. No. 383,192
4 Claims. (Cl. 81—3.1)

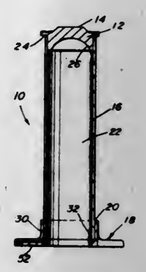
1. A hand tool for use in driving a seal into the bore of a housing, said tool comprising:

an impact plate having a plurality of recesses formed in an outer planar face thereof,

magnetic seal-holding means disposed within said recesses and having magnetic coupling surfaces thereof substantially flush with said planar face of said impact plate,

means retaining said magnetic seal-holding means fixed in said recesses,

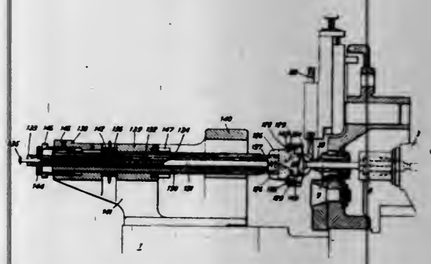
said impact plate having a handle receiving sleeve formed therein on a side of said plate opposing said outer planar face,



an elongated handle adapted for insertion in said sleeve and having outside dimensions sized for frictional gripping engagement of said handle in said sleeve,

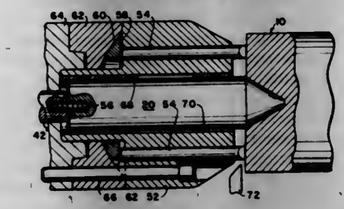
said impact plate having a radially extending through slot through which a seal held in position on said planar face of said plate during positioning of said seal into said bore and driving of said seal into seating position may be observed from said side opposing said planar face.

3,266,348
BAR FEEDING DEVICE
Henri Mancia, Moutier, Bern, Switzerland, assignor to Usines Tornos, Fabrique de Machines Moutier S.A., Bern, Switzerland, a joint-stock company of Switzerland
Filed July 8, 1963, Ser. No. 293,466
Claims priority, application Switzerland, July 10, 1962, 8,305/62
4 Claims. (Cl. 82—2.5)



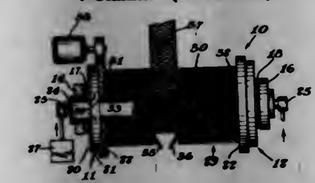
1. A lathe including a reciprocably slidable headstock, a toolholder axially forward of said headstock, and a guide sleeve adjacent to said toolholder for guiding and supporting a stock bar, said headstock providing an axial opening for the passage of a stock bar through opposite ends of said headstock, a feeding means for feeding an elongated stock bar forwardly through said headstock opening, and an extractor means located forwardly of said guide sleeve for extracting a stock bar remnant from said headstock opening, said extractor means including an extractor member which is axially reciprocable in axial alignment with said headstock opening, said member being axially reciprocable independently of said feeding means and relative thereto.

3,266,349
LATHE DRIVING AND CENTERING MEANS
Thomas L. Lane, Brooklyn, N.Y., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Sept. 1, 1964, Ser. No. 393,528
8 Claims. (Cl. 82—40)



1. In a lathe, a headstock and a tailstock each having a center for entering a bore of a workpiece, said headstock having a plurality of driving pins protruding from the headstock and extending parallel to its axis and circularly arranged around the center of the headstock, said headstock having a cam behind said driving pins, said cam having a first surface engaged by said driving pins and an opposite curved surface, said headstock having a similarly curved surface bearing against the curved surface of the cam, means for moving the centers into the bores of the workpiece and moving the centered workpiece against the protruding ends of the driving pins, whereby a greater force on one of the driving pins than on an opposite driving pin moves the cam so as to move said opposite driving pin toward the workpiece.

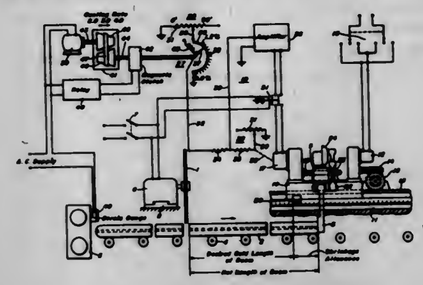
3,266,350
METHOD FOR CUTTING SHEET MATERIAL
John S. Best, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Original application June 23, 1961, Ser. No. 119,157, now Patent No. 3,174,368. Divided and this application Apr. 20, 1964, Ser. No. 366,681
4 Claims. (Cl. 82—47)



1. A method of slitting a supply roll of embossed foil comprising rotatably supporting a supply roll of embossed sheet, said roll being rotatable about its axis of generation, applying a fluid pressure to at least one end face of said roll, said pressure being sufficient to inflate and hold the outer layer of said roll under tension, rotating said roll, slitting at least one layer per revolution of the roll of said embossed sheet and removing at least one slit portion from the supply roll as a strip.

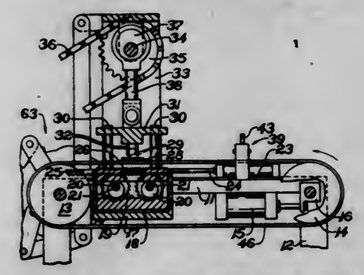
3,266,351
METHOD OF GAUGING SHRINKAGE
Robert W. Kolodgy, Wilkinsburg Borough, and William L. Roberts, Murrysville, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Original application May 29, 1963, Ser. No. 284,194. Divided and this application June 8, 1965, Ser. No. 462,204
5 Claims. (Cl. 83—15)

1. In a shrinkage gauging method for a hot cutting operation in which hot metal product is discharged from a rolling mill and delivered to a cutting device, the step which comprises adjusting the length of product being cut in accordance with the time interval between its discharge



from the mill and operation of said cutting device to provide a shrinkage allowance such that the cut product will thermally contract to a predetermined length upon cooling to atmospheric temperature.

3,266,352
PUNCHING APPARATUS
Mathew Kuts, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Dec. 1, 1964, Ser. No. 415,041
17 Claims. (Cl. 83—18)



15. The method of punching holes in an endless belt comprising the steps of locating a belt, simultaneously tensioning such belt and positioning die means adjacent a surface portion of such belt within a punching zone, punching holes in such belt in cooperation with such die means, and releasing the tension on such belt while simultaneously moving such belt away from said punching zone.

3,266,353
EQUIPMENT FOR RETRIEVING UNDERWATER CABLE
Ralph W. Gretter, Mountainville, John W. Stoner, Jr., Clark, and Gottfried O. Voigt, Westfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 30, 1965, Ser. No. 443,911
22 Claims. (Cl. 83—27)

1. Equipment for retrieving a cable lying at the bottom of a body of water,

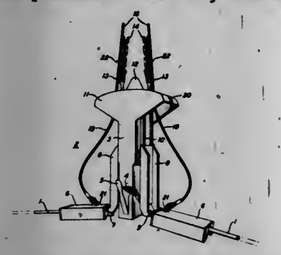
said equipment including a grapnel comprising a body having at its upper portion a protective hood with oppositely disposed portions thereof projecting outwardly on opposite sides of said body,

said body having at its lower portion at least two flukes each adapted for catching a cable,

said flukes being disposed on opposite sides of said body that are different from the sides on which said hood projects,

said body having at its intermediate portion two grippers slidably mounted on opposite sides of said body which are the same as the sides on which said hood projects and adapted to engage and hold securely opposite side portions of a cable caught by one of said flukes,

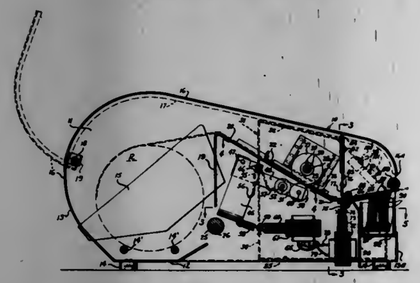
holding means for releasably holding said grippers in elevated positions on said body with the tops of said



grippers inside said projecting portions of said hood and control means for effecting the release of said grippers from said holding means,

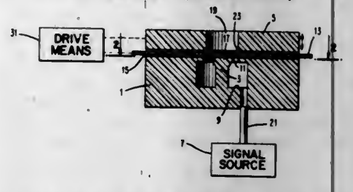
said grippers being adapted to respond to their release by moving out from under said hood and sliding down said body onto opposite side portions of a cable caught by one of said flukes.

3,266,354
ELECTRIC TAPE DISPENSER
Samuel Ortner, 305 Plane St., Newark 2, N.J.
Filed Nov. 3, 1964, Ser. No. 408,701
14 Claims. (Cl. 83—57)



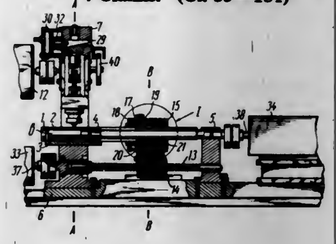
1. A tape dispensing device comprising a housing, means for carrying a roll of tape in said housing, tape guide means including a lower guide plate and an upper guide plate resting on said lower guide plate with the tape adapted to pass from the roll between said guide plates, aligned slots in said guide plates, a feed wheel carried by said housing and extending through one of said slots into contact with one surface of the tape, motor means operatively connected to said feed wheel to rotate the same, a source of electric current, first circuit means interconnecting said source of electric current to said motor means to energize the same, a pressure wheel aligned with said feed wheel and extendable through the other slot into contact with the opposite surface of the tape, support means carried by said housing rotatably supporting said pressure wheel, said support means normally maintaining said pressure wheel out of pressing contact with the tape, first solenoid means, second circuit means interconnecting said source of electric current to said first solenoid means to energize the same, first switch means on said second circuit means normally maintaining said second circuit means open to normally de-energize said first solenoid means, a first core carried by said first solenoid means and operatively connected to said support means to move said pressure wheel into pressing contact with the tape on closing of said first switch means and energizing of said first solenoid means, severing means carried by said housing in juxtaposition to the tape, spring means normally maintaining said severing means out of cutting contact with the tape, second solenoid means, third circuit means interconnecting said source of electric current to said second solenoid means to energize the same, second switch means in said third circuit means normally maintaining said third circuit means open to de-energize said second solenoid means, a second core carried by said second solenoid means and operatively connected to said severing means to move the same into cutting contact with the tape on closing of said second switch means and energizing of said second solenoid means, said second switch means being closable only on de-energizing of said first solenoid means.

3,266,355
PNEUMATIC PUNCH
Robert G. Williamson, Norwalk, Conn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed July 23, 1964, Ser. No. 384,697
11 Claims. (Cl. 83—177)



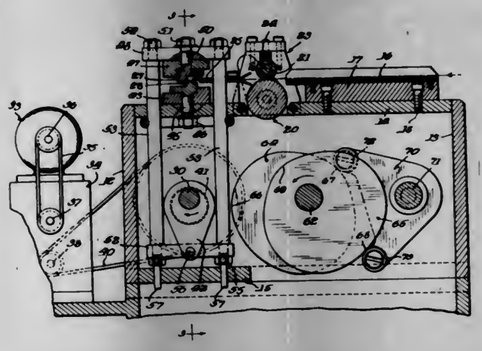
1. A punch device for punching a record medium, said punch device comprising: die means having an aperture therein disposed on one side of the path of said record medium; means defining a fluid chamber having an opening therein having the same dimensions as said aperture, said opening being positioned on the other side of said record medium and opposite said aperture; means for selectively supplying fluid under pressure to said chamber; and shaping means disposed within said chamber for directing said fluid through said opening and against said record medium with a velocity that varies over the width of said aperture.

3,266,356
DEVICE FOR FORMING PORTS IN THIN-WALLED TUBES
Felix Alexandrovich Seravin and Andrei Nikolaevich Maklakov, both of Voronezh, U.S.S.R., assignors to Experimentaljny Nauchno-Issledovatelsky Institute Kuznechno-Pressovogo Mashinostroenija, Voronezh, U.S.S.R.
Filed May 14, 1964, Ser. No. 367,367
4 Claims. (Cl. 83—181)



1. A device for forming ports in a thin-walled tube, comprising a plate with guideways therein; a frame mounted on said plate; a slide in said frame for having a punch secured therein, said punch having a cross-section corresponding to the size of the smallest port to be formed in the tube; means in said frame to drive said slide in reciprocation; a driven cam shaft in said frame coupled to the latter means to drive the same; a bracket mounted on said frame; a mandrel die having one end secured in said bracket; a cage accommodating the other end of said mandrel die and spaced therefrom by a clearance, said cage being mounted on said frame and said clearance serving for the accommodation of a tube therein; a carriage supported for travelling in said guideways of the plate and including means for clamping the tube in which the ports are to be formed; a mechanism for moving the tube lengthwise including a feed screw having one end mounted in said frame and an opposite end in said bracket and a nut secured in said carriage and engaged with the feed screw for being driven thereby; a mechanism for turning the tube and including a feed shaft having one end secured in said frame and an opposite end in said bracket and having kinematic connection with said means which clamps the tube; and means for synchronizing the operation of said mechanism which lengthwise feeds the tube and the mechanism which turns the tube and the means which drives the slide in reciprocation to effect the forming of the outline of the ports in the tubes.

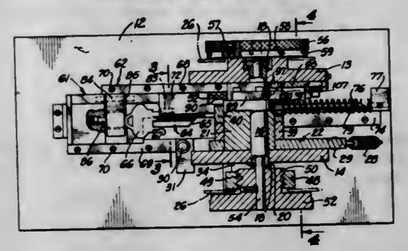
3,266,357
COMBINATION SHEAR AND ROLL FEED
Frederick M. Littell, Winnetka, Ill., assignor to F. J. Littell Machine Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 20, 1964, Ser. No. 390,946
9 Claims. (Cl. 83—215)



5. Apparatus for cutting strip material, the combination including a lower knife and an upper knife, means mounting the upper knife for reciprocating movement towards and from the lower knife for coaction therewith to perform a cutting operation, means producing said reciprocating movement of the upper knife including a main operating shaft, means for feeding the strip material to between the cutting knives when the knives are separated, said feeding means including a feed roll drive shaft, a rotatable shaft carrying a pair of conjugate cams, an oscillating lever, said cams each having a high portion and a low portion and said cams being so arranged as to produce oscillating movement of the lever with a dwell period taking place at the end of each oscillating stroke, means connecting the oscillating lever with the feed roll drive shaft including a pair of clutch devices operatively mounted on the feed roll drive shaft, one clutch device being operative to rotate the feed roll shaft in a feeding direction as the lever oscillates in a clockwise direction and the other clutch device being operative to rotate the feed roll shaft in a feeding direction as the lever oscillates in a counter-clockwise direction, and gear means connecting the main operating shaft with the rotatable shaft, whereby the feeding of the strip material takes place intermittently and in timed relation with the reciprocating movement of the upper cutting knife.

6. Apparatus for cutting strip material as defined by claim 5, additionally including means mounting the cutting knives for oscillating movement as a unitary structure while permitting the said reciprocating movement of the upper knife, and connecting means operatively joining the unitary structure with the oscillating lever, whereby the said unitary structure is oscillated in timed relation to the feeding action of the feed roll drive shaft.

3,266,358
KEY PUNCHING MACHINE
Clifford B. Cox, 917 Buena Vista, and Horst W. Wich, 621C Park, both of South Pasadena, Calif.
Filed Jan. 20, 1964, Ser. No. 338,925
17 Claims. (Cl. 83—225)



1. In a key punching machine the combination of:
a frame structure providing a punch station;
a die member at said punch station;
a punch member at said punch station movable relative to said die member;
a key carriage having means for retaining a key blank thereon;
means for mounting said key carriage for longitudinal advancement to advance said key blank past said punch station;
operating means for relatively moving said die and punch members in shearing relation with said key blank to punch a notch therein;
means responsive to movement of said operating means for advancing said key carriage step-by-step past said punch station, said last-mentioned means including a spring biasing said key carriage to move said key carriage and the key blank longitudinally past said punch member and an escapement means controlling the step-by-step movement of said key carriage under the biasing action of said spring; and
means for changing the relative lateral position of said key blank and said die and punch members that are at said punch station to vary the depth of the notch punched in said key blank by said die and punch members.

3,266,359
SHEET MATERIAL TRIMMING AND INSPECTION APPARATUS
Rufus Lee Homsher, Lancaster Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed May 15, 1964, Ser. No. 367,822
11 Claims. (Cl. 83—367)

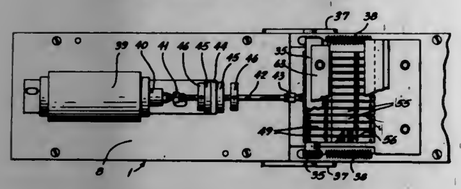
1. An indexing mechanism comprising a first shaft, means for rotatably mounting said first shaft, stop means associated with said first shaft, cooperating means engageable with said stop means to prevent rotation of said

first shaft in one direction, means to actuate said cooperating means, a second shaft, means for rotatably mounting said second shaft, one-way clutch means connecting said shafts whereby said clutch means will be engaged to provide a positive driving connection between said shafts when said second shaft is rotating in said one direction at a rate greater than the rate said first shaft may tend to rotate in said one direction but will be dis-



engaged to allow said first shaft to freely override said second shaft when said cooperating means are not engaged with said stop means and when said first shaft is rotating in said one direction at a rate greater than the rate said second shaft may be rotating in said one direction or in another direction at any rate, means to selectively rotate said first shaft in said one direction and means to selectively rotate said second shaft in said one direction and in the direction opposite thereto.

3,266,360
STOP COMBINATION PRE-SETTING MECHANISM FOR ORGANS
Gilbert Lemieux, La Providence, Quebec, Canada, assignor to Casavant Freres Limitee, St. Hyacinthe, Quebec, Canada
Filed Apr. 5, 1965, Ser. No. 445,586
6 Claims. (Cl. 84—344)



1. A mechanism for setting up stop combinations for organs, comprising a plurality of blades disposed side by side and mounted for independent axial movement from a limit position, said blades each having a plurality of openings arranged longitudinally of the blades, and the openings of the several blades arranged in transversely registering groups, rotatably mounted shafts extending through said groups of openings and each adapted to be connected at one end to a stop controlling mechanism, double lever arm levers mounted on said shafts, each lever being disposed in a blade opening to have its arms in an abutment path with the edge of said opening, said opening edge having two abutment portions lying on opposite sides of the movement axis of said shafts, the arms of said lever extending also on opposite sides of said shaft movement axis, said double arm levers having a sliding fit on said shafts, so as to be angularly movable thereon, means to releasably hold said double arm levers in two angularly spaced positions on said shafts, and manually-operable means to cause rotation of said double arm levers from one into the other of said angularly spaced positions on said shafts, whereby axial movement of one of said blades away from said limit position will cause initial engagement of said abutment edge portion of said blade opening, with one or the other of the arms of said double arm levers, depending on which initial angular position said levers have on their shafts, so as to cause rotation of said shafts in clockwise or anticlockwise direction.

3,266,361
MITER JOINT NAIL
Arthur E. Gravenhorst, Deerfield, and Robert Oakes Jordan, Highland Park, Ill., assignors to Metalcraft Corp., Chicago, Ill.
Filed Aug. 9, 1963, Ser. No. 300,980
2 Claims. (Cl. 85—11)



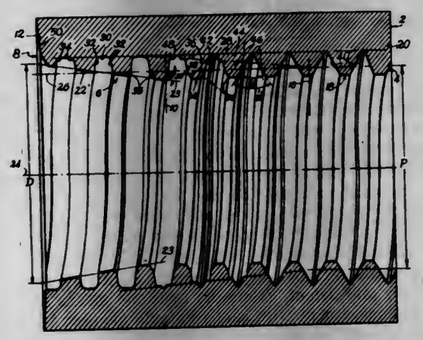
1. A miter joint nail for joining together adjacent molding strips of a picture frame comprising; an integral channel-shaped member having a web segment affording a top and bottom side and a pair of legs, said legs extending outwardly from said bottom side only of said web segment to firmly grip said material for maintaining said nail in the desired angle of penetration, a plurality of penetrating blades at the leading edges of said member, and means on said web segment for accommodating molding strip material displaced when said nail is operationally driven into said molding strips, said web segment tapering and decreasing in width from leading edge to trailing edge, said legs and said tapered web coacting to securely draw said molding strips together.

3,266,362
CONNECTOR PLATE FOR WOOD JOINTS
Ronald Ray Carr, Detroit, Mich., assignor to Arrow-Head Truss Plate, Inc., Detroit, Mich., a corporation of Michigan
Filed Dec. 12, 1963, Ser. No. 330,052
3 Claims. (Cl. 85—13)



2. A connector plate comprising a rigid, flat metal plate having identical pairs of parallel rows of spaced apart spikes, each of which is struck out of the plate and bent perpendicular thereto, with the spikes in each row being identical to one another and being identical to but oppositely formed relatively to the spikes in the other row of its pair; each spike being in the form of an arrow-like shape having a widened base with one end integral with that plate and a narrowed shank integral with and centrally extending from the opposite end of the base to form a relatively sharp pair of shoulders on said opposite end of the base, and the shank terminating in a blunt pointed, barbed head, having thereon outwardly extending ears forming an abrupt shoulder facing said base and spaced therefrom, each said spike being transversely curved in cross-section and including in the concave face thereof a groove-like flute extending from said head to said widened base, with said flutes in the spikes in one row opening toward the flutes in the spikes in the other row of its pair; a second pair of transversely, outwardly extending ears formed on each of said spike shanks and located approximately mid-way between the junctions of the shank of the spike with its base and head respectively, said ears forming an abrupt shoulder facing said base and said groove-like flute terminating in said base in a groove-like flute extending across said base at a location spaced above the plane of said plate; the spikes in one row being staggered relative to the spikes in the other row of its pair so that each of the spikes is approximately equally spaced from the next adjacent spikes in its own row and in the other row of its pair.

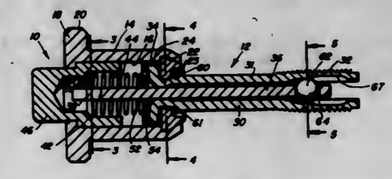
3,266,363
NUTS WITH LOAD DISTRIBUTING THREADS
Keith R. Bronson, Arcadia, Calif., and Charles C. Faroni, Summit, N.J., assignors to Elastic Stop Nut Corporation of America
Continuation of application Ser. No. 839,335, Sept. 11, 1959. This application Apr. 21, 1964, Ser. No. 361,338
13 Claims. (Cl. 85—32)



1. A nut having a work clamping face and an internally threaded bore, the internal thread comprising a plurality of non-locking free-spinning thread sections of equal major diameter and constant pitch throughout said sections, a first of said sections comprising at least one thread convolution of a standard thread of a standard minor diameter and a standard thread angle from root to crest, a second of said sections comprising at least one thread convolution adjacent the work clamping face of uniformly decreasing crest diameter from a value greater than the pitch diameter of said thread convolution of the first thread section to a value equal to the standard minor diameter of said standard thread convolution of the first section, said second section having thread defining flanks between the pitch circle and the major diameter of a lesser thread angle than said standard thread angle, and a third thread section having a crest surface of said standard minor diameter, flank surfaces within the pitch circle of said standard thread angle and flank surfaces between the pitch circle and the major diameter consisting of uniformly and oppositely varying lengths of the thread angle of the second section and of the standard thread angle of the first section and merging with the flank surfaces of the first and second sections, and said work clamping face having a concave, conical surface circumjacent the bore at an angle between ½° and 4° to a plane perpendicular to the axis of the thread.

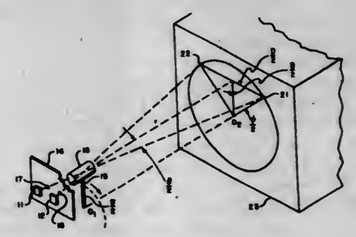
3,266,364
RELEASABLE FASTENER
George J. Becker, Sepulveda, Calif., assignor to Avdel, Inc., Burbank, Calif., a corporation of California
Filed Oct. 22, 1962, Ser. No. 232,198
8 Claims. (Cl. 85—77)

1. A releasable fastener for engaging within an internally threaded socket, comprising in combination: a handle member comprising a tubular shell having a central axial opening, a split-bolt member formed of at least two separate longitudinal segments having flat parallel inner faces, each segment having an enlarged head portion located in said opening, each segment of said split-bolt member having a stem portion projecting outside said tubular shell and provided at its projecting end with an externally threaded portion for engagement with the threads of the internally threaded socket, cooperating means on the shell and bolt member preventing relative rotation between the shell and the bolt segments, means providing a pivotal connection between said shell and each bolt segment to provide for movement of the threaded portion of the segment towards and away from the axis of said split-bolt member, spring means normally acting on said segments in a direction to move the threaded portions thereof towards said axis, a plunger of flat strip-like form having sliding contact with the inner faces of and extending axially between the segments of said split-bolt member and being slidable along the axis of said bolt member,



and cam means connecting each segment with said plunger to effect outward movement of the threaded portions of said segments upon axial movement of the plunger in one direction to spread the threaded portions of the segments into threaded engagement with the socket, said cam means comprising, for each bolt segment, a single part having oppositely extending projections mounted within an aperture formed transversely through said flat plunger extending from said plunger on a transverse axis, said projections having contact with the inner faces of said bolt segments, said projections being formed symmetrically about said transverse axis, and each bolt segment having a longitudinal groove formed on the inner face thereof providing a guiding track for the end of said projections, said grooves being formed of a varying depth along the length of said segments to effect outward movement of said segments on axial movement of said plunger in said one direction.

3,266,365
DOUBLE DETECTOR-TIME CORRELATION RANGEFINDER
Gus Stavis, Briarcliff Manor, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed Dec. 6, 1962, Ser. No. 242,881
8 Claims. (Cl. 88—1)



1. Apparatus for measuring the distance to a target, comprising,

first and second sensors each generating a signal indicative of the intensity of the light falling thereon,
optical means for defining first and second divergent paths from said first and second sensors respectively to said target,
and for simultaneously directing light reflected from different areas of said target to said sensors, respectively,
means for rotating said optical means for scanning the same area in successive same circular paths on said target successively,
whereby the signals generated by said sensors are identical in form but displaced in time, and
means for measuring the time displacement between like portions of said signals.

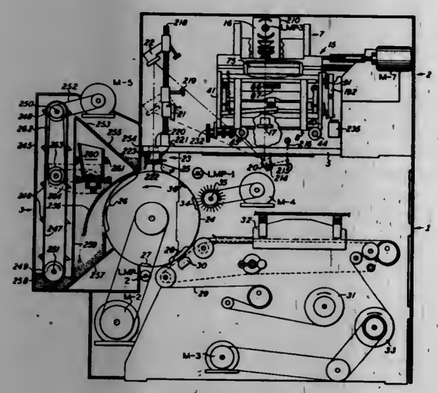
3,266,366

AUTOMATIC XEROGRAPHIC APPARATUS

Robert A. Hunt, Wilbraham, Mass., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Continuation of abandoned application Ser. No. 776,848, Nov. 28, 1958. This application Sept. 9, 1963, Ser. No. 308,620

2 Claims. (Cl. 88—24)



1. In a xerographic apparatus for forming reproductions from microfilm cards the combination of
a xerographic plate,
means for moving the plate at a predetermined rate,
a projection system for projecting a radiation image from a microfilm card onto the xerographic plate,
a card transport system, said card transport system including a movable card carriage for supporting and transporting individual microfilm cards,
a card storage magazine,
a card receiving magazine,
drive means for conveying a card to be projected from said storage magazine to said card carriage and the immediately preceding projected card from said carriage to said receiving magazine when said carriage is in one position of its movement,
means for moving said card carriage reciprocally in a path extending between the projecting system and the card storage magazine for transporting each card therebetween, and
means to move the card carriage of the transport system at a rate to effect synchronous motion of the projected image relative to the xerographic plate.

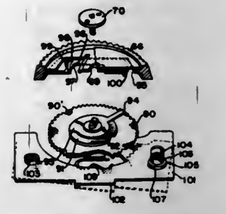
3,266,367

BINOCULAR FOCUSING MECHANISM HAVING INDEXING DETENT

Robert W. Dowling, New York, N.Y., Lorenzo del Riccio, Los Angeles, Calif., and Albert Goldhammer, Nussdorf, Baden (Bodensee), Germany, assignors to D and D Company, Inc., New York, N.Y., a corporation of Delaware

Original application Aug. 31, 1961, Ser. No. 135,182. Divided and this application Aug. 16, 1963, Ser. No. 302,678

4 Claims. (Cl. 88—34)



3. A focusing mechanism for a binocular telescope comprising a rotatable focusing wheel, a drive shaft connected to rotate with said wheel, said drive shaft being adapted to actuate a mechanism for adjusting the position of one of the optical elements of a lens system, a spring-biased element rotatably carried by said drive shaft, a member freely rotatable about said drive shaft, said member having a radially disposed detent recess, said spring biased element resiliently and detachably engagable to said rotatable member as said spring-biased element is urged into said detent, externally operable means for detachable engagement with said rotatable member to temporarily restrain rotation thereof thus to index an angular position of said detent relative to a selected optical adjustment, said spring element further disengagable from said rotatable member during continued rotation of said shaft, said shaft further rotatable to return to said indexed adjustment.

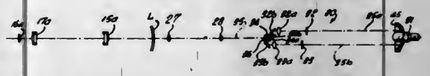
3,266,368

DUAL RETICLE LENS TESTING APPARATUS

Emil Santinelli, Carmel, N.Y., assignor to Lemay Optical Corp., Carmel, N.Y., a corporation of New York

Filed July 19, 1965, Ser. No. 473,131

3 Claims. (Cl. 88—56)



1. Lens testing apparatus comprising means for supporting a lens and for viewing light projected from rear to front along a longitudinal axis through said lens, first and second reticles, means supporting said reticles behind said lens support means so that they extend transversely, are offset from said axis and from each other, are independently longitudinally movable in either front or rear direction and are turnable in unison, means behind said reticle support means for projecting light longitudinally forwardly through said reticles and said lens, the first reticle having a horizontal hairline for measurement of lens spherical power, the second reticle having a vertical hairline for measurement of lens cylinder power, optical means for shifting the reticle images to said axis to travel forwardly axially through said lens, whereby after longitudinal movement of one reticle into image focus position the second reticle can be moved into image focus condition with the image of the first reticle image meanwhile remaining in focus, and means for measuring the reticle positions for image focus condition relative to a selected standard position thereof.

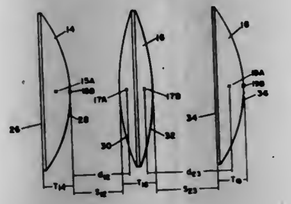
3,266,369

COMPOUND THREE-ELEMENT LENS ASSEMBLY

John Albert Waidelich, Jr., Chalfont, Pa., assignor to General Electric Company, a corporation of New York

Filed Sept. 4, 1962, Ser. No. 221,027

1 Claim. (Cl. 88—57)



A compound three-element lens assembly comprising, on a common axis,
a first, plano-convex, lens of focal length P, its convex surface oriented toward
a second, double convex, lens of focal length in the range from 0.7P to 0.8P;
a third, plano-convex, lens of focal length in the range from 0.9P to 1.1P, the plane side whereof is oriented toward the said second lens;
the spacing between the apex of the convex side of the said first lens and the next adjacent principal point of the said second lens being in the range between 0.20P and 0.24P;
the spacing between the adjacent principal points of the said second lens and of the said third lens being in the range between 0.30P and 0.36P;
all the said lenses being of material of the same refractive index for any frequency of radiation to which they are transparent and being transparent to radiation throughout a frequency range extending over at least three octaves.

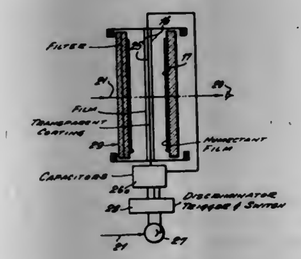
3,266,370

ELECTRO-THERMO-PHOTOTROPIC COMPOSITIONS AND APPARATUS

Alvin M. Marks, 149—61 Powells Cove Blvd., and Mortimer M. Marks, 166—25 Cryders Lane, both of Whitestone 57, N.Y.

Filed Oct. 20, 1960, Ser. No. 63,824

4 Claims. (Cl. 88—61)



1. A thermo-phototropic cell comprising spaced transparent plate-like members, a strip around the edges of the plate-like members to form a chamber between said plate-like members and a thermo-phototropic film comprising a solid solution of a transition metal halide in a polymer supported only at its edges within the chamber secured to the strip and means to apply heat to the thermo-phototropic film.

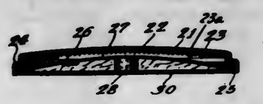
3,266,371

LIGHT REFLECTOR UNIT WITH AN UNDULATORY REFLECTING INSERT

Ralph R. Gunderson, 7100 S. Shore Drive, Chicago, Ill.

Filed Mar. 8, 1962, Ser. No. 178,471

2 Claims. (Cl. 88—78)



2. A light reflector unit for attachment to a mounting surface, comprising: a reflector casing member including a light transmitting front end wall having a back surface with prismatic reflector means integral therewith for receiving and reflecting light therefrom, said casing member being of a relatively shallow dish shape to thereby provide a cavity opening rearwardly of said light transmitting front wall and having an enlarged peripheral supporting rim at the open rearward end of said casing member, said enlarged rim having a planar rearwardly facing supporting surface; a relatively thin backing member secured to said planar supporting surface for closing said rearwardly opening cavity, said backing member having an exposed rear surface provided with pressure-sensitive adhesive for securing the unit to the mounting surface, said backing member further including means for providing access to said cavity so that air pressure in said cavity can be reduced below ambient air pressure about the unit and the cavity may be hermetically sealed by securing the unit to a mounting surface after air pressure in the cavity has been reduced below ambient air pressure; and an undulatory light reflecting insert positioned within the cavity of said casing member.

3,266,372

SHIPPING AND LAUNCHING CONTAINER

Harold J. Mack, Allentown, and Albert F. Scarcelli, Hatboro, Pa., assignors to the United States of America as represented by the Secretary of the Navy

Filed Aug. 27, 1964, Ser. No. 392,665

8 Claims. (Cl. 89—1.5)

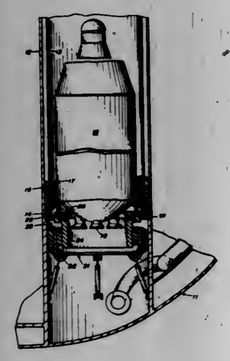


1. A combination shipping, storage and launching container for use with a launcher employed in launching stores sensitive to shock and vibration and subject to deteriorating effects of moisture, fungus, under ambient conditions comprising:
a hollow member for housing the store;
a first cap sealing one end of said hollow member, said cap having means centrally located thereon for receiving a source of launching pressure;
a piston spaced inwardly of said first cap, said piston including a sealing lip on the outer extremity thereof engaging the interior surface of said hollow member;
a first spacer means interposed between said piston and the store for cushioning and positioning the center of gravity of the latter within said hollow member;
a second cap sealing the other end of said hollow member, said cap including notch means on the outer surface thereof for insuring proper positioning of said container within the launcher;

cutter means within said hollow member and adjacent said second cap for severing the same and permitting ejection of the store upon receiving a predetermined launching pressure;

and a second spacer means interposed between the store and said cutter, said first and second spacer means comprising resilient, compressible and shock absorbing material for cushioning and positioning the center of gravity of the store within said hollow member.

3,266,373
COMPACT HOLD-DOWN AND VERTICAL SHOCK MOUNT
Charles R. Brown, Sunnyvale, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 27, 1964, Ser. No. 406,951
5 Claims. (Cl. 89—1.7)



1. In a missile launching system having an outer and an inner launching tube and a vertically supported missile, a missile hold-down mechanism and a vertical shock absorber comprising:

a bottom support ring located within the outer tube and secured thereto;

means attached to the outer wall of the bottom support ring and engaging the wall of the outer tube to serve as a packing unit;

an upper support ring located above and extending within the bottom support ring;

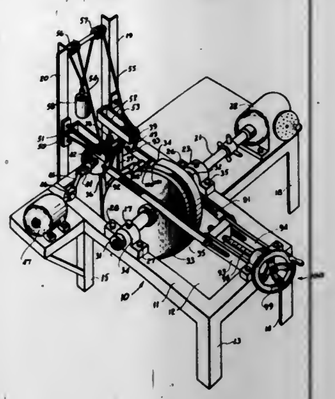
resilient means connecting the bottom support ring with the upper support ring and supporting the upper ring;

means integral with the upper support ring supporting the missile; and

means securing the upper support ring to the missile.

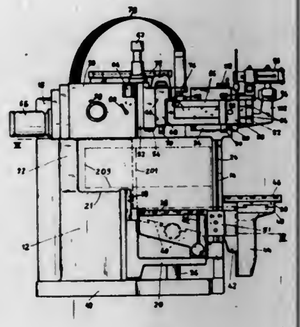
3,266,374
GEAR GENERATOR AND GRINDER
Yongko Pak, 14 Shinhungdong, Chinhae, Korea
Filed Mar. 31, 1964, Ser. No. 356,125
5 Claims. (Cl. 90—3)

1. A device for guiding a tool in an involute path which comprises, in combination, support means carrying an index shaft and indexing means connected thereto for controlling the angular position of said shaft, a pair of guide cylinders mounted on said shaft, means for locking a work-piece between said guide cylinders in position for application of a tool, flexible means attached to each of said cylinders, each of said flexible means making tangential contact with each of said cylinders, each of said flexible means carrying a bearing at the free end thereof, a shaft in said bearings held parallel to said index shaft, a cutting tool secured to said shaft for rotation therewith, a tension means extending from each end of said shaft having uniform tension applied thereto, driving means for



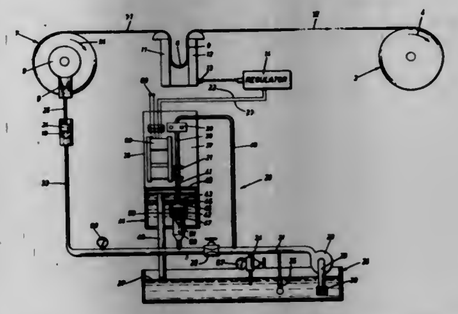
rotating said shaft and said tool and feed means for moving said tool into and out of contact with a work-piece mounted in place.

3,266,375
COPYING MILLING MACHINE
Rudolf Reeber, Neukeferloh, and Johann Müller, Munich, Germany, assignors to Hans Deckel, Munich, Germany, and Friedrich W. Deckel, Zug, Switzerland
Filed Mar. 19, 1965, Ser. No. 441,173
Claims priority, application Germany, Mar. 26, 1964, D 44,017
17 Claims. (Cl. 90—13.1)



1. A copying milling machine comprising an upstanding main column, an upstanding auxiliary column spaced from the main column, a work table in the space between said two columns, said table being mounted for vertical movement and also longitudinal horizontal movement, a substantially horizontal crosshead resting on and bridging the space between said column, a vertical milling spindle head supported from said crosshead and displaceable horizontally thereon in a direction transverse with respect to the direction of longitudinal movement of said work table, and a template table spaced laterally from said work table and located at least partly on the opposite side of said auxiliary column from said work table, said template table being operatively connected to said work table to move therewith during both the vertical movements and the longitudinal horizontal movements of said work table.

3,266,376
HYDRAULIC REGULATING VALVE
Peter deH. Eastcott and James R. Spibey, Peterborough, Ontario, Canada, assignors to Canadian General Electric Company, Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed Jan. 13, 1965, Ser. No. 425,137
9 Claims. (Cl. 91—47)



1. A hydraulic regulating valve comprising a relatively long, straight tube made of spring material; a fixed support; means for securing one end of said tube to said support such that the tube projects downward from the support with its axis vertical, said tube having a small orifice at its other end; a source of liquid under pressure connected to said one end of the tube and discharged, as a jet from said orifice; a cylinder located below said tube in axial alignment therewith, said cylinder being open at the bottom and having a top wall spaced a short distance from said orifice, another small orifice in said top wall in axial alignment with said orifice; a piston free to reciprocate in said cylinder; a hydraulic actuator; a supply of hydraulic liquid under pressure; a conduit connecting said supply to said actuator; a large by-pass orifice communicating with said conduit for diverting liquid away from said actuator, said by-pass orifice being located immediately below said piston in axial alignment therewith such that reciprocation of the piston regulates the flow of liquid from said by-pass orifice, said reciprocation being governed by liquid from the jet acting on the upper end of the piston after entering the cylinder through said other orifice; and means for deflecting said tube transverse to its axis in response to a control signal for diverting liquid of the jet away from said other orifice in proportion to the magnitude of the signal.

3,266,377
PISTON ADDER APPARATUS
Hugo A. Paniskidi, Peekskill, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Nov. 13, 1964, Ser. No. 411,066
14 Claims. (Cl. 91—167)

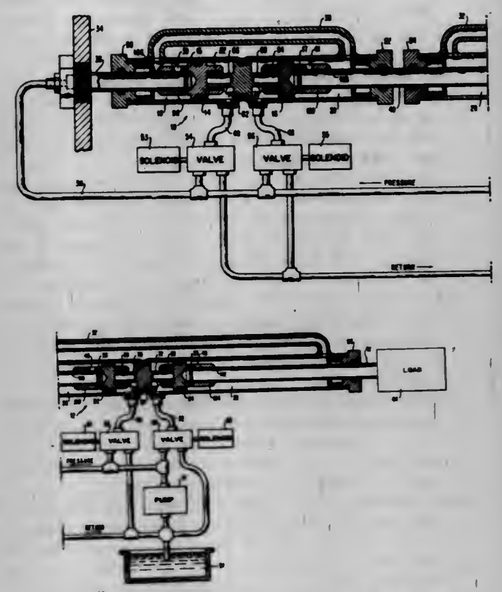
1. A piston apparatus comprising at least one piston cylinder,

said piston cylinder including first and second fluid filled chambers separated by a center member;

a first piston movably mounted in said first chamber and a second piston movably mounted in said second chamber;

a first piston rod connected through the end of said first chamber to said first piston, said first piston rod being a fluid filled tube, said first piston rod having an orifice therein providing a fluid path to said first chamber;

a second piston rod connected through the end of said second chamber to said second piston, said second

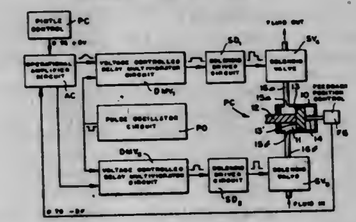


piston rod being a fluid filled tube, said second piston rod having an orifice therein providing a fluid path to said second chamber;

a fluid filled connecting tube connecting said first and second fluid filled chambers;

and means connected to said piston cylinder for selectively moving said first piston and said second piston.

3,266,378
VARIABLE GAIN SOLENOID VALVE CONTROL SYSTEM
Jared W. Shaw, Redondo Beach, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 16, 1964, Ser. No. 375,678
6 Claims. (Cl. 91—363)



1. A pintle control system including in combination:

a displaceable pintle;

a fluid pressure means including a pressure chamber and a displaceable head mounted therein and operatively associated with said pintle for displacing the pintle in accordance with changes in fluid pressure operatively established within said chamber;

electrical circuit feedback means operatively associated with said pintle and adapted to monitor pintle displacement and provide pintle position feedback signals indicative of displacement imparted to said pintle;

fluid pressure control means for initiating fluid pressure changes within said chamber including a pair of fluid flow control solenoid valves disposed at opposite sides of said chamber and communicating therewith through fluid conduits for operatively controlling the quantity of fluid delivered to and retained in said chamber;

two solenoid driver circuits, each being singly connected with one of said solenoid valves and adapted to be activated in response to input pulses for opening the connected valve and subsequently retaining the valve in an open condition for a time period as dictated by the width of said pulses to accommodate an establishment of a fluid flow between the connected solenoid valve and the fluid pressure chamber, and further adapted to be inactivated in the absence of a pulse for accommodating a closing of the connected valve to interrupt said fluid flow;

two voltage controlled delay multivibrator circuits, each being singly connected with one of said driver circuits and adapted to be activated for providing to said one solenoid driver circuit input pulses of a variable width;

a pulse oscillator circuit coupled with the two voltage controlled delay multivibrator circuits for simultaneously providing a series of pulses to the delay multivibrator circuits for simultaneously activating the two multivibrator circuits in unison;

an amplifier circuit connected with the two multivibrator circuits adapted to alternatively direct a pulse duration control signal to one of the two multivibrator circuits in accordance with an amplifier input signal for dictating the pulse width of the solenoid driver circut input pulses;

a selectively positioned pintle control transducer adapted to be selectively positioned for providing a selectively variable pintle control output signal; and

means connected with the feedback means and the pintle control transducer for summing the pintle position feedback signal and the pintle control output signal to provide an amplifier input signal to said amplifier circuit, whereby the voltage value of the amplifier input signal may be established in accordance with the pintle's position and the pintle control transducer setting for varying the period of open condition for one of said solenoid valves to effectively initiate pintle displacement.

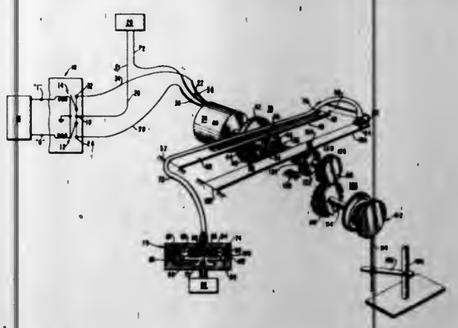
3,266,379

ELECTRO-PNEUMATIC PROCESS CONTROLLER

Kenneth G. Kreuter, Goshen, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Dec. 19, 1963, Ser. No. 331,968
13 Claims. (Cl. 91—374)

1. A process control means for controlling process parameters comprising input means for sensing a variation in a process parameter and producing a duration-modulated multiple state electric signal in response thereto, electro-pneumatic converter means for producing a pneumatic pressure change having a predetermined functional relationship with said electric signal, displaceable controller means actuated by said pneumatic pressure from a first position through a displacement determined by said pneumatic pressure change, and feedback means interconnecting said controller means and said converter means, said feedback means acting on said converter means to continuously modulate said converter means in response to the displacement of said controller means until the effect of said pressure change on said controller means is equalized, whereby said controller means will stop in a second position; and means comprising transducer means driven by said feedback means producing an output signal as a continuous function of the position of said displaceable controller means; wherein said electro-pneumatic converter comprises multi-directional electric servo motor means having motor output means actuated through a predetermined displacement and in a direction determined by the duration and state, respectively, of said duration-modulated multiple-state electric signal, a pneumatic relay having a branch pressure chamber and a pilot chamber with a constant source of pressure supplied thereto, a variable bleed means connected with said pilot chamber to variably exhaust pressure therefrom and control the pilot pressure therein, first control means for said variable bleed means driven by said motor out-



put means for varying the bleed rate thereof in response to said duration-modulated multiple-state signal, whereby said pilot pressure is varied causing said relay to vary the branch pressure in said branch pressure chamber; a second control means for said variable bleed means and resilient means interconnecting said first and second control means and biasing said second control means to counteract said first control means, said displaceable controller means including pneumatic motor means actuated in response to said branch pressure and a displaceable means adapted to be displaced by said pneumatic motor means; and said feedback means comprises drive means interconnecting said displaceable means and said second control means, said drive means acting to constrain said second control means in accordance with the rate of displacement of said displaceable means, whereby the effect of said first control means on said variable bleed means is continually modulated during displacement of said displaceable means.

3,266,380

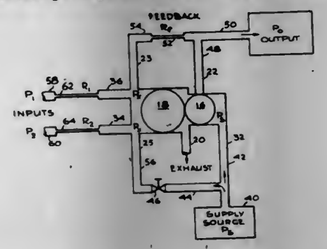
PNEUMATIC OPERATIONAL AMPLIFIER SYSTEM

John J. Elge, Redwood City, Calif., assignor to Stanford Research Institute, Palo Alto, Calif., a corporation of California

Filed Nov. 26, 1963, Ser. No. 325,877
8 Claims. (Cl. 91—388)

1. A fluid-actuated logical element comprising a body of material having a first input aperture, an output aperture, a first passage therein affording communication between said first input aperture and said output aperture, first ball means in said first passage movable therein between a first position for blocking communication between said first input aperture and said output aperture, and a second position wherein said communication is afforded, a second passage in said body of material aligned with said first passage and in communication therewith, said second passage being larger than said first passage,

a second ball means in said second passage movable in said second passage to a first position whereby it moves said first ball means to its first position and to a second position whereby said ball means may be moved to its second position, the extent of communication between said input and output apertures being determined by the location of said first ball means relative to said first and second positions, second, third, fourth, and fifth input apertures in said body of material communicating with said second passage at the side of said second ball means



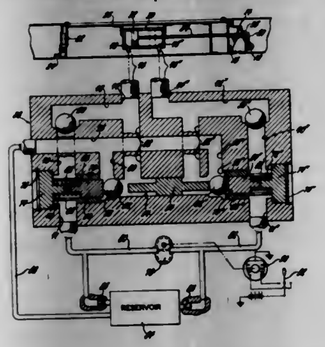
which is farthest away from said first ball means, means coupling said output aperture with said second input aperture, means coupling said first input aperture with said third input aperture, first means for applying fluid under pressure to said first and third input apertures for establishing a reference pressure level within said first and second passages, and means for applying fluids under pressures to said fourth and fifth input apertures whereby the output pressure at said output aperture is the negative weighted sum of the inputs.

3,266,381

CONTROL VALVE FOR VEHICLE CLOSURE OPERATOR SYSTEM

Robert P. Rohde, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 14, 1964, Ser. No. 418,227
4 Claims. (Cl. 91—420)



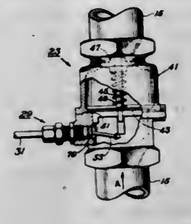
1. The combination comprising, a vehicle body having a closure movable between open and closed positions, a source of pressurized fluid, a sump, a fluid motor including a piston operable to move said closure between said positions thereof, first passage means for supplying fluid under pressure from said source to one side of said motor to move said closure from one of said positions thereof to the other position thereof, second passage means connecting said one side of said motor to said sump, third passage means connecting the other side of said motor to said sump, a valve responsive to pressurization in said first passage means for selectively and alternately closing said second passage means when said first passage means is pressurized from said source or opening said second passage means when said first passage means is not pressurized from said source, and means in said first passage means intermediate said one side of said motor and said valve for trapping pressurized fluid remote from said valve to permit rapid opening of said second passage means upon movement of said closure from said other to said one position thereof independently of fluid supply to said motor from said source.

3,266,382

HYDRAULIC ELEVATOR CONTROL SYSTEMS

Robert F. Loughridge, 2343 Winton Terrace W., Fort Worth, Tex.

Filed Sept. 24, 1964, Ser. No. 398,924
8 Claims. (Cl. 91—468)



1. In a hydraulic elevator up-control system of the type having a primary conduit that connects a pump to a hydraulic jack, and a by-pass conduit which communicates with said primary conduit and which includes by-pass valve means for diverting a portion of the flow of fluid from said pump away from said hydraulic jack as a means of controlling the speed of the elevator, the improvement comprising:

(a) a flow responsive valve interposed in said primary conduit at a region intermediate the hydraulic jack and the junction of the primary and bypass conduits, said flow responsive valve having a movable element the position of which is directly controlled by the flow rate of the fluid passing through said valve;

(b) a pilot conduit communicating between said flow responsive valve and said by-pass valve means; and

(c) a pilot valve attached to said flow responsive valve and having a control arm that is biased to urge said pilot valve toward its closed position, said arm extending into engagement with the movable element of said flow responsive valve to actuate the pilot valve to control said by-pass valve means.

3,266,383

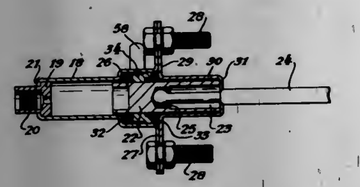
FLUID PRESSURE OPERATED CYLINDERS

Wallace M. J. Cairns, Leamington Spa, England, assignor to Automotive Products Company Limited, Leamington Spa, England

Filed Nov. 19, 1963, Ser. No. 324,780
Claims priority, application Great Britain, Nov. 22, 1962, 44,231/62
1 Claim. (Cl. 92—142)

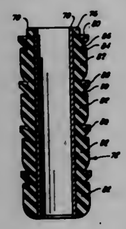
A fluid pressure operated cylinder for use as a master cylinder and the like comprising a one-piece seamless metal tube with an enlarged end section forming an annular longitudinal recess, the opposite end section having an inturned annular flange, a closure plug secured adjacent said inturned flange and having an axial port portion extending through said flange, a first sealing ring disposed in said recess, a bearing bushing disposed in said recess next to said first sealing ring, a second sealing ring disposed in said recess on the other side of said bushing, a slidable piston disposed in said tube having an axial recess thereon facing away from said closure plug, said metal tube having an outwardly extending

annular flange adjacent said annular recess, another metal tube having an outwardly extending annular flange abutting said first-mentioned metal tube outwardly extending annular flange and said second sealing ring, means securing said outwardly extending flanges together, said



another tube having an inturned flange adjacent its other end to provide a stop for said piston, a connecting rod extending through said another tube and its inturned flange and into said axial recess, and a retainer ring securing said connecting rod within said piston.

3,266,384
WELL SWAB ASSEMBLY
Domer Scaramucci, P.O. Box 9125, Oklahoma City 15, Okla.
Filed Nov. 24, 1961, Ser. No. 154,528
21 Claims. (Cl. 92—192)



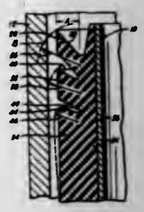
1. A well swab for swabbing the internal walls of, and lifting fluid from, oil well tubing or the like comprising, in combination with said tubing:

a metallic, generally cylindrical member;

an annular sleeve of resilient material around said metallic, generally cylindrical member and bonded thereto, said sleeve having a load-carrying portion of lesser outside diameter than the internal diameter of said tubing and extending from one end of said cylindrical member over a major portion of the length thereof and terminating in an abrupt, annular shoulder, the length of said load-carrying portion being greater than the radial thickness thereof, and said sleeve further having a lip-supporting portion of smaller radial thickness than said load-carrying portion and extending axially along said cylindrical member from said load-carrying portion toward the other end of said cylindrical member;

and an annular, flexible lip of resilient material formed integrally with said lip-supporting portion and extending outwardly therefrom toward the internal walls of said tubing, said flexible lip being dimensioned to sealingly engage the internal walls of said tubing when said lip occupies a plane extending normal to the axis of said tubing and being spaced from the annular shoulder of said load-carrying portion by a distance sufficiently small to permit said lip to sealingly engage the internal walls of said tubing when said flexible lip is flexed by a hydrostatic pressure into abutting contact with said shoulder.

3,266,385
SWAB CUP ASSEMBLY
Domer Scaramucci, P.O. Box 9125, Oklahoma City 15, Okla.
Filed July 5, 1963, Ser. No. 292,977
10 Claims. (Cl. 92—192)



1. In a swab cup assembly for swabbing fluid from a well tubing by pulling the assembly upwardly through the tubing, the combination of:

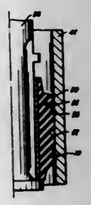
a body of a size to move freely through the tubing;

a first, flexible annular lip of resilient material formed around the body extending upwardly and outwardly from the body and being responsive to fluid pressure above the lip for downward flexure into sealing engagement with the inner wall of the tubing;

an intermediate annular lip of resilient material formed around the body below the first lip having a thickness greater than the thickness of the first lip; said intermediate lip being extended upwardly and outwardly from the body and having an outer diameter, in its relaxed condition, less than the inner diameter of the tubing for the bypass of fluid therearound on the downward movement of the body through the tubing, said intermediate lip being of a size to be mechanically flexed downwardly and outwardly by the first lip into sealing engagement with the inner wall of the tubing; and

a column of resilient material secured around the body below the intermediate lip in a position to support the intermediate lip when the intermediate lip is flexed into sealing engagement with the inner wall of the tubing; said column, in a relaxed condition, having an outer diameter less than the inner diameter of the tubing for the bypass of fluid therearound during downward movement of the body through the tubing.

3,266,386
SWAB CUP
Domer Scaramucci, P.O. Box 9125, Oklahoma City 15, Okla.
Filed Apr. 25, 1963, Ser. No. 275,581
7 Claims. (Cl. 92—242)



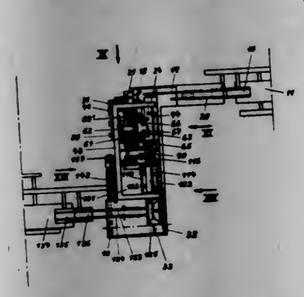
1. A swab cup for swabbing fluid from a well tubing by pulling the swab cup upwardly through the tubing, comprising:

a tubular body;

a flexible lip of resilient material bonded around the body extending upwardly and outwardly from the body and having an outer diameter, in the relaxed condition thereof, less than the inner diameter of the tubing, and being responsive to fluid pressure above the lip for downward flexure into sealing engagement with the inner wall of the tubing; and

a column of resilient material bonded around the body below the lip in a position to support the lip when the lip is flexed into sealing engagement with the inner wall of the tubing; said column, in a relaxed condition, having an outer surface parallel with the inner periphery of the tubing and an outer diameter less than the inner diameter of the tubing for freedom of downward movement of a swab cup through the tubing; the length of said column, measured along said outer surface, being greater than the wall thickness of said column for distortion of said outer surface into engagement with the inner periphery of the tubing when the swab cup is lifting fluid through the tubing to prevent said lip from inverting and dumping the fluid being lifted.

3,266,387
METHOD AND MACHINE FOR MAKING BAGS
Arno Fiake and Herbert Reisener, Lengerich, Westphalia, Germany, assignors to Windmöller & Hölscher, Lengerich, Westphalia, Germany
Filed Jan. 29, 1963, Ser. No. 254,818
Claims priority, application Germany, Oct. 16, 1962, W 33,136
49 Claims. (Cl. 93—22)



13. In a bottom making machine, the combination which comprises:

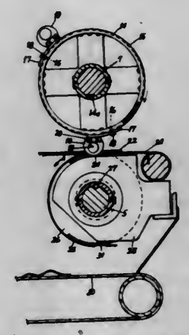
(a) first conveyor means for conveying in longitudinal direction tubular sections having a folded block-shaped bottom;

(b) second conveyor means for picking up sections conveyed by said first conveyer means and conveying them in transverse direction; and

(c) means arranged along the path at which said second conveyer means convey the sections for reopening the folded bottom, for spreading the same, and for making the bottom seam.

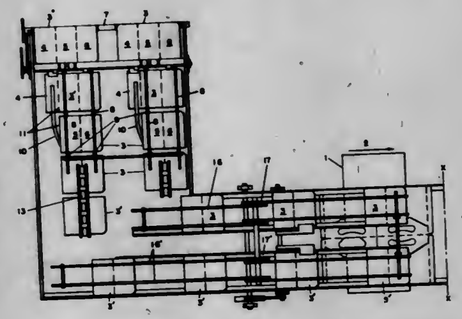
3,266,388
STRIPPING MECHANISM
Kenneth W. Jones, 1713 Jackson Lane, Franklin, Ohio
Filed Dec. 30, 1963, Ser. No. 334,521
7 Claims. (Cl. 93—36)

1. In a device for stripping scrap from a cut and scored paperboard blank, a frame, a pair of horizontally disposed shafts rotatably journaled to said frame and lying in vertically spaced apart relation, drive means operatively connected to said shafts for rotating them in timed relation, a timing wheel fixedly secured to the overlying shaft for rotation therewith, a wheel-like member in the form of a relatively thin circular disk fixedly secured to the underlying shaft for rotation therewith, said circular disk underlying said timing wheel, said timing wheel and said underlying circular disk defining a passline therebetween for the passage of a blank to be stripped, blank contacting means projecting radially outwardly from the periphery of said timing wheel, said blank contacting means comprising a plurality of spaced apart projections arranged to lie on opposite sides of the plane of said circular disk when said projections are at their point of closest approach to said circular disk, said projections



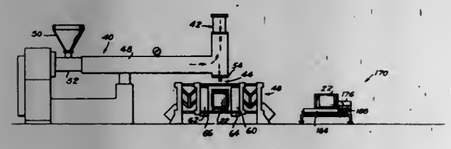
acting, upon contact with an area of the blank to be removed, to deflect such area bodily downwardly into contact with said circular disk, with the area to be removed broken over the periphery of said circular disk.

3,266,389
METHOD FOR FORMING CARRIER HAVING CUSHIONING PARTITION
Hermond G. Gentry, Atlanta, Ga., assignor to The Mead Corporation, a corporation of Ohio
Original application Sept. 22, 1961, Ser. No. 140,045, now Patent No. 3,203,324, dated Aug. 31, 1965. Divided and this application July 21, 1965, Ser. No. 457,892
4 Claims. (Cl. 93—36)



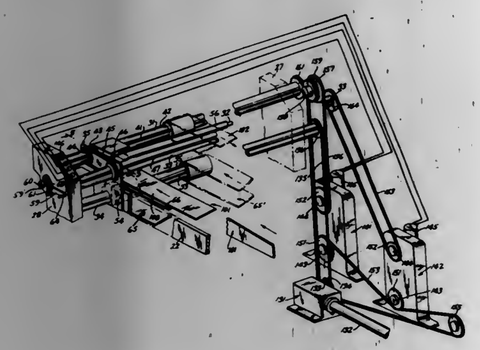
2. A method of securing a cushioning insert into a carrier, the insert having a pair of panels whose adjoining edges are interconnected by a fold line extending along said adjoining edges and the carrier having a partition strip interconnected between a side wall and a handle panel, the method comprising folding the pair of panels into face contacting relation along said adjoining edges, passing said pair of panels along a path adjacent an adhesive applicator but in spaced relation thereto, forcing a part of at least one of said panels into contact with the adhesive applicator, and subsequently forcing said part of said one panel into firm engagement with the partition strip.

3,266,390
PLASTIC LINED FIBER CONTAINERS
Herbert L. Carpenter, Jr., Babylon, N.Y., assignor to The Greif Bros. Cooperage Corporation, Delaware, Ohio, a corporation of Delaware
Filed Mar. 16, 1964, Ser. No. 352,066
9 Claims. (Cl. 93—36.01)



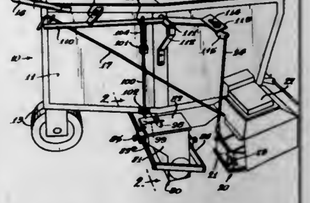
1. In the method of manufacturing plastic lined drums the steps of: initially forming a tubular fiber shell having top and bottom open ends; preheating interior surfaces of said shell to a temperature between 110° F. and 150° F.; confining said shell such that a passageway is provided into the shell interior; extruding a tubular plastic parison into said passageway; sealing the parison bottom end and top end while maintaining an air inlet opening exposed to the interior of the parison; introducing air under pressure through said air inlet opening into the interior of said parison to blow the parison outwardly and expand it into engagement with the interior of the shell; and then completing the bottom and top closures selected for said shell.

3,266,391
FOLDING EQUIPMENT
John Lopez, Westfield, N.J., assignor to Universal Corrugated Box Machinery Corporation, Linden, N.J., a corporation of New Jersey
Filed Aug. 22, 1963, Ser. No. 303,741
4 Claims. (Cl. 93—52)



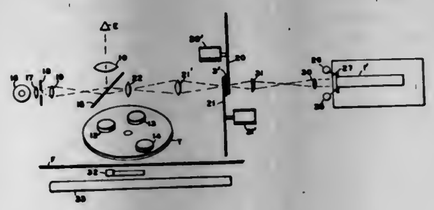
1. Equipment for folding box blanks of the type having outer panels movable into edge to edge juxtaposition, said equipment having an inlet and an outlet, a conveyer to advance such box blanks in sequence from said inlet to said outlet, said conveyer comprising a shaft extending transversely across said outlet, a pair of spaced pulleys mounted on said shaft and rotatable thereof, a second pair of spaced axially aligned pulleys rotatably mounted adjacent the inlet, the pulleys at the inlet and outlet being longitudinally aligned respectively, an endless belt encompassing each pair of longitudinally aligned pulleys, means associated with said endless belts to retain thereagainst the portion of said box blank between the outer panels, said retaining means terminating in advance of said outlet, a second shaft extending transversely across said outlet in a plane above that of the first shaft, a third pair of spaced pulleys mounted on said second shaft, one of said pulleys being freely rotatable on said second shaft and the other pulley being secured to said second shaft to rotate therewith, a fourth pair of spaced pulleys mounted on axes extending transversely across the equipment, a pair of folding belts encompassing the pulleys of said third and fourth pairs, each of said folding belts being curved substantially 180 degrees between the associated pulleys to effect inward folding movement of said panels to bring their free edges into juxtaposition, each of said folding belts having a portion between the outlet and said retaining means lying in a horizontal plane parallel to and adjacent the parallel endless belts respectively to compress the folded panels against the portion of the box blank between said panels, each of said horizontal portions being adapted to engage the top surface of an associated outer panel, means to rotate said first shaft, means to rotate said second shaft and means to rotate the freely rotatable pulley on said second shaft independently of the rotation of the other pulley on said second shaft and means independently to vary the speed of rotation of said second shaft and the freely rotatable pulley, thereby to effect relative movement of at least one of said folded outer panels with respect to the other panels of said folded box blank as said folded box blank is advanced.

3,266,392
ROAD STRIPING APPARATUS
Ernest C. Angelini, Steger, Ill., assignor to Perma-Line Manufacturing Corporation of America, a corporation of Illinois
Filed June 14, 1963, Ser. No. 288,009
4 Claims. (Cl. 94—44)



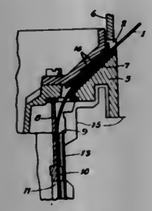
1. In a road striping apparatus, a frame, a plurality of ground-engaging wheels on said frame for movably supporting the frame, a striping die mounted on said frame for applying material to the road, a glass bead dispenser mounted on said frame rearwardly of said striping die and including a driven roller for dispensing beads onto said applied material, selectively operable clutch means driven by said wheels for driving said dispensing roller, a first linkage for opening and closing said die, a second linkage for engaging and disengaging said clutch, a handle pivotally connected to said frame, means operatively connecting said first linkage to the handle for movement therewith and in an opposite direction whereby as the handle moves up the first linkage moves down, said second linkage having a rod extending towards said handle, means urging said rod towards said handle to engage said clutch when said rod is extended, said handle being out of contact with said second rod when raised to its extreme position for opening said striping die, lowering of said handle first closing the striping die and then engaging and depressing said second rod to disengage said clutch.

3,266,393
MEANS AND METHODS FOR MARKING FILM
Anwar K. Chitayat, Plainview, N.Y., assignor to Optomechanisms, Inc., Plainview, N.Y.
Filed June 19, 1963, Ser. No. 289,115
3 Claims. (Cl. 95—1.1)



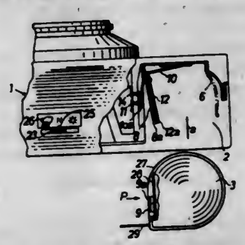
1. Means to place identification marks on film comprising:
a laser,
means to pulse said laser,
a reticle placed in front of said laser,
means to hold film in front of said reticle,
and means located adjacent said film to place a transparent dye on said film, said dye being responsive to said laser energy to place a mark on said film.

3,266,394
PHOTOGRAPHIC CAMERA WITH LABELING MEANS USING BAND SHAPED TRANSPARENT CHARACTER CARRIERS
Edgar Sauer, Stuttgart-Rohr, Willi Günther, Stuttgart-Mohringen, and Werner Zink, Aich, Kreis Nurtingen, Germany, assignors to Zeiss Ikon Aktiengesellschaft, Stuttgart, Germany
Filed Nov. 20, 1963, Ser. No. 324,965
Claims priority, application Germany, Nov. 21, 1962, Z 9,776
1 Claim. (Cl. 95—1.1)



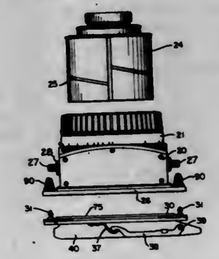
In combination a photographic camera including an upper rear casing portion and a vertical wall spaced inwardly from said portion, said upper casing portion having an obliquely extending light tight slot directed inwardly and downwardly from the rear casing portion to the vertical wall, a lining on the inner surface of said light tight slot, and a transparent band-shaped character carrier strip formed of plastic material for insertion in said slot from the rear of said camera, said strip being tinted grey to permit 30% to 80% light transmission in a direction normal to its plane so that image light rays will pass through all portions not covered by said character thereon, said oblique slot being adapted to guide said strip inwardly and downwardly for a portion of its length and then vertically and downwardly in front of said rear wall in overlying relation with a camera film, said slot being of a length of approximately .16 of an inch to .4 of an inch, and said strip being tinted grey such that light transmission longitudinally of said strip along said predetermined distance will be substantially eliminated.

3,266,395
FILM CONTAINER AND CAMERA FOR RECEIVING THE SAME
Rudolf Kremp and Wilhelm Kisselmann, Grunwald, Munich, Alfred Winkler, Munich, Dieter Engelsmann, Unterhaching, Munich, and Rudolf Matthess and Albert Zannoth, Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany
Filed Oct. 21, 1964, Ser. No. 405,544
Claims priority, application Germany, Dec. 20, 1963, A 44,850; June 13, 1964, A 46,311
19 Claims. (Cl. 95—10)



1. In a camera which is adapted to receive a film container and which includes a structure for adjusting the camera according to the speed of film in the container, in combination, a camera housing having a chamber for receiving a film container; spring means carried by said camera housing in said chamber for releasably holding a container therein, said container having at its exterior a member provided with a predetermined surface; and a springy projection forming part of said spring means as well as part of said structure for adjusting the camera according to the speed of film in the container, said springy projection being engaged by said surface of said member when said container is in the camera to actuate said structure for adjusting the camera according to the film speed in response to introduction of the container into the camera housing.

3,266,396
CAMERA
Johannes G. Padelt, Rochester, N.Y., assignor to Graflex, Inc., Rochester, N.Y., a corporation of Delaware
Filed Feb. 26, 1964, Ser. No. 347,407
4 Claims. (Cl. 95—11)



1. Camera equipment comprising
(a) a camera housing,
(b) a focusing mount for interchangeable lenses mounted in the front end of said housing,
(c) means for selectively securing to said housing any one of a plurality of camera backs for holding, respectively, sheet film and roll film any of a plurality of hollow camera accessories having an opening extending therethrough from front to rear comprising
(d) a first plate fixed to the rear of said housing, a second plate secured to the front of each back, a third plate secured to the front of each accessory,

and a fourth plate secured to the rear of each accessory, said first plate, and each of said second, third and fourth plates having a closed groove in its rear face, and said second, third and fourth plates having a matching closed rib on its front face to engage in any one of said grooves,

(e) said housing, backs and accessories having cooperating means for detachably releasably-locking selectively a back or an accessory selectively to the rear end of said housing, and a back selectively to the rear end of said accessory with the accessory interposed between the rear end of the housing and the front face of a back,

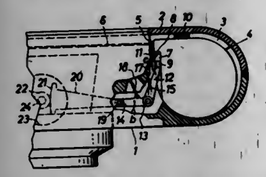
(f) said cooperating locking means comprising a resilient locking member mounted in the rear of said housing and in the rear of each accessory, and a headed locking member secured to each back and to the front end of each accessory and adapted to be engaged in each resilient locking member.

3,266,397

CAMERA STRUCTURE TO EFFECT ADJUSTMENTS FOR FILM SPEED AND FILM CARTRIDGES FOR ACTUATING SAID STRUCTURE

Rudolf Kremp and Willy, also known as Wilhelm, Kisselmann, Grunwald, Munich, Alfred Winkler, Munich, and Karl Bammesberger, Munich, Untermenzing, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany

Filed June 15, 1964, Ser. No. 374,948
Claims priority, application Germany, Sept. 30, 1963, A 44,172
19 Claims. (Cl. 95—31)



1. A film cartridge having in combination an elongated mouth through which the film is adapted to pass between the interior and the exterior of said cartridge along a path located in a predetermined plane, an exterior surface portion located substantially in a plane transverse to said predetermined plane and to said path, a first outwardly projecting projection carried by said cartridge at said external surface portion thereof and including a positioning surface portion, and a second outwardly projecting projection carried by said cartridge at said exterior surface portion thereof and having an actuating surface portion, the distance between said positioning surface portion of said first projection and said actuating surface portion of said second projection being indicative of the speed of the film which is in said cartridge.

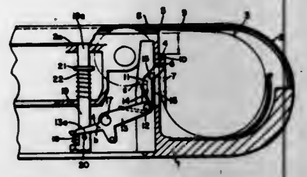
3,266,398

CAMERA STRUCTURE FOR MAKING ADJUSTMENTS FOR FILM SPEED

Rudolf Kremp, Grunwald, Munich, and Alfred Winkler, Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany

Filed June 15, 1964, Ser. No. 375,156
Claims priority, application Germany, Sept. 30, 1963, A 44,170
11 Claims. (Cl. 95—31)

1. In a camera for use with film cartridges of the type which carry a film speed indicating structure, in combination, a camera housing defining in its interior a cartridge chamber for receiving a film cartridge which carries a film speed indicating structure; feeler means carried by said camera housing for movement between a retracted position and a feeling position engaging said film speed indicating structure after a film cartridge has been placed in said chamber; urging means mounted in said camera housing and engaging said feeler means permanently tending to move the latter from said feeling into said retracted position thereof; a member carried by said camera housing and being moved back and forth between two positions in a first and second direction



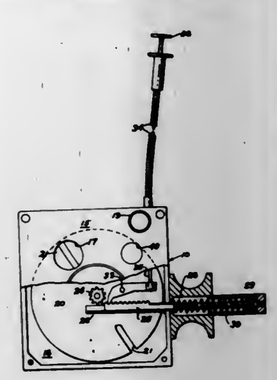
respectively in connection with insertion of a film cartridge into said camera housing; and combined releasing and moving means actuated by said member so as to permit during movement of said member in said first direction movement of said feeler means under the action of said urging means from said feeling into said retracted position thereof and moving said feeler means against the action of said urging means from said retracted to said feeling position thereof during movement of said member in said second direction.

3,266,399

MULTIPLE EXPOSURE CAMERA SHUTTER

Willard E. Buck, Santa Clara, and Thomas E. Holland, Sunnyvale, Calif., assignors to Beckman & Whitley, Inc., San Carlos, Calif., a corporation of Delaware

Filed July 14, 1964, Ser. No. 382,544
2 Claims. (Cl. 95—53)



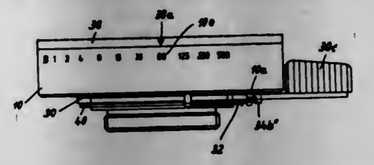
1. The combination with a camera having a lens aperture with a conventional shutter and a light sensor aperture in spaced relation, said light sensor controlling the time said shutter normally stays open; of a multiple exposure shuttering device comprising a single rotatable disc having at least one eccentrically positioned opening, means mounting said disc for rotation, with the path of the opening passing before said apertures in said camera and in a non-rotating position to exclude light from said apertures, means to rotate said disc to admit light to said apertures intermittently and successively through said opening and means to regulate the duration of said rotation, whereby the light sensor will permit the shuttering device to make a number of exposures within the range set by the regulating means of said disc.

3,266,400

PHOTOGRAPHIC SHUTTER

Franz Singer, Munich, Germany, assignor to Compur-Werk, G.m.b.H., & Co., Munich, Germany, a company of Germany

Filed June 1, 1964, Ser. No. 371,252
Claims priority, application Germany, June 11, 1963, C 30,170
4 Claims. (Cl. 95—63)



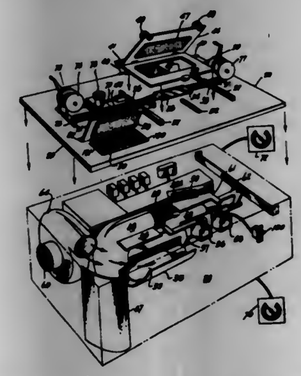
1. In a photographic shutter of the class described comprising a shutter housing, shutter blades mounted in said housing for movement between open and closed positions, a main driving member operatively interconnected with said shutter blades for actuation thereof, said main driving member being movable between cocked and run-down positions, a locking member mounted in the housing and engageable with the main driving member to retain the member in a cocked position and release the member for a run-down movement, cocking means operatively associated with said main driving member for moving the main driving member into a cocked position, said cocking means including a cocking spindle for the main driving member and a driving pin mounted on said cocking spindle, and an actuating member movable first to engage the cocking means to cock the main driving member and then to actuate the locking member to release the main driving member for movement to a run-down position, the actuating member having a driving edge for rotation of said driving pin and an operating edge for engagement with said locking member.

3,266,401

TECHNICAL DATA PRINTER AND INSPECTION MEANS

Francis A. Nivens, Pacific Palisades, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.

Original application Aug. 26, 1957, Ser. No. 680,357. Divided and this application Apr. 15, 1965, Ser. No. 469,356
2 Claims. (Cl. 95—73)



1. Apparatus for direct contact printing of an image from microfilm comprising:

a photosensitized foil for reproducing the image from the microfilm;

a containing means having first and second light sources therein, said containing means having an upper planar surface, said surface having first and second apertures therein for allowing, respectively, passage of the light from said first and second light sources, said first aperture being capable of confining therein image producing elements, said second aperture having an image bearing strip of microfilm positioned thereover, means to guide and move said strip longitudinally across said second aperture; and

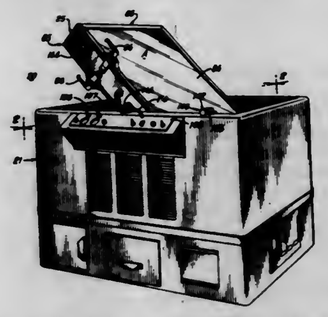
shutters disposed within said containing means between said light sources and said first and second apertures, said shutters normally preventing passage of light through said apertures, said shutters being electrically operated to open thereby permitting passage of light, means to adjustably time the opening of said shutters, whereby the passage of light exposes said photosensitized foil to produce an image located within or adjacent said apertures.

3,266,402

PHOTOGRAPHIC PRINTER

Harold R. Benson, Lombard, Ill., assignor to The Nuarc Company, Chicago, Ill., a corporation of Illinois

Filed May 11, 1964, Ser. No. 366,390
3 Claims. (Cl. 95—76)



1. A printer for use in making photographic plates and the like, comprising a cabinet, a source of printing light mounted in the lower part of said cabinet for directing light towards the top of said cabinet, a printing frame, mounting means for mounting said frame in the top of said cabinet for pivotal movement about a central axis of said frame table to permit the positioning of said frame with either side thereof facing towards said light source including a pair of opposed apertured pintles, pump means mounted in said cabinet, a pair of pressure responsive means disposed in said frame, each associated with a respective side of said frame for fixedly positioning photographic material in the respective side of said frame, and fluid connection means between said pump means and each of said pressure responsive means, said connection means each including the aperture in a respective one of said pintles.

3,266,403

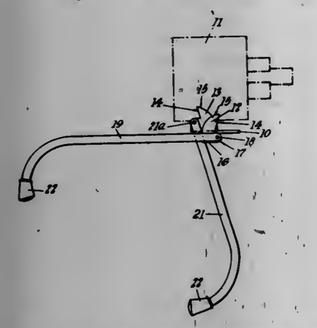
COMBINED SUPPORT AND CARRIER FOR CAMERAS

James Anderson, Glasgow, Scotland, assignor to Imex Engineering Limited, Glasgow, Scotland, a British company

Filed Mar. 13, 1964, Ser. No. 351,613
Claims priority, application Great Britain, Mar. 15, 1963, 10,302/63
3 Claims. (Cl. 95—86)

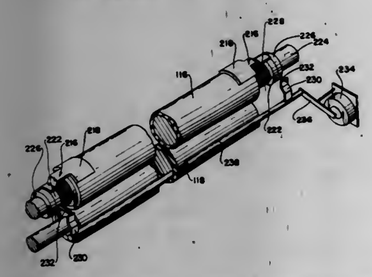
1. A combined support and carried for a cine-camera comprising a base on which the cine-camera can be mounted, two legs pivoted one at each side of the base,

each leg at its free end being of substantially quarter circle formation and curved in opposite directions so that said ends, when the legs are in their upright position with respect to the base, register with each other to form the upper end of a loop handle by which the base with cine-camera thereon can be carried, said loop handle being disposed in a plane at substantially right angles to the plane in which said legs pivot, one of the legs being capable of a rotary



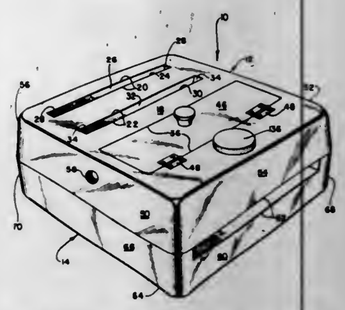
movement in the opposite direction so that it can be turned to extend downwards and is then positioned to bear on the body in proximity to the bottom rib, the base, when the arms engage the shoulder and body, being then so supported that the cine-camera mounted thereon is positioned for operation, stop means by which both legs are prevented from rotating beyond the position in which it tion, stop means by which the first-mentioned leg is prevented from rotating beyond their aforesaid upright posi- extends substantially in the plane of the base and stop means by which the other leg is prevented from rotating beyond its downwards position.

3,266,404
PHOTOGRAPHIC APPARATUS
Nicholas Gold, Arlington, and Arthur J. Sable, Boston, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed July 26, 1963, Ser. No. 297,768
18 Claims. (Cl. 95—89)



1. In photographic apparatus including a pair of juxtaposed pressure-applying members between which a photosensitive sheet is advanced to distribute a processing liquid against said sheet, said members being movable toward and away from one another, and means for rotating at least one of said members in engagement with said sheet for advancing said sheet between said members, the combination therewith of means for simultaneously separating said member to terminate distribution of said liquid and engaging a lateral marginal portion of said sheet between said members to advance said sheet relative to and between said members during the separation thereof.

3,266,405
PHOTOGRAPHIC APPARATUS
Arthur J. Sable, Boston, and Robert G. Yetman, Waltham, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed July 26, 1963, Ser. No. 297,851
15 Claims. (Cl. 95—89)



12. In photographic apparatus for treating a photographic sheet by distributing a processing liquid over at least a portion of said sheet during movement of said sheet through said apparatus, in combination:

means for locating an elongated tubular container within said apparatus in a position adjacent said sheet and transversely of the direction of movement of said sheet;

an opening in said apparatus for admitting said container lengthwise;

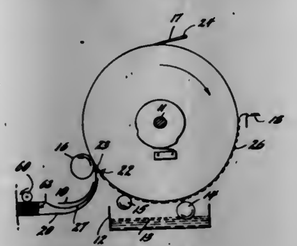
advancing means including an advancement member normally disposed out of engagement with said container and mounted for movment into and in frictional engagement with said container for moving said container in the direction of its elongation relative to said sheet to advance at least an end portion of said container from said apparatus through said opening; and

engagement means within said apparatus adjacent said opening and normally disposed out of engagement with said container, said engagement means being coupled with said advancement means and responsive thereto for moving said engagement means into engagement with said container after advancement of a predetermined length of said container, including said end portion, from said apparatus to apply compressive pressure to the remaining portion of said container as said remaining portion is advanced from said apparatus through said opening.

3,266,406
PHOTOGRAPHIC COPYING APPARATUS STRIPPING MECHANISM AND METHOD
Emiel Frans Stievenart, Kiel-Antwerp, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a Belgian company
Filed Sept. 23, 1963, Ser. No. 310,826
Claims priority, application Netherlands, Feb. 11, 1963, 288,817
13 Claims. (Cl. 95—89)

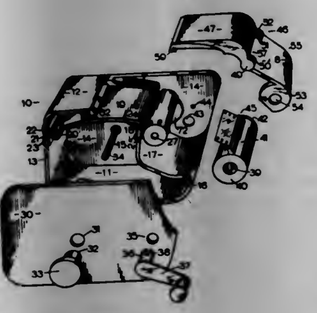
1. In a copying device wherein image-transferring sheet material is intimately contacted by sheet-pressing means with an image-receiving sheet material and subsequently separated therefrom, a mechanism for separating sheets delivered thereto with the leading edge of one material projecting slightly forwardly of the leading edge of the

other material, comprising a separating blade for penetrating between the contacting materials, transport means for delivering the sheet material while in contacting relation from said pressing means along a predetermined path to said separating blade, said transport means including a generally curved surface at least in the region adjacent said blade, means effective at least during separation to urge said blade towards said surface with at least the blade



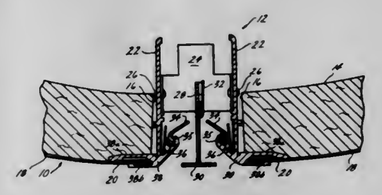
portion adjacent said surface extending generally tangentially thereof, said surface having a configuration such that said projecting portion of said one material extends at an angle to the normal surface curvature as the leading edge thereof reaches said blade, said blade engaging said angularly-extending projecting portion of said one material and diverting one of said materials from said predetermined path while allowing the other to proceed along said path.

3,266,407
FILM LOADING AND PRINTING DEVICES
James W. Lucas, 1480 N. Doheny Drive, Los Angeles, Calif.
Substituted for abandoned application Ser. No. 615,265, Oct. 11, 1956. This application Apr. 14, 1965, Ser. No. 449,929
12 Claims. (Cl. 95—90)



1. A film winding device for use in the daylight loading of bulk film into individual cassettes, comprising: a generally rectangular case having a removable side defining a cover, and a fixed side parallel to said cover being formed integrally with the wall sections of the case to provide a light-tight compartment therein; said cover and said fixed side having parallel end portions extended outwardly beyond one side of said light-tight compartment; spindle means for supporting a roll of bulk film interiorly of said compartment; a light-tight slit opening outwardly of said compartment between said extended end portions, and film guide means disposed adjacent and outwardly of said slit; a recess in the inner surface of said extended end portion of said fixed side, said recess being adapted to receive therein the outwardly extended hub of the winding spool of a film cassette; an aperture in said end portion of said cover opposite from said recess in said fixed side; crank means including a shaft being enterable through said aperture and adapted for interfitting engagement with said winding spool in a cassette, said shaft being effective to hold said cassette in axial alignment with said recess and said aperture and to rotate said spool interiorly of said cassette whereby film from a bulk roll supported on said spindle in said light-tight compartment and threaded through said slit, over said guide means and onto said spool, is wound into said cassette when said crank is turned; means for removably securing said cover on said case, and removable closure means being extended upwardly from a point below said cassette to a point above said slit and being adapted to interfit between said parallel extended end portions of said cover and said fixed side and effective to exclude light from film while passing from said slit, over said guide means and into a cassette.

3,266,408
DUCT-DIFFUSER ATTACHMENT MEANS
Carl W. Palmquist, Clarks Summit, Pa., assignor to Dynamics Corporation of America, New York, N.Y., a corporation of New York
Filed May 28, 1964, Ser. No. 370,917
4 Claims. (Cl. 98—40)

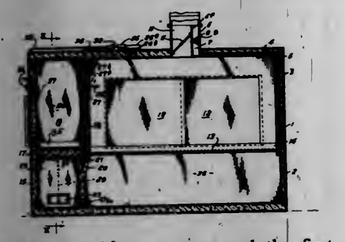


1. A duct-diffuser attachment means comprising a fibrous duct liner defining a passageway therethrough, said duct liner defining an elongated bottom opening in communication with said passageway, a sheet metal shield surrounding said liner and of elongated rectangular planform when laid flat, said shield having marginal side portions which define longitudinally spaced openings, means defining an elongated air diffuser for insertion in said elongated bottom opening, said air diffuser defining means including side flanges for engaging the adjacent outer surface of the fibrous duct liner, each of said side flanges including upper and lower legs which define an elongated slot therebetween, a plurality of resilient U-shaped clips adapted to be received and held in said slots at spaced locations therealong corresponding to the longitudinal spacing between said shield openings, each of said clips including means for engaging an outer edge of one of said shield openings whereby said shield marginal side portions are adapted to be retained in said slots and said diffuser defining means retained in said elongated bottom opening.

3,266,409
BARBECUING OVEN
Herbert J. Oyler, 202 S. Montreal St., Dallas, Tex.
Filed Apr. 24, 1964, Ser. No. 362,240
4 Claims. (Cl. 99—259)

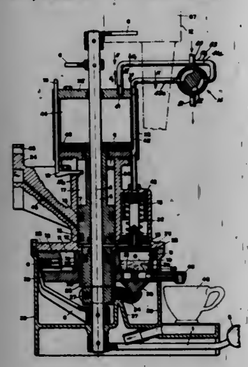
4. In a barbecue cooking oven, a housing; a fire compartment in said housing; a cooking compartment in the housing; a passage from the fire compartment to the cooking compartment; a damper in said passage; a damper controlling admission of air to the fire compartment; a

solenoid having a movable core arm; a thermo-switch in the cooking compartment electrically connected to the solenoid arranged to energize same at a predetermined minimum temperature in the cooking compartment; a line



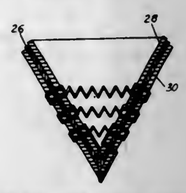
connecting the movable core arm and the first named damper; and a line connecting the movable core arm and the second named damper whereby the dampers may be opened in unison.

3,266,410
MACHINE FOR PREPARING COFFEE INFUSION
Andrea Ivo Novi and Modesto Pratolongo, Milan, Italy, assignors to Organizzazione Novi S.r.l., Milan, Italy
Filed Aug. 30, 1963, Ser. No. 305,676
Claims priority, application Italy, Sept. 1, 1962, 17,436/62
5 Claims. (Cl. 99—287)



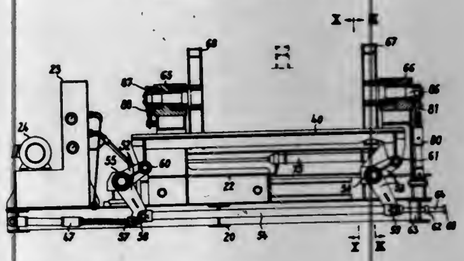
1. In a machine for preparing espresso coffee upon percolation of pressurized hot water through a layer of ground coffee meteredly located into holes paraxially provided into a discoidal rotary element arranged for intermittent rotation into a space defined by opposed frame walls and transistorily positioned at a beverage forming location below a perforated presser foot and above a coffee screening perforated filter supported by a movable portion of said walls, a source of reciprocating motion, a piston reciprocable into a cylinder chamber and drivingly connected to said source, hot water supply duct means having an outlet in said chamber and located to be uncovered by said piston as said piston is retreated by said source, a passage between said chamber and upstream of said presser foot whereby hot water is forcibly percolated through said coffee layer through said presser foot and said filter as said piston is forwarded by said source, a second piston reciprocable into a second chamber in fluid communication with said cylinder chamber, and means connecting said second piston to said movable portion of said walls to displace said wall portion towards said rotary element to transitorily provide a fluid-tight seal between said rotary element and said walls as said hot water is pressurized for percolation thereof through said layer.

3,266,411
QUICK-COFFEE MAKER
Camille Oakley, 416 N. Haugh Ave., Picayune, Miss.
Filed Apr. 15, 1964, Ser. No. 360,012
12 Claims. (Cl. 99—304)



4. A hot-beverage filter and temporary liquid holder comprising: an inner ply of fibrous, pervious material, an outer ply of thin, non-porous material, and threads of filtering fibrous material extending thru said plies and fastening them together, and extending to the outside of said non-porous material; said outer ply covering the exterior surface of said inner ply and being imperforate except for its portions that are penetrated by said threads; said filter and holder being generally cup-like in shape and having a relatively narrow lower portion, closed at its bottom.

3,266,412
APPARATUS FOR THE FORMATION OF BUNDLES OF WIRE
Alfred Rodenbusch, Dusseldorf, Germany, assignor to Schloemann Aktiengesellschaft
Filed Aug. 5, 1965, Ser. No. 477,400
11 Claims. (Cl. 100—50)

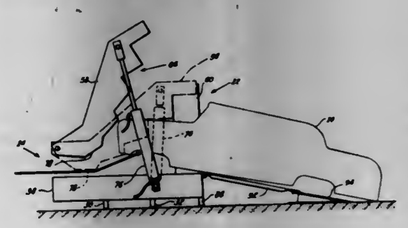


1. Apparatus for compressing coils of wire into bunches, comprising: two co-axially arranged rotatable pressure jaws facing one another with plane unobstructed radial surfaces, an indexing rotary drive for rotating one of the pressure jaws through a predetermined angle, the second pressure jaw being adapted to rotate in unison with the driven jaw, means for displacing one of the pressure jaws axially to apply pressure to coils of wire placed between the pressure jaws, a table arranged underneath the space between the pressure jaws, means for raising and lowering the table from a mid position, in which coils of wire resting thereon would be substantially co-axial with the rotatable pressure jaws, into positions above and below the said mid position, and a sensing switch for controlling and checking the adjustment of the table in its mid position.

3,266,413
CAR CRUSHING MACHINE
Allen B. Sharp and Richard A. Hull, Ottumwa, Iowa, assignors to Al-Jon, Inc., Ottumwa, Iowa, a corporation of Iowa
Filed Mar. 22, 1965, Ser. No. 441,589
18 Claims. (Cl. 100—53)

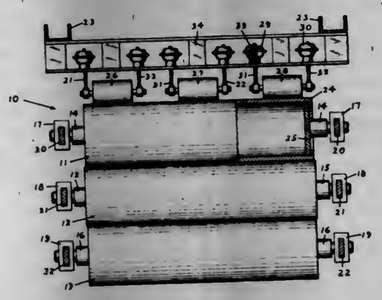
1. A machine for crushing junk car bodies, comprising: an elongated base,

a hydraulic pump system and power means for operating said system carried by said base,
a platform secured to said base,
said platform having two opposed open sides of which one defines an entrance side and the other defines an exit side,
a ramp hingedly attached at one end to said entrance side and extending therefrom to ground level,
bearing members on opposed sides of said exit side,
an elongated crushing arm pivotally secured at one end to said bearing members,
a hydraulic jack at each side of the other end of said crushing arm and pivotally connected thereto,



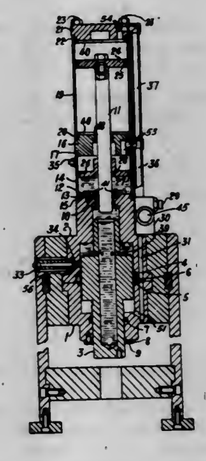
said hydraulic jacks operatively mounted to said base and said hydraulic system and designed to raise and lower said crushing arm,
the pivotally attached end of said crushing arm disposed so that it remains approximately six inches above said platform,
means for dragging a junk car body up said ramp, across said platform and off of the exit side thereof, and
control means for said hydraulic system whereby said crushing arm can be alternately raised and lowered to act against and crush a car body being dragged across said platform with said car body being reduced to a height of approximately six inches.

3,266,414
CALENDERS TO OVERCOME BARRING
Per Borje Wahlstrom and Karl-Olof Larsson, Karlstad, Sweden, assignors to Aktiebolaget Karlstads Mekaniska, Werkstad, Karlstad, Sweden, a company of Sweden
Filed May 29, 1963, Ser. No. 284,077
Claims priority, application Sweden, May 30, 1962, 6,098/62, 6,105/62; Sept. 3, 1962, 9,504/62
9 Claims. (Cl. 100—163)



1. In a paper calendering machine having a stack of at least two calendering rolls in vertical superimposed relation, means supporting said rolls for rotation and up and down movements, said rolls forming a plurality of nips there-between through which a paper web is passed to calender it, said web having plastic properties so that variations in thickness lengthwise the web caused in one of said nips are fed to the next nip causing force variations on the rolls in said stack and creating and maintaining self excited vibrations characterized by up and down movement between at least two of the rolls in said stack and consequent barring of said web, the combination therewith of means for reducing said self excited vibration comprising a light weight, substantially hollow roll above the top roll of said stack and forming a nip therebetween, means engaging said light weight roll throughout substantially its entire length, gas pressure means operatively connected with the means engaging the light weight roll for resiliently biasing said light weight roll toward said top roll in said stack to maintain a constant pressure between at least said light weight roll and said top roll to produce a compressed web of lengthwise constant thickness leaving said nip therebetween, said constant web thickness reducing initiation and maintenance of self excited vibrations in said stack and reducing barring of the paper web.

3,266,415
AIR-HYDRAULIC RAM
Basil S. Palmer, 22 East St., Titchfield, England
Filed June 2, 1964, Ser. No. 371,998
5 Claims. (Cl. 100—269)



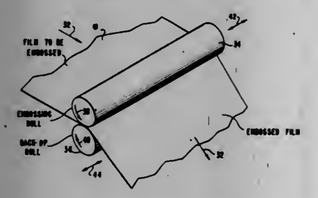
1. A hydraulic press incorporating a double-acting ram, a power cylinder in which the ram is slidable in fluid-tight sliding relation, an auxiliary cylinder disposed above said power cylinder, an intensifier cylinder disposed above said auxiliary cylinder, an intensifier piston slidable in said intensifier cylinder in fluid-tight sliding relation, a free piston slidable in said auxiliary cylinder in fluid-tight sliding relation, a plunger attached to said intensifier piston, an opening in said free piston through which said plunger passes, an opening in a first end of said power cylinder through which said plunger can enter said power cylinder, said opening being in communication with a first end of said auxiliary cylinder and with said first end of said power cylinder when said plunger is in its uppermost position, said communication being blocked by said plunger when said plunger is moved downwardly a given amount from its uppermost position, means for admitting a charge of operating liquid to said first end of the power

cylinder and to said first end of the auxiliary cylinder, valve means having an inlet for pressure air and a plurality of valve ports, means controlling communication between said pressure air inlet and said valve ports, a first duct structure connecting a first one of said valve ports to a second end of the auxiliary cylinder and to a first end of the intensifier cylinder, a second duct structure connecting a second one of said valve ports to a second end of the intensifier cylinder, a third duct structure connecting a third one of said valve ports to a second end of the power cylinder, said communication controlling means being operative into a condition allowing admission of pressure air through said first port and first duct structure to the second end of the auxiliary cylinder and the first end of the intensifier cylinder, to cause the plunger to enter the power cylinder, and to permit air to exhaust from the second end of the intensifier cylinder through said second duct structure and said second port and to permit air to exhaust from the second end of the power cylinder through said third duct structure and said third port, and said communication controlling means being operative into an alternative condition allowing admission of pressure air through said second port and second duct structure to the second end of the intensifier cylinder and through said third port and third duct structure to said second end of the power cylinder, and to permit air to exhaust through said first duct structure and said first port from said second end of the auxiliary cylinder and said first end of the intensifier cylinder.

3,266,416
EMBOSSING METHOD

Emanuel Mittman, Forest Hills, N.Y., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Filed Dec. 10, 1964, Ser. No. 417,344
7 Claims. (Cl. 101—32)



1. A method for preparing an embossed sheet material which comprises:

(1) moving a continuous sheet of material in a path between a pair of rotary embossing members, and

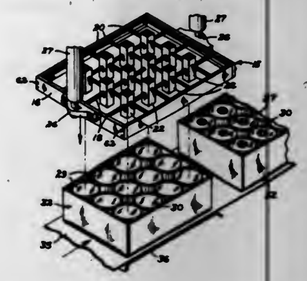
(2) simultaneously moving at least one of said embossing members in a direction generally transverse to the path or direction of said material while said material is maintained in said path.

3,266,417
MARKING DEVICE

Martin A. Evers, 282 Annette Drive, Dayton, Ohio

Filed Oct. 9, 1964, Ser. No. 402,739
5 Claims. (Cl. 101—41)

1. A device for simultaneously marking a plurality of articles uniformly spaced to define a layer within a packaging case and especially adapted to mark the selling price on all of the articles simultaneously prior to removal of the articles from the case, said device comprising a support member, a plurality of marking elements corresponding to the number of articles to be marked simultaneously, means for mounting said elements on said support member with said elements spaced in a substantially coplanar relationship for engaging a corresponding top surface on each article within the layer, and means for adjustably moving each said element laterally on said support member while maintaining said coplanar

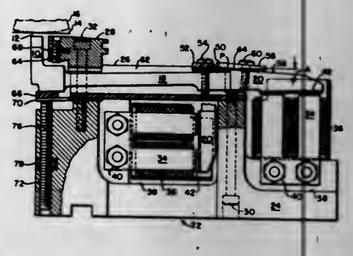


relationship to space said elements corresponding to the spaced relationship of the articles within the case for accommodating articles of various sizes arranged in various spaced relationships.

3,266,418
PRINT HAMMER ASSEMBLY FOR HIGH SPEED PRINTERS

Humbert C. Russo, Allston, Mass., assignor to Anelex Corporation, Boston, Mass., a corporation of New Hampshire

Filed Dec. 2, 1963, Ser. No. 327,201
3 Claims. (Cl. 101—93)

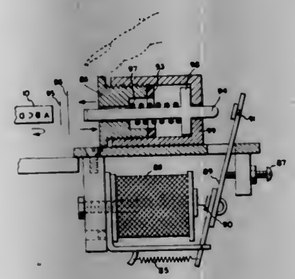


1. A print hammer assembly for a high speed printer comprising a bar having a print hammer at one end thereof and a portion of magnetic material at the opposite end thereof, said bar being including means forming a spring-mounting surface that is substantially parallel to the axis of that portion of said bar that is adjacent said print hammer, frame means formed with a spring-mounting surface, an electromagnet mounted in said frame means, said electromagnet having pole pieces adjacent said magnetic portion and being adapted when energized to pull said magnetic portion toward said pole pieces, a leaf spring having opposite ends secured to said spring-mounting surfaces of said bar and said frame means for connecting said frame means to said bar intermediate the ends of said bar for pivotal movement thereof and for biasing said bar toward a rest position, said frame means having opposed rest stop means and printing stop means coacting with said bar to limit said bar to pivotal movement between a rest position and said printing position, said electromagnet being constructed and arranged when energized to pivot said bar to said printing position, said rest stop being positioned to incline said spring-mounting surfaces with respect to one another in the rest position of said bar thereby to flex said leaf spring about said pivotal axis into a pre-stressed condition, biasing said bar against said rest stop means in said rest position to prevent rebound of said bar therefrom upon a return of said bar from said printing position.

3,266,419
HIGH SPEED IMPACT PRINT HAMMER ASSEMBLY WITH RESILIENT ENERGY STORING MEANS

Adolph C. Erpel, Warrington, and John Paul Jones, Jr., Wynnewood, Pa., assignors to Navigation Computer Corporation, Norristown, Pa., a corporation of Pennsylvania

Original application Aug. 11, 1964, Ser. No. 388,893, now Patent No. 3,232,404, dated Feb. 1, 1966. Divided and this application Oct. 5, 1965, Ser. No. 495,025
(Filed under Rule 45(c) and 35 U.S.C. 116)
2 Claims. (Cl. 101—93)



1. A print assembly for impacting a continuously rotating typewheel comprising in combination,

a movable electromagnetic armature,

a relay for moving said armature responsive to electronic signals,

a housing, said housing forming an enclosure having opposite end walls with apertures therein,

means for relatively positioning one of said end walls,

a movable hammer pin having an integral yoke member located within said enclosure,

said hammer pin having two stems, each of said stems projecting through an aperture in one of said opposite end walls, one stem opposite the relatively positionable end wall being positioned for intercepting and receiving the impact of said movable armature,

an energy storing resilient bumper positioned upon the relatively positionable said end wall to intercept said yoke,

the movement of said hammer pin being confined by said yoke in a longitudinal stroke path defined by contact at two limiting positions at said resilient bumper and the other opposite end wall,

spring means positioned in said enclosure surrounding said pin for weakly biasing said yoke toward the one of said limiting positions away from said resilient bumper,

said means relatively positioning one of said end walls being adjusted to receive the impact of the pin yoke momentarily at one end of the stroke path to coincide with the pin striking said typewheel to print a character therefrom and quickly retract said pin from contact with said typewheel by means of energy stored in said bumper.

3,266,420
RETRACTION MECHANISM FOR NOSE CONE SECURABLE TO AERIAL LAUNCHED BODIES

Rudolph G. Schuetzler, Adelphi, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed July 27, 1964, Ser. No. 385,524
4 Claims. (Cl. 102—4)

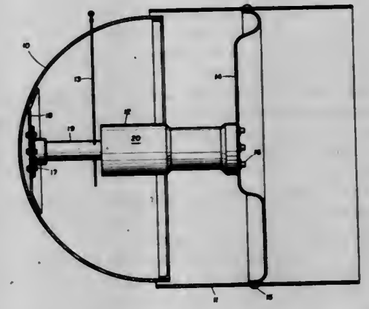
1. A retracting mechanism comprising:

an outer sleeve member having a first section and a second section integrally joined by a shoulder section which is oblique to the longitudinal axis of said outer sleeve, said first section having a larger diameter bore than said second section, said second section having an annular groove in the inner surface thereof,

an inner sleeve member having an aperture therein and in slideable engagement with the inner surface of said second section of said outer sleeve member,

a ball positioned within the aperture in said inner sleeve member,

a spool-shaped piston coaxial with and in slideable engagement with the inner surface of said inner sleeve member, said piston having a first, larger diameter section the outer periphery of which engages and urges said ball radially outward into frictional engagement with said oblique shoulder section of said outer sleeve member thereby locking said inner sleeve member aganst relative movement within said outer sleeve member when said piston is in a first position relative to said inner sleeve member, a second, smaller diameter section which permits said ball to move radially inward thereby disengaging said oblique shoulder section of said outer sleeve member and permitting relative movement between said inner sleeve member and said outer sleeve member when said piston is in a second position relative to said inner sleeve member, and a third, larger diameter section the outer periphery of which engages and urges said ball radially outward into said annular groove in said second section of said outer sleeve



member thereby locking said inner sleeve member against relative movement within said outer sleeve member when said piston is in a third position relative to said inner sleeve member,

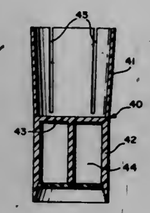
a first spring acting against said piston and said inner sleeve member and urging said piston from said first postion relative to said inner sleeve member toward said second position and thence toward said third position,

a second spring acting against said inner sleeve member and said outer sleeve member and urging said inner sleeve member into said outer sleeve member, and

arming means releasably securing said piston in said first position to maintain said first and second springs compressed before retraction of said inner sleeve member into said outer sleeve member whereby upon release of said arming means said piston is driven by said first spring to said second position allowing said ball to disengage said oblique shoulder section thus permitting said second spring to drive said inner sleeve member into said outer sleeve member until said aperture in said inner sleeve member comes into registry with said annular groove in said outer sleeve

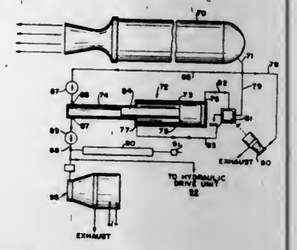
member at which time said ball is urged into said groove by said piston as it is driven to said third position by said first spring.

3,266,421
POUCH-WAD
Ronald W. Comerford, 11905 Milan Ave., Cleveland, Ohio 44111
Continuation of application Ser. No. 205,047, June 25, 1962. This application Apr. 23, 1965, Ser. No. 452,454
3 Claims. (Cl. 102—42)



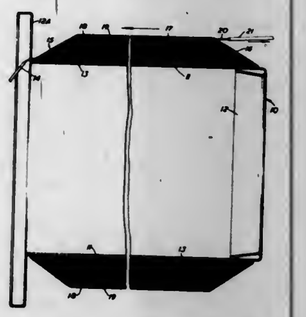
1. A pouch-wad device comprising:
(a) a tubular member having forward and rearward ends;
(b) a shot charge retaining wall being integral with said tubular member and extending transversely within said tubular member spaced from said forward and rearward ends, the portion of the tubular member between said shot retaining wall and the forward end defining a shot charge pouch with said shot charge retaining wall;
(c) a support and spacing structure integral with said shot charge retaining wall, said support and spacing structure extending rearwardly from said shot retaining wall toward the rearward end of said tubular member;
(d) an obturating wall piece separate from the tubular member and extending transversely across the rearward end of the tubular member;
(e) the rearward end of the tubular member including means for receiving said obturating wall piece so as to define an obturating portion for the pouch-wad device, said obturating wall piece as received being abuttable against the spacing and support structure so that said spacing and support structure maintains said obturating wall piece spaced from said shot retaining wall;
(f) the portion of the tubular member forward of the shot retaining wall being longitudinally weakened in a plurality of perimetrically spaced locations to provide a plurality of tubular wall sections joined adjacent their rearward ends and movable at their forward ends when the wall sections separate at the weakened locations; and,
(g) said spacing and support structure occupying a total space which is substantially less than the space between said shot retaining wall and said obturating wall piece so as to provide a very light-weight pouch-wad having a minimum mass and very small inertia which inertia when the pouch-wad is moving will be overcome by the atmospheric resistance of the wall sections when the wall sections separate at the weakened locations and are blown from longitudinally extending positions to generally radially outwardly projecting positions upon emergence from the confines of a barrel.

3,266,422
RECHARGEABLE ACCUMULATOR SYSTEM FOR AUXILIARY POWER SUPPLY
Rudolph A. Matheisel, 6000 Walther Ave., Baltimore 6, Md.
Original application Dec. 27, 1957, Ser. No. 722,111, now Patent No. 3,088,696, dated May 7, 1963. Divided and this application Dec. 5, 1961, Ser. No. 163,948
6 Claims. (Cl. 102—49)



1. In an airborne guided missile the combination of a reaction propulsion motor employing pressurized gas, and a generator for providing a continuously available supply of pressurized gas to power a drive unit for control equipment within said missile, said generator comprising first conduit means connected to bleed pressurized gas from said propulsion motor, a compressor engine operable by pressurized gas from said first conduit means and connected to compress gas from said first conduit means to a predetermined higher pressure at an outlet port, an accumulator tank adapted to store pressurized gas therein, second conduit means connected to conduct pressurized gas from the said compressor engine outlet port into the said accumulator tank for storage and to a drive unit for the operation thereof, and valve means connected in said second conduit means and adapted to permit gas flow therethrough in response to the operating requirements of a drive unit.

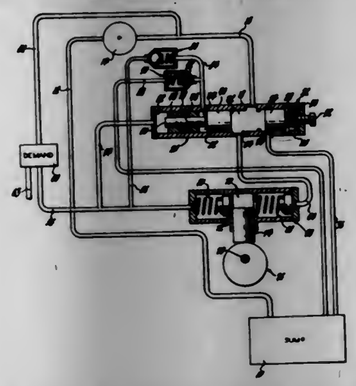
3,266,423
GROUND CONTROLLED ROCKET MISSILES
James Charles Simpson, Heston, England, assignor to Fairey Engineering Limited, Heston, England, a company of Great Britain
Filed June 19, 1962, Ser. No. 203,656
Claims priority, application Great Britain, June 19, 1961, 22,100/61, 22,135/61; Aug. 1, 1961, 27,877/61
9 Claims. (Cl. 102—89)



1. In a rocket missile having a rearwardly directed jet tube, a control wire dispenser comprising a generally cylindrical former surrounding the jet tube, a multi-layer main winding of successive turns of electric conductor wire wound coaxially on and around the former, the main winding having a trailing edge of frustoconical

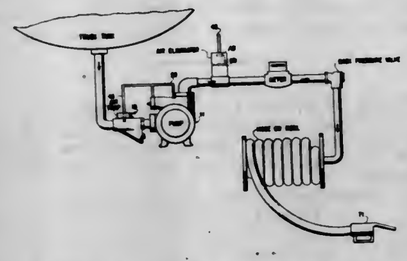
form, the conductor wire having a trailing end which extends rearwardly from the former and said wire paying out from the exterior of the main winding during missile flight, successive turns of the main winding being pulled off the exterior of the winding in the rearward direction during said paying out, and said main winding having restraining means tending to retard the paying out of the outer turns of the wire during flight, said restraining means comprising a layer of adhesive impregnating the said outer turns of the main winding and an external skin of readily rupturable material enclosing and adhering to the exterior surface of the main winding, the said skin being progressively ruptured as successive outer turns of the main winding are pulled off in flight, and means operable during violent changes of direction of the missile immediately upon launching to limit the initial unwinding rate of wire paid out from said dispenser while permitting normal flight of the missile comprising the provision of extra auxiliary coils of the conductor wire wound separately from the main winding and attached thereto by securing means which is readily released for unwinding by tension in the trailing end of the wire which passes about said frustoconical trailing edge during said violent changes of direction.

3,266,424
FLUID SYSTEM INCLUDING VARIABLE DISPLACEMENT PUMP
Ernest V. Bunting, Detroit, Mich., assignor to Massey-Ferguson Inc., Detroit, Mich., a corporation of Maryland
Filed Oct. 27, 1964, Ser. No. 407,625
40 Claims. (Cl. 103—39)



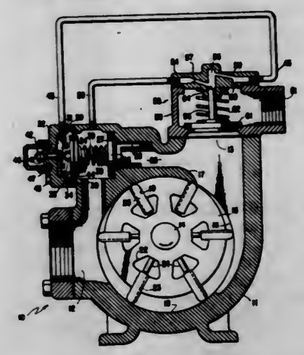
1. A system for supplying variable volumes of fluid in accordance with demand comprising a plurality of variable volume pumping chambers each including first and second relatively movable pumping members, drive means for moving said members in one direction relative to each other on a pumping stroke and permitting relative movement thereof in another direction on an intake stroke, discharge means for receiving fluid at discharge pressure from said pumping chambers on pumping strokes thereof, a source of charging fluid under a substantially constant charging pressure, and means including pressure responsive metering valve means having a plurality of inlet ports respectively communicating said source with respective ones of said pumping chambers and a metering valve member variably movable between first and second positions respectively closing and opening said ports to a substantially uniform extent to meter equal amounts of charging fluid to said respective pumping chambers on intake strokes thereof, said valve member being variably movable between said positions in response to changes in said discharge pressure.

3,266,425
LIQUID DISCHARGE SYSTEM
Virgil A. Brunson, Grand Rapids, Mich., assignor, by mesne assignments, to Dover Corporation, New York, N.Y., a corporation of Delaware
Filed May 6, 1964, Ser. No. 365,267
7 Claims. (Cl. 103—41)



1. A liquid delivery system comprising, in combination, a positive displacement pump having a control for reducing the capacity of the pump, a meter connected in series with the pump on the downstream side, an air eliminator connected between the pump and the meter, an air trap which is connected in series with the pump and which is upstream from the air eliminator, and a device which is actuated by accumulation of air in the trap when air is being passed by the pump at a rate greater than can be handled by the air eliminator and which, when actuated, operates the pump control to reduce the capacity of the pump to a value such that the air eliminator is able to take out air passed by the pump and thus allow the meter to read true.

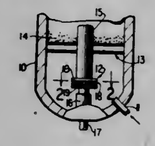
3,266,426
PUMP CONTROL
Virgil A. Brunson, Grand Rapids, Mich., assignor, by mesne assignments, to Dover Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 20, 1964, Ser. No. 346,274
6 Claims. (Cl. 103—42)



1. A system for supplying liquid selectively at either of two controlled pressures comprising, in combination, a positive displacement pump, a relief valve which is biased toward closed position and is connected between the outlet and inlet side of the pump to divert liquid from the through flow produced by the pump upon attainment of a pressure on the outlet side that is sufficient to open the valve, a chamber having an expansible wall that is operatively connected to the relief valve to control the closing bias of the valve, a bleed connecton for supplying to the chamber liquid discharged from the pump, to establish an elevated pressure in the chamber and thereby establish an increased valve-closing bias, a discharge valve

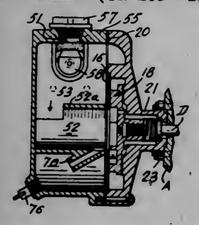
which is connected to the chamber and which has a capacity for discharging liquid from the chamber that is substantially greater than the capacity of the bleed connection, and a flow-sensing member located in the path of the through flow of liquid produced by the pump, which is operatively connected to the discharge valve and is movable between a normal flow-sensing position in which it holds the discharge valve closed and a non-flow-sensing position in which it holds the discharge valve open.

3,266,427
PUMP IN A RECYCLE TYPE OPERATION
Emory D. Mattix and Charles W. Stokes, Lake Charles, La., assignors to Cities Service Research and Development Company, New York, N.Y., a corporation of Delaware
Filed Aug. 26, 1965, Ser. No. 482,761
1 Claim. (Cl. 103—97)



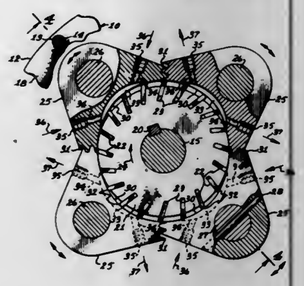
A substantially vertical elongated reactor for carrying out liquid phase reactions, said reactor having a vertical internal conduit forming a liquid path within said conduit, a centrifugal pump in the lower central portion of said reactor in communication with said liquid path and adapted to receive a liquid mixture from said path, said pump being horizontally disposed whereby the impeller thereof rotates about a vertical axis, said pump having a diffuser section, a plurality of discharge ports spaced about the periphery of said diffuser and radiating horizontally about the impeller periphery, said ports being adapted to discharge said liquid mixture from said pump, check valves pivotally mounted in an upper portion of each of said ports so as to swing upwardly and outwardly toward the roofs of said ports when said liquid mixture strikes the inner surfaces of said valves upon being discharged from said pump and to swing downwardly to block said ports in response to reduction of discharge flow through said ports, each such check valve having a horizontally extending pivot at the upstream end thereof whereby the pressure fluid forces the trailing end of the valve up to permit discharge and prevents reverse flow on the loss of said pressure fluid.

3,266,428
PORTABLE SELF-PRIMING PUMP CONSTRUCTION
Frank Feith, St. Lambert, Quebec, and William Valavaara, Ville La Salle, Quebec, Canada, assignors to Terry Machinery Company, a Division of Textron Canada Limited, Montreal, Quebec, Canada
Filed Feb. 19, 1964, Ser. No. 345,964
5 Claims. (Cl. 103—113)



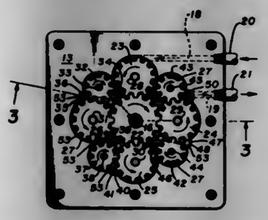
1. A self-priming bearingless centrifugal pump construction adapted for direct driving connection to the housing and driving shaft of an internal combustion engine, comprising a two piece pump body having a first major body portion having therein a fluid retaining chamber and a second lesser body portion having therein an impeller chamber, a bladed impeller having a hub and a central intake, said impeller mounted in said impeller chamber and being adapted for direct connection to said engine shaft, a flat impeller plate mounted between the said first and second pump body portions to constitute a partition between said fluid retaining and impeller chambers with an opening aligned with said impeller intake, a fluid entry passage in said first body portion leading from the exterior of said body to the opening of said impeller plate, a fluid discharge passage having a first portion within said first body portion and a continuing second portion within said second body portion and leading from said impeller chamber to the exterior of said body, said fluid entry passage being partitioned from said fluid discharge passage and from said fluid retaining chamber with the exception of a relatively small passage leading into said fluid retaining chamber for priming purposes, said fluid discharge passage being interrupted by an open port leading into said fluid retaining chamber above the said discharge end of said impeller, said body second portion having a cylindrical extension having therein an axial recess accommodating said hub portion of said impeller and a connecting portion of said engine drive shaft and means on the outer end of said cylindrical extension adapted for direct connection to said internal combustion engine housing.

3,266,429
FLUID PRESSURE PUMP OR MOTOR
Wiley T. Stockett, Jr., 220 S. Le Seur, Mesa, Ariz.
Filed July 17, 1964, Ser. No. 383,453
3 Claims. (Cl. 103—120)



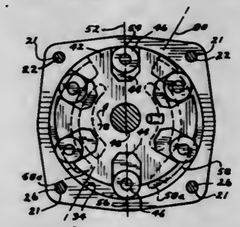
1. A fluid pressure pump comprising in combination:
A. a frame having,
B. a pair of spaced side plates having inner faces facing toward each other,
C. a drive shaft journaled in said side plates,
D. a rotor fixed to said drive shaft and located between said side plates,
E. rotor vanes radially reciprocatable in slots formed in said rotor,
F. a plurality of rockable segments pivotally mounted between said inner faces of said side plates having arcuate vane contacting surfaces adapted to slidingly engage the outer edges of said rotor vanes during rotation of said rotor,
G. pivotal connections between each of said rocking segment elements located adjacent to the ends of each of said arcuate vane contacting surfaces,
H. and means for rocking at least one of said rocking segment elements so that every other one of said rocking segments simultaneously rocks in the opposite direction from its adjacent segments to vary the volume and direction of fluid flow in said pump.

3,266,430
PUMP MIXER
John Mylo, Athens, Ala., assignor to Monsanto Company, a corporation of Delaware
Filed Mar. 30, 1964, Ser. No. 355,681
2 Claims. (Cl. 103—126)



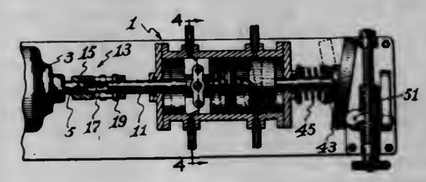
1. An apparatus for continuously mixing and pumping a plurality of fluids comprising
(a) a housing having a front wall, a back wall and a central plate having an opening therein, said opening being enclosed by arcuated walls, said housing being provided with an inlet and an outlet for connecting said opening to a fluid source and a fluid depository,
(b) a sun gear located in said opening and being positively rotated by a rotation inducing means, the sides of said sun gear being in engagement with said front wall and said back wall,
(c) a first intermediate gear rotatably mounted in said housing and meshing with said sun gear, said intermediate gear being adapted for conveying said fluid from said inlet into said housing,
(d) a second intermediate gear rotatably mounted in said housing and meshing with said sun gear,
(e) a first planetary gear rotatably mounted in said housing and meshing with said second intermediate gear, said planetary gear cooperating with said first intermediate gear, said second intermediate gear and said sun gear to form a fluid containing cavity and cooperating with said second intermediate gear and a portion of said arcurated wall to form a pocket, said pocket and said cavity being connected by a passage in said back wall,
(f) a third intermediate gear rotatably mounted in said housing and meshing with said sun gear,
(g) a second planetary gear rotatably mounted in said housing and meshing with said third intermediate gear, said second planetary gear cooperating with said third intermediate gear, said second planetary gear and said sun gear to form a cavity and cooperating with said third intermediate gear and a portion of said arcurated wall to form a pocket, said pocket and said cavity being connected by a passage being located in said back wall,
(h) a fourth intermediate gear rotatably mounted in said housing and meshing with said sun gear,
(i) a third planetary gear rotatably mounted in said housing and meshing with said fourth intermediate gear, said third planetary gear cooperating with said fourth intermediate gear, said third intermediate gear and said sun gear to form a cavity and cooperating with said fourth intermediate gear and a portion of said arcurated wall to form a pocket, said pocket and said chamber being connected by a passage being located in said back wall,
(j) a fourth planetary gear rotatably mounted in said housing and meshing with said fourth intermediate gear, said fourth planetary gear cooperating with said fourth intermediate gear and a portion of said arcurated wall to form a hollow, said hollow being a depository for fluid entering said outlet.

3,266,431
END PORTED PUMP HAVING AN IMPROVED PORTING ARRANGEMENT
Ernest E. Cook, Anoka, Minn., assignor, by mesne assignments, to Hypro, Inc., Minneapolis, Minn., a corporation of Ohio
Filed Dec. 9, 1963, Ser. No. 329,131
4 Claims. (Cl. 103—136)



1. An end ported rotary pump comprising:
(a) a housing having longitudinally spaced end walls and an intermediate circumferential wall forming a generally cylindrical pumping chamber;
(b) a rotor rotatably mounted within said pumping chamber with its axis offset from that of the pumping chamber,
(c) said rotor having a plurality of roller-receiving slots formed into and across the circumferential surface thereof and uniformly angularly spaced thereabout;
(d) a cylindrical roller disposed for rotation in each of said slots having a length corresponding to the length of said slots,
(e) one of said walls having an arcuate inlet port and an arcuate outlet port,
(f) one end of said inlet port being closer to a plane passing through the axes of said pumping chamber and rotor than the nearer end of said outlet port is to said plane, the angular spacing of said inlet port end from said plane being equal to an angle slightly less than half of the angular distance between adjacent rollers minus a distance equal to the radius of a roller, the angular spacing of said outlet port end being equal to said angle plus a distance equal to a roller radius.

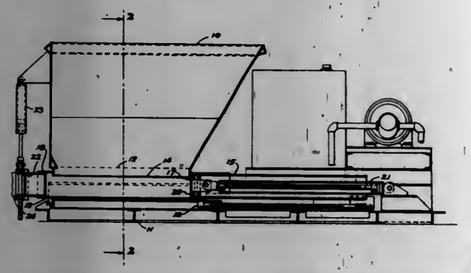
3,266,432
PUMP
Stewart W. Wortley, 1814 S. Cheyenne Ave., Tulsa, Okla.
Filed Dec. 17, 1964, Ser. No. 419,062
4 Claims. (Cl. 103—157)



1. A pump comprising a chamber having a cylindrical inner periphery, intake and exhaust openings through said periphery spaced from the ends of said periphery, piston means axially reciprocable in the chamber to vary the volume of the chamber, valve means in the chamber rotatable about the axis of the chamber alternately to open one of said intake and exhaust openings and to close the other of said intake and exhaust openings, said valve means being secured to said piston means against axial movement relative to said piston means, and means

for rotating and reciprocating said piston means thereby to move said valve means in a helical path of closed configuration.

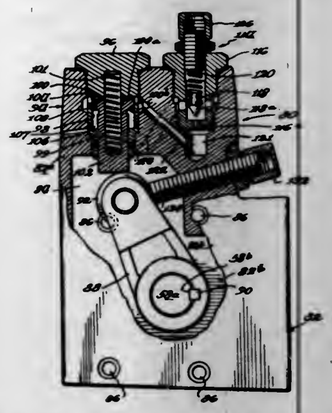
3,266,433
CONCRETE PUMP
Merritt M. Mason, Tiburon, Calif.
(1348 Rockledge Lane 2, Walnut Creek, Calif. 94529)
Filed Jan. 21, 1965, Ser. No. 427,043
3 Claims. (Cl. 103—158)



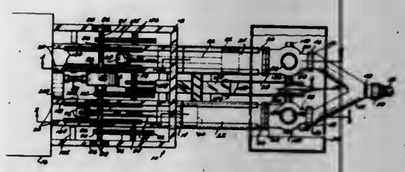
1. A concrete pumping device, including in combination:
a hopper for concrete having an opening in its lower end,
a supply tube having an inlet opening in its upper end aligned with said hopper opening and having a cylindrical rear end and a cylindrical forward end,
a cylinder mounted for reciprocation in said supply tube and longer than said inlet opening, for movement between a rear position where said cylinder is withdrawn from said inlet opening and a forward position where it fully closes said inlet opening and confines within itself concrete which dropped by gravity from said hopper into said supply tube,
a piston reciprocatable in said cylinder from said rear end toward said forward end,
a gate valve normally closing the forward end of said supply tube,
first hydraulic means for moving said cylinder between its rear position and its forward position,
second hydraulic means for opening and closing said gate valve, and
third hydraulic means for moving said piston between its rear position and its forward position.

3,266,434
VARIABLE OUTPUT PUMP
John C. McAlvay, Racine, Wis., assignor to Webster Electric Company, Racine, Wis., a corporation of Delaware
Filed Apr. 10, 1964, Ser. No. 358,917
6 Claims. (Cl. 103—162)

1. A variable output pump, including in combination, an assembly of annularly disposed pistons, the assembly being rotatable about a first axis, a swash plate engaged by the pistons and tiltable about a second axis normal to the first axis between minimum and maximum output positions to vary the output of the pump, said pistons producing forces tending to return the swash plate to its minimum output position, means including a cylinder, a piston in said cylinder responsive to pump output pressure and operably interconnected with said swash plate, said piston being hydraulically unbalanced sufficiently to overcome said forces by restricted communication from a first side of the piston connected to the pump output pressure to a second and larger area side of the piston, and a relief valve operable above a predetermined pressure communicating with and solely responsive to pressure at the second side of the piston for maintaining the swash plate in maximum output position until the predetermined pump output pressure is reached and for thereafter reducing the pressure acting on the second side of the piston for effecting movement of the swash plate toward its minimum output position.



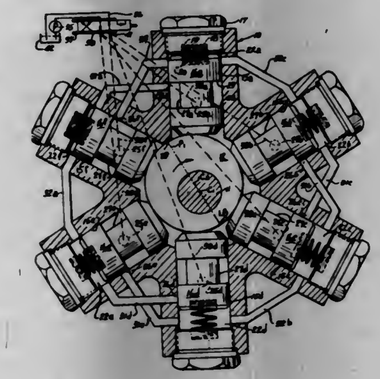
3,266,435
PUMP FOR SEMI-FLUID MATERIAL
Eugene Smith, 9648 Lemoran Ave., Downey, Calif.
Filed Dec. 9, 1963, Ser. No. 328,886
4 Claims. (Cl. 103—170)



1. A concrete pump comprising:
(a) a hopper for supplying concrete to be pumped, said hopper having a pair of substantially circular outlets;
(b) a pump cylinder in fluid communication with each of said outlets;
(c) a concrete discharge line in fluid communication with each pump cylinder, each of said discharge lines having a substantially circular upstream end mounted adjacent its associated outlet and a downstream end discharging into a common outlet conduit;
(d) a piston reciprocally mounted in each cylinder;
(e) a piston rod connected to each piston, each piston rod having a journal at its end remote from said piston;
(f) a hemispherically-shaped valve swingably mounted between each of said outlets and their associated upstream ends for selective engagement with said outlets and said upstream ends of said discharge lines;
(g) means for simultaneously seating one valve in its associated outlet and the other valve in its associated upstream end;
(h) a crank connected to each valve for swinging each valve to a seated position;
(i) a control bar connected to each crank, said control bar extending over an endless chain;
(j) means for connecting said endless chain to said control bar cyclically to slide said control bar and actuate said valves;

(k) a pair of endless chains mounted astraddle each piston rod; and
(l) means rotatably mounted in each journal for connecting said piston rods to said chains whereby said pistons are reciprocated thereby.

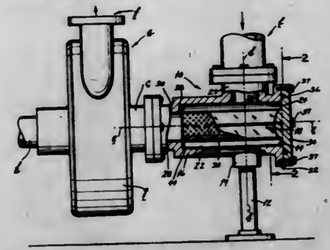
3,266,436
MULTIPLE PISTON TYPE PUMP OR MOTOR
Donald L. Yarger, 342 Elm Ave., Marengo, Ill.
Filed Sept. 1, 1964, Ser. No. 393,690
16 Claims. (Cl. 103—174)



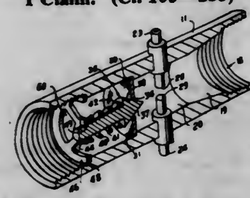
2. A piston type fluid pump or motor comprising, a casing having at least three pairs of cylinders and a pair of piston members in each of said pairs of cylinders, each piston member defining a piston chamber at one end of the respective cylinder, a shaft and cam means on the shaft controlling reciprocation of the piston members of each pair substantially 180° out of phase with each other and at a preselected phase relation to the piston members of the other pairs, the cylinders each having a single main port and a single control port and the piston members each having valve means thereon controlling flow between the main and control ports in the respective cylinder, a fluid supply line connected to one main port in each pair of cylinders and a fluid exhaust line connected to the other main port in each pair of cylinders, and passage means connecting the control ports in each pair of cylinders to the piston chambers in two other cylinders whereby the valve means on one piston of each pair operates to control supply of fluid pressure to the piston chambers in two other cylinders and the valve means on the other piston member of each pair operates to control exhaust of fluid from the piston chambers in those two cylinders.

3,266,437
FLOW DIRECTOR AND STRAINER
Joseph J. Blackmore, R.R. 1, Edwardsville, Ill., and Perry G. Glunt, 91 Wildwood Lane, Kirkwood, Mo.
Filed Jan. 4, 1965, Ser. No. 423,133
8 Claims. (Cl. 103—220)

1. For use in directing liquid to the inlet of a pump from a supply pipe having an axis substantially perpendicular to such inlet, a flow director comprising
chamber means having a chamber inlet connectable to such supply pipe, a chamber outlet connectable to such pump inlet, and a hollow interior portion having a greater diameter than that of either said pump inlet or supply pipe,
vane means positioned within said chamber means along the extended axis of the chamber outlet for delivering the liquid from said hollow interior portion of said chamber means to such chamber outlet, thereby to suppress excessive turbulence in such flow and cavitation at such pump, and
flow-spreader means spaced inwardly of said inner wall of said chamber means and surrounding said vane means, said flow-spreader means being interposed between said chamber inlet and chamber outlet, and extending substantially the length of said chamber means, whereby to distribute the liquid substantially uniformly to said vane means.



3,266,438
PUMPS
William H. Savage, 104 W. Shore, Richardson, Tex.
Filed July 21, 1965, Ser. No. 473,629
1 Claim. (Cl. 103—255)

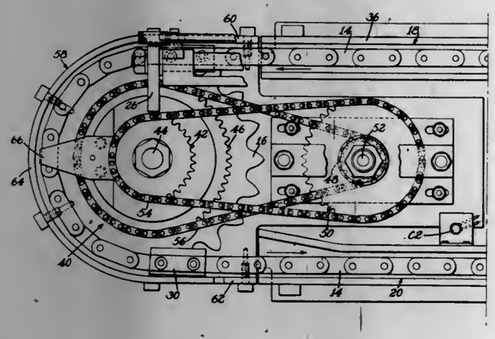


A pump including: a housing having a longitudinal bore therethrough, said housing being connectable in a flow conductor to constitute a section thereof, said longitudinal bore being defined by internal surfaces of said housing providing an intermediate chamber of uniform diameter and a bore portion which extends longitudinally in an upstream direction from the upstream end of said chamber and increases progressively in diameter in said upstream direction; means for producing an electric discharge in said chamber; and means operable by shock and pressure waves produced by an electric discharge in the fluid in said chamber for allowing fluid to flow from said chamber in a downstream direction and for preventing flow of fluid into said chamber in an upstream direction, said last mentioned means including a check valve assembly having a wall extending across said bore and defining the downstream end of said chamber, said wall having an aperture, a valve member movable longitudinally in said bore closing said aperture when in an upstream position in said bore, and means biasing said valve member in an upstream direction, said valve member being movable in a downstream direction to open said aperture when an electric discharge is produced in said chamber.

3,266,439
CONVEYOR SYSTEMS
Roland E. Bonnette, Hamilton, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Aug. 12, 1963, Ser. No. 301,490
5 Claims. (Cl. 104—172)

1. A conveyor system for transferring article carrying devices between work stations, comprising a first run for conveying devices in one direction and a second run ex-

tending from the end of the first run and in a different direction, transfer means adapted to transfer articles from the first run to the second run, a stop mechanism associated with the first run to control the entry of articles into the transfer means, and stop mechanism control



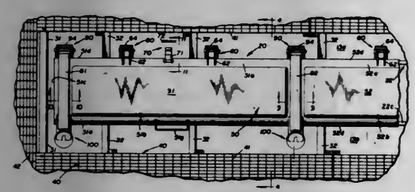
means responsive to the entry of an article carrying device into the transfer mechanism to maintain said stop mechanism in the stop position until said article carrying device has passed a predetermined position on the second run of the conveyor.

3,266,440

RAILWAY HOPPER CAR BODY PROVIDED WITH AN ELONGATED LOADING HATCH IN THE ROOF THEREOF

Albert E. Price and Lee H. Shils, Chicago, Ill., assignors to General American Transportation Corporation, Chicago, Ill., a corporation of New York

Filed Aug. 6, 1964, Ser. No. 387,745
4 Claims. (Cl. 105—377)



1. A railway hopper car body of elongated box-like form comprising a roof having an elongated longitudinally extending substantially rectangular hatch opening in the central portion thereof through which lading in finely divided condition may be loaded into said body, a substantially rectangular coaming carried by said roof and surrounding said hatch opening and provided with a rim surrounding the open top thereof, a composite cover carried by said roof and cooperating with said rim and including a pair of end cover sections and a number of intermediate cover sections arranged in contiguous longitudinal positions with respect to each other, first means mounting said end cover sections upon said roof for independent hinged movements laterally of said hatch opening and between open and closed positions with respect to the respectively adjacent end portions of said rim, second means mounting said intermediate cover sections upon said roof for independent hinged movements laterally of said hatch opening and between open and closed positions with respect to the respectively adjacent intermediate portions of said rim, wherein said composite cover closes said hatch opening when all of said cover sections occupy their closed positions, a pair of end clamps carried by said roof and respectively cooperating with the adjacent outer ends of said end cover sections, third means mounting said end clamps upon said roof for independent hinged movements laterally of said hatch opening and between clamping and releasing positions with respect to the outer ends of the respectively adjacent ones of said end cover sections in their closed positions, a plurality of intermediate clamps carried by said roof and respectively cooperating with adjacent ones of the pairs of contiguous ends of said cover sections, fourth means mounting said intermediate clamps upon said roof for independent hinged movements laterally of said hatch opening and between clamping and releasing positions with respect to the respectively adjacent ones of the contiguous ends of two of said cover sections in their closed positions, wherein any one of said cover sections is released for hinged movement between its closed position and its open position in response to hinged movements of both of the respectively cooperating two of said clamps from their clamping positions into their releasing positions, and a plurality of fastening mechanisms carried by said roof and respectively cooperating with adjacent ones of said clamps, each of said fastening mechanisms being selectively operative between holding and releasing positions with respect to the adjacent cooperating one of said clamps in its clamping position, wherein any one of said clamps is released for hinged movement between its clamping position and its releasing position in response to operation of the adjacent cooperating one of said fastening mechanisms from its holding position into its releasing position, each one of said end cover sections carrying a downwardly turned end flange and a pair of downwardly turned side flanges that respectively embrace the corresponding adjacent portions of the end and the sides of said rim when said one end cover section occupies its closed position, each one of said intermediate cover sections carrying a pair of downwardly turned side flanges that respectively embrace the corresponding adjacent portions of the sides of said rim when said one intermediate cover section occupies its closed position, each one of said end cover sections also carrying a laterally extending and upwardly directed end boss at the inner end thereof, each one of said intermediate cover sections also carrying a pair of laterally extending and upwardly directed end bosses at the opposite ends thereof, whereby two of said end bosses are arranged in contiguous positions when the two corresponding adjacent ones of said cover sections occupy their closed positions, and each one of said intermediate clamps having a substantially channel-shaped cross section and provided with downwardly directed flanges so that when said one intermediate clamp occupies its clamping position it embraces and covers the adjacent and contiguous two of said end bosses respectively carried by the two corresponding adjacent ones of said cover sections in their closed positions.

3,266,441
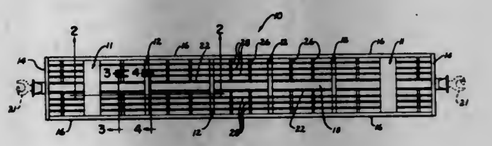
RAILWAY CAR UNDERFRAME AND METHOD OF MANUFACTURE

Frank C. Pulcrano, Bridgeton, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Sept. 21, 1964, Ser. No. 397,730
1 Claim. (Cl. 105—416)

A method of making a railway car structure comprising cold pressing a pair of Z-shaped sill members from a pair of flat metal plates having a thickness between ¼ inch and ⅜ inch, simultaneously cold pressing a plurality of depressions in one of the flanges of each sill member, the depressions being spaced along the length

of the Z-shaped sill members and being transversely aligned, securing a bolster structure to the sill members adjacent each end of the sill members in alignment with a pair of adjacent transversely aligned depressions, welding a top cover plate to each bolster structure and to the adjacent sill members in the transversely aligned depressions thereof with the exposed upper surfaces of the sill members and the cover plates being substantially flush, securing a plurality of transverse members to the sill members, securing a plurality of stringer members



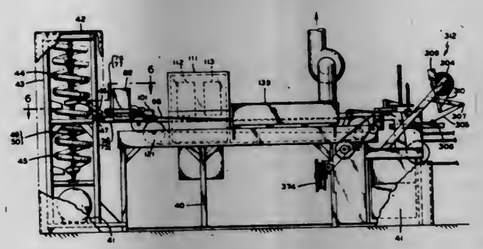
to the transverse members and the bolster structures in a direction generally parallel to the longitudinal axis of the sill members with the upper surfaces of the stringers being substantially flush with the adjacent surfaces of the Z-shaped sill members to form an underframe in which the upper exposed surfaces of the sill members and the upper surfaces of both the bolster top cover plates and the stringers are in generally the same plane, and securing a floor to the upper surfaces of the sill members and the bolster top cover plates.

3,266,442

FOOD PREPARING APPARATUS

Humfrey N. Udall, Darien, Conn., Anthony Peters, Flushing, N.Y., and Theodore Opuszenski, Darien, Raymond H. Van Wagener, Noroton, Maximiliaan A. Kocken, Stamford, and Kenneth W. Austin, Milford, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed Aug. 31, 1962, Ser. No. 220,615
13 Claims. (Cl. 107—1)



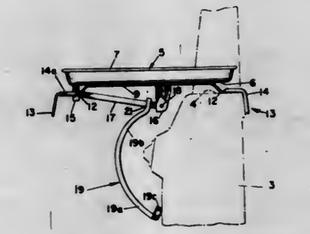
1. A machine for automatically transporting, cooking and assembling elements of a sandwich, comprising a frame and, mounted on said frame in coordinate relationship, a plurality of components including:
a first endless conveyor to transport bun slices arranged thereon in destacked relationship;
a second endless conveyor to transport patties delivered thereto from a patty supplying unit;
a sandwich filler patty supplying unit arranged to deliver patties to said second conveyor;
an oven comprising a direct heat chamber through which said second conveyor passes for cooking patties carried on said conveyor;
an assembly mechanism for transferring the bun slices and cooked patties from said first and second conveyors, and stacking them in superimposed relationship, to form an assembled sandwich ready for consumption; and
driving means providing motive power for said meat patty unit, conveyors and assembly mechanism.

3,266,443

CAR-HOP SERVING TRAY

John B. Lee, 115 Tyler Court, Spartanburg, S.C.

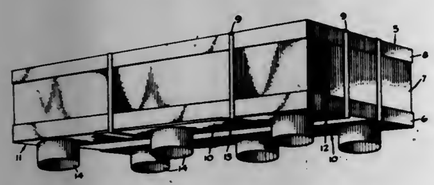
Filed Mar. 23, 1964, Ser. No. 354,065
2 Claims. (Cl. 108—46)



1. In an automobile drive-in-restaurant service tray for application to an automobile door and characterized by a tray-form body providing top and bottom surfaces, ends and front and rear edges; a fixedly depending tray bottom carried leg adjacent each tray side and located inwardly of the front tray edge, tray bottom-provided surface portions and the outer surfaces of said legs when the tray is applied to a car door being respectively engageable with the door window sill and subjacent inner automobile door surfaces when the tray is applied thereto for service to car occupants, there being a depending tray bottom-carried prop intermediate the tray ends for outer door surface engagement to cooperate with said legs and tray bottom portions in the support of the tray when the latter is applied to a car door window sill with the outer surfaces of said legs engaging the inner car door surface; the improvement in said prop and its supporting means which comprises a generally L-form prop member having outwardly curved inner leg portion and an inwardly curved outer foot portion so as to provide an outer bulge for clearing away outer door surface projection, said prop being U-shaped in a cross-section to provide side walls and a bight wall which latter is disposed toward the outer tray edge when the tray is applied to a car door, a prop-mounting bar providing a flat sided lineal portion extending inwardly from a point adjacent to but spaced from its outer end adjacent the outer tray edge, said mounting bar slidably supporting said prop, tray bottom-carried means supporting the mounting bar ends and inclining said mounting bar away from the tray bottom in the direction of the inner tray edge, said prop having a bar-receiving hole in its bight portion adjacent the inner bar end, said hole being of a width substantially conforming to the transverse cross-section of the flat sided bar portion but of a depth longitudina ly of the prop that is greater than the bar member cross-section in that direction, whereby the prop is both non-rotatably slidable and vertically rockable on said flat sided bar portion, an out-struck lug provided by the bight portion of said prop and extending from the plane of the inner transverse end of said bar-receiving hole, said lug having a sharpened outer end edge for locking engagement with the proximate top surface of the bar when the prop is rocked outwardly away from a car door, the inward slant of said bar away from the tray bottom facilitating movement of the prop to operative tray-supporting position thereon while resisting

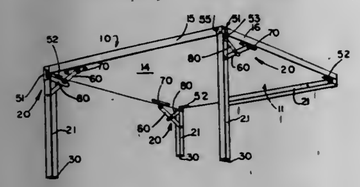
prop movement in the opposite direction, and said mounting bar being diametrically reduced and rounded adjacent its outer end support whereby the prop can be rotated thereabout to a tray bottom paralleling position or to a position perpendicular thereto.

3,266,444
SLIDING ADJUSTABLE PALLET
Larry J. Budd, Elmhurst, Ill., assignor to Pallet Devices Incorporated, Des Plaines, Ill., a corporation of Illinois
Filed Dec. 17, 1962, Ser. No. 245,283
37 Claims. (Cl. 108—54)



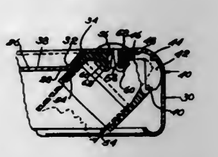
1. An expandible pallet comprised of three paperboard sections with a center-most of said sections being tubular and with end-most of said sections slidingly engaged within opposite ends of the tube defined by said tubular section, the center-most section comprising a strip having opposite ends disposed in lapped relation, means securing said opposite ends in lapped assembly, the end-most sections being slidingly movable in the tube for varying the length of the pallet for attachment with different sized articles to be palletized, and pallet legs mounted on each of said sections at a bottom side of the pallet.

3,266,445
FOLDING LEG ASSEMBLY
Charles O. Larson, Sterling, Ill., assignor to Chas. O. Larson Co., Sterling, Ill., a corporation of Illinois
Filed July 21, 1965, Ser. No. 473,701
6 Claims. (Cl. 108—125)



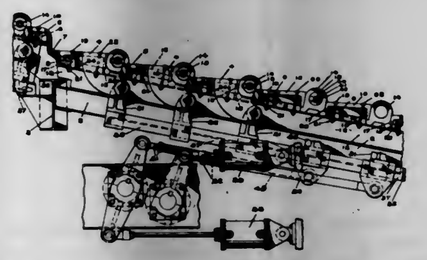
1. A folding leg assembly for supporting a table top or the like having an underside and side edges disposed normal to the underside and substantially normal to each other, said folding leg assembly comprising an elongated leg of generally U-shaped cross section including an elongated main wall extending substantially the length thereof and opposed spaced-apart side flanges on the longitudinal edges of said main wall extending substantially the length thereof, a leg bracket including a main plate having structure thereon for mounting said main plate on an associated side edge with said main plate extending downwardly below the underside of the associated table top, the inner surface of said main plate being disposed against the associated side edge and disposed substantially in the same plane therewith, means hingedly interconnecting said main plate and the upper end of said leg with the outer surface of the outer one of said leg side flanges disposed against the inner surface of said main plate and lying substantially in the same plane therewith and with the associated table top side edge, said leg being pivotal between an operative position with the longitudinal axis thereof disposed substantially perpendicular to the underside of the associated table top with the outer side of said outermost side flange disposed in the same plane as the associated table top side edge and a folded position with the longitudinal free edges of said side flanges disposed substantially against the underside of the associated table top and with the outer surface of said outermost side flange lying in the same plane as the associated table top side edge, a brace including a first arm hingedly connected adjacent to one end thereof to said leg between said side flanges adjacent to the upper end thereof and a second arm hingedly connected adjacent to one end thereof to the other end of said first arm, and a brace bracket hingedly connecting the other end of said second arm to the underside of the associated table top in a position such that said brace arms are in the extended bracing position thereof when said leg is in the operative position thereof, said brace and said brace bracket being disposed in the direction of folding of said leg and having a lateral extent with respect to said direction of folding less than the distance between said side flanges and a depth when pivoted less than the distance from the edges of said side flanges to the inner surface of said main wall so that said leg completely receives and encloses therein said brace and said brace bracket when said leg is in the folded position thereof.

3,266,446
PATIO TRAY LEG CLIP
Raymond S. Haydock, Morton Grove, Ill., assignor of one-half to Raymond Haydock, Jr., and one-half to Sandra L. Haydock
Original application Oct. 13, 1964, Ser. No. 403,467. Divided and this application Oct. 1, 1965, Ser. No. 491,937
1 Claim. (Cl. 108—153)



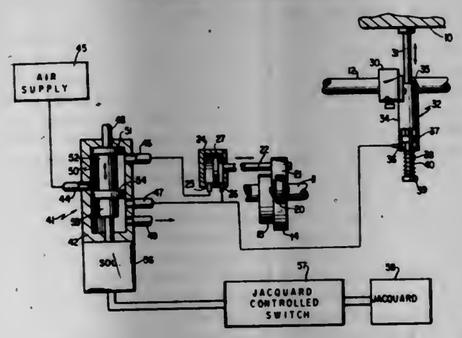
A patio tray leg clip assembly, comprising, a tray top having a depending border flange, joined to the tray top by an easy bend, and said tray top having, at a point spaced inwardly from said flange, a downwardly extending annular offset, extending from the top to a depressed central area, and a plastic leg clip, having an outer curved surface, curved complementary to the inside surface of said easy bend, and having a flat upper surface engaging the lower side of said table top, said leg clip extending diagonally away from said annular flange, and said tray clip having a substantially cylindrical inner socket, tapered inwardly at its lower portion to grip firmly, but removably, the end of a leg in said socket, said tray clip also having a single tapered aperture registering with an aperture in the tray top, and adapted to receive a single rivet in said apertures, a rivet of the type having a nearly flat head rounded on its upper surface, and engaging the table top with its lower surface, said rivet having a shank of the split type, with two parts, inserted in said apertures and spread into said tapered aperture in said tray clip, the lower ends of said split shank being bent backwardly against a conical surface on the inside of said clip, to secure the clip firmly against the bottom of the tray top and against said annular flanges.

3,266,447
INCINERATOR STOKER GRATE CONSTRUCTION
James F. Turner, Sr., William H. Bartman, and Clarence H. Smith, Jr., Baltimore, Md., assignors to Flynn & Emrich Company, Baltimore, Md., a corporation of Maryland
Filed Nov. 12, 1963, Ser. No. 322,883
8 Claims. (Cl. 110—8)



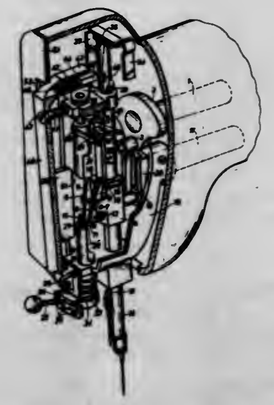
8. A furnace for burning refuse comprising a plurality of tandem sets of alternately actuated stoker bars which in normal position form a forwardly and downwardly inclined supporting surface for the refuse, downwardly inclined supporting means for said bars, a furnace frame on which said supporting means are mounted, said bars being movably mounted so that they can be tilted forwardly to advance the refuse and then be retracted, a stationary grate bar positioned at the rear edge of each movable bar, the movable bars and their respective rearwardly adjacent stationary bars forming pairs of bars comprising a movable and stationary bar, the bars of each pair being on the same plane, the plane of each of the following pairs being progressively lower in the downward direction of the incline of the furnace grate bed as a whole, means including reciprocating rods connecting the tandem sets of movable bars together to be so moved together, the pivoted forward edge of each movable bar presenting an arched nose, concentric with its axis of movement, spaced substantially above the edge of the adjacent stationary bar, to give the material a constant cascading flow in its downwardly forward movement.

3,266,448
CONTROL MECHANISM FOR EMBROIDERING MACHINES
Theodore S. Haggar, 14 Sherwood St., Wayne, N.J.
Filed Nov. 25, 1964, Ser. No. 413,850
5 Claims. (Cl. 112—84)



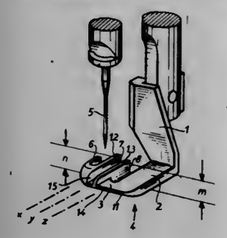
1. In an embroidering machine of the class described, the combination of a fixed frame section, a drive shaft, a needle bar operating shaft, a cam on said drive shaft, an idler roll on said drive shaft adjacent said cam, said cam and said roll having radially aligned generally circular portions, a crank having one end secured to said needle bar operating shaft, a roller mounted at the other end of said crank for axial movement with respect to said drive shaft and engagement with said cam and said roll, first mechanism for shifting said roller from said cam to said roll and vice versa when said roller is opposite said generally circular portions, second mechanism mounted on said needle bar operating shaft including a reciprocatable plunger and means for alternately extending said plunger to engage said frame section and for retracting said plunger, and control means for effecting operation of said first mechanism to move said roller between said cam and said idler roll positions and for effecting operation of said second mechanism to extend said plunger.

3,266,449
CONNECTING MEANS FOR DOUBLE NEEDLE SEWING MACHINES
Heinrich Berg and Karl Weber, Kaiserslautern, Germany, assignors to Firm G.M. Pfaff AG, Kaiserslautern, Pfalz, Germany
Filed Aug. 31, 1965, Ser. No. 483,944
Claims priority, application Germany, Oct. 2, 1964, P 35,203
6 Claims. (Cl. 112—221)



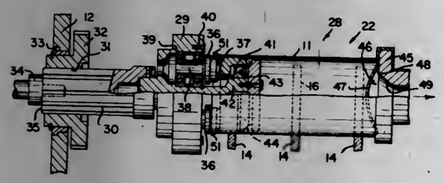
1. Device for optionally connecting and disconnecting the needle bars in a double needle sewing machine of the type having a drive shaft and a rocking shaft, a needle bar oscillator operatively connected to said rocking shaft and a pair of needle bars arranged adjacent to one another, a member on each said needle bar presenting a shoulder, and a retaining configuration on each needle bar for holding the bar in inoperative position, a carrier sleeve slidingly supporting said needle bars in said needle bar oscillator and operatively connected to said drive shaft, coupling means provided on said carrier sleeve for selectively coupling said needle bars to said sleeve comprising a pair of spring biased tilting levers pivotally supported on said sleeve, each lever having a pawl at one end for engagement with one said shoulder and having an offset member at the other end, a shifting bar device rotatably supported on said oscillator sleeve presenting a pair of pressure surfaces generally parallel to said carrier, one for each said offset, manual means for angularly moving said shifting bar device and thereby one said tilting lever to disengage one said shoulder, a pair of spring arms carried at the upper end of said shifting bar device and angularly movable therewith for engagement of one said spring arm with one said retaining configuration in the upper dead point position of the associated needle bar.

3,266,450
DEVICE FOR USE ON ZIG-ZAG SEWING MACHINES FOR MAKING CARPETS
Emerich Schenkengel, Kaiserslautern, Pfalz, Germany, assignor to G. M. Pfaff A.G., Kaiserslautern, Pfalz, Germany
Filed May 15, 1964, Ser. No. 367,761
Claims priority, application Germany, May 17, 1963, P 31,830
2 Claims. (Cl. 112—235)



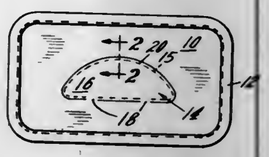
1. Device for use in a zig-zag sewing machine having a needle for producing carpets and comprising a presser foot disposed proximate and operatively associated with said needle and means for displacing the zero position of the stitching area of the needle, said presser foot having a shank provided with an L-shaped presser foot sole having a free leg and extending outside of the stitching area of said needle and defining a stitching area between said presser foot shank and said free leg of said sole, said free leg having a pair of sew-over tongues extending into the area proximate said shank and adjacent the stitching area and having a loop rejector at the freely extending end thereof, in a manner that one each sew-over tongue is disposed intermediate two zero or reference lines of the stitching area, said sole having a bottom surface and said tongues presenting backs for carrying thread loops extending to different heights above said bottom surface.

3,266,451
CONTAINER BODY FLANGING APPARATUS AND METHOD
Guido Kraus, Chesterfield County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed June 26, 1963, Ser. No. 290,775
10 Claims. (Cl. 113—120)



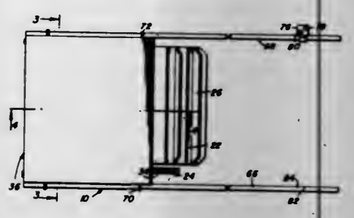
6. A method for flanging an open end of a container body or the like comprising the steps of providing a rotatable and axially movable head having at least one roller rotatably mounted thereto about an axis of rotation disposed spaced from and parallel to the axis of rotation of said head, said roller having a flanging surface, providing a container body centering member that is rotatably mounted to said head, disposing the other end of said container body against a support member disposed spaced from said head, rotating said head, and axially moving said rotating head toward said container body to cause said centering member to be received in said open end of said container body to align said container body relative to said roller and to cause said roller to flange said open end of said container body.

3,266,452
SIFT-PROOF DREDGE CLOSURE AND METHOD OF PRODUCING SAME
William Edward Taylor, Fairfield, Conn., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 7, 1962, Ser. No. 242,982
9 Claims. (Cl. 113—121)



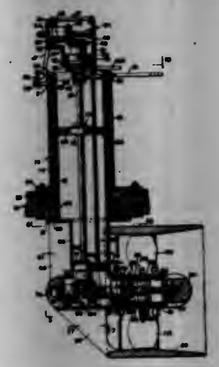
1. The method of producing a sift-proof closure for a dispensing opening in a container member, the steps of severing a closure member from a member of the container to form the dispensing opening therein defined by a line of severance and simultaneously forming a burr on the cut edge of one of said members, placing said closure member in said dispensing opening, and pressing said burr over said line of severance and against a surface of the other of said members adjacent said dispensing opening to seal said line of severance.

3,266,453
MOTORIZED PACK CARRIER
Antonio Fonda, 925 8th Ave., Tracy, Quebec, Canada
Filed Jan. 28, 1965, Ser. No. 428,740
8 Claims. (Cl. 115—1)



1. A motorized pack carrier comprising a main frame defining a pair of opposite side and spaced apart support points, a wide and generally cylindrical buoyant drive wheen journaled from said support points for rotation about an axis extending between said points, motor means supported from said frame and drivingly connected to said drive wheel, said main frame being elongated and generally horizontally disposed, said support points being disposed on one end portion of said frame and the center of gravity of said motor means being disposed on the side of a vertical plane extending transversely through said frame equidistant from the opposite ends of said frame remote from said axis of rotation of said drive wheel, and elongated and generally horizontally disposed handle means, said handle means and said main frame including means reversibly securing one end portion of said handle means to said frame with the other end portion of said handle means projecting from opposite ends of said frame in its alternate positions of attachment to said frame, said other end portion of said handle means including control means operative to control the operation of said motor means, said buoyant wheel displacing a quantity of water over that quantity of water which has the same weight as said carrier.

3,266,454
INBOARD PROPULSION AND STEERING MEANS
Richard J. Sterling, R.F.D. 1, Box 112, N. Dixie Highway, Eau Gallie, Fla., and Clyde V. Smith, 1720 Davis Drive, Merritt Island, Fla.
Filed Oct. 22, 1964, Ser. No. 405,716
7 Claims. (Cl. 115—35)



7. In combination with an inboard power means for mounting in the bottom of a boat forward of the boat transom, a manually turnable unit comprising a driven shaft, a propeller shaft with a propeller, a hull sleeve for journaling said unit therein, a support sleeve for holding the said hull sleeve therein, flange means on adjacent ends of the said respective sleeves arranged on the upper and lower sides of said boat bottom, said flange means serving to vertically support the said sleeves in the bottom of the boat with said turnable unit extending through said hull sleeve and boat bottom below the water line, variable pitch control means for said propeller to regulate varying load conditions during any manual turning of the unit to vary direction of thrust, and a propeller cover in the form of a venturi ring carried by said unit and enshrouding said propeller.

3,266,455
NOISE MAKERS
Irwin Cohn, 746 West St., Leominster, Mass.
Filed Apr. 15, 1965, Ser. No. 448,292
10 Claims. (Cl. 116—56)



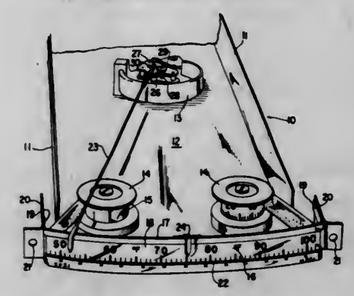
1. In a noise maker for use with a vehicle comprising a frame and a ground traction wheel rotatably mounted thereon, the combination comprising power pickup means, means to releasably clamp said power pickup means on said vehicle adjacent the periphery of said wheel, said power pickup means having a rotary portion adapted to drivingly engage said periphery of said wheel, means urging said portion into driving engagement with the periphery of said wheel, a casing, means to removably mount said casing on a portion of said frame spaced from said wheel, noise making means, means to mount said noise making means within said casing, flexible power transmission means connected to said rotary portion of said power pickup means, means controlled by said power transmission mean to actuate said noise making means, and means to render said noise making means inoperative to make noise while said power pickup means picks up power.

3,266,456
BOOK MARKER
Campbell O'Reilly, 30 W. 11th St., New York, N.Y.
Filed Mar. 31, 1965, Ser. No. 444,218
1 Claim. (Cl. 116—119)



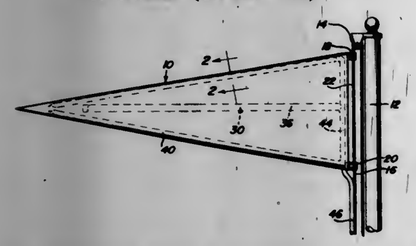
A line marker for the pages of a book having at least two columns and including a sheet of clear transparent plastic material of a width and height not larger than the pages of the book and having a centrally disposed vertical slot extending over a substantial portion of its height, and a pointer element in the nature of a clock hand with a point at one end and having a hole at its opposite end, a headed pivot element passing through said hole and through said slot and provided with a washer at the lower end of the pivot element underlying the transparent sheet to mount the pointer element in sliding and rotative relation within the slot in the sheet to permit the pointer to be moved to various positions so that the point can be located in any area of the sheet.

3,266,457
INDICATING INSTRUMENT
Jack Morgan, Willow Grove, Pa., assignor to Ametek, Inc., a corporation of Delaware
Filed Jan. 25, 1961, Ser. No. 84,936
1 Claim. (Cl. 116—129)



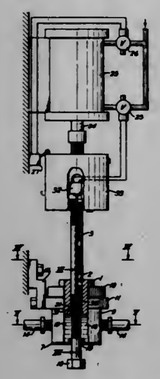
An indicating instrument having a viewing section and a condition responsive means, comprising a flat support member with a bourdon tube condition responsive means disposed adjacent one end thereof, an indicating pointer operatively connected to said tube responsive means and extending across said support member toward its opposite end, an arcuate viewing section angularly disposed relative to said support member, said section having a recessed channel therein for receiving a graduated tape therein, said viewing section having slots adjacent its opposite ends for passing the ends of said tape therethrough, two spaced adjustable rotatable spools disposed on said support member adjacent said opposite end forming a triangular configuration with said tube responsive means, a graduated indicia tape carried by said spools and having its opposite ends threaded through said slots with its central portion extending along said recessed channel, a reference pointer mounted on said viewing section to point to predetermined graduations on said tape said indicating pointer extending parallel to said support member in a direction toward said opposite end and having a bent portion disposed on front of and contiguous to the graduated face of said tape to indicate a condition with respect to said tape, and relative to said reference pointer.

3,266,458
FLAG AND BANNER SUPPORT WITH COMPRESSED AIR OUTLET MEANS
Alfred A. Ahlquist, Box 85, Miles City, Mont.
Filed Nov. 26, 1965, Ser. No. 509,720
10 Claims. (Cl. 116—173)



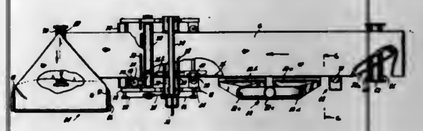
1. In combination with a horizontally elongated flag-like banner of flexible material including one side edge portion adapted to be secured to a support such as a flagpole or staff and a free remote edge portion, elongated tube means secured to and extending along said banner from said one side edge portion toward said free remote edge portion, a first end of said tube means adjacent said one side edge portion being adapted to be communicated with a source of air under pressure, the other end portion of said tube means including normally closed pressure and flow responsive outlet valve means, said tube means being semi-rigid but flexible and sufficiently rigid to maintain said banner in a generally horizontal position when supported from said one side edge portion only when the pressure of the air in said tube means is at a predetermined minimum, said valve means being operable to open and vent said tube means to the ambient atmosphere in response to an increase of air pressure within said tube means above said predetermined minimum and to maintain said tube means vented to the ambient atmosphere until the air pressure within said tube means drops to a pressure below said predetermined minimum.

3,266,459
CHEMICAL COMPOUND APPLICATOR FOR THREADED FASTENERS
Jay D. Anthony, Hobart, Ind., assignor to Screw & Bolt Corporation of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 20, 1963, Ser. No. 289,256
8 Claims. (Cl. 118—1)



1. An applicator for applying a pair of circumferentially spaced bands of chemical compounds lengthwise along the shank of a fastener, said applicator comprising a housing provided with a straight passage therethrough having a rear end and a front end, a piston slidably mounted in the passage and projecting from said rear end, means operatively connected with the rear end of the piston for normally positioning its front end in the front end of the passage to close it, the housing being provided at opposite sides of said passage adjacent the front end of the passage with chambers extending along the passage and opening into it, the inner sides of said chambers being spaced apart and normally being closed by the piston, the housing having an inlet port for each chamber, and means for delivering a different chemical compound to each port under pressure to maintain said chambers full of the compounds, the piston being movable rearwardly when its front end is engaged by an axially aligned fastener shank having a diameter no greater than the diameter of the piston, whereby the fastener can enter said passage to receive coatings of said compounds in two spaced bands extending lengthwise of the fastener.

3,266,460
MACHINE FOR PROCESSING TUBULAR GOODS
David I. Brook, 92 Robby Lane, New Hyde Park, N.Y.
Filed Mar. 25, 1963, Ser. No. 267,480
9 Claims. (Cl. 118—38)

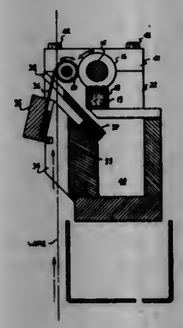


1. A machine for processing tubular goods comprising a pair of substantially horizontal calendering rollers disposed one above the other and rotatable about spaced axes, said calendering rollers defining a goods-receiving nip therebetween, drive means operatively connected to said calendering rollers for rotating the same, an elongated and substantially flat mandrel extending along a longitudinal feed path and directed toward and terminating at said nip of said calendering rollers and having opposite sides adapted to engage said tubular goods and distend the same, a coating applicator disposed along one side of said feed path and the corresponding one side of said mandrel at an applicating zone in advance of said calendering rollers for applying a band of coating material along the adjacent side of said tubular goods, means providing an elongated drying zone along said one side of said feed path and said mandrel intermediate said applicating zone and said calendering rollers and including at least one elongated air outlet nozzle directed toward said one side of said mandrel, and a slitter disposed to said one side of said feed path following said calendering rollers and arranged to engage the adjacent side of said tubular goods substantially medially of said band such that said goods may be slit and spread to full width.

3,266,461
WIRE COATING APPARATUS
Donald D. Argue, Shelbyville, Ind., assignor to General Electric Company, a corporation of New York
Filed May 14, 1963, Ser. No. 280,278
7 Claims. (Cl. 118—234)

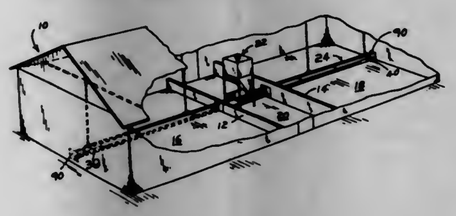
1. Apparatus for applying liquid coating to wire comprising:
(a) a rotatable die roller having a circumferential groove therein through which the wire is tangentially passed in a vertical direction,
(b) a die finger contacting said die roller on one side thereof and overlapping said circumferential groove to form therewith a die aperture through which the wire is passed in a vertical direction,
(c) a rotatable transfer bar mounted adjacent said die roller,

(d) said rotatable transfer bar including liquid transfer means extending radially from the body of said bar and positioned in substantial alignment with the circumferential groove in said die roller,
(e) a liquid supply source positioned such that said liquid transfer means extends into said liquid for pickup thereof upon rotation of said transfer bar,
(f) whereby upon rotation of said die roller and said



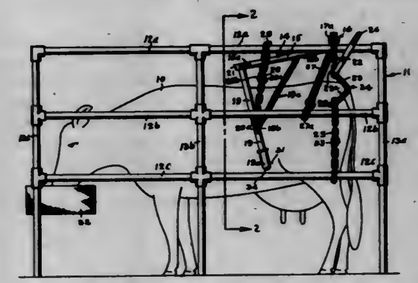
transfer bar said coating liquid is picked up by said liquid transfer means and applied to said die roller on a selective basis in the vicinity of said circumferential groove, and
(g) a comb plate for draining off excess coating liquid positioned beneath said die roller and having comb portions thereon extending beyond said wire on either side of said die fingers and a body portion extending beneath said die roller.

3,266,462
AUTOMATIC FEEDER SYSTEM
Joseph W. Fulton, Jr., 1824 Southern Ave., Shreveport, La., and Freeda R. Greenan, Hope, Ark.; said Greenan assignor to said Fulton
Filed Feb. 13, 1964, Ser. No. 344,617
10 Claims. (Cl. 119—51.11)



1. A feeding system, comprising,
a pair of spaced apart feeding stations,
a hopper disposed between said feeding stations, said hopper having an outlet opening,
an elongated feeding trough,
an electric motor operatively coupled to said feeding trough to move said trough between said feeding stations, and said trough adapted to receive feed from said hopper outlet opening as said trough moves between said feeding stations,
a switch assembly adapted to pivot to opposite sides of a vertical plane, said assembly having a pair of mercury switches, said switches being disposed in said assembly at an angle to each other, and one of said switches being closed when said assembly is pivoted to one side of said vertical plane and opened when pivoted to the opposite side, the other of said switches adapted to be opened when said assembly is pivoted to said one side of said vertical plane and closed when pivoted to the other side,
a pair of trigger members operatively pivoting said switch assembly, one of said trigger members being adapted to be actuated by said trough when said trough has moved to one of said feeding stations and the other trigger member adapted to be actuated when said trough is moved to said other feeding station, and
means associated with said switches, motor and its coupling to said trough for alternately reversing the direction of movement of said trough to cause said trough to move from one of said feed stations to the other of said feed stations, and said trough adapted to receive feed from said hopper outlet opening as it moves between said feeding stations.

3,266,463
COW ANTI-KICKING APPLIANCE
Don Rex Hart, R.R. 1, and Willard L. Padgett, R.R. 2, both of Worthington, Ind.
Filed Mar. 29, 1965, Ser. No. 443,310
7 Claims. (Cl. 119—96)



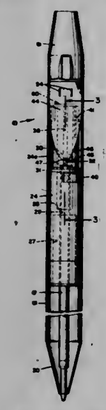
4. In a cow anti-kicking device to be carried by a fixed member at the side of the cow, comprising
a T-bar comprising a rest bar and a major bar fixed by an end portion to the rest bar intermediate the ends thereof;
a swing bar;
hinge means between end portions of the major and swing bars limiting free swinging therebetween to be in a plane approximately normal to said rest bar, the swing bar normally dropping vertically from said major bar by gravity influence by a free end portion;
said rest bar riding freely by one length extending from said major bar over an upper zone of said fixed member above said cow;
spring means fixed between an intermediate zone of the swing bar and an intermediate portion of said major bar;
said spring means yieldingly resisting rocking of said swing bar from under the major bar beyond an initially fixed angle;
a second spring means interconnected with an outer end of said rest bar and a lower zone of said fixed member;
a length of a flexible, linearly non-yieldingly member secured by one end portion to said swing bar at a zone intermediate its ends and extending by a sufficient length therefrom to engage said fixed member by selected lengths and thereby variably fix the maximum angle to which said swing member may rock to increase said angle in reference to said major bar; and
means rotating said major bar by rocking said rest bar over said fixed member and thereby rocking the free end of the swing bar toward and against the flank of the cow.

3,266,464
GROOMING TETHER DEVICE
Ronald M. Davis, Covina, Calif.
(3907 Shady Hill Drive, Dallas, Tex.)
Filed June 1, 1964, Ser. No. 371,456
5 Claims. (Cl. 119—103)



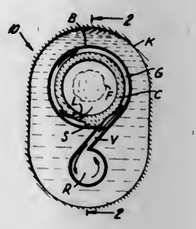
1. A grooming tether device for an animal, comprising grooming arm means having an upright portion and a laterally extending arm portion, said laterally extending arm portion having two openings therein, tether means comprising a flexible cord having respective strands thereof extending through said respective openings to define a loop below said laterally extending arm portion, first holding means on said tether strands above said laterally extending grooming arm portion and positionally adjustable along the strands, said first holding means being adapted to engage the strands to maintain its position thereon and to cooperate with the laterally extending arm portion to secure the tether strands against movement relative to said arm portion, thereby establishing the vertical position of the tether means to accommodate the height of the animal, and second holding means positionable along said tether strands below the laterally extending arm portion and adjustable in position thereon, said second holding means being adapted to engage the strands to maintain its position thereon and to secure the strands together to define a loop size to accommodate the animal to be groomed.

3,266,465
WRITING INSTRUMENT
Walter C. Ganz, Jackson Heights, N.Y., assignor to Chromatic Corporation, Brooklyn, N.Y., a corporation of New York
Continuation of abandoned application Ser. No. 314,109, Oct. 7, 1963. This application Sept. 11, 1964, Ser. No. 395,786
12 Claims. (Cl. 120—42.13)



1. A multiple unit writing instrument comprising an elongated generally tubular body having an opening at one end, a pair of writing units having writing means at one end disposed within said tubular body with said writing means facing said body opening, said writing units adapted for reciprocal longitudinal motion with said body, a cam surface rotatably disposed within said body and having a lowermost surface facing said body opening, follower means coupled to each of said writing units, each of said follower means abutting said cam surface on an opposite side of and about a 90° arc from said lowermost cam surface, means for rotating said cam surface, and stop means cooperating with said rotating means for limiting rotation of said lowermost cam surface about 90° toward each of said follower means for urging said corresponding follower means and its corresponding writting unit downwardly towards said body opening and into operative writing position.

3,266,466
VAPOR GENERATOR AND FURNACE WALL THEREFOR
Eugen Fehr, Rosenbergstr. 44, Wallisellen, Zurich, Switzerland
Filed May 8, 1964, Ser. No. 366,111
Claims priority, application Switzerland, May 15, 1963, 6,091/63
7 Claims. (Cl. 122—136)

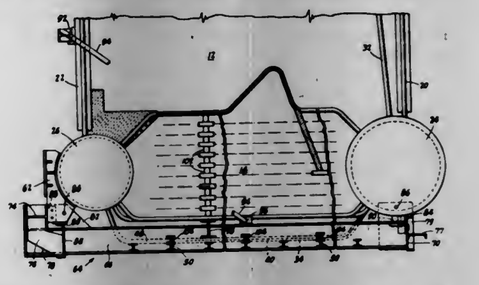


1. A vapor generator comprising a container for liquid to be vaporized, a tubular furnace portion within said container positioned in said container with the liquid to be vaporized disposed in said container around said tubular furnace, means for directing high temperature gases centrally into said furnace, at least one ring member in said furnace coextensive in length with said furnace and spaced closely to the interior thereof and defining a central burning space for the high temperature gases and a narrow annular high velocity flow path for said gases between said ring member and the interior circumference of said tubular furnace, inlet passage means tangentially connecting into said annular flow path from said central burning space for receiving the high temperature gases from said burning space and directing them tangentially against the interior of said tubular furnace and around said flow path, outlet passage means adjacent the opposite end of said annular flow path from said inlet passage means, said inlet and outlet passage means being located so that flow is in one direction around said annular flow path from said inlet to said outlet.

3,266,467
BOTTOM FIRED PACKAGE BOILER
Ralph D. Winship, St. Lambert, Quebec, Canada
Filed Nov. 25, 1964, Ser. No. 413,835
4 Claims. (Cl. 122—510)

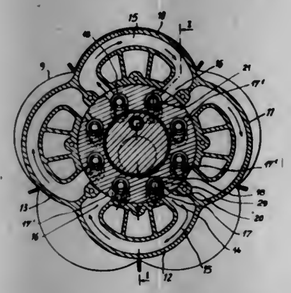
1. In combination with a normally vertically arranged tubulous package boiler assembly having opposed front, rear and side walls and a roof defining an enclosed furnace chamber, a boiler bank opening into said furnace chamber including substantially parallelly disposed upper and lower drums located at the rear of said boiler assembly and disposed laterally of said side walls, a bank

of parallelly disposed tubes arranged in aligned rows connecting said drums, the rearwardmost row thereof defining the rear wall of the boiler assembly and refractory baffle means extending the width of said boiler bank and intersecting a plurality of said boiler bank tubes, the improvement which comprises means for mounting said package boiler assembly in a horizontal attitude upon transport means during shipment thereof including a cradle beam assembly adapted to rest on the bed of said transport means comprising rectangularly arranged support



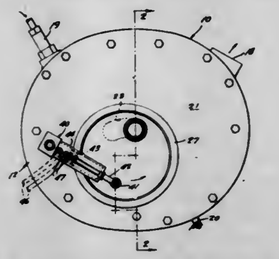
beams connected at their corners and of sufficient height that, when connected to said boiler assembly, will maintain the rear wall thereof above said bed; detachable means connecting said cradle beam assembly to said drums adjacent to the opposed ends thereof, the connection thereof being capable of transferring the vertical loading of said drums to said cradle beam assembly; vertically aligned spacer members extending substantially the width of said boiler bank interpositioned between adjacent rows of tubes and means for transferring the vertical loading of said spacer members to said cradle beam assembly.

3,266,468
WATER COOLING OF ROTORS OF ROTARY ENGINES
Lucien Peras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Mar. 11, 1964, Ser. No. 351,087
Claims priority, application France, Mar. 18, 1963, 928,364, Patent 1,359,797
4 Claims. (Cl. 123—8)



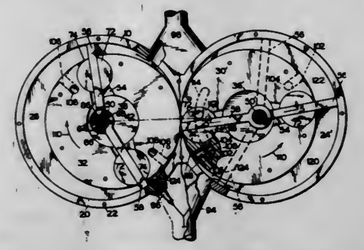
1. A water cooling system for a rotary engine of the cycloidal type, said system comprising a stator, a crankshaft journaled on the axis of said stator and carrying an eccentric, a rotor journaled on said eccentric and having a plurality of lobes, a cooling chamber in each lobe, an intermediate member carried by said stator coaxially to said crankshaft, a water inlet to and outlet from said stator, said inlet and outlet communicating with said intermediate member, a plurality of cranked pipes each having one end sealingly journaled in said intermediate member and communicating with said inlet and outlet, the other end of said cranked pipes journaled in said rotor and communicating with said cooling chambers, the throw of said cranked pipes corresponding to the distance between the axis of said eccentric and the axis of said crankshaft.

3,266,469
ROTARY INTERNAL COMBUSTION ENGINE WITH OFF-CENTER DRIVE SHAFT
Jesse H. Sink, 2817 Hollins Road SE., Roanoke, Va.
Filed Dec. 18, 1964, Ser. No. 419,535
4 Claims. (Cl. 123—8)



1. A rotary internal combustion engine comprising a housing provided with a rotor-receiving cavity, there being an inlet port and an outlet port in said housing arranged in spaced relation about and in communication with said cavity, igniting means carried by said housing and in communication with said cavity and located between said inlet and outlet ports, a rotor shaped to a size to be received within said cavity and having a plurality of vanes projecting in spaced relation from the perimeter thereof disposed within said cavity with its vanes in contacting engagement with the wall of said cavity, a disc rotatably mounted in said housing adjacent said rotor, a drive shaft extending through and eccentrically and rotatably-mounted in said disc and having one end adjacent said rotor and having the other end exteriorly of said housing, means connecting said rotor to said one end of said shaft for rotation of said shaft in said disc, and actuating means operatively connected to said housing and disc for shifting said drive shaft to a selected position about axis of said cavity.

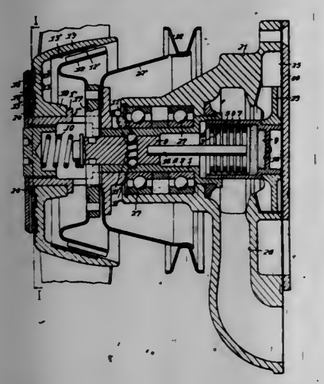
3,266,470
ROTARY INTERNAL COMBUSTION ENGINE
Ronald R. Burke and Chester J. Sprague, Portland, and Stan Gibson, Milwaukie, Oreg., assignors of one-fourth to Norman L. Easley, Portland, Oreg.
Filed Sept. 13, 1963, Ser. No. 308,798
4 Claims. (Cl. 123—16)



1. A dual unit rotary internal combustion engine comprising a housing having parallel end walls and an enclosing peripheral side wall, a partition in said housing disposed in parallel relation to said end walls, one of said end walls together with said partition and said peripheral side wall defining a first pair of circular compartments

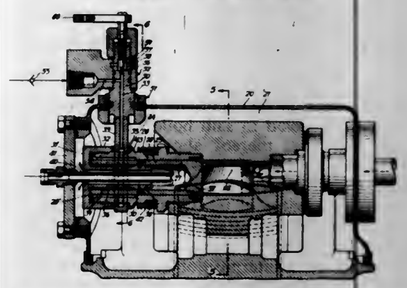
in side by side relation, the other of said end walls together with said partition and said peripheral wall defining a second pair of circular compartments in axial alignment with respective ones of said first compartments, a shaft projecting axially through each axially aligned pair of compartments, an iduction rotor mounted eccentrically in each of said first compartments, vane means mounted on said shafts and projecting through said induction rotors for edge engagement with the defining walls of their respective compartments to form fuel intake and compression chambers, a power rotor mounted eccentrically in each of said second compartments in axial alignment with the induction rotors in said first compartments, respectively, vane means in said power rotors having edge engagement with the defining walls in said second compartments to form firing and exhaust chambers, means connecting the respective axially aligned pairs of induction and power rotors together for unitary rotation, and fuel transfer means extending between said first and second compartments and operative with the rotors to transfer compressed fuel from each of said first compartments to the corresponding second compartment, the induction rotors being in edge rolling sealing engagement with each other through their entire periphery and the power rotors also being in edge rolling sealing engagement with each other through their entire periphery, said edge rolling rotors separating the housing into a dual operating unit with one pair of axially aligned induction and power rotors operating independently of the other pair of axially aligned induction and power rotors in fuel intake, compression, firing and exhaust functions.

3,266,471
AUTOMATIC CONTROL APPARATUS FOR DRIVING COOLING FAN OF AUTOMOBILE ENGINE
Kozo Masuura, 58 Yawata Shimizu-mura, Sunto-gun, Shizuoka Prefecture, Japan
Filed Sept. 25, 1963, Ser. No. 311,498
1 Claim. (Cl. 123—41.12)



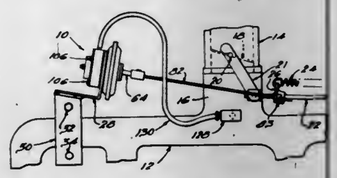
An automatic control apparatus for driving the cooling fan of an automobile engine comprising, a rotor shaft, a water pump along the axis of said shaft, a working shaft cavity and a thermosensitive cavity formed along said shaft, a reciprocating member connected to said shaft at one end separating said cavities and serving as the working wall of said thermosensitive cavity, said thermosensitive cavity having a circumferential wall in contact with water circulated by said pump, said thermosensitive cavity acting as a confined chamber acting on said working wall; thermosensitive material hermetically placed in said confined chamber changing the internal pressure in said chamber according to temperature variations, longitudinally displacing said working wall and reciprocating member, spring means acting on said reciprocating member biased to maintain said working wall against said pressure, a clutch arm mounted on said shaft and a clutch with an outer engaging section mounted on the outer end of said clutch arm; a truncated shaped open cone boss including an inner engaging section disposed coaxially with said clutch, said clutch being inclined to enter and engage said cone, non-slip resilient means on said engaging sections, and, restraining means for restraining the starting pressure of said working wall, the working temperature being set by the restraining action of said restraining means and the contact action between said open cone inner engaging section and said clutch outer engaging section.

3,266,472
VARIABLE COMPRESSION RATIO INTERNAL COMBUSTION ENGINE
Wilton G. Lundquist, 32 Hollis Drive, Hohokus, N.J.
Filed June 30, 1964, Ser. No. 379,298
5 Claims. (Cl. 123—48)



1. In an engine the combination of a U-type cylinder block having a pair of cylinder bores and a common combustion chamber including a cross-over passage interconnecting the pair of cylinder bores, one of said cylinder bores in said U-type cylinder being provided with an inlet port and the other of said cylinder bores with an exhaust port, and means for controlling said ports; means for varying the effective volume of the common combustion chamber comprising a plunger slidably mounted in said cylinder block for movement into said cross-over passage, stop means limiting the maximum movement of said plunger into said cross-over passage so that said passage is never closed, and fluid pressure means for moving said plunger into said cross-over passage.

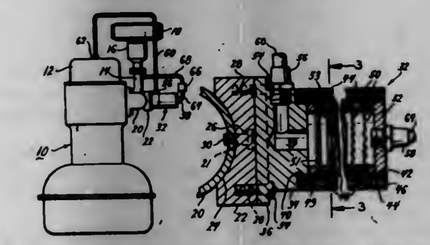
3,266,473
THROTTLE CLOSED POSITION LIMITER
Keith H. Rhodes, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Mar. 17, 1964, Ser. No. 352,594
8 Claims. (Cl. 123—103)



1. A device for controlling the emissions in the exhaust gases of an internal combustion engine under certain operating conditions, said device being attachable as a unit to the engine and comprising housing means defining first and second fluid chambers connected by a fluid passage, the first of said chambers defining at least in part

a fluid motor, an actuating member supported for movement with said first fluid chamber, said actuating member being adapted to be connected to a throttle valve of the internal combustion engine, said actuating member being movable between first and second positions in response to pressure changes within said first fluid chamber for moving the throttle valve between a normal idle position and a partially opened position, valve means interposed in said fluid passage for controlling the communication of pressure between said first and second fluid chambers, pressure responsive means in said second fluid chamber for moving said valve means between a normally closed position and an opened position when the pressure in said second fluid chamber falls below a predetermined value, said actuating member being movable between its first and second positions when said valve means is opened, and conduit means for interconnecting said second fluid chamber with the induction system of the engine posterior to the throttle valve.

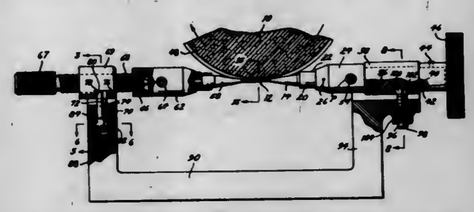
3,266,474
VAPOR-REMOVING DEVICES
Morris N. Crandall, 8177 Stratford, Clayton, Mo.
Filed June 8, 1964, Ser. No. 373,415
14 Claims. (Cl. 123—119)



7. A vapor-removing device for use with an internal combustion engine and that comprises:
(a) a housing with an inlet opening and an outlet opening,
(b) said vapor-removing device permitting air and vapors to enter said inlet opening and to move toward said outlet opening,
(c) said vapor-removing device being adapted to respond to heat from said engine to become heated and to act upon hydrocarbon vapors entering said inlet opening and moving toward said outlet opening to cause said hydrocarbon vapors to experience destructive distillation, and thereby convert said hydrocarbon vapors to a coke-like residue and to volatile fractions,
(d) said housing being adapted to hold said coke-like residue,
(e) said volatile fractions being adapted to pass outwardly through said outlet opening,
(f) a catalyst in said housing that fosters the destructive distillation of said hydrocarbon vapors.

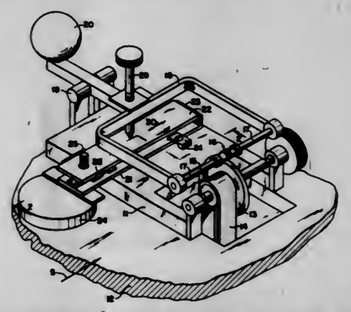
3,266,475
DRESSING TOOL FOR FEMALE GRINDING WHEEL
Richard M. Dietz, 200 Springfield Ave., Springfield, Pa.
Filed July 10, 1963, Ser. No. 294,034
6 Claims. (Cl. 125—11)

1. A dressing tool for a female grinding wheel, said tool including
a shank,
a fixed cutting element of a predetermined size carried by one end of said shank and extending perpendicular to said shank for engagement with the periphery of said wheel,
a spindle coaxial with said shank,
means securing the other end of said shank to one end of said spindle,
a sleeve coaxial with said shank and enclosing the other end of said spindle, cushioning means intermediate spaced portions of said sleeve and the corresponding portions of said spindle,
means pivotally connecting said other end of said spindle to said sleeve for movement about an axis perpendicular to the extent of said cutting element and



the axis of said spindle whereby said spindle is movable from said coaxial position to a second position in which the axis of said spindle is at an angle relative to the axis of said sleeve,
adjusting means for controllably moving said spindle into, and maintaining it in either of said positions and means for rotating said sleeve to rotate said spindle and said cutting element relative to the periphery of said wheel.

3,266,476
MACHINE FOR CUTTING PRECIOUS STONES
Jack Swaab, 493 Whitewood Road, Englewood, N.J.
Filed Feb. 17, 1964, Ser. No. 345,385
2 Claims. (Cl. 125—30)



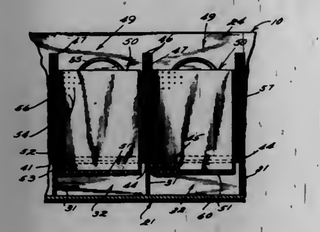
1. In a cutting machine for precious stones such as diamonds the improvement comprising in combination a stationary frame; a cutting disk mounted in the frame rotatably about a horizontal first axis; a support arm mounted in the frame swingably about a horizontal second axis; a stone holder held in the support arm in operational relation to the cutting disk; a strap hinge member including an upper flap articulated to a lower flap; said strap hinge member resting with its lower flap upon the frame shiftably in a direction substantially perpendicular to the articulation axis and perpendicular to said arm; securing means to fix said lower flap to the frame in any of its shifted positions; an adjusting spindle screwed into said support arm and resting with its operational end upon said upper flap to set said supporting arm with the stone holder into starting operational relation to the cutting disk; and actuating means for the turnable upper flap causing the same to gradually approach the lower flap during the cutting operation, thereby causing the stone holder to uniformly approach the cutting disk during the progressing cutting operation.

3,266,477
SELF-CLEANING COOKING APPARATUS
Alvin B. Stiles, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Apr. 15, 1964, Ser. No. 359,984
4 Claims. (Cl. 126—19)



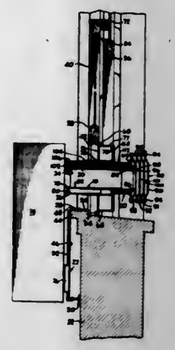
1. A cooking device having means for heating a cooking area, means for supporting food to be cooked, and walls at least partially enclosing said cooking area, the surfaces of said heating means, said supporting means, and said walls which are exposed to products resulting from heating food, being coated with a ceramic in which there is partially embedded a catalyst selected from the group consisting of ruthenium, palladium, platinum, or oxides, cerates, manganates, manganites, chromates, chromites, or vanadates of cobalt, nickel, cerium, ruthenium, palladium and platinum.

3,266,478
BARBECUE APPARATUS
James H. Booth, 2906 E. Jefferson St., Detroit, Mich.
Filed Jan. 10, 1964, Ser. No. 336, 925
7 Claims. (Cl. 126—25)



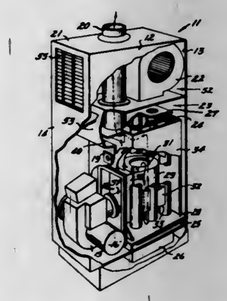
4. A barbecue apparatus which comprises a body member having a bottom wall and upstanding side walls forming a compartment within said body member which is closed at the bottom and open at the top to provide a grille cooking area, an imperforate peripheral ledge projecting inwardly from said side walls above said bottom wall for partitioning said compartment into an upper heating chamber and a lower plenum chamber, a firebox within said compartment having a perforate grate bottom and perforate upstanding side walls situated in spaced relation to the corresponding upstanding side walls of said body member to provide flues around the side walls of said firebox which are open at the top of the firebox, a peripheral flange formed around said side walls of said firebox above said bottom thereof and projecting outwardly for supporting said firebox on said peripheral ledge, and a vent opening in said body member communicating outside air with said plenum chamber whereby the air entering said plenum chamber must pass through the grate bottom of the firebox and above said ledge before it can pass through the perforate side walls of said firebox into the flues around said firebox.

3,266,479
SPACE HEATER SUPPORT
Donald W. Hartzell, Centralia, Ill., assignor to Lear Siegler Inc., Centralia, Ill., a corporation of Delaware
Filed Apr. 23, 1964, Ser. No. 361,976
9 Claims. (Cl. 126—85)



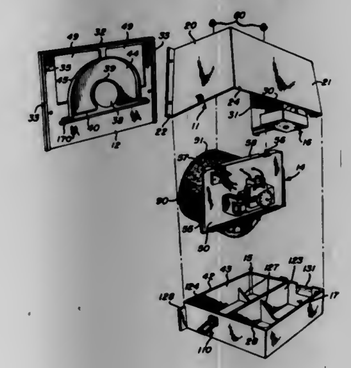
1. Installation apparatus for supporting, at a window in an exterior wall of an area to be heated, a space heater having an outlet and an inlet for venting the heater and providing air to the heater through the opening provided by the window being open, said apparatus comprising:
(a) insulator means adapted to be secured to the wall adjacent to the window opening so as to substantially close the opening,
(b) support means adapted to be secured to the wall adjacent to the window and adapted to support the space heater with the outlet and inlet of the heater adjacent to said insulator means, and
(c) inlet conduit means and outlet conduit means secured to and extending through said insulator means and adapted to connect, respectively, to the inlet and outlet of the heater to provide two-way communication between the heater and the opposite side of said insulator means.

3,266,480
WARM AIR FURNACE
Lorin G. Miller and James H. Miller, both of 220 S. River, Eaton Rapids, Mich.
Filed Sept. 23, 1965, Ser. No. 489,480
3 Claims. (Cl. 126—109)



1. A flame chamber for positive pressure warm air furnaces comprising:
(a) a cylindrical inorganic fibrous tube defining a restricted uppermost opening through which combustion gases pass, and closed at the lowermost end and having a transverse opening through the walls thereof and forming a positive pressure choke for generated combustion gases; and
(b) a plurality of spaced apart vertical heat exchanger tubes in concentric contact arrangement in support of said fibrous tube, said fibrous tube shielding said exchanger tubes from direct flame contact while permitting luminescent heat permeation.

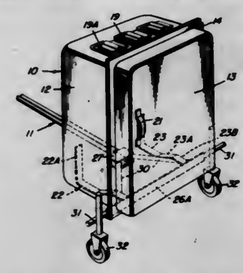
3,266,481
HUMIDIFIER
William H. Wentling, Dayton, and Warner W. Martin, Olmstead Falls, Ohio, assignors to The Lau Blower Company, Dayton, Ohio, a corporation of Ohio
Filed Aug. 18, 1965, Ser. No. 480,569
11 Claims. (Cl. 126—113)



1. A humidifier of the character described adapted to be mounted over an opening in a vertical wall of a furnace or duct comprising, a mounting plate secured to the wall around the opening, a housing secured to said mounting plate and having top and side walls with an open bottom, a vertical partition releasably secured to said housing and being disposed in spaced relation with and generally parallel to said mounting plate, a highly porous evaporator drum mounted on said vertical partition and having an open end adjacent said mounting plate, means defining a central opening in said mounting plate for flow of air into the interior of said evaporator drum, means defining an outlet in said mounting plate disposed radially outwardly of said drum and communicating with the space between said drum and said main housing, removable reservoir pan means secured to said bottom of said main housing for wetting said drum, and air moving means for moving air through said inlet opening and said drum and then through said outlet to increase the moisture content of the air by evaporating water from the surfaces of said highly porous drum.

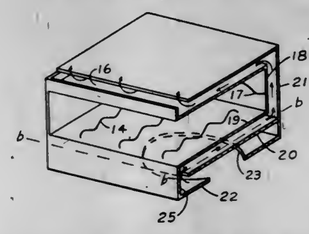
3,266,482
ROOM SERVICE HEATER
Angelo C. Scavullo, Jamaica, N.Y., assignor to Legion Utensils Co., Inc., a corporation of New York
Filed Mar. 17, 1964, Ser. No. 352,480
7 Claims. (Cl. 126—275)

1. For hotel room service and the like, and in combination, a transporting cart with included underframe, formed essentially of elongated elements; and a related room service heater, said heater having at least one ski-slide extending along the bottom of said heater from front to back and being intermediately and downwardly bowed along a portion of its length and being fast at one end thereof to the bottom of said heater and serving through such bow and upon slight tilting of said heater relative to said table, to ride upwardly and over the



underframe of said cart and to then lock the heater removably fast to the underframe of said cart.

3,266,483
CAMP STOVE TOASTER
Adolf Keel, 164 California Ave., Highland Park, Mich.
Filed Aug. 11, 1964, Ser. No. 388,774
4 Claims. (Cl. 126—275)

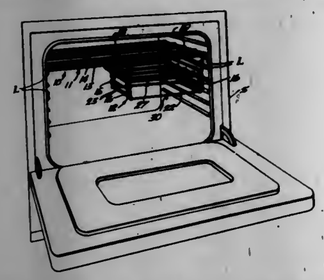


1. A device for the toasting of sliced bread over the flame of a gasoline stove or the likes having a sheet metal box type body in the general form of a rectangular prism, a horizontal toasting chamber extending some distance into said body, said toasting chamber being closed on all sides except the open front side used for inserting and removing the bread slices and being enough smaller than the said body in all dimensions except the width to permit circulation of combustion gases around the outside of said toasting chamber, means disposed inside of said toasting chamber for supporting the bread so as to keep it a short distance above the floor surface of said toasting chamber, said means coming in contact with both the bread and the floor of said toasting chamber, the bottom wall of said body having an opening for the admission of hot gases into the body, and an opening provided in the said body above the said toasting chamber and near the entrance to the toasting chamber for venting the gases which have entered the body thru the opening in the bottom wall.

3,266,484
BROILER APPARATUS AND FOOD SUPPORT MEANS
Chloe A. Carpenter, 1081 Spring Garden Road, Apt. 9, Miami, Fla., and Jack S. Liebmann, 420 Lincoln Road, Suite 206, Miami Beach, Fla.
Original application May 6, 1963, Ser. No. 277,988. Divided and this application Apr. 2, 1964, Ser. No. 357,865
4 Claims. (Cl. 126—337)

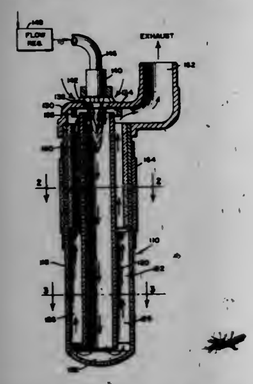
1. Apparatus for broiling a plurality of meat portions to different degrees of "doneness" in the same time interval comprising a cooking range having a broiling chamber and a broiler heat element in the upper portion of said chamber, a main rack in said chamber and having means for vertical adjustment thereof to various positions

under said broiler heat element, an auxiliary rack and an auxiliary rack support mechanism carried by said



main rack at one side thereof and including means for supporting said auxiliary rack, selectively, at a plurality of spaced parallel positions under said main rack.

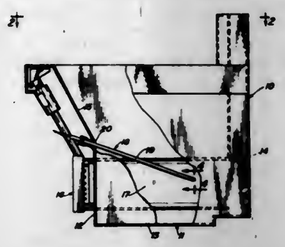
3,266,485
RECIRCULATING IMMERSION HEATER
William Zender Girton, Catonsville, Md., assignor to The C. M. Kemp Mfg. Co., Glen Burnie, Md., a corporation of Maryland
Filed Apr. 13, 1964, Ser. No. 359,384
10 Claims. (Cl. 126—360)



1. A combustion-type immersion heater for maintaining material in a molten state, which comprises a heater body having an inner and outer countercurrent flow path, insulating means positioned within the upper end of the outer portion of said flow path, burner means for supplying hot products of combustion into the entrance of the inner portion of said flow path, a space in the top of said heater body interconnecting the ends of said flow path for recirculating a portion of the products of combustion exiting from said flow path, and exhaust port means in the top of said heater for removing to the atmosphere the remaining portion of the products of combustion exiting from said flow path, said insulating means preventing heat radiation from the upper portion of said heater whereby dross line corrosion of said heater is reduced.

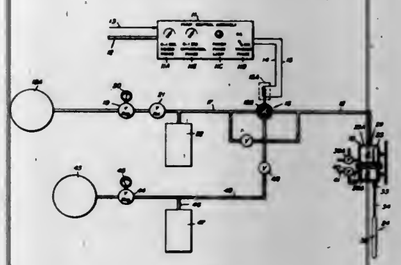
3,266,486
GAS BURNER THERMOSTAT UNIT
James L. Wilson, Chicago, Ill., assignor to Wilson Metal Products, Inc., Chicago, Ill., a corporation of Illinois
Filed May 18, 1964, Ser. No. 368,027
2 Claims. (Cl. 126—391)

1. A deep fat frying apparatus comprising a housing including a body having side walls, a bottom wall and a front wall, said front wall including a lower vertically extending portion and an upper portion extending upwardly and forwardly from the said lower portion; said front wall having an opening therein, said opening being at the juncture of the said lower portion and the said upwardly and forwardly extending portion; a cylindrical gas burner tube disposed below said opening and extending through said lower portion through the body of the housing; a straight thermostatic sensing device including a portion extending through the said opening in the said one wall of the said deep fat fryer housing and extending angularly downwardly therefrom and immersed in the deep fat cooking oil



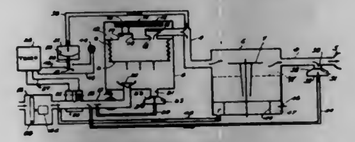
in the housing, a major portion of said thermostatic device also engaging the wall of the said gas burner tube; and a tubular supporting sleeve member for said thermostat, mounted on the front face of said front wall with one end thereof in abutting contact therewith about said opening, said abutting end being rigidly secured to both the lower vertical face and the upper forwardly inclined face of the front wall, said thermostat sensing device extending through said sleeve and coupling means mounted on the said tubular sleeve member for clamping said thermostat sensing device in position of use therein.

3,266,487
HEART PUMP AUGMENTATION SYSTEM AND APPARATUS
David H. Watkins, Denver, Colo., and Erwin J. Klink, Albuquerque, N. Mex., assignors, by mesne assignments, to Sundstrand Corporation, Rockford, Ill., a corporation of Illinois
Filed June 4, 1963, Ser. No. 285,413
11 Claims. (Cl. 128—1)



1. A myocardial augmentation system employing as an input a selected portion of one of the patient's physiological parameters, comprising: cannula means adapted to be inserted into the patient's circulatory system, a pump for delivering fluid to and withdrawing fluid from said cannula means in timed relation to the patient's natural heart action, said pump having a pumping chamber, means connecting said cannula means to said pumping chamber; an input circuit for receiving a signal representing the selected parameter of the patient, means for blocking out undesired high frequency signals imposed on the received signal, means for selecting either the upward or downward sweep of the received signal as a control signal, means for selecting the level of the received signal which will initiate a control signal, and means for deriving a control triggering pulse responsive to said selecting means; an intermediate circuit for receiving the control triggering pulse and forming a second control signal in response thereto including means for delaying the second control signal from the triggering pulse, means for blanking any control triggering pulses occurring within a predetermined time period, and means for varying the duration of the second control signal to vary the length of stroke of the pump; and an output circuit for receiving said second control signal and for actuating the pump in response thereto.

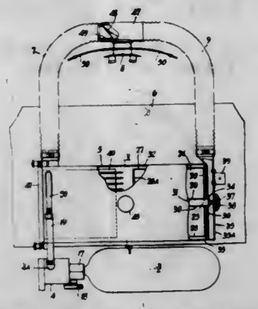
3,266,488
LUNG VENTILATING EQUIPMENT
Christian B. Andreasen, New Hope, Pa., assignor to Air-Shields, Inc., Hatboro, Pa., a corporation of Delaware
Filed June 10, 1963, Ser. No. 286,587
6 Claims. (Cl. 128—29)



1. Lung ventilating equipment comprising a patient's circuit including means adapted to be associated with a patient for supply of breathing gas and further including a bellows collapsible to develop pressure in the patient's circuit to effect inspiration by the patient, a chamber surrounding the bellows, power means for introducing pressure into said chamber to effect collapse of the bellows and inspiration by the patient, an expiration valve associated with the patient's circuit for discharge of expiratory gas, valve means for blocking or passing the pressure supplied by the power means into said chamber, an exhaust valve for relieving pressure in said chamber when the bellows expands, said expiration valve and said exhaust valve having pressure responsive devices associated therewith for holding those valves closed during the introduction of pressure thereto, pressure supply passages controlled by said valve means for the introduction of pressure to said pressure responsive devices when said valve means passes pressure into said chamber; portage for venting said pressure supply passages and means controlled by said valve means to open said portage when the valve means is operated to block delivery of pressure into said chamber and thereby provide for opening of both the expiration valve and the exhaust valve during expansion of the bellows and to close said portage when the valve means passes passage into the chamber.

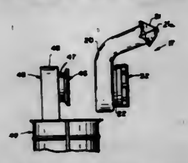
3,266,489
BREATHING APPARATUS
Kenneth Gabriel Williams, Surrey, England, assignor to Vickers Research Limited, London, England, a British company
Filed May 17, 1963, Ser. No. 281,290
1 Claim. (Cl. 128—142)

In a closed circuit breathing apparatus, including a garment having front and back portions for supporting elements of the apparatus and arranged to be worn by the user, a gas-tight inflatable and deflatable bag for containing gaseous medium to be breathed by the user, said bag being incorporated in said garment, means for conducting a breathing gas to the breathing bag, an attachment means for mounting on the face of the user, a first conduit including a one-way inlet valve for conducting gaseous medium from the bag to the face attachment means, a gas purification chamber carried on the garment, and a second one-way conduit for conducting exhaled gases from the face attachment means to the gas purification chamber and for conducting purified gases therefrom to the breather bag, the improvement in which the breather bag extends horizontally around the user's body when in use, and has oppositely mounted portions incorporated respectively in the front and back of the garment in positions respectively bearing only on the chest and back of the user of the apparatus, said garment including means for retaining and holding said portions of the breather



bag to the chest and back of the user, said breather bag being inflatable and deflatable respectively in timed relation to the contraction and expansion of the chest of the user while breathing, the breathing of the user of the apparatus being facilitated by the inflation and deflation of the bag in cooperation with said retaining and holding means whereby chest expansion and contraction together with the circulation of the gaseous breathing medium through the apparatus is facilitated.

3,266,490
POCKET RESPIRATOR
Guy G. Klinger, Shillington, and Charles J. Boyer, West Reading, Pa., assignors to The Electric Storage Battery Company, Philadelphia, Pa.
Filed Apr. 13, 1964, Ser. No. 359,353
1 Claim. (Cl. 128—147)



A pocket respirator comprising a mouthpiece including a substantially cylindrical body portion of a resilient rubber-like material having an air inlet opening at one end coaxially confronting an air outlet opening at the other end, said openings being of substantially smaller diameter than that of said cylindrical body portion, an air exhalation valve having an integral air-outlet, shoulder-forming annular flanges of larger diameter than said outlet opening separated by an integral collar portion of smaller diameter which has a length equal to the thickness of the body portion at said outlet opening and which detachably fits into said outlet opening to hold the flanges against the inner surface of the body portion to form an air-tight seal therewith, said mouthpiece having an integral mouthpiece portion projecting at an obtuse angle from the top of said body portion above and beyond said exhalation valve, and an air filtering unit having integral, air-inlet, shoulder-forming annular flanges of larger diameter than that of said air-inlet opening separated by an integral collar portion of smaller diameter which has a length equal to the thickness of the body portion at said inlet opening and which collar portion is inserted in said air-inlet opening to hold the flanges against the inner surface of the body portion for detachably forming an air-tight seal therewith,

said air filtering unit comprising a cylindrical canister having end walls, a housing mounted on one end wall and extending axially from said canister, said air-inlet opening being formed in one of the axially extending walls of the housing.

3,266,491
SANITARY PROTECTIVE DEVICE
Moses Solomon Koslow, Lake Hiawatha, N.J., assignor to Lorica, Inc., Hoboken, N.J., a corporation of New Jersey
Filed Mar. 4, 1963, Ser. No. 262,558
3 Claims. (Cl. 128—294)



1. A thin-walled sanitary protective device comprising a thin wall bag portion and a thick neck portion having a diameter smaller than the diameter of said bag portion, the cross section of said neck portion comprising substantially flat contiguous inner, outer, bottom and top surfaces, said inner surface being cylindrical and substantially at right angles to said top and bottom surfaces to form corners therewith, said bottom surface being wider than said top surface, said top surface forming the end edge of the device, and said outer surface being inclined with respect to said inner surface and connecting the outer edges of said top and bottom surfaces.

3,266,492
CRYOSURGERY PROBE DEVICE
Samuel B. Steinberg, 534 W. Franklin St., Baltimore, Md.
Filed Sept. 6, 1963, Ser. No. 307,208
4 Claims. (Cl. 128—303)



1. A surgical tool comprising insulating handle means having an axial passage, a tubular member mounted within said axial passage recessed from one end of said handle means and extending from the other end thereof, needle tip means removably secured to the extending end of said tubular member and having an interior passage communicating with the interior of said tubular member, and delivery tube means extending longitudinally within the interior of said tubular member and extending and opening into said interior passage for supplying a cooling medium thereto for cooling said needle tip means.

3,266,493
COMBINATION SURGICAL INSTRUMENT FOR CUTTING AND REMOVING SUTURES
Clinton M. Cummings, Fairfield, Conn., assignor to The Acme Shear Company, Bridgeport, Conn., a corporation of Connecticut
Filed Feb. 3, 1964, Ser. No. 341,970
7 Claims. (Cl. 128—318)

1. A combination suture cutting and removing surgical instrument comprising:

(A) a pair of transversely facing longitudinal finger grip side legs each having upper and lower longitudinal edges,

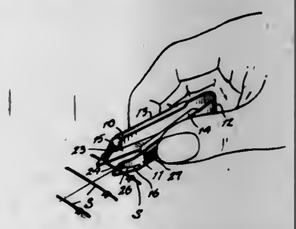
(B) a resilient bight hingedly connecting said side legs at their rearward ends for relative transverse swinging movement from a normally open spring biased position to a closed position,

(C) a pair of longitudinal blades respectively extending transversely inwardly from said lower longitudinal edges of said side legs, each said blade being disposed in a plane substantially parallel to the transverse direction of swinging movement of said side legs and having

(1) a longitudinal cutting edge inwardly spaced from its respective side leg, and

(2) a forward pointed end portion extending forwardly of the forward end of its respective side leg for insertion beneath a suture and having an inner edge forming part of the cutting edge of its respective blade,

(3) said blades being slideably engaged one with the other in overlapped relation with their cut-



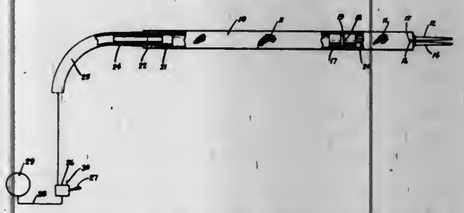
ting edges normally intersecting each other intermediate their ends and diverging forwardly from their point of intersection, whereby as said side legs are pressed toward each other in closing direction the point of intersection moves forwardly along said pointed end portions beyond the forward ends of said side legs, and

(D) a pair of transversely opposed gripping fingers respectively extending forwardly from the forward ends of said legs, and

(1) disposed in overlying relation to said pointed end portions of said blades and upwardly spaced therefrom to provide suture receiving spaces beneath said fingers, and

(2) having transversely opposed surfaces arranged to contact each other as said side legs are pressed toward each other in closing direction to limit their closing movement.

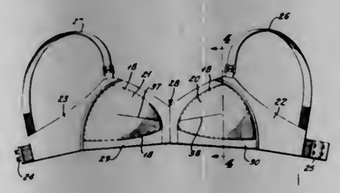
3,266,494
POWERED FORCEPS
Gerald K. A. Brownrigg, Golden Valley, and Neil M. Clark, St. Louis Park, Minn., assignors to Possis Machine Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Aug. 26, 1963, Ser. No. 304,545
3 Claims. (Cl. 128—321)



1. A powered forceps comprising a hollow cylinder, a pair of gripping members having tapered ends with longitudinally diverging adjacent faces extending in both

directions from a hemispherical formation near the center of each with a semi-cylindrical groove formed near the center of said gripping members and extending transversely thereof on the opposite side from said hemispherical formation, a pin filling said semi-cylindrical groove and engaging said hollow cylinder to pivot said gripping members in one end of said hollow cylinder with a portion of said gripping member protruding from said hollow cylinder; said hemispherical formations engaging adjacent surfaces of said hollow cylinder, a resilient ring embracing the inner ends of said gripping members yieldingly urging them toward each other; the ends of said gripping members embraced by said resilient ring diverging from each other to form a notch, a piston slidable in a substantially fluid-tight fit within said hollow cylinder, a member extending from said piston and centered adjacent the notch formed in the inner ends of said gripping members, said member having a rounded end thereon, a return spring interposed between said piston and said hemispherical portions, of said gripping members, a source of fluid under pressure, and means for connecting the end of said hollow cylinder remote from said gripping members to said source of fluid under pressure and releasing said fluid under pressure therefrom selectively.

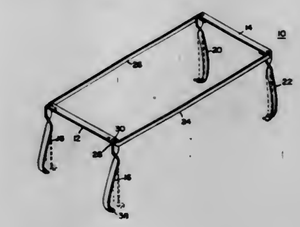
3,266,495
BRASSIERE
Charles M. Sachs, Fort Lee, N.J., assignor to International Latex Corporation, Dover, Del., a corporation of Delaware
Filed Apr. 18, 1963, Ser. No. 273,988
7 Claims. (Cl. 128—479)



1. A brassiere having soft, porous, machine-washable non-discoloring cups each comprising a first fabric lamina of at least two layers of stretchable porous fabric bonded together with water-soluble adhesive, a second fabric lamina of at least two layers of stretchable porous fabric similarly bonded, and a layer of porous resilient polyurethane foam positioned between said fabric laminae and permanently bonded to the innermost layers thereof to form a unitary structure, said unitary structure being permanently attached at the periphery thereof, whereby washing of the brassiere removes the water-soluble adhesive to allow each layer of said laminae except said innermost layers to move independently of each other layer, and said innermost layers and said polyurethane foam being capable of moving as a unit relative to said other layers.

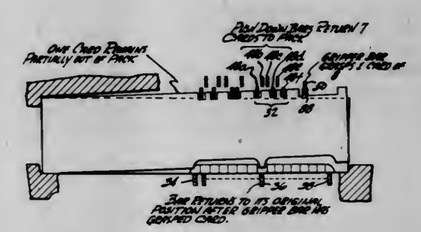
3,266,496
FILE SUPPORT FRAME
Jeffery L. West, 34 Wildwood St., Winchester, Mass., and Lawrence A. Clauson, 21 Fullers Lane, East Milton, Mass.
Filed Dec. 16, 1963, Ser. No. 330,936
2 Claims. (Cl. 129—16)

1. A file support frame adapted to be inserted into and retained in a file drawer and comprising a pair of end members and a pair of side members, each end member being formed of a flexible flat horizontal bar with its end portions bent downwardly to form a pair of flexible legs, the upper portion of each leg being slotted longitudinally for a short distance downwardly from and into the bight between it and the horizontal bar, each leg being twisted through an angle of 90° immediately below the slotted portion, and each side member being formed of a longitudinal bar having flat ends extending at right angles from the bar the cross sectional shape and size of said flat ends, being substantially the same shape and size as the slots formed in the slotted portion of each leg, said flat ends



extending into said slots with their upper edges engaging under the underside of said horizontal bars, said legs of each pair diverging downwardly relative to each other and relative to the legs of the opposite pair whereby said end and side members are maintained in locked and rigid association at the slots by friction resulting from forces which arise when the assembled frame is sprung or flexed into a drawer.

3,266,497
DATA PROCESSING
Lewis W. Bleiman, Northridge, Calif., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 10, 1963, Ser. No. 308,012
10 Claims. (Cl. 129—16.1)



1. In an arrangement for selecting one card from a pack of edge coded cards, said edge coding including graspable elements at a given edge of the respective cards; in combination:

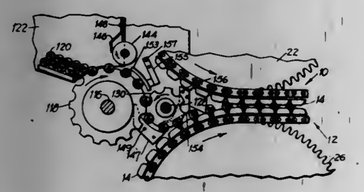
grasping means adjacent to said given edge of the cards in said pack, said means comprising at least one elongated member having a length at least equal to the width of said pack and extending substantially parallel to the width dimension of said pack, and including a plurality of fixed and movable side-by-side teeth along the length of said member which face said given edge of the cards in said pack;

means for moving a group of cards, each card in said group having a graspable element in a different position along its given edge, partially out of said pack in a direction toward said grasping means; and

means for causing said elongated member to grasp a card in said group of cards comprising means for

moving its movable teeth toward its fixed teeth to thereby grasp the graspable element on said card between a fixed tooth and a movable tooth.

3,266,498
CIGAR MOLDING AND PRESSING MACHINE
Edgar D. Oppenheimer, Mamaroneck, N.Y., and Philip Pollak, Jr., Stamford, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Feb. 28, 1964, Ser. No. 348,175
7 Claims. (Cl. 131—81)



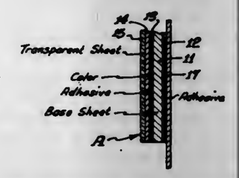
1. A machine for changing a cigar having a circular transverse cross-section into a cigar having a substantially rectangular cross-section, with rounded corners, said machine having a first continuous conveyor and a second continuous conveyor, closely overlying said first conveyor, said machine having a cigar compression chamber, said chamber formed between the edges of two pairs of coacting continuously moving substantially identical flat plates in said machine, one pair of said plates being mounted on said first conveyor and the other mounted on said second conveyor, said edges being convex, said pairs being displaced one from the other in the direction of motion of said plates as said plates move on adjacent laps of said conveyors, so that one pair lags the other pair, so as to enlarge the compression chamber formed therebetween.

3,266,499
MEANS FOR INTRODUCING FLAVOR IMPARTING AGENTS INTO TOBACCO AND TOBACCO ARTICLES
Walter T. Canan, Duarte, Calif. (% J. Harold Byers, 440 Munsey Bldg., Washington, D.C. 20004)
Filed Nov. 27, 1962, Ser. No. 240,395
5 Claims. (Cl. 131—133)



1. An applicator for selectively and controllably introducing a composition consisting essentially of menthol into a tobacco article, said applicator comprising a shank portion and a normally solid body of menthol composition, said applicator comprising means for retaining said menthol composition in place when said composition is in the solid state, is heated to the temperature of liquefaction thereof, or is heated to a temperature at which vapors would normally escape therefrom, said means comprising a slotted head portion, and a strippable wrapping covering said slotted head portion, the slots in said head portion being of capillary dimensions.

3,266,500
ARTIFICIAL EYELASH AND ADHESIVE COLORING DEVICE FOR EYELID
Aileen K. Weld, 8956 Norma Place, Los Angeles, Calif.
Filed July 24, 1963, Ser. No. 297,329
10 Claims. (Cl. 132—53)



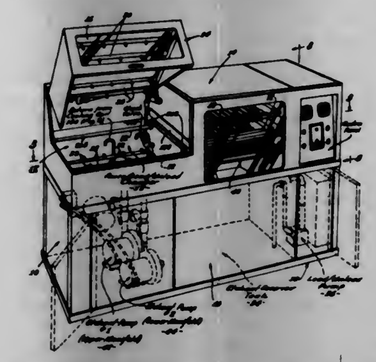
1. In a device for application to the upper eyelid of a person: a curved elongate base sheet of flexible and conformable material having one end extending downwardly and the other end extending in a different direction from said one end, said base sheet providing an outline to extend along and substantially cover the upper eyelid; a pressure sensitive adhesive coating on the back surface of said sheet adapted to removabl yadhere said sheet to the upper eyelid; said base sheet having a layer of a desired visible color on its front surface, said color being noticeably different from the color of the eyelid.

3,266,501
COIN AND KEY HOLDER
Donald J. Hankey, 7835 E. Loma Land Drive, Scottsdale, Ariz.
Filed Mar. 10, 1965, Ser. No. 438,596
7 Claims. (Cl. 133—6)



6. In a coin and key holder the combination of: a body member having a coin holding cavity therein; and a resilient wire loop member removably engaged with said body; and coin retaining portions of said wire loop member overlying said cavity to retain coins therein said cavity having a closed side and an open side, said cavity adapted to hold a stack of coins in flat side-to-side contact with each other, said cavity having a central axis directed normally through coins at right angles to the sides of said coins, said open side of said cavity disposed to receive coins in a direction normal to their sides, said coin retaining portions of said resilient wire loop member disposed to be parallel to the sides of coins in said cavity and to retain coins against removal from said cavity in a direction parallel to said axis and normal to the sides of said coins said retaining portions completely removable from overlying and obstructing position throughout the entire cross-sectional area of said cavity alternately to dispense coins therefrom; opposed recess portions in said body adjacent said cavity; opposed detent portions of said loop member in said opposed recess portions; the resilient character of said loop member tending to hold said detent portions in engagement with said opposed recess portions; a slotted portion in said body member directed generally radially with respect to said cavity and extending from said cavity to an outer surface of said body member; said recess portions disposed in opposite sides of said slotted portion; said detent portions comprising joggled portions of said loop member, said joggled portions engaged in said recess portions; and ledge portions of said body member adjacent said recess portions tending to retain said joggled portions in juxtaposition in said body member; said coin retaining portions integral with said joggled portions and extending beyond said joggled portions and over said cavity, to an opposite side thereof from said slotted portion; and opposite ends of said loop member integral with said coin retaining portions; and a second recess means in said body member in which said opposite ends are retained.

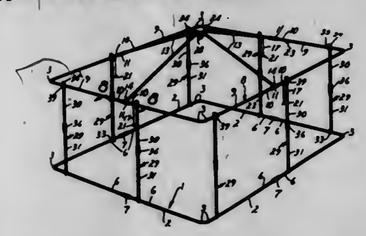
3,266,502
CHEMICAL MILLING MACHINE
Wayne E. Copeland, Los Angeles, Calif., assignor to Western Technology, Inc., Burbank, Calif., a corporation of California
Filed Sept. 14, 1964, Ser. No. 396,022
9 Claims. (Cl. 134—57)



1. In an etching machine of the type in which an etchant is continuously sprayed against the workpiece, the combination of: a housing defining an enclosed etching chamber and an accessible rinse chamber; pallet means for the workpiece mounted in a first horizontal plane and slidable between said rinse chamber and said etching chamber; at least one manifold movably mounted in said etching chamber in a second horizontal plane spaced from and parallel to said first horizontal plane; a plurality of spray nozzles mounted on said manifold, pump means coupled to said manifold for supplying pressurized etchant to said spray nozzles, and actuating means coupled to said manifold for imparting reciprocal motion to said manifold along mutually perpendicular axes in said second plane.

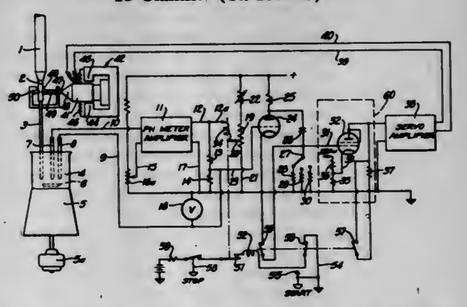
3,266,503
COLLAPSIBLE SHELTER
Merlin J. Holness, 320 2nd Ave. SE., and Wilbur E. Peterson, 460 Main Ave. N., both of Harmony, Minn.
Filed June 25, 1964, Ser. No. 377,842
5 Claims. (Cl. 135—4)

1. A collapsible shelter comprising:
(a) a generally rectangular floor frame comprising:
  (1) a plurality of side elements pivotally connected to one another,
  (2) said side elements being sectioned generally at their midpoints into a pair of side sections, and
  (3) means disposed at the midpoint of each of said side elements and connecting said side sections thereof together for relative movements,
(b) a generally rectangular top frame normally positioned in vertically spaced relation above said floor frame and generally similar in configuration thereto and comprising:
  (1) a plurality of side elements pivotally connected to one another,
  (2) said side elements being sectioned generally at their midpoints into a pair of side sections, and
  (3) means disposed at the midpoint of each of said side elements and connecting said side sections thereof together for relative movements,
(c) a plurality of elongated normally vertically extending side frame members positioned between said floor frame and said top frame and each comprising upper and lower sections,



(d) means connecting said upper and lower sections of said side frame members together and also to said floor frame and said top frame for folding movements from generally upright positions wherein said top frame is spaced above said floor frame and folded positions wherein said side frame members are generally co-directional with the respective side elements of said floor frame and wherein said top frame is in a partially collapsed condition in overlying adjacent relation on said floor frame,
(e) said floor frame and top frame being further foldable to a completely collapsed condition wherein said side elements thereof are disposed in general parallelism with one another and also with the upper and lower sections of said side frame members, and
(f) a flexible cover for said shelter frame when in its upright condition.

3,266,504
AUTOMATIC TITRATOR
Karl Erik Sundstrom, 411 N. College St., La Habra, Calif.
Filed Oct. 15, 1962, Ser. No. 230,447
13 Claims. (Cl. 137—3)



1. In a titrator for automatic control of titration rate and including titrant feed means for delivering titrant to a sample at a variable rate, and electrode means for gen-

erating an output signal varying as a function of sample-titrant mixture condition, the combination of:

a signal differentiator circuit, with said output signal connected as an input thereto;

a modulator circuit having a logarithmic output characteristic, with the output of said differentiator circuit connected as an input thereto; and

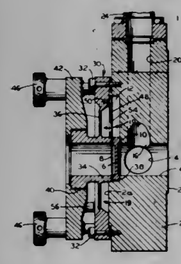
amplifier means for controlling said feed means, with the output of said modulator circuit connected as an input thereto.

3,266,505

BAKEABLE, LEAKPROOF, STRAIGHT-THROUGH ULTRA-HIGH VACUUM VALVE

Gerald E. Kron, Mount Hamilton, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Oct. 31, 1963, Ser. No. 320,588
5 Claims. (Cl. 137—38)



1. A straight-through, leakproof valve comprising

a valve body having a bore therethrough; and a counterbore on one face of said body encompassing said bore;

a gate, generally in the form of a disc, located in said counterbore and loosely fitting therein, large enough to span said bore when in closed position to close said bore by sealing against the base of said counterbore around said bore, and when free of external axial pressure, freely movable within said counterbore between closed position and open position, in which latter position it leaves completely unobstructed passage through said valve straight through said bore;

a diagragm member fixed in fluid-tight sealing relation to said face of said valve body to form a leakage chamber including said counterbore;

said diaphragm member including a diaphragm,

a hub carried by said diaphragm and mounted for to and fro motion generally axially of said bore both to bear sealingly against said gate to exert pressure thereon to seal said gate against the base of said counterbore over said bore to close said valve and also to release pressure from said gate, said hub defining a flow passage through said diaphragm member communicating with said bore when said gate is in the valve open position, and

means for applying pressure to said gate when said gate is in open position to force said gate against said valve body to retain said gate in open position;

means for applying force to said hub to urge it axially of said bore;

means for evacuating said bore; and

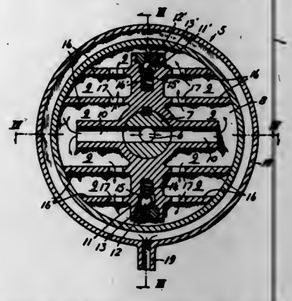
means for evacuating said leakage chamber.

3,266,506

AUTOMATIC CONTROLLING APPARATUS OF OPERATION FLUID PRESSURE

Noriyuki Takahashi, Nerima-ku, Tokyo, and Torao Hattori, Itabashi-ku, Tokyo, Japan, assignors to Kabushiki Kaisha Gijutsu Kenkyusho, Saitama-ken, Japan, a corporation of Japan

Filed July 9, 1963, Ser. No. 293,683
8 Claims. (Cl. 137—54)



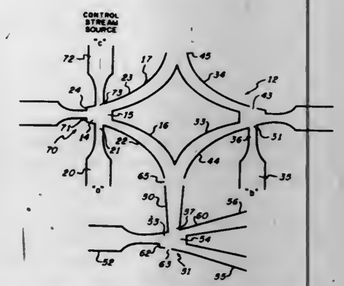
1. An automatic pressure controlling apparatus comprising a rotative member coupled to a rotationally operated mechanism for rotation therewith, operating fluid passage means extending through said member for receiving a fluid where pressure is to be controlled in accordance with the rotational input to said rotative member, and a plurality of centrifugally operated valves carried by said rotative member, each of said valves having an outside fluid passage in communication with the operating fluid in said operating fluid passage means, and an inside fluid passage in communication with a pressure discharge passage means for said operating fluid, individual spring means for urging said valves to a closed condition in conjunction with the centrifugally developed forces of said rotative member, said valves when in said closed condition sealing said operating fluid passage means from said discharge passage means, and when opened progressively establishing a communication passage between said operating fluid passage means and said discharge passage means, the pressure control characteristics of said valves operatively related, such that individual ones of said valves sequentially control the pressure of the operating fluid between predetermined revolutionary speeds.

3,266,507

FLUID LOGIC DEVICE

Eugen Groeber and Gale H. Thorne, Sr., Salt Lake City, Utah, assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Sept. 4, 1963, Ser. No. 306,484
2 Claims. (Cl. 137—81.5)



1. A pure fluid logic device comprising,

(a) first, second, and third fluid logic elements,

(b) said first element being bistable and having a power stream input channel, first and second opposed control stream input channels, first and second output channels each defining a path of fluid flow, and a chamber formed by the intersection of said input and output channels,

(c) said second and third elements being monostable and having a power stream input channel, a control stream input channel, first and second output channels each defining a path of fluid flow, and a chamber formed by the intersection of said input and output channels,

(d) said first output channels of said first and second elements being connected to provide a first common output channel,

(e) said second output channels of said first and second elements being connected to provide a second common output channel, and

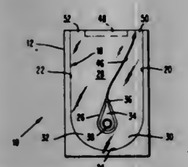
(f) said first common output channel being coupled to said control stream input channel of said third element, said third element being monostable in that its power stream tends to attach to said first output channel associated with its control input channel.

3,266,508

FREE-RUNNING OSCILLATOR

Saul N. Zilberfarb, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 22, 1963, Ser. No. 274,742
7 Claims. (Cl. 137—81.5)



1. A fluid device comprising a chamber having an outlet, said chamber being defined by two substantially parallel side walls and a semi-circular wall forming a continuous planar surface with said two walls opposite from said outlet, means within said chamber for producing a stream of fluid toward said outlet, said stream of fluid normally locked to one or the other of said side walls said means being spaced from said side walls and said semi-circular wall establishing a fluid path from one side of said stream of fluid around said means to the other side of said stream of fluid to permit fluid flow from said outlet around said means to the side of said stream of fluid locked to a sidewall.

3,266,509

FLUID PULSE FORMER

Peter Bauer, Rockville, Md., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 26, 1963, Ser. No. 304,483
5 Claims. (Cl. 137—81.5)

1. A three-level fluid pulse former comprising:

(a) a fluid output channel with an inlet end and an outlet end;

(b) first and second fluid delay means each with an inlet end and an outlet end, with said outlet end of each of said first and second fluid delay means being connected to the inlet end of said fluid output channel to enable transfer of fluid energy from each of said first and second fluid delay means to said fluid output channel, said first and second fluid delay means having unequal time delay characteristics such that a fluid energy change at their respective inlet ends requires unequal times to be manifested at their outlet ends; and

(c) a fluid energy supply means connected to the inlet ends of said first and second fluid delay means which is selectively actuable for shifting, in substantially simultaneous fashion, the fluid energy for one of said inlet ends of one of said first and second fluid delay means to the other inlet end of the other of said first and second fluid delay means so that the fluid energy at the outlet end of said fluid output channel has



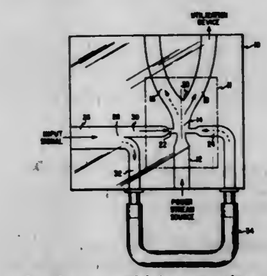
three significant energy levels consisting of a low energy level where there is no fluid energy output from either outlet end of said first and second fluid delay means, a normal energy level when there is a fluid energy output from one of said outlet ends of said first and second fluid delay means and a high energy level when there is fluid energy output from both of said outlet ends of said first and second fluid delay means, and wherein said low energy and said high energy levels are always applied for time periods of equal duration.

3,266,510

DEVICE FOR FORMING FLUID PULSES

Walter G. Wadey, Bethesda, Md., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 16, 1963, Ser. No. 309,141
2 Claims. (Cl. 137—81.5)



1. A fluid pulse former which comprises:

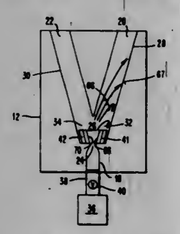
(a) a monostable fluid amplifier including a power stream input channel having a power stream issuing therefrom, first and second power stream output channels and first and second opposed control stream input channels, means for causing the power stream flow from said power stream input channel to exit from said amplifier via said first power stream output channel when there is no flow from either of said control stream input channels and when there is concurrent flow from both of said control stream input channels but wherein said means is ineffective when there is control stream flow solely from said first control

stream input channel and wherein said power stream consequently exits via said second power stream output channel when control stream flow is solely from said first control stream input channel;

(b) a fluid stream divider junction having an inlet and first and second outlets, for receiving a fluid stream at said inlet and simultaneously separating same into said first and second control streams each respectively exiting via said first and second outlets; and

(c) first and second fluid channels respectively connected from said divider first outlet to said amplifier first control stream input channel, and from said divider second outlet to said amplifier second control stream input channel, for continuously conveying said first and second control streams to said amplifier, where said first and second fluid channels have unequal time delay characteristics such that the initial application of said second control stream to said amplifier second control stream input channel is delayed with respect to the initial application of said first control stream to said amplifier first control stream input channel, whereby a fluid pulse of predetermined duration appears in said amplifier second power stream output channel.

3,266,511
TRANSDUCER
John M. Turick, Chester, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 11, 1963, Ser. No. 315,480
12 Claims. (Cl. 137—81.5)



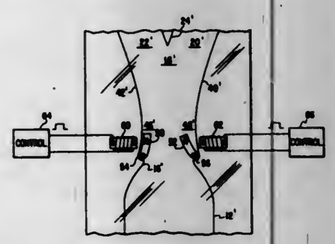
1. A fluid device comprising an inlet, a plurality of outlets, a source of power fluid, an electro-mechanical transducer made of material whose physical dimension changes in response to the application of an electrical field to said transducer to selectively extend the downstream end of said transducer into said power fluid to selectively deflect said power fluid to one of said outlets, and means for applying an electrical field to said electro-mechanical transducer.

3,266,512
FLUID AMPLIFIER CONTROL VALVE
John M. Turick, Chester, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 16, 1963, Ser. No. 316,611
2 Claims. (Cl. 137—81.5)

1. A fluid amplifier system comprising:

(a) a fluid amplifier configuration including a fluid power stream input nozzle from which branch a plurality of power stream output channels, wherein power stream flow is stable in at least one of said output channels by virtue of boundary layer attachment to its wall downstream from said nozzle;

(b) at least one mechanical element comprising an elongated magnetic member having upstream and downstream ends, said magnetic member being located upstream from said output channels and having a power stream flow surface and which is pivotally mounted about its upstream end in the wall of said nozzle about an axis which in turn extends both parallel to said element flow surface and at a right angle to the direction of power stream flow, said element being movable between a first position whereat its said flow surface is substantially coplanar with the wall flow surface, and a second position whereat at least a portion of its said flow surface extends into the nozzle flow volume transversely to power stream flow whereby said power stream strikes said flow surface and is deflected so as to disrupt said downstream boundary layer so as to create power

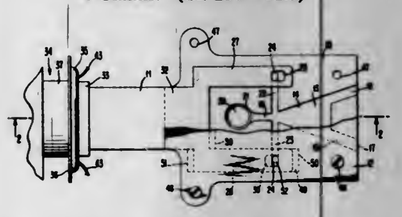


stream flow instability in said one output channel and cause said power stream to flow into another power stream output channel;

(c) electromagnetic means selectively operable for for moving said element to said second position; and

(d) wherein said elongated element has a magnetic pole located in its downstream end, and said electromagnetic means is operable to create a like magnetic pole adjacent the magnetic pole in the downstream end of said elongated member so that the repulsive force between said poles moves said element to its second position.

3,266,513
SWITCHING ARRANGEMENTS FOR FLUID AMPLIFIERS
William F. Volt, Jr., Lexington, Ky., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 2, 1964, Ser. No. 348,610
4 Claims. (Cl. 137—81.5)



1. Fluid control apparatus to which pressurized fluid is adapted to be supplied comprising:

a housing having a pair of transmission channels formed therein for said fluid;

each of said transmission channels comprising a side wall and an outlet port;

an inlet port spaced from the outlet ports for directing fluid toward said transmission channels;

means to divert said fluid from one of said transmission channels to the other of said transmission channels;

said means to divert comprising a pair of transversely extending and spaced control passageways in said housing disposed on opposite sides of said transmission channels between said inlet port and said outlet ports;

said control passageways having transversely spaced end ports within said housing disposed on opposite sides and outwardly of said transmission channels;

means to selectively open and close said end ports comprising a generally thin and U-shaped valving member mounted for sliding movement within said housing in a direction generally normal to said control passageways;

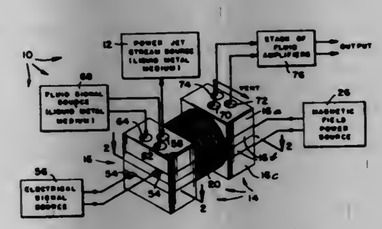
said valving member having a pair of transversely spaced arms mounted within said housing and extending on opposite sides of said transmission channels in a direction transverse to said control passageways in generally blocking relation with respect to said end ports of said control passageways;

a valving aperture in each of said arms which in one related position of said valving member is adapted to communicate with the end port of the control passageway associated therewith;

said valving member having a trunk portion interconnecting said spaced arms and extending from said housing; and

means connected with said trunk portion for moving said valving member between valving positions.

3,266,514
SIGNAL SUMMING POINT DEVICE FOR HYBRID FLUID AND ELECTRONIC CONTROLS
John D. Brooks, Alhambra, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 20, 1964, Ser. No. 361,623
4 Claims. (Cl. 137—81.5)



1. Apparatus for modulating a fluid control system power stream with first and second control signals consisting of a variable electrical signal and a variable flow liquid stream, respectively, said apparatus comprising;

(a) a body member forming a longitudinally extending power stream deflection passage of the type having a power stream input opening at one end for directing a power stream into said passage in a direction along its longitudinal axis, the walls of said passage at the other end of the passage forming first and second output stream openings disposed to one and the other sides of a first longitudinal reference plane through the longitudinal axis of the passage,

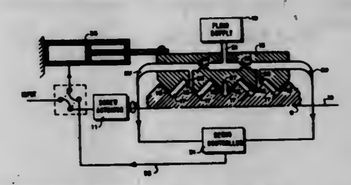
(b) said deflection passage having a pair of control stream inlet openings for applying said variable flow liquid stream to the power stream to selectively deflect same to one or the other output opening, said openings being disposed in confronting alignment to one another and in perpendicular alignment to said reference plane, the improvements, in combination,

(c) said power and control streams being of a conductive liquid medium,

(d) means for generating a magnetic field having magnetic force lines extending through said deflection chamber in a direction essentially parallel to the longitudinal axis of the passage,

(e) said deflection passage being formed by a pair of opposed walls made of an electrically conductive material and disposed to one and the other side of a second longitudinal reference plane perpendicular to said first reference plane, said opposed walls being adapted to receive the variable electrical signal thereacross, whereby the proportion of said power stream flowing to one and the other of said outputs openings is varied in accordance with a combination of the forces exerted upon the power stream by the control stream and the hydromagnetic force exerted by the magnetic field and the signal across the opposed walls.

3,266,515
FLUID PRESSURE LEADSCREW FOLLOWER
Edward H. Phillips, Mountain View, Calif., assignor to Philsen Products, Inc., San Jose, Calif., a corporation of California
Filed Feb. 24, 1964, Ser. No. 346,696
6 Claims. (Cl. 137—85)



1. Fluid-pressure apparatus comprising:

a rotatable leadscrew including a helical thread thereon having oppositely facing thread surfaces;

a follower disposed about said leadscrew and having a helical thread therein for engaging the thread of the leadscrew;

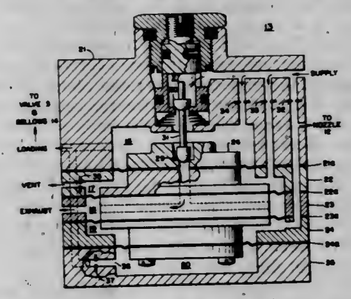
the thread of the follower being displaced axially in opposite directions with respect to a point along the length of said follower intermediate the ends thereof;

a supply of fluid under pressure above ambient;

a plurality of ducts connecting said supply to the space between the threads of said leadscrew and follower on opposite sides of said point; and

a fluid outlet in said follower intermediate said ducts and communicating with the space between the threads of said leadscrew and follower.

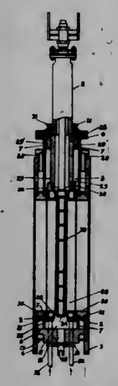
3,266,516
AMPLIFIER RELAY FOR PNEUMATIC SYSTEMS
Charles V. Evans, Euclid, Ohio, assignor to Bailey Meter Company, a corporation of Delaware
Filed Dec. 18, 1962, Ser. No. 245,562
3 Claims. (Cl. 137—86)



1. An amplifier relay for a vane and nozzle fluid pressure couple, comprising in combination, a first chamber having a first pressure sensitive movable wall, a supply and an exhaust valve for admitting pressure fluid to and

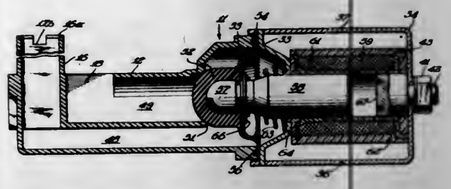
exhausting pressure fluid from said chamber positioned by said movable wall, a second chamber having a second pressure sensitive movable wall operatively connected to the first pressure sensitive movable wall to assist the first pressure sensitive movable wall in positioning said supply and exhaust valves, a restricted connection between a source of fluid pressure and said second chamber, a restricted connection between said second chamber and the atmosphere, a third chamber having a third pressure sensitive movable wall operatively connected to the first pressure sensitive movable wall to oppose the first pressure sensitive movable wall in positioning said supply and exhaust valve, a restricted connection between the source of fluid pressure and said said third chamber and a connection between said third chamber and the nozzle of the control couple.

3,266,517
GATE VALVE FOR USE IN HOT BLAST LINES
Hugh B. Carr, Carnegie, Pa., assignor to S. P. Kinney Engineers, Inc., Carnegie, Pa., a corporation of Pennsylvania
Filed Feb. 12, 1964, Ser. No. 344,319
9 Claims. (Cl. 137—340)



1. A gate valve for use in hot blast lines comprising a body providing a circular passageway therethrough, the body having an enclosure extending upwardly therefrom crosswise of the passageway with sides tangential to the circular passageway, the distance between the sides being at least as great as the full diameter of the passageway, a pair of spaced inner end plates extending transversely within the body each having an opening therethrough in line with the passageway of the full diameter of the passageway, a water-cooled seating ring positioned against each inner plate with two rings confronting but spaced from each other, means in the body for wedging the rings apart against the respective inner end plates against which they bear the wedging means for the seating rings comprising fixed wedge blocks in the body between the two inner end plates against which the lower portions of the seating rings bear and by which the lower portions of the seating rings are held against the faces of the inner plates, the wedging means also comprising a wedge frame received in said vertical extension and removable therefrom when the bonnet is removed, said wedge frame having a wedge portion fitted between the upper faces of the two seating rings for holding the upper portions of the seating rings against the faces of the inner end plates, pipe connections on the rings passing through the body for circulating water therethrough, a removable bonnet on the top of the enclosure, a valve disk in the body movable from a closed position between the seating rings where it extends across the passageway upwardly into the enclosure and bonnet to an open position, and operating stem means on the valve disk extending upwardly through the bonnet, said seating rings being removable vertically from the body through the enclosure when the bonnet and disk are removed and being replaceable by lowering them vertically through the enclosure into position in the body.

3,266,518
DISHWASHER DRAIN VALVE
Howard L. Erickson, Bensenville, and Robert J. Brooks, Mount Prospect, Ill., assignors to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed Aug. 1, 1963, Ser. No. 299,387
2 Claims. (Cl. 137—577)



2. A drain assembly for use in an automatic dishwasher having a chamber for receiving dishes to be washed comprising:

a casing positionable at the lowermost portion of said chamber,

a tubular outlet formed in said casing outwardly projecting from said casing and connectible to a waste disposal system,

a standpipe inlet outwardly projecting from said casing communicating with said outlet for maintaining a predetermined liquid level in said chamber,

a plurality of nipple-shaped auxiliary inlets formed in said casing communicating with said tubular outlet,

a disposal-drain inlet communicating with said outlet and opening to the lowermost portion of said chamber for complete removal of the dishwater from said chamber,

a tubular conduit having one end integrally connected to said disposal-drain inlet and terminating in a valve seat and communicating with said outlet,

a resilient valve head engageable with said seat to control the passage of waste liquid therethrough,

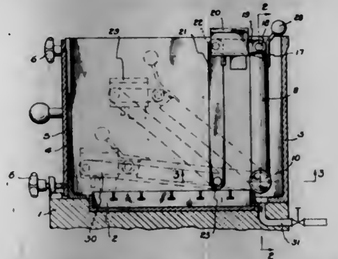
said resilient valve head having a flexible skirt outwardly extending therefrom and sealingly engaged to said casing for preventing leakage from said casing, and

means for moving said valve head into and out of engagement with said valve seat.

3,266,519
ADJUSTABLE DRAIN FOR SPARK EROSION MACHINE
Gerhard Kintzel and Gerhard Nitsche, Langen, near Frankfurt am Main, Germany, assignors to Nassovia Werkzeugmaschinenfabrik G.m.b.H., Langen, near Frankfurt am Main, Germany
Filed Dec. 2, 1963, Ser. No. 327,237
Claims priority, application Germany, Dec. 22, 1962, N 22,527
3 Claims. (Cl. 137—579)

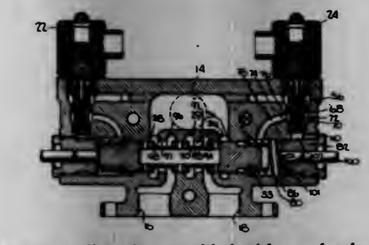
1. An adjustable drain for the workpiece tank of a spark erosion machine comprising a drain tube, first pivot means positioned adjacent the bottom of said tank for locating the upper intake end of said tube at any given height above the bottom of the tank, a control lever extending parallel to said drain tube, a link between said tube and said lever,

temperature and liquid level control means mounted on said link, second pivot means in the horizontal plane of said first pivot means for joining said drain tube and con-



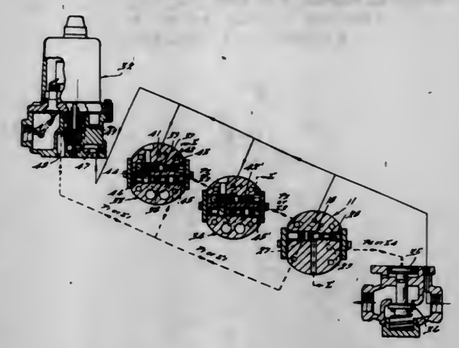
trol lever in a swingable parallelogram system, a handle secured to said intake end of said tube, and lock means for holding said tube at the given height.

3,266,520
HYDRAULIC VALVES
John R. McGuire, Northfield, and Louis C. Harms, Evanston, Ill., assignors to Fluid Power Accessories, Inc., Glenview, Ill., a corporation of Illinois
Filed July 15, 1964, Ser. No. 382,967
6 Claims. (Cl. 137—596.13)



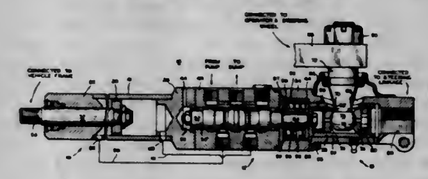
1. An hydraulic valve provided with a valve body having an inlet port, means for establishing a back pressure in said inlet port, a tank port and a pair of cylinder ports, a valve control member movably mounted in said valve body for selectively admitting hydraulic fluid into one of said cylinder ports from said inlet port and from the other of said cylinder ports to said tank port, channel means in said valve body communicating said inlet port with said control member and said tank port and communicating said control member and said cylinder ports, said control member normally interconnecting said inlet port with said tank port for passage of fluid directly therebetween, and fluid-operated actuating means for moving said control member in said valve body in a selected direction to admit hydraulic fluid from said inlet port into a particular cylinder port, said fluid-operated actuating means including a solenoid-controlled pilot valve associated with each cylinder port, means mounting said pilot valve with the valve spool thereof disposed in an associated recess in said valve body, means communicating said recess with said channel means from said inlet port, means normally positioning said pilot valve spool to interrupt the flow of hydraulic fluid from said inlet port through said recess, a chamber formed in said valve body adjacent each end of said control member, means communicating one of said chambers with one of said recesses in said body, and means connecting said pilot valve spool and said solenoid whereby upon selected energization of said solenoid, the pilot valve spool associated therewith moves from normal position admitting fluid from said inlet port into said associated chamber to effect the selected movement of said control member.

3,266,521
VALVE
Edwin P. Brinkel, Royal Oak, and Daniel B. Abbott, Clawson, Mich., assignors to Ross Operating Valve Company, Detroit, Mich., a corporation of Michigan
Filed Feb. 20, 1963, Ser. No. 259,902
7 Claims. (Cl. 137—625.66)



1. In combination, a valve having a first input signal port, a second input signal port and an output signal port, means responsive to the application and maintenance of a pressure signal at said first input signal port and the later application and maintenance of a pressure signal at said second input signal port for applying a pressure signal at said output signal port, and means responsive to removal of the pressure signal at either input signal port for removing the pressure signal at said output signal port.

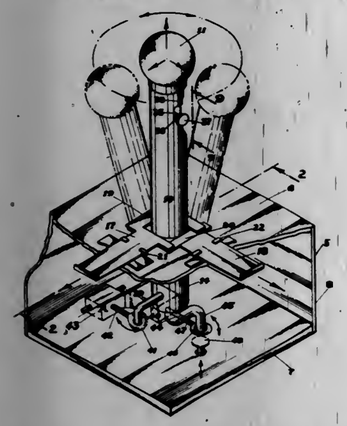
3,266,522
HYDRAULIC VALVE
Richard O. Gordon, New Buffalo, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Dec. 20, 1963, Ser. No. 332,083
2 Claims. (Cl. 137—625.69)



1. A valve comprising an elongated body having a longitudinally extending bore therein, first and second longitudinally spaced-apart inlet ports, an outlet port disposed intermediate the said inlet ports and first and second fluid motor ports disposed respectively between the said outlet port and the said first inlet port and between the said outlet port and the said second inlet port, all of the said ports communicating with the said bore, a spool slidably disposed in the said bore for movement from a centered position to a first or second position, the said spool having first, second, third, fourth and fifth longitudinally spaced-apart lands disposed so that the said first and fifth lands cooperate with the said first and second inlet ports to control fluid flow to the said fluid motor ports and the said outlet port, the said third land cooperates with the said outlet port to conrol fluid flow from the said inlet ports and fluid motor ports to the said outlet port and the said second and fourth lands cooperate respectively with the said first and second fluid motor ports to control fluid flow from the said fluid motor ports to the said outlet port, a first notch in the said second land, and a second notch in the said fourth land,

the said notches being disposed to cooperate with the said bore to form orifice means between the ends of the respective lands.

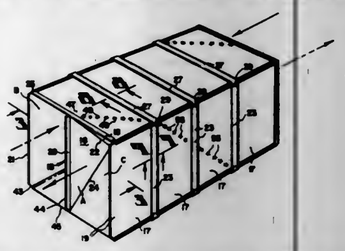
3,266,523
MULTIPLE VALVE CONTROL MEANS
Edgar L. Stevens, 836 17th Ave., Vero Beach, Fla.
Filed Oct. 22, 1963, Ser. No. 317,933
4 Claims. (Cl. 137—636.3)



1. A structure of the character described for operating multiple hydraulic valves that comprises a housing that supports the several valves and with the housing having a centrally arranged partition, a tubular operating arm that extends through an aperture in a top wall of the housing, the arm projecting above the housing and provided upon its top with a ball, the arm at its lower end within the housing having a ball and socket joint and whereby the arm may be swung laterally to operate certain of the valves, a rotatable bearing journaled in the partition and that is connected to one-half of the ball and socket joint, a rod extending through the arm axially thereto and also extending through the rotatable bearing, means for locking the rod to the bearing, the said rod having an upper lateral extension that extends through an opening in the upper part of the arm and whereby the arm and the rod are jointly rotatable for rotating the bearing, valve operating means carried by the bearing, the said rod having an extension extendable at a right angle below the bearing and being extensible for engaging a valve arm, the rod being biased upwardly by a spring, the said rod extension being further extensible downwardly for actuation of another valve device.

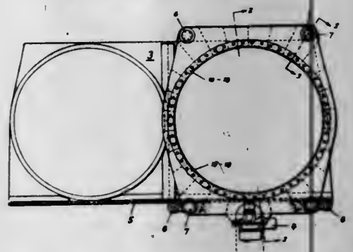
3,266,524
DUCT STRUCTURE
William H. Goettl, 4627 N. Granite Reef Road, Scottsdale, Ariz.
Filed May 20, 1963, Ser. No. 281,841
7 Claims. (Cl. 138—37)

4. In a dual passage duct structure the combination of: a rectangular in cross section hollow duct structure having four sides and having two passages therein, a baffle separating said passages; first, second and third triangular portions of said baffle all angularly disposed relative to each other; said first triangular portion having a base side abridging and extending across the interior of said duct section from one of said sides to an opposite side thereof, said second and third triangular portions aligned with each other in a substantially common line extending diagonally from the interior of one corner of said duct structure to the interior of an opposite corner of said rectangular in cross section duct structure; a second rectangular in cross section duct structure similar to said first mentioned duct structure and having opposite open ends; one of said open ends coupled to a similar open end of said first duct structure; a second baffle in said second duct structure, said second baffle similar to said first mentioned



baffle; said base side portion of said first triangular portion of said first baffle connected to a similar triangle base side portion of said second baffle; said baffles being substantially coextensive with said duct structures between their opposite open ends.

3,266,525
GATE VALVE
Heinz Wolter, Wecker, Luxembourg, assignor to Usine de Wecker S.a.r.l., Wecker, Luxembourg, a corporation of Luxembourg
Filed Sept. 30, 1963, Ser. No. 312,494
6 Claims. (Cl. 138—94.3)



1. A gas-pipe gate valve for large flow passages comprising a closure disk, means for moving and positioning said closure disk between a fixed pipe end and a seal ring which is movable on the opposite pipe end, said closure disk being wedged in axially by a plurality of piston-including pressure members which are uniformly distributed over the circumference of the ring by means of energy storing devices, and said closure disk being hydraulically released by introducing pressure means into associated pressure chambers, characterized by the fact that the piston of each pressure member and its associated pressure chamber is disposed between the associated energy-storing device and the movable seal ring.

3,266,526
PERIPHERALLY LOCKED AND SEALED ORIFICE DISK AND METHOD
Robert H. Berg, 196 Clinton Ave., Elmhurst, Ill.
Filed Nov. 26, 1962, Ser. No. 240,093
4 Claims. (Cl. 138—103)

3. A glass receptacle wall having an aperture therethrough with opposite ends at respectively opposite sides of said wall,
a ceramic disk of a diameter within the range of about 1.5 mm. to 3.0 mm.,
said aperture being defined by a sidewall of substantially the same diameter as the disk about the perimeter of the disk,

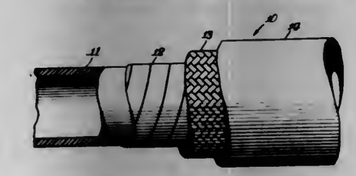
said disk having a rim of a thickness of about 0.3 mm. to 0.6 mm.,
said disk having an orifice therethrough of a diameter within a range of about 10 to 1000 microns,
said disk being located within said aperture between the opposite ends thereof and having its perimeter ceramically adherently bonded to said sidewall,



and glass projections on said sidewall at both opposite ends of said aperture lockingly overlappingly opposing the respective opposite surfaces of the margin of said rim.

4. A receptacle as defined in claim 3 in which said wall is substantially uniformly circularly cylindrically shaped with inner and outer wall surfaces, and a spacer node projecting integrally from one of said wall surfaces adjacent to said aperture to maintain said one wall surface spaced from a contiguous object.

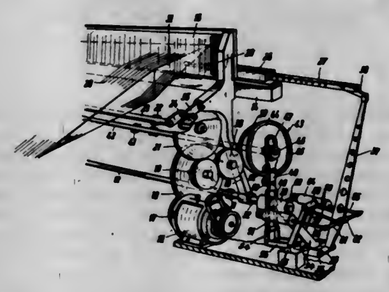
3,266,527
HOSE STRUCTURE
Edward J. Ross, Manitowoc, Wis., assignor to Imperial-Eastman Corporation, a corporation of Illinois
Filed Mar. 14, 1963, Ser. No. 265,236
6 Claims. (Cl. 138—125)



1. A hose structure comprising: a tubular core of flexible material; a helically wound strip of substantially impervious plastic material concentrically constrictively surrounding said core, the turns of said helically wound strip sealingly interengaging as a result of the constriction of the strip material to define a substantially impervious sheath; a flexible layer of reinforcing braid concentrically surrounding said sheath; and a flexible protective tubular jacket concentrically surrounding said braid layer.

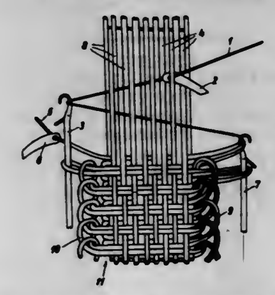
3,266,528
FEEDER ROD DRIVE FOR SHUTTLELESS WEB LOOM
Waldemar Liebchen, Aschaffenburg, Germany, assignor to Jean Güsken Maschinenfabrik Eisengiesserei, Dulken, Germany
Filed July 2, 1964, Ser. No. 380,094
Claims priority, application Germany, Oct. 5, 1963, G 38,872
14 Claims. (Cl. 139—122)

1. In a loom, a thread gripper, means mounting said gripper for reciprocatory movement back and forth into and out of a shed formed by the loom, means to impart such movement to the thread gripper comprising a positive drive cam arrangement and means connecting the cam arrangement to the thread gripper, and means connected to the movement imparting means to damp the movements thereof in the end portions of its reciprocatory movement, said loom having a reed, a rock shaft, means to oscillate the rock shaft and reed, means mounting the reed on the rock shaft with the plane of the reed parallel with the axis of the rock shaft, said carrier mount-



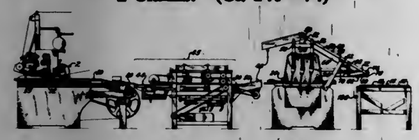
ing means being mounted for movement with the reed, said connecting means including a member and means mounting the member on the rock shaft to oscillate therewith, and to rock with respect thereto in a plane substantially coincident with the plane of the reed, and said connecting means further including motion transmitting means connected to the cam arrangement and connected to the member at a point substantially located in a prolongation of the axis of the rock shaft.

3,266,529
DOUBLE FABRIC
August Bünger, Hasslinghausen, Erlenrode, Germany
Filed Mar. 23, 1964, Ser. No. 354,028
Claims priority, application Germany, Mar. 21, 1963, B 71,234
5 Claims. (Cl. 139—384)



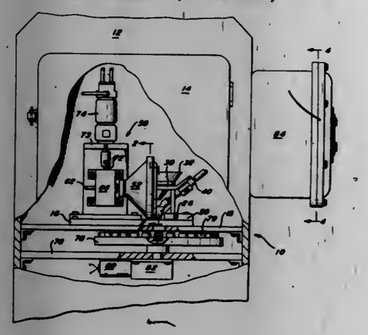
1. Double fabric comprising an upper and a lower fabric layer each formed of warp threads and weft threads, one said layer having the weft threads disposed therein in one direction and the other said layer having the weft threads disposed therein in the opposite direction, the weft threads in each layer being inserted in the form of loops having ends defining on one side of the layer a firm selvage of interlocked loops, while on the other side of the layer the weft threads define reversing loops between two weft inserts, said upper and said lower layer being connected at least at one selvage edge in a manner that the reversing loops of the weft threads of one fabric layer are interknitted with the loops of the weft threads in the other fabric layer to form a knitted locked selvage of double loops.

3,266,530
APPARATUS FOR SIMULTANEOUS MANUFACTURE OF WIREBOUND CONTAINER MATS AND END UNITS
William J. Hogan, Dover, N.J., assignor to Stapling Machines Co., Rockaway, N.J., a corporation of Delaware
Filed Jan. 17, 1964, Ser. No. 338,496
2 Claims. (Cl. 140—74)



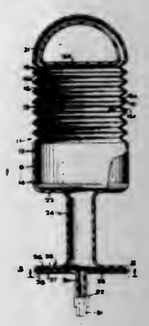
1. Apparatus for making wirebound container blanks comprising a stapling machine having two sets of conveyors arranged side-by-side, the first set being adapted to convey the side sections for said container blanks and the second set being adapted to convey the end units, with their respective parts in proper relative positions, past a single transverse row of stapling mechanisms by which staples are driven astride longitudinally extending binding wires and into said parts to form a continuous succession of side section assemblies connected by said binding wires, and a succession of end units, a loop fastener machine arranged to receive said succession of side sections, sever the binding wires in the intervals between adjacent container blanks and form the resulting wire ends into loop fasteners, an assembly table arranged to receive the side section assemblies issuing from said loop fastener machine, an end fastener forming machine adapted to receive said succession of end units, form the ends of the projecting wires into loops, to provide projecting wire fastening means for attaching said end units to said side section assemblies, a hopper positioned adjacent said assembly table to receive and support said end units in a generally vertical stack, and conveyor means for conveying said end units from said end fastener forming machine into the upper end of said hopper, said conveyor means including a motor-driven portion extending upwardly from said end fastener forming machine to a point above said loop fastener machine, and a gravity portion extending downwardly from said point to said hopper.

3,266,531
FRICTIONLESS LOADING METHOD AND APPARATUS
James W. McCown, Jr., Texarkana, Tex., assignor to Day & Zimmermann, Inc., Philadelphia, Pa., a corporation of Maryland
Filed Mar. 25, 1964, Ser. No. 354,589
15 Claims. (Cl. 141—1)



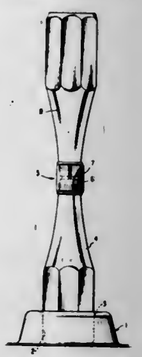
12. In a method of loading a powder from a hopper into a receptacle comprising the steps of continuously discharging powder through a throat in said hopper, collecting powder from said throat in a receptacle, diverting powder from said throat, moving the receptacle, returning the diverted powder to said hopper, ceasing the diversion of powder, and collecting powder in another receptacle.

3,266,532
TRANSFER CONTAINER
James U. Stewart, 1151 Macy St., Whittier, Calif.
Filed Mar. 16, 1964, Ser. No. 352,077
1 Claim. (Cl. 141—24)



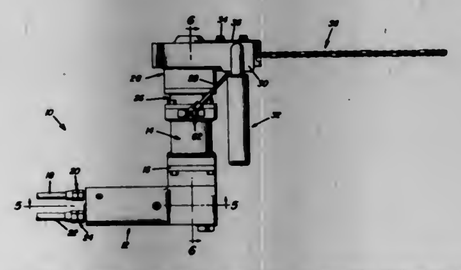
A unitary, continuous-walled transfer container formed of a stiff, flexibly resilient synthetic plastic material and comprising a generally cylindrical container body closed at its outer end and having an outer end section with a bellows-like side wall and an inner end section with a semi-rigid side wall, a hollow handle formed as a continuation of the outer end section with the interior of the handle open to the interior of the container body, a neck of substantially smaller diameter than said container body extending axially from said inner end section, a radial flange at the end of said neck, said flange being formed of two contiguous walls connected by a return bend peripheral wall section, and an inlet-outlet tube beyond said flange and of smaller diameter than said neck, said neck and tube providing an open passage from the interior of said container body to the exterior thereof.

3,266,533
DRAINAGE ASSEMBLY
Michael J. McHale, 136 W. Market St., Scranton, Pa.
Filed Apr. 10, 1964, Ser. No. 358,786
3 Claims. (Cl. 141—364)



1. A bottle coupling device of the character described for draining relatively viscous fluids, such as ketchup and the like, from one bottle into another, comprising a cylindrical sleeve providing a slip-fit connection between the threaded neck portion of each bottle, an annular lip formed on the inner surface of the sleeve intermediate the ends thereof for limiting the ingress of the neck portion of each bottle into the sleeve, said lip extending radially inwardly from the inner surface of the sleeve and having plane surfaces normal to the longitudinal axis of the sleeve for maintaining the upper surfaces of the bottle outlets in spaced relation to thereby prevent cracking or chipping thereof, and a pair of annular shoulders formed on the inner surface of the sleeve on opposite sides of said lip, each shoulder being positioned substantially intermediate the respective end of the sleeve and the corresponding side of said lip, said shoulders being adapted to engage the threaded portion of the bottle neck to thereby form an effective seal between the bottles.

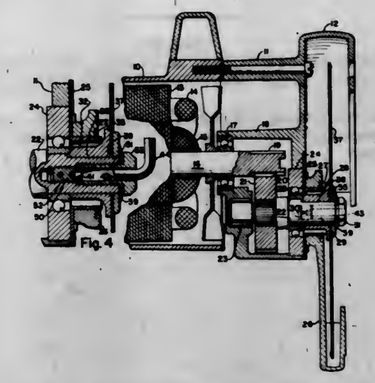
3,266,534
POWER OPERATED SAWING TOOL
Joseph Carnesecca, Jr., and Egidio Carnesecca, Springville, Utah, assignors to New Draulics, Inc., a corporation of Utah
Filed Sept. 19, 1962, Ser. No. 224,631
5 Claims. (Cl. 143—32)



1. In a power operated assembly, a rotably driven tool having cutting elements, a fluid motor, torque transmitting drive means establishing a constant rotatable driving connection between the motor and the tool to continuously load the motor, a source of fluid under pressure, passage means connecting said source to the motor including inlet and outlet conduits connected to the motor for driving thereof and a by-pass passage, valve means in said by-pass passage biased to an open condition for establishing unrestricted flow of fluid between the inlet and outlet conduits by-passing the motor, selectively actuated trigger means for closing said valve means to establish a pressure differential between said conduits, and coast preventing means responsive to opening of the valve means for instantaneously reducing said pressure differential between the conduits to stop drive of the motor by the tool.

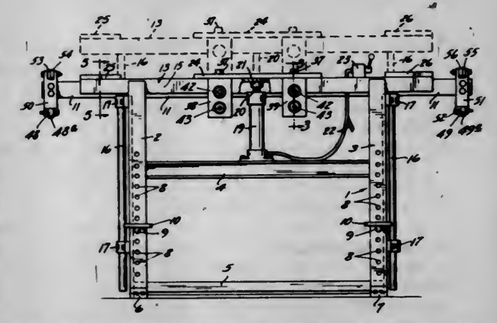
3,266,535
SAFETY BLADE CLAMPING MEANS FOR PORTABLE POWER SAWS
Kenneth G. Brodie, Greenville, S.C., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed June 1, 1964, Ser. No. 371,374
5 Claims. (Cl. 143—155)

1. In a power driven tool, the combination of a housing, a spindle journaled in said housing, said spindle having an externally accessible blind axial bore and a terminal portion presenting a non-circular cross section, first and second spacers formed with non-circular central openings and slidably received on said non-circular terminal portion of said spindle to rotate therewith, a saw blade free to turn on said spindle but held frictionally clamped between said spacers, a headed clamping screw having an axial bore and tapped into said spindle bore, a spring washer between the head of said clamping screw and one of said spacers, and means for adjustably limiting the axial movement of said clamping screw into the spindle bore including a set screw tapped into said spindle



bore and externally accessible for adjustment through the axial bore in said clamping screw to form a bottoming stop for said clamping screw.

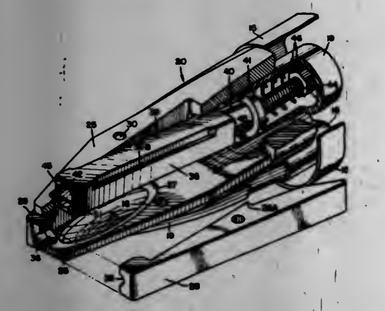
3,266,536
FIXTURE FOR MACHINING DOORS AND DOOR FRAME MEMBERS
Fred F. Pfeifer, Box 14, Liberty Lake, Wash.
Filed July 9, 1963, Ser. No. 293,716
7 Claims. (Cl. 144—3)



1. A fixture for machining doors and door frame members therefor, said fixture comprising a frame structure including a pair of generally vertically disposed legs having aligned front surfaces and aligned rear surfaces parallel to said front surfaces and a generally horizontal shelf disposed adjacent the tops of said legs, door supporting elements on said leg for supporting a door in face to face engagement with said front surfaces with one of the longitudinal edges of said door uppermost, said shelf being adapted to support a door frame member with one longitudinal edge of said door frame member in engagement with said rear surfaces of said legs, template means defining apertures for guiding a tool for machining cooperating hinge plate receiving recesses in said door and door frame member, a generally horizontally disposed beam overlying the upper ends of said legs and extending in a direction parallel to the longitudinal dimensions of a door and door frame member supported on said door supporting elements and shelf respectively, said template means being carried by said beam, a pair of generally vertically extending guide rods depending from said beam and one each being connected to a different one of said legs for generally vertical sliding movements relative to said legs to

alternately clamp and release a door and door frame supported by said supporting elements and shelf, and power operated means for imparting upward movement to said beam.

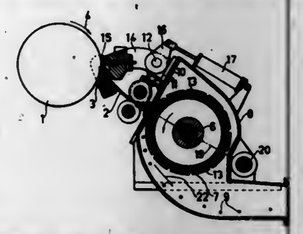
3,266,537
FASTENER-FEEDING AND HOLDING MECHANISM FOR POWER-DRIVEN FASTENER TOOLS
Otmar M. Ulbing, Lisle, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 2, 1964, Ser. No. 400,998
16 Claims. (Cl. 144—32)



1. In a power-driven, fastener-driving tool having a driven means mounted for rotation in a housing and connected to a source of rotary power, a fastener-feeding and holding mechanism comprising:
(a) a finder mounted on said housing for axial movement relative to the latter,
(b) said finder having an axial bore and at least a pair of jaws on either side of said bore for engaging a fastener,
(c) said finder having an entrance port communicating with said bore,
(d) conduit means connected at one end to a source of pressurized fluid and a source of fasteners and at the opposite end communicating with the bore at the entrance port in said finder,
(e) a tubular member disposed in the bore of the finder and substantially covering said entrance port,
(f) means for causing said tubular member to be displaced away from said entrance port and to allow passage of a fastener from said conduit means into said bore and toward the entrance port to substantially close said entrance port,
(g) a fastener-engaging bit disposed in said tubular member, and
(h) a flexible connecting means for connecting said fastener-engaging bit to said rotary driven means to thereby effect rotation of the bit and conjoined displacement of the bit with the tubular member.

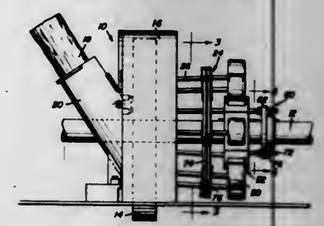
3,266,538
APPARATUS FOR PEELING AND DISINTEGRATING OF VENEER
Nils Hugo Sarv, Jonkoping, Sweden, assignor to Aktiebolaget Jonkoping-Vulcan, Jonkoping, Sweden
Filed Oct. 24, 1963, Ser. No. 318,750
Claims priority, application Sweden, Oct. 24, 1962, 11,395/62
3 Claims. (Cl. 144—50)

1. Apparatus for the peeling and desintegrating of veneer, comprising a veneer peeling knife, a rotatable cutter and feeding means located between said peeling knife and said cutter for advancing a single layer of freshly peeled veneer from said peeling knife to said cutter, said feeding means comprising a hollow support for the veneer, said support having its interior connected to a source of compressed fluid and having a plurality of nozzles extending from said hollow interior of the support to the upper face thereof in a direction which is in substantial



concert with the feed direction of the veneer, and a hold down plate parallel to the upper face of said hollow support and so spaced from said hollow support that the freshly peeled veneer is firmly supported by the hold down plate and the hollow support while said veneer is being advanced to the cutter.

3,266,539
SELF-SHARPENING CHIPPER
Oliver P. Gantt, 413 N. Forest Hill Drive, Brewton, Ala.
Filed Mar. 18, 1964, Ser. No. 352,774
16 Claims. (Cl. 144—176)



12. A wood chipping machine comprising, a flywheel, a drive shaft connected to the flywheel, a plurality of blade assemblies, means rotatably mounting said blade assemblies in the flywheel for projection therefrom at a small angle to the drive shaft, a log chute fixedly mounted adjacent to the flywheel for successive alinement with the blade assemblies carried by the flywheel, sharpening means displaceably mounted in offset relation to the blade assemblies for engagement therewith, a journal assembly mounted on said drive shaft in axial spaced relation to the flywheel for rotation therewith, spindles connected to each of the blade assemblies and rotationally supported in the journal assembly, planet wheels connected to said spindles, a flexible belt drivingly engaged with said planet wheels, and means fixedly anchoring said belt in engagement with the planet wheels under tension.

3,266,540
APPARATUS FOR PEELING FRUITS AND VEGETABLES
Clarence Bradham, Quincy, Ill., assignor of one-half to Francis E. Step, Quincy, Ill.
Filed Jan. 21, 1965, Ser. No. 426,805
7 Claims. (Cl. 146—49)

1. Apparatus for simultaneously removing surface layers from fruits and vegetables which apparatus comprises means defining a generally cylindrical chamber for receiving the fruits and vegetables, a serrated member at the bottom of said chamber, means for effecting rotary movement between said serrated member and said chamber, abrasive means disposed along the inner

cylindrical wall of said chamber, and resilient bumper means mounted within said chamber for deflecting the fruits and vegetables from their otherwise normal paths during rotary movement between said serrated member and said chamber so as to effectively tumble the fruits and vegetables and permit surface layer removal, said resilient bumper means including an elongated resilient

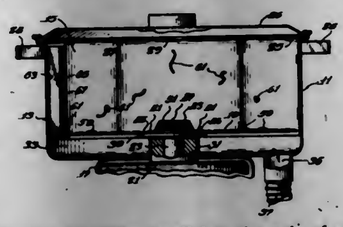
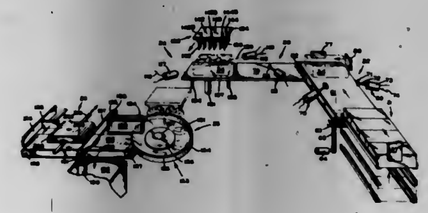


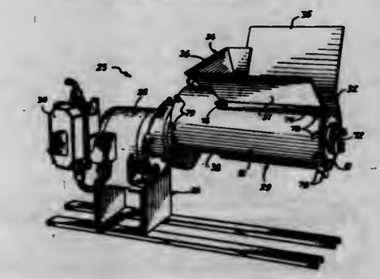
plate disposed generally parallel to the axis of said cylindrical chamber and means mounting said plate along one longitudinal edge thereof to the inner wall of said chamber so that it extends obliquely into said chamber and so that the other longitudinal edge thereof is free to move when contacted by the fruits or vegetables being treated.

3,266,541
PACKAGE OPENING AND DISPENSING MECHANISM
Leonard W. Kluytenaar, Stamford, Ferdinand F. Ferrary, Springdale, Stanley M. Dombrowski, Stamford, and Kenneth W. Austin, Milford, Conn.; said Kluytenaar assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed May 24, 1965, Ser. No. 458,249
9 Claims. (Cl. 146—72)



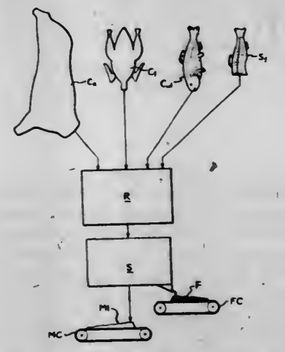
1. An apparatus for automatically dispensing individually items from packages containing a plurality of said items comprising in combination:
a storage compartment for housing wrapped packages and means for positioning said packages for delivery thereof on demand from said compartment;
means to accept packages dispensed from said compartment and deliver them to a wrapper servering device;
cutting means to sever the package wrapper;
transfer means for removing the packaged items from the severed package and transferring them to an orienting section wherein the items are individually dispensed and wherein the feed of additional packages from said storage compartment is initiated when the number of items remaining from previously severed packages is reduced below a predetermined quantity; and
electrically interconected motive means to dispense said wrapped package, to sever the wrapper thereon, to actuate the transfer means and to actuate the orienting and delivery of inidividual items.

3,266,542
MACHINE FOR SEPARATING FRAGMENTS OF BONE, GRISTLE OR SINEW FROM COMMINUTED MEAT
Stephen A. Paoli, 821 Westchester Drive, Rockford, Ill.
Filed Sept. 2, 1964, Ser. No. 393,966
12 Claims. (Cl. 146—76)



1. A machine for separating fragments of bone, gristle or the like from comminuted meat and comprising, in combination a casing, a revolvable member journaled on said casing, means for revolving said member, a helical rib on the outer peripheral surface of said member, a pressure bar disposed longitudinally of said member, an edge on said pressure bar disposed in relatively closely spaced relation with said outer peripheral surface of said member and said rib so as to preclude the passage of such fragments therebetween, means defining a sloping face on said pressure bar extending from said member at said edge and diverging therefrom in a direction opposite to the direction of movement of said member, means defining in front of said pressure bar an exposed portion of said outer peripheral surface of said member including said rib, and means for directing comminuted meat toward said exposed portion.

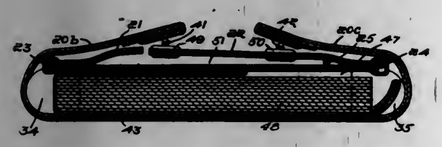
3,266,543
METHOD OF PRODUCING BONELESS COMMINUTED MEAT
Stephen A. Paoli, 821 Westchester Drive, Rockford, Ill.
Filed Aug. 17, 1965, Ser. No. 480,463
12 Claims. (Cl. 146—222)



1. The method of producing boneless comminuted meat comprising the steps of reducing a dressed animal carcass or portion thereof to a coarse agglomeration of

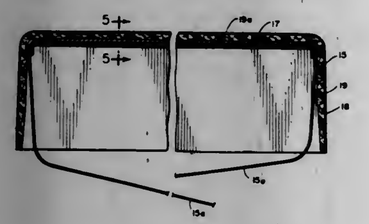
fragmented soft and hard tissues including meat, bone and cartilage; directing the agglomeration between a pressing means and a plurality of ribbed comminuting elements, the latter being relatively closely spaced with respect to each other and moving in an endless path; effecting continuous mechanical separation of the agglomeration by forcing boneless comminuted meat between said comminuting elements while the latter arrest and expel perceptible fragments of bone, cartilage and the like; collecting the separated boneless comminuted meat; and collecting the separated fragments.

3,266,544
BILLFOLD
Benjamin L. Snyder, Brookline, Mass.
(821 Hobson St., Union, N.J.)
Filed Sept. 13, 1963, Ser. No. 308,860
6 Claims. (Cl. 150—38)



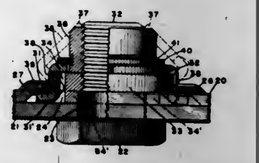
1. A billfold comprising a substantially rectangular compartment having a rear wall, rigid side walls, a top wall, and end openings, a first and a second flexible flap one extending over each of said end openings, a third flap overlying said top wall, a rigid frame member extending transversely along said top wall above one of said openings and securing said third flap to said top wall, and a continuous rigid bill receiving bail in the form of a rectangular loop disposed between said third flap and top wall and secured by said frame member.

3,266,545
STADIUM BENCH COVER
John W. Kruissink, Des Plaines, Ill., assignor to Dentin Mfg. Co., Melrose Park, Ill., a corporation of Illinois
Filed Apr. 28, 1965, Ser. No. 451,516
5 Claims. (Cl. 150—52)



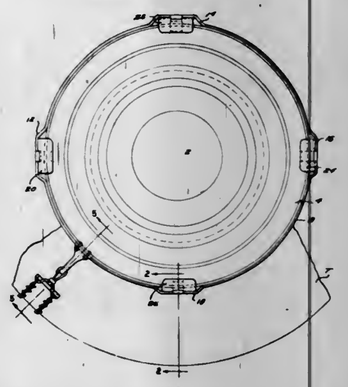
1. A stadium bench cover comprising a generally rectangular body constructed of plastic relatively resilient when compared to a wooden stadium bench, said body having an integral depending perimetric flange, a plurality of flexible straps mounted on the underside of said body and extending transversely the length thereof, said straps being equipped with free ends, and clamp means operably associated with said strap ends for coupling the same in clamping engagement with a stadium bench said body being constructed of a polyester resin having glass fibers embedded therein, said body having as an upper surface a layer of plastic substantially impervious to solar deterioration.

3,266,546
MOUNTING MECHANISM
Victor F. Zahodiakin, P.O. Box 689, Summit, N.J.
Filed Apr. 6, 1964, Ser. No. 357,654
8 Claims. (Cl. 151—41.76)



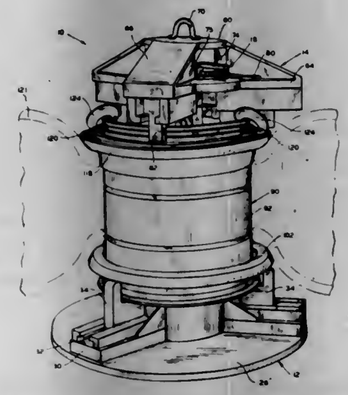
1. A mechanism of the character described, comprising in part a basal member and in part a device for removable attachment to the basal member, said basal member having two detents projecting from a surface thereof and providing open ports directed toward each other, and said device adapted to be located between said detents, said device consisting of at least two elements separable one from the other, one said element having a first rigid foot extending longitudinally toward and tiltably insertable in a said port under one of said detents, and another said element having a second rigid foot separately carried thereby from the element carrying the first said foot, said second foot extending longitudinally toward and tiltably insertable in the said port under the other detent, each said element and respective foot carried thereby constituting a rigid entity tiltable with respect to said basal member and to the respective detent for introduction of the foot into its port and under the detent thereat, said mechanism including means maintaining said elements assembled with respect to each other and with said feet engaged under said detents.

3,266,547
WHEEL ACCESSORY AND TIRE CHAIN ATTACHING DEVICE
Edward H. Sahagian, 46 Brent St., Dorchester, Mass.
Filed Feb. 10, 1965, Ser. No. 431,657
7 Claims. (Cl. 152—236)



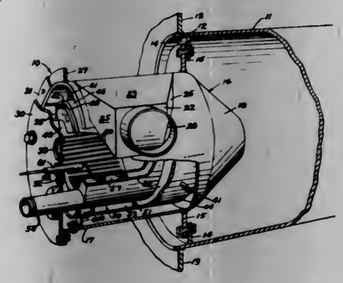
1. A wheel accessory for a vehicle wheel of the class having a rim and an inflatable tire thereon, said accessory comprising endless ring members mounted around the inner and outer sidewalls of the tire in a position to encircle the peripheral portions of the rim, means forming a part of the rings for engaging against adjacent rim surfaces, locking members for said means in clamped relationship with the rim, and said wheel accessory means forming a part of the rings consisting of retainer tongue portions formed to engage against adjacent exposed surfaces of the rim.

3,266,548
METHOD AND MEANS FOR DEMOUNTING TIRES
James A. Kolosowsky, Stevensville, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed May 24, 1965, Ser. No. 458,253
9 Claims. (Cl. 157—1.33)



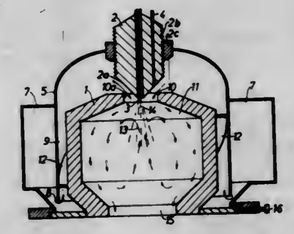
1. Apparatus for demounting tires from wheels having a rim, an annular tire flange at one side of the rim and tire bead seat means surrounding the rim at said one side for holding the adjacent tire flange, comprising press means for actuating the flange axially inwardly of the wheel, and clamp means locatable between the rim and bead seat means permitting limited inward axial movement of the bead seat means with the flange, said flange being further actuated by the press means axially of the wheel following said limited movement of the bead seat means.

3,266,549
GAS BURNER
John J. Wolfersperger, 21 Strawberry Circle, Mill Valley, Calif.
Filed July 3, 1964, Ser. No. 380,142
18 Claims. (Cl. 158—1.5)



1. A gas burner for use with boilers and the like, including in combination:
an outer shell having a generally cylindrical portion, and an axial outlet, said cylindrical portion having an air inlet opening.
a cylindrical sleeve supported concentrically within said cylindrical portion and spaced radially therefrom to define an annular air flow duct in communication with said air inlet opening,
an end plate closing one end of said burner and of said cylindrical portion, said sleeve being spaced axially therefrom to provide for radial inward passage of air from said duct,
an annular gas tube having an axial length shorter than said sleeve and mounted concentrically within said sleeve and spaced therefrom to provide a narrow annular air passage therebetween, said tube having an inner cylindrical wall with a series of narrow axially extending radial slots spaced around its circumference for projecting gas radially toward the axis of the burner, and
a gas supply conduit leading into said tube.

3,266,550
APPARATUS FOR BURNING OIL WITH A HIGH CARBON TO HYDROGEN RATIO
Walter Sick, Cologne-Bruck, and Hans Zirngibl, Duisburg, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Dec. 11, 1962, Ser. No. 243,812
Claims priority, application Germany, Apr. 4, 1959, F 28,119
6 Claims. (Cl. 158—4)

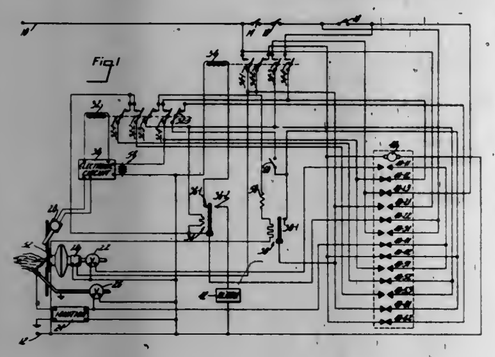


1. Apparatus for burning oil comprising axially symmetrical elongated combustion chamber means having an axially disposed, constricted, air inlet opening at one end thereof, and an axially disposed, constricted, outlet opening for burnt gases at the other end thereof, oil inlet means for dispersing oil in a spray adjacent the air inlet, said oil inlet means being axially positioned within said inlet opening spaced from the periphery thereof, a conically shaped baffle axially positioned about the oil inlet means adjacent said inlet opening with its vertex end disposed within said inlet opening, the convergence of the baffle cone being about 70–110°, said baffle with said inlet opening defining an annular air inlet, the area of said annular air inlet being about 30–50% of the area of said inlet opening, means for whirling air through the air inlet for admixing air and oil, said chamber means and its inlet opening and outer opening permitting the gases to flow in a spiral rotational vortex about the chamber axis and to provide a return stream of burnt gas adjacent the chamber axis, the ratio between the diameter of said inlet opening and said outlet opening for burnt gases being about 1:1.5 to 1:2.5, and the ratio between the diameter of said inlet opening and the largest diameter of the combustion chamber being about 1:3 to 1:5.

3,266,551
COMBUSTION CONTROL SYSTEM
Philip Giuffrida, North Andover, Mass., assignor to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts
Filed Aug. 31, 1965, Ser. No. 483,946
11 Claims. (Cl. 158—28)

1. Control apparatus for use with a combustion control system comprising a system control device, a flame sensor adapted to sense the presence of flame in a supervised combustion chamber, a device for controlling the flow of fuel into the supervised combustion chamber, a device for controlling the ignition of fuel flowing into the combustion chamber, a control for a blower that

supplies air to said combustion chamber, a first timer, first circuit means responsive to energization of said system control device for energizing said blower control and said first timer, a second timer including an actuator and a plurality of timer contacts sequentially opened and closed in response to operator of said actuator, second circuit means responsive to the completion of the timing cycle of said first timer for energizing said timer actuator, third circuit means responsive to operation of said timer actuator to operate said fuel control and said ignition control to initiate flame in said combustion chamber and to energize said flame sensor to supervise the existence of flame in said combustion chamber, a third timer, and fourth circuit means responsive to said flame sensor for energizing said third timer, and fifth circuit means responsive to completion of the timing cycle of said third timer for energizing an alarm.

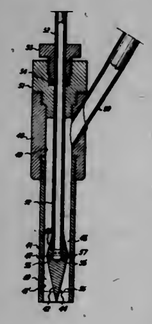


3,266,552

BURNER FOR PRODUCING A STABLE FLAME WITH A HIGH CONCENTRATION OF HEAT STABILIZED BY A SHOCK WAVE

Michel Denis, Saint Germain-en-Laye, France, assignor to Institut de Recherches de la Siderurgie Francaise, Saint Germain-en-Laye, France, a professional institution of France

Filed June 25, 1963, Ser. No. 291,600
Claims priority, application France, Feb. 21, 1959, 787,384, Patent 1,226,568; Dec. 29, 1959, 814,323, Patent 76,826; Feb. 12, 1960, 818,271, Patent 1,256,669; July 6, 1962, 903,196, Patent 1,335,143
5 Claims. (Cl. 158—76)



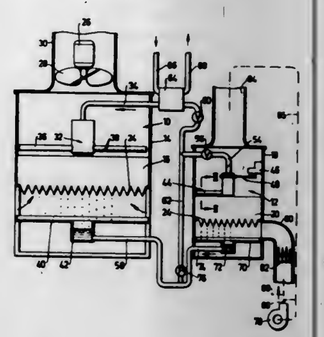
1. A burner for producing a stable flame in a high speed fluid field comprising, in combination, first conduit means having a straight axis for guiding a combustion sustaining fluid therethrough fed under pressure and at subsonic speed into one end of said first conduit means, said first conduit means having an outlet end opposite said one end; second conduit means for guiding a fuel fluid therethrough fed under pressure and at subsonic speed into one end of said second conduit means, said second conduit means being coaxially arranged in said first conduit means spaced from the inner surface thereof; and a body fixed to said second conduit means coaxially therewith in the region of said outlet end, said body comprising a pair of cone surfaces which taper in opposite directions and have a common base circle, thus defining within said first conduit means an annular convergent-divergent passage having a minimum cross section in the plane of said base circle such that the fluid passing therethrough will obtain sonic speed, said second conduit means communicating with said first conduit means only in the divergent portion of said passage so that the fluids passing through said conduit means will mix in said divergent portion, and the length of said divergent portion being such to produce in said divergent portion reduction of the pressure of said mixture below the ambient pressure at said outlet end.

3,266,553

METHOD AND APPARATUS FOR EVAPORATING A COMPONENT FROM A LIQUID CONTAINING SEVERAL COMPONENTS

Carl Georg Munters, 3 Danderydsvagen, Stocksund, Sweden

Filed Jan. 4, 1965, Ser. No. 425,674
Claims priority, application Sweden, Dec. 23, 1959, 12,174/59
2 Claims. (Cl. 159—4)



1. The method of regenerating the hygroscopic properties of a diluted liquid stream employed as desiccant in a system of absorbing moisture from a gas, in which system a primary stream of a liquid solution containing a hygroscopic component is circulated in cooperative contact with the gas to desiccate the latter, said system containing an absorptive element having extended surfaces upon which said stream is directed, said method comprising

diverting a portion of said primary stream circulating in said system to form a secondary stream,

delivering said secondary stream to said absorptive element, a first small portion of said stream being deposited as an adherent film on said surfaces,

passing a heated gas stream through said deposited first small portion of said secondary stream to evaporate liquid therefrom and concentrate said hygroscopic component,

flushing successive, restricted portions of said adherent film of said first small portion of said secondary stream with a continuously flowing large portion of said secondary stream to remove deposits of said concentrated hygroscopic component,

said flushing action leaving a fresh deposit as said adherent film which is not gas swept during said flushing, and

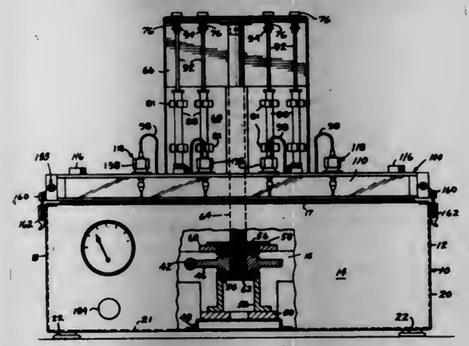
returning the said large portion of said secondary stream with the flushed deposited and concentrated hygroscopic component to the main stream.

3,266,554

APPARATUS FOR PREPARING SPECIMENS FOR CHROMATOGRAPHIC ANALYSIS

Gerald K. A. Browarigg, Golden Valley, Minn., assignor to Possis Machine Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Nov. 29, 1963, Ser. No. 326,743
19 Claims. (Cl. 159—5)



1. An apparatus for depositing fluid on a coherent sheet-like absorptive medium comprising a syringe including a plunger, a support, bracket means mounted upon said support to hold said syringe, a drive means including a drive motor, a drive member positioned for sliding movement upon said support, a drive assembly operatively connected between the drive member and the drive motor, means on the drive member adapted to engage said plunger, a nozzle, duct means communicating between the syringe and said nozzle, an air-tight housing surrounding said nozzle, said housing including an opening positioned concentric with said nozzle and in vertical alignment therewith on the lower side of said housing, sealing means mounted around the lower aspect of each of said opening, support means positioned beneath the sealing means and adapted to receive said sheet-like absorptive medium between the support means and the sealing means, said support means including an opening in alignment with said opening in the housing and vacuum means communicating with the opening in the support means for providing an air pressure differential across the absorptive medium.

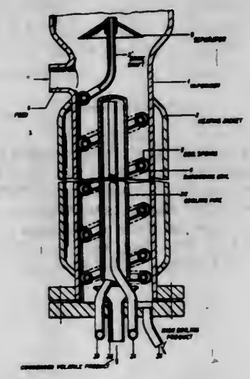
3,266,555

ROTATING COIL DISTRIBUTOR-CONVEYOR FOR CYLINDRICAL FILM EVAPORATOR

Bernd Thier, Marl, Germany, assignor to Chemische Werke Huls Aktiengesellschaft, Marl, Germany, a corporation of Germany

Filed Aug. 26, 1963, Ser. No. 304,362
Claims priority, application Germany, Sept. 5, 1962, C 27,857
5 Claims. (Cl. 159—6)

1. A heat-exchange apparatus comprising a vaporizer tube of circular cross-section having a heat exchange surface, means for supplying liquid to said surface, means for supplying heat to said surface and a spiral rotor mounted to move in contact with said surface, said spiral rotor comprising a resilient shrouding coil and a resilient supporting coil loosely disposed within said shrouding coil, said shrouding and supporting coils being wound in a helix disposed adjacent to said heat exchange surface, the said helix being mounted for rotation about the axis of said heat exchange surface.

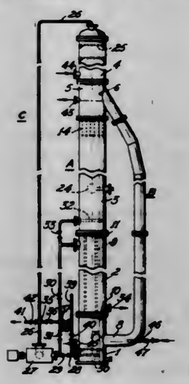


3,266,556

HEAT EXCHANGERS

Jan Michal Malek, 15 Allee Brimborion, Bellevue-Meudon, Seine-et-Oise, France

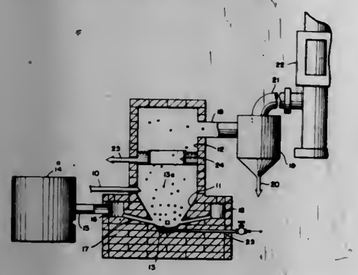
Filed Feb. 13, 1963, Ser. No. 258,192
Claims priority, application France, Feb. 14, 1962, 887,963, Patent 81,168
11 Claims. (Cl. 159—16)



1. A free recirculation heat exchanger comprising a hollow vertical heat transfer column in which a fluent material and a gaseous phase undergo treatment and are subject to heat transfer, said column having an inlet for the introduction of gaseous phase thereinto to reduce the density of the material in the column, means in said column associated with the latter inlet for distributing the gaseous phase within the column, first conduit means connected to said column for the recirculation of fluent material therein, means for introducing fresh fluent material into the assembly constituted by the column and the first conduit means, said column including a succession of chambers which from bottom to top include a base chamber to which the lower end of the first conduit means connects, a heat transfer chamber of the indirect heat transfer type, said heat tarnsfer chamber having inlet and outlet connections for a heat

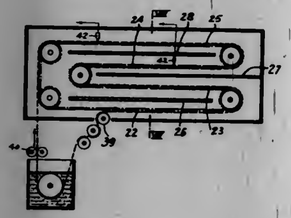
transfer fluid, an emulsifying and anticoalescing chamber including at the upper portion thereof a multiplicity of substantially vertical partition plates for emulsifying the gaseous phase and the fluent material, and a separation chamber for separating said gaseous phase and said fluent material, said separation chamber having a gaseous phase outlet and a fluent material outlet, said first conduit means being connected at its upper end to said fluent material outlet.

3,266,557
APPARATUS AND METHOD FOR TREATING PHOSPHORIC ACIDS AND THE LIKE
William R. Mustian, Jr., Lakeland, and Phillip E. Hynson, Winter Haven, Fla., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 25, 1964, Ser. No. 354,738
4 Claims. (Cl. 159—16)



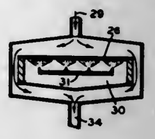
1. In a process for concentrating wet process phosphoric acid containing impurities, the steps of introducing said wet process phosphoric acid into a dehydration zone having a vapor outlet in the upper portion thereof and maintaining a pool thereof in the lower path of said zone, said zone providing an unobstructed path for vapor flow to said vapor outlet, directing upon the surface of said pool jets of hot combustion gases at an inclination to said pool for heating said acid to vaporize water and at a velocity to entrain acid droplets, withdrawing gas and vapors from the upper portion of said zone, collecting entrained acid droplets in said vapor space above said pool and withdrawing the same, and withdrawing acid from said pool.

3,266,558
APPARATUS FOR DEHYDRATION OF PASTY SUBSTANCES
Henri Griffon, 2 Place Mazas, Paris, France
Filed July 29, 1963, Ser. No. 298,074
Claims priority, application France, July 30, 1962, 905,493
5 Claims. (Cl. 159—44)



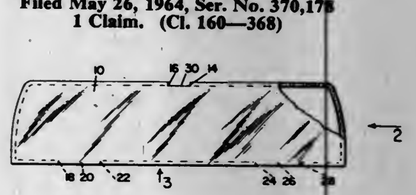
1. Apparatus for the dehydration of pasty substances comprising: a closed chamber having disposed therein a driven endless band whose faces are formed of a water-repellant plastic material; means for driving said endless band; roller means adjacent the faces of said band for spreading thereon said substance to be dehydrated; means for heating a gas; gas moving means for circulating said gas in said chamber in a stream parallel to the planes of the band and at right angles to the direction of movement of said band; and temperature sensing probes for measuring the temperature of said substance on said band in said chamber to control said gas heating means to maintain said substance on said band at a selected temperature not exceeding 37° C.

3,266,559
METHOD OF DRYING FOAMED MATERIALS, E.G. FOODS
Robert J. Osborne, Fairfield, Norman N. Potter, Stamford, and Joseph V. Flore and Thomas K. Kelly, Fairfield, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Feb. 15, 1963, Ser. No. 258,807
9 Claims. (Cl. 159—49)



1. A method of dehydrating a foam which comprises depositing a layer of said foam, upon a moving impervious metallic conveyor belt, passing a heated gas over said foam, impinging steam at the underside of said belt and continuing said dehydration until the moisture in said foam is substantially reduced.

3,266,560
AUXILIARY DETACHABLE WINDSHIELD CONSTRUCTION
John Mooskian, Rte. 146, Sutton, Mass.
Filed May 26, 1964, Ser. No. 370,178
1 Claim. (Cl. 160—368)



An auxiliary windshield for use with a conventional windshield having a rim holding the latter in position in a vehicle having a heater and a hot air vent associated therewith,

the auxiliary windshield comprising a plain, transparent, substantially flexible sheet that is conformable to the conventional windshield in shape, said sheet having top and bottom edges,

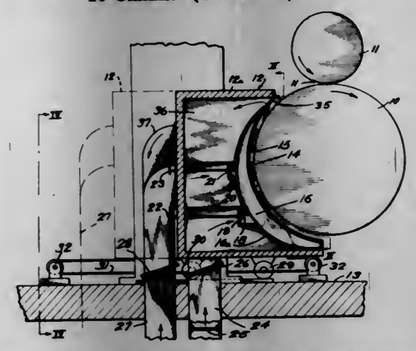
a strip of soft flexible material secured to the flexible sheet at the edges of one side surface thereof, said strip forming a seal, with the conventional windshield, and spacing the windshields forming a chamber therebetween,

aperture means located in the soft strip at the bottom edge of the auxiliary windshield providing an access for heated air from the hot air vent into the chamber,

aperture means located in the soft strip at the top edge of the auxiliary windshield providing an exit for the heated air in the chamber, the aperture means at the top edge of the auxiliary windshield being of less area than the aperture means at the bottom edge to restrict the flow of air through the chamber, providing a pressure rise in the chamber,

and means removably securing the auxiliary windshield to the conventional windshield at the edges thereof and holding the soft strip in chamber-sealing condition.

3,266,561
METHOD AND MEANS FOR CORRECTING THE CROWN OF A ROLL
Edward D. Beachler and Edgar J. Justus, Beloit, Wis., assignors to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Dec. 23, 1963, Ser. No. 332,679
10 Claims. (Cl. 165—2)

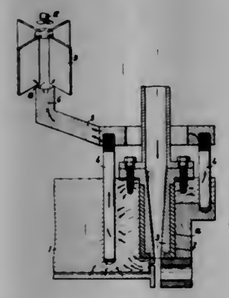


7. The method of crowning a roll which comprises,

mixing hot and cold air in chambers in controlled quantities for obtaining a plurality of chambers of air of different temperatures,

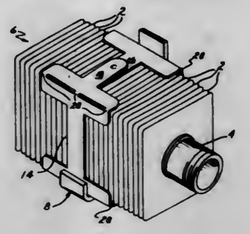
and directing air from the chambers along the length of the roll in a pattern so that an increasing or decreasing temperature of air is applied from the roll center to the roll ends for changing the crown of the roll.

3,266,562
DEVICE FOR COOLING A METALLIC MASS AND THERMAL PROTECTION SYSTEM COMPRISING SAID DEVICE
Henri Navarro, Fresnes, France, assignor to Societe Alcatel, Paris, France
Filed Dec. 2, 1963, Ser. No. 327,381
Claims priority, application France, Dec. 17, 1962, 918,893
6 Claims. (Cl. 165—47)



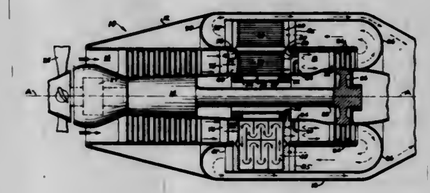
6. Apparatus for cooling a hot metallic mass having a longitudinal passage therein for the circulation therethrough of a hot fluid providing a heat source comprising: a series of parallel rods of high thermal conductivity set at spaced intervals in said mass around said passage; a metallic thermal conductor located outside said metallic mass thermally connected with each of said rods; a heat removal device spaced from said metallic mass and thermally connected with said thermal conductor for the removal of heat therefrom, and a thermal insulator disposed between said heat source and said metallic mass and surrounding, to at least a partial extent, said heat source.

3,266,563
PLASTIC SLIDE SHOE FOR FIN TUBE RADIATOR
Donald C. Sinclair, Westfield, Mass., assignor to Sterling Radiator Co., Inc., Westfield, Mass., a corporation of Massachusetts
Filed June 25, 1964, Ser. No. 377,826
1 Claim. (Cl. 165—82)



A slide shoe of molded polypropylene material for application to radiator tube elements provided with longitudinally closely spaced rectangular fins and for engagement therewith at support positions spaced along the length of said elements, said shoe comprising a unitary molded flat strip having four spaced corner panel members connected centrally of their end edges by narrow straps and strap portions extending from each end panel provided with interengageable snap fastener means at the outer ends of said portions, each said panel being divided transversely of said strip into hingedly related corner panel sections with the hinge line area of said panels being defined by perforations and spaced integral connector tab pieces of reduced thickness joining said sections adjacent the outer face of the panel, the inner face of said strip having aligned ribs upraised from the surface thereof extending between said hinge lines of the panels along the longitudinal center line of said strip, the outer face of adjacent spaced sections of the two central panel members each having a pair of spaced upraised ribs extending transversely of said center line.

3,266,564
LIQUID METAL ROTARY HEAT EXCHANGER
Andrew Sabatink, Mountain Lakes, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Feb. 11, 1964, Ser. No. 344,120
12 Claims. (Cl. 165—86)



1. A rotary heat exchanger including means for rotating said heat exchanger, said rotary heat exchanger comprising:

(a) a hub member;

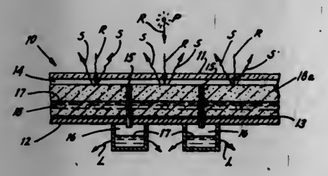
(b) a plurality of circumferentially-spaced heat exchanger elements secured to said hub member and extending radially therefrom with each said element including a plurality of interconnected substantially U-shaped passages extending from one axial end of said element to the other;

(c) partition means disposed intermediate the radial length of said elements and extending circumferentially between said elements such that said partition means forms the inner wall of a first annular gas flow path across which the radially outer portions of said elements extend and said partition means with said hub member also forming the outer and inner walls respectively of a second annular gas flow path across which the radially inner portions of said elements extend;

(d) a plurality of radially-spaced heat exchange fin members secured to and projecting circumferentially from both the radially inner and radially outer portions of said elements into heat exchange relationship with the gases flowing though said flow paths; and

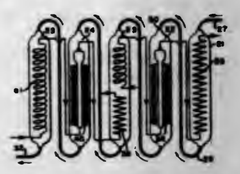
(e) a heat exchange liquid sealed within said elements for circulation through said passages in response to centrifugal forces acting on said liquid due to rotation of said heat exchanger for transferring heat between the radially inner and outer portions of said elements.

3,266,565
HEAT TRANSFER MEANS
John W. Tiley, Hatboro, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed June 12, 1962, Ser. No. 202,000
9 Claims. (Cl. 165—135)



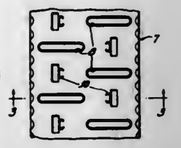
1. Panel structure for modifying the transmission of thermal radiation, comprising: a wall substantially transparent to thermal radiation; wall means spaced from and substantially coextensive with said wall, said wall and said wall means cooperating to define a first chamber; a layer of thermal radiation scattering material disposed between said wall and said wall means and having interconnecting fluid pervious passages therein; radiant heat transmissive fluid disposed within said first chamber, in the passages of said pervious layer, and capable of flow into and out of the latter, said fluid, said layer, and said transparent wall having substantially equal indices of refraction; means defining a fluid storage chamber in fluid flow communication with said first chamber and with said fluid passages; and means responsive to the presence or absence of thermal radiation upon said panel structure to effect, respectively, flow of said fluid out of and into passages of said pervious layer in said first chamber and to and from said storage chamber, said scattering material in combination with said fluid being effective to transmit thermal radiation through said panel structure, and said scattering material, in the absence of substantial quantities of said fluid in said chamber, being effective to scatter thermal radiation and preventing transmission of such radiation through said panel structure.

3,266,566
MULTI-COMPONENT HEAT EXCHANGER
Andre Huet, 48 Ave. du President Wilson, Paris, France
Filed Nov. 27, 1963, Ser. No. 326,442
Claims priority, application France, Dec. 17, 1956, 783,113, Patent 1,221,652
9 Claims. (Cl. 165—145)



1. A multi-component heat exchanger comprising, a plurality of substantially parallel columnar ducts arranged in a plurality of substantially parallel rows, a plurality of inlet headers comprising one of said inlet headers for each of said rows of ducts, said inlet headers being disposed parallel to the rows of columnar ducts, a plurality of outlet headers comprising an outlet header for said columnar ducts of each one of said parallel rows and disposed parallel to said rows, means for each columnar duct in said rows providing an inlet in communication with a respective common inlet header, means for each columnar duct in said rows providing an outlet in communication with a respective one of said outlet headers for flowing a heating fluid through said columnar ducts in parallel in each of said rows, means connecting in series the outlet headers of the columnar ducts arranged in the successive parallel rows of columnar ducts with the inlet headers of the next successive row of said parallel rows of columnar ducts, a plurality of heat exchange elements, each of said columnar ducts containing at least one of said heat exchange elements internally thereof, said heat exchange elements having means defining a fluid flow path counter to the direction of flow of heating fluid through a respective columnar duct in which the individual heat exchange elements are disposed and an inlet means and outlet means extending outwardly of the respective ducts and externally thereof, said heat exchange elements comprising a plurality of evaporators, superheaters and economizers arranged in a predetermined combination in said parallel rows.

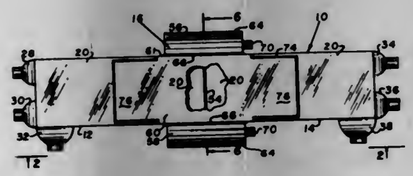
3,266,567
HEAT EXCHANGER
Edward P. Oddy and Lubomyr Kinal, Detroit, Mich., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Original application Dec. 20, 1962, Ser. No. 246,069, now Patent No. 3,182,481, dated May 11, 1965. Divided and this application Oct. 29, 1964, Ser. No. 413,674
5 Claims. (Cl. 165—151)



1. A self-stacking heat exchanger comprising supply and receiving headers, a plurality of spaced tubes interconnecting said headers, said tubes being arranged in

generally parallel relation, and a plurality of fins in superposed parallel relation connected to said tubes, said fins each having a plurality of spacer elements integral therewith, said spacer elements including a main body portion extending generally perpendicular to the plane of each said fin, said body portion having a pair of end portions curled back from the plane of the main body portion and toward each other and a third edge adapted to engage an adjacent fin.

3,266,568
CONNECTING MEANS FOR HEAT EXCHANGER CORES
Alan G. Butt and James J. Schauls, La Crosse, Wis., assignors to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Jan. 21, 1964, Ser. No. 339,134
6 Claims. (Cl. 165—166)



1. Heat exchanger apparatus comprising two elongated plate type cores connected together at one end wherein each core is substantially rectangular in cross-section normal to the longitudinal axis thereof and includes a plurality of elongated sheets disposed in superposed spaced relationship defining therebetween first and second groups of fluid passages, the outermost of said sheets defining first and second opposite sides of said core, the longitudinal edges of said sheets being coextensive with the third and fourth opposite sides of said core, means closing said passages at the peripheries thereof, each passage of said first group having an end port opening through said one end for communication with the end ports of the other core and each passage of said second group having a side port opening through said third side adjacent said one end; said cores being positioned in end-to-end relationship wherein said first, second, third, and fourth sides of one core are respectively substantially coplanar with the first, second, third, and fourth sides of the other core; a header extending longitudinally of the cores overlying the side ports of each core and terminating substantially short of the remote ends of said cores; means for transmitting a substantial portion of the force exerted by said header to said first and second sides of each core in areas longitudinally removed from said side ports and means sealingly separating said first ports from said second ports.

3,266,569
RECOVERY OF VISCOUS UNSATURATED CRUDE BY INTERMITTENT GAS INJECTION
Eugene L. Sterrett, Findlay, Ohio, assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
No Drawing. Filed Sept. 14, 1962, Ser. No. 223,824
4 Claims. (Cl. 166—2)

1. The process for the recovery of a viscous unsaturated crude from subterranean formations, having a plurality of wells drilled therein, said wells being equipped for injection and recovery operations comprising in combination:

(a) Injecting gaseous hydrocarbon solvent, in a portion of said wells having 1–4 carbon atoms in the amount of from about 10% to about 25% formation pore volume, into a treatment zone immediately adjacent the well bore;

(b) Allowing the treatment zone to remain essentially quiescent for from about 2 to about 4 hours while substantially maintaining the pressure within the treatment zone and thereafter;

(c) Withdrawing a mixture of solvent and petroleum from another portion of wells and thereafter;

(d) Reversing the flow by injecting a gaseous hydrocarbon solvent containing 1 to 4 carbon atoms into the portion of said wells that were previously production wells and recovering the mixture of solvent and petroleum through the portion of said wells previously used as injection wells with;

(e) Repetition of steps (a)–(d) above with successive cycles.

3,266,570
RECOVERY OF PETROLEUM BY DISPLACEMENT WITH MISCIBLE FLUIDS
William B. Gogarty, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
No Drawing. Filed May 27, 1963, Ser. No. 283,578
9 Claims. (Cl. 166—9)

1. The process for the recovery of fluid petroleum hydrocarbons from hydrocarbon-bearing formations comprising

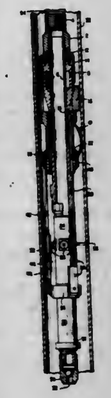
(a) injecting into the formation, through at least one injection well drilled into the formation, a slug of soluble oil;

(b) injecting into the formation a slug of emulsion;

(c) injecting into the formation water in amounts effective to drive the soluble oil and emulsion through the formation; and

(d) recovering, through at least one production well drilled into the formation, petroleum.

3,266,571
CASING SLOTTING
James C. St. John and Carroll L. Wilson, Bakersfield, Calif., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Mar. 5, 1964, Ser. No. 349,602
13 Claims. (Cl. 166—35)



11. A method for forming radial slots in a casing comprising directing a stream of abrasive fluid against said casing, rotating the directing means relative to the casing, and shielding a portion of the casing from the fluid stream.

3,266,572
STIMULATION OF PRODUCTION OF UNDERGROUND FLUIDS BY USE OF TECHNIQUES INVOLVING HIGH ENERGY COMBUSTION PRINCIPLES
Paul E. Woodward, Tulsa, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Dec. 6, 1963, Ser. No. 328,487
6 Claims. (Cl. 166—38)

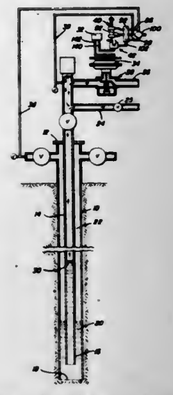
1. The method of treating a formation penetrated by a wellbore which consists essentially of injecting down the wellbore a first component of a hypergolic mixtue selected from the class consisting of liquid fuels and liquid oxidizers; injecting down the wellbore a spacer liquid which is substantially chemically inert to said first component; injecting down the wellbore a second component, to which said spacer liquid is substantially inert and which creates a hypergolic mixture when brought into contact with said first component, which is maintained spaced apart from said first component by said spacer liquid in the wellbore; injecting down the wellbore a liquid which is substantially inert to said second component in an amount sufficient to displace said first component, spacer liquid, and second component into the formation thereby to bring about some intermingling of said first and second components in the formation at a distance from the wellbore to cause combustion between said components and accompanying heat, pressure, and turbulence, extending over an appreciable length of time, whereby fractures are created and portions of the formation relatively remote from the wellbore are shattered and rendered more permeable.

3,266,573
METHOD OF FRACTURING SUBSURFACE FORMATIONS
Frederick H. Rixe, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Mar. 25, 1964, Ser. No. 354,782
8 Claims. (Cl. 166—42)

1. In the treatment of a subterranean formation penetrated by a wellbore wherein a fracturing fluid is forced down said wellbore to contact said formation under sufficient pressure to fracture said formation, the improvement comprising passing into the resulting fracture a fluid suspension of particulate solids comprising propping particles and spacer particles, the average propping particle size being at least about 7 times the average spacer particle size, and the volume ratio of the propping particles to spacer particles being between about 10:1 to about 2:1; permitting the overburden to settle on said propping particles in said fracture the fracture being propped open by said propping particles; and subsequently flushing said spacer particles from said fracture to provide fluid flow channels between the propping particles retained in said fracture.

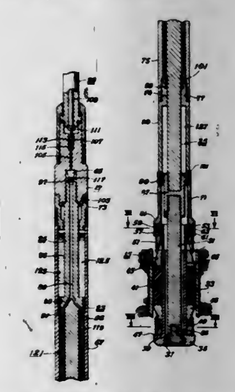
3,266,574
DIFFERENTIAL PRESSURE ADAPTER FOR AUTOMATIC CYCLE WELL CONTROL
Gary R. Gandy, 3518 Kayenta Drive, Farmington, N. Mex.
Filed Dec. 4, 1963, Ser. No. 328,006
8 Claims. (Cl. 166—53)

1. In combination with a flowing gas well having a casing, a tubing string therein having its lower end opening at the bottom of the casing and a gas flow annulus between said tubing string and casing; a normally open gas flow line communicating with said tubing, a normally closed liquid discharge line connected to said tubing for the intermittent discharge by casing gas pressure of liquids accumulating in said casing and tubing, an intermittently operable cyclic flow control device including an intermitter to open said liquid discharge line, an adapter including a differential pressure sensing unit connected to said casing and tubing, means connecting said sensing unit to said cyclic flow control device and pre-



venting operation of said intermitter until a predetermined pressure differential is detected between the casing and tubing pressures.

3,266,575
SETTING TOOL DEVICES HAVING A MULTI-STAGE POWER CHARGE
Harrold D. Owen, 4300 Lanard, Fort Worth, Tex.
Filed July 1, 1963, Ser. No. 291,850
5 Claims. (Cl. 166—63)



1. In combination with a well device adapted to be operated and set in a well bore and fluid actuatable means operatively connected to said well device, said means including a cylinder and a piston slidable in said cylinder; a multi-stage power charge disposed in said device, with one burning stage thereof being capable of generating gaseous pressure in said cylinder at a rate that is faster than a subsequent burning stage, and with the said gaseous pressure continuously increasing and reaching a maximum value during the burning of the final stage of said multi-stage power charge; and means for igniting said power charge.

3,266,576
WELL PACKER APPARATUS
David V. Chenoweth, Houston, Tex., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California
Filed July 23, 1963, Ser. No. 297,074
14 Claims. (Cl. 166—121)

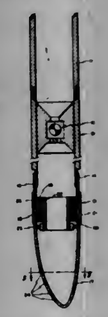
1. In a well tool: a body adapted to be moved longitudinally in a well conduit and having a passage for fluid;

normally retracted slip means on said body; expander means on said body relatively movable into engagement with said slip means to expand said slip means against the well conduit; a holding device within and movable longitudinally of said body and engageable with one of said means to prevent said expander means from expanding said slip means against the conduit when said device is in upper and lower positions within said body, but



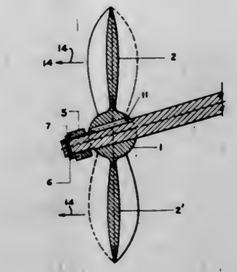
permitting said expander means to expand said slip means when in an intermediate position within said body; and valve means on said body operatively connected to said holding device and shiftable thereby to positions opening said passage when said device is in said upper and lower positions and also shiftable thereby to a position closing said passage when said device is in said intermediate position.

3,266,577
GUIDE SHOE
Ralph R. Turner, Calgary, Alberta, Canada, assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Oct. 14, 1963, Ser. No. 315,911
5 Claims. (Cl. 166—222)



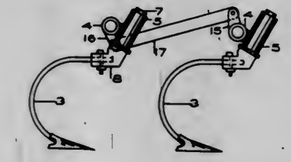
1. A guide shoe for attachment to a well conduit which comprises a body member adapted to be connected to the lower end of said conduit; a tapered nose member swivelly attached to said body member and extending forwardly thereof, the forward end of said nose member being eccentric with respect to said body member; and a plurality of circulating ports in said nose member placing the interior of said nose member in flow communication with the exterior thereof, said circulating ports being positioned tangentially with respect to the wall of said nose member to impart a rotary motion thereto when a fluid is passed downwardly through said shoe.

3,266,578
PROPELLERS FOR BOATS AND SHIPS
William J. McNeil, 719 Kahl Bldg., Davenport, Iowa
Filed Jan. 6, 1965, Ser. No. 423,713
5 Claims. (Cl. 170—159)



5. A fluid propelling assembly comprising a main drive shaft; a ball shaped hub fixed to the shaft and having an outer spherical surface formed about a point on the axis of the shaft; and a plurality of blades rigid with the hub extending radially in respect to the hub and at different angles in respect to the shaft whereby the blades are axially offset in respect to one another.

3,266,579
CASTOR MOUNTING FOR CULTIVATOR SHANKS
Walter David Hofer, Brocket, Alberta, Canada
Filed June 22, 1964, Ser. No. 376,839
3 Claims. (Cl. 172—748)

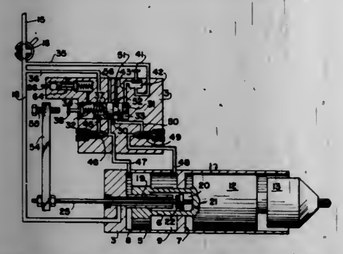


1. In a cultivator having a cross member and a cultivating shank, means mounting the shank on the cross member, said means including a sleeve free to turn axially on the cross member, a castor sleeve fixed to the cross member sleeve, and a shank mounting element, said element including a leg mounted free to turn in the castor sleeve, said leg having a lower boot portion to which the shank is attachable.

3,266,580
FLUID-OPERATED ROTATING AND RECIPROCATING TOOL
John M. Clapp and Emanuel G. Spyridakis, Athens, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 27, 1964, Ser. No. 341,486
18 Claims. (Cl. 173—19)

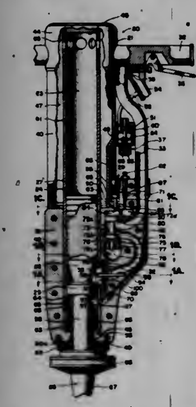
1. A fluid-operated tool for rotating and axially reciprocating a tool implement, said tool comprising:
(a) a body;
(b) a fluid-operated rotary motor mounted in said body for axial reciprocating movements;
(c) a tool spindle connected to said rotary motor for rotation thereof;
(d) tool feeding means in said body for feeding said rotary motor and spindle forwardly through a forward stroke and then retracting it rearwardly through a return stroke;
(e) a fluid pressure source; and

(f) first valve means operative, in response to the starting movement of said rotary motor along its forward stroke, to open and connect said fluid pressure source to said rotary motor for driving it;



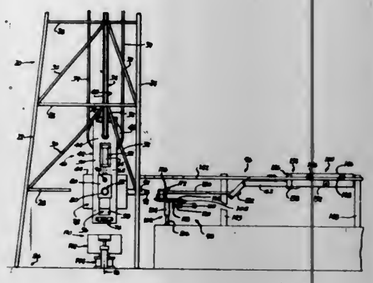
(g) said first valve means remaining open for driving said rotary motor throughout the forward and return strokes of said rotary motor.

3,266,581
VIBRATIONLESS POWER TOOL
Gordon A. Cooley, Chicago, and Charles Leavell, Lombard, Ill.; said Cooley assignor to Mechanical Research Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 1, 1963, Ser. No. 320,635
54 Claims. (Cl. 173—162)



5. In a percussive tool having a casing in which the occurrence of vibration is undesirable, a work member slidably carried by said casing for limited axial movements with respect thereto, a hammer axially reciprocable within said casing for the successive intermittent delivery of impact force to said work member, means for establishing throughout the cycle of hammer reciprocation a continuous axial force operative between said casing and hammer tending to propel the hammer in the direction toward said work member and to cause the casing to recoil in the opposite direction, means for applying to said hammer in opposition to such continuous force a cyclically varying axial force serving to energize the reciprocatory cycle of said hammer by varying in magnitude to alternately become greater than said continuous force to overcome the same and propel said hammer in the axial direction away from said work member and less than said continuous force whereby said hammer is then propelled in the axial direction toward said work member, means for restricting such continuous force to a sufficiently constant value throughout each reciprocatory cycle of said hammer to substantially prevent the transmission through such continuous force of sensible vibration from said hammer to said casing while at the same time permitting limited variations in the value of such continuous force in response to the reciprocatory displacements of said hammer, and means operative to control the aforesaid means for applying such cyclically varying axial force to said hammer and being responsive to such force variations for governing the reciprocatory cycle of said hammer.

3,266,582
DRILLING SYSTEM
George Homanick, Livonia, Mich., assignor to The Leyman Corporation, Cincinnati, Ohio
Filed Aug. 24, 1962, Ser. No. 219,264
8 Claims. (Cl. 175—57)



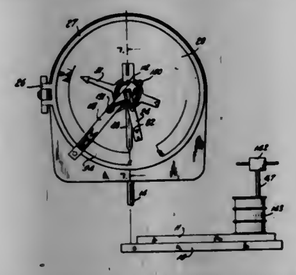
4. In a method of removing a stand of pipe from a drill string, the steps of
grasping the top end of the stand,
trapping the bottom end of the stand,
breaking the stand out of the string, and
simultaneously moving the top end vertically downwardly along and adjacent the drill axis and moving the bottom end away from the drill axis to swing the stand from coaxial alignment on the drill axis to horizontal.

8. In a drilling system,
a derrick having vertical guide means thereon,
a travelling block,
means for moving said travelling block along said vertical guide means,
said travelling block including a body member,
guideway means on said body member,
a drillhead mounted for movement on said guideway means,
means supporting said drillhead for pivotal movement between vertical and horizontal positions,
and means for pivoting said drillhead.

3,266,583
SCALE INDICATOR MECHANISM CONTROLLING CONTAINER WEIGHING AND FILLING OPERATIONS
John D. Hale, St. Johnsbury, Vt., assignor to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware
Original application May 15, 1963, Ser. No. 280,666. Divided and this application Sept. 23, 1965, Ser. No. 489,561
2 Claims. (Cl. 177—68)

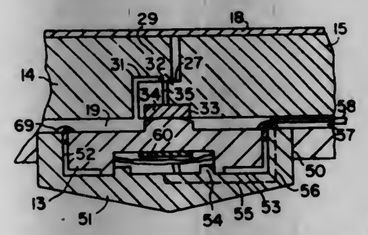
1. In weighing apparatus for container filling to preselected filling material weight, having a load receiver for the container and including indicator means providing a shaft connected to the load receiver to be turned in response to weight measuring operation of the apparatus, a weight indicia bearing dial, and a gross weight dial pointer on the shaft for movement thereby over the dial;

the combination therewith of a member rotatably journalled on said shaft, a net weight dial pointer on said member, clutching means fixed on said shaft and operable by fluid pressure from an inactive condition to clutching engagement with said member for shaft turning of said net weight pointer, fluid pressure operated motor means for biasing and turning said member in the direction to position said net weight pointer in alignment with the zero weight indicia of the dial, fluid pressure supply means in connection to said clutching means and motor means, including a control valve biased to an initial control position to determine fluid pressure supply only to said motor means and operable to a second control position to determine fluid pressure supply only to said clutching means, an actuator operable by fluid pressure to operate said con-



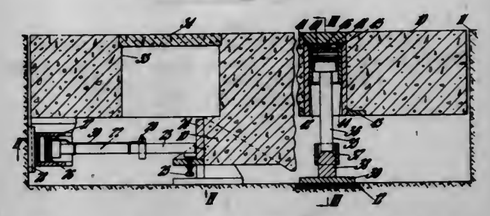
trol valve to its second control position, a device operable by fluid pressure for causing delivery of filling material to the container on the load receiver, a second fluid pressure supply means in connection to said actuator and said device, a container filling cut-off indexing element movable about said shaft as an axis and positionable in registry with weight indicia on said dial representing the desired net weight of material to be admitted to the container, and cooperating means on said indexing element and said member effective through said second supply means upon movement of the net weight dial pointer to the position of said indexing element, to relieve fluid pressure supply to said actuator and device, for causing said device to cease material delivery to the container and causing return of said control valve to its said initial control position.

3,266,584
VEHICLE WEIGHING SCALE WITH OVERLAPPED LOAD BEARING PLATES
Clyde E. Lee, 2201 Winsted Lane, Austin, Tex.
Filed May 3, 1965, Ser. No. 452,584
5 Claims. (Cl. 177—134)



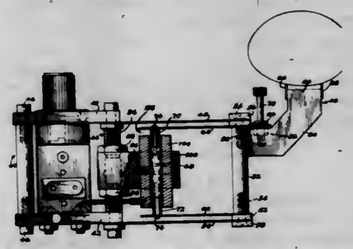
1. A weighing device comprising a frame including a top and a bottom, an opening in said frame, a base secured to the bottom of said frame and a diaphragm secured to the top of said frame, a plurality of plates positioned in said opening and bearing against said diaphragm, a lap joint between adjacent plates of said plurality of plates, a plurality of load transducers supporting each of said plurality of plates, temperature compensating means connected to selected plates of said plurality of plates, and indicator means connected to said load transducers and temperature compensating means.

3,266,585
ELECTRICAL WEIGHING APPARATUS
Campbell Dean Bondle, Caerleon, England, assignor to Girling Limited, Tyseley, Birmingham, England
Filed Feb. 8, 1965, Ser. No. 431,139
Claims priority, application Great Britain, Feb. 24, 1964, 7,538/64
5 Claims. (Cl. 177—154)



1. Electrical weighing apparatus comprising fixed structure, a load carrying member, at least one load cell on which said member is supported on the fixed structure, said load cell producing an electrical signal related to the magnitude of a load on the load carrying member, restraining members respectively restraining horizontal movement of the load carrying member relatively to the fixed structure in two mutually transverse directions, at least one restraining member for restraining movement in one of said directions being disposed near one end of the load carrying member, and means whereby relative horizontal movement between the load carrying member and the load cell can take place, each restraining member comprising a rod carrying at one end a piston engageable in a cylinder, the cylinder defining a space between its end and the piston which is filled with a fluid, and means being provided for filling the spaces in the respective cylinders to adjust the relative positions of the load carrying member and the fixed structure in an horizontal plane.

3,266,586
WEIGHING MACHINE
Walter J. Reading, Ottumwa, and Paul D. Keser, West Burlington, Iowa, assignors, by mesne assignments, to Barker Poultry Equipment Company, Ottumwa, Iowa, a corporation of Iowa
Filed Jan. 27, 1964, Ser. No. 340,229
6 Claims. (Cl. 177—210)



1. A scale mechanism for grading machines comprising, in combination,
a frame assembly,
spaced upper and lower spring plates secure at one end thereof to said frame assembly and projecting horizontally therefrom,
post means interconnecting the outer ends and maintaining the spacing of said spring plates,

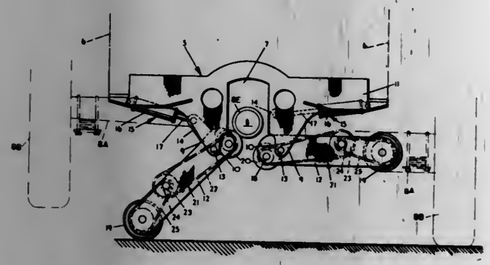
a pair of spaced rigid arms carried by said post means and projecting therefrom horizontally inwardly between said spring plates and toward said frame assembly,

a transducer body having a vertical bore therethrough, said body being carried by said frame assembly and positioned between the inner ends of said arms,

a transducer core positioned in said bore and projecting from each end thereof, said core being carried in said position between the spaced inner ends of said arms,

and an article-receiving platform rigid with the outer ends of said spring plates and positioned outwardly therefrom.

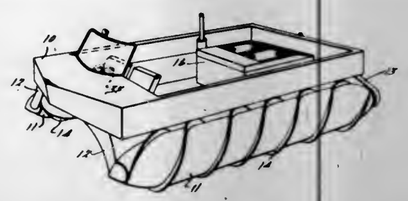
3,266,587
AUTOMOBILE PARKING ATTACHMENT
David Leslie Roberts, Victoria Road, Oswestry, England
Filed Oct. 20, 1964, Ser. No. 405,225
6 Claims. (Cl. 180—1)



1. In a vehicle having a lonitudinal transmission shaft, a pair of axles disposed transversely to the transmission shaft, a ground-engaging road wheel supported at each end of each axle, and suspension means disposed between the axles and the vehicle, a wheel assembly for use in parking or moving the vehicle and comprising a pair of transversely-spaced arms pivotally connected to the underside of the vehicle for movement in a transverse plane, the arms being of a length greater than the distance between the underside of the vehicle and the ground, a ground-engaging wheel carried at the pivot-remote end of each arm, a driving wheel at the other end of each arm and engageable with the transmission shaft, drive means operatively connecting the driving wheel and the ground-engaging wheel of each arm, a piston-and-cylinder device connected between each arm and the underside of the vehicle to effect pivoting movement of the arms from a substantially horizontal position, wherein the driving wheels are spaced from the transmission shaft and the ground-engaging wheels are clear of the ground, downwardly and inwardly to a substantially upright position wherein the driving wheels are in driving engagement with the transmission shaft, the ground-engaging wheels are in contact with the ground, and the vehicle suspension means is compressed due to the length of the arms, and vice versa.

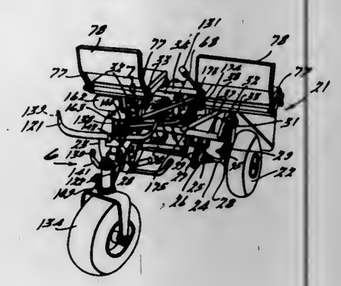
3,266,588
VEHICLE STEERING SYSTEM
Martin J. Neumeyer, Utica, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Feb. 14, 1964, Ser. No. 344,969
5 Claims. (Cl. 180—6.2)

5. In a vehicle, means for propelling said vehicle comprising separate operable ground engaging means at the opposite sides of said vehicle and adapted to be operated independently of each other at different relative speeds to steer said vehicle, separate power trains associated with said separate ground engaging means respectively to operate the same, the power train associated with one of said ground engaging means including a first power driven means and a second driven means, said second driven means being operatively coupled with said one ground engaging means to drive the latter, a source of electrical energy, electrically actuated clutch means for interconnecting said power driven and second driven means to drive the latter from the former, electrically actuated brake means for braking said one ground engaging means, variable rheostat means having contact means movable in one direction for a neutral position, switch means cooperable with said source of energy, rheostat means, and clutch means for connecting said source of energy with said clutch means to supply maximum energy thereto when said contact means is at said neutral condition and for connecting said clutch means through said rheostat



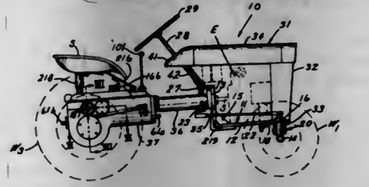
means to progressively decrease the energy thereto upon movement of said contact means in said direction throughout a first range of positions from said neutral condition, said switch means being also cooperable with said source of energy, rheostat means, and brake means for maintaining an open circuit between said source of energy and said brake means when said contact means is at said neutral position and upon movement of said contact means through a second predetermined range of positions in said one direction from said neutral position, and for connecting said brake means to said source of energy through said rheostat means to progressively increase the energy thereto upon movement of said contact means in said one direction beyond said second range of positions, said first range of positions overlapping said second range of positions.

3,266,589
FOLDABLE GASOLINE DRIVEN GOLF CART
Gerald Harris, 8015 Agnes St., Detroit, Mich. 48214
Filed July 14, 1964, Ser. No. 382,451
22 Claims. (Cl. 180—27)



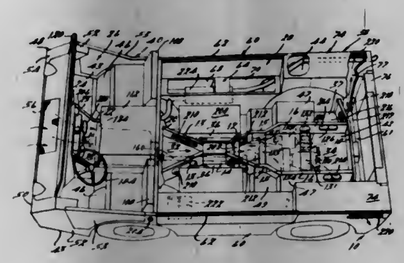
1. In a golf cart, an axle, a frame on said axle, a pair of wheels on said axle, an engine on said frame, means driven by said engine for driving said axle and wheels, an arm having one end pivoted to one side of the frame with the other end swingable to a position adjacent to the other side thereof, steering means on said arm, and a wheel on said steering means.

3,266,590
GARDEN TRACTOR
Max Hungerford, La Grange Township, Cass County, Mich. (R.F.D. 3, Dowagiac, Mich.)
Filed Sept. 1, 1961, Ser. No. 135,591
2 Claims. (Cl. 180—54)



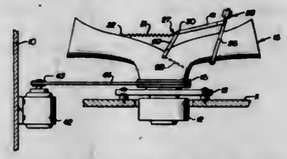
1. A tractor comprising: a rigid frame including a substantially L-shaped engine support having an upright leg and a horizontal leg extending forwardly from the lower end of said upright leg, a horizontal drive shaft housing rigidly affixed to said upright leg and extending rearwardly therefrom, a transmission and rear axle housing rigidly affixed to said drive shaft housing and extending rearwardly therefrom; rear wheels mounted on said transmission and rear axle housing and steerable front wheels mounted on said engine support; an engine mounted on said horizontal leg of said engine support and having a drive shaft extending through said upright leg and said drive shaft housing and thence into said transmission and rear axle housing; a bracket extending upwardly and rearwardly from the upper end of said upright leg; a dashboard mounted on said bracket and disposed above said drive shaft housing; a steering wheel; a steering column extending downwardly and forwardly from the steering wheel through the dashboard and linkage connecting said steering column to said front wheels; a hood having an upright grill pivotally connected adjacent its lower end to the forward end of said horizontal leg, said grill being positioned in front of the engine and between the front wheels, said hood having top panel means extending rearwardly from the upper end of said grill, the rearward end of said top panel means engaging the forward end of the dashboard, said top panel means overlying the engine, and cooperating latch parts on said dashboard and on said top panel means for releasably securing said hood against pivotal movement.

3,266,591
MILITARY VEHICLE
Achilles C. Sampietro, Bloomfield Hills, and Kenneth G. Matthews, Grosse Pointe Woods, Mich., assignors to Kaiser Jeep Corporation, Toledo, Ohio, a corporation of Nevada
Filed July 17, 1963, Ser. No. 295,634
19 Claims. (Cl. 180—54)



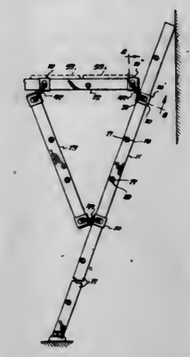
1. A body assembly for a vehicle comprising: an outer shell assembly, said outer shell assembly including a bottom member; means including said bottom member defining compartments; a floor assembly spaced from said bottom member and extending generally the full width and for a substantial portion of the length of the vehicle to substantially close said compartments; and means defining a ventilating passageway through said compartments.

3,266,592
VARIABLE SPEED MULTI-CHANNEL PULSATO ROTOR
Donald J. Leslie, Altadena, Calif. (% Electro Music, P.O. Box 2267D)
Filed Oct. 22, 1965, Ser. No. 502,121
9 Claims. (Cl. 181—27)



1. In apparatus for producing acoustic pulsato: a support mounted for rotation about an axis; means forming a plurality of angularly spaced sound channels on the support, said sound channels having sound emitting openings spaced from the axis of said support; means imparting rotation to the support at selected rates for determining the intensity of pulsato produced by the sound emitting openings of said channels; and switching means changing the operative number of sound channels in accordance with the rate of rotation of said support in order to maintain substantially constant, the rate of recurrence of the sound radiation pattern produced by said sound channels whereby the characteristic pulsato rate is maintained despite changes in the rate of rotation of said support.

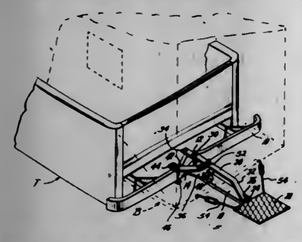
3,266,593
LADDER BRACKET
Michael J. Okie, 527 Ave. G, Redondo Beach, Calif., and Melchior V. Okie, 568 Broadway, Lancaster, N.Y.
Filed Sept. 27, 1965, Ser. No. 490,468
24 Claims. (Cl. 182—27)



14. A ladder-scaffold construction comprising first, second and third ladder sections each having side rails and hollow rungs extending between said side rails; first, second, and third ladder brackets for coupling said first and second, second and third, and third and first ladder sections, respectively, to thereby cause said first ladder section to function as a ladder and said second ladder section to function as a base for supporting planking and said third ladder section to function as a brace extending between said first ladder section and said third ladder section; each of said first, second and third ladder brackets

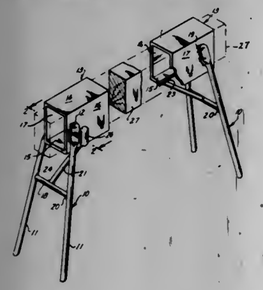
comprising a pair of bracket sections each having a body member, first and second side rail bracketing means spacedly mounted on certain of said body members, each of said first and second side rail bracketing means having a portion for receiving the side rails of a ladder section, an open portion in each of said side rail bracketing means for receiving a rung to thereby permit each of said first and second side rail bracketing means to have sliding engagement onto the side rails of said ladder sections, and means for effectively coupling said body members to each other.

3,266,594
STEP FOR CAMPER BODY VEHICLES
George J. Antosh, 11725 Biscayne, and Andrew S. Hammons, 1229 Demaret, both of Houston, Tex.
Filed Dec. 17, 1964, Ser. No. 419,000
8 Claims. (Cl. 182—91)



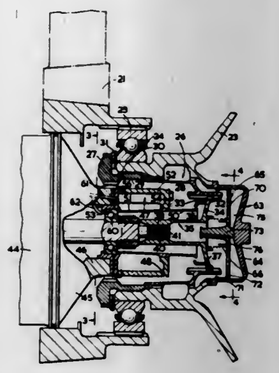
1. In a step for attachment to a rear bumper of a vehicle having a body extending rearwardly beyond said bumper to position the step at a location rearwardly of the body, upper and lower elongated support elements, means for connecting the elements to said bumper with the elements extending horizontally rearwardly away from and the forward end of said upper element above and the forward end of the lower element below the bumper and a rear end portion of said lower element extending rearwardly beyond said body, the rear end portion of said upper element being connected to said lower element at a point mediate the ends of said lower element, and a step plate carried on said rear end portion of said lower element.

3,266,595
TRESTLE CONSTRUCTION
Friedrich Bormann, 9 Serpentine Road, Tenafly, N.J.
Filed Jan. 7, 1965, Ser. No. 423,917
1 Claim. (Cl. 182—181)



A trestle consisting of two like uprights and a beam, each upright consisting of two outwardly and divergently extending cylindrical legs, an elongated sleeve rectangular in cross-section having top and bottom walls and opposed side walls, each of said legs having the upper extremity thereof flattened and widened to provide enlarged ears having a width greater than the diameter of the leg, the ears being deformed out of alignment with their respective legs into mutual parallelity, said ears being welded to the opposed side walls of the sleeve in mutual alignment, a horizontal cylindrical cross-tie extending between said legs above the middle of the height of the legs and having the extremities thereof welded to the legs, an angularly extending cylindrical brace having the lower extremity thereof welded to said cross-tie at the midpoint of the cross-tie and having the upper extremity thereof flattened and widened to provide an enlarged ear, said last-named ear being deformed out of alignment with said brace into parallelity with said bottom wall of said sleeve and being welded to said bottom wall, said beam having substantially the same cross-sectional area and conformation as the passage through said sleeve, the ends of said beam registering in said two sleeves, each of said sleeves having a threaded hole through one side wall thereof, that one of said first-named ears which is welded to said one side wall of the sleeve completely surrounding said hole, a second threaded hole extending through said one of said first-named ears in alignment with said first-named hole and together with said first-named hole providing a continuous threaded hole, a set screw extending threadably through said continuous threaded hole and adapted to be tightened against said beam, said legs, said cross-tie and said brace consisting of hollow pipe.

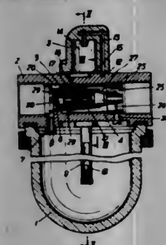
3,266,596
LUBRICATION OF BEARINGS
Robert Vaughan Blackhurst, Ripley, Derby, and Eric Evans, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed July 1, 1963, Ser. No. 291,882
Claims priority, application Great Britain, Aug. 2, 1962, 29,820/62
5 Claims. (Cl. 184—6)



1. Apparatus comprising a casing, a first bearing which is mounted within and carried by said casing, a first shaft which is rotatably mounted in and supported by the first bearing, an annular member which is mounted within and radially spaced from said first shaft and which is carried by said casing, an annular lubricating oil reservoir which is carried by said annular member, a second bearing which is mounted within and carried by said annular member, a first oil conduit which extends through the annular member to said reservoir, a second oil conduit which communicates both with the first oil conduit and with the second bearing, a second shaft which is rotatably mounted in and supported by the second bearing, a frusto-conical member rotatable by said first shaft, said frusto-conical member having a smaller diameter part diverging into a larger diameter part, means enabling lubricating oil from said reservoir to drip onto the smaller

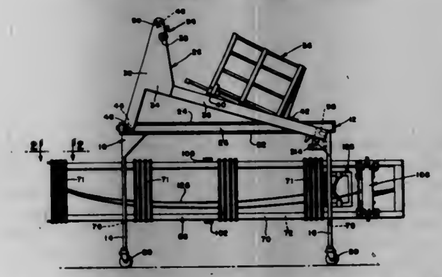
diameter part of the frusto-conical member, means enabling lubricating oil to pass from the larger diameter part of the frusto-conical member to the first bearing, and means for supplying lubricating oil to said first oil conduit.

3,266,597
ATOMIZER
Herbert Söchting and Gerhard Hitschmann, Vienna, Austria, assignors to Hoerbiger Ventilwerke Aktiengesellschaft, Vienna, Austria
Filed June 25, 1964, Ser. No. 377,936
Claims priority, application Austria, June 25, 1963, A 5,077/63
10 Claims. (Cl. 184—56)



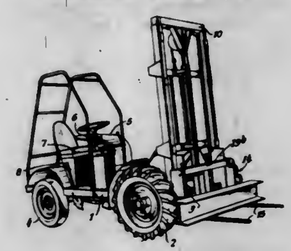
1. An atomizer, particularly for lubricants, comprising an atomizer head provided with a container for the material to be atomized, an air duct for the passage of air traversing said atomizer head and a throttle valve in the said air duct, said throttle valve comprising a valve body slidably guided in the air duct and co-operating with a valve seat provided in the air duct and pressed against the valve seat by means of a valve spring, the said valve body tapering off in the direction of the current in the air duct at least in the area of its extremity facing away from the current, its axial length located behind the point of contact with the valve seat being larger than the diameter of the valve seat.

3,266,598
PORTABLE HOIST
Frederick M. Henne, 108 Wm. Howard Taft Road, Cincinnati, Ohio
Filed Sept. 22, 1964, Ser. No. 398,252
14 Claims. (Cl. 187—2)



1. A hoist for transporting an element supported from a high ceiling, said hoist including a movable carriage, said carriage having a pair of parallel tracks disposed at opposite sides thereof, a pivotal member having two sets of spaced support members with one of said sets of spaced support members disposed on said tracks when said pivotal member is in its rest position and with both of said sets of spaced support members disposed on said tracks when said pivotal member is in its upright position, means to lock said pivotal member to said carriage when said pivotal member is in its upright position, an extensible member adapted to be pivotally mounted on the upper end of said pivotal member when said pivotal member is in its upright position, means to move said extensible member to an upright position, means to lock said extensible member to said pivotal member whereby said extensible member is disposed in its upright position, an elevator slidably movable on said extensible member with respect thereto, support means mounted on said elevator for movement therewith, and means to move said elevator vertically to position said support means to receive the element for support and to transport the element to said carriage.

3,266,599
MULTI-PURPOSE MECHANICAL HANDLING VEHICLE
Brian B. Dearden, Bramhall, England, assignor to C. H. Johnson (Machinery) Limited, Stockport, England
Filed May 11, 1964, Ser. No. 366,355
5 Claims. (Cl. 187—9)

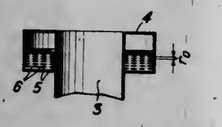


1. A multi-purpose mechanical handling vehicle comprising a power-driven chassis, a telescopic jib or "leader" pivotally mounted on the front of the chassis, at least one tilting ram connected between the chassis and the jib whereby the jib may be raked backwards through a substantial angle (40° or thereabouts) from the vertical position or from a point just forwards of the vertical poistion, a raising hydraulic ram connected between the telescoping parts of the jib to raise and lower an upper part on a lower part, a carriage mounted for travelling up and down the whole length of the jib, a skip pivotally attached to the carriage, a length of flexible member having one end fixed to the lower part of the jib and the other end connected to the carriage, the flexible member passing over a pulley on the top of the upper part of the jib whereby as the upper part of the jib is raised, the carriage, and any load carried thereby, is raised on the jib at twice the speed of the upper part, the carriage including a material carrying skip pivotally attached thereto, a second length of flexible member passing over a pulley mounted on the top of the upper part of the jib, one end of the flexible member being attached to the skip, and the lower part of the jib has at its lower end a stationary hydraulic ram to which the other end of the member is attached and which may be extended to virtually extend the length of the member whereby the skip can tip under the gravitational action of its load to discharge its load.

3,266,600
HYDRAULIC VIBRATION DAMPER
Alfred Brunner, Winterthur, Switzerland, assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland
Filed Feb. 19, 1962, Ser. No. 174,159
Claims priority, application Switzerland, Feb. 24, 1961, 2,280/61
12 Claims. (Cl. 188—1)

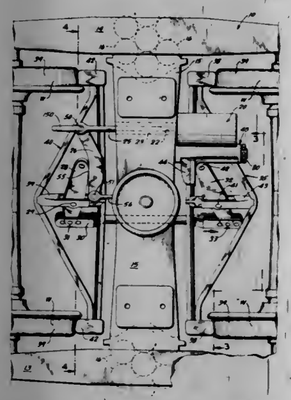
1. A hydraulic damper for damping the movements of an oscillating element, comprising a casing connected to the oscillating element, a plurality of plates vertically dis-

posed with respect to each other placed inside said casing, the neighboring plates being inclined from a respective horizontal plane in opposite directions to converge with respect to each other liquid inside said casing



and being in contact with at least a portion of each of said plates; said liquid constituting a damping mass counteracting the movements of the oscillating element by the inertia of said liquid.

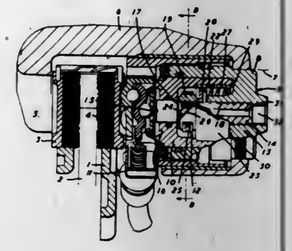
3,266,601
RAILWAY BRAKE
Thomas S. Taylor, Suffern, N.Y., assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed Dec. 12, 1963, Ser. No. 330,192
20 Claims. (Cl. 188—52)



2. In a brake unit adapted to be secured to the truck of a railroad car wherein a bolster in the truck is spring mounted for vertical movement relative to side frames of a truck, live lever and dead lever brake beams disposed on opposite sides of the truck and movable with respect to said side frames; a cylinder means secured to one side of the bolster having said dead lever brake beam and having a piston means with an operative stroke through said bolster to supply the brake operating force for said live lever brake beam, slack adjuster means secured to said bolster on said one side of said bolster and engageable by said dead lever brake beam, and a lever means engageable with said piston means to operate said brake beams, said lever means being disposed on the other side of the bolster opposite said cylinder means and said slack adjuster.

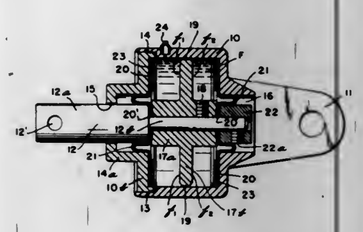
3,266,602
DISC BRAKES
Juan Belart, Walldorf, Fritz Ostwald, Buchschlag, and Karl Schlör, Biebesheim, Germany, assignors to Dunlop Rubber Company Limited, London, England, and Fort Dunlop, Erdington, Birmingham, England, a corporation of Great Britain
Filed Mar. 1, 1965, Ser. No. 435,893
10 Claims. (Cl. 188—73)

1. A disc brake comprising a brake-applying mechanism in which a pair of thrust members are movable in opposite directions to apply the brake and in which an adjustment device is provided to limit the movement towards one another of the thrust members on release of the brake, the adjustment device comprising a screw-threaded member in screw-threaded engagement with one of the thrust members and having an abutment surface engageable with the other thrust member, a ratchet mech-



anism associated with the screw-threaded member, and cam means operable by the brake-applying movement of the thrust members to operate the ratchet mechanism to turn the screw-threaded member in a direction such that it will advance the screw-threaded member to hold the thrust members at a greater distance apart from one another on release of the brake.

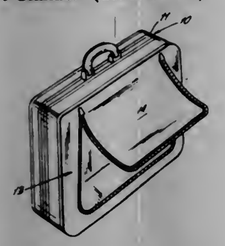
3,266,603
EXTREME ENVIRONMENT HERMETICALLY SEALED DAMPER
Michael M. Kamimoto, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 24, 1965, Ser. No. 435,411
7 Claims. (Cl. 188—100)



1. An extreme environment, short-stroke, viscous damping device for imposing amplitude attenuation upon high-frequency load motion, comprising in combination:
a closed, cylindrical housing having an inside diameter of uniform dimension and including means defining a pair of coaxially aligned, concentric openings extending through the opposite ends thereof;
an elongated reciprocating input shaft extending through the openings in spaced relationship with respect to the surfaces thereof;
a circular piston head having an outside diameter dimension slightly less than the inside diameter dimension of said housing defining a fluid path therebetween and including a pair of oppositely directed continuous radial faces extending inwardly from the circumference of said piston head and aligned in mutually displaced, parallel planes disposed at right angles with respect to said shaft and displaced inwardly from the adjacent ends of said housing;

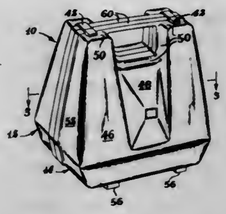
means fixing said head to said shaft in concentric alignment therewith, whereby reciprocating displacement may be imparted to said head as reciprocating forces are applied to said reciprocating input shaft;
shaft guide means integrally connected with one end of said housing and disposed in displaced, coaxial alignment with respect to the input shaft as it extends through said one end of said housing, whereby said shaft may be pivotally displaced within said guide means;
a pair of sheet-like convoluted diaphragms formed of a flexible material and having a circular configuration and disposed within said housing adjacent the opposite ends thereof;
diaphragm mounting means fixedly sealing said pair of diaphragms to said housing and to said shaft with the convolutions thereof extending between the shaft and the surfaces of the openings;
a hydraulic fluid hermetically sealed within said housing and substantially filling all appreciable voids therein; and
mounting means adapted for fixedy securing said housing and said shaft between reciprocating load motion input means, whereby the amplitude of reciprocating motion imparted to said load motion input means is attenuated as said shaft is axially displaced and a fluid flow is established across said piston head through said fluid path in response to said displacement.

3,266,604
PANEL STRUCTURE FOR SOFT-SIDED LUGGAGE
Michael Kish, Jr., Hightstown, N.J., assignor to Atlantic Products Corporation, Trenton, N.J., a corporation of New Jersey
Filed Mar. 26, 1965, Ser. No. 443,019
4 Claims. (Cl. 190—41)



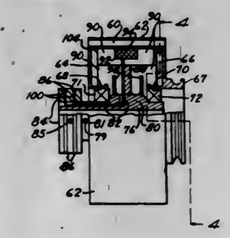
1. In a carrying bag; a main enclosed frame having first and second side panels enclosing the ends of said frame; one of said side panels having a U-shaped flap therein cooperating with a U-shaped opening therein; and zipper means extending between the edge of said U-shaped flap and the edge of said U-shaped opening to secure said flap to said one of said side panels and to provide access to the interior of said bag when said zipper means is open; said zipper means comprising first and second cooperating zipper halves having respective extending fabric portions for securement of said zipper halves; and an elongated rigid metallic reinforcing wire; first and second connection means; said fabric portion of said first zipper portion and said reinforcing wire connected along the full length of the said edge of said U-shaped opening in said one of said panels by said first connection means; said fabric portion of said second zipper portion connected along the full length of said edge of said U-shaped flap by said second connection means; said first zipper half having a free edge extending outwardly from the exterior surface of said one of said panels adjacent its said edge; said second zipper half having a free edge extending outwardly from the interior surface of said flap.

3,266,605
BOWLING BALL AND SHOE BAG
Robert I. Anderson, Spring Lake, and Robert C. Kelley, Muskegon, Mich., assignors to Brunswick Corporation, a corporation of Delaware
Filed Apr. 9, 1964, Ser. No. 358,515
11 Claims. (Cl. 190—48)



1. A bowling ball carrier comprising, a pair of identical shells hingedly connected together in complementary fashion for forming a hollow enclosure when the shells are pivoted towards each other, said shells each being generally symmetrical about a center line therethrough and each shell having an elongate peripheral edge aligned for engagement with a corresponding elongate peripheral edge on the other shell, the symmetrical halves of the peripheral edges of each shell being different, at least one portion of the edge of one half of each shell having a protrusion toward the other shell and at least one portion of the edge of the other half of each shell having a depression in a direction leading away from the other shell, at least a portion of the protrusion of one half of one shell being peripherally spaced from at least a portion of the depression of the other half of said one shell and the protrusion of each shell being adjacent to the depression of the other shell and so positioned that when the shells are closed upon one another the protrusion and depression of each shell interfit with the depression and protrusion respectively of the other shell to assist the alignment of said shells and increase their rigidity, and means integral with each shell for supporting a bowling ball when placed therein.

3,266,606
MAGNETIC FLUID CLUTCH WITH LAMINATED STRUCTURE
John S. Barrett, Chagrin Falls, Ohio, assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 196,347, May 21, 1962. This application Sept. 24, 1964, Ser. No. 404,544
404,544
5 Claims. (Cl. 192—21.5)



1. An electromagnetic device that comprises:
(a) a rotor,
(b) a stator,
(c) said rotor and said stator having confronting portions that are spaced apart to define a working gap,
(d) a housing that encloses said working gap and said confronting portions of said rotor and stator and that

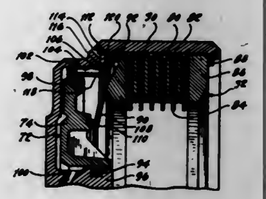
holds magnetic particles available to said working gap,
(e) bearings that permit relative rotation between said rotor and said stator,
(f) a web that supports said confronting portion of said rotor,
(g) an annular recess in said confronting portion of said rotor,
(h) a winding that is disposed within said annular recess and that responds to the flow of current therethrough to cause magnetic lines of flux to pass through said working gap between said rotor and said stator, and
(i) a shaft that supports said web,
(j) said magnetic particles responding to said magnetic lines of flux to move into said working gap and apply forces to both said rotor and said stator,
(k) said rotor having the confronting portion thereof formed from a plurality of laminations of magnetic material,
(l) said laminations being parallel to the axis of said shaft,
(m) said stator having the confronting portion thereof formed from a plurality of laminations of magnetic material,
(n) said laminations of said stator being parallel to said axis of said shaft,
(o) said confronting portion of said stator being completely free of air gaps in the direction of flow of said magnetic lines of flux,
(p) said confronting portion of said rotor being completely free of air gaps in the direction of flow of said magnetic lines of flux,
(q) whereby said winding can apply flux lines of substantially undiminished strength to said working gap,
(r) said web being narrow and being intermediate the ends of said confronting portion of said rotor, whereby said confronting portion of said rotor is cantilever-like relative to said web.

3,266,607
TORQUE CONTROL MECHANISM
Richard C. Frisbie, Sayre, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 27, 1964, Ser. No. 362,765
4 Claims. (Cl. 192—56)



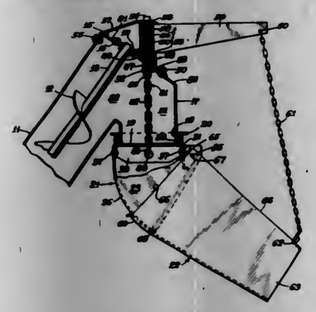
1. A torque control mechanism comprising
(a) a driven shaft and a driving shaft axially spaced from each other,
(b) said driving shaft being connected to a source of rotary power,
(c) a clutch having a first clutch element and a second clutch element,
(d) said first clutch element being mounted on said driven shaft for conjoined rotation with the latter and slidable movement relative to the driven shaft,
(e) said second clutch element being connected to said driving shaft for conjoined rotation with the latter,
(f) cam means interposed between said first and said second clutch elements to provide conjoined rotation of said first and said second clutch elements and, upon a predetermined torque load, allow relative rotation between the elements and axially move said first clutch element relative to the second clutch element and said driven shaft to thereby interrupt the transmission of rotation from the driving shaft to the driven shaft,
(g) a lock means carried by said driven shaft and coacting with said first clutch element to hold the latter in the position interrupting the transmission of rotation, and
(h) a centrifugal actuator unit separate from said lock means carried by said driving shaft and engaging said lock means,
(i) said centrifugal actuator unit being responsive to the rotation of the driving shaft to cause said lock means to lock said first clutch element in a position interrupting the transmission of rotation from said driving shaft to said driven shaft and allow said lock means to release said first clutch element when said driving shaft substantially ceases to rotate.

3,266,608
FLUID PRESSURE OPERATED FRICTION CLUTCH
George E. Lemieux, Dearborn Heights, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Apr. 13, 1965, Ser. No. 447,735
8 Claims. (Cl. 192—85)



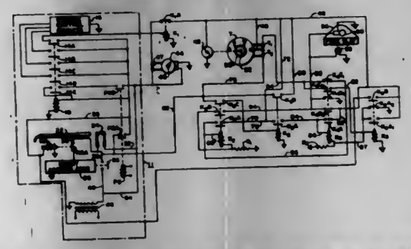
1. A fluid pressure operated friction clutch comprising a clutch drum, first clutch discs carried by said drum, second clutch discs carried by other portions of said clutch assembly, an annular cylinder defined by said drum, an annular piston situated within said clutch drum and cooperating therewith to define a fluid pressure chamber, a clutch pressure plate situated adjacent said discs, a Belleville spring washer located within said drum with its inner margin engaging said piston and its outer margin located at a radially outward location, and a flow restricting orifice formed in said cylinder at a radially outward location, a deformable seal situated adjacent said flow restricting orifice and adapted to register therewith, the outer margin of said Belleville spring being engagable with said seal to move said seal into registry with said orifice thereby progressively sealing the same as fluid pressure is developed in said working chamber, said pressure plate engaging said Belleville spring at a location intermediate its inner and outer peripheries.

3,266,609
ROTATING ELBOW CONSTRUCTION FOR DISCHARGE SPOUTS AND THE LIKE
Dwight B. Carlson, Rapids City, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Apr. 5, 1965, Ser. No. 445,620
5 Claims. (Cl. 193—16)



1. A solids conveyor adapted for use in translocation of grain and the like comprising:
a solid transfer housing defining a delivery downspout having a delivery opening;
a rotatable connector having intake and discharge openings and disposed in receiving relationship below and spaced outwardly above said downspout;
means defining a vertical axis of rotation for said connector including a vertical rod, said rod having a lower end portion attached to said connector and an upper end portion forming a journal;
a downwardly opening delivery duct having an inner receiving end portion mounted on said connector about its discharge opening and disposed in receiving alignment therewith;
and means defining a hanger rotatable about said journal for suspending said duct, whereby when torque is applied to said duct it will rotate with said connector said hanger comprising an elongated arm rotatably mounted outwardly of said housing; a suspender having an upper end portion connected to said arm and a lower end portion connected to said duct.

3,266,610
FREE-PLAY DEVICE FOR COIN-OPERATED ENTERTAINMENT OR AMUSEMENT APPARATUS
Allan E. Stahl, Youngstown, Ohio, assignor, by mesne assignments, to Walter Soroka, Youngstown, Ohio
Filed Dec. 16, 1964, Ser. No. 418,620
9 Claims. (Cl. 194—1)



1. In a coin-operated machine of the type in which a cycle of operation of the machine is normally enabled by depositing a coin in a coin slot or the like; the combination of apparatus for periodically enabling operation of the machine without deposition of a coin in the coin slot, comprising mechanism actuable when the machine is not operative by deposition of a coin in said coin slot for enabling free operation of the machine during spaced first time intervals separated by second time intervals, and means for interrupting either said first or second time interval when a cycle of operation of the machine is initiated.

3,266,611
COIN CLASSIFYING DEVICE
Henry Charles Kovar, Anoka, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota
Filed Mar. 12, 1964, Ser. No. 351,423
13 Claims. (Cl. 194—103)

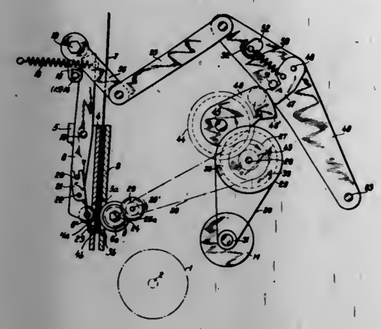


1. A coin classifying device, comprising:
(a) means defining a coin chute having a path terminating in two outlets, in which path a coin may move under the influence of gravity, said means including a fixed gaging surface along said path and directed toward the edge of such coin; and
(b) a movable gaging member normally so disposed in said path as to be engaged by the edge of each coin moving in said path,
(1) said gaging member normally defining a gap of predetermined size with said fixed gaging surface through which gap each coin, which has a diametral size less than said predetermined gap size, may pass to one of said outlets, and
(2) said gaging member and said fixed gaging surface being jointly engaged in response to movement in one lateral direction by any falling coin which has a diametral size greater than said predetermined gap size, being jointly operative to support momentarily such coin, and said gaging member, in response to being engaged by such greater size coin, being returnably movable to a position enabling such coin to move off said gaging member by moving in an opposite lateral direction to pass to the other of said outlets.

3,266,612
APPARATUS FOR POSITIONING A RECORD CARRIER
Hermann Kittel, Bernhard Hettich, and Helmuth Moosmueller, Villingen, Black Forest, Germany, assignors to Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed May 5, 1964, Ser. No. 365,865
Claims priority, application Germany, July 28, 1961, K 44,362
13 Claims. (Cl. 197—127)

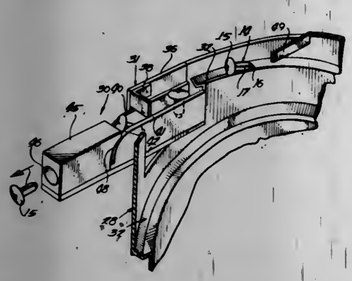
1. An apparatus for positioning and orienting a record card before printing on the record card in a predetermined direction in a business machine, comprising, in combination, guide means; transporting means having an inoperative position and an operative position for transporting a record card in a feeding direction from said guide means into the business machine; positioning means turnable about a single axis between an inoperative position and a blocking and orienting position engaging the leading edge of a record card located in said guide means, said positioning means in said orienting position being oriented parallel to said predetermined direction and being

non-movable in said feeding direction; connecting means connecting said positioning means with said transporting means cooperating with the same; drive means for driv- positioning means moves to said inoperative position when said transporting means moves to said operative position, and is in said blocking and orienting position when said



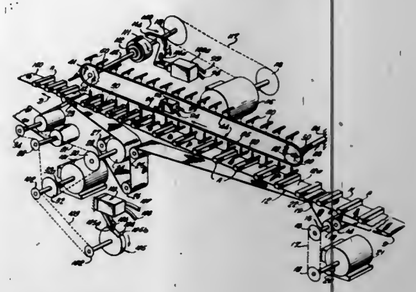
transporting means is in said inoperative position; operating means for moving said transporting means and said positioning means simultaneously between said positions; and sensing means disposed for sensing a record card when the same is engaged by said positioning means and being operatively connected with said operating means to actuate the same.

3,266,613
VIBRATORY BOWL WITH IMPROVED ESCAPEMENT
Gerald R. Grafius, Erie, Pa., assignor to Automation Devices, Inc., Erie, Pa., a corporation of Pennsylvania
Filed Jan. 4, 1965, Ser. No. 423,123
10 Claims. (Cl. 198—33)



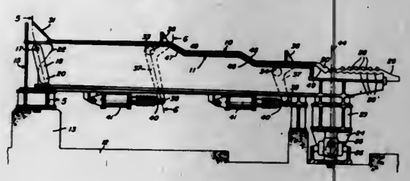
1. A vibratory feeder for aligning in a predetermined position parts having a head portion and a tail portion, said head portion being substantially larger than said tail portion, comprising, in combination: a vibratory feeder bowl having a spirally arranged track about the interior periphery of its side walls, said bowl being adapted to be vibrated to cause said parts to travel up said track, an escapement positioned at the end of said track for aligning said parts in a head-first fashion, said escapement including a bottom wall, spill means formed in said bottom wall, rail means spaced apart so that said head portions ride on said rails with said tail portion handing down between said rails, the ends of said rails being formed with a radius which tangentially intersects said rails at a point perpendicular to said spill means and which is of such size that the head portions of said parts engage the ends of said rails with the tail portions thereof engaged with said spill means.

3,266,614
ARTICLE SPACING SYSTEM
Arthur J. Griner, Wyckoff, N.J. assignor to National Biscuit Company, a corporation of New Jersey
Filed Mar. 25, 1964, Ser. No. 354,602
23 Claims. (Cl. 198—34)



1. An apparatus for moving articles from a supply station to a packaging station comprising first conveyer means movable to carry articles randomly spaced thereon and delivered from said supply station, second conveyer means arranged to move in the same direction as and located for cooperation with said first conveyer means, and spaced apart flight means associated with said second conveyer means and arranged to move relative to each other from an inoperative to an operative position on said second conveyer means, said flight means being adapted to coact with articles advanced by said first conveyer means and being movable into the path of said articles on said first conveyer means for contact and spacing said articles thereon in said operative position, said flight means being actuatable upon contact with a respective article and being retractable to assume inoperative position upon release from contact with said article on said first conveyer means, said flight means being arranged on said second conveyer means in normally interlocking relation to each other, whereas contact with one of said articles by an operative part of one of said flight means will cause release of an operative part of another of said flight means preparatory to its contact with another of said articles on said first conveyer means.

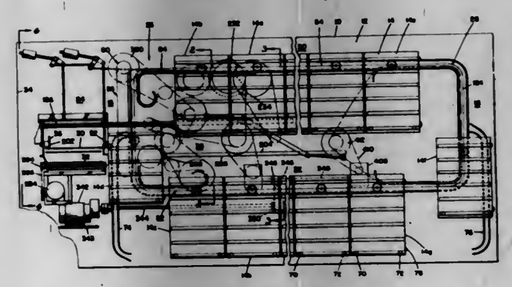
3,266,615
UNSCRAMBLING DEVICE
Peter T. Sephton and Brian R. Riden, Pierrefonds, Quebec, Canada, assignors to Canada Iron Foundries, Limited, Montreal, Quebec, Canada
Filed May 11, 1965, Ser. No. 454,816
15 Claims. (Cl. 198—34)



1. An unscrambler device for obtaining any desired number of articles from a plurality thereof which comprises a pair of spaced fixed beams having the upper surfaces thereof in essentially the same horizontal plane and a walking beam adjacent said fixed beams mounted at the downstream end thereof for gyration in a vertical plane such that on gyration of said end the upper surface of the said walking beam rises above and descends below

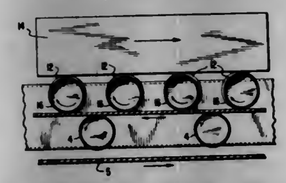
the upper surfaces of the fixed beams so as to move articles disposed on said fixed beams along said beams; means for gyrating the downstream end of said walking beam; each of said walking and fixed beams being provided on said upper surface with a cascade ending in a reverse slope forming a valley whereby at least one of the articles disposed in the valley in the fixed beams is picked up and carried in the valley on the walking beam and deposited on the downstream portion of the fixed beams, means being provided for moving further articles into the valley of the fixed beams.

3,266,616
CONTINUOUS PROOFER
Joe E. Thomas and Julian Rappaport, York, Pa., assignors, by mesne assignments, to Baker Perkins Inc., New York, N.Y., a corporation of New York
Original application Oct. 1, 1962, Ser. No. 227,497, now Patent No. 3,168,187, dated Feb. 2, 1965. Divided and this application Dec. 23, 1963, Ser. No. 350,135
6 Claims. (Cl. 198—85)



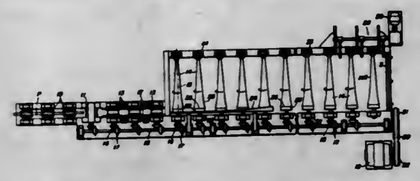
1. A rack conveyor mechanism for racks having at opposite sides thereof laterally projecting stub shafts, a pair of transversely spaced, parallel horizontal rails for pendently supporting a rack therebetween, a pair of transversely spaced parallel endless chains each including a longitudinal run, a vertical run, and a curvate run connecting said runs, means for guiding said chains along said runs, rack stop means mounted for movement in to a position in the path of said racks on said longitudinal run to prevent coasting of racks beyond said stop means and to a position out therefrom, stub shaft engaging means disposed in spaced relation on said chains, and means carried by said chains for moving said rack stop means to said out position to release said racks to permit them to descend on said curvate and vertical runs.

3,266,617
ACCUMULATING CONVEYER
Robert Emil Forsyth and John William Hancher, Ellwood City, Pa., assignors to Mathews Conveyer Company, Ellwood City, Pa., a corporation of Pennsylvania
Filed July 30, 1963, Ser. No. 298,642
11 Claims. (Cl. 198—127)



1. In an article conveying and accumulating system including a roller conveyor path and means for applying a rotative force to the rollers, the improvement comprising means on at least one of said rollers for varying the rotative force delivered to said one roller in accordance with the rotative position of said one roller.

3,266,618
CONVEYOR FOR DECELERATING TRAVELING PRODUCTS
Alvin F. Hundertmark, Glenshaw, and James R. Lamberton, Pittsburgh, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Mar. 8, 1965, Ser. No. 437,995
2 Claims. (Cl. 198—127)



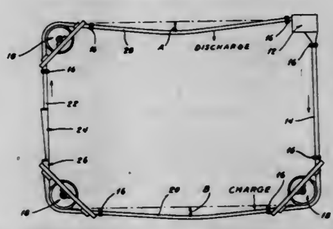
1. A conveyor for elongated workpieces of circular section delivered axially along a predetermined path comprising a plurality of generally horizontal conveyor rolls spaced along one side of said path and having their axes extending laterally thereof, means moving said workpieces laterally from said path and along said rolls, means driving said rolls at a speed such that the surfaces thereof immediately adjacent said path have substantially the same speed as a workpiece, said rolls having a concave surface of revolution, the radii of which decrease with the distance along said axes from said path, whereby a workpiece traveling over said rolls continuously maintains static friction therewith and is decelerated longitudinally by a static frictional force, the contour of said surface being expressed by an equation, where

$$r=r_0-\frac{fz}{W}\sqrt[3]{\frac{9gW}{4fz}}$$

wherein
r=radius in inches of a roll contour at any plane along a said roll axis, normal thereto
r_0=radius in inches of a roll contour at the plane of initial lateral movement of a said workpiece immediately adjacent said path where $z=0$
f=coefficient of static friction between workpiece and roll
z=roll axis in inches between $z=0$ and $r=0$
W=angular velocity of roll in radians per second
g=acceleration in inches per second per second due to gravity

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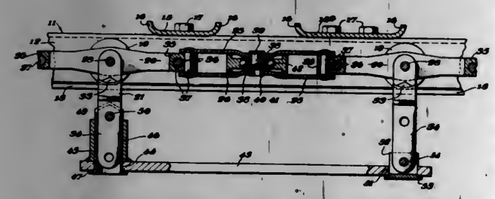
3,266,619
LOW FRICTION TUBULAR CONVEYORS
John M. Leach, P.O. Box 350, Port Jefferson, N.Y.
Filed July 31, 1964, Ser. No. 386,598
9 Claims. (Cl. 198—168)



1. A low friction tubular conveyor comprising a tubular casing to confine the material being carried, pusher-linkage assemblies in the casing, a drive unit to propel the pusher-linkage assemblies along the casing to convey the material, said casing having turns, said casing having a

section containing material in which the force of gravity would normally create frictional contact between the casing, the material and the pusher-linkage assemblies, wheel-like members rotatably mounted at the turns to support and carry the pusher-linkage assemblies through the turns without sliding frictional contact with anything, and said tubular casing section containing material being curved downwardly between two turns with a curvature which follows the natural catenary of the pusher-linkage assemblies within said curved section whereby the pusher-linkage assemblies forming the catenary are carried predominantly by the wheel-like members at the turns at the ends of said curved section to substantially eliminate sliding frictional contact between the pusher-linkage assemblies within the catenary, the material being carried and said curved casing section.

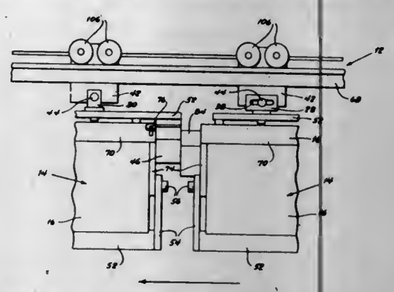
3,266,620
CONVEYOR CHAINS
Norman Philip Skinner, Four Trees, River Hill, Flamstead, St. Albans, Hertfordshire, England
Filed Jan. 24, 1964, Ser. No. 340,045
Claims priority, application Great Britain, Feb. 8, 1963, 5,162/63
2 Claims. (Cl. 198—177)



1. A load-carrying chain conveyor comprising a U-shaped channel with a flat base longitudinally slotted in the middle providing co-planar flat tracks, a chain of load-carrying links alternating with connector links mounted to run within said channel, each load-carrying link being constructed of a pair of flat parallel link bars each of the same shape, said pair of link bars being symmetrical about a horizontal plane containing the axis of an axle pin which extends transversely between and through the flat link bars, a pair of load-carrying wheels rotatably mounted one on each end of the axle pin with the pair of flat link bars between the wheels which latter are adapted to engage said co-planar flat tracks, the flat link bars being spaced apart at each end by a transverse horizontal pivot pin on which is pivotally mounted a connector block which is pivotally connected to the adjacent end of a connector link by a vertical pivot pin, a load-supporting suspension member in the form of a single suspension bar with an enlarged head which is located by and between the pair of flat bars and is pivotal on the centre of the axle pin, the single suspension bar extending downwardly and freely through the slot between the tracks and being provided with stop means projecting outwardly from their sides adapted to engage the link bars of the respective carrier link if the suspension bars should tend to swing beyond a predetermined angle with respect to the line of movement of the chain.

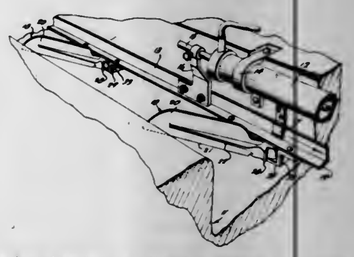
3,266,621
MATERIAL HANDLING CONVEYOR
John M. Leach, P.O. Box 350, Port Jefferson, N.Y.
Filed Oct. 15, 1964, Ser. No. 404,078
19 Claims. (Cl. 198—177)

1. A material handling system comprising a single track, a series of spaced apart trolleys carried by and movable along said track, linkages flexibly connected to and between successive trolleys to cause them to move together and to enable said trolleys to move freely around all turns made by the track regardless of the plane and direction in which the track turns, magazines for holding material carried for movement with said trolleys with clearance spaces therebetween, the minimum length of said clearance spaces between magazines of a given size and shape being controlled by the shortest radius of any track turn to enable the track to make turns in all directions without forcibly intercontacting any of said magazines, each of said magazines being provided with a filler opening, a movable closure for each of said openings, a filler means mounted adjacent



the path of movement of said magazines for projecting material through said filler openings into said magazines, means for supplying material to said filler means, means for interrupting the flow of material from said filler means, and means synchronized with the movement of said magazines to open said movable closure before any filler opening moves under said filler means and to render said material flow interrupting means effective when any space between magazines is passing under said filler means.

3,266,622
BARN GUTTER CLEANING PADDLE
Levi H. Zimmerman, R.D. 1, Denver, Pa.
Filed May 21, 1965, Ser. No. 457,710
3 Claims. (Cl. 198—224)

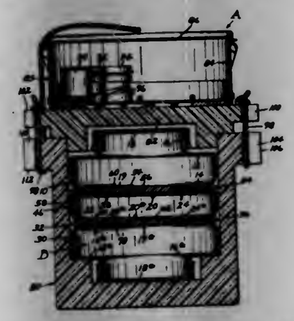


1. In a barn gutter, a cleaning assembly comprising a reciprocating pusher bar mounted adjacent the gutter for reciprocatory movement parallel thereto, a substantially U-shaped bracket secured to the pusher bar and having a substantially horizontal bottom wall and substantially vertical opposite end walls, a pusher blade pivoted on said bottom wall adjacent one of said end walls for movement about a vertical axis, and a projection on the blade engageable with said one of the end walls to limit outward rotation of the blade to an outwardly-projecting substantially transverse position of the blade relative to the pusher bar.

3,266,623
SECTIONAL CONTAINER
Kenneth J. Poferl, 621 E. Superior St., Duluth, Minn.
Filed June 22, 1964, Ser. No. 376,668
7 Claims. (Cl. 206—4)

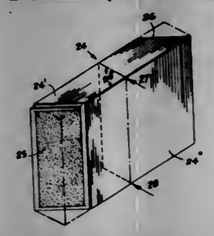
1. A sectional container comprising in combination:
(a) an internal unit including

(b) an intermediate support member including
(c) an upper circular plate,
(d) a lower circular plate,
(e) means connecting said upper circular plate to said lower circular plate in spaced relation,
(f) said upper circular plate having an axial opening formed therein and
(g) one or more slots extending radially from said axial opening of said upper circular plate,
(h) said lower circular plate having an axial opening formed therein and
(i) one or more slots extending radially from said axial opening of said lower circular plate,
(j) an upper circular container having
(k) one or more blade portions secured to and spaced from the bottom thereof in radial formation said



blade portions insertable through said radial slots of said upper circular plate for engagement with said upper circular plate to thereby mount said upper container on said upper circular plate,
(l) a lower circular container having,
(m) one or more blade portions secured to and spaced from the bottom thereof in radial formation and insertable through said radial slots of said lower circular plate for engagement with said lower circular plate to thereby mount said lower container on said lower circular plate,
(n) an intermediate circular container insertable between said upper and lower circular plates of said intermediate support member,
(o) an insulated container and
(p) means for enclosing said internal unit within said insulated container.

3,266,624
BRUSH FIBER PACKAGE
Gilbert Shaw, Middlebury, and Charles H. Anderson, Jr., Shoreham, Vt. (both % Polymers, Inc., Middlebury, Vt.)
Filed July 17, 1963, Ser. No. 295,720
2 Claims. (Cl. 206—46)



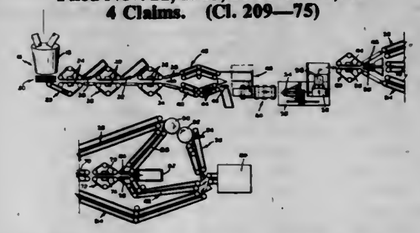
1. A package of enclosed brush fibers, the said fibers being in parallel disposition and of differing lengths and being enclosed by an enclosing medium, the length of said enclosing medium varying in the direction of the longitudinal axes of the contained fibers wherein the length in the direction of the enclosed fiber longitudinal axes at any location is the same as the length of the enclosed fibers immediately adjacent to the point of measurement, one common end of the enclosing medium and enclosed fibers having a common plane intersecting the longitudinal axes of the said enclosing medium and said enclosed fibers at an angle different from the angle of the common plane formed at the other common end of the enclosing medium and enclosed fibers.

3,266,625
PACKAGE FOR REACTIVE MULTI-COMPONENT COMPOSITIONS
Kenneth V. Hardman, Upper Montclair, N.J., assignor to H. V. Hardman Co., Incorporated, a corporation of New Jersey
Filed July 8, 1965, Ser. No. 470,364
5 Claims. (Cl. 206—56)



1. A package for a reactive liquid multi-component composition which comprises a package unit having a flexible laminated sandwich-like construction, said construction including at least two layers of fusible plastic material, portions of said plastic layers being fused together to form sealing areas and the remaining portions of said plastic layers being spaced apart to form two sealed separate compartments, a reactive liquid epoxy resin contained in one of said compartments and a curing agent for said resin contained in the other of said compartments in predetermined amounts which provide desired proportions of said resin and curing agent relative to the reactive composition which may be formed by admixture thereof, the total amount of both epoxy resin and curing agent in said compartments being from about ¼ to about 1½ ounces, said sealing areas being incapable of being ruptured by hand manipulation of the package unit to allow intermixing of the contents of said compartments within the package unit, whereby said compartments must be severed or otherwise opened and the contents thereof expelled from the package unit in order to be admixed in the desired proportions.

3,266,626
DOCUMENT HANDLING SYSTEM
Luther G. Simjian, Greenwich, Conn., assignor to Universal Match Corporation, St. Louis, Mo., a corporation of Delaware
Filed Nov. 21, 1963, Ser. No. 325,387
4 Claims. (Cl. 209—75)



1. An apparatus for handling sealed envelopes, each such envelope adapted to contain one or more documents and each such document having an indicium, comprising:
means for receiving envelopes and serially conveying such envelopes along a path to an envelope opening station;

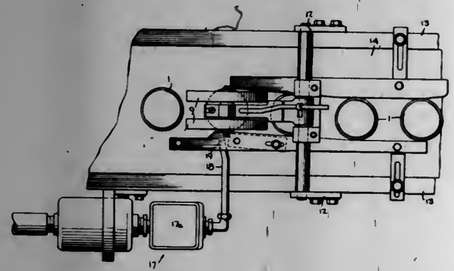
a first means disposed along said path for detecting an envelope having a metallic enclosure and for diverting such envelope from said path;

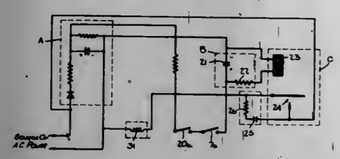
a second means disposed along said path for detecting an envelope having a thickness greater than a predetermined maximum and for diverting such an envelope from said path;

an envelope opening means disposed at said opening station for receiving envelopes which have passed said first and said second means and for dividing each received sealed envelope into a plurality of portions and serially passing on envelopes and documents, and

document feed means which include indicia detecting means, orienting means, and diverting means disposed for receiving the envelope portions and documents from said opening means, for detecting said indicium on such documents, for orienting such documents with respect to said indicium and for conveying such indicium bearing and oriented documents to a further station, and for diverting that which has been received from said opening means and not bearing such indicium.

3,266,627
DETECTING MECHANISM
Charles S. Ochs, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Mar. 28, 1963, Ser. No. 268,703
1 Claim. (Cl. 209—90)





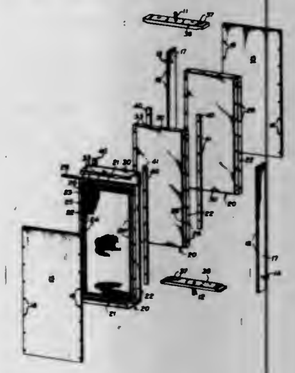
A sealed package detecting mechanism comprising an electric circuit including a first feeler finger, a second feeler finger in circuit with the first feeler finger adapted to sense the side of a package, a rejection mechanism comprising an air tube adjacent said feeler fingers, means for moving a sealed package beneath said first feeler finger to be sensed thereby, said first feeler finger being operable by a defectively sealed package to send a rejecting signal through said circuit to energize said rejection mechanism and cause air to be ejected therefrom, a capacitor for storing said signal, a resistance through which the signal in said capaictor is discharged and a relay to transfer the signal from said resistance to said rejection mechanism to actuate the rejection mechanism whereby said signal is lengthened to permit proper functioning of the rejection mechanism by causing the air tube to eject air therefrom for a time interval greater than the time of the initial rejecting signal, said air tube being adjacent the path of the sealed package and having a nozzle angled to have a component in the direction of movement of said sealed packages and operable for ejecting air from said tube against defectively sealed packages to move them out of line after said package has moved past said feeler fingers.

3,266,628
FLEXIBLE IMPERVIOUS CARTRIDGE FILTER
Harold A. Price, Orange, Calif., assignor to Reid Manufacturing Inc., Long Beach, Calif., a corporation of California
Filed Feb. 21, 1964, Ser. No. 346,581
15 Claims. (Cl. 210—94)



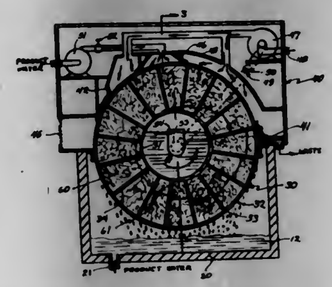
13. A filter element comprising: a tubular envelope formed of flexible and impervious material; intake and discharge filtering members mounted interiorly of said envelope for relative axial movement and to form axially space seals therewith; and a filtering medium confined in envelope between said filtering members; said filtering medium being subject to being compacted and laterally displaced to laterally extend portions of the envelope in response to relative axial movement of said filtering members.

3,266,629
GAS AND LIQUID EXCHANGE APPARATUS
Samuel J. Megibow, 130 Edgewater Road, Cliffside Park, N.J.
Filed Mar. 31, 1964, Ser. No. 356,138
10 Claims. (Cl. 210—321)



1. Fluid exchange apparatus comprising, in combination, at least a pair of relatively rigid substantially rectangular open frames having opposite faces; intersticed membrane-supporting structures each disposed in a frame opening and substantially flush with said opposite faces, said supporting structures providing for fluid flow in the frame opening; a single pervious membrane wrapped around each frame and sealingly covering both faces of the opening therein, the membrane being interiorly supported by the supporting structure in the associated frame opening; spacer means disposed between each pair of adjacent membrane-covered frames and each defining, with the associated pair of facing outer membrane surfaces, a relatively shallow fluid flow chamber; means holding at least a pair of membrane-covered frames, with interposed spacing means, assembled as a unit; means operable to introduce a first fluid into each chamber and to withdraw the first fluid therefrom; and means operable to introduce a second fluid into each frame opening and to withdraw the second fluid therefrom.

3,266,630
APPARATUS FOR PURIFYING WATER
Peter S. Litt, Albuquerque, N. Mex., assignor of twelve percent each to Walter B. Hobbs, Ralph K. Ball, and Watson D. Harbaugh, all of Evanston, Ill.
Filed May 28, 1962, Ser. No. 198,355
12 Claims. (Cl. 210—394)



1. An apparatus for the purification of contaminated water comprising:

a drum having a body of contaminated water in it,

capillary diffusion means encompassing said body of water and having a portion submerged in contact with said body and another portion remote from said body of water,

said capillary diffusion means comprising a material having a porosity capable of moving water by capillary action alone from said body of water,

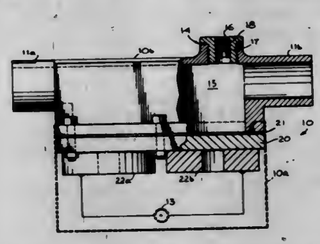
means for collecting water flowing from said other portion,

means for rotating said drum to change positions of said portions, and

means for purging said remote portion of contaminated water.

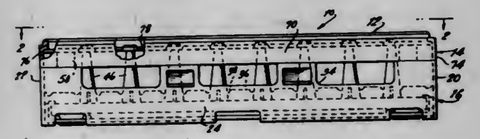
3,266,631
APPARATUS FOR SEPARATING A FLUID MIXTURE BY ACOUSTIC ENERGY
Alvin A. Snaper, P.O. Box 83, Burbank, Calif.
Filed Mar. 16, 1964, Ser. No. 352,237
1 Claim. (Cl. 210—542)

Fluid-separator apparatus comprising: coaxially aligned inlet and outlet pipes; a structure completely enclosing a resonant cavity between its walls mounted between said pipes which respectively connect with said cavity on opposite ends thereof; a mixture of two fluids flowing continuously through said cavity from said inlet pipe to said outlet pipe; means mechanically coupled to said structure for separating one of said fluids from the other in said cavity, said means including a rigid substantially flat plate rigidly mounted on said resonant cavity structure and forming the bottom side thereof, and transducers rigidly mounted on the bottom side of said plate for applying ultrasonic power through the plate to said structure and the fluids therein at a frequency for optimum power transfer to said fluids, whereby one fluid constituent is separated in gaseous form from the other fluid; and an escape



valve mounted in and extending through the top wall of said structure, said valve connecting directly with said cavity and including means to permit the gas to escape therefrom and to prevent gas from flowing back into said cavity.

3,266,632
RACK
Louis Maslow, Huntsville Road, Dallas, Pa.
Filed June 3, 1964, Ser. No. 372,334
7 Claims. (Cl. 211—41)



1. A rack assembly comprising molded housing means having opposing side walls and opposing end walls, baffles extending between said side and end walls integral formations defined in said housing means and extending upwardly from said baffles in a first series of rows parallel to said side walls and a second series of rows parallel to said end walls, one of said walls having inwardly deflected portions which cooperate with the adjacent parallel row of said formations releasably to mount and lock a tray in inclined disposition therebetween.

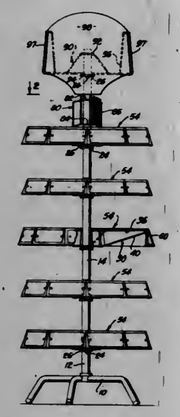
3,266,633
PORTABLE HOLDER FOR GUNS AND RODS
John V. Graebner, Menomonee Falls, Wis.
Filed Aug. 14, 1964, Ser. No. 389,640
8 Claims. (Cl. 211—60)



1. A portable holder for guns, rods and the like for detachable connection to a substantially vertical support including, a base member of thin flexible sheet material, said base member having an elongated portion and a pair of spaced parallel legs extending laterally from one side of the elongated portion, an article supporting member of sheet material being provided adjacent one end with a pair of spaced slots of a size and configuration to

receive respective portions of said legs in such a manner as to cooperate with said legs in one position to hold said supporting member at a substantially right angle to said base, said supporting member having notches formed in the end opposite said slots of a size and configuration to receive guns, rods and the like, and means for detachably connecting said holder to its support.

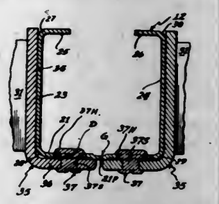
3,266,634
ROTARY DISPLAY STAND
Raymond Tintary, Covina, Calif., assignor to Ajax Hardware Manufacturing Corp., City of Industry, Calif., a corporation of California
Filed Aug. 14, 1964, Ser. No. 389,547
2 Claims. (Cl. 211—131)



1. In a rotatable display stand, the combination of: a vertical standard; a plurality of rotatable wire frame members mounted on said standard in operative and rotatable relationship therewith, each of said wire frame members including a plurality of radially extending locating and supporting arms having their inner extremities secured to a common annulus and their outer extremities secured to a common peripheral frame element; a plurality of open container elements, one of each of which is mounted in overlying relationship with an associated frame member, each of said container elements including a plurality of radially disposed open receptacles adapted to receive merchandise and having a corresponding recess in its perimeter adjacent an associated receptacle for the reception of a sample of the merchandise located in said associated receptacle, each of said container elements including radially oriented side walls defined by downwardly opening, radially oriented ribs for the reception of said locating and supporting arms, said arms preventing relative rotation between an associated frame member and said container element; and a mounting panel in each of said recesses for supporting said merchandise at the front of an associated receptacle.

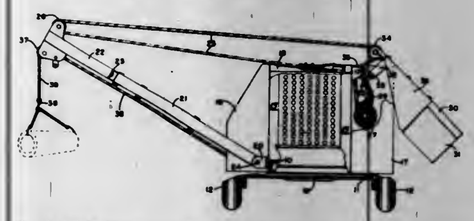
3,266,635
CONTROL RIB FOR DIFFERENT THICKNESS MATERIAL OF UPRIGHTS
Kennedy McConnell, Riverdale, Ill., assignor to Interlake Steel Corporation, a corporation of New York
Filed Sept. 9, 1964, Ser. No. 395,209
5 Claims. (Cl. 211—148)

2. In combination an upright and a mounting plate equipped with an attachment post having an exposed shank terminating in an enlarged head, said upright comprising a vertical attachment wall provided with a plurality of vertically spaced keyhole-shaped mounting openings, each receiving and confining said head, said wall being generally planar and having a vertically elongated portion offset outwardly a prescribed distance related to the actual



wall thickness to establish a total overall thickness of said wall plus the offset substantially equal to the length of the exposed shank.

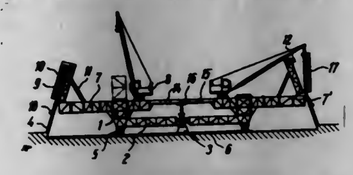
3,266,636
AUTOMATICALLY COUNTERBALANCED TRACTOR SIDE-BOOM CRANE
Russell John Dorn, Aurora, Colo., assignor to Arrow Manufacturing Company, Denver, Colo., a corporation of Colorado
Filed June 30, 1965, Ser. No. 468,282
8 Claims. (Cl. 212—8)



1. A side-boom crane for a tractor having a main frame dirigibly supported and powered for translation in a generally-horizontal attitude and an hydraulic pressure system, comprising a rigid yoke assembly laterally and upwardly spanning the tractor in fixed attachment at its lower ends to opposite sides of said frame, a boom end-hinged to one side of said yoke for vertical oscillation in a plane transverse of the tractor, winch means carried at the side of said yoke remote from the boom in powered relation with the hydraulic system of the tractor selectively actuable to angularly adjust said boom through its range of oscillation, counterweight means pivotally mounted to said yoke at the same side of said yoke as winch means, a first sheave means on said counterweight means, a second sheave means mounted on said yoke inwardly of said counterweight pivot, and cable means connected to said boom passing over said first sheave means, thence over said second sheave means to said winch means, whereby loads applied laterally of the tractor by said boom are automatically counterbalanced.

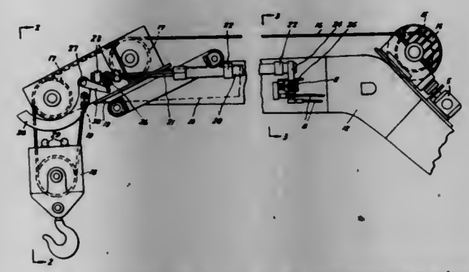
3,266,637
BUILDING CRANE FOR ERECTION OF TOWER-TYPE STRUCTURES
Alexandr Alexeevich Kalupin and Petr Ivanovich Suvorikov, both of Moscow, U.S.S.R., and Kirill Borisovich Scherbachev, deceased, late of Moscow, U.S.S.R., by Evgenia Leonidovna Scherbacheva, for herself, and juvenile heir, and Natalia Kirillovna Scherbacheva, administrators, all of Moscow, U.S.S.R., assignors to Tsentralnoe Konstruktorskoe Bjuro Glavstroimekhanizatsii, Moscow, U.S.S.R.
Filed June 15, 1965, Ser. No. 464,245
3 Claims. (Cl. 212—29)

1. A building crane for the erection of tower-type structures, said crane being slewable about a trunnion accommodated in the geometric center of the structure foundation and movable along a circular rail track laid inside the structure, said crane comprising a bearing truss whose internal end rests upon said trunnion; balanced crabs running along said rail track and upholding the external



end of said bearing truss; a column capable of being jointed on top and mounted on said bearing truss; a cantilever traveling along said column; a load-lifting boom installed on said cantilever; and erecting stages attached to said cantilever.

3,266,638
EXTENSIBLE JIB-CRANES
Constantine Popov, 1448 Pacific Highway, Turramurra, New South Wales, Australia
Filed Jan. 19, 1965, Ser. No. 426,553
1 Claim. (Cl. 212—39)

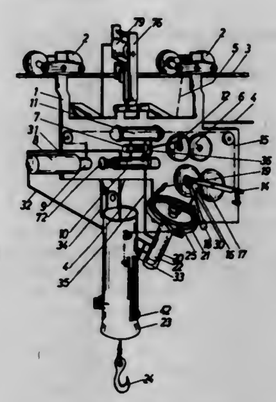


In an extensible jib-crane of the kind incorporating a winching drum operable by a hydraulic motor, a lifting cable trained about a pulley on the free end of the jib and adapted to be wound upon said drum, a pump hydraulically circuited with the motor by way of a working fluid inlet to the motor and an outlet from the motor, means for operating said pump, means for halting said motor comprising a tubular loop shunted across said inlet and outlet, a self-closing valve in said loop, a striker element carried by the portion of said cable suspended from said pulley, and means for opening said valve comprising a bell-crank having a telescopically adjustable boss rotatably mounted on the crane jib, an arm at one end of said boss operatively associated with said valve, and an arm at the other end of said boss movable to open said valve in response to upward movement of said striker element.

3,266,639
OVERHEAD ROPEWAY HAVING AN AUTOMATIC CLAMPING DEVICE AND A LOCKABLE LOAD LIFTER
Josef Koller, 1 Endach, Kufstein, Austria
Filed Aug. 28, 1963, Ser. No. 305,158
Claims priority, application Austria, Sept. 8, 1962, 7,176/62
13 Claims. (Cl. 212—84)
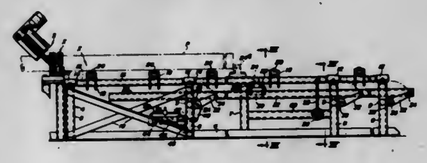
1. An overhead ropeway for conveying loads comprising a cable, a traveling crab supported for travel in opposite directions along said cable, said crab including clamping means for engaging the cable to lock the crab therewith, said clamping means having engaged and released positions, load lifter means supported from said crab for raising and lowering a load, said load lifter means having retracted and extending positions, and control means for the clamping means and the lifter means to

cause the clamping means to assume the engaged position thereof and the load lifter means to move to extended position when the direction of travel of the crab is reversed, said control means comprising power means which is energized by the movement of the traveling crab and switching means for coupling the thus energized power means with both the clamping means and the load lifter means when the direction of travel of the crab is reversed,



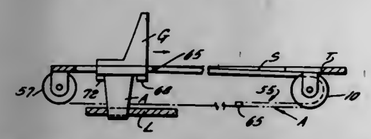
said control means further comprising a gear wheel driven by the crab as it travels, gear means supported for movement between engaged and disengaged positions with respect to the gear wheel, said gear means being driven by the gear wheel when engaged therewith, hammer means controlling said switching means and supported from the gear means for being driven thereby, said power means comprising a reservoir and means coupling said gear wheel with the reservoir to energize the latter as the crab travels.

3,266,640
RUNOUT TABLE
Edward J. Petanovich, Franklin Township, Beaver County, Pa.
Filed Sept. 23, 1964, Ser. No. 398,645
5 Claims. (Cl. 214—1.1)



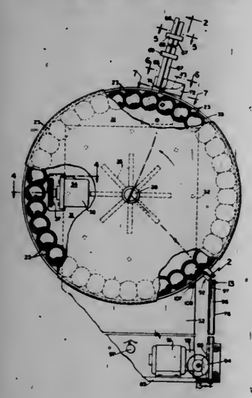
1. A runout table for supporting and measuring products to be cut to desired lengths comprising a table frame, rollers mounted on said frame for supporting said products, a beam mounted on said frame parallel to said products and disposed on the opposite side of said rollers from said products, a gage block mounted on the side of said beam facing said rollers and slidable along the length thereof, said beam and block movable toward and away from an operative position wherein said block is held in line with said products supported on the rollers, means for moving said beam and block toward and away from said operative position, and means to secure said block in a fixed position along the length of said beam so that when moved to said operative position said block is effective to stop the travel of one of said products when a desired length thereof has been run out onto said table.

3,266,641
SLOT CLOSURE FOR BACK GAUGE OF PAPER-CUTTING MACHINES
Carl Thumim, Chicago, Ill., assignor to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware
Filed Sept. 24, 1964, Ser. No. 398,849
6 Claims. (Cl. 214—1.6)



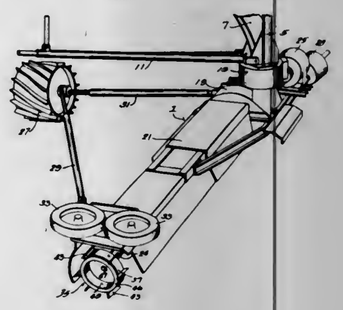
1. A cutting machine table having a movable back gauge, and a guide slot in said table in which said back gauge is moved, and a closure device for the slot comprising cable means having ends connected to said back gauge, pulley means disposed below said tables and said cable means passing around said pulley means, a plurality of individual, discrete, plate means, said cable means passing through said plate means and said plate means being carried by said cable means, and means to maintain said plate means in a contiguous array on said cable means for a predetermined length thereof to maintain said slot closed as said back gauge moves, said cable means comprising a pair of parallel cables and said plate means comprising block members having recesses through which said cables pass, whereby said block members are supported on said cables, and said plate means further comprising a plurality of plates having clip elements securing said plates to respective blocks, said clip elements being disposed in relation to respective recesses to secure said cables therein.

3,266,642
SEQUENTIAL ELEMENT DISPENSING APPARATUS
Franklin P. Luckman, Jr., 1905 Acorn Lane, Abington, Pa.
Filed Jan. 28, 1964, Ser. No. 340,662
19 Claims. (Cl. 214—16)



1. Element dispenser apparatus comprising a rotatable cylinder having a plurality of chambers, means for rotating said cylinder about an axis having a substantial horizontal component, fixed shell means establishing a boundary around and adjacent to said cylinder at least for substantially the lower half thereof, said shell means presenting a concave surface in a substantially cylindrical locus adjacent at least the lower chambers of said cylinder during its revolution, said cylinder having a port in each of said chambers for permitting a series of elements to proceed outward toward said fixed shell means, said shell means having an exit passage and interceptor for selectively intercepting and diverting into said exit passage one of the elements from a chamber at each revolution of said cylinder, motor-operated means for receiving the elements from said exit passage in sequence according to the sequence of interception of elements from the chambers during rotation of the cylinder, and means for feeding a quantity of elements into a chamber of said cylinder, said last-named means comprising a gravity feed injector registrable with the port of a subjacent chamber of said cylinder for feeding a series of elements thereinto.

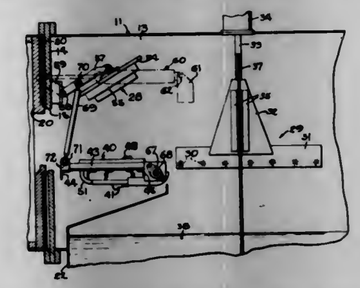
3,266,643
CUTTER WHEEL ASSEMBLAGE
George D. Prentice, Milwaukee, Wis., assignor to A. F. Klinzing Co., Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 21, 1964, Ser. No. 419,982
9 Claims. (Cl. 214—17)



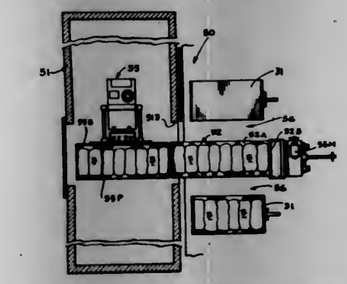
7. In a silo unloader, cutting wheel for loosening silage adjacent the wall of the silo comprising:
- a cup-like base member rotatably mounted on the outer end of said unloader and having the annular wall thereof provided with a plurality of outwardly open slots;
- a plurality of cutting teeth extending through said slots and provided with flanged root portions seated against the inner surface of annular wall;
- a cup-like retainer mounted inside said base with its wall coacting with said root portions to retain said cutting teeth in said slots; and
- means to detachably secure said retainer within said base.

3,266,644
CONDITIONING APPARATUS WITH TILTABLE RECEIVING PLATFORM
Harold N. Ipsen, Rockford, Ill.; The Illinois National Bank & Trust Co., Rockford, Ill., executor of said Harold N. Ipsen, deceased
Filed Nov. 19, 1964, Ser. No. 412,434
6 Claims. (Cl. 214—18)

1. In a conditioning apparatus, the combination of, means defining a conditioning chamber having an upright wall with an opening therein for the passage of workpieces through the wall, a door overlying said opening on one side of said wall to close and seal the latter, a first hinge above said door pivotally mounting the latter on said wall for swinging upwardly and away from the opening into an open position and back downwardly to the closed position, said hinge including a hinge pin journaled on said wall above said opening and an arm fast on said pin and extending radially therefrom along said door and connected at its free end to the door, a platform disposed beneath the open position of said door for supporting a workpiece in alinement with said opening, one end of said platform being closely adjacent the lower side of said opening, a second hinge pivotally supporting the end of said platform remote from said wall for swinging of said one end downwardly to a level well below the lower side of said opening and out of the path followed by said door during closing of the latter, and an elongated link pivotally connected to said one end and to said door at points spaced from the respective hinges thereby to raise and lower said platform as an incident to opening and closing of said door, said link being offset laterally from the path followed by workpieces through said door.

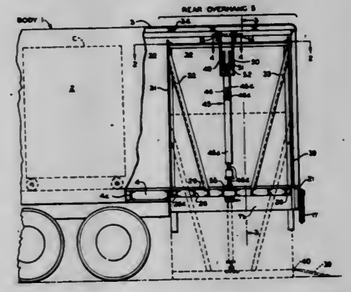


3,266,645
SYSTEM FOR HANDLING BAGGED MAIL
Joseph E. McWilliams, 1345 Canterbury Lane, Glenview, Ill.
Filed Oct. 4, 1965, Ser. No. 492,831
5 Claims. (Cl. 214—38)



3. A bulk mail handling method for loading loaded elongated mail bags intended for a common destination into the load receiving area of a transport vehicle and utilizing hand trucks each comprising a separable sideless hand truck load support pallet portion resting on a wheeled base, said method comprising:
- arranging the bags into load units of one or more tiers on the respective hand trucks with the tiers having a length approximating the width of the transport vehicle load receiving area and the bags extending transversely of the hand trucks,
- lining the hand trucks in end to end relation adjacent the loading doorway of the vehicle,
- positioning the first hand truck to dispose its load unit in alignment with the vehicle load receiving area with the bags extending longitudinally thereof,
- lifting the hand truck pallet portion from the first hand truck base on a fork lift truck,
- moving the said hand truck base to one side of the fork lift truck,
- moving the fork lift truck to move said pallet portion and its load to a position in the vehicle that is in superimposed relation immediately above the location that the load is to be disposed in on the transport area with the bags of the load unit extending transversely of the vehicle,
- depositing the load in said location by withdrawing said pallet portion from under the load unit by moving the pallet portion longitudinally of the unit load bags to drop the said load unit bags in said location,
- returning the emptied pallet portion to its hand truck base,
- moving the reassembled hand truck to one side of the fork lift truck,
- and consecutively unloading the remaining hand trucks in like manner until the vehicle is loaded.

3,266,646
MERCHANDISE TRANSPORTING VEHICLES WITH BUILT-IN REAR END ELEVATORS
Aelred A. Byrne and Bernard W. Schoenbachler, Louisville, Ky., assignors to Hydrolift Incorporated, Louisville, Ky., a corporation of Kentucky
Filed July 20, 1964, Ser. No. 383,718
8 Claims. (Cl. 214—75)



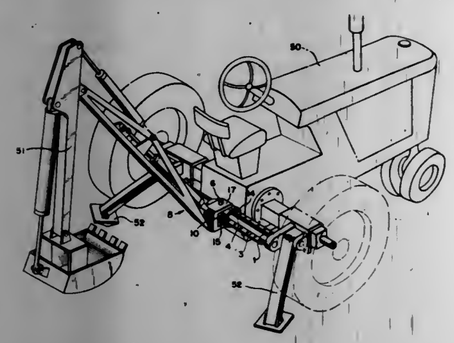
1. A merchandise transporting vehicle of the type having a built-in elevator at and accessible through its rear end, comprising:
- (A) a rear wheeled truck body having integrated side, top and bottom walls providing a rear body portion which overhangs the rear side of the rear wheels and a front body portion which extends forwardly therefrom,
  - (1) said rear body portion or overhang including an L-shaped opening having a vertical rear door section extending across the rear end of said truck body and a horizontal floor section extending forwardly from the rear end of said truck body at the level of said bottom wall and terminating in the vicinity of the front end of said overhang;
- (B) an elevator cab having a floor structure;
- (C) means mounting said elevator in said rear overhang for vertical movement from an upper transportation position, wherein its floor structure closes the floor section of said L-shaped opening, to a lower load-transferring position;
- (D) means for guiding the elevator cab in its vertical movement; and
- (E) horizontally-elongate tailgate structure hingedly mounted on the rear end of the truck body for horizontal pivotal movement forwardly into and rearwardly out of a transportation position wherein it extends transversely across the width of the truck,
  - (1) said tailgate structure including

(a) a rear bumper bar in the form of a transversely extending structural frame presenting front-to-rear openings in said transportation position,

(b) a transversely elongate hollow metal casing mounted on the bumper bar to extend on the front protected side thereof, and

(c) signal means mounted to extend within said casing in position to signal rearwardly from said casing through said bumper bar openings.

3,266,647
SIDE-SHIFT BACKHOE
Joseph F. Ziskal, La Grange, Ill., and John Higginson, Doncaster, England, assignors, by mesne assignments, to Wain-Roy Corporation, Fitchburg, Mass., a corporation of Massachusetts
Filed May 3, 1965, Ser. No. 452,796
8 Claims. (Cl. 214—138)



1. An earthworking vehicle for mounting a backhoe assembly comprising in combination:

a pair of ground-engaging wheels at one end of said vehicle;

a transversely extending frame mounted on said vehicle and formed of an elongated tubular member, radially extending ribs protruding outwardly from said tubular member in a horizontal plane forming horizontally spaced guideways extending over the length of said frame;

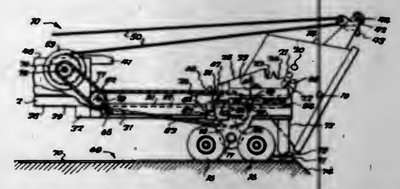
a fitting having horizontally spaced guideways adapted to engage and slide upon said frame guideways;

means for locking said fitting in a selected adjusted position on said frame with said frame and fitting guideways in abutting engagement; and

said backhoe assembly being pivotally supported on said fitting for horizontal swinging movement.

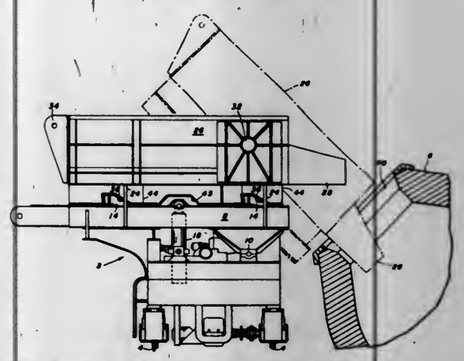
3,266,648
SLAG POT CARRYING VEHICLE
Clarence A. Hackett, Kenmore, and Kenneth J. Hackett, Tonawanda, N.Y., assignors to Clarence A. Hackett, Inc., Tonawanda, N.Y.
Filed Apr. 16, 1964, Ser. No. 360,200
15 Claims. (Cl. 214—300)

6. A pot carrying vehicle comprising a frame having rear wheels, pneumatic tires on said rear wheels, a carriage on said frame, off-center pivot means for mounting said pot on said carriage, means on said frame for effectively locking said carriage in a first position which is located between said front and rear wheels to cause the weight of said pot to be distributed between said front and said rear wheels, motor means operatively coupled to said carriage for moving said carriage and said pot mounted thereon rearwardly to a second position substantially above said rear wheels, stabilizing means for preventing said pot from pivoting about said off-center pivot means while said carriage is in said first position and is in transit between said first and said second positions, means for rendering said stabilizing means



ineffective when said carriage is in said second position to thereby permit said pot to tilt rearwardly by its own weight about said off-center pivot means for dumping the contents thereof, and means operatively coupled to said pot for controlling the rate at which said pot tilts rearwardly.

3,266,649
APPARATUS FOR CHARGING SCRAP INTO A STEELMAKING VESSEL
Harry H. Britcher, Jr., and Louis C. Buterbaugh, Johnstown, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Oct. 7, 1964, Ser. No. 402,250
3 Claims. (Cl. 214—314)

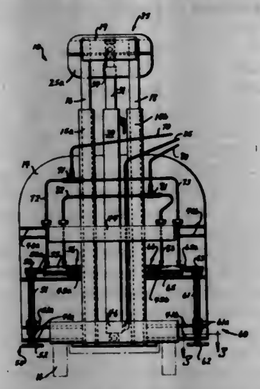


1. In a material-handling apparatus, the combination with a generally horizontal frame tiltable about a transverse axis adjacent one end, of a box having a discharge spout at one end removably disposable on said frame so the spout will be below the remainder of the box when the frame is uptilted, said frame having a transverse rib upstanding thereon, and said box having a transverse recess in the bottom thereof adapted for mating engagement with said rib, the surface of said rib remote from said axis slopping upwardly away from the latter and the surface of said recess remote from said spout sloping upwardly away from the latter.

3,266,650
CONTAINER HANDLER
Fredrick G. Hauschild, 2057 E. Missouri St., and James W. Johnson, 1516 S. Plaza Drive, both of Evansville, Ind.
Filed Dec. 19, 1963, Ser. No. 331,784
2 Claims. (Cl. 214—651)

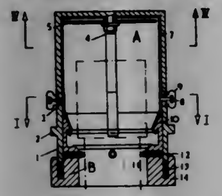
1. A container handler comprising, in combination, a framework mounted on an elevationable portion of a vehicle, said framework having a slidable upper portion, a hooking member pivotally mounted on a vertical axis

on said slidable upper portion, power means elevating said slidable upper portion and said hooking member into an engaging relationship between said hooking member and a container, container supporting feet pivotally



mounted on a vertical axis on said framework and movable in and out of the plane of said framework, and power means swinging said container supporting feet to underlie said container.

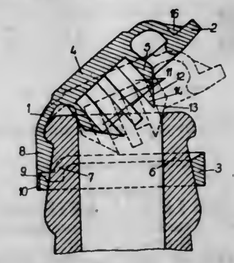
3,266,651
ACCIDENT PREVENTING BOTTLE CAP
Walter V. Triglavcanin, 22 Drury Lane, Weston, Ontario, Canada
Filed May 14, 1964, Ser. No. 367,490
4 Claims. (Cl. 215—9)



1. An accident preventing bottle cap for a bottle and the like having or being without an ordinary bottle cap, which accident preventing bottle cap comprises: a removable cap having internally located and outwardly protracting V-shaped locking springs leaned on and released by pushbutton, and a locking seat internally shaped to interlock with said locking springs, said locking seat being adapted to be fastened to the neck of said bottle or to be incorporated in the neck of said bottle.

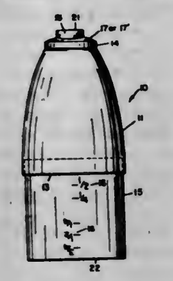
3,266,652
CLOSURE FOR BOTTLES AND LIKE CONTAINERS
Hardy Löhrer, Wiesbaden, Germany, assignor to Patentauswertungsgesellschaft Dr. Huthmann, Jaskulski und Lohrer, Wiesbaden, Germany
Filed Jan. 12, 1965, Ser. No. 424,981
Claims priority, application Germany, July 28, 1964, L 48,402; France, Sept. 14, 1964, 988,003
12 Claims. (Cl. 215—41)

1. A closure of plastic material, especially for containers with an internal overpressure, comprising an external cap for closing the mouth of the container and having a downwardly extending band on one side and, diametrically opposed, a nose for lifting the cap, an internal hollow open-bottomed plug extending downwardly from the external cap for engagement in the mouth of the container, a lower skirt depending from the external cap and separated therefrom by a weakening line permitting the closure to be easily opened, closed again and completely removed and having two ends extending downwardly toward the lower edge of the skirt and en-



closing therebetween the downwardly extending band of the external cap, and a plurality of reinforcing ribs arranged on the inside of said plug and having guide wedges below the edge of said plug.

3,266,653
KITCHEN UTENSILS
Arthur F. Gauthier, 705 Waverly Place, Melbourne, Fla.
Filed June 29, 1964, Ser. No. 378,903
2 Claims. (Cl. 220—1)

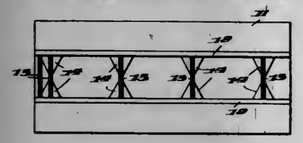


1. A multi-purpose kitchen utensil, comprising an open-ended receptacle having a relatively large open end and a relatively small open end, a removable cap provided at the relatively small end of said receptacle, an annular neck of a smaller diameter than said cap provided on the outer surface of the cap concentrically therewith, the portion of said cap within the confines of said neck being provided with at least one opening of substantially smaller diameter than said neck, and a cup-shaped closure removably positioned at the relatively large open end of said receptacle wherein said closure comprises an open-ended tubular body and a transverse partition provided intermediate the ends of said body and separating the same into a pair of cup members.

3,266,654
CONTAINERS
William A. Herpich, 739 Hardin Way W., Galion, Ohio, and Samuel E. Harvey, P.O. Box 3127, Knoxville, Tenn., and George R. Dempster, deceased, late of Knoxville, Tenn., by Trust Company of Georgia, executor, Atlanta, Ga.
Original application Sept. 2, 1959, Ser. No. 837,709, now Patent No. 3,214,044, dated Oct. 26, 1965. Divided and this application Feb. 11, 1965, Ser. No. 432,018
3 Claims. (Cl. 220—1.5)

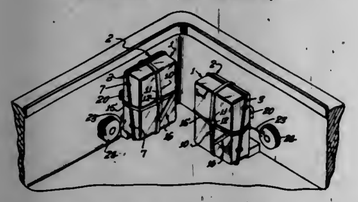
1. A container of the character described comprising a body portion having a bottom and a subframe beneath the bottom and supporting the body portion, said subframe including a pair of transversely spaced bars ex-

tending longitudinally of the container, and a plurality of bail members extending transversely between the spaced



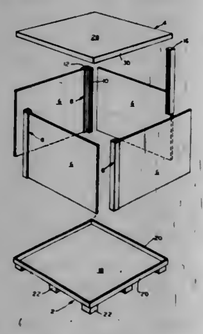
bars and fixed thereto and spaced downwardly from the bottom.

3,266,655
CONTAINER FOR LIFE JACKETS AND THE LIKE
Benton F. Trunk, 4116 Woodland Ave., Burbank, Calif.
Filed Oct. 24, 1963, Ser. No. 318,709
6 Claims. (Cl. 220—4)



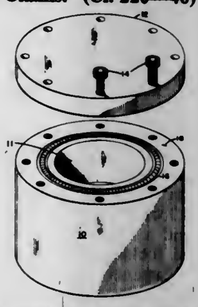
1. A container for life jackets and like instrumentalities comprising a case formed of interiorly identical halves provided with complementary meeting faces and one of said halves carrying a resilient gasket on the meeting face portion thereof effective to cooperate with the meeting face of the other of said halves to provide a seal for the joint formed by said meeting faces and said gasket, and means for releasably holding said halves together to form said case; said means comprising a strap having a portion thereof extending in a first run about said halves in one circumference of said case and a second portion extending in a second run about a circumference of said case disposed at right angles to said first named circumference; said strap having means associated with each of said portions manually operable separately to separately secure each of said runs in desired degrees of tightness about said case, and also having manually operable means for simultaneously releasing both of said securing means.

3,266,656
DEMOUNTABLE SHIPPING CASE
Charles E. Kridle, 1569 Beverly Place, Berkeley, Calif.
Filed Jan. 2, 1964, Ser. No. 335,445
4 Claims. (Cl. 220—4)



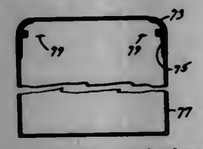
1. A demountable shipping case comprising
a base generally in the form of a pan having a generally flat bottom and a lip extending upward from said flat bottom generally around the periphery thereof;
a cover in the form of a pan, generally similar to said base, having a flat top and a lip extending downward from said flat top generally around the periphery thereof, said cover being sufficiently different in size from said base to facilitate an easy telescopic fit between the two;
side panels, unconnected to said base normally both when said case is in assembled configuration and when said case is demounted; and
corner posts for insertion within the corners of said base and said cover, each having two channels, one of said channels oriented to receive the edge of a side panel and the other of said channels being oriented to receive the corresponding end of a side panel adjacent to said end of said first-mentioned panel when said case is assembled;
the length of each panel being sufficiently shorter than the distance between the bottoms of the two corner-post channels receiving, respectively, the opposite ends of the panel, when the corner posts are retained within the corners of the base, that the panel slips easily into said two channels, the depth of the sides of both said channels being sufficient to prevent any gap, which would expose to access from the exterior the contents of the case, at the corners between the side panels and the corner posts when the case is assembled with the cover in position;
said cover and said base retaining said case in assembled configuration without the need for fastenings between contiguous parts.

3,266,657
SEALING OF INTERNAL HIGH PRESSURE VESSELS
Jaroslaw D. Stachiw, State College, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 5, 1964, Ser. No. 365,222
3 Claims. (Cl. 220—46)



1. A seal for a vessel adapted to maintain a high internal pressure comprising, in combination:
(a) a high pressure vessel, said vessel having an internal chamber therewithin, said internal chamber having an opening, said vessel having a generally flat seat surface surrounding said opening, said vessel having an upwardly disposed groove recessed within said seat surface, said groove having concentric cylindrical inner and outer faces perpendicular to said seat surface and an annular bottom portion;
(b) a source of pressurized hydrostatic fluid, said source connected to said annular bottom portion of said groove by a fluid passage;
(c) a resilient annular gasket member slideably positioned in said groove, said gasket member having a generally U-shaped cross-sectional configuration with one leg of said U positioned adjacent said inner face of said groove, the other leg of said U positioned adjacent said outer face of said groove and the connecting portion of said U positioned toward said seat surface of said vessel;
(d) a unitary rigid annular metallic container slideably positioned within said groove, said container having a generally U-shaped cross-sectional configuration with one side element of said U of said container positioned adjacent said inner face of said groove and the other side element of said U of said container positioned adjacent said outer face of said groove and the connecting portion of said U of said container positioned immediately adjacent said connecting portion of said gasket member;
(e) an annular deformable sealing ring positioned substantially within said container, said ring being substantially circular in cross-sectional configuration and of such diameter as to protrude substantially above said container when not deformed and to substantially fill the interior of said container when deformed to a position entirely within said container;
(f) a rigid metallic cover member having a generally flat inner surface, said inner surface positioned immediately adjacent said seat surface of said vessel;
(g) a plurality of bolts secured to said vessel to retain said inner surface of said cover member upon said seat surface of said vessel; and
(h) said vessel, said gasket member, said container, said sealing ring, and said cover member so oriented and correlated that when said cover member has been positioned and secured upon said seat surface of said vessel, said pressurized hydrostatic fluid has been utilized to press said gasket member against said container, said leg portions of said container have been pressed directly against said inner surface of said cover member and said sealing ring has been deformed to lie entirely within said container, then said internal chamber of said vessel will maintain a high internal pressure.

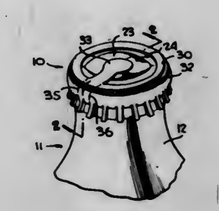
3,266,658
MOLDED CONTAINERS
William E. Meissner, Devon, Pa., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 29, 1963, Ser. No. 319,717
4 Claims. (Cl. 220—48)



1. A molded container formed of organic plastic material having a completely closed, body of unbroken, seamless and unitary construction, and an independent ring attached to the outside of and extending about said container body, said ring having a series of spaced inwardly extending projections which interlock with correspondingly shaped recesses formed in the container body, said projections having cutting edges adapting the same to sever the seamless container body when the ring is turned relative thereto.

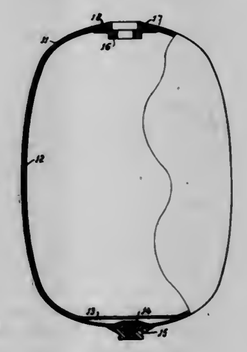
3,266,659
EASY-OPENING RING AND SCORED CLINCH CAP
Henry E. Frankenberg, Berwyn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 1, 1963, Ser. No. 320,768
1 Claim. (Cl. 220—54)

A composite closure for a container, said closure comprising a crown cap and an overcap, a liner disposed within said crown cap for providing a seal with the lip of a container, said crown cap including a top end portion and a depending skirt, said skirt being provided with a corrugated edge structure for crimping said crown cap to a container, said crown cap having a hump therein and a score line extending across the crown cap, said overcap comprising an annular top piece having an opening therein, and a peripheral flange depending from said annular top piece, said overcap including a pull tab and a tear



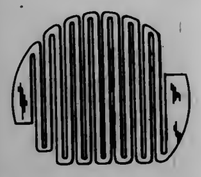
strip, said tear strip being defined by a pair of spaced score lines in said annular top piece and said flange, said hump extending partially through said opening and engaging said pull tab so as to position said pull tab above the plane of said annular top piece, said overcap being normally disposed over said crown cap and being manually removable therefrom, whereby a pressure may be exerted upon said hump to break said crown cap along said score line.

3,266,660
FILAMENT WOUND VESSEL
Christian Ragettli, Zurich, Switzerland, assignor to Metal Container Limited, London, England, a British limited-liability company
Filed May 22, 1964, Ser. No. 369,541
Claims priority, application Great Britain, May 24, 1963, 20,814/63
13 Claims. (Cl. 220—63)



1. A rigid vessel comprising at least two shells each of which comprises a filament wound similarly shaped hollow body, corresponding to a surface of revolution and including two poles, said shells being distinct from one another, fitting into one another and supporting one another over substantially their entire surface area, said shells being secured to one another only adjacent to one of said poles, said shells being free of attachment to one another over the remainder of their surface area and the unsecured pole of said inner shell having a relatively large polar opening formed therein.

3,266,661
METHOD OF APPLYING ELECTRO-CONDUCTIVE COATINGS AND RESULTING ARTICLE
Harold F. Dates, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Oct. 4, 1961, Ser. No. 142,980
11 Claims. (Cl. 220—64)

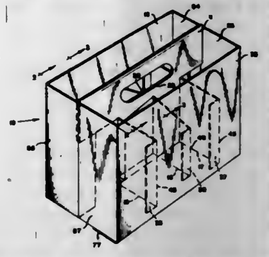


11. A warming utensil comprising a container formed of material selected from the group consisting of glass and ceramic, and an electro-conductive coating fused to the bottom of said container having thickness variations of less than about 15% comprising by weight a mixture of about 35 parts silver flakes, 8.5 parts tin-antimony oxide, 12.5 parts finely divided glass, the tin-antimony oxide being a mixture of about 79% by weight SnO_2 and 21% by weight Sb_2O_3.

3,266,662
COVER FOR SEALING LIQUID SURFACES
George H. Craig, 134 Bethlehem Pike, Ambler, Pa.; Jane Palmer Craig, executrix of said George H. Craig, deceased
Filed June 21, 1962, Ser. No. 204,281
2 Claims. (Cl. 220—93)

1. A cover for sealing the liquid surface in a cylindrical container, said cover comprising a disc of material impervious to air, said disc having a diametrical fold line and two pairs of fold lines extending laterally therefrom, each pair of fold lines commencing at a point on the diametrical fold line spaced from the center thereof, the two commencing points being on opposite sides of the center of the diametrical fold line, each pair of fold lines defining first arcuate portions bisected by the diametrical fold line, intermediate arcuate portions formed by that portion of the disc between the first arcuate portions, the intermediate arcuate portions meeting each other at the diametrical fold line and being foldable thereabout, said first arcuate portions being adapted to be folded inwardly with the intermediate arcuate portions overlying the first arcuate portions and the bisected portions of each first arcuate portion being in face-to-face relation, and tab means mounted on the intermediate arcuate portions for unfolding the disc into flat condition, said tab means comprising a base secured to each intermediate arcuate portion immediately adjacent the diametrical fold line, a tab hingedly secured to each base such that tabs will be in alignment with each other, and means to limit the included angle between each tab and base so that when the tabs are moved toward each other the disc may be unfolded to a flat condition.

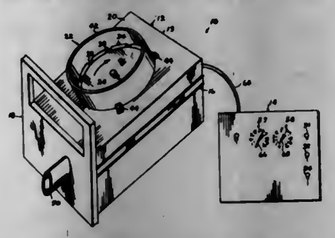
3,266,663
BOTTLE CARRIER
William A. Ringler, Wayne, Pa., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 4, 1964, Ser. No. 342,386
6 Claims. (Cl. 220—118)



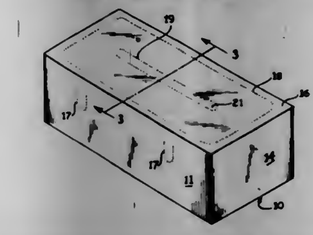
1. A collapsible carrier for bottles and similar articles comprising
an outer blank of light paperboard material,
and a separate piece inner blank of heavier paperboard material than said material of said outer blank and adapted to divide said outer blank into compartments in the assembled carrier and provide the handle for the carrier;
said outer blank including
a first side panel,
a second side panel completely separated from said first side panel by an opening therebetween,
an end panel hingedly connected to each of said side panels on opposite ends of each of said side panels with adjacent end panels separated from each other by an opening therebetween,
an end flap hingedly attached to each of said end end panels and to another of said end flaps,
a pair of bottom panels separated by a fold line and hingedly attached to said first side panel,
and a bottom flap attached to said second side panel;
said inner blank including
a first center panel having at least on dimension equal to a length of a side panel measured between oppositely attached end panels and having a slotted opening therein,
a second center panel having at least one dimension equal to a length of a side panel measured between oppositely attached end panels and having a slotted opening therein and hingedly attached to said first center panel on a line substantially aligned with the hinged attachment of said end flaps within substantially the range of the thicknesses of said blanks,
said first and said second center panels each having an equal number of partitioning sections at least partially cut out of said center panels and hingedly connected thereto,
a partition end flap hingedly connected to each of said partitioning sections,
and adhesive means attaching each of said partition end flaps to one of said side panels.

3,266,664
ARTICLE COUNTING DEVICE
Walter G. Pearson, 104 Hilltop Drive, Pineville, La., and Kerney J. Hurst, 25 Rockledge Road, Hartsdale, N.Y.
Filed June 9, 1965, Ser. No. 462,472
5 Claims. (Cl. 221—7)

1. An article counting device, comprising: a support having an inclined upper surface; a ring removably mounted on the inclined surface forming an article receiving hopper; a motor, said motor having a drive shaft projecting through said support coaxial with respect to said ring; a radially slotted disk coaxially secured to said drive shaft above the inclined surface; a cover disk coaxially secured to said drive shaft and overlying said slotted disk in circumferential inwardly spaced relation with respect to the periphery of the latter, said support having an opening underlying the path of travel of the innermost end portion of the slots in said slotted disk; a normally open switch mounted on said support adjacent the opening therein and in the path of travel of the innermost end portion of the slots; and article counting control means interconnecting a source of electrical energy with said motor and said normally open switch.

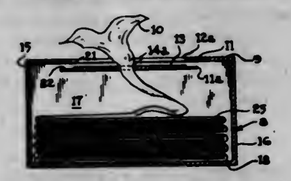


3,266,665
DISPENSING CARTON FOR INTERFOLDED TISSUE SHEETS
Samuel James Eakens, Birmingham, Ala., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Feb. 4, 1964, Ser. No. 342,500
1 Claim. (Cl. 221—48)



The combination of a rectangular carton for serially dispensing interfolded tissue sheets and a stack of interfolded tissue sheets disposed in said carton; said carton being formed by six rectangular panels including elongated top and bottom panels, two end panels and two side panels; said top panel having a first closed line of perforations in an elongate substantially rectangular pattern extending longitudinally of said top panel and being inwardly spaced a short distance from the edges of said top panel; said first line of perforations dividing said top panel into an intermediate, substantially rectangular, centrally disposed portion, and an outer narrow rim portion; a second closed line of perforations in an elongate pattern extending longitudinally of said top panel and being disposed completely within the boundaries of said first closed line and inwardly spaced therefrom; said second line of perforations defining a small section centrally disposed within said intermediate portion of said top panel; said smaller section adapted for detachment along said second line and manual removal from said carton whereby there is obtained an aperture for withdrawal of tissues therethrough; each of the side panels of said carton being provided with at least two U-shaped perforated lines spaced from said end panels and disposed approximately midway between said top panel and said bottom panel; the intermediate portion of said top panel being adapted for detachment along said first line and retention between said rim portion and said tissue stack and being of sufficient transverse width that when the level of said tissue stack falls below said U-shaped perforations and said intermediate portion is detached, said U-shaped perforations may be broken and the tabs formed thereby pushed inwardly to extend past the edges of said rim portion and over said intermediate portion when detached to limit vertical movement thereof.

3,266,666
TISSUE DISPENSING CARTON HAVING A DETACHABLE CONTROL PANEL AS AN INTEGRAL PART OF THE TOP WALL
Howard N. Nelson, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Jan. 12, 1965, Ser. No. 424,918
9 Claims. (Cl. 221—48)

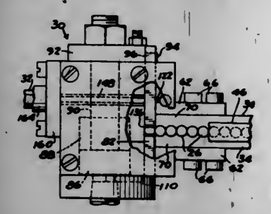


1. An improved carton especially adapted for the sequential dispensing of interleaved tissues disposed in stacked relation therein, said carton being of elongated rectangular shape having top, bottom, side and end walls, said top wall having as an integral part of its structure a detachable central panel, said panel being defined by
(a) a first line of weakness in the form of a closed line inwardly spaced from the edges of said top wall to define a detachable panel of symmetrical oblong configuration having substantial width and having a lengthwise dimension substantially longer than the width of said top wall,
(b) a second line of weakness spaced inwardly from, and substantially parallel to, said first line,
(c) one of said lines of weakness comprising a series of spaced perforations extending completely through said top wall,
(d) the other of said lines of weakness comprising a continuous cut-score located on one face of said top wall and extending from said face partially through said wall, and
(e) a manually removable portion centrally disposed within said central panel area, said portion being defined by a closed line of weakening wholly within said central panel.

3,266,667
ARTICLE-FEEDING APPARATUS HAVING ARTICLE TRACKWAYS WITH VARYING CLEARANCES
Murdo A. MacDonald, Detroit, Mich., assignor to Tru-Tork, Inc., Birmingham, Mich., a corporation of Michigan
Filed Dec. 15, 1964, Ser. No. 418,467
10 Claims. (Cl. 221—177)

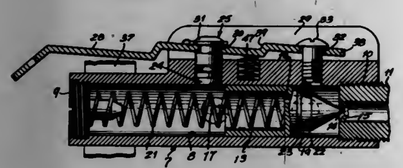
3. In an apparatus having means operable to introduce into a track a series of articles, each having surface portions by engagement with which the article is orientable in a predetermined attitude, a transfer device operable to transfer the articles one at a time from said track into a flexible tube having a longitudinal passageway extending to a delivery point, and means operable to introduce air under pressure into said tube for propelling an article through said passageway, said track, transfer device, and passageway having control surfaces so disposed that they maintain articles therein in said predetermined attitude,

improved structure wherein at least certain of said control surfaces upstream of said passageway have relatively close tolerances with respect to said surface portions of said articles, whereby to contain said articles against substantial cocking in transition from said track to said passageway,



said control surfaces of said passageway having relatively large tolerances with respect to said surface portions of said articles to facilitate curving of said tube without binding against articles passing therethrough and to facilitate escape of air past articles propelled thereby in said tube.

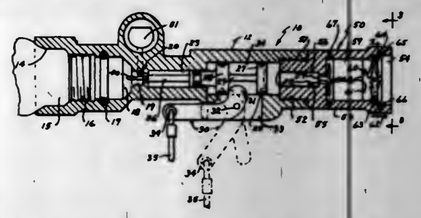
3,266,668
INFLATOR FOR LIFE PRESERVERS AND THE LIKE
Frank L. Davis, Fort Salonga Road, Northport, Long Island, N.Y.
Filed Sept. 22, 1964, Ser. No. 398,365
11 Claims. (Cl. 222—5)



11. An inflator for pneumatic articles comprising
a firing tube having means at one end for attachment of a gas capsule thereto,
a firing pin operable in said tube, in the form of a piston having a capsule piercing pointed end provided with an opening therethrough for passage of gas released by a capsule to opposite sides of said piston,
tubular studs spaced longitudinally of said tube for attaching said firing tube to an article to be inflated and
means for effecting engagement with said firing pin with a capsule attached to said tube and for positioning said piston in the tube with opposite sides of the same in communication with said spaced tubular studs.

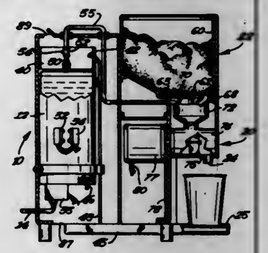
3,266,669
WATER PRESSURE ACTUATED EXPLOSIVELY OPERATED ACTUATING MECHANISM
Nicholas Daniel Vuyosevich, Fair Haven, N.J., assignor to V. Associates Incorporated, Matawan, N.J.
Filed Dec. 11, 1964, Ser. No. 417,552
4 Claims. (Cl. 222—5)

1. A floatation device operable after immersion in water including, a pressurized container with a frangible sealed end, a piston mounted in a cylinder and said cylinder at one end attached to said frangible sealed end of said pressurized container, said piston provided with a piston rod that extends from said piston through said cylinder to a point adjacent the sealed end of said pressurized container, said piston rod having a perforating point at the point adjacent said sealed end of said pressurized container and an electrically actuated expandable squib mounted in a sealed relationship in the other end of said cylinder and a battery mounted adjacent to said squib and electrically connected thereto, said battery ener-



gized by immersion in water, said battery contained within said cylinder and protected from humidity by a moisture barrier at the open end of said cylinder opposite to said pressurized container, said moisture barrier comprised of a check valve to be opened by a fluid pressure greater than atmospheric pressure.

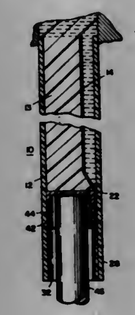
3,266,670
LIQUID DRINK DISPENSING MACHINE
Robert B. Brooks, Golden Valley, and Gilbert Totten, Minneapolis, Minn., assignors to Advance Engineering Company, Minneapolis, Minn., a corporation of Minnesota
Filed May 13, 1964, Ser. No. 367,033
5 Claims. (Cl. 222—54)



1. In a liquid drink dispensing machine comprising, a base, a tank mounted on said base and having an inlet pipe adapted to have a source of water under pressure connected thereto, said tank including a reservoir associated in heat transmitting relation therewith, heat exchanger means positioned in the tank and adapted to continuously temper the water therein, said heat exchanger means being an electrical heating element positioned in the tank and including connections to an electrical source of power and thermostatic means for responding to the temperature of the water in the tank to maintain said water at a predetermined temperature level, valve means positioned at the inlet pipe to said tank and adapted to control the flow of water from said tank, an outlet pipe having a vented opening therein and a tubing extending therefrom connected to the outlet of said tank at the top thereof, a mixing chamber, the tubing from the outlet pipe of the tank being directed into said mixing chamber, a dispensing chamber for a flavoring material positioned above said mixing chamber, means controlling the dispensing of a fixed amount of said flavoring material from said dispensing chamber into said mixing chamber simultaneously with a supply of tempered water thereto, a motor driven agitator positioned in said mixing chamber and operated simultaneously with the supply of tempered water from said tank and delivery of the dispensed flavoring material from said dispensing chamber to said mixing chamber, a discharge pipe attached to the mixing chamber adapted to transmit a solution of flavored tempered water

to a remote container, circuit means connected to and energizing the valve means at the inlet of said tank and the motor driven agitator together with the means for controlling the dispensing of flavored material for simultaneous operation, the vented opening in said outlet pipe including a restriction in the outlet pipe from said tank and a transverse passage positioned adjacent said restriction and downstream of the same such that flow of water in the outlet pipe from said tank under pressure will be directed through said restriction and beyond said transverse passage open to the atmosphere to the tubing and the mixing chamber, said vented opening permitting drainage of water in the tubing after closing of the valve means at the inlet pipe to said tank to clean the mixing chamber and the agitator therein and allowing the expanded fluid in the tank through heating therein to pass through the transverse passage and into the reservoir to be evaporated by heat from the tank, an overflow pipe positioned in said reservoir at a predetermined height therein with a tubing to the base of the dispensing machine, and a collecting tray positioned at the base of said dispensing machine and in communication with the tubing connected to the overflow pipe to take overflow water from the reservoir not evaporated by the heat of said tank.

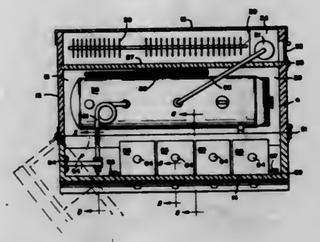
3,266,671
COMPARTMENTED DISPENSER FOR PLURAL FLUIDS
Kenneth Gelpey, 112 Governor's Ave., Medford, Mass.
Filed Dec. 16, 1963, Ser. No. 330,930
1 Claim. (Cl. 222—94)



A dispenser adapted to extrude heterogeneous fluids uniformly within a blind opening, said dispenser including a hollow tubular barrel having a long extending flexible membrane serving to divide the barrel into compartments of the membrane having its edge portions secured to the inner lateral wall of said barrel, a plug forming a moveable end wall of one of the said compartments and concentrically disposed within said barrel whereby movement of said plug will force said flexible membrane into abutting relationship with the inner wall of said barrel and simultaneously extrude the contents of both compartments.

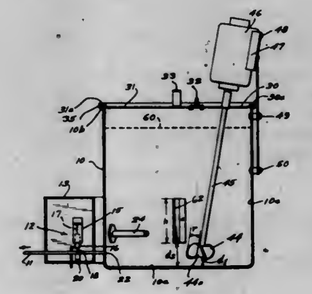
3,266,672
BEVERAGE DISPENSER WITH CARBONATOR
Gordon B. Dean, 1814 Addington Ave., Louisville, Ky.
Filed Mar. 6, 1964, Ser. No. 349,986
3 Claims. (Cl. 222—129.1)

1. A carbonated beverage dispenser comprising a cabinet, a refrigeration unit in association with said cabinet, a closure for said cabinet, a water storage container in said cabinet, a water aeration means in said cabinet, said water aeration means comprising an imperforate cone-shaped structure located within said water storage means and being positioned substantially at floor level thereof, a conduit means from said aeration means to said water storage container for delivering a gas from said aeration means to said water storage container for aerating the water therein, a conduit means leading from said water



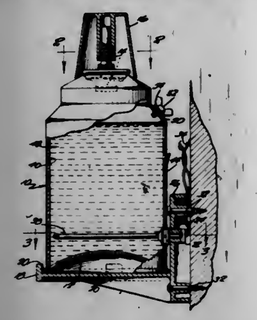
storage container to a point outside of said cabinet, flavoring material removably mounted on said closure, conduit means associated with said flavoring material containers for delivering a quantity of said flavoring material outside of said cabinet, and valves associated with each of said conduit means for regulating the flow of material therefrom.

3,266,673
BARIUM DISPENSING SYSTEM
Robert W. Sessions, 129 Park Ave., River Forest, Ill.
Filed Feb. 27, 1964, Ser. No. 347,756
7 Claims. (Cl. 222—146)



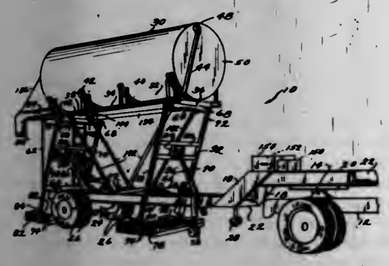
1. A barium dispensing system for use in colon fluoroscopies comprising
storage means for receiving a level of barium solution,
means for heating and maintaining the solution at approximately human body temperature,
valve means enabling the solution to be dispensed from the storage means,
means for maintaining particles of the barium in a properly dispersed condition within the storage means comprising a baffle spaced at its lower end above a bottom of the storage means and spaced at its upper end below the level of the barium solution and extending laterally to the side walls of the storage means for limiting circumferential flow of the solution within the storage means, and
a motor driven impeller disposed at one side of the baffle with the impeller having rotary driven blades spaced above the bottom at an underside of the baffle to impel the solution downwardly and along the bottom and then vertically along the side wall.

3,266,674
THERMO-SHAVE DISPENSING AND REUSABLE UNIT
Robert S. Martin, Louisville, Ky., assignor of fifty percent to Richard L. Smith, Louisville, Ky.
Filed Aug. 24, 1964, Ser. No. 391,524
5 Claims. (Cl. 222—146)



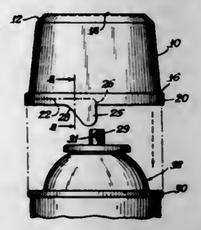
1. A dispensing and reusable unit comprising a container having an orifice controlled by a valve, an electric element positioned within said container having terminals for connection to a source of current terminals for heating the contents of the container to 125° F. to about 212° F., at a vapor pressure from about 28 inches of mercury vacuum to about 0 pounds per square inch gauge pressure at 70° F., a propellant in said container being mixed with a material to be dispensed, said propellant being a halogenated alkane having not more than two carbon atoms and containing at least one bromine atom, and a threaded plug for mating with a threaded orifice to apply additional material to the container when the plug is removed so the container may be refilled when empty, and to insure pressure within the container when the plug is engaging the threaded orifice, and the pressure being maintained therein when the electric heater element is electrically energized and a wall bracket for mounting the container thereon, said source terminals positioned adjacent the wall bracket to cooperate with the terminals on the container when the container is in the wall bracket.

3,266,675
TRANSPORTABLE FLUID STORAGE AND DISPENSING MEANS
Charles E. Willis, P.O. Box 161, Atlanta, Tex.
Filed Oct. 6, 1965, Ser. No. 493,433
13 Claims. (Cl. 222—160)



1. A transportable fluid storer and dispenser comprising: a vehicle frame having ground engaging wheel means; fluid storer and dispenser tank means; at least one forward leg and at least one rear leg; means pivotally securing each leg at the upper end thereof to said tank means for pivotal movement about horizontal axes; means pivotally securing each leg at a point thereon intermediate its upper and lower ends to said vehicle frame for pivotal movement about horizontal axes; ground engageable support pads mounted on the lower end of each leg; and means on said vehicle frame for simultaneously elevating said tank means and lowering said support pads to a ground engaging condition by bringing said legs to a substantially vertical condition defining a first position and for simultaneously lowering said tank means into adjacency with said vehicle frame and raising said support pads to a non-engaging condition with respect to the ground by bringing said legs to an approximately horizontal condition defining a second position.

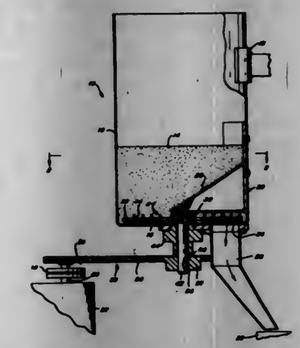
3,266,676
TAMPERPROOF CAP FOR AEROSOL BOMB
Edward J. McKernan, 430 James St., Crystal Lake, Ill.
Filed Mar. 4, 1964, Ser. No. 349,203
2 Claims. (Cl. 222—182)



1. In combination with an aerosol bomb having an annular rib adjacent its discharge end, a protective cap for said end formed of relatively thin elastic material having an annular side wall, a top wall connected to the upper edge of the annular side wall, an outwardly flared annular flange extending from the lower edge of the annular side wall and seated on top of the rib of the bomb, and an annular substantially cylindrical web depending from said flange and surrounding said rib, said cap having an extension downwardly projecting from a relatively narrow portion of its lower edge to form a depending tab and having the remainder of its lower edge formed with a reentrant flange radially inturned and bearing against the bottom of the annular rib of the bomb, said web being scored in a line extending at least 100° and substantially less than 180° around its periphery, including the base of the tab, and said web and reentrant flange being scored downwardly from said line at the ends thereof to define a removable relatively short segment of said reentrant flange, one side of said tab being partly defined by one end of the segment whereby when the segment is torn loose from the cap by a pull on the tab removing said relatively short segment of the reentrant flange the cap will remain secured on the bomb by engagement of the remaining relatively long segment of reentrant flange of the cap beneath the rib of the bomb around more than 180° of the periphery of the bomb and the elasticity of the cap material will permit said longer segment of the flange to be temporarily distorted sufficiently to free the cap from the bomb and thereafter permit the cap to be repeatedly remounted on the bomb and removed therefrom.

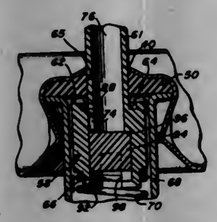
3,266,677
METERING HOPPER
William H. Hamilton, Philadelphia, Pa., assignor to Pennsalt Chemical Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 27, 1964, Ser. No. 392,411
6 Claims. (Cl. 222—370)

1. A hopper for feeding a metered amount of granular material into a press, said hopper comprising a housing adapted to receive a quantity of granular material, said housing having a bottom wall, a metering device rotatably mounted within said housing adjacent said bottom wall, said metering device including a hub providing an axis of rotation for said metering device, a plurality of upwardly extending projections on said metering device, said projections being in radially spaced relation to said axis of rotation, at least some of the closest adjacent ones of said projections in a generally circumferential direction being offset in a radial direction from each other, chute



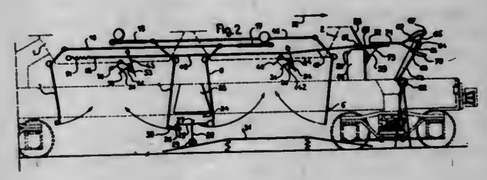
means communicating with said hopper for receiving a metered amount of granular material and delivering said material to a press, and baffle means within said housing overlying a portion of said metering device for directing granular material to said metering device and preventing direct communication between said chute means and granular material.

3,266,678
SPRAY VALVE FOR PROTRUDING STEM
Edward H. Green, 11 Army Trail Road, Addison, Ill.
Filed Oct. 13, 1964, Ser. No. 403,469
16 Claims. (Cl. 222—394)



1. A valve structure for aerosol packages in which there is a canister adapted to have a pressurized product therein, and the canister having a top opening, the valve structure adapted to be sealed into the opening, and comprising:
A. a cover member having means for sealingly securing same into said top opening,
a central valve mounting formation having a passageway therein,
B. a valve housing secured to said formation,
C. a dip tube secured to said housing and adapted to extend downward into said canister when said valve structure is mounted to the canister,
D. an annular gasket having a central opening therein, and the gasket being secured in said formation with its central opening aligned with the passageway and held in place by said housing,
E. a combined valve plunger and stem having
(1) an annular body portion of diameter substantially greater than that of said central opening reciprocable in said housing,
(2) a hollow stem portion substantially permanently connected with the body portion, and slidingly but sealingly engaged through said central opening and passageway to have an end protrude from said cover member to present a cylindrical stem thereat,
(3) a valve seat formed on the body portion surrounding the stem portion at the juncture of said stem portion with the body portion,
(4) spring means in the housing urging the plunger in a direction to press the valve seat against the bottom surface of the gasket,
F. the stem portion of said combined valve plunger and stem having a hollow bore extending axially from an outer end in that portion of the stem protruding from the cover member to an inner end within the body and beyond said valve seat,
G. a metering orifice formed in the plunger in the vicinity of said juncture and providing communication between said hollow bore and the exterior of said stem portion,
H. a slot in said plunger extending radially outward from said bore and axially downward from said metering orifice to said inner lower end of said bore, said inner end of said bore otherwise being blocked, and
I. a push button with external spray opening and having a socket therein, removably mounted on the protruding end of the stem and adapted to be pressed axially to force the stem portion and hence the plunger into the housing against the pressure of the spring means to give free access for pressurized product past the valve seat from the housing, through the hollow bore and out said spray opening.

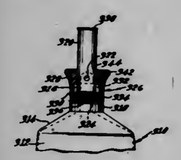
3,266,679
HOPPER WAGONS
Pierre Arbel, Paris, France, assignor of one-half to Etablissements Arbel, Paris, France, a corporation of France
Filed Nov. 2, 1964, Ser. No. 408,107
Claims priority, application France, Nov. 7, 1963, 953,003, Patent 84,679
6 Claims. (Cl. 222—503)



1. A hopper wagon comprising a chassis and having an arrangement for the automatic control of the opening and closing of the hoppers of the wagon wherein the wagon is fitted with one or more sets of at least two shut-off systems, each shut-off system comprising a pivotally mounted master trap-door and a pivotally mounted supported trap-door, the edge of the supported trap-door being covered by that of the master trap-door in the closed position in such a way that the master trap-door holds the supported trap-door closed, articulated rods being provided which connect together through lever-arms fixed on said trap-doors on the one hand the group of master trap-doors and connect together on the other hand the group of supported trap-doors in such a way that the trap-doors in each of the groups pivot as a whole, each set of shut-off systems comprising two return members, each return member pulling separately and permanently in the direction of closing of

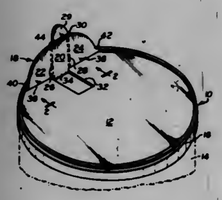
groups of trap-doors, one of said supported trap-doors being equipped with one of two hooking elements of a first locking system comprising a latch and a holding member arranged in such a way that said latch engages automatically said holding member when the trap-doors reach the open position, at least the supported trap-doors being thus held in said position, and that said two hooking elements be separated from each other under the action of a cam or ramp fixed to the ground and arranged in the path of a feeler fixed to said latch, said master trap-door being equipped with one of two hooking elements of a second locking system comprising a hook and a holding piece, the other hooking element being connected to the chassis of the wagon in such a way that said hook engages automatically said holding piece when the trap-doors reach the open position, said second locking system further being controlled in such a way by a supported trap-door that said supported trap-door unbolts said second locking system only after having reached a position near the closed position during its closing movement.

3,266,680
MATERIAL DISPENSING CONTAINER AND CAP THEREFOR
Sydelle R. Newman, 74—23 260th St., Glen Oaks, N.Y.
Filed Aug. 14, 1964, Ser. No. 389,687
9 Claims. (Cl. 222—519)



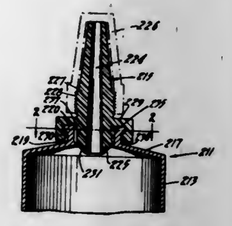
1. A cap for a material dispensing container having a permanently fixed elongated neck and a material dispensing opening defined therein, said cap being movable along said neck to a position to close said opening, said cap having a leg encompassing a lengthwise portion of said neck and said opening and disposed outward therefrom to define a material containing chamber therebetween, means on said cap cooperable with the surface of said neck to engage the same in valve seating engagement to close said opening defined therein, and means on said cap and container releasably engageable to retain said cap in its closed position and to air-tightly close said chamber.

3,266,681
HINGED SPOUT AND CLOSURE
Irving L. Rabb, 250 Chestnut Hill Road, Norwalk, Conn.
Filed Feb. 26, 1964, Ser. No. 347,486
5 Claims. (Cl. 222—531)



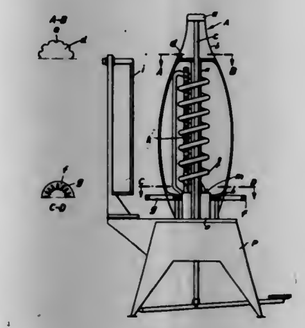
1. A closure comprising a plate of flexible plastic material having an aperture therein, said aperture having two sides, an end joining said sides and an area opposite said end, and a spout for openably closing said aperture, said spout comprising a pair of sides and a cover plate integrally joined to said two sides along lines of diminished thickness, said spout being bent along said lines of diminished thickness into a U-shape with the cover plate forming the bight of the U, said cover plate being shaped substantially the same as said aperture and being integrally joined to said first mentioned plate in said area opposite said end of said aperture by a zone of diminished thickness, whereby to pivotally mount said spout for movement from and to a closed position in which said cover plate is substantially coplanar with said first mentioned plate and to and from an open position in which said cover plate is substantially perpendicular to said first mentioned plate, each of said spout sides being substantially quadrant shaped with the center of said quadrant being substantially at said area opposite said end of said aperture and the radius of said quadrant being equal substantially to the length of said aperture between the end thereof and the area opposite said end, each side of said spout having one edge defined by the line of diminished thickness joining said side of said spout to said cover plate, a second edge perpendicular thereto and extending away from said cover plate, and an arcuate edge extending between said two perpendicular edges, each of said sides having a radially extending stop adjacent said second radial edge thereof for engaging said first mentioned plate for limiting the movement of said spout beyond its open position, a tab integrally formed with said cover plate and extending outwardly therefrom away from the zone of joining between said cover plate and said first mentioned plate for overlying said first mentioned plate when said spout is in said closed position, a bead on said cover plate extending between said spout sides and along the junction with said tab for engaging the end of said aperture when said spout is in closed position, and a pair of beads on said sides extending along the radial edges thereof joined to said cover plate.

3,266,682
CONTAINER WITH SNAP-IN PLASTIC NOZZLE
Robert Stephen Schultz, Somerville, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Original application Oct. 10, 1962, Ser. No. 229,675, now Patent No. 3,231,156, dated Jan. 25, 1966. Divided and this application Nov. 16, 1965, Ser. No. 508,063
2 Claims. (Cl. 222—570)



1. A container comprising an end member having a smooth-walled hollow upstanding neck with an outwardly projecting lip portion; a nozzle passing through said neck for dispensing product stored within the container, said nozzle being formed in one piece of resilient plastic material and including an elongate body member and a flange extending outwardly therefrom intermediate its ends and an interfering lock ring on said flange snapped over the exterior of the lip portion of said neck to retain the nozzle in assembled position on the container with one end of the nozzle body within the neck; and interlocking means formed on both the nozzle and neck to insure against relative rotation of the nozzle and the end member.

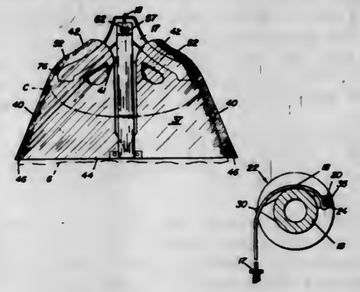
3,266,683
SKIRT PRESSING MACHINE
Gottfried Fleischer, Ludwigstr. 25, Furth, Bavaria, Germany
Filed Nov. 2, 1964, Ser. No. 408,189
Claims priority, application Germany, Nov. 2, 1963, F 41,173
3 Claims. (Cl. 223—67)



3. A pressing machine, particularly for skirts, said machine comprising a base, a housing mounted on said base, a plurality of resilient wires arranged to constitute a fitting form of generally circular shape and adjusting means adapted to continually vary the diameter of said form, said adjusting means including guiding means, such as a sleeve, extending upwardly from said housing, a vertical shaft axially movable in said guiding means, a head member supported at the upper end of said shaft, a spreading disk disposed at the upper end of said guiding means below said head member and a guiding disk disposed circumferentially of said housing, said guiding disk having a plurality of radially extending slots, one for each of said wires, said wires being secured at their upper ends to said head member and extending downwardly therefrom by way of said spreading disk through said slots, said spreading disk being adapted to bend said wires outwardly in response to downward movement of said shaft, said head member and said wires relative to said spreading disk, and an air bag being arranged within said form adapted to engage said wires when supplied with air under pressure, said form including said air bag being rotatable about a vertical axis, said machine further including means to supply steam to the interior of said bag including a distributor tube extending from said housing parallel to said guiding means, an air supply nozzle extending from said housing and a helical heating coil disposed about said distributor tube and a foot pedal linked to said shaft operative to effect axial displacement of said shaft.

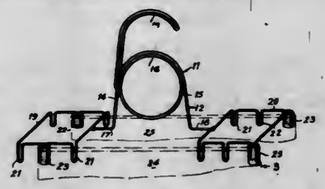
3,266,684
ANTITHEFT APPARATUS FOR DISPLAYED GARMENTS AND THEIR HANGERS
John O. Weddle, 943 Paxton St., Alexandria, Va.
Filed May 10, 1963, Ser. No. 279,359
13 Claims. (Cl. 223—93)

1. An apparatus for securing a garment to a garment hanger having sloping shoulder portions with a centrally-disposed hook including a strengthening end, and the hook to the hanger supporting rod of a display rack comprising, in combination, a shield adapted to encircle and secure the shoulder portions of the garment to the conforming body of the hanger, said shield comprising a pair of complementary hanger-body conforming, garment clamping members having interfittably locking means, and being spaced at their bottoms for the passage of the garment; and a bracelet device adapted to encircle the supporting rod and including a recess to engage the hook strengthening



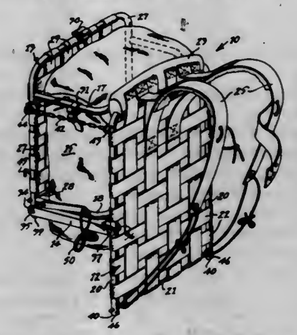
end and clamp the hook of the hanger thereto to prevent removal of the hanger therefrom.

3,266,685
GARMENT HANGERS
Murray L. Eskenazi, 8 Judith Court, East Rockaway, N.Y.
Filed Mar. 30, 1965, Ser. No. 443,927
2 Claims. (Cl. 223—95)



1. A garment hanger formed of a continuous length of wire, comprising a folded-over, curved central hanger portion, single thickness, coiled, spring portion, and outwardly extending left and right portions, each of said left and right portions forming a box-shaped structure, the plane of each box-shaped structure being substantially perpendicular to a plane passing through the hanger and spring portions, each of said left and right box-shaped structures being provided with a plurality of integrally formed depending fingers.

3,266,686
CONVERTIBLE PACK AND CHAIR
John E. Griffith, 618 Elm Ave., South Pittsburg, Tenn.
Filed Aug. 25, 1965, Ser. No. 482,560
8 Claims. (Cl. 224—9)



1. A convertible pack and chair comprising:
(a) an elongated back frame member having a front side and a back side and an upper end and a lower end,

(b) an elongated seat frame member having a top side and a bottom side and a rear end and a front end,
(c) a link bar having a first end and a second end,
(d) first means for pivotally connecting said first end to said seat frame member at a point adjacent said rear end, the distance between said first end and said rear end being less than the length of said link bar,
(e) second means for pivotally connecting said second end to said back frame member at a point spaced from said lower end,
(f) a pack,
(g) means for securing said pack to the bottom side of said seat frame member,
(h) means for securing said seat frame member to said back frame member in pack position with said pack between the bottom side of said seat frame member and the back side of said back frame member,
(i) shoulder strap means for securing the front side of said back frame member upon the back of a person, and
(j) means for securing said back frame member to said seat frame member in chair position with the lower end of said back frame member between said front end and said first pivotal connecting means.

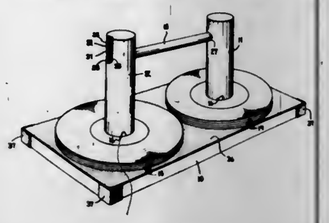
3,266,687
DISPLAY AND CARRIER CARTON
Mario A. Isoldi, Brooklyn, N.Y., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 30, 1964, Ser. No. 422,200
6 Claims. (Cl. 224—45)



1. A blank for forming a carton for display purposes comprising
a one-piece elongated planar element including, in order,
a top panel, a side wall panel, a bottom panel, an elongated narrow panel, a second side wall panel, a second top panel, and an end panel connected on mutually parallel fold lines,
said end panel including opposite side margins having a securing panel hingedly connected at each of said side margins of said end panel,
said second top panel including opposite side margins having a closing panel hingedly connected to each of said side margins of said second top panel,
said second side wall panel at the end closest to said second top panel including opposite segmental side margins having hingedly connected thereto an additional securing panel at each said segmental side margins of said second top panel,

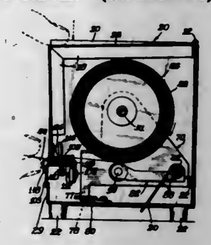
and locking elements hingedly connected to the free end of said top panel.

3,266,688
PHONOGRAPH RECORD STORAGE CARRIER
Daniel C. Sefton, 69 S. Whitcomb, Indianapolis, Ind.
Filed June 7, 1965, Ser. No. 461,849
3 Claims. (Cl. 224—48)



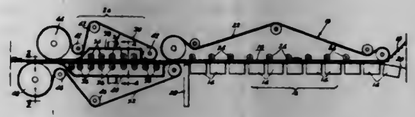
1. A storage carrier for centrally-perforated discoid elements comprising a base, a pair of posts rigidly supported from said base and upstanding therefrom in a common direction in substantially parallel relation, at least one of said posts having a diameter conforming to that of the perforation in such an element, one of said posts being formed near its distal end with a radial socket, the other of said posts being formed with a diametral bore therethrough coaxial with said socket, and a cross bar having one end seated in said socket and having its other end received in said bore, said cross bar being withdrawable through said bore.

3,266,689
DISPENSER FOR SUPPLYING CUT LENGTHS OF LIGHT-SENSITIVE MATERIALS
Joseph Hruby, Deerfield, Ill., assignor to Addressograph-Multigraph Corporation, Charles Bruning Division, Mount Prospect, Ill., a corporation of Delaware
Filed Oct. 28, 1964, Ser. No. 407,110
8 Claims. (Cl. 225—16)



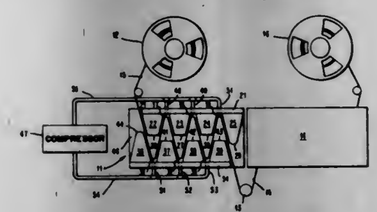
1. A light-protective dispenser for storing light-sensitive materials in roll form to be manually cut in varying lengths therefrom comprising a housing having a base portion and hingedly mounted cover member thereon, means for rotatably receiving said roll within said housing, cutting means mounted on said base movable between a normal position and cutting position comprising a blade portion and a yieldably mounted platen member in spaced apart relation with one another, said platen being urged toward said blade forming a limited access opening therebetween permitting the free passage of said length of material when said cutting means is in the normal position while restricting light from entering through said opening, said cover disposed in cooperative association with said blade adapted to clamp a narrow transverse segment of the material between the blade and platen by the action of pressing down on said cover and severing said length by manually pulling the length of material against said cutting means.

3,266,690
APPARATUS FOR METERING AND FEEDING CORRUGATED PAPERBOARD
Walter J. Goettsch, Kenilworth, Ill., assignor to Samuel M. Langston Company, Camden, N.J., a corporation of New Jersey
Filed Dec. 12, 1963, Ser. No. 330,197
5 Claims. (Cl. 226—95)



1. Apparatus for improving the uniformity of the web feed rate of a double facer machine for producing corrugated paperboard comprising feed means for feeding and metering one of the web components having a corrugated face and an opposed smooth face, said feed means comprising a corrugated roll adapted for mating engagement with the corrugated face of the web component and a suction roll adapted for engagement with the smooth face of the web component, each roll being adapted for uniform driving engagement with the web component by a common drive means, a means for feeding a second smooth web component for adhesive application to said corrugated face.

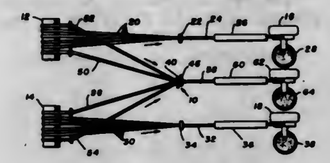
3,266,691
V-SHAPED VACUUM LOOP BOXES
Herbert Frazer Welsh, deceased, late of Philadelphia, Pa., by Julea S. Chapline, executrix, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 23, 1964, Ser. No. 355,528
10 Claims. (Cl. 226—97)



1. A tape transport system comprising first and second groups of V-shaped vacuum loop boxes, each of said loop boxes in said first group having its tape receiving opening facing a first direction, each of said loop boxes in said second group having its tape receiving opening facing a direction opposite to said first direction, said first and second loop boxes forming a space therebetween to permit the insertion of tape therebetween, means for driving the tape, means for applying a pressure differential to the tape through each of said vacuum loop boxes whereby the tape moves into and out of each of said vacuum loop boxes during the moving of said tape.

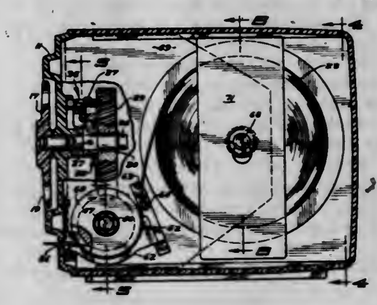
3,266,692
TOW STACKING ASSEMBLY
James A. Whitten, Falkville, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Apr. 6, 1964, Ser. No. 357,584
5 Claims. (Cl. 226—109)

1. An apparatus for stacking a plurality of ribbon-like structures being advanced from different directions comprising a vertically disposed base member, a first horizontally facing guide member mounted on the base member, a second guide member disposed vertically above the first guide member, said second guide member facing the opposite horizontal direction from said first guide



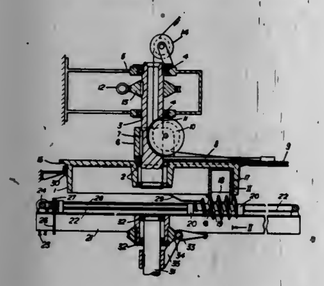
member, and means for advancing a plurality of said structures across the faces of the said first and second guide members to form a composite ribbon.

3,266,693
TRADING STAMP DISPENSER
Richard A. Hughes, Minneapolis, Minn., assignor to Hughes Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 10, 1964, Ser. No. 395,377
10 Claims. (Cl. 226—129)



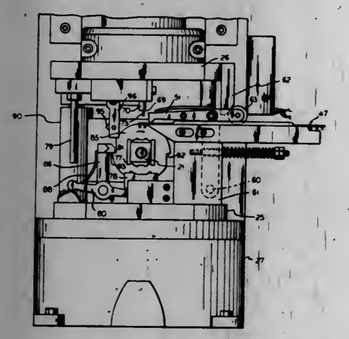
1. A stamp dispensing apparatus for dispensing a predetermined lineal length of perforated stamps from a rotary wound stamp supply roll to form a continuum of individual stamp areas, said apparatus comprising:
(a) an enclosure, one surface of said enclosure having a plurality of substantially radially disposed slots arranged in arcuately spaced relationship about a common center point;
(b) a toothed rotating delivery wheel adapted to engage the spaced perforations of the stamps to thereby drive stamps from said supply roll to said delivery port, and
(c) drive means for rotating said delivery wheel, said drive means comprising an axially rotatable dial disposed externally of said one surface, a first rotatable shaft coupled to said delivery wheel and to said dial, a pawl biased in normally locking engagement with said slots and being pivotally mounted about a first pivot axis and having a driving surface associated therewith, the driving surface being spaced from said first pivot axis, means coupled for axial rotation with said shaft for applying an arcuate force to rotate said pawl and to release the slot engaging portion from engagement with said slots only while said arcuate force is being applied to said driving surface, the arrangement being such that rotation of said shaft between adjacent slots provides linear movement of said stamp supply substantially equal to an integral number of spaced perforations.

3,266,694
WIRE HANDLING MACHINE
Douglas David Morris, Eastleigh, England, assignor to Barron and Crowther Limited, Eastleigh, England, a British company
Filed Apr. 20, 1964, Ser. No. 360,936
Claims priority, application Great Britain, May 2, 1963, 17,381/63
14 Claims. (Cl. 226—168)



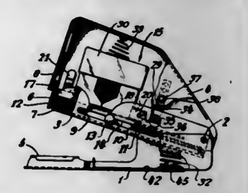
1. A wire handling machine comprising: a stationary support; a distributor arm rotatable on said support about a fixed axis; a coiling block rotatable about said axis at one side of said arm whereby said arm may coil wire on said block, said coils then moving axially from said block for movement along a path extending parallel to said fixed axis and then generally laterally thereof; a rotatable worm conveyor member and at least one roller member in rolling engagement with the outer periphery of said conveyor member, said members being rotatable about spaced axes parallel to a portion of said path; one of said members being rotatable on said block and the other member being rotatable on said support; said conveyor member being arranged to engage and convey portions of successive turns of said wire along said portion of said path and between the axis of said conveyor member and said roller member, said members serving to prevent rotation of said block about said fixed axis.

3,266,695
MACHINE FOR APPLYING LUGS
Joseph J. Cervenka, 410 S. Kenilworth, Elmhurst, Ill., and Marvin E. Hetzel, 1825 S. 49th Ave., Cicero, Ill.
Filed Feb. 24, 1964, Ser. No. 346,791
9 Claims. (Cl. 227—96)



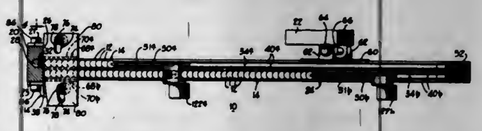
1. In a machine for successively mounting a plurality of lugs on a tubular member, said machine including a crankshaft having a crank in coupled engagement with a slidably mounted slide block, means for cycling said crankshaft through one revolution for driving said slide block through a forward stroke and a return stroke, a die set including a punch holder and a die holder, means for connecting said punch holder of said slide block for driving said punch holder through a forward stroke and a return stroke, a mandrel for receiving a tubular member, a mandrel shaft for supporting said mandrel, bearing blocks carried on said die holder for rotatably mounting said mandrel shaft, means on said die holder for supporting a chain form of lugs and for cantileverly supporting the endmost lug in alignment with said mandrel, a stationary cutting blade on said supporting means having its cutting edge aligning between the endmost lug and the next endmost lug, a punch member carried by said punch holder for severing the endmost lug from the chain form and applying it to the tubular member during the forward stroke of the punch holder, said punch member having a cutting blade coacting with the stationary cutting blade, a friction clutch on said mandrel shaft, means for drivingly connecting the friction clutch to said crankshaft whereby rotation of said crankshaft causes rotation of said mandrel shaft, means mounted on said die holder coacting with means on said mandrel shaft for holding said mandrel shaft against rotation, and means operable by said punch member during the return stroke thereof for momentarily releasing said holding means to permit rotation of said mandrel to a new position.

3,266,696
STAPLERS
Stefan-Eugene Tyszkiewicz, Via Panama 79, Rome, Italy
Filed Aug. 3, 1964, Ser. No. 387,951
Claims priority, application France, Aug. 12, 1963, 944,521
10 Claims. (Cl. 227—120)



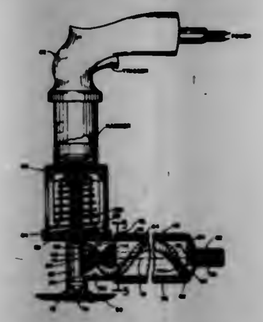
1. A stapler comprising an elongated base, an elongated arm pivoted at one end to one end of said base for carrying a stick of staples, means for urging staples carried on the arm longitudinally thereof toward a feed slot at the other end of said arm, a magazine for carrying sticks of staples in parallel relation to staples carried on the arm, and means pivotally mounting the magazine on said arm so that it can be moved about its pivot to expose the staples on the arm.

3,266,697
FASTENER DRIVING APPARATUS
Armin Fiedler, Chicago, Ill., assignor to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois
Filed Oct. 14, 1964, Ser. No. 403,885
12 Claims. (Cl. 227—120)



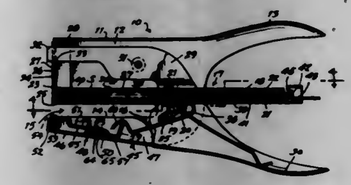
1. A magazine assembly for holding a supply of fasteners and feeding them into a drive track of a driving tool comprising first and second fastener guide means disposed in side-by-side relation for guiding successive fasteners therein into said drive track, each of said guide means including an open forward end adapted to communicate with said drive track when said guide means is aligned therewith, and means responsive to fasteners positioned in said first guide means for moving said second guide means into alignment with said drive track when fasteners in said first guide means are exhausted, said last mentioned means including normally inoperative biasing means for moving said second guide means into fastener feeding alignment with said drive track and means for rendering said biasing means operative in response to the exhaustion of fasteners from said first guide means.

3,266,698
MAGAZINE FOR NAILER
Robert B. Dickson, Evanston, Ill., assignor to Dickson Weatherproof Nail Company, Evanston, Ill., a corporation of Delaware
Original application Nov. 5, 1963, Ser. No. 321,450, now Patent No. 3,212,633, dated Oct. 19, 1965. Divided and this application May 28, 1965, Ser. No. 459,559
9 Claims. (Cl. 227—120)



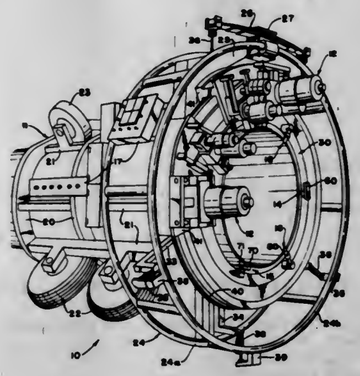
1. A nail magazine guide comprising a feed way defined by two spaced sides defining a helical space the outer edges of which define a helix having a lead angle of approximately 35° and the inner edges define a helix having a lead angle of 45° and more, said guide being open through the center thereof, and means spaced from said outer edges defining a cylindrical surface of revolution for holding the nail heads against radial movement in said helical space.

3,266,699
STAPLING IMPLEMENT
Kurt M. Vogel, Westport, Conn. (506 Logan St., Bridgeport, Conn.)
Filed Sept. 28, 1964, Ser. No. 399,643
6 Claims. (Cl. 227—124)



1. In a stapling implement, a staple-carrying magazine for staples of inverted U-shape having bendable leg portions, a staple driver for driving individual staples from said magazine, anvil means opposed to said magazine comprising a support member having a flat support surface, an anvil piece of material substantially harder than the material of said support member and positioned upon said support member for longitudinal adjustment relative thereto including an anvil part having staple leg bending means opposed to said staple driver and a part engaged with said support surface of said support member having sharp edged portions directed toward said support surface, and tightening means for drawing said part against said support surface to cause said sharp edged portions to bite into said support surface.

3,266,700
PIPELINE WELDING ASSEMBLY
Howard C. Bauer, Bedford, Ohio, Robert G. Bell, Calgary, Alberta, Canada, and Robert D. Mitchell, Solon, Ohio, assignors to Bauer & Associates, Inc., Solon, Ohio, a corporation of Delaware
Filed Sept. 15, 1964, Ser. No. 396,554
21 Claims. (Cl. 228—5)

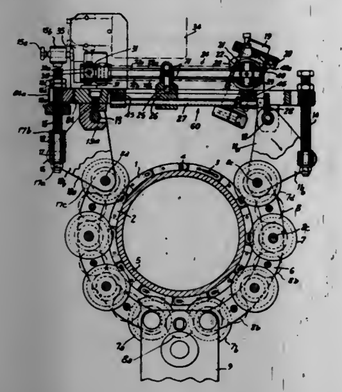


1. In combination, a welding assembly for securing adjacent ends of pipe in end-to-end relation and including a base member adapted to be received concentrically over a piece of pipe,
welding means secured to said base member,
centering means on said base member adapted to center said base member on said pipe,
locating means on said base member for locating said base member and said welding means in a predetermined spaced relation from the end of said pipe,
clamping means on said base member for securing said base member to said pipe, and
spacing means on said base member adapted to space an additional piece of pipe from said one piece of pipe to facilitate the welding of the joint therebetween.

3,266,701
CIRCUMFERENTIAL PIPE WELDING APPARATUS
Henri Jules, Peignen, Saint-Mande, France, assignor, by mesne assignments, to Biraghi (societe anonyme), Paris, France, a French joint-stock company
Filed Oct. 19, 1964, Ser. No. 404,675
Claims priority, application France, Oct. 25, 1963, 951,869
12 Claims. (Cl. 228—27)

1. An apparatus for the butt welding of axially juxtaposed tube sections along a weld path comprising:
(A) elastically extensible brace means circumferentially mounted about one of said sections and comprising a plurality of links pivotally and elastically extensibly secured together to form a circumferential roller track;
(B) yoke means surrounding said brace means;
(C) powered means carried by said yoke means and adapted to engage said roller track of said brace means;

(D) motor means for operating said powered means to cause a continuous relative motion between said apparatus and said weld path;

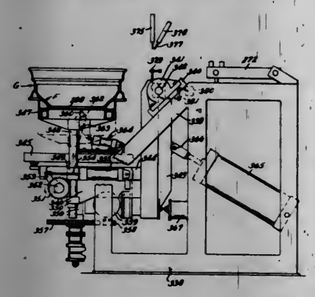


(E) torch support means; and
(F) securing means for attaching said yoke means to said torch support means.

3,266,702
APPARATUS FOR PRODUCING WELDED DISK WHEELS

Gordon C. J. Parent, Southgate, and Karl Luther, Lathrup Village, Mich., and Walter W. Bulgrin and Meredith H. MacKusick, Akron Ohio, assignors to the Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Original application Sept. 26, 1960, Ser. No. 58,581, now Patent No. 3,222,765, dated Dec. 14, 1965. Divided and this application Jan. 4, 1965, Ser. No. 435,105
The portion of the term of the patent subsequent to Aug. 4, 1981, has been disclaimed
6 Claims. (Cl. 228—48)

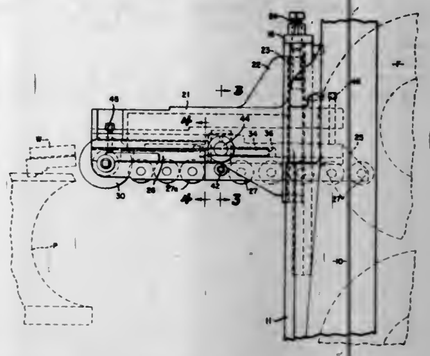


1. Apparatus for welding the rim flange of an axially perforate bowl shaped wheel disk to a metal rim fitting over said rim flange in telescoped relation thereto, comprising a base frame, a table frame pivoted on said base frame for swinging through substantially 90°, a drive shaft journaled on said table frame normally in a vertical position, a normally horizontal table splined to said shaft and adapted to support a disk and rim assembly in coaxial relation to said shaft, means to lower said table, means on said table to engage the axial perforation of said disk in the lowered position of said table, means on said base frame for swinging said table frame to place said shaft in a substantially horizontal position, means on the table frame for driving said shaft and rotating said disk and wheel assembly, welding means adjustably mounted on said base frame and having a torch extending within the rim flange when said drive shaft is in substantially horizontal position and adapted to continuously weld said rim flange to said rim as the assembly is rotated.

3,266,703
SEAM GUIDE ASSEMBLY FOR TUBE MILLS

Lewis H. Ruple, Perrysburg, Ohio, assignor to Abbey Etna Machine Company, Perrysburg, Ohio, a corporation of Ohio

Filed Aug. 18, 1964, Ser. No. 390,330
5 Claims. (Cl. 228—49)

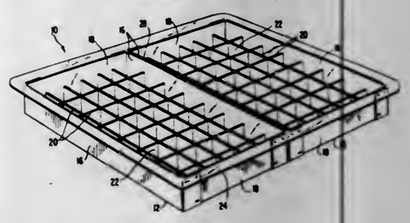


1. In a tube mill in which a metal ribbon is gradually formed into a tube and the edges thereof are seam welded and in which the final forming is effected by a series of fin roll passes which are spaced from each other and arranged adjacent the welded, the improvement comprising a seam guide assembly for the metal ribbon disposed between the last fin roll pass and the welding point and including a series of spaced rollers along which the edge portions of the tube travel, and means for longitudinally extending or retracting a portion of the assembly for ensuring that an adequate length of the tubing is engaged by the assembly.

3,266,704
DUST-PROOF CONTAINER

Thomas J. Deeren, Maumee, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio

Filed May 22, 1964, Ser. No. 369,520
6 Claims. (Cl. 229—14)

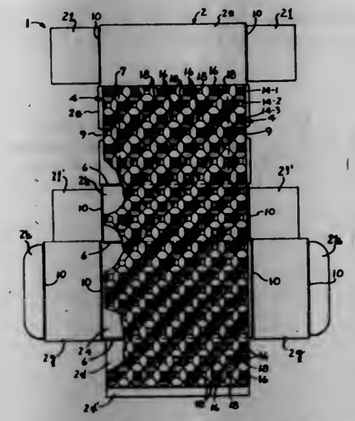


1. A folded blank container comprising a bottom, a plurality of integrally formed discrete side panels extending upwardly from the peripheral edges of said bottom, and a continuous liner formed from a sheet of thermoplastic material covering and closely conforming to the interior surface of the container, said liner extending outwardly over the top edges of said side panels and downwardly in contacting relation over a portion of the outer surface of said side panels forming a continuous band around the top peripheral surface of the container to retain said side panels in said upwardly extending position.

3,266,705
CUSHIONED BOX

Charles Richard Wood, Arlington Heights, Ill., assignor to Republic Packaging Corporation, Chicago, Ill., a corporation of Delaware

Filed Jan. 11, 1965, Ser. No. 424,578
4 Claims. (Cl. 229—14)

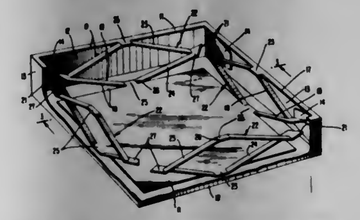


1. A cushioned box for fragile articles, said box comprising: a box body having a four-cornered main body portion formed by a first pair of spaced confronting walls permanently joined at their side margins by a second pair of spaced parallel walls extending at their side margins by a second pair of spaced parallel walls extending generally transversely of the first pair of walls, and end walls closing off the ends of said body portion, and means forming a cushioned lining on the inside surfaces of said first and second pairs of spaced walls, said lining being formed by a single body of flexible, resilient, cushioning material having an outwardly facing side secured to and being folded at the corners of the box to follow the contours of the inside surfaces of the box, the inwardlly facing side of said body of cushioning material comprising parallel rows of alternating projections and depressions extending parallel to the corners of the box, the alternating projections and depressions of adjacent rows being offset so that each projection of one row is opposite a depression of the adjacent row, the folds of said body of cushioning material at the corners of the box falling along the lines of juncture between adjacent rows of projections and depressions where the projections of one of the rows adjacent each box corner are nestled within the depressions of the other row.

3,266,706
PACKAGING TRAYS

William E. Tingley, Westport, Conn., assignor to National Biscuit Company, a corporation of New Jersey

Filed Apr. 13, 1965, Ser. No. 447,788
15 Claims. (Cl. 229—30)

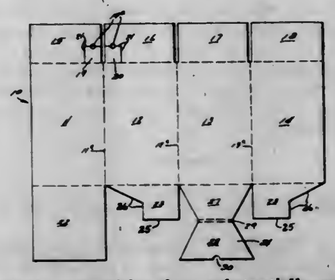


1. A tray for supporting fragile articles in a package against breakage, comprising a blank having a central article supporting panel die-cut adjacent the periphery thereof to define longitudinal rib portions separable from each other at the ends thereof, said die-cuts terminating centrally of said rib portions to provide tab means for mounting the rib portions in the panel, and said rib portions and tabs being slit to produce strip portions expandable to provide a yieldable suspension means for the panel when an article is placed thereon.

3,266,707
CARTON

John J. Aust and Larry M. Donley, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio

Filed Jan. 10, 1963, Ser. No. 251,466
5 Claims. (Cl. 229—39)



1. A carton comprising four substantially rectangular side panels foldably connected together in a closed tubular configuration, a first flap foldably connected to the lower free edge of one of said side panels, said first flap being inwardly folded to span and fit snugly within said tubular configuration to close the lower end of said carton, two second flaps respectively foldably attached to the lower free edges of the side panels adjacent said one side panel, said second flaps each being inwardly folded to underlie portions of said first flap, said second flaps, when inwardly folded, having a portion of their free edges disposed in substantially abutting relationship, the remaining portions of said free edges cooperating to define an opening having one edge substantially parallel to the lower free edge of the remaining side panel, a third flap foldably attached to the remaining side panel and having inner and outer sections separated by a score line, said inner section folded normal to said remaining side panel to overlap and underlie said abutting portions of said free edges, said score line being parallel and adjacent to said one edge of said opening, and said outer section passing through said opening and being reversely folded to overlie said second flaps to lock said second flaps in place, thereby providing a supporting surface for said first flap.

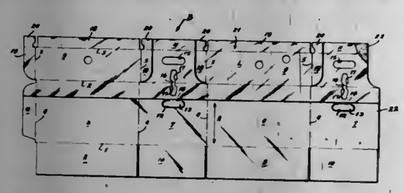
3,266,708
CARTON

Nicholas D. Ellis, Ladue, Mo., assignor to Anheuser-Busch, Incorporated, St. Louis, Mo., a corporation of Missouri

Filed Sept. 16, 1964, Ser. No. 396,833
2 Claims. (Cl. 229—37)

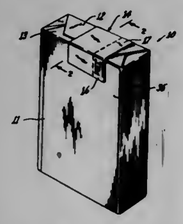
1. A substantially rectangular unitized carton blank made from about 275 pounds corrugated board in which the corrugations extend vertically in the two side walls and in the two end walls, said side walls each having a side cover flap with a hinge therebetween, each of said side cover flaps having a side cover flange and end cover flanges secured thereto, so that each side cover flap has a flange along three sides thereof, an end reinforcing flap hingedly secured to the top of each end wall, a notch in the central upper margin of each end wall and end reinforcing flap, registering handholes in said end walls and

end reinforcing flaps, said carton being reinforced at points along its inner surface with about a 42 pound kraft liner, said kraft liner extending downwardly from the top edge of the blank to a line adjacent to the top of the handholes in said end walls and covering the upper portion of said blank and reinforcing the hinge between said



side walls and said side cover flaps and reinforcing said cover flanges, said kraft liner increasing the number of thicknesses of material in the end wall and end reinforcing flap to strengthen said carton and the top of said handhole and resist bending in the end wall when said blank is folded and lifted with one hand after said carton has been fully loaded.

3,266,709
CIGARETTE PACKAGE CONSTRUCTION OR THE LIKE
William C. Whitaker, Chesterfield County, and Joseph Y. Thomas, Henrico County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Mar. 16, 1964, Ser. No. 352,085
8 Claims. (Cl. 229—51)



1. In combination, a container having opposed sides and having an opened end closed by portion means of said container, and a tape-like member disposed over said portion means and being secured to said opposed sides of said container to tend to hold said portion means in its closed position, said tape-like member having an integral pull tab portion that is defined by tear means formed longitudinally in said tape-like member, said pull tab portion being adapted to be grasped and pulled to separate from the remainder of said member along said tear means and open part of said portion means adjacent said member to provide access means to the interior of said container, said pull tab portion of said tape-like member comprising a side edge part thereof that extends from one side of said container to the opposed side thereof across said end.

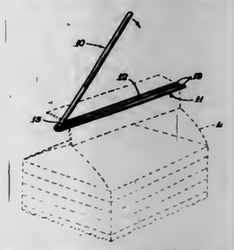
3,266,710
MULTIWALL BAG AND METHOD OF MAKING SAME
Robert L. Reeves, Camden, Ark., assignor to International Paper Company, New York, N.Y., a corporation of New York
Filed Dec. 12, 1961, Ser. No. 158,829
4 Claims. (Cl. 229—55)

1. A multiwall bag comprised of at least two plies of sheet material (a) cross-pasted at spaced intervals; (b) enfolded about a plastic seamless tubular member, the enfolding sheet material having an inside width greater than the outside width of the tubular member; (c) cut



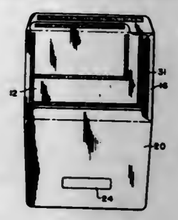
into predetermined lengths; (d) sewn along at least one end of each such length; and, (e) sealed along such sewn end.

3,266,711
BAG CLOSURE APPARATUS
June E. Song, 117 N. Lincoln Ave., Addison, Ill.
Filed May 17, 1965, Ser. No. 456,429
6 Claims. (Cl. 229—62)



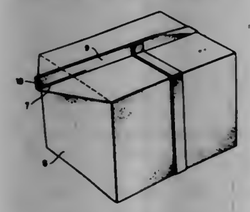
1. A closure device for bags of a material of a given thickness, said device comprising: an elongated, cylindrical male member extending transversely across said bag at the mouth thereof with a portion of the material being wrapped partially around said member, and an elongated female member overlying said portion of said material and pressing it between the members, said female member having a wall of generally cylindrical configuration with an internal diameter greater than the external diameter of the male member by an amount less than twice said material thickness, said walls defining a slot extending the length of one side of the female member, said slot being a gap in the otherwise cylindrical walls and being substantially smaller than one-half the circumference of the female member, at one end said walls tapering away from each other progressively from a point adjacent the end to the end to increase the width of the slot at said end, said female member being formed of a semi-resilient plastic to permit said walls to be spread apart to allow the male member and material to move through said slot to separate the members and to move into the slot to engage the members and serve as a closure for the bag.

3,266,712
DUPLEX MAILING ENVELOPE
Hugh F. McCleneghan, Brooklyn, N.Y., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Nov. 17, 1964, Ser. No. 411,879
2 Claims. (Cl. 229—72)



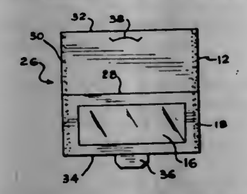
1. A dual compartment envelope made from a unitary blank comprising a central panel having a top sealing flap, a side flap, and a bottom panel; said side panel being of a height and width slightly less than said central panel and folded over in contiguous relation therewith; said side flap being coextensive with said central panel and folded over the side edge of said folded-over side panel; said bottom panel being folded over to completely cover said side panel and said side flap and being bonded thereto by one set of adhesive lines in areas adjacent the folded-over edges of said side panel and said side flap, by another set of adhesive lines in areas adjacent the free bottom and side edges of said side panel and by a third set of adhesive lines substantially parallel with and spaced inwardly from the lines of adhesive on the free bottom and side edges of said side panel.

3,266,713
PACKAGE WITH A BREAKABLE OPENING-DEFINING MARKING
Kjell Halvard Mårtensson, Malmo, and Karl-Erik Ekström, Lund, Sweden, assignors to Tepar A.G., a Swiss company
Filed Nov. 6, 1964, Ser. No. 409,534
Claims priority, application Sweden, Nov. 9, 1963, 12,376/63
1 Claim. (Cl. 229—87)



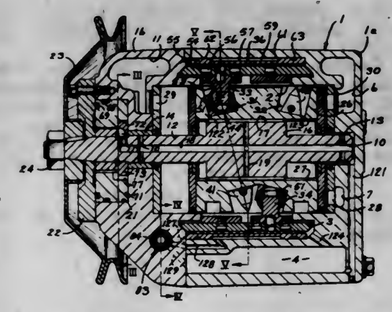
A package having a body portion and a sealing fin, both formed of a composite wall material consisting essentially of an outer layer of paper and an adhesively attached inner layer of a heat-sealing thermoplastic material, said body portion having a single ply of said wall material and said fin having two plies of said wall material which are adhesively attached to each other through the adjacent layers of thermoplastic material, the paper layers having juxtaposed tear-up markings along the inner border line of said sealing fin, said thermoplastic inner layer in said body portion of said package possessing its original thermoplastic heat sealing characteristics and said thermoplastic inner layer in the region covering said tear-up markings having greater brittleness and stronger adhesion to said paper layer than said inner layer in said body portion thereby facilitating the tearing of both said inner and outer layers at said tear-up markings.

3,266,714
POSTCARD CONSTRUCTION
Samuel J. Heuberger, 6942 N. Kenneth, Lincolnwood, Ill.
Filed Sept. 21, 1964, Ser. No. 397,954
6 Claims. (Cl. 229—92.8)



1. A postcard construction comprising front and back sections divided by a fold line, at least one cutout portion defined by one of said sections, a transparent sheet extending over said cutout portion, said construction being folded on said fold line to thereby form the top edge of the construction, and said construction being sealed at least about its side edges to thereby form a pocket between said sections, said construction being open along the bottom edge adjacent said cutout portion whereby access to said pocket is available and whereby a photograph can be inserted into said pocket for viewing of said photograph through said transparent sheet, a tab member formed integrally with the bottom edge of one of said sections and a slot formed adjacent the bottom edge of the other of said sections, said tab being adapted to be bent over relative to the section to which it is attached and said slot being dimensioned to receive said tab, said tab being located in line with said cutout portion whereby said tab will extend over the access opening to said pocket when it is received in said slot to thereby serve as a means for holding a photograph in said pocket.

3,266,715
MECHANICAL-FLUID ENERGY CONVERTING MEANS
David P. Hass, Detroit, Sidney Oldberg, Birmingham, and Sune Timour, Garden City, Mich., assignors to Eaton Yale & Towne Inc., a corporation of Ohio
Filed Dec. 30, 1963, Ser. No. 334,374
16 Claims. (Cl. 230—15)

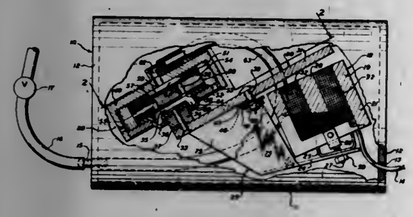


1. In a fluid-mechanical energy converting device, the combination comprising:
- housing means defining a chamber having inlet and outlet valves associated therewith;
- a piston within said chamber and means supporting said piston for rotation and for reciprocation within said chamber;
- means for rotating said piston and selectively actuatable drive mechanism for reciprocating said piston, said drive mechanism being couplable to said piston for being driven upon rotation of said piston, said drive mechanism having selectively actuable clutch means so that said piston must rotate and said clutch means must be clutched in order to reciprocate said piston; and
- control means for clutching and de-clutching said clutch means.

3,266,716
AIR PUMP
Chester E. Tussey, 411B S. Lincoln Ave., Monterey Park, Calif.
Filed May 31, 1960, Ser. No. 32,917
5 Claims. (Cl. 230—55)

1. In a pump actuating device, an electromagnet, elongated arm means including an armature operable by the electromagnet to transmit actuating movement, means including a torsion bar mounting said arm means for rotation about an axis in compliance with torsional constraint imposed by said bar as the arm means transmits said actuating movement, said axis extending transversely with respect to said arm means, said arm means and bar

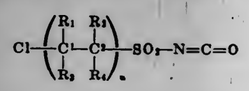
having sufficiently integral connection as to rotate together, the torsion bar having at least two fixed end portions at opposite sides of said connection, a pump having a part to which said actuating movement is transmitted,



said part and said electromagnet being disposed adjacent spaced portions of the arm means which project in generally opposite directions with respect to said axis so that the arm means is substantially balanced with respect thereto.

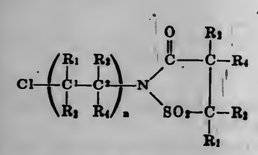
3,266,717
ADDITION PRODUCTS FROM HALOGENOSULFONYL-ISOCYANATES AND OLEFINS AND PROCESS FOR PREPARING THEM
Dieter Günther and Fritz Soldan, Kelkheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Mar. 2, 1965, Ser. No. 436,655
Claims priority, application Germany, Mar. 6, 1964, F 42,218
11 Claims. (Cl. 260—301)

1. A compound of a formula selected from the group consisting of



(1)

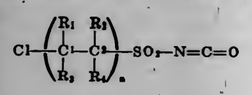
and



(2)

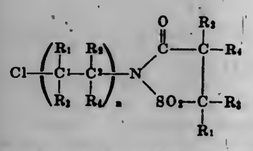
in which R_1, R_2, R_3 and R_4 represent members selected from the group consisting of hydrogen and lower alkyl and together with carbon atoms C^1 and C^2 cyclohexylene and *n* represents an integer from 1 to 3.

7. A process for the manufacture of compounds of a formula selected from the group consisting of



(1)

and

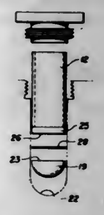


(2)

in which R_1, R_2, R_3 and R_4 represent members selected from the group consisting of hydrogen and lower alkyl and together with carbon atoms C^1 and C^2 cyclohexylene and *n* represents an integer from 1 to 3, which comprises reacting 1 mol of chlorosulfonylisocyanate with 1 to 3 mols of a compound selected from the group consisting of alkene having from 2 to 12 carbon atoms and cyclohexene at a temperature between about −20° and +200° C. in the presence of a radical-forming agent.

9. The process as claimed in claim 7, wherein the reaction is carried out under irradiation of the reaction mixture with ultraviolet rays.

3,266,718
SAMPLE VESSEL FOR CENTRIFUGE APPARATUS
Lawrence E. Stahl, San Mateo, William M. Oates, Menlo Park, and Alfred L. Zeller, Palo Alto, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Apr. 16, 1964, Ser. No. 360,214
6 Claims. (Cl. 233—26)



1. In centrifuge apparatus including means defining a hollow receptacle for receiving a vessel carrying matter to be centrifuged, a solid, rigid reaction member adapted to be disposed in said receptacle and shaped to conform to the contour of the terminal wall surface of the receptacle, said reaction member having an unbroken, planar surface formed thereon, a vessel for carrying the matter to be centrifuged comprising a hollow elongated body portion having uniform wall thickness along the length thereof forming the side wall of said vessel, a planar closure member of uniform thickness having top and bottom surfaces, the top surface being fixed to and sealing one end of the body portion to form the bottom of the vessel and support the contents therein, and the bottom surface of said closure member being smooth and unbroken, the unbroken surface of said reaction member being coextensive with the unbroken surface of said closure member and disposed in confronting relation thereto to define a reaction interface therebetween serving to evenly transfer to the reaction member via said interface those centrifugal forces developed in the contents and side wall of the vessel and in the closure member.

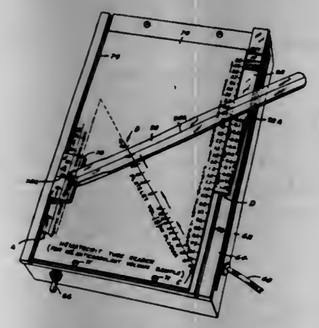
3,266,719
PAPER BACKLASH MECHANISM
John E. Graham, Huntington Beach, and Frans G. A. de Laat, North Hollywood, Calif., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 15, 1964, Ser. No. 396,542
12 Claims. (Cl. 235—60.51)

1. In a calculating machine of the cash registering type having a detail paper strip which is advanced through the machine with each cycle of machine operation and is adapted to receive a printed record of machine transactions; a paper backlash mechanism comprising, a supply spool and a take-up spool for said detail paper strip, said supply spool being spring loaded to produce a tension in said strip, paper actuating means movable to an advanced position for advancing said strip from an unadvanced position a pre-determined amount against the bias of said supply spool, latch means for maintaining said paper actuating means in its advanced position, and means for automatically releasing said paper actuating means upon initiation of a machine cycle so as to permit



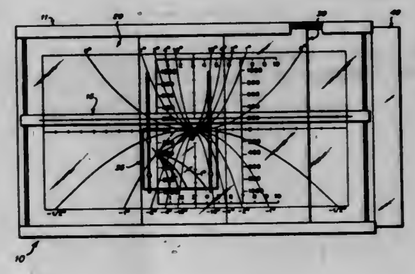
said detail paper strip to return to said unadvanced position in response to the bias of said supply spool.

3,266,720
APPARATUS FOR DETERMINING VALUES OF COMPONENTS OF WHOLE BLOOD
Morden G. Brown, Woodstock, Conn., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Original application July 14, 1959, Ser. No. 826,941. Divided and this application Aug. 7, 1964, Ser. No. 388,174
5 Claims. (Cl. 235—61)



1. Apparatus for use in determining the relative proportions of leukocytes and platelets in a blood sample, said apparatus comprising a panel having first and second graduated scales disposed in parallel spaced relation thereon, said first scale being graduated to indicate proportional values for the combined volume of erythrocytes, leukocytes and platelets of said sample, said second scale being graduated to indicate proportional values for the combined leukocytes and platelet volume of said sample, a diagonal scale so disposed upon said panel as to connect, in effect, the zero value for said second scale to the 100% value of said first scale, said diagonal scale being graduated to indicate proportional values of platelets in plasma for said blood sample after the erythrocytes and leukocytes have been separated therefrom, a movable scale adapted to be placed at various opposite positions adjacent said second scale, and having the graduation thereon indicating in a direction opposite to the second scale leukocyte values for said sample, and a movable member having a straight reference line thereon adapted to be swung to various positions of adjustment overlying said diagonal scale and said second scale and the movable scale adjacent thereto while its opposite end portion is disposed adjacent a selected value upon said first scale, whereby a value for leukocyte volume will be indicated by said reference line upon said movable scale when said reference line has been adjusted to a proper position overlying said first scale and when said movable scale has been adjusted into proper position adjacent said second scale in accordance with the relative volumes indicated by a centrifuged blood sample, and said reference line has been swung about its point of adjustment at said first scale and relative to said diagonal scale.

3,266,721
SONAR SLIDE RULE
Daniel Barron, 2139 Hartel Ave., Philadelphia, Pa.
Filed May 28, 1965, Ser. No. 461,227
5 Claims. (Cl. 235—61)



3. A slide rule for use in sonar operations which employs underwater transducers to locate underwater target comprising:

a frame,

a chart positioned in said frame, said chart having on the face thereof a family of curves representing the actual path of acoustic rays in water having a particular temperature range,

a first slide movably positioned in said frame, said first slide having a vertically extending graduated scale on the face thereof indicative of the depth of the target, and

a second slide movably positioned in said frame, said second slide having a vertically extending graduated scale on the face thereof indicative of the depth of the transducer and a horizontally extending graduated scale on the face thereof indicative of the range of the target for intersection with the vertically extending graduated scale on the face of said first slide,

said second movable slide including a third slide secured thereto for sliding movement along said vertically extending transducer depth scale, said third slide having a family of curves on the face thereof representing the actual path of acoustic rays and identical to those marked on said chart.

3,266,722
GUARD BAND INDICATOR
Charles E. W. Hobbis, Springfield, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 6, 1965, Ser. No. 446,127
7 Claims. (Cl. 235—70)

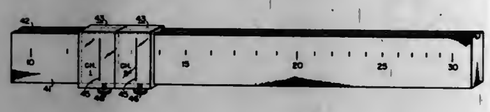
1. A minimum channel frequency separation indicator, comprising:

an indicia bearing member;

said indicia being arranged along the length of said member in a logarithmic scale;

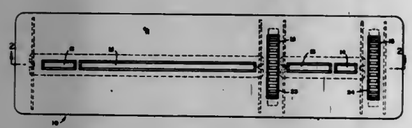
a plurality of cursors removably affixed to said indicia bearing member in slidable contact therewith along the length thereof;

each of said cursors having a designator thereon capable of alignment with said indicia;



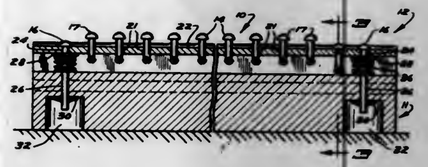
said cursors being of fixed predetermined dimension along the length of said indicia bearing member such that when adjacent sides of any two of said cursors affixed to said indicia bearing member are caused to abut the distance between designators on said abutting cursors represents a minimum channel frequency separation.

3,266,723
TAX FIGURING DEVICE
William M. Routen, 2248 Capitola Road, Santa Cruz, Calif.
Filed June 23, 1965, Ser. No. 466,333
2 Claims. (Cl. 235—86)



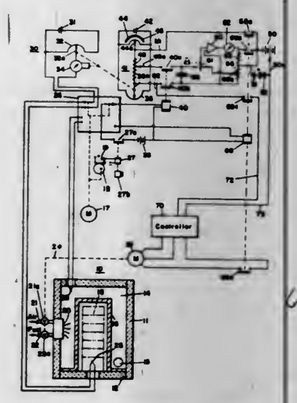
1. In a device for use in computing items such as payroll withholding taxes, social security taxes or the like, the combination of a housing of elongated configuration, said housing having longitudinally extending openings on the top thereof, a pair of rollers positioned in said housing parallel to the length thereof, a web with printed legends thereon, said web being movable from one of said rollers to the other, spaced transverse members positioned in said housing rotatably supporting said rollers, a rotatable actuating member having gear teeth thereon, a pair of pinion gears, said rollers having studs at adjacent free ends thereof rotatably supporting said pinion gears with the teeth thereof engaging the teeth of said actuating member, a first directional clutch means coupling one of said pinion gears to one of said rollers, and a second directional clutch means coupling the other of said pinion gears to the other of said rollers, said housing having transverse slots receiving said actuating member so that said actuating member extends out of said housing therethrough whereby said actuating member may be rotated from the outside of said housing, the sides of said slots being adjacent to said actuating member and keeping said actuating member gear meshing with said pinion gears and keeping said pinion gears on the supporting studs therefor, the directions of said clutches being oriented such that one of said rollers is driven when said actuating member is turned forward and the other of said rollers is driven when said actuating member is turned backward, said web being taken up by said one roller and paid out by the other of said rollers when said actuating member is turned forward and taken up by said other roller and paid out by said one roller when said actuating member is turned backward, the printed legends on said web being moved under said openings and aligned with legends positioned on the outside of said housing adjacent said openings when said web is moved between said rollers.

3,266,724
AUTOMATIC CRIBBAGE BOARD
William J. Johnson, 5045 Windsor Ave., Minneapolis, Minn.
Filed Mar. 29, 1965, Ser. No. 443,196
11 Claims. (Cl. 235—90)



1. An automatic cribbage board comprising a base member having a plurality of upstanding longitudinally extended ribs arranged in spaced parallel alignment, a plurality of longitudinally extended peg supports located in overlying coextension with said ribs of said base member, guide means secured to the base member, said guide means having portions projected upwardly from opposite ends of each rib through openings in said peg supports thereby aligning said peg supports with the ribs, resilient means urging said peg supports away from said ribs of said base member, stop means to prevent said peg supports from moving beyond a certain distance above said ribs, said peg supports presenting a plurality of peg mounting holes, and a plurality of pegs slidably mounted with a friction fit in said mounting holes of said peg supports, said pegs being movable from an upwardly extended position to a depressed position wherein a portion thereof extends downwardly from said peg support in engagement with a top of a rib, said peg supports being adapted to substantially conceal said resilient means and being movable to a position contiguous to said base against the action of said resilient means to move depressed pegs to their extended position.

3,266,725
SYSTEMS FOR CONTROLLING FURNACE TEMPERATURES WITHOUT OVERSHOOT
James L. Garrison, Hatboro, and William R. Haden, Jr., Roslyn, Pa., assignors to Leeds and Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 25, 1963, Ser. No. 267,442
12 Claims. (Cl. 236—15)



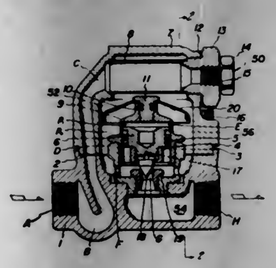
2. A control system for regulating the heat input to a furnace during a period in which the work therein is being elevated to a set-point temperature, comprising

means for producing a first signal related to the deviation of the temperature of the work from said set-point and representative of the desired heat-head in said furnace,

means for producing a second signal corresponding to the deviation of the temperature of the high temperature area of the furnace from the said work temperature set-point, and

means for controlling said heat input to maintain said first and second signals in equality.

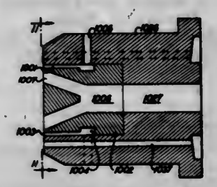
3,266,726
THERMO-SYNCHRONOUS STEAM TRAP
Katsuji Fujiwara, 191 Nishitani, Hiraoka-cho, Kakogawa-shi, Hyogo-ken, Japan
Filed Sept. 25, 1963, Ser. No. 311,567
Claims priority, application Japan, Sept. 28, 1962, 37/42,382; Sept. 28, 1962, 37/42,383
6 Claims. (Cl. 236—56)



1. A steam trap comprising a body having an elongated inlet passage defined therein extending from the lower portion thereof to the top thereof, a filter cavity defined within said body adjacent the top end of said inlet passage for permitting flow from said passage into the filter, said filter being perforated to permit downward flow of fluid and condensate therefrom, said body defining a central condensate chamber below said filter, means defining a valve seat adjacent the lower portion of said condensate chamber and a discharge for condensate, a cylinder surrounding said valve seat and disposed below said filter, a piston slidable in said cylinder and a fluid between said piston and the adjacent end of said cylinder of the same characteristics as the operating fluid for moving said piston upwardly and downwardly, said piston having a valve element adapted to engage in said valve seat upon downward movement for closing the discharge and to be moved upwardly out of engagement with said valve seat for opening said discharge in accordance with expansion and contraction of the fluid in said pressure chamber.

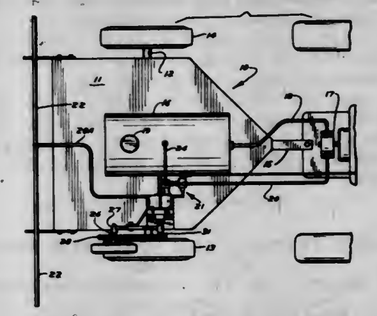
3,266,727
APPARATUS FOR APPLYING HEAT FUSIBLE COATING ON SOLID OBJECTS
Arthur P. Shepard, Flushing, and Ferdinand J. Dittrich, Bellmore, N.Y., assignors to Metallizing Engineering Co., Inc., a corporation of New Jersey
Original application Apr. 18, 1957, Ser. No. 653,602, now Patent No. 3,111,267, dated Nov. 19, 1963. Divided and this application Jan. 8, 1963, Ser. No. 258,092
11 Claims. (Cl. 239—85)

1. In a spray gun for spraying finely divided, solid heat-fusible material, a discharge nozzle defining a central conduit and means connected thereto adapted to supply a stream of gas-borne, finely divided, solid material thereto, a series of jets at least partially surrounding said central conduit, and means connected thereto adapted to supply a stream of combustible gas mixture thereto to produce a sheath of flame at least partially surrounding the projection of said central conduit, the improvement which comprises said central conduit terminating as an annular,



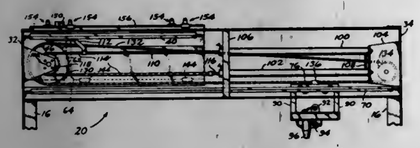
angularly outwardly directed discharge outlet with its walls terminating within the outward projection of said jets to outwardly diffuse said stream of gas-borne solid material into the space occupied by said sheath.

3,266,728
CONTROL AND BY-PASS VALVE UNIT FOR AREA SPRAY SYSTEM
Daniel F. Hallberg, Minneapolis, Minn., assignor, by mesne assignments, to Hypro, Inc., Minneapolis, Minn., a corporation of Ohio
Filed Jan. 28, 1964, Ser. No. 340,653
12 Claims. (Cl. 239—155)



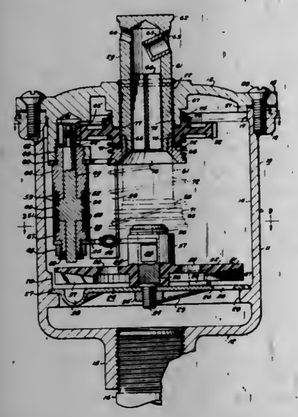
1. In a fluid discharge system adapted to dispense fluids over a surface to be treated at a substantially uniform rate of coverage and having a reservoir for storing such fluids, pressure supply means for delivering said fluids at a certain pressure falling within a certain predetermined range of pumping pressures, fluid discharge means, means for establishing relative movement between said fluid discharge means and the surface being treated, conduit means extending between said reservoir and said fluid discharge means, and pressure control valve means disposed along the said conduit for controlling the pressure in the discharge of said fluid; said pressure control valve means including a body with an inlet and an outlet and having a passageway therein, an orifice plate disposed adjacent to said passageway and movable relative thereto, selector means coupled with said orifice plate for positioning said plate to adjust the size of the aperture formed by said orifice plate along said passageway, a by-pass valve means responsive to the speed of said vehicle, said by-pass valve means adapted to control the flow of fluids therethrough and being arranged for reciprocal opening and closing motion, the opening motion thereof being opposed by a certain pressure chamber, said speed responsive means being adapted to sense the speed of said vehicle and being coupled with said certain pressure chamber, said speed responsive means having a flow control means adapted to maintain the pressure in certain pressure chamber at a level proportional to the square of the speed of said vehicle.

3,266,729
RECIPROCATING SPRAY GUN CARRIAGE ASSEMBLY FOR SPRAY COATING OR LIKE APPARATUS
Theodore N. Baskett, 9514 Portland Ave., Tacoma 44, Wash.
Filed June 29, 1964, Ser. No. 378,867
8 Claims. (Cl. 239—186)



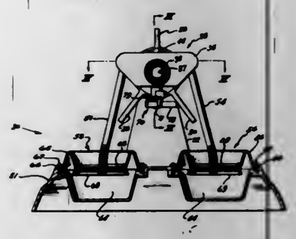
1. In spray coating or like apparatus a reciprocating spray gun assembly comprising:
(a) carriage track means arranged operatively with reference to work being coated,
(b) a carriage supported on the track means,
(c) spray gun mounting means on the carriage,
(d) flexible, elongated drive means connected to the carriage and having spaced ends,
(e) reversible fluid operated motor means having a pair of piston rods movable simultaneously in opposite directions and each connected to a different one of the spaced ends of the drive means,
(f) motor control means actuatable periodically by the carriage to reverse the motor means after a predetermined travel of the carriage, and
(g) spray gun control means actuable by the carriage and synchronized with the motor means for altering the operation of the spray gun at a predetermined time with reference to the reversal of the motor means.

3,266,730
TORQUE TRANSMISSION UNITS FOR POP-UP SPRINKLERS
Leo A. Martini, Dallas, Tex., assignor to Telsco Industries, Dallas, Tex., a corporation of Texas
Filed Jan. 20, 1964, Ser. No. 338,662
14 Claims. (Cl. 239—205)



1. In combination with a lawn sprinkler having a chamber, a water inlet communicating with the chamber and a rotating nozzle communicating with the chamber, a torque transmission unit for imparting intermittent rotation to the nozzle including a stator-rotor type turbine mounted in the chamber between the nozzle and inlet, a rotatable cam driven by the turbine, a drive shaft in the chamber, arm means pivotally mounted in the chamber, means for biasing said arm means into engagement with the cam for oscillation upon rotation of said cam, unidirectional clutch means connecting the drive shaft and arm means for imparting intermittent rotation to said shaft upon oscillation of said arm means, and means for transmitting the intermittent rotation of said drive shaft to the nozzle, said arm means being oscillated one time upon each revolution of said cam whereby the unit has a high to low rotational speed reduction and a low to high torque transmission.

3,266,731
VACUUM MOTOR OPERATED SPRINKLERS AND THE LIKE
George L. Turner, Hickory Corners, Mich., assignor to H. B. Sherman Manufacturing Company, Battle Creek, Mich., a corporation of Michigan
Filed July 6, 1964, Ser. No. 380,396
12 Claims. (Cl. 239—237)

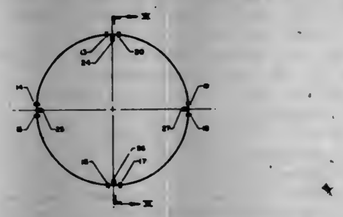


11. A wave type lawn sprinkler, comprising a supporting base, an inlet means for delivering water under pressure into said sprinkler, a sprinkling outlet means, means pivotally mounting and supporting said sprinkling outlet means, means connecting said inlet to said outlet for fluid flow therethrough, at least one venturi including vacuum producing means, a pair of vacuum operated motors, means for operably connecting said vacuum producing means to said vacuum operated motors in manner alternately connecting one while opening the other to the atmosphere, means mechanically connecting said vacuum operated motors to said sprinkling outlet means for pivotally moving same back and forth, means controlling the range of movement of said sprinkling outlet means, instantaneously reversing means which actuates said means operably connecting said vacuum producing means to said vacuum operated motors so as to operate first one of said vacuum operated motors and then the other to move said sprinkling outlet means continuously back and forth in predetermined amount, and means bypassing part of the fluid received from said inlet means and passing same through said at least one venturi including vacuum producing means to produce said vacuum, and delivering same to the atmosphere independently of said sprinkling outlet means but in a substantially common plane with same.

3,266,732
ROLL CONTROL SYSTEM
Richard A. Jones, Cupertino, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Sept. 3, 1963, Ser. No. 306,120
6 Claims. (Cl. 239—265.23)

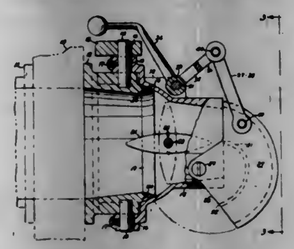
1. A rocket nozzle having a plurality of pairs of radially inwardly directed injection ports located circumferentially about the inner surface of said nozzle, a partition

located between the injection ports of each pair of said injection ports and extending inwardly of said inner surface, the individual injection ports of each pair located



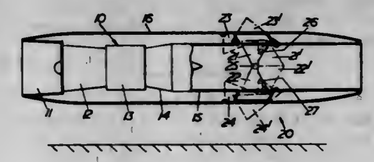
closer to said partition than any other partition and means associated with each of said injection ports for controlling flow therethrough.

3,266,733
HYDRAULIC BOAT PROPELLING, GUIDING AND REVERSING MEANS
Elmer E. Goehler, 2932 NE. 37th Ave., Portland, Oreg.
Filed July 15, 1963, Ser. No. 294,853
1 Claim. (Cl. 239—265.27)



A hydraulic propelling, reversing and guiding means for a boat powered by a marine type gasoline engine positioned therein, said propelling, reversing and guiding means including an inlet water manifold positioned longitudinally in said boat below the waterline thereof, a jet water inlet opening sealed through the underside of said boat into said manifold, a reaction water jet outlet collar means sealed through the rearward end, or transom, of said boat on the horizontal centerline of said manifold, a reaction jet water nozzle means formed with a bell shaped entrance to receive water thereinto from said outlet collar means and a relatively hard rubber seal ring sealing the outlet end of said outlet collar means into said bell shaped entrance section of said nozzle means, said propelling reversing and guiding means including a pair of cylindrical hinge pins extending in opposite radial alignment inwardly through the cylindrical inward end of said nozzle means to near the conical inner surface of said outlet collar means, said propelling, reversing and guiding means including a tiller arm with the outer end of one of said hinge pins extending outwardly therethrough and keyed thereto and each of said hinge pins including a key securing said nozzle means thereto whereby when said tiller arm is rotated about said hinge pin means up to 15 degrees in either direction about the centerplane of said outlet collar means the water ejected by said nozzle will control the lateral direction of the boat as required, said manifold having at least one internally threaded hole formed through an upper surface wall thereof together with a hose cock having its externally threaded entrance end screwed tightly into said hole, said boat propelling, reversing and guiding means including a stainless steel butterfly valve rotatably positioned on a horizontal axle perpendicular to the vertical centerplane of said nozzle near the outlet of its bell end, said butterfly valve including lever means secured to the axle thereof outside said nozzle body to move said valve selectively between a vertical or fully closed position and a horizontal or fully open position, said butterfly valve in its fully open position permitting the free flow of water from said manifold and the free ejection of water from said nozzle and said valve in its fully closed position substantially preventing the emission of water from said manifold to said nozzle and thereby to develop in said manifold an increasing pressure of water for release as needed from said manifold through said hose cock, said hydraulic propelling, reversing and guiding means including a cast metal helmet shaped shaped thrust reverser with a thrust equalizer cast thereon and an operating arm supported on the body casting of said nozzle on an axle parallel to said axle of said butterfly valve, said thrust equalizer being formed as a curved horizontal barrier radially spaced between said axle of said thrust reverser and its outer shell at a position such that the leading edge thereof is aligned with said butterfly valve when said reverser is in its reversing position and said butterfly valve is in its open position.

3,266,734
THRUST REVERSERS FOR JET PROPULSION ENGINES
George Roland Gahagan, Linby, and William Shaw, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed Jan. 28, 1965, Ser. No. 428,805
Claims priority, application Great Britain, Feb. 3, 1964, 4,578
4 Claims. (Cl. 239—265.29)

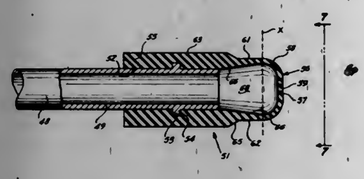


1. In a jet propulsion engine which includes an apertured jet pipe and an apertured engine pod surrounding the jet pipe, a thrust reverser assembly accommodated within said jet pipe and pod and comprising two first and two second gas deflector members disposed in pairs at the uppermost and lowermost portions of the jet pipe and pod and movable between first positions, in which they merge with and form part of said jet pipe and pod respectively, blocking said apertures, and second positions in which they prevent passage of gases through said jet pipe and direct the gases through said apertures to atmosphere, the second gas deflector member disposed at the lowermost portion of said pod being a substantially semi-cylindrical chute having one side of its semi-cylindrical wall removed, and having its end at least partially blocked, whereby exhaust gases passing therethrough are directed through said one side to atmosphere.

3,266,735
NOZZLE DEVICE FOR WINDSHIELD CLEARING SYSTEMS
Edmond F. Webb, Franklin, Mich., assignor to The Delman Company, Cookeville, Tenn., a corporation of Tennessee
Continuation of application Ser. No. 251,092, Jan. 14, 1963. This application Dec. 4, 1964, Ser. No. 416,031
2 Claims. (Cl. 239—284)

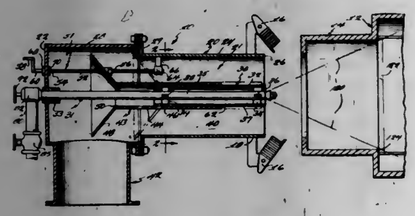
1. A fluid dispensing cap formed from deformable, resilient material for use in a fluid dispensing windshield washer system having a tubular body member connected

to a source of fluid under pressure greater than atmospheric under normal operating conditions comprising a sleeve section adapted to fit over an end of the tubular body member forming a fluid seal therewith, a cup-shaped head section of uniform wall thickness, a flat disc-shaped end portion comprising a minor part of the total area of said head section, said end portion having a cylindrical discharge orifice formed centrally thereof, a curved annular side wall portion extending from said end portion and comprising a major part of the total area of said head section, an annular neck section connecting said sleeve section with said curved annular side wall portion, said



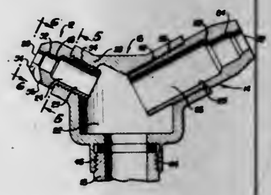
neck section constituting an extension of said sleeve section and having a tapered side wall provided with a thickness progressively decreasing from the sleeve section to the junction of said neck section with said side wall portion, thereby enabling said side wall portion to be expanded to a greater degree than said neck section when said discharge orifice is internally blocked by foreign matter and, in turn, enabling said end portion to expand to increase the size of the discharge orifice thereby enabling the foreign matter to pass through the orifice, when the fluid pressure in the cap is increased above a normal predetermined operating pressure.

3,266,736
LIQUEFIED PETROLEUM GAS BURNER
Thomas S. Lankford, Box 1812, Casper, Wyo.
Filed June 11, 1964, Ser. No. 374,440
13 Claims. (Cl. 239—408)



1. A liquid petroleum burner comprising:
a longitudinally extending first casing means having a rear end portion terminating in a rear transverse end wall and an oppositely disposed forward portion terminating in a forward end;
a sleeve member slidably mounted within said rear transverse end wall and positioned coaxially within said first casing means and having a rear transverse sleeve end wall and a sleeve forward end oppositely disposed therefrom, said sleeve forward end having a nozzle means formed integrally therewith and extending approximately coextensively with said forward end of said first casing means;
a longitudinally extending second casing means mounted within said first casing means between said first casing means and said sleeve member and extending coaxially with said forward portion of said first casing means forming a passageway between said forward portion of said first casing means and said second casing means, said second casing means having an inner end portion and outer end with said outer end terminating approximately coextensively with said forward end of said first casing means;
air inlet means communicating with the rear portion of said first casing means;
a fuel inlet means communicating with said sleeve member;
a longitudinal control shaft means positioned within and extending coaxially with said sleeve member having first and second end portions;
a frusto-conical valve member mounted on said first end portion of said control shaft means and cooperating with said nozzle means;
a guide member integrally connected to said valve member and mounted on said control shaft means inwardly of said valve member;
control means for regulating the longitudinal movement of said control shaft means and said valve member thereby controlling the discharge of fuel from said nozzle means;
baffle means operatively associated with said second casing means and operatively positioned within said first casing means for regulating the flow of air through said second casing means and through said passage formed between said first and second casing means; and
means to control the position of said baffle means so as to regulate the amount of air flowing through said second casing means and through said passage.

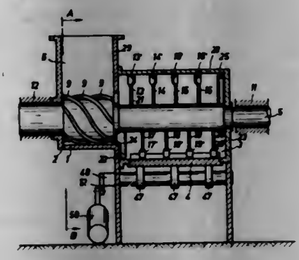
3,266,737
NOZZLE HEAD
John C. Nees, Arcadia, Calif., assignor to Lawn Tender, Arcadia, Calif., a corporation of California
Filed Feb. 4, 1965, Ser. No. 430,382
5 Claims. (Cl. 239—548)



1. A sprinkler comprising: a base structure including a vertical inlet pipe; a rotatable nozzle head mounted on said pipe so as to be supported above ground for rotation around a vertical axis and capable of expelling water in a continuous pattern from said base structure to a terminal reach, said nozzle head including an interior cavity communicating with said inlet pipe; a relatively short slotted nozzle projecting from said nozzle head at an upward inclination relative to said vertical axis and terminating close to said nozzle head, said slotted nozzle including an internal bore angularly communicating with the interior cavity of said nozzle head, said internal bore extending axially within said slotted nozzle to an unobstructed exterior spray outlet, an annular terminal shoulder within said internal bore forming a step reducing said bore to a constant diameter adjacent said spray outlet; and wherein said slotted nozzle includes a parallel sided slot extending vertically down from said exterior spray outlet through the bottom of said slotted nozzle and terminating in a back wall that is cut adjacent said annular terminal shoulder, and said slot back

wall of said internal bore depends generally parallel with said vertical axis, being inclined rearwardly greater than 90° relative to the axis of said slotted nozzle, whereby water sprayed therethrough will be expelled in generally uniform droplets forming said continuous pattern from said base structure to a terminal reach.

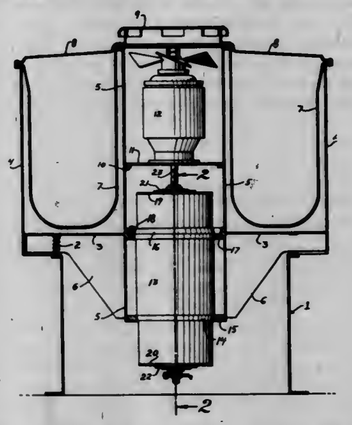
3,266,738
MACHINE FOR THE PREPARATION OF PLASTICIZED MATERIAL
Paul August Goeser, Mannheim-Feudenheim, and Kaspar Engels, Mannheim-Waldhof, Germany, assignors to Draiswerke G.m.b.H., Mannheim-Waldhof, Germany
Filed June 25, 1964, Ser. No. 377,955
Claims priority, application Germany, Apr. 15, 1961, D 35,854
7 Claims. (Cl. 241—98)



1. Machine for the preparation of plasticized material for further treatment in a calender, an extrusion press or the like, said machine comprising, in combination, a housing including a mixing drum, a motor driven shaft extending through said housing operable at high velocity, a plurality of cutting and mixing tools arranged upon said shaft in at least two symmetrically displaced axial rows with the tools of one row disposed in gaps between the tools of the other row, each of said tools comprising an arm having a flat surface and a shovel disposed at the end of the arm at an angle relative to the axis of said shaft and having a sharp front edge, said tools being operable to form a ring of material around the walls of said drum which is subjected without application of pressure to the frictional heat of said mixing tools, and a cutting and feed worm for waste and fresh plastic material mounted on said shaft and having at least one cutting edge, and said cutting and feed worm having a diameter not exceeding the radius of said mixing drum.

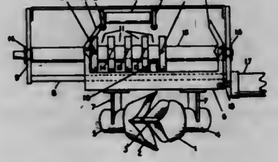
3,266,739
ROLLER-ACTUATED VIBRO-ENERGY MILL
Richard K. McKibben, La Canada, Calif., assignor to Southwestern Engineering Company, Los Angeles, Calif., a corporation of California
Filed Aug. 23, 1963, Ser. No. 304,146
4 Claims. (Cl. 241—175)

1. A vibro-energy mill, comprising:
(a) an annular mill structure;
(b) a ring of supporting springs therefor;
(c) a cylindrical roller case centrally located in said mill structure;
(d) a drive shaft extending axially through said case;
(e) a sleeve fitting a portion of said drive shaft and extending therewith from an end of said case;
(f) means for effecting relative circumferential displacement of said drive shaft and sleeve;
(g) axially displaced sets of roller-impelling arms carried respectively by said drive shaft and sleeve;
(h) axially offset rollers carried by said arms and radially movable into engagement with the inner surface of said case for rotation thereabout;



(i) and a drive for said shaft to rotate said rollers, thereby to cause said rollers to be urged by centrifugal force into rolling engagement and vibration-producing contact with said case.

3,266,740
TRAVERSE MECHANISM
Josiah Alfred Briscoe, Harrogate, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed May 25, 1964, Ser. No. 370,022
Claims priority, application Great Britain, Sept. 17, 1963, 36,534/63
3 Claims. (Cl. 242—43)

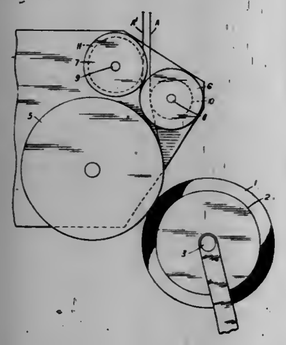


1. A traverse device for the high speed winding of yarns comprising: a primary traversing mechanism which includes two oppositely placed rotatable cams each formed from the frustum of a hollow cone and each having a profile comprising two peaks and two troughs, the axes of rotation of said cams being at an angle to a given plane and at an angle to each other, said angle with said given plane being slightly less than half the cone angle; a secondary traversing mechanism including a carriage bearing said primary mechanism; and means for moving said carriage to and fro along a straight line traverse path in said given plane in at least two steps in each direction along said straight line.

3,266,741
METHOD AND APPARATUS FOR WINDING YARN
Duncan Cameron Ferrier, Llan-yr-Avon, Cwmbran, England, assignor to British Nylon Spinners Limited, Pontypool, England
Filed Apr. 16, 1964, Ser. No. 360,303
Claims priority, application Great Britain, Apr. 20, 1963, 15,684/63
4 Claims. (Cl. 242—43.2)

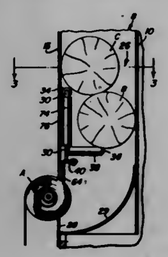
1. A method for winding yarn onto a driven yarn package comprising the steps of: taking a yarn from a

supply and passing the yarn between first and second traversing rolls which are spaced from one another and from the yarn package, each of said rolls having a groove in its peripheral surface for guiding the yarn for winding along said yarn package, laying the yarn on the yarn package in a first traversing direction and at both reversals of traversing directions by a contact of the yarn in a guiding groove of only the first traversing roll while maintaining the yarn completely out of contact with the second



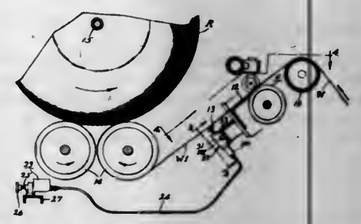
traversing roll, shifting the yarn to a groove in the second traversing roll when said first direction of traverse is completed, and laying the yarn on the yarn package in an opposite traversing direction by a contact of the yarn in the guiding groove of the second traversing roll and with a peripheral surface of the first traversing roll, whereby frictional contact of the yarn with said traversing rolls is substantially reduced for a more rapid winding of the yarn on a package.

3,266,742
HOLDER OPERATED TOILET TISSUE MAGAZINE AND DISPENSER
Jose M. Pena, 502 Ash St., Laredo, Tex., assignor of ten percent to Arnulfo Garcia, Laredo, Tex., and fifteen percent to Carlos Castillon, Laredo, Tex.
Filed Jan. 26, 1965, Ser. No. 428,142
9 Claims. (Cl. 242—55.3)



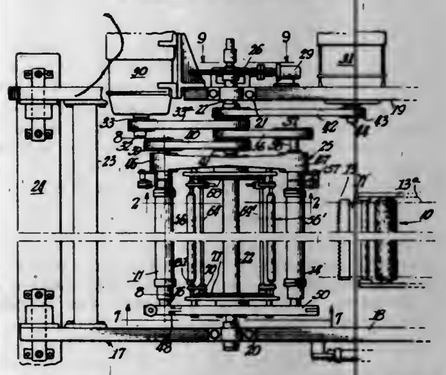
7. In a device of the class described, a crankshaft unit embodying a shaft portion provided at upper and lower ends with right angularly disposed crank arms, a roll holding and dispensing spindle having mounting and hinging means at one end, a first link having a lower end fixedly joined to said one end of said spindle, and a second link at right angles to said first link and shaft portion of the crankshaft unit and having one end pivotally connected to the upper end of the first link and its other end pivotally connected to a coordinating lower end of the shaft portion of said crankshaft.

3,266,743
BOW TYPE WEB SPREADING MEANS
Henry W. Moser, Haddonfield, N.J., and Robert V. Schultek, Arlington Heights, Ill., assignors to Samuel M. Langston Company, Camden, N.J., a corporation of New Jersey
Filed Oct. 22, 1963, Ser. No. 318,016
12 Claims. (Cl. 242—56.4)



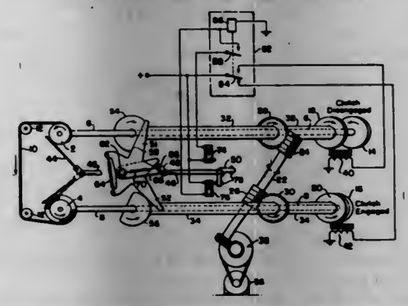
1. Bow type web spreading apparatus comprising a bow web spreader, a wind-up means for winding a web including a winding spindle, a plurality of connecting rods below and coupled to the bow spreader at spaced points along its length, a separate drive operating means for selectively and independently causing movement of each rod toward and away from the bow spreader, each drive operating means being located at a position adjacent the wind-up means below a horizontal plane containing said spindle, and power drive transmission means connecting each rod to its respective drive operating means, whereby the curvature of the bow spreader may be selectively adjusted from a location adjacent said wind-up means while the bow spreader is in contact with a moving web so that the effect of the curvature of the bow spreader may be observed during such contact.

3,266,744
WEB HOLDING DEVICE FOR REWINDER
Frank L. Volm and Ross C. Meade, De Pere, Wis., assignors to Paper Converting Machine Co., Inc., Green Bay, Wis., a corporation of Wisconsin
Filed Dec. 30, 1963, Ser. No. 334,192
6 Claims. (Cl. 242—64)



1. A continuous rewinder, comprising a frame, a spindle-equipped subframe rotatably mounted in said frame, means for orbiting said spindles to alternately wind a web thereon, an auxiliary roll for each spindle mounted on said subframe for movement away from its associated spindle during the course of winding a web on said associated spindle, means for regulating the movement of said auxiliary roll, including a cylinder and piston rod unit pivotably secured at one end thereof to said subframe, a stabilizing shaft movably mounted in said subframe coupled to the other end of said cylinder and piston rod unit, guide means in said subframe for guiding the movement of said stabilizing shaft, and resilient means interconnecting said auxiliary roll and stabilizing shaft.

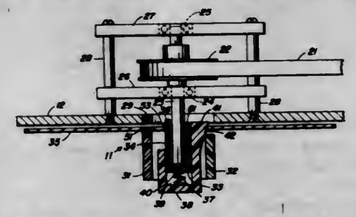
3,266,745
AUTOMATIC REWINDING APPARATUS
Wilfred Y. Benson, Natick, Mass., assignor to Anelex Corporation, Boston, Mass., a corporation of New York
Filed May 27, 1964, Ser. No. 370,593
5 Claims. (Cl. 242—67.4)



1. Automatic rewinding apparatus for an elongated web, comprising a pair of rolls rotatably supported on parallel axes for attachment to the opposite ends of an elongated web to reversibly wind the web thereon; a pair of disengageable clutches each including an input drive element and an output drive element; each of said rolls being connected with the output drive element of a different one of said clutches; reversible pressure-actuated control means operatively connected with said clutches for alternatively engaging either one thereof; motive means connected to drive the input elements of said clutches in opposite rotational senses; a pair of cams drivingly connected with said input elements; an oscillatory rock shaft provided with a sensing paddle, a crank arm, and an actuating element for said pressure-actuated means; a pair of pivotally-mounted levers, and means biasing said levers in opposite angular directions each toward engagement with one of said cams; said cams being formed to release said levers alternately for actuation by said biasing means into driving engagement with said crank arm, to oscillate said paddle alternately into biased engagement with the web rolled on each of said rolls, whereby the angular displacements of said actuating element are limited by the alternate engagements of said paddle with the web rolls; said actuating element being arranged for angular displacement to a terminal position, to actuate said control means and thus reverse the direction of winding of said web on said rolls, as the web is fully wound on one roll and depleted from the other.

3,266,746
QUICK RELEASE TAPE SPOOL
Elvin E. Brown, Marion, and Frederick W. Johnson, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed July 27, 1964, Ser. No. 385,197
4 Claims. (Cl. 242—68.3)

1. In a quick release strip material spooling hub device: a backing disc; means mounting said backing disc for rotative movement; a strip material spooling hub having two substantially half cylindrical section hub members; one of said cylindrical section hub members being fixed to said backing disc; pivot mounting means pivotally mounting the other of said cylindrical section hub members on said backing disc for movement between an outer position and an inner position; where, when said pivotally mounted cylindrical section hub member is in the outer position, the two substantially half cylindrical section hub members substantially define a cylindrical hub mounted on said backing disc; said cylindrical section hub members having adjacent strip material grasping ends so positioned relative to said pivot mounting means as to limit outer movement of said pivotally mounted cylindrical section hub member to said outer position by mutual abutment of the grasping ends, and when a strip material end is inserted, by substantially grasping abutment through such a strip material end by the grasping ends; and with the inner position of said pivotally mounted cylindrical section hub member, providing an effective reduced diameter hub, determined by inner position limiting means; means for pivoting said pivotally mounted cylindrical section hub member from said outer position to said inner position; and means for returning said pivotally mounted cylindrical section hub member from said inner position to said outer position; with said means for returning said pivotally mounted cylindrical section hub member from the inner position to the outer position including, a member having a single cammed surface; means mounting said member with the cammed surface for longitudinal movement back and forth along substantially the longitudinal axis of said spooling hub device between outer position and inner position limits; means establishing said outer position

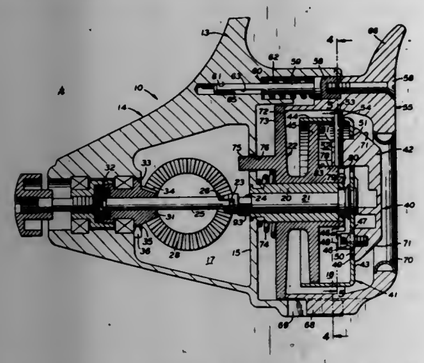


limit for said member having a single cammed surface; means establishing the inner limit position of said member having a cammed surface; and means urging said member having a cammed surface from said inner position to said outer position; with said means for pivoting said pivotally mounted cylindrical section hub member including spring means mounted in said hub device and connected to said pivotally mounted cylindrical section hub member; and with said means for returning said pivotally mounted cylindrical section hub member from said inner position to said outer position including, spring means resiliently urging said member having a cammed surface from its inner position limit toward its outer position limit; wherein said member with the single cammed surface includes a push button portion and is slidably mounted for longitudinal movement on said means mounting said member with the cammed surface; with said spring means urging said push button member with the cammed surface from the inner position limit toward the outer position limit being a resiliently compressed spring between said push button member and said means mounting the push button member; with said single cammed surface positioned to normally engage said pivotally mounted cylindrical section hub member and for that hub member to ride along the single cammed surface as said push button is longitudinally moved in and out.

3,266,747
PICK-UP PIN EXTENSION MECHANISM FOR SPINNING REELS
Thomas F. Sarah, Akron, Ohio, assignor to Pflueger Corporation, Akron, Ohio, a corporation of Ohio
Filed Apr. 2, 1964, Ser. No. 356,770
5 Claims. (Cl. 242—84.2)

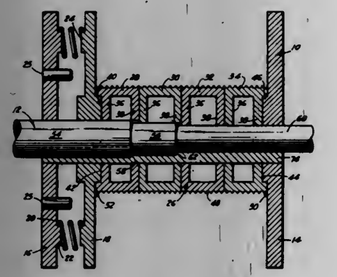
1. In a spinning reel having a housing, a nonrotatable line spool mounted in said housing, a flyer mounted adjacent said spool, said flyer comprising a carrier and a

holder, said carrier fixed to, and rotatable with, a selectively rotatable shaft, said holder mounted on said carrier for radial movement with respect thereto, a restraining means operably connected between said carrier and said holder, a pickup pin attached to said holder extendible radially outwardly of said carrier and retractible with respect thereto, a cam follower on said holder, a cam means supported in said housing and axially movable into and out of radial alignment with said cam follower, biasing means urging said cam means toward radial alignment with said cam follower, a cap positioned radially of said flyer, supporting means mounting said cap on said housing



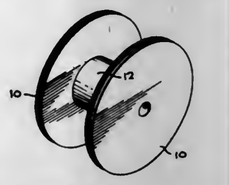
for selective axial movement with respect to said flyer, said cap having a guide opening for permitting the passage of line therethrough outwardly and off the end of the spool, means on said cap to engage said holder upon axially rearward movement of said cap for engaging said holder to snub the fish line therebetween and move said holder radially inwardly with respect to said carrier and retract said pickup pin, means simultaneously to move said cam means out of radial alignment with said cam follower, rotation of said flyer engaging said cam means against said cam follower to move said holder radially outwardly with respect to said carrier to extend said pickup pin.

3,266,748
EXPANDING HOIST DRUM
Franklin L. Le Bus, Sr., Geneva, Switzerland, assignor to Le Bus Royalty Company, Longview, Tex., a partnership
Filed Nov. 6, 1963, Ser. No. 321,886
16 Claims. (Cl. 242—117)



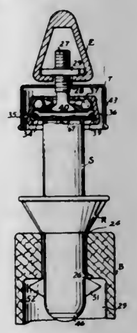
1. A spooling drum for receiving a cable and comprising a drive shaft, a pair of spaced fixed flange members secured to the shaft, a movable flange carried by the shaft and slidable therealong, an expandable core carried by the shaft for receiving the cable thereon, said core cooperating with the fixed flange members and movable flange for adjusting the effective length of the core to compensate for any size variations in the cable wound on the drum for reducing the pressure of the cable on the flanges and core.

3,266,749
WIRE REEL
George T. Christian, Van Nuys, and Joe Tripini, Los Angeles, Calif., assignors to Great Western Container, Inc., Burbank, Calif., a corporation of California
Filed Dec. 18, 1963, Ser. No. 331,557
3 Claims. (Cl. 242—118.7)



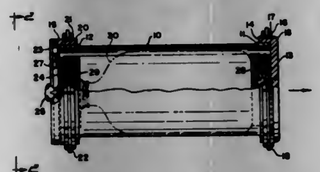
1. A cable reel comprising:
two composite end flanges held in axial alignment and spaced relationship by a core member;
each said flange composed of a thin disc of material having a theoretical strength sufficient to support the weight of material to be carried by the reel when that weight is applied along the plane of the disc;
a thick disc of corrugated backing composed of several layers of corrugations extending in cross relationship; and,
said thick and thin discs being united to function as a unit;
whereby, a spool having two such flanges will be capable of bearing the weight of cable carried by the reel on the stiffened thin compression material discs, because the thin material is held against yielding to bending stresses due to the increased radius of gyration provided by the corrugated paper backing.

3,266,750
UNIVERSAL BOBBIN HOLDER
Richard K. Whitehead, Sr., 1631 N. Gatewood Road NE., De Kalb County, Ga., and Richard K. Whitehead, Jr., 1365 Monroe Drive NE., Atlanta, Ga.
Filed Nov. 1, 1963, Ser. No. 320,773
26 Claims. (Cl. 242—130.2)



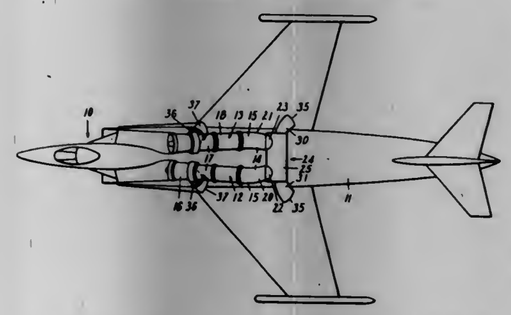
1. A bobbin holder comprising a tubular member having an outwardly extending channel therein, a central body slidably movable within the tubular member and having a plurality of predetermined positions, a bobbin holding member pivotally mounted upon the central body so as to be retracted inwardly when the central body is in one of said predetermined positions, a slidable member movable along the tubular member and having a cycle of motion toward and away from a reference point on the tubular member, and means responsive to the motion of the slidable member for alternately retaining the central body in the said one predetermined position and releasing the central body from the said one predetermined position when the said cycle of motion of the slidable member is repeated a plurality of times.

3,266,751
SAMPLE CARRIER FOR PNEUMATIC TUBE SYSTEM
Francis W. Purdy, Maple Heights, and Arthur L. Pescosolido, Northfield, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 15, 1964, Ser. No. 359,880
3 Claims. (Cl. 243—35)



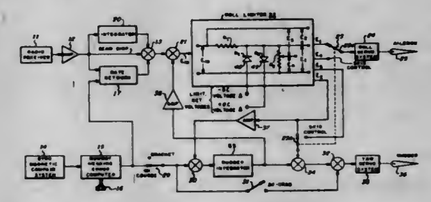
1. A sample carrier for use in a pneumatic tube system, comprising a tubular body, a separately formed end piece affixed permanently to one end of said body, a sleeve extension at the other end of said body, a removable closure member disposed against said other end of said tubular body within said sleeve extension, the inner surface of the latter being formed with a continuous groove, a resilient split ring partially seated in said groove and partially overlying said removable closure member, thereby to retain the latter in carrier closing condition, with said split ring having free ends at least one of which is provided with a hand piece to be grasped for manipulating the ring to insert and remove the same, and peripheral sealing means about the respective end portions of the body for sealing of the carrier movably in the pneumatic tube in which it is employed.

3,266,752
FLUID FLOW APPARATUS
James Oswald Mortlock, William Thomas Monaghan, Richard Derby Beale, and James Alexander Petrie, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed Feb. 17, 1964, Ser. No. 345,390
Claims priority, application Great Britain, Mar. 5, 1963, 8,827/63
11 Claims. (Cl. 244—55)



4. A power plant comprising two jet propulsion engines disposed in side by side relation, two jet pipes, each jet pipe connected to a respective one of said jet propulsion engines, fluid flow apparatus disposed downstream of said jet pipes and comprising an internal, axially extending, helical wall which is mounted within and divides the cylinder into two non-communicating helical compartments, two spaced apart inlet pipes which outlet pipe communicating with a different one of said compartments, two spaced apart inlet pipes which are disposed inwardly of the outlet pipes, each said inlet pipe connecting one of said jet pipes to that one of said compartments which communicate with the outlet pipe which is disposed on the further side of the other jet pipe, two final nozzles, each final nozzle communicating with a respective one of said outlet pipes, and two additional nozzles, each additional nozzle being operatively connected to a respective one of said engines and being disposed on that side of the said engine which is remote from the other engine.

3,266,753
AUTOMATIC LANDING SYSTEM
Randall Gaylor, Phoenix, Ariz., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed June 1, 1964, Ser. No. 371,433
9 Claims. (Cl. 244—77)

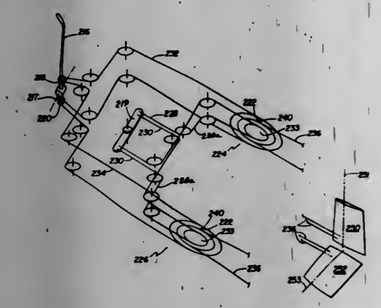


1. An automatic landing system for guiding an aircraft to a landing along a radio defined course comprising,
(a) radio receiving means for providing a first control signal in response to the lateral displacement of the aircraft from said course,
(b) means for providing a second control signal representative of the lateral rate of displacement of the aircraft from said course,
(c) means for providing a third control signal representative of the heading of the aircraft with respect to the heading of a predetermined runway,
(d) first integrating means responsive to said first control signal for providing a fourth control signal representative of the integral of said first control signal,
(e) second integrating means responsive to said third control signal for providing a fifth control signal representative of the integral of said third control signal,
(f) roll servo means responsive to all of said control signals for controlling the sideslip of said aircraft to compensate for prevailing cross wind conditions, and
(g) yaw servo means responsive to said fifth control signal for controlling said aircraft yaw, in accordance therewith whereby said aircraft heading tends to be maintained in alignment with said runway heading.

3,266,754
CONTROL SYSTEM
Gary E. King, Wichita, Kans., assignor to Boeing Airplane Company, Wichita, Kans., a corporation of Delaware
Original application Mar. 6, 1961, Ser. No. 93,686, now Patent No. 3,197,157, dated July 27, 1965. Divided and this application Jan. 10, 1964, Ser. No. 347,081
6 Claims. (Cl. 244—83)

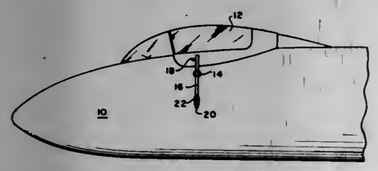
1. A control system in an aircraft for a control surface controlling the aircraft about two axes operated by mechanical motion transmitting means from a first axis con-

trol unit and a second axis control unit, comprising: an epicyclic differential planetary gear train interposed in said mechanical motion transmitting means, said train having a ring gear element, a sun gear element, and a planet carrier element, said ring gear element being connected by said transmitting means to said first control unit, said



sun gear element being connected by said transmitting means to said second control unit, said planet carrier element being connected by said transmitting means to said controllable surface, and said controllable surface being responsive to control motions of said control units and responsive to differential control motions of said control units being operated concurrently.

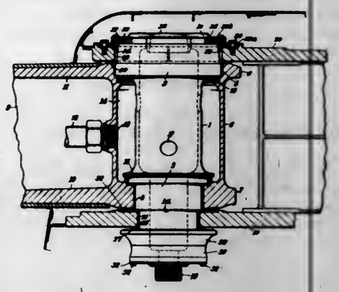
3,266,755
AERODYNAMIC CONTROL FOR LOCKING AIRCRAFT CANOPIES
Franklin E. West, Jr., Vienna, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 20, 1964, Ser. No. 405,313
9 Claims. (Cl. 244—121)



1. An aerodynamic control for locking aircraft canopies comprising:
a lug protruding from the canopy of an aircraft;
means movable responsive to the force of a slipstream and located on the outside of the aircraft for exerting a force on said lug to thereby place the canopy in a locked position.

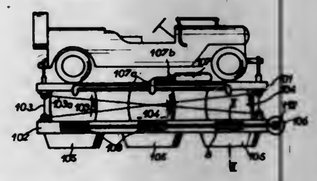
3,266,756
AEROPLANES
Robert Standly Hammond, St. Annes, Alastair Robert Gilmour, Ashton, Preston, and James Paul Richardson, Lytham, England, assignors to British Aircraft Corporation (Operating) Limited, London, England, a British company
Filed Mar. 22, 1965, Ser. No. 441,505
Claims priority, application Great Britain, Mar. 24, 1964, 12,444/64
12 Claims. (Cl. 244—135)

1. An aeroplane having wings connected to the fuselage for pivotal movement in sweep about fixed axes, wherein a wing pivot comprises a tubular pivot pin constituting a duct through which liquid fuel can be transferred between the wing and the fuselage irrespective of the sweep angle of the wing, said pivot pin being fixedly mounted in



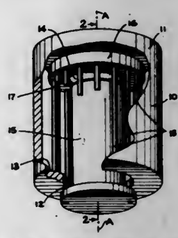
aligned bores in vertically spaced members of the fuselage structure and axially located therein by a shouldered portion of said pin co-acting with one of said members.

3,266,757
DEVICES FOR LANDING LOADS
Paul François Guienne, Paris, France, assignor to Societe Bertin & Cie, Paris, France, a company of France
Filed Dec. 3, 1964, Ser. No. 415,650
Claims priority, application France, Dec. 6, 1963, 956,316; May 12, 1964, 974,182
22 Claims. (Cl. 244—138)



1. An improved load landing device comprising in combination a platform capable of supporting a load, at least one balloon of flexible fluid proof material located under the said platform and fast with it, means for inflating the balloon with gas, at least one skirt of flexible material located below the balloon and fast with it, said skirt being open downwards, and means for feeding gas into the skirt to form an air cushion when the open end of the skirt is adjacent the ground.

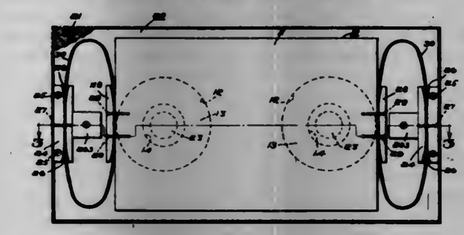
3,266,758
SHROUD FLEXURE
Alfred N. Ormond, 11969 E. Riveria Road, Santa Fe Springs, Calif.
Filed Sept. 12, 1963, Ser. No. 308,564
1 Claim. (Cl. 248—5)



A shroud flexure for supporting a member for omnidirectional movement substantially in a given plane relative to a stationary structure, comprising, in combination: a first frame structure having a generally cup-shaped

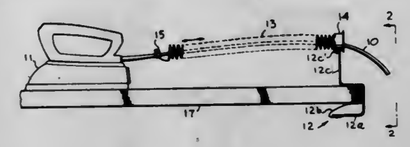
cylindrical configuration with one end in said plane adapted to be secured to said member and its other end extending away from said plane and defining the open end of said cup-shaped cylindrical configuration, said other end turning in a radial direction to define a first annular ledge facing said plane; a second frame structure in co-axial relationship with said first frame structure and having a center portion adapted to be coupled to said stationary structure and including radially extending flange means defining a second annular ledge closer to said plane than said first annular ledge and facing away from said plane in opposing relationship to said first annular ledge; and a plurality of columns secured between said first and second annular ledges and circumferentially spaced about an axis normal to said plane, said axis passing through said one end of said first frame structure and said center portion of said second frame structure, said columns being parallel to each other and to said axis whereby a compressive load on said first frame structure by said member places said columns in tension.

3,266,759
VIBRATION CONTROLLING MOUNT
Ernest B. Allen, 33 Parkinson St., Needham, Mass.
Filed Dec. 13, 1963, Ser. No. 330,452
2 Claims. (Cl. 248—20)



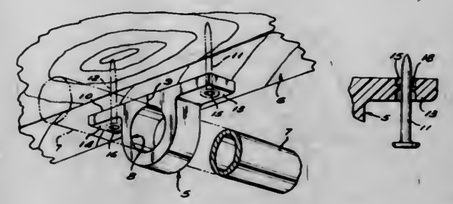
2. A vibration controlling mount for apparatus and machines such as looms that are subject to operational vibration in the horizontal plane, said mount comprising
a rigid bed plate having a non-smooth under face for gripping a sub-structure on which it is set,
a rigid parallel seat plate of like conformation and approximately similar area overlying the bed plate,
flat wear-resistant bearing means for and between the opposed faces of said plates and operatively affording for the seat plate the capacity for limited horizontal movement relative to the bed plate in all directions in the plane of the plates,
spring means installed at and operatively between the adjacent ends of the plates and having a shallow vertical extent such as to be contained within the overall vertical height of the mount as a whole,
said spring means disposed at axially opposite marginal portions of the bed and seat plates and having major axles paralleling the adjacent margins thereof,
and means securing operatively opposite portions of the spring means to the bed plate and to the seat plate at locations above the bottom surface and below the top surface of said plates respectively and in a manner whereby the individual spring each as a whole is tilted for maximum operative conformity with the different levels of said plates at which they are secured and the entirety of the springs and said securing means therefor is contained within the vertical compass between the top surface of the seat plate and the bottom surface of the bed plate while said top surface of the seat plate presents an overall flat load-receiving area adapting the mount for operative reception of a maximum size range of load-supporting elements such as the standard feet of various different commercial loom frames.

3,266,760
ELECTRIC CORD TAKEUP APPARATUS
Helen Edelman, North Hollywood, Calif., assignor to Kordaway Company, Inc., Los Angeles, Calif.
Filed June 1, 1964, Ser. No. 371,706
1 Claim. (Cl. 248—51)



Electric cord keeper apparatus adapted to be applied to a cord fixedly connected to an electric iron at one end and having a wall plug at the other end, said apparatus comprising: a bracket adapted to clampingly engage the side of an ironing board and to support an electric cord above it, said bracket including a generally U-shaped structure and a rigid bar integral with and extending perpendicularly from one side of said U-shaped structure, said structure including a leaf-spring in the form of a resilient strip of material that is affixed at one end thereof to the other side of said U-shaped structure and extends inwardly at an angle toward the base thereof; a ring member swivably mounted on the free end of said bar, the opening through the center of the ring being large enough to permit both the cord and the plug to pass freely therethrough; a helical spring having a large enough opening therethrough to permit both the cord and the plug to pass freely therethrough, said spring being connected at one end to said ring; and a clamp device mounted on the other end of said helical spring for connecting said other end directly to the cord.

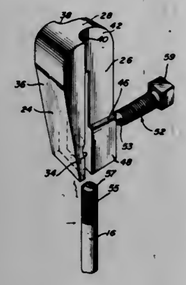
3,266,761
PIPE HANGER AND APPARATUS AND METHOD OF MAKING SAME
Ellsworth T. Walton and Clarence A. Walton, both of 119 10th St. SW., New Philadelphia, Ohio
Filed Sept. 18, 1963, Ser. No. 309,608
1 Claim. (Cl. 248—71)



A pipe hanger comprising a cured elastomeric plastic resin body having an axial bore therethrough proportioned to have a slip-fit around a pipe to be supported, said body having an opening extending from the inside of the bore to the exterior of the body throughout the axial extent of the bore to provide a deformable split ring adapted to surround the pipe with opposed faces at said opening, and integrally formed attaching ears extending laterally from each side of the body, said ears being at one side of said bore and in alignment with said opening to facilitate spreading the opening for application to the pipe and to secure the pipe hanger to a flat surface

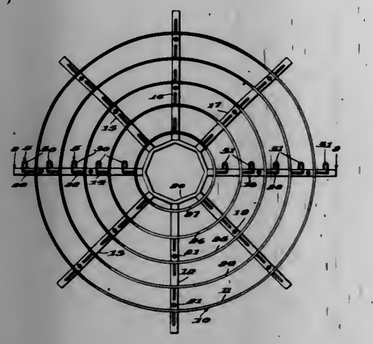
with said opposed faces being brought together at the opening in abutment with each other to limit the size of the bore around the pipe.

3,266,762
HANGER CLAMP
David W. Evans, Flint Lake Trailer Park, R.F.D. 5, Valparaiso, Ind.
Filed June 9, 1965, Ser. No. 462,614
9 Claims. (Cl. 248—72)



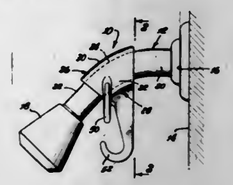
1. A hanger clamp comprising a first body portion, a second body portion spaced from said first body portion and being joined thereto by a bight portion, a flat planar bearing surface formed on said first body portion, an anchor portion formed on said second body portion in spaced relation with said flat planar bearing surface, a set screw threaded through said anchor portion along an axis substantially perpendicular to said planar bearing surface, and a hanger rod threaded into said anchor portion along an axis perpendicular to and intersecting with the axis of the set screw whereby tightening the set screw and the rod will lock the clamp on a support.

3,266,763
DISPENSING AND DISPLAY RACK FOR COILED MERCHANDISE
Hugo J. Kutz, 504 Western Ave., Grafton, N. Dak.
Filed June 3, 1964, Ser. No. 372,184
5 Claims. (Cl. 248—89)



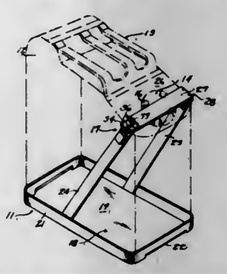
1. A rack for storing and dispensing coiled flexible merchandise comprising a base member consisting of a plurality of equally spaced radially disposed arms emanating from a common central member and lying in the same plane and adapted to be fixedly mounted on a vertical wall surface, a plurality of concentrically disposed flexible merchandise storage racks supported by means secured to said base member, the storage racks lying in a common plane parallel to said base member, said supporting means being constructed and arranged to provide a unitary storage and restraining means for restraining radial expansion of coils of flexible merchandise stored in said racks.

3,266,764
SHOWER PIPE HANGER
Franklin S. Briles, Rolling Hills, Calif., assignor to Franklin S. Briles, Inc., El Segundo, Calif., a corporation of California
Filed May 4, 1965, Ser. No. 453,077
10 Claims. (Cl. 248—213)



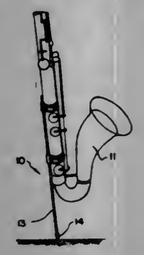
1. A shower pipe hanger adapted to be mounted on a shower pipe that has a downward bend therein, said hanger comprising a generally tubular body having internal surface means defining a passage therethrough that is generally round in cross-section and is curved in the longitudinal direction, said passage being designed to have substantially the same diameter and longitudinal curvature as the bend in a shower pipe, said body comprising a plurality of sections each of which is adapted to encompass part of the circumference of a shower pipe, said sections having locking means thereon for interengagement of the sections, said hanger being mountable on a shower pipe by interengagement thereof in generally circumscribing relationship about a shower pipe in the region of the bend with the longitudinal curvature of said passage through the body of the hanger and the bend in a shower pipe similarly oriented so as to secure the hanger against both longitudinal and lateral shifting movement relative to a shower pipe.

3,266,765
CAN HOLDER
Clifford J. Campbell, 36409 Ruschin Drive, Newark, Calif.
Filed Mar. 17, 1964, Ser. No. 352,529
11 Claims. (Cl. 248—346)



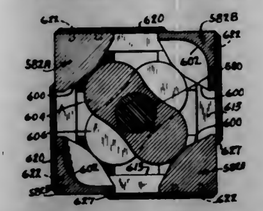
1. A can holder comprising a base retainer for receiving the lower end of at least one can, substantially rigid strap means rigidly secured to said base retainer and projecting upwardly therefrom, said strap means being abuttable with opposite sides of a can thereby received, and adjustable clamping means removably secured to said strap means for engaging upper portions of a can received by said retainer, said clamping means being adjustable in the vertical direction whereby cans of different dimensions can be accommodated by and securely held by said can holder.

3,266,766
MUSICAL INSTRUMENT SUPPORT
Talmage V. Linville, Jr., 2971 North 325 East, Provo, Utah
Filed Jan. 31, 1964, Ser. No. 341,638
3 Claims. (Cl. 248—359)



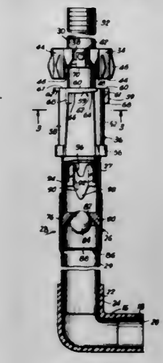
1. A support for musical instruments having a tube section vertically positioned during playing thereof, said support comprising a straight rod; a ground engaging member on one end of said rod, said member being made of a non-slip material; a plurality of musical instrument encircling clamps, each including a collar separately slidable along the rod and carrying a flexible band and a means for changing the relative positions of the ends of the band to adjust the diameter of a loop formed thereby; and means for fixing the position of one of the clamps along the length of the rod.

3,266,767
EXPANDABLE CORE-FORMER
Leonard D. Long, P.O. Box 288, 2110 Mt. Pleasant St., Charleston, S.C.
Application Aug. 1, 1962, Ser. No. 215,218, now Patent No. 3,210,039, dated Oct. 5, 1965, which is a division of application Ser. No. 51,972, Aug. 25, 1960, now Patent No. 3,090,093, dated May 21, 1963. Divided and this application July 19, 1965, Ser. No. 473,045
6 Claims. (Cl. 249—181)



1. An expandable core-former, comprising two pairs of elongated diagonally opposed core segments, said core segments being movable with respect to each other and each having a plurality of thrust-receiving faces and recesses with the thrust-receiving faces on the core segments in one pair being aligned with the recesses in the other pair and the thrust-receiving faces on said other pair being aligned with the recesses in said one pair, a first shaft movable for moving the core-former to and from an operative position in a mold and having means slidably connected to said core segments for guiding the movements thereof, a second shaft rotatably carried in said first shaft and having cam means mounted thereon and interposed between said core segments, said cam means having lobes receivable in said recesses when the core-former is collapsed and receivable against said thrust-receiving faces upon rotation of said second shaft to move said core segments outwardly for expanding the core-former, means interconnecting said core segments for moving them inwardly to collapse the core-former, and means bridging and closing the spaces between said core segments.

3,266,768
QUICK-CONNECT/DISCONNECT SPRINKLER COUPLING FOR REPLACING SPRINKLERS IN AN IRRIGATION SYSTEM
William G. Muschett, Dade County, Fla. (% Safe-T-Lawn Inc., 683 W. 27th St., Hialeah, Fla.)
Filed Aug. 4, 1965, Ser. No. 477,097
7 Claims. (Cl. 251—149.5)



2. In an irrigation system, a quick-connect/disconnect sprinkler assembly, comprising:

(a) a removable straight riser pipe carrying a sprinkler head,

(b) an elongated support pipe fixed vertically upright in the ground and containing water under pressure at least in the lower portion thereof when in operation, the internal diameter of the support pipe being greater than the external diameter of the riser pipe,

(c) valve means mounted within the support pipe downwardly and remotely from its upper end, said valve means being arranged to be held by the water pressure in the fixed support pipe in closed position blocking water flow in the support pipe and being mounted for movement against the water pressure to an open position unblocking said support pipe and permitting water flow, said support pipe being unobstructed and straight above the valve means so that the lower end of the riser pipe is telescopically insertable deeply into the support pipe, said valve means including a casing having an aperture valve seat an a closure plug contained within the casing, the support pipe including two sections interengaged by a spigot and bell joint, the casing being housed within the bell,

(d) a coupling for detachably mechanically and hydraulically joining the pipes, said coupling including

(i) a set of mechanically interengageable coupling members, one of the members being fixed to the support pipe at its upper end and the other member being fixed to the riser pipe above its lower end, said other member being disposed longitudinally of the riser pipe in a position to locate the lower end of the riser pipe proximate to and above the valve means, said coupling members being slid toward one another when the pipes are telescoped, and

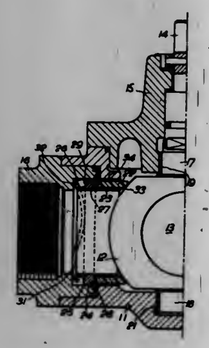
(ii) resilient means adjacent the upper end of the support pipe hydraulically sealing the pipes to one another and acting as a shock absorber when the pipes are telescoped and the coupling members are engaged, and

(e) an operator carried by and depending from the riser pipe at its lower end and contacting and moving the valve means to its open position when the riser pipe is inserted into the support pipe.

3,266,769
FLUID CONTROLLING VALVES WITH ROCKABLE SEALING MEANS

Stanley G. Shand, Hereford, England, assignor to Saunders Valve Company Limited, Cwmbran, Monmouthshire, England, a British company

Filed Dec. 13, 1962, Ser. No. 244,424
Claims priority, application Great Britain, Dec. 14, 1961, 44,926/61
8 Claims. (Cl. 251—172)

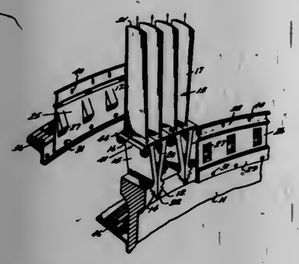


1. A valve seating arrangement including a seating ring for effecting a seal between an obturating member which slides relatively to the ring, and a valve casing, the ring also being sealed to the casing and pressed axially against the obturating member, in which the ring includes in its structure at a substantial distance behind the actual seating area a substantially rigid annular rib having a convex outer surface which fits with no more than working clearance in a bore in the valve casing, said bore being cylindrical in this region, while towards the region of the actual seating area there is substantially greater clearance round the ring structure continued far enough to enable the ring structure as a whole to rock in relation to the casing on any transverse axis through the rib, the rib being rigid with a thrust ring and the seating area being provided on a tubular member slidable axially in relation to the thrust ring and having a sealing connection with means for sealing the ring to the valve casing.

3,266,770
TURBOMACHINE ROTOR ASSEMBLY

Doris Jean Harlow, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York

Filed Dec. 22, 1961, Ser. No. 161,736
3 Claims. (Cl. 253—39.15)

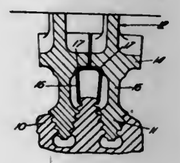


1. A rotor assembly for an axial flow turbomachine, comprising
a rotor wheel,
a plurality of blades having shank and vane portions with a platform therebetween,
said blades positioned to extend radially from said rotor wheel with the shank portions attached to said wheel and adjacent platforms abutting,
first and second baffle plates positioned on the upstream and downstream sides of said blade shanks respectively to prevent the axial flow of gas between said shanks,
said baffle plates including radially extending slots adjacent where said platforms abut,
damper pins supported from said slots and connecting said plates in a manner to allow limited radial movement of said pins and hold said plates in position,
said damper pins positioned to rub against the joint formed by adjacent blade platforms to seal said joint and damp vibrations between adjacent blades,
said blades having internal cooling fluid passages opening into chambers formed by the blade shanks and baffle plates,
and means to introduce cooling fluid into these chambers for circulation through said blades.

3,266,771
TURBINES AND COMPRESSORS

Frederick William Walton Morley, Castle Donington, England, assignor to Rolls-Royce Limited, Derby, England, a company of Great Britain

Filed Nov. 27, 1964, Ser. No. 414,241
Claims priority, application Great Britain, Dec. 16, 1963, 49,674/63
2 Claims. (Cl. 253—77)



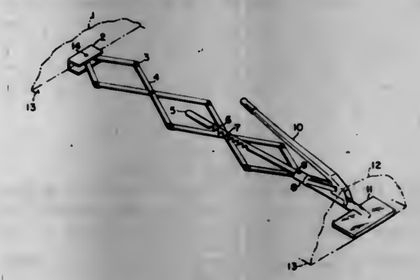
1. A turbine having a rotor disc, a plurality of angularly spaced apart rotor blades having root portions mounted in the rotor disc, each of said rotor blades having a platform and a radially extending shank, the platform being disposed radially outwardly of and being connected to the respective root portion by the shank, and a plurality of flexible channel members being substantially U-shaped in section and each having side walls connected by a base wall, each of said channel members having the free ends of its side walls in spring loaded engagement with the circumference of said rotor disc and its side walls spaced from the shanks of adjacent blades, said flexible channel members being urged by centrifugal force during rotation of said rotor disc so that the base wall of the same engages the radially inner surface of each platform to thereby dampen vibration of the rotor blades which occur in operation.

3,266,772
CARPET STRETCHER

Stanley W. Francis, 5241 University Ave., San Diego, Calif.

Filed Mar. 15, 1965, Ser. No. 439,904
1 Claim. (Cl. 254—63)

In a carpet stretching device,
(a) a block for abutment against a baseboard, and
(b) a plurality of bar sections each pivotally connected to two other sections by pins at the ends thereof with crossed sections secured by pins at the mid-lengths thereof, and,
(c) a plate means for gripping the carpet, and,
(d) leverage means operatively connected between the plate and the joined extremities of the two bar sections farthest from the block, and



(e) a brace arm provided with notches pivotally mounted at one end of the pin joining said two bars as aforesaid whereby said notches engage a pin retaining the two bar sections at their mid-lengths.

3,266,773
VEHICLE BUMPER JACK

Stanton Cole, 1750 Cromwell Drive, Akron 13, Ohio

Filed Nov. 27, 1964, Ser. No. 414,386
5 Claims. (Cl. 254—100)



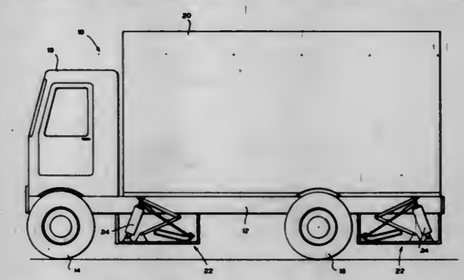
1. An automobile lifting jack, comprising: an elongated support having means for supporting the same upright on a surface and carrying a vertically movable lifting member and means for vertically moving the same; a flexible bumper-engaging hook element carried by said member, including a series of pivotably connected links the outermost of which has a reversely bent portion for hooked engagement with the lower edge of the bumper; and resilient means normally supporting the series of links in given curvate, pivotably connected relationship outstretched forwardly of the support for ready hooked engagement of said outermost link under the bumper, whereby upon operation of lifting member upwardly on said support, said hook element is yieldingly flexed and tensioned into cradling conformity with the lower portion of the bumper for lifting the vehicle.

3,266,774
LIFTING MECHANISM

Wynand M. J. M. Goyarts, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan

Filed Aug. 3, 1964, Ser. No. 386,858
4 Claims. (Cl. 254—122)

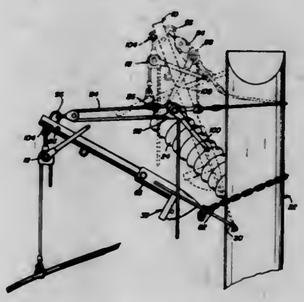
1. A lifting mechanism comprising a support, an extensible fluid motor pivotally connected to the said support, guid means connected to the said support, an X-shaped linkage including first and second links pivotally connected together intermediate their ends, the said first link being connected to the said guide means for movement therealong and pivotally connected to the said fluid motor, the said second link being pivotally connected to the said support, and a third link pivotally connected to the said second link and disposed to abut the said fluid motor.



3,266,775
LINEMAN'S GIN POLE

Edgar Homer Coe, 1638 Pacific Blvd., Albany, Oreg.

Filed Dec. 2, 1963, Ser. No. 327,415
11 Claims. (Cl. 254—127)



2. In a lineman's combined gin pole and boom,
a forked spade having a pair of spaced tines adapted to bite into a power pole at laterally spaced points on the pole,
a pole member fastened at one end to the spade,
chain means attachable at the ends thereof to the spade at points spaced from the tines and adapted to be looped around the power pole to hold the spade against movement away from the power pole and permit pivotal movement of the spade toward the power pole,
and pulling jack means secured at one end to the power pole and at the other end to the pole member for pivoting the pole member toward the power pole.

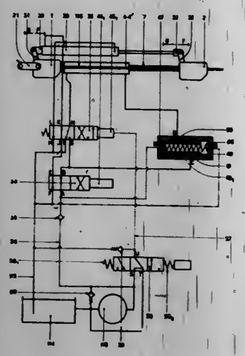
3,266,776
HYDRAULIC WINCH WITH SELF-CLAMPING JAWS

Pierre Ernest Henri Catu, Nogent-sur-Seine, France, assignor to Office Central de Gestion et de Controle O.G.E.C., Paris, France, a society of France

Filed Aug. 10, 1964, Ser. No. 388,613
Claims priority, application France, Feb. 4, 1964 962,649, Patent 1,394,809
16 Claims. (Cl. 254—135)

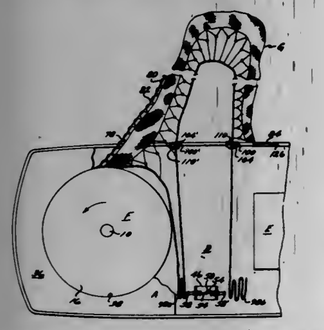
1. Hydraulic winch comprising a fixed self-clamping jaw, a movable self-clamping jaw, means for moving said movable jaw toward and away from the fixed jaw, said means being formed by at least one hydraulic jack

having a cylinder and a piston rod projecting therefrom, said cylinder being connected to one of said jaws and said rod being connected to the other jaw, and means for opening and closing the jaws alternately, said opening



and closing means being formed by a rod system connecting the jaws, and means in said rod system for mechanically operating the jaws just before the end of travel of said jack.

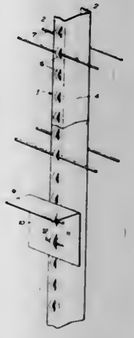
3,266,777
NET RETRIEVING APPARATUS AND METHOD OF USING SAME
Carmine Vittone, 1338 27th Drive, San Pedro, Calif.
Filed Feb. 1, 1965, Ser. No. 429,324
8 Claims. (Cl. 254—137)



3. Power operated apparatus for use in pursing a set purse seine that includes a cork line, net, and chain line to which tow lines are affixed, and in retrieving said purse seine from the sea to store the same in a coiled configuration on a purse seiner that includes a deck, which apparatus includes:

(a) first and second longitudinally spaced rotatable spools disposed above said deck;
(b) first and second sheaves coaxially aligned with said first and second spools and rotatable therewith;
(c) first and second power means for independently rotating said first spool and first sheave, and said second spool and second sheave;
(d) means for guiding said tow lines affixed to the ends of said chain line and said chain line aboard said purse seiner when said tow lines frictionally engage said spools and said chain lines engage said sheaves, with said tow lines and first and second portions of said chain line being disposed in first and second stacks on said deck after being drawn aboard said purse seiner by rotation of said first and second spools and first and second sheaves;
(e) a reel that defines an annulus-shaped space in which said seine can be disposed in a coiled configuration;
(f) means for rotatably supporting said reel in a substantially horizontal position adjacent said deck;
(g) and power means for rotating said reel to draw said cork line and net from the sea into said annulus-shaped space, with said reel as it is rotated sequentially drawing said chain line from said first and second stacks so that said purse seine as a whole is wound on said reel.

3,266,778
ESPALIER STAKES
Alfred Wögerbauer, Linz (Danube), Austria, assignor to Vereinigte Osterreichische Eisen- und Stahlwerke Aktiengesellschaft, Linz, Austria, a company of Austria
Filed Apr. 23, 1963, Ser. No. 274,974
Claims priority, application Austria, Apr. 25, 1962, A 3,398/62
2 Claims. (Cl. 256—47)

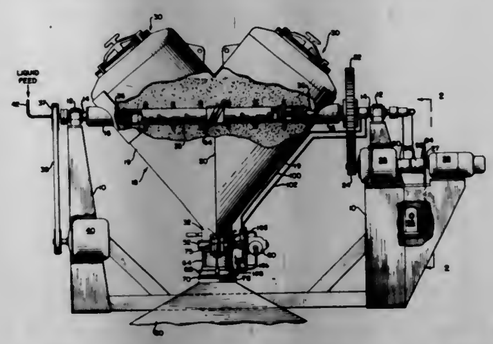


1. An espalier stake, comprising an elongated member of open cross-section having longitudinally extending spaced apart flanges having a wave-shaped profile in the longitudinal direction of the section providing convexly curved edge portions extending lengthwise of each flange and a lengthwise extending concave valley portion therebetween, wire holding straps integral with said flanges and extending outwardly from the valley portions, each of said straps having a concavo-convex cross-section with the convex surface portion of said straps facing and spaced apart from the concave valley portion of the flange with which it is integral forming a three-zone support devoid of sharp edges for an object passing between a strap and a flange.

3,266,779
MATERIALS MIXING AND BLENDING MACHINE
John J. Fischer, East Stroudsburg, and Ralph E. Bender, Stroudsburg, Pa., assignors to The Patterson-Kelley Co. Inc., East Stroudsburg, Pa.
Filed Feb. 5, 1964, Ser. No. 342,666
8 Claims. (Cl. 259—3)

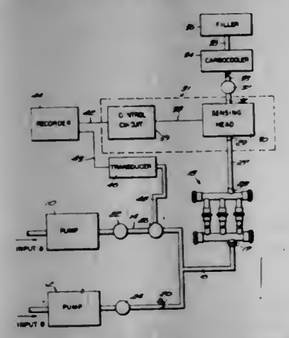
7. A batch-type materials mixing machine comprising,
a trunnion-mounted container of V-shaped form terminating at its apex end in a loading-unloading portal,
a valve for controlling flow of material through said portal,
separately operative primary and secondary drive means for causing said container to rotate at relatively high speed and at relatively low speed respectively whereby said container is rotatable to mix materials therein,

said drive means including start-stop control means therefor whereby said container may be stopped to dispose said portal alternatively in up-pointed position to receive gravity fed material from a feed spout and in down-pointed position to discharge mixed materials therefrom into a gravity receiver,
a materials agitating device comprising a paddle shaft rotatably mounted to extend into said container,



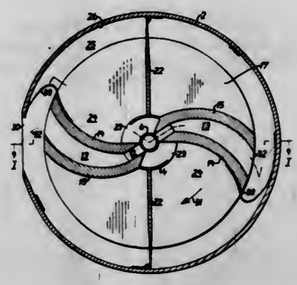
a feed liquid inlet device comprising a conduit for delivering liquid feed material into the interior of said paddle shaft for egress through a perforated wall portion thereof,
motor means for driving said agitator device to rotate,
and valve actuation means carried by said container for alternate opening and closing of said valve.

3,266,780
LIQUID BLENDING SYSTEM
James L. Waters, Framingham, Mass., assignor to Waters Associates Inc., Framingham, Mass.
Filed Aug. 19, 1964, Ser. No. 390,639
8 Claims. (Cl. 259—4)



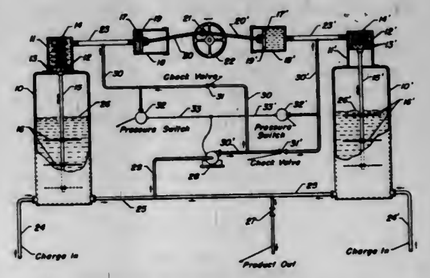
1. A mixer for mixing beverage components prior to analysis comprising upper and lower manifolds, a plurality of elongated pipes, each of said pipes having a bore extending between and communicating with said manifolds, a shaft removably positioned within each of said pipes and extending longitudinally therein, a series of similar baffle plates mounted in spaced axial alignment on each of said shafts and supported thereby, said baffle plates each being smaller than said pipe bore and having one edge portion conforming generally to said bore, said baffle plates each having another edge portion spaced appreciably from the wall of said pipe, the other edge portions of adjacent ones of said plates being positioned on opposite sides of said shaft, thereby forming a series of passages between said edge portions and said pipe wall defining a zigzag course through said pipe.

3,266,781
MIXING MACHINE
Paul Eppenberger, Auenhofen, Amriswil, Switzerland, assignor to Gebrueder Buehler, Uzwil, Switzerland, a Swiss company
Filed June 23, 1964, Ser. No. 377,274
Claims priority, application Switzerland, June 27, 1963, 7,896/63
9 Claims. (Cl. 259—43)



1. A method of mixing two components of materials for example a liquid component and a granular component, comprising directing a first component at high force by centrifugally hurling it against a surface to form a thin layer on the surface, and thereafter directing a second component to the same surface and over the first component layer, and thereafter scraping the intermixed layers from the surface.

3,266,782
DUPLEX AGITATOR
John G. Gatsis, Des Plaines, and Peter Urban, Northbrook, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed July 8, 1964, Ser. No. 381,000
6 Claims. (Cl. 259—71)

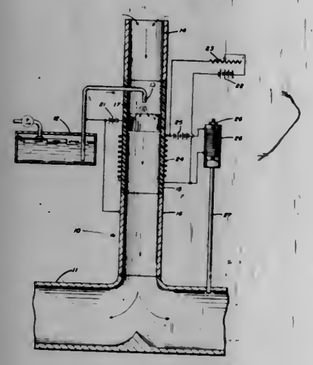


1. Fluid mixing apparatus comprising in combination:
(1) two fluid-tight liquid-retaining vessels, each of said vessels comprising (a) a closed plunger housing opening inwardly of the vessel, (b) a reciprocable plunger within said housing, (c) spring means operatively engaging said plunger and arranged to oppose the inward movement of the plunger, (d) a shaft connected to said plunger and adapted to extend into a body of liquid within the vessel, (e) a transversely enlarged mixing member attached to said shaft and positioned to be wholly immersed in said liquid;
(2) a plunger drive means comprising (a) a piston chamber, (b) a pair of spaced reciprocable pistons within said chamber, (c) means mechanically connecting said pistons, (d) reciprocating drive means coupled to said connecting means for alternately and simultaneously advancing and retracting the pistons in opposed relationship;

(3) a conduit connecting each end of said piston chamber to a corresponding one of said plunger housings; and

(4) hydraulic fluid filling the spaces defined by the plunger housings and their respective plungers, said conduits, and the spaces between the end walls of said piston chamber and the pistons.

3,266,783
ELECTRIC CARBURETOR
Milton A. Knight, Rte. 1, Box 113, Centreville, Va.
Filed Dec. 30, 1964, Ser. No. 422,464
4 Claims. (Cl. 261—1)



1. A carburetor for as park-ignition engine, having an intake manifold, comprising:

conduit means connected to the engine intake manifold for directing a mixture of air and fuel into the engine;

fuel inlet nozzle means in said conduit means and electrically insulated therefrom;

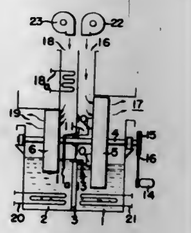
circuit means for providing a direct current potential between said nozzle means and said conduit means;

control means for providing a variable strength electromagnetic field in said conduit means;

whereby said circuit means places an electrostatic charge on the fuel entering said conduit means, and the resulting interaction of the charged fuel and the electromagnetic field creates a force, the magnitude of which may be varied by said control means, thereby to regulate the rate of fuel flow into the engine.

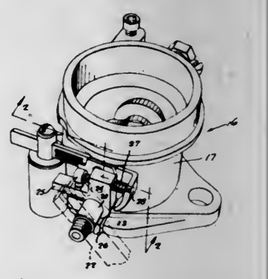
3,266,784
DEHUMIDIFIER OF AIR
Akira Saito, 406 2-chome, Wakamiya-cho, Ichikawa-shi, Chiba-ken, Japan
Filed Feb. 19, 1964, Ser. No. 346,005
Claims priority, application Japan, Mar. 2, 1963, 38/10,027
4 Claims. (Cl. 261—3)

1. A dehumidifier of air comprising an absorption and a regenerative tower disposed in side by side relationship and having common wall tanks formed in the bottom of each tower and adapted to contain a liquid absorbent, first and second rotary open ended drums mounted on a horizontal shaft in said absorption and regenerative towers respectively adapted to rotate in a vertical plane and so arranged that the lower portions of said drums extend into said tanks so as to contact liquid therein, the interior of each of said drums being filled with porous packing material, means to rotate said drums, a plurality of buckets attached to the drum in the absorption tower on the side of the drum adjacent said common wall and radially distant from said shaft, a trough positioned in said absorption tower between the partition wall and said first drum above said shaft and radially closer to said shaft than said buckets, a pipe extending from said trough through said partition and into the tank in said regeneration tower, whereby when said first drum is rotated, the packing in said first drum is wetted by said liquid and said buckets



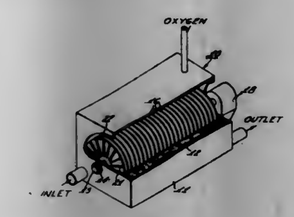
lift liquid from said absorption tank and empty said liquid into said trough for discharge through said pipe into said regenerative tower tank, overflow pipe means communicating with each of said tanks, heating means in said regenerative tower and means to circulate air to be dehumidified through each of said towers and each of said drums.

3,266,785
FUEL INJECTOR
Walter L. Kennedy, Sr., Berkley, Mich. (6039 Rolton Court, Waterford, Mich. 48095)
Filed Apr. 17, 1964, Ser. No. 360,707
14 Claims. (Cl. 261—41)



1. A fuel injection device comprising a main body formed with a passage for fuel mixture, a metering shaft mounted in a wall of said main body and projecting into said passage, said metering shaft having an inner portion formed with a discharge recess, a sleeve-like butterfly shaft rotatably mounted on said inner portion and having discharge apertures registrable with said discharge recess, said metering shaft having an annular face formed with a circumferentially tapering metering recess, said butterfly shaft having an annular face sealingly engaging said first-named annular face and formed with a fuel-receiving recess located to overlap said metering recess, passage means communicatively connecting said fuel-receiving recess to said discharge apertures, fuel inlet means communicatively connected to said metering recess, means biasing said butterfly shaft to a position wherein said fuel-receiving recess is out of registry with said metering recess, means to rotate said butterfly shaft to an idling position wherein said fuel-receiving recess overlaps a relatively narrow portion of said metering recess, and vacuum-responsive means to lock said butterfly shaft in said idling position.

3,266,786
TWO-PHASE DISK CONTACTOR
Patrick G. Grimes, Milwaukee, and Marvin C. Raether, Brookfield, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Nov. 22, 1963, Ser. No. 325,592
2 Claims. (Cl. 261—92)



1. A two-phase contactor comprising a plurality of disks mounted for rotation, said disks being located so as to be partially submerged in a liquid to be treated, at least one surface of each of said disks having a plurality of arcuately spaced inwardly extending radial projections formed thereon, adjacent radial projections cooperating with the intermediate disk surface to form flow control troughs therebetween, said troughs terminating in a groove formed by an annular projection spaced radially outward from the center of the disk and radially inward from the inner ends of the radial projections, said projections being arranged to entrap liquid in said troughs upon emerging from said liquid and direct the flow of said liquid in an elongated path along the surface of said disk as said disk is being rotated.

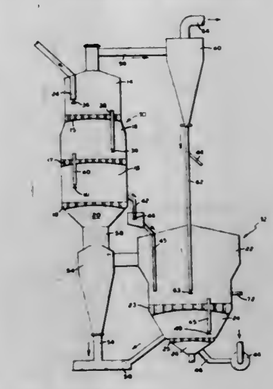
3,266,787
PALL RING
John S. Eckert, Silver Lake, Ohio, assignor to The United States Stoneware Company, Tallmadge, Ohio, a corporation of Ohio
Filed Mar. 5, 1962, Ser. No. 177,577
4 Claims. (Cl. 261—94)



2. A pall ring with a flap cut from the wall thereof and bent inward and at least one tongue cut from the flap and bent away from the flap but contained within the wall of the ring.

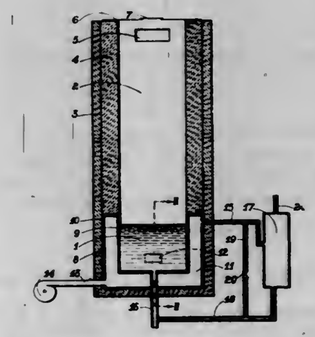
3,266,788
FLUIDIZED BED REACTOR AND METHOD OF OPERATING SAME
Walfred W. Jukkola, Westport, Conn., assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Filed July 16, 1964, Ser. No. 383,104
7 Claims. (Cl. 263—21)

7. A process for calcining finely divided solids comprising the steps of establishing and maintaining a fluidized reaction zone of finely divided solids, establishing and maintaining a fluidized preheating zone of finely divided solids, maintaining a separation zone between said reaction zone and said preheating zone, passing finely divided solids from said preheating zone to said reaction zone, countercurrently passing a fluidizing gas from said reaction zone to said preheating zone, through said separation zone wherein entrained solids in said fluidizing gas



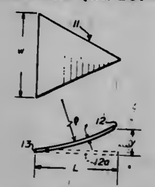
are separated, and allowing the finely divided solids from said preheat zone to fall into said separation zone when said process for calcining finely divided solids is discontinued.

3,266,789
APPARATUS FOR MELTING PRODUCTS SUCH AS GLASS AND METHOD OF WORKING THE SAME
Georges Henry and Edgard Brichard, Jumet, and Emile Plumat, Gilly, Belgium, assignors to S. A. Glaverbel, Brussels, Belgium, a company of Belgium
Filed Dec. 15, 1961, Ser. No. 159,536
Claims priority, application Belgium, Dec. 19, 1960, 475,858
8 Claims. (Cl. 263—29)



1. A glass melting shaft furnace comprising an opened top melting crucible formed of sheet metal in the absence of refractory brick, said metal adapted to extend above said glass level, an outlet surrounded by refractory materials extending onto the surface of said crucible adjacent said outlet, means to heat glass to a molten state in said crucible, a fluid tight jacket spaced from and completely surrounding said crucible, and means for circulating a cooling fluid through the resultant space between said jacket and said crucible.

3,266,790
CUSHIONING MEDIA
Roger G. Bradeen, Castro Valley, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed July 14, 1961, Ser. No. 124,243
4 Claims. (Cl. 267—1)



1. A medium for cushioning a load exerting a pressure ranging from a maximum, of $P_{max.}$, to a minimum per unit area, comprising in combination:

(a) a backing material having a substantially uniform surface adapted to support the pressure of said load; and

(b) a plurality of similar curved, resilient material, flexed members, one each of said members disposed in each unit area of said backing material surface which supports said load; said member being generally shaped as an isosceles triangle having two equal sides and a base of width, W; each of said members having a generally constant radius of curvature, ρ, along a perpendicular line, of length L, from said base to the apex juncture of said two equal sides; the base of each of said members disposed in fixed contiguous relation to said surface, with the curved portion having a surface extending in facing convex spaced relation to said surface, with said apex disposed an unflexed distance, $y_{max.}$, outwardly from said surface wherefor said convex surface progressively contacts said backing material under increasing load pressure; said members having a thickness t determined by the relation

$$t=\frac{Y_{max.}P_{max.}3E}{(\sigma)^2}$$

wherein E is the modulus of elasticity of said material and σ is the design stress of said material; said members having a length L determined by the relation,

$$P_{max.}=\frac{\sigma t^2}{3L^2}$$

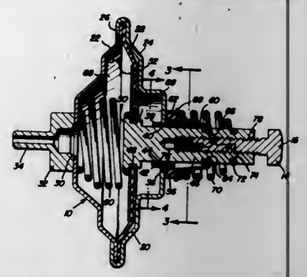
and said members having a radius of curvature

$$\rho=\frac{Et}{2\sigma}$$

2. A cushioning medium as defined in claim 1, wherein said flexed members are in the form of isosceles triangles paired base to base, to provide a rhombus configuration, and said dimension, L, is correlatively changed to 2L.

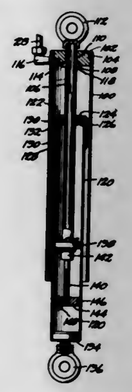
3,266,791
ATMOSPHERIC METERING THROTTLE RETURN CHECK ASSEMBLY
John R. Emerson, Flint, Mich., assignor to F. & E. Manufacturing Co., a corporation of Michigan
Filed Feb. 20, 1964, Ser. No. 346,228
8 Claims. (Cl. 267—1)

1. An atmospheric metering throttle return check assembly comprising a housing, diaphragm means in said housing defining an airtight partition therein, including portions thereof mounted for reciprocation between first and second limit positions, and defining first and second chambers in said housing on opposite sides of said diaphragm means, said housing including first passage means communicated with the interior of said first chamber and adapted to be communicated with a source of manifold vacuum and second passage means venting said second chamber to the ambient atmosphere, means yieldingly urging said movable portions of said diaphragm means toward said second position to increase the volume of said first chamber, movable movement transmitting means operatively connected to said movable portion and including a portion disposed exteriorly of said housing adapted for engagement with a throttle control for governing movement of said throttle control in response to movement of said movable portion of said diaphragm means,



and throttle valve means associated with said second passage means and operable to throttle the passage of air through said second passage means into and out of said second chamber and allow relatively free passage of air out of said second chamber through said second passage means only in response to a rise in pressure in said second chamber to a predetermined minimum above the pressure of the ambient atmosphere.

3,266,792
VEHICLE SHOCK STABILIZER
John F. Sherrill, % Lemert Engineering Co., Plymouth, Ind.
Filed Oct. 23, 1964, Ser. No. 406,129
7 Claims. (Cl. 267—64)



1. A vehicle shock stabilizer comprising

a liquid-containing tubular body,

an end cap carried by the upper end of said body and having a central aperture,

a piston slidable in said body and accommodating liquid flow therepast at a controlled rate,

a tubular piston rod carried by said piston and open therebelow,

said piston rod extending through said cap aperture,

said end cap including sealing means encircling said piston rod,

an inner tubular member having a sealed sliding fit in said tubular piston rod,

an end cap closing the lower end of said body,

a seal carried by the lower end of said inner tube and dividing said body into a gas chamber below said seal and a liquid chamber above said seal,

said inner tube communicating with said gas chamber, and

means for supplying gas under pressure to said piston rod for passage therethrough and through said inner tube to said gas chamber.

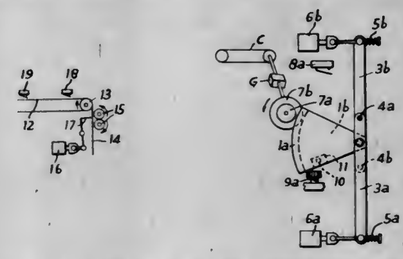
3,266,793
PORTABLE VISE
Harry N. Christensen, Racine, Wis., assignor to George Gorton Machine Co., Racine, Wis., a corporation of Wisconsin
Filed Sept. 23, 1963, Ser. No. 310,557
10 Claims. (Cl. 269—240)



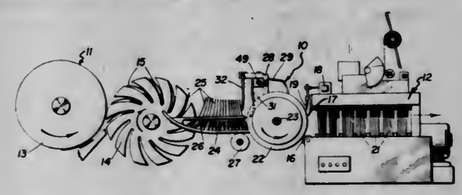
1. A workholder comprising: an elongated body member having a precision square exterior for a substantial portion of its axial extent and a concentric barrel portion whose diameter is less than the height of said square exterior; a first bore in said body member concentric with said square and said barrel; a generally circular rod closely, but slidably, fitted in said bore and projecting therefrom at the end of the square exterior end of said body member; an elongated flat portion segmenting a portion of the exterior of said rod within said bore; a screw threaded through a side of said body member at right angles to the body axis in position to engage said flat portion, said screw being of larger diameter than the diameter of said rod, and said screw having a flat head and a flat end; an adjustable stop pin in said body member for limiting travel of said screw toward said flat portion, said pin engaging said screw near the rim thereof, spaced from said rod, said pin being adjustable to stop said screw in a position at which the flat end of said screw bears closely, but slidably, on said flat portion of said rod; a jaw secured to the projecting portion of said rod in predetermined polar orientation relative to said flat portion, the sides of said jaw forming a square of the same size as the square of said body member, the assembled relation being such that, with said screw bearing on said flat portion, the sides of said jaw are coplanar with the square sides of said body member; a second bore in said body member concentric with said first bore, said second bore being at the barrel end of said body member remote from said jaw, said second bore communicating with said first bore, a shoulder at the juncture of said bores; a stop assembly in said first bore and bearing on said shoulder; and a stem secured to said stop assembly and concentrically extending through said second bore into said first bore for threaded engagement with said rod, said stem having an enlargement bearing on the exterior of said body member, whereby turning of said stem causes axial movement of said jaw relative to said body member.

3,266,794
TIMING DEVICES AND ARRANGEMENTS
Henry John Weir, Sedbury, Shepstow, England, assignor to British Laundry Machinery Company, Limited, Wembly Park, Middlesex, England, a British company
Filed Mar. 25, 1965, Ser. No. 442,656
Claims priority, application Great Britain, Apr. 2, 1964, 13,543/64
9 Claims. (Cl. 270—81)

1. A timing device for timing a machine operation on the half-way point of an elongate article of unknown length carried on a conveyor wherein there are two sensors, one being adapted to give an output signal in response to the passage past one point of the trailing edge of the article, and the other sensor being adapted to give an output signal in response to the passage past another point, further along in the direction of travel of the article, of the leading edge of the article, the device comprising first and second drive members driven to rotate in synchronism with the conveyor; first and second engagement members engageable respectively and independently with the peripheries of the first and second drive members to be driven in the same direction as each other, the second engagement member being driven by the second drive member at twice the speed of the first engagement member when driven by the first drive member; means for engaging the first engagement member with the first drive member in response to the first occurring of two of said output signals, thereby moving the first engagement member from a rest position, the second engagement member being then entrained with the first so as to be driven at the same speed thereby; means for engaging the second engagement member with the second drive member in response to the second occurring of said two output signals, and simultaneously disengaging the first engagement member from the first drive member, the first engagement member thereby returning to its rest position; and a switch arranged to be actuated by the second engagement member, when driven far enough, to initiate said machine operation.



3,266,795
FEED APPARATUS
George F. Howatt, Northboro, Mass., assignor to New England Envelope Mfg. Company, Worcester, Mass., a corporation of Massachusetts
Filed Oct. 14, 1963, Ser. No. 315,978
6 Claims. (Cl. 271—40)



1. Feed apparatus for interrupting the continuous flow of articles to produce a gap in the flow, comprising

(a) a rotatable drum adapted to lie in the line of flow of articles, the drum having a suction means for causing the articles to cling to the drum and revolve therewith from one side to the other and having a peripheral groove formed therein,

(b) a rack on the said one side of the drum on which the articles arrive seriatim and accumulate,

(c) a discharge means at the said other side of the drum to receive the articles as they leave the drum,

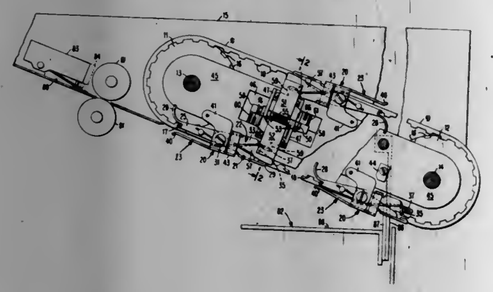
(d) finger means normally lying in the said groove of the drum and operative on occasion to leave the

groove to prevent the article on the rack which is closest to the drum from approaching the drum to be effected by the said suction means,

(e) photo-electric means counting the articles and rendering the finger means operative, and

(f) an accumulator finger overlying the rack to render the suction means inoperative when the number of articles accumulated on the rack falls below a predetermined number.

3,266,796
DOCUMENT HANDLING APPARATUS
Donald W. Haney and Richard H. Harrington, Vestal, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 21, 1964, Ser. No. 420,058
15 Claims. (Cl. 271—45)



1. Apparatus for conveying a sheet of material comprising:

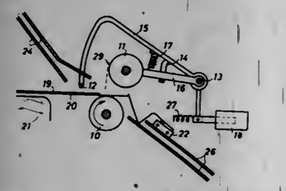
an endless member movable about a fixed path;

carrier means engageable with said member for movement therewith, and being adapted to carry said sheet therein when engaged;

means adjacent said member operable for selectively engaging said carrier means with said member; and

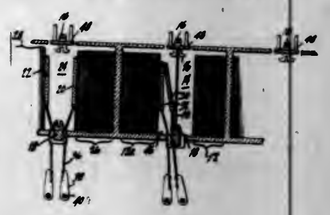
control means activated by said sheet for operating said engaging means.

3,266,797
PHOTOGRAPHIC COPYING APPARATUS STRIPPING MECHANISM AND METHOD
Emile Frans Stievenart, Kiel-Antwerp, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a company of Belgium
Filed Apr. 22, 1964, Ser. No. 361,728
10 Claims. (Cl. 271—64)



6. A method of separating two adhering sheets of sheet material which comprises the steps of feeding said adhering sheets lengthwise into a separating zone; positively constraining one of said sheets passing through said zone into an arcuate path of small radius relative to the sheet length, while laaving the other of said sheets unrestrained at least adjacent its leading end; applying to the other of said sheets across its width at a point on said arcuate path sliding frictional resistance to the lengthwise moton thereof, whereby sad other sheet is caused to curl and separate from the first sheet; and removing the sheets from said separating zone along separate paths.

3,266,798
MEANS FOR RETURNING A RECORD CARD TO ITS STACK
Lewis W. Bielman, Northridge, Calif., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 16, 1964, Ser. No. 375,527
7 Claims. (Cl. 271—64)



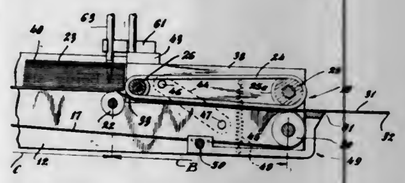
1. In combination,

a card magazine arranged to store two decks of cards, side by side, with a space between the decks;

upper and lower channels located in the space between the decks for receiving a returning card; and

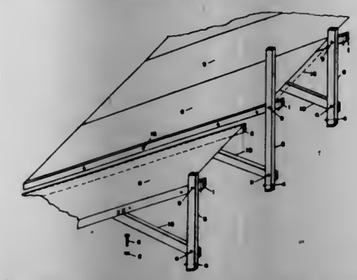
means responsive to the arrival of a returned card for withdrawing the upper and lower channels from their card-receiving position, after the card has been received, and for moving the card into one of the two decks.

3,266,799
STACKING APPARATUS HAVING YIELDABLE FEED MEANS
James E. Ingalls, Brooklyn, Conn., assignor to Columbia Research and Manufacturing Company Inc., a corporation of Connecticut
Filed Oct. 12, 1964, Ser. No. 403,006
12 Claims. (Cl. 271—64)



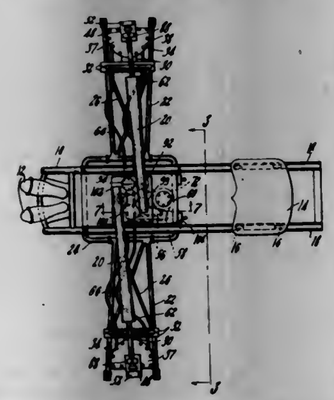
11. In a conveyor belt mechanism for feeding articles engaged between adjacent companion reaches of a pair of belts the improvement in mounting one of said belts relative to the other said improvement comprising a first frame mounting a first belt and a second frame mounting a second belt, said frames connected together so that said belts may engage an article when reposing therebetween, said connection comprising a single pair of opposite parallel link members having each end thereof pivotally connected to the sides of said frame respectively, the said pivotal connections to said first frames being spaced longitudinally of said frames from the said pivotal connections to said second frame whereby said link members assume an oblique position to the parting line between said frames when said frames are in a generally nonseparated position, said connection allowing separation of said frames at a first end without necessarily effecting separation of said frames at the other end when an article is engaged between said reaches adjacent said first end, and yieldable biasing means to urge said frames toward each other.

3,266,800
PORTABLE SKATING TRACK
Wally P. Yee, Honolulu, Hawaii, assignor to Bay Promotions, Inc., Oakland, Calif., a corporation of California
Filed Sept. 11, 1963, Ser. No. 308,233
3 Claims. (Cl. 272—3)



1. A high speed portable skating track comprising a series of various shaped sections which are joined together according to a predetermined arrangement, each section has an upright and a brace that may be folded within the section for ease of storage or transporting, each section includes a runner, a joist, a platform which is bolted along its length to the runner and joist, a Masonite surface which is secured to the platform, said upright being pivotally connected to the runner, said brace being pivotally connected at one end to the upright, a male joint which is connected to the other end of the brace, a female joint which is connected to the inside of the runner, and a joint pin which is inserted through the male and female joints when it is desired to secure the brace to the runner, the runner of one section is bolted together to the adjacent joist of another section.

3,266,801
FLUID OPERATED ROWING MACHINE
Avery R. Johnson, Boston, Mass., assignor to Bio-Dynamics Incorporated, Cambridge, Mass., a corporation of Massachusetts
Filed Oct. 26, 1964, Ser. No. 406,406
9 Claims. (Cl. 272—72)



6. In a rowing machine of the character having a pair of oar simulating elements with hand grip portions at their inner ends and means mounting said oar elements at their outer ends to swing about axes to simulate oar stroke movement and oar lifting and feathering positions, that improvement comprising

a closed double loop, fluid-filled hydraulic piping system,

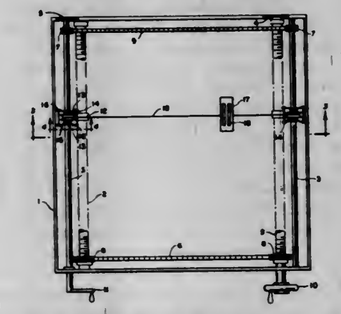
a piston in each loop of said system actuated by a said oar element for initiating fluid flow and circulation in said loop when said oar element is swung about its said axis to simulate an oar stroke movement,

fluid driven inertia means in said system common to both said loops sustaining fluid flow and circulation in said system when once initiated by a said piston, said means normally continuing to apply fluid pressure in both loops of said system through said pistons against said oar elements in oar stroke movement direction,

normally closed valve means in each said loop bypassing the respective pistons in the loops, and

mechanisms for opening said valve means and bypassing a said piston in a loop of said piping system, actuated by a said oar element when said element hand grip portion is positioned to simulate oar lifting and feathering.

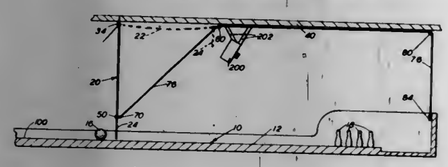
3,266,802
SLALOM RACE GAME
Leslie Balanyi, 861 Carmen Ave., Chicago, Ill.
Filed Mar. 18, 1963, Ser. No. 265,817
1 Claim. (Cl. 273—1)



A sport game in imitation of the Slalom-race of the Winter Olympics, where the competitors race twice against the clock passing gates from the right and the next from the left and so on all the way, comprising a continuous rectangular surface simulating a ski slope, a plurality of gates being disposed alternately at right and left sides of the rectangular surface to provide a continuous series of gates, only one movable figure mounted on the said surface for motion thereon in simulation of competition in a Slalom race between the gates, a magnet positioned in this moving figure, and manually operable figure-controlling mechanism positioned under the said surface causing the movable figure to travel a course on the surface passing the gates from the right and the next from the left, changing direction all the way depending on the operator's free determination; this mechanism comprising a pair of generally vertical parallel threaded rods at the right and left sides of said surface and connected each to the other by a first endless belt on two sprockets mounted each on a threaded rod and a pair of generally vertical parallel slotted rods connected each to the other by a second endless belt; a wheel with a handle mounted on the extending part of the right threaded rod to be rotated by the operator's right hand for the control of the figure's vertical movement, a lever mounted on the extending part of the left slotted rod to be manipulated by the operator's left hand for the control of the figure's horizontal movements; a third endless belt on two pulleys placed each on one slotted rod and connected each to one nut placed on the closest threaded rod; two keys inserted each between one pulley and one slotted rod in the slot of the rod permitting the pulleys together with

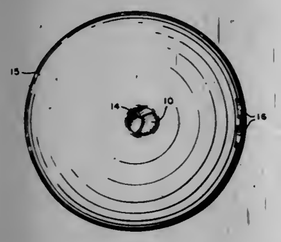
the endless belt to glide in the slots of the slotted rods in response to movement of the connected nuts on the threaded rods; a magnet positioned on the said second endless belt, by which the magnet in the figure is attracted and moved vertically and horizontally through the gates on the surface.

3,266,803
BLIND BOWLING ASSEMBLY
Bernhardt Stahmer, 1509 Chicago St., Omaha, Nebr.
Filed Sept. 23, 1963, Ser. No. 310,681
2 Claims. (Cl. 273—54)



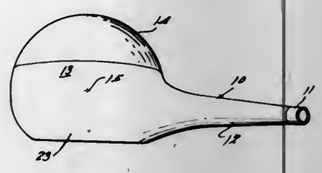
1. A bowling alley assembly comprising an elongated alley having an upper horizontal ball-receiving surface normally having a plurality of pins at a forward end thereof, an opaque curtain disposed transversely of said alley in a position between the ends of said alley so as to block visibility of the pins from a bowler, said curtain having an upper section and a lower section, a weight means extending generally transversely of the alley and fixed to said curtain and disposed between said upper and lower sections of said curtain whereby when a thrown ball strikes the lower portion of said curtain and said lower portion is thereby caused to move out of place upwardly, the upper portion of said curtain will tend to be moved out of place to a much lesser extent whereby it will remain in place sufficiently to prevent the curtain from becoming dislocated to the point of permitting visibility of the pins by a bowler, means for supporting said upper section in said transverse disposition, said upper section being significantly larger than said lower section and said weight means being disposed significantly closer to said ball-receiving surface than to said supporting means.

3,266,804
BOWLING BALL INCLUDING THUMB HOLE LINED WITH VELVET PILE
Dale A. Carter, 1724 Shorewood Drive, Bremerton, Wash.
Filed Dec. 30, 1963, Ser. No. 334,139
7 Claims. (Cl. 273—63)



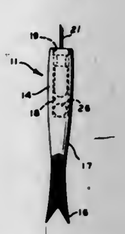
1. A bowling ball having drill-holes which provide a thumb stall and finger holes, and having the thumb-stall lined upon the wall thereof which is proximal to the finger holes with a thumb grip comprised of a length of flexible tape provided upon the back with a wall-adhering adhesive coating and faced with a velvet pile, the pile being composed of closely spaced rows of myriad resilient fingers standing erect and each comprised of a heat set thread of synthetic resinous material.

3,266,805
GOLF CLUB HEAD
John G. Bulla, Phoenix, Ariz., assignor of one-half to Stewart S. Freedman, Phoenix, Ariz.
Filed Jan. 25, 1962, Ser. No. 168,625
1 Claim. (Cl. 273—78)



In a golf club head having a striking face, said head being made from a plastic material and formed into the shape of a section of a sphere the center of curvature of which lies substantially in the club face, the plastic material being of such density as to cause the shock wave produced when striking a ball near the said center to move to the spherical surface and return to the ball prior to the separation of the ball from the head.

3,266,806
DART-LIKE PROJECTILE WITH HOLLOW NEEDLE
Edwin F. Warren, Whitestone, N.Y. (112—15 14th Road, College Point 56, N.Y.), and Andrew Styka, 42—25 Hampton St., Elmhurst, N.Y.
Filed Sept. 18, 1964, Ser. No. 397,782
1 Claim. (Cl. 273—106.5)

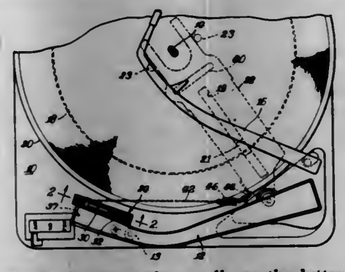


A dart-like projectile for a blowgun and comprising a generally cylindrical body section, and feathered guides at the rear of the body section, said body section having a bore extending inwardly from its forward end and a projectile-like head removably positioned within said bore, said head including a fluid tight receptable at its rear end and a hollow needle projecting forwardly from the receptacle, wherein a ball is slidably positioned within said bore to the rear of the receptacle and arranged to strike the latter upon impact.

3,266,807
NEEDLE CLEANING BRUSH FOR RECORD CHANGERS
Robert L. Van Antwerp, Benton Harbor, Mich., assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed Aug. 3, 1962, Ser. No. 214,719
9 Claims. (Cl. 274—1)

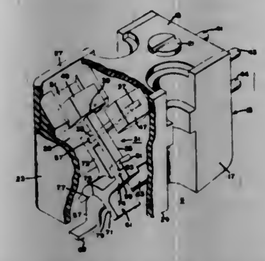
8. In a record changer having a baseplate, a turntable surmounting the baseplate, means operable during a record change cycle for dropping a record to the turntable, a tone arm having a cartridge-needle assembly mounted thereon for traversing a record on the turntable to reproduce the same, and slide means mounted beneath

the baseplate which reciprocates once during each change cycle to effect lateral movement of the tone arm, the improvement comprising a needle cleaning brush movable between a lowered inoperative position and a raised operative position wherein it projects substantially above



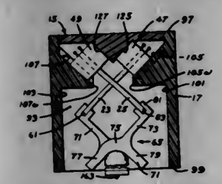
the baseplate to intercept the needle as the latter travels laterally during a record change cycle, and means actuated by said slide means during the change cycle for moving said brush between its inoperative and operative positions.

3,266,808
STEREO PHONOGRAPH CARTRIDGE
Roy Dally, Warrensburg, Ill., assignor to General Electric Company, a corporation of New York
Filed Nov. 1, 1963, Ser. No. 320,815
7 Claims. (Cl. 274—26)



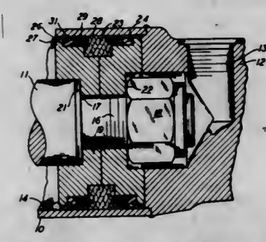
1. A stereo phonograph pickup cartridge comprising a housing, a stylus assembly including a drive rod supported within said housing, a pair of elongated ceramic type transducer elements arranged in spaced apart and criss-cross relationship within said housing, and resilient coupling means for connecting said drive rod to each of said transducer elements in such a manner that an effective segregation of a pair of stereophonic signals is thereby achieved.

3,266,809
PHONOGRAPH CARTRIDGE
William A. Cavagnaro, Decatur, and Roy Dally, Warrensburg, Ill., assignors to General Electric Company, a corporation of New York
Filed Nov. 1, 1963, Ser. No. 320,910
8 Claims. (Cl. 274—26)



7. A phonograph pickup cartridge comprising a housing that includes first and second cooperable members, a stylus assembly including a drive rod positioned in said housing, a pair of elongated transducer elements disposed in said housing, first resilient means connected to said elements and engaging one of said housing members thereby to support said elements in said housing, second resilient means for coupling said transducer elements to said drive rod, and means including a wedge-shaped projection formed on the other of said housing members for compressively engaging said first resilient means when said first and second housing members are cooperatively engaged thereby to securely and positively fasten said transducer elements into resiliently supported engagement with said housing.

3,266,810
COMBINED FLUID WIPER AND SEAL
Esral M. Reeser, Burlington, Iowa, assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed May 4, 1964, Ser. No. 364,568
2 Claims. (Cl. 277—24)



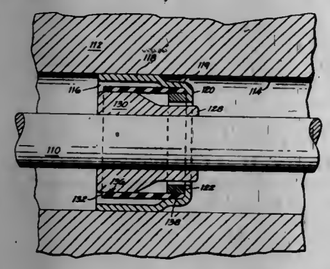
1. In a combined wiper and seal for use between two relatively movable and concentric parts operating in oil or the like and with one of said parts including two separable portions axially movable toward each other to a limit position of abutment and with said parts having a radial space therebetween and with said portions having shoulders facing each other and extending radially into said radial space, the combination of a wiper member and a seal member both being V-shaped in cross-section and nested together at the apexes of their shapes and with free ends of both extending toward the oil to be sealed, said members being disposed in said radial space and between said shoulders and being compressed into contact therebetween to have said seal member urged radially to fluid seal between said parts, said wiper member being spaced short of the radial extent of said seal member in the radial direction and at the location of the contact between said members and forming a pocket with the other of said parts, said free end of said wiper member being a beveled lip extending past the plane of one of said shoulders with a feather edge extending into relative sliding contact with the other of said parts for picking up dirt from the oil.

3,266,811
CENTRIFUGAL SEALING MEANS
Johannes Peter Knauth, Hurley, N.Y., assignor to Espey Mfg. & Electronics Corporation, a corporation of New York
Filed July 23, 1963, Ser. No. 297,106
1 Claim. (Cl. 277—25)

A sealing means between a cylindrical rotor housing wall and a stator shaft, comprising in combination;

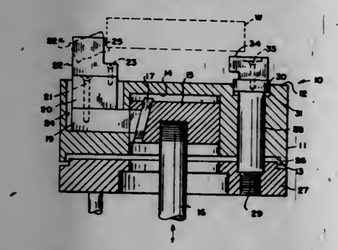
a cylindrical collar with an outer cylindrical collar wall fastened to the rotor cylindrical wall, said collar having an inwardly recessed section, a radial section extending from said recessed section and, an inner collar wall affixed to said radial section disposed for rotation over said shaft;

a boss having a thin portion and a stub portion disposed concentric with said collar, said boss having thereon a coating of fluorocarbon resin, the thin portion extending towards said radial section, said stub portion extending radially outward as far as practical towards said inner collar wall to increase the flywheel effect;



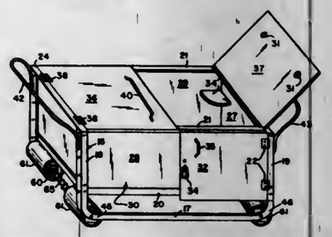
a resilient silicone rubber sleeve retained between said inner collar wall and said recessed section disposed to rest on said stub portion said inner collar wall extending towards said stub portion a distance sufficient to prevent buckling of the sleeve, thereby forming a seal at rest between said sleeve and stub portion which seal is broken only by the action of centrifugal force acting on said sleeve.

3,266,812
CHUCK WITH WORK-PIECE SEATING MEANS
Walter F. Mott, 23142 Rosedale Court, St. Clair Shores, Mich., and Norman E. Rank, 3062 Middleton Court, Birmingham, Mich.
Filed Apr. 23, 1965, Ser. No. 450,377
5 Claims. (Cl. 279—121)



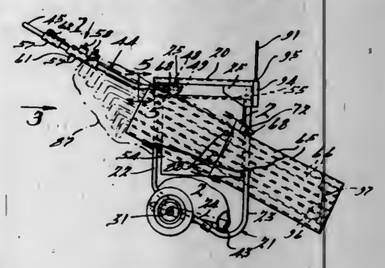
1. A chuck comprising a chuck body having an outer, chucking face and an opposite, inner face;
a support plate arranged parallel and closely adjacent to said inner face, the plate being arranged for securement upon a fixed support;
guide posts each having an end secured to said plate and extending through the chuck body and with their opposite, free ends being arranged at said outer face;
the chuck body being slidable upon said posts toward and away from said plate;
and limit means for limiting the movement of the chuck body away from said plate;
work-piece rest pads secured upon the free ends of said guide posts and located a short distance outwardly of said outer face;
spring means arranged between the chuck body and plate for normally spring holding them apart;
chuck jaws slidably mounted upon said chuck outer face for movement towards and away from each other and for clamping and unclamping a work-piece therebetween;
means for moving said jaws together and including a draw bar engaging the chuck body and arranged to be pulled towards said plate for moving the jaws together to clamp a work-piece and for pulling the chuck body, against the force of said spring means, towards the plate for thereby seating a clamped work-piece upon said rest.

3,266,813
MOBILE GARDEN AND REFUSE CART
John M. Bosko, 6691 Cleveland Road and Wall St., Ravenna, Ohio; John L. Bosko, 2095 Mountain Ave., Upland, Calif.; and Joseph B. Lindecker, Upland, Calif. (8100 Keystone Ave., Skokie, Ill.)
Filed Mar. 18, 1964, Ser. No. 352,831
7 Claims. (Cl. 280—8)



7. A refuse cart, comprising a rectangular shaped metal frame having a plurality of vertical uprights united to a plurality of horizontal longitudinal and transverse supporting members, a closed receptacle having a plurality of side walls, end walls, top closures and a bottom wall carried by and secured to and within the upper portion of said frame, said top closures hingedly connected to transverse upper end supporting members of said frame, a bearing member secured to the lower end portion of each upright in each corner of said frame, a shaft extending transversely beneath each end of said rectangular shaped metal frame and journalled in said bearing members, a pair of elongated rollers rotatably and longitudinally slidably mounted upon each of said shafts, and a coil spring arranged upon each of said shafts between the pair of rollers thereon, the ends of said coil springs being in pressing engagement with the inner ends of said rollers and yieldably resisting any longitudinal change in the position of either of said rollers during rotation thereof and permitting longitudinal slidable movement of one of said two rollers on the shaft during turning of the cart by an operator.

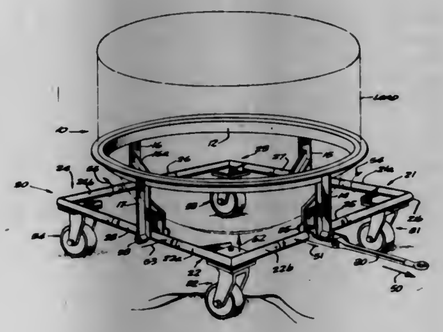
3,266,814
GOLF CART
Orlie W. Dawson, 260 E. Cambourne Ave., Ferndale 20, Mich.
Filed Aug. 21, 1964, Ser. No. 391,139
19 Claims. (Cl. 280—36)



1. In a golf cart, a seat, a pair of frame members supporting said seat, one of said frame members being secured in fixed relation to said seat, the other being pivoted

thereto for swinging movement towards said first frame member, means on said frame means for supporting golf clubs, an axle secured to the forward edge of said frame members having a pair of wheels thereon, and means for releasing said axle means for permitting the one frame member to move toward the other frame member.

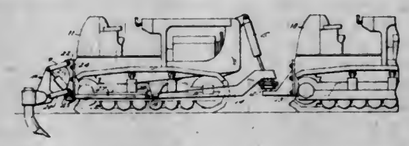
3,266,815
TORSION-FREE ARTICULATED VEHICLE SUSPENSION
Charles R. Bishop, Garden Grove, Calif.; Muriel J. Bishop, executrix of said Charles R. Bishop, deceased
Filed Dec. 14, 1964, Ser. No. 418,167
25 Claims. (Cl. 280—104)



1. A vehicle comprising, in combination:
a flexible rectangular frame including four cornerpieces each having a pair of mutually perpendicular cylindrical openings therein, a pair of longitudinally extending side tubes each having a respective end thereof received in one opening of a corresponding one of said cornerpieces, a pair of transversely extending end tubes each having a respective end thereof received in one opening of a corresponding one of said cornerpieces, a pair of transversely extending end tubes each having a respective end thereof disposed within the other opening of a corresponding one of said cornerpieces, said ends of said side tubes and said end tubes being rotatable relative to said cornerpieces;
four wheels carried by respective ones of said cornerpieces and adapted to support said vehicle for longitudinal movement;
a rigid frame;
and means pivotally connecting the longitudinal center of each of said side tubes and each of said end tubes to corresponding separate points on said rigid frame whereby said cornerpieces of said flexible frame are permitted to move up and down relative to said rigid frame and to each other.

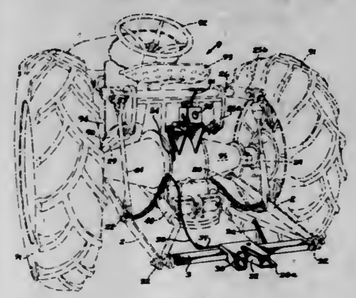
3,266,816
DRAFT ASSEMBLY FOR TANDEM TRACTORS
Robert A. Peterson, San Leandro, Calif., and Donald E. Sunderlin, Washington, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 6, 1964, Ser. No. 401,910
5 Claims. (Cl. 280—410)

1. In combination with tractors coupled for operation in tandem and having a hitch consisting of a bracket fixed to the rear of one tractor, a C-frame pivoted to the other tractor and extending forwardly thereof, and an articulate connection between the bracket and frame; an implement secured to the rear of said other tractor, and



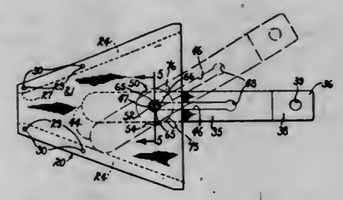
a stress transmitting structure extending between the implement and the C-frame pivots.

3,266,817
TRACTOR COUPLING MEANS
William J. Engstrom, 5608 E. Mount Tacoma Drive, Puyallup, Wash.
Filed Oct. 15, 1963, Ser. No. 316,393
7 Claims. (Cl. 280—461)



1. Mechanism for coupling a liftable apparatus to a tractor, and for releasing the same, comprising an upper and a lower coupler, each including an element mounted upon the tractor and a complemental element mounted upon the liftable apparatus, one of said couplers including a pin vertically disposed and a complemental notched yoke to receive said pin, a notched lever pivotally mounted to swing from an open position with its notch registering with the notched yoke, to a closed position to bar withdrawal of said pin, and releasable means to lock the lever in its closed position, the other of said couplers including a horizontal and longitudinally disposed recess on one of the tractor or the apparatus, a pin on the other directed to enter said recess, and releasable means to lock said pin within the recess.

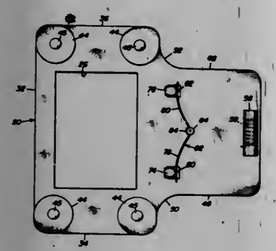
3,266,818
VEHICLE COUPLING DEVICE
Wayland W. Hill, P.O. Box 168, Earlimart, Calif., and Aubrey O. Kidwell, Rte. 1, Box 172, Earlimart, Calif.
Filed Sept. 28, 1964, Ser. No. 399,496
9 Claims. (Cl. 280—478)



1. A coupling device comprising a housing having a compartment therein; coupler means having a connector end slidably disposed within the compartment of the

housing for longitudinal and transverse movement between a retracted position with the connector end disposed outwardly adjacent to the compartment and a connecting position with the connector end extended outwardly from the housing in spaced relation to said compartment; and an axially constrained latch member journaled for rotation in the housing in a fixed area of operation interconnecting said coupler means and the housing and having a locking portion to constrain the coupler means in the compartment against longitudinal and transverse movement when said coupler means is in said retracted position and being rotatable to a position permitting longitudinal sliding movement of the coupler means for movement to said connecting position while permitting transverse swinging movement of the coupler means about the latch member.

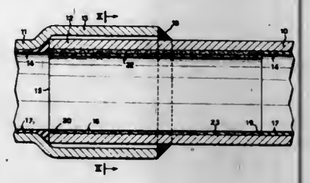
3,266,819
MEMO PAD ATTACHMENT FOR TELEPHONE
Alice R. Huff, 244 "D" St., Chula Vista, Calif.
Filed Nov. 23, 1964, Ser. No. 412,906
4 Claims. (Cl. 281—15)



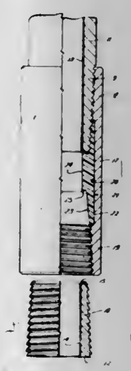
1. In combination:
(A) A stand having a platform, said platform having an opening, and having an area for receiving a telephone instrument, and an area for receiving a pad of paper;
(B) and resilient means for attaching the stand to the instrument whereby when the instrument is lifted, the stand with the pad thereon is also lifted, said means includes:
(1) a carriage slidably mounted on said platform, said carriage including:
(a) a part extending downwardly through the opening in the platform;
(2) and spring means disposed below the platform and engaging said carriage part for urging said shoe means against the instrument.

3,266,820
ASSEMBLY DEVICE FOR WELDED METAL TUBES
Michel Henri Fernand Leborgne, Enghein-les-Bains, and Pierre Guinvarc'h, Saint-Cloud, France, assignors to Societe Anonyme Franciase du Ferodo and Societe Technique et Commerciale des Canalisations Souterraines, en Tubes d'Acier S.T.E.C.T.A., both corporations of France
Filed June 15, 1964, Ser. No. 375,253
Claims priority, application France, June 20, 1963, 938,727
12 Claims. (Cl. 285—21)

1. A welded pipe joint assembly, comprising a pair of metal pipes having a welded joint between them, a protective layer of material having a low melting point within the pipes, and an internal asbestos sleeve disposed at the zone of the weld and adapted to resist the heat developed during the welding operation, said protective layer being eliminated at the zone of the weld and being replaced by said sleeve, the inner surface of the sleeve being exposed to the flow of fluid in said pipes and having substantially the same diameter as the inner surface of said protective layer, whereby the asbestos sleeve operates to render noncorrosive the liquid between the said sleeve and said pipes and the continuity of the internal surface of the joint is preserved.

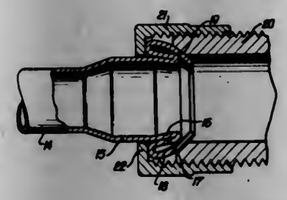


3,266,821
SEALED PIPE COUPLING
William Joseph Safford, 3510 Durhill, Houston, Tex.
Filed Jan. 14, 1964, Ser. No. 337,629
2 Claims. (Cl. 285—40)



1. A sealed pipe coupling assembly comprising a coupling sleeve having internal threads at its ends, a monolithic collar of yielding material sealingly lodged within said sleeve between said end threads, said collar having initially unthreaded tubular end portions and a central internal ridge with inclined edge walls forming annular V-grooves, and a pair of pipe members with inclined end walls of V-section complementary to said edge grooves in said collar and circumferentially continuous internal synthetic resinous linings overlying said end walls, said linings having a coefficient of friction relative to said collar sufficiently low to permit rotary contact without scrubbing, said pipe members having external end threads for mating with said internal threads in said sleeve, for cutting threads in said end portions of said collar, and for causing said lined pipe end walls to sealingly abut said complementary ridge grooves, said collar being of sufficient hardness to facilitate formation of stable threads therein during assembly of said pipe members therewith and being adapted to accommodate frictional engagement between said lined pipe ends and said V-grooves.

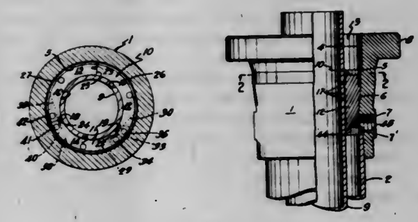
3,266,822
METAL FORMING PROCESS FOR SHAPING ENDS OF TUBES AND THE PRODUCT THEREOF
Gottlob Hinderer, Sylmar, Calif., assignor to Price-Pfister Brass Mfg. Co., Los Angeles, Calif., a corporation of California
Original application Aug. 21, 1961, Ser. No. 132,868. Divided and this application Mar. 15, 1965, Ser. No. 447,935
1 Claim. (Cl. 285—110)



In combination: a plumbing conduit part having at one end an internal tapered seat shaped substantially as a spherical zone; a tubular metal member of unitary construction having a first intermediate annular fold line, said member having a first annularly and substantially cylindrically extending band on one side of said first annular fold line that projects rearwardly in exteriorly encompassing relationship to the tubular member on the other side of said first annular fold line; said tubular member having a second annular fold line at the rearward terminus of said first annularly extending band, said tubular member having a second annularly extending band projecting forwardly in exteriorly encompassing relationship to said first annularly extending band and converging in a forward direction, said second annularly extending band terminating forwardly of said first annular fold line, said first annular fold line lying immediately behind an intermediate portion of said second annularly extending band to reinforce the same, said portion of said second annularly extending band having an outer surface shaped substantially as a spherical zone sealingly fitting said tapered seat of said first exteriorly threaded part; and a clamping part mounted on the said end of said conduit part for axial adjustment thereon and extending in encompassing relationship to said bands, said clamping part having a flange engaging said member at said second annular fold line to exert seating and sealing pressure upon said second annular band with said tapered seat of said conduit part; said metal member having characteristics of rigidity sufficient normally to maintain the said second annularly extending band in exteriorly encompassing relationship with said first annularly extending band as well as said first annularly extending band in exteriorly encompassing relationship to the tubular member on said other side of said first annular fold line.

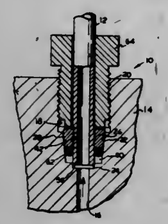
3,266,823
WELLHEAD EQUIPMENT WITH ABUTTING SLIPS
William W. Word, Jr., and Claude R. Neilon, Houston, Tex., assignors, by mesne assignments, to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Continuation of application Ser. No. 76,350, Dec. 16, 1960. This application June 21, 1965, Ser. No. 473,546
8 Claims. (Cl. 285—144)

1. In a well apparatus for supporting pipe of an outer diameter within a definite range established by manufacturing tolerance for a stated size of pipe, the combination of
a wellhead member having an upright passage through which the pipe to be supported can extend, said wellhead member having
an inwardly facing, downwardly and inwardly tapering, frusto-conical, slip-segment-supporting surface defining at least a portion of said passage; and
an annular slip assembly comprising a plurality of slip segments, each of said segments having
an inner, pipe-engaging face,
an outer face which slants downwardly toward the inner face of the segment, said outer face being of such an angle that said segments can be engaged in wedging fashion between said supporting surface and a pipe extending through said passage, and
a pair of sides spaced apart transversely of the segment;
each of said sides being provided with an abutment face and the abutment faces of each of said segments being spaced apart by an accurately predetermined distance, the ones of said abutment faces which are located on adjacent sides of adjacent ones of said segments being so disposed as to face each other when said segments are disposed with said outer faces engaging said supporting surface and like portions of said segments aligned in a common plane transverse to said passage,
said abutment faces being of limited extent axially of said slip assembly and being each located above the midpoint of said outer slanting face of the respective slip segment,



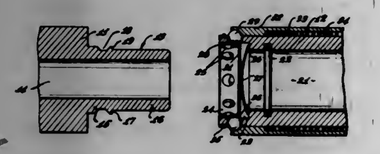
said accurately predetermined distance being such that adjacent ones of said abutment faces are spaced apart when said slip assembly occupies an upper position on said supporting surface, and a predetermined amount of downward movement of said slip assembly along said supporting surface, with attendant inward movement of said segments occurring because of the downwardly and inwardly tapering configuration of said supporting surface, will cause the adjacent pairs of said abutment faces to come into engagement with each other, such engagement then precluding further downward movement of said slip assembly relative to said support means;
the dimensions of said segments, including said accurately predetermined distance, being such that, when adjacent pairs of said abutment faces are engaged, said inner faces will embrace a pipe of any outer diameter within said range with sufficient indenture of the pipe to effect positive support of the pipe by said slip assembly;
prevention of downward movement of said slip assembly relative to said supporting surface, resulting from engagement of said abutment faces, also serving to preclude further inward movement of said segments, whereby further inward deformation of the pipe is also prevented.

3,266,824
COUPLING
Robert H. Nealy, 3 Clovis Road, East Brunswick, N.J.
Filed Feb. 4, 1965, Ser. No. 433,533
5 Claims. (Cl. 285—212)



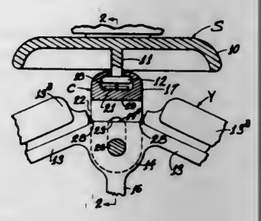
1. A coupling unit comprising a connection member having a truncated conical opening with downwardly and inwardly tapering walls therein;
a conduit concentricaly disposed within said opening to define an annulus in combination with the walls of said opening;
an annular sealing means disposed in said annulus and sealingly engaging the outer wall of said conduit, the major diameter of said sealing means when relaxed being greater than the minor diameter of said opening;
a split wedge ring disposed around said conduit in said annulus, means to cover the split in said wedge ring at least on the lower transverse surface thereof, the taper on the outer periphery of said wedge ring being no greater than the taper of the walls of the opening, the transverse thickness of said wedge ring at the lower end thereof being greater than the thickness of said annulus at the lower end thereof and at most equal to the relaxed annular thickness of said sealing means, and means to drive and retain said wedge ring in said annulus in gripping engagement with said conduit.

3,266,825
QUICK-CONNECT PIPE COUPLING
Vincent G. Magorien, Reseda, Calif., assignor to Seaton-Wilson Manufacturing Co., Burbank, Calif., a corporation of California
Filed Oct. 16, 1963, Ser. No. 316,717
4 Claims. (Cl. 285—277)



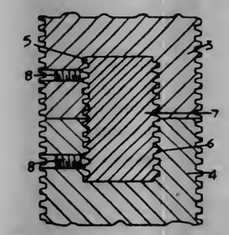
1. A quick-connect coupling comprising: a female member having substantially radial openings therein; a male member insertable in said female member to connect the coupling, said male member including an annular locking land thereon rearwardly of its forward end; locking elements in said female member openings movable substantially radially therein into inner positions interlocking with said locking land on said male member and into outer positions releasing said male member; a locking sleeve movably mounted on said female member; means biasing said locking sleeve forwardly into a locking position where it holds said locking elements in their inner positions, said sleeve being movable rearwardly to a retracted position permitting said locking elements to move to their outer positions; an annular retainer mounted in said female member so as to receive said male member therethrough, said retainer having openings therethrough through which the locking elements project into interlocking engagement with the locking land on the male member; means biasing said retainer to a forward position to hold the locking elements in their outer positions and said sleeve in retracted position; a shoulder on said retainer extending inwardly thereof; an abutment face on said male member engaging said shoulder to move said retainer rearwardly relative to the female member to position the retainer openings in substantially radial alignment with said locking elements for movement thereof into coupling locking positions; outwardly extending stop means on said retainer rearwardly of the forward end thereof and engaging said locking elements in their outer positions to limit the forward movement of the retainer with respect to the female member; and flat surfaces on the outer periphery of said retainer about the openings therethrough positioned beneath the locking elements in the forward position of the retainer to positively lock said locking elements in their outer positions and the locking sleeve in retracted position against tripping of the locking sleeve except by rearward movement of the retainer, said flat surfaces on the retainer periphery also cooperating with said locking elements to prevent rotation of the retainer to thereby radially index the openings therethrough with the locking elements.

3,266,826
CONNECTOR-YOKE ASSEMBLY FOR ELECTRICAL CABLES AND THE LIKE
Malcolm Bethea, Jr., P.O. Box 1407, Birmingham, Ala.
Filed May 7, 1964, Ser. No. 365,704
3 Claims. (Cl. 287—100)



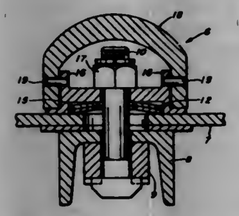
1. In a connector-yoke assembly:
(a) a connector body having a depending portion lying alongside a generally vertically extending portion of the yoke,
(b) there being a vertically elongated slot through said depending portion of the body,
(c) a pin passing freely through said slot so as to be slidable therein and through an aperture in said yoke so as to be movable with the yoke,
(d) an abutment carried by said body above said slot,
(e) a stop member carried by the upper end of said vertically extending portion of the yoke and aligned with said abutment so as to engage said abutment when the yoke is moved to its farthest uppermost position relative to said body and prevent relative rotation between the yoke and said body and in position to disengage said abutment upon downward movement of said yoke relative to said body, and
(f) means adjacent the upper end of said connector for connecting said connector to a superjacent member.

3,266,827
METHOD OF AND MEANS FOR INTERCONNECTING EXTERNALLY SCREW-THREADED SHAFTS
John Charles Frederick Whicker, Tring, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Dec. 18, 1963, Ser. No. 333,257
Claims priority, application Great Britain, Dec. 21, 1962, 48,292/62
6 Claims. (Cl. 287—127)



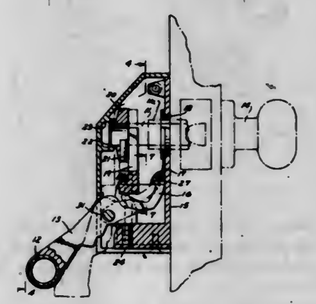
3. Means for interconnecting externally screw-threaded shafts so that a nut can run freely from one shaft to the other, comprising axially extending internal screw-threads of the same hand as the external threads and formed in the ends of the shafts with pitch of the threads equal to the pitch of the external threads on the shafts and the crests and roots of the external threads radially aligned respectively with the roots and crests of the axially extending internal threads, and an externally screw-threaded spigot engaged with the axially extending threads on both shafts, the pitch of the thread on the spigot being equal to the pitch of the threads on the shafts.

3,266,828
FASTENER ASSEMBLY FOR USE IN VIBRATORY MATERIAL HANDLING APPARATUS
Brooke R. Baier, Bellevue, Wash., assignor to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 29, 1964, Ser. No. 385,977
5 Claims. (Cl. 287—189.36)



1. In a vibratory material handling apparatus comprising a deck plate over which material is passed and a transverse frame member secured to the undersurface thereof through which vibratory motion is transmitted to the deck plate, the invention comprising a fastening device for connecting the plate to the frame member, comprising,
(a) a bolt passing through the plate and frame with its head confined against rotation in the frame and with its threaded shank projecting beyond the top of the plate,
(b) disc springs on the projecting end of the bolt,
(c) a washer over the springs having a cavity on its undersurface in which the springs are confined and compressed against the plate, the washer having a depending portion outside the springs bearing against the plate for limiting the compression under which the springs are placed, and
(d) a nut on the threaded end of the bolt adapted to jam the depending portion of the washer against the plate and to compress the springs and hold the frame member tightly clamped to the plate.

3,266,829
PANIC LOCK
Floyd W. Gasser, 22633 Lakeland Ave., and Henry F. Yoe, 21542 Share Ave., both of St. Clair Shores, Mich.
Filed Sept. 23, 1963, Ser. No. 310,642
2 Claims. (Cl. 292—92)

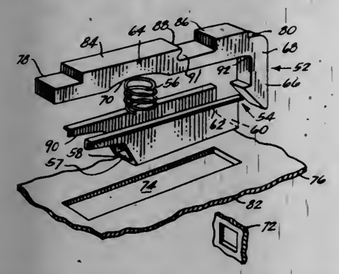


1. A panic assembly for one side of a door provided on its opposite side with a lock assembly including a latch and a rotatable spindle projecting through the door to actuate the latch upon rotation of the spindle and a knob mounted on said spindle on said opposite side of the door, comprising: a housing mounted on said one side of the door having an aperture through which said spindle projects; lifter means including a reciprocable lifter slide guidably mounted for vertical shiftable movement within said housing and a lifting lever pivotally mounted in said housing, said lever having an end portion thereof positioned below said lifter slide, said lifter slide having a U-shaped upper end with the bight of the U embracing said spindle, one of the arms of said U-shaped portion having a roller pin projecting laterally therefrom; a plate-like cam member fixed to said spindle within the housing and provided with a diametrical slot, with said roller pin engaged within said cam slot to rotate the cam and spindle upon reciprocal movement of said lifter slide; a panic bar arm pivotally mounted on said housing having a projecting nose portion engaging said pivoted lifting lever which in turn engages said lifter slide to shift the latter upon pivotal movement of said panic bar arm; a manually actuatable panic bar connected at one end to said panic bar arm and extending generally horizontally across said one side of the door spaced therefrom; and spring means operatively coupled to said lifting lever biasing the latter to a normally inoperative at rest position.

3,266,830
GENERAL PURPOSE LATCH
Walter T. Appleberry, Long Beach, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Original application Apr. 16, 1963, Ser. No. 273,474, now Patent No. 3,288,781, dated Sept. 28, 1965. Divided and this application July 6, 1965, Ser. No. 469,375
7 Claims. (Cl. 292—128)

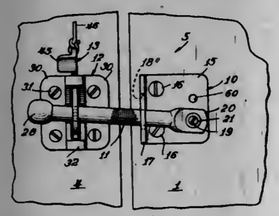
1. A latch comprising:
a channel-shaped pan having first and second open end portions;
flange means extending from the top of said pan and adapted to rest on a surface so that the bottom of the pan may be held beneath said surface;

a lever having a center portion, said center portion extending through said second open end portion of said pan between said flange means;
an elongated handle portion on said lever extending from said center portion and passing within said channel-shaped pan;
a latching portion on said lever extending from said center portion in a direction substantially perpendicular to the length of said handle portion;



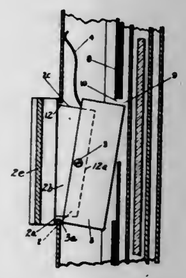
an extending portion formed on said elongated handle portion, extending beyond said first end portion of said channel shaped pan and adapted to lie beneath said surface;
a rounded surface on said center portion of said lever for allowing said lever to bear against a surface and to pivot during latching and unlatching action; and
a spring biasing means between said pan and said lever for urging said handle portion of said lever away from the bottom of said pan.

3,266,831
AUTOMATIC LATCH
George Banse, Sterling, Ill., assignor to National Manufacturing Co., Sterling, Ill., a corporation of Illinois
Continuation of application Ser. No. 238,237, Nov. 16, 1962. This application Feb. 24, 1965, Ser. No. 441,949
5 Claims. (Cl. 292—133)



1. A latch for holding a hinged gate in closed position where its free edge is adjacent a gate post, said latch comprising:
(a) a latch bar;
(b) connection means adapted to connect said latch bar to said gate so that said latch bar projects beyond said free edge;
(c) a keeper adapted to be attached to said gate post and engaged by said latch bar when said gate is in closed position;
(d) said keeper having a latching slot therein into which said latch bar is received when said gate is moved to closed position;
(e) said keeper also having at least one upwardly inclined cam portion at said latching slot and effective to engage said latch bar when said bar is positioned below said latching slot as said gate swings about its hinges toward its closed position and to pivot said latch bar in a plane parallel to said gate until said latch bar is received into said latching slot;
(f) said connection means being constructed and arranged so that said latch bar can effect pivotal movement on said gate in response to engagement of said latch bar with said inclined cam portion of said keeper as said gate swings into closed position;
(g) said keeper including a latch dog movable thereon from a first position blocking said latching slot and preventing said latching bar from moving out of said latching slot when it is received therein for holding said gate in closed position, to a second position unblocking said latching slot and permitting entry or egress of said latch bar relative to said slot for permitting said gate to move to or from closed position;
(h) said latch dog, when in its second position, having means engageable by said latch bar when the gate swings to closed position for causing said latch dog to move to its first position.
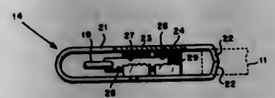
3,266,832
SLIDING CLOSURE LATCHES
Alex M. Johnston, 4802 Pinehurst, Garland, Tex.
Filed May 11, 1964, Ser. No. 366,501
3 Claims. (Cl. 292—228)



1. A device for latching together the meeting stiles of sliding closures, comprising: a handle portion and a latch bolt portion each having angularly opposed generally planar surfaces and being rigidly secured together by a portion of reduced cross-section, said portions being disposed on opposite sides of a wall of a stile, with said reduced cross-section portion disposed in a slot in said wall and said latch bolt portion extending and being spring-urged through an opposite wall of said stile for coaction with a second stile striker means, said planar surfaces extending beyond the edges of said slot at opposite ends of said slot to form a pivot at the edge of said slot where said surfaces are adjacent each other, and to form stop means opposite said pivot for confining said latch bolt portion for swinging movement between retracted and projected positions.

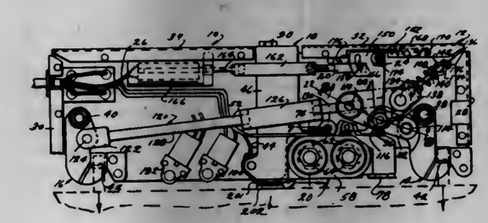
3,266,833
RELEASE MECHANISM
Harold J. Mack, Allentown, John E. Smith, Hatboro, and Donald F. Smith, Norristown, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Original application Nov. 30, 1960, Ser. No. 72,806, now Patent No. 3,196,790, dated July 27, 1965. Divided and this application May 25, 1962, Ser. No. 197,802
6 Claims. (Cl. 294—83)

1. An electrically-released clip comprising: a bifurcated member having resilient legs, the legs being turned inwardly at the open end to form a pair of opposing jaws adapted to close about a connecting member when said member is urged in the closed position, a first coupling fixed to the inner face of one of said legs and having a dowel hole extending therethrough, a second coupling fixed to the inner face of the other of said legs and having a closed-end dowel hole extending thereinto, said couplings being offset relative to each other so that the dowel holes align to form a continuous closed-end hole when said member is urged to the closed position, a dowel pin insertable in said continuous hole for maintaining said



member in the closed position, an electrically detonated charge set in the insertion end of said dowel pin and exposed to the closed end of the continuous closed-end hole, and means for selectively energizing said charge whereby said dowel pin is ejected from said dowel holes and said member springs to its normally open position and said jaws separate.

3,266,834
STORE EJECTING RACK
Bernard Lebovitz, Scottsdale, Ariz., assignor to Rocket Power, Inc., Mesa, Ariz., a corporation of Arizona
Filed Apr. 22, 1964, Ser. No. 361,800
17 Claims. (Cl. 294—83)



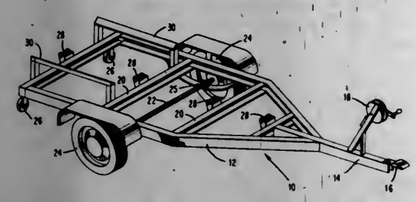
1. In a store ejecting rack comprising frame means, a pair of spaced hook members secured to said frame means for pivotal movement between a store retaining position and a store releasing position, each of said hook members having store engaging surface means disposed in horizontally offset relation with respect to its pivotal axis when disposed in said store retaining position so that the weight of the store retained thereby constitutes a force tending to effect pivotal movement of the hook member out of its store retaining position toward its store releasing position, a control linkage assembly carried by said frame means and operatively connected with said hook members for effecting movement thereof between said store retaining and store releasing positions, a breech assembly carried by said frame means for receiving ballistic charge means capable of generating gases under pressure upon ignition, an actuating member carried by said frame means in communicating relation with said breech assembly for movement in response to the generation of gases under pressure within said breech assembly into an actuating position wherein said control linkage assembly is operable to effect movement of said hook members from said store retaining position into said store releasing position, ejector means carried by said frame means in communicating relation with said breech assembly for applying an ejecting force to the store in response to the generation of gases under pressure within said breech assembly and to the movement of said hook members into said store releasing position, the improvement which comprises said control linkage assembly comprising a bell crank secured to said frame means for pivotal movement between first and second limiting positions corresponding with the store retaining and store releasing positions of said hook members, biasing means operatively connected between said bell crank and said frame means so as to apply a biasing force acting to pivot said bell crank in one direction toward said first limiting position when said bell crank is disposed between said first limiting position and a first intermediate position to pivot said bell crank in the opposite direction toward said second limiting position when said bell crank is disposed between said intermediate position and said second limiting position, stop means operatively associated with said bell crank and said frame means for preventing pivotal movement of said bell crank in said one direction beyond said first limiting position and for preventing pivotal movement of said bell crank in said opposite direction beyond said second limiting position, and link means pivotally connected between each of said hook members and said bell crank so that the force of the weight of the store acts to pivot said bell crank in said one direction into said first limiting position when said bell crank is disposed between said first limiting position and a second intermediate position and to pivot said bell crank in the opposite direction into said second limiting position when said bell crank is disposed between said second intermediate position and said second limiting position.

3,266,835
CORE BARREL LATCH AND BY-PASS ASSEMBLY
Perry B. Hall, Vancouver, British Columbia, and James W. Smyth, West Vancouver, British Columbia, Canada, assignors to Boyles Bros. Drilling Company Ltd., Vancouver, British Columbia, Canada, a corporation of British Columbia
Filed Dec. 18, 1963, Ser. No. 331,565
39 Claims. (Cl. 294—86.24)



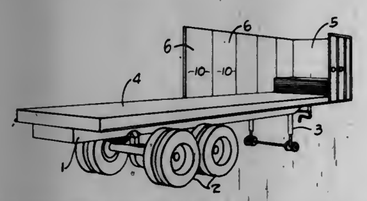
1. In a core barrel, a spearhead assembly for movement in an outer tubular arrangement comprising a sleeve adapted to move within and axially of an outer tubular arrangement, a spearhead projecting from an end of said sleeve and having a rod slidably extending longitudinally of the sleeve, a tubular spring latch completely surrounding the sleeve, and movable longitudinally thereof, said latch having spring fingers around the sleeve extending towards the spearhead end of said sleeve, and means connected to the spearhead rod and engaging the spring fingers to cause said fingers to move outwardly into locking position and inwardly to unlocking position upon movement of the spearhead inwardly and outwardly respectively relative to said sleeve.

3,266,836
MULTI-PURPOSE TRAILERS
Chester F. Taylor, Warren County, N.J. (617 Central Ave., Alpha, N.J.), and Vito Rappa, Northampton County, Pa. (128 Phillips Ave., Easton, Pa.)
Filed Apr. 30, 1964, Ser. No. 363,854
6 Claims. (Cl. 296—10)



1. In combination, a boat trailer including a frame and a pair of oppositely disposed cradles extending upward a fixed distance and affixed to said frame for supporting the sides of the bottom of a boat, said frame including a plurality of vertically oriented receiving means, a utility body having an integral base, and a plurality of vertically oriented members affixed to the underside of said base, said members adapted to engage with said receiving means, and when so engaged, extending a distance exceeding said fixed distance, whereby said trailer is adapted to carry a boat when said members are not engaged with said receiving means, and whereby said trailer is adapted for utility purposes when said members are engaged with said receiving means.

3,266,837
CONVERTIBLE VAN
Henry C. Stricker, Jr., and Gerald A. Sill, Edgerton, Wis., assignors to Highway Trailer Industries, Inc., Edgerton, Wis., a corporation of Delaware
Filed May 4, 1964, Ser. No. 364,721
8 Claims. (Cl. 296—28)



1. In body construction of the class described, in combination, a bed, means to support the bed for transport movement, a series of removable rack units extending upwardly from the bed each said rack unit including fore and aft stakes formed to mate with adjacent stakes, said units being substantially identical and having means to engage and individually interlock with the bed along the edges of the latter, and means to sealingly engage said stakes with each other.

3,266,838
AUTOMATIC LATCH MECHANISM FOR FOLDABLE CONVERTIBLE TOP
Raymond G. Heincelman, Bloomfield Hills, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 3, 1964, Ser. No. 408,596
9 Claims. (Cl. 296—121)

2. A top latching mechanism for an automotive vehicle body having a windshield mounting member supported above the body and a convertible top foldable between a lowered top opened position and a raised position closing the top with respect to a vehicle body defined passenger compartment, said mechanism including

a striker located on an upper portion of the windshield mounting member,

a top supporting frame member movable to a top closed position proximate the windshield mounting member,

latch means mounted on said top frame member and including a latch member movable between an unlatched position and a locking position latchably engaging the striker when the top is in its raised position,

means for normally retaining said latch member in its unlatched position and operable by relative top closing movement occuring between said top frame and windshield mounting members to release the latch lever for movement to its top locking position, and



motor means operably connected and conditioned by top opening movement of the top supporting frame to automatically actuate said latch member to its top locking position upon release of said retaining means as the top frame member approaches its top closed position proximate the windshield mounting member, and

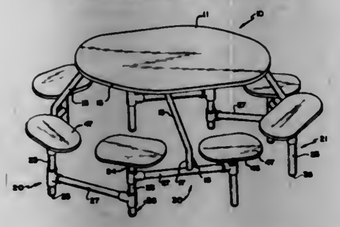
said motor means being selectively operable to return the latch member to its unlatched position thereby permitting subsequent folding movement of the top supporting frame to its opened position and again conditioning the motor means and latch member for automatic top locking action during subsequent movement of the frame member to its closed position proximate the windshield mounting member.

3,266,839
FOLDING STOOL
Otis H. Combs, 2913 NW. 26th St., Fort Worth, Tex.
Filed Aug. 24, 1964, Ser. No. 391,613
3 Claims. (Cl. 297—57)



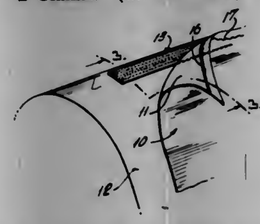
1. A folding stool comprising: a seat, a slot in said seat extending from substantially the center thereof to the seat periphery, hinges on the bottom of said seat on opposite sides of the inner end of said slot, bowed legs connected with said hinges, the arcs of said legs being arranged to nearly touch each other, a walking cane pivotally connected between said legs and extending through said slot, a slide bar across said slot at the periphery of said seat, and a stop on said cane positioned to engage said slide bar when the defined construction is in its unfolded position.

3,266,840
SEATING ARRANGEMENT
Pierre F. d'Estrubé, 3861 W. 12th Ave., Vancouver, British Columbia, Canada
Filed July 13, 1964, Ser. No. 382,050
8 Claims. (Cl. 297—157)



1. A seating arrangement comprising a table having at least four supporting legs rigidly connected thereto, a horizontally sectionalized table supporting framework adapted to be arranged around the table, each section of said framework extending between at least two of said table legs and comprising a series of horizontally spaced vertically disposed posts arranged to follow the contour of the table so that at least one of said posts of each section is not in straight-line alignment with the others in said section, each post being connected to the post adjacent by horizontal brace members, means releasably connecting the brace members of each of the sections to said two of the table legs, said legs thereby maintaining the framework in a fixed position relative to the table, a plurality of seats arranged around the table, and means connecting each of the seats to each of the posts of the framework.

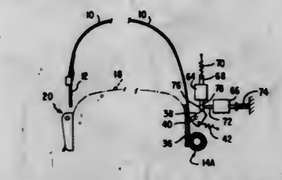
3,266,841
PROTECTIVE COVER HAVING MEANS FOR RELEASABLY SECURING IT TO A SURFACE
Gustave Altman, 570 Ocean Parkway, Brooklyn, N.Y.
Filed July 7, 1965, Ser. No. 470,183
2 Claims. (Cl. 297—220)



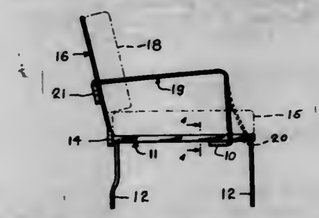
1. A cover for removable attachment to a surface having at least one strip of a material secured thereto and containing a plurality of minute hook-like means extending therefrom, said cover comprising a sheet of material and an elongated thread affixed to said sheet along at least a portion of an edge thereof, said elongated thread having a multiplicity of loosely formed loop portions extending from the axis of the thread which firmly engage said hook-like means.

3,266,842
RETRACTABLE SAFETY BELTS
Richard G. Board, Bethesda, Md. (3000 Connecticut Ave., Washington, D.C.) and Nelson H. Shapiro, Hyattsville, Md. (801 Washington Bldg., Washington, D.C.)
Filed Oct. 29, 1963, Ser. No. 319,847
9 Claims. (Cl. 297—388)

1. A retractable seat belt comprising a retraction device, a strap connected to said retraction device for extensile and retractile movement, electrically operated means for preventing said extensile movement, said strap having a fastener at a free end thereof arranged to be grasped for extending said strap to a user-restraining position, means engaging said fastener for releasably holding said fastener when said strap is in said user-restraining position, electric supply means, and means responsive to engagement of said fastener and said fastener-holding means for momentarily connecting said electrically operated means with said supply means to energize said electrically operated means and then to de-energize it as said fastener is engaged with said fastener-holding means, said electrically operated means having mechanically locking means operative after said momentary energization for maintaining said electrically operated means effective to prevent said extensile movement of said strap.



3,266,843
DEMOUNTABLE CHAIR
Seymour S. Feder, West Orange, N.J., assignor of one-half to Maurice Davis, Brooklyn, N.Y.
Filed June 14, 1965, Ser. No. 463,769
5 Claims. (Cl. 297—440)

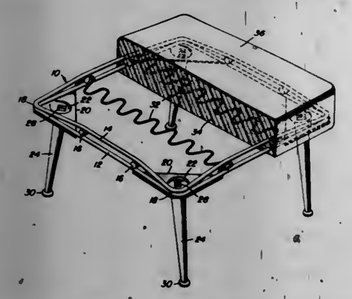


1. A demountable chair comprising:
(a) a generally horizontal seat;
(b) a plurality of legs depending from the seat;
(c) a generally upstanding back attached to the seat;
(d) a first arm-socket on the back;
(e) a second arm socket on the seat;
(f) a resiliently deformable arm having its opposite ends inserted in the first and second arm sockets;
(g) the resilience of the arm normally urging the opposite ends thereof into clinching engagement with the said sockets.

3,266,844
TRUSS CUSHION FRAME
Walter R. Amstutz, New York, N.Y., assignor to B. T. Crump Company, Inc., Richmond, Va., a corporation of Virginia
Filed May 4, 1964, Ser. No. 364,685
8 Claims. (Cl. 297—452)

1. In a cushion unit, a cushion frame comprising a main supporting structure, said supporting structure comprising a truss, at least one supporting member mounted on said structure to support said structure a predetermined distance from a surface, cushion material encapsulating said structure, whereby said supporting structure provides great strength for a cushion unit, said main structure comprising receiving means mounted on said truss member, said receiving means adapted to rigidly secure at least one supporting member, said truss member comprising at least a pair of wires and said receiving

means comprising at least one groove which engages at least one of said wires, whereby said receiving means is fitted to said truss member, said receiving means further comprising a button, said groove of said button contacting one of said wires, the other of said wires having an end



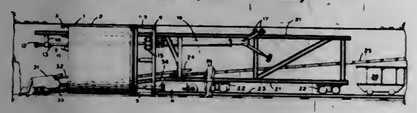
welded to the top surface of said button, said button having a threaded hole therein for securing supporting members, and a retaining member being welded to said contacting wire and further contacts said groove of said button to secure said button in a contacting position with said contacting wire.

3,266,845

CORE AND BLAST TUNNELING METHOD

Thomas N. Williamson and Erwin A. Morlan, Houston, Tex., assignors to Hughes Tool Company, Houston, Tex., a corporation of Delaware

Filed Aug. 5, 1963, Ser. No. 299,983
3 Claims. (Cl. 299—12)



1. A method of tunnel drilling in rock formations comprising a first step which includes the operation of drilling an annular kerf with a core drill which includes a barrel supporting the necessary cutting structure on its forward end, extending substantially the length of such kerf and defining an appreciable radial gap between its inner surface and the core thereby formed, and the operation of drilling at least one blast hole in the core, a second step of exploding a charge in such blast hole prior to removing the core drill from said kerf, and a third step of removing the rock fragments resulting from such explosion.

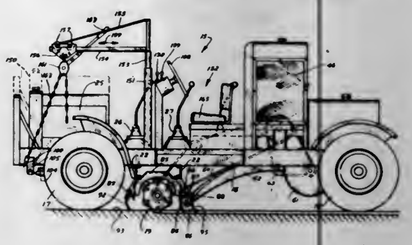
3,266,846

SURFACE CONDITIONING MACHINE

Andreas Luksch, Excelsior, and Neil F. Brown, Minneapolis, Minn., assignors to G. H. Tennant Company, Minneapolis, Minn., a corporation of Minnesota

Filed June 12, 1963, Ser. No. 287,229
9 Claims. (Cl. 299—39)

1. A surface conditioning machine comprising a vehicle, said vehicle including a frame, means on said frame for supporting it for movement longitudinally along a supporting surface to be conditioned, said supporting means including a rear axle assembly mounted to the frame and a front axle assembly directly supporting the frame, a shaft rotatably mounted on the bottom side of said frame on an axis transverse to the direction of travel of said frame, said shaft having an end portion extending transversely outwardly beyond said frame, a cutting tool assembly mounted on the outwardly extending end of said shaft, said shaft being mounted closely adjacent the front axle assembly of said frame, means for adjusting the height of said tool with respect to said supporting surface, power means for propelling said vehicle along said



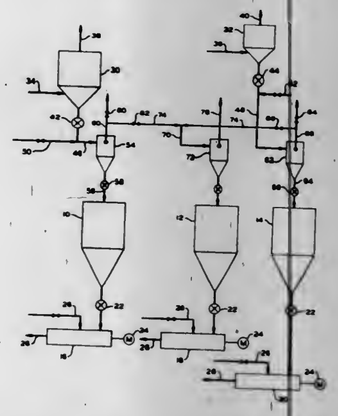
surface, means for driving said tool assembly about its axis, a power driven blower on said frame and having a discharge nozzle for directing a blast of air from said blower to the path previously cut by said tool assembly.

3,266,847

FEED CONTROL TO SURGE TANKS WITH CYCLONE SEPARATORS

Lawrence K. Murray, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Mar. 4, 1965, Ser. No. 437,176
8 Claims. (Cl. 302—17)



1. A method of feeding carbon black from a pair of bag filters into three separate surge tanks which comprises the steps of:
(a) feeding a gaseous suspension of said black from the first of said filters to a cyclone separator feeding black into the first of said tanks;
(b) feeding black from the bottom section of the cyclone separator of step (a) into said first tank at a slower rate than the feeding rate of step (a) and venting gas from the upper section of said separator;
(c) feeding a gaseous suspension of said black from the second of said filters to a cyclone separator feeding black into the second of said tanks;
(d) feeding black from the bottom section of the cyclone separator of step (c) into said second tank at a slower rate than the feeding rate of step (c) and venting gas from the upper section of said separator;

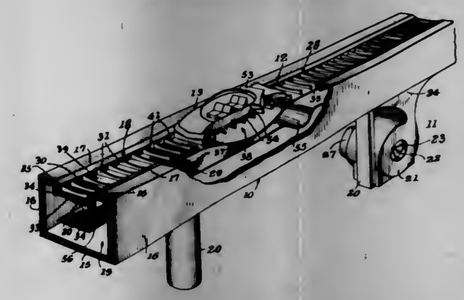
(e) feeding vent gas from the separators of steps (a) and (c) containing black in excess of the feeds to the first and second tanks into a cyclone separator feeding black into the third of said tanks and feeding black from the bottom section of said separator into said third tank; and
(f) venting substantially black-free gas from the upper section of the cyclone separator of step (e).

3,266,848

TRANSPORTATION SYSTEM WITH CONVEYOR MEANS

Alan R. Pitkanen, 11044 Strathmore Drive, Westwood, Calif.

Filed Apr. 1, 1965, Ser. No. 444,543
9 Claims. (Cl. 302—29)



1. A transportation system comprising:
(a) a longitudinal roadbed having a longitudinal passage and provided with upper, oppositely inreaching flanges that define a slot open to said passage and to atmosphere,
(b) a grating spanning across said slot and having air-passing openings,
(c) a flexible air-impervious belt beneath said flanges and grating, slack being provided in the longitudinal extent of the belt and forming an undulation therein,
(d) a slide member above said grating, and
(e) means to create air pressure in said passage which is effective to press the belt upwardly with its marginal edges at both ends of the undulation in air-sealing contact with the flanges of the roadbed,
(f) the slide member being in the path of escape of air from the passage, around the edges of the undulated portion of the belt, and through the grating to form an escaping air cushion for said slide member, said member being static due to symmetry of pressures on both sides of the undulation.

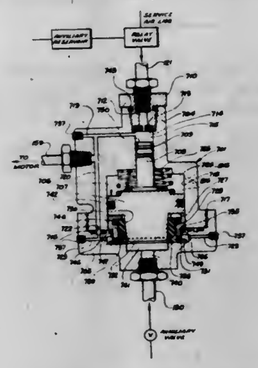
3,266,849

BRAKE SYSTEM FOR VEHICLES

Arthur B. Euga, 728½ Franklin Ave., Columbus, Ohio

Original application June 18, 1958, Ser. No. 744,038, now Patent No. 3,010,767. Divided and this application Nov. 21, 1961, Ser. No. 179,264
11 Claims. (Cl. 303—13)

1. A braking system for a vehicle comprising, in combination, a fluid motor for actuating a braking means at a wheel of said vehicle; service fluid supply means; auxiliary fluid supply means; a controller including a cylinder of small diameter pressurized by fluid from said service air fluid supply means, a cylinder of large diameter communicating with said auxiliary fluid supply means, a valve for controlling said communication, a first passage means for connecting said cylinder of small diameter with said fluid motor and a second passage means for connecting said cylinder of large diameter with said fluid motor; and piston means including a small piston in said cylinder of small diameter and a large piston in said cylinder of large diameter, said large piston being moveable between a first position wherein said large piston closes second passage means and a second position wherein said large piston



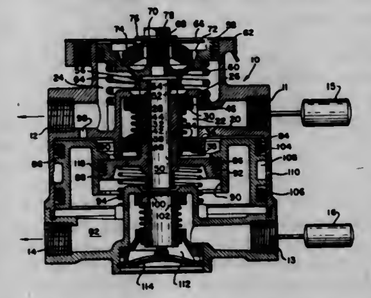
opens said second passage means, said small piston being movable between a first position wherein said first passage means is open and a second position wherein said small piston closes said first passage means.

3,266,850

BRAKE VALVE OR THE LIKE FOR TWO SEPARATE SYSTEMS

Guenter K. Herold, Elyria, Ohio, assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware

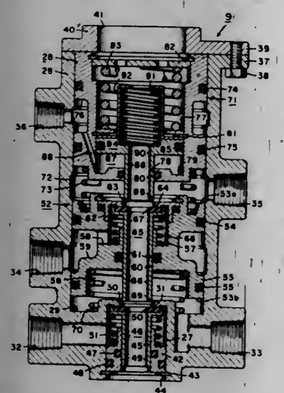
Filed Mar. 13, 1964, Ser. No. 351,642
12 Claims. (Cl. 303—52)



1. A relay valve including a valve casing having inlet, delivery and control cavities and ports, a normally closed valve element between the inlet and delivery ports, and fluid pressure responsive means for controlling said valve element in response to opposing pressures in said control and delivery cavities, said means comprising first and second cooperating parts, said first part having a first motive area exposed to the pressure in said control cavity and a second opposing annular motive area exposed to the pressure in said delivery cavity, a cylindrical passage in the center of said first part and open to said delivery cavity, said second part comprising a piston slideably received in said cylindrical passage and having a motive area exposed to the pressure in said delivery cavity, means controlled by said piston and engageable with said valve element for moving the latter to open position when said piston is moved theretowards, stop means in said cylindrical passage for limiting the movement of said piston away from the open end of said passage, resilient means normally urging said piston into engagement with said stop means whereby both of said parts are urged away from said

valve element, and manual means operatively connected to said piston for effecting movement of the latter towards said valve element independently of the first part of said pressure responsive means to effect opening of said valve element in the absence of pressure in said control cavity.

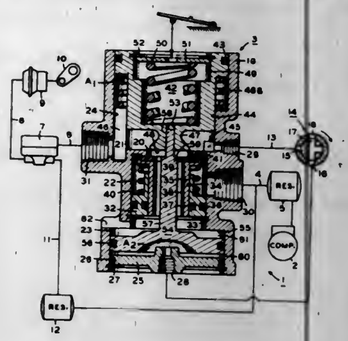
3,266,851
CONTROL VALVE AND SYSTEM
Richard C. Bueler, Glendale, Mo., assignor to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware
Filed Jan. 4, 1965, Ser. No. 423,114
33 Claims. (Cl. 303—52)



1. A control valve comprising a housing, a pair of valve control members movable in said housing and defining therewith a pair of pressure fluid flow passages, one of said valve control members including valve means controlling pressure fluid flow through one of said flow passages, other valve means controlling pressure fluid flow through the other of said flow passages, said first named valve means having an end portion for operative engagement with said other valve means, said valve control members being movable in response to an applied force to positions wherein said end portion of said first named valve means engages said other valve means and the other of said valve control members engages said first named valve means, and said first named and other valve means being thereafter movable in response to further applied force movement of said valve control members to positions in said flow passages establishing pressure fluid flow therethrough, respectively.

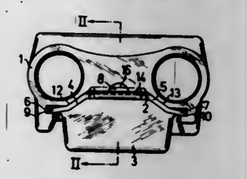
3,266,852
CONTROL VALVE
Richard C. Bueler, Glendale, Mo., assignor to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware
Filed Jan. 17, 1964, Ser. No. 338,368
13 Claims. (Cl. 303—54)

1. In a fluid pressure system having a source of fluid pressure and a fluid pressure responsive motor, a control valve comprising a housing, means within said housing including manually operated application means providing a pressure fluid flow passage between said source and motor, valve means normally urged to a closed position in said flow passage to interrupt pressure fluid flow therethrough, said application means being movable in response to a manually applied force thereon to engage and move said valve means to an open position in said flow passage to effect the application of pressure fluid flow therethrough from said source to said motor, other means adapted for engagement with said application means and defining with said housing an expansible chamber, and selectively operable means for connecting the pressure fluid flow to said



motor with said chamber, said other means being movable in response to fluid pressure in said chamber into engagement with said application means to oppose the manually applied force thereon.

3,266,853
TRACK LINK UNITS
Otto Körner, Remscheid, and Siegfried Brentzek, Wipperfurth, Germany, assignors to Firma Diehl, Remscheid, Germany, a German Kommanditgesellschaft
Filed July 28, 1964, Ser. No. 385,580
Claims priority, application Germany, Aug. 24, 1963, D 42,318
6 Claims. (Cl. 305—36)

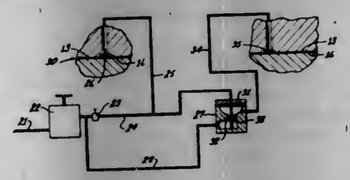


2. A track link unit comprising: a track link having grooves at opposite sides thereof and also being provided with stop means: a ground engaging member including a plate-shaped sliding part arranged in said grooves of said link and in abutment with said stop means, said plate-shaped sliding part and said track link being provided with interlocking means interlocking said ground engaging member and said track link, said interlocking means being accessible from the outside to make said interlocking means ineffective to thereby permit disengagement of said ground engaging member and said track link from each other, said interlocking means including a spring catch integral with said plate-shaped sliding part and forming a resilient tongue-shaped segment thereof slightly bent toward said track link, said interlocking means also comprising means forming part of said track link for lockingly receiving said spring catch.

3,266,854
MACHINE SYSTEM
Willis Fay Aller, Dayton, Ohio, assignor to The Sheffield Corporation, Dayton, Ohio, a corporation of Delaware
Filed Nov. 29, 1963, Ser. No. 326,822
3 Claims. (Cl. 308—5)

1. A fluid bearing support comprising,
a supporting member,
a supported member,

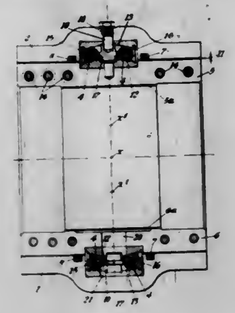
said members having cooperating opposed bearing surfaces thereon,
first fluid passage means in one of said members for supplying fluid under pressure between said opposed surfaces to each of a plurality of independent fluid bearing zones therebetween for maintaining said members in spaced relation from each other and relatively movable in a frictionless manner with respect to each other,
each of said bearing zones having fluid exhaust means to atmosphere independent of each of the other bearing zones defining the boundary of said bearing zone such that fluid flow from said first fluid passage means to each zone exerts pressure between said opposed surfaces only within that respective zone,
second fluid passage means including at least one independent sensing orifice within each zone in said one member cooperating between said members to provide a signal responsive to said spaced relation,



exhaust means in said one member exhausting to atmosphere and isolating said sensing orifice from fluid flow from said first passage means wherein said sensing orifice provides a signal directly responsive to said spaced relation of said opposed surfaces and independent of influences of flow from said first passage means,
a common fluid supply passage operatively connected to said first and second passage means,
a fluid flow control element for each of said zones,
means operatively connecting each of said control elements to said second fluid passage means and the sensor for its respective zone for response to signals provided thereby and the spaced relations of said members at said zone,
and means operatively connecting each of said control elements to said first passage means for independently controlling the fluid supplied between said opposed surfaces and the spaced relation at the respective zone in accordance with the signals provided by the respective sensor.

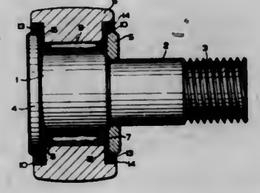
3,266,855
SELF-ALIGNING JOURNAL BEARINGS
Peter Herbert Cleff, Ainmouth, Northumberland, England, assignor to Pametrada, Wallsend, England, a corporation of Great Britain
Filed May 18, 1965, Ser. No. 456,769
Claims priority, application Great Britain, Nov. 1, 1960, 37,518/60
5 Claims. (Cl. 308—72)

1. A journal bearing comprising a bearing member, an encircling supporting member for the bearing member, said bearing member having an external annular surface which is convex in axial cross section, said support member having an internal surface opposed to said external surface, spaced therefrom, and concave in axial cross section, and at least a pair of helical springs received in the space between the said two surfaces with their axes extending in a direction circumferential of the bearing member and in engagement with the said two surfaces to support the bearing member upon the support member, the said springs being flexible to distort by rolling about their axes upon the said surfaces during relative movement of the bearing member and the support member as the bearing member moves into and out of alignment with the support member, the said surfaces being nearly



but not exactly parallel in axial cross-section, said surfaces being closer together at their axial end portions than in their centre portions to provide increasing restoring forces as the spring rolls about its axis.

3,266,856
SEALED NEEDLE ROLLER BEARING
Kurt Steinert and Rudolf Jahn, Herzogenaurach, Germany, assignors to Industriewerk Schaeffler Ohg., Herzogenaurach, Germany, a corporation of Germany
Filed Oct. 7, 1964, Ser. No. 402,143
Claims priority, application Germany, Oct. 18, 1963, J 24,588
2 Claims. (Cl. 308—187.1)

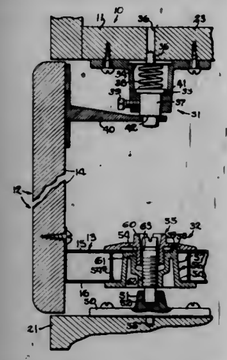


1. A sealed needle roller bearing comprising an outer race with recesses at both ends set back from the raceway surface, an inner race with collars for engaging in the said outer race recesses, a plurality of cylindrical rollers arranged and guided between the races, U-shaped cross-section sheet metal rings pressed into the open-end recesses of the outer race, whereby the limbs of the U-shaped rings are directed toward the interior of the bearing and adapted to the raceway diameter of the inner race to form sealing gaps and elastic lipped sealing means between the limbs of the U-shaped rings whose sealing lips bear against the surface of the collars on the inner race.

3,266,857
PIVOT CONSTRUCTION FOR CORNER SHELF HARDWARE
Lloyd L. Anderson, Rockford, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Illinois
Filed Sept. 2, 1964, Ser. No. 394,008
10 Claims. (Cl. 312—252)

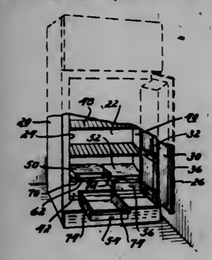
2. In a swingable cabinet assembly, the combination comprising, a frame, a hollow bracket fixed to said frame, a pivot pin slidably mounted in said bracket and extending therefrom to define an axis, a cabinet having a bearing member rotatably fitted on said pin, and a spring in said

bracket for urging said pin outwardly of said bracket, said pin having one shoulder disposed in said bracket to pre-



vent the pin from leaving the bracket and a second shoulder outside of said bracket resiliently engaging said cabinet bearing member.

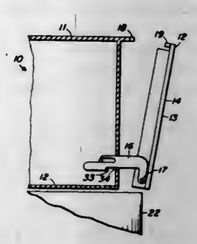
3,266,858
REFRIGERATOR CABINET STORAGE COMPARTMENT CONSTRUCTION
David R. Klotz, Livonia, Mich., assignor to American Motors Corporation, Detroit, Mich., a corporation of Maryland
Filed Mar. 12, 1964, Ser. No. 351,463
5 Claims. (Cl. 312—270)



1. In a storage compartment space, the improvement comprising:
a pair of horizontally disposed laterally extended parallel spaced guide rails,
cover members received and supported on said guide rails for lateral slide movement and each including drawer slide supports extending below the plane of said guide rails,
drawer members having drawer slide engagement with the supports of said cover members and being adapted for drawer-pull disengagement therefrom, said cover and drawer members being interchangeable,
and said cover members in combination extending between the ends of said guide rails and being laterally immobile for providing a relatively fixed storage space shelf.

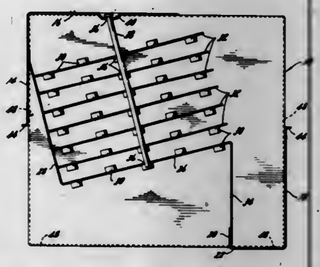
3,266,859
ONE-PIECE PLASTIC SEMI-ARTICULATED SELF-SPRING HINGE
James B. Champlin, Richardson, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 7, 1964, Ser. No. 416,359
5 Claims. (Cl. 312—323)

1. A flexible hinge comprising a cabinet and a cover member, the cabinet formed with a front wall which has a slot formed therethrough, a hinge with a first portion pivotally attached to the cover member and formed with an elongated powrtion which extends through the slot, a slot formed in the elongated portion, a retaining pin at-



tached to the cabinet and received through the slot in the elongated portion, and said hinge and door movable away from the cabinet so as to allow the door to pivot about its pivot support to a full open position.

3,266,860
STATIONERY RECEPTACLE
Donald L. Moore and Orville E. Snyder, Gallatin, Tenn., assignors to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed June 15, 1964, Ser. No. 374,975
4 Claims. (Cl. 312—350)



1. A stationery receptacle, comprising a pair of end panels, a transversely extending channel interconnecting said end panels at their lower forward ends, a cover interconnecting said end panels at their upper rearward ends, the forward edge of said cover being rearward of said channel, a support member connected to said channel and cover and having an inclined floor and back wall angling rearwardly from bottom to top, a plurality of vertically spaced planar inserts of the same size abutting the back wall of said support member, and means on said end panels for slidably supporting said inserts in parallelism with each other and said floor with the forward edge of each insert disposed forwardly of the forward edge of the next higher insert.

3,266,861
METHOD OF APPLYING AN ALKALI-EARTH METAL GETTER
Pieter Cornelis Marinus Bleukens and Jan Jacob Schuitemaker, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 11, 1963, Ser. No. 308,101
Claims priority, application Netherlands, Sept. 21, 1962, 283,516
8 Claims. (Cl. 316—16)

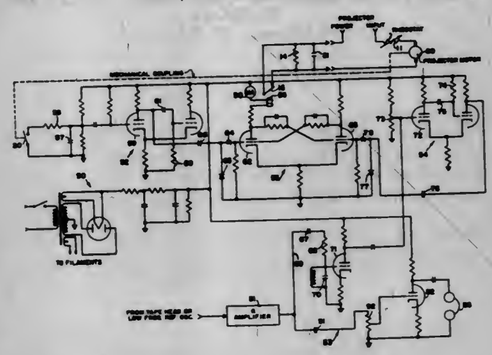
1. A method of coating the internal wall of a closed vessel with a getter layer comprising the step of heating a compound within the vessel having the formula

$$(MeO)_nXO_m$$

in which Me is a metal selected from the group consisting of Mg, Ca, Sr, Ba, and mixtures thereof, X is a metal selected from the group consisting of metals in the fifth, sixth, and seventh group of the periodic table of elements, n has a value greater than 1, and m is equal to the valence of the metal Me divided by 2, in contact with a reducing substance to a temperature at which the said compound is decomposed releasing the metal Me which is deposited on the wall of the vessel.

3,266,862
PROJECTOR SYNCHRONIZER
Robert G. Wagoner, R.R. 2, Box 108, Taunton Lake, Marion, N.J.
Filed Feb. 25, 1964, Ser. No. 347,220
8 Claims. (Cl. 352—12)

1. Apparatus for synchronizing motion-picture projection and sound reproduction, said apparatus comprising a movie projector adapted to produce a feedback signal corresponding to film speed, speed-control means associated with said projector, synchronizing means connected to said speed-control means for operating the latter, a plural-track tape recorder-reproducer having one track connected to said synchronizing means for feeding a reference signal to the latter, feed means connected between said projector and synchronizing means for feeding said feedback signal to the synchronizing means, said synchronizing means operating said speed-control means responsive to comparison of feedback and reference signals, and audio-output means connected to the other track of said recorder for reproducing sound from the latter, whereby motion-picture projection by said projector is synchronized with sound reproduced by said audio output, said speed-control



means comprising a rheostat, and said synchronizing means comprising a resistance in series with said rheostat, and a relay switch in parallel with said resistance to shunt the latter responsive to said comparison.

CHEMICAL

3,266,863
METHOD OF DECORATING POLYESTER TEXTILE FABRICS AND COMPOSITION THEREFOR
James Price, Jr., Seekonk, Mass., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio
No Drawing. Filed July 10, 1963, Ser. No. 294,189
2 Claims. (Cl. 8—44)

1. A method of decorating textile fabrics comprised of polyethylene terephthalate polyester fibers which includes the steps of (1) applying to the fabric a composition containing (a) a stabilized diazo compound, (b) an ice color coupling component, and (c) 2-methyl-2-aminopropanol, and (2) heating the fabric at 400° F.

3,266,864
SULFITED OR AMINOMETHANE SULFONATED WATER SOLUBLE DICYANODIAMIDE-FORMALDEHYDE CONDENSATE WITH WASTE SULFITE LIQUORS OR SULFONATED AROMATIC-ALDEHYDE CONDENSATE IN LEATHER PLUMPING AND PRODUCT THEREOF
Bruno Zorn, Cologne-Deutz, Gustav Mauthe, Opladen, and Wolfhard Lack, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed Feb. 7, 1962, Ser. No. 171,595
Claims priority, application Germany, Feb. 17, 1961, F 33,225
7 Claims. (Cl. 8—94.21)

1. In a process for plumping leather by treating with a condensation product selected from the group consisting of (A) water-soluble condensation product from dicyanodiamide, formaldehyde and a water-soluble salt of sulfurous acid and (B) water-soluble condensation product of dicyanodiamide, formaldehyde and a water-soluble salt of aminomethane sulfonic acid; the improvement consisting of contacting the leather with a liquor containing essentially the water-soluble condensation product in admixture with at least one component selected from the group consisting of

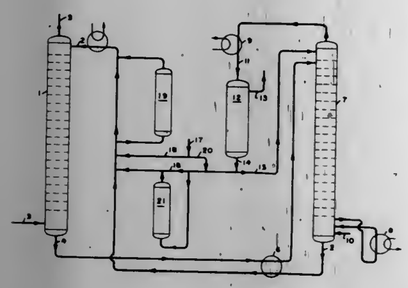
(1) sulfite waste liquor and
(2) water-soluble salt of condensation product of formaldehyde with at least one product selected from the class consisting of sulfonated phenol, sulfonated naphthol, sulfonated naphthalene, sulfonated p-p'-dihydroxydiphenyl sulfone, sulfomethylated phenol, sulfomethylated naphthol, sulfomethylated naphthalene, and sulfomethylated p-p'-dihydroxydiphenyl sulfone; said leather being maintained at a pH of less than 7 by the end of the treatment, precipitating the plumping agent in situ.

3,266,865
STRETCHABLE WOOL AND WOOL-BLEND FABRICS
Leslie A. Runton, Middle Haddam, Conn., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 26, 1962, Ser. No. 182,535
16 Claims. (Cl. 8—128)



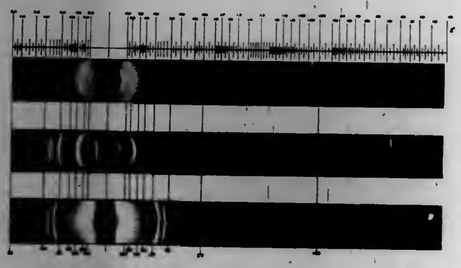
1. A fabric comprising
a set of warp yarns and
a set of weft yarns wherein
one of said sets of yarns includes wool, and
is highly crimped as it passes under and over yarns of the other set, and
is permanently set in the crimped state, the crimp being a planar crimp such that the fabric may be stretched by at least 6% and will return to its original state when the stretching force is released, said fabric having the stretch property in one direction only.

3,266,866
SELECTIVE HYDROGEN SULFIDE ABSORPTION
Adrianus P. Bally and Willem G. J. van Dijk, The Hague, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed June 7, 1962, Ser. No. 200,714
Claims priority, application Great Britain, June 27, 1961, 23,307/61
4 Claims. (Cl. 23—2)



1. A process for the selective absorption of H_2S from a normally gaseous mixture containing H_2S and CO_2 comprising:
(a) contacting said normally gaseous mixture with an aqueous absorbent solution of a dipropanolamine whereby a substantial portion of the H_2S and CO_2 are selectively absorbed therein;
(b) heating said absorbent solution containing a substantial proportion of H_2S and CO_2 to a temperature of from about 40° C. to 130° C., to partially regenerate said solution while maintaining 0.02–0.5 mole of bis(hydroxypropyl)ammonium N,N-bis(hydroxypropyl)carbamate per mole of dipropanolamine in the absorbent solution, whereby the selectivity of said absorbent solution for H_2S is increased relative to CO_2; and
(c) recycling the partially regenerated solution for the selective absorption of H_2S by contacting as in (a).

3,266,867
STANNOUS FLUOROZIRCONATE ($SnZrF_6$)
Joseph C. Muhler, Indianapolis, Ind., assignor to Indiana University Foundation, Bloomington, Ind., a corporation of Indiana
Filed June 27, 1963, Ser. No. 291,173
1 Claim. (Cl. 23—51)



Stannous fluorozirconate ($SnZrF_6$).

3,266,868
DIAGNOSTIC COMPOSITION AND TEST INDICATOR
Edward K. Harvill, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
No Drawing. Filed Jan. 24, 1962, Ser. No. 168,553
4 Claims. (Cl. 23—253)

4. A test indicator for detecting glucose which comprises a bibulous material which contains therein the dried residue resulting from deposition on said material, followed by drying, of a liquid comprising glucose oxidase, potassium iodide, sodium molybdate, 2,7-diaminofluorene, o-tolidine, and the ferric salt of ethylene diamine tetraacetic acid.

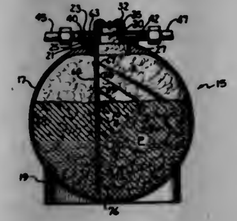
3,266,869
CARBON DIOXIDE ANALYZER
Oskar E. Dengler, 401 Williams St., New London, Conn.
Filed Sept. 30, 1963, Ser. No. 312,793
1 Claim. (Cl. 23—254)



A carbon dioxide analyzer comprising:
an outer hollow cylinder of open end construction;
an end member fitted on one of said ends of said cylinder,
said end member having an array of transverse holes communicating between the atmosphere and the interior of said cylinder;
a centrally affixed suction-actuated flexible diaphragm mounted over the interior side of said holes;
an inner hollow cylinder of open end construction one end of which is telescopically inserted into the open end of said outer cylinder;
a pressure-activated intake valve fitted within the inserted end of said inner cylinder;
a perforated cartridge containing a carbon dioxide absorbent slidably inserted into said inner cylinder;
a second end member secured over the open end of said inner cylinder,
said second end member having a plurality of exhaust orifices;
a second pressure activated flexible diaphragm fitted in said second end member and covering said open end of said inner cylinder; and
differential pressure measuring means communicating with the interior of said inner cylinder.

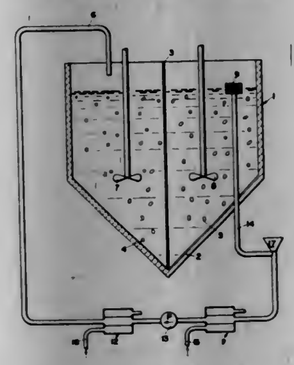
3,266,870
BYPASS CHEMICAL DISSOLVER WITH SLANTED-SLOT JET AGITATORS
Frank A. Cianfione, Jr., Waukegan, Ill., assignor to Stiles-Kem Sales Corporation, Zion, Ill., a corporation of Illinois
Filed Aug. 15, 1963, Ser. No. 302,363
1 Claim. (Cl. 23—271)

In a chemical feeder of the by-pass type, apparatus for forming a saturated chemical solution comprising a container connected into an unsaturated liquid supply system so as to receive by-pass liquid therefrom, said container having therein a supply of dry chemical having an exposed upper surface; a manifold head forming the top closure of said container and having inlet and outlet ports therein communicating with the interior of said container; means for supplying unsaturated by-pass liquid to said inlet port; a tube connected to said inlet port to receive said by-pass liquid therefrom, said tube extending downwardly from said inlet port and vertically through the body of dry chemical within said container and terminating adjacent the bottom portion of said container; said tube having a plurality of vertically spaced, downwardly slanted slots extending over the greater portion of the length thereof, the slots above the exposed upper surface of the dry chemical within said container adapted to spray said unsaturated by-pass liquid in a wide arch over a substantial portion of said exposed upper surface of said dry chemical to permit intimate contact between said liquid and said ex-



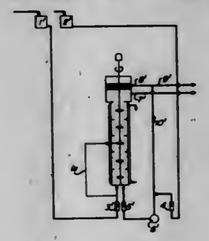
posed upper surface to form a saturated solution, successive ones of said slots being uncovered by the dissolution of the dry chemical at the exposed upper surface thereof as said by-pass liquid is sprayed thereon so that said dissolution of said dry chemical at the exposed upper surface thereof is effected regardless of the level of said dry chemical in said container, following which said saturated by-pass liquid passes out to said liquid supply system through said outlet port.

3,266,871
OPTICAL RESOLUTION OF RACEMIC SUBSTANCES
Naomasa Mizoguchi, Musashino, Minoru Hara, Kawasaki, Kenkichi Ito, Kamakura, Takekazu Akashi, Kawasaki, Ko Ohno, Setagaya-ku, Tokyo, and Jiro Kato, Ota-ku, Tokyo, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan
Filed Oct. 8, 1963, Ser. No. 314,813
Claims priority, application Japan, May 25, 1960, 35/25,271
4 Claims. (Cl. 23—273)



1. An apparaus for optically resolving a racemic substance having two corresponding enantiomorphs into the respective enantiomorphs which comprises:
(a) a container;
(b) a screen member in said container and separating the same into two compartments, said screen member being formed with perforations of predetermined size;
(c) feeding means for continuously feeding a supersaturated solution of said racemic substance to said container;
(d) overflow means on said container for discharging said solution therefrom;
(e) a supply of crystal seeds of one of said enantiomorphs in one of said compartments and a supply of crystal seeds of the other enantiomorph in the other compartment, said crystal seeds being of a size sufficient to prevent passage thereof through the perforations of said screen member;
(f) stirring means in each of said compartments for stirring the solution fed to said container at a rate sufficient to substantially uniformly suspend said crystal seeds in the corresponding compartments and to uniformly mix the two portions of said solution in said compartments; and
(g) retaining means at said overflow means for retaining said crystal seeds in said container while permitting overflow of said solution.

3,266,872
REACTION AND SEPARATION APPARATUS
Shinichiro Terao, Ashiya-shi, and Tadashi Hinago, Ota-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Higashi-ku, Osaka, Japan, a corporation of Japan
Original application Apr. 13, 1962, Ser. No. 187,248, now Patent No. 3,160,669, dated Dec. 8, 1964. Divided and this application Apr. 16, 1963, Ser. No. 273,326
2 Claims. (Cl. 23—285)

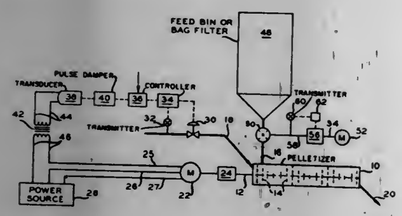


1. An apparatus for the continuous nitration of aromatic compounds, which comprises a reactor sectioned into a plurality of compartments by baffle plates, an inlet for charging an aromatic compound at one end of said reactor, an inlet for charging a mixed acid at said end of said reactor, at least one additional inlet for charging mixed acid to another compartment of said reactor, agitating means provided in each of said compartments, cooling means to adjust the temperature of said reactor, a separator connected to the other end of said reactor wherein the product is separated into two layers, outlet means for separately withdrawing each of said layers, and means to circulate a portion of the lighter of the two product layers to said inlet for charging mixed acid.

3,266,873
CARBON BLACK PELLETING BY CONTROLLING POWER TO THE PELLETIZER MOTOR
Carl E. Alleman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 1, 1963, Ser. No. 269,248
17 Claims. (Cl. 23—314)

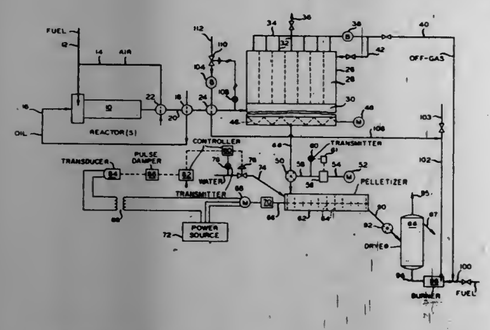
1. In the process of wet pelleting carbon black comprising feeding said black and aqueous liquid at feed rates to provide a liquid concentration in the range of about 42 to 58 weight percent of the feed suitable for forming good pellets to a rotatable pelletizer-mixer rotating at a speed which forms wet pellets, the improvement comprising sensing the power (as a standard) required to rotate said pelletizer-mixer under good pelleting

conditions and regulating the black and liquid feed rates so as to maintain said power relatively constant by increasing the liquid concentration in the black in said



pelletizer-mixer when said power falls below and decreasing said concentration when said power rises above the standard value.

3,266,874
AGGLOMERATING CARBON BLACK BY MAINTAINING CONSTANT PELLETIZER MOTOR POWER REQUIREMENT
Carl E. Alleman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 2, 1963, Ser. No. 270,060
4 Claims. (Cl. 23—314)



1. A plant for producing pelleted carbon black comprising in combination

(1) reactor means for producing a stream of smoke containing carbon black;

(2) an effluent line from said reactor passing thru indirect heat exchange means directly to a bag filter having a lower compartment for smoke distribution and carbon black reception, an upper compartment for filter bags opening into said lower compartment, effluent conduit means from said upper compartment for off-gas, a carbon black delivery line connected with the bottom of said lower compartment, and conveyor means in the bottom of said lower compartment for moving black to said delivery line;

(3) a pug mill type pelletizer in said delivery line having an inlet water line, an effluent pellet line, an axial shaft with radial pins thereon for agitating black therein and an electric motor rotatably connected with said shaft;

(4) flow control means in said delivery line for controlling the flow of black directly from said lower compartment to said pelletizer;

(5) valve means in said water line for controlling the flow of water to said pelletizer;

(6) an electric power source in circuit with said motor;

(7) first means connected with said circuit for sensing the power required to operate said motor and translating same into a pneumatic signal proportional thereto;

(8) second means for sensing one of the flow rate of said water thru said valve and said black thru said flow control means while maintaining the other flow rate relatively constant, and emitting a pneumatic signal proportional thereto;

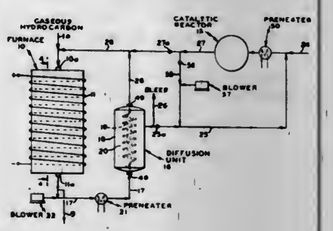
(9) third means for maintaining the other of said flow rate of said water and said black relatively constant;

(10) fourth means for receiving the signals from said first means and said second means and controlling flow thru said one of said valve means in said water line and said flow control means in said delivery line in response thereto for increasing water concentration in the pelleter of (1) when the current falls below a normal value and decreasing said water concentration when the current exceeds said value so as to maintain the power requirement of said motor relatively constant;

(11) a dryer connected directly with said effluent pellet line, said dryer including burner means for supplying hot drying gas, and

(12) conduit means for passing air thru the indirect heat exchange means of (2) to heat said air and to pass same to the burner means of (11).

3,266,875
PRODUCTION OF METAL-CARBON COMPOUNDS
Philip L. Romeo, Old Bridge, N.J., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed Oct. 25, 1962, Ser. No. 232,947
5 Claims. (Cl. 23—349)



1. A process for the production of a metal carbide comprising:

(a) mixing incoming hydrocarbon gas containing impurities with hydrogen obtained from hereafter recited step (i),

(b) passing the hydrogen-hydrocarbon gas mixture into a first reaction zone into contact with a platinum group metal catalyst at reaction temperature,

(c) withdrawing purified hydrocarbon gas from the said first reaction zone,

(d) passing the purified hydrocarbon gas into contact with a metal from the group consisting of uranium and metals of Groups VB and VIB of the Periodic Table in a second reaction zone at a temperature of at least about 750° C. to form the metal carbide and gaseous by-products including hydrogen and unreacted hydrocarbon gas,

(e) withdrawing the gaseous by-products from the second reaction zone,

(f) separating substantially pure hydrogen from the other constituents of the withdrawn gaseous by-products by selective diffusion of the hydrogen through the lattice of a substantially non-porous barrier of a material through which hydrogen diffuses to the exclusion of the other gaseous constituents thereof,

(g) withdrawing the said substantially pure hydrogen from a diffusion side of said barrier,

(h) bleeding off a major portion of the withdrawn hydrogen,

(i) passing the remaining hydrogen from the diffusion side of said barrier into admixture with the hydrocarbon gas recited in step (a).

3,266,876
FERROUS WELD DEPOSIT AND STRUCTURE
William T. De Long, West Manchester Township, York County, and Edwin R. Szumachowski, Springettsbury Township, York County, Pa., assignors to The McKay Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed July 9, 1964, Ser. No. 381,574
4 Claims. (Cl. 29—196.1)

1. A ferrous weld deposit possessed of good notch toughness and high tensile strength at −320° F. having substantially the following composition:

	Percent
C	0.40–1.00
Mn	9.5–31
Ni	2.5–35
Cr	0–8.0
Mo	0–4.0

in which

$$\text{Percent Mn}+(\text{percent Ni}-2.5)+(\tfrac{1}{2}\times\text{percent Cr})\geqq 17.4$$

and

$$\text{Percent Mn}+(2\times\text{percent Cr})+(4\times\text{percent Mo})+(30\times\text{percent C})\geqq 46.6$$

3,266,877
FUEL COMPOSITIONS
William A. Barr, Brookside, Newark, and James L. Hall, Mount Cuba, Del., assignors to Atlas Chemical Industries, Inc., a corporation of Delaware
No Drawing. Filed Sept. 8, 1958, Ser. No. 759,429
19 Claims. (Cl. 44—63)

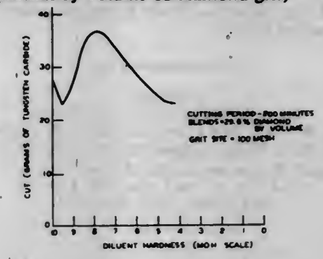
1. A fuel having a resistivity of less than about 1×10^{11} ohm-centimeters comprising a liquid hydrocarbon which forms an equilibrium explosive mixture with air at a temperature between −20° F. and 210° F., said hydrocarbon having a Reid vapor pressure from about 0.1 to about 15 pounds per square inch, and from 0.0005 to 2.0 weight percent of an anti-static additive selected from the group consisting of an amide of a C_{12} to C_{26} aliphatic monocarboxylic acid and a primary hydroxy hexityl amine, an amide-ester of a C_{12} to C_{26} aliphatic monocarboxylic acid and a primary hydroxy hexityl amine, an amide of a C_{12} to C_{26} aliphatic monocarboxylic acid and a secondary hydroxy hexityl amine, an amide-ester of a C_{12} to C_{26} aliphatic monocarboxylic acid and a secondary hydroxy hexityl amine, and an ester of a C_{12} to C_{26} aliphatic monocarboxylic acid and a tertiary hydroxy hexityl amine.

2. The fuel composition of claim 1 in which the secondary hydroxy hexityl amine is a cyclized hexityl amine.

3,266,878
COATED ABRASIVES
William F. Timmer, Cohoes, and Nolan A. Curry, Troy, N.Y., assignors to Norton Company, Troy, N.Y., a corporation of Massachusetts
Filed July 23, 1962, Ser. No. 211,770
7 Claims. (Cl. 51—298)

1. In a coated abrasive product having a backing member and at least one coat of adhesive bonding an abrasive grain layer firmly thereto, the improvement which comprises:

(a) An abrasive grain layer containing a substantial proportion by volume of diamond grit,

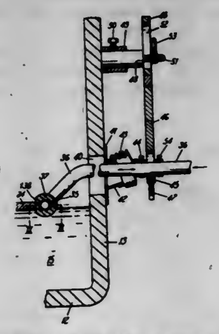


(b) And the balance by volume consisting essentially of a diluent grain having a Moh hardness of from 4.0 to 8.5.

3,266,879
PROCESS OF MAKING A CRYSTALLIZABLE GLASS MATERIAL
Karl Kristian Kobs Krøyer, Vester Kongevej 80, Aarhus-Viby, Denmark
Filed Oct. 21, 1963, Ser. No. 317,691
Claims priority, application Denmark, Oct. 23, 1962, 4,559/62
7 Claims. (Cl. 65—21)

4. A process of producing an aggregate for road construction materials, comprising the steps of continuously supplying raw materials suitable for forming a crystallizable glass material partly at the upper end of an inclined rotary kiln, partly by continuous injection from the lower end of said rotary kiln in the form of a blast whereby a substantial part of said injected raw material is distributed over the whole of the burning zone of said rotary kiln, causing the molten material thus formed to flow off from the lower end of said rotary kiln, subjecting said molten material to sudden cooling to granulate same, and reheating said granulated material to devitrify same.

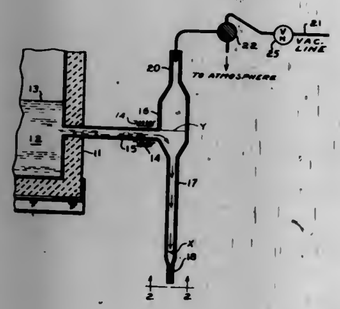
3,266,880
MANUFACTURE OF FLAT GLASS
Lionel A. B. Pilkington, Rainhill, England, assignor to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain
Filed Mar. 26, 1962, Ser. No. 182,479
Claims priority, application Great Britain, Mar. 29, 1961, 11,588/61
6 Claims. (Cl. 65—99)



1. A method of producing flat glass in ribbon form, comprising establishing a buoyant layer of molten glass on a bath of molten metal while confining said layer between non-wettable surfaces extending along said bath

and in non-wetting contact with the edges of the glass, advancing the buoyant layer along the bath while maintaining said non-wettable confining edge contact with said surfaces, and then cooling the layer sufficiently to enable it to be taken in ribbon form unharmed from the bath of molten metal.

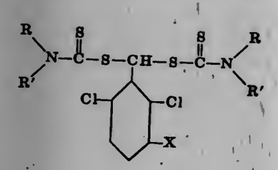
3,266,881
GLASS DELIVERY METHOD
Theodore Novack, Big Flats, and Leon R. Schlotzhauer, Painted Post, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Oct. 9, 1962, Ser. No. 229,438
10 Claims. (Cl. 65—130)



1. A method of feeding a liquid from a supply body which comprises, continuously feeding a stream of such liquid from below the surface of the supply body to a substantially vertical delivery conduit intermediate its ends, forming a head of such liquid adjacent a lower delivery end of such conduit, applying a constant desired degree of vacuum to such conduit to maintain a predetermined pressure differential between the ends of such supply stream and control the rate of flow thereof, and flowing the supply stream into such delivery conduit at a desired rate to maintain a predetermined head of such liquid within the delivery conduit, thereby effecting a uniform desired rate of flow through the delivery end.

3,266,882
HERBICIDAL COMPOSITIONS AND THEIR USE
Marcel A. Gradsten, Demarest, N.J., assignor to Tenneco Chemicals, Inc., a corporation of Delaware
No Drawing. Filed Sept. 20, 1965, Ser. No. 488,783
7 Claims. (Cl. 71—2.3)

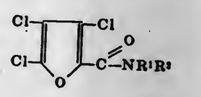
1. The method for the control of plant growth which comprises applying to a medium normally supporting plant growth a phytotoxic amount of a compound having the structure



wherein X represents a member selected from the group consisting of hydrogen and chlorine and R and R′ each represents an alkyl group having from 1 to 4 carbon atoms.

3,266,883
HERBICIDAL METHOD
Edward Leon, Tonawanda, Edward D. Weil, Lewiston, and Jerome Linder, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Original application June 2, 1961, Ser. No. 114,321, now Patent No. 3,158,624, dated Nov. 24, 1964. Divided and this application Nov. 23, 1964, Ser. No. 413,302
13 Claims. (Cl. 71—2.5)

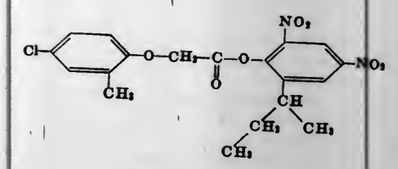
1. A method of controlling undesirable plant growth comprising applying a phytotoxic amount of a composition selected from the group consisting of trichloro-2-furamide and compositions of the structure:



wherein R^1 and R^2 are selected from the group consisting of monovalent radicals including lower alkyl of from 1 to 18 carbon atoms, lower cycloalkyl, phenyl, naphthyl, furfuryl, pyridyl, lower alkylpyridyl, chlorinated alkyl, hydroxyalkyl, alkenyl, benzyl, chlorinated phenyl, nitrophenyl, carboxyphenyl and lower alkylphenyl and, when conjoined, form divalent radicals with nitrogen including piperidinyl, morpholinyl, thiomorpholinyl, N-lower-alkylpiperazinyl, N-phenylpiperazinyl, pyrrolidinyl, and piperazinyl.

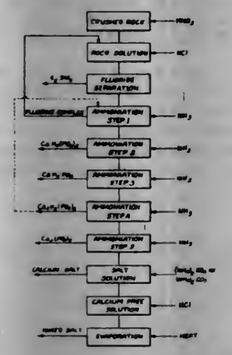
3,266,884
DINITROPHENYL COMPOUND HAVING HERBICIDAL PROPERTIES AND METHOD OF USING THE SAME
Krijn van den Boogaart, Vlaardingen, Netherlands, assignor to Fabriek van Chemische Producten Vondelingenplaat N.V., Rotterdam, Netherlands, a Dutch corporation
No Drawing. Filed Jan. 3, 1963, Ser. No. 249,111
Claims priority, application Great Britain, Jan. 8, 1962, 707/62
2 Claims. (Cl. 71—2.6)

2. The method of destroying growing plants which comprises applying to said plants an herbicidal amount of composition containing as the essential active ingredient the compound of the formula



3,266,885
METHOD OF RECOVERING PHOSPHATIC VALUES FROM PHOSPHATE ROCK
Paul Caldwell, 9414 Clifton Park Ave., Evergreen Park, Ill.
Filed Apr. 23, 1963, Ser. No. 275,150
16 Claims. (Cl. 71—39)

4. The method of recovering phosphatic values from phosphate rock which comprises digesting said rock with an inorganic nitrogenous acid, treating the resultant acid solution to substantially reduce the fluorine content thereof, ammoniating the acid solution to form an insoluble calcium-iron-phosphate-fluoride complex, recovering said complex, further ammoniating the acid solution to an extent that a dicalcium phosphate precipitate is formed, recovering the dicalcium phosphate precipitate formed,



and treating the acid solution to recover calcium and nitrogen values therefrom.

3,266,886
PHOSPHO-SILICATE AGGLOMERATION OF NON-NITROGENOUS FERTILIZERS AND RESULTANT PRODUCT
Arthur B. Middleton, Haddonfield, N.J., assignor to Philadelphia Quartz Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 16, 1963, Ser. No. 295,437
12 Claims. (Cl. 71—64)

1. A process for the agglomeration of fertilizer particles containing phosphate components, potash components and non-nitrogen components which comprises:
(a) wetting said fertilizer particles containing phosphate components, potash components and non-nitrogen components with a soluble alkaline silicate solution,
(b) treating the wetted particles with phosphoric acid,
(c) drying the thus treated fertilizer to a water content of about 0.5 to 5.0% and
(d) recovering a fertilizer product which has a screen cumulative percent no lower than about 90% on 35 mesh and no more than 15% on 6 mesh.

11. A fertilizer product having a water content of between 0.5 and 5.0%, a screen cumulative percent of no lower than about 90% on 35 mesh and no more than 15% on 6 mesh, and consisting of fertilizer particles agglomerated together by phospho-silicate bonds consisting of the reaction product of a soluble alkaline silicate and phosphoric acid, said fertilizer particles containing phosphate components, potash components and substantially free of nitrogen components.

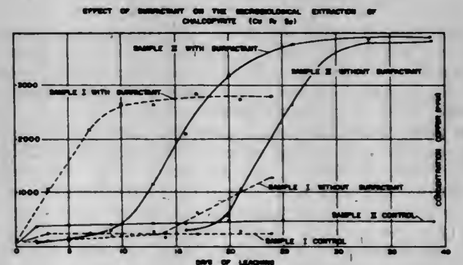
3,266,887
ORE PELLETIZATION PROCESS AND PRODUCTS
Walter E. Kramer, Niles, and Louis A. Goretta, Naperville, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Oct. 29, 1962, Ser. No. 233,948
19 Claims. (Cl. 75—3)

1. In a method of producing improved metallic mineral pellets which comprises the steps of comminution of a mineral ore to particulate state, concentrating the valued mineral constituent thereof to an increased purity, treating said mineral to obtain a wetted particulate mass, pelletizing said mass to form integral units and firing said formed pellet units to a hardened state; the improvement which comprises the step of adding to said wetted mass prior to pelletization at least a binding amount of an amine humate salt whereupon pellets are produced having increased strength and cohesiveness.

3,266,888
PROCESS FOR ABSORBING SOLUBILIZED SILICA FROM ACIDIC AQUEOUS MEDIA WITH AN ORGANIC COMPOUND CONTAINING A POLY(ALKYLENE OXIDE) STRUCTURE
Mayer B. Goren, Golden, Colo., assignor to Kerr-McGee Oil Industries, Inc., a corporation of Delaware
No Drawing. Filed July 19, 1963, Ser. No. 296,381
23 Claims. (Cl. 75—97)

1. A process for reducing the solubilized silica content of an acidic aqueous medium comprising
intimately contacting the aqueous medium with a solid water insoluble organic compound containing a poly (alkylene oxide) structure to adsorb solubilized silica,
the aqueous medium containing solubilized silica which is precipitable with egg albumen and the organic compound being an adsorbent for the precipitable solubilized silica.

3,266,889
METHOD OF EXTRACTING METALS FROM SULFIDE ORES USING BACTERIA AND AN ACCELERATING AGENT
Douglas W. Duncan and Carol J. Teather, Vancouver, British Columbia, Canada, assignors to British Columbia Research Council, Vancouver, British Columbia, Canada
Filed Apr. 7, 1964, Ser. No. 357,997
8 Claims. (Cl. 75—101)



3. The method of extracting metals in a soluble state from naturally-occurring sulfide ores, which consists of exposing sulfide ore to an aqueous leaching medium for metallic sulfides containing sulphide-oxidizing bacteria and a sub-inhibitory concentration of a surfactant selected from the group consisting of polyoxyethylene sorbitan monolaurate, polyoxyethylene sorbitan monopalmitate, polyoxyethylene sorbitan monostearate, polyoxyethylene sorbitan monooleate, imidazoline cationic quaternary, phenylisooctyl polyethoxy ethanol, nonyl phenoxy polyethoxy ethanol, methyldodecylbenzyl trimethyl ammonium chloride and bis (trimethyl ammonium chloride) methyldodecyl xylene, sodium octyl sulfonate, and amino-fatty acid derivative.

3,266,890
STRUCTURAL, HIGH STRENGTH URANIUM ALLOYS
Jacob Greenspan, Newton, and Fortunato J. Rizzitano, Needham, Mass., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Mar. 23, 1964, Ser. No. 354,180
4 Claims. (Cl. 75—122.7)

1. An alloy with a composition consisting of 93.5% to 96.5% by weight of uranium, .75–2.0% molybdenum, .75–2.0% of columbium, .75–2.0% of zirconium and .25–.50% of titanium.

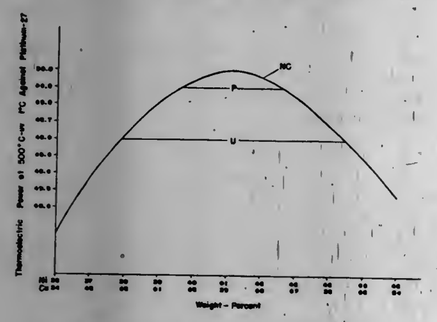
4. An alloy with a composition consisting of 93.5% by weight of uranium, 1.75–2.25% each of molybdenum, columbium, zirconium and .25–.50% titanium and exhibit-

ing in as solutionized condition maximum mechanical properties of ductility and impact resistance.

3,266,891
COPPER-NICKEL THERMOCOUPLE ALLOYS

Donald I. Finch, Northwoods, and Edward Korostoff, Philadelphia, Pa., and Daniel D. Pollock, Pacific Palisades, Calif., assignors to Leeds and Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 810,610, May 4, 1959. This application Oct. 21, 1963, Ser. No. 318,148
3 Claims. (Cl. 75—159)



1. A thermocouple element consisting of an alloy essentially comprising a copper-nickel base whose copper-nickel ratio is within the range 62% copper/38% nickel to 56% copper/44% nickel, having a stable voltage/temperature characteristic over the temperature range of from 0° C. to 900° C. which differs from that of the copper-nickel base to an extent predetermined by inclusion in the alloy of the additional elements including aluminum up to 4% and having an effect per percent of 2700 microvolts at 500° C., for enhancement of corrosion-resistance and change of slope of the voltage/temperature characteristic without substantial alteration of curvature of that characteristic of the copper-nickel base, and including cobalt up to 2% and having an effect per percent of 2750 microvolts at 500° C. to change the slope and to provide negative correction of the curvature below 400° C. and above 600° C. of the voltage/temperature characteristic of the copper-nickel base and at least one element from the group consisting of iron, manganese, silicon, titanium and vanadium to change the slope and to provide positive correction of the curvature of the voltage/temperature characteristic of the copper-nickel base, said additional elements being present entirely in solid solution and not in excess of limits of solid solubility to the substantial exclusion of the formation of any of said additional elements into intergranular segregates, and having the below-specified effect per percent of element in microvolts at 500° C., said aluminum being present in an amount sufficiently effective to increase the corrosion-resistance of said alloy and said cobalt and said at least one other element being present in amount sufficiently effective to make the voltage/temperature characteristic of said thermocouple element with respect to platinum less negative to a predetermined extent from that of the copper-nickel base:

Element	Effect per percent of element [1] in microvolts at 500° C.	Ppercent Limit of Solid [1] Solubility
Iron	6820	2
Manganese	1900	15
Silicon	5530	4
Titanium	5960	2
Vanadium	11,400	1

[1] First order approximation.

3,266,892
COLUMBIUM-HAFNIUM BASE ALLOYS WITH YTTRIUM ADDITION

Samuel A. Worcester, 405 Alderbrook Ave., Salem, Oreg.; Ronald T. Torgerson, 638 SW. 144th, Seattle, Wash.; and Willi A. Baginski, 16034 NE. 2nd Ave., Bellevue, Wash.

No Drawing. Filed Jan. 4, 1965, Ser. No. 423,375
2 Claims. (Cl. 75—174)

1. A columbium-hafnium base alloy of the solid solution type, consisting essentially of 9–11% by weight hafnium, 9–11% by weight tungsten, 0.05–0.3% by weight yttrium, and the balance essentially columbium.

3,266,893
METHOD FOR MANUFACTURING POROUS SINTERABLE ARTICLES

Joseph C. Duddy, Trevose, Pa., assignor to The Electric Storage Battery Company, a corporation of New Jersey

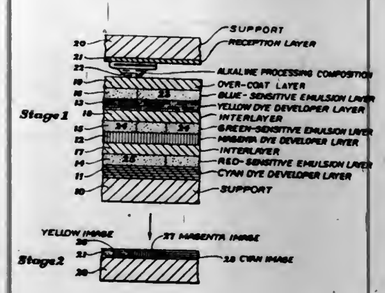
No Drawing. Continuation of application Ser. No. 210,187, July 16, 1962. This application June 17, 1965, Ser. No. 464,838
16 Claims. (Cl. 75—222)

1. A method of making electrodes which comprises the steps of intimately and homogeneously mixing a plasticized first insoluble thermoplastic resin, a plasticized second thermoplastic resin substantially insoluble in said first thermoplastic resin and a sinterable metallic electrode material in powdered form to produce a plasticized mass, said first thermoplastic resin being volatile at a temperature at or below the sintering temperature of said electrode material, both of said resins having substantially similar physical properties in the plastic state, shaping said mass, subjecting said shaped mass to a solvent in which said first thermoplastic resin and said electrode material are insoluble and in which said second thermoplastic resin soluble to substantially remove from said shaped mass said second thermoplastic resin to render said shaped mass porous and incrementally heating said porous shaped mass to volatilize in fractions said first thermoplastic resin in such a manner as to avoid disruptive combustion of said first thermoplastic resin and to sinter said electrode material.

3,266,894
PHOTOGRAPHIC IMAGE TRANSFER SYSTEMS UTILIZING PROCESSING COMPOSITIONS CONTAINING HIGH VISCOSITY HYDROXYETHYL CELLULOSE

Walter J. Weyerts and Wilho M. Salminen, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Apr. 22, 1964, Ser. No. 361,781
14 Claims. (Cl. 96—3)



5. In the processing of an exposed photographic element comprising a support, superposed red, green and blue light-sensitive silver halide emulsion layers, and a dye developer which is both a silver halide developing agent and a dye contiguous to the silver halide of each of said silver halide emulsion layers, said processing being effected by treating said photographic element with an alkaline liquid, developing latent images in the regions of exposure of said silver halide emulsion layers and thereby immobilizing dye developers in said regions of exposure, dye developers in undeveloped regions diffusing imagewise to the surface of said photographic element, and transferring the resulting diffused images from said undeveloped regions in register to a dye developer receiving sheet superposed on said photographic element, the improvement which comprises utilizing in said alkaline liquid as a thickening agent hydroxyethyl cellulose having a viscosity of more than about 10,000 cps. in 2% solution in water at 25° C.

3,266,895
METHOD FOR PROCESSING MULTILAYER COLOR FILM

Philip E. Perkins and Herbert L. Rees, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 14, 1963, Ser. No. 323,586
21 Claims. (Cl. 96—22)

1. In the reversal process of producing a color record in a photoexposed photographic element having on a support a plurality of silver halide emulsion layers sensitive to different regions of the visible spectrum, said reversal process including the steps of producing a negative silver image in at least one of said emulsion layers by development in a black-and-white photographic developer, followed by at least one reversal re-exposure of previously unexposed silver halide and developing in a photographic color developer in the presence of a color-forming coupler, the improvement comprising after said re-exposure and development in a color developer, the step of eliminating a last reversal re-exposure by imbibing in said photographic element an aqueous solution containing a boron compound nucleating agent selected from the class consisting of alkali metal borohydrides, borazines, amine boranes, hydrazine boranes, phosphine boranes, arsine boranes, and stibine boranes, and a 1,4-dihydroxybenzene developing agent which contains a side chain containing at least 4 carbon atoms, said 1,4-dihydroxybenzene compound being rendered non-diffusible by said side chain and thereby being confined substantially to the outermost of said emulsion layers with respect to said support, said boron compound nucleating agent nucleating substantially all previously unexposed silver halide and said 1,4-dihydroxybenzene compound developing to metallic silver substantially only the previously unexposed silver halide in said outermost emulsion layer.

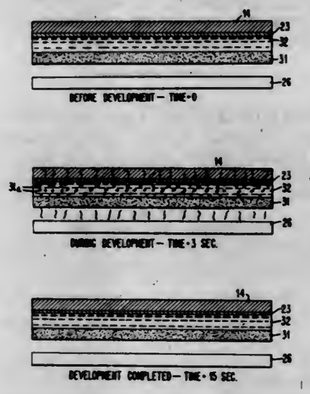
3,266,896
DIAZO DEVELOPMENT PROCESS

Claude M. Aebi, Endicott, and Bruce E. Forsyth, Vestal, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Sept. 20, 1962, Ser. No. 224,923
4 Claims. (Cl. 96—49)

1. A method for developing diazotype prints by ammonia gas which comprises:

arranging a diazotype printing carrier in the vicinity of an inert fluid having immersed therein a decomposable ammonia compound; said inert fluid being non-reactive with said ammonia compound and having a viscosity of over 100 centipoises to provide a control barrier for ammonia gas; and heating the assembly at an elevated temperature for a predetermined length of time to cause liberated



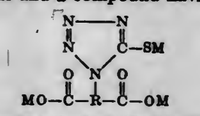
ammonia to bubble through the inert fluid to rapidly develop the print.

3,266,897
ANTIFOGGANT AGENTS FOR PHOTOGRAPHY

Kenneth C. Kennard, Needham, Mass., and Daniel F. Reardon, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

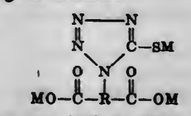
No Drawing. Filed Mar. 2, 1964, Ser. No. 348,816
18 Claims. (Cl. 96—61)

1. A light-sensitive photographic emulsion comprising silver halide grains and a compound having the formula:



wherein R represents a hydrocarbon and M represents a member selected from the class consisting of the hydrogen atom, an alkali metal atom, and the NH_4— group.

15. A photographic developer composition comprising water, an alkali, a silver halide developing agent and a compound having the formula:



wherein R represents a hydrocarbon and M represents a member selected from the class consisting of the hydrogen atom, an alkali metal atom, and the NH_4— group.

3,266,898
PRE-DEVELOPMENT LATENSIFICATION USING POLYALKYLENE AMINES

Marilyn Levy, Red Bank, N.J., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Oct. 20, 1961, Ser. No. 146,663
6 Claims. (Cl. 96—65)

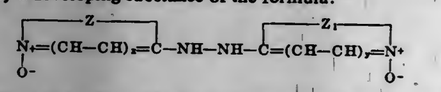
1. A method of processing silver halide photographic emulsions to increase their effective speed comprising exposing the emulsion, then first bathing the emulsion for from 15 seconds to 5 minutes in an aqueous solution of a compound having the structural formula

$$H_2N—[(CHR)_x—(CHR)_y—NH]_n —(CHR)_x—(CHR)_y—NH_2$$

in which x and y are integrals not greater than 4 and n ranges from 0 to 4 and in which R is selected from the group consisting of alkyl radicals and hydrogen said solution having a concentration of from .05 to .5 molar in water and thereafter developing and fixing the image in solution separate from the said first bath.

3,266,899
PHOTOGRAPHIC DEVELOPERS
David William Crichton Ramsay, Sale, England, assignor to Ilford Limited, Ilford, England, a British company
No Drawing. Filed Jan. 16, 1964, Ser. No. 338,015
Claims priority, application Great Britain, Jan. 21, 1963, 2,583/63
8 Claims. (Cl. 96—66)

1. A developing composition which comprises essentially a developing substance of the formula:



where x and y are each selected from nought and one and Z and Z_1 are each the residues necessary to complete a heterocyclic nitrogen ring and, as a second developing substance, a substance known to exert a superadditive effect on 1-phenyl-3-pyrazolidone, the composition when dissolved in water affording an alkaline solution.

3,266,900
COATED ALUMINUM LITHOPLATE AND METHOD
Walter G. Zelley, New Kensington, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed June 10, 1963, Ser. No. 286,464
4 Claims. (Cl. 96—75)

2. An aluminum lithoplate with a light-sensitive diazo resin coating comprising

an aluminum sheet,

a surface of said sheet being provided with an adsorbent alpha-alumina monohydrate conversion coating,

alkali metal dichromate adsorbed by said conversion coating said adsorbed dichromate being obtained by treating said conversion coating with a solution consisting essentially of at least about 1 gram per liter of alkali metal dichromate and water maintained at a pH between about 3 and 7, at a solution temperature between room temperature and the boiling point, and

a light-sensitive diazo resin coating adhering to said conversion coating,

said lithoplate being characterized by water-wettability of non-image areas of said conversion coating following exposure and development, and by adhesion between said diazo resin coating and said conversion coating without exhibiting deleterious reaction between such resin coating and either the conversion coating or the underlying aluminum.

3,266,901
FEED CONTAINING *NOCARDIA RUGOSA* FREE FROM VITAMIN B_{12}
Remo Faustini, Nerviano-Milan, Giuseppe Gasparini, Milan, Angelo Tardani, Nerviano-Milan, and Riccardo Barchielli, Milan, Italy, assignors to Società Farmaceutici Italia, Milan, Italy, a corporation of Italy
No Drawing. Filed Mar. 5, 1962, Ser. No. 177,184
Claims priority, application Italy, Mar. 22, 1961, 5,247/61
5 Claims. (Cl. 99—9)

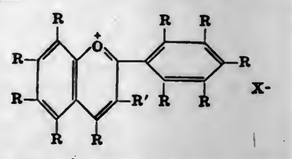
4. Animal feeds containing alkaline hydrolysates of *Nocardia rugosa* mycelium free from vitamin B12 as a growth-promoting substance.

3,266,902
FOAM IMPROVEMENT COMPOSITION IN MALT BEVERAGES
Mortimer Wilkes Brenner, Scarsdale, N.Y., assignor to Schwarz Laboratories, Inc., Mount Vernon, N.Y.
No Drawing. Filed Dec. 15, 1961, Ser. No. 159,776
1 Claim. (Cl. 99—48)

A foam prolonging and foam adherence promoting composition of matter as an additive to fermented malt beverages comprising as its active ingredients from 25 percent by weight to approximately 90 percent by weight of propylene glycol alginate and the remainder a water-soluble manganous salt.

3,266,903
METHODS OF USING FLAVYLIUM COMPOUNDS FOR FOOD COLORING
Leonard Jurd, Berkeley, Calif., assignor to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Jan. 25, 1963, Ser. No. 254,030
15 Claims. (Cl. 99—103)

1. A method for coloring a food in an acidic condition which comprises adding thereto a flavylium compound of the formula—



wherein each R represents a radical selected from the group consisting of hydrogen, hydroxyl, and lower alkoxy, wherein R′ represents a radical selected from the group consisting of hydrogen, lower alkyl, phenyl, lower alkoxy, and phenoxy, and wherein X represents an anion selected from the group consisting of chloride and bromide.

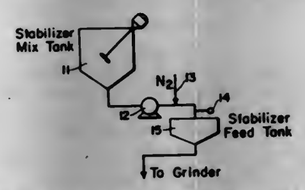
3,266,904
LOW CALORIC FATTY SPREAD
Hendrik Jan Duin and Jacob Arie Schaap, Vlaardingen, Netherlands, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Mar. 18, 1963, Ser. No. 266,085
Claims priority, application Great Britain, Mar. 23, 1962, 11,285/62
12 Claims. (Cl. 99—123)

1. A low-energy fatty composition suitable for spreading on bread, said composition comprising a water-in-fat emulsion in which the fat phase amounts to 40–60% of the total weight and is composed of edible fat emulsified with margarine emulsifiers consisting essentially of a mixture of partial glycerides and phosphatides and in which the aqueous phase contains as its major constituent 4–20% of its weight of a protein selected from the class consisting of casein and albumin.

3,266,905
PROCESS FOR IMPROVING THE FLAVOR STABILITY OF PEANUT BUTTER
Joseph S. Baker, Green Township, Hamilton County, Robert E. Mersfelder, Springfield Township, Hamilton County, and Robert L. Wille, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed June 11, 1965, Ser. No. 463,318
6 Claims. (Cl. 99—128)

1. A process for improving the flavor stability of peanut butter by removing dissolved, adsorbed, and entrained oxygen therefrom by the steps comprising (a) injecting inert gas into a peanut butter slurry at a rate ranging from about six to about 30 volume percent of the rate the slurry is being pumped in the process system

at the point of injection and while said slurry is maintained in a process system under a positive pressure of at least about three atmospheres, (b) retaining the inert gas in said process system for a period of time sufficient for substantially dissolving the inert gas in the slurry, (c) subsequent to the solution of said inert gas, flashing the slurry to substantially atmospheric pressure whereby an oxygen-inert gas mixture is released from solution in said slurry, (d) removing said released oxygen-inert gas



mixture from said system, (e) rapidly chilling said slurry to a temperature less than about 100° F. to substantially crystallize the glyceride solids in said slurry, and (f) packing the crystallized peanut butter in a substantially oxygen-free atmosphere, said steps (a) through (d) being carried out a plurality of times such that the peanut butter contains not more than about 0.5 volume percent of dissolved, adsorbed, entrained and accessible oxygen when measured within 15 minutes after packing.

3,266,906
ALGIN GEL AND GELATIN COMPOSITION HAVING HIGH BLOOM STRENGTH AND PROCESS
Aaron Miller, La Jolla, and James K. Rocks, San Diego, Calif., assignors to Kelco Company, San Diego, Calif., a corporation of Delaware
No Drawing. Filed Dec. 13, 1962, Ser. No. 244,269
13 Claims. (Cl. 99—131)

1. A composition suitable for producing a high bloom strength alginate gel by incorporation with an aqueous medium comprising a water soluble alginate, a salt whose cations form a water insoluble salt with alginic acid and which has a solubility product not substantially exceeding 10^{-4} at 25° C., a water soluble alkali metal salt of a weak acid, a weakly acidic substance selected from the group consisting of tartaric acid, citric acid, glutaric acid, gluconic acid, lactic acid, succinic acid, acetic acid, fumaric acid, adipic acid, and D-glucono lactone, and an amount of gelatin dissolved in said aqueous medium in excess of .4% of the weight of the said alginate in said composition, said amount being sufficient to raise the bloom gel strength of an aqueous gel produced from said composition in excess of the bloom gel strength of an alginate gel produced from a like composition not including said gelatin.

3,266,907
PREPARATION OF WHIPPABLE COMPOSITIONS
Robert F. Kozlik and James L. Swanson, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware
No Drawing. Filed June 25, 1962, Ser. No. 205,079
3 Claims. (Cl. 99—139)

1. The process of making a dry whippable composition for use in the preparation of dessert toppings and icings from a mixture consisting of 5 to 15 parts shortening, 3 to 10 parts emulsifier, 45 to 85 parts sugar, 2 to 6 parts proteinaceous material, 0 to 20 parts flavoring agents, 0 to 1.5 parts lecithin compound, 0 to 0.6 part citric acid and 0 to 2.0 parts dye which comprises: (1) agitating the shortening and emulsifier to form a homogeneous mass; (2) passing the resulting mass through a scraped-surface heat exchanger to obtain a plastic mass having a fine crystal structure; and (3) intensively blending the resulting plastic mass with the sugar, proteinaceous material, flavoring agents, lecithin compound, citric acid and dye so that substantially all of the sugar and proteinaceous material particles are smeared with the plastic mass to produce the dry whippable composition without further treatment.

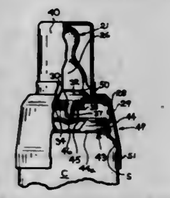
3,266,908
PROCESS OF PREPARING MEAT SAUCES AND GRAVIES
Alfred E. Allen, Jr., Bothell, Wash., assignor to Western Farmers Association, Seattle, Wash.
No Drawing. Filed Oct. 2, 1963, Ser. No. 313,158
11 Claims. (Cl. 99—144)

1. A process for making meat gravies and sauces the steps of which include; preparing a cooked meat substance comprising predominately natural fats and skin and small amounts of lean meat fibers, grinding and emulsifying the cooked meat substance into a finely divided form capable of passing through an opening of approximately 3/64 inch diameter, forming a first slurry by adding approximately equal parts of cold water to said meat substance, homogenizing said first slurry under pressure in the range of 3,000–8,000 p.s.i., forming a second slurry by bringing said first slurry to the range of 18–35% solids with the addition of cold water and dry additives, said additives including; about 32% dry weight of thickening agent, about 5% dry weight of monosodium glutamate, about 3% dry weight of starch phosphate and a rancidity preventing agent, and thoroughly mixing the second slurry to a smooth even consistency, the content of lean meat fiber in the final slurry being a maximum of 2% by weight of dry solids.

3,266,909
NOVEL MEAT BLOOM CONTROL PROCESS AND MEAT PRODUCTS THEREFROM
Eugene D. Ellis, 3120 NW. 13th Ave., Miami, Fla.
No Drawing. Filed Aug. 5, 1963, Ser. No. 300,110
8 Claims. (Cl. 99—169)

1. A process of preserving the natural color of fresh meat which comprises subjecting said meat to contact with an aqueous solution consisting essentially of water, at least 2.0 wt. percent of gelatin, at least 0.5 wt. percent of a reductone, and at least 2.0 wt. percent of a neutral alkali metal salt of glutamic acid.

3,266,910
LIQUID NOURISHMENT DISPENSING PACKAGE
Herbert A. Barnby, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed June 12, 1963, Ser. No. 287,334
13 Claims. (Cl. 99—171)



1. A package of nontoxic liquid including easy opening and dispensing features, said package including, in combination:

(1) a container defining a reservoir chamber containing said liquid, said container having a filling opening,

(2) a separate closure member in hermetic sealing engagement with the opening of said container, one of said container and closure including engagement means formed thereon, and

(3) a combination opening and dispensing adapter, said adapter including:

(a) a planar transverse wall having a central aperture,

(b) a hollow resilient nipple having a perforate outlet end and a connected base flange end sealingly carried on the upper side of said wall over said aperture defining thereby an interior dispensing chamber,

(c) a piercing tool integrally formed on and projecting from the side of the wall opposite said nipple, said tool including a central bore leading from its piercing end to said aperture, thereby communicating with said interior chamber,

(d) a plurality of depending feet elements formed on the periphery of said adapter, said feet elements holding said adapter member with the piercing tool in spaced, non-piercing relationship with said closure portion and over said opening, and said feet elements ultimately engaging said protruding engagement means upon vertical non-rotational downward movement of said adapter to thereby hold said tool with its bore connecting said reservoir and dispensing chambers after piercement of said closure by said piercing tool, and

(e) means holding said adapter poised over said closure and resting on said depending feet elements prior to piercement.

3,266,911

METHOD OF SHIRRING SYNTHETIC TUBULAR SAUSAGE CASING

James W. Clement, Chicago, Ill., assignor to Tee-Pak, Inc., Chicago, Ill., a corporation of Illinois

Filed Oct. 7, 1963, Ser. No. 314,215

1 Claim. (Cl. 99—176)



A method of shirring synthetic tubular sausage casing which comprises

inflating a casing with gas,

moving the inflated casing along a hollow mandrel,

sequentially and continuously applying a shirring force to indent the inflated casing simultaneously around its entire periphery from at least two opposite directions and at successive intervals that are relatively short compared to the diameter of the casing,

and retarding the linear movement of the indented casing to effect formation of a circumferentially disposed pleat.

3,266,912

METHOD AND COMPOSITION FOR DECORATING GLASS-CERAMICS

Peter J. Murphy, Belleville, N.J., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed Mar. 29, 1961, Ser. No. 99,046

8 Claims. (Cl. 106—1)

1. A method of producing a precious metal-decorated glass-ceramic article comprising applying to an unceramed ceramable glass article destined to be ceramed a precious metal decorating composition comprising an organic precious metal compound, a fluxing agent for the precious metal, and an organic vehicle for the precious metal compound and fluxing agent, the decorating composition containing about 0.25–10 moles of fluxing elements per mole of precious metal, heating the resulting article to a ceraming temperature not in excess of 1350° C., and maintaining the article at the ceraming temperature for a time sufficient to ceram the article thereby obtaining a glass-ceramic article having a precious metal film deposited thereon.

3,266,913

MARINE ANTIFOULING COMPOSITION AND METHOD OF TREATING SURFACES

Walter L. Hardy, Deerfield, and Clarence W. Huffman, Glenview, Ill., assignors to International Mineral & Chemical Corporation, a corporation of New York

No Drawing. Filed Nov. 14, 1962, Ser. No. 237,731

11 Claims. (Cl. 106—15)

1. A marine antifouling composition consisting essentially of an organic water resistant vehicle and from about 0.5 to about 8 pounds per gallon of said vehicle of a water-insoluble salt of an amino acid selected from the group consisting of glutamic acid, aspartic acid and mixtures of glutamic and aspartic acids with a metal toxic to undesirable marine organisms.

3,266,914

NOVEL PRINTING INKS AND METHOD OF PRINTING WITH SAID INKS

Frederick A. Varron, Jamaica, N.Y., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio

No Drawing. Filed June 28, 1962, Ser. No. 205,874

17 Claims. (Cl. 106—29)

1. A printing ink comprising coloring matter dispersed in a vehicle comprising water emulsified in a water-immiscible ink vehicle liquid selected from the group consisting of mineral oil and solutions of limed rosin, rosin glycerol esters, rosin pentaerythritol esters, petroleum residue resins, coal tar resins, asphalt and rosin modified phenolic resins in paraffinic hydrocarbon solvents by monoglycerides of oil fatty acids.

3,266,915

WAX EMULSION FOR USE IN PRECISION CASTING

Evan James Faulkner, Sylcroft, Crispin Way, Farnham Common, England; Lothar Norman Hocking, Sandycroft, Taplow, England; and John Aherne-Heron, Farnham Royal Lodge, Farnham Royal, England

No Drawing. Filed Dec. 11, 1962, Ser. No. 243,757

3 Claims. (Cl. 106—38.8)

1. A microcrystalline wax composition consisting essentially of from 50–60% basic-micro-crystalline wax, 25–30% gum damar emulsifying agent, 10–25% water.

3. The method of preparing a blended wax emulsion composition for the manufacture of expendable models used for investment casting by the lost wax process, comprising mixing 50–60% microcrystalline wax with 25–30% gum damar and 10–25% water and agitating the resulting mixture at a temperature of about 95° C.

3,266,916

TECHNICAL GLASS

Heinz Brömer, Hermannestein, and Norbert Meinert, Wetzlar (Lahn), Germany, assignors to Ernst Leitz, G.m.b.H., Wetzlar (Lahn), Germany

No Drawing. Filed Aug. 22, 1962, Ser. No. 218,560

Claims priority, application Germany, Sept. 1, 1961, L 39,921

4 Claims. (Cl. 106—54)

1. Technical glass with a linear coefficient of thermal expansion between 10×10^{-6} and 14.5×10^{-6} per degree C. molten from a mixture consisting essentially of

	Percent by weight
SiO_2	20–30
B_2O_3	5–16
Alkali oxides	25–35
TiO_2	20–35
Alkaline earth oxides	0–10
ZnO	0–15
ZrO_2	0–10

3,266,917

VISCOSITY STABILIZED CLAY SLURRY

Edgar W. Sawyer, Jr., Metuchen, and Michael Pavol, Jr., Summit, N.J., assignors to Minerals & Chemicals Philipp Corporation, Township of Woodbridge, N.J., a corporation of Maryland

No Drawing. Filed Oct. 18, 1965, Ser. No. 497,541

16 Claims. (Cl. 106—72)

1. A clay slurry comprising water, about 50 percent to 72 percent by weight of kaolin clay dispersed therein, an alkali metal salt of a condensed phosphate in amount sufficient to fluidize said slurry and a small amount of a water-soluble alkali metal salt of a substituted phenol of the group consisting of chlorophenol, monochloro derivative of alkyl substituted phenol, phenyl substituted phenol, and monochloro derivative of phenyl substituted phenol in amount sufficient to reduce substantially the viscosity increase that would normally take place in the absence of said salt.

3,266,918

VISCOSE SOLUTIONS FOR MAKING FLAME RETARDANT RAYON

Joseph W. Schappel, Morton, Pa., and Arthur I. Bates, Wilmington, Del., assignors, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware

No Drawing. Filed Dec. 19, 1962, Ser. No. 245,653

2 Claims. (Cl. 106—165)

1. A viscose solution containing from 4% to 10% by weight of cellulose in which is incorporated from about 2% to 40%, by weight, based on said cellulose, of tri-(2,3 dibromopropyl) phosphate sufficient to impart fire-retardant properties to a dry regenerated celluloose material formed from said viscose solution by acidification.

3,266,919

CYANOETHYL CARBOHYDRATE CAPROLACTAM MIXTURE

William W. Cooner, Wenonah, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 23, 1962, Ser. No. 239,796

5 Claims. (Cl. 106—178)

1. A composition comprising a mixture of a cyanoethyl ether of a hydroxylic polymer and N-(2-cyanoethyl)caprolactam.

2. The composition of claim 1 wherein the composition contains about from 3 to 50% by weight of N-(2-cyanoethyl)caprolactam based on the total weight of polymer and N-(2-cyanoethyl)caprolactam.

3,266,920

LEAK-INDICATING PAINTS FOR LIQUID PROPELLANTS

James R. Griffith, Riverdale Heights, Md., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Dec. 27, 1962, Ser. No. 247,766

10 Claims. (Cl. 106—195)

1. A leak-indicating paint for liquid propellants of a base type fuel and an oxidizer comprising:

a paint vehicle and dispersed solids,

said solids including therein phenolphthalein and a coloring agent which is readily bleachable in the presence of said oxidizer.

3,266,921

AQUEOUS EMULSION COMPOSITION

Joseph F. Abere, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Original application Nov. 18, 1960, Ser. No. 70,115. Divided and this application Jan. 18, 1965, Ser. No. 426,433

9 Claims. (Cl. 106—243)

1. An aqueous emulsion comprising an amount not in excess of about 50 percent by weight based on water of a polymerized polyene fatty acid having a plurality of carboxyl groups per molecule, at least a stoichiometric equivalent of a polyalkylenimine curing agent and an emulsifying agent.

3,266,922

CONCENTRATED EMULSIONS OF BODIED OIL IN WATER

Lowell O. Cummings, San Anselmo, and John A. Kneeland, Kentfield, Calif., assignors to Pacific Vegetable Oil Corporation World Trade Center, San Francisco, Calif., a corporation of California

Filed Feb. 19, 1965, Ser. No. 433,957

23 Claims. (Cl. 106—252)

1. An oil-in-water emulsion consisting essentially of

about 75% to 93% of a material chosen from the group consisting of bodied oils and alkyds having a Gardner-Holdt viscosity of Z_1 to Z_{10} made from drying oil with an iodine value of at least 125,

about 2% to 10% of a non-ionic emulsifier, soluble in both water and said bodied oil,

and about 5% to 15% of water, the particle size of the oil particles lying between one-tenth micron and ten microns and averaging no more than three microns.

3,266,923

MIXTURE OF CLAY AND FATTY ACID SALT

Arnold J. Morway, Clark, and Albert J. Bodner, Linden, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

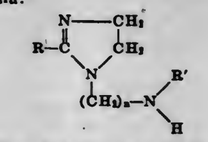
Filed Mar. 7, 1963, Ser. No. 263,623

6 Claims. (Cl. 106—288)

5. A method for forming a mixture of finely divided clay and fatty acid salt particles which comprises:

(I) adding an aqueous slurry of clay and metal salt of C_1 to C_8 fatty acid to an oil dispersion of the salt reaction product of an amino imidazoline and an acid selected from the group consisting of inorganic mineral acids and phytic acid,

(a) said amino imidazoline having the general formula:



wherein n is an integer of about 2 to 6, R is a C_{12} to C_{22} hydrocarbon group and R' is selected from the group consisting of hydrogen and C_2 to C_{18} alkyl groups, and

(b) said metal being selected from the group consisting of alkali metals and alkaline earth metals

(II) heating said mixture to reduce the water content thereof, and

(III) recovering said mixture of clay and fatty acid salt.

3,266,924

METHOD FOR PRODUCING FREE-FLOWING ADDITIVES MIXTURE FOR POLYETHYLENE

Don C. Haeske, Tuscola, Ill., Floyd L. Cassidy, Gibsonia, Pa., and John L. Thompson, Pasadena, Tex., assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed July 26, 1962, Ser. No. 212,722
10 Claims. (Cl. 106—308)

1. A method for producing a homogeneous mixture of additives comprising the steps of charging to a mixing zone from about 40% to 77% of finely divided siliceous material, based on the weight of the additives mixture, said siliceous material having an average particle size of from between about 0.01 to 10 microns; heating the siliceous material to a temperature of from about 160° to 240° F.; charging to said mixing zone with agitation from about 23% to 60%, based on the weight of the additives mixture, of a fatty acid amide slip agent; cooling said mixture to a point below the solidification temperature of the amide while continuing agitation; and recovering the resulting powder-like mixture from said zone.

3,266,925

OIL-STAIN RESISTANT ROOFING AND SIDING SHEETS

Donald E. Lovness, Stillwater, Minn., assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Oct. 1, 1962, Ser. No. 227,571
3 Claims. (Cl. 117—27)

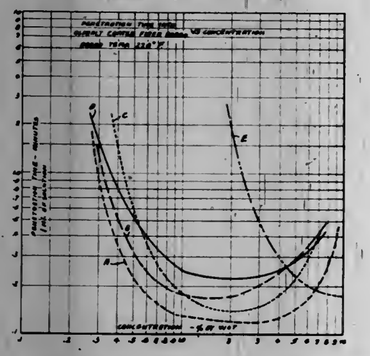
1. A composite sheet body for roofing and siding comprising a plastic stratum containing dissolved therein a cationic quaternary hydrocarbon amine salt and a firmly adherent surfacing for the same comprising oil-stain resistant granules, said granules comprising a mineral granule having a coating formed from an anionic oleophobic fluorocarbon sizing agent.

3,266,926

MOISTURE STABILIZED ASPHALT COATED FIBERBOARD AND METHOD FOR MAKING THE SAME

Girard J. Zimmerman, Cooney Heights, McHenry, Ill., assignor to The Celotex Corporation, Chicago, Ill., a corporation of Delaware

Filed Nov. 14, 1962, Ser. No. 237,479
5 Claims. (Cl. 117—62)



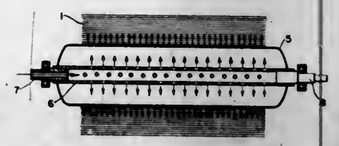
4. The method of incorporating about 6% to 8% moisture in an asphalt coated fiberboard comprising the step of:
applying to one surface of said board while at a temperature of about 220° F. an acetic acid salt of a fatty amine in an aqueous solution having a concentration of about 0.25% to 8% by weight of said salt and in an amount to leave about 6% to 8% by weight of moisture in the board.

3,266,927

PROCESS FOR THE AFTERTREATMENT OF POLYURETHANE FOAM

Fritz Lorenz and Gunther Schlagenhof, Wattwil, St. Gall, Switzerland, assignors to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed July 3, 1962, Ser. No. 207,323
5 Claims. (Cl. 117—98)



1. A process of treating flexible polyurethane foam sheeting with caustic alkali solution which comprises winding said foam sheeting into a multi-layered roll having a generally horizontal axis, impregnating the polyurethane foam sheeting with a caustic alkali solution, rotating slowly the roll of impregnated foam sheeting to maintain said alkali solution within the foam sheeting for a time sufficient for chemical reaction therewith, and subsequently increasing the speed of rotation of the rolled foam sheeting to expel radially therefrom the caustic alkali solution.

3,266,928

OXIDATION-RESISTANT COATING ON ARTICLES OF YTTRIUM METAL

David R. Wilder and Cecil D. Wirkus, Ames, Iowa, assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Sept. 25, 1963, Ser. No. 311,601
6 Claims. (Cl. 117—129)

1. A process of protecting yttrium metal surfaces from oxidation, comprising mixing vanadium oxide and aluminum oxide powders, suspending the mixture in a liquid medium, applying the suspension obtained to the yttrium surface to be protected, and firing the coated yttrium.

3,266,929

GOLD PLATING BY IMMERSION

Edward H. Lareau, Temple, Pa., and Charles R. Shipley, Jr., Newton, Mass., assignors to Shipley Company, Inc., Wellesley, Mass., a corporation of Massachusetts

No Drawing. Filed Dec. 17, 1962, Ser. No. 244,949
12 Claims. (Cl. 117—130)

1. An aqueous solution for the plating of gold by chemical displacement, said solution comprising gold ions in amounts sufficient to provide a useful deposit, cyanide ions in an amount sufficient to provide a molar ratio of cyanide to gold between about 1.9 to 1 and 1 to 1, and ammonium and sulphite ions in amounts sufficient to render said gold stable in solution during storage and use, said solution having a pH between about 7.0 to 10.5.

3,266,930

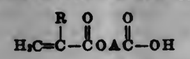
PROCESS OF COATING BARE METALS AND PRODUCTS THEREOF

William D. Emmons, Huntingdon Valley, Pa., and Elinor Hankins Owens, nee Elinor M. Hankins, Willingboro, N.J., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Mar. 22, 1965, Ser. No. 441,858
18 Claims. (Cl. 117—132)

1. A metal article having a hard, adherent coating with a KHN of from about 8 to 16 in direct adherent relation to said metal, said coating comprising a copolymer of monoethylenically unsaturated monomers at least one monomer being selected from the group consisting of methyl methacrylate, ethyl methacrylate, acrylonitrile,

methacrylonitrile, styrene and vinyl toluene, and about ½ to 10% by weight of at least one acid of the formula



wherein
R is selected from the group consisting of H and methyl, and
A is an alkylene group having 1 to 3 carbon atoms.

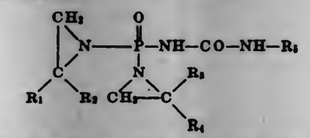
3,266,931

PROCESS AND COMPOSITION FOR FIXING PIGMENTS ON FIBROUS MATERIALS

Hans Zimmermann, Hofheim, Taunus, Gerhard Pfeiffer, Kelkheim, Taunus, and Kurt Stetzelberg, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Dec. 7, 1962, Ser. No. 242,894
Claims priority, application Germany, Dec. 9, 1961, F 35,519
8 Claims. (Cl. 117—138.8)

4. A process for fixing pigments on fibrous materials and foils which comprises applying to the material to be pigmented, an aqueous composition comprising (a) an insoluble, inert pigment, (b) a resinous alkali-soluble condensation product of a polybasic carboxylic acid and a polyhydric alcohol, said condensation product containing reactive carboxyl groups and dissolved in an alkaline medium, and (c) an N-(dialkylene imido phosphonyl)-urea of the formula



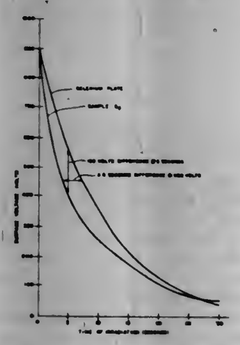
in which R_1, R_2, R_3 and R_4 represent members selected from the group consisting of hydrogen and low molecular alkyl, and R_5 represents a member selected from the group consisting of aryl, aralkyl, cycloalkyl, alkenyl and alkyl radicals containing up to 12 carbon atoms, and drying and heating the materials.

3,266,932

LEAD MONOXIDE PLATE FOR X-RAY ELECTROPHOTOGRAPHY AND METHOD OF PREPARING SAME

Eugene S. Anolick, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

Filed Aug. 6, 1963, Ser. No. 300,245
7 Claims. (Cl. 117—201)



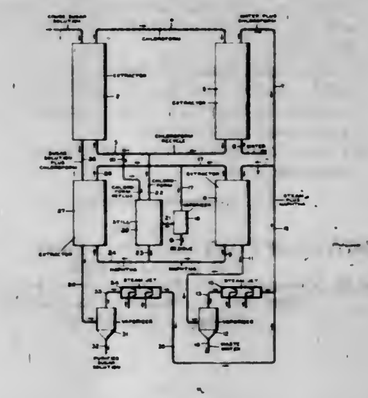
1. A process of preparing an X-ray electrophotographic plate comprising the steps of firing a quantity of orthorhombic lead monoxide in a dry atmosphere; mixing said lead monoxide with an insulating binder in said dry atmosphere; and coating a conductive member in said dry atmosphere with said mixture.

3,266,933

PROCESS FOR THE EXTRACTION OF AQUEOUS SUGAR SOLUTION RESULTING FROM THE HYDROLYSIS OF LIGNOCELLULOSIC MATERIAL

Frank Porter, Morris Township, Morris County, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Dec. 3, 1964, Ser. No. 415,608
4 Claims. (Cl. 127—37)



1. A process for the extraction of aqueous sugar solution resulting from the hydrolysis of lignocellulosic material which comprises
(a) passing the aqueous sugar solution in contact with chloroform solvent in an extraction zone,
(b) discharging from the extraction zone the chloroform solvent containing dissolved hydrolytic degradation products and a separate stream of a sugar solution substantially free from hydrolytic degradation products and contaminated with small amounts of chloroform,
(c) passing the chloroform solvent containing the dissolved hydrolytic degradation products through a second extraction zone in contact with water to extract the bulk of the hydrolytic degradation products from the chloroform,
(d) discharging from the second extraction zone a stream of chloroform and a separate stream of water containing the hydrolytic degradation products together with small amounts of chloroform and recycling the stream of chloroform to the first extraction zone,
(e) passing the stream of water containing the hydrolytic degradation products together with small amounts of chloroform through a third extraction zone in contact with naphtha to separate the chloroform from the water,
(f) discharging from the third extraction zone water containing small amounts of naphtha and a separate stream containing naphtha and chloroform,
(g) heating said water and naphtha discharged from the third extraction zone to vaporize the naphtha, and recycling the naphtha back to the third extraction zone,
(h) heating the chloroform-naphtha solution from the third extraction zone to separate the chloroform

from the naphtha and recycling the chloroform to the first extraction zone,

(i) recycling a portion of the separated naphtha back to the third extraction zone for further contact with water and chloroform from the second extraction zone,

(j) passing the sugar solution discharged from the first extraction zone and containing small amounts of chloroform in contact with the remaining portion of naphtha in a fourth extraction zone to separate the chloroform from the water thereby producing a naphtha stream containing dissolved chloroform and a separate stream of substantially pure sugar solution contaminated with a small amount of naphtha,

(k) discharging the naphtha stream from the fourth extraction zone and admixing the naphtha stream with the chloroform-naphtha from the third extraction zone,

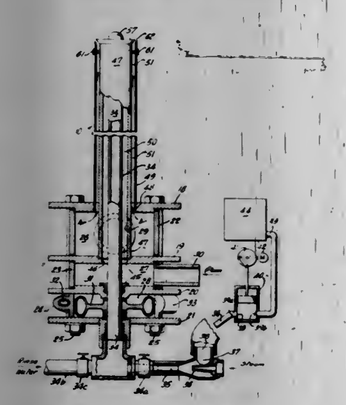
(l) discharging from the fourth extraction zone said sugar solution and heating said sugar solution to vaporize the naphtha leaving as residue a substantially pure sugar solution and,

(m) recycling the vaporized naphtha back to the third extraction zone.

3,266,934
REMOVAL OF CONTAMINANTS FROM INTERIORS OF ENCLOSURES

John R. Alexander, 16C Hunting Towers, Alexandria, Va.

Filed Dec. 4, 1962, Ser. No. 242,329
3 Claims. (Cl. 134—22)



1. The method of cleaning metal surfaces in the interior of an enclosure to remove contaminants therefrom, which comprises the steps of:

preheating said surfaces by passing into said enclosure a stream of substantially dry, heated fluid medium;

forming a mixture of steam and a liquid containing a cleaning agent by injecting said liquid in short periodic increments into a stream of said steam;

discharging said mixture into said enclosure in finely divided form as an annular curtain of fog while directing a plurality of jets of dry steam at a substantial angle against said curtain to further divide said mixture into a colloidal fog within said enclosure;

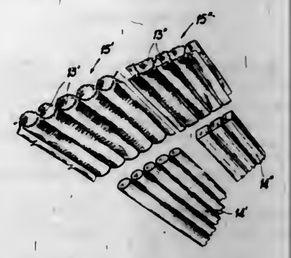
then rinsing said surfaces in said enclosure; and

then subjecting the interior of said enclosure to a flow of heated, substantially dry fluid medium to effect drying of said surfaces.

3,266,935
METHODS FOR PRODUCING PLATE SHEATHS FOR STORAGE BATTERIES

Lino Alessandro Boriolo, 1, Via Giusti, Cinisello Balsamo, Milan, Italy

Filed Oct. 2, 1962, Ser. No. 227,785
Claims priority, application Italy, Oct. 6, 1961, 18,054/61
2 Claims. (Cl. 136—43)



1. In the manufacture of plate sheaths for electric storage batteries of the type wherein a battery plate includes a plurality of individual elements of active material having a predetermined shape and size, and located in individual respective pockets of said sheath, the steps of preparing a heat-shrinkable fabric, said fabric including threads essentially consisting of synthetic linear polyester material impregnated with a vinyl chloride-acrylonitrile copolymer as a resinuous component of the type which when spun into a yarn has an oriented molecular structure, and said fabric having therein a plurality of pockets of said predetermined shape but in collapsed condition and of a large size; expanding said pockets to said predetermined shape; and subjecting said fabric to a temperature sufficient to shrink said fabric while limiting shrinkage of said pockets to said predetermined shape and size, whereby a structure is obtained having pockets of said predetermined shape and size and being shape retaining due to said resinous component forming part of said fabric.

3,266,936
ELECTRODE SUPPORTS AND METHOD FOR THEIR PRODUCTION

Willi Krebs, Wiesbaden, Germany, assignor to Societe des Accumulateurs Fixes et de Traction, Romainville (Seine), France

Filed Mar. 18, 1964, Ser. No. 352,893
9 Claims. (Cl. 136—53)

6. A support structure for the active mass of a battery electrode, comprising a fleece of intertwined metal fibers, said fibers having a great number of integral clefts and protuberances formed therein caused by the oxidation and subsequent reduction of the fibers, said fibers being sintered together so as to form a porous but rigid support body.

3,266,937
ELECTROLYTIC CELL HAVING A ROTATING ELEMENT

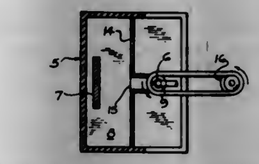
Ernest H. Lyons, Jr., Brookline, Mass. (26 Stony Brook Road, Marblehead, Mass. 01945)

Filed Nov. 4, 1963, Ser. No. 321,193
16 Claims. (Cl. 136—86)

1. Electrical apparatus of the type having a cell with an anode, an electrolyte, and an oxygen cathode having means for supplying gaseous oxygen to the cell at a catalytic surface of a solid cathode member, so that an oxidation reaction takes place at the anode, thereby causing current to flow externally through a load circuit connecting the anode and cathode,

characterized by

means for cyclically using successive catalytic surface portions of said solid cathode member in the passage of current within said cell from said cathode to said anode, the catalytic surface portion not currently being used remaining contin-

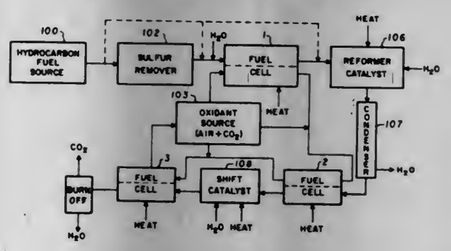


uously immersed in said electrolyte and thereby having rest periods while in said electrolyte, at a rate rapid enough to maintain the cell in an active state in respect to the electro-reduction of oxygen to water.

3,266,938
METHOD OF OPERATING A FUEL CELL SYSTEM

Sidney G. Parker and Isaac Trachtenberg, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 20, 1961, Ser. No. 160,721
6 Claims. (Cl. 136—86)



1. The method of generating electrical power from a fuel cell system comprising the steps of

(a) passing a gaseous hydrocarbon material into the fuel electrode side and a gaseous oxidant-bearing material into the oxidant electrode side of a first fuel cell maintained at a temperature sufficient for fuel cell operation to promote the generation of electrical energy in said first fuel cell;

(b) passing the spent gaseous hydrocarbon material from said first fuel cell into a reformer catalyst unit;

(c) reacting the spent hydrocarbon material from said first fuel cell with water in said reformer catalyst unit to generate carbon monoxide and hydrogen;

(d) removing excess water from the effluent carbon monoxide and hydrogen from said reformer catalyst unit;

(e) passing the carbon monoxide and hydrogen from said reformer catalyst unit into the fuel electrode side of a second fuel cell and passing oxidant-bearing material into the oxidant electrode side of said second fuel cell while maintaining said second fuel cell at a temperature sufficient for fuel cell operation to promote the generation of electrical power in said second fuel cell;

(f) passing spent fuel from said second fuel cell into a shift catalyst chamber;

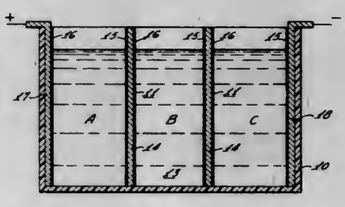
(g) reacting said spent fuel from said second fuel cell with water in said shift catalyst chamber to convert the carbon monoxide to carbon dioxide and liberate hydrogen; and

(h) introducing the hydrogen and carbon dioxide generated in the shift catalyst unit into the fuel side of a third fuel cell and passing oxidant-bearing material into the oxidant electrode side of said third fuel cell while maintaining said third fuel cell at a temperature sufficient to promote the generation of electrical power in said third fuel cell.

3,266,939
FUEL CELL

James W. Adam, West Allis, and Bruce H. Fiedler, Milwaukee, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Jan. 26, 1961, Ser. No. 85,112
4 Claims. (Cl. 136—86)



1. In a fuel cell having a housing, a nonconsumable fuel electrode carrying a catalyst selected from the group consisting of platinum, palladium, iridium, rhodium, osmium, and ruthenium, and a nonconsumable oxidant electrode carrying a catalyst selected from the group consisting of silver, cobalt, nickel and the oxides of silver, cobalt, nickel and iron mounted in said housing in spaced apart relation to each other; a unitary fuel-oxidant-electrolyte solution contained in said housing; the improvement comprising having each electrode at least partially immersed in said solution comprising by volume from about 5 to about 50 percent of a fuel selected from the group consisting of methanol and ethanol from about 0.5 to about 5 percent hydrogen peroxide oxidant, and the remainder an aqueous alkali hydroxide electrolyte.

3,266,940
FUEL CELL CONTAINING SOLID ALUMINOSILICATE ELECTROLYTE

Philip D. Caesar, Wenonah, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Apr. 20, 1962, Ser. No. 189,118
2 Claims. (Cl. 136—86)

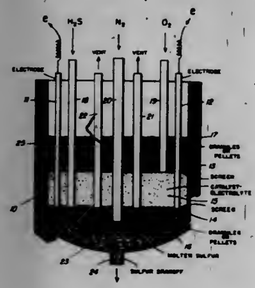
1. In a fuel cell comprising a pair of spaced-apart, porous, electron-conductive electrodes and an electrolyte therebetween in contact with each electrode so as to form an interface therewith, means for supplying a fuel to one electrode on the side remote from the electrolyte, and means for supplying a fuel converting agent to the other electrode on the side remote from the electrolyte, the improvement wherein said electrolyte is the sole electrolyte and comprises a solid layer of a moistened, ion-conductive, porous crystalline aluminosilicate, said aluminosilicate being a molecular sieve and having an internal system of interconnecting channels, said aluminosilicate being at least partly in the acid form and having a sufficient silica content as to be physically stable in said acid form, said layer being formed of discrete aluminosilicate particles, the thickness of said layer being in the range of about 1 to 1000 microns, said layer thickness being great enough to prevent electron transfer but thin enough to provide effective ion transfer therethrough, said layer preventing physical contact between said electrodes,

and said layer at each said interface with an electrode having catalytic activity for the fuel cell reaction occurring at said interface.

3,266,941
FUEL CELL AND FUEL CELL OPERATION OXIDIZING HYDROGEN SULFIDE

George C. Johnson, Woodbury, N.J., assignor to Mobil Oil Corporation, a corporation of New York

Filed June 26, 1962, Ser. No. 205,437
9 Claims. (Cl. 136—86)



1. A fuel cell for the production of power from the oxidation of a gaseous fuel comprising spaced anode and cathode regions each having an electron conductor extending therein, means for introducing an oxygen-containing oxidizing gas to the cathode region, means for introducing fuel gas to the anode region, an electrolyte in each region and disposed therebetween comprising a porous ion-conductive crystalline aluminosilicate zeolite of ordered structure having a pore diameter of at least 5 Angstrom units, said zeolite being at least partially dehydrated and in the form of fine particles, said zeolite being active to catalyze the oxidation of the fuel gas in the anode region, thereby producing electrons, said zeolite also being active to catalyze the reduction of the oxidizing gas in the cathode region, thereby consuming electrons, and means for preventing diffusion of the gases from one region to the other comprising means for admitting an inert sweep gas to said electrolyte intermediate said regions, and means for venting said inert gas adjacent said admitting means, said inert gas serving to prevent mixing of said fuel and oxidizing gases.

3,266,942
DRY CELL BATTERY

William P. Lear, Wichita, Kans., assignor to Lear Jet Corporation, Wichita, Kans., a corporation of Delaware

Filed Apr. 11, 1963, Ser. No. 272,458
10 Claims. (Cl. 136—90)

4. A sealed, deferred action type dry cell battery comprising, a unitary cylindrically shaped zinc can having a closed bottom end and an open top end, said can constituting the anode of said battery, a circular insulator washer snugly disposed in the bottom of said can, an elongated tubular carbon cathode disposed axially within said can abutting said insulator washer, a porous liner means for said can, a finely divided mixture of manganese dioxide and graphite disposed within said can, annular washer means disposed in overlying relationship to said mixture, a barb means, a sealed rupturable container disposed above said washer and said barb means, an electrolyte in said rupturable container, a movable surface means overlying said rupturable container adapted to be moved by a force applied to the exterior of said dry cell battery to rupture said rupturable container, sealing means for sealing the end of said zinc can, said dry cell adapted to be activated by rupturing the rupturable container to flood said cell with electrolyte solution.

3,266,943
INOCULATION OF BIO-ELECTRODES

Bernard H. Goldner, Anaheim, Calif., assignor, by mesne assignments, to TRW Inc., a corporation of Ohio

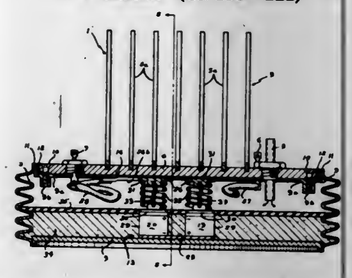
Filed Oct. 29, 1962, Ser. No. 233,697
7 Claims. (Cl. 136—120)

1. The method of inoculating a metal electrode with organisms capable of promoting a half-cell reaction at said electrode which comprises establishing a culture medium including said organisms and finely divided water insoluble material for a time sufficient to provide a growth of said organisms on said material, and thereafter compacting the organism coated material on the surface of said electrode to produce an adherent coating thereon.

3,266,944
HERMETICALLY SEALED THERMOELECTRIC GENERATOR

George Spira, Sarasota, Fla., and William C. Moreland II, Export, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force

Filed Dec. 3, 1963, Ser. No. 327,849
7 Claims. (Cl. 136—221)



1. A thermoelectric generator unit having a hermetically sealed chamber comprising first and second spaced parallel metallic end plates and an annular metallic bellows hermetically sealed at its opposite ends to the peripheries of said first and second plates to provide said hermetically sealed chamber therein, said first plate being subject to the application of heat to raise the temperature thereof, a heat exchanger fixed to the outer surface of said second plate relative to said chamber in heat exchange relation thereto, for dissipating heat from said second plate and said bellows to provide a differential temperature between said plates, a plurality of extensible thermoelectric elements disposed in parallel closely spaced insulated relation to each other electrically connected in series, each having a thermocouple element therein with one end in heat exchange relation with the first plate and its opposite end in "heat" exchange relation with the second plate, insulated electrical output terminals fixed in spaced relation to each other in sealed relation in said second plate, electrical conductor means in said chamber connecting the ends of the series electrical circuit of said thermoelectric elements to said terminals, spring means in each of said thermoelectric elements for yieldably urging the opposite ends thereof respectively into heat exchange relation to the facing inner surfaces of said first and second plates, and means carried by said first plate for introducing an inert atmosphere into said chamber to minimize the deterioration of the thermoelectric material in said thermoelectric elements due to oxidation and other chemical reactions thereon.

3,266,945
ALUMINUM WORKING PROCEDURE

Werner Helling, Munich, and Hans-Friedrich Honsel, Meschede (Ruhr), Germany, assignors to Honsel-Werke Aktiengesellschaft, Meschede (Ruhr), Germany

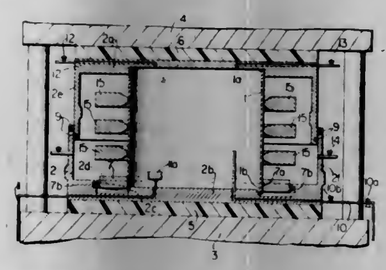
No Drawing. Filed Aug. 7, 1962, Ser. No. 215,259
Claims priority, application Germany, Aug. 10, 1961, H 43,377; June 28, 1962, H 46,212; July 13, 1962, H 46,355
11 Claims. (Cl. 148—11.5)

1. A method of forming aluminum bodies from aluminum billets containing 99.8 to 99.99% of aluminum and aluminum billets containing up to 2.8% of magnesium, which comprises homogenizing the billet at a temperature above about 550° C. and below the fusion point, quenching the homogenized billet to a temperature of about 500° C., thereafter immediately shaping the billet into an intermediate shape in a temperature range of about 500 to 420° C., then quenching the intermediate shape to a temperature of below about 200° C., and shaping the intermediate shape into a final aluminum body at a temperature below 200° C.

3,266,946
METHODS OF SHAPING METAL EXPANSION BELLOWS

André Emile Charles Merlin, Paris, France, assignor to Antoine, Francois, Régis Peyron, Paris, France

Filed May 9, 1963, Ser. No. 279,200
Claims priority, application France, May 11, 1962, 897,325
1 Claim. (Cl. 148—11.5)



A method of shaping a bellows of aluminum and magnesium alloys possessing for a given weight, an undulation depth greater than that obtained with conventional methods, including the steps of:

(1) directly contacting a portion of the surface of a cylindrical blank of aluminum and magnesium alloys destined to form said bellows with a liquefied gas cryogenic medium whereby the temperature of said cylindrical blank is lowered to a cryogenic temperature of about —200° C.,

(2) performing the shaping operation on said cylindrical blank while substantially maintaining said cryogenic temperature by maintaining said contacting of said cryogenic medium with a portion of said cylindrical blank being shaped, and

(3) recovering said shaped bellows.

3,266,947
METHOD OF HEAT TREATING ALLOY STEEL ROTOR FORGINGS

John E. Steiner, Churchill Borough, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of Delaware

No Drawing. Filed Sept. 3, 1963, Ser. No. 306,317
2 Claims. (Cl. 148—12)

1. A method of producing large rotor forgings comprising forging a rotor from steel containing essentially iron and

Carbon	.15/.30%
Manganese	.15/.80
Silicon	.40 max.
Nickel	1.50/4.25
Chromium	2.00 max.
Molybdenum	.20/.70
Vanadium	.30 max.

air cooling said forging after the forging operation, austenitizing it at a temperature of 1475 to 1525° F. and hold at such temperature for at least about 30 hours, cool to room temperature, temper at a temperature between 1025 and 1175° F. for at least about 30 hours and thereafter slow cool to room temperature.

3,266,948
CARBIDE DEPOSITION ON TANTALUM

Joseph C. McGuire, White Rock, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission

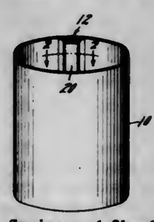
No Drawing. Filed Oct. 10, 1963, Ser. No. 315,413
6 Claims. (Cl. 148—13.1)

1. The method of forming a tantalum carbide on tantalum metal comprising heating the tantalum metal in contact with lampblack in an atmosphere of hydrogen at a temperature between 800 and 1160° C.

3,266,949
SOLDER FLUX FOR A CAN BODY

James Hampton Groves, Barrington, Lehman Edward Hoag, Cary, and Ronald Joseph Zukowski, Wheeling, Ill., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

Continuation of application Ser. No. 256,925, Feb. 7, 1963. This application Dec. 14, 1964, Ser. No. 427,202
10 Claims. (Cl. 148—23)



1. A soft solder fluxing and film-forming composition consisting essentially of, by weight, about from 5 to 20% of a rosin, about from 0.2% to 2.0% of a fluxing agent consisting of a halogen-containing aliphatic organic compound, about from 65 to 85% of a volatile solvent, and about from 5 to 20% of a long chain unsaturated vegetable drying oil selected from the group consisting of chinawood oil, dehydrated castor oil, oiticica oil and mixtures thereof, said drying oil improving the fluxing and film-forming properties of said composition.

3,266,950
SUPERCONDUCTIVE ALLOY OF NIOBIUM-ZIRCONIUM-TIN

Ulrich Zwicker, Aalen, Wurttemberg, Germany, assignor to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany

No Drawing. Filed Apr. 8, 1963, Ser. No. 271,518
Claims priority, application Germany, Apr. 19, 1962, M 52,577; Apr. 25, 1962, M 52,625; May 22, 1962, M 52,938
4 Claims. (Cl. 148—32)

1. An elongated body of a cold worked superconductive alloy of 60 to 80% by weight of niobium, 0.5 to 3% by weight of tin and the remainder zirconium having sur-

faces parallel to the longitudinal axis thereof and having a lamellar structure with the lamellae substantially parallel to the longitudinal axis, the average thickness of the lamellae being between 0.01 and 1.0μ.

3,266,951
ROLLED METAL ARTICLES OF HIGH BIAXIAL ULTIMATE STRENGTH AND PRODUCTION THEREOF

Milton Bernard Vordahl, Beaver, Pa., assignor to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey

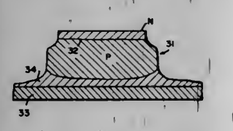
Filed Mar. 12, 1965, Ser. No. 445,824
5 Claims. (Cl. 148—32)

1. A pressure vessel composed at least in part of rolled metal sheet, the metal of which is selected from the group consisting of titanium and titanium-base alloys having at atmospheric temperatures predominantly a close-packed, hexagonal crystal structure, the crystals of which at least in the surface portions of said metal sheet have a preferred orientation with their basal planes in said surface portions of said sheet and parallel thereto, said metal sheet being characterized by a bi-axial ultimate strength at least 25% in excess of its unidirectional ultimate strength, said pressure vessel in its normal use subjecting said metal sheet to bi-axial tension stresses.

3,266,952
COMPOUND SEMICONDUCTOR DEVICES

James O. McCaldin, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Mar. 25, 1965, Ser. No. 442,667
3 Claims. (Cl. 148—33)



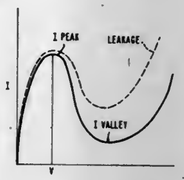
1. A III–V semiconductor crystal PN junction device having a substantially uniform impurity concentration of a column IV element, with a first region having a sufficient excess of said impurity in the III element sublattice to exhibit N-type conductivity and having a second region with a sufficient excess of said impurity in the V element sublattice to exhibit P-type conductivity, said crystal being essentially free from conductivity type determining impurities of columns II and VII in the region of the P-N junction.

3,266,953
SURFACE PROTECTION FOR TUNNELING SEMICONDUCTOR DEVICES

Frederick H. Dill, Jr., Putnam Valley, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 70,561, Nov. 21, 1960. This application Jan. 20, 1964, Ser. No. 338,877
8 Claims. (Cl. 148—33.1)

4. An improved quantum mechanical tunneling junction extending from the surface into a semiconductor body comprising: a first region of low resistivity degenerate semiconductor material of a first conductivity type; a second region of low resistivity approaching degeneracy, opposite conductivity type semiconductor material joining said first region at a narrow "p-n" junction in said semiconductor body and a portion of said semiconductor body formed from a region of same conductivity type material of higher resistivity in at least one region of



said semiconductor body said portion including the surface of the semiconductor body where said "p-n" junction is exposed.

3,266,954
PROCESS FOR MAKING MnAl PERMANENT MAGNET HAVING TETRAGONAL PHASE

Pieter Hokkeling, Adolf Johannus Jacobus Koch, Christiaan Philip Marks, Michael Gottfried van der Steeg, Krijn Jacobus de Vos, and Hinne Zijlstra, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., a corporation of Delaware

Original application Jan. 12, 1960, Ser. No. 2,028, now Patent No. 3,116,181, dated Dec. 31, 1963. Divided and this application June 20, 1963, Ser. No. 277,062
Claims priority, application Netherlands, Sept. 30, 1958, 231,026
19 Claims. (Cl. 148—105)

1. A method of producing a permanent magnet comprising the steps of forming a body of an alloy of about 60 to 75% by weight of manganese and the remainder aluminum and less than 10% by weight of impurities, and subjecting the body to a thermal treatment in a temperature range between about 1000° C. and 300° C. for a time during which a tetragonal phase is produced in said alloy.

3,266,955
PROCESS FOR PRODUCING SILICON STEEL SHEET HAVING (100) PLANE IN THE ROLLING PLANE

Satoru Taguchi, Akira Sakakura, Hiroshi Takechi, and Hironori Takashima, Kitakyushu, Japan, assignors to Yawata Iron & Steel Co. Ltd., Tokyo, Japan

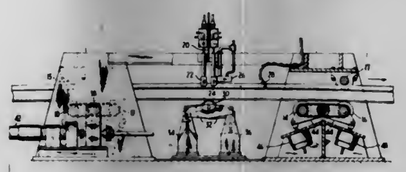
Filed Dec. 23, 1963, Ser. No. 332,423
Claims priority, application Japan, Dec. 28, 1962, 37/59,376
1 Claim. (Cl. 148—111)

In a process for producing a silicon steel sheet having a (100) plane which comprises hot-rolling a steel ingot, repeating the hot-rolling until a steel sheet 1.0 to 7 mm. thick is obtained, cold-rolling the thus-obtained hot-rolled sheet to final gauge, and annealing; the improvement wherein (1) said steel ingot consists essentially of iron, 2 to 4% Si, 0.01 to 0.15% C, and 0.01 to 0.06% acid soluble Al, and (2) said steel ingot is subjected to the second-last hot-rolling in a temperature range of from 800° to 1,250° C. at a reduction rate of from 30 to 93% and then cross-rolled in a direction at an angle of substantially 90° with the direction of the said second-last hot-rolling, at a reduction rate of from 40 to 97% and in a temperature range of from the temperature at which the second last hot-rolling is finished to 600° C., whereby the carbon content of the steel sheet is retained within the aforesaid range of the carbon content and recrystallization grains having (100) [001] orientation and (100) [011] orientation are produced.

3,266,956
THERMAL HARDENING OF RAILS

Robert H. Bennewitz, Chicago, Ill., and Harland R. Hedlund, St. Paul, Minn., assignors to Union Carbide Corporation, a corporation of New York

Filed Nov. 29, 1963, Ser. No. 326,722
17 Claims. (Cl. 148—131)



5. Method of thermally hardening a zone of steel in the head of a rail, which comprises joining a plurality of rail lengths in tandem, causing relative movement longitudinally thereof with respect to a source of heat, simultaneously applying heat from said source to a localized zone adjacent the top surface of said relatively moving rail to heat said layer progressively to a hardening temperature, simultaneously applying quenching medium to said heated zone in tandem to said heat application to progressively harden the metal, and simultaneously exerting an upward force normal to the rail below said source of heat to lift the length of rail being heated and at least a portion of a length tandem thereto so as to form a progressive localized camber in the rail and stretch the metal in said heated zone sufficient to substantially equalize shrinkage.

3,266,957
BOOSTER EXPLOSIVE OF ULTRAFINE DESENSITIZED CYCLOTRIMETHYLENE-TRINITRAMINE AND METHOD OF PREPARING SAME

Richard H. Stresau, Spooner, Wis., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Sept. 24, 1964, Ser. No. 398,809
2 Claims. (Cl. 149—11)

1. An improved booster explosive comprising:
(a) ultra-fine particles of cyclotrimethylene-trinitramine whose particle size is 5 microns and less,
(b) said particles being coated with from approx. 1 to 19 percent calcium stearate as desired to desensitize said cyclotrimethylene-trinitramine to where it can be initiated reliably by means of five grains per foot MDF.

3,266,958
HIGH ENERGY FUEL COMPOSITION CONTAINING POLYBUTADIENE AND BORANE

Jack D. Breazeale, Grand Island, Charles F. Parks, Buffalo, and Robert V. Wright, Grand Island, N.Y., assignors to Olin Mathieson Chemical Corporation

No Drawing. Filed July 18, 1958, Ser. No. 749,559
21 Claims. (Cl. 149—19)

1. A solid high energy fuel composition consisting essentially of the product of reaction of polybutadiene rubber and a borane selected from the group consisting of decaborane and lower alkyl decaboranes and mixtures thereof at a temperature of about 20 to 300° C. and in amounts of about 0.05 to 10 parts by weight of borane per part of polybutadiene rubber.

3,266,959
STABILIZED POLYURETHANE PROPELLANTS CONTAINING ALUMINUM

Avery W. Ackley, Orangedale, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed May 5, 1965, Ser. No. 453,902
4 Claims. (Cl. 149—19)

1. A solid propellant composition comprising the following ingredients:
ammonium perchlorate;
ammonium nitrate;
aluminum;
a burning rate catalyst selected from the group consisting of ammonium dichromate, iron oxide, antimony sulfide and chromium trioxide;
a polyurethane binder mixture consisting essentially of polypropylene glycol, glycerolmonoricinoleate, and tolylene diisocyanate;
trioctyl phosphate;
ferric acetyl acetonate;
an antioxidant consisting of an amine reaction product; squalene;
a mixture of surface active agents consisting essentially of lecithin, trioleate, and tertiary alkyl amino polyether alcohol; and dimethyl silicone.

3,266,960
AMMONIUM NITRATE COMPOSITIONS CONTAINING HYDRATABLE METAL SALTS AND LIQUID HYDROCARBONS

John E. Lyon, Florissant, John R. Parks, University City, and Joseph G. Stites, Jr., Des Peres, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Original application May 10, 1961, Ser. No. 109,011, now Patent No. 3,212,944, dated Oct. 19, 1965. Divided and this application Feb. 25, 1965, Ser. No. 435,330
5 Claims. (Cl. 149—21)

1. A free-flowing composition especially suitable for use in the field of explosives comprising from about 3% to 15% by weight of a combustible liquid hydrocarbon fuel and ammonium nitrate, at least about 90% by weight of which is present as prills of a size less than about 20 mesh, said prills containing between about 0.02% and about 1% by weight, calculated on an anhydrous basis, of a hydratable inorganic salt selected from the group consisting of magnesium nitrate, aluminum nitrate, iron nitrate, calcium nitrate, zinc nitrate, magnesium sulfate, magnesium oxide and magnesium carbonate and water not in excess of about 1% by weight of water bound as water of hydration by said hydratable salt, said prills having a mean prill density and a size distribution such that said composition has an uncompacted bulk density of at least about 60 pounds per cubic foot, the total amount of explosively inert materials in said composition being below about 6% by weight.

3,266,961
METHOD OF ETCHING Si AND Ge SEMICONDUCTOR BODIES

Reimer Emeis, Ebermannstadt, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany, a corporation of Germany

No Drawing. Filed Jan. 23, 1962, Ser. No. 168,269
Claims priority, application Germany, Feb. 3, 1961, S 72,354
4 Claims. (Cl. 156—17)

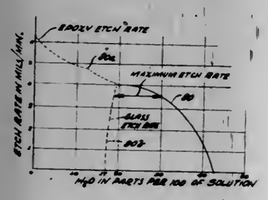
1. The method of etching substantially monocrystalline semiconductor bodies selected from the group con-

sisting of silicon and germanium after lapping, which comprises immersing said semiconductor bodies in an etching solution of concentrated potassium hydroxide solution, at room temperature, for a period of about 24 hours resulting in maintaining the planes of the flat sides in planar parallel relationship.

3,266,962
METHOD OF ETCHING ELECTRODE FOILS FOR ELECTROLYTIC CAPACITORS
Wolfgang Post, Singen am Hohentwiel, Germany, assignor to Schweizerische Aluminium AG (Aluminium Suisse S.A.) (Alluminio Svizzero S.A.) (Swiss Aluminium Ltd.)
No Drawing. Filed Aug. 28, 1962, Ser. No. 220,041
Claims priority, application Switzerland, Aug. 30, 1961, 10,104/61
2 Claims. (Cl. 156—22)

1. A process of making etched electrode metal foils with an increased active surface area for electrolytic capacitors, which comprises etching a metal foil in an etch bath, subjecting the foil to liquid and light permeability tests, and terminating the etching step when the tests indicate that the foil is permeable to liquid but impermeable to light.

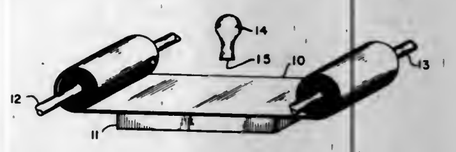
3,266,963
METHOD AND MEANS FOR ETCHING GLASS AND GLASS REINFORCED PLASTICS
Llewelyn B. Stearns, Pico Rivera, Calif., assignor to Chemical and Aerospace Products, Inc., Wilmington, Calif., a corporation of California
Filed July 22, 1965, Ser. No. 477,352
12 Claims. (Cl. 156—24)



1. In a process for etching glass, the improvement which comprises:
contacting said glass with an etch solution initially comprising approximately 50–75% sulfur trioxide approximately, 10–40% hydrogen fluoride, and a predetermined percentage of water in the range falling between about 5% to about 25% water; and
adding sulfur trioxide and hydrogen fluoride into said etch solution, as the etching of said glass proceeds, in such proportions as to maintain the water content at approximately said predetermined percentage within said range of from between about 5% to about 25% water.

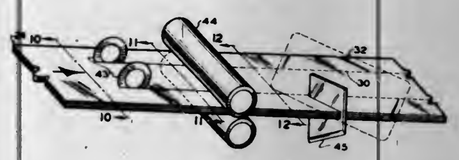
3,266,964
METHOD FOR SEALING CAVITIES IN ARTICLES
Joseph J. Domicone, Elmira, and Jack E. Mounteer, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Nov. 20, 1963, Ser. No. 325,099
10 Claims. (Cl. 156—69)

1. The method of forming a closure across an opening defined by a rim of an article which comprises the steps of providing a sheet of thermoplastic material, heating said rim at least to the softening temperature of said thermoplastic material, bringing said rim into contact with said sheet to soften a part of said sheet in contact with said rim and to seal said part to said rim, and moving



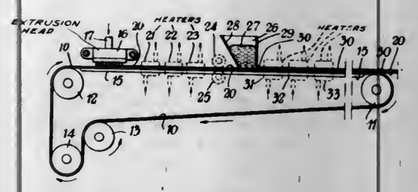
said rim in a direction transverse to said sheet to separate from said sheet a portion of said sheet defined by said part.

3,266,965
METHOD OF MAKING A TEARABLE LAMINATED SHEET MATERIAL
Arthur T. Spees, 633 S. Carondelet St., Los Angeles, Calif.
Filed Mar. 26, 1964, Ser. No. 355,053
11 Claims. (Cl. 156—152)



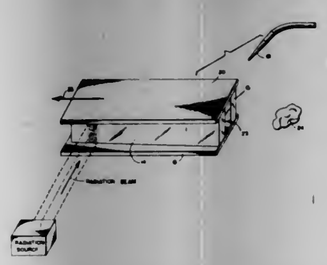
1. The method of forming a tear tape for application to thermoplastic sheet material from a laminated strip having a core layer of non-thermoplastic sheet material between two layers of thermoplastic sheet material, which comprises the steps of weakening said laminated strip longitudinally along at least one line by at least partially severing the laminated strip to define at least two longitudinal sections, and restoring the severed portions of each of the thermoplastic layers of said laminated strip by application of heat while leaving the severed portion of said core layer in severed condition.

3,266,966
CAST PLASTIC SHEETS OR FILMS
Albert George Patchell, Welwyn Garden City, England, assignor to T. J. Smith & Nephew Limited, Hull, England, a British company
Filed Mar. 22, 1960, Ser. No. 16,670
Claims priority, application Great Britain, Mar. 23, 1959, 9,955/59
4 Claims. (Cl. 156—167)



1. A method of forming a re-inforced, porous, cast and gelled film having extruded reinforcing strand-like lines, said film being formed of a polymerised synthetic resin capable of being gelled, comprising the steps of laying a spread of individually extruded spaced fine lines of a paste of the polymerised synthetic resin thinned by a solvent in the form of an openwork pattern on the surface of a flexible traveling band carrier with the spread of strand-like fine lines extending diagonally thereof, subjecting the pattern spread of lines on the carrier to a heat treatment at an elevated temperature to evaporate-off the thinning solvent but not to gell the said spread of lines, immediately casting on the heated pattern spread of lines on the carrier a film of solvent thinned paste of a compatible polymerised synthetic resin capable of being gelled and which paste includes a pore-forming blowing agent adapted to be blown at the gelling temperature of the paste in which it is included, in such a manner that said film embeds the patterned spread of lines at least to a major portion of the thickness in depth of said lines, subjecting the re-inforced film thus formed to another heat treatment to evaporate off the thinning solvent and to gell the film and embedded pattern spread of lines and also to decompose any blowing agent and allowing the re-inforced film to cool and set.

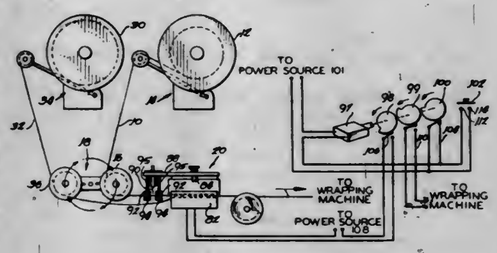
3,266,967
METHOD OF MAKING A LIQUID MICROCELL
Raymond A. Saunders, Hyattsville, Md., assignor to the United States of America as represented by the Secretary of the Navy
Original application Jan. 25, 1962, Ser. No. 168,852, now Patent No. 3,194,111, dated July 13, 1965. Divided and this application Nov. 29, 1963, Ser. No. 327,154
4 Claims. (Cl. 156—254)



1. The method of forming a liquid microcell from which a plurality of absorption intensity measurements may be obtained through use of a single cell comprising the steps of
cleaving a single crystal of suitable material along a plane substantially bisecting the crystal,
restraining the cleavage from progressing beyond a selected point at one end of said crystal,
spreading apart the two sections at the end opposite said one end to form a tapered space which approaches zero thickness at said one end, and
enclosing the space between said spread apart sections on two sides thereof.

3,266,968
SEMI-AUTOMATIC ZIP TAPE SPLICER
Leo J. Von Gunten, Akron, Ohio, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Nov. 25, 1964, Ser. No. 413,858
7 Claims. (Cl. 156—368)

1. A semi-automatic tape splicer for providing a continuous delivery of tape to a wrapping machine comprising, in combination: a tape sealer assembly for splicing two tapes together; a positioning device for guiding at least two separate tapes to said tape sealer assembly; a timer unit including means effective upon the energization of said timer unit to maintain said timer unit energized until it returns to its start position, to de-energize said wrapping machine and to again energize said wrapping machine upon completion of said splicing operation and to render said tape sealer assembly operative to make a splice; and activating means for energizing said timer unit.



3,266,969
TUFTING PROCESS AND PRODUCTS HAVING TUFTED STRUCTURES
Munzer Makansi, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 10, 1962, Ser. No. 222,707
41 Claims. (Cl. 161—63)

1. A process for inserting loops of a continuous filamentary strand through openings of an apertured structure to produce a tufted product without the use of needles which comprises continuously forwarding the strand in an axial direction to travel in a predetermined free path for a distance of at least one inch toward one face of the apertured structure at a velocity (V_T) which provides sufficient inertial momentum to force loops of the strand through openings of the apertured structure, supporting the structure so that a portion to be tufted intercepts said free path of the strand, with the opposite face of the portion out of contact with any surface inserting tuft loops through openings of the structure solely by inertial momentum of the strand, and intercepting said path with successive portions of the structure to produce a series of tufts.

3,266,970
ADHERING TEXTILE MATERIALS TO RUBBER
Philip T. Paul, Naugatuck, Conn., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed July 10, 1963, Ser. No. 294,180
14 Claims. (Cl. 161—241)

8. A laminate of textile material and a calendered vulcanized rubber composition containing the resinous reaction product of a compound selected from the group consisting of 1 - aza - 3,7 - dioxabicyclo[3.3.0]octane, 1 - aza - 5 - methyl - 3,7 - dioxabicyclo[3.3.0]octane, 1 - aza - 5 - ethyl - 3,7 - dioxabicyclo[3.3.0]octane and 1 - aza - 5 - methylol - 3,7 - dioxabicyclo[3.3.0]octane, and a condensation product of resorcinol and an alkyl aldehyde having 2 to 4 carbon atoms.

3,266,971
ACRYLIC LATEX COATING COMPOSITION CONTAINING AMINE MIXTURES
Charles Hartley Miller, Jr., Old Greenwich, Conn., assignor to Formica Corporation, Cincinnati, Ohio, a corporation of Delaware
No Drawing. Filed Mar. 31, 1964, Ser. No. 356,086
20 Claims. (Cl. 161—251)

17. A unitary heat- and pressure-consolidated laminated article which comprises

(I) a rigidity imparting base member and bonded thereto

(II) a surface member comprising a substantially thermoset resin-impregnated fibrous sheet coated on the exposed surface with a substantially thermoset composition, said coating prior to substantial advancement in cure comprising a mixture of

(A) a reactive water-insoluble essentially linear emulsion copolymer of from about 50% to 98% by weight of a C_1 to C_4 alkyl ester of methacrylic acid and correspondingly from about 50% to 2% by weight of an acrylic acid,

(B) a cross-linking amount of a compound selected from the group consisting of the polyalkyl ethers of polymethylolmelamine having a degree of methylolation and methylation between about 5 and 6 and 3,4-epoxy-6-methylcyclohexylmethyl-3,4-epoxy-6 - methylcyclohexanecarboxylate, and

(C) from about 2% to 6% by weight based on copolymer solids of a mixture of

(1) an amine selected from the group consisting of triethylamine and tripropylamine, and

(2) tributylamine, in proportions by weight of (1) to (2) of from about 25:75 to 75:25.

3,266,972
PROCESS FOR PRODUCING AN EXTENSIBLE PAPER
Francis B. Cramer, Newark, and Esperanza G. Parrish, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 1, 1964, Ser. No. 393,748
11 Claims. (Cl. 162—146)

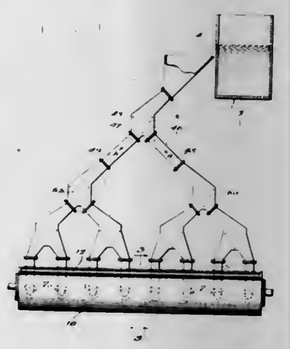
1. A process for producing an uncreped paper web of water-laid, adherent, cellulose fibers, with smooth, substantially parallel faces and substantial permanent extensibility in excess of the primitive elastic limit of the web, and which suffers no substantial decrease in thickness when elongated by stretching, which comprises depositing, upon a foraminous surface a furnish comprising (I) cellulose fibers and (II) from about 1% to about 10%, based on the total dry weight of the furnish, of an additive particle of highly swollen, water insoluble cellulose derivative containing a deep seated substituent from the class consisting of an ether, an acid, a nitrile, an ester and mixtures thereof, the degree of substitution of the said cellulose being from about 0.01 to about 0.8, the said particle having been formed from an alkali cellulose particle swollen by steeping in aqueous alkali containing from about 14% to about 30% by weight caustic prior to derivative formation, the said furnish being characterized by a Canadian standard freeness at the headbox of from about 450 to about 650, the web so formed being thereafter subjected to an after-treatment comprising moving said web in a direction lengthwise thereof, and while in the physical condition it possesses as it leaves the wet end of a paper making machine, slowly removing a part only of the moisture from said paper web, and uniformly pushing and crowding the fibers of the partially dried web together in the space between the faces of the web as laid, continuous through the web, and by forces acting in a direction parallel to the faces of the web, opposite to the direction of movement, and throughout the pushing and crowding confining the web against creping by pressures on the web normal to said web faces.

3,266,973
METHOD OF PREPARING ADSORBENT FILTER PAPER CONTAINING CRYSTALLINE ZEOLITE PARTICLES, AND PAPER THEREOF
Richard P. Crowley, 64 Pillon Road, Milton, Mass.
No drawing. Filed July 25, 1963, Ser. No. 297,678
14 Claims. (Cl. 162—164)

1. In the method of preparing paper stock characterized by an affinity for molecular materials which method includes: the steps of preparing an aqueous slurry of pulp; forming a sheet from the pulp; and drying the sheet, the improvement which comprises: adding to the pulp finely divided zeolite crystalline molecular sieve particles in an amount of from about 5 to 300 percent by weight based on the dry weight of the pulp.

11. A cellulosic paper product which includes a non-woven matrix of dried cellulosic paper pulp containing dispersed therein from about 5 to 300 percent by weight based on the dry weight of the pulp of finely divided, zeolite crystalline molecular sieve particles.

3,266,974
PAPER STOCK SLURRY FEED APPARATUS AND PROCESS
Ellsworth Staver, Jr., Highland Park, Ill., assignor to Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware
Filed July 16, 1963, Ser. No. 295,441
13 Claims. (Cl. 162—216)



1. An apparatus for distributing a slurry of uniform composition to a plurality of evenly spaced inlets across the headbox of a board forming machine comprising:

a plurality of fixed, spaced apart substantially parallel vertically disposed partitions in substantial alignment and defining passages for the gravitational flow of the slurry;

means in a first passageway for diverting the slurry passing therethrough in a predetermined direction;

means in a second passageway adjacent the first for diverting the slurry passing therethrough in a predetermined direction different than that of the first;

means in the other remaining passageways for alternately diverting the slurry streams in the same order and direction as in the first and the second passageways respectively;

conduit means for collecting all of the streams diverted in the direction of the stream leaving the first passageway;

conduit means for collecting all of the streams diverted in the direction of the stream leaving the second passageway; and

means for varying the spaced apart distance of the inlet of at least two of the adjacent partitions.

4. A method of providing an even distribution of a slurry of uniform composition across the width of the belt of a board forming machine comprising;

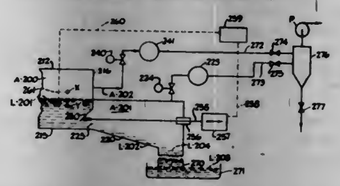
splitting the slurry flowing by gravity, into a plurality of smaller parallel streams;

recombining alternate parallel streams into two effluents, of substantially equal volume;

repeating the splitting and recombining of the effluents at least one more time; and

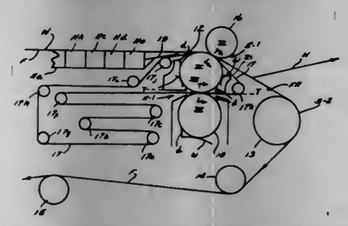
separately feeding the final effluent streams of equal volume to the board forming machine at spaced apart intervals across the width of the belt.

3,266,975
AUTOMATICALLY CONTROLLED PRESSURE FLOW SUCTION FLATBOX FOR PAPERMAKING MACHINE
James Thomas Cribben, Janesville, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Aug. 2, 1963, Ser. No. 299,653
7 Claims. (Cl. 162—252)



2. A device for regulating pressure in a suction chamber having a perforate wall offering restricted flow to a liquid exposed thereto and said chamber being arranged to have a predetermined level of liquid therein, which comprises separate and independent means communicating said chamber above and below said level, a source of vacuum connected to both said means, valve means interposed between one of said means and the source of vacuum, and means for controlling the valve means in response to the level in said chamber.

3,266,976
COUCH ASSEMBLY FOR PAPERMAKING MACHINES
Jerome P. Brezinski, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Sept. 12, 1963, Ser. No. 308,490
4 Claims. (Cl. 162—314)



1. In a machine for forming a wet fibrous web on a looped traveling forming wire, in combination, a looped traveling felt within the wire loop, a couch roll within the felt loop, a turning roll outside the felt loop and within the wire loop mounting with said couch roll a reach of said wire extending therebetween from a couch station to a turning station, a pressure roll outside the felt loop and within the wire loop defining with said couch roll a felt only press nip for receiving and dewatering said felt, and guide means for separating the felt from the couch roll and said wire reach at the immediate off-running side of said couch station and then passing the felt through said felt only nip so as to maintain the felt separate from said rolls at substantially the immediate oncoming and off-running sides of said nip, at least one of said couch and pressure rolls being a grooved roll presenting to the felt at the nip a peripheral surface portion having a plurality of alternating generally circumferentially aligned grooves and ridges, said ridges presenting to such felt smooth generally continuously cylindrical closely axially spaced land areas for supporting the felt and permitting the felt to bridge the grooves, said grooves being vented to ambient atmosphere to facilitate reception of water at the nip.

3,266,977
SUCTION BOX COVER
Frank T. Gatke, River Forest, Ill., assignor to Gatke Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 20, 1964, Ser. No. 346,306
3 Claims. (Cl. 162—374)



1. In a suction box cover of the type characterized by a plurality of parallel spaced rails defining suction slots therebetween, the improvement which comprises, a plurality of rings for bracing said rails in parallel spaced relation, each of said rings being secured to said rails in a plane parallel with the upper surface of the cover.

3,266,978
3,3-DIBUTYL-2-(2,2,4-TRIMETHYLPENTYL) PSEUDOUREA ACETATE AS AN INSECT REPELLENT
Sylvan E. Forman, Trenton, N.J., and Harry H. Incho, Medina, N.Y., assignors to FMC Corporation, a corporation of Delaware
No Drawing. Filed Aug. 17, 1964, Ser. No. 390,227
7 Claims. (Cl. 167—22)

5. A method of repelling insects which comprises subjecting such insects to the action of an effective quantity of 3,3 - dibutyl - 2 - (2,2,4-trimethylpentyl)pseudourea acetate.

3,266,979
3,3 - DIBUTYL - 2 - (2,2,4-TRIMETHYLPENTYL) PSEUDOUREA AS AN INSECT REPELLENT
Harry H. Incho, Medina, N.Y., and Sylvan E. Forman, Trenton, N.J., assignors to FMC Corporation, a corporation of Delaware
No Drawing. Filed Aug. 17, 1964, Ser. No. 390,228
7 Claims. (Cl. 167—22)

4. A method of repelling insects which comprises subjecting such insects to the action of an effective quantity of 3,3-dibutyl-2-(2,2,4-trimethylpentyl)pseudourea.

3,266,980
2,3,6-TRICHLOROPHENYLACETAMIDE FOR PLANT DISEASE CONTROL
Jack S. Newcomer, Wilson, Edward D. Weil, Lewiston, and Edwin Dorfman, Grand Island, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Jan. 10, 1963, Ser. No. 250,499
10 Claims. (Cl. 167—30)

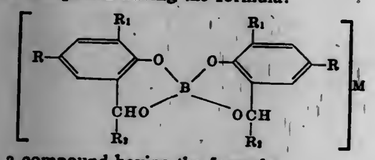
1. A method for the treatment of trees to reduce the development of symptoms of vascular tree diseases caused by microorganisms which comprises applying to the locus

of the tree a non-phytotoxic vascular tree disease symtom-reducing amount of 2,3,6-trichlorophenylacetamide.

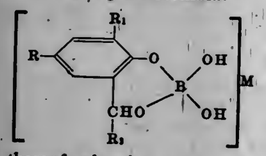
3,266,981
BIOLOGICALLY TOXIC COMPOSITIONS CONTAINING BORON-PHENOL COMPLEXES AND METHODS
David R. Stern, Fullerton, and Friedrich J. Weck, Hacienda Heights, Calif., assignors to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware
No Drawing. Filed Jan. 14, 1965, Ser. No. 425,609
12 Claims. (Cl. 167—30)

9. A method of combating the growth of biological material characterized by contacting said biological material with a toxic amount of a compound selected from the group consisting of

(1) a compound having the formula:



(2) a compound having the formula:



and mixtures thereof, wherein

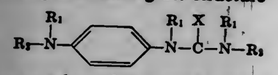
(a) R and R_1 are each independently selected from the group consisting of halogen, alkyl, cycloalkyl and aryl substituents; one of said R and R_1 being halogen; the total number of carbon atoms in said R and R_1 substituents combined being from 4 to 24;

(b) R_2 is selected from the group consisting of hydrogen, alkyl substituents containing from 1 to 7 carbon atoms, cycloalkyl substituents containing from 4 to 7 carbon atoms and aryl substituents containing from 6 to 10 carbon atoms;

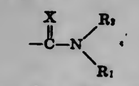
(c) M is selected from the group consisting of alkali metal and ammonium.

3,266,982
PROCESS FOR CONTROLLING PESTS
Ivan C. Popoff, Ambler, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 19, 1965, Ser. No. 441,366
26 Claims. (Cl. 167—30)

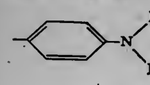
1. A method of obtaining pesticidal effects which comprises contacting pests affecting plants with an effective amount of a compound having the structure



where R_1 is a member of the group consisting of alkyl, alkenyl, cycloalkenyl, cycloalkyl, and aryl containing up to twelve carbon atoms, R_2 is a member of the group consisting of hydrogen, R_1 and



R_3 being selected from the group consisting of R_1 and



and X is an atom selected from the group consisting of oxygen and sulfur.

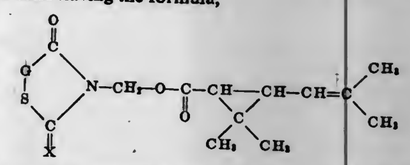
3,266,983
4-HALO-1-METHOXYNAPHTHALENES AS SOIL FUNGICIDES
Richard K. Brantley, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 28, 1964, Ser. No. 392,934
4 Claims. (Cl. 167—32)

1. Method for protecting plants from attack by soil fungi comprising applying to soil infected with soil fungi a plant protectant amount of a compound selected from the group consisting of

4-fluoro-1-methoxynaphthalene,
4-chloro-1-methoxynaphthalene, and
4-bromo-1-methoxynaphthalene.

3,266,984
CHRYSANTHEMIC ACID ESTERS
Kenzo Ueda, Nishinomiya-shi, Sadao Horie, Suita-shi, Toshio Mizutani, Ikeda-shi, Katsuji Nodera and Keimei Fujimoto, Minoo-shi, and Yoshiosi Okuno, Nishinomiya-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Higashi-ku, Osaka, Japan, a corporation of Japan
No Drawing. Filed Aug. 4, 1965, Ser. No. 477,290
Claims priority, application Japan, Aug. 28, 1964, 39/49,158; Aug. 29, 1964, 39/49,119; Sept. 15, 1964, 39/52,950, 39/52,951
10 Claims. (Cl. 167—33)

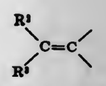
10. A method for killing insects, which comprises treating the insects with a toxic amount of a chrysanthemic acid ester having the formula,



wherein G represents a member selected from the group consisting of



and



wherein R^1 is a member selected from the group consisting of hydrogen atom and lower alkyl having 1 to 4 carbon atoms, and R^2 and R^3 each represent a member selected from the group consisting of hydrogen atom and lower alkyl having 1 to 2 carbon atoms; and X represents a member selected from the group consisting of oxygen and sulfur atoms.

3,266,985
PRODUCTION OF WOOD PRESERVATIVES
Danvers Allin Swales, Harrogate, England, assignor to Associated Chemical Companies Limited, Harrogate, England, a British company
No drawing. Filed Apr. 15, 1965, Ser. No. 448,267
Claims priority, application Great Britain, Apr. 24, 1964, 17,105/64
12 Claims. (Cl. 167—38.5)

1. A process for preparing a material for use in wood preservative compositions comprising, reacting in the presence of water, a compound selected from the group consisting of chromic acid and alkali metal dichromate,

and a salt of a metal selected from the group consisting of copper and zinc, followed by evaporation of the water to leave the solid reaction products as a free flowing powder.

3,266,986
HYPNOTIC COMPOSITION CONTAINING REACTION PRODUCT OF CHLORAL HYDRATE AND ACETYLGLYCINEAMIDE
Edward A. A. Degerholm and Nils O. B. Sterner, Malmo, Sweden, assignors to A. B. Ferrosan, a corporation of Sweden
No Drawing. Filed May 3, 1963, Ser. No. 277,682
Claims priority, application Sweden, May 9, 1962, 5,201/62
4 Claims. (Cl. 167—52)

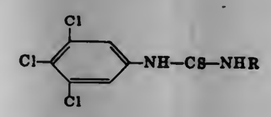
1. A pharmaceutic composition exhibiting hypnotic activity, said composition comprising

(a) a compound formed by reacting substantially equimolar amounts of chloral hydrate and acetylglycineamide and

(b) a pharmaceutically acceptable diluent, said compound being present in the composition in an amount necessary to produce hypnotic action.

3,266,987
SUBSTITUTED THIOUREA COMPOUNDS AND METHODS OF USING SAME AS ANTHELMINTICS
Jennifer Crowley, James Loudon Lowe, and Bryan Harper Palmer, Nottingham, England, assignors to Boots Pure Drug Company Limited, Nottingham, England, a British company
No Drawing. Filed May 27, 1963, Ser. No. 283,567
Claims priority, application Great Britain, June 8, 1962, 22,285/62
11 Claims. (Cl. 167—53)

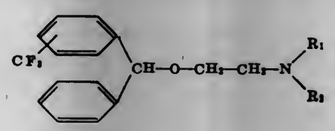
1. A method of treating helminthiasis which comprises orally administering to a host infected with helminthiasis an anthelmintically effective amount of a compound of the formula



in which R is selected from the group consisting of 3,4,5 trichlorophenyl, 3,4-dichlorophenyl and 3,5-dichlorophenyl.

3,266,988
METHOD OF PRODUCING ANTI-ADRENAL ACTIVITY
Harry L. Saunders, Willow Grove, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 10, 1963, Ser. No. 315,408
8 Claims. (Cl. 167—65)

4. The method of producing adrenal inhibition activity which comprises internally administering to an animal organism in an imount sufficient to produce such activity a compound selected from the group consisting of a free base and its nontoxic pharmaceutically acceptable acid addition salts, said free base having the formula:



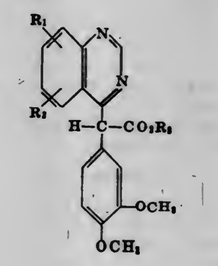
in which R_1 and R_2 are members selected from the group consisting of hydrogen and lower alkyl having not in excess of four carbon atoms and when taken together with the nitrogen forms a five to seven membered heterocyclic amino group.

3,266,989
TREATMENT OF ALCOHOLISM
Paul Francis O'Hollaren, Seattle, Wash., assignor to Enzomedic Laboratories, Inc., a corporation of Washington
No Drawing. Filed Nov. 13, 1962, Ser. No. 237,326
5 Claims. (Cl. 167—55)

1. A method for treating alcoholism to reduce the craving for alcohol which comprises internally administering to a patient clinically evidencing such symptoms of alcoholism a therapeutic composition containing diphosphopyridine nucleotide in an amount sufficient to reduce the craving for alcohol of such patient.

3,266,990
DERIVATIVES OF QUINAZOLINE
Wilson B. Lutz, North Manchester, Ind., and Robert I. Meltzer, Rockaway, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Filed Sept. 24, 1963, Ser. No. 311,209
10 Claims. (Cl. 167—65)

1. A compound of the formula:



wherein R_1 and R_2 is each a member selected from the group consisting of hydrogen, lower alkyl and lower alkoxy and R_3 is a member selected from the group consisting of hydrogen, lower alkyl, phenyl lower alkyl and diethylaminoethyl and the nontoxic pharmaceutically acceptable acid addition salts thereof.

10. A hypotensive composition comprising as active ingredient of about 1 to 100 mg. a compound selected from the group consisting of 4-(3,4-dimethoxybenzyl)-6,7-dimethoxyquinazoline and the pharmaceutically acceptable nontoxic acid addition salt thereof and a nontoxic inert pharmaceutical carrier.

3,266,991
PHARMACEUTICAL PREPARATIONS OF 1-DEHYDRO-TESTOSTERONE UNDECYCLENATE
Albert Wettstein, Riehen, and Georg Anner and Ludwig Ehmann, Basel, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 26, 1965, Ser. No. 435,687
Claims priority, application Switzerland, Apr. 14, 1961, 4,433/61
4 Claims. (Cl. 167—74)

1. 1-dehydro-testosterone undecylenate.

2. Pharmaceutical preparations containing as the active ingredient 1-dehydro-testosterone undecylenate together with a member selected from the group consisting

of a carrier suitable for enteral, parenteral and topical administration, said active ingredient being present in an amount ranging from 0.05 to 500 mg. per unit dose.

3,266,992
TABLETS AND METHOD OF PREPARING THE SAME

Elkan Joachim de Jong, Rotterdam, Netherlands, assignor to N.V. Organon, Oss, Netherlands, a limited-liability corporation of the Netherlands

No Drawing. Filed Jan. 22, 1963, Ser. No. 253,066
Claims priority, application Netherlands, Jan. 25, 1962, 273,962
13 Claims. (Cl. 167—82)

1. A method of making a tablet from a plurality of constituent substances including at least one powdered material having a particle size smaller than 60 mesh and a binder, which comprises:

(a) intimately mixing said binder with said material while substantially maintaining the particle size of said one material,

(1) the amount of said binder being between 0.1 and 5 percent of the amount of said one material,

(2) said binder and said material being mixed in the presence of an amount of a liquid sufficient to distribute the binder uniformly over the surface of the particles of said one material, but insufficient to form a continuous liquid phase, the binder being at least partly soluble in said liquid, whereby said particles are coated with said binder,

(3) the amount of said liquid being between two and fifty percent of said one material,

(4) the amount of said binder being sufficient to bond said particles when subjected to compression; and

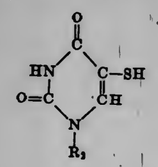
(b) compressing the coated particles until said particles are bonded to each other.

3,266,993
TREATMENT TO OBTAIN ONCOSTASIS

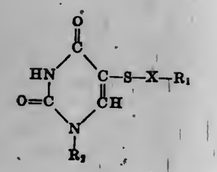
Thomas J. Bardos, Snyder, N.Y., assignor, by mesne assignments, to Armour Pharmaceutical Company, a corporation of Delaware

No Drawing. Filed July 26, 1961, Ser. No. 126,867
3 Claims. (Cl. 167—65)

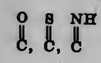
1. A composition in dosage unit form containing, as essential active ingredients, neoplastic growth inhibiting quantities of at least one compound having the formulae



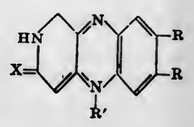
and

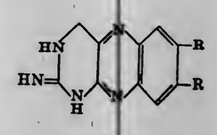


wherein X is selected from the group consisting of



and S wherein R_1 is a monovalent organic radical selected from the group consisting of amino, uracil and alkyl having less than 4 carbon atoms, and wherein R_2 is selected from the group consisting of hydrogen, ribosyl and deoxyribosyl; at least one compound having the formulae


(A)


(B)

wherein X is selected from the group consisting of oxygen and an imino group, wherein R is selected from the group consisting of methyl, ethyl and halogen, wherein R' is a radical of the group consisting of alkyl and hydroxyalkyl radicals, and wherein at least one X in Formula A is inimo; and pharmaceutically acceptable excipients.

3,266,994
PROCESS AND COMPOSITION FOR TREATING OF HAIR

Carroll R. Reiss, Green Township, Hamilton County, and J. Leon Lichtin, Springfield Township, Hamilton County, Ohio, assignors to The Realistic Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed June 24, 1963, Ser. No. 290,183
9 Claims. (Cl. 167—87.1)

9. A hair treating composition which consists essentially of an aqueous solution of sodium bromate and at least 20 percent by weight of magnesium sulfate.

3,266,995
SKIN DELUSTERING COLLOIDAL SILICA COMPOSITION AND METHOD

Monroe Lanzet, North Bergen, and Nathan A. Ziskin, Englewood, N.J., assignors to Yardley of London, Inc., a corporation of New Jersey

No Drawing. Filed July 10, 1962, Ser. No. 208,940
4 Claims. (Cl. 167—90)

1. A method of treating the skin to deluster the surface thereof comprising applying to the skin a make-up cosmetic consisting of an oil and water emulsion, an organic solvent selected from the group consisting of monohydric alcohols, polyhydric alcohols and glycol ethers, and an extender, said make-up containing about 1.5% to 10.5% of colloidal silica sufficient to provide a delustering effect on the skin, the amount of said silica being less than that causing gelation of said make-up, the particle size being below about 5 microns.

3,266,996
ORAL COMPOSITIONS FOR CARIES PROPHYLAXIS CONTAINING STANNOUS FLUOROZIRCONATE

Joseph C. Muhler, Indianapolis, Ind., assignor to Indiana University Foundation, Bloomington, Ind., a corporation of Indiana

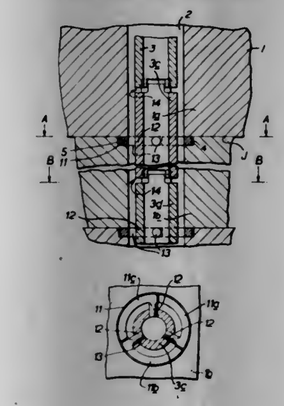
Original application June 27, 1963, Ser. No. 291,173. Divided and this application July 28, 1965, Ser. No. 482,979
4 Claims. (Cl. 167—93)

1. An oral composition for caries prophylaxis comprising from about 0.1% to about 50% of stannous fluorozirconate and an ionically compatible carrier suitable for use in the oral cavity.

3,266,997
MEANS FOR SUPPORTING NUCLEAR FUEL COMPONENTS IN MODERATOR CHANNEL

Alan Thomas Hooper, Weymouth, Dorset, and Albert George Montgomery, Dorchester, Dorset, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Feb. 13, 1963, Ser. No. 258,278
Claims priority, application Great Britain, Feb. 15, 1962, 5,818/62
1 Claim. (Cl. 176—41)

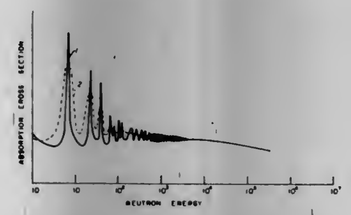


A vertically extending coolant channel extending within a mass of nuclear moderating material, a plurality of tubes of nuclear fuel bearing ceramic material arranged in superposition within the channel and supported from the channel wall by support means, said supports means comprising an annular member fixed to the channel wall having radially inwardly projecting portions engaging the periphery of the fuel bearing tube, the annular member being a three part ring, each part having a radial extending spigot and means for lodging the ring in the channel wall with the spigots directed radially inwards towards the channel, the spigots engaging holes formed at a position intermediate the ends of the tube which ends are formed with intergaging castellations.

3,266,998
DOPPLER COEFFICIENT CONTROL FOR NUCLEAR REACTORS OPERATING IN THE FAST OR INTERMEDIATE NEUTRON ENERGY SPECTRUM

Paul Greebler, San Jose, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Feb. 14, 1964, Ser. No. 345,056
4 Claims. (Cl. 176—41)

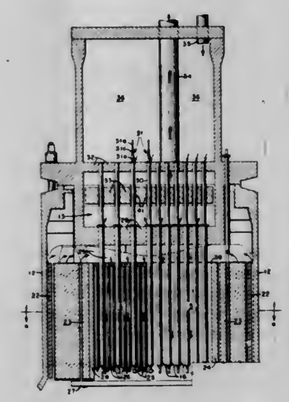


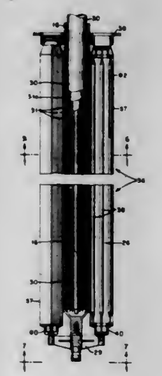
1. In a process for operating a nuclear reactor of the type including a core containing fissile material having neutron absorbing resonances in the range of about 1–10,000 electron volts, cooled by a liquid metal and arranged for sustaining a fission chain reaction utilizing neutrons of a fast energy spectrum flux produced in the core, the step comprising distributing a moderator material in the neutron flux region of said core in an amount sufficient to moderate the energy of from about 15% to about 30% of the neutrons in said core into the energy range of about 1 'to about 10,000 electron volts whereat the Doppler coefficient of reactivity of said core is made more negative to increase neutron absorption with increase of the temperature of said core.

3,266,999
GAS-COOLED, WATER MODERATED NEUTRONIC REACTOR

Richard E. Wood, Idaho Falls, Idaho, and Wayne Edgar Niemuth, Loveland, Ohio, assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed Mar. 26, 1965, Ser. No. 443,118
10 Claims. (Cl. 176—58)





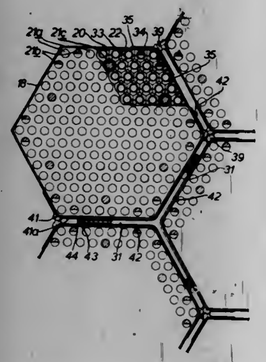
1. An improved gas-cooled, water-moderated active core region for a neutronic reactor comprising: a multiplicity of moderator tubes spaced apart in an orderly array, light water moderator being disposed within said moderator tubes, and a multiplicity of fuel elements substantially filling the interstitial space between said moderator tubes to form a continuous fuel matrix enveloping

said moderator tubes, gaseous coolant being passed through said fuel elements to cool them during reactor operation.

3,267,000
NUCLEAR FUEL ASSEMBLY

David John Ashcroft, Bolton, and Roy Hartwell, Newton-le-Willows, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Feb. 24, 1965, Ser. No. 434,880
Claims priority, application Great Britain, Feb. 27, 1964, 8,294/64
6 Claims. (Cl. 176—68)

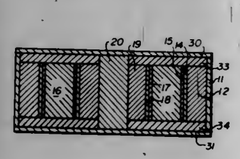


1. A nuclear fuel assembly comprising a cluster of fuel pins and control pins, a cellular spacer grid penetrated by the pins for lateral spacing of the pins, said grid being axially located within the fuel assembly by engagement with one of the control pins.

3,267,001
MODERATOR REFLECTOR FAST NEUTRON REACTOR CORE

Paul Greebler, San Jose, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 12, 1965, Ser. No. 495,356
14 Claims. (Cl. 176—17)

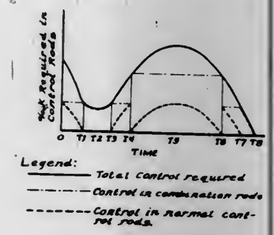


1. In a nuclear reactor core having channels for the passage of coolant therethrough and mechanical reactivity control means therefor, the combination comprising neutron reflector material arranged in a cylindriform configuration defining a central neutron reflector zone, and neutron reflector material, fissile fuel material, buffer material and breeder blanket material arranged in mutually concentric annular cylindriform configurations defining a series of mutually concentric annular cylindriform zones concentric with said central neutron reflector zone with the aforesaid materials distributed, respectively, beginning with the outermost zone and progressing radially inwardly, as an outer first neutron reflector zone, a first breeder blanket zone, a second neutron reflector zone, a first buffer zone, a fissile fuel zone, a second buffer zone, a third neutron reflector zone and a second breeder blanket zone, said second breeder blanket zone concentrically circumjacent said central neutron reflector zone.

3,267,002
METHOD FOR CONTROLLING A NUCLEAR REACTOR

Leonard W. Fromm, Jr., Glen Ellyn, and Charles N. Kelber, Wheaton, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Jan. 28, 1965, Ser. No. 428,886
2 Claims. (Cl. 176—22)

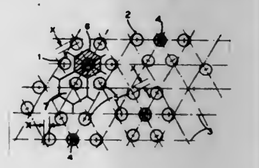


1. A method of controlling a nuclear reactor comprising varying the amount of a control material at the axial center of the reactor in large increments, after each such incremental variation moving conventional control rods axially an amount sufficient to compensate for said incremental variation, and moving the conventional control rods to control the reactor between incremental variations in the amount of control material at the axial center of the reactor, whereby axial flux distortion caused by conventional control rods is minimized.

3,267,003
NUCLEAR REACTOR

Arno Müller, Oberhausen, Rhineland, Germany, assignor to Babcock & Wilcox, Limited, London, England, a company of Great Britain

Filed Sept. 19, 1962, Ser. No. 224,799
Claims priority, application Germany, Sept. 27, 1961, D 37,130
2 Claims. (Cl. 176—41)



1. A heterogeneous nuclear reactor comprising a plurality of fissionable material-bearing fuel elements and a plurality of control rods arranged as a core capable of undergoing a self-sustaining fission-type chain reaction, said core having a substantially uniform lattice, said control rods being disposed at a portion of said lattice points of said core, said core being divided into uniform contiguous regular polygonal areas about each lattice point, the area about each lattice point containing a control rod being equally divided and complementing corresponding areas about the immediately adjacent lattice points to form composite areas, said fuel elements immediately adjacent said control rods being disposed at the centroid of each of said composite areas to provide substantially uniform neutron flux within said lattice.

3,267,004
FERMENTATION METHOD FOR PRODUCING GENTISIC ACID

Leighton A. Nutting, Libertyville, and Lucrecia Borjas, Lake Bluff, Ill., assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Filed May 8, 1964, Ser. No. 366,129
5 Claims. (Cl. 195—28)

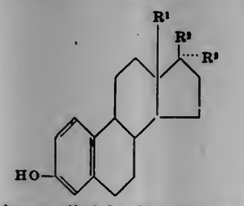
1. A method of producing gentisic acid which comprises fermenting naphthalene in the presence of the organism *Pseudomonas desmolytica* under submerged aerobic conditions in an aqueous culture medium containing inorganic salts and yeast extract and recovering the gentisic acid thus formed.

3,267,005
RESOLUTION OF RACEMIC Δ^4-3-KETOSTEROIDS

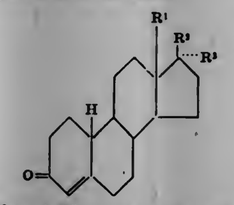
Theodore J. Foell, King of Prussia, George Greenspan, Narberth, and Leland L. Smith, Malvern, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 23, 1963, Ser. No. 318,180
10 Claims. (Cl. 195—51)

1. The method of preparing compounds of the structure:



wherein R^1 is lower alkyl having more than one carbon atom; R^2 is OH and R^3 is selected from the group consisting of H, lower alkyl, lower alkenyl and lower alkynyl and R^2 and R^3 taken together are =O, which comprises treating a compound of the structure:



(I)

wherein R^1, R^2 and R^3 represent the substituents above described with a fungus selected from the group consisting of *Fusarium solani* and *Septomyxa affinis* and recovering and separating the desired compounds.

3,267,006
PANCREATIC COLLAGENASE AND PREPARATION OF SAME

Anwar A. Hakim, Kankakee, and Richard L. Peters, Chebanse, Ill., assignors to Armour Pharmaceutical Company, Chicago, Ill., a corporation of Delaware

Filed Apr. 20, 1962, Ser. No. 189,672
8 Claims. (Cl. 195—62)

8. Pancreatic collagenase characterized by its preparation from mammalian pancreas, its water solubility, its suitability for parenteral administration and its strong activity on purified corium collagen, on acid soluble steer hide collagen, CBZ-glycyl-L-prolyl-glycyl-L-propyl-L-alanine, L-prolyl-glycine, glycyl-L-prolyl-glycyl glycine, L-hydroxy-prolyl-glycine and L-hydroxy-prolyl-L-alanine, by its weaker activity on glycyl-tryosine amide, acetyl-L-tyrosine ethyl ester (maximum activity 75 units/mg.) benzoyl arginine ethyl ester (maximum activity 45 units/mg.); and no activity on N-CBZ-glycyl-L-proline and glycyl-proline.

3,267,007
BONDING METAL DEPOSITS TO ELECTRICALLY NON-CONDUCTIVE MATERIAL

Hilbert Sloan, 1380 North Ave., Elizabeth, N.J.

No Drawing. Filed Apr. 26, 1965, Ser. No. 451,074
10 Claims. (Cl. 204—15)

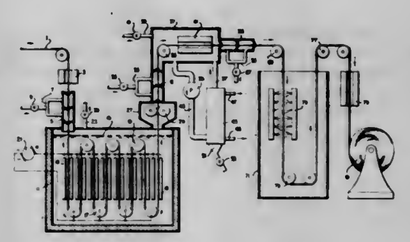
1. A method of bonding a metal deposit to an electrically non-conductive base comprising applying to a surface of said base an adhesive coating composition comprising a curable thermosetting resin in a vaporizable solvent, the resin being in the A stage and requiring the application of heat for curing to the C stage, subjecting the adhesive coating to vacuum drying to remove all of the solvent, the temperature of vacuum drying being sufficiently low to prevent curing of the resin of the adhesive coating, depositing metal on the solvent-free, uncured adhesive coating, and then curing the resin of the adhesive coating directly from the A stage to the C stage.

6. A method of making printed circuits comprising providing a plastic, electrically non-conductive board, applying to a surface of said board an adhesive coating comprising a curable, thermosetting resin in a vaporizable solvent, the resin being in the A stage and requiring the application of heat for curing to the C stage, subjecting the adhesive coating to vacuum drying to remove all of the solvent, the temperature of vacuum drying being sufficiently low to prevent curing of the resin of the adhesive coating, depositing a conductive metal on the dry, solvent-free, uncured adhesive coating, then curing the resin of the adhesive coating directly from the A stage to the C stage, applying a plating resist to the metal deposit in the reverse of the desired circuit pattern, plating the exposed metal runs, removing the resist, and removing the metal left exposed by removal of the resist.

3,267,008
METHOD OF RECOVERING ALUMINUM HALIDE FROM METAL STRIP ELECTRODEPOSITED WITH AN ALUMINUM-CONTAINING COATING FROM A FUSED SALT BATH

Edwin J. Smith, Steubenville, Ohio, and Lowell W. Austin, Weirton, W. Va., assignors to National Steel Corporation, a corporation of Delaware

Filed Oct. 4, 1962, Ser. No. 228,383
16 Claims. (Cl. 204—28)



1. A method of electrodepositing on a continuously traveling metal strip an aluminum-containing coating from a fused salt electrolyte bath containing aluminum halide comprising passing the strip through the bath in electrical circuit with the electrolyte, withdrawing the strip from the bath with a coating of electrolyte on the strip, the withdrawn strip being insufficiently hot to vaporize all of the aluminum halide content of the coating of electrolyte, passing the strip through a heating zone remote from the electrolyte bath to heat the strip to a temperature above the vaporization temperature of the aluminum halide on the strip to vaporize aluminum halide from the strip, removing the heating zone vapors containing vaporized aluminum halide, cooling the removed

vapors to below the condensation temperature of the aluminum halide in a cooling zone to recondense the aluminum halide from the cooled vapors, and removing the recondensed aluminum halide from the cooling zone.

3,267,009
ELECTRODEPOSITION OF PLATINUM CONTAINING MINOR AMOUNTS OF BISMUTH
Lawrence Greenspan, New York, N.Y., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed Oct. 8, 1962, Ser. No. 228,935
8 Claims. (Cl. 204—43)

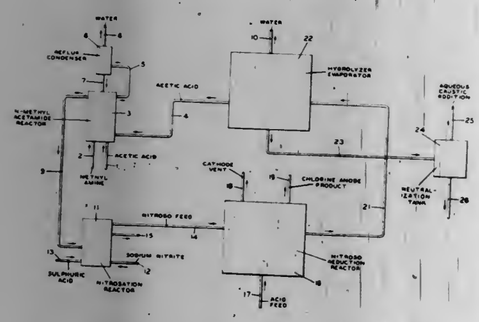
4. A method for electrolytic deposition of adherent deposits of platinum containing minor effective amounts of bismuth which comprises immersing a metal to be plated, as the cathode of an electrical circuit into an electrolyte consisting essentially of an aqueous solution of chloroplatinic acid, a soluble bismuth compound and hydrochloric acid, the bismuth being present in an amount from about 0.2 to about 2.5% by weight based on platinum in said solution, and passing current through the circuit.

3,267,010
ELECTRODEPOSITION OF COPPER FROM ACIDIC BATHS
Hans-Gerhard Creutz, Wayne, Richard M. Stevenson, Grosse Pointe Woods, and Edward A. Romanowski, Troy, Mich., assignors, by mesne assignments, to The Udylite Corporation, Warren, Mich., a corporation of Delaware
No Drawing. Filed Apr. 16, 1962, Ser. No. 187,926
26 Claims. (Cl. 204—52)

1. A bath for electrodepositing ductile, lustrous copper comprising an aqueous acidic copper plating both containing dissolved therein about 0.0005 to about 0.04 gram per liter of an organic sulfide compound carrying at least one sulfonic group, together with 0.01 to 5 grams/liter of a bath-soluble polyether compound containing at least 6 ether oxygen atoms and being free from alkyl chains having more than 6 carbon atoms.

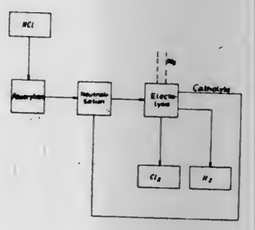
5. A bath as claimed in claim 1 wherein there is also present a bath-soluble phenazine dye in a concentration of 0.001 to 0.05 grams per liter.

3,267,011
MONOALKYLHYDRAZINE SYNTHESIS
William Percy Moore, Jr., Chester, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Feb. 5, 1962, Ser. No. 171,128
10 Claims. (Cl. 204—74)



1. A process for the production of monalkylhydrazine which comprises reacting acetic acid and alkylamine to form N-alkylacetamide, nitrosating said N-alkylacetamide by reaction with a nitrite to form N-nitroso-N-alkylacetamide, electrolytically reducing said N-nitroso-N-alkylacetamide in a mineral acid solution at a temperature of about 4° C. to 10° C. and a current density of about 0.01 to about 2.0 amperes per cm.^{2}, adding said N - nitroso - N - alkylacetamide to the mineral acid solution at a rate about equivalent to the amount of current flowing to the cathode, maintaining a concentration of unreacted nitroso in solution below about 0.5% by weight to produce N - alkylacetylhydrazide, hydrolyzing said N - alkylacetylhydrazide, to form acetic acid and monoalkylhydrazine and returning said acetic acid for further reaction with alkylamine to form N-alkylacetamide.

3,267,012
METHOD OF RECOVERING CHLORINE AND HYDROGEN
Josef Schick, Siegen, Germany, assignor, by mesne assignments, to Metachem A.G., Zug, Switzerland, a Swiss corporation
Filed Oct. 5, 1962, Ser. No. 228,590
Claims priority, application Germany, Oct. 14, 1961, S 76,274
6 Claims. (Cl. 204—128)

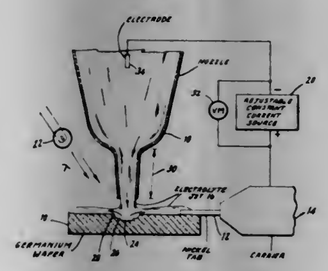


1. A method of recovering gaseous chlorine and gaseous hydrogen from hydrochloric acid, which comprises the steps of absorbing the hydrochloric acid in an aqueous medium, neutralizing the hydrochloric acid-containing solution formed with caustic alkali, electrolysing the resulting alkali metal chloride brine in an electrolysis cell having anode and cathode compartments separated by a diaphragm to effect electrolytic separation of chlorine and hydrogen, all of the caustic alkali formed in the catholyte in said cathode compartment during electrolysis being returned to the neutralizing step to neutralize the hydrochloric acid.

3,267,013
ELECTROLYTIC DEPLATING PROCESS
Joseph S. Mathias, Riverton, N.J., and Walter O. Freitag, Conshohocken, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 18, 1962, Ser. No. 224,534
2 Claims. (Cl. 204—143)

1. A process for removing from an inert, electrically nonconductive substrate films of metallic chromium and metallic gold deposited thereon, said substrate having said film of metallic chromium superimposed directly thereon and said film of metallic gold being superimposed directly on said film of metallic chromium and an electrodeposited metallic magnetic film having a thickness in the range 800–1600 A. and consisting essentially of nickel and iron covering only a portion of said film of metallic gold, which comprises introducing said substrate containing the films of chromium, gold and nickel and iron deposited thereon into an aqueous electrolyte at a temperature in the range of from about 15° C. to about 60° C. consisting essentially of an alkaline acting alkali metal compound selected from the group consisting of alkali metal hydroxides, alkali metal carbonates and alkali metal phosphates in an amount in the range 0.2–12%, and an alkali metal cyanide in the range 0.2–12% dissolved therein and, while employing the thus-coated substrate as an electrode, passing current through the thus-coated substrate to effect anodic dissolution of said films of metallic gold and metallic chromium from the area of said substrate not covered by said metallic magnetic film of nickel and iron, said metallic magnetic film and the films of metallic gold and metallic chromium directly underlying said metallic magnetic film remaining undissolved and deposited on said substrate, the thus-coated substrate being introduced into said electrolyte such that anodic dissolution of said films of gold and chromium is effected substantially as soon as said films of gold and chromium come into contact with said electrolyte.

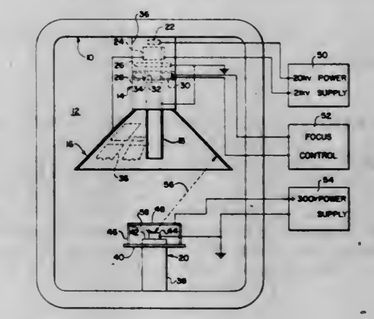
3,267,014
PROCESS FOR RAPIDLY ETCHING A FLAT-BOTTOMED PIT IN A GERMANIUM WAFER
Donald P. Sanders, Lansdale, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed July 11, 1963, Ser. No. 294,383
4 Claims. (Cl. 204—143)



1. A process for rapidly etching a flat-bottomed pit in the face of a germanium wafer comprising: directing against said wafer from a nozzle spaced therefrom a jet of an electrolyte solution consisting essentially of about 1730 to 1762 parts H_2O, about 9 to 52 parts H_2SO_4, and about 46 to 57 parts HF, applying an etching voltage across said solution and said wafer sufficient to create a current density of at least about 5×10^{-4} amperes per square inch in said jet, illuminating the face of said wafer being etched, and spacing said nozzle from said wafer a distance intermediate the respective distances which will provide bowl-bottomed and mound-bottomed etch pits.

3,267,015
SYSTEMS AND PROCESSES FOR COATING BY EVAPORATION
John R. Morley, North Billerica, Mass., assignor to Alloyd Electronics Corporation, Cambridge, Mass., a corporation of Delaware
Filed Sept. 13, 1963, Ser. No. 308,795
10 Claims. (Cl. 204—192)

1. An electron beam evaporating system comprising an electron gun including a cathode for emitting electrons and an anode for accelerating electrons in order to generate an electron beam, a source material holder in the path of said electron beam at which sufficient heat may be generated by said electron beam to vaporize said source material, and a substrate holder for mounting a substrate to receive evaporated material from said source means for applying a relatively low potential to said cathode and said substrate holder, a grid between said source material holder and said substrate holder, means for applying relatively high potential to said grid and said source material holder, means for applying an intermediate potential, between said relatively low potential and said relatively high potential, to said anode, the distance from said source material holder to said substrate holder ranging from 10 to 30 times the distance from said source material holder to said grid, said relatively low potential of said substrate holder establishing a field repelling reflected electrons and secondary electrons emanating from said source material holder and said grid establishing a field reflecting ions emanating from said source material holder, whereby a brilliant deposit is producible on a substrate on said substrate holder.

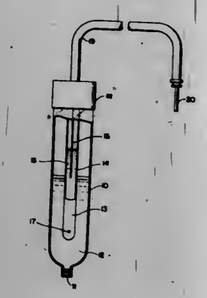


10. A process for producing a brilliantly reflecting metallic coat on a substrate, said process comprising the steps of directing an electron beam at a source material in order to heat said source material to a temperature above which it vaporizes, directing vaporized source material from said source material to a substrate, maintaining said substrate at a low negative potential in order to repel reflected electrons and secondary electrons emitted from said source material, and interposing between said substrate and said source material a positive field in order to repeal positively charged ions emitted from said source material, the magnitudes of said fields being such that said electron beam is capable of penetrating said positively charged field, the distance between said source and said substrate ranging from 10 to 30 times the distance between said source and the point of said interposing whereby only neutral vaporized particles from said source material reach said substrate.

3,267,016
LEAK STRUCTURE AND METHOD FOR PRODUCING SAME
Edwin P. Arthur, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Dec. 26, 1963, Ser. No. 333,424
10 Claims. (Cl. 204—195)

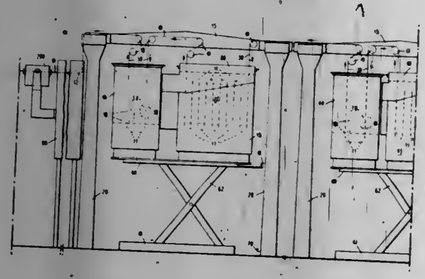
1. A leak structure for a liquid junction of a salt bridge tube, the combination of:
a wall of nonconductive material having an opening therein; and

a porous plug in said opening formed of hydrated concrete, said concrete consisting essentially of hydrated



tricalcium aluminate and particles of non-porous aggregate.

3,267,017
APPARATUS FOR PRODUCING MAGNETIC RECORDING MATERIALS
George W. Greene, Red Hook, Bernard Leland, Poughkeepsie, John Ponsen, Ulster, George R. Schlupp, Saugerties, Eugene J. Scray, Jr., Rosendale, Ronald McC. Wilkie, Esopus, and Rolland K. Wiltse, Woodstock, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Jan. 31, 1962, Ser. No. 170,141
5 Claims. (Cl. 204—210)



1. Apparatus for continuously depositing a layer of magnetic metal or metal alloy on the surface of a non-conducting web comprising

a series of stationary fluid bearings defining a continuous web processing path,

a plurality of web sensitizing tanks, an electroless plating tank and at least one electroplating cell all positioned beneath said fluid bearings,

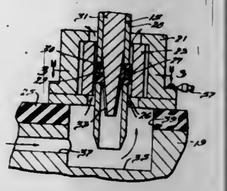
a heating chamber surrounding at least some of said fluid bearings between said electroless plating tank and said electroplating tank,

means for raising and lowering said sensitizing tanks, said electroless plating tanks and said electroplating cell into and out of contact with a web threaded through said fluid bearings,

means for drawing said web over said fluid bearings, and

means for selectively pumping pressurized air to the fluid bearings out of contact with liquid in said tanks and pressurized liquid to the fluid bearings when immersed in liquid in said tanks of the system.

3,267,018
ELECTROLYTIC HONING DEVICE
John H. Greening, Beverly Hills, Mich., assignor, by mesne assignments, to Micromatic Hone Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 29, 1962, Ser. No. 233,772
12 Claims. (Cl. 204—224)



1. An abrading device for finishing metallic surfaces comprising:

(a) a tool body,

(b) at least one electrically conductive cathode shoe carried by said body in confronting spaced relation to a portion of an anode work surface,

(c) means for flowing an electrolyte between the work surface and said cathode shoe,

(d) means for passing an electric current from said work surface to said cathode shoe through said electrolyte,

(e) means for maintaining said conductive cathode shoe in fixed relation to the work surface as material is removed from said work surface,

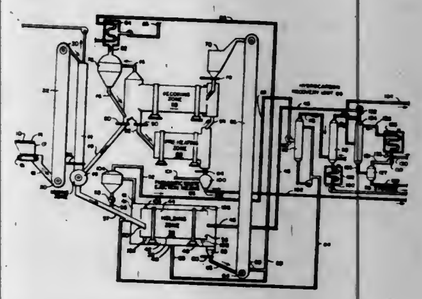
(f) abrasive means carried by said body in electrically non-conductive relation to said cathode shoe and engageable with a portion of said work surface other than that confronted by said body at any one time,

(g) means for moving said abrasive means over the work surface to abrade the work surface,

(h) means for moving said cathode shoe relative to said tool body, and

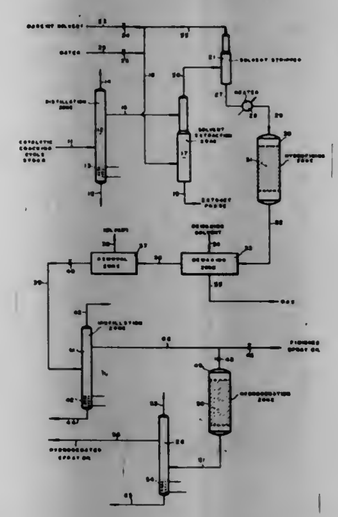
(i) means for moving said abrasive means toward the work surface independently of said cathode shoe and relative to said tool body.

3,267,019
OIL RECOVERY
Charles M. Fitch, Houston, Tex., assignor to Signal Oil and Gas Company, Houston, Tex.
Filed Mar. 26, 1963, Ser. No. 268,006
4 Claims. (Cl. 208—11)



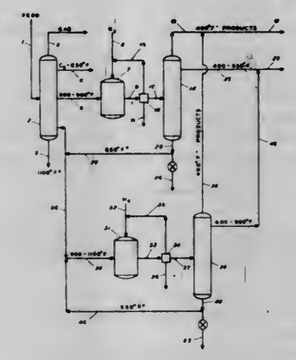
1. In a process for the recovery of oil from oil-bearing solids, which process comprises passing oil-bearing solids into a holding zone and maintaining the solids in said zone at a temperature sufficient to vaporize hydrocarbons from said oil-bearing solids, recovering said vaporized hydrocarbons and passing coked solids from said holding zone to a decoking zone and burning carbonaceous residue from said coked solids to provide hot decoked solids having a temperature sufficient to initiate cracking of fresh, oil-bearing solids, the improvement which comprises passing at least a portion of said hot decoked solids to a mixing zone and simultaneously mixing said hot decoked solids with fresh oil-bearing solids and pulverizing said oil-bearing solids in said mixing zone, said hot decoked solids and said fresh oil-bearing solids being maintained in said mixing zone for a time sufficient to initiate cracking of hydrocarbons in said oil-bearing solids and for a time sufficient for transfer of heat from said hot decoked solids to said oil-bearing solids in said zone to facilitate said pulverizing of said oil-bearing solids in said zone, and thereafter passing the resultant hot pulverized mixture to said holding zone for vaporization of hydrocarbons therefrom.

3,267,020
METHOD FOR PRODUCING SPRAY OIL
Edward L. Wilson, Jr. and Thomas G. Lipscomb II, Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Original application Oct. 22, 1962, Ser. No. 232,068, now Patent No. 3,227,609, dated Jan. 4, 1966. Divided and this application June 15, 1964, Ser. No. 375,194
4 Claims. (Cl. 208—28)



1. A method for producing a spray oil which comprises extracting a catalytic cracking cycle stock having 10% distilling between about 360° F. to 420° F. and 90% distilling between about 420° F. to 520° F. as determined by the ASTM D–1160 method at 10 mm. pressure with a solvent having a preferential selectivity for aromatic constituents as compared to paraffinic constituents to form a raffinate phase and an extract phase, separating said phases, hydrofining said raffinate phase after removal of solvent therefrom, dewaxing said hydrofined raffinate phase, and recovering saturated spray oil from said dewaxed hydrofined raffinate phase consisting essentially of a hydrocarbon fraction having a molecular weight within the range from about 300 to about 380 and having an ASTM unsulfonated residue of at least about 95%.

3,267,021
MULTI-STAGE HYDROCRACKING PROCESS
George D. Gould, Orinda, Calif., assignor to Chevron Research Company, a corporation of Delaware
Filed Mar. 30, 1964, Ser. No. 355,653
2 Claims. (Cl. 208—78)



1. A process for producing gasoline and middle distillates from a hydrocarbon feed boiling above 500° F. which comprises selecting at least two feed fractions boiling above 500° F. and having different boiling ranges catalytically hydrocracking the lighter of said fractions in the presence of from 1000 to 12,000 s.c.f. of hydrogen per barrel thereof in a first conversion zone at a temperature from 500° to 950° F., a pressure above 500 p.s.i.g. and an LHSV of from 0.1 to 4.0 with a catalyst comprising at least one hydrogenating component selected from the Group VI metals and compounds of Group VI metals and at least one hydrogenating component selected from the Group VIII metals and compounds of Group VIII metals in intimate association with a support selected from the group consisting of silica-magnesia supports, silica-alumina supports containing less than 70 weight percent of silica, and silica-alumina-magnesia supports having a silica content less than 80 weight percent, catalytically hydrocracking the heavier of said fractions in a second conversion zone under conditions within the aforesaid ranges with a catalyst having the aforesaid description, said heavier fraction being passed through the catalyst body in said second conversion zone, recovering from each of said zones at least one product boiling below the initial boiling point of the feed to said zone, including substantially all gasoline boiling below 400° F. produced in said zone, and passing heavier materials from each zone to said second zone only.

3,267,022
HYDROCRACKING PROCESS AND CATALYSTS
Rowland C. Hansford, Yorba Linda, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Jan. 24, 1964, Ser. No. 339,897
12 Claims. (Cl. 208—111)

1. A method for hydrocracking a hydrocarbon feedstock to produce lower boiling hydrocarbons, which comprises subjecting said feedstock to hydrocracking conditions of temperature and pressure including a pressure above about 800 p.s.i.g., in the presence of added hydrogen and a fixed bed of hydrocracking catalyst comprising a copelleted composite and (A) a zeolite catalyst component comprising a minor proportion of a Group VIII metal hydrogenating component and a major proportion of a crystalline zeolitic, alumino-silicate molecular

sieve cracking component characterized by a relatively uniform crystal pore diameter between about 6 and 14 A., a SiO_2/Al_2O_3 mole-ratio greater than about 3, and a zeolitic cation content including a substantial proportion of hydrogen ions amounting to at least about 20% of the total ion-exchange capacity thereof, and (B) at least 10% by weight of a powdered adjuvant selected from the class consisting of alumina, magnesia, silica, hydrogen clays and mixtures thereof, the relative proportions of said components (A) and (B) being further adjusted and correlated with the zeolitic hydrogen ion content of said component (A) to provide a finished catalyst having a hydrocracking activity on a bulk-volume basis at least substantially equal to the activity of said component (A) alone when pelleted to the same size and to a bulk density of 0.7 gm./ml.

3,267,023

HYDROCRACKING WITH A CRYSTALLINE ZEOLITE ADMIXED WITH A DEHYDROGENATION CATALYST

Joseph N. Miale, Trenton, N.J., and Paul B. Weisz, Media, Pa., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed June 8, 1964, Ser. No. 373,532
12 Claims. (Cl. 208—111)

1. A method of effecting an exothermic hydrocracking reaction and an endothermic reaction in a single reaction zone comprising introducing into said zone (1) a hydrocracking catalyst of a shape selective crystalline aluminosilicate zeolite characterized by pores having a substantially uniform diameter not exceeding about 5 angstrom units, (2) a fluid charge comprising hydrogen and a component capable of entering into the pores of said catalyst and undergoing an exothermic hydrocracking reaction, (3) a solid porous catalyst for an endothermic reaction, and (4) a fluid charge capable of undergoing an endothermic reaction but incapable of entering into the pores of said hydrocracking catalyst, and regulating the proportions of the foregoing charges such that the heat evolved from said exothermic hydrocracking reaction serves to maintain said reaction zone at a temperature sufficient to effect and sustain said endothermic reaction.

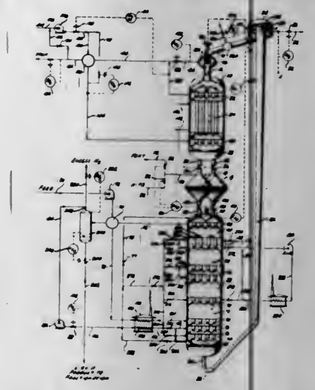
3,267,024

HYDROCARBON CONVERSION PROCESS

Raoul P. Vaell, Los Angeles, and Clyde H. O. Berg, Long Beach, Calif.; said Vaell assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Feb. 12, 1954, Ser. No. 409,958
2 Claims. (Cl. 208—134)

1. In a reforming system in which a granular contact material is caused to move through an enclosed cyclic path including a reforming zone and a reconditioning zone having its point of contact material entry at an elevation substantially above the point of contact material exit from the reforming zone and wherein the contact material moves downwardly through at least a portion of each of said zones as a compact bed and wherein the reforming operations are conducted at a pressure above that in the reconditioning zone by an amount at least greater than the value of the calculated head of a compact column of said contact material equal in height to the elevation differential between said points of entry and exit, the method for effecting continuous transfer of the contact material from the reforming zone to the reconditioning zone which comprises: permitting the contact material to be forced upwardly through at least one laterally confined unobstructed passage by the gas pressure differential between the two zones, the passage extending upwardly from the lower section of the reforming zone to a location from which it may flow by gravity onto the bed of contact material in the reconditioning zone, and restricting the flow of contact material in the column in substantially compacted form, whereby the gaseous pressure on the contact



material is gradually reduced during its transfer through the passage.

3,267,025

CATALYTIC HYDROCARBON CONVERSION PROCESS

John L. Gring and John Mool, Homewood, Ill., assignors to Sinclair Refining Company, New York, N.Y., a corporation of Maine

Original application May 22, 1961, Ser. No. 111,798. Divided and this application Apr. 28, 1965, Ser. No. 462,776

4 Claims. (Cl. 208—136)



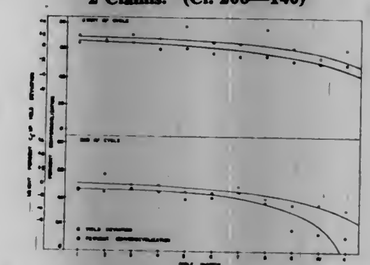
1. The process of converting hydrocarbon oils to desirable components which comprises contacting the oil in the presence of hydrogen under hydrocarbon conversion conditions including a temperature of about 500 to 1200° F., with a catalyst consisting essentially of a catalytic amount of a metal component selected from the group consisting of Group VIB and Group VIII supported on gamma-alumina obtained by the drying and calcining of a boehmite alumina product, granular in appearance with acicular particles of irregular edges, a pore structure totalling at least about 0.5 cc. per gram in pores larger than 80 A. in size, an average crystallite size greater than about 40 A. up to about 200 A. by X-ray diffraction analysis and composed of a non-homogeneous integral aggregation of polycrystalline boehmite sub-units, said particles having a largest dimension of at least about 500 A. by electron microscope analysis.

3,267,026

METHOD OF DETECTING DECLINE IN CATALYST ACTIVITY

William H. Decker, Chicago, Ill., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 6, 1960, Ser. No. 53,935
2 Claims. (Cl. 208—140)



1. A method for optimizing the process cycle length of a naphtha reforming system containing a platinum metal alumina catalyst which comprises introducing petroleum naphtha containing radioactive normal paraffin of 6 to about 11 carbon atoms into a reforming system containing said catalyst in fixed position and operating at a temperature of about 850 to 975° F. and a pressure of about 100 to 1000 p.s.i.g. to produce higher octane number liquid product, withdrawing a sample of said product and determining the percentage of said paraffin converted to aromatics by measuring the radioactive content of essentially the total liquid product and the radioactive content of the aromatic fraction of said liquid product, stopping the reforming operation when the amount of aromatics produced from said radioactive paraffin substantially declines, contacting the catalyst with an oxygen-containing gas to remove carbon deposited thereon during the reforming operation, and reusing the catalyst to reform petroleum naphtha to higher octane number liquid product under said temperature and pressure conditions.

3,267,027

PROCESS OF DESULFURIZATION EMPLOYING ALKALI AND NITROGEN DIOXIDE

William L. Fierce, Crystal Lake, and Walter J. Sandner, Carpentersville, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed July 17, 1961, Ser. No. 124,352
4 Claims. (Cl. 208—228)

1. A method of producing petroleum products of diminished sulfur content and improved odor which consists essentially of contacting a sour light naphtha with nitrogen dioxide at about 0°–35° C., washing the treated distillate with aqueous alkali until free of color, and washing the color-free product with water until free of alkali.

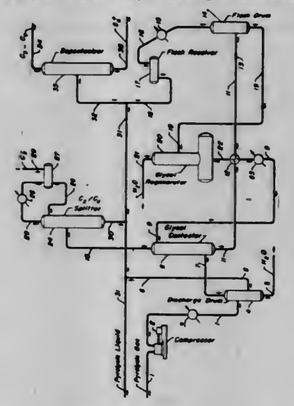
3,267,028

SEPARATION OF WET PYROLYSIS GASES BY SORBENT TREATING AND FRACTIONATION

Robert E. McHarg, Arlington Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Oct. 18, 1963, Ser. No. 317,258
6 Claims. (Cl. 208—341)

1. In the process of separating wet hydrocarbon pyrolysis gases containing a major proportion of C_1–C_5 hydrocarbons including C_2–C_4 olefins and a minor proportion of water vapor and high boiling pseudo-gasoline compounds therein by fractional distillation thereof into light and heavy fractions, including the steps of compressing the gases to superatmospheric pressure and passing the compressed gases as a feed to a distillation zone operating with refrigerated reflux, the improvement which comprises: contacting the compressed feed in a gaseous state, at temperatures above those at which water vapor and light hydrocarbons contained therein form a hydrate, and at a pressure of about 50–550 p.s.i.g., with a liquid sorbent consisting essentially of a polyhydric alcohol containing from 2 to 6 carbon atoms, thereby to absorb a substantial portion of said water vapor and pseudo-gasoline com-



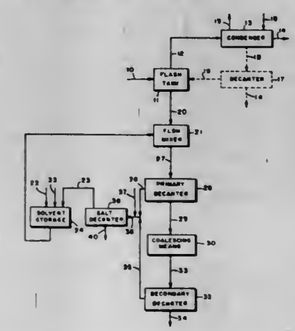
pounds without appreciable absorption of the C_1–C_5 gaseous hydrocarbons; thereafter passing the C_1–C_5 hydrocarbon gases to said distillation zone as aforesaid, whereby to minimize ice and hydrate formation in the upper portion of the distillation zone and to lower the bubble point of the bottoms product therefrom; and treating the used sorbent to recover the pseudo-gasoline compounds therefrom.

3,267,029

PROCESS FOR PURIFICATION OF AQUEOUS MIXTURES

Charles R. Campbell, Pensacola, Donald E. Danly, Cantonment, and Marion J. Mathews III, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Continuation of application Ser. No. 243,473, Dec. 10, 1962. This application Jan. 6, 1965, Ser. No. 424,459
8 Claims. (Cl. 210—21)



1. A process for removal of water-soluble organic chemical-oxygen-demand material from an aqueous stream containing said material in a concentration not substantially in excess of 5.0%, by weight, which process comprises, in combination, the steps of:

(a) preparing a 10% to 30%, by weight, solution of basic ion-exchange resin in organic solvent, said or-

ganic solvent being miscible with said ion-exchange resin and substantially immiscible with water;
(b) flow-mixing at a pressure drop not substantially in excess of one pound per square inch said aqueous stream and sufficient prepared ion-exchange resin solution to provide a ratio of equivalents of ion-exchange resin to equivalents of said water-soluble organic chemical-oxygen-demand material of at least 0.75;
(c) permitting the resulting mixture of step (b) to remain substantially quiescent for a period of at least five minutes to form a first aqueous phase and a first immiscible solvent phase;
(d) subjecting said first aqueous phase to coalescing means to coalesce non-separated immiscible solvent solution remaining therein;
(e) permitting the effluent from said coalescing means to separate into a second aqueous phase and a second immiscible solvent phase; and
(f) discharging said second aqueous phase to waste as substantially chemical-oxygen-demand free water.

3,267,030
EXTINGUISHER POWDERS BASED ON ALKALI METAL BICARBONATES
Herman Dessart, Brussels, Belgium, assignor to Solvay & Cie, Brussels, Belgium, a company of Belgium
No Drawing. Filed May 7, 1963, Ser. No. 278,742
Claims priority, application Belgium, May 9, 1962, 492,891
5 Claims. (Cl. 252—7)

3. Extinguishing powder compatible with fire extinguishing foams consisting of 80–98% of an alkali metal bicarbonate having an average particle size of the order of 10 microns selected from the group which consists of sodium bicarbonate, potassium bicarbonate, and mixture thereof, 1–19% of talc, and 1–8% of very fine grain silica, having an average particle size of less than 1 micron.

3,267,031
STABILIZED SILICONE FLUIDS
Fritz A. Buehler, Cherry Hill, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Dec. 17, 1963, Ser. No. 331,109
13 Claims. (Cl. 252—18)

1. A composition comprising a high temperature-stabilized polysiloxane fluid having the unit formula:

$$R_nSiO_{4-n/2}$$

wherein n has a value from about 1.1 to about 2.9 and R represents a radical selected from the group consisting of a hydrocarbyl radical and a halohydrocarbyl radical containing from 1 to about 30 carbon atoms, said fluid containing a minor proportion of at least 0.001% by weight of an iron salt of a carboxylic acid and a minor proportion sufficient to stabilize said fluid of a metal compound selected from the class consisting of the oxides, hydroxides and carbonates of the metals from Group 2A of the Mendeleeff Periodic Table.

3,267,032
METAL ANTIOXIDANTS FOR FLUID BIS (PHENOXYPHENOXY) BENZENE
Harold Ravner, Accokeek, Md., assignor to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed June 27, 1963, Ser. No. 291,216
2 Claims. (Cl. 252—26)

1. A system comprising the meta isomer of bis (phenoxyphenoxy) benzene in contact with an amount of a metal of the group consisting of copper, barium and strontium which is sufficient to improve the oxidation stability of said meta isomer at a temperature in the range of from about 600 to 650° F.

3,267,033
LUBRICATING COMPOSITION HAVING DESIRABLE FRICTIONAL CHARACTERISTICS
John W. Allen, Mentor, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed Apr. 15, 1963, Ser. No. 272,848
12 Claims. (Cl. 252—32.7)

1. A composition consisting essentially of (A) an oil-soluble unsaturated fatty acid having from about 12 to about 30 aliphatic carbon atoms and (B) a salt of a tertiary aliphatic primary amine having from about 4 to 30 carbon atoms and a partially esterified orthophosphoric acid in which the ester radical has from 1 to about 30 carbon atoms, the weight ratio of the acid of (A) to the salt of (B) being from about 1:3 to 3:1.

10. A lubricating composition comprising a major proportion of a mineral lubricating oil, from about 0.1% to 10% by weight of the composition of claim 1, from about 0.05% to about 10% by weight of a hydrocarbon polysulfide, and from about 0.05% to 10% by weight of a neutralized product of an amine with an acid formed by the reaction of a hydroxyalkyl ester of a phosphorodithioic acid with phosphorus pentoxide.

3,267,034
LUBRICATING OIL COMPOSITION CONTAINING POLYALKYLENE IMINE SALICYLATE SALTS
Henricus G. P. van der Voort, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 27, 1965, Ser. No. 459,437
5 Claims. (Cl. 252—34)

1. A mineral lubricating oil composition consisting essentially of a major amount of mineral lubricating oil and from about 1% to about 3% of an oil-soluble partial salt of a polyalkylene imine selected from the group consisting of polyethylene imine, polypropylene imine, and mixtures thereof, having a molecular weight in the range of 2×10^4 to 2×10^{10} and a C_{8-20} alkyl salicylic acid wherein from 50%–70% of the nitrogen atoms in the molecule remain as free amino nitrogen.

3,267,035
COMPOSITION FOR AND METHOD OF LUBRICATING BULLETS AND SHOT
Richard M. Tillman, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma
No Drawing. Filed May 22, 1964, Ser. No. 369,593
19 Claims. (Cl. 252—49.5)

13. An aqueous emulsion composition for applying a dry lubricant coating to ammunition comprising:
(a) from about 60 percent by weight to about 95 percent by weight water;
(b) from about 3 percent by weight to about 38 percent by weight of a petroleum-derived wax;
(c) from about 0.25 percent by weight to about 16 percent by weight of a copolymer selected from the group consisting of ethylene-vinyl acetate and ethylene-ethyl acrylate; and
(d) a suitable emulsifying agent.

3,267,036
METHOD OF PREPARING FLUID SILICONE COMPOSITIONS AND A CERIUM-CONTAINING ADDUCT THEREFOR
Hayward R. Baker, Silver Spring, and Jacques G. O'Rear, Stanhaven Subdivision, Camp Springs, Md., assignors to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed Dec. 31, 1963, Ser. No. 334,944
4 Claims. (Cl. 252—49.7)

1. A method of preparing a cerium methylhydrogen polysiloxane adduct which comprises

preparing a solution in benzene of the disproportionation products of cerous acetylacetonate monohydrate by heating from about 3 to 8 moles of said monohydrate in solution in an excess of benzene under reflux and bubbling of air thereinto until the resulting benzene solution is wine-red in color,
combining said resulting benzene solution of disproportionation products with a benzene solution of a methylhydrogen polysiloxane having from about 0.5 to 1.67% by weight of silane hydrogen and in proportions to yield a resultant benzene solution which contains from about 3 to 8 atoms of cerium per mole of said methylhydrogen polysiloxane,
and heating said resulting benzezne solution under reflux for about one hour while bubbling air thereinto at a rate sufficient to maintain the cerium in the ceric state.

3. A method of stabilizing a liquid polysiloxane of the group consisting of liquid methyl-methylphenylmethyl chlorophenyl- and methylphenyl chlorophenyl polysiloxanes which comprises
combining a liquid polysiloxane of the aforesaid group with an adduct as prepared in claim 1 which is in solution in a portion of the same liquid polysiloxane in proportions to form a fluid mixture which contains from about 0.01 to 0.05% by weight of cerium atoms,
rapidly heating said fluid mixture to a temperature in the range of 270 to 280° C. while bubbling air thereinto at a rate sufficient to maintain the cerium in the ceric state and oxidize silane hydrogen therein, and
continuing the heating at said temperature and the bubbling of air thereinto until the resulting fluid is clear and free from silane hydrogen.

3,267,037
PROCESS FOR LUBRICATING METAL SURFACES DURING WORKING OF THE SAME
Bill Mitacek and John P. Graham, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 27, 1963, Ser. No. 283,609
1 Claim. (Cl. 252—59)

In the art of cold rolling metals in which the rolled metals are substantially annealed at elevated temperatures, the step of applying to the surface of the metal being rolled a non-staining liquid lubricant consisting essentially of a mixture of highly branched chain paraffin hydrocarbons, said mixture of hydrocarbons boiling in the range of 400–660° F. and having a minimum flash point of 210° F. and containing a minimum of 90 percent branched chained hydrocarbons.

3,267,038
INHIBITING THE CORROSION OF COPPER-CONTAINING METALS
Louis A. Joo and Robert C. Kimble, Crystal Lake, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed July 13, 1962, Ser. No. 209,770
8 Claims. (Cl. 252—138)

1. A composition consisting essentially of an alkaryl sodium sulfonate detergent, alkali-metal polyphosphate salts selected from the group consisting of sodium pyrophosphate, sodium tripolyphosphate, and sodium hexametaphosphate in an amount sufficient to inhibit metathesis and about 1–20% by weight of the total composition of cyclic, dimerized acids having at least two olefinic linkages per molecule and being derivable from polyolefinic, monocarboxylic fatty acid monomers having at least 10 carbon atoms per molecule.

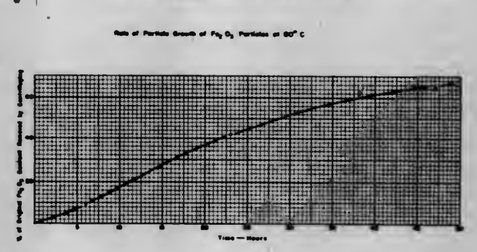
3,267,039
SHAMPOO COMPOSITION
Jesse Schneider, Westboro, Mass., assignor of fifty percent to Norman S. Blodgett, Westboro, Mass.
No Drawing. Filed Jan. 29, 1964, Ser. No. 341,110
1 Claim. (Cl. 252—153)

A shampoo composition consisting essentially of triethanolamine lauryl sulphate in the range from 5% to 25% by weight, diethanolamine lauryl sulphate in the range from 5% to 25% by weight, 1% polyethylene glycol, 400 dilaurate, the stabilizing amide which is a mixture of lauric diethanolamide and diethanolamine in the range from 2.5% to 7% by weight, an essential polyunsaturated fatty acid selected from the group consisting of arachidonic acid, clupondonic acid, linoleic acid, and linolenic acid in the range from 0.5% to 5.0% by weight, and the remainder water.

3,267,040
SYNERGISTIC COMBINATIONS OF ALKANE SULFONATES AND ALKOXY HYDROXY PROPANE SULFONATES
Willard M. Bright, Ridgewood, N.J., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Original application Aug. 2, 1960, Ser. No. 47,043. Divided and this application Mar. 8, 1965, Ser. No. 444,493
6 Claims. (Cl. 252—161)

1. A synergistic foaming composition comprising from about 7.0 to about 17.0 parts sodium decane sulfonate and from about 11.0 to about 1.0 parts sodium-3-dodecyloxy-2-hydroxy propane sulfonate, respectively; said said composition having an actual foam volume after 15 minutes aging more than 35 ml. above the expected foam volume and having a maximum actual synergistic foam volume of at least about 190 ml.

3,267,041
PREPARATION OF FERRIC OXIDE SOLS AND SOL PARTICLES
Robert B. MacCallum, Fairfield, Conn., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Filed June 18, 1962, Ser. No. 203,363
2 Claims. (Cl. 252—313)



1. A method for preparing ferric oxide sols containing ellipsoidal particles having a preselected size comprising precipitating hydrous ferric oxide from a solution of a ferric salt with an inorganic base, washing the precipitate formed thereby until it is substantially free of electrolytes, suspending the hydrous ferric oxide in a solution of acetic acid until a clear red solution results, the ferric oxide content of the solution being less than 5 weight percent and the mole ratio of acetic acid to ferric oxide being less than 4 to 1, and heating the clear red solution at a temperature of about 80° C. for a time sufficient to produce the particles having the desired size.

3,267,042
NOVEL COMPOSITIONS AND THEIR USE IN PREVENTING AND INHIBITING FOAM
Elemer Domba, Chicago, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Aug. 5, 1963, Ser. No. 300,061
8 Claims. (Cl. 252—321)

4. The process of defoaming and inhibiting foam formation in a system which normally tends to be foamable, which comprises the step of adding to such system in an amount sufficient to control said foam, the reaction product of a silica organo sol and a polyethyl silicate, said reaction product being formed by heating together 0.1–50% by weight of said sol and 50–99% by weight of a polyethyl silicate having a molecular weight of at least 300 at a temperature less than 300° C.

3,267,043
CHROMIA-BORIA GEL AND METHOD OF MANUFACTURE
Bernard F. Mulaskey, Point Richmond, Calif., assignor to Chevron Research Company, a corporation of Delaware
No Drawing. Filed June 6, 1963, Ser. No. 285,862
4 Claims. (Cl. 252—432)

1. The process of producing a boria and chromia-containing gel which comprises reacting a chromium compound, boric acid and an epoxide in the presence of a solvent capable of dissolving said chromium compound, whereby a hydrogel is formed, and dehydrating said hydrogel to produce said gel.

3,267,044
PROCESS FOR PREPARING A SILICA-ALUMINA-MAGNESIA CRACKING CATALYST
Charles P. Wilson, Jr., Cincinnati, Ohio, John B. Jones, Valley Field, Quebec, Canada, and Frank G. Ciapetta, Silver Spring, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed Nov. 23, 1962, Ser. No. 239,770
10 Claims. (Cl. 252—451)

1. A process for preparing a silica-alumina-magnesia hydrocarbon cracking catalyst which comprises providing a slurried mass consisting of an alkali metal silicate solution having a silica content of 3 to 8% and a silica to alkali metal oxide weight ratio of about 3:1 to 3.4:1, contacting the silicate solution with carbon dioxide in an amount sufficient to convert substantially all of the alkali in the silicate to alkali metal carbonate and form a silica hydrogel containing dissolved carbonate, combining with the resulting mass an aqueous slurry containing a mixture of an aluminum salt and alumina trihydrate in an amount sufficient to react substantially completely with the residual alkali metal carbonate and provide 14 to 28% alumina in the final catalyst composition, adding a quantity of a mangnesium compound selected from the group consisting of magnesium oxide and magnesium hydroxide sufficient to provide about 2 to 10% magnesia in the final catalyst, aging the resulting mass at a temperature of at least 125° F. for about 1 to 5 hours, purifying and drying the resulting composite and recovering the catalyst product.

3,267,045
PROCESS FOR PREPARATION OF SINTERED METALLIC OXIDE CATALYST PELLETS
Albert J. Isacks, Jr., and Robert R. Lugg, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed May 24, 1963, Ser. No. 282,863
7 Claims. (Cl. 252—473)

6. A process for preparing sintered cobalt oxide catalyst pellets having a density between 1.75 and 3.25 grams per cubic centimeter consisting essentially of the steps of (A) dry mulling a mixture of cobalt oxides in absence of water with from 1 percent to 5 percent by weight of an organic lubricating sintering aid material to form a substantially homogeneous mass having a density of at least 1 gram per cubic centimeter; (B) pelleting the mulled mixture of metallic oxides and lubricating sintering aid material; and (C) heating the resulting pellets in an oxygen-containing atmosphere at a temperature between 500° C. and 1300° C. for a period of 1 to 10 hours whereby sintered metallic oxide catalyst pellets having a density between 1.75 and 3.25 grams per cubic centimeter are obtained.

3,267,046
PROCESS FOR REGULATING THE MOLECULAR WEIGHT OF BASIC NITROGEN POLYCONDENSATES
Alberto Bonvicini, Terni, Italy, assignor to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy
No Drawing. Filed Dec. 17, 1962, Ser. No. 244,934
Claims priority, application Italy, Dec. 21, 1961, 22,746/61
10 Claims. (Cl. 260—2)

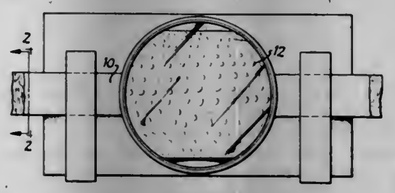
1. The process for regulating the molecular weight of basic nitrogen compounds obtained by polycondensation of (1) epichlorohydrin with (2) at least one member selected from the group consisting of primary aliphatic amines containing 3 to 30 carbon atoms and secondary aliphatic amines containing 4 to 60 carbon atoms and (3) a member selected from the group consisting of aliphatic, aromatic and heterocyclic secondary diamines, characterized in that after the termination of the polycondensation a molecular weight regulator selected from the group consisting of the hydroxides, carbonates and bicarbonates of ammonium, alkali metals and alkaline earth metals in an amount greater than that theoretically required for complete reaction with the ionic chloride formed in the polycondensation is added to the reaction mass and said reaction mass is heated.

3,267,047
PREPARATION OF A POLYURETHANE FOAM USING A MIXTURE OF A DIVALENT LEAD SALT AND A STANNOUS SALT AS CATALYSTS
George T. Gmitter, Akron, and Emery V. Braidich and Michael Kallaur, Cuyahoga Falls, Ohio, assignors to The General Tire & Rubber Company, a corporation of Ohio
No Drawing. Filed Apr. 27, 1960, Ser. No. 24,921
5 Claims. (Cl. 260—2.5)

1. The method of producing a polyurethane foam which comprises reacting (1) at least one organic polyisocyanate with (2) at least one polyol selected from the group consisting of a polyether polyol, and a mixture of a major amount of a polyether polyol and a minor amount of a polyester polyol and containing at least 2 active hydroxyl radicals in amounts sufficient to form a polyurethane in the presence of (3) a minor amount by weight, based on the total weight of polyol present and sufficient to catalyze the reaction between said polyisocyanate and said polyol of a catalyst comprising a mixture of divalent lead salts of a carboxylic acid and a member of the class consisting of stannous octoate and stannous oleate and a blowing agent.

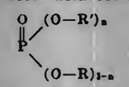
3,267,048
PROCESS OF MAKING A POROUS, MOLDED SYNTHETIC RESIN ARTICLE
Richard E. Horste, Orchard Lake, and Robert E. Anderson, Birmingham, Mich., assignors to IIT Research Institute, a corporation of Illinois
Filed Jan. 10, 1962, Ser. No. 165,410
2 Claims. (Cl. 260—2.5)

1. In a method of producing a porous, molded synthetic resin article of manufacture, the steps of filling a mold with a composition consisting essentially of powdered thermosetting resin and at least 30% of oil-coated short length metallic fibers, closing said mold on said composition at a pressure less than that sufficient to produce 100% density of the composition, heating said compressed composition to molding temperature to produce a molded article, releasing said pressure and curing said article.



3,267,049
PHOSPHORUS POLYURETHANE PLASTIC PREPARED FROM A HYDROXYL PHOSPHORUS COMPOUND
Hans Holtschmidt, Cologne-Stammheim, Günther Braun, and Rudolf Merten, Cologne-Flittard, and Günther Nischk, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed May 7, 1962, Ser. No. 192,963
Claims priority, application Germany, Aug. 26, 1960, F 31,984; Apr. 25, 1961, F 33,749; May 6, 1961, F 33,879
8 Claims. (Cl. 260—2.5)

1. A polyurethane plastic prepared by a process which comprises reacting an organic polyisocyanate with an hydroxyl phosphorus compound having a molecular weight of from about 600 to about 10,000 and an hydroxyl number of about 40 to about 500 which is prepared by a process which comprises reacting a polyhydric alcohol with a phosphoric acid ester having the formula



wherein R is an organic radical, R′ is an aromatic radical having at least one aliphatic substituent and n is an integer of from 1 to 3, said phosphoric acid ester containing at least one halogen atom in at least one of the aliphatic substituents in said aromatic radical designated R′ in the formula.

3,267,050
FOAMED ORGANIC POLYISOCYANATE-AMINE REACTION PRODUCTS
William C. Kuryla, St. Albans, Donald G. Leis, Charleston, and Albert Douglas Winquist, Jr., St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed May 21, 1962, Ser. No. 196,495
4 Claims. (Cl. 260—2.5)

1. A foam which comprises the foamed reaction product of an organic polyisocyanate, blowing agent, catalyst, and an admixture of (a) a polyol having a hydroxyl number of from about 40 to about 1000, and (b) from 1 to 15 weight percent, based on weight of polyol plus amine, of an amine of the formula

$$[C_rH_{(2r+2-n)}]\text{polyoxyalkylene—O—}CH_2CH_2CH_2NH_2]_n$$

wherein r represents an integer having a value of from 2 to 10 wherein n represents a number having a value of from 2 to 6, and wherein the oxyalkylene moieties have from 2 to 4 carbon atoms.

3,267,051
METHODS FOR MANUFACTURING RIGID CELLULAR PRODUCTS BASED ON POLYVINYLCHLORIDE, AND PRODUCTS RESULTING THEREFROM
Yvan Landler, Sceaux, and Pierre Henri Lebel, Rueil Malmaison, France, assignors to Societe anonyme dite: Pneumatiques, Caoutchouc Manufacture et Plastiques Kleber Colombes, Colombes, France
No Drawing. Filed Jan. 22, 1963, Ser. No. 253,060
Claims priority, application France, Jan. 22, 1962, 885,558
7 Claims. (Cl. 260—2.5)

1. A rigid cellular product comprised of polyvinylchloride containing grafted thereon side chains of copolymer of at least one vinylidenic monomer containing a $CH_2{=}C<$ group and polymerizable by a radical reaction with an ethylenically-unsaturated carboxylic acid anhydride selected from the group which consists of acrylic anhydride, citraconic anhydride, itaconic anhydride and maleic anhydride, and cross-linked by an organic polyisocyanate, said polyvinylchloride being present in the amount of from 20 to 95% by weight, said vinylidenic monomer being present in the amount of from 2 to 30% by weight, said anhydride being present in the amount of from 2 to 30% by weight and said polyisocyanate being present in an amount of from 0.5 to 60% by weight, said cellular product being characterized by the presence of a saturated halogenated hydrocarbon having a boiling point under normal pressure between −50° C. and +100° C. in the amount of from 5 to 30% by weight.

3,267,052
ADHESIVE APPLICATOR CRAYON
George Andrew Brennan, 2203 Walnut St., Philadelphia 3, Pa.
Filed Apr. 29, 1963, Ser. No. 276,363
2 Claims. (Cl. 260—5)



1. An adhesive applicator crayon consisting essentially of a ductile, homogeneous body of a thermoplastic pressure sensitive adhesive having the characteristics of becoming softer and less cohesive at the area of contact and under the influence of the frictonal heat generated when a small exposed area of the said body is drawn rapidly in frictional contact with a smooth, dry, paperlike surface, and then being capable of transferring a thin, smooth layer of the softened adhesive to the said dry surface, and the said smooth layer of adhesive remaining in a softened state for a period of time thereafter, the said body being composed essentially of from 20% to 75% of a soft wax, of from 1% to 35% of a soft rubber, and from 15% to 75% of a hard resin.

3,267,053
PHENOL-FORMALDEHYDE RESIN COMPOSITIONS
Floyd B. Nagle and Elmer L. McMaster, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 8, 1962, Ser. No. 215,526
10 Claims. (Cl. 260—17.2)

1. A cured composition comprising (1) a liquid, water-insoluble condensation product of phenol and formalde-

hyde, which condensation product is in amount sufficient, when hardened, to set the entire composition into a rigid solid mass, (2) up to about 15 weight percent based on the entire weight of the composition of an acidic hardening agent for said liquid, water-insoluble condensation product and (3) between about 0.05 and 3 weight percent based on the entire weight of the composition of sorbitan trioleate.

2. The composition of claim 1, wherein said acidic hardening agent is paratoluene sulfonic acid:

3,267,054

AQUEOUS PAPER PULP MIX CONTAINING POLYMERIC POLYESTER WITH CARBOXYL GROUPS AND A POLYALKYLENIMINE

Joseph F. Abere, White Bear, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Nov. 18, 1960, Ser. No. 70,115
1 Claim. (Cl. 260—17.4)

An aqueous paper pulp mix containing suspended therein as an emulsion between about 5 and about 50 weight percent of a water-insoluble, substantially completely condensed, polymeric polyester of a polyhydric alcohol reactant and an acidic reactant selected from the group consisting of polycarboxylic acid and polycarboxylic anhydrides, at least one of said reactants having at least three functional groups selected from the group consisting of carboxyl group, carboxylic anhydrides group and hydroxyl group, said polymeric polyester having a plurality of carboxyl groups per molecule, and a polyalkylenimine selected from the group consisting of a bis-alkylenamide, a bis-carbamate and a tris-amide.

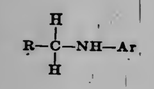
3,267,055

RAPID CURING POLYESTER COMPOSITION COMPRISING A PEROXIDIC POLYMERIZATION CATALYST, A SECONDARY AMINE AND A COBALT COMPOUND SOLUBLE IN SAID COMPOSITION

Roger W. Amidon, Woodbury, Conn., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 17, 1961, Ser. No. 96,369
12 Claims. (Cl. 260—22)

1. A polyester resin composition capable of curing rapidly at ambient temperatures comprising from 20 to 95 parts by weight of a polymerizable solid Diels-Alder reaction product of a material selected from the group consisting of rosin and abietic acid with a fumarate polyester of a glycol and fumaric acid, in which reaction product the proportion of said material ranges from 30 to 230 grams for each gram-mole of the fumaric acid constituent of the fumarate polyester, and the said reaction product containing double bonds attributable to unreacted fumarate groups, and correspondingly 80 to 5 parts by weight of an ethylenically unsaturated copolymerizable monomer, from 0.2 to 3% of a peroxidic polymerization catalyst which is a reaction product of a substance selected from the group consisting of dialkyl ketones and alkyl aldehydes having a molecular weight not greater than 200 with hydrogen peroxide, and, as promoters, from 0.03 to 1% of a secondary amine of the formula



where R is selected from the group consisting of alkyl and hydroxyalkyl groups having from 1 to 6 carbon atoms and phenyl and Ar is selected from the group consisting of phenyl and alkylphenyl in which the alkyl group has from 1 to 7 carbon atoms, and from 0.002 to 0.04% of cobalt in the form of a cobalt compound soluble in said composition, the said percentages being by weight and being based on the combined weights of the said reaction product and copolymerizable monomer.

3,267,056

THICKENING COMPOSITIONS COMPRISING A SILICEOUS AMINO COMPOSITION AND HYDROGENATED CASTOR OIL

Frederick J. Ihde, Jr., Mountain Lakes, and Joseph Cunder, East Orange, N.J., assignors to Nopco Chemical Company, Newark, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 1, 1962, Ser. No. 176,794
9 Claims. (Cl. 260—22)

5. A thickened composition of matter comprising a normally free-flowing polyester containing material and from about 0.5% to 10% by weight of said polyester of a second composition consisting essentially of a siliceous amino composition and a finely powdered hydrogenated castor oil, there being present from about 25% to about 75% by weight of siliceous amino composition in said second composition, said siliceous amino composition being prepared in an aqueous system by reacting (1) a material selected from the group consisting of partial amide salts, amine acid addition salts, imidazoline salts, oxazoline salts and quaternary ammonium salts with (2) at least stoichiometric amounts of a water-soluble silicate salt selected from the class consisting of sodium silicates, potassium silicates and ammonium silicates, and thereafter recovering and drying the resultant siliceous amino composition, and further including the steps of introducing at least one water-soluble aromatic compound selected from the class consisting of water-soluble salts of isophthalic acid and water-soluble salts of terephthalic acid, said aromatic compound being introduced at a point in time prior to the drying of said siliceous amino composition,

(a) with the proviso that when said water-soluble aromatic compound is present during formation of said siliceous amino composition and the corresponding aromatic acid of said water-soluble aromatic compound does not remain in said siliceous amino composition, maintaining the pH of said aqueous system from about 7 to about 9.5 during the formation of said siliceous amino composition and thereafter washing out said water-soluble aromatic compound,

(b) with the proviso that when said water-soluble aromatic compound is present during formation of said siliceous amino composition and the corresponding aromatic acid of said water-soluble aromatic compound remains in said siliceous amino composition, maintaining the pH of said aqueous system from 7 to about 9.5 during the formation of said siliceous amino composition and thereafter lowering said pH to from just below about 7 to about 3.0 whereupon the corresponding aromatic acid of said water-soluble aromatic compound precipitates in and around the particles of siliceous amino composition, and

(c) with the proviso that when said siliceous amino composition is formed in the absence of said water-soluble aromatic compound, maintaining the pH of said aqueous system from about 6.5 to about 9.5 during the formation of said siliceous amino composition and thereafter introducing said water-soluble aromatic compound and adjusting the pH of the system to from just below about 7 to about 3.0 whereupon the corresponding aromatic acid of said water-soluble aromatic compound precipitates in and around the particles of siliceous amino composition.

3,267,057

ELECTROSTATIC SPRAYABLE COMPOSITION COMPRISING A ZINC FATTY ACID SOAP AND A POLAR SOLVENT

Lester L. Spiller, Indianapolis, Ind., assignor to Ransburg Electro-Coating Corp., Indianapolis, Ind., a corporation of Indiana

No Drawing. Original application Jan. 15, 1959, Ser. No. 789,469, now Patent No. 3,112,216, dated Nov. 26, 1963. Divided and this application Sept. 11, 1963, Ser. No. 308,055
7 Claims. (Cl. 260—22)

1. A primer composition comprising as film-forming component an oil fatty acid ester of a resinous intermediate having a plurality of hydroxy functionalities dissolved in a substantially non-polar hydrocarbon solvent and containing an excess of about 35% by volume of a metal oxide pigment as the major particulate filler based on the combined volume of film-forming component and filler, said composition including at least 0.0001% by weight based on the weight of the primer of a zinc fatty acid soap of an aliphatic monocarboxylic acid, and from 3–15% by weight based on primer of a polar solvent having a dielectric constant in excess of 15.

3,267,058

POLYURETHANES PREPARED FROM POLYISOCYANATES AND POLYOLS DERIVED FROM HYDROXYL COPOLYMERS

Joseph C. Hixenbaugh, Burton, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Oct. 30, 1961, Ser. No. 148,734
10 Claims. (Cl. 260—23)

1. A polyurethane prepared by a process which comprises reacting an organic polyisocyanate with the reaction product of a vegetable oil which is substantially free of hydroxyl groups, unsaturated acids of these oils or tall oil, a low molecular weight polyhydric alcohol having 2 to 6 hydroxyl groups and from about 2 percent to about 25 percent by weight of said reaction product of a copolymer of an ethylenically unsaturated monohydric alcohol having only one ethylenically unsaturated group and an alkenyl substituted aromatic compound having only one ethylenically unsaturated group, the —NCO to —OH ratio being within the range of from about 0.8 to about 1.05.

3,267,059

COATING COMPOSITIONS COMPRISING THE REACTION PRODUCT OF ESTERIFIED SHELLAC AND AN EPOXY RESIN

Herbert S. Cockeram, New York, N.Y., assignor to Gillespie-Rogers-Pyatt Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 10, 1960, Ser. No. 152,957
3 Claims. (Cl. 260—24)

1. The process of making a viscous resinous composition which comprises the steps of

(1) forming a mixture of ingredients consisting of

(A) an alcoholic solution of shellac which has been esterified with said alcohol in an amount within the range of about 12% to 50%, and

(B) an epoxy compound which is selected from the group consisting of the monomeric and polymeric forms of the diglycidyl ethers of polyhydric alcohols and phenols, and

(2) heating the aforesaid mixture at a temperature below 110° C. until the alcohol is driven off, and then at a temperature within the range of about 110° to 115° C. for about one hour.

3,267,060

LATEX OF ETHYLENE PROPYLENE COPOLYMER

Stearns T. Putnam and Harold M. Spurlin, Wilmington, Del., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 27, 1960, Ser. No. 65,271
6 Claims. (Cl. 260—29.6)

1. A paper coating color comprising an aqueous dispersion of substantial quantities of a pigment and an adhesive, said adhesive containing at least 10% by weight of a latex of an ethylene propylene copolymer, said copolymer containing from about 20 to about 45 mole percent propylene and having a reduced specific viscosity of from about 1 to about 7.

3,267,061

FREEZE-THAW STABLE STYRENE BUTADIENE MALEIC ACID INTERPOLYMER LATEX AND PAINTS

George A. Senior, Jr., Bloomfield, and William I. Wertz, East Brunswick, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 18, 1962, Ser. No. 202,961
12 Claims. (Cl. 260—29.7)

1. The process for making coating compositions comprising aqueous dispersions stable to alternating freezing and thawing, which comprises copolymerizing in an aqueous emulsion, a mixture of monomers comprising (a) a vinyl aromatic compound having one vinyl group attached to an aromatic ring and containing from 8 to 9, inclusive, carbon atoms, (b) a 4-carbon chain conjugated diolefin hydrocarbon having from 4 to 5 inclusive, carbon atoms, adding to said mixture at a point during the copolymerization, at least 1 percent by weight of the mixture of monomers of at least one acidic member selected from the group consisting of maleic acid and maleic anhydride, continuing the polymerization in the presence of said acidic member to form an interpolymer of said acidic member, said vinyl aromatic compound and said conjugating diolefin wherein the vinyl aromatic compound is combined in an amount between 40 and 70 mole percent in the polymer and thereafter adjusting the pH of the resulting emulsion to a pH greater than 7 with a monofunctional base.

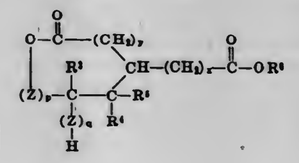
3,267,062

ESTER LACTONES AS PLASTICIZERS IN POLYVINYL CHLORIDE COMPOSITIONS

Erhard J. Prill, Des Peres, and James C. Wygant, Creve Coeur, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Original application Jan. 4, 1960, Ser. No. 34, now Patent No. 3,155,685, dated Nov. 3, 1964. Divided and this application Oct. 22, 1963, Ser. No. 318,099
10 Claims. (Cl. 260—30.4)

1. A resinous composition comprising a major portion of a vinyl chloride polymer, selected from the group consisting of a polyvinyl chloride homopolymer and copolymers of vinyl chloride with a minor portion of an ethylenically unsaturated monomer copolymerizable therewith, plasticized with an ester-substituted lactone of a 2-alkenylsuccinic anhydride and a monohydric alcohol having less than 18 carbon atoms, wherein said lactone includes only gamma- and delta-lactones defined by the structural formula



wherein p, q, x, and y each are integers from 0 to 1; the sum of x and y is 1; the sum of p and q is 1; Z is the divalent radical



each of R^1, R^2, R^3, R^4, and R^5 are free from non-benzenoid unsaturation and are selected from the group consisting of hydrogen atoms and hydrocarbyl radicals containing up to 20 carbon atoms; and R^6 is the non-hydroxy moiety of said alcohol, wherein the ester-substituted lactone is present in an amount of from about 2 to about 50 weight percent of the resinous composition.

3,267,063
POLYURETHANE CAULK CONTAINING KETONE ALDEHYDE RESINS AND PLASTICIZER

George A. Hudson, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Apr. 30, 1962, Ser. No. 191,336
4 Claims. (Cl. 260—33.8)

1. A polyurethane caulking composition containing a highly polar resinous material prepared by condensing formaldehyde with a ketone selected from the group consisting of acetone, methyl ethyl ketone, methyl propyl ketone, methyl isopropyl ketone, methyl-n-butyl ketone, diethyl ketone, diisopropyl ketone, dibutyl ketone, cyclohexanone, cyclobutanone, cycloheptanone and cyclopentanone, and a plasticizer, said plasticizer being free of groups reactive with isocyanate groups and being capable of dissolving said highly polar resinous material.

3,267,064
POLYMERIC AZO DYES FROM PHENOLIC RESINS

Abraham Ravve, Chester W. Fitko, and Jerome C. Brichta, Jr., Chicago, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 23, 1961, Ser. No. 133,293
7 Claims. (Cl. 260—38)

1. The method of forming a thermosetting polymer dyestuff, which comprises coupling a colored diazonium salt of a primary aromatic amine to a phenol novolac resin in the presence of an alkaline agent, and mixing the product with a resin selected from the class consisting of phenol-aldehyde resoles, phenol-aldehyde-amine resins, and glycidyl ethers of bisphenol A.

2. The method of forming a thermoset polymer dyestuff coating which comprises coupling a colored diazonium salt of a primary aromatic amine to a phenol novolac resin in the presence of an alkaline agent, mixing the product with a compound selected from the class consisting of formaldehyde, hexamethylene tetramine, and glycidyl ethers of bisphenol A, applying the mixture to a substantially non-reactive metal sheet, and baking at 300 to 400° F. and 8 to 10 minutes for effecting cross-linkage of the coupled dyestuff-resin.

4. The method of forming an insoluble thermoset colored coating upon metal, which comprises coupling a colored diazonium compound of a primary aromatic amine with a phenol novolac resin in the presence of an alkaline agent, mixing the product with a resin selected from the class consisting of polyvinyl chloride, polyvinylidene chloride, phenolic and glycidyl ethers of bisphenol A, and with a compound selected from the class consisting of formaldehyde, hexamethylene tetramine, and epoxy compounds, applying the mixture to substantially non-reactive metal, and baking at 300 to 400° F. for 8 to 10 minutes for effecting cross-linkage of the coupled diazo-novolac.

3,267,065
VINYL AMINE MODIFIED CLAY PROCESS

Richard G. Shaler, Jr., San Rafael, and Raymond L. McAdam and Richard G. Shaler, San Anselmo, Calif., assignors, by mesne assignments, to American Tansul Company, Las Vegas, Nev., a corporation of California

No Drawing. Filed June 7, 1961, Ser. No. 115,312
8 Claims. (Cl. 260—41)

1. A process for the preparation of modified ion exchangeable clays consisting essentially of contacting in the presence of H^+ a swelling gelling cation exchangeable clay with an amine selected from the group consisting of vinyl substituted 5 and 6 membered cyclic amines and homopolymers and copolymers thereof, exchanging H^+ for the naturally-occurring exchangeable clay cation, attaching said amine to the clay through the H^+ in the form of an amine acid salt ion, and recovering amine acid salt modified clay.

3,267,066
PROCESS FOR THE CROSS-LINKING OF POLYOLEFINS AND FOR THE VULCANIZATION OF RUBBER

Stephanus Bernardus Tijssen, Deventer, Netherlands, assignor to Koninklijke Industrieele Maatschappij Voorheen Noury & van der Lande N.V., Deventer, Netherlands

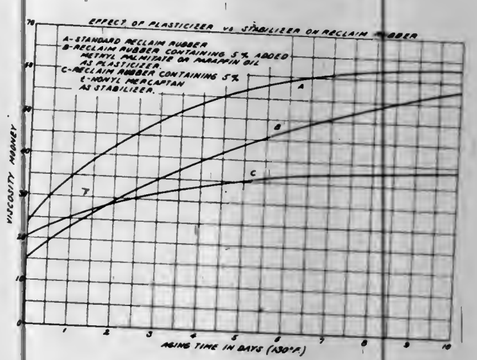
No Drawing. Original application June 2, 1961, Ser. No. 114,320. Divided and this application Aug. 20, 1964, Ser. No. 412,270
Claims priority, application Great Britain, June 8, 1960, 20,154/60
1 Claim. (Cl. 260—41)

A process for vulcanizing polymers selected from the group consisting of polyolefins and natural rubber comprising mixing about 100 parts by weight of the polymer to be vulcanized with up to 50 parts by weight of carbon black and about 3 parts by weight of a catalyst consisting essentially of 2-tertiary butyl-peroxy-2,4,4 trimethylpentane.

3,267,067
MERCAPTAN STABILIZERS FOR CONTROL OF DECREASE IN PLASTICITY OF RECLAIMED RUBBER

John M. Mersereau, Cheshire, and Paul J. Mester, Naugatuck, Conn., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey

Filed Jan. 17, 1963, Ser. No. 252,191
8 Claims. (Cl. 260—45.7)



1. The method of retarding the decrease in plasticity of a reclaim rubber, said reclaim rubber being substantially free of mercaptans, as hereinafter defined, comprising adding thereto a mercaptan of the formula R—SH, wherein the R is a hydrocarbyl or substituted hydrocarbyl group.

3,267,068
POLYALDEHYDE COMPOSITIONS CONTAINING A MONOAMINONAPHTHALENE AND A TRIALKYL PHOSPHITE

Eli Perry, Galveston, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Oct. 18, 1962, Ser. No. 231,551
1 Claim. (Cl. 260—45.9)

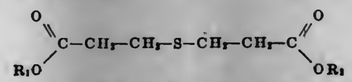
A thermally-stabilized polymeric composition comprising polypropionaldehyde and from about 3% to about 6% by weight of said polypropionaldehyde of a synergistic combination comprising 2-aminonaphthalene and trioctadecyl phosphite in a weight ratio of about 1:1.

3,267,069
STABILIZED ABS POLYMERS CONTAINING ZINC SULFIDE AND A DIALKYL THIODIPROPIONATE

William Cummings, Woodbury, Conn., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 31, 1962, Ser. No. 234,522
9 Claims. (Cl. 260—45.75)

1. A plastic composition stabilized against discoloration and thermal degradation, this composition comprising a plastic selected from the group consisting of an acrylonitrile-butadiene-styrene polymeric material and a styrene-acrylonitrile copolymer, and a stabilizing amount of a synergistic mixture of zinc sulfide and a thiodipropionate ester of the formula:



wherein the sum of the carbon atoms in R_1 and R_2 is at least sixteen and wherein R_1 and R_2 are selected from the class consisting of (A) alkyl radicals and (B) alkyl radicals linked at C_1 carbon atom to the thiodipropionate group and said alkyl radical being substituted with a member of the group consisting of cycloaliphatic and aromatic radicals on the C_n carbon atom wherein n is at least 3.

3,267,070
SELF-EXTINGUISHING POLYSTYRENE RESINS CONTAINING TRIBROMOALLYL ALCOHOL ESTERS

William F. Tousignant and Richard T. Dickerson, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 4, 1963, Ser. No. 256,117
9 Claims. (Cl. 260—45.85)

1. A self-extinguishing polystyrene resin composition containing from about 2 to about 12 percent by weight of an ester of 2,3,3-tribromoallyl alcohol and an organic acid, said acid having from 1 to about 12 carbon atoms in the molecule.

3,267,071
POLYOLEFINS STABILIZED BY ESTERS OF HYDROXYALKYL SULFIDES AND PHENOLIC COMPOUNDS

Jan van Schooten and Willem F. de Wit, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 14, 1963, Ser. No. 265,066
Claims priority, application Netherlands, Mar. 26, 1962, 276,390
4 Claims. (Cl. 260—45.85)

1. A stabilized polyolefin comprising (A) a solid polymer of an olefin selected from the group consisting of ethylene, propylene and butene-1 produced by a low pressure polymerization process and (B) an inhibitor combination of (1) di-esters of bis(beta,gamma-dihydroxypropyl)monosulfide wherein only the gamma-hydroxyl groups are esterified with alpha-branched saturated aliphatic monocarboxylic acids having 8 to 30 carbon atoms and (2) a phenol in which at least one of the ring hydrogens has been replaced with a cyclic hydrocarbon radical selected from the group consisting of cyclohexyl, cyclopentyl, isobornyl and norbornyl radicals.

3,267,072
METHOD OF MAKING THERMALLY STABLE SILOXANE POLYMERS CONTAINING RING STRUCTURES

Alvin D. Delman, Plainview, Rainer J. Katzenstein, Richmond Hill, Alban E. Ruff, New York, and Bernard B. Simms, Franklin Square, N.Y., assignors to the United States of America as represented by the Secretary of the Navy

Filed May 16, 1963, Ser. No. 281,070
1 Claim. (Cl. 260—46.5)

The method of making a thermally stable siloxane resinous polymer containing ring structures which comprises:

mixing 100 parts of triphenylsilanol and 0.89 part of anhydrous aluminum chloride by weight, heating the mixture during one hour to a temperature between about 225° C. and about 250° C., and maintaining that temperature of the mixture for an additional two hours, cooling the mixture at room temperature, vacuum stripping the mixture,

repeating the heating cycle under vacuum, and then vacuum stripping the reheated residue and separating the resin from such residue by solvent extraction.

3,267,073
HYDROPHILIC REDOX VINYL POLYMERS CONTAINING QUINONE GROUPS

Kenneth A. Kun, Riverton, N.J., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Sept. 4, 1962, Ser. No. 221,356
16 Claims. (Cl. 260—47)

1. A solid water-insoluble copolymer of

a monoethylenically unsaturated monomer selected from the group consisting of styrene, α-methylstyrene, vinyl toluene and vinyl naphthalene, and

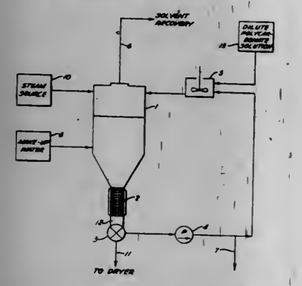
a polyethylenically unsaturated monomer, said copolymer having covalently bonded solely through methylene linkages at least one member selected from the group consisting of quinones and hydroquinones, and at least one member selected from the group consisting of monomeric amines and carboxyl, each said methylene linkage having just one group which is either a redox or an ion exchange group,

said polyethylenically unsaturated monomer having been selected from the group consisting of divinylbenzene, divinylpyridine, divinyltoluene, divinylnaphthalene, diallyl phthalate, ethylene glycol diacrylate, ethylene glycol dimethacrylate, divinylxylene, divinylethylbenzene, divinylsulfone, polyvinyl ether of glycol, polyallyl ether of glycol, polyvinyl ether of glycerol, polyallyl ether of glycerol, polyvinyl ether of pentaerythritol, polyallyl ether of pentaerythritol, polyvinyl ether of mono derivatives of glycol, polyallyl ether of mono derivatives of glycol, polyvinyl ether of resorcinol, polyallyl ether of resorcinol, divinylketone, divinylsulfide, allyl acrylate, diallyl maleate, diallyl fumarate, diallyl succinate, diallyl carbonate, diallyl malonate, diallyl oxalate, diallyl adipate, diallyl sebacate, divinyl sebacate, diallyl tartrate, diallyl silicate, triallyl tricarballylate, triallyl aconitate, triallyl citrate, triallyl phosphate, N,N' - methylenediacrylamide, N,N'-methylenedimethacrylamide, N,N'-methylenediacrylamide, N,N'-methylenedimethacrylamide, N,N'-ethylenediacrylamide, 1,2-bis(α-methylmethylene sulfonamido)ethylene, trivinylbenzene, trivinylnaphthalene, and polyvinylanthracene.

3,267,074
PROCESS FOR PRODUCING POLYCARBONATES

Noel V. Wood, Pittsburgh, Pa., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

Filed Nov. 2, 1962, Ser. No. 235,010
10 Claims. (Cl. 260—47)



1. A method for recovering solid polycarbonate having a high bulk density from a solution thereof which comprises introducing concurrently into a high speed shearing chamber a polycarbonate solution and a turbulent stream of polycarbonate non-solvent heated above the boiling point of the polycarbonate solvent and having a Reynolds number of at least 1,500 to form a mixture comprising polycarbonate particles, polycarbonate solvent and polycarbonate non-solvent and thereafter passing said mixture to a separate vessel containing a polycarbonate non-solvent maintained at a temperature above the boiling point of the polycarbonate solvent to remove said polycarbonate solvent and form a polycarbonate-non-solvent slurry and thereafter recovering polycarbonate from said slurry.

3,267,075
PROCESS FOR PRODUCING POLYCARBONATES

Hermann Schnell, Krefeld-Urdingen, and Ludwig Bottenbruch, Hans Georg Lotter, and Helmut Schwarz, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 20, 1962, Ser. No. 246,005
15 Claims. (Cl. 260—47)

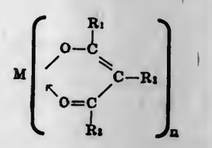
1. A process for reducing the residual content of volatilizable impurities of a crude polycarbonate mix which comprises heating a polycarbonate solution of from about 2 to about 40 percent by weight of polycarbonate to at least the boiling point of the solvent in said polycarbonate solution, thereby volatilizing a portion of said solvent, adding to the remaining polycarbonate mix at least one material substantially chemically inert to the polycarbonate mix, said inert material having a boiling point different from the solvent in said mix and below the decomposition temperature of the polycarbonate in said mix, heating the resulting mixture to at least the melting point of the polycarbonate in said crude mix and thereafter recovering the resulting substantially pure polycarbonate.

3,267,076
PROCESS FOR THE POLYMERIZATION OF FORMALDEHYDE

Takayoshi Ishii and Shotaro Sugiura, Ube-shi, Yamaguchi-ken, Japan, assignors to Ube Industries, Ltd., Ube-shi Yamaguchi-ken, Japan, a corporation of Japan

No Drawing. Filed June 27, 1963, Ser. No. 290,948
Claims priority, application Japan, July 3, 1962, 37/27,285
3 Claims. (Cl. 260—67)

1. A process for polymerizing formaldehyde to high molecular weight polyoxymethylene which comprises contacting gaseous formaldehyde monomer with a catalyst constituted by a metal chelate compound having the formula:



wherein M is a metal selected from the group consisting of the transition metals, Al, Cu and Zn; R_1 and R_3 are radicals selected from the group consisting of alkyl-, aryl-, alkoxy-, thienyl- and furyl-radicals containing one to ten carbon atoms and halogen-substituted compounds thereof; R_2 is hydrogen and n is an integer of from one to four, in an inert solvent as a reaction solvent, said gaseous formaldehyde monomer being introduced continuously into said inert solvent dissolving said catalyst.

3,267,077
CROSS-LINKED URETHANES AND UREAS

Erwin Windemuth, Leverkusen, Hanswilli von Brachel, Cologne-Sulz, and Georg von Finck, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed June 15, 1960, Ser. No. 36,135
Claims priority, application Germany, June 19, 1959, F 28,733
1 Claim. (Cl. 260—75)

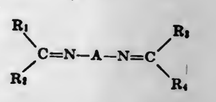
A poly-N,N-ethylene urea plastic obtained by a process which comprises reacting in a first step a member selected from the group consisting of urethanes and ureas having at least two free —NCO groups per molecule and an —NCO content of from about 6.7 to about 21.1%, with a 1,2-alkylene imine at a temperature below about 50° C. and reacting the product of the first step in a second step with an acid anhydride at a temperature of from about 100° C. to about 250° C. until a cross-linked plastic is obtained.

3,267,078
POLYETHER URETHANE COATING COMPOSITION CURED WITH A DI-IMINE

Adolfas Damusis, Detroit, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Dec. 16, 1963, Ser. No. 330,568
6 Claims. (Cl. 260—77.5)

1. A polyurethane coating composition which comprises, on the basis of the total weight of the composition, about 25 to 100 weight percent of a diimine and a blocked isocyanate-terminated polyether based urethane intermediate in which said polyether has a molecular weight of about 134 to 6000, and about 0 to 75 weight percent of an inert solvent; the amounts of said intermediate and said diimine being such that upon curing of said composition there are present 0.8 to 2.2 amine equivalents for each isocyanate equivalent furthermore, said diimine having the formula:



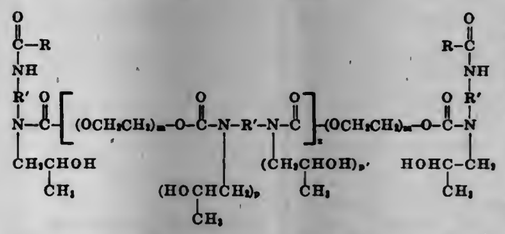
wherein R_1, R_2, R_3 and R_4 are radicals each independently selected from the group consisting of hydrogen, an alkyl having from 1 to 6 carbon atoms and phenyl and wherein A is a member selected from the group consisting of alkylene radicals having from about 2 to 6 carbon atoms and nonvicinal arylene radicals having from about 6 to 12 carbon atoms.

3,267,079
WATER SOLUBLE ALKYLENE OXIDE MODIFIED POLYURETHANE COMPOSITION

Edgar Dare Bolinger, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware

No Drawing. Filed Feb. 7, 1964, Ser. No. 343,924
20 Claims. (Cl. 260—77.5)

1. As a new composition of matter, the water-soluble polymer characterized by the formula



wherein R is an alkoxy group, R′ is a divalent nonreactive radical selected from the group consisting of aliphatic radicals and aromatic radicals, m is an integer from about 15 to about 450, x is an integer of at least 10 and p and p' are two integers the sum of which is from about 0.1 to about 2.0, any valence of N which is not satisfied by a



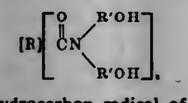
group being satisfied by an H.

3,267,080
REACTION PRODUCT OF AN ORGANIC DIISOCYANATE WITH A POLYMERIC FAT ACID-DIALKANOLAMINE CONDENSATE

Marwan R. Kamal, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Mar. 9, 1965, Ser. No. 438,400
5 Claims. (Cl. 260—77.5)

1. The condensation product of (A) an organic compound selected from the group consisting of hydrocarbon polyisocyanates, hydrocarbon polyisothiocyanates and mixtures thereof with (B) a polyhydroxy compound of the formula



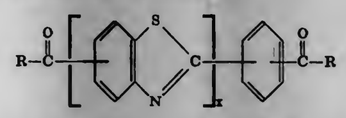
where R is the hydrocarbon radical of a polymeric fat acid, x is an integer from 2 to 4 and R′ is a divalent aliphatic hydrocarbon radical having from 1 to 8 carbon atoms.

3,267,081
BENZOTHIAZOLE DICARBOXYLIC ACIDS AND POLYMERS DERIVED THEREFROM

Bernard Rudner and Philip E. Brumfield, Pittsburgh, and Paul M. Hergenrother, Wampum, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

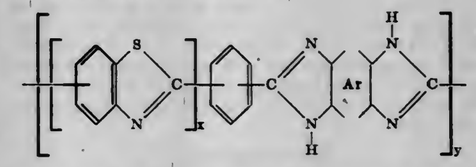
No Drawing. Filed Sept. 19, 1962, Ser. No. 224,825
10 Claims. (Cl. 260—78.4)

1. A compound of the formula:



wherein x is an integer having a value of 1 to 6 and R is a member selected from the group consisting of halogen, hydroxy, lower alkoxy and phenoxy, the individual R substituents being identical.

6. A polymer of the formula:



wherein Ar is an arylene radical, having from 6–16 carbon atoms and supplying two pair of adjacent annular carbon atoms to the imidazole rings, x is an integer having a value of 1–6 and y is an integer having a value of at least 2.

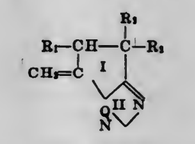
3,267,082
COPOLYMERS OF SPECIFIC HETEROCYCLIC COMPOUNDS

Peter L. de Benneville, Philadelphia, and Warren D. Niederhauwer, Meadowbrook, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed May 24, 1962, Ser. No. 197,241
15 Claims. (Cl. 260—78.5)

1. A copolymer of

(A) at least one monomer of the formula



in which R_1 is a member selected from the class consisting of hydrogen and alkyl of one to five carbon atoms,

R_2 and R_3 taken individually are members selected from the class consisting of hydrogen and hydrocarbon groups of 1 to 10 carbon atoms selected from the class consisting of alkyl, aralkyl, cycloalkyl, aryl and alkaryl groups,

R_1 and R_2 taken collectively with the carbon atoms to which they are joined form a carbocyclic ring of 5 to 6 carbon atoms including alkyl substituents of a total of no more than 4 additional carbon atoms,

R_2 and R_3 taken collectively with the carbon atoms to which they are joined form a carbocyclic ring of 5 to 6 carbon atoms including alkyl substituents of a total of no more than 4 additional carbon atoms,

Q is a hydrocarbon group of 2 to 18 carbon atoms in which there are two to three carbons atoms between the two nitrogen atoms to which Q is attached and ring I contains up to 24 carbon atoms and

(B) at least one ethylenically unsaturated free radically polymerizable monomer.

3,267,083
REPROCESSABLE CROSSLINKED POLYMERIC COMPOSITIONS

Lawrence G. Imhof, Westfield, N.J., assignor to Union Carbide Corporation, a corporation of New York

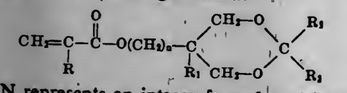
No Drawing. Filed June 7, 1963, Ser. No. 286,181
8 Claims. (Cl. 260—80.5)

1. Reprocessable crosslinked polymeric composition comprising per 100 parts by weight of polyolefin-based polymer having a melt index of from about 0 to 1000 and containing in its backbone from about 0.1 to 15 percent by weight, calculated as free carboxyl group, of pendant acid group selected from the group consisting of carboxyl

and anhydride, from about 0.05 to 150 parts by weight of crosslinking agent selected from the group consisting of polyvalent metal alkanoates containing from 3 to about 12 carbon atoms in the alkane chain, salicylates, naphthenates, and acetonates, said polyvalent metal being selected from the group consisting of metals of Groups IIA, IIB, IIIA, IVA, IVB, VIB, and VIII of the Deming Periodic Table.

3,267,084
POLYMERIZABLE 5-ALKYLENE-m-DIOXANYL ACRYLIC ESTERS
David Rankin, Kansas City, Kans., and Gerald J. Mantell and Francis R. Galiano, Kansas City, Mo., assignors, by mesne assignments, to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed May 23, 1962, Ser. No. 196,916
38 Claims. (Cl. 260—86.1)

1. A polymerizable 5-alkylene-m-dioxanyl acrylic ester represented by the following formula:



wherein N represents an integer from 1 to 4 inclusive, R is selected from the group consisting of lower alkyl and hydrogen, R_1 is selected from the group consisting of lower alkyl radicals having 1 to 4 carbon atoms and hydrogen, R_2 and R_3 are selected from the group consisting of hydrogen, alkyl, and phenyl and alkyl and phenyl having attached thereto substituents selected from the group consisting of lower alkoxy, lower alkyl, cycloalkyl, nitro, chloro, bromo and dialkylamino.

3,267,085
ETHYLENE-ALLYLALCOHOL COPOLYMERS
Robert P. Shouse and Charles R. Donaldson, Tuscola, Ill., assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Jan. 30, 1963, Ser. No. 255,082
12 Claims. (Cl. 260—88.1)

1. A process for copolymerizing ethylene and allyl alcohol which comprises reacting a mixture of ethylene and 0.1 to 3.0 weight percent, based on the ethylene feed, of allyl alcohol at a temperature between about 250° and 500° F. and a pressure between about 17,000 and about 30,000 pounds per square inch in the presence of a free radical copolymerization catalyst.

3,267,086
OLEFIN POLYMERIZATION IN PRESENCE OF $TiCl_{2.5-2.9}$ AND ALUMINUM TRIALKYL
Erik Tornqvist, Roselle, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Original application July 1, 1957, Ser. No. 668,842, now Patent No. 3,121,063. Divided and this application Apr. 18, 1963, Ser. No. 273,834
5 Claims. (Cl. 260—93.7)

1. The process which comprises polymerizing an olefinic monomer with the catalyst which results from contacting TiX_n with AlR_xX_y, where X is halogen, n is 2.5 to 2.9, R is alkyl, x is 2 to 3, and y is 0 to 1.

3,267,087
POLYMERIZATION CATALYST
Clifford W. Childers, Wayne, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Jan. 15, 1963, Ser. No. 251,490
14 Claims. (Cl. 260—94.3)

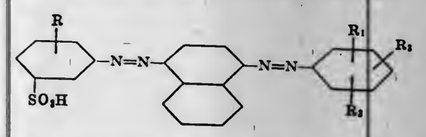
1. A process for producing a rubbery polymer of butadiene-1,3 which comprises contacting under polymerization conditions butadiene-1,3 with a polymerization catalyst prepared by mixing a compound having the generic formula $(R_3P)_2NiI_2$ wherein R represents a radical selected from the group consisting of alkyl radicals having 3 to 8 carbon atoms and cycloalkyl radicals having 5 to 8 carbon atoms with an alkali-metal borohydride selected from the group consisting of KBH_4 and $NaBH_4$, and acetylene, said acetylene being added last.

3,267,088
SHELLAC ESTER-EPOXYCYCLOALKANE COMPOSITIONS
Herbert S. Cockeram, New York, N.Y., assignor to Gillespie-Rogers-Pyatt Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Original application Nov. 10, 1960, Ser. No. 152,957. Divided and this application Sept. 13, 1965, Ser. No. 505,205
5 Claims. (Cl. 260—103)

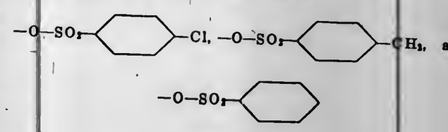
1. The process of making a viscous resinous composition which comprises the steps of
(1) forming a mixture of ingredients consisting of
(A) an alcoholic solution of shellac which has been esterified with said alcohol in an amount within the range of about 12% and 50%, and
(B) an epoxycycloalkane compound, and
(2) heating the aforesaid mixture at a temperature below 110° C. until the alcohol is driven off, and then at a temperature within the range of about 110° to 115° for about one hour.

3,267,089
DISAZO ORANGE DYE
James F. Feeman, Wyomissing, Pa., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
No Drawing. Filed Dec. 4, 1963, Ser. No. 328,123
6 Claims. (Cl. 260—191)

1. A compound having the following structure:



wherein R represents a radical selected from the group consisting of —H, chloro ortho to the azo linkage, and chloro para to the azo linkage; R_1 and R_2 represent a radical selected from the group consisting of —H and $—CH_3$; and R_3 represents a benzene sulfonic ester radical selected from the group consisting of

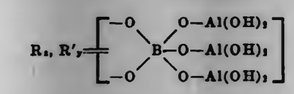


3,267,090
VISCUMIC ACID AND SALTS THEREOF
Johannes Mueller, Arlesheim, Switzerland, assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 6, 1963, Ser. No. 315,100
Claims priority, application Switzerland, Sept. 8, 1960, 10,219/60
10 Claims. (Cl. 260—209)

1. Process for the manufacture of a new polysaccharide in substantially pure form, which comprises the steps of exhaustively dialysing against water a member selected from the group consisting of a water-extract and a juice of a plant material selected from the group consisting of *Viscum album* and Loranthus species and isolating a member selected from the group consisting of viscumic acid and its alkali and alkaline earth metal salts from the retentate of the dialysis by fractional precipitation with water-miscible organic solvents.

3,267,091
COMPLEXES CONTAINING ALUMINUM, BORON AND HYDROXY ORGANIC COMPOUNDS AND PROCESS THEREFOR
Ruth C. Denison, Signal Mountain, Tenn.
(199 Lake Shore Drive, Brookfield, Conn. 06813)
No Drawing. Filed Jan. 3, 1962, Ser. No. 164,194
4 Claims. (Cl. 260—234)

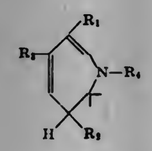
4. An aluminum-boric acid-organic complex of the formula



where R and R′ are the radicals resulting from the removal of at least one hydroxyl group from a hydroxy compound selected from the group consisting of mannitol, gluconic acid, glycolic acid, lactic acid, malic acid, tartaric acid, citric acid, salicylic acid, ethylene glycol, sucrose, gallic acid, pyrogallol and pyrocatechol; x and y are integers selected from the group consisting of 0, 1, and 2.

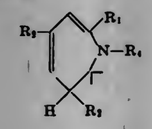
3,267,092
CERTAIN DIHYDRO-2H-AZEPINE COMPOUNDS AND THEIR PREPARATION
Leo A. Paquette, Portage Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Original application May 24, 1963, Ser. No. 282,883. Divided and this application Nov. 4, 1965, Ser. No. 514,162
5 Claims. (Cl. 260—239)

1. A compound of the formula:

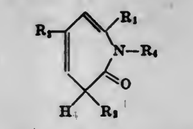


wherein R_1 and R_2 are alkyl of 1 to 4 carbon atoms, inclusive, wherein R_3 is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, inclusive, and wherein R_4 is selected from the group consisting of hydrogen, alkyl of 1 to 6 carbon atoms, inclusive, alkenyl of 3 to 6 carbon atoms, inclusive, alkynyl of 3 to 6 carbon atoms, inclusive, cycloalkyl of 5 to 10 carbon atoms, inclusive, and aralkyl of 7 to 11 carbon atoms, inclusive.

5. A process for the preparation of a 1,3-dihydro-2H-azepine of the formula:



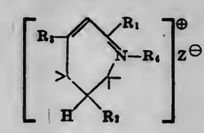
wherein R_1 and R_2 are alkyl of 1 to 4 carbon atoms, inclusive, wherein R_3 is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, inclusive, and wherein R_4 is selected from the group consisting of hydrogen, alkyl of 1 to 6 carbon atoms, inclusive, alkenyl of 3 to 6 carbon atoms, inclusive, alkynyl of 3 to 6 carbon atoms, inclusive, cycloalkyl of 5 to 10 carbon atoms, inclusive, and aralkyl of 7 to 11 carbon atoms, inclusive, which comprises the steps, (1) mixing a compound of the formula:



wherein R_1, R_2, R_3, and R_4 are as given above, with lithium aluminum hydride, and (2) mixing the reaction mixture from step (1) with water and a base to form said 1,3-dihydro-2H-azepine.

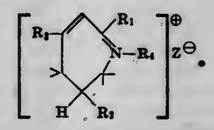
3,267,093
CERTAIN DIHYDRO-3H-AZEPINIUM COMPOUNDS AND THEIR PREPARATION
Leo A. Paquette, Portage Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Original application May 24, 1963, Ser. No. 282,883. Divided and this application Nov. 4, 1965, Ser. No. 514,163
4 Claims. (Cl. 260—239)

1. A compound of the formula:

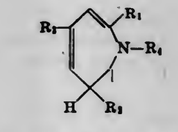


wherein R_1 and R_2 are alkyl of 1 to 4 carbon atoms, inclusive, wherein R_3 is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, inclusive, and wherein R_4 is selected from the group consisting of hydrogen, alkyl of 1 to 6 carbon atoms, inclusive, alkenyl of 3 to 6 carbon atoms, inclusive, alkynyl of 3 to 6 carbon atoms, inclusive, cycloalkyl of 5 to 10 carbon atoms, inclusive, and aralkyl of 7 to 11 carbon atoms, inclusive, and wherein Z is the anion of a strong acid.

4. A process for the preparation of a 3,4-dihydro-2H-azepinium salt of the formula:



wherein R_1 and R_2 are alkyl of 1 to 4 carbon atoms, inclusive, wherein R_3 is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, inclusive, and wherein R_4 is selected from the group consisting of hydrogen, alkyl of 1 to 6 carbon atoms, inclusive, alkenyl of 3 to 6 carbon atoms, inclusive, alkynyl of 3 to 6 carbon atoms, inclusive, cycloalkyl of 5 to 10 carbon atoms, inclusive, and aralkyl of 7 to 11 carbon atoms, inclusive, and wherein Z is the anion of a strong acid, which comprises mixing a compound of the formula:



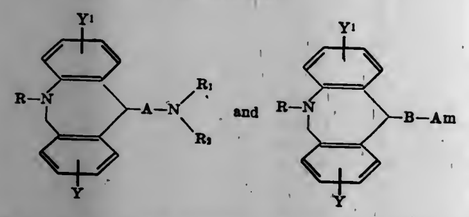
wherein R_1, R_2, R_3, and R_4 are as given above, with an equivalent amount of said strong acid.

3,267,094
MORPHANTHRIDINE DERIVATIVES

Alexander E. Drukker, Milwaukee, and Claude I. Judd, Mequon, Wis., assignors to Colgate-Palmolive Company, a corporation of Delaware

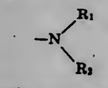
No Drawing. Filed Aug. 23, 1963, Ser. No. 304,241
20 Claims. (Cl. 260—239)

1. A compound of the formulae



and

wherein Y and Y^1 are members of the group consisting of hydrogen, halo, lower alkoxy, lower alkyl, thio-lower alkyl and trifluoromethyl, R is a member of the group consisting of hydrogen, lower alkyl, lower alkenyl, phenyl-lower alkyl, and phenyl-lower alkenyl, A is a lower alkylene, and R_1 and R_2 are members of the group consisting of hydrogen, lower alkyl, lower alkenyl, phenyl, phenyl-lower alkyl, cycloalkyl of 5 to 7 carbons in the ring, cycloalkyl-lower alkyl in which the cycloalkyl has 5 to 7 carbons in the ring, and groups in which



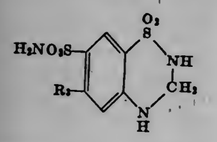
represents, a heterocyclic amino of the groups consisting of morpholino, pyrrolidino, piperidino, N-lower alkyl-piperazino, N-phenyl-lower alkyl-piperazino and N-hydroxy-lower alkyl piperazino, B is a member of the group consisting of a single chemical bond and lower alkylene and Am is a member of the group consisting of pyridyl, pyrrolidyl, piperidyl, N-lower alkyl piperidyl, N-(phenyl-lower alkyl)-piperidyl, N-lower alkyl pyrroidyl and N-(phenyl-lower alkyl)-pyrrolidyl, but B is an alkylene when Am is one of the said heterocyclics bonded to the 2 position of the ring, and pharmaceutically acceptable nontoxic acid addition salts thereof.

3,267,095
PROCESS FOR THE PREPARATION OF 3,4-DIHYDRO-1,2,4-BENZOTHIADIAZINE-1,1-DIOXIDES

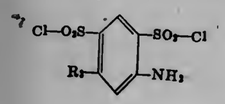
Richard Bennett Margerison, Florham Park, Anthony Charles Shablca, Livingston, and John Benjamin Ziegler, Summit, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 24, 1962, Ser. No. 212,125
5 Claims. (Cl. 260—243)

1. Process for the preparation of a 3,4-dihydro-2H-1,2,4-benzothiadiazine-1,1-dioxide of the formula:



in which R_3 represents a member of the group consisting of lower alkyl, polyhalogeno-lower alkyl and halogeno, which comprises treating an aniline derivative of the formula:



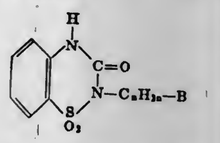
in which R_5 has the previously given meaning, with a member selected from the group consisting of formaldehyde, the acetal of formaldehyde with a lower alkanol, a polymer of formaldehyde, hexamethylene-tetramine and chloromethyl methyl ether, in the presence of hydrogen chloride, and subsequently with ammonia.

3,267,096
DERIVATIVES OF 2H,4H-BENZOTHIADIAZINE 1,1-DIOXIDE

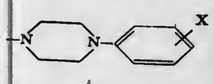
Shin Hayao, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Feb. 24, 1965, Ser. No. 435,023
9 Claims. (Cl. 260—243)

1. A compound selected from the group consisting of compounds of the formula



wherein n is an integer from 3 to 5 and B is a member selected from the group consisting of



and



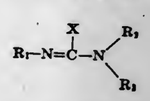
wherein X is a member selected from the group consisting of hydrogen, fluoro, chloro and trifluoromethyl, and pharmacologically acceptable salts thereof.

3,267,097
HALOCARBONIC AND ARYL FORMAMIDINES AND PROCESS FOR THEIR PRODUCTION

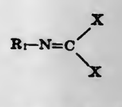
Engelbert Kühle and Ludwig Eue, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 25, 1965, Ser. No. 442,771
12 Claims. (Cl. 260—247.2)

12. A process for producing a halo carbonic acid amide of the formula



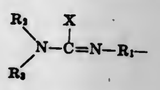
comprising contacting an isocyanide dihalide of the formula



with about a molar amount of an amine of the formula

$$R_2—NH—R_3$$

at a temperature not exceeding about 20° C. and in the presence of an acid binding agent, wherein R_1 is defined as a member selected from the group consisting of a phenyl, and a naphthyl and additionally defined as



X is defined as halo; and R_2 and R_3 are members selected from the group consisting of hydrogen, lower alkyl, and

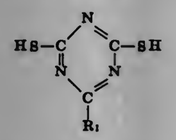
aryl, and in combination with the N atom are further defined as morpholino, thiomorpholino, and pyrrolidino.

3,267,098
THIOLTRIAZINE SALT COMPOUNDS

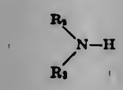
Richard P. Cope, Jr., Wilkinsburg, Pa., assignor, by mesne assignments, to Cowles Chemical Company, Shaker Heights, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 25, 1963, Ser. No. 260,896
10 Claims. (Cl. 260—248)

1. A water soluble amine salt of a thioltriazine compound suitable for use as an additive to electroplating baths produced by admixing and heating (A) a thioltriazine compound having the formula:



wherein R_1 is selected from the group consisting of hydrogen, thiol, amino and hydroxyl groups with (B) a compound having the formula:



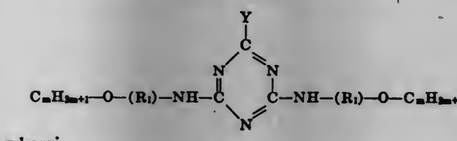
wherein R_2 is selected from the group consisting of (1) hydrogen, (2) unsubstituted aliphatic groups containing not more than four carbon atoms and substituted aliphatic groups containing not more than four carbon atoms in which the substituents are selected from the groups consisting of —NH_2, —Cl, —OH and —SO_3Na and (3) unsubstituted alicyclic groups containing from 4 to 6 carbon atoms and substituted alicyclic groups containing from 4 to 6 carbon atoms in which the substituents are selected from the groups consisting of —NH_2, —Cl, —OH and —SO_3Na and R_3 is selected from the heretofore described groups (2) and (3).

3,267,099
2-ALKOXY AND MERCAPTO-4,6-BIS ALKOXY ALKYL AMINO-s-TRIAZINES

Donald S. Acker, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

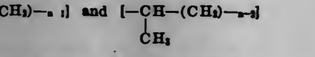
No Drawing. Original application Apr. 9, 1962, Ser. No. 185,849. Divided and this application Apr. 5, 1965, Ser. No. 445,733
2 Claims. (Cl. 260—249.8)

1. A compound represented by the formula



wherein

R_1 is selected from the group consisting of



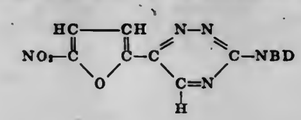
n is a whole positive integer from 3 through 8;
m is a whole positive integer from 1 through 8; and
Y is a member of the group consisting of OR and SR where R is an alkyl group of less than 3 carbon atoms.

3,267,100
ANTI-BACTERIAL-3-AMINO-6(5'-NITRO-FURYL)-1,2,4-TRIAZINES

Ralph G. Haber, 42 Kaplansky St., Givatayim, Israel

No Drawing. Filed Nov. 8, 1963, Ser. No. 322,537
Claims priority, application Israel, Nov. 16, 1962, 18,237; Oct. 24, 1963, 20,126
5 Claims. (Cl. 260—249.5)

1. Asymmetric amino triazine derivatives of the formula



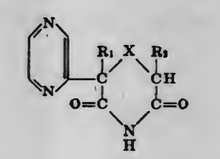
in which B and D are each a member selected from the group consisting of hydrogen, lower alkyl and R'CO, wherein R' stands for lower alkyl, at least one of B and D standing for lower alkyl or R'CO.

3,267,101
DERIVATIVES OF PYRAZINE

Antony M. Akkerman, Geertruida C. Van Leeuwen, and Josephus F. Michels, Amsterdam, Netherlands, assignors to N.V. Nederlandsche Combinatie voor Chemische Industrie, Amsterdam, Netherlands, a limited-liability company of the Netherlands

No Drawing. Filed May 6, 1964, Ser. No. 365,512
Claims priority, application Netherlands, May 10, 1963, 292,633
9 Claims. (Cl. 260—250)

1. A compound represented by the formula:



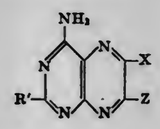
in which: R_1 is selected from the group consisting of loweralkyl, diloweralkylaminoloweralkyl and phenyl; R_2 is selected from the group consisting of hydrogen and methyl; and X is selected from the group consisting of a direct bond between two carbon atoms, and methylene.

3,267,102
REACTION PRODUCTS OF 4,6-DIAMINO-5-NITROSOPYRIMIDINES WITH ALKYL BENZOYLACETATES, AND PROCESS OF OBTAINING THE SAME

Thomas S. Osdene, Richmond, Va., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,131
9 Claims. (Cl. 260—251.5)

1. A compound of the formula:



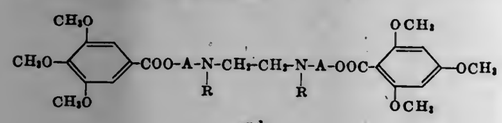
wherein R' is phenyl, halophenyl, thienyl, lower alkylphenyl, lower alkoxyphenyl, halo(lower) or alkylphenyl, X is COOR where R is methyl or ethyl; or COR^2 where R^2 is phenyl, halophenyl, lower alkylphenyl, lower alkoxyphenyl or haloalkylphenyl; Z is hydroxy or R^2.

3,267,103
BIS AND TETRAKIS ESTERS OF 3,4,5-TRIMETHOXYBENZOIC ACID

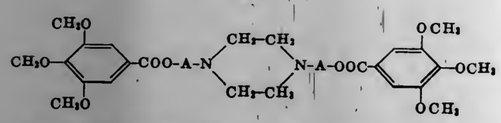
Otto Kraupp and Karl Schlögl, Vienna, Austria, assignors to Osterreichische Stickstoffwerke Aktiengesellschaft, Linz, Austria

No Drawing. Filed Mar. 14, 1963, Ser. No. 265,080
Claims priority, application Austria, Mar. 22, 1962, A 2,323/62; Mar. 30, 1962, A 2,577/62
8 Claims. (Cl. 260—268)

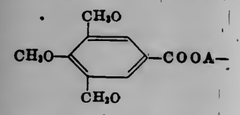
1. The new esters selected from the group consisting of compounds of the formulae:



and



wherein A is selected from the group consisting of trimethylene and trimethylene substituted by lower alkyl, and R is selected from the group consisting of methyl, ethyl, propyl and the group



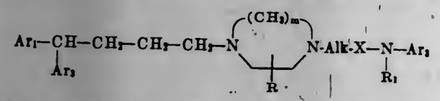
wherein A has the same meaning as above and the non-toxic salts thereof.

3,267,104
1,4-DISUBSTITUTED PIPERAZINES AND DIAZEPINES

Hubert Karel Frans Hermans, Beerse, near Turnhout, and Wolfgang Karl-Adolf Schaper, Turnhout, Belgium, assignors to Janssen Pharmaceutica, N.V., a corporation of Belgium

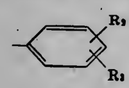
No Drawing. Filed May 14, 1965, Ser. No. 455,973
16 Claims. (Cl. 260—268)

1. A compound selected from the group consisting of

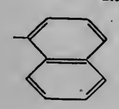


and the therapeutically active non-toxic acid addition salts thereof, wherein Ar_1 and Ar_2 are each selected from the group consisting of phenyl, lower alkylphenyl, halophenyl, trifluoromethylphenyl and thienyl; *m* is an integer from 2 to 3; Alk is a member selected from the group consisting of —CH(CH₃)— and —(CH₂)ₙ— in which *n* is an integer from 1 to 3; X is a member selected from the group consisting of carbonyl and methylene; R is a member selected from the group consisting of hydrogen and methyl; R_1 is a member selected from the group consisting of hydrogen, lower alkyl and lower alkyl carbonyl; and Ar_3 is a member selected from the group consisting of

(a)

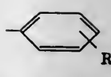


(b)



and

(c)



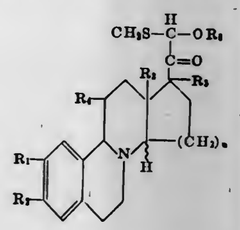
in which R_2 and R_3 are each selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, halo and nitro, and R_4 is lower alkyl carbonyl.

3,267,105
1-METHYLTHIOACYL-BENZ[a]CYCLOPENTA[f] QUINOLIZINES AND PROCESS FOR THEIR PRODUCTION

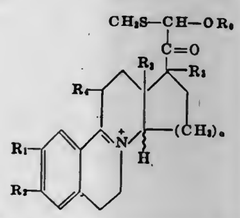
Richard E. Brown, Hanover, and Robert I. Meltzer, Rockaway, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed July 21, 1965, Ser. No. 473,840
4 Claims. (Cl. 260—286)

1. A member of the group consisting of compounds of the formulas:



and



wherein R_1 and R_2 each are members selected from the group consisting of hydrogen, hydroxy, lower alkoxy and methylene dioxy; R_3 is a member of the group consisting of hydrogen and lower alkyl; R_4 is a member of the group consisting of hydrogen, hydroxy and lower acyloxy of a carboxylic acid; R_5 is a member selected from the group consisting of hydrogen, hydroxy and lower acyloxy of a carboxylic acid; R_6 is acyl of a carboxylic acid and *n* is integer of from 1 to 2.

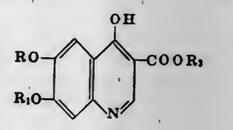
3. 2,3,3a,5,6,11,12,12a - octahydro - 8 - methoxy - 12a-methyl - 1-[acetoxy(methylthio)acetyl]-1H-benz[a]cyclopent[f]quinolizinium perchlorate.

3,267,106
LOWER ALKYL ESTERS OF 6,7-DI(LOWER) ALKOXY-4-HYDROXY - 3 - QUINOLINECARBOXYLIC ACID

Edward John Watson, Jr., Norwich, N.Y., assignor to The Norwich Pharmacal Company, Norwich, N.Y., a corporation of New York

No Drawing. Filed July 2, 1964, Ser. No. 380,058
9 Claims. (Cl. 260—287)

1. A lower alkyl ester of a 6,7-di(lower) alkoxy-4-hydroxy-3-quinolinecarboxylic acid of the formula:



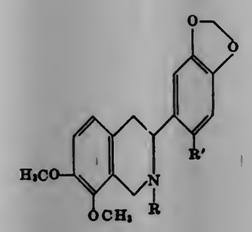
wherein R and R_1 each represent a member of the group consisting of a lower alkyl radical containing from two to four carbon atoms, and R_2 represents a lower alkyl group.

3,267,107
3-(4'-5' - METHYLENEDIOXY - PHENYL)-7,8-DIMETHOXY - 1,2,3,4 - TETRAHYDROISOQUINOLINES

Istvan S. Sallay, Wynnewood, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 17, 1964, Ser. No. 397,272
7 Claims. (Cl. 260—287)

1. A compound selected from the group represented by the formula



in which R is selected from the group consisting of —CONH₂ and —CN and R' is selected from the group consisting of —(CH₃)₂N(C₂H₅)₂ and —(CH₂)₂Br.

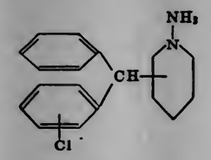
4. 2 - carbamoyl - 3-(2'-β-diethylaminoethyl-4',5'-methylenedioxy-phenyl)-7,8 - dimethoxy - 1,2,3,4 - tetrahydroisoquinoline.

3,267,108
1-AMINO-α-(CHLOROPHENYL)BENZYL-PIPERIDINES

Robert W. Hamilton, Wilmette, and Kurt J. Rorig, Glenview, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed June 22, 1964, Ser. No. 377,096
6 Claims. (Cl. 260—293)

1. A compound of the formula



3,267,109
3,5-PYRIDINEDISULFONIC ACID

Bernard F. Duesel, Yonkers, and Louis S. Scarano, Middletown, N.Y., assignors to Nepera Chemical Co., Inc.

No Drawing. Filed Jan. 15, 1964, Ser. No. 337,715
7 Claims. (Cl. 260—294.8)

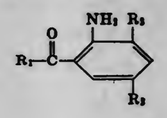
1. A method for the preparation of 3,5-pyridinedisulfonic acid comprising, reacting pyridine with sulfur trioxide in the presence of a sulfonation catalyst adding the reaction mixture to a lower alkanol ice-water bath, separating the unreacted 3-pyridinesulfonic acid by removing the crystalline precipitate from said ice-water bath, and thereafter recovering substantially pure 3,5-pyridinedisulfonic acid from the remaining reaction mixture by crystallization in a lower alkanol ice-water bath.

3,267,110
TRIFLUOROMETHYL SUBSTITUTED o-AMINOPHENYL KETONES

Irwin J. Pachter, Woodbury, N.Y., and James W. Wilson, Wayne, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application June 3, 1960, Ser. No. 33,620. Divided and this application Dec. 3, 1963, Ser. No. 327,829
1 Claim. (Cl. 260—296)

The method of preparing trifluoromethyl-o-aminophenyl ketones having the following formula:

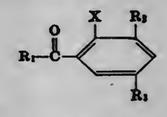


in which:

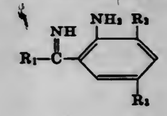
R_1 is a member selected from the group consisting of phenyl, fluorophenyl, chlorophenyl, bromophenyl, trifluoromethylphenyl, lower alkoxyphenyl, lower alkylphenyl, lower alkyl, cyclopentyl, cyclohexyl, benzyl, phenethyl, thienyl, pyrrolyl, pyridyl, furyl and indolyl; and

R_2 and R_3 are members selected from the group consisting of hydrogen and trifluoromethyl, at least one of said members being trifluoromethyl

which comprises treating a trifluoromethyl-o-halophenyl ketone having the following formula:



in which X is halogen and R_1, R_2 and R_3 are as defined above with ammonia at about 135–170° C. for about 6–15 hours to form a trifluoromethyl-o-aminophenyl ketone imine having the following formula:



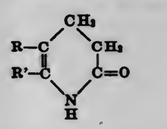
in which R_1, R_2 and R_3 are as defined above and hydrolyzing said trifluoromethyl-o-aminophenyl ketone imine.

3,267,111
LACTAM PROCESS

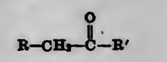
John J. Vill, Wheaton, Md., assignor to W. R. Grace & Co., a corporation of Connecticut

No Drawing. Filed Nov. 8, 1962, Ser. No. 236,429
6 Claims. (Cl. 260—297)

1. A method for preparing a lactam of the formula



wherein R is selected from the group consisting of hydrogen, alkyl, phenyl and alkyl phenyl, and R' is selected from the group consisting of alkyl, phenyl and alkylphenyl, and R and R' are combined to form an alkylene radical, which comprises reacting a ketone of the formula



wherein R and R' have the meanings given previously with acrylonitrile at a temperature in excess of about 125° C. in the presence of a catalytic amount of a mixture comprising:

(1) a basic compound selected from the group consisting of ammonia and primary amines,
(2) an acid, and
(3) water

said mixture containing from about 1 to about 5 equivalents of basic compound per equivalent of acid, and from about 0.1 to about 3% by weight of water based on the composite weight of said basic compound and acid; and recovering the lactam formed thereby.

ERRATUM

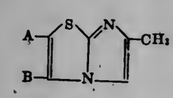
For Class 260—301 see:
Patent No. 3,266,717

3,267,112
NOVEL IMIDAZOTHIAZOLE DERIVATIVES AND A PROCESS FOR PREPARATION THEREOF

Issei Iwai and Tetsuo Hiraoka, Tokyo, Japan, assignors to Sankyo Company, Limited, Chyuo-ku, Tokyo, Japan

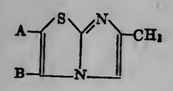
No Drawing. Filed Feb. 24, 1965, Ser. No. 435,036
Claims priority, application Japan, Feb. 29, 1964, 39/11,145
6 Claims. (Cl. 260—305)

1. A compound selected from the class consisting of the compound having the formula

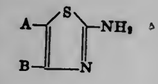


wherein A and B each represent hydrogen or A and B may be combined together with carbon atoms in which they are attached to form phenyl group unsubstituted or substituted with alkyl group containing from 1 to 5 carbon atoms, alkoxy group containing from 1 to 5 carbon atoms, halogen or nitro group and acid-addition salt thereof.

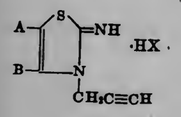
5. A process for preparing a compound having the formula



wherein A and B each represent hydrogen or A and B may be combined together with carbon atoms in which they are attached to form phenyl group unsubstituted or substituted with alkyl group containing from 1 to 5 carbon atoms, alkoxy group containing from 1 to 5 carbon atoms, halogen or nitro group which comprises reacting a compound having the formula



wherein A and B have the same meanings as set forth above with propargyl halide to produce a compound having the formula



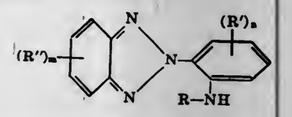
wherein X represents halogen, and A and B have the same meanings as set forth above and reacting the latter compound with an alkalimetal alcoholate or alkalimetal amide.

3,267,113
ACYL AMIDES OF 2-(o-AMINOARYL)-2,1,3-BENZOTRIAZOLES

Rudolph A. Carboni, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 25, 1964, Ser. No. 354,758
17 Claims. (Cl. 260—308)

1. A compound of the formula



wherein R is an acyl group selected from the class consisting of

(a) R'''CO— wherein R''' is a group of the class consisting of
  (1) hydrocarbon of 1 to 19 carbon atoms free of acetylenic unsaturation,
  (2) substituted hydrocarbon of 1 to 19 carbon atoms free of acetylenic unsaturation wherein the substituents are of the class consisting of fluorine, chlorine, bromine, nitro, amino, hydroxy, carboxy, metal carboxylate, halocarbonyl, alkoxy, and alkoxycarbonyl of up to 7 carbon atoms, and o-[2(2,1,3-benzotriazole)]-phenylaminocarbonyl, and
  (3) a heterocyclic ring selected from the group consisting of pyridinyl, piperidinyl, furyl, thiazolyl, benzothiazolyl, quinoxalinyl, quinolyl and 2,3-dichloroquinoxalinyl;

(b) $R^{IV}SO_2$— wherein R^{IV} is a group of the class consisting of
  (1) hydrocarbon of 1 to 19 carbon atoms free of acetylenic unsaturation, and
  (2) a heterocyclic ring selected from the group consisting of pyridinyl, piperidinyl, e-methylpyridinyl, α-butylpiperidinyl and benzothiazolyl;

(c) $R^{V}PO_2$— wherein R^{V} is a hydrocarbon of 1 to 19 carbon atoms free of acetylenic unsaturation;

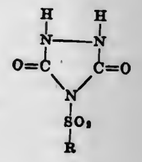
wherein R' and R'' each are of up to 19 carbon atoms and are selected from the group consisting of alkyl, alkoxy, alkenyl of 4 to 8 carbon atoms which forms a fused areno structure of 10 to 14 carbons with one of the benzo and aminophenyl moieties of the benzotriazole, fluorine, chlorine, bromine, nitro, sulfo, sulfo salt, carboxy, and cyano; and *m* and *n* each are cardinal numbers of from 0 to 4, inclusive.

3,267,114
4-ARYLSULFONYL URAZOLES

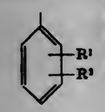
Milton Wolf, West Chester, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 1, 1965, Ser. No. 510,937
12 Claims. (Cl. 260—308)

1. A urazole compound of the formula:



wherein R is selected from the group consisting of thienyl, and phenyl moieties of the formula:



wherein R^1 and R^2 are each selected from the group consisting of hydrogen, lower alkyl, nitro, acetamido, halo, trihalomethyl and lower alkoxy.

3,267,115
ORGANIC SEMICONDUCTORS

John E. Katon, Dayton, Ohio, assignor to Monsanto Company, a corporation of Delaware

Filed June 13, 1960, Ser. No. 35,571
8 Claims. (Cl. 260—314)

1. A polymeric reaction product of substantially two moles of tetracyanoethylene per mole of metal salt, said reaction product formed by heating the reactants in an inert atmosphere at a temperature sufficient to cause reaction but insufficient to cause substantial pyrolysis of the reaction product in the range of about 100°–300° C.

3,267,116
PROCESS FOR PREPARING PIGMENTARY COPPER PHTHALOCYANINE

Juergen Hans Braun, Brandywine Hundred, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 11, 1963, Ser. No. 286,952
6 Claims. (Cl. 260—314.5)

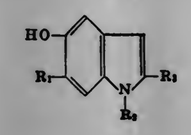
1. A process for producing pigmentary copper phthalocyanine exhibiting enhanced tinctorial characteristics and pigmentary strength through the acid swelling of a blue, water-insoluble copper phthalocyanine compound, which comprises slurrying a crude form of said compound in aqueous hydrochloric acid of not less than 30% and up to 40% HCl concentration to form a hydrochloride of said copper phthalocyanine compound, and then regenerating the pigment from said hydrochloride by treating the slurried product with a proton acceptor selected from the group consisting of methanol, ethanol, water, steam, aqueous ammonia and aqueous solutions of organic amines.

3,267,117
NOVEL SUBSTITUTED INDOL-5-OLS

George Rodger Allen, Jr., Old Tappan, N.J., and John Frank Poletto, Nanuet, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed July 30, 1965, Ser. No. 476,184
2 Claims. (Cl. 260—326.16)

1. A compound of the formula:



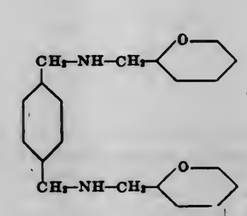
wherein R_1 is lower alkyl, R_2 is β-hydroxy lower alkyl, and R_3 is lower alkyl.

3,267,118
1,4-BIS-(2-TETRAHYDROPYRANYLMETHYL-AMINOMETHYL)-CYCLOHEXANE AND SALTS THEREOF

Leslie G. Humber, Montreal, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 30, 1963, Ser. No. 298,560
3 Claims. (Cl. 260—345.9)

1. A compound selected from the group which consists of the compounds of Formula I:



(I)

and salts thereof with pharmacologically acceptable acids.

3,267,119
PROCESS FOR THE PRODUCTION OF 17α-HYDROXY STEROIDS OF THE ANDROSTANE AND ESTRANE SERIES

Francisco Alvarez, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Sept. 2, 1964, Ser. No. 394,044
Claims priority, application Mexico, Sept. 13, 1963, 73,852
7 Claims. (Cl. 260—397.4)

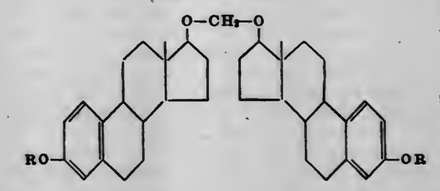
1. In the process for preparing 17α-hydroxy steroids selected from the group consisting of the androstane and estrane series, the steps comprising treatment of the corresponding 17β-acetylamino compound with nitrogen tetroxide, followed by thermal decomposition of the thus obtained 17β-N-nitroso-N-acetylamino compound.

3,267,120
17,17'-METHYLENEBIS ETHERS OF 3-LOWER ALKOXY ESTRA-1,3,5(10)-TRIENE

Gerhard R. Wendt, Havertown, and Kurt W. Ledig, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 26, 1964, Ser. No. 370,361
3 Claims. (Cl. 260—397.5)

1. A compound of the formula:



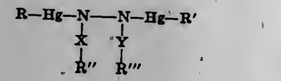
wherein R represents a lower alkyl group.

3,267,121
ORGANOMERCURIC HYDRAZINE COMPOUNDS AND PROCESS FOR THE PRODUCTION THEREOF

Heinrich Klös, Wuppertal-Elberfeld, and Paul-Ernst Frohberger, Burscheid, Bezirk Dusseldorf, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Mar. 6, 1963, Ser. No. 263,122
Claims priority, application Germany, Mar. 9, 1962, F 36,225
11 Claims. (Cl. 260—434)

1. An organomercuric hydrazine compound of the formula



in which

R, R′, R″ and R‴ stand for a member selected from the group consisting of alkyl with 1 to 4 carbon atoms, cycloalkyl with 5 to 6 ring members, phenyl and the chloro, bromo, hydroxy, nitro, alkoxy, acyloxy and dialkylamino substitution products thereof, the alkoxy, acyloxy and alkyl groups of these substituents containing 1 to 4 carbon atoms, and

X and Y stand for a member selected from the group consisting of carbonyl and sulfonyl groups.

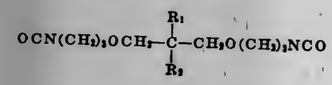
6. N - N′ - bis - (methylmercuric) - N - N′ - bis-benzoyl-hydrazine.

3,267,122
BIS-(GAMMA-ISOCYANATO)-ALKOXY ALKANES AND PREPARATION THEREOF

Wolfgang Lehmann, Leverkusen, and Heinz Ziemann, Leichlingen, Rhineland, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Feb. 1, 1963, Ser. No. 255,693
Claims priority, application Germany, Feb. 7, 1962, F 35,958
4 Claims. (Cl. 260—453)

1. Compounds of the formula



wherein R_1 and R_2 are selected from the group consisting of lower alkyl, lower haloalkyl, phenyl, cyclohexyl and γ-aminopropoxy lower alkyl.

3,267,123
REFINING OF THIOCRESOL ISOMERS

Peter P. Croitoru, Bethel Park, Pa., assignor to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed May 1, 1963, Ser. No. 277,110
11 Claims. (Cl. 260—455)

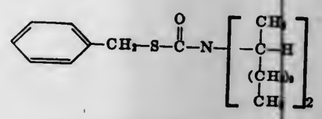
1. In a process for refining a mixture containing at least one component selected from the group consisting of orthothiocresol and a lower aliphatic monocarboxylic acid ester thereof and at least one other component selected from the group consisting of meta- and parathiocresols and their respective lower aliphatic monocarboxylic acid esters, at least a thiocresol isomer being present, the steps of reacting the mixture with an acylating agent to convert at least a portion of thiocresols present to lower aliphatic monocarboxylic acid esters thereof and fractionally distilling the mixture to separately recover at least the lower aliphatic monocarboxylic acid ester of orthothiocresol.

3,267,124
BENZYLESTER OF DI-(1-METHYLHEPTYL) THIOCARBAMIC ACID

Richard A. Nyquist, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 17, 1963, Ser. No. 317,075
1 Claim. (Cl. 260—455)

The benzyl ester of di-(1-methylheptyl)thiocarbamic acid, of the formula

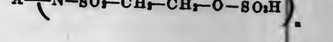


3,267,125
COMPOUNDS CONTAINING ETHIONYLAMINO GROUPS AND PROCESS FOR PREPARING THEM

Rudolf Kühne, Fritz Meininger, and Siegfried Schlessler, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

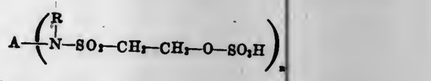
No Drawing. Filed Jan. 9, 1962, Ser. No. 165,228
Claims priority, application Germany, Jan. 12, 1961, F 32,945
10 Claims. (Cl. 260—458)

1. A compound selected from the group consisting of sodium, potassium, calcium, and ammonium salts of acids of the formula,



wherein *n* is an integer from 1 to 3, R is selected from the group consisting of hydrogen, phenyl, and alkyl having 1–4 carbon atoms, and A is a member selected from the group consisting of carboxy phenyl, phenyl sulfonic acid, naphthyl sulfonic acid, stilbene disulfonic acid, hydroxy naphthyl sulfonic acid, hydroxy naphthyl disulfonic acid, amino phenyl sulfonic acid, and amino stilbene disulfonic acid.

7. A process for preparing compounds selected from the group consisting of alkali metal salts, alkaline earth metal salts, and ammonium salts of acids of the formula



wherein *n* is an integer from 1 to 3, R is selected from the group consisting of hydrogen, phenyl, and alkyl having 1–4 carbon atoms, and A is selected from the group consisting of phenyl, naphthyl, diphenyl, diphenyl ether, diphenyl thioether, diphenyl sulfone, stilbene, azobenzene, diphenyl methane, benzophenone, and mono- and di-substituted carboxy, sulfonic acid, chloro, alkyl, alkoxy, hydroxy, amino, and nitro derivatives thereof, which process comprises reacting carbyl sulfate and an amine of the formula



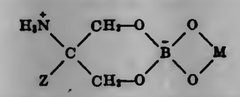
wherein *n*, R, and A are defined as above, in an aqueous medium at a pH of from about 3 to 7.5 and at a temperature of from —10° C. to 50° C. in the presence of an acid binding agent selected from the group consisting of the carbonates and hydrogen carbonates of alkali-metals, alkaline earth metals, and ammonium.

3,267,126
COMPLEX SPIROCYCLIC ESTERS OF BORIC ACID

Theodor Weil, New Brunswick, N.J., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware

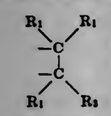
No Drawing. Filed Nov. 8, 1962, Ser. No. 236,392
10 Claims. (Cl. 260—462)

1. A spirocyclic borate ester of the formula



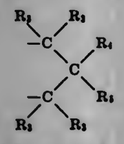
in which Z is hydrogen or lower alkyl and M is

(a) an ethylene group of the formula



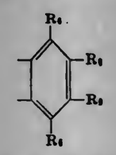
in which each R_1 is hydrogen, lower-alkyl or phenyl, and R_2 is hydrogen, lower-alkyl, phenyl, lower-alkoxy-lower-alkyl, allyloxy-lower-alkyl, phenoxy-lower-alkyl, lower-alkylphenoxy-lower-alkyl, lower-alkyl-carbonyloxy-lower-alkyl or mercapto-lower-alkyl,

(b) a trimethylene group of the formula



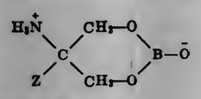
in which R_3 and R_4 are hydrogen or lower-alkyl, R_5 is hydrogen, lower-alkyl, allyloxy-lower-alkyl or lower-alkoxy-lower-alkyl, and R_4 and R_5 may be joined to form a 2-phenyl-oxazoline-4,4-radical, or

(c) an arylene group of the formula



in which R_6 is hydrogen, lower-alkyl or mercapto.

10. A cyclic borate ester having the formula



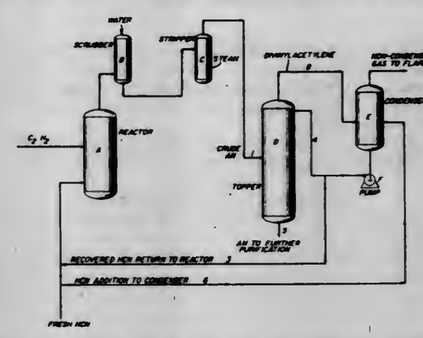
wherein Z is a lower alkyl radical.

3,267,127
PROCESS FOR SEPARATION OF ACRYLONITRILE

Andrew Malcolm Patterson, Jr., and Herbert Palfrey Pursell, Jr., Metairie, La., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed July 11, 1963, Ser. No. 294,388
5 Claims. (Cl. 260—465.3)

1. A process for the separation of acrylonitrile from divinylacetylene and low boiling impurities which comprises passing a crude acrylonitrile solution containing said divinylacetylene and said impurities to a column to distill the same, withdrawing said divinylacetylene and said impurities from the top of said column, passing the same to a condenser, adding substantially divinylacetylene-free hydrogen cyanide to said condenser, returning a first portion of the so-condensed impurities to the column, and recovering a substantially divinylacetylene-free

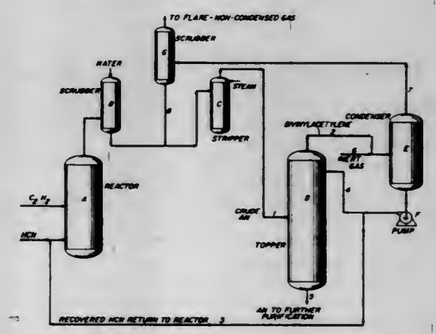


and low boiling impurities-free acrylonitrile from the bottom of said column.

3,267,128
PROCESS FOR SEPARATION OF ACRYLONITRILE

Herbert Palfrey Pursell, Jr., Metairie, La., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed July 16, 1963, Ser. No. 295,318
11 Claims. (Cl. 260—465.3)



1. A process for the separation of acrylonitrile from divinylacetylene and low boiling impurities which comprises passing a crude acrylonitrile solution, obtained by reacting acetylene and hydrogen cyanide in a reactor, containing said divinylacetylene and said impurities to a distillation column distill the same, withdrawing said dvinylacetylene and said impurities from the top of said column, passing the same to a condenser, adding an inert gas to said condenser, returning a first portion of the so-condensed impurities to said distillation column, and recovering a substantially divinylacetylene-free and low boiling impurities-free acrylonitrile from the bottom of said distillation column.

3,267,129
PREPARATION OF ACRYLONITRILE

Robert G. Roth, Dickinson, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 6, 1963, Ser. No. 328,526
1 Claim. (Cl. 260—465.3)

In the synthesis of acrylonitrile by the reaction of acetylene and hydrogen cyanide in the presence of an acidic catalyst solution containing cuprous chloride, the method for suppressing the formation of tarry by-products which comprises adding to the reaction system an amount of p-nitrosodiphenylamine in the range from

about 0.01% to about 2% by weight of the catalyst solution.

3,267,130
PROCESS FOR SYNTHESIZING AMINO NITRILES

Jiro Kato and Ryoji Iwanaga, Ota-ku, Tokyo, Ichiro Noda, Tozuka-ku, Yokohama, and Kazuyuki Tahara, Sugi-nami-ku, Tokyo, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan

No Drawing. Filed May 21, 1963, Ser. No. 282,159
Claims priority, application Japan, Dec. 30, 1959, 34/41,232
10 Claims. (Cl. 260—465.5)

1. A process for synthesizing an aminonitrile which comprises:

(a) contacting an aqueous solution of an aldehyde selected from the group consisting of lower alkanals and lower cyanoalkanals with a gas mixture consisting essentially of a major amount of inert constituents and a minor amount of reactive constituents, said reactive constituents consisting of

(1) hydrogen cyanide and

(2) at least 0.8 mole ammonia per mole of said hydrogen cyanide,

(3) until said aldehyde and said hydrogen cyanide react with each other in the presence of said ammonia to form a cyanohydrin in said solution; and

(b) reacting said cyanohydrin in said solution with an amount of ammonia sufficient to form the corresponding aminonitrile.

3,267,131
PRODUCT SEPARATION AND RECOVERY IN ADIPONITRILE MANUFACTURE

Charles R. Campbell and Robert Johnson, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Apr. 27, 1964, Ser. No. 362,728
11 Claims. (Cl. 260—465.8)

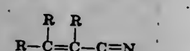
1. A method for the selective separation of adiponitrile and quaternary ammonium salt contained in the cathode effluent from the electrohydrodimerization of acrylonitrile to adiponitrile comprising diluting said effluent with acrylonitrile and water to provide an acrylonitrile phase and an aqueous phase while extracting said acrylonitrile phase in countercurrent multistage fashion with said water and extracting said aqueous phase in countercurrent multistage fashion with said acrylonitrile to produce an aqueous extract phase containing quaternary ammonium salt substantially free of reaction products and to produce an acrylonitrile extract phase substantially containing the reaction products and substantially free of quaternary ammonium salt.

3,267,132
NITROSO COMPOUNDS AS INHIBITORS OF POLYMERIZATION OF UNSATURATED NITRILES

Raymond A. Newsom, Dickinson, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 22, 1964, Ser. No. 377,059
8 Claims. (Cl. 260—465.9)

1. A composition consisting essentially of an unsaturated nitrile of the formula



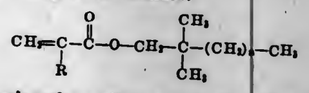
wherein R is selected from the group consisting of hydrogen, chlorine and hydrocarbon radicals having from 1 to 8 carbon atoms, said nitrile containing a nitroso compound selected from the group consisting of p-nitrosodiphenylamine and N-nitrosodiphenylamine and in an amount sufficient to inhibit polymerization.

3,267,133
PROCESS FOR PREPARING 2,2-DIMETHYLALKYL ACRYLATES AND METHACRYLATES

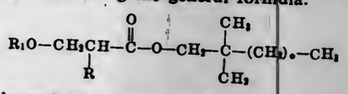
Hugh J. Hagemeyer, Jr., and Milton A. Perry, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 6, 1964, Ser. No. 409,557
6 Claims. (Cl. 260—486)

1. An essentially non-catalytic process for preparing an ester of the general formula:



which comprises thermally cracking at from 450 to 550° C. a compound having the general formula:



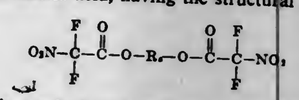
wherein in each instance *n* represents an integer of from 0 to 3, R represents a member selected from the group consisting of hydrogen and a methyl group, and R_1 represents an alkyl group of from 1 to 4 carbon atoms.

3,267,134
GLYCOL ESTERS OF DIFLUORONITROACETIC ACID

Eugene R. Bissell, Alamo, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Mar. 9, 1965, Ser. No. 438,434
7 Claims. (Cl. 260—487)

1. As a composition of matter, a glycol diester of difluoronitroacetic acid, having the structural formula



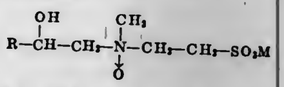
where R_5 is a substituted alkylene group having a chain length between 1 and 15 carbon atoms, said alkylene group having substituents selected from the group consisting of alkyl, fluoro, and nitro groups, any of the fluoro and nitro group substituents being on any carbon atom of said alkylene group other than the α carbon atoms.

3,267,135
N-(2-HYDROXYALKYL)-N-METHYLTAURINE-N-OXIDES

Arno Cahn, Pearl River, and Thaddeus J. Kaniecki, New York, N.Y., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Feb. 11, 1965, Ser. No. 431,982
7 Claims. (Cl. 260—513)

1. The compounds



wherein R is an alkyl group having from 8 to 18 carbon atoms and M is selected from the group consisting of hydrogen and the alkali metals.

3,267,136
PROCESS FOR PRODUCING LEVULINIC ACID

Carlos Vincenty, Jesus Torres Lassalle, and Solomon Goodman, Rio Piedras, Puerto Rico, assignors to The People of Puerto Rico

No Drawing. Filed May 9, 1963, Ser. No. 279,295
5 Claims. (Cl. 260—528)

1. A process for the production of levulinic acid comprising digesting in an aqueous digestion medium under pressure at a temperature above 100° C. a substance selected from the group consisting of a hexose and a material yielding a hexose under the conditions of digestion, said digestion medium having salts dissolved therein furnishing aluminum ions, chloride ions, sulfate ions and ions of at least one alkali metal selected from the group consisting of sodium and potassium, the aluminum content being at least 1.9% based on the weight of said medium, the chloride content being at least 1.8% based on the weight of said medium, the sulfate content being at least 6.5% based on the weight of said medium, and the alkali metal content being at least 1.2% based on the weight of said medium when only sodium is present, at least 2.0% when only potassium is present and when both sodium and potassium are present, the concentration of each being such that the sum of the percent of sodium divided by 1.2 and the percent of potassium divided by 2.0 is at least one, the total salts content of said digestion medium being from 18 to 50% based on the weight of said medium, said digestion medium containing no more than 25%, based on the total salt content, of salts selected from the group consisting of magnesium chloride, zinc chloride and mixtures thereof, extracting levulinic acid from said digestion medium with an organic solvent for said levulinic acid which is substantially immiscible with said medium, and recovering levulinic acid from said organic solvent.

3,267,137
PROCESS FOR THE MANUFACTURE OF POLYCARBODIIMIDES

Peter Fischer, Cologne-Stammheim, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed May 31, 1961, Ser. No. 113,652
Claims priority, application Germany, June 7, 1960, F 31,398
7 Claims. (Cl. 260—551)

1. The process for the manufacture of polycarbodiimides which comprises reacting a polyisocyanate of the formula $R_1(NCO)_x$ with a monocarbodiimide of the formula R_2—NCN—R_2, selectively removing the monoisocyanate R_2—NCO formed in the reaction from the reaction mixture and continuing said reaction and said isocyanate removal until the desired polycarbodiimide forms as a residue, R_1 representing a member selected from the group consisting of substituted and unsubstituted aliphatic, aromatic, cycloaliphatic and heterocyclic moieties, the substituents of each such substituted moiety being selected from the group consisting of chloro, nitro and alkoxy, said moieties having a valence equal to *x* as defined hereinafter, R_2 representing a monovalent member selected from the group consisting of substituted and unsubstituted aliphatic, aromatic, cycloaliphatic and heterocyclic moieties, the substituents of each such substituted moiety being selected from the group consisting of chloro, nitro and alkoxy and *x* representing an integer of at least 2.

3,267,138
N-NITROSO-N-(2-HYDROXYETHYL)UREA

Jean-Louis Pomot, Neuilly-sur-Seine, France, assignor to The Norwich Pharmacal Company

No Drawing. Original application June 20, 1963, Ser. No. 289,383, now Patent No. 3,215,701, dated Nov. 2, 1965. Divided and this application May 18, 1965, Ser. No. 469,015
1 Claim. (Cl. 260—553)

The compound

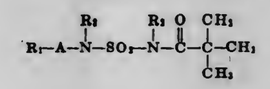
N-nitroso-N-(2-hydroxyethyl)urea

3,267,139
N' - TRIMETHYLACETYL - N-PHENYLALKYL-SULFAMIDES AND -PHENYLCYCLOPROPYLSULFAMIDES

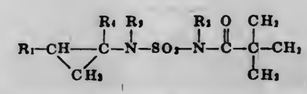
John J. Lafferty, Levittown, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Sept. 24, 1963, Ser. No. 311,196
7 Claims. (Cl. 260—556)

1. A compound selected from the group consisting of compounds having the following formulas:



and



in which:

A is lower alkylene having 2–3 carbon atoms;

R_1 is a member selected from the group consisting of phenyl, halophenyl, trifluoromethylphenyl, lower alkylphenyl, lower alkoxyphenyl, aminophenyl, hydroxyphenyl, dihalophenyl, di-lower alkylphenyl, di-lower alkoxyphenyl and methylenedioxyphenyl; and

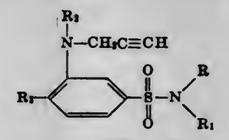
R_2, R_3 and R_4 are members selected from the group consisting of hydrogen and lower alkyl.

3,267,140
PROPYNYL DERIVATIVES OF SUBSTITUTED AMINO BENZENE SULFONAMIDES

George B. Sterling, Mogadore, Ohio, and Chester E. Pawloski, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 26, 1963, Ser. No. 333,660
4 Claims. (Cl. 260—556)

1. A compound corresponding to the formula



wherein R represents lower alkyl, R_1 represents a member of the group consisting of lower alkyl and 2-propynyl, R_3 represents a member of the group consisting of hydrogen and 2-propynyl and R_2 represents a member of the group consisting of hydrogen, methyl and methoxy.

3,267,141
PROCESS FOR PREPARING 4-HYDROXYPENTANE-1,2 - DIONE-BIS-(2,4 - DINITRO-PHENYLHYDRAZONE

Alexander D. Argoudelis, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Apr. 12, 1962, Ser. No. 186,866
1 Claim. (Cl. 260—566)

A process for preparing 4-hydroxy-pentane-1,2-dione-bis(2,4-dinitrophenylhydrazone) which comprises (1) reacting actinospectinoic acid with an excess of a solution consisting of 2,4-dinitrophenylhydrazine and hydrochloric acid to produce 4-hydroxypentane-1,2-dione-bis-(2,4-dinitrophenylhydrazone) and actinamine, and (2) isolating the 4-hydroxy-pentane-1,2-dione-bis(2,4-dinitrophenylhydrazone) so produced.

3,267,142

PROCESS FOR PREPARING OXIMES USING A SILVER CHROMATE AND/OR SILVER DICHROMATE CATALYST

Vernon V. Young, Terre Haute, Ind., assignor to Commercial Solvents Corporation, a corporation of Maryland

No Drawing. Filed Nov. 19, 1964, Ser. No. 412,334
9 Claims. (Cl. 260—566)

1. A process of the production of oximes which comprises contacting a compound selected from the group consisting of primary and secondary nitroparaffins containing at least two carbon atoms with a catalyst selected from the group consisting of silver chromate and silver dichromate in the presence of hydrogen under reducing conditions of temperature and pressure.

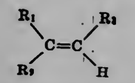
3,267,143

PROCESS FOR OBTAINING ALPHA-CHLORO-OXIMES AND SULPHATES THEREOF

Adriano Nenz, Corrado Brichta, Giuseppe Ribaldone, and Gianpiero Borsotti, Milan, Italy, assignors, by mesne assignments, to Edison, Milan, Italy, a corporation of Italy

No Drawing. Filed Feb. 1, 1963, Ser. No. 257,357
Claims priority, application Italy, Feb. 3, 1962, 665,304; Sept. 20, 1962, 674,765
12 Claims. (Cl. 260—566)

1. A process for obtaining a compound selected from the group which consists of alpha-chloro-aldoximes and alpha-chloro-ketoximes, which comprises: reacting an organic olefinic compound having the structural formula:



wherein R_1, R_2, R_3 represent organic substituents selected from the group which consists of hydrogen atoms, alkyl, cycloalkyl, phenyl, and phenylalkyl radicals, and members of a ring compound bridged by CH_2 groups to form a cycloaliphatic ring having from four to twelve carbon atoms, with nitrosylsulphuric acid, in the presence of anhydrous hydrogen chloride to form a reaction mixture and thereby obtain the corresponding alpha-chloro-oxime sulphate and treating said sulphate with water to convert it into the corresponding free alpha-chloro oxime.

3,267,144

PROCESS FOR PREPARING SELECTED BIS(ISOCYANIDE DICHLORIDES)

Gerhard F. Ottmann, Hamden, and Haywood Hooks, Jr., West Haven, Conn., assignors to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia

No Drawing. Filed Oct. 28, 1963, Ser. No. 319,573
2 Claims. (Cl. 260—566)

1. A process for preparing bis(isocyanide dichlorides) which comprises reacting

(a) diisocyanates having the formula $R(NCO)_2$ wherein R is selected from the class consisting of alkylene groups having two–ten carbon atoms and a cyclohexyl group, with

(b) phosphorus pentachloride, the molar ratio of said pentachloride to said diisocyanates being at least 2.8;

said reaction being performed in a phosphorus oxychloride solvent at a reaction temperature of between about 0°–110° C., removing unreacted phosphorus pentachloride from the reaction mixture, and isolating the bis (isocyanide dichlorides).

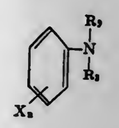
3,267,145

PROCESS FOR PRODUCING NUCLEAR SUBSTITUTED AROMATIC AMINES

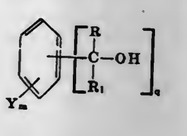
Richard B. Lund, Whippany, and John Vitrone, Parsippany, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed July 25, 1963, Ser. No. 297,693
22 Claims. (Cl. 260—570)

1. A process for the production of aralkyl nuclear substituted aromatic amines which comprises reacting in admixture in the presence of an acid-activated clay an aromatic amine having the formula:



wherein R_2 and R_3 each is a member selected from the group consisting of hydrogen and alkyl radicals containing less than three carbon atoms; X is a member selected from the group consisting of chlorine and alkyl radicals containing less than six carbon atoms; n is an integer ranging from 0 to 2 inclusive, hydrogen is present on at least one of the positions ortho and para to the amino substituent; and an aralkyl alcohol having the following general formula:



wherein R and R_1 are members selected from the group consisting of hydrogen, lower alkyl phenyl and aminophenyl; Y is a member selected from the group consisting of bromine, chlorine amino, and lower alkyl; q is an integer ranging from 1 to 3 inclusive; m is an integer ranging from 0 to 4 inclusive and is such that the sum of m and q is less than seven; and when q is greater than 1, the hydroxyalkyl radicals are positioned on non-adjacent atoms of the aromatic ring; said aromatic amine being employed in at least stoichiometric quantity with respect to the aralkyl alcohol.

3,267,146

PROCESS FOR N-ALKYLATION OF AROMATIC AMINES

Louis Schmerling, Riverside, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Jan. 27, 1965, Ser. No. 428,541
12 Claims. (Cl. 260—577)

1. A process for the production of an N-alkyl-aromatic amine which comprises alkylating an inorganic acid salt of an aromatic amine selected from the group consisting of hydrohalide, hydrosulfate and hydrophosphate of aromatic amine having from 1 to 2 carbocyclic rings per molecule and containing at least one replaceable hydrogen atom on the nitrogen atom with a compound selected from the group consisting of alkenes and cycloalkenes containing from 2 to about 18 carbon atoms per molecule at a temperature in the range of from about 100° to about 300° C. at a pressure in the range of from about atmospheric to about 200 atmospheres in the presence of aluminum metal as catalyst, and recovering the resultant N-alkyl-aromatic amine.

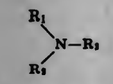
3,267,147

RECOVERY OF AMINE OXIDE SALTS BY SPRAY DRYING

Stanley R. Sheeran, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 5, 1963, Ser. No. 262,840
7 Claims. (Cl. 260—583)

1. In the recovery of an amine oxide of a tertiary aliphatic amine of the formula



wherein each of R_1 and R_2 is from the group consisting of methyl and ethyl radicals and R_3 is an alkyl radical having from 8 to 20 carbon atoms,

from an aqueous solution of said amine oxide, the improvement comprising reacting said solution with a strong inorganic acid so as to form a solution of the salt of said amine oxide and said acid and spray drying the latter solution at a temperature in the range from 80 to 200° C.

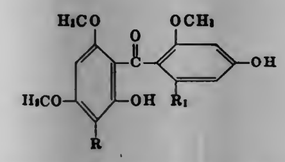
3,267,148

CHEMICAL PROCESSES

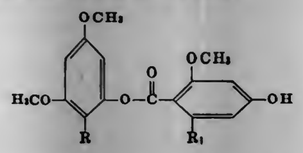
David Taub, Metuchen, and Norman L. Wendler, Summit, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed July 23, 1962, Ser. No. 211,861
4 Claims. (Cl. 260—591)

1. The process for producing a compound having the formula



where R is chlorine or fluorine and R_1 is selected from the class consisting of hydrogen and lower alkyl, that comprises intimately contacting in an anhydrous solvent medium a compound having the formula



with titanium tetrachloride, where R and R_1 are as previously defined.

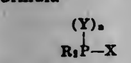
3,267,149

4-HYDROXYBUTYL PHOSPHORUS COMPOUNDS

Albert Y. Garner, Yellow Springs, Ohio, assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 13, 1962, Ser. No. 209,754
7 Claims. (Cl. 260—606.5)

1. The method of preparing organophosphorus compounds which comprises contacting a phosphorus-halogen compound of the formula



wherein R is hydrocarbon which is free of olefinic and acetylenic unsaturation and contains from 1 to 12 carbon atoms, Y is a chalcogen element having an atomic weight of less than 33, n is zero or 1 and X is halogen, with tetrahydrofuran and an active metal selected from the class consisting of alkali and alkaline earth metals, zinc, tin, iron and aluminum.

4. The method of preparing diphenyl-4-hydroxybutylphosphine which comprises contacting a diphenylphosphinous halide with tetrahydrofuran and an alkaline earth metal.

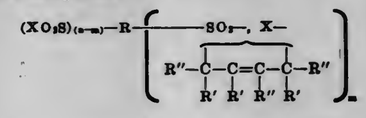
3,267,150

SULFONE PRODUCTION

Harold W. Moore, Menlo Park, and Frederick F. Rust, Orinda, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 12, 1963, Ser. No. 301,663
18 Claims. (Cl. 260—607)

1. The compound



wherein R is a mono- to n-valent organic radical having up to 40 carbon atoms, n is a whole number from 1 to 6 inclusive, m is a whole number from 1 to n inclusive, X is halogen of atomic number from 17 to 35, and R′ and R″ are independently selected from the group consisting of hydrogen, aliphatic and aromatic radicals with the proviso that R″ and R′ may together form a divalent radical having up to 8 carbon atoms, said divalent radical together with the carbon-containing moiety to which it is attached forming a carbocyclic ring.

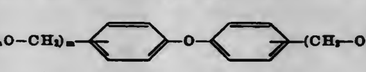
3,267,151

ETHERS OF HALOMETHYLATED DIPHENYL OXIDE

John Lawrence Pillepich, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 22, 1961, Ser. No. 97,472
8 Claims. (Cl. 260—613)

1. A composition having the general formula:



wherein R is an oxyalkylene structure having from two to four carbon atoms, R′ is selected from the group consisting of the phenyl radicals and alkyl radicals having from one to four carbon atoms, n is an integer from one to three, m is an integer from one to two and p is an integer from zero to two.

3,267,152

MIXED SALTS OF TITANIUM AS ORTHO-ALKYLATION CATALYSTS

Takeo Hokama, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Aug. 13, 1963, Ser. No. 301,898
7 Claims. (Cl. 260—619)

1. In a process for the selective catalytic ortho-alkylation of a hydroxyaromatic hydrocarbon containing at least one reactive hydrogen in a position ortho- to a hydroxyl group wherein said hydrocarbon is reacted with an olefin at an elevated temperature and a pressure up to 3000 p.s.i.g., the improvement comprising conducting the reaction in the presence of a catalytic amount of a mixed salt of titanium having the empirical formula:

$$Ti(OAr)_n \cdot (Ar'SO_3)_{4-n}$$

wherein Ar and Ar′ are independently selected from the group consisting of phenyl, lower alkylphenyl, hydroxy-

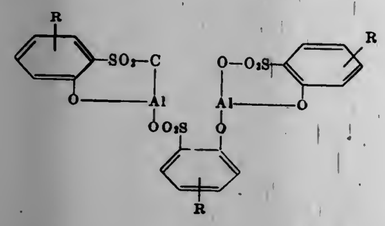
phenyl and halophenyl and *n* has an average value of 3.0–3.9.

3,267,153
ARYLOXYSULFONATES AS ORTHO-ALKYLATION CATALYSTS

Gerd Leston, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Aug. 13, 1963, Ser. No. 301,902
8 Claims. (Cl. 260—619)

1. In a process for the selective catalytic ortho-alkylation of a hydroxyaromatic hydrocarbon containing at least one reactive hydrogen in a position ortho- to a hydroxyl group wherein said hydrocarbon is reacted with an olefin at an elevated temperature and a pressure up to 3000 p.s.i.g., the improvement comprising conducting the reaction in the presence of a catalytic amount of an aluminum salt of an ortho-phenol-sulfonic acid of the formula:



wherein R is a member selected from the group consisting of hydrogen, lower alkyl, halo, amino, and hydroxy.

3,267,154
MIXED SALTS OF ALUMINUM AS ORTHO-ALKYLATION CATALYSTS

Takeo Hokama, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Aug. 13, 1963, Ser. No. 301,914
7 Claims. (Cl. 260—619)

1. In a process for the selective catalytic ortho-alkylation of a hydroxyaromatic hydrocarbon containing at least one reactive hydrogen in a position ortho- to a hydroxyl group wherein said hydrocarbon is reacted with an olefin at an elevated temperature and a pressure up to 3000 p.s.i.g., the improvement comprising conducting the reaction in the presence of a catalytic amount of a mixed salt of aluminum having the empirical formula:

$$Al(OAr)_n \cdot (Ar'SO_3)_{3-n}$$

wherein Ar and Ar' are aryl radicals independently selected from the group consisting of phenyl, lower alkylphenyl, m-hydroxyphenol, p-hydroxyphenol and halophenyl and *n* has an average value of 1.5–2.5.

3,267,155
ORTHO-ALKYLATION PROCESS

Gerd Leston, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Aug. 13, 1963, Ser. No. 301,915
7 Claims. (Cl. 260—619)

2. In a process for the selective catalytic ortho-alkylation of a hydroxyaromatic hydrocarbon containing at least one reactive hydrogen in a position ortho- to a hydroxyl group wherein said hydrocarbon is reacted with an olefin at an elevated temperature of 50–400° C. and a pressure up to 3000 p.s.i.g., the improvement comprising conducting the reaction in the presence of 0.05–15 mole percent, based on the number of moles of hydroxyaromatic hydrocarbon being subjected to alkylation, of titanium catecholate.

2. A method according to claim 1 in which the lower boiling point compound introduced into the reaction system along with the other materials is methanol.

3. A method of catalytically hydrogenating fatty material selected from the group consisting of fatty acids and lower alkyl esters of fatty acids in a high temperature, high pressure, hydrogen reduction reaction, which comprises:

introducing into a reaction system said fatty material, hydrogen and a copper series catalyst selected from the group consisting of copper-chromium catalysts, Raney copper catalysts, faty acid copper soaps and reduced copper catalysts;

pressurizing the reaction system to maintain a high pressure suitable for the hydrogen reduction reaction and heating the reaction system to a temperature of from 150° C. to 350° C. suitable for the hydrogen reduction reaction;

allowing the hydrogen reduction reaction to proceed at such temperature and pressure so that a low boiling point compound is formed and interrupting the reaction by opening valve means in the reaction system to place the reaction system in communication with a receiver at a lower pressure than the reaction system and thereby discharging from the reaction system into the receiver hydrogen and said low boiling point compound and simultaneously reducing the presusre in the reaction system in order to increase the activity of the catalyst, the other materials remaining in the reaction system; and

immediately thereafter closing said valve means and introducing fresh hydrogen into the reaction system to restore the pressure therein to said high value so that the hydrogen reduction reaction can resume and proceed at a rapid rate.

3,267,156
PRODUCTION OF DIALKYL ETHERS

Waldemar H. Hansen, West Deptford Township, Gloucester County, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

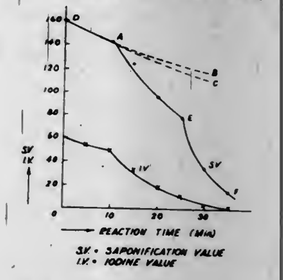
No Drawing. Filed Aug. 7, 1961, Ser. No. 129,512
2 Claims. (Cl. 260—614)

1. A process for producing ethers that comprises contacting a substantially anhydrous alcohol having between 2 and 5 carbon atoms, inclusive, with a sulfonated resin copolymer of styrene and divinylbenzene containing between about 6 percent and about 15 percent divinylbenzene cross-linking agent, in the absence of added water and olefin, at a temperature varying between about 250° F. and about 400° F., under a pressure varying between about 500 p.s.i.g. and about 1500 p.s.i.g., and at a liquid hourly space velocity varying between about 0.1 and about 4.

3,267,157
HYDROGENATION OF FATTY ACIDS AND LOWER ALKYL ESTERS THEREOF AND ACTIVATION OF COPPER CATALYSTS THEREFOR

Bunji Miya, Wakayama, Japan, assignor to Kao Soap Company, Ltd., Tokyo, Japan, a company of Japan

Filed Oct. 24, 1961, Ser. No. 147,263
Claims priority, application Japan, Oct. 27, 1960, 35/42,724; Mar. 31, 1961, 36/10,749
12 Claims. (Cl. 260—638)



1. A method of catalytically hydrogenating fatty material selected from the group consisting of fatty acids and lower alkyl esters of fatty acids in a high temperature, high pressure, hydrogen reduction reaction, which comprises:

introducing into a reaction system said fatty material, hydrogen, a low boiling point compound and a copper series catalyst selected from the group consisting of copper-chromium catalysts, Raney copper catalysts, fatty acid copper soaps and reduced copper catalysts;

pressurizing the reaction system to maintain a high pressure suitable for the hydrogen reduction reaction and heating the reaction system to a temperature of from 150° C. to 350° C. suitable for the hydrogen reduction reaction;

at a selected time when the reaction system is at said high temperature and pressure, opening valve means in the reaction system to place the reaction system in communication with a receiver at a lower pressure than the reaction system and thereby discharging from the reaction system into the receiver hydrogen and said low boiling point compound and simultaneously reducing the pressure in the reaction system in order to increase the activity of the catalyst, the other materials remaining in the reaction system; and

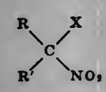
immediately thereafter closing said valve means and introducing fresh hydrogen into the reaction system to restore the pressure therein to said high value so that the hydrogen reduction reaction can resume and proceed at a rapid rate.

3,267,158
OXIDATION OF NITROSO COMPOUNDS TO NITRO COMPOUNDS WITH OZONE

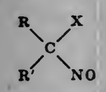
Anton J. Havlik, La Crescenta, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed July 10, 1964, Ser. No. 382,989
11 Claims. (Cl. 260—644)

1. The method of producing nitro compounds of the formula:



which comprises contacting ozone with a nitroso compound of the formula:



wherein in the above formulae, X is selected from the group consisting of nitro and chloro, R and R' are alkyl, with the proviso that R and R' may join to form a cycloalkyl group containing from 3 to 6 carbon atoms.

3,267,159
PREPARATION OF 2,4,6-TRINITROBENZYL HALIDES

Kathryn G. Shipp, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Aug. 26, 1964, Ser. No. 392,352
6 Claims. (Cl. 260—646)

1. The method of preparing trinitrobenzyl halides which comprises reacting a solution of trinitrotoluene in a diluent therefore with an aqueous solution of an alkali metal hypohalite.

3,267,160
OXYCHLORINATION OF SATURATED ALIPHATIC HYDROCARBONS

Robert E. McGreevy and Joseph E. Milam, New Martinsville, W. Va., and William E. Makris, Shadyside, Ohio, assignors, by mesne assignments, to Pittsburgh Plate Glass Company

No Drawing. Filed Sept. 26, 1960, Ser. No. 58,162
5 Claims. (Cl. 260—654)

1. In the method of oxychlorinating 1,2-dichloroethane comprising reacting at oxychlorination temperature in the vapor phase 1,2-dichloroethane, oxygen and a chlorinating agent selected from the group consisting of HCl, Cl_2 and mixtures of HCl and Cl_2 in the presence of a metal halide oxychlorination catalyst to produce trichloroethylene and perchloroethylene, the improvement comprising feeding to the reaction zone cis 1,2-dichloroethylene in an amount between 5 and 30 percent by weight of the total organic feed to thereby reduce the burning of said 1,2-dichloroethane.

3. A method of oxychlorinating 1,2-dichloroethane which comprises reacting at a temperature between 325 and 700° C. in the presence of a copper containing oxychlorination catalyst, a mixture comprising 1,2-dichloroethane, a chlorinating agent of the group consisting of HCl, Cl_2 and mixtures of HCl and Cl_2, and oxygen in an amount of from 0.2 to 1.5 moles of oxygen per mole of chlorinating agent and a substantial amount, up to 30 percent by weight of the organic content of said mixture, of 1,2-dichloroethylene to thereby reduce burning of said 1,2-dichloroethane while producing trichloroethylene and perchloroethylene.

3,267,161
CHLORINATION PROCESS

Rokuo Ukaji, Ibaraki, Kelichi Maruo, Toyonaka, Susumu Misaki, Sakai, and Shigeyoshi Ogawa, Suita, Japan, assignors to Osaka Kinzoku Kogyo Company, Limited, Osaka, Japan, a juridical person of Japan

No Drawing. Filed July 19, 1963, Ser. No. 296,400
Claims priority, application Japan, July 26, 1962, 37/31,830; Jan. 31, 1963, 38/5,020
4 Claims. (Cl. 260—659)

1. A process for the perchlorination of methane, comprising reacting said methane, an oxygen containing gas, and a chlorinating agent selected from the group consisting of HCl, Cl_2 and mixtures of HCl and Cl_2, at 350° to 550° C. for from 10 to 20 seconds in contact with a catalyst impregnated in a porous material having a surface area of 0.3 to 30 $m^2/g.$ and a porosity ranging from 0.1 to 0.8 cc./g., said catalyst being a member selected from the group consisting of a mixture of from 50 to 90 weight percent $CuCl_2$ and from 50 to 10 weight percent $LaCl_3$ and a mixture of from 50 to 90 weight percent $CuCl_2$, from 25 to 5 weight percent $LaCl_3$ and from 25 to 5 weight percent $LdCl_3$, Ld being a lanthanide selected from the group consisting of elements ranging from the 58th to the 71st element in the Periodic Table.

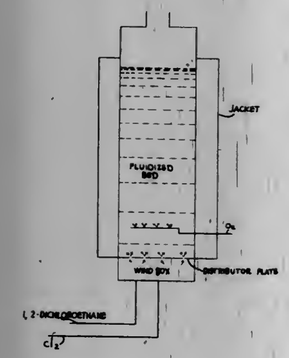
3,267,162
FLUID BED OXYCHLORINATION OF ALIPHATIC HYDROCARBONS AND PARTIALLY CHLORINATED ALIPHATIC HYDROCARBONS

Lester E. Bohl, New Martinsville, W. Va., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 13, 1963, Ser. No. 258,163
12 Claims. (Cl. 260—654)

1. In a method of preparing chlorinated hydrocarbons in a bed of oxychlorination catalyst particles maintained at a temperature between 570° F. and 930° F. by

reacting in said bed a member of the group consisting of chlorine, HCl and mixtures of chlorine and HCl with oxygen and a member of the group consisting of lower aliphatic hydrocarbons containing from 1 to 4 carbon atoms and partially chlorinated derivatives thereof, the improvement comprising introducing said members of said groups into the lower part of said bed, introducing oxygen into the bed at an intermediate level and above



the level of introduction of the members of said groups, withdrawing products of the resulting reaction from the upper portion of the bed and maintaining the rate of flow of oxygen and the members of said groups high enough to suspend catalyst particles above the level of oxygen introduction in the resulting stream of uprising gases.

3,267,163
PROCESS FOR THE CHLORINATION OF ACETYLENE

Shigeru Tsutsumi, Hirakata-shi, Osaka, and Yukiya Sakamoto, Aichi-gun, Aichi-ken, Japan, assignors to Toa Gosei Kagaku Kogyo Kabushiki Kaisha, Tokyo, Japan

No Drawing. Filed Mar. 8, 1961, Ser. No. 94,157
Claims priority, application Japan, Mar. 11, 1960, 35/7,471
1 Claim. (Cl. 260—660)

The process which comprises: introducing a gaseous mixture of acetylene and ethylene whereof the ethylene is present in an amount of at least 20% by volume based on the acetylene, into a solvent of chlorinated hydrocarbons together with chlorine in an amount which is at least stoichiometrically required to chlorinate both the acetylene and ethylene in the mixture to tetrachloroethane and dichloroethane, and at a temperature of 50–75° C., thereby chlorinating the acetylene simultaneously with ethylene.

3,267,164
PRODUCTION OF MIXTURES OF METHYLCYCLOPENTANE AND ISOBUTANE

Robert H. Kozlowski, Berkeley, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Aug. 13, 1965, Ser. No. 479,638
2 Claims. (Cl. 260—666)

1. The method of producing a mixture of methylcyclopentane and isobutane that is rich in both of said compounds, which comprises hydrocracking a C_{10} aromatic hydrocarbon in the presence of hydrogen at a temperature of about from 500° to 800° F., a pressure of about from 500 to 3000 p.s.i.g., and a liquid hourly space velocity of about from 0.3 to 5.0, with a hydrocracking catalyst comprising an active cracking component and a hydrogenating component selected from the group consisting of platinum and palladium.

3,267,165
PREPARATION OF MESITYLENE BY DEHYDROCONDENSATION OF ACETONE

Robert C. Kimble, Charanjit Rai, and John B. Braunwarth, Crystal Lake, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Dec. 19, 1963, Ser. No. 331,928
8 Claims. (Cl. 260—668)

1. The process of preparing mesitylene which comprises subjecting acetone to dehydrocondensation in the presence of sulfuric acid containing at least about 1% by weight of polyphosphoric acid.

3,267,166
SORPTION PROCESS

Herman S. Bloch, Skokie, and Ernest L. Pollitzer, Hinsdale, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed July 28, 1965, Ser. No. 475,566
7 Claims. (Cl. 260—671)

1. In the alkylation of an aromatic hydrocarbon in a reaction zone in the presence of boron halide and a boron halide-modified substantially anhydrous inorganic oxide, the process which comprises withdrawing the resultant effluent from the reaction zone and separating therefrom an aromatic hydrocarbon liquid recycle stream containing a minor amount of boron halide and trace quantities of water, passing said recycle stream to a sorption zone and therein contacting said recycle stream with a boron halide sorbent comprising a metal halide, selectively sorbing without substantial sorption of water at least a portion of said boron halide with said metal halide at a temperature at which the hydrate of the resulting metal haloborate is unstable and said metal haloborate is stable, subsequently recovering substantially anhydrous boron halide from said metal haloborate at a temperature above said sorption temperature, withdrawing from said sorption zone a water-containing aromatic hydrocarbon effluent of reduced boron halide content and then dehydrating said water-containing effluent, and separately returning the thus purified recycle stream and the substantially anhydrous boron halide to the reaction zone.

3,267,167
PROCESS FOR PREPARATION OF INTERNAL OLEFINS

Richard Wasck, Framingham, Mass., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 17, 1963, Ser No. 295,846
18 Claims. (Cl. 260—677)

1. A process for the preparation of an aliphatic hydrocarbon compound having an ethylenic group at least one carbon atom removed from each end of said aliphatic compound comprising the steps of reacting in an inert atmosphere an organo lithium compound and a halopolyfluoro methane selected from the class consisting of difluoro and trifluoro methane compounds having at least one and no more than two other halogen atoms therein and having a total number of halogen atoms therein of no more than four, said organo radical in said organo lithium compound being an aliphatic hydrocarbon radical selected from the class consisting of aliphatic hydrocarbon radicals and aryl and cycloalkyl derivatives thereof, in which radicals the carbon atom to which said lithium is attached is in turn attached to no more than one carbon atom, and said organo lithium compound being added to said halopolyfluoro methane with the proportions of the respective reagents being maintained so that the halopolyfluoro methane is always in stoichiometric excess of said organo lithium compound.

3,267,168
PURIFICATION OF DIENE MONOMERS

Ervin G. Pritchett, Cincinnati, Ohio, and Noel L. Hofmann, University Park, Pa., assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Aug. 28, 1963, Ser. No. 305,229
16 Claims. (Cl. 260—681.5)

1. A process for the purification of a conjugated diolefin monomer which consists essentially of contacting said diolefin monomer with an aryl sodium compound substantially free of sodium metal.

3,267,169
OCTATRIENE PRODUCTION

Edgar J. Smutny, San Francisco, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 14, 1965, Ser. No. 455,953
20 Claims. (Cl. 260—682)

1. The process of producing a C_8-C_{10}-1,3,7-octatriene which comprises

(A) contacting

(a) an aromatic C_8-C_{10}-2,7-octadienyl ether,

(b) metal compound catalyst wherein the metal is selected from the group consisting of palladium, platinum and ruthenium,

(c) a phenoxide anion catalyst promoter, and

(d) a tertiary phosphine, and

(B) removing from the resulting mixture at least one degradation product thereof, said degradation products comprising a C_8-C_{10}-1,3,7-octatriene and a phenol.

3,267,170
PROCESS FOR FORMING OLEFINS BY HYDROGEN TRANSFER

Clyde Lee Aldridge, Rouen, Seine Maritime, France, and James Arthur Rigney, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed June 30, 1964, Ser. No. 379,379
17 Claims. (Cl. 260—683.3)

1. The process which comprises reacting a hydrocarbon containing more than 3 carbon atoms with a hydrogen accepting olefin in the presence of a supported catalyst selected from the group consisting of a sulfide of a metal of group VIII and molybdenum sulfide, said catalyst being effective in transferring hydrogen from the hydrocarbon to the olefin thereby forming an alkane corresponding to said olefin, and an olefin of more than 3 carbon atoms.

3,267,171
PROCESS FOR FORMING OLEFINS BY HYDROGEN TRANSFER

William Judson Mattox, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 18, 1965, Ser. No. 433,811
11 Claims. (Cl. 260—683.3)

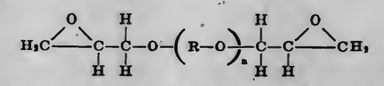
1. The process which comprises reacting a hydrocarbon containing more than 3 carbon atoms with a hydrogen-accepting olefin in the presence of an aluminosilicate catalyst containing cations of metals selected from Groups IB through VIII of the Periodic Table, said catalyst being effective in transferring hydrogen from the hydrocarbon to the olefin thereby forming an alkane corresponding to said olefin, and an olefin of more than 3 carbon atoms.

3,267,172
TOUGH FLEXIBLE ADHESIVES FROM GUANAMINES, DIGLYCIDYL ETHERS OF POLYALKYLENE GLYCOLS AND DICYANDIAMIDE

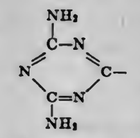
Heinz B. Arnold, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Jan. 26, 1962, Ser. No. 169,131
24 Claims. (Cl. 260—830)

1. A curable composition of matter comprising (1) a diglycidyl ether of a polyalkylene glycol having the formula:



where R is an alkylene radical having from 2–5 carbon atoms and n is an integer of from about 1 to about 50, (2) a fatty guanamine having the formula: $(A)_xB$ where A is the ring,



x is an integer of 1 to 2 and B is selected from the group consisting of R_1, $R_1NHCH_2CH_2$—, $R_1N(CH_2CH_2—)_2$ and R_2 where R_1 is an aliphatic hydrocarbon group containing from 4 to 21 carbon atoms and R_2 is the hydrocarbon group of dimerized unsaturated fatty acids of from 5 to 22 carbon atoms and (3) 1 to 10% by weight dicyandiamide based on the total weight of the diglycidyl ether and fatty guanamine.

3,267,173
PRODUCT AND PROCESS FOR MAKING A POLYETHYLENE-MALEATE DIESTER GRAFT COPOLYMER

Robert J. Zeitlin, Bloomfield, N.J., assignor, by mesne assignments, to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed May 18, 1962, Ser. No. 195,987
23 Claims. (Cl. 260—878)

1. A graft copolymer of (A) a polyethylene polymer having a density of at least about 0.940 and containing at least about 90% by weight of ethylene in the polymer chain and (B) a maleic acid diester; the maleic acid diester being present in the graft copolymer in amounts of from about 0.5 to about 12% by weight.

3,267,174
ACRYLIC COATING COMPOSITION CONTAINING AN ADDUCT OF A TRIOL WITH AN ALKYLENE OXIDE

John S. Fry and Glenn S. Peacock, Somerville, Joseph W. Hagan, Scotch Plains, and George A. Senior, Jr., Bloomfield, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 10, 1963, Ser. No. 279,589
9 Claims. (Cl. 260—848)

1. Coating composition comprising

(1) An interpolymer of

(a) from about 0 to 90 percent by weight of a combined monovinyl aromatic hydrocarbon containing from 8 to 11 carbon atoms inclusive;

(b) from about 10 to 90 percent by weight of a combined compound selected from the group consisting of an alkyl acrylate containing from 4 to 15 carbon atoms inclusive, an alkyl methacrylate containing from 5 to 16 carbon atoms inclusive, cyanoethyl acrylate, cyanopropyl acrylate, cyanobutyl acrylate, acrylamide, N,N-dialkyl acrylamide wherein the alkyl groups con-

tain from 1 to 6 carbon atoms inclusive, and hydroxyalkyl acrylate and hydroxyalkyl methacrylate wherein this alkyl group contains from 1 to 4 carbon atoms inclusive;

(c) from 0 to about 50 percent by weight of a combined compound selected from the group consisting of α,β-olefinically unsaturated nitriles containing from 3 to 9 carbon atoms inclusive, vinyl acetate, vinyl chloride, vinyl fluoride, vinylidene chloride, and vinylidene fluoride; and

(d) from about 1 to 20 percent by weight of a combined α,β-olefinically unsaturated carboxylic acid containing from 1 to 10 carbon atoms inclusive,

said interpolymer having a reduced viscosity of from 0.1 to 0.8, measured as a 0.2 gram sample of the interpolymer in 100 millimeters of tetrahydrofuran at 25° C., and a glass transition temperature (T_g) of at least 25° C.

(2) from about 1 to 70 percent by weight, based on the weight of the interpolymer, of a reactive adduct of a triol with an alkylene oxide containing at least 3 carbon atoms, said triol having a hydroxyl number of from about 20 to 1800,

(3) from about 5 to 35 percent by weight, based on the weight of the interpolymer, of a potentially thermosetting resin formed by condensation of formaldehyde with a member selected from the group consisting of phenols, urea, and triazines.

3,267,175
BLENDS OF EPSILON CAPROLACTAM, LOW BUTADIENE ACRYLONITRILE-BUTADIENE-STYRENE GRAFT COPOLYMER AND HIGH BUTADIENE ACRYLONITRILE-BUTADIENE-STYRENE GRAFT COPOLYMER

Thomas S. Grabowski, Vienna, W. Va., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed July 21, 1961, Ser. No. 125,675
4 Claims. (Cl. 260—857)

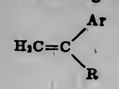
1. A composition comprising a blend of (a) about 5 to 30 parts by weight of polymerized *epsilon* caprolactam, (b) about 47.5 to 35 parts by weight of a graft copolymer of (1) about 20 parts by weight polybutadiene and (2) a mixture of about 29 parts by weight of acrylonitrile and about 51 parts by weight of styrene, and (c) about 47.5 to 35 parts by weight of a graft copolymer of (1) about 50 parts by weight polybutadiene and (2) a mixture of about 18 parts by weight of acrylonitrile and about 32 parts by weight of styrene.

3,267,176
UNSATURATED POLYESTER COATING COMPOSITIONS

Bert H. Mahlman, West Chester, Pa., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Mar. 8, 1963, Ser. No. 263,731
3 Claims. (Cl. 260—862)

1. A liquid preformed homogeneous antisag coating composition which has good flow-out and is low temperature curable to a coating of controlled gloss and transparency, said composition comprising a mixture of, by weight of the mixture, (1) from about 10 to about 90% of a polymerizable unsaturated polyester resin comprising the condensation polymerization reaction product of an α,β-ethylenically unsaturated dicarboxylic acid and a diol, (2) from about 90 to about 10% of an interpolymerizable monomer selected from the group consisting of (a) compounds having the formula



in which Ar is a mononuclear aryl radical containing no olefinic unsaturation and R is a member selected from the group consisting of hydrogen, and alkyl radicals and (b) compounds having the formula

$$CH_2{=}CR'COOR''$$

in which R' is selected from the group consisting of hydrogen and methyl and R'' is an alkyl radical and (3) the mixture-insoluble, finely divided, solid, cross-linked interpolymer prepared from divinylbenzene and a monomer selected from the group consisting of styrene and alkyl acrylates, said finely divided cross-linked interpolymer having an average particle size of about 0.01 to about 10 microns and being present in an amount ranging from 1 to 20% by weight of the mixture and sufficient to form a thixotropic composition of reduced tendency to sag, said mixture comprising the cross-linked interpolymer (3) dispersed in a solution of the polyester (1) in the interpolymerizable monomer (2).

3,267,177
BORIC ACID ESTERS OF PHENOLS AS INHIBITORS FOR UNSATURATED POLYESTER RESINS

Jeremiah Mark Howald, Wallingford, Conn., and William Cockrum Dearing, Toledo, and Robert James Shrontz, Perrysburg, Ohio, assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Nov. 26, 1963, Ser. No. 326,229
16 Claims. (Cl. 260—865)

1. A polymerizable polyester resin composition comprising a mixture of

(1) a polyester resin prepared by reacting an α,β-ethylenically unsaturated dicarboxylic acid and a dihydric alcohol,

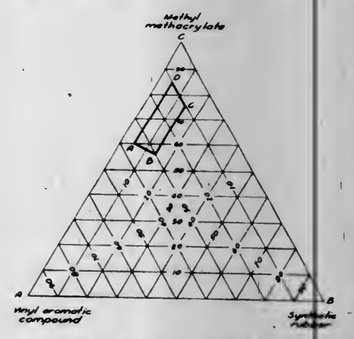
(2) a polymerizable monomer containing a $CH_2{=}C<$ group and having a boiling point of at least 60° C., and

(3) as a stabilizer against premature gelation for (1) and (2), a boric acid ester of a phenol.

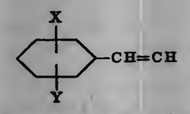
3,267,178
METHOD OF MAKING INTERPOLYMERS OF MONOVINYL AROMATIC COMPOUNDS, METHYL METHACRYLATE AND RUBBERY BUTADIENE POLYMERS

Lieng-Huang Lee, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Dec. 26, 1962, Ser. No. 247,193
6 Claims. (Cl. 260—880)



1. A process for making a thermoplastic composition of matter which comprises: (1) heating and partially polymerizing a liquid mixture of polymerizable ingredients comprising a solution of (a) from 5 to 14 percent by weight, based on the weight of the solution, of a rubbery butadiene polymer that is soluble in monomeric styrene and contains a predominant amount of butadiene-1,3 chemically combined in the polymer molecule, (b) from 56 to 85 percent by weight of methylmethacrylate and (c) from 10 to 35 percent by weight of a monovinyl aromatic compound having the general formula:



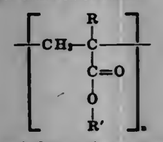
wherein X and Y are each independently selected from the group consisting of hydrogen, halogen and lower alkyl radicals containing from 1 to 4 carbon atoms, said ingredients (a) (b) and (c) being in proportions within the area defined by the lines ABCD of the drawing, while (2) subjecting the liquid mixture to a shearing agitation sufficient to maintain the polymer and the polymer being formed therein, dispersed in the liquid in the form of particles of sizes not greater than about 10 microns, until from about 5 to about 35 percent of the monomers are polymerized and the solution contains from about 20 to 40 percent by weight of polymer, then (3) continuing polymerization of the remaining monomer(s) by heating and agitating the partially polymerized solution while in admixture with and suspended in, an inert aqueous liquid medium until polymerization of the monomeric ingredients is substantially complete.

3,267,179
ACRYLIC POLYMERS CONTAINING 10-PINENYLMETHANOL AS PROCESSING AIDS FOR THERMOPLASTIC FORMULATIONS

Donald H. Russell, Pennsauken, and Alfred E. Borchert, Cherry Hill, N.J., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 31, 1964, Ser. No. 422,546
4 Claims. (Cl. 260—899)

1. A thermoplastic composition consisting essentially of a major amount of a polyvinylchloride resin and a minor amount of a normally solid acrylic polymer wherein from 20 to 100 percent of the acrylate groups have been transesterified with 10-pinenylmethanol said acrylic polymer having a structural formula



wherein R is selected from the group consisting of hydrogen and the methyl group, R' is an alkyl group containing 1 to 8 carbon atoms and n is an integer representing the number of structural units occurring in the average polymer chain.

3,267,180
RUBBER REINFORCED STYRENE POLYMER CONTAINING A KETONE TO IMPROVE GLOSS

Sally Young Ayres, Midland, and Bernie A. Kozakiewicz, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 3, 1963, Ser. No. 292,772
5 Claims. (Cl. 260—880)

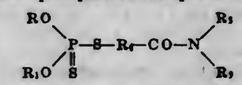
1. A composition of matter comprising from about 80 to 98 percent by weight of resinous thermoplastic styrene polymer and from 20 to 2 percent by weight of rubbery butadiene polymer intimately incorporated with one another and in admixture with from about 0.01 to 1 percent by weight based on the weight of the composition of a ketone having the general formula $(C_nH_{2n+1})_2CO$ wherein n is a whole number from 8 to 17.

3,267,181
PHOSPHORODITHIOATES

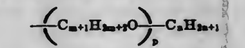
Ernst Beriger, Allschwil, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Feb. 21, 1961, Ser. No. 90,635
Claims priority, application Switzerland, Feb. 24, 1960, 2,076/60
8 Claims. (Cl. 260—943)

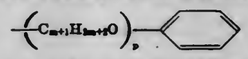
1. An organic phosphorus compound of the formula



wherein R and R_1 each represents a radical selected from the group consisting of an alkyl radical containing at most 8 carbon atoms and a six-membered cyclic radical, R_2 represents a member selected from the group consisting of a radical of the formula



in which m, n and p each represents a whole number from 1 to 4 and a radical of the formula



in which m and p each represents a whole number from 1 to 4, R_3 represents a member selected from the group consisting of a hydrogen atom, an alkyl radical containing at most 8 carbon atoms and the same radical as R_2, R_4 represents a member selected from the group consisting of the group $-CH_2-$, the group $-CH_2-CH_2-$ and the group



in which R_5 represents alkyl radical containing at most 8 carbon atoms.

3,267,182
METHOD OF CONSTRUCTING A ROCKET MOTOR

Neubar Kamalian, 1260 S. Westgate, Apt. 2, Los Angeles 25, Calif.

Original application Mar. 26, 1963, Ser. No. 268,161, now Patent No. 3,185,454, dated May 25, 1965. Divided and this application Dec. 8, 1964, Ser. No. 423,623
1 Claim. (Cl. 264—3)



A method of handling an elongate rocket casing and casting and curing a solid rocket propellant therein comprising the steps of:

(a) disposing the casing within a container;

(b) sealing the container for water tight integrity;

(c) floating the container with the casing in a body of water;

(d) disposing the container within the water so that the casing assumes an upright position with the upper end of the container above the surface of the water;

(e) opening the upper end of the container to expose the nozzle end of the casing;

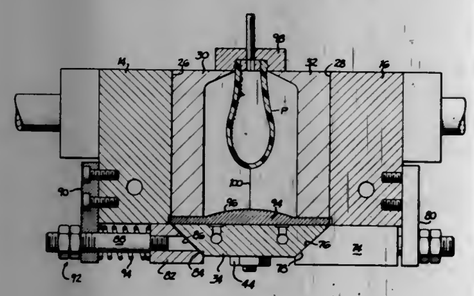
(f) pouring and casting propellant within the casing while the casing is in an upright position;

(g) sealing the upper end of the container;
(h) applying heat to the casing; and
(i) rotating the casing in an upright position while applying said heat whereby the propellant within the casing is evenly cured.

3,267,183
METHOD OF LINING AN ALUMINUM ELECTROLYTIC CELL
Morris Feinleib, Los Altos, Calif., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
No Drawing. Filed Apr. 8, 1963, Ser. No. 271,509
1 Claim. (Cl. 264—30)

A method of making a lining for use in an electrolytic cell for the preparation of aluminum, comprising disposing alumina in the bottom of an electrolytic cell, applying molten cryolite onto the surface of the alumina so as to penetrate said alumina and form a cryolite-alumina solution at least at the surface thereof, and cooling said alumina-cryolite solution so as to form a hardened bottom lining surface for said electrolytic cell.

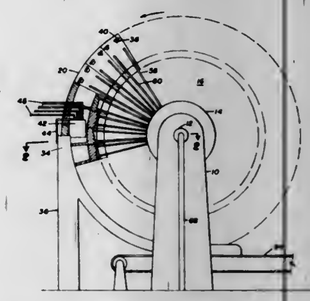
3,267,184
METHOD AND APPARATUS FOR MOLDING PLASTIC ARTICLES
Casimir W. Nowicki, Maumee, and John D. Schuster, Sylvania, Ohio, assignors to Owens-Illinois Inc., a corporation of Ohio
Filed Dec. 4, 1963, Ser. No. 327,929
14 Claims. (Cl. 264—97)



1. A method of molding a bottle having a concave bottom of a given depth of concavity from a plastic material which is substantially rigid in its molded state comprising the steps of injection molding the bottle neck portion in a neck mold and forming a blowable parison integral with the neck portion, locating the neck mold and parison in operative relationship with a blow mold having separable sides and a bottom element cooperatively defining an internal blow mold cavity of the desired bottle shape, blowing the parison within the cavity to the shape of the bottle, and exposing the bottle by holding the neck mold stationary with the bottle supported therefrom while retracting the bottom element from the bottle bottom by a distance greater than the depth of concavity, supporting the retracted bottom element on one of the blow mold sides and separating the blow mold sides from each other to withdraw the bottom element to one side of the bottle.

9. A mold assembly comprising a mold side platen mounted for movement along a first path between a mold closed position and a mold open position, a mold bottom platen mounted upon said side platen for movement relative to said side platen along a second path normal to said first path between a mold closed position and a mold open position, said platens when concurrently in their respective mold closed positions defining side and bottom elements of a closed mold assembly, means for moving said side platen between its mold closed and mold open position, means on said side platen operable upon movement of said side platen away from its mold closed position for moving said bottom platen to its mold open position and for moving said bottom platen to its mold closed position upon movement of said side platen to its mold closed position, and means on said bottom platen operable when said bottom platen is in its mold open position for supporting said bottom platen on said side platen for movement therewith along said first path.

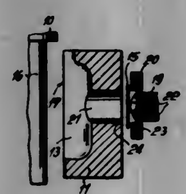
3,267,185
METHOD AND APPARATUS FOR FORMING AND FILLING HOLLOW PLASTIC ARTICLES
John H. Freeman, Jr., Crystal Lake, Ill., assignor, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Dec. 31, 1962, Ser. No. 248,310
11 Claims. (Cl. 264—99)



1. The method of forming and filling hollow plastic articles which comprises:
(a) extruding moldable plastic in unconfined, continuous, tubular form from an extruder nozzle while said extruder nozzle and a plurality of pairs of open mold halves, in contiguous end-to-end relationship, are moved with respect to each other;
(b) in succession axially aligning each pair of said open mold halves with said extruder nozzle to receive in the opened cavity of said mold halves at least a portion of said extruder nozzle and tubular plastic material being extruded therefrom;
(c) in succession closing each pair of said mold halves together whereby at least a portion of said extruder nozzle is enclosed within a major portion of the mold cavity and said tubular plastic material contained within a minor portion of the mold cavity is enclosed by the bottom and side walls of said mold halves and said extruder nozzle; the closing of each of said pair of mold halves effecting
(1) closing and sealing of the end of tubular material spaced from said extruder nozzle in the mold cavity containing at least a portion of said extruder nozzle and
(2) closing and sealing of the open end of a previously formed and filled plastic article in the contiguous mold cavity which previously received the tubular plastic material as heretofore described and upon which the following steps (d) and (e) were carried out thereon;

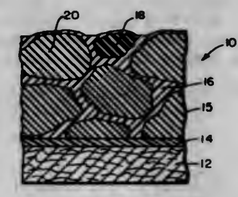
(d) introducing a fluent material into the interior of the tubular plastic material to expand same into molding contact with said pair of mold halves, while extruding tubular plastic material from said extruder nozzle and moving said extruder nozzle and pair of mold halves with respect to each other at a speed substantially equaling the extrusion speed, such that the relative direction of movement of said pair of mold halves with respect to said extruder nozzle is the same as the direction of extrusion, the fluent material being introduced into the interior of the tubular plastic material at a rate such that the tubular plastic material is expanded at substantially the same rate the distance between the extruder nozzle and bottom wall of the mold cavity is increased by the relative movement of said extruder nozzle and pair of mold halves;
(e) terminating the introduction of said fluent material before the tubular plastic material is expanded beyond the top of the pair of mold halves;
(f) cooling the formed and filled plastic article so that same will substantially retain its molded form;
(g) opening the pair of mold halves containing the filled and formed plastic article and removing same from said pair of mold halves.

3,267,186
METHOD OF APPLYING MEMBERS, AS LABELS, PLATENS, OR THE LIKE TO HOLLOW BODIES IN A BLOWING PROCESS
Werner Battenfeld, Meinerzhagen, Westphalia, Germany, assignor to Firma Gebruder Battenfeld, Meinerzhagen, Westphalia, Germany, a corporation of Germany
Original application June 16, 1964, Ser. No. 377,175, now Patent No. 3,227,787, dated Jan. 4, 1966. Divided and this application June 22, 1965, Ser No. 478,782
2 Claims. (Cl. 264—98)



1. A method of applying labels to a blow molded plastic article during the molding of said article in a hollow mold containing at least two parts, said method comprising the steps of
extruding a plastic hose in a hollow mold, feeding a printed leaf of thermoplastic material past said hollow mold,
cutting at least a portion of said printed leaf of thermoplastic material and engaging said portion of said printed leaf of thermoplastic material with the outer surface of said extruded plastic hose,
blow molding the latter and simultaneously permanently securing said portion of said printed leaf of thermoplastic material to said blow molded article,
advancing said printed leaf of thermoplastic material for a following blow molding operation, and
said step of cutting of at least a portion of said material being performed by a member feeding said portion of said printed leaf of thermoplastic material into said mold through a cavity in the wall of said mold, and
said cavity being complementary to said feeding member.

3,267,187
TEXTURED SHEET MATERIAL
David K. Slosberg, Yardley, and Laurence F. Haemer and Ernest R. Holmstrom, Morrisville, Pa., assignors to American Biltrite Rubber Co., Inc., Trenton, N.J., a corporation of Delaware
Filed Oct. 10, 1963, Ser. No. 315,196
2 Claims. (Cl. 264—122)



1. A method of preparing sheet material having a textured surface effect which method comprises:
preparing a dry blend mixture comprising thermoplastic vinyl chloride resin particles and from about 30 to 60 percent by volume of compressible, thermoset, rubbery elastomer particles;
pressing said blend into a sheet material at a temperature sufficient to form a fused, continuous thermoplastic matrix with the elastomer particles dispersed therein;
cooling said sheet material while in the pressing operation to a temperature of less than about 150° F.;
removing said sheet material from the pressing operation; and
thereafter heating said sheet material to a temperature of form about 180 to 250° F. for about 1 to 3 minutes, to produce a sheet material characterized by a textured surface effect having individual, raised elastomer particles.

3,267,188
METHOD FOR FORMING COMPOSITE BOARD
Kendall H. Bassett and Edward M. Williston, Longview, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
No Drawing. Filed Mar. 9, 1964, Ser. No. 350,560
10 Claims. (Cl. 264—122)

1. A process for forming composite boards, comprising the steps of; mixing comminuted wood and a binary resin binder system consisting of from 1 to 20 parts of a green phenolic resin to 1 part of an advanced phenolic resin; pressing the comminuted wood and binary resin binder system under heat and pressure a sufficient length of time to partially cure the binary binder system; then, heat treating the composite board a sufficient length of time to cure the binder system to form a composite board.

3,267,189
WET SPINNING OF CELLULOSE TRIESTERS
Cipriano Cipriani, Morristown, and John W. Soehngen, Berkeley Heights, N.J., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Original application Sept. 27, 1960, Ser. No. 58,610. Divided and this application Nov. 7, 1962, Ser. No. 236,147
7 Claims. (Cl. 264—129)

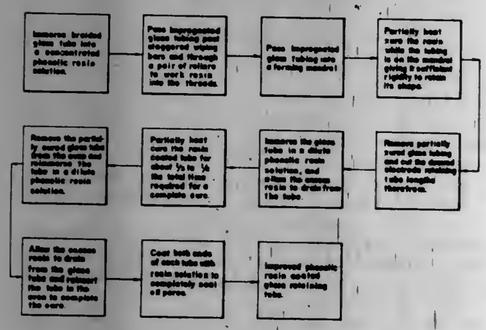
1. The process which comprises extruding a solution of a cellulose triester into a coagulant spin bath, withdrawing the resulting swollen wet spun cellulose triester filamentary material from said spin bath, and immersing said swollen filamentary material in a subsequent bath

containing a hydrocarbon oil having an aliphatic chain of at least about 14 atoms and having a molecular weight of at least about 200, a melting point below about 50° C., a boiling point of at least about 200° C. and being less than about 10% soluble in said cellulose triester, and thereafter drying said filamentary material.

3,267,190
METHOD OF MAKING STORAGE BATTERY ELECTRODES

James P. Malloy, Cheltenham, Pa., assignor to The Electric Storage Battery Company, a corporation of New Jersey

Filed Apr. 12, 1965, Ser. No. 447,442
4 Claims. (Cl. 264—137)



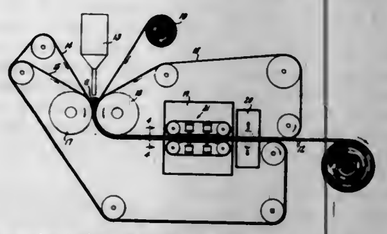
1. A method for making a porous, glass retaining tube for storage battery electrodes which comprises impregnating a braided glass tube with a concentrated phenol formaldehyde resin solution containing at least about 40% by weight of resin solids, passing said impregnated glass tubing through a pair of pressure rollers having a force of at least about 15 lbs. applied thereto to squeeze the excess resin solution from the tubing and to work the phenolic resin into the filaments comprising the glass threads, passing said impregnated glass tubing onto a forming mandrel to shape it to the contour of the mandrel, partially heat curing the phenolic resin while the tubing is on the mandrel to give it sufficient rigidity to retain its shape, removing the partially cured glass tubing from the mandrel and cutting the desired electrode retaining tube lengths therefrom, immersing the glass tube in a dilute phenolic resin solution containing from about 10 to about 15% by weight of resin solids for at least 5 seconds, allowing the excess resin solution to drain from the tube, partially heat curing the resin coated tube for about ⅓ to ½ the total time required for a complete cure, remove the partially cured glass tube from the oven and reimmerse the tube in a dilute phenolic resin solution containing from about 10 to about 15% by weight of resin solids for at least about 5 seconds, allowing the excess resin solution to drain from the tube and finally completely heat cure the thrice impregnated glass tube.

3,267,191
METHOD OF FORMING A RUBBER SHEET HAVING STUBS EXTENDING FROM ONE SURFACE

George M. Williams, Glen Rock, and Gerardo P. Pallante, Newark, N.J., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey

Filed July 7, 1961, Ser. No. 126,769
2 Claims. (Cl. 264—166)

1. A method of forming a rubber sheet having a plurality of small closely-spaced precisely-formed flat topped rubber stubs extending from one surface thereof, comprising disposing a perforated belt between two carrier belts, feeding an uncured vulcanizable rubber between one of said carrier belts and said perforated belt, interposing a material which is tacky at room temperature but which loses its adhesiveness and facilitates parting when heated to the curing temperature of said rubber between said perforated belt and the other of



said carrier belts, passing the resulting assembly through the nips of a pair of calender rolls to provide pressure to force a portion of said rubber into the perforations of said perforated belt, the rest of said rubber being formed into a sheet, heating said rubber to cure the same, and stripping said carrier belts and said perforated belt from said rubber sheet.

3,267,192
METHOD OF MAKING ELASTIC FILAMENTS

Timothy V. Peters, Jr., Barrington, R.I., and A. David Schneider, Scarsdale, N.Y., assignors, by mesne assignments, to Polythane Corporation, Rumford, R.I., a corporation of Delaware

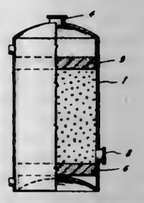
No Drawing. Filed Aug. 22, 1961, Ser. No. 133,029
9 Claims. (Cl. 264—203)

1. The method of preparing synthetic elastic copolymer filaments which comprises heating a difunctional hydroxyl terminated polymer having a molecular weight above about 700 with an organic diisocyanate to produce a low molecular weight isocyanate terminated prepolymer, reacting the resulting isocyanate terminated prepolymer with less than the stoichiometric amount of a diamine in admixture with a solvent for the reactants and the resulting reaction product to form a semi-polymer solution containing terminal isocyanate groups, adding thereto an organic diisocyanate, extruding the semi-polymer solution containing the added diisocyanate into a bath to extract the solvent and form filaments, removing the filaments from the bath and curing said filaments.

3,267,193
METHOD OF MAKING A WATER CONDITIONING TANK

Clarence H. Havelka, 1416 W. Bell, Apt. 2, Houston, Tex.

Filed Feb. 25, 1963, Ser. No. 260,733
2 Claims. (Cl. 264—219)



1. In the method of making a water conditioning tank, forming a tank having a convex bottom and an upper and lower conduit, partially filling the tank with loose sand to a level that will leave a portion of the convex bottom exposed, pouring a mixture of sand and activated epoxy resin into the tank to a preselected depth and removing the loose sand from the tank after the mixture of sand and epoxy resin has set.

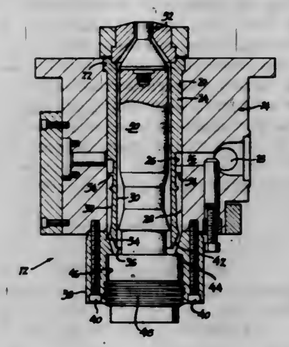
3,267,194
METHOD AND APPARATUS FOR FEEDING PLASTIC MATERIAL

Hans G. Stenger, Lambertville, Mich., assignor to Owens-Illinois Inc., a corporation of Ohio

Filed Jan. 16, 1964, Ser. No. 338,036
7 Claims. (Cl. 264—329)

1. In a method of supplying plastic material to an extrusion orifice, the steps of directing a supply stream of material tangentially into one end of an axially elongated annular passage having a restricted annular outlet at its opposite end, confining and guiding the material entering the passage into a helical flow path along said passage toward said outlet, and gradually reducing the confinement of the material to said helical path to divert an increasing proportion of material from said helical path toward an axial path as the material approaches said outlet.

3. An injection head for a plastic forming machine comprising means defining an axially elongate annular passage having a restricted annular outlet at one end, means defining an inlet passage tangentially intersecting said annular passage at its opposite end, means for flowing plastic material through said inlet passage into said annular passage, and stationary guide means having a helical flight projecting radially across said annular passage for guiding material into a helical path through said annular passage toward said outlet, the radial extent of said flight



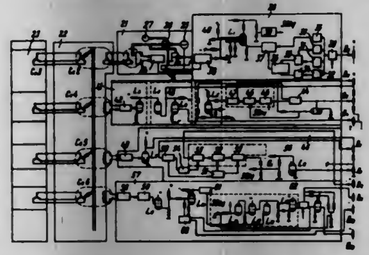
across said annular passage decreasing from a maximum radial extent adjacent said inlet passage to a minimum radial extent at a location intermediate said inlet passage and said outlet.

ELECTRICAL

3,267,195
AIRCRAFT RADAR SIMULATOR

Vadim Ivanovich Miagkov, Ul. Aviatsionnaja, 13, Apt. 203, Leningrad; Nickolai Ivanovich Grigorjev, 1st Khoroshevsky Pr., 214, Apt. 4, Moscow; Vladimir Alexeevich Grosman, Nevsky Pr.-Kt., 93, Apt. 22, Leningrad; Evgeny Alexandrovich Durnov, Ul. Frunze, 17, Apt. 66, Leningrad; Vladimir Leonidovich Koblov, Pr. Gagarina, 35, Apt. 27, Leningrad; Militsa Victorovna Kozlova, 7th Sovetskaja Ul., 35, Apt. 32, Leningrad; and Grigory Naumovich Shtapel, Ul. Basseinaja, 79, Apt. 47, Leningrad, all of U.S.S.R.

Filed June 18, 1964, Ser. No. 376,015
6 Claims. (Cl. 35—10.4)

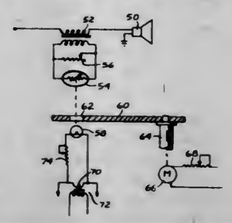


1. An aircraft radar simulator for training flying and navigating personnel in operating the aircraft radar station, comprising a radar receiver-transmitter unit simulator including a manual frequency controlled klystron oscillator simulator employing a differential bridge circuit, one arm of said differential bridge being provided with a non-linear element, said differential bridge being coupled to a manual frequency control knob located on a radar control panel; an AFC simulator consisting of a slow sawtooth generator switched on from said radar control panel; a noise simulator comprising a thyratron generator and a band-pass amplifier; a magnetron current simulator and a pressure signalling simulator employing a potentiometer transmitter circuit; a simulator comprising target azimuth selsyn-transmitters connected to a programming device controlling the movement of targets and mechanically linked through a reduction gear with a sweep rotary transformer and a radar antenna unit azimuth swinging motor; simulators imitating radar echo marks of an opposite course aircraft, mountains, thunder storms, and an active jamming source; a drift angle measuring channel simulator; a signal modulation unit which receives signals supplied from said target mark simulators and a control voltage fed from said receiver-transmitter unit simulator; radar station indicators receiving signals supplied from said signal modulation unit; a programming device supplying control voltages to said antenna unit simulator and said target echo mark simulators; a radar station control panel supplied with voltage fed from said receiver-transmitter unit simulator; and a control panel for checking said radar simulator.

3,267,196
ELECTRONIC TREMOLO DEVICE

Alan B. Welsh, Huntingburg, and Mathew A. Staats, Jasper, Ind., assignors to Jasper Electronic Mfg. Corp., Jasper, Ind., a corporation of Indiana

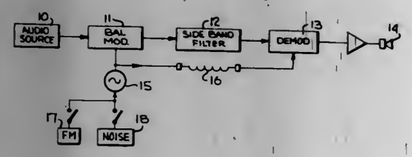
Filed Nov. 29, 1963, Ser. No. 326,692
10 Claims. (Cl. 84—1.18)



4. In combination; an electrical musical instrument having an output transformer with terminals, a plurality of speakers connected to said terminals to receive the output from said transformer and convert it into sound, an impedance in circuit with each speaker, each impedance comprising a transformer having a primary coil in series with the speaker and having a secondary coil, a

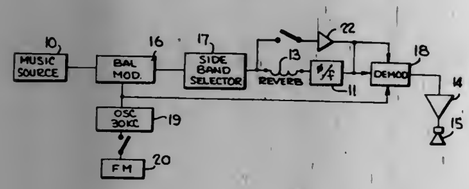
resistance element connected in parallel with each said secondary coil, each resistance element comprising a light sensitive resistance cell, a source of illumination adjacent each cell, means for varying the intensity of each said source of illumination, said cells and their pertaining sources being distributed circumferentially about a predetermined axis, disc means interposed between said sources of illumination and their pertaining cells and rotatable on said axis and circumferentially spaced apertures in said disc means adapted successively to register with each said source and its pertaining cell during rotation of said disc means thereby to bring about periodic illumination of each cell by its pertaining source of illumination, said means for driving said disc means comprising a variable speed drive motor drivingly connected with said disc means.

3,267,197
REVERBERATORS
Hyman Hurvitz, 822 Warner Bldg., Washington, D.C.
Filed Jan. 22, 1964, Ser. No. 339,423
8 Claims. (Cl. 84—1.24)



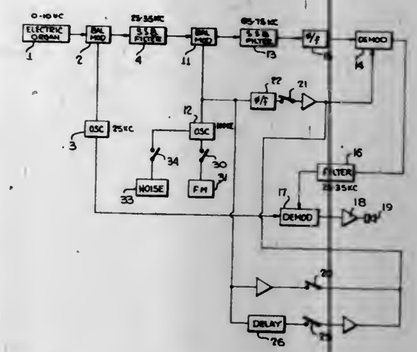
1. A music system for modulating an audio band, comprising a heterodyne modulator, a heterodyne demodulator, an ultrasonic oscillator, an ultrasonic band pass filter connecting said modulator and demodulator, a reverberator operative at the frequency of said oscillator connected between said oscillator and at least one of said modulator and demodulator, and means connecting said oscillator to the other of said modulator and demodulator.

3,267,198
MUSIC ENHANCEMENT
Hyman Hurvitz, 822 Warner Bldg., Washington 4, D.C.
Filed Mar. 4, 1964, Ser. No. 349,388
13 Claims. (Cl. 84—1.24)



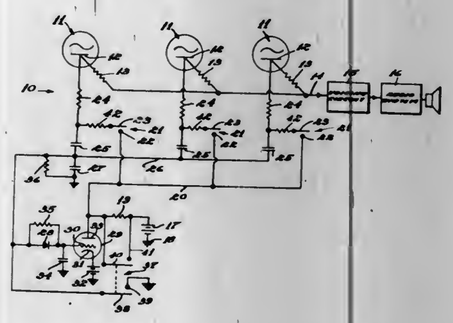
1. A music system, comprising a source of a band of tone signal, means for heterodyning said band of tone signal to a supersonic band, means for imparting to said supersonic band a variation of frequency, said last means comprising a circuit having substantially uniform amplitude versus frequency characteristic and a large shift of phase versus frequency, whereby shifts of frequency and relative phase with frequency occur in said supersonic band corresponding with said variation of frequency, and means for heterodyning the frequency varied supersonic band to an audio band of tone signal, whereby phases of the band of tone signals are randomized, and amplitude peaks are eliminated in said band of tone signals.

3,267,199
SYSTEMS FOR INTRODUCING VIBRATO
Hyman Hurvitz, 822 Warner Bldg., Washington, D.C.
Filed Mar. 4, 1964, Ser. No. 349,393
9 Claims. (Cl. 84—1.25)



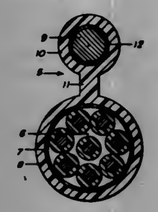
1. A vibrato system for music, comprising a source of an audio band, means for heterodyning said audio band to a supersonic band, said last means comprising local oscillator means, heterodyne means for recovering said audio band from said supersonic band, said last means comprising a heterodyne demodulator and said local oscillator means, and a delay network interposed between said local oscillator means and said demodulator, wherein is provided means for varying the frequency of said local oscillator means at a rate and with a deviation selected to provide audible effects in the recovered audio band.

3,267,200
ELECTRONIC MUSICAL INSTRUMENT HAVING AN ATTACK CIRCUIT
Walter J. Anderson, Elgin, and Robert M. Grodinsky, Chicago, Ill., assignors to Chicago Musical Instrument Co., Lincolnwood, Ill., a corporation of Delaware
Filed Apr. 5, 1963, Ser. No. 270,999
15 Claims. (Cl. 84—1.26)



1. An attack circuit for an electronic musical instrument including a series of signal sources having readout elements connected to a common output bus, and a series of key switches operative to apply a coupling potential on the readout elements, said circuit comprising:
(a) a pulse bus having capacitative connections with the readout elements; and
(b) a triode having a grid connected to said pulse bus, and a normally non-conducting plate circuit under the control of said grid, said plate circuit being connected across the source of coupling potential.

3,267,201
BONDED MESSENGER CABLE WITH MESSENGER ADHESIVELY BONDED TO A COMMON SUPPORT JACKET
Brandon B. Pusey and Warner T. Smith, Hickory, N.C., assignors to Superior Cable Corporation, Hickory, N.C., a corporation of North Carolina
Filed Oct. 4, 1963, Ser. No. 314,011
3 Claims. (Cl. 174—41)



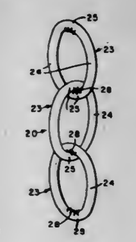
3. A bonded messenger cable, comprising a cable core, a solid, single strand smooth surfaced steel supporting wire, a common jacket of polyethylene enveloping said core and supporting wire in laterally spaced, parallel relation, and a continuous layer of polyethylene modified with a material containing active polar groups, directly and uniformly embracing all points of the periphery of said supporting wire and providing the sole active agent for adhesively bonding that portion of said jacket covering said supporting wire, directly to the periphery of the latter, thereby preventing relative movement between the supporting wire and the jacket.

3,267,202
ADJUSTABLE INSULATOR SUPPORT
Harold C. Leonard, Jackson, Miss., assignor to Performance Insulator, Inc., Jackson, Miss., a corporation of Mississippi
Filed Jan. 16, 1963, Ser. No. 251,846
6 Claims. (Cl. 174—45)



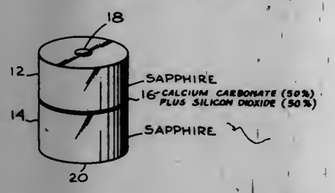
1. In a pole construction for an armless overhead electrical distribution system including:
(a) a utility pole;
(b) insulator supports on opposite sides of said pole mounting a pair of primary conductor suspending insulators in back-to-back relationship adjacent the upper end of said pole; and
(c) a pair of vertically spaced apart bolts supporting said insulator supports from said poles, each of said bolts extending substantially through said pole and both of said supports; the improvement wherein:
(d) at least one of said insulator supports comprises a support base with an enlarged bolt receiving aperture substantially longer and wider than the diameter of said bolts formed therein whereby said bolts may be inserted through said pole and said supports even though the bolt-receiving holes through said pole are not parallel; and wherein
(e) said one insulator support includes clamping means for preventing movement of said one support relative to said bolts after said one support is fixed to said pole and for transmitting forces having horizontal and vertical components and exerted on said one support in directions normal to said bolts through the bolt extending through said enlarged aperture to said pole, said clamping means including a plate juxtaposed to said base and having an aperture therein substantially equal in diameter to said bolts and surrounding the bolt extending through the enlarged bolt-receiving aperture in said base and means for mechanically interlocking said base and said plates to prevent said plate from sliding relative to said base in any direction normal to said bolt.

3,267,203
LINK CHAIN HAVING ELECTRICAL CONDUCTING LACQUER PIERCING RIDGES
Thomas Rosenberg, Mount Vernon, N.Y., assignor to Eastern Chain Works, Inc., New York, N.Y.
Filed Aug. 23, 1965, Ser. No. 481,547
1 Claim. (Cl. 174—68)



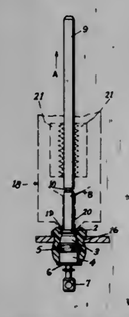
A vertically disposed conducting chain that normally does not transmit current except when a fixture would create a dangerous condition due to a fraying of an electrical wire which would come in contact with the device to give a shock, embodying a plurality of similar metal links interconnected together, each of said links having a full coating of hardened lacquer finish thereon so that the entire chain has a full coating of lacquer finish as insulation and normally insulating the chain, said chain being adapted to be suspended from a structure and adapted to have a fixture on the lower end thereof, each of the links having diametrically arcuate end portions, the inner surfaces only of the arcuate end portions being provided with a plurality of sharp tapered pointed ridges wherein the lacquer in the vicinity of the ridges is penetrated and pierced by the ridges so that the same is electrically conductive throughout its length, the remaining portion of the links having the lacquer thereon except where the ridges engage each other, said ridges being arranged in spaced apart relation with respect to each other, and whereby movement of the chain increases the electrical contact between the ridges, said ridges increasing the strength of the chain, and being arranged so that the ridges are only on the inner surfaces of the diametrically arcuate end portions with the remainder of the links being free of ridges, said ridges being arranged in spaced parallel relation to each other, and said ridges having a longitudinal axis extending transversely to the plane of the links, and said adjacent links being arranged at angles with respect to each other, whereby the ridges of one link engage and are at right angles with respect to the ridges of the adjacent link.

3,267,204
BARRIER EFFECT INSULATOR
Dan W. Peters, Mountain View, Calif., assignor to Stanford Research Institute, Menlo Park, Calif., a corporation of California
Filed Aug. 21, 1964, Ser. No. 391,222
2 Claims. (Cl. 174—137)



1. An insulator comprising two sapphire crystals each having a face, a sintering compound joining said two crystals at their respective faces, said sintering compound comprising a mixture of calcium carbonate and silicon dioxide.

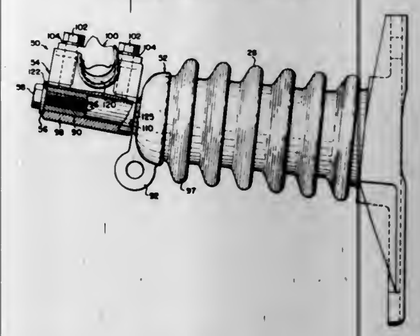
3,267,205
ELECTRICAL TERMINALS INCORPORATING BREAK-AWAY PINS
Hilliard Dozier, Cincinnati, Ohio, assignor to U.S. Terminals, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 10, 1965, Ser. No. 478,642
11 Claims. (Cl. 174—153)



1. For use in an electrical terminal, an elongated electrode having a body including a tapered expansion shoulder in advance of an enlarged cylindrical body part, an essentially flat cap portion lying beyond said enlarged body part on the side thereof opposite said expansion shoulder, an elongated stem detachably connected to said body, said stem projecting outwardly from said electrode body in advance of said expansion shoulder in prolongation of the length of said electrode, and a stop forming shoulder of larger diameter than said stem lying in advance of said expansion shoulder.

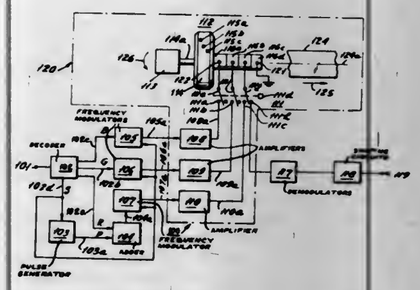
9. An electrical terminal composing an insulator and an electrode, said insulator being formed from a distortable dielectric material and having a cylindrical body terminating at one end in an enlarged head, an axial bore extending through said insulator, said electrode comprising an elongated pin inserted in said axial bore from the end thereof opposite said enlarged head, said electrode having an enlarged body portion positioned to lie within the confines of said insulator when the terminal is attached to a terminal board, an elongated stem detachably connected to said electrode, said stem projecting outwardly from said electrode in prolongation of its length and extending outwardly beyond the enlarged head of said insulator, said electrode including a shoulder lying beyond the enlarged body portion of said electrode in the direction of said stem and positioned to act as a stop, whereby when said stem is engaged by a tool having a nose portion lying in advance of jaw means operative to exert a pulling force axially of said stem in the direction of the enlarged head of said insulator, axial movement of the electrode relative to the insulator will be stopped when the said shoulder contacts the nose portion of the tool.

3,267,206
INSULATOR CAP AND LINE CLAMP ASSEMBLY
Harold C. Leonard, Jr., Jackson, Miss., assignor to Performance Insulator, Inc., Jackson, Miss., a corporation of Mississippi
Filed Jan. 14, 1964, Ser. No. 337,571
3 Claims. (Cl. 174—169)



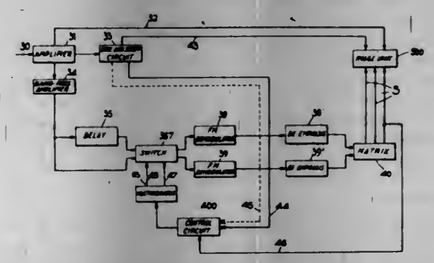
1. An insulator cap and line clamp assembly for use in electrical distribution and like systems, comprising: an insulator cap having a cap portion in the form of a hollow spherical segment and an elongated, cylindrical clamp supporting stud extending therefrom at an angle to the axis of revolution of said segment; a conductor supporting line clamp having a cylindrical bore therethrough, said stud extending through said bore; and means detachably fixed to said stud for preventing relative rectilinear movement between said clamp and said stud.

3,267,207
TELEVISION SYSTEM CONVERSION DEVICE
Masatoshi Okazaki and Masao Inaba, Minatoku, Tokyo, Japan, assignors to Nippon Electric Company Ltd., Tokyo, Japan, a corporation of Japan
Filed Sept. 20, 1962, Ser. No. 230,781
Claims priority, application Japan, Sept. 22, 1961, 36/34,376
8 Claims. (Cl. 178—5.2)



1. Reversible means for use in converting between video signals of the simultaneous type and video signals of the line sequential type comprising a recording medium; means for recording at least two primary color signals simultaneously in parallel columns in said recording medium; readout means adapted to scan each of said columns sequentially to generate said line sequential signals, said recording means comprising means for converting a composite video signal of the simultaneous type into at least two independent primary color signals, said recording medium being a magnetic storage means, said recording means comprising at least two magnetic recording heads for recording said independent primary color signals in said magnetic storage means, means for moving said magnetic storage means linearly relative to said recording means; means for rotating said magnetic recording heads, the plane of rotation of said recording heads being transverse to the direction of movement of said magnetic storage means; means for demodulating the recorded primary color signals; switch means operative to isolate said recording means from said composite video signals and to connect said readout means with said demodulating means.

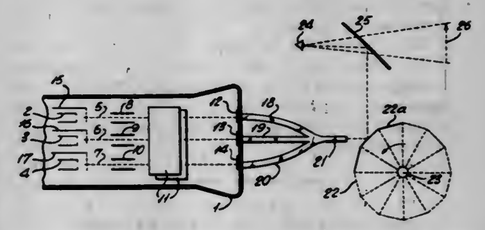
3,267,208
COLOR IDENTIFICATION AND ASSOCIATED APPARATUS IN SEQUENTIAL COLOR TELEVISION SYSTEMS
Dominique Brouard, Levallois-Perret, France, assignor to Compagnie Francaise de Television, a corporation of France
Filed Apr. 3, 1963, Ser. No. 270,464
Claims priority, application France, Apr. 5, 1962, 893,396, Patent 1,344,234; June 6, 1962, 899,861, Patent 82,659; Jan. 7, 1963, 920,625, Patent 83,517; Mar. 14, 1963, 927,943, Patent 83,767
32 Claims. (Cl. 178—5.2)



15. A colour television receiver adapted for operating with a composite signal elaborated in a transmitter, said composite signal comprising a wide-band picture signal, synchronizing signals and an auxiliary wave modulated in time division by two colour signals and by at least one other signal, referred to as a channel identifying signal; said colour signals and said identifying signal being, in said transmitter, directed to a common channel by means of a switching system having a first and a second input to which said colour signals are respectively applied during the visible portions of the fields and to one of which said identifying signal is applied during recurrent time intervals, referred to as checking periods, each of which occurs within a vertical blanking interval; said switching system having a first state in which it connects said output to sair first input and a second state in which it connects said output to said second input, and being actuated to pass over regularly, at the line frequency, from one state to the other, at least between the beginning of each of said checking periods and the beginning of the vertical blanking interval comprising the next checking period, said receiver comprising:

means for separating said synchronizing signals and said auxiliary wave from said composite signal; a synchronizing and sweep circuit; an auxiliary channel having an input and at least one output: means for applying said synchronizing signals and said auxiliary wave respectively to said synchronizing and sweep circuit and to said auxiliary channel input; a switch having at least one input coupled to said auxiliary channel output, and at least one output; said switch having a first state in which it connects said switch output to said switch input and a second state in which it disconnects said switch output from said switch input; said switch being said to have a correct phase or a wrong phase according to whether its first and second states respectively coincide in time with the first and second states of said transmitter switching system or not; a channel, referred to as a checked channel, having an input coupled to said switch output, whereby, during said checking periods, a signal, referred to as a test signal, propagates therein, which indicates whether the phase of said switch is correct or wrong; and a switch control circuit having a first input coupled to said synchronizing and sweep circuit for receiving therefrom pulses at the line frequency, and a second input coupled to said checked channel, at least during said checking periods, for causing said switch to pass over regularly, at the line frequency, from one state to the other, outside of said checking periods, and means, controlled by said test signal, for, during said checking periods, maintaining or altering the regular alternation, at the line frequency, of the states of said switch, in accordance with a characteristic of said test signal.

3,267,209
COLORED IMAGE REPRODUCTION DEVICE
Kyozo Nagamori and Kazuo Kikuchi, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed Feb. 15, 1963, Ser. No. 258,786
Claims priority, application Japan, Feb. 20, 1962, 37/6,679
3 Claims. (Cl. 178—5.4)

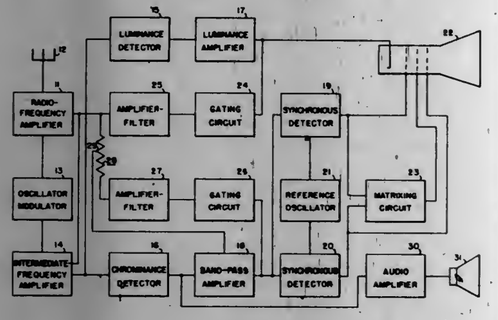


1. A colored image reproduction system comprising an electron flow device having independent fluorescent screen portions each for emitting fluorescent light of one of three primary colors, means for synchronously scanning each of said screen portions with an electron beam to thereby develop fluorescent light therefrom, a light conducting structure for transmitting said fluorescent light, said structure comprising a plurality of similarly shaped single piece light conducting elements in contiguous relationship with one another, each single piece element being formed of a plurality of input branches terminating in a single output port, each of the input branches of a given single piece element being positioned for receiving a different color light from the different screen portions to provide a synthesized light output at each output port, and an optical system including a mechanism for vertically scanning the light output at the output ports, said optical system including means between said fluorescent screen portions and said light conducting elements for substantially reducing defocusing of the reproduced image.

3,267,210
AUTOMATIC SATURATION CONTROL FOR COLOR-TELEVISION RECEIVER

George B. Townsend, Little Chalfont, England, assignor to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois

Continuation of application Ser. No. 844,955, Oct. 7, 1959. This application July 17, 1963, Ser. No. 296,159
Claims priority, application Great Britain, Oct. 31, 1958, 35,009/58
7 Claims. (Cl. 178—5.4)



1. A color-television receiver comprising:

a source of modulated wave signals including a luminance signal channel for deriving a luminance signal and a chrominance signal channel for deriving a chrominance signal;

first means coupled to said source for deriving a first D.-C. voltage whose magnitude is proportional to the level of said luminance signal in said luminance channel;

second means coupled to said source for deriving a second D.-C. voltage whose magnitude is proportional to the level of said chrominance signal in said chrominance channel;

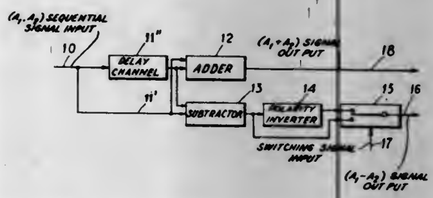
and third means for utilizing said first and second D.-C. voltages to derive a control signal, variations in which control signal are indicative of variations in saturation, and for utilizing said control signal to maintain said control signal and saturation at predetermined values.

3,267,211
COLOUR TELEVISION RECEIVERS

Gerard Melchior, Levallois-Perret, France, assignor to Compagnie Francaise de Television, a corporation of France

Filed Feb. 26, 1963, Ser. No. 261,081
Claims priority, application France, Mar. 2, 1962, 889,835
4 Claims. (Cl. 178—5.4)

1. In a colour television receiver comprising means for receiving colour television signals; means for deriving from said colour television signals a sequential signal alternately built up by a first and a second colour information signal alternating at the line frequency, said sequential signal being such that the sum of, and the difference between, said sequential signal and a delayed signal derived from said sequential signal through delaying it by a duration equal to a line period, respectively build up a third and a fourth colour information signal; and means for deriving from an auxiliary signal included, at recurrent time intervals in said colour television signals, a switching signal having a first level or a second level according to whether said first or second colour information signal is present in said sequential signal: a colour television receiver circuit for deriving from said sequential signal two simultaneous and separate colour information signals, said receiver circuit comprising: a first input; means for applying said sequential signal to said first input; a direct channel and a delay channel having respective inputs coupled to said first input, and respective outputs; said delay channel comprising a delay device for delaying the signal propagating therethrough by a duration equal to a line period, relatively to the signal propagating through said direct channel; an adding device having two inputs, respectively coupled to said outputs of said direct and delay channels, and an output, for delivering an output signal proportional to the sum of its two input signals; a subtracting circuit, having a first and a second input respectively coupled to said outputs of said direct and delay channels; said subtracting circuit comprising: first means for delivering a first difference signal which is equal, to within a constant factor, to the signal applied to the



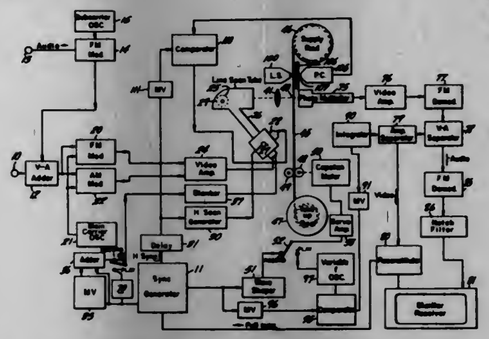
first input of said subtracting circuit minus the signal applied to said second input of said subtracting circuit; second means for delivering a second difference signal which is equal, to within said constant factor, to the difference between the signal applied to the second input of said subtracting circuit minus the signal applied to the first input of said subtracting circuit; said first and second means having respective outputs; and a two-state switch having a first and a second signal input respectively coupled to said outputs of said first and second means, and an output, said switch connecting its output to its first or to its second input according to whether it is one or the other of its two states; and means for applying said switching signal to said switch for causing said switch to assume its first state or its second state according to whether said first or said second colour information signal is building up said sequential signal; the output signals of said adding device and of said switch building up said two simultaneous signals.

3,267,212
FILM RECORDING REPRODUCING APPARATUS

Peter C. Goldmark and Renville H. McMann, Jr., Stamford, Conn., assignors to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York

Original application Dec. 23, 1960, Ser. No. 77,916. Divided and this application Jan. 22, 1965, Ser. No. 427,304
12 Claims. (Cl. 178—6.7)

4. In apparatus for reproducing information recorded on a record medium, the combination of means for advancing a record medium along a transport path, means responsive to first information recorded on said record medium for producing signals indicative of the speed of advancement of said record medium along said transport path, means for comparing said signals with reference signals to produce a difference signal, means responsive to said difference signal for effecting a coarse adjustment of said record advancing means, a radiant energy source for directing radiant energy to a record medium in said transport path, means responsive to second information recorded on said record medium for producing second signals indicative of the speed of advancement of said record medium along said transport path, means for comparing said second signals with second reference signals to produce a second difference signal, and means responsive to said second difference signal for effecting an adjustment in the position of impingement of radiant energy from said source on a record medium in said transport path.

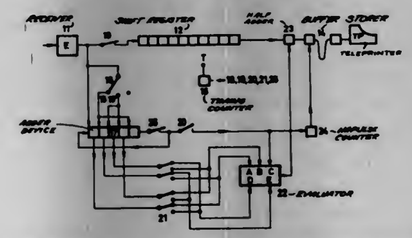


5. An information record comprising an elongated record member adapted to be moved with respect to a reproducing system in the direction of elongation and having a plurality of transverse information-bearing segments spaced in the direction of elongation of the member for sequential reproduction by a reproducing system upon motion of the member with respect to the system, and synchronizing record indicia disposed on the member at the ends of the information-bearing segments and having a characteristic which renders them separably different from the information recorded in the information-bearing segments whereby a reproducing system may distinguish between the information segments and the record indicia.

3,267,213
METHOD OF AND CIRCUIT ARRANGEMENT FOR SECURING TELEPRINTER MESSAGES

Erich Berger, Krailling, near Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Oct. 4, 1960, Ser. No. 60,487
Claims priority, application Germany, Oct. 16, 1959, S 65,452
6 Claims. (Cl. 178—69)

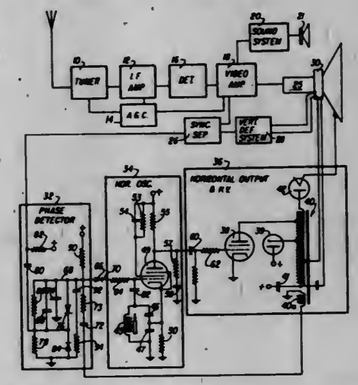


1. In a system for directly transmitting teleprinter messages in accordance with the five-element code, apparatus for securing said messages by allocating to each two five-element message symbols a control symbol likewise having five elements as determined by an intermediate control system, comprising coding means for forming an intermediate symbol for each individual element, dependent upon the nature of such element, which likewise has five elements, at least two of which have the same polarity as the element to be secured, thereby assuring allocation of the same polarity in corresponding manner for all elements of the message symbols, the elements of said intermediate symbols being arranged in predetermined cyclic permutation dependent upon whether the message symbol involved is the first or second of two symbols to be secured, and means connected to said coding means for receiving the elements of said intermediate symbols in permutated form and adding corresponding elements of the intermediate control symbols for both message symbols, thereby forming said control symbol for transmission after transmission of the two message symbols which are to be secured.

3,267,214
TELEVISION RECEIVER

Eugene F. Sullivan, Bensenville, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed June 24, 1963, Ser. No. 289,976
5 Claims. (Cl. 178—69.5)



1. In a television receiver for utilizing a signal having video frequency components and synchronizing signal components, the combination of a deflection system to provide deflection signals for scanning a cathode ray beam, said deflection system including an oscillator operable to establish the frequency of the deflection signals, said oscillator including a bias circuit responsive to a variable voltage for regulating the frequency thereof throughout a control range, circuit means responsive to the synchronizing signal components of the television signal and to the deflection signals to produce a direct current potential proportional to the time difference between the synchronizing signal components and the deflection signals, and a unidirectionally conductive device series connected between said circuit means and said bias circuit to apply the direct current potential as the variable voltage to said oscillator, said device being poled to prevent a potential below the potential of the bias circuit from being applied to said bias circuit.

3,267,215
CODE BAR SWITCH ACTUATOR

George H. Huber, Riverton, N.J., assignor to Ultronic Systems Corp., a corporation of Delaware

Filed Sept. 7, 1962, Ser. No. 222,136
7 Claims. (Cl. 178—79)

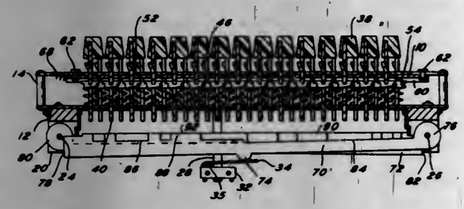
1. A key-actuated coding switch device which comprises

(a) a plurality of switch-actuating bars extending longitudinally in side-by-side relationship,

(b) first and second pivoting means longitudinally spaced with respect to said bars for pivoting corresponding first and second pluralities of bars for angular movement about respective transverse axes,

(c) a plurality of switches positioned for actuation by said bars at respective actuating points intermediate said first and second pivoting means,

(d) a plurality of actuating members extending transversely of said switch-actuating bars at longitudinally spaced points therealong between said first and second pivoting means,



(e) said transverse actuating members toward each pivoting means having portions engaging portions of the switch-actuating bars pivoted by the other pivoting means in coded configuration for actuating the bars in different coding combinations,

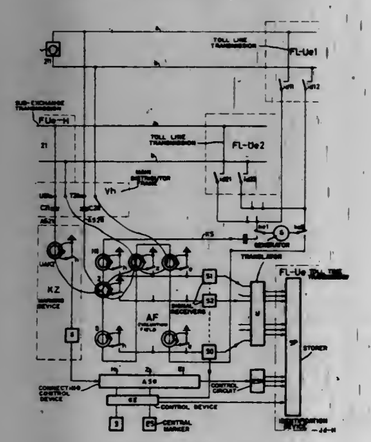
(f) and a plurality of keys mounted for actuating said transverse actuating members respectively.

3,267,216

AUTOMATIC CHARGE METERING OF TELEPHONE CALLS

Günter Raab and Gerhard Polensky, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Sept. 28, 1962, Ser. No. 227,649
Claims priority, application Germany, Sept. 29, 1961, S 76,043
6 Claims. (Cl. 179—7.1)



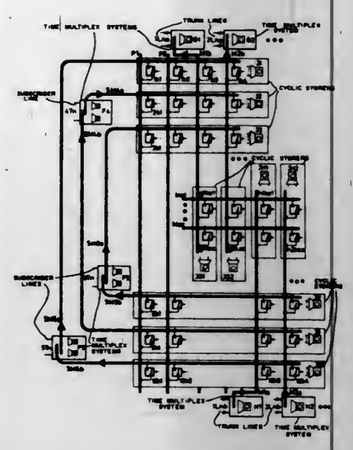
1. A circuit arrangement for automatic charge metering in telephone systems comprising main and sub-exchanges, identifying devices respectively cooperatively associated individually with individual exchanges, and sub-exchange transmissions arranged at the main exchange and carrying the traffic from and to the individual sub-exchanges, an identifying device disposed at the main exchange at which printed records are made of charges for calls, for determining said transmissions as well as subscriber stations of the main exchange, means responsive to identification of sub-exchange transmission for effecting the determination and transmission of the calling subscriber station applicable within the respective sub-exchange, marking points allocated respectively to the individual sub-exchange transmissions within the identification device, which is allocated to the main exchange, said marking points being connected with a further characterizing device for so effecting the operational control of the identification device that there is ascertained only the number of digits of the number characterizing the respective sub-exchange which has been determined by the characterizing device.

3,267,217

CIRCUIT ARRANGEMENT FOR THE CONNECTION OF TIME MULTIPLEX TELEPHONE SYSTEMS

Max Schlichte, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Nov. 13, 1962, Ser. No. 237,405
Claims priority, application Germany, Nov. 16, 1961, S 76,717
5 Claims. (Cl. 179—15)



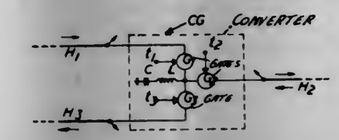
1. A circuit arrangement constructed in the manner of a coupling multiple, over which telephone systems which are respectively provided with a call multiplex line for incoming calls and a call multiplex line for outgoing calls to which subscribers of the respective systems are connectible, comprising row conductors connected to the individual call multiplex lines for outgoing calls and to the individual call multiplex lines for incoming calls, and connectible by coupling point contacts to column conductors thereof, which conduct the traffic between the various time multiplex systems, by closure of two coupling point contacts in a particular time slot in a respective sequence, which establishes connection between respectively involved row conductors, first particular column conductors disposed to respectively cross only row conductors with call multiplex lines for outgoing calls and connected to the individual multiplex line of further time multiplex communication systems having trunks extending to other exchanges connected therewith, and second particular column conductors disposed to respectively cross only row conductors with call multiplex lines for incoming calls and connected to the individual multiplex lines of further time multiplex communication system having trunks coming from other exchanges connected therewith, means forming special row conductors in said coupling multiple which cross respectively only the first mentioned particular column conductors to which are connected multiplex lines of said further time multiplex communication systems having trunks extending to other exchanges connected therewith and the second particular column conductors to which are connected multiplex lines of said further time multiplex communication systems having trunks coming from other exchanges connected therewith, whereby the traffic between and with the further time multiplex communication systems, can be conducted over said special row conductors by closure of coupling point contacts cooperatively arranged with respect to corresponding particular column conductors in a particular time slot.

3,267,218

FOUR-WIRE/TWO-WIRE CONVERTER

Hans Helmut Adelaar, Antwerp, Belgium, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 794,130, Feb. 18, 1959. This application Sept. 8, 1964, Ser. No. 396,799
Claims priority, application Netherlands, Mar. 18, 1958, 225,945
10 Claims. (Cl. 179—15)



1. A four-wire/two-wire converter comprising: three line-terminals, one for an incoming line of a four-wire line, one for an outgoing line of a four-wire line and one for a bi-directional line; three gates for respective line terminals, each gate having two terminals; means connecting one terminal of each gate to respective ones of said line terminals; a reactive storage device; the other terminals of said three gates being connected in common to said storage device; three non-coincident time channels for respective ones of said gates; and means connecting each of said time channels to its respective gate for cyclically unblocking said gates during said non-coincident time intervals whereby said incoming line, said bi-directional line and said outgoing line, in the order named, are connected to said storage device during said non-coincident intervals and exchange energy between the connected line and said storage device.

5. In a time division communication system, a two-way transmission line, an incoming one-way transmission line, an outgoing one-way transmission line, a converter, said converter comprising gating means connected to said two-way transmission line and send and receive gating means connected to said outgoing and incoming lines respectively, storage means, means connecting said storage means to said gating means, and connections to each of said gating means for receiving signals whereby suitable signals may be received for controlling the conductivity of the gating means.

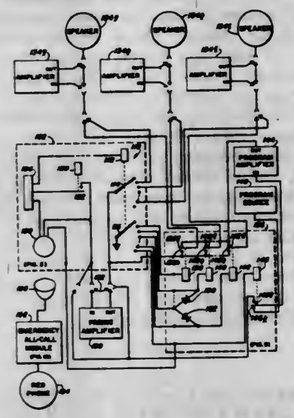
3,267,219

PAGING SYSTEM

John H. Van Horn, Racine, Wis., assignor to Webster Electric Company, Racine, Wis., a corporation of Delaware

Filed Feb. 25, 1963, Ser. No. 260,690
8 Claims. (Cl. 179—18)

1. A dial controlled paging system comprising a plurality of speakers disposed in different areas, selector means for extending communication paths to the speakers, a plurality of stations including dialing devices, means controlled from a calling one of the stations for seizing the selector means and for operating the selector means in accordance with signals from the dialing device at the calling station to extend a communication path from the calling station to a selected one of the speakers, an additional station, and means responsive to the establishment



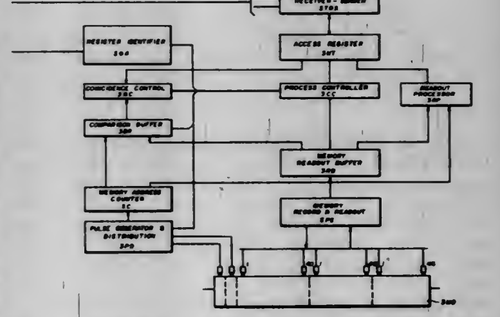
of a calling condition at the additional station for releasing any other calling station and for operating the selector means to connect all of the speakers to the additional station.

3,267,220

MAGNETIC DRUM TRANSLATOR

John R. Maneschi, Oak Park, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Apr. 12, 1963, Ser. No. 272,608
6 Claims. (Cl. 179—18)



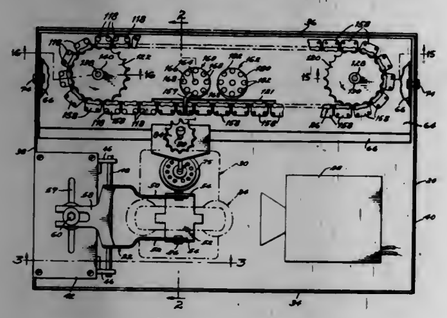
1. An automatic telephone system including register-senders, a common translator, and a translator allotter, said translator comprising: a first plurality of incoming register means operated upon receipt of a plurality of digits to register said digits, a record means having recorded therein a plurality of sets of coded call routing and control data items, readout means adapted to read said recorded data from said record means, counter means arranged to indicate the address of said record means corresponding to said readout means, coincidence detecting means, first buffer register means, second buffer register means, counter gating means, process control means, last-digit gating means operated after receipt of the last one of said plurality of digits to pass said last digit to said process control means, first decoding means in said process control means operated upon receipt of said last digit to enable said counter gating means to pass said counter count to said first buffer

register means and simultaneously enable said readout means, first circuit means comprising the connection of said second buffer register means and said readout means, said second buffer register means operated via said first circuit means by said readout means to register said record data in synchronism with said counter count presented to said coincidence means, circuit means comprising the connections of said first buffer register means and said incoming register means to said coincidence means, said coincidence means thereby operated to compare said data from said incoming register and said counter count, coincidence signal means in said coincidence means operated upon parity between said two sets of data to signal said process control means, control means in said process control means operated responsive to said signal to disenable said readout means and operate said buffer register to transfer said appropriate coded call routing and control data items from said second buffer register to said incoming register, other means thereafter operated to send said coded call routing and control data from said incoming register to said register-sender.

3,267,221
AUTOMATIC TELEPHONE DIALING ALARM DEVICE WITH PEN CARRIER

Harry Caldwell, 143 E. Guthrie, Madison Heights, Mich.

Continuation of application Ser. No. 218,626, Aug. 22, 1962. This application Oct. 22, 1965, Ser. No. 507,641
4 Claims. (Cl. 179—90)



1. In an automatic telephone dialing apparatus having a rotatable dial member biased to return to a home position and an aperture in the dial member, a rotatable finger to engage in the dial member aperture, a gear rotatable with said finger, a carrier positioned to travel in a plane substantially transverse to the axis of rotation of said gear, said gear and said carrier in spaced apart relationship, a plurality of spaced apart sets of pins carried by said carrier in spaced apart relationship therealong to mesh with said gear, each of said sets of pins representative of a digit of a predetermined number to be dialed, a shiftable supporting member supporting said carrier, said supporting member normally in a position to effect disengagement of said pins from said gear, and means to shift said supporting member to a position to effect engagement of said pins with said gear and carried by said pin carrier.

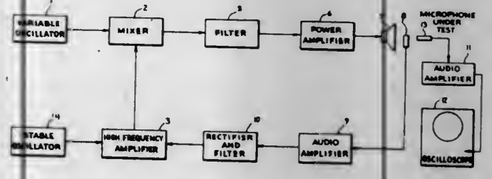
3,267,222
INTERCOMMUNICATION TEST SET

Billy B. Chipp, Ridgecrest, Calif., and Mickey H. Kinkade, Indianapolis, Ind., assignors to the United States of America as represented by the Secretary of the Navy

Filed Jan. 7, 1966, Ser. No. 519,394
1 Claim. (Cl. 179—175.1)

A compact variable-frequency constant-amplitude sound source for use in testing close-talking microphones wherein a microphone under test is coupled to an audio amplifier which is coupled to the vertical input of an oscilloscope whereby an operator may watch the oscilloscope for microphone signal distortion, and for variations in signal amplitude, while he varies the frequency of the sound source, said sound source comprising:

a frequency mixing means having a first input, a second input, and an output;
a variable frequency oscillating means having its output coupled to said first input of said mixing means;
a stable-frequency oscillating means;
a high-frequency amplifying means having a signal input, a direct current bias input, and an output, said signal input being coupled to the output of said stable oscillating means, and said output of said high-frequency amplifying means being coupled to said second input of said mixing means;
a filter having its input coupled to said output of said mixing means for the purpose of filtering out all high frequency signals from said mixing means and passing only the audio frequency signals;
a transducing means, to convert electrical signals to sound waves having a distortion free output across the frequency range of the test;
a power amplifying means having its input coupled to the output of said filter, and having its output coupled to the input of said transducing means;



a monitoring microphone placed in close proximity to said transducing means and to the microphone under test, said monitoring microphone having a flat frequency response over the frequency range of the microphone under test, said monitoring microphone mounted in the 90 degree plane with respect to said transducing means;
a feedback audio amplifier having its input coupled to the output of said monitoring microphone; and
a rectifying and filtering means having its input coupled to the output of said feedback audio amplifier and having its output coupled to said direct current bias input of said high frequency amplifying means whereby a constant-amplitude sound source is produced by the transducing means since any change in output sound level is used as negative feedback to the frequency source, to return the sound signal to its normal level by changing the direct current bias to the high frequency amplifying means, thereby changing its gain and controlling the amplitude of the stable oscillator signal to the mixing means, whereupon the audio frequency mixer output is filtered and then amplified by said power amplifier which drives said transducing means.

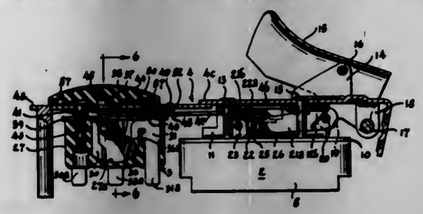
3,267,223
INTERLOCKING MECHANISM FOR ELECTRIC SWITCHES

Robert E. Larkin, Waukesha, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed Aug. 12, 1964, Ser. No. 389,057
6 Claims. (Cl. 200—5)

1. In an electrical switch assembly;
a first switch having first and second operating positions;

a second switch having a base member and a movable operating member exterior thereto;
mounting means to which said second switch is fastened, the operating member of said second switch being on one side of said mounting means and said base member being mounted in the opposite side of said mounting means;
and interlocking means effective to prevent operation of said second switch when said first switch is moved from its first position but to allow operation of said second switch when said first switch is in its first operating position comprising:
locking means mounted between said base member and said mounting means communicating to said one side of said mounting means via an aperture

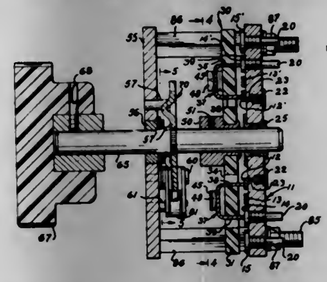


in said mounting means and having extended and retracted positions with respect to said one side of said mounting means;
reciprocatory means mechanically linked to said first switch for movement between first and second positions as said first switch is operated between its corresponding first and second position;
and means engaging said locking means and operated by said reciprocatory means for moving, when said reciprocatory means moves to its second position, said locking means from its retracted position to its extended position to interfere with the movement of the operating member of said second switch by engagement therewith to thereby prevent operation of said second switch when said first switch is moved from its first position.

3,267,224
ELECTRICAL SWITCH WITH FLOATING BRIDGE CONTACT STRUCTURE

Paul E. Vega, North Hollywood, Calif., assignor to Aerovox Corporation, New Bedford, Mass., a corporation of Massachusetts

Filed Oct. 17, 1962, Ser. No. 231,135
2 Claims. (Cl. 200—11)

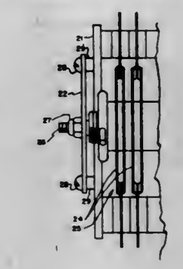


1. An electrical switch comprising a contact plate, a plurality of spaced contacts arranged in a ring on said contact plate, an arcuate commutator member spaced from said contacts, a rotatable brush supporting plate, a free floating brush member of U-shaped configuration carried by said support plate and movable over said commutator member and said contacts, a cantilever spring of relatively thin sheet spring stock carried by said support plate and biasing said brush member against said contacts and commutator member to engage the same, and a foot on said cantilever spring having an arcuate edge providing a fulcrum on which said brush member may rock, and providing substantial point contact between the cantilever spring and the brush.

3,267,225
ROTARY SWITCH SHAFT AND SUPPORT STRUCTURE

William A. Depner, Naperville, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Sept. 3, 1965, Ser. No. 484,913
3 Claims. (Cl. 200—11)



1. A rotary stepping switch comprising:
a frame;
a stationary shaft having one end rigidly secured to said frame;
a wiper assembly rotatably mounted on said shaft and including a plurality of wipers;
an arcuate bank assembly carried by said frame and disposed about said shaft, and including contact members for cooperating with said wipers;
support means, at one end mounted on said bank assembly and having at its other free end, an aperture;
the other free end of said shaft being received in and extending through and beyond said aperture for support by said support means;
said support means also having an end surface surrounding said aperture for limiting the axial play of said wiper assembly depending on the axial adjustment of said support means;
and setting means carried by the portion of the free end of said shaft which extends beyond said aperture of the support means; the free end of said support means being tensioned towards said setting means, in an outward direction longitudinally of said shaft, and said setting means being placed in a desired position along said shaft portion for axially adjusting and firmly locating said support means, thereby to adjust the axial end play of said wiper assembly.

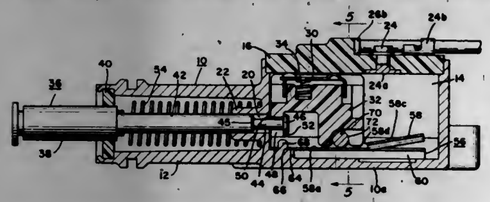
3,267,226
DETENT MECHANISM FOR CONTROL APPARATUS

Willard C. Shaw and James H. Flatt, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 3, 1963, Ser. No. 313,596
11 Claims. (Cl. 200—16)

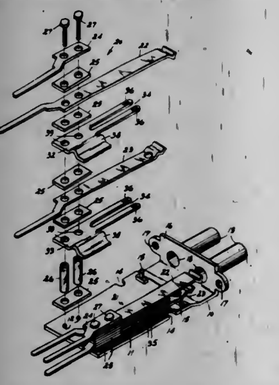
1. A control apparatus comprising, a housing, a spring detent member having a pair of side rail sections and a spring finger located therebetween, the lower edges of said side rail sections engaging said housing, a shiftable control member shiftable relative to said spring detent and relative to said support member, and means shiftable with said shiftable member and engageable with said spring

finger, said means being engageable with the top edges of said side rail sections, said spring finger having an abutment means which engages said means when said control



member is moved to a predetermined position to provide a reactive force to further movement of said control member.

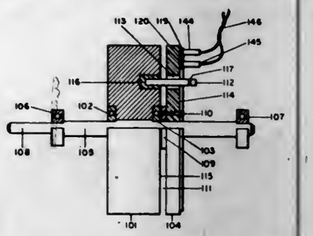
3,267,227
TWIN JACKS
Edwin J. Welch, Highland Park, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 6, 1964, Ser. No. 350,030
4 Claims. (Cl. 200—51.1)



1. A twin jack for communication circuits comprising:
a mounting frame having a pair of plug guiding sleeves mounted at spaced positions thereon,
a dual set of tip springs and ring springs mounted on the frame and insulated from each other and the frame,
a first crossover element for the tip springs of each jack having parallel leg portions with contacts at like ends normally engaging their respective tip springs and being joined at their other ends where they are mounted on the frame,
a second crossover element for the ring springs of both jacks having parallel leg portions with contacts at like ends normally engaging their respective ring springs and joined at their other ends where they are mounted on the frame, and
means insulating the tip springs, ring springs and crossover elements from each other.

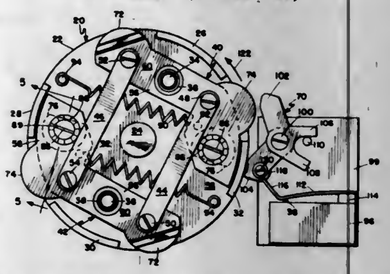
3,267,228
RATE OF ANGULAR ACCELERATION DEVICE
Peter de Hertel Eastcott, Peterborough, Ontario, Canada, assignor to Canadian General Electric Company, Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed Sept. 18, 1964, Ser. No. 397,504
4 Claims. (Cl. 200—61.46)

1. A rate of angular acceleration device comprising a shaft supported for rotation about its axis; a flywheel supported on said shaft by low friction bearings for rotation about said axis independently of said shaft, a disc-shaped member of insulating material secured to said shaft adjacent said flywheel for rotation with said shaft; said member having its central axis substantially coincident with the axis of the shaft and having one face spaced a relatively short distance from one end of said flywheel; a pin secured to and insulated from said flywheel; an aperture through said member transversely thereof; an electrical contact disposed in said aperture at the wall thereof and secured to said member, said pin projecting axially from said one end of the flywheel through said aperture and terminating beyond the other



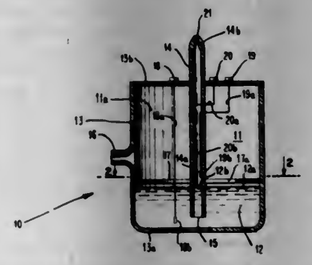
face of the member, said aperture being large enough to contain said contact and yet allow for limited relative rotary displacement between said member and said flywheel, a conductive bracket secured to said member on the other face thereof; a coil spring secured at one end thereof to the terminus of said pin and at its other end to said bracket, said spring biasing said pin against the wall of said aperture; a pair of slip rings secured to said member on the other face thereof; a conductor connecting one slip ring to said contact; another conductor connecting the other slip ring to said bracket; and current collectors for completing an electrical circuit to said slip rings.

3,267,229
CENTRIFUGALLY OPERATED ACTUATOR FOR SWITCHES AND OTHER TRIP MECHANISMS
Willard C. Hungerford, Honolulu, Hawaii, assignor to Willard Instrument Co., El Cajon, Calif.
Filed Aug. 22, 1963, Ser. No. 303,870
2 Claims. (Cl. 200—80)



1. A centrifugally operated actuator for a trip mechanism, comprising:
a rotary shaft;
a plate member fixed on said shaft normal thereto;
a pair of arms pivotally mounted on said plate diametrically spaced on opposite sides of said shaft and being pivotal about axes substantially parallel to the shaft;
link means interconnecting said arms to move in unison;
each of said arms having an offset arm portion at one end extending generally toward the other arm;
a flyweight mounted on each of said offset arm portions;
each of said arms having a high speed cam extending outwardly from the other end thereof;
said arms being movable between a first position with said low speed cams projecting from said plate and a second position with high speed cams projecting from the plate due to centrifugal action on said flyweights;
stop means on said plate to limit the motion of said arms at said positions;
means for urging said arms to said first position, comprising a pair of tension springs each connected at one end to a point on one of said arms between the pivot of the arm and the flyweight, the other end of the spring being secured to said plate with the spring extending substantially alongside and adjacent to the respective arm, whereby motion of said arms due to centrifugal force will move the springs closer to the pivots of the respective arms.

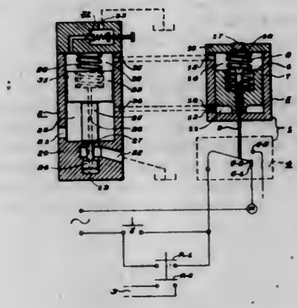
3,267,230
GAS CONTROLLED ELECTRICAL SWITCH
Arnold Schonfeld, Levittown, and John C. Schulte, Maple Glen, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 20, 1964, Ser. No. 390,931
1 Claim. (Cl. 200—81.6)



Apparatus comprising an enclosed chamber made of electrically insulating material containing a pool of electrically conductive liquid in the lower portion of said chamber, a fine-bore tube vertically disposed within the interior of said chamber, the lower end of said tube being open and immersed within said pool of liquid in the lower portion of said chamber such that upon immersion of said lower end of said tube within said pool the interior of the lower portion of said tube is occupied by said liquid, the other upper end of said fine-bore tube extending outside of said chamber, a first electrical contact provided within said chamber in the lower portion thereof and contacting said liquid, at least one electrical contact provided within the interior of said fine-bore tube above said first contact and disposed above the level of said liquid occupying the lower portion of siad tube, inlet means provided in said chamber for the introduction of a gas thereinto, said inlet means being positioned above the lower end of said tube and above the level of said liquid occupying the lower portion of said chamber and a horizontally disposed annular ring fixed to the interior of said chamber and positioned intermediate said inlet means and said lower end of said tube, said fine-bore tube passing through a central opening provided in said annular ring.

3,267,231
PRESSURE SWITCH AND RELIEF VALVE COMBINATION
James K. Douglas, Milwaukee, Wis., assignor to The Oilgear Company, Milwaukee, Wis.
Filed Dec. 31, 1964, Ser. No. 422,713
4 Claims. (Cl. 200—82)

1. A pressure switch in combination with a pilot operated relief valve operable to limit line pressure to different selected values:
the relief valve comprising a valve chamber having inlet and outlet ports and a valve member normally interrupting communication between said ports, said valve member comprising a differential area control piston forming an inlet pressure chamber at one end and a control pressure chamber at the other end of said valve chamber, a control spring urging the control piston against the inlet pressure toward valve closed position, and a first restriction passage interconnecting the opposite ends of the valve chamber for limiting the rate of flow of pressure fluid between the inlet pressure chamber and the control pressure chamber;
the pressure switch comprising a hydraulic cylinder with an electrical switch mounted on one end of the cylinder and being a precision micro-movement type having a movable contact, an actuator piston in said



cylinder for operating the switch, a spring normally holding the actuator piston toward the switch end of the cylinder for holding the switch closed, means selectively adjusting the stroke of the actuator piston necessary for opening the switch, and means connecting the upper end of said cylinder to the lower end of said valve chamber and connecting the lower end of said cylinder to the lower end of said valve chamber, said connecting means including a second flow restriction passage for conducting line pressure fluid at a limited rate to the switch end of said cylinder, whereby, said second flow restriction passage and said actuator piston stroke adjusting means provide adjustable time delay means for relating time of switch opening to the operation of the relief valve.

3,267,232
PRESSURE SWITCH HAVING POSITIVE ACTION RESET MEANS AND ADJUSTABLE LENGTH CONNECTION TO DIAPHRAGM
Howard R. Chapin, Park Ridge, Ill., assignor to Controls Company of America, Melrose Park, Ill., a corporation of Delaware
Filed June 30, 1964, Ser. No. 379,089
10 Claims. (Cl. 200—83)

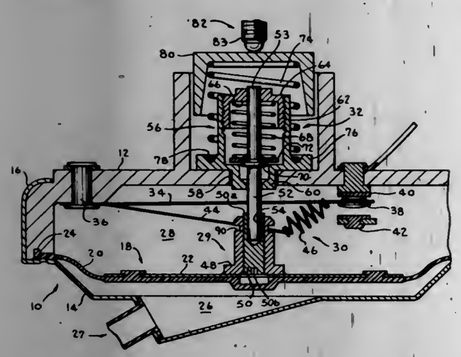
1. A pressure responsive switch mechanism comprising, in combination,
a housing,
a diaphragm separating said housing into a pressure chamber and a switch chamber,
switch means disposed in said switch chamber and having high and low pressure operating positions,
means for connecting said pressure chamber to a source of pressure so that said diaphragm moves in response to variations in pressure in said pressure chamber,
an actuator assembly connecting said switch means to said diaphragm and transmitting diaphragm movement to said switch means to move said switch means between said high and low pressure operating positions,

a hollow, elongated carrier disposed with its longitudinal axis parallel to the direction of movement of said diaphragm and having one of its longitudinal ends positioned in the path of movement of said actuator assembly for engagement thereby, said carrier also including an adjustable seat portion extending transversely of said longitudinal axis and means connecting said adjustable seat portion in said carrier for movement along said longitudinal axis to a predetermined fixed position in said carrier,

an elongated pin member arranged in said carrier along the longitudinal axis thereof and supported for axial movement with respect to said carrier and extending through said one longitudinal end of said carrier for engagement with said actuator assembly,

said actuator assembly including a first member fixed to said diaphragm and having a threaded opening therein and a second member threadedly engaged in the threaded opening of said first member and including a seat opening toward said carrier and having said pin member disposed therein,

a reset spring within said carrier having one end seated on said adjustable seat portion and extending therefrom toward said diaphragm with its opposite end seated on said pin member to bias said pin member into engagement with said actuator assembly and to oppose movement of said actuator assembly in response to an increase in pressure in said pressure chamber,



a cap member,

means supporting said cap member for adjustable movement relative to said diaphragm to assume a predetermined fixed position relative to said diaphragm,

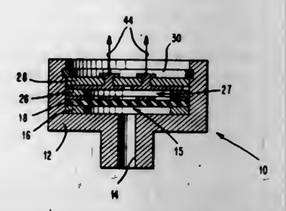
and a trip spring seated at one end on said carrier and at its opposite end on said cap member, said trip spring opposing movement of said carrier in response to an increase in pressure in said pressure chamber,

said carrier positioned to engage said housing to limit movement of said carrier in a direction toward said diaphragm and movable out of engagement with said housing in response to an increase in pressure in said pressure chamber and said actuator assembly being normally spaced from said carrier when said diaphragm is in a low pressure position so that said carrier remains stationary during initial movement of said diaphragm from said low pressure position in response to a pressure increase and only said reset spring opposes said initial diaphragm movement, said actuator assembly engaging said carrier after said initial movement to move said carrier and said reset spring as a unit against the force of said trip spring so that only said trip spring opposes movement of said diaphragm after said initial movement.

3,267,233
PNEUMATIC TRANSDUCER

Ernest R. Basile, Norristown, and Raymond E. Seymour, Ambler, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 31, 1964, Ser. No. 341,569
2 Claims. (Cl. 200—83)

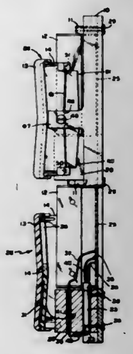


1. A switching device comprising a housing, a first metal laminated flexible membrane disposed within said housing to form a first chamber with said housing, a fluid inlet connected to said housing and leading into said first chamber, a second membrane metallized on both sides connected to form a second chamber within said housing between said first and second membranes, a solid insulator element having metal surfaces connected within said housing to form a third chamber with said second membrane, and means for applying fluid through said fluid inlet into said first chamber to cause said first membrane to be forced against said second member to cause a first switching action and subsequently to cause said second membrane to contact said solid insulator to cause a second switching action.

3,267,234
DUAL ACTION MAGNETIC SWITCH

Richard E. Stewart, Hartsdale, N.Y., and Hermann Schimpf, Fairfield, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed Feb. 1, 1965, Ser. No. 429,367
3 Claims. (Cl. 200—87)

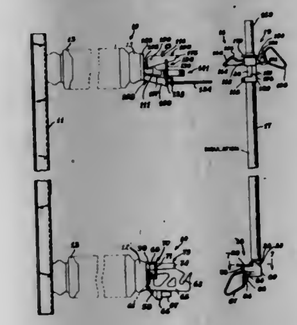


1. A magnetically actuated push type switch comprising a switch housing support, a bi-directional switch actuator pivotally mounted on said support and capable of bi-directional movement from a neutral position, means tending to hold said actuator in a neutral position, and to return it to the neutral position after it has been depressed and released, a first magnetically responsive reed switch, a second magnetically responsive reed switch spaced from said first switch, and a magnet connected to said actuator and positioned between said switches, and pivoted by movement of said actuator when one or the other end of said actuator is depressed, said magnet when in a neutral position being located so as not to influence the contacts of the reed switches when said actuator is in the neutral position, and so as to alter the contacts of one of the spaced switches as the magnet is pivoted contiguous to one of the switches by correspondingly depressing said actuator.

3,267,235
DROPOUT FUSE FOR HIGH VOLTAGE ELECTRIC POWER CIRCUITS

Henry J. Barta, Brookfield, Ill., assignor to S & C Electric Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 24, 1962, Ser. No. 232,845
10 Claims. (Cl. 200—114)



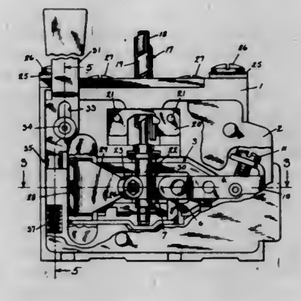
1. A dropout fuse construction comprising, in combination:
(a) upper and lower support bases,
(b) means mounting said support bases in insulated spaced relation,
(c) a dropout fuse tube having terminals at its ends interconnected by a fusible element that restrains a latch release member,
(d) means rotatably mounting the lower end of said fuse tube on said lower support base,
(e) means releasably latching the upper end of said fuse tube to said upper support base and arranged and adapted on blowing of said fusible element to be unlatched by said latch release member including:
(1) a latch pivotally mounted on said upper support base,
(2) means biasing said latch downwardly to latching position,
(3) a latch hook extending laterally from the upper end of said fuse tube,
(4) a non-fixed pivot roller having trunnions at its ends on said latch for latching engagement with said latch hook, and
(5) means on said latch defining slots at the ends of said roller in which said trunnions are held captive with a limited degree of freedom for translatory movement.

3,267,236
OVERLOAD RELAY WITH TAMPER PROOF RESET MECHANISM

Robert E. Walters, Bayside, and Gerd C. Boysen, Milwaukee, Wis., assignors to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Aug. 24, 1964, Ser. No. 391,636
7 Claims. (Cl. 200—116)

1. In an overload relay, the combination comprising: switch means movable between open and closed positions; a reset plunger reciprocable between extended and depressed positions; a first cam member mounted on and movable with the plunger and having a camming lobe with a relatively sharp crest; and a second cam member operatively connected to the switch and having a camming lobe with a relatively sharp crest that is disposed at an intermediate point in the path of travel of the first cam member with the plunger, movement of the plunger from extended toward depressed position causing the first cam member to move into a camming engagement with the second cam member in which the second cam member is

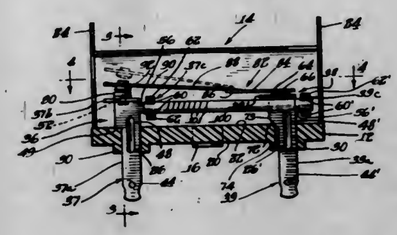


moved away from the first to move the switch toward closed position, the first cam member being adapted to ride over the second cam member to an overtravel position, closing of the switch occurring immediately prior to the point where the first cam member over-rides the second, there being means mounting at least one of the cam members so that upon a return of the first cam member from its overtravel position the first cam member can ride over the second cam member without actuating the switch means.

3,267,237
THERMOSTATIC SWITCH OF THE REMOTE RESETTING TYPE

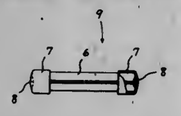
John R. Gelzer, Barrington, Ill., assignor to Littelfuse, Incorporated, Des Plaines, Ill., a corporation of Illinois

Filed June 18, 1964, Ser. No. 376,098
7 Claims. (Cl. 200—122)



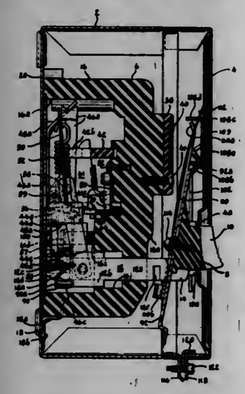
1. A thermostatic switch assembly comprising: an insulating base, spaced terminals secured to said base for connecting the switch in an electrical circuit, said terminals each having an open-ended clip physically and electrically connected thereto, a stationary contact carried by one of said terminals, an electrically conductive heat responsive bimetallic member carried by the other of said terminals and having a contact thereon normally engaging said stationary contact, and a heating element releasably held in the clips of said terminals and spaced from said bimetallic member, said heating element acting electro-thermally to maintain said contacts in an open position when an overload condition occurs in said electrical circuit.

3,267,238
ELECTRICAL FUSES
Hiroo Arikawa, Tokyo, and Fumitake Akiyama, Yokohama-shi, Japan, assignors to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed Aug. 17, 1964, Ser. No. 390,108
6 Claims. (Cl. 200—123)



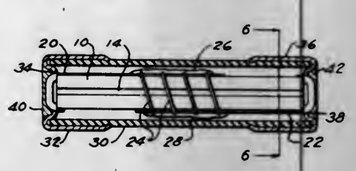
6. A time delay fuse comprising a pair of spaced terminals, a pair of conductors electrically connected to said terminals, one of said conductors being twisted about the other, one of said conductors being composed of a metal having a relatively low coefficient of thermal expansion on the order of 4×10^{-6} and a relatively high resistivity, and the other of said conductors being composed of a metal having a low electrical resistivity.

3,267,239
ELECTRICAL CONTROLLER
Uriel F. Carter, Wauwatosa, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Dec. 11, 1963, Ser. No. 329,750
7 Claims. (Cl. 200—124)



1. In combination, a housing, an electrical controller mounted in said housing and comprising switch contact mechanism including at least one set of spaced stationary contacts and a contactor normally biased into bridging engagement with said stationary contacts, a contactor operating member, a manual, two position, snap action mechanism, a pair of alternately reciprocably movable members one of which has permanent driving connections with said snap action mechanism and when moved inwardly of said housing causes said snap action mechanism to move to a position to drive said contactor operating member in a direction effecting disengagement of said contactor from said contacts, and the other reciprocably movable member having normally latched but spring biased interruptable driving connection with said snap action mechanism, said last mentioned reciprocably movable member when latched and moved inwardly of said housing effecting operation of said snap action mechanism to its other position wherein said contactor operating member is released thereby permitting engagement of said contactor with said contacts, and a current overload mechanism comprising a spring biased lever normally latched out of operative relation from said contactor operating member and means responsive to an overload condition to unlatch said lever to pivot under its bias and drive said contractor operator member in the direction affording disengagement of said contractor from said contacts, said lever in pivoting as aforestated also effecting unlatching of the last mentioned reciprocable movable member to break its driving conections with said snap action mechanism and permit it to move under its spring bias outwardly of said housing to a position affording overload trip indication.

3,267,240
PROTECTORS FOR ELECTRIC CIRCUITS
Thomas E. L. FitzGerald, St. Louis, Mo., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed July 22, 1963, Ser. No. 296,611
5 Claims. (Cl. 200—131)

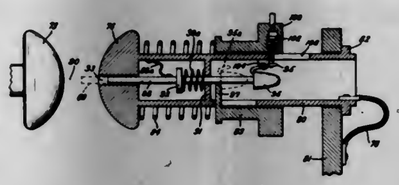


1. An electric fuse which comprises:
(a) terminals that are connectable into an electric circuit,
(b) a fusible element electrically connected to said terminals to conduct current between said terminals,
(c) said fusible element responding to overloads of predetermined magnitude and duration to fuse,
(d) a massive support of dielectric material that supports said fusible element and that absorbs heat from said fusible element,
(e) connectors connecting said fusible element to said terminals,
(f) said connectors being generally J-shaped,
(g) said support having a groove therein to accommodate the long arm of one of said connectors and to accommodate the short arm of a second of said connectors,
(h) said support having a second groove therein to accommodate the long arm of said second connector and to accommodate the short arm of said one connector,
(i) said support having a third groove intermediate the first said and said second grooves,
(j) said fusible element spanning said third groove.

3,267,241
MULTIPLE BREAK HIGH VOLTAGE CIRCUIT BREAKER WITH VARIABLE LENGTH GAP CONTROL MEANS
Walter R. Wilson, Wallingford, Pa., assignor to General Electric Company, a corporation of New York
Filed Oct. 5, 1964, Ser. No. 401,628
15 Claims. (Cl. 200—146)

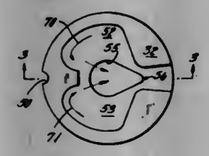
1. A high voltage circuit breaker comprising:
(a) a plurality of breaks electrically connected in series,
(b) means for holding said breaks in an open position when said circuit breaker is open,
(c) means for closing said breaks approximately simultaneously during a circuit breaker closing operation, said breaks being so controlled that the initial current path through said circuit breaker during a normal circuit breaker closing operation is through said breaks,
(d) means defining a plurality of variable length gaps respectively connected across said breaks,

(e) means for maintaining said gaps in an open position when said circuit breaker is open,
(f) insulation paralleling each of said breaks and its associated gap,
(g) gap control means for shortening each of said variable length gaps during a closing operation to a predetermined length wherein the gap upon reaching



said predetermined length has a lower breakdown voltage than is normally then present across any insulation paralleling said gap and its associated break,
(h) and means for causing said gap control means to shorten said gap to said predetermined length before any of said breaks is completely closed and before the break paralleled by a given gap has a breakdown voltage as low as that of said gap.

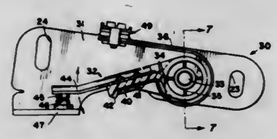
3,267,242
ARC SPLITTER PLATE DESIGN FOR OIL CIRCUIT BREAKER
Lorne D. McConnell, Sierra Madre, Calif., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 9, 1964, Ser. No. 350,268
6 Claims. (Cl. 200—150)



1. An arc splitter plate for the interrupter structure of an oil circuit breaker; said plate having a platform section and a rim section extending from said platform section; said platform section having a contact receiving opening therethrough; said rim section having an outlet opening therein, and a single inwardly projecting rib section on the side of said platform directly opposite said outlet opening; said rib defining two paths of flow for oil atop said platform from the said rib toward said opening and bounded by the inner walls of said rim.

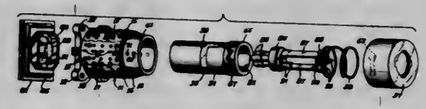
3,267,243
BREAKER ARM ASSEMBLY FOR A CONTACT SET
Gianni A. Dotto, Dayton, Ohio, assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Jan. 27, 1965, Ser. No. 428,360
5 Claims. (Cl. 200—166)

5. In an ignition breaker a two part breaker arm adapted to pivot about a splined shaft comprising: a molded nylon portion and a metal portion, said nylon portion including a webbed hub portion; a channel receiving a leaf spring, a channel receiving said metal portion, and a rubbing block; said metal portion riveted to said breaker arm, said rivets making contact between said spring and said metal portion; said metal portion having



a movable contact thereon; said webbed hub force fitted over said splined shaft thereby eliminating play in said breaker arm.

3,267,244
PUSHBUTTON OPERATED SWITCH HAVING RELATIVELY ROTATABLE CYLINDRICAL MEMBERS WITH ONE HAVING AN ELONGATED CONDUCTOR THEREON
Curtis J. Schultz, Elmhurst, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed May 15, 1964, Ser. No. 367,728
10 Claims. (Cl. 200—167)

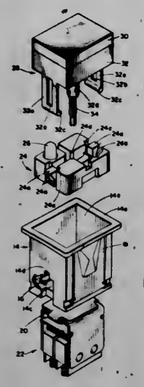


1. A multiple position switch including in combination, first and second insulating members having concentric complementary surfaces positioned adjacent to each other, a plurality of electrical contacts carried by said first member and spaced axially and circumferentially with respect to each other on said complementary surface of said first member, elongated electrical conductor means disposed on a portion of said complementary surface of said second member and insulated thereby, said first and second members being relatively rotatable with said conductor means successively engaging various predetermined angularly and circumferentially spaced ones of said contacts when aligned therewith, actuating means coupled to one of said first and second members for rotating said members relative to each other, thereby aligning said conductor means with predetermined combinations of said contacts for electrically interconnecting the same according to the operation of said actuating means.

3,267,245
ILLUMINATED PUSH BUTTON SWITCH RELAMPING ARRANGEMENT
James D. Vincent, Freeport, Ill., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 24, 1964, Ser. No. 391,701
6 Claims. (Cl. 200—167)

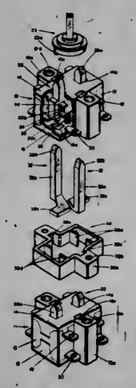
6. A relamping arrangement for an illuminated push button operated electrical switch device comprising: a housing having a switch mechanism associated therewith; a lamp block; and an illuminable push button member; said lamp block and said member associated together by first holding means including engageable elements on said lamp block and said member, the combination of said lamp block and said member disposable into and removable from said housing; upon disposing said combination into said housing an initial amount second holding means between said housing and said lamp block becoming effective whereby said lamp block is maintained in place with respect to said housing by said second holding means; upon further inward force being applied to said combination the elements of said first holding means

becoming disengaged and said member thereupon being moved relative to said housing and said lamp block to permit actuation of the switch mechanism associated



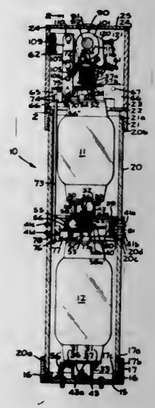
with said housing; upon removal of said member from said housing said second holding means becoming ineffective whereby said combination can be removed from said housing.

3,267,246
ACTUATING ARRANGEMENT FOR TANDEM DEVICES
Jerre V. Manning, Freeport, Ill., assignor to Honeywell Inc., a corporation of Delaware
Filed Mar. 23, 1964, Ser. No. 354,068
6 Claims. (Cl. 200—168)



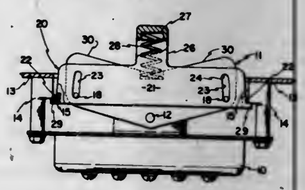
1. An actuating arrangement, the combination comprising: a first switch block and a second switch block each including a plurality of switch mechanisms therein each having an operating plunger associated therewith extending side by side and beyond said switch blocks to the same extent; said first switch block including a pair of openings disposed therethrough centrally between the plungers thereof and equally spaced on either side about a line connecting said plungers; said first switch block separated by a tubular spacer member from and located above said second switch block with the respective plungers in line and extending in the same direction; and said switch blocks and spacer member fastened together and associated with a pair of auxiliary L-shaped drivers the upright portions thereof disposed in the openings in said first switch block and extending therebeyond to the same extent as the plungers thereof and the leg portions thereof disposed within the spacer member and overlying the plungers of said second switch block so that a rotating cam member associated with the plungers of said first switch block and said drivers can move each of the plungers of said first switch block and said drivers independently of the others to operate each of said switch mechanisms separately.

3,267,247
VACUUM SWITCH
Hugh C. Ross, 11915 Shadybrook, Saratoga, Calif.
Filed July 15, 1963, Ser. No. 295,015
10 Claims. (Cl. 200—168)



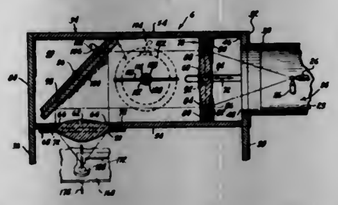
1. A switch comprising a housing, an electrical switch mounted in said housing, mechanical linkage for actuating said electrical switch, a pull spring connected to said linkage for activating the same to actuate said electrical switch, said pull spring being disposed at an angle relative to said linkage and adjustable on said linkage, a shaft mounted in said housing at an initial position, rotating means connected to said shaft for imparting rotary movement thereto from said initial position, means mounted on said shaft and connected to said pull spring for activating said linkage in response to the rotation of said shaft, and a return spring connected to said last-mentioned means and oppositely directed relative to said pull spring for returning said shaft to its initial position.

3,267,248
ROCKER SWITCH ACTUATOR
Robert L. Bagley, Placentia, Calif., assignor to North American Aviation, Inc.
Filed Dec. 31, 1964, Ser. No. 422,601
8 Claims. (Cl. 200—172)



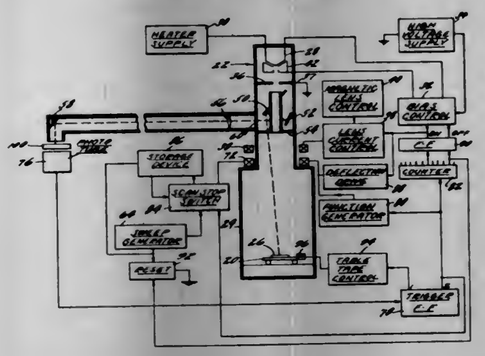
2. An actuator for a rocker switch comprising:
an open frame of a size to fit over the rocker of a rocker switch;
a bridge across said frame between two sides thereof; and
cams at each end of said frame for camming the rocker to a central position.

3,267,249
OPTICAL SOLDERING TECHNIQUE AND APPARATUS
George J. Veth, Ellicott City, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 26, 1963, Ser. No. 311,822
3 Claims. (Cl. 219—85)



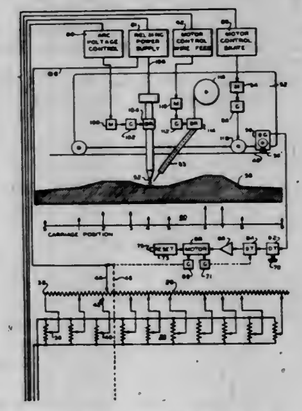
2. A method for making a soldered connection between an electrical lead and a printed circuit board, said board having a bore therethrough in the region of said connection through which said lead projects, comprising the steps of: mounting the circuit board in a jig with said lead projecting upwardly through said bore; placing an annular body of solder on said upwardly projecting lead and in engagement with the upper surface of said circuit board; focusing a high intensity, concentrated beam of radiant energy on said region for a length of time sufficient to effect melting of said annular body of solder and making of said connection, and, before focusing said high intensity beam on said region, reducing the intensity of said concentrated beam of visible radiant energy on said circuit board; and moving said circuit board to position said reduced intensity beam on said region.

3,267,250
ADAPTIVE POSITIONING DEVICE
Lee R. Ullery, Jr., Simsbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 19, 1963, Ser. No. 274,177
5 Claims. (Cl. 219—121)



1. Apparatus for working an article with an energized beam comprising:
means for generating an energized beam,
means for supporting an article to be worked generally in the path of said beam,
means for varying the energy content of said beam,
means for deflecting said beam,
means for focussing said beam at the article to be worked,
means connected to said deflecting means for causing said beam in a low energy state to scan the article to be worked,
means responsive to emission emanating from a point to be worked on the article during scanning with the low energy beam for generating a work initiation signal,
means applying said work initiation signal to said means for varying beam energy to cause a high energy beam to be generated when a point to be worked is scanned, and
means applying said work initiation signal to said means for causing the beam to scan to halt scanning when a point to be worked is scanned.

3,267,251
ELECTROMECHANICAL PROGRAMMING AND FUNCTION GENERATING SYSTEM
Nelson E. Anderson, deceased, late of Berkeley Heights, N.J., by Severa B. Anderson, administratrix, Berkeley Heights, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 13, 1963, Ser. No. 309,375
5 Claims. (Cl. 219—125)

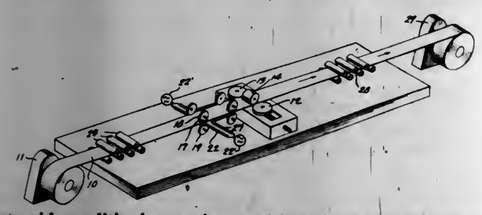


4. In programming the operation of a tool, an improved process comprising: applying respective selected voltages to a plurality of points along an extended potentiometer in accordance with a desired program, moving an interpolating contactor along said potentiometer while moving a tool to be controlled along an extended work path, coordinating the position of the interpolating contactor with the position of the tool, each along its respective path, and utilizing the voltage picked up by said interpolating contactor to determine an operating parameter of said tool for controlling the operation of said tool continuously along said work path.

3,267,252
EDGE CONDITIONING OF METAL STRIPS BY HIGH FREQUENCY RESISTANCE HEATING
Jack Morris, Monsey, N.Y., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 23, 1964, Ser. No. 420,573
10 Claims. (Cl. 219—152)

1. A method for conditioning the longitudinal edge of an elongated metal strip to remove irregularities therefrom and to reshape said edge to a desired configuration, said method comprising rapidly advancing said strip and bringing the edge thereof into contact with roller edge shaping means at an edge conditioning station, maintaining along on said edge of said strip at a heating station in advance of said edge conditioning station heating current of a frequency in the order of 100,000 cycles per second or higher, said current being conductively applied and

being concentrated to flow in a single path along on said edge of the strip, said current being sufficient to bring said edge to a temperature rendering the metal thereof plastic



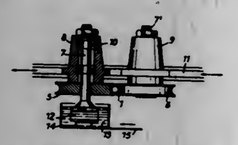
at said conditioning station, and bringing said strip edge into contact under pressure with said roller edge shaping means at said edge conditioning station whereby said edge assumes the configuration of said roller surface.

3,267,253

DEVICE FOR TREATING A PRODUCT IN CONTINUOUS MOVEMENT, SUCH AS A TUBE OR WIRE

Guy Jean Pierre Gueugnier, Paris, France, assignor, by mesne assignments, to Friedrich Kocks Firma, Dusseldorf, Germany

Filed June 4, 1963, Ser. No. 285,343
6 Claims. (Cl. 219—155)



1. A device for heating by the Joule effect an alongated electrically-conductive product in continuous movement, comprising: supporting means, at least one frame supported by said supporting means, bearings housed in said frame, a vertical electrically-conductive shaft rotatively mounted in said frame by means of said bearings, said shaft having a projecting portion outside said frame, an electrically-conductive roller secured to said projecting portion of said shaft for engaging said product, a mercury-containing tank arranged beneath said roller, means for leading electric current to the mercury of said mercury-containing tank, and dipping means immersed in the mercury for leading electric current to said roller through said projecting portion of said shaft.

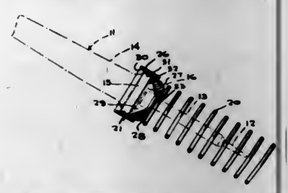
3,267,254

COMBINATION TRANSFORMER UNIT AND SOLDERING IRON STAND

Carl E. Weller and Donald R. Fegley, Easton, Pa., and Alden J. Brassaw, Phillipsburg, N.J., assignors to Weller Electric Corporation, Easton, Pa., a corporation of Pennsylvania

Filed Mar. 31, 1964, Ser. No. 356,252
6 Claims. (Cl. 219—242)

1. A supporting stand for electrically heated devices having an elongated work portion adapted to be electrically heated and a handle rigidly affixed thereto having a circular cross section end portion of large diameter than the work portion immediately adjacent the latter, the stand comprising a rigid base member having a flat bottom surface and a second flat surface portion, a subassembly for receiving the work portion of the electrically heated device and supporting the same along a selected upwardly inclined axis simulating the use attitude thereof and shielded against contact with exterior objects comprising a helical coil spring of greater axial length and diameter than said work portion having a mounted extension at the lower end thereof providing plural contact points lying in a single plane to be secured to said base member against said second flat surface portion and thereby position the coil spring about said upwardly inclined axis, and an annular collet member secured to the other end of said coil spring in coaxial alignment therewith having a constricted exit opening for passage therethrough



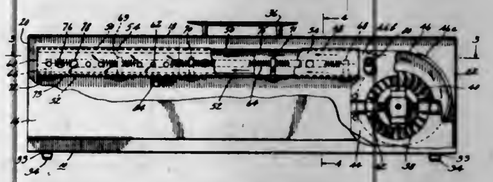
of said work portion into coaxial encircled relation in said coil spring and an enlarged well opening upwardly along said axis bounded by annular surfaces to receive and support said handle end portion in nested relation therein with said work portion positioned substantially along said axis and spaced out of contact with said coil spring.

3,267,255

FORCED AIR ELECTRIC BASEBOARD HEATER

Albert E. Schulz, Fairfield, Conn., assignor to General Electric Company, a corporation of New York

Filed Jan. 30, 1964, Ser. No. 341,215
8 Claims. (Cl. 219—370)



1. A forced air electric baseboard heater comprising: a horizontally elongated housing adapted to be positioned at the base of a wall; a centrifugal fan and electric motor therefor mounted in one end of said housing; a fan scroll positioned around said fan having an air inlet and an air outlet; an air inlet formed in said housing for permitting air to flow to said scroll air inlet; a horizontally elongated duct positioned in said housing having an end disposed adjacent said fan and connected to said scroll outlet; an elongated electric heating means positioned in said duct extending substantially the full length thereof; elongated air outlet means formed in said housing positioned adjacent to and parallel with said duct; and a plurality of spaced openings formed in said duct along the length thereof and positioned in direct communication with said housing air outlet; said openings having a predetermined total area relative to the air output of said fan to maintain a pressure differential above atmospheric in said duct throughout its full length, the area of said openings per unit length of said duct being greater in the portion thereof disposed adjacent the fan than in the portion adjacent the opposite end of said duct.

3,267,256

PORTABLE ELECTRIC HEATING DEVICE

Wendell S. Blanding, Painted Post, and James P. Hocker, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed June 22, 1962, Ser. No. 204,432
7 Claims. (Cl. 219—446)

1. A portable electric heating device comprising a housing of low thermal expansion dielectric material having a cooking utensil receiving surface, terminals for

application of electric power, timing means embodying a power cut-off switch, said timing means being operable in accordance with a predetermined schedule, first and second electrical heater means electrically connected in parallel for heating a medium to a predetermined first temperature and maintaining said first temperature for a predetermined first period of time and thereafter said second heater means maintaining a second temperature for a second period of time, said first heater means being electrically connected through said cut-off switch to said terminals, said second heater means being electrically connected to said terminals, a first thermostat having a cut-off temperature of substantially said first temperature, upon being preset for said first period of time said timing means immediately closing said power cut-off switch thereby energizing said first heater means, said timing means being controlled by said first thermostat so that after said medium has been heated to said first temperature said



timing means measure said predetermined first period of time, upon expiration of said first period of time said timing means opening said power cut-off switch de-energizing said first heater means, a second thermostat having a cut-off temperature higher than said first temperature, means for indicating completion of said first period of time, and dielectric, resilient, heat insulating material, said first and second thermostats being disposed in heat exchange relationship with said cooking utensil receiving surface of said housing, said heater means being disposed in heat exchange relationship with said cooking utensil receiving surface of said housing surrounding said first and second thermostats and spaced therefrom, said first heater means being controlled by said timing means and said first and second thermostats, said dielectric, resilient, heat insulating material being disposed within said housing adjacent said first and second thermostats and said first and second heater means.

3,267,257

AIRCRAFT BOMBSIGHTS

Geoffrey Arthur Shippey, Zurich, Switzerland, and Gordon Leslie Harper, Edinburgh, Scotland; said Shippey assignor to Ferranti Limited, Lancashire, England, a company of Great Britain and Northern Ireland

Filed March 13, 1962, Ser. No. 179,323
Claims priority, application Great Britain, Mar. 15, 1961, 9,571/61
5 Claims. (Cl. 235—61.5)

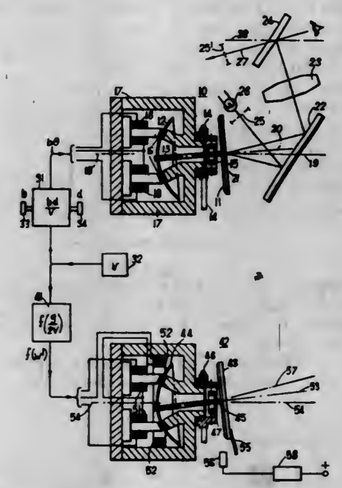
1. An aircraft bombsight for use in an aircraft having a known airspeed and for providing a desired duration of bomb flight including

(a) a sighting head for viewing the target against an aiming mark at an angle of sight line depressed from the flight line of the aircraft,

(b) pitch-rate measuring apparatus for continuously generating a smoothed measured quantity which is proportional to the pitch rate of the aircraft,

(c) computing apparatus for continuously generating a computed quantity proportional to the critical value of the pitch rate which, whilst the aircraft is following a curved diving course in the pitch plane such that said aiming mark is maintained in alignment with the target, corresponds to the correct instant for releasing the bomb so as to hit the target, and

(d) release apparatus connected to the measuring apparatus and the computing apparatus and arranged to supply a bomb release signal when the measured



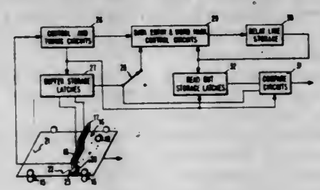
quantity so corresponds to the computed quantity whilst the aircraft is following said curved diving course that in operation the bomb is released at the correct instant.

3,267,258

MARK SCORING APPARATUS

Jack F. Bene, Rochester, Minn., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 23, 1963, Ser. No. 332,520
12 Claims. (Cl. 235—61.7)



9. In a machine for scoring data on a response document against data on a master document with said documents each having corresponding selectively markable rows of areas in which each mark in a said area is an information bit and a predetermined number of said areas in each said row compose a data word, apparatus comprising, in combination:

a plurality of transducer means for each said data word in a row with each said transducer means in said plurality arranged to simultaneously sense a predetermined one of said areas and provide an output bit signal upon sensing a said mark;

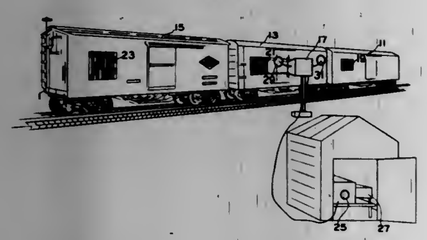
buffer storage means for each said transducer means in a said plurality for storing said bit signals;

means connected to said buffer storage means for concurrently gating the bit signals in said word from a said transducer plurality to the corresponding said buffer storage means;

delay line means for providing continuously recirculating storage for said bit signals in a word by word relation;

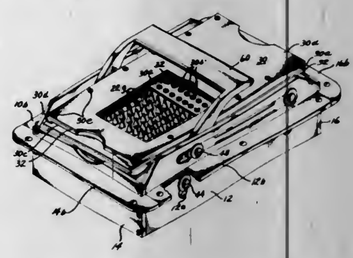
first control means operable in a first state during the sensing of said master document for serially transferring said bits from said buffer storage means to said delay line means, and operable in a second state during sensing of said response documents for blocking said bit signal transfer from said buffer storage means;
readout storage means for said delay line means adapted to store the bits of a said word;
second control means operable when said first control means is in said second state for transferring the bits of a predetermined word from said delay line means to said readout storage means; and
means connected between said buffer storage means and said readout storage means for comparing the data words stored in both said storage means bit by bit.

3,267,259
FREIGHT CAR IDENTIFICATION SYSTEM
Francis M. Bailey and Richard K. Davis, Roanoke, Va., assignors to General Electric Company, a corporation of New York
Filed Jan. 23, 1962, Ser. No. 168,167
10 Claims. (Cl. 235—61.11)



3. Apparatus for data communication from a moving object to a fixed location comprising:
(a) means on said moving object for presenting a predetermined pattern,
(b) reading means at said fixed location for reading said predetermined pattern and for deriving a start signal, data numbers, and an order signal from said predetermined pattern,
(c) storage means having a number of storage positions equal to the number of data numbers to be read by said reading means,
(d) control means responsive to said start signal for causing each data number read to be stored in the first storage position of said storage means,
(e) shift means responsive to the last read data number for shifting each data number to the succeeding position of said storage means,
(f) first counter means responsive to each shift to count the number of shifts and to produce a finish shift signal when the first data number read has been shifted to the last position of said storage means,
(g) said shift means responsive to said finish shift signal to stop shifting said data numbers,
(h) reverse shift means responsive to said order signal when said data numbers have been read into said storage means in a reverse order for shifting the data number in the last position to the first position and the data numbers in the other positions to the next succeeding positions,
(i) reverse shift counter means responsive to each reverse shift to count each reverse shift and to produce a reverse shift finish signal when said counter has counted to N—1 where N equals the number of positions in said storage means,
(j) read-out means responsive to said reverse shift finish signal to cause the data number in the last position of said storage means to be read out,
(k) said reverse shift means responsive to the read-out of the data number in the last position of said storage means for causing the data number in the last position to be shifted to the first position and the other data numbers to be shifted to the next succeeding positions of said storage means,
(l) and read-out counter means responsive to each reverse shift to count the number of reverse shifts and to cause the said read-out means to stop read-out when the last data number has been read out.

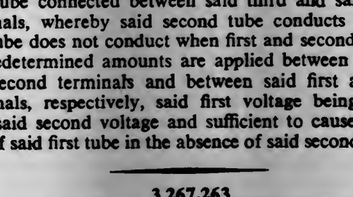
3,267,260
PUNCH CARD READ-OUT DEVICE
Edward S. Baker and Arthur B. Lum, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Feb. 21, 1962, Ser. No. 174,882
21 Claims. (Cl. 235—61.11)



8. A punch card read-out device comprising a plurality of reciprocative switch elements mounted in a substantially coplanar array, means individually yieldably biasing the switch elements, stop means normally limiting displacement of said elements under force of the biasing means, and reciprocative operating means for said switch elements including a punch card holder movable against the switch elements in a direction opposing the biasing means and operable thereby to displace selectively and positively against the biasing means those elements contacting solid areas of the punch card while passing those elements presented to punched areas of the punch card, and return means movable in drive relationship against the switch elements in a direction with the biasing means and operable thereby to displace the switch elements positively with the biasing means toward said stop means, said punch card holder and return means comprising two multiply apertured platens joined in spaced relationship to pass the switch elements through aligned apertures thereof, said stop means comprising a multiply apertured platen disposed between and spaced from said two platens to pass the switch elements through apertures therein, and said switch elements including stops thereon which are alternatively abutable against mutually adjacent faces of the stop means platen and the return means platen.

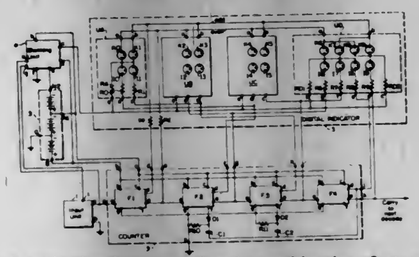
3,267,261
REPRODUCING DEVICE FOR CODED SIGNS
Jean Gilbert Claude Mincel, 7 Rue Leon Vaudoyer, and Pierre Jean-Baptiste Astier, 4 Rue Eugene Jumin, both of Paris, France
Filed July 24, 1962, Ser. No. 211,996
Claims priority, application France, July 27, 1961, 869,263
4 Claims. (Cl. 235—61.6)

1. An improved control device for a type-setting machine of the type machine in which keys of the keyboard are controlled by indications supplied by a tape having coded perforations and unwinding under a reading head comprising
pick-ups operatively connected to the keys of the keyboard with the number of said pick-ups being dependent on the perforation code and the actuation of said pick-ups resulting in the actuation of a key of the keyboard determined by the perforation code combination actuating said pick-ups,
a reading means to read the coded perforations of the tape,
means for directing and adapting the indications of the code received from said reading means in accordance with the number of said pick-ups,



electro-mechanical means for receiving the indications from said means for directing and adapting the indications of the code associated with each of said pick-ups in a manner to functionally actuate said pick-ups,
whereby there is reproduced electro-mechanically on said pick-ups the equivalent of the combination of perforations on the tape without the passage of the tape in contact with said pick-ups.

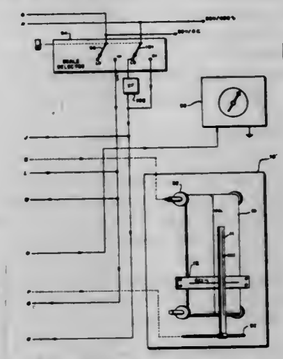
3,267,262
DIGITAL INDICATOR
Robert W. Stuart, Jr., Woburn, Mass., assignor to Computer Control Company, Incorporated, Framingham, Mass., a corporation of Delaware
Original application July 28, 1961, Ser. No. 127,690, now Patent No. 3,109,928, dated Nov. 5, 1963. Divided and this application Mar. 19, 1963, Ser. No. 266,279
11 Claims. (Cl. 235—92)



1. A logic circuit, comprising, in combination, first, second, third and fourth terminals, a first resistor connected between said first and fourth terminals, a first neon glow-tube connected in series between said second and said fourth terminals, and a second resistor and a second neon glow-tube connected between said third and said fourth terminals, whereby said second tube conducts and said first tube does not conduct when first and second voltages of predetermined amounts are applied between said first and second terminals and between said first and third terminals, respectively, said first voltage being smaller than said second voltage and sufficient to cause conduction of said first tube in the absence of said second voltage.

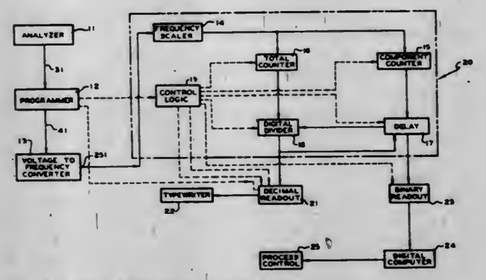
3,267,263
NAVIGATIONAL COMPUTER-DISPLAY APPARATUS
Carlton J. Nelson, Furlong, and Donald N. Spangenberg, Southampton, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed Nov. 29, 1962, Ser. No. 241,079
6 Claims. (Cl. 235—150.27)

6. A navigational computer-display apparatus for use in small aircraft comprising:
a map supported in the aircraft;
an index movable relative to said map for indicating the instantaneous ground position of the aircraft;
computing means having an output indicative of ground speed;
speed integrator means connected at its input to the output of said computing means and having an output operatively connected at its output to said map and index for moving one relative to the other in accordance with aircraft position;
translation means operatively connected to said integrator means for manually translating said map relative to said index irrespective of the output from said computing means;



speed corrector means operatively connected to said translation means for producing output indicative of the direction and amount of translation, said corrector output being operatively connected between said computing means and said speed integrator for accordingly modifying said computing means output signal, said speed corrector further including a plurality of factorial means for modifying the corrector output to approximate selected flight conditions;
whereby position and speed correction of the apparatus can be easily and quickly effectuated as often as desired and without interruption during all flight conditions.

3,267,264
ANALYSIS APPARATUS USING CONTROLLED LOGIC CIRCUITRY
Marvin C. Burk, Charles E. Jones, and Harold M. Neer, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Feb. 20, 1962, Ser. No. 174,489
8 Claims. (Cl. 235—151.35)



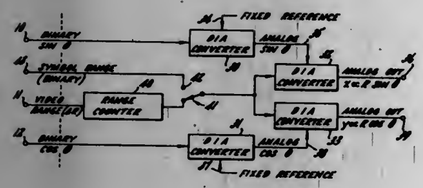
7. Analysis apparatus comprising:
(1) an analyzer adapted to provide a plurality of output voltages in sequence, each output voltage being representative of a respective component of the material being analyzed;

(2) means for converting each of the output voltages of said analyzer into a fluctuating output signal, each said fluctuating output signal comprising a series of pulses having a frequency which is proportional to the amplitude of the respective output voltage of said analyzer;

(3) computing apparatus comprising first and second counting means; means for applying all of the output signals of said means for converting to said first counting means to register a value proportional to the number of pulses in the total output of said means for converting; means for applying in sequence individual output signals from said means for converting to said second counting means to register a value proportional to the number of pulses in the respective output signal from said means for converting; and means for producing a plurality of percentage signals, each being representative of a respective one of the outputs of said second counting means as a percentage of the output of said first counting means; and

(4) recording means comprising, a third counting means; means for applying in sequence each of said percentage signals to an input of said third counting means; signal conversion means to produce an output which is suitable for controlling an automatic recording means; means for applying the output of said third counting means to an input of said signal conversion means; an automatic recording means; means for applying the output of said signal conversion means to an input of said automatic recording means.

3,267,265
RANDOM ACCESS INSTANTANEOUS DIGITAL-TO-ANALOG CO-ORDINATE CONVERTER
Alfred E. Popodi, Glen Burnie, and Charles L. Saunders, Severna Park, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 4, 1963, Ser. No. 314,079
5 Claims. (Cl. 235—154)



4. A random access digital-to-analog instantaneous co-ordinate converter comprising:

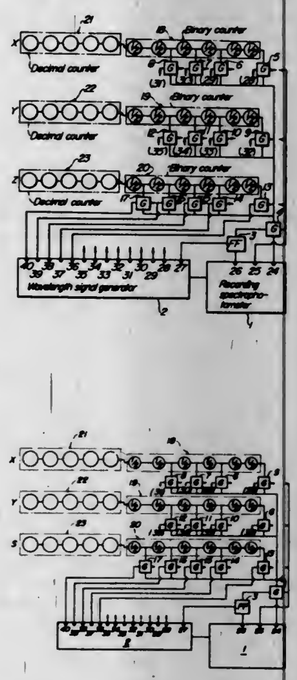
two pairs of digital-to-analog converters, each converter having two inputs and an output, the first pair of converters each having a fixed reference voltage coupled to one input thereof and the second pair of converters each having one of the inputs thereof coupled to the outputs of said first pair of converters, respectively;

a digital word, representative of the sin θ function of a target position with respect to a point of observation, applied to the second input of one of said converters of said first pair of converters to produce an analog voltage corresponding to said sin θ function on the output of said one converter;

a digital word, representative of the cos θ function of the target position with respect to the point of observation, applied to the second input of the other of said converters of said first pair of converters to produce an analog voltage corresponding to said cos θ function on the output of said other converter; and

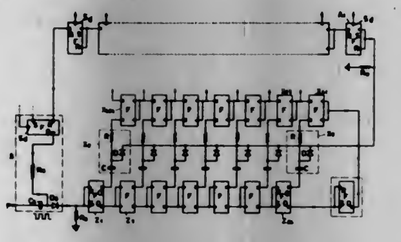
a range counter for counting out a digital word, representative of the range of the target from the point of observation, having its digital word output applied to the second inputs of said second pair of converters, in common, to produce analog voltages on the outputs of said second pair of converters of the range and sin θ function and of the range and cos θ function providing co-ordinate voltages of the target with respect to the point of observation.

3,267,266
AUTOMATIC COLORIMETRY CALCULATOR
Leo Mori, Tokyo, and Isamu Nikura, Hiratsuka-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Mar. 30, 1962, Ser. No. 183,389
Claims priority, application Japan, Apr. 1, 1961, 36/11,599
5 Claims. (Cl. 235—156)



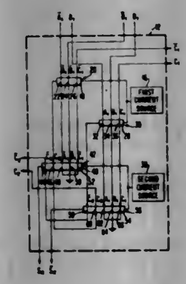
1. In an automatic spectrophotometer wherein a spectrophotometric value of a sample for each wavelength is represented by the proportional number of pulses in a pulse group repeatedly generated at a predetermined frequency, means for calculating the tristimulus values of said sample, comprising in combination first means for selecting one of said pulse groups for each of predetermined selected wavelengths, second means connected with said first means for multiplying different kinds of predetermined coefficients proportional to integral powers of ½ to said spectrophotometric values represented by said number of pulses, and third means connected to be supplied from said second means for integrating the output pulses of said second means.

3,267,267
DIGITAL ELECTRICAL CALCULATING APPARATUS
Gordon Albert Clark, Epsom Downs, England, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 2, 1963, Ser. No. 277,554
Claims priority, application Great Britain, May 4, 1962, 17,243/62
7 Claims. (Cl. 235—164)



1. Digital electrical calculating apparatus comprising a pulse input terminal for connection to a pulse source supplying a continuous train of pulses, a scaler having a plurality of stages in cascade, a start/stop gate connected between said pulse input terminal and an input terminal of said scaler, selector means for deriving a pulse from each of a number of selected scaler stages on the occurrence therein of any change of state other than a change constituting a carry and for combining said pulses, a counter for counting the latter pulses, and means for setting the start/stop gate to the stop condition in response to occurrence of a predetermined number in said counter or in said scaler whereby the supply of pulses to said scaler is stopped when said predetermined number is reached.

3,267,268
SUPERCONDUCTIVE BINARY FULL ADDERS
Jere L. Sanborn, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 26, 1961, Ser. No. 162,115
5 Claims. (Cl. 235—175)



5. An adder circuit comprising:

(A) means for producing a carry signal including

(a) a first current source,

(b) a first cryotron having first, second and third control conductors and a gate conductor having a terminal connected to said first current source.

(c) a second cryotron having first, second and third control conductors and a gate conductor having a terminal connected to said first current source,

(d) first, second and third pairs of input lines,

(e) means for connecting one line of said first pair of input lines to the first control conductor of said first cryotron and for connecting the other line of said first pair of input lines to the first control conductor of said second cryotron,

(f) means for connecting one line of said second pair of input lines to the second control conductor of the first cryotron and for connecting the other line of said second pair of input lines to the second control conductor of the second cryotron and

(g) means for connecting one line of said third pair of input lines to the third control conductor of the first cryotron and for connecting the other line of said third pair of input lines to the third control conductor of said second cryotron, whereby a carry signal is produced at the other terminal of the gate conductors of said first and second cryotrons,

(B) means for producing an intermediate signal including

(h) a second current source,

(i) a third cryotron having first, second and third control conductors and a gate conductor having a terminal connected to said second current source,

(j) a fourth cryotron having first, second and third conductors and a gate conductor having a terminal connected to said second current source,

(k) means for connecting the first control conductor of said third cryotron to the first control conductor of said second cryotron and for connecting said second and third control conductors of said third cryotron to said second and third control conductors, respectively, of said first cryotron and

(l) means for connecting the first control conductor of said fourth cryotron to the first control conductor of said first cryotron and for connecting the second and third control conductors of said fourth cryotron to the second and third control conductors, respectively, of said second cryotron, whereby an intermediate signal is produced at the other terminal of the gate conductors of said third and fourth cryotrons and

(C) means for producing a sum output signal including

(m) a third current source,

(n) a fifth cryotron having first, second and third control conductors and a gate conductor having a terminal connected to said third current source,

(o) a sixth cryotron having first, second and third control conductors and a gate conductor having a terminal connected to said third current source,

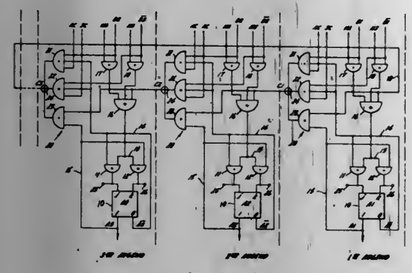
(p) means for connecting the first, second and third control conductors of the fifth cryotron to the first control conductor of the fourth cryotron, the other terminal of the gate conductor of the first cryotron and the other terminal of the gate conductor of the fourth cryotron, respectively, and

(q) means for connecting the first, second and third control conductors of the sixth cryotron to the first control conductor of the third cryotron, the other terminal of the gate conductor of the second cryotron and the other terminal of the gate conductor of the third cryotron, respectively, whereby a sum signal is produced at the other terminal of the gate conductors of said fifth and sixth cryotrons.

3,267,269
PARALLEL ADDER-SUBTRACTER WITH RIPPLE CARRY

Henry J. Cichanowicz, Galion, Ohio, and Robert W. Sharland, Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Mar. 5, 1963, Ser. No. 263,086
5 Claims. (Cl. 235—175)



1. A parallel adder-subtracter binary circuit of a plurality of augend register stages with ripple carry means, each stage comprising:

a bistable multivibrator having two inputs and two outputs, each input having a two input "and" gate coupled thereto, the two outputs of said multivibrator being cross coupled to one input of the two input "and" gates;

a pair of input "and" gates each having two inputs and one output, the outputs being coupled to a first "or" gate, the output of which "or" gate is coupled in common to the other inputs of the two "and" gate inputs to said bistable multivibrator, and one input of each input "and" gate adapted to receive binary signals from an addend register; and

a carry circuit including three carry "and" gates, two carry "and" gates of which have three inputs and one output and one carry "and" gate of which has two inputs and one output, the outputs being coupled in common to produce a carry "or" function, said two carry "and" gates each having a first input coupled with said one input of each input "and" gate and a second input of each coupled in common to one bistable multivibrator output, the third input of said two carry "and" gates adapted to be coupled to clock control pulses, and said third carry "and" gate of said carry circuit having one input coupled to the other bistable multivibrator output and the other input coupled to the carry circuit output of the preceding augend stage in common with a third input to said first "or" gate, the carry circuit input to the first augend stage being from the carry circuit output of the last augend stage whereby ripple carry through the augend stages is accomplished with the addition and subtraction of binary numbers.

3,267,270
APPARATUS FOR DETERMINING THE TRUE HEIGHT OF AN OBJECT ABOVE THE EARTH'S SURFACE

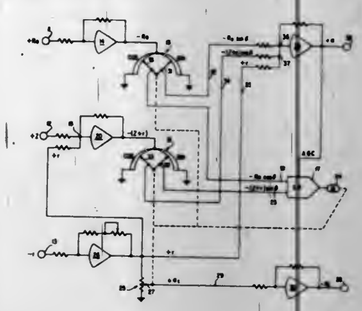
Thomas Z. Smidowicz, West Long Branch, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey

Filed Jan. 16, 1963, Ser. No. 251,967
4 Claims. (Cl. 235—186)

3. An apparatus for determining the earth curvature corrected height H of a target object above the earth's surface as sensed by a ground-based radar which supplies the uncorrected horizontal range Ro and height Z of the target object, assuming the radius of the earth r to be known, comprising:

(a) means for determining the value of the angle θ, sine θ and cosine θ, θ being the angle at the center of the earth between the radar and the target object, in accordance with the expression Ro cosine $\theta=(Z+r)$ sine θ,

(b) means for multiplying the quantity Ro by the sine of the angle θ,



(c) means for multiplying the quantity $(Z+r)$ by cosine of the angle θ,

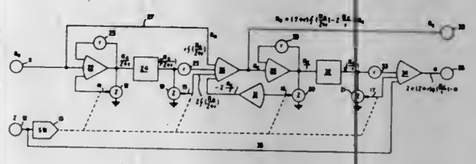
(d) means for adding the products Ro sine θ and $(Z+r)$ cosine θ, and

(e) means for subtracting r from the sum obtained from the adding means recited in sub-paragraph (d) to obtain the earth curvature corrected height H in cordance with the expression $H=Ro$ sine $\theta+(Z+r)$ cosine $\theta-r$.

3,267,271
APPARATUS FOR THE ANALOG COMPUTATION OF EARTH CURVATURE CORRECTION

William K. Kindle and Thomas Z. Smidowicz, West Long Branch, N.J., assignors to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey

Filed Jan. 16, 1963, Ser. No. 251,968
3 Claims. (Cl. 235—193)



3. An apparatus for computing the earth curvature corrected height H of a target object above the earth's surface as sensed by a ground-based radar which supplies the uncorrected horizontal range Ro and height Z of the target object, assuming the radius of the earth r to be known, comprising:

(a) means for computing the earth curvature corrected horizontal range Rc of the target object in accordance with the expression

$$Rc=Ro+(Z+r)f\left(\frac{Ro}{Z+r}\right)-\frac{ZRc}{r}$$

(b) means for dividing the quantity Rc by the quantity r,

(c) means connected to the dividing means recited in sub-paragraph (b) for generating a function

$$g\left(\frac{Rc}{r}\right)$$

in accordance with the expression

$$g\left(\frac{Rc}{r}\right)=\text{secant}\ \frac{Rc}{r}-1$$

(d) means for multiplying the quantity of r by the function

$$g\left(\frac{Rc}{r}\right)$$

obtained from the generating means recited in sub-paragraph (c),

(e) means for multiplying the quantity Z by the function

$$g\left(\frac{Rc}{r}\right)$$

obtained from the generating means recited in sub-paragraph (c), and

(f) means for adding the quantities Z,

$$rg\left(\frac{Rc}{r}\right)$$

and

$$Zg\left(\frac{Rc}{r}\right)$$

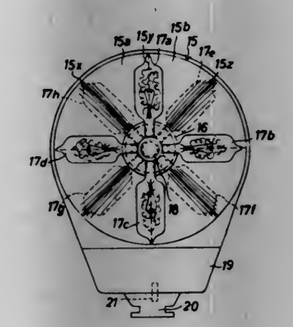
to obtain the earth curvature corrected height H in accordance with the expression

$$H=Z+(Z+r)g\left(\frac{Rc}{r}\right)$$

3,267,272
FLASH LAMP ASSEMBLY

Artur Fischer, Kreis Freudenstadt, Tumlingen, Black Forest, Germany

Filed Mar. 16, 1964, Ser. No. 351,912
Claims priority, application Germany, Mar. 15, 1963, F 39,252
12 Claims. (Cl. 240—1.3)

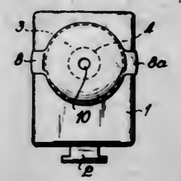


1. In a flash lamp assembly, in combination, a wall of corrugated configuration having opposed reflecting faces respectively provided with recesses which alternate with each other along said wall as a result of the corrugated configuration thereof; a plurality of lamp sockets which are located at said recesses for respectively supporting flash lamps in said recesses whereby each of the said recesses forms a reflector for a flash lamp situated within said recess, and means for supporting said wall and the sockets therewith, selectively, in a first position in which one of said reflecting faces of said wall faces in a predetermined direction and in a second position in which the other reflecting face of said wall faces in said predetermined direction.

3,267,273
PHOTOGRAPHIC FLASH DEVICE

Oskar Bihlmaier and Werner Otto Bar, Braunschweig, Germany, assignors to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany

Filed Sept. 23, 1964, Ser. No. 398,590
Claims priority, application Germany, Sept. 25, 1963, V 15,526
11 Claims. (Cl. 240—1.3)

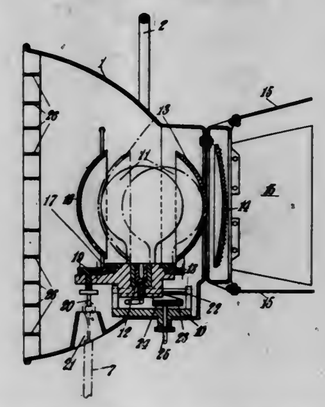


1. In a photographic flash device, a substantially rigid reflector having a front portion and a concave reflecting surface extending rearwardly from said front portion and defining a given space, a transparent protective plate having a bulging portion, and means carried in part by said reflector and in part by said plate for releasably fixing said plate to said reflector either in an inoperative position where said bulging portion of said plate extends into said space or in an operative position where said bulging portion of said plate extends upwardly from said front portion of said reflector.

3,267,274
TELEVISION AND FILM STUDIO LAMP

Samuel Lewis Johnson, London, England, assignor to Mole-Richardson (England) Limited, London, England, a British company

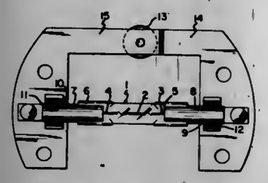
Filed Nov. 26, 1963, Ser. No. 325,923
Claims priority, application Great Britain, May 8, 1963, 18,239/63
5 Claims. (Cl. 240—3)



1. Studio lamp adaptable for use alternatively as a flood lamp or a spot lamp comprising a bowl reflector having an aperture in the back thereof, a lens close to the aperture in the back of the bowl and positioned to transmit light passing out of the bowl by way of the said aperture, a lamp holder for supporting a lamp bulb within the bowl reflector on the axis of the lens, a concave mirror on the opposite side of the bulb to the lens which directs light from the bulb towards the lens, a diffusing bowl and a movable support means for the diffusing bowl, the bowl being movable from a position between the lamp bulb and the lens, which it occupies when the lamp is adapted to be used as a flood lamp, to a position where the passage of

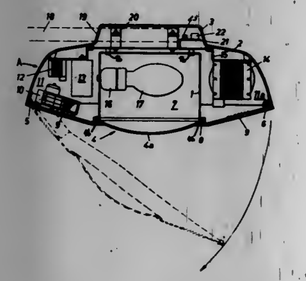
light from the concave mirror to the lens is unobstructed thereby, when the lamp is adapted to be used as a spot lamp.

3,267,275
INCANDESCENT LAMP AND FIXTURE
Ernest E. Kendall, Peabody, and Robert J. McIntyre, Gloucester, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Nov. 29, 1963, Ser. No. 326,860
6 Claims. (Cl. 240—11.2)



1. An incandescent lamp comprising: a tubular glass envelope having flat seals disposed at either end thereof; a filament disposed within said envelope; means to conduct current from outside of said envelope into said filament, said means including lead-in wires extending outwardly from said seals; a generally cylindrical metal connector disposed at one end of said sealed envelope and a second generally cylindrical metal connector disposed at the other end thereof, each of said connectors having slots into which said press seals fit; a groove formed in each of said first and second connectors and disposed on opposite sides thereof; said lead-in wires extending inside of said cylinders and attached thereto and in electrical conducting relationship therewith.

3,267,276
STREET LANTERN
Paul Hasler, Zurich, Switzerland, assignor to Novelectric AG., Zurich, Switzerland, a corporation of Switzerland
Filed Nov. 12, 1963, Ser. No. 322,776
Claims priority, application Switzerland, Nov. 20, 1962, 13,584/62
6 Claims. (Cl. 240—25)



1. Street lantern comprising a hollow outer globe member including an open end for the departure of light, a reflector arranged within said outer globe member, said outer globe member encircling said reflector in spaced relation to provide a flow passage externally of said reflector for the circulation of air for cooling said reflector, said outer globe member being symmetrically disposed with respect to said reflector, said reflector providing a lamp compartment, at least one lamp situated within said lamp compartment, said reflector surrounding said lamp in hood-like manner, electric circuit components for said lamp, at least a partially detachable cover member provided at said open end of said outer globe member, said cover member including a light transmissive central portion having marginal portions bearing in sealing manner against the outer extremities of said reflector in the closed position of said cover member to provide dustproof sealing of said lamp compartment formed by said reflector, said cover member being provided with slot means at both sides of said light transmissive central portion and outside the confines of said reflector, said slot means communicating with said flow passage for the circulation of air, and ventilator means located adjacent the slot means disposed at one side of said central portion for drawing air into said flow passage for cooling said reflector, said drawn-in air being unable to enter the lamp compartment of said reflector due to said dustproof sealing thereof.

3,267,277
GAS LANTERN
Marion R. McLamb, P.O. Box 262, Greenville, N.C.
Filed June 8, 1964, Ser. No. 373,406
7 Claims. (Cl. 240—26)

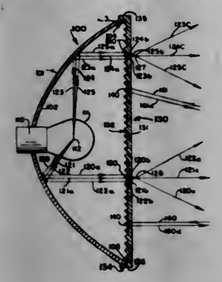


1. A lantern of the kind described comprising a tubular transparent shade, upper and lower end plates at the ends of said shade and means retaining said plates in sealed relation to said shade, each of said plates having an opening therethrough, a vertical flue pipe secured to the upper plate about the opening therein, an air inlet pipe including a body portion parallel and substantially coextensive with said flue pipe and a horizontal lower portion fixed about the opening in said lower plate, a gas supply pipe including a portion within said flue pipe and terminating at its lower end in a burner within said shade, the upper end portion of said gas supply pipe extending through the wall of said flue pipe and terminating in an outside stub portion, a bottle charged with liquid propane positioned parallel with said two first-mentioned pipes, clamp means extending about said flue pipe and including curved grip means for engagement with said bottle, said bottle including a valved cap and a conduit interconnecting said cap and the free end of said stub portion of the gas supply pipe.

3,267,278
LENS AND LENS ASSEMBLIES
Harold A. Doolittle, Park Ridge, Ill., assignor to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
Filed Feb. 24, 1965, Ser. No. 434,772
24 Claims. (Cl. 240—41.3)

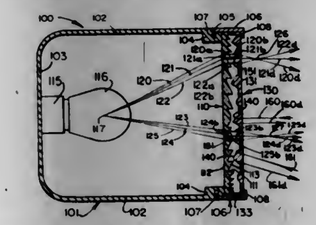
1. A lens for reflecting therefrom light falling upon one face thereof to reflect the light back toward the source thereof and for transmitting therethrough and focusing light falling upon the other face thereof to direct

the light into a predetermined pattern, said lens comprising a body of transparent material having a front face and a rear face, a plurality of retrodirective reflector elements on said body and substantially uniformly distributed throughout a predetermined area thereof, said reflector elements reflecting from said lens light falling upon said front face in said predetermined area for reflecting the light back toward the source thereof, and a plurality of light focusing optic elements on said body and substantially uniformly distributed throughout said predetermined area and substantially uniformly intermingled with said reflector elements, said optic elements



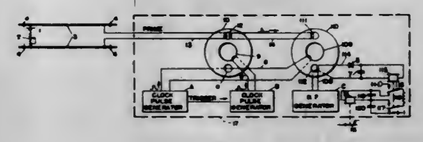
transmitting through said lens and focusing light falling upon said rear face for directing the light into a predetermined pattern, the major dimension of each of said reflector elements and each of said optic elements as viewed in said front face being no greater than about 0.175 inch, said predetermined area when viewed in said front face of said lens at a distance of about 50 feet appearing uniformly lighted throughout and of the same shape both when lighted by light falling on the front face thereof and when lighted by light falling on the rear face thereof.

3,267,279
LENS AND LENS ASSEMBLIES
Harold A. Doolittle, Park Ridge, Ill., assignor to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
Filed Apr. 1, 1965, Ser. No. 444,768
23 Claims. (Cl. 240—41.3)



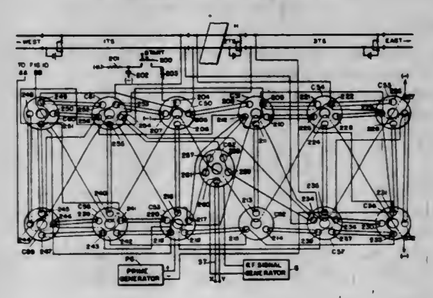
1. A lens for transmitting therethrough and focusing light falling upon one face thereof to direct the light into a predetermined pattern and for reflecting therefrom light falling upon the other face thereof to reflect the light back toward the source thereof, said lens comprising a body of transparent material having a front face and a rear face, a light focusing optic system on said body and substantially covering a predetermined area thereof, said optic system transmitting through said lens and focusing light falling upon said rear face for directing the light into a predetermined pattern, and a plurality of retrodirective reflector elements on said body and substantially uniformly distributed through said optic system in said predetermined area and substantially surrounded thereby, said reflector elements reflecting from said lens light falling upon said front face in said predetermined area for reflecting the light back toward the source thereof, adjacent ones of said reflector elements as viewed in said front face being spaced apart a distance no greater than about 0.175 inch, whereby when said predetermined area is viewed in said front face of said lens at a distance of about 50 feet it appears uniformly lighted throughout and of the same shape both when lighted by light falling upon the rear face thereof and when lighted by light falling upon the front face thereof.

3,267,280
TRACK CIRCUIT
Roger C. Buck, Rochester, N.Y., assignor to General Signal Corporation, a corporation of New York
Filed Sept. 7, 1962, Ser. No. 221,983
17 Claims. (Cl. 246—34)



1. In combination in a railway track circuit including track rails and a source of current connected to the rails, a ferrite core having a major aperture and at least two minor apertures, a first current pulse generator of constant frequency magnetically coupled to the core through the major aperture, a second current pulse generator of constant frequency magnetically coupled to the core through one minor aperture, means magnetically coupling the rails to the core through the other minor aperture, and output means magnetically coupled to the core through said other minor aperture and providing an output signal when the rails are unoccupied.

3,267,281
HIGHWAY CROSSING SYSTEM
Roger C. Buck, Rochester, N.Y., assignor to General Signal Corporation, a corporation of New York
Filed Sept. 10, 1962, Ser. No. 222,434
23 Claims. (Cl. 246—125)

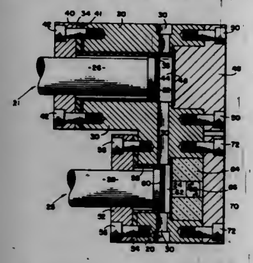


1. A highway crossing protection system comprising means for generating a plurality of signals indicative of the presence of a train on either side of a highway crossing, a network of ferrite cores, means utilizing the signals as priming currents for the network, means coupling a pair of clock generators to said network to provide signals for reading out pulses from the network, and relay means coupled to the output of the network for actuating warning means at the highway crossing upon deenergization, said relay means deenergizing upon the approach of a train at the highway crossing.

3,267,282
COMPENSATED NUCLEAR RADIATION FLUID ANALYZER

Gerald B. Zwetzig, Canoga Park, and Maurice V. Scherb, Woodland Hills, Calif., assignors to North American Aviation, Inc.

Filed May 22, 1962, Ser. No. 196,705
1 Claim. (Cl. 250—43.5)



A device for measuring the concentration of at least one element of high atomic number in a fluid of relatively low atomic number comprising a first and second source of radiation and a first and second radiation detector, said detectors being spaced from said sources, respectively, to form two channels of finite but different thickness; means for changing the thickness of one of said channels, said means for changing channel thickness including means for automatically changing the thickness of one channel in response to changes in the output of one of said detectors so as to maintain a predetermined relationship between the thicknesses of said two channels; means for passing a fluid through said channels, said radiation from said first source being readily attenuated by said high atomic number element, said radiation from said second source being essentially equally attenuated by said fluid and said high atomic number element, each of said detectors having an output proportional to the quantity of radiation passing through said fluid from its respective source; means responsive to said outputs for generating a signal indicating the concentration of said high atomic numbered element corrected for changes in density of said fluid; said fluid consisting primarily of two low atomic number elements; said predetermined relationship being defined as

$$\mu_2 t_2 - B t_1 = 0$$

where

μ_2=effective mass absorption coefficient for the radiation of said second source
t_2=thickness of one channel
t_1=thickness of the other channel

and

$$B=(R\mu_C+\mu_H)/(R+1)$$

where

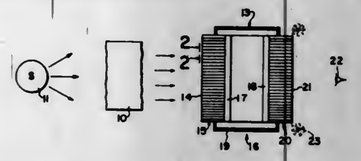
R=ratio of the weight fraction of elements of low atomic number, and
μ_C and μ_H are the mass absorption coefficients of the elements of said two low atomic weight elements of said fluid.

3,267,283
COLOR DISPLAY APPARATUS FOR IMAGES PRODUCED IN DIFFERENT FREQUENCY RANGES

Narinder S. Kapany, Woodside, Calif., assignor to Optics Technology, Inc., Belmont, Calif., a corporation of California

Filed June 4, 1964, Ser. No. 372,589
10 Claims. (Cl. 250—71)

1. A device for viewing an object comprising means for generating and directing radiation in an energy spectrum having energy components within at least two different frequency ranges onto an object, the frequency range of at least one of said energy components being outside the visible light frequency range viewing means adapted for viewing the energy received from said object, said viewing means having at least two viewing trains, each of said viewing trains operable to create visible light when excited by energy within only one of the frequency

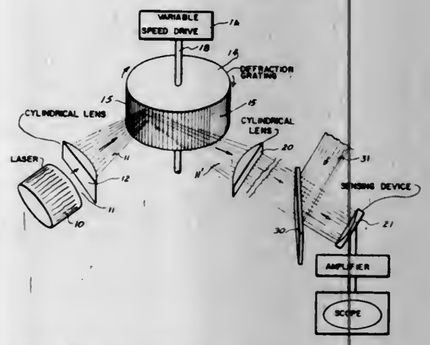


ranges, and means provided along each of said viewing trains for coloring the visible light created in said viewing train, each coloring means producing a colored light with a color different from the color of the colored light produced in the other coloring means in other viewing trains.

3,267,284
OPTIC WAVE MODULATION METHOD AND APPARATUS USING A ROTATING DIFFRACTION GRATING

Leo Mackta, 444 Beach 132nd St., Queens, N.Y.

Filed Dec. 26, 1963, Ser. No. 333,512
8 Claims. (Cl. 250—199)



1. Apparatus for shifting the frequency of a monochromatic light source, comprising: means to converge a mono-chromatic light beam, a rotative cylindrical reflecting diffracting element to diffract said converge beam of light and means to collimate such diffracted beam, said converging means converging said mono-chromatic light beam so that the center of curvature of its wave front coincides with the radius of curvature of said cylindrical diffracting element.

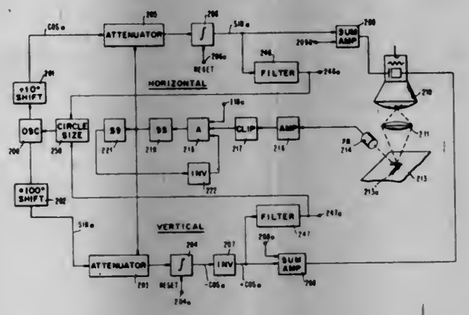
3,267,285
VARIABLE RESOLUTION CURVE FOLLOWING APPARATUS

Evon C. Greanias, Chappaqua, and Reini J. Norman and Philip F. Meagher, Mount Kisco, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Aug. 29, 1963, Ser. No. 305,254
5 Claims. (Cl. 250—202)

1. In a servo apparatus for cyclically following the configuration of a pattern sensed by a scanning beam of radiant energy animated in a series of overlapping circles to impinge on the pattern and produce a response for controlling the following action of the servo, and having means therein for producing time variant manifestations of the displacement of the radiant energy beam,

(a) means operative during a first cycle of operation of said servo apparatus and responsive to said time variant displacement manifestations for storing the maximum and minimum values of said manifestations;
(b) means operative during cycles of operation of said servo apparatus subsequent to said first cycle of operation for deriving a signal proportional to the difference of said stored maximum and minimum values of said manifestations;

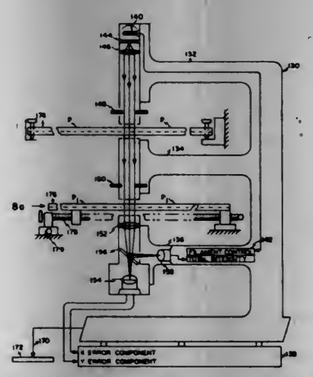


(c) and means responsive to the magnitude of said signal for controllably adjusting the size of the overlapping circles,
whereby the resolution of the scanning beam is adjusted in accordance with the size of the pattern being followed.

3,267,286
PHOTOELECTRIC STEREOPLOTTER USING A SINGLE LIGHT SOURCE

Knight V. Bailey, Allen Park, and Daniel C. Kowalski, Wyandotte, Mich., assignors to The Bendix Corporation, Southfield, Mich., a corporation of Delaware

Filed Mar. 28, 1962, Ser. No. 183,101
9 Claims. (Cl. 250—219)

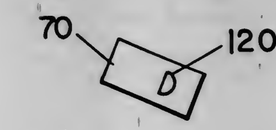


7. A stereo perception system comprising
light means to cause a spot of light to move in a predetermined pattern,
lens means to collimate the rays of said spot of light,
holding means to hold a pair of stereophotographic transparencies so that the collimated light rays are first modified by one stereophotographic transparency and then modified further by the second stereophotographic transparency so as to form a correlation peak when the collimated rays pass through identical portions of said transparencies,
detecting means to detect said correlation peak,
indicating means to indicate at what position of said moving spot of light said correlation peak occurs,
positioning means to move said stereophotographic transparencies relative to said light means and said detecting means to keep said correlation peak at a predetermined position on said detecting means,
said detecting means comprising,
a photomultiplier tube,
a peak detector for detecting and holding the maximum peak in a predetermined time period,
a mean squared detector for squaring the output of said photomultiplier tube,
a signal to noise detector which compares the outputs of peak detector and the mean squared detector and emits a signal only when the ratio is greater than a predetermined minimum.

3,267,287
ELECTRIC EYE LEVEL CONTROL

Walter Berthelsen, Quincy, Mass., assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass., a corporation of Massachusetts

Filed May 3, 1963, Ser. No. 277,755
12 Claims. (Cl. 250—222)



1. In apparatus for checking the level of material in successive containers open at the top, an electric eye level control unit comprising a light source and an electric eye angularly arranged in spaced relation above the containers, said light source directing its beam toward the inner face of a side wall of the open container to reflect light from the surface of the material adjacent said side wall, said electric eye being arranged relative to said side wall so that a light reflection of maximum size and intensity is visible to said electric eye when the level of the material is at a predetermined minimum level, the visible portion of said light reflection being substantially reduced in size and intensity by interference of said side wall when the level of the material is below said predetermined level.

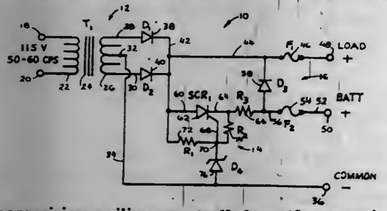
3,267,288
SYSTEM FOR FLOATING A BATTERY ON A LOAD LINE

Elmo E. Maiden, Clinton E. Maiden, and Mindaugas E. Gedgaudas, Canoga Park, Calif., assignors to Newmark Products, Inc., Norwalk, Calif., a corporation of California

Filed Oct. 20, 1964, Ser. No. 405,053
4 Claims. (Cl. 307—66)

1. An electric circuit adapted to be used with a battery and a source of conventional electric power to control electric current, said circuit comprising load connection means so that electrical loads can be connected in parallel to be supplied by said circuit, battery connection means so that a battery can be connected to said circuit to supply current to said load connection means, unidirectional electric current flow control means connected between

said battery connection means and said load connection means so that current can flow in only one direction from said battery connection means to said load connection means, rectifier means, having an input connection and an output connection, said rectifier means being connected at its output connection to said load connection means and being arranged to be connected at its input connection to the source of conventional electric power, electric current flow control means, said electric current flow control



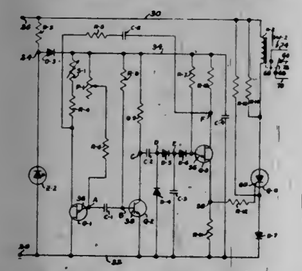
means comprising a silicon controlled rectifier and biasing means connected to said silicon controlled rectifier to bias said silicon controlled rectifier toward its conductive condition, said electric current flow control means being connected to said output connection of said rectifier means and to said battery connection means, said electric current flow control means being connected so that it permits flow of electric current only when the voltage at said battery connection means is below a predetermined value.

3,267,289

TIME DELAY APPARATUS

Harold Washington, Chicago, and James W. Hoekje, Wheaton, Ill., assignors, by mesne assignments, to Giannini-Voltex, Whittier, Calif., a corporation of California

Filed July 24, 1961, Ser. No. 126,043
3 Claims. (Cl. 307—88.5)



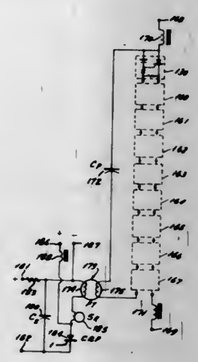
1. A time delay apparatus for providing an output a predetermined time after the application of a continuous input signal thereto for continuously providing said output so long as the input signal remains comprising, a pair of input terminals for receiving said input signal, voltage regulator means connected to said input terminals, a measured pulse oscillator connected in circuit with said terminals and with said voltage regulator, said oscillator being connected and arranged for operating continuously so long as there is an input connected to said input terminals, a frequency divider connected to said voltage regulator and having a charging capacitor therein, the charge of said capacitor being controlled by the output of said measured pulse oscillator whereby said capacitor charges in increments the duration and frequency of which are controlled by said oscillator, a pulse generator normally inoperative and adapted to be triggered to operative condition when the charge of said capacitor has reached a predetermined value, an output circuit driven by the said pulse generator and being adapted to provide the above mentioned continuous output, wherein said normally inoperative generator comprises a unijunction transistor biased normally to non-conduction and having an emitter electrode connected with said frequency divider to be affected by the charge on said capacitor in which there is a boost circuit connected between said measured pulse oscillator and pulse generator providing a continuous negative potential pulse to said unijunction transistor to reduce the amount of current required to render said unijunction transistor conductive.

3,267,290

SERIES CONNECTED CONTROLLED RECTIFIERS FIRED BY PARTICULAR-PULSE GENERATING CIRCUIT

Edward J. Diebold, Palos Verdes Estates, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed Nov. 5, 1962, Ser. No. 235,318
19 Claims. (Cl. 307—88.5)



1. A firing system for a plurality of series connected controlled rectifiers; each of said controlled rectifiers having an anode-cathode circuit, a gate-cathode circuit and an anode, cathode and gate terminals; said anode-cathode circuit terminating at said anode and cathode terminals respectively; said gate-cathode circuit terminating at said gate and cathode terminals respectively; each of said plurality of series connected controlled rectifiers having a parallel connected resistor and a parallel connected capacitor in their anode-cathode circuit for distributing steady state and transient voltages between said plurality of series connected controlled rectifiers; and a pulse generating circuit connected to the gate-cathode circuit of each of said plurality of controlled rectifiers; said pulse generating circuit generating pulses to fire each of said rectifiers having a magnitude of at least 100 times the minimum magnitude of current required to fire any one of said plurality of controlled rectifiers; and a duration less than the length of time required to turn on any of said controlled rectifiers.

3,267,291

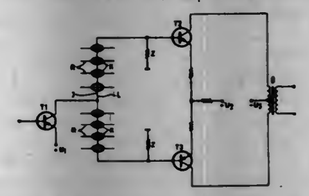
CIRCUIT ARRANGEMENT FOR MATRIX STORERS WITH LINEAR TRIGGERING

Edgar Heimbach, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a German corporation

Filed Mar. 18, 1963, Ser. No. 265,964
Claims priority, application Germany, Mar. 27, 1962, S 78,687
4 Claims. (Cl. 307—88.5)

1. A circuit arrangement for a matrix storer with linear triggering, especially a magnet core matrix storer, comprising a plurality of magnet cores, and information line

for said storer passing through respective groups of said cores, provided with a center tap to which are conducted information pulses which are to be stored, a differential



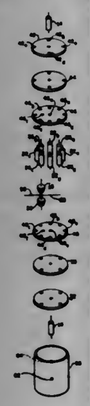
amplifier having two inputs, and means for connecting said inputs to the ends of the line serving as a reading line.

3,267,292

INDUCTANCE COMPENSATING STRUCTURE

Wallace J. Dunnet, Southboro, Mass., Alwyn C. Scott, Madison, Wis., and Raynor W. Taylor, Newton Highlands, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Apr. 15, 1963, Ser. No. 273,218
8 Claims. (Cl. 307—88.5)



7. For an electronic circuit having two tunnel diodes in adjacent loops, and first and second conductors each containing resistance and parasitic inductance, a physical arrangement comprising: a thin annular cylinder; a first resistor component representing said first conductor and comprising a resistive material deposited on the inner surface of said thin annular cylinder; and a second resistor component representing said second conductor and comprising a resistive material deposited on the outer surface of said thin annular cylinder, whereby, due to the mutual inductance between said first and second resistor components, a current flow in one of said resistor components induces a voltage into the other resistor component tending to cancel the voltage induced into said other resistor component because of its parasitic inductance.

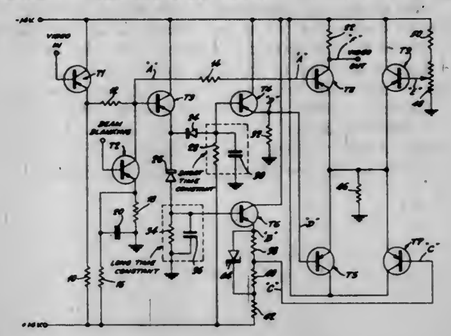
3,267,293

CHARACTER RECOGNITION CIRCUIT

Virgil A. Hinds, Farmers Branch, Tex., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 25, 1963, Ser. No. 275,587
11 Claims. (Cl. 307—88.5)

1. A video amplifying circuit comprising, a plurality of transistor stages each including a transistor having base, emitter and collector electrodes, a first transistor stage for receiving signals on the base of the transistor included in said first stage, a transistor output stage coupled to the emitter of said transistor of said first stage, a first controlling network coupled between the emitter of said transistor of said first stage and said transistor of said out-



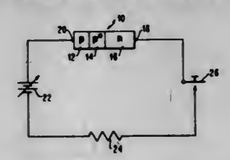
put stage, a second controlling network coupled in parallel to said first controlling network, source means connected to the collectors of each of said transistors and an output terminal coupled to said transistor of said output stage, said controlling networks effective to permit amplification of certain portions of the received signals.

3,267,294

SOLID STATE LIGHT EMISSIVE DIODES HAVING NEGATIVE RESISTANCE CHARACTERISTICS

William P. Dumke, Chappaqua, Ralph S. Levitt, Ossining, and Kurt Weiser, Millwood, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 26, 1963, Ser. No. 326,114
7 Claims. (Cl. 307—88.5)



1. An electroluminescent diode having a negative resistance characteristic comprising three active regions in a host semiconductor body,
a first region being of low resistivity and having shallow level acceptor impurities therein,
a second region contiguous to said first region of high resistivity having a deep level acceptor impurity material therein, said deep level acceptor impurity being characterized by having an ionization potential at least twice that of said shallow level acceptor impurity,
a third region contiguous to said second region having low resistivity and having suitable donor impurity material therein, and
means for making ohmic contact to said first and third regions.

3,267,295

LOGIC CIRCUITS

Borys Zuk, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Apr. 13, 1964, Ser. No. 359,139
16 Claims. (Cl. 307—88.5)

1. The combination comprising:
first and second output terminals;
first and second semiconductor amplifying devices of one conductivity type and a third semiconductor am-

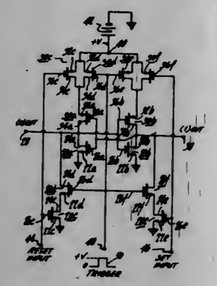
plifying device of the opposite conductivity type, each of the devices having first and second electrodes defining a conduction path, and a control electrode for controlling the conductivity of the path;

means connecting the second electrode of the first device to the first electrode of the second device;

means connecting the second electrode of the second device and the second electrode of the third device to each other and to the first output terminal;

fourth and fifth semiconductor amplifying devices of the first conductivity type and a sixth semiconductor amplifying device of the opposite conductivity type;

means connecting the second electrode of the fourth device to the first electrode of the fifth device;



means connecting the second electrodes of the fifth and sixth devices to each other and to the second output terminal;

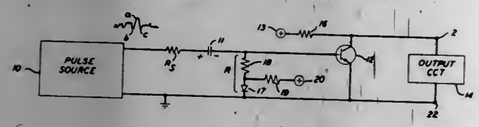
means for applying input signals from a first source at the control electrode of the third device and at the control electrode of one of the first and second devices;

means for applying input signals from a second source at the control electrode of the sixth device and at the control electrode of one of the fourth and fifth devices;

means for applying input signals from a third source at the control electrode of the other one of the first and second devices and at the other one of the fourth and fifth devices; and

means for applying operating potential between the first electrodes of the first and third devices, and between the first electrodes of the fourth and sixth devices.

3,267,296
SELF-BIASED THRESHOLD CIRCUIT
Peter S. Fuss, Randolph Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 20, 1964, Ser. No. 383,995
2 Claims. (Cl. 307—88.5)



1. In combination,

a source of pulses of variable average magnitude, each said pulse having a sloping leading edge and at least some of said pulses having associated noise skirts,

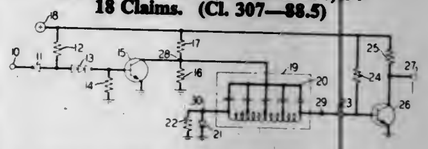
a capacitor,

a transistor having base, emitter, and collector electrodes, said base and emitter electrodes having a threshold of conduction at a predetermined voltage and being connected in series with said capacitor to receive pulses from said source for charging said capacitor, said transistor being normally nonconducting in the absence of an input pulse of greater magnitude than the charge voltage on said capacitor,

resistance means connected to shunt said base and emitter electrodes for discharging said capacitor, said resistance means including bias means for offsetting said predetermined voltage, the magnitude of said resistance means being proportioned with respect to the magnitude of said capacitor to dissipate between successive ones of said pulses a substantial proportion of the charge accumulated on said capacitor during a pulse, said proportion being adapted so that said charge voltage is at least equal to the magnitude of said noise skirts but less than the magnitude of the smallest one of said pulses, and

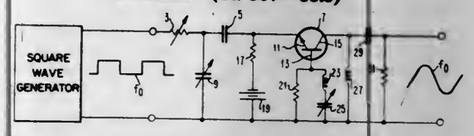
an output circuit connected between said collector and emitter electrodes.

3,267,297
DELAY LINE TIMED PULSE GENERATOR
Gilbert A. Van Dine, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 22, 1964, Ser. No. 384,497
18 Claims. (Cl. 307—88.5)



1. A delayed pulse generator comprising a transistor having an input electrode, an output electrode and a common electrode, means for connecting said common electrode to a reference potential, means for normally biasing said transistor into conduction, a delay line, input means for delivering pulses of a duration of at least twice the one-way propagation time of said delay line, said delay line having its common terminal connected to said input means, first diode means having one terminal connected to one end of said delay line with the other terminal thereof connected to reference potential, and second diode means having one terminal connected to the other end of said delay line and the other terminal thereof connected to said input electrode with the diode means and the input-common electrode path of said transistor connected in series opposition, the poling of the first diode means with respect to said delay line being opposite that of the second diode means.

3,267,298
WAVEFORM CONVERTER
Dale H. Rumble, Saugerties, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Nov. 25, 1964, Ser. No. 413,741
6 Claims. (Cl. 307—88.5)



1. A circuit for converting a square waveform having a specified fundamental frequency to a sinusoidal waveform of the same specified fundamental frequency, said circuit comprising:

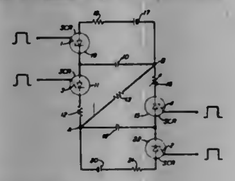
a square wave signal source supplying the square waveform to be converted; a transistor having base, emitter, and collector electrodes, said emitter electrode being connected to said square wave signal source;

frequency-dependent impedance means, said impedance means being connected to said base electrode and exhibiting low impedance to signals of said specified fundamental frequency and to low order harmonics of said specified fundamental frequency, and exhibiting high impedance to other signals;

transistor biasing means including a voltage source connected between said emitter electrode and said impedance means for biasing said transistor into conduction; and

output circuit means connected between said collector electrode and said frequency-dependent impedance means for providing said sinusoidal waveform.

3,267,299
PULSE GENERATOR
Dirk J. Bartelink, Westfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 10, 1964, Ser. No. 350,808
12 Claims. (Cl. 307—109)



12. A pulse generator comprising:

a common output load circuit;

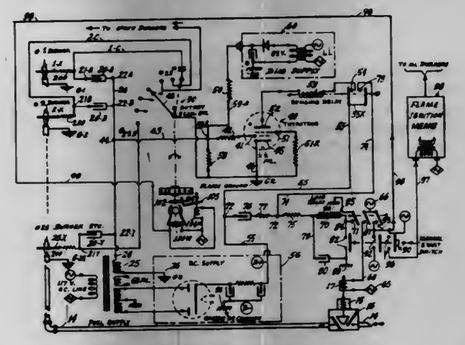
a first current source connected to pass a pulse of current through said load circuit in one direction during a prescribed interval of time;

a second current source connected to pass a substantially identical pulse of current through said load circuit in the opposite direction;

means for initiating current flow from said first source at a given time;

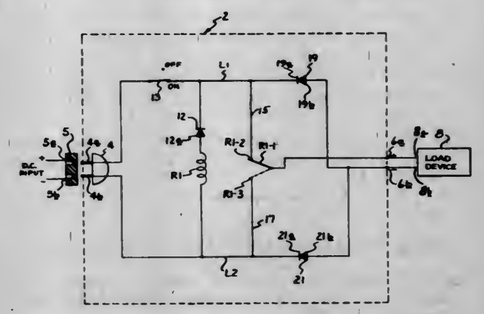
and means for initiating current flow from said second source at a time later than said given time but during the interval of time for which the pulse of current from said first current source passes through said load circuit.

3,267,300
FLAME SUPERVISORY SYSTEM
Ronald F. Plambeck, Chicago, Ill., assignor to Protection Controls, Inc., Skokie, Ill., a corporation of Illinois
Filed Sept. 30, 1963, Ser. No. 312,680
10 Claims. (Cl. 307—117)



7. In a monitoring system, a plurality of functional devices to be monitored, means controlled by operation of said devices providing a D.C. signalling potential only so long as said devices are operating in a predetermined required manner; a monitoring capacitor for each said device and connected therewith to be charged by the corresponding said signalling potential; scanning switch means including a monitoring contact connected with each said monitoring capacitor and a scanning contactor movable in scanning cycles and operable to engage each monitoring contact in succession in each said cycle to complete a momentary test circuit with each said capacitor for the purpose of testing each appertaining functional device during each such scanning cycle; a supervisory electron control device having first and second operating conditions and adapted to be actuated from one said condition to the other by means of a triggering potential of predetermined minimum value applied thereto from any of said monitoring capacitors; circuit means connecting said scanning switch means with said supervisory control device to apply in succession thereto the existing charge on each said monitoring capacitor by scanning operation thereof whereby to actuate the supervisory control device in rapid sequence from the first condition to the second condition; means actuated by the supervisory control device in the second condition thereof for automatically restoring the switch to said first condition; an electrically-controlled master switch means connected with said supervisory control device to be actuated by the latter in a particular condition provided said supervisory control device is operated in its said first condition, and to be operated in a different condition provided the supervisory control device is operated in its said second operative condition; and a holding circuit means connecting with said master switch means and operative to maintain the latter in said particular operative condition for a predetermined minimum time notwithstanding failure of operation of the supervisory control device in the second of its operative conditions during said minimum time, whereby the change of operative condition of the supervisory control device from first to second condition must persist for the time before the master switch means will change from its said particular to its different operative condition.

3,267,301
DIRECT CURRENT POLARITY CONTROL CIRCUIT
Roy G. Gignac, Roselle, Ill., assignor to Electronic Components Corporation, Addison, Ill., a corporation of Illinois
Filed Dec. 16, 1963, Ser. No. 330,892
2 Claims. (Cl. 307—127)



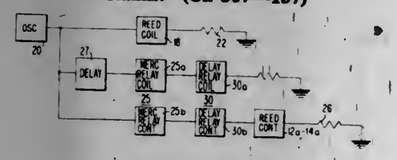
1. A direct current polarity control circuit connected between a first and a second direct current input terminal across which a direct current voltage source is to be connected in a random fashion, so that the input terminals may have either one of two relative polarities, and a first and a second load terminal across which a direct current voltage is to be applied having a consistent relative polarity, said circuit comprising: a relay and a first rectifier

connected in series across said input terminals for effecting the energizing for said relay when said input terminals have a first relative polarity and the de-energizing of said relay when said terminals have the opposite polarity, said relay having a movable contact connected to said first load terminal and a first and a second stationary contact respectively connected to said first and second input terminals, said movable contact being connected to said first stationary contact when said relay is de-energized and to said second stationary contact when said relay is energized, a second rectifier connected between said second load terminal and said second input terminal for coupling the direct current input voltage to said load terminals when the relay is de-energized, and for decoupling the input voltage from the load terminals when said input terminals have said first relative polarity, and a third rectifier connected between said second load terminal and said first input terminal for coupling the voltage of said input terminals to said load terminals when said relay is energized and for decoupling the input voltage from said load terminals when the voltage across said input terminals has said opposite polarity.

3,267,302
APPARATUS AND METHOD OF CONTACT CONDITIONING

Arthur C. Breiner, Burlington, and Ernest G. Sartelle, Essex Junction, Vt., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 18, 1963, Ser. No. 331,463
7 Claims. (Cl. 307—137)



7. In a method of pre-conditioning diffused gold contact surfaces of a pair of nickel-iron alloy contacts in a sealed reed switch as a part of the manufacturing process, the steps comprising,

(a) placing an operating winding about the reed switch,

(b) connecting the operating winding to a 100 cycles per second pulse source to repeatedly close and open said contacts,

(c) connecting the contacts in circuit with switch means and the pulse source to repeatedly complete a circuit through the contacts for permitting a current of five amperes to flow for 250 microseconds before interruption by opening of the reed switch contacts, and

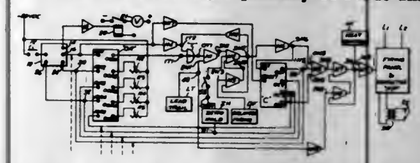
(d) interrupting the circuit through the switch means and reed switch contacts at the end of a one second interval.

3,267,303
SOLID STATE SEQUENCING AND TIMING CIRCUIT

Charles F. Meyer and James J. Eckl, Milwaukee, Wis., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed May 1, 1963, Ser. No. 277,189
18 Claims. (Cl. 307—141)

8. In a resistance welder control, the combination comprising; a single timer including a NOR memory and a timing capacitor arranged for supplying a switching signal to the memory whenever a charge on the capacitor exceeds a predetermined value and including means for discharging the capacitor and resetting the memory in response to a reset signal, said timer also having an output terminal in circuit with the NOR memory and a terminal in circuit with the capacitor, a first NOR having an input connected to the output terminal of the timer, a lead trail module having an output connected to a second input of said first NOR, said lead trail module being arranged to supply a signal change for switching said first NOR at the end of each half cycle of one polarity of an alternating voltage supply, a second and a third NOR connected as a NOR memory with the second of said NORS having an input connected to an output of the first NOR and the third of NORS having an input terminal and an output terminal, a delayed firing module having an output connected to the input of the third NOR and arranged for supplying a predetermined instant during each half cycle of an alternating voltage source which is opposite in polarity of the half cycle during which the lead trail module supplies a signal change, a plurality of adjustable resistors equal in number to the periods of operation to be sequentially timed by the resistance welder control, a counter having an input terminal connected to the output terminal of the third NOR and having a plurality of NOR units ar-

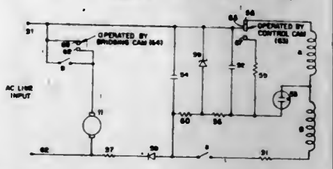


ranged to be switched in response to changes in the output signal of the third NOR by the delayed timing module to provide different combinations of output signals at output terminals of the counter which combinations are equal in number to the number of resistors and change at the instant of switching of said third NOR, an "OR" circuit means connecting the timer, the resistors and counter in circuit with each other and arranged so the capacitor is charged through the resistors in a sequence determined by the combination of signals of the counter and through only one of said resistors during an interval determined by the timer, circuit means responsive to the change in output signal from said second NOR by the lead trail module for supplying the timer with a signal for resetting the NOR memory and discharging the capacitor within the timer at the instant of occurrence of the output signal change of the second NOR by the lead trail module whereby the timer is reset during the half cycle preceding the switching of the counter, and a weld firing means having inputs connected to the output signals of the counter, the lead trail module and the second NOR for controlling the flow of welding current through a welding transformer in response to signals to its inputs.

3,267,304
ADJUSTABLE INTERVAL TIME SWITCH DEVICE

Robert M. Murphy and James Arthur Hirsch, Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Filed Mar. 20, 1963, Ser. No. 266,576
12 Claims. (Cl. 307—141)

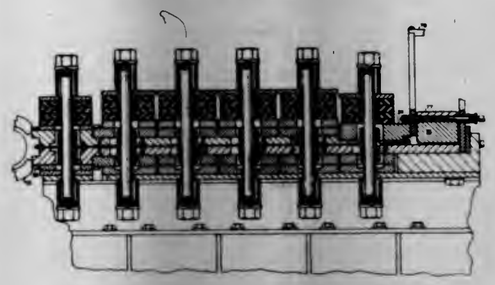


1. In a time switch device, electronic means comprising a power supply circuit, a timer circuit, and an output relay circuit, said timer circuit cooperating with said power supply circuit to produce an electrical impulse of predetermined periodicity, said output relay circuit being adapted to dispatch said electrical impulse to initiate operation of a stepping means, said stepping means being adapted to control a timed load function, and said stepping means being further adapted to reset said electronic means after each interval of time so that said electrical impulse may be automatically repeated.

3,267,305
HIGH CURRENT COLLECTOR PLATE

Alan C. Kolb, Landover, James M. Frame, Forestville, and Claude C. Martin, Temple Hills, Md., assignors to the United States of America as represented by the Secretary of the Navy

Filed Nov. 30, 1962, Ser. No. 241,453
5 Claims. (Cl. 307—147)



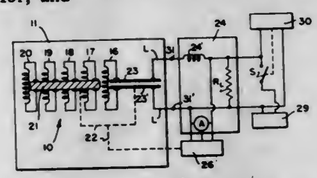
1. A current collector plate assembly which comprises:
first and second elongated, wide, electrical conductor plates secured in parallelism adjacent to each other in alignment,
said conductor plates being long compared to their width,
a plurality of aligned apertures in said first and second conductor plates,
a thin electrical insulating material separating said first and second conductor plates,
said insulation extending into said aperture,
an insulated stud passing through each of said aligned apertures,
an insulating sleeve secured about each of said insulated studs,
said insulating sleeve having a protrusion thereon matching with said plates and ridges on the sleeve which effectively increases its insulating characteristics, and
a plurality of blocks secured on opposite sides of said parallel plates and held in position by said studs.

3,267,306
SUPERCONDUCTING INDUCTIVE STORAGE DEVICE

William F. Hassel, Lafayette, Ind., and Hugh P. Jenkins, Jr., China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed Sept. 9, 1963, Ser. No. 307,755
4 Claims. (Cl. 307—149)

1. An electrical storage system, comprising in combination:
a plurality of consecutive superconducting coil banks each having means defining an open circuit and being wound about a common center in the form of a unitary inductance coil;
a displaceable connecting means for completing said open circuit of each of said banks and for connecting said banks in circuit parallel;
a pair of displaceable electrodes;
means for connecting said electrode with a given load resistance;
means for successively displacing said displaceable connecting means for thereby successively isolating the consecutive banks and establishing open circuits therefor; and



means for successively displacing said pair of electrodes to close said open circuits of said consecutive banks through said load resistance simultaneously with the establishing of said open-circuits, whereby current flow is diverted through said load circuit as each open circuit is established.

3,267,307
MAGNETICALLY CHANNELED PLASMA DIODE HEAT CONVERTER

Raymond Fox, Rehovot, Israel, assignor to the United States of America as represented by the United States Atomic Energy Commission

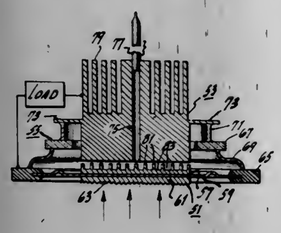
Filed May 13, 1963, Ser. No. 287,167
6 Claims. (Cl. 310—4)

1. A thermionic heat to electrical current converter comprising:
(a) an exterior enclosure envelope;
(b) a generally planar cathode adapted to be heated and generally planar cold anode disposed in spaced parallel facing relation within said envelope;
(c) permeable heat shield means comprising a multiplicity of thin ribbons supported in close-spaced, side by side relation in multiple sets, and in perpendicular relation to the cathode and anode facing surfaces to define a plurality of generally parallel channels extending between said anode and cathode, said ribbons provided with terminal means for biasing;
(d) means for supplying cesium vapor within said envelope; and
(e) means for suppling a homogeneous magnetic field having field lines perpendicular to said anode and cathode and extending through said channels, said magnetic field having an intensity adequate to confine electrons emitted from said cathode to helical paths of a small radius of curvature relative to the spacing of said elements defining said channels.

3,267,308
THERMIONIC ENERGY CONVERTER

Karl G. Hernqvist, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed July 9, 1963, Ser. No. 293,721
12 Claims. (Cl. 310—4)

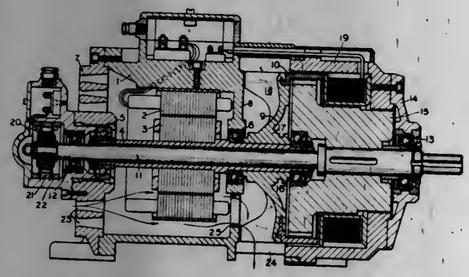


1. A thermionic energy converter comprising an envelope containing an ionizable alkali metal vapor, a thermionic cathode, and an anode close to said cathode;
(a) said cathode being adapted to be heated to an operating temperature, between 1000 and 2500° K., at which the effective work function of the emissive surface thereof is below the ionization potential of said vapor;
(b) said anode being adapted to be cooled to an operating temperature below that of said cathode at which its effective work function is below that of said emissive surface;
(c) said cathode emissive surface comprising an array of recesses open toward said anode;
(d) the width and depth of said recesses being large compared to the minimum spacing between said cathode and said anode.

3,267,309
VARIABLE-SPEED ALTERNATING-CURRENT MACHINES

Elie Cohen, 89 bis, Rue Bobillot, and Szymon Roth, 18 Blvd. Barbes, both of Paris, France

Filed June 26, 1963, Ser. No. 290,860
Claims priority, application, France, June 28, 1962, 902,322, Patent 1,339,565
8 Claims. (Cl. 310—98)

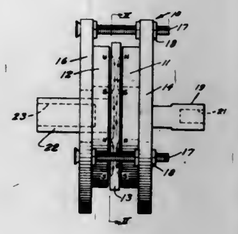


1. A variable-speed alternating-current machine comprising:
a casing,
an asynchronous motor having a stator and a rotor mounted within said casing,
an eddy-current coupling or braking device having inner and outer rotors coaxial with each other and mounted within said casing,
a tubular shaft on which said rotor of the motor and said outer rotor of said eddy-current device are mounted, and
a further shaft extending through said tubular shaft and having said inner rotor of said eddy-current device mounted thereon, said tubular shaft and said further shaft each being supported at spaced locations along their length by at least two bearings mounted in said frame, said tubular shaft being additionally supported in a bearing housed in said inner rotor.

3,267,310
MAGNETIC TRANSMISSION

James R. Ireland, Valparaiso, Ind., assignor to Indiana General Corporation, Valparaiso, Ind., a corporation of Indiana

Filed May 7, 1963, Ser. No. 278,703
7 Claims. (Cl. 310—103)

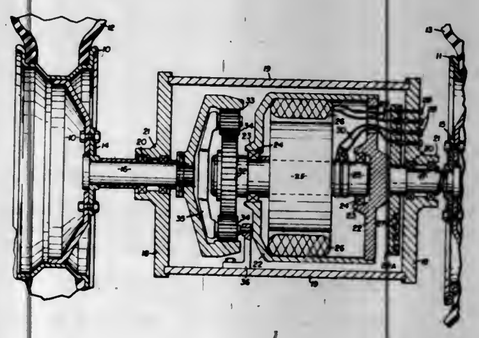


1. A hysteresis coupling unit comprising a pair of ceramic magnet assemblies of relatively low flux density in spaced confronting relation with like magnetic poles confronting each other, a hysteresis member interposed in the space between said ceramic magnet assemblies, means for coupling a drive means to said pair of ceramic magnet assemblies, and torque transmitting means coupled to said hysteresis member.

3,267,311
COMBINATION ELECTRIC MOTOR AND DIFFERENTIAL DRIVE FOR VEHICLES

Henry C. Lamparty, 1201 South Ave., Youngstown, Ohio

Filed Aug. 19, 1963, Ser. No. 302,970
1 Claim. (Cl. 310—115)

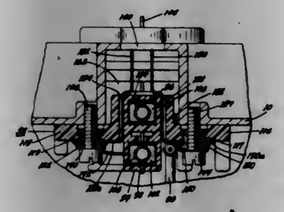


A combination power source and differential for a vehicle axle construction and including a stationary housing, a pair of spaced axially aligned axles journalled in said housing and extending axially outwardly therefrom, field coils and housing of an electric motor secured to one of said axles and rotatably positioned within said stationary housing, an offset internal gear affixed to the other one of said axles and within said stationary housing, an armature rotatably disposed axially in said field coil housing and extending outwardly thereof and within said stationary housing, a sun gear secured to said outward portion of said armature and a pair of planet gears positioned between said sun gear and said offset internal gear and in mesh therewith and a planet gear carrier mounting said planet gears in fixed relation to said stationary housing and means for establishing electrical circuits with said armature and said field coils and a source of electrical energy.

3,267,312
DYNAMOELECTRIC MACHINE TERMINAL CONNECTION

David C. Redick and Willard C. Shaw, Anderson, and Arza D. Heiny, Carmel, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application Sept. 21, 1961, Ser. No. 139,746, now Patent No. 3,219,860, dated Nov. 3, 1965. Divided and this application July 8, 1964, Ser. No. 381,128
10 Claims. (Cl. 310—239)



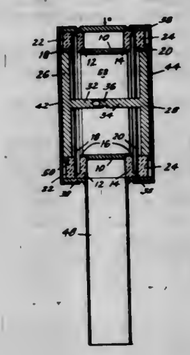
1. In combination, an alternating current generator having a three phase output winding and an end frame, a first group of semiconductor diodes of one conductivity type, a second group of semiconductor diodes of an opposite conductivity type, means connecting said diodes together to form a three phase full wave bridge rectifier network connected with said output winding, a rotor member, slip rings carried by said rotor member, a brush support member formed of insulating material supported by said end frame and including brushes engageable with said slip ring assembly, first and second fastener means for securing said brush support member to said end frame, first and second terminals supported by said brush support member, means electrically connecting one of the brushes carried by said brush support member with one of said terminals and means electrically connecting the other terminal with a junction point of a pair of said diodes of opposite conductivity type, said terminals forming means that are adapted to be connected to apparatus external of said generator.

3,267,313
COLD CATHODE MAGNETRON TYPE IONIZATION GAUGE

Wallace S. Kreisman, Malden, Mass., assignor to GCA Corporation, Bedford, Mass., a corporation of Delaware

Filed Nov. 3, 1961, Ser. No. 149,906
14 Claims. (Cl. 313—7)

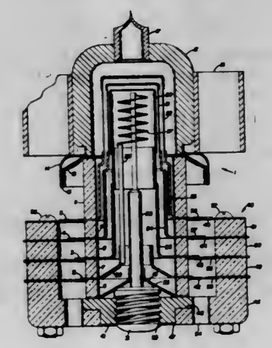
1. A cold cathode magnetron type ionization gauge comprising a cylindrical housing, tubular shaped anode means, insulator ring means mounted on the edges of said anode and locating said tubular shaped anode means relative to said cylindrical housing, cathode shield means located on said insulator ring means, outer insulator ring means located between said cathode shield means and said cylindrical housing, spool shaped cathode means having flared outer portions serving to clamp said insulator ring means, said shield means, and said anode means together, thereby forming a cathode-anode assembly insulated from said cylindrical housing.



3,267,314
ELECTRON TUBE AND SOCKET HAVING OVERLAPPING TERMINALS AND CONTACTS AND INTERENGAGING HOLDING MEANS

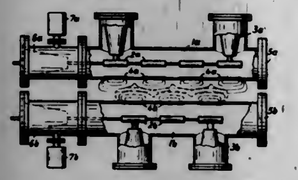
Paul D. Williams, Portola Valley, and William A. Allen, Belmont, Calif., assignors, by mesne assignments, to Varian Associates, a corporation of California

Filed Mar. 26, 1962, Ser. No. 182,467
11 Claims. (Cl. 313—49)



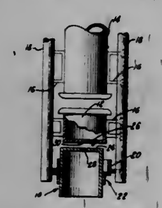
1. A generally cylindrical electron tube comprising an anode at one end of the tube, a plurality of other electrodes in the tube, the other end of said tube being the terminal end and having a side envelope wall comprising disk-shaped circular terminal rings separated by insulating cylinders, support means connecting said terminal rings to said electrodes inside said tube, said terminal rings projecting outwardly from said insulating cylinders and having successively decreasing diameters starting with the largest diameter ring adjacent said anode end of the tube, and means on the axis of the tube at said terminal end for locking said tube in a socket, said locking means having a smaller diameter than the diameter of the terminal end of said side envelope wall.

3,267,315
X-RAY SOURCE COMPRISING PLURAL REMOVABLE MODULAR UNITS EACH HAVING AN ANODE TARGET AND CATHODE
Ernst Gunter Hofmann, Berlin-Wilmersdorf, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed June 4, 1963, Ser. No. 285,497
Claims priority, application Germany, June 5, 1962, L 42,143
12 Claims. (Cl. 313—56)



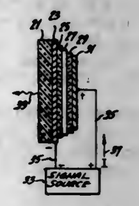
1. High-power X-ray tube apparatus for irradiating substances to change their physical, chemical or biological characteristics wherein the substance to be irradiated is passed through a radiation zone, said apparatus comprising, in combination: two spaced-apart tube means arranged on opposite sides of said reaction zone, each tube means having external anode means adjacent said radiation zone and cathode means spaced from said anode means for providing on the anode means a plurality of focal points for electrons emitted by said cathode means, which focal points are generally aligned to form, together, at least one composite focal point which is band-shaped and extends in the direction in which said individual focal points are aligned for uniformly distributing irradiation energy onto the substance passing through said radiation zone, said two tube means being arranged with respect to said radiation zone and to each other so that by superposition of the radiation fields of the individual tube means there is obtained a substantially homogeneous radiation effect in the substance to be irradiated, each of said tube means being composed of consecutive modular units which have flanges at their ends and which are joined together to have a common vacuum space, each unit containing a portion of the anode and cathode means of the particular tube means of which the respective modular unit is a part, thereby to enable the length of each tube means to be adapted to the width of the radiation zone.

3,267,316
ELECTRON GUN ASSEMBLY AND METHOD OF ASSEMBLING THE GUN
Oscar A. Drake, Seneca Falls, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 26, 1961, Ser. No. 162,040
6 Claims. (Cl. 313—82)



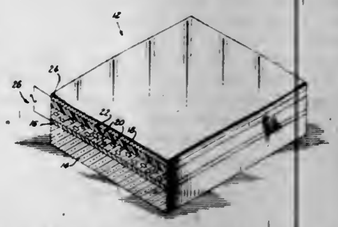
1. In an electron gun, first and second grids, each grid being substantially in the form of a cup with apertured bottom, the first cup shaped grid being inverted with its bottom uppermost, a first collar having an internal diameter larger than the external diameter of the first grid, a second collar embracing the first grid and secured thereto, said second collar being diametrically smaller than said first collar to facilitate lateral movement thereon, supports fixedly positioning the second grid and first collar with reference to each other, and means securing said second collar to said first collar to achieve alignment of the apertures in the bottoms of the cup shaped grids.

3,267,317
DEVICE FOR PRODUCING RECOMBINATION RADIATION
Albrecht G. Fischer, Trenton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 25, 1963, Ser. No. 260,709
11 Claims. (Cl. 313—108)



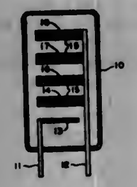
1. A device comprising
a body of luminescent material;
means for introducing charge carriers of one conductivity type into said body including a layer of insulator material upon a surface of said body, said insulator material having a larger bandgap than that of said body and a thickness which permits tunneling of charge carriers therethrough, and a layer of extrinsic semiconductor material of said one conductivity type upon said insulator layer and having a bandgap which is larger than that of said body material and smaller than that of said insulator; and
means for introducing charge carriers of the other conductivity type into said body.

3,267,318
ELECTROLUMINESCENT DEVICE
Ronald S. Lynch, Seneca Falls, N.Y., and Bradford K. Smith, Lititz, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 3, 1963, Ser. No. 270,284
3 Claims. (Cl. 313—108)



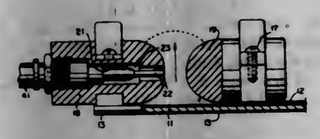
1. A laminated electroluminescent device comprising:
a first electrically conductive layer forming a first electrode;
a first dielectric layer of ceramic having electric field responsive phosphors embedded therein covering the surface of said first electrode, said first dielectric having pinholes in the surface thereof;
sealing means in the form of a second dielectric layer of a substantially gloss white synthetic plastic resin overlying said ceramic layer and filling in said pinholes in the surface of said first dielectric layer, said plastic resin having a curing temperature of less than 200° C. and having light reflective properties to enhance the light radiation emanating from said phosphors; and
a second electrically conductive layer forming a second electrode overlaying said second dielectric layer.

3,267,319
GASEOUS DISCHARGE LAMP
Gerald Stone, Syosset, N.Y., assignor to Hazeltine Research Inc., a corporation of Illinois
Filed Nov. 19, 1963, Ser. No. 324,712
4 Claims. (Cl. 313—188)



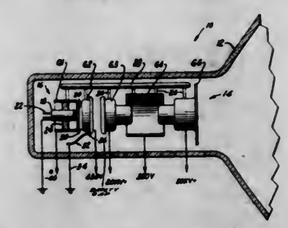
1. A gaseous discharge lamp, comprising:
an envelope;
a glow producing gas contained within said envelope;
at least two feedthrough terminals for providing electrical connections into said envelope;
an anode connected to one of said feedthrough terminals;
and a plurality of transparent cathodes connected to another of said feedthrough terminals and aligned one behind the other so that said cathodes glow simultaneously when energized and the glow from distant cathodes is visible through the nearest cathode;
whereby when the lamp is energized, increased luminance is obtained from the additive effect of the plurality of glowing cathodes.

3,267,320
MAGNETIC BLOWOUT SPARK GAP SWITCH
Leonard J. Melhart, Oxon Hill, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 30, 1962, Ser. No. 213,556
3 Claims. (Cl. 313—306)



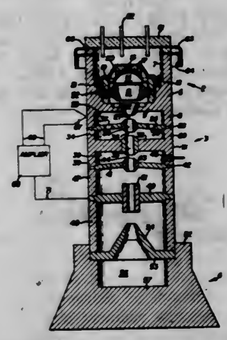
1. An air gap switch adapted to be connected into the conductor lines of an electric circuit which comprises first and second elongated cylindrical electrodes formed with semispherical ends, first and second electrode holders adapted to secure said first and second electrodes, respectively, in spaced relationship in end to end axial alignment with a spacing gap therebetween such that said electrodes are adjustable for rotational and axial movement relative to each other, first and second flat plate electrical conductors secured respectively to said first and second electrode holders, said first electrical conductor extending parallel to the axis through said electrodes along said electrodes in close proximity thereto and across the spacing therebetween and electrically insulated from said second electrode holder and said second electrical conductor.

3,267,321
ELECTRON DISCHARGE DEVICE HAVING CATHODE PROTECTIVE MEANS WITHIN THE ENVELOPE
Ross K. Gessford, Sr., Seneca Falls, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Mar. 28, 1962, Ser. No. 183,246
6 Claims. (Cl. 315—3)



1. A cathode ray tube comprising an evacuated, hermetically sealed envelope, an electron gun positioned within said envelope, said electron gun having a cathode and at least first and second sequentially spaced low voltage electrodes, said second electrode being subject to transient high voltage surges, the spacing between said first and second electrodes defining a given sparking potential, at least one lead terminating interiorly of said evacuated envelope and projecting exteriorly for connection to ground potential, and a voltage surge by-pass device mounted within said envelope interconnecting said second electrode and said ground potential lead, said by-pass device being formed to provide a predetermined sparking potential lower than said given sparking potential.

3,267,322
FREQUENCY STABLE TEMPERATURE COMPENSATED ELECTRON TUBE
Murray I. Disman, Sunnyvale, Calif., assignor, by mesne assignments, to Varian Associates, a corporation of California
Filed Feb. 23, 1961, Ser. No. 91,181
9 Claims. (Cl. 315—5.24)

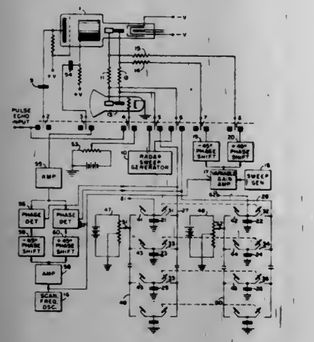


3. A frequency stable beam type electron tube comprising an envelope having relatively thermally conductive and non-conductive dielectric portions, an electron gun for projecting a beam of electrons, an end electrode forming a portion of the envelope and arranged to cooperate with the beam, radio-frequency interaction means for interaction with the beam, and means operatively interposed between the relatively thermally conductive and non-conductive envelope portions to control the temperature of the interaction means, said thermally conductive portion being interposed between said temperature controlling means and said interaction means.

3,267,323
SINGLE SERVO MULTIPLE TARGET AUTOMATIC TRACKING CIRCUIT

Harry L. Gerwin, Grayton, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Oct. 4, 1951, Ser. No. 249,792
14 Claims. (Cl. 315—18)

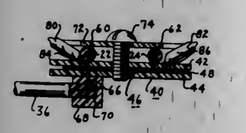


1. An automatic tracking system of the type described comprising a cathode ray tube having a target area on which the electron beam is focused, means for deflecting the electron beam of said tube to scan a small area with respect to the total beam target area, means for defining in plan position a relatively small area of said target area corresponding to a remote object being tracked, control voltage generating means operative to produce output voltage in response to overlapping of the beam scan area and the defined object area and beam biasing means operative responsive to output voltage from said control voltage generating means to shift the center of said beam scan area toward the center of said defined object area.

3,267,324
IGNITION DEVICE FOR REDUCING THE CORONA EFFECT ON HIGH TENSION CABLES

Kenneth B. Harlow, South Bend, Ind.
(1300 Las Riendas, La Habra, Calif. 90631)

Filed Apr. 1, 1963, Ser. No. 269,586
8 Claims. (Cl. 315—35)

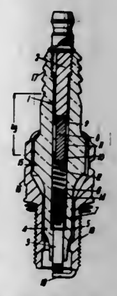


1. An ignition device for an internal combustion engine having a distributor, a plurality of spark plugs and wires connecting said distributor with said plugs, comprising a plurality of units each including a pair of plates of plastic material, an electrical element disposed between said plates and secured thereto, said element having a panel of high electrical resistant material, two members in spaced relation on one side of said panel and one metal member on the other side of said panel, means sealing said element between said plates, pins extending outwardly from said spaced metal members and through the adjacent plate for receiving said spark plug wires and making electrical contact therewith, a plate having a pair of opposed slots therein removably secured to said first plates for retaining said wires on said pins, two glow lamps secured to said adjacent plate and extending therefrom into the slots of said last mentioned plate and being connected to said spaced members, and a lead connected to said one metal member and extending to the corresponding member of a second unit.

3,267,325
COMBINED SPARK PLUGS AND OSCILLATORY CIRCUIT

John Frederick Why, Dunstable, England, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 5, 1963, Ser. No. 328,338
Claims priority, application Great Britain, Dec. 6, 1962, 46,129/62
15 Claims. (Cl. 315—53)

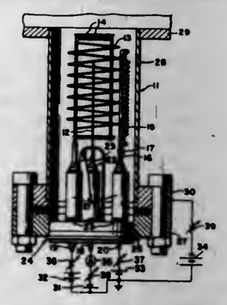


1. A spark plug comprising a metal shell which when the spark plug is in use provides a connection to earth, an insulator secured in said metal shell and a centre electrode assembly secured in a coaxial bore in said insulator and having at one end a voltage supply terminal and at the other end a firing tip electrode which co-operates with an earth electrode on the shell to form an ignition spark gap therebetween, and including elements to provide during use of the plug at least one oscillatory circuit, said elements comprising a first capacitance connected between the voltage supply terminal and earth, a second capacitance connected between the ignition spark gap electrodes, and a spark gap member and an inductance connected in series intermediate the sides of the two capacitances which are connected to the voltage supply terminal.

3,267,326
VACUUM GAUGE

Wesley H. Hayward, Mountain View, and Sherman L. Rutherford, Palo Alto, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Sept. 5, 1963, Ser. No. 306,756
14 Claims. (Cl. 315—111)

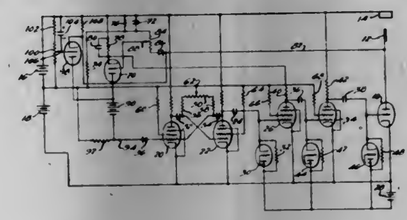


9. An ionization gauge for measuring pressure within an enclosed system including: four spaced apart electrodes; a first electrode for collecting ions; a second electrode for accelerating and collecting electrons, being maintained at a potential positive with respect to said first electrode; the third electrode for producing primary electrons, being maintained at a potential intermediate the potential of the first and second electrodes, the fourth electrode for producing photoelectrons caused by X-rays hitting the fourth electrode and being maintained below the potential of said third electrode; said second and third electrodes spatially interposed between said first and fourth electrodes; and means for varying the potential of at least one of said electrodes.

3,267,327
ELECTRICAL DISCHARGE MACHINING POWER CIRCUIT

Robert S. Webb, Bloomfield Hills, Mich., assignor to Elox Corporation of Michigan, Troy, Mich., a corporation of Michigan

Continuation of abandoned application Ser. No. 139,418, Sept. 20, 1961. This application Oct. 15, 1963, Ser. No. 316,401
14 Claims. (Cl. 315—127)



1. Apparatus for machining a conductive workpiece by means of intermittent electrical discharge across a dielectric filled gap between an electrode tool and the workpiece, comprising a source of machining power, an electronic switch having a control electrode and having its principal electrodes connected between said source and said gap, means for rendering said switch alternately conductive and nonconductive to provide discrete impulses across said gap, a voltage limiting means operatively connected to the control electrode of said switch for limiting its output on gap open circuit to a predetermined lower voltage magnitude than said source, and means for rendering said voltage limiting means operable after initiation of but prior to normal completion of each discrete impulse.

3,267,328
LIGHT FLASH GENERATOR DEVICE WITH PLURAL STORAGE CONDENSERS

Jean René Marie Girard, 4 Rue de Montmorency, Boulogne-Billancourt, France

Filed June 12, 1962, Ser. No. 201,988
Claims priority, application France, June 19, 1961, 865,543, Patent 1,300,240
8 Claims. (Cl. 315—163)

1. A flash light generator device comprising in combination:

a plurality of circuits each including a series connection of at least one condenser and resistor, said circuits being connected in parallel with each other;

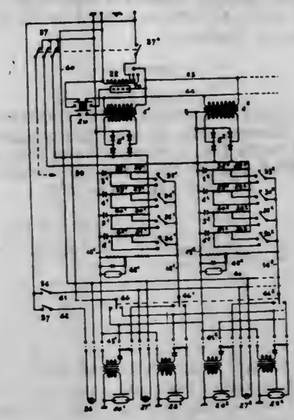
a source of direct current;

a charging circuit for simultaneously charging said condensers through said resistors from said source;

at least one electronic flash discharge tube having main and starting electrodes;

means separate from said charging circuit for connecting said main electrodes in parallel with preselected ones of said condensers only;

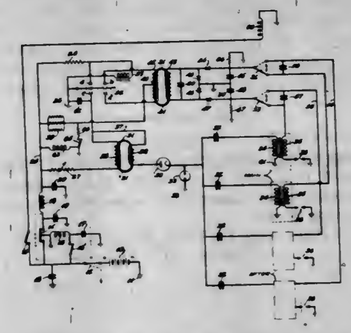
and means connected to said starting electrode for delivering a pulse of energy thereto enabling discharge of preselected ones of said condensers through said tube to produce a light flash.



3,267,329
ELECTRICAL IGNITION APPARATUS USING A HIGH VOLTAGE BREAKDOWN AND A CONDENSER FOLLOWUP THROUGH THE IGNITION GAP

Louis H. Segall, Sidney, N.Y., assignor to The Bendix Corporation, a corporation of Delaware

Continuation of application Ser. No. 149,780, Mar. 15, 1950. This application Apr. 3, 1963, Ser. No. 270,472
15 Claims. (Cl. 315—183)



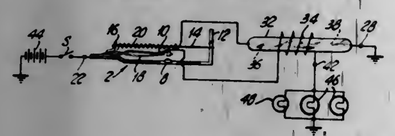
1. In apparatus of the class described, a direct current source of electrical energy, first and second step-up transformers having primary windings in parallel circuits connected to said source, a vibrator operatively connected to said source and operable to intermittently interrupt the circuits through said primary windings, a condenser connected to the secondary winding of said first transformer and chargeable thereby in increments to a voltage in excess of the source voltage, a third transformer having its primary winding connected to said condenser, a spark gap for controlling the discharge of said condenser through said last-named primary winding, an igniter gap connected with the secondary winding of said third transformer which steps up the voltage of said condenser discharge to a value greater than the normal breakdown voltage of the igniter gap, a second condenser in circuit with the secondary winding of said second transformer and chargeable thereby in increments to a voltage below the normal spark-over voltage of the igniter gap, and means

connecting said second condenser to the igniter gap through said secondary winding of the third transformer whereby said second condenser discharges across the igniter gap when the latter is ionized by the discharge of said first-named condenser.

3,267,330
INDEPENDENT LOAD FLASHER

William B. Almassy, Pine Brook, N.J., assignor to Tung-Sol Electric Inc., a corporation of Delaware

Filed Aug. 27, 1963, Ser. No. 304,822
1 Claim. (Cl. 315—209)

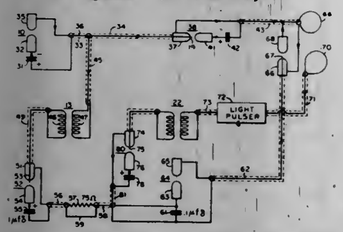


A three-terminal independent load flasher comprising a snap switch having a fixed and a movable contact normally biased out of engagement, said movable contact being connected to a first one of the terminals, a heat expandable pull means which when cold operates to maintain the contacts closed against the bias thereof and a heater for the pull means, one end of the heater being connected to said first terminal, a reed relay having a coil and normally open contacts which close when the current through the coil exceeds a pre-determined value, one of said reed relay contacts being connected to the other end of said heater and the other of said reed relay contacts being connected to a second one of the terminals, said relay coil being connected between said fixed contact and the third one of said terminals, whereby when a source of potential and a lamp load to be flashed is connected across the first and third terminals and the source of energy is connected across said first and second terminals the lamp load will be flashed when the current therethrough exceeds said predetermined value and will remain steady-on when the current through the load falls below said pre-determined value.

3,267,331
CAPACITOR TRIGGER AND FAULT CIRCUIT

Leonard J. Melhart, Oxon Hill, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed May 15, 1963, Ser. No. 280,758
6 Claims. (Cl. 317—9)



1. In an electrical circuit for producing a capacitor discharge through a load coil which comprises:

(a) a load coil,

(b) a main capacitor bank discharge circuit including said load coil,

(c) a crowbar circuit connected electrically across said load coil,

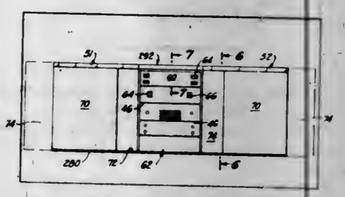
(d) a pulse delay circuit connected with said crowbar circuit for electrically completing said crowbar circuit subsequent to completion of an electrical discharge through said load coil, and

(e) a trigger circuit for triggering said main capacitor discharge circuit and said pulse delay circuit.

3,267,332
ADAPTER WALL CONSTRUCTION

Mitchell Bobrick, 605 Erskine Drive, Pacific Palisades, Calif.

Filed Apr. 6, 1964, Ser. No. 357,428
6 Claims. (Cl. 317—99)

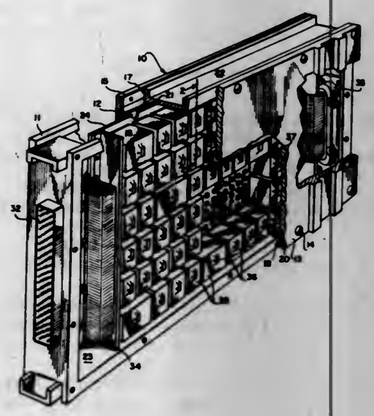


1. An adapter wall construction which comprises: a framework having top and bottom horizontal members and a plurality of vertical members interconnecting the horizontal members, said framework being adapted to be mounted on a wall having a plurality of utility and service outlets thereon; exterior wall panel sections removably mounted on the top and bottom members of the framework in spaced relationship to the wall; a second framework mounted on the top and bottom members of the first framework intermediate the exterior wall panel sections; a panel means removably mounted on the second framework in spaced relationship to the wall; utility and service outlets mounted on the panel means; and conduits and cables disposed behind the exterior wall panel sections and the panel means interconnecting the utility and service outlets on the wall and the utility and service outlets on the panel means.

3,267,333
MODULAR ELECTRONIC PACKAGE

Donald L. Schultz, Dunellen, N.J., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Feb. 28, 1964, Ser. No. 348,016
5 Claims. (Cl. 317—100)

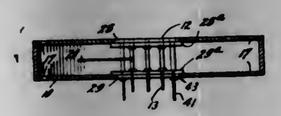


1. A modular electronic package comprising, a generally rectangular open-sided frame, a pair of cover plates secured to the open sides of said frame and forming an enclosed housing, at least one of said plates being thermally conductive and removable from said frame for access inside said housing, a substantially rigid printed circuit board secured to said frame within the housing and forming a partition therein, a plurality of electronic component modules removably secured to said printed circuit board on one side thereof and electrically interconnected therewith to provide a useful circuit, a flexible printed circuit cable secured to said printed circuit board on the opposite side thereof and providing electrical input and output conductors for the circuit, and resilient woven metal heat conductive strips secured to said one plate and engaging said component modules to restrain the latter against movement and to transmit by conduction internally generated heat from the modules to said plate for dissipation of said heat exterior of the housing.

3,267,334
MODULAR CIRCUIT ASSEMBLY

Stanley S. Wuke, Lafayette Hill, Pa., assignor, by mesne assignments, to United Aircraft Corporation, a corporation of Delaware

Filed Mar. 14, 1962, Ser. No. 179,695
8 Claims. (Cl. 317—101)



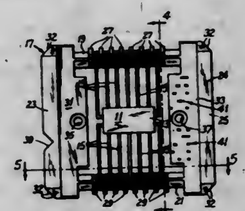
6. In a system of the type described, a plurality of modular circuit housings interchangeably interconnectable in serial array, a plug-in connector unit for each module having a total number of conductors corresponding to the total number of modules, one different conductor in the connector of each module being reserved exclusively for that module and the other conductors of said connector being each reserved for different ones of the other modules in the array, whereby when the plurality of modules are serially interconnected a plurality of separate and independent electrical circuits are provided through the array with a different circuit for each module, each said connector unit comprising a plurality of substantially rigid conductors, each having a male terminal portion at one end and a female portion at the other end, and an insulating member for supporting said substantially rigid conductors, each said connector unit being larger than the thickness of its associated module and having said male and female terminal portions extending from opposite sides of the module.

3,267,335
CARRYING FIXTURE FOR MINIATURE CIRCUIT COMPONENTS

Arnold M. Walkow, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Aug. 14, 1963, Ser. No. 302,195
7 Claims. (Cl. 317—101)

1. Telescopically nestable and protective carrying fixtures for carrying electronic devices, each device having a main body portion and a plurality of conductive leads secured thereto and extending therefrom; each such fixture comprising a pair of spaced head bars connected by a pair of spaced side bars to form a substantially rectangular window frame, each of said head bars being shaped in cross section for guided sliding contact action on and sliding separation from the bars of an adjacent nested window frame, said side bars being formed with spaced recesses for the reception of said conductive leads, whereby body portions of said electronic devices may be carried in the window frames by the leads, said head bars being thicker transversely to the planes of their window frames than said side bars, main body portions and leads,

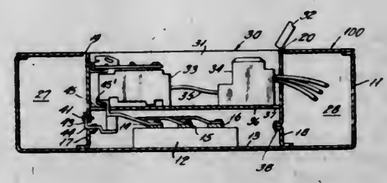


whereby sliding separation between frames may be effected while protecting said devices against interference therebetween or with other objects.

3,267,336
CROSS BUS ASSEMBLY

Frank W. Kussy, Birmingham, and George H. Farnsworth, Grosse Pointe Woods, Mich., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Delaware

Filed May 27, 1963, Ser. No. 283,180
13 Claims. (Cl. 317—120)



11. The combination comprising a distribution panel and a combination unit; said panel comprising an enclosure, a pair of parallel spaced mounting rails within said enclosure, a plurality of bus bars at least three in number within said enclosure, said bus bars mounted in spaced parallel insulating relationship between said rails and extending parallel thereto; said combination unit disposed within said enclosure and positioned forward of said bus bars; said unit comprising a single housing, a first electrical device, a second electrical device, and wiring means connecting said devices in electrical series; said electrical devices being disposed within said housing; said wiring means disposed within said housing and extending transverse to said bus bars; and bus means electrically connecting only one of said devices directly to said bus bars.

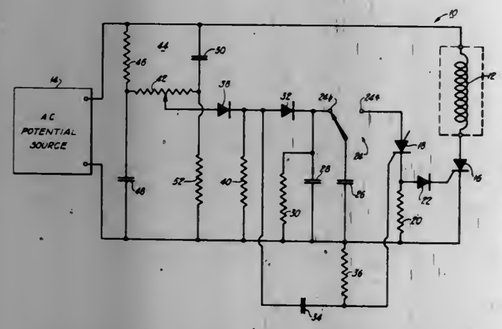
3,267,337
CONTROLLED POWER SUPPLY CIRCUIT

Richard H. Doyle, Mount Prospect, Leroy N. Hermann, St. Charles, and Joseph S. Naber, Wheeling, Ill., assignors to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois

Filed Feb. 11, 1963, Ser. No. 257,677
14 Claims. (Cl. 317—148.5)

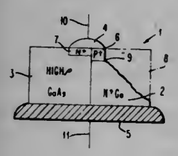
14. A control circuit for supplying a single pulse of energy from an alternating current potential source to a winding comprising a first gated rectifier having a gate electrode, circuit means connecting the winding in series with the potential source through the rectifier unit, a capacitor adapted to be placed at two different energy

levels by charging and discharging currents, a manually actuated switch means operable to an actuated state at random times relative to the cycles of the alternating current potential and normally in a released state, the switch means including a common conductive means operable to alternately complete electrical circuits with first and second electrical contacts, said common conductive means normally engaging the first electrical contact, means connecting the capacitor to the common conductive means, a first circuit including the first electrical contact for maintaining the capacitor at its normal energy level, a second gated rectifier having a gate electrode provided with a firing signal during each cycle of the alternating current potential, and a second circuit including the second electrical contact for coupling the



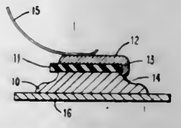
capacitor to its second gated rectifier to change the capacitor to its other energy level, resistance means in said second circuit in series with the capacitor across which an electric signal is developed in response to the change in the energy level of the capacitor from its normal level to its other level, and means for applying the electric signal across the resistance means to the gate electrode of the first gated rectifier to provide a single firing signal synchronized with the first complete cycle of the alternating current potential occurring following the random actuation of the switch means, the capacitor being held substantially at its other energy level until the actuated switch means is released so that sufficient gate current to render the first gated rectifier conductive during subsequent cycles cannot be provided without releasing and reoperating the switch means.

3,267,338
INTEGRATED CIRCUIT PROCESS AND STRUCTURE
John C. Marinace, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 20, 1961, Ser. No. 104,421
14 Claims. (Cl. 317—234)



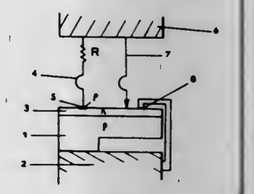
1. A composite semiconductor crystalline structure comprising a semiconductor body having a surface defined by at least two contiguous regions, a first region constituted of a first semiconductor material, a second region constituted of a second, different, semiconductor material; and a quantity of semiconductor material overlaying portions of said at least two regions at said surface so as to form a rectifying connection to at least one of said regions.

3,267,339
DEGENERATE SEMICONDUCTOR MEMBER AND DEVICE WITH AT LEAST TWO KINDS OF ACTIVE IMPURITY ATOMS
Samuel S. Im, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 30, 1961, Ser. No. 121,085
14 Claims. (Cl. 317—234)



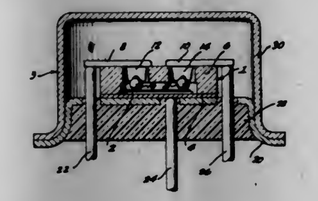
1. A semiconductor member comprising: a body of semiconductor material which is doped with at least two kinds of active impurity atoms of the same conductivity type in sufficient concentration to render said material degenerate and in such relative proportions that the average size of said impurity atoms approximately matches that of the atoms of said semiconductor material.

3,267,340
MICROWAVE SEMI-CONDUCTOR DEVICE
André J. Regeffe, Paris, France, assignor to Societe Lignes Telegraphiques et Telephoniques, a corporation of France
Filed May 25, 1961, Ser. No. 126,371
Claims priority, application France, June 9, 1960, 829,445, Patent 1,267,262
5 Claims. (Cl. 317—234)



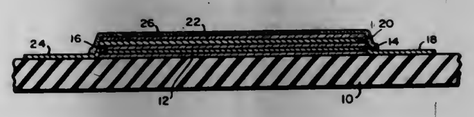
1. A high burn-out solid state microwave device comprising:
(a) a wafer of semiconductor material having a first region of a first conductivity type, a second region of a second conductivity type forming a relatively large area junction wtih said first region a third region of said first conductivity type forming a relatively small area junction with said second region;
(b) a first conductive member;
(c) a second conductive member;
(d) first means for interconnecting said first conductive member and said third region of said wafer;
(e) second means for interconnecting said first conductive member and said second region of said wafer, said second means being in rectifying contact with said second region of said wafer; and
(f) bridge means connected to said second conductive member and to said first and second regions of said wafer for forming a double Zener diode with said wafer and said first interconnection means and a microwave diode with said second interconnection means and said second region of said wafer.

3,267,341
DOUBLE CONTAINER ARRANGEMENT FOR TRANSISTORS
Herbert S. Evander, Santa Ana, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Feb. 9, 1962, Ser. No. 172,339
1 Claim. (Cl. 317—234)



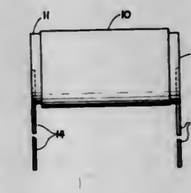
A semiconductor apparatus comprising, in combination, a transistor, a first container and a second container; said transistor having an emitter and base electrodes disposed on a first surface of a semiconductor crystal and a collector electrode disposed on another surface of said crystal; said first container including a metallic plate, a ceramic wall portion sealed thereto, and electrically isolated metallic end members forming the other end of said container and having portions extending beyond the outisde dimension of said ceramic wall; said transistor being disposed in said first container with said collector electrode being in contact with said metallic plate; means electrically connecting said base and emitter electrodes to different ones of said electrically isolated metallic end members; said second container comprising a metallic cap member and a metallic header member joined thereto; said first container being mounted in said second container on said metallic header member thereof; said second container having lead members extending into said header members and electrically insulated therefrom and being, respectively, in physical contact with said metallic plate and said extended portions of said isolated end members of said first container.

3,267,342
ELECTRICAL CAPACITOR
Charles R. Pratt, Jr., Raleigh, N.C., and Walter H. Tarcza, Painted Post, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed May 18, 1965, Ser. No. 456,615
2 Claims. (Cl. 317—258)



1. An electrical capacitor comprising
a non-conductive substrate,
a first buffer layer of at least partly crystallized vitreous material fused to said substrate,
a first metallic capacitor plate formed of finely divided metal, said first buffer layer being fused to said first capacitor plate,
a dielectric layer of at least partly crystallized vitreous materal fused to said first capacitor plate so that a portion of said plate extends beyond an edge of said dielectric layer to form a terminal for said plate, the buffer layer material having a coefficient of thermal expansion compatible with that of the dielectric layer material,
a second metallic capacitor plate formed of finely divided metal so that a portion thereof extends beyond an edge of the dielectric layer to form a terminal for the second plate, said dielectric layer being fused to said second capacitor plate,
a second buffer layer of at least partly crystallized vitreous material fused to said second capacitor plate, and
a layer of vitreous glazing material fused to said second buffer layer and to said substrate to hermetically enclose the capacitor unit so formed, the terminals of said plates extending beyond the glazing material layer.

3,267,343
WOUND CAPACITOR AND LEAD ASSEMBLY
Charles C. Rayburn, Falls Church, Va., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Mar. 1, 1965, Ser. No. 435,925
5 Claims. (Cl. 317—260)

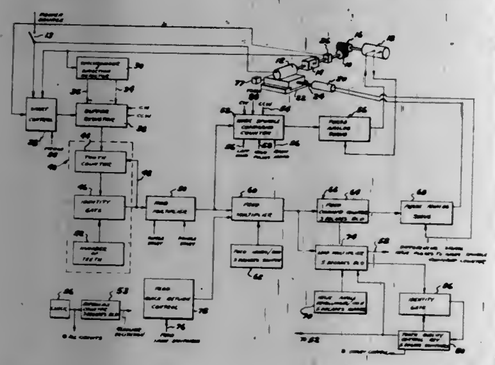


1. A capacitor assembly comprising a capacitor body of dielectric material and electrode foil strips convolutely wound relative to the dielectric material in capacitive relationship, said foil strips being staggered to extend beyond opposite edge boundaries of said dielectric material, and radially directed electrical lead means traversing a plurality of foil strips and at least partially embedded beneath opposite marginal edge portions thereof to expose a substantial area of the lead means to the foil strips, said lead means being in fused engagement with said foil strips substanatially throughout the embedded area so as to be directly supported by said foil strips while providing either direct contact with or very close positionment of said foil strips and lead means to each other whereby a superior electrical and physical connection between the lead means and foil strips is provided.

3,267,344
NUMERICALLY CONTROLLED WORK AND FEED MOTOR DRIVEN GEAR-HOBBER
George McDaniel, Northville, Mich., assignor to The Bendix Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 4, 1963, Ser. No. 255,808
4 Claims. (Cl. 318—39)

1. A control system for a machine having a first rotatable spindle, a second rotatable spindle, and means for feeding said first spindle, wherein the feed of said first spindle must bear an integral numerical relation to the rotation of the second spindle, comprising: a motor connected to said first spindle; an independent power system for said motor; a transducer connected to said first spindle and operative to generate an electrical pulse for each predetermined incremental motion of the first spindle; a digital operator connected to receive the pulse train constituting the output of the transducer and a numerical quantity and to provide as an output a pulse train having a number of pulses fewer than the input train, the number of pulses in said output train being a factor of both the number of pulses in the input train and the numerical quantity; a digital servo system having said second pulse train as its

input, operatively connected to the second spindle so as to rotate it through a distance proportional to the number of pulses in said second train at a rate proportional to the instantaneous pulse rate in said second train; a second operator having said second pulse train and a second numerical quantity expressing said integral numerical relationship between the rotation of the second spindle and the feed of the first spindle as its inputs and being operative to provide as an output a third pulse train having



fewer pulses than said second pulse train, the number of pulses in said third train being a function of the number of pulses in said second train and said second numerical quantity; and a second digital servo system operative to receive said third pulse train and drivingly connected to said means for feeding the first spindle, whereby the feed of the first spindle bears said integral numerical relationship to the rotation of the second spindle as expressed by said second numerical quantity.

3,267,345
PLURAL MOTOR CONTROL FOR A LOCOMOTIVE WITH ANTI-SLIP AND LOAD DISTRIBUTION
Elroy F. Boening, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed July 2, 1963, Ser. No. 292,346
8 Claims. (Cl. 318—52)



1. A control for a plurality of electric shunt wound D.C. motors of a traction vehicle, comprising

an excitation system for each of said motors operable to control the field current of said motor and having a plurality of inputs and varying said field current as a function of signals applied to said inputs,

means connected to first inputs of all of said excitation systems for varying the field current of all of said motors simultaneously, whereby the speed of all of said motors is increased when said signal to said first inputs is in a direction to weaken field current,

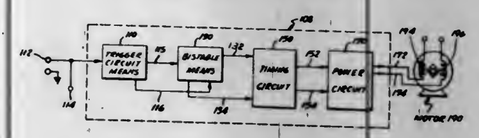
means connected to second inputs of all of said excitation systems for balancing the armature currents of said motors,

means responsive to the weight carried by selected wheels of said vehicle and being coupled to a third input of the energization system associated with the motor which drives said selected wheels for generating a load distribution signal which is a function of the change of weight carried by said selected wheels,

said load distribution signal generated in response to said reduction in weight energizing said excitation system to increase said field current, and

means responsive to a predetermined magnitude of said load distribution signal for disabling the armature current balancing means connected to said second input of the excitation system associated with said selected wheels.

3,267,346
ALIGNING SYSTEM FOR STEP MOTOR
Max M. Liang, San Mateo, and Charles E. Mendenhall, Redwood City, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Jan. 2, 1964, Ser. No. 334,985
3 Claims. (Cl. 318—138)



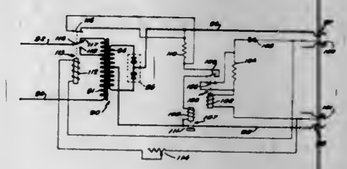
1. An alignment system for a step motor which has a plurality of windings, an output shaft, and a rotor operatively coupled to said output shaft, wherein a given one of said windings must be energized to step the rotor, the combination comprising:

a motor controller for energizing said windings;

said motor controller having an input terminal for receiving input signals and having a plurality of outputs each of which is connected to one of said windings, said motor controller alternating between stable states to generate an output at one of said outputs at a time; and

means coupled to said motor controller to establish the selected stable state therein for generating a single aligning output at the output and respective winding when energized will move said output shaft prior to application of the input signals, whereby the first subsequent input signal to said controller input terminals will result in movement of said output shaft.

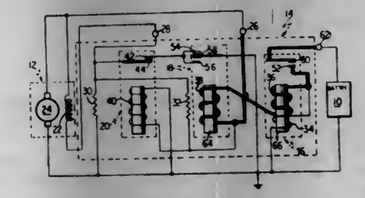
3,267,347
BATTERY CHARGERS
James B. Godshalk, West Pikeland Township, and Lewis A. Medlar, Oreland, Pa., assignors to Fox Products Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 18, 1961, Ser. No. 103,870
7 Claims. (Cl. 320—25)



1. In a battery charger, the combination of a charging circuit including a pair of leads connectable to at least one storage battery for supplying charging current thereto; a contactor connected to normally interrupt said charging circuit and actuatable to a charging circuit completing condition; an electromagnetic relay; an asymmetrically conductive device; an impedance; circuit means connecting the actuating winding of said relay,

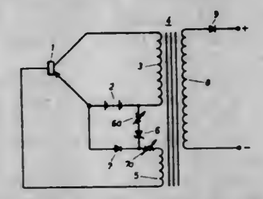
said asymmetrically conductive device and said impedance in series across said leads with said asymmetrically conductive device poled to pass current from the battery when the latter is connected to said leads with a predetermined polarity, said relay having one set of contacts connected to said impedance to effectively disconnect same when said relay is not energized to thereby increase the sensitivity of said relay to battery potential; said relay having another set of contacts connected to prevent said contactor from being actuated to charging circuit completing condition when the battery is connected to said leads with a polarity opposite that required for charging.

3,267,348
GENERATOR RE-POLARIZING SYSTEM
Aldo Mariani Mariani, Elmont, N.Y., assignor, by mesne assignments, to P. & D. Manufacturing Company, Inc., a subsidiary of the Bendix Corporation, Long Island City, N.Y., a corporation of Delaware
Filed Apr. 18, 1963, Ser. No. 274,004
6 Claims. (Cl. 320—25)



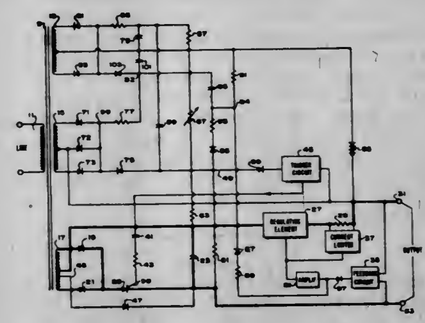
1. A circuit for charging a battery having a first and a second output terminal by using a direct current generator having an armature winding and a field coil, comprising (1) a first relay core of electromagnetic material; (2) a first conductor wound about said first relay core and having first and second endpoints; (3) a second conductor wound about said first relay core and having a first endpoint connected to the second output terminal of the battery and a second endpoint connected to the first endpoint of said first conductor; (4) a first pair of contact points consisting of a first contact point connected to the first output terminal of the battery and a second contact point connected to the first endpoint of the said first conductor, which pair of contact points are positionally responsive to the character of the electrical current flowing through the said first and second conductors in such a manner that said first pair of contact points are in electrical contact with one another when the current in the said first and second conductors is above a predetermined amount, and not in electrical contact with one another when the current in the said first and second conductors is below a predetermined amount; (5) a second relay core of electromagnetic material; (6) a third conductor wound about said second relay core and having a first endpoint connected to the second endpoint of said first conductor and a second endpoint connected to both the armature winding of the generator and the field coil of the generator; and (7) a trio of contact points comprising first and second contact points connected to each other and a third contact point connected to the second output terminal of the battery, which trio of contact points are positionally responsive to the character of the electrical current flowing through the said third conductor in such a manner that the first and third contact points are in electrical contact with one another when the current in the said third conductor is below a predetermined amount, and the second and third contact points are in electrical contact with one another when the current in the said third conductor is above a predetermined amount.

3,267,349
LOW SOURCE-VOLTAGE CUTOFF ARRANGEMENT FOR CONVERTERS
Harri L. Krause, Munich, Germany, assignor to Bolkow Gesellschaft mit beschrankter Haftung, Ottobrunn, near Munich, Germany
Filed Nov. 13, 1962, Ser. No. 236,857
Claims priority, application Germany, Nov. 21, 1961, B 64,904
4 Claims. (Cl. 321—2)



1. A converter for a load comprising: a transformer including a primary winding, a secondary winding connected with the load and a feedback winding; a transistor including an emitter, a collector and a base; a battery including a positive terminal and a negative terminal; a diode and a zener diode connected in a series circuit across said battery terminals, said diode and zener diode being connected in their forward conducting and reverse conducting directions, respectively, relative to said battery terminals; first conductor means connecting said collector to one end of said primary winding; second conductor means connecting said negative terminal to the other end of said primary winding; third conductor means connecting said positive terminal to said emitter; one end of said feedback winding connected to said base and the other end of said feedback winding connected at a point between said series connected diode and zener diode.

3,267,350
PREREGULATOR CIRCUIT
Robert E. Graham, Morris County, and Robert P. Buchner, Union County, N.J., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Oct. 19, 1962, Ser. No. 231,807
5 Claims. (Cl. 321—18)



1. A regulated power supply comprising:

means adapted to receive an alternating current energy,

a load circuit supplied with direct current energy therefrom,

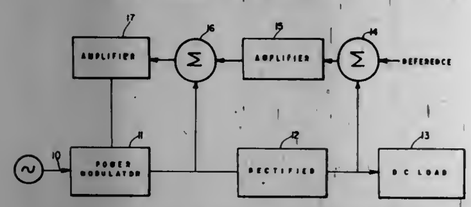
a switch having a pair of current conducting electrodes included in said circuit and a gate electrode,

a storage element,

means including said switch connected to said storage element for charging said storage element from said alternating current energy,

a regulating device connected in said load circuit,
a timing capacitor,
means for periodically charging said timing capacitor at a varying rate,
means for varying the magnitude of said rate including means for supplying to said timing capacitor
(a) a periodically-varying signal related in amplitude and synchronously related in time to said alternating current energy.
(b) a second signal related to voltage variations across said regulating device,
(c) a third signal related to voltage variations in said load circuit, and
trigger circuit means connected to said timing capacitor for passing a gating signal to said gate electrode whenever the charge across said timing capacitor equals a predetermined value, whereby said gating signal from said trigger circuit means fires said controlled rectifier at a point in each cycle of said alternating current energy that is dependent upon the alternating current signal magnitude, load current, and load voltage.

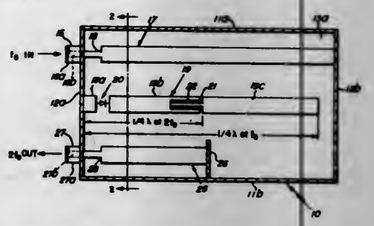
3,267,351
REGULATED D.-C. POWER SUPPLY WITH CONTROLLABLE POWER MODULATOR
John W. Martin, Oak Park, Ill., assignor to Basic Products Corporation, Elk Grove Village, Ill., a corporation of Wisconsin
Filed Oct. 8, 1962, Ser. No. 228,852
10 Claims. (Cl. 321—19)



1. In a D.C. power supply, the combination including an A.C. power source, an A.C. power modulator connected to said source, rectifier means connected to said power modulator, power modulator output sensing means, D.C. output sensing means connected to the output of said rectifier means, output voltage comparing and amplifying means connected to said output sensing means and to a reference source to provide a variable reference signal, second comparing and amplifying means connected to said power modulator output sensing means and to said output voltage comparing and amplifying means to provide control power, and means connecting said second comparing and amplifying means to said power modulator, so that the output of the power supply is regulated in a predetermined manner for voltage and load changes.

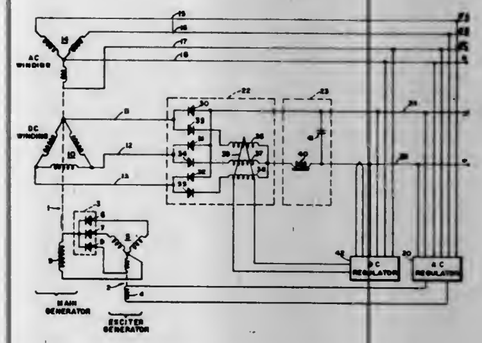
3,267,352
HARMONIC GENERATORS UTILIZING A BASIC MULTIPLYING ELEMENT RESONANT AT BOTH THE INPUT AND OUTPUT FREQUENCIES
Ronald E. Blight, Framingham, Mass., assignor to Raytheon Company, Lexington, Ohio, a corporation of Delaware
Filed Jan. 23, 1964, Ser. No. 339,708
7 Claims. (Cl. 321—69)

6. Apparatus comprising at least one strip transmission line element resonant at both an input and output frequency;
said element comprising a composite distributed transmission line including in series a center conductor together with a lumped nonlinear reactance and a choke, the portion of said element including the series connection of said choke and the lumped nonlinear reactance having an electrical length selected to be resonant at solely said output frequency, and the over-all element including the remainder of said conductor having an electrical length selected to be resonant at solely said input frequency;



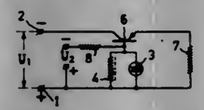
means for coupling an input signal to said strip transmission line element;
and means for coupling an output signal from said transmission line element at a frequency equal to an integral multiple of said input frequency.

3,267,353
DUPLEX GENERATOR FOR PROVIDING INDEPENDENTLY REGULATED A.C. AND D.C. CURRENT OUTPUT
Paul W. Franklin, Dayton, Ohio, assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Feb. 26, 1963, Ser. No. 261,067
8 Claims. (Cl. 322—90)



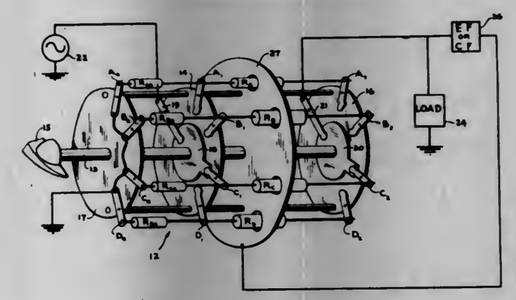
1. In a duplex generator, the combination of
an alternator having a stator and a rotor,
a field winding on said rotor, and
a first and second armature winding on said stator;
a first regulator circuit connected to energize said field winding controlling the potential across the first armature winding in accordance with the potential sensed across said first armature winding to thereby provide a source of regulated alternating current, and simultaneously through said field winding to control the potential on said second armature winding;
a controllable rectification circuit connected to said second armature winding; and
a second regulator circuit connected to control the amount of rectification in said rectification circuit in accordance with the potential sensed at the output of said rectification circuit to thereby provide a source of regulated direct current.

3,267,354
VOLTAGE STABILIZER INCLUDING LIGHT COUPLING BETWEEN GAS DISCHARGE TUBE AND PHOTORESISTOR
Gerardus Jacobus Deelman, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 18, 1962, Ser. No. 224,404
Claims priority, application Netherlands, Sept. 21, 1961, 269,485
2 Claims. (Cl. 323—21)



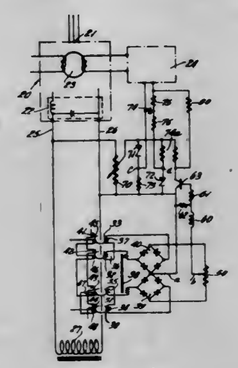
1. A voltage stabilizing circuit arrangement comprising: input terminals adapted to be connected to a source of variable voltage, a transistor having emitter, base and collector electrodes, one of said terminals being connected to said collector electrode, a gas discharge tube connected between said base electrode and the other of said input terminals, a photosensitive resistor connected in parallel with said tube, a source of reference voltage coupled to said base electrode, said resistor and said tube being arranged such that the light from said tube impinges on said resistor, the change in resistance of said resistor due to the impingement of light thereon compensating for changes in voltage across the tube, and a load circuit coupled to said emitter electrode for deriving a stabilized voltage therefrom.

3,267,355
MULTI-RANGE CONSTANT CURRENT SOURCE
Abraham I. Dranetz, Scotch Plains, N.J., assignor to Dranetz Engineering Laboratories, Inc., Plainfield, N.J., a corporation of New Jersey
Filed Dec. 10, 1963, Ser. No. 329,536
18 Claims. (Cl. 323—80)



1. A multi-range constant current source comprising:
(A) a source of alternating voltage;
(B) a load impedance;
(C) a plurality of constant current resistors of such value that at least one of them has a value at least ten times that of the load impedance;
(D) a first switch deck having a plurality of terminals and a movable wiper arm for selectively making connection to each of said plurality of terminals;
(E) a second switch deck having a plurality of terminals and a movable wiper arm for selectively making connection to each of said plurality of terminals;
(F) each of said plurality of constant current resistors being connected between a terminal on the first switch deck and a terminal on the second switch deck;
(G) a plurality of impedances;
(H) each of said plurality of impedances being connected between one of the terminals of the first switch deck and ground;
(I) the load impedance being connected between the movable wiper arm of the second switch deck and ground;
(J) the source of alternating voltage being connected to the movable wiper arm of the first switch deck;
(K) means for selectively moving the movable wiper arm of the first switch deck such that one of the plurality of constant current resistors is connected to the source of alternating voltage;
(L) means for selectively moving the movable wiper arm of the second switch deck such that the constant current resistor selected by the movable wiper arm of the first switch deck is connected to the load impedance;
(M) the values of the plurality of impedances being such that the unselected terminals to which they are connected are at substantially ground potential.

3,267,356
SATURABLE REACTOR CURRENT CONTROL SYSTEM
Johannes Schaefer, Philadelphia, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 4, 1963, Ser. No. 262,531
4 Claims. (Cl. 323—89)



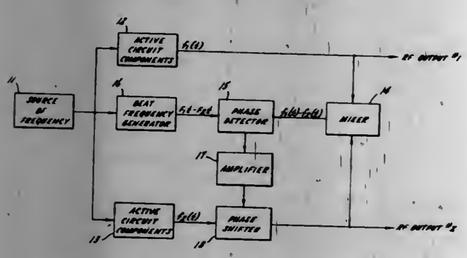
1. A constant current regulator for an electrical device having an output D.-C. current and output D.-C. voltage; said electrical device having an output voltage control means responsive to an input signal for controlling the output voltage thereof; said constant current regulator including output D.-C. current measuring means, output D.-C. voltage measuring means, first control circuit means connected to said output D.-C. voltage measuring means, and second control circuit means connected to said output D.-C. current measuring means; each of said first and second control circuit means being connected to said output voltage control means; said first control circuit means generating control signals solely responsive to variations of said output D.-C. voltage from some predetermined value; said second control circuit means generating control signals solely responsive to variations of said output D.-C. current from some predetermined value, said first control circuit having a high speed of response, and said second control circuit having a relatively low speed of response with respect to said first control circuit; the speed of response of said first control circuit being unaffected by the components of said second control circuit; said first control circuit including a series connected resistor and capacitor; and a voltage reference

source; the difference in the output D.-C. voltage measured by said output D.-C. voltage measuring circuit and the voltage of said reference source being connected across said series connected resistor and capacitor; a current proportional to the voltage of said capacitor being injected into said output voltage control means.

3,267,357
AUTOMATIC PHASE CONTROL SYSTEM

Peter Ravenhill, Baltimore, and Tommy S. Weaver, Glen Burnie, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Aug. 22, 1963, Ser. No. 303,972
1 Claim. (Cl. 323—101)



A system for automatically maintaining a constant phase shift between two output signals of different frequencies comprising:

first and second transmission paths, each providing an output signal of different frequency,

a beat frequency generator,

a mixer having a separate input from each of two transmission paths,

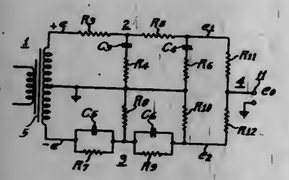
a phase detector connected to the output of said mixer and the output of said beat frequency generator, and

a phase shifter connected in one of said transmission paths and having its input connected to said phase detector whereby the phase shift between said outputs is maintained at a constant value.

3,267,358
PHASE SHIFTER NETWORKS

Norman J. Anderson, Boonton, N.J., assignor to North Atlantic Industries, Inc., Plainview, N.Y., a corporation of New York

Filed July 16, 1962, Ser. No. 210,055
15 Claims. (Cl. 323—122)



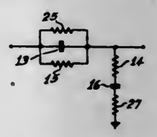
1. A phase shifter for producing a substantially constant 90° phase shift and substantially constant attenuation of an input voltage throughout a frequency band, comprising a phase lead network and a phase lag network, said networks having respective characteristic break frequencies disposed symmetrically above and below the center frequency of said band and designed to produce substantially equal attenuations at the center frequency and respective phase shifts that are opposite in sense but substantially equal in magnitude at said center frequency, said networks having a common reference and each having an input terminal and an output terminal,

a pair of input circuit means connected to said input terminals for applying said input voltage thereto, and a pair of output circuit means connected to said output terminals for combining the outputs of said networks to produce a resultant output voltage, one of said input and output circuit means comprising connections to one of said input and one of said output network terminals in opposite polarities with respect to a reference potential common to the input and output circuits and the other comprising connections to the other of said input and the other of said output network terminals in like polarity with respect to the reference.

3,267,359
PHASE SLOPE COMPENSATOR

Norman J. Anderson, Boonton, N.J., assignor to North Atlantic Industries, Inc., Plainview, N.Y., a corporation of New York

Filed Aug. 14, 1962, Ser. No. 216,886
12 Claims. (Cl. 323—122)

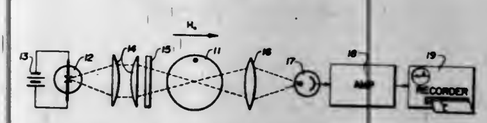


1. A phase slope compensator for effecting a small positive phase slope correction throughout an operating frequency band including a phase lead network and a phase lag network having a common input terminal to be supplied from an A.C. source to be compensated, said networks being designed to produce equal attenuations and equal and respectively opposite phase shifts at the center frequency of said operating band, said phase lead network having a break frequency higher than said center frequency and said phase lag network having a break frequency lower than said center frequency, the outputs of said network being additively combined.

3,267,360
OPTICAL ABSORPTION MONITORING OF ALIGNED ALKALI ATOMS

Hans G. Dehmelt, Seattle, Wash., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Continuation of application Ser. No. 649,190, Mar. 28, 1957. This application Oct. 2, 1963, Ser. No. 313,186
12 Claims. (Cl. 324—.5)



1. Apparatus for aligning alkali atoms in the ground state comprising:

an absorption vessel for containing such alkali atoms in a unidirectional field;

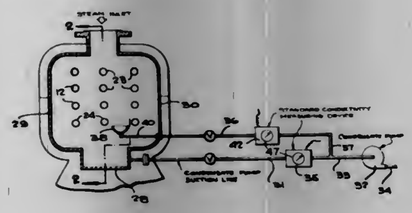
means for irradiating the alkali atoms with optical resonance radiation that has a propagation direction component parallel to the unidirectional magnetic field, such radiation having a spectral frequency supplying quanta of energy to produce transitions between energy levels so that the alkali atoms may be aligned in their ground state; and

means for minimizing the collisions of atoms with the walls of the containing absorption vessel said minimizing means comprising a buffer gas at a pressure substantially greater than one millimeter of mercury so that the relaxation time of the atoms is increased, thereby maintaining the alignment of the alkali atoms in the ground state for an increased period, and means for measuring the intensity of non-absorbed optical radiation received from said absorption vessel during the alignment of the alkali atoms in the ground state.

3,267,361
APPARATUS FOR DETERMINING SALINITY OF CONDENSED STEAM IN A CONDENSER

James W. Maddox, Newport News, Va., assignor to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia

Filed Jan. 8, 1962, Ser. No. 164,939
2 Claims. (Cl. 324—30)

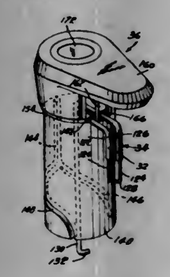


1. Apparatus for monitoring the salinity concentration of the liquid cycled through a steam generating system, comprising a condenser housing containing spaced tube end sheets and tubes having thin ends disposed in and extending between said tube sheets, a hot well in the bottom of the condenser, a condensate discharge conduit connected to the hot well, an upwardly opening cup within said housing above the bottom thereof and below at least one of said tubes, and out of vertical alignment of any of said tubes, an effluent conduit extending into said housing and connected to the bottom of said cup, and a salinity measuring device disposed in each of said conduits whereby the salinity concentration in said discharge conduit may be compared with the concentration in said effluent conduit.

3,267,362
ELECTRODE CARRIER ASSEMBLY

Phyllis D. Page, Aldan, Pa., assignor to Becton, Dickinson and Company, Rutherford, N.J., a corporation of New Jersey

Filed Apr. 18, 1962, Ser. No. 188,354
2 Claims. (Cl. 324—30)

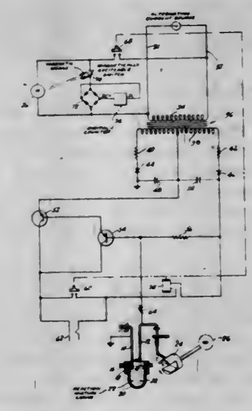


1. An electrode carrier for use in a system having a frame for determining the coagulation properties of blood comprising: a tubular body, and a pair of spaced electrodes supported by said body for immersion in a specimen of the liquid material, and said body having means for cooperating with the frame of the system for lowering both of said electrodes into said specimen to an electrode-immersed position from an electrode-elevated position, one of said electrodes adapted to be stationary in said specimen, support means for supporting said one of said electrodes in a stationary position with this stationary electrode being fixed relative to the body, the other of said electrodes adapted to be movable into and out of said specimen, mounting means for movably mounting said other of said electrodes, the body including a longitudinally extending bore, and the movable electrode being movable relative to the body and within said bore, the body including guide means for only guiding said movable electrode through a prescribed path, said guide means including a strap having a pattern opening through which said movable electrode projects and said opening determining the path said movable electrode follows through said specimen.

3,267,363
ELECTRICAL APPARATUS FOR FIBER DETECTION

Bruce B. Young, Radnor, Pa., assignor to Becton, Dickinson and Company, Rutherford, N.J., a corporation of New Jersey

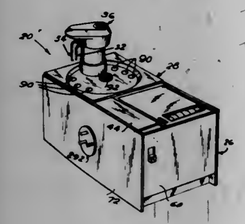
Filed Apr. 18, 1962, Ser. No. 188,485
5 Claims. (Cl. 324—30)



1. An electrical circuit for detecting the presence of fibrin in a blood specimen in prothrombin time determinations comprising: a pair of electrodes, one of said electrodes being movable into and out of said specimen and the other of said electrodes being stationary in said specimen, drive means for moving the movable electrode into and out of said specimen, first switch means in said circuit for permitting an electrical potential to be applied across said electrodes, synchronization means synchronized with the operation of said drive means for removing the electrical potential across said electrodes when said movable electrode is immersed in said specimen and for permitting the application of said electrical potential when said movable electrode is out of said specimen, said synchronization means including switch closing means for closing said switch upon lifting of fibrin from said specimen by the movable electrode to thereby provide a current path between said electrodes through the fibrin and specimen, and electrical means in response to said switch closing means for deactivating the operation of the drive means when the current path between said electrodes is

so provided, a second switch means for energizing said drive means, magnetic means driven by said drive means, a magnetically excitable switch adapted to be closed upon each traversal of said magnetic means in close proximity thereto, a counter coupled with said magnetically excitable switch and adapted to register a digital amount upon each closure of said magnetically excitable switch.

3,267,364
COAGULATION TIMER
Phyllis D. Page, Aldan, and Bruce B. Young, Radnor, Pa., assignors to Becton, Dickinson and Company, Rutherford, N.J., a corporation of New Jersey
Filed Apr. 18, 1962, Ser. No. 188,934
10 Claims. (Cl. 324—30)



1. A portable compact and lightweight apparatus for measuring the time for initiation for fibrillation of blood by detecting the presence of fibrin therein comprising in combination:

a casing of reduced size;

a blood specimen receiving means on said casing for receiving a specimen of blood to be measured;

conductivity means for cooperating with fibrin to provide an electrical current path, such conductivity means comprising an electrode adapted to be stationary for contact with the specimen, another electrode adapted to be movable into and out of the specimen;

a first mechanism for moving the movable electrode into and out of the specimen;

a second mechanism for lowering both of said electrodes into said receiving means, said second mechanism including a carrier supporting both of said electrodes, said carrier projecting outwardly and inwardly of said casing and being displaceable relatively thereto from an electrode-immersed position to an electrode-elevated position, latching means for releasably holding the carrier in the electrode-elevated position, and said carrier and said casing having interengaging surfaces for cooperating and directing said electrodes into the receiving means when in the electrode-immersed position and away therefrom when in the electrode-elevated position;

timing means for registering the time to detect the presence of fibrin in said specimen;

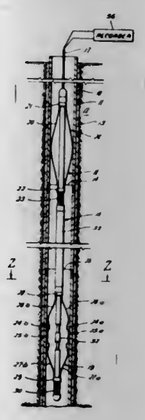
electrical potential means for supplying an electrical potential to said conductivity means;

switch means for initiating the operation of said timing means;

time delay means for causing after a predetermined period of time following activation of said switch means, the latching means to release the carrier from the electrode-elevated position whereupon the said inter-engaging surfaces cooperate and direct the electrodes into the receiving means and the electrode-immersed position and the first mechanism to move the movable electrode into and out of the liquid;

and cut-off means for stopping the operation of said timing means and movement of the movable electrode upon lifting of fibrin out of said specimen by the movable electrode and passage of current through said conductivity means, specimen and lifted fibrin.

3,267,365
APPARATUS FOR DETECTING MAGNETIC ANOMALIES
Gerald S. Baker, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Sept. 12, 1963, Ser. No. 308,561
15 Claims. (Cl. 324—34)



1. Apparatus for detecting magnetic anomalies in a tubular structure comprising:

an elongated support member adapted for movement through the tubular structure;

a wall-engaging member coupled to the support member and supported thereby and adapted to be urged against the inner wall of the tubular structure;

magnet means forming part of the wall-engaging member for generating a magnetic flux field which passes through the tubular structure;

and magnetic field detection means forming part of the support member for detecting variations in the magnetic flux field.

3,267,366
APPARATUS FOR DETECTING MAGNETIC ANOMALIES
Joseph Marie Bricaud, Suresnes, Seine, France, assignor to Societe de Prospection Electrique Schlumberger, S.A., Paris, France, a corporation of France
Filed Sept. 12, 1963, Ser. No. 308,595
Claims priority, application France, Sept. 21, 1962, 910,191
17 Claims. (Cl. 324—34)

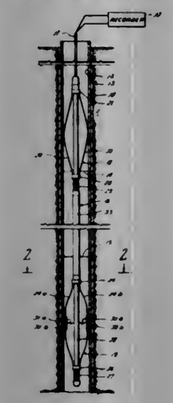
1. Apparatus for detecting magnetic anomalies in a cased borehole comprising:

an elongated support member adapted for movement through a case borehole;

centralizer means coupled to the support member and including a plurality of wall-engaging members for keeping the support member in a central position in the borehole;

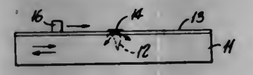
a plurality of magnet means individually located on different ones of the wall-engaging members and individually generating a magnetic flux field which passes through the casing;

and means for detecting variations in the magnetic flux fields, whereby at least one of the wall-engaging



members containing a magnet means is adapted to be in contact with the casing at all times in the cased borehole.

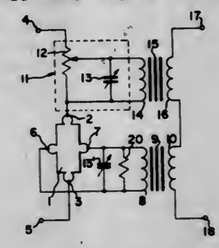
3,267,367
METHOD OF DETECTING DEFECTS BY MEANS OF MAGNETIC TAPE AS A SLIDE TRANSFER MEDIUM
Eiji Izumiyama, Omiya, Japan, assignor to Japan Aircraft Manufacturing Co., Ltd., Yokohama, Japan, a corporation of Japan
Filed July 1, 1963, Ser. No. 291,916
Claims priority, application Japan, July 2, 1962, 37/27,168
2 Claims. (Cl. 324—37)



1. A method of detecting defects in magnetic materials by means of a magnetic tape as a slide transfer medium, which comprises passing an alternating magnetic flux through the magnetic material to be inspected, causing a magnetic tape to slide along the magnetic material while holding the said magnetic tape in close contact therewith to obtain an alternating magnetic record of defects in the material on the magnetic tape, and causing a detector to slide over the said magnetic tape with the record along a rectilinear path to obtain a detector output voltage.

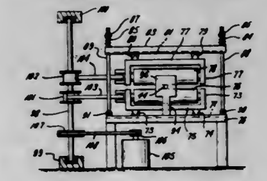
3,267,368
MAGNETIC FIELD SENSING DEVICE
John V. Rock and David L. Wright, Palo Alto, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Jan. 21, 1963, Ser. No. 252,939
19 Claims. (Cl. 324—45)

1. An apparatus for sensing the strength of a magnetic field with very high precision comprising Hall-effect sensing means adapted to generate a Hall voltage when disposed within a magnetic field in variable accordance therewith and high precision voltage dividing means being connected in series circuit relation to at least one current lead of said Hall sensing means, a variable calibrated reference voltage being generated across said dividing means in series opposing fashion to said Hall voltage to produce a difference signal therebetween whereby a voltage equal to the Hall voltage is derived and deviations from the steady state linear relation of said magnetic field strength to said Hall voltage due to external fluctuations in supply voltage and circuit loading are effectively cancelled, wherein said voltage dividing means comprises a first high precision resistor, and said Hall sensing means has two voltage leads oppositely disposed in the plane of said



at least one current lead at right angles thereto and further including reference coil means connected in parallel circuit relation across said first resistor, field coil means connected across said Hall voltage leads, and transformer means for applying said reference voltage and said Hall voltage in series opposition therebetween.

3,267,369
METHOD AND APPARATUS FOR TESTING CABLE CORES INCLUDING MEANS FOR CAUSING THE CABLE TO TWIST ABOUT ITS LONGITUDINAL AXIS
Kenneth W. McLoad, Houston, Tex., assignor to Vector Cable Company, Houston, Tex., a corporation of Texas
Filed Apr. 15, 1963, Ser. No. 272,911
5 Claims. (Cl. 324—54)

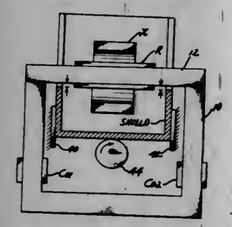


1. Apparatus for electrically testing cable core assemblies comprising; a pair of juxtaposed, generally parallel cylindrical rollers, means coupled between said rollers for applying radial compressive forces to a core assembly being fed between said rollers, means to shift said rollers axially relative to the core assembly and substantially transversely of the longitudinal axis of said assembly thereby causing said rollers to traverse the surface of a core assembly circumferentially as well as longitudinally, and means connected to the rollers for electrically testing the core assembly.

3,267,370
MAGNETICALLY SHIELDED APPARATUS FOR INDICATING THE NUMBER OF TURNS AND THE PRESENCE OF SHORTED TURNS IN ELECTRIC COILS
Walter F. Praeg, 11731 Glen Road, R.R. 1, Palos Park, Ill.
Filed Mar. 11, 1963, Ser. No. 264,223
12 Claims. (Cl. 324—55)

1. In a device for measuring number of unshorted turns and for detecting the presence of shorted turns in an electrical coil, said device comprising means forming a primary ferromagnetic circuit including a coil core section therein surrounded by a reference coil and by the coil under test, means to apply alternating magnetomotive force to the primary ferromagnetic circuit, ferromagnetic shield means at least partially enclosing at least the portion of said core section surrounded by said reference coil

and test coil, and electrical circuit means operatively associated with the reference and test coils and alternatively operable during such application of magnetomotive force to detect voltages induced in both the test coil and reference coil for measuring number of test coil turns, and to detect voltage induced in the reference coil with the test coil terminals open for detecting the presence of shorted turns in the test coil; said shield means cooperating with said portion of core section to form a low-reluctance ferromagnetic shielding circuit in by-pass relation to a portion of said primary circuit and having a nonferromagnetic



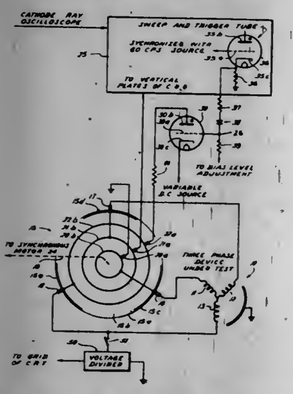
gap therein which substantially increases the total shielding circuit reluctance, thereby to suppress stray flux in the coil space enclosed by the shield during coil turns measurement; means operatively associated with said coil core section and operable, during shorted-turns testing, to provide a test coil shorted turns ferromagnetic flux path which extends serially through said core section portion and exteriorly extend around both coils and which during such testing has a low reluctance relative to the reluctance of the shielding circuit during operation of the latter when measuring number of coil turns.

3,267,371

COIL TESTING DEVICE HAVING A SOURCE OF PULSED ENERGY AND COMMUTATOR MEANS SYNCHRONIZED WITH THE ENERGY SOURCE FOR PROVIDING A VISUAL INDICATION AND COMPARISON

Thomas E. Greve, P.O. Box 7822, Houston, Tex.

Filed May 15, 1963, Ser. No. 280,688
7 Claims. (Cl. 324—55)



1. A test device for testing a plurality of windings, coils, or the like having a common connection for similarity with respect to one another comprising,

(a) a source of pulsed electrical energy connected to a contact,

(b) indicating means having a contact for connection thereto to form a representation of the voltage wave form of a signal connected to the contact,

(c) a set of at least three terminals for connection to each of a plurality of coils to be tested,

(d) timing means connecting said contacts to a pair of said set of terminals for a period of time sufficient to allow at least one pulse of energy from said source of pulsed electrical energy to be formed, said timing means then connecting said contacts to another pair of said set of terminals, and so on, said timing means consecutively connecting different pairs of contacts of said set to provide a representation of several voltage wave forms for comparison of several different pairs of coils to be tested, and

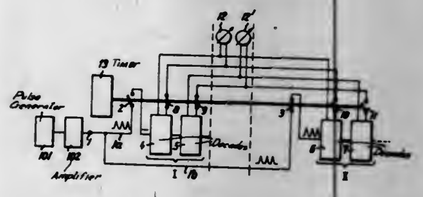
(e) said set of terminals and said timing means constituting the sole means providing the several voltage wave forms to said indicating means.

3,267,372

ELECTRICAL ARRANGEMENT FOR FORMING DIGITAL REPRESENTATION OF MEASURED VALUES ON THE BASIS OF TIME INTERVALS

Wilfried Fritzsche and Hans Langheinrich, Berlin, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Hamburg, Germany

Filed Feb. 16, 1959, Ser. No. 793,599
Claims priority, application, Germany, Feb. 14, 1958
L 29,676
10 Claims. (Cl. 324—70)



1. An arrangement for the digital formation of measured magnitudes based on a time interval, comprising two counting systems adapted for counting electrical pulses generated in numbers proportionate to said magnitudes and indicating the result of each count, in such a manner that one of the counting systems counts the pulses during a determined counting time while the other counting system indicates results of a former count during the counting time of the former system, said result-indicating counting system comprising result-indicating means which indicate continuously the measured value of the measured magnitude a main source of electric pulses generated dependent on the value of said magnitude to be measured; and switching means for switching one of said systems into electrical contact with said pulse source and simultaneously the other system into contact with said result-indicating means, an auxiliary source of electric pulses being emitted in determined periods, and means for so controlling said switching means as to effect the switching of said counting systems at the end of each period of pulses from said auxiliary source.

3,267,373

RESONANCE BRIDGE OR FREQUENCY DISCRIMINATOR CIRCUIT AND SENSING SYSTEM

Richard C. Webb, Broomfield, Colo., assignor to Colorado Instruments, Inc., Broomfield, Colo., a corporation of Colorado

Filed July 19, 1963, Ser. No. 296,328
8 Claims. (Cl. 324—81)

5. A frequency discriminating resonant bridge circuit comprising:

a first terminal adapted for connection to a source of alternating frequency signals;

a second terminal;

a first resistor connected between said first and second terminals;

a first capacitor connected to said second terminal;

a third terminal;

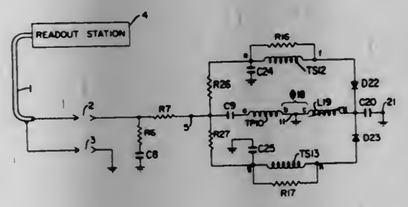
a second resistor connected between said first and third terminals;

a second capacitor connected to said third terminal;

a fourth terminal;

a third resistor and a first diode connected in series between said second and said fourth terminals;

a fourth resistor and a second diode connected in series between said third and said fourth terminals;



a transformer having a primary and first, second and third secondary windings;

said primary winding connected to said first terminal;

said first secondary winding connected in parallel with said third resistor;

said second secondary winding connected in parallel with said fourth resistor;

a third capacitor;

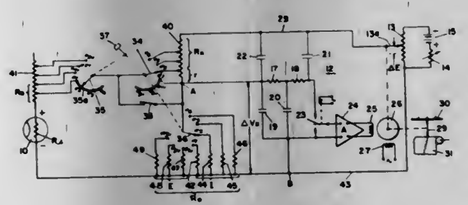
and said third capacitor and said third secondary winding connected in parallel to said fourth terminal.

3,267,374

NULL TYPE MULTIRANGE MEASURING SYSTEM WHICH MAINTAINS CONSTANT SENSITIVITY THROUGHOUT THE SEVERAL RANGES

Will McAdam, Blue Bell, and Raymond E. Tarpley, Cornwell Heights, Pa., assignors to Leeds and Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed June 28, 1962, Ser. No. 205,961
12 Claims. (Cl. 324—99)



1. An electrical measuring system having a plurality of ranges for different levels of input to be measured, comprising

detector means having an input circuit and an output circuit,

detector resistance means connected across said input circuit,

calibrating resistance means,

a variable source of voltage connected in a first mesh including at least a part of said caibrating resistance means and said detector resistance means,

connections forming a second mesh including an electrical source the output of which is to be measured,

said part of said calibrating resistance means and said variable source of voltage,

said detector means responding to the difference between two currents, the first from said electrical source the output of which is to be measured, and the second the current flowing in said part of said calibrating resistance means,

means for changing the magnitude of said part of said calibrating resistance means included in said second mesh to change the range of measurement and for concurrently changing the magnitude of said detector resistance means included in said first mesh in the same direction as the change of said part of said calibrating resistance means included in said second mesh and by that predetermined amount which maintains substantially constant the signal transmission characteristic between said variable source of voltage and said detector resistance means, and

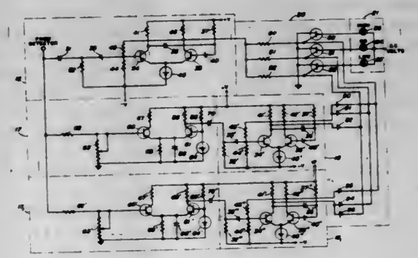
measuring means connected to said output circuit of said detector means operable in response to its output for adjusting said variable source of voltage in a direction to bring the magnitude of said current flowing through said part of said calibrating resistance means to a value equal to that from said electrical source the output of which is to be measured.

3,267,375

SYSTEM FOR MEASURING PULSE POWER LEVELS WITH A PLURALITY OF GATE CONTROLLED PULSE LEVEL COMPARATOR CHANNELS

Charles F. Olsen, Baltimore, Md., assignor, by mesne assignments to the United States of America as represented by the Secretary of the Navy

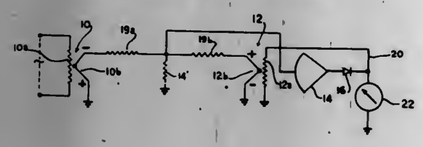
Filed May 10, 1962, Ser. No. 193,884
4 Claims. (Cl. 324—103)



1. A system for measuring pulse power levels comprising means for generating a signal proportional to the pulse power level of a monitored system; a first monostable multivibrator connected to said signal generating means for producing an output pulse indicative of the lowest power level to be measured; a first level comparator having first and second transistors with their emitters connected together and an input lead connected from the base of the first transistor to said signal generating means, an adjustable resistance connected between the base of the first transistor and ground, and a diode rectifier connected between the base of the second transistor and ground, said first level comparator providing an output pulse indicative of a medium power level to be measured; a second monostable multivibrator connected to the output of said first level comparator and to be triggered by the output thereof; a second level comparator having third and fourth transistors with their emitters connected together and an output lead connected from the base of the third transistor to said signal generating means, an adjustable resistance connected between the base of the third transistor and ground, and a diode rectifier connected between the base of the fourth transistor and ground,

said second level comparator providing an output pulse indicative of the highest power level to be measured; a third monostable multivibrator connected to the output of said second level comparator and to be triggered by the output thereof; indicator means; and a diode gate system for gating the outputs of the first, second and third monostable multivibrators to said indicator means.

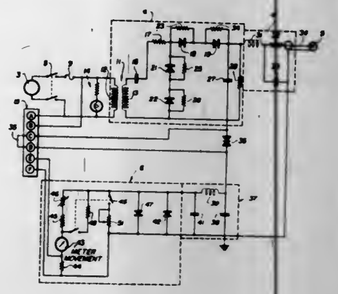
3,267,376
ELECTRIC MEASUREMENT APPARATUS USING A PAIR OF OPPOSITELY POLED THERMOELECTRIC JUNCTIONS IN PARALLEL AND DIODE STABILIZING MEANS
Wolfgang Harries, Haslet, N.J., assignor to Electronic Associates, Inc., Long Branch, N.J., a corporation of New Jersey
Filed Dec. 26, 1962, Ser. No. 247,058
4 Claims. (Cl. 324—106)



1. Apparatus for measuring the effective value of an unknown electric current or voltage, including a pair of substantially matched thermoelectric devices having first and second heating resistors and first and second thermoelectric junctions, respectively, input connections to couple said first resistor to the source of the unknown current or voltage, means for supplying direct current to said second resistor in an amount to cause said second junction to produce an output equal to that of said first junction, and means for measuring the direct-current energization of said second resistor and thereby providing the desired measurement, said direct-current supplying means including a high-gain direct-coupled amplifier, a pair of matched resistors, said first junction having one terminal connected to a point of reference potential and the other terminal connected in series circuit with a first one of said pair of matched resistors, said second junction having one terminal connected to a point of reference potential and the other terminal connected in series circuit with a second one of said pair, means connecting the ends of said pair of matched resistors remote from said first and second junctions to the input of said amplifier and said junctions being oppositely polarized relative to said amplifier to adapt the amplifier to respond to the difference in thermoelectric output between said first and second junctions, and output connections from said amplifier to said second resistor, the resulting current in said second resistor flowing in a certain direction when said first junction is heated, said direct-current supplying means including sharply discriminating means at a high-level part of said amplifier for suppressing current flow to said second heating resistor in the direction opposite to said certain direction.

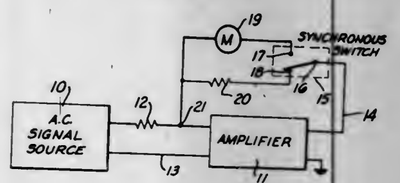
3,267,377
MEASURING CIRCUIT FOR PROVIDING AN OUTPUT EITHER LINEARLY OR LOGARITHMICALLY RELATED TO AN INPUT
Harry A. Mandoli and Robert J. Rorden, Palo Alto, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Original application June 1, 1959, Ser. No. 817,344, now Patent No. 3,118,103, dated Jan. 14, 1964. Divided and this application Nov. 1, 1961, Ser. No. 149,318
3 Claims. (Cl. 324—115)

1. A current measuring circuit for providing an output quantity either logarithmically or linearly related to an input current comprising, in combination: input means; a first diode the voltage across which varies approximately as the logarithm of the current therethrough connected across said input means; a voltmeter circuit including meter movement and voltmeter circuit resistance connected in parallel with said first diode; impedance



means; a variable impedance for shunting across said first diode; and, switching means for connecting said impedance means in circuit connection with said voltmeter circuit to reduce the resistance of said voltmeter circuit and for shunting said variable impedance across said first diode.

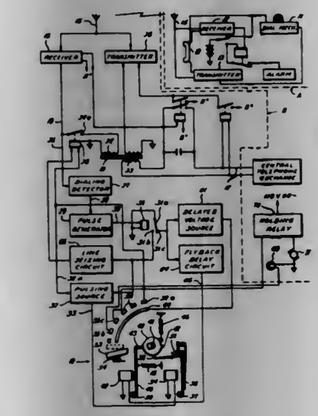
3,267,378
A.C. MEASURING CIRCUIT HAVING AN AMPLIFIER WITH FEEDBACK PATH IN WHICH A SYNCHRONOUS SWITCH OUTPUT DRIVES A D.C. METER
Le Roy D. Barter, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Mar. 26, 1962, Ser. No. 182,416
12 Claims. (Cl. 324—118)



1. In an amplifier circuit for driving a D.C. measuring unit from an A.C. signal source, the combination of:
an operational amplifier including an input terminal, an output terminal and a negative feedback circuit coupling said amplifier output terminal to said amplifier input terminal, said A.C. signal source being connected to said input terminal;
phase sensitive demodulator means coupled in said feedback circuit, said demodulator means having an input connected to said amplifier output terminal, and first and second outputs;
a source of A.C. reference voltage connected to said phase sensitive demodulator means whereby said demodulator means is operated in synchronization with said A.C. signal source;
a parallel network comprising a first path connected between said first demodulator output and said amplifier input terminal and a second path connected between said second demodulator output and said amplifier input terminal, said demodulator means providing a direct current in said first path; and

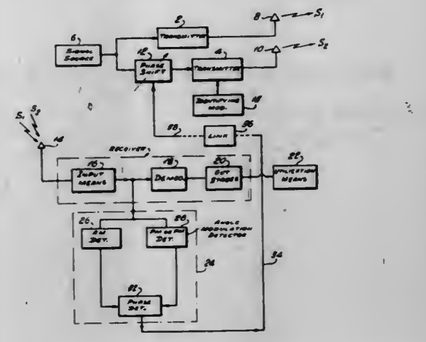
a D.C. measuring unit connected in said first path to provide an output indication varying as a function of the component of said A.C. source signal in phase with said reference voltage of said demodulator means.

3,267,379
AUTOMATIC RADIO TELEPHONE AND SIGNALING COMMUNICATION DEVICE
Dan E. Bloxsom, 22 E. Shady Lane, Houston, Tex.
Filed July 10, 1963, Ser. No. 294,011
4 Claims. (Cl. 325—55)



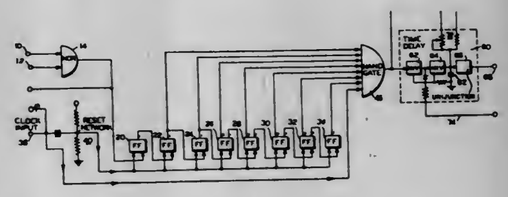
1. A circuit for co-operation with a mobile telephone-radio unit adapted to broadcast pulse sequences and other intelligence to a station in communication with a telephone line communicating by way of a central exchange with other telephone lines and subscribers thereto and wherein a plurality of external electrically actuated devices are controlled from the station, comprising:
(a) a receiver tuned to the broadcast of a mobile telephone-radio unit to receive pulse sequences therefrom to form an output signal;
(b) means for separating the pulse sequences from other intelligence in the output signal from said receiver;
(c) electrical step switching means;
(d) a holding relay connected to said electrical step switching means at a step thereof, said step having a relationship to a selected pulse sequence so that said step switching means operates to the step;
(e) an external electrically operated device operably connected to said relay for deriving electrical power therefrom when actuated;
(f) means operated by said separated pulse sequences to operate said step switching means, and on occurrence of the selected pulse sequence operating said step switching means to the selected step;
(g) said operation of said step switching means operating said holding relay to apply electrical power to the external device;
(h) a telephone line connected to switch means with the output signal of said receiver also connected to said switch means;
(i) holding means operated by continued reception of the signal from the mobile telephone-radio unit for holding said switch means closed; and
(j) wherein a selected step of said step switching means is connected to said holding means for initiating operation of said holding means on operation of said step switching means to the selected step.

3,267,380
DIVERSITY PHASE CONTROL SYSTEM USING SUBCARRIER IDENTIFYING SIGNALS
Robert T. Adams, Short Hills, N.J., assignor to Sichak Associates, Nutley, N.J., a corporation of New Jersey
Filed Oct. 19, 1962, Ser. No. 231,734
16 Claims. (Cl. 325—56)



1. A process for diversity communication comprising
transmitting at least two signals through a propagation medium by which said signals have different fading characteristics,
identifying at least one of said signals by imposing identifying modulation thereon,
receiving said signals including the step of combining said received signals,
determining the relative phase of said received signals by detecting and comparing amplitude and phase-varying components of frequency corresponding to said identifying modulation and
continuously controllably adjusting the phase of at least one of said transmitted signals in response to a determined relative phase to reduce said phase to minimum.

3,267,381
ANTENNA SPEED AND REFERENCE BURST COUNT MONITOR
Dean S. Thornberg and Richard M. Jepperson, Salt Lake City, Utah, assignors to Montek Division of Model Engineering and Manufacturing Corporation, Salt Lake City, Utah, a corporation of Indiana
Filed Oct. 7, 1963, Ser. No. 314,398
7 Claims. (Cl. 328—41)

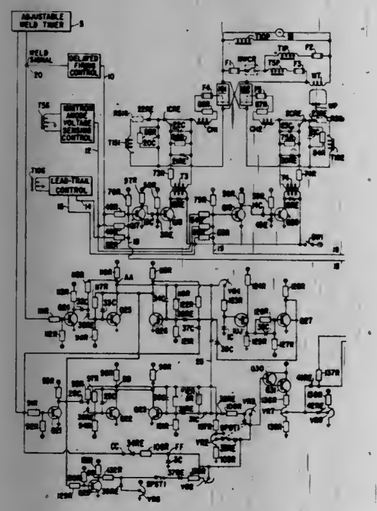


1. A reference count monitor system comprising:
means for receiving a number of count pulses;
means for receiving clock pulses;
serially connected stages of flip-flop counters driven by said count pulses receiving means in which the number of count pulses is sufficient to drive the final flip-flop counter of said stages;
a NAND gate responsive to a selected output of each of the stages of the flip-flop counters after the first

stage and also responsive to the clock pulses of the clock pulses receiving means;

a time delay network responsive to the NAND gate, said time delay network being inhibited by the output pulse of the NAND gate and being actuated to produce an alarm pulse in the absence of an output pulse of the NAND gate after the time delay of the network.

3,267,382
SLOPE AND HEAT CONTROL CIRCUIT WITH INHIBIT MEANS
Abdulahat Adem, Detroit, Mich., assignor to Weltronic Company, Southfield, Mich., a corporation of Michigan
Filed Sept. 16, 1963, Ser. No. 309,064
13 Claims. (Cl. 328—72)



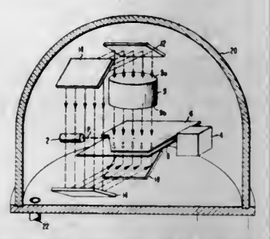
6. A slope control circuit for welding apparatus producing a variable weld current during different periods of a weld cycle comprising, means defining an interval of controllable length, means for generating a control signal which progressively varies in magnitude during at least one portion of said weld cycle and which conforms substantially to the desired current output over the entire weld cycle, means for generating an initiating signal which builds up with time, means for cumulatively combining said variable control signal and said time dependent initiating signal to produce an interval control signal of predetermined amplitude which can occur at any time during the interval depending upon the concurrent magnitude of said control signal, said interval defining means being responsive to said interval control signal to accordingly control the length thereof.

3,267,383
PARTICLE ACCELERATOR UTILIZING COHERENT LIGHT
Adolf W. Lohmann, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 27, 1963, Ser. No. 283,475
9 Claims. (Cl. 328—33)

1. A device for transferring energy from light waves to charged particles comprising,

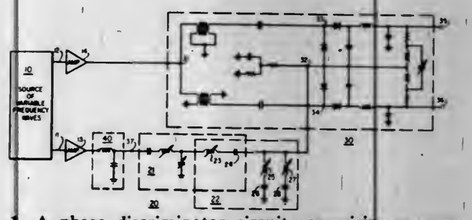
first and second periodically transparent structures, each of said structures having a planar surface, the planar surfaces of said periodic structures being juxtaposed to within several wave lengths of said light,

means for directing charged particles between said periodically transparent structures, and



means for directing coherent light through said periodically transparent structures, whereby evanescent wave are generated between said periodic structures, thereby accelerating said charged particles.

3,267,384
PHASE DISCRIMINATOR OF OPTIMUM LINEARITY BANDWIDTH
Joseph A. Scaroni, Jr., Menlo Park, Calif., assignor, by mesne assignments, to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Mar. 16, 1964, Ser. No. 352,029
5 Claims. (Cl. 329—137)



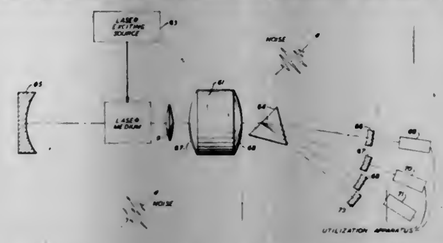
1. A phase discriminator circuit comprising a source of wave signals frequency modulated over an operating band of frequencies, two signal channels coupled to said source, a phase shifting network in one of said channels for varying the phase of said wave signal in accordance with the signal frequency, and means responsive to the phase difference between the wave signals in said two channels for varying the output voltage as a generally linear function of said phase difference over said frequency band,

and means for improving the linearity of said discriminator circuit over said frequency band, said means including a first resonant circuit in said network for modifying the wave signal phase at one end of said band, a second resonant circuit in said network for modifying the wave signal phase at the other end of said band, and means for predetermining the phase shift at the center frequency of said band.

3,267,385
OPTICAL PARAMETRIC AMPLIFIER, OSCILLATOR, AND LIMITER USING NON-PHASE MATCHABLE INTERACTION
Arthur Ashkin, Bernardsville, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 19, 1965, Ser. No. 480,986
11 Claims. (Cl. 330—4.6)

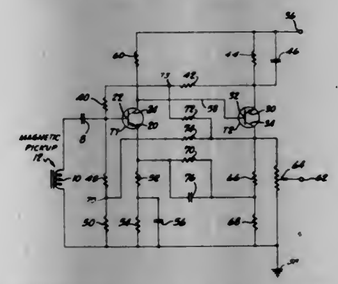
1. A traveling wave parametric device comprising a body of a noncentrosymmetric material having a substantial nonlinear second order polarization coefficient that describes a non-phase-matchable interaction that couples incident waves to produce an idler wave, and means for

providing traveling wave exponential parametric amplification for a signal beam, comprising means for applying said signal beam and a pumping beam to said material



in directions to be coupled through said non-phase-matchable interaction, the angle between the directions of said signal and pumping beams being less than ten degrees.

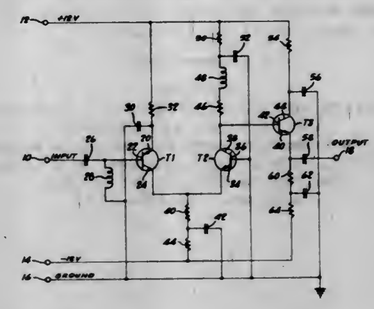
3,267,386
TWO STAGE DIRECT-COUPLED TRANSISTOR AMPLIFIER UTILIZING D.C. POSITIVE FEEDBACK AND D.C.-A.C. NEGATIVE FEEDBACK
Robert L. Davis, Redwood City, and Donald M. Patterson, Sunnyvale, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Feb. 6, 1964, Ser. No. 343,029
4 Claims. (Cl. 330—17)



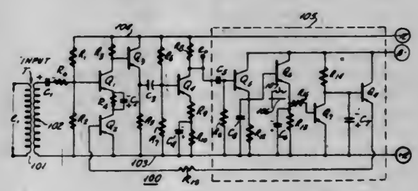
1. A pre-amplifier circuit including two transistors, each having an emitter, a base, and a collector; means coupling the collector of the first said transistor to the base of the second said transistor; degenerative D.C. feedback means coupled between the collector of the second said transistor and the emitter of the first said transistor; bias circuitry coupled to the base of said first transistor including a power supply, a connection to ground, and resistors connected between said power supply and the base of said first transistor and between the base of said first transistor and said connection to ground; regenerative D.C. feedback means coupled between the collector of the second said transistor and resistively separated therefrom and two points in said bias circuitry respectively on opposite sides of the base of the first said transistor; and degenerative A.C. feedback means coupled between the collector of the second said transistor and the emitter of the first said transistor.

3,267,387
TEMPERATURE AND FREQUENCY STABLE AMPLIFIER
Michael O. Felix, San Carlos, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Feb. 6, 1964, Ser. No. 343,078
7 Claims. (Cl. 330—17)

1. A transistor amplifier circuit comprising: a first transistor of the germanium type having emitter, base, and collector, the base of the first transistor being coupled to receive signals to be amplified by the circuit, a second transistor of the silicon type, of the opposite conductivity type of the first transistor, and having emitter, base, and collector, the base of the second transistor being grounded and the emitter of the second transistor being directly coupled to the collector of the first transistor.



3,267,388
AUTOMATIC THRESHOLD AMPLIFIER EMPLOYING VARIABLE IMPEDANCE MEANS
Stephen F. Finkey, Passaic, Robert M. Smith, Lodi, and Abraham Brothman, Dumont, N.J., assignors to Transitel International Corporation, Paramus, N.J., a corporation of New Jersey
Filed Apr. 26, 1963, Ser. No. 275,937
3 Claims. (Cl. 330—18)



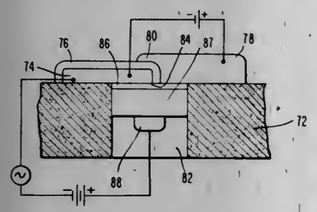
1. Means for amplifying signals within predetermined limits comprising variable gain amplifying means for receiving and amplifying said signals; control means connected to said variable gain amplifying means energizable by only a portion of the output signal of said variable gain amplifying means; said variable gain amplifying means comprising gain control means connected to the output of said control means for automatically adjusting the gain of said variable gain amplifying means, said control means comprising plural emitter follower means connected in cascade fashion, each of said emitter follower means further comprising filter means coupled to the emitter of their associated emitter follower means for smoothing the output of said control means; said first and second filter means being employed to minimize both the response time of said amplifying means and the amount of ripple present in the outpost signal of said control means; substantially constant amplifying means connected to the output of said variable gain amplifying means for increasing the overall gain of said amplifying means; said variable gain amplifying means comprising third and fourth transistor means having base, emitter and collector electrodes and being connected in series fashion; said third transistor means having electrode means for receiving said signals to be amplified, said fourth transistor

means having electrode means connected to the output of said control means; the operating range of said fourth transistor means always being in saturation; a bypass capacitor being connected in parallel with a resistor; the parallel connected resistor and bypass capacitor being connected between the emitter of said third transistor and the collector of the fourth transistor.

3,267,389
QUANTUM MECHANICAL TUNNEL INJECTION AMPLIFYING APPARATUS

John G. Simmons, Norristown, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Apr. 10, 1963, Ser. No. 271,944
4 Claims. (Cl. 330—37)



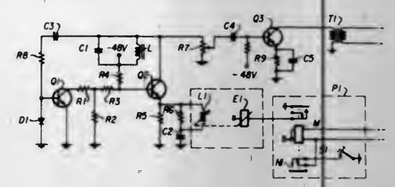
1. Solid state electron apparatus comprising:
(a) a support member capable of being readily dissolved by a liquid,
(b) a source electrode disposed on one surface of said support member,
(c) said source electrode being further provided with an oxide coating thereon,
(d) a drain electrode disposed on the surface of said support member contiguous to said source electrode and slightly overlapping the same,
(e) said support member having an aperture extending through from the opposite surface thereof to expose portions of said source and drain electrodes,
(f) a tunnel insulating member disposed adjacent the exposed portions of said source and drain electrodes,
(g) a blocking insulating layer overlying said tunnel insulating layer, and
(h) a gate electrode disposed on said blocking insulator and effective when energized with a suitable electrical potential to create a conductive channel between said source and said drain for controlling electrons which are obliged to tunnel from said source through said tunnel insulator along said channel and into said drain.

3,267,390
SWEEP FREQUENCY GENERATOR AND FREQUENCY CONTROLLING DEVICE THEREFOR

Robert P. Dimmer, Lombard, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Apr. 17, 1961, Ser. No. 103,461
9 Claims. (Cl. 331—117)

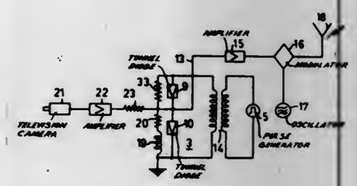
8. In combination, a variable inductance apparatus comprising an inductive element, a movable member for changing the reluctance of the magnetic circuit of said element, and an electromagnetic device for actuating said movable member, said device including a core structure, a coil, an armature assembly coupled to said movable member so as to be attracted upon energization of said coil to a first position wherein it abuts said core structure, and spring means for restoring said armature assembly upon de-energization of said coil to a second position wherein it is free of said core structure; and an oscillator having frequency determining means including a capacitance and also including said inductive element, whereby upon attraction of said armature assembly the output of said oscillator is changed at a relatively slow rate from one frequency to another frequency, and upon restoration of said armature assembly is changed at a relatively fast rate from said other frequency to said one frequency.



3,267,391
TRANSMITTER FOR SIGNAL TRANSMISSION BY PULSE CODE MODULATION

Johan Cornelis Balder, Eeltje de Boer, Cornelis Maria Hart, and Cornelis Kramer, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed May 31, 1962, Ser. No. 198,819
Claims priority, application Netherlands, July 3, 1961, 266,632; Mar. 27, 1962, 276,489
15 Claims. (Cl. 332—11)



1. A delta pulse code modulator comprising a source of input signals, a source of control pulses, a series circuit comprising first and second two-terminal devices that have a symmetric current-voltage characteristics and that exhibit a negative differential resistance region for the same direction of current flow through said series circuit, means applying said control pulses to said series circuit for periodically shifting the bias of said devices toward said negative differential resistance region, output circuit means, biasing circuit means, means connecting said biasing circuit means and output circuit means to said series circuit, and means applying said input signals to said biasing circuit means, said biasing circuit means comprising means for applying opposite polarity biases to said devices equal to the difference between the instantaneous input signals and the integrated signals applied to said output circuit.

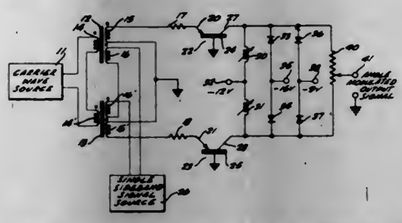
3,267,392
BALANCED PHASE MODULATOR

Thomas Hudspeth, Malibu, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Apr. 18, 1960, Ser. No. 22,997
8 Claims. (Cl. 332—18)

1. A balanced phase modulator comprising: first and second identical amplitude limiters; means coupled to said limiters for applying a carrier wave to the inputs thereof with equal amplitude and opposite phase and for applying a modulating signal to the inputs of said limiters with equal amplitude and the same phase, the amplitude

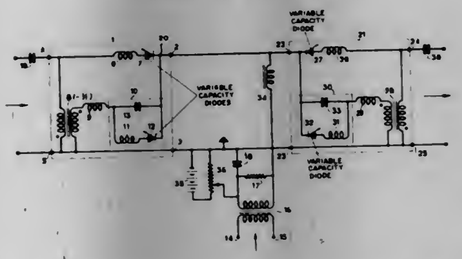
of the carrier wave at the inputs of said limiters being much greater than the amplitude of the modulating signal; and a potentiometer having its outer ends each individually connected to one output of a different one of said limiters, the slider of said potentiometer forming an output terminal with respect to the remaining output of said limiters.



3,267,393
PHASE MODULATION NETWORKS USING VARIABLE CAPACITY DIODES

Pierre Claude Brossard, Boulogne-sur-Seine, France (9 Rue des Fleurs, Montigny-le-Bretonneux, France), and Jacques Raymond Francois Chassagne, Villiers-sur-Marne, France (Immeuble, Clement Ader, Les Sapins, Rouen, France)

Filed July 23, 1962, Ser. No. 211,781
Claims priority, application France, Dec. 19, 1961, 882,438
5 Claims. (Cl. 332—30)

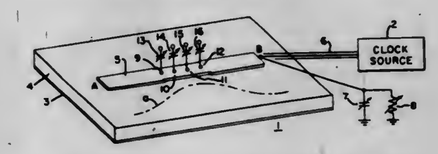


1. A high-frequency phase modulator comprising at least one four-terminal network including first and second terminal pairs, a series branch between a first terminal of said first pair and a first terminal of said second pair; a unit turn ratio phase-reversing transformer having a first winding connected across the terminals of said second pair and having one end of a second winding connected to the second terminal of said first pair, a circuit connecting the other end of said second winding to said first terminal of said first pair, said circuit having as its input terminals those of an auxiliary reactive 90-degree phase-shifting four-terminal network the output terminals of which are closed on a further circuit branch substantially identical with said series branch, said series and further branches each consisting of an inductor in series connection with a variable capacity semiconductor diode, and a direct connection between said second terminal of said first pair and said second terminal of said second pair; means for applying a carrier-current high frequency voltage across one of said terminal pairs of means for applying a modulating signal voltage in series with a D.C. bias voltage across both said diodes, and means for receiving a phase-modulated high-frequency voltage at the other of said terminal pairs; said transformer having as a common point to its first and second windings said second terminal of said first terminal pair and said windings being wound in opposite directions from said common point.

3,267,394
CLOCK POWER DISTRIBUTION ARRANGEMENT FOR HIGH SPEED LOGIC SYSTEMS

William Pell, Syracuse, and Heinz Raillard, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York

Filed Feb. 13, 1963, Ser. No. 258,295
8 Claims. (Cl. 333—8)

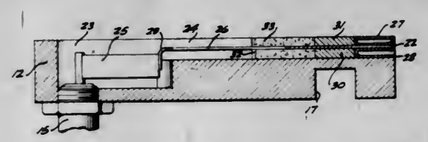


1. A distribution system for supplying a plurality of high frequency electrical signals in phase synchronism comprising:
(a) a transmission line having an electrical length on the order of an integral multiple of quarter wavelengths of said electrical signals and non-dissipatively terminated so as to provide substantially complete energy reflection at said high frequency, thereby generating a standing wave pattern along said line,
(b) means for coupling a source of energy at said high frequency to said line for generating said standing wave pattern, and
(c) a plurality of output means coupled along the length of said line for deriving from the standing wave pattern said phase synchronous electrical signals, said output means only slightly loading down the line and thus not appreciably disturbing said standing wave pattern.

3,267,395
MICROWAVE PHASE SHIFTER

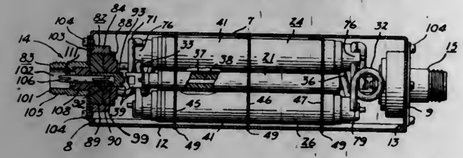
Harmon H. Keeling, Los Angeles, and Thomas Hudspeth, Malibu, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Oct. 31, 1961, Ser. No. 151,135
3 Claims. (Cl. 333—31)



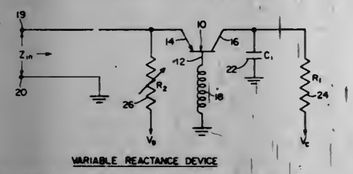
1. A microwave phase shifter comprising: a directional coupler having an input terminal to receive an input microwave signal, an output terminal, and a pair of intermediate terminals; a pair of ⅛ wavelength sections of high impedance transmission line, each having one end individually coupled to a different one of said intermediate terminals; a pair of ¼ wavelength sections of low impedance transmission line, each having one end individually coupled to the other end of a different one of said ⅛ wavelength sections of transmission line; a short circuit member disposed at the other end of each of said ¼ wavelength sections of transmission line; a pair of ferrite elements, each being disposed within a different one of said ¼ wavelength sections of transmission line adjacent said short circuit members; and magnetic field producing means juxtaposed with said ¼ wavelength sections of transmission line and disposed to provide a magnetic field of predetermined intensity through said ferrite elements in a direction perpendicular to the magnetic field of a microwave signal propagated in said ¼ wavelength sections of transmission line.

3,267,396
HIGH POWER FILTER
Robert James Scott, Parma, Ohio, assignor to Bird Electronic Corporation, Solon, Ohio, a corporation of Ohio
Filed Feb. 28, 1963, Ser. No. 261,723
8 Claims. (Cl. 333—70)



6. A filter comprising a metallic housing; a coaxial transmission line terminal member at opposite ends of said housing; a first set of elongated coaxial line elements longitudinally disposed in said housing with their input ends facing toward one end of said housing; a second set of elongated coaxial line elements longitudinally disposed in said housing with their input ends extending toward the other end of said housing; at least two spaced metallic partition elements extending across said housing into contact with the walls of said coaxial line elements and said housing along the entire edge of said partition elements to divide said chamber into electrically isolated end compartments each containing one of the terminal members and the input ends of one of the sets of coaxial line elements, and into at least one electrically isolated intermediate compartment; a capacitor element on each of said partition elements; an uncoiled inductance in each of said end compartments connecting the input ends of two of said coaxial line elements; means for mechanically clamping said inductance to the input ends of said coaxial line elements and to said capacitor; a coil in said intermediate compartment connecting the capacitors on adjacent partitions; and means mechanically clamping said coil to said capacitors.

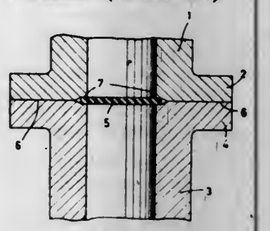
3,267,397
VARIABLE REACTANCE TRANSISTOR CIRCUIT
Dale D. Skinner, Turtle Creek, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 14, 1963, Ser. No. 280,475
2 Claims. (Cl. 333—80)



1. A variable reactance device comprising:
(a) a transistor having a base electrode, an emitter electrode and a collector electrode;
(b) a pair of input leads with one lead connected to said emitter electrode and the other lead connected to a point of reference potential;
(c) an inductive circuit connected between the base electrode and said point of reference potential;
(d) circuit means connected between the collector electrode and a point of supply voltage for providing a maximum collector current so that the transistor is capable of operating in a saturated condition;
(e) circuit means connected between the emitter electrode and another point of supply voltage for varying the emitter current in a range where the resistance of said device as seen across said leads is negative and has a rate of change which is less than the rate of change of an inductive reactance as seen across said leads,

whereby the circuit means connected to the emitter electrode can be used to effect a large change in inductive reactance as seen across said input leads as compared to the change of resistance as seen across said leads.

3,267,398
METHOD OF MANUFACTURING WAVE-GUIDES OF THE KIND HAVING A VACUUM-TIGHTLY CLAMPED-IN MICA WINDOW AND WAVE-GUIDES MANUFACTURED BY SAID METHODS
Bernardus Bastiaan van Iperen, Wilhelmus Kuypers, and Martinus Cornelis Verhagen, all of Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 4, 1965, Ser. No. 430,403
Claims priority, application Netherlands, Feb. 12, 1964, 6,401,186
3 Claims. (Cl. 333—98)

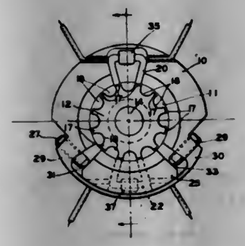


1. A method of manufacturing a waveguide in which an insulating window is vacuum-tightly clamped in between two portions of the waveguide, characterized in that the ends of the portions of the waveguide consisting at least partly of a plastic metal, are machined by a milling operation so as to be optically smooth and are arranged one on the other with the interposition of an insulating plate so that the insulating plate overlaps the aperture of the waveguide on all sides, whilst the outer edge of the insulating plate is located at a given distance inside the outer periphery of the ends of the waveguide portions, after which the waveguide ends are pressed together with such a high pressure that the insulating plate is embedded in their material whilst the waveguide portions are vacuum-tightly connected together and to the surface of the insulating plate by diffusion.

ERRATUM
For Class 200—87 see:
Patent No. 3,267,234

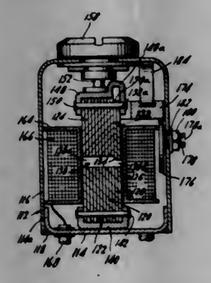
3,267,399
SIGNAL GENERATOR
Bernard Spieker, New Milford, and Thomas J. Lavin, Midland Park, N.J., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed July 29, 1964, Ser. No. 385,891
7 Claims. (Cl. 336—110)

1. A signal generator for use with a motor having an output shaft, said signal generator comprising a rotor of a ferro-magnetic material having a series of toothed portions, means for drivingly connecting the rotor to said output shaft, a body portion having a circular opening in which said rotor may be angularly positioned, an electromagnetic means including a first member mounted in said body portion in cooperative relation to said rotor, a segmental portion carried by said body portion, said electromagnetic means including a second member mounted in said segmental portion in cooperative relation to said rotor, and means to arcuately position the segmental portion in relation to said body portion to vary the angular position of the first and second members of



said electromagnetic means in relation one to the other and the angular position of the second member of said electromagnetic means relative to said toothed rotor.

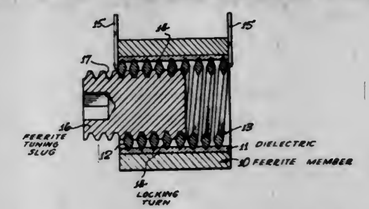
3,267,400
VARIABLE INDUCTANCE DEVICE
Theodore L. Craige, Roslyn Heights, N.Y., assignor to United Transformer Corporation, New York, N.Y., a corporation of New York
Filed Sept. 19, 1963, Ser. No. 310,079
6 Claims. (Cl. 336—134)



1. A variable inductive device comprising a core having plural laminations providing a magnetic circuit, said laminations being arranged relative to each other to define an air gap in said magnetic circuit, first groups of laminations being arranged in relation to each other to provide a relatively fixed length for a first segment of said air gap and a corresponding relatively fixed value of inductance, and means for mounting a second group of laminations for movement relative to said air gap and in planes parallel to the laminations of said first group to provide an adjustable length for a second segment of said air gap and a corresponding variable inductance whereby vernier adjustment may be made in the total inductance of said device.
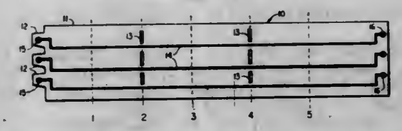
3,267,401
VARIABLE INDUCTOR
William Hotine, Idyllwild, and Stephen W. Babcock, Pomona, Calif., assignors to General Dynamics Corporation, a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,471
9 Claims. (Cl. 336—136)

1. A variable inductor comprising: a magnetic shielding cylinder coated on the internal surface thereof with a suitable dielectric, said dielectric coating being provided with threads on the internal surface thereof, a helicoil having turns matching said threads and a radially deformed locking turn, said helicoil being operatively positioned at least partially within said cylinder, and a tuning slug having threads thereon which cooperate with the turns of said helicoil, whereby said tuning slug is adjustably



screwed into said helicoil and the threads thereon cooperate with said locking turn so as to provide a position maintaining friction lock therebetween.

3,267,402
MULTI-TURN WRAP-AROUND SOLENOIDS
William A. Reimer, Wheaton, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Oct. 27, 1964, Ser. No. 406,691
8 Claims. (Cl. 336—200)



6. A multi-turn solenoid cable comprising an elongated substrate having a first end and a second end, said substrate including a tab at said first end, said substrate having at least one aperture therein aligned with and spaced apart from said tab longitudinally of said substrate, and a plurality of conductors carried by said substrate, each of said conductors having a first end terminal carried by said tab and a second end terminal carried by said second end of said substrate, said substrate being wrapped to overlay itself, and said tab extending through said aperture to provide access to said first end terminals.

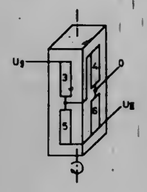
3,267,403
BLACK COATING FOR FRAGILE INFRARED RADIATION DETECTORS
Robert J. Guarnieri, Norwalk, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
No Drawing. Filed Sept. 4, 1963, Ser. No. 306,596
2 Claims. (Cl. 338—18)

1. A thin film germanium thermistor not over 1μ thickness having cemented thereon a preformed uniform film comprising silicon carbide pigment particles in a resin binder.

3,267,404
CONTINUOUSLY ADJUSTABLE CONTACTLESS POTENTIOMETER
Hans Hieronymus, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Mar. 11, 1964, Ser. No. 350,974
Claims priority, application Germany, Mar. 13, 1963, S 84,125
17 Claims. (Cl. 338—32)

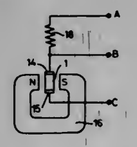
1. A contactless potentiometer, comprising magnetic field structure, voltage supply leads, a voltage divider circuit having two galvanomagnetic resistance members connected in series with each other between said leads and having a tap between said two members to provide a variable output potential at said tap, said two resistance members being disposed in the field of said structure to have

their respective resistances dependent upon the magnetic flux traversing said members and being fixed with respect to each other in respectively different positions relative to



said field structure, and means for simultaneously controlling the amounts of flux through said respective members in mutually inverse relation so that increased flux through one member coincides with decreased flux in the other.

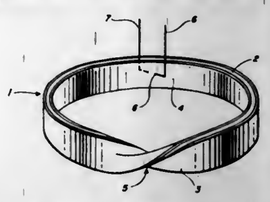
3,267,405
GALVANOMAGNETIC SEMICONDUCTOR DEVICES
Herbert Weiss and Manfred Wilhelm, Nürnberg, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, and Erlangen, Germany, a corporation of Germany
Filed Dec. 16, 1964, Ser. No. 418,648
Claims priority, application Germany, July 31, 1962, S 80,682; Apr. 18, 1963, S 84,738; Apr. 23, 1963, S 84,816
18 Claims. (Cl. 338—32)



1. An electronic semiconductor device comprising a crystalline member of homogeneous semiconductor substance and a special matrix of discrete inclusions integrally embedded in said substance, said individual inclusions having fractionally small dimensions compared with the smallest dimension of said member and having a preferred direction of general alignment substantially parallel to one of the surface dimensions of said member; terminal means on said member and defining a current flow axis in said member; magnetic field means having a field in which said member is located with said current flow axis substantially perpendicular to the field axis, said direction of said inclusions being substantially perpendicular to both said current-flow and field axes.

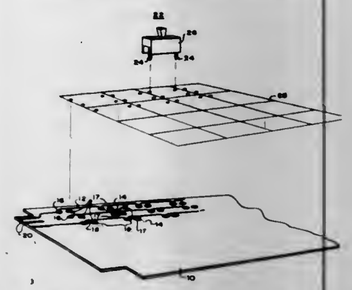
3,267,406
NON-INDUCTIVE ELECTRICAL RESISTOR
Richard L. Davis, Albuquerque, N. Mex., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed May 1, 1964, Ser. No. 364,341
3 Claims. (Cl. 338—63)

1. A non-inductive electrical resistor comprising in combination, a ribbon of non-conductive material having opposite surfaces defining a continuous uniform surface in the form of a mobius strip, at least a single uniform layer of resistive material disposed in continuous manner circumferentially throughout and in parallel coextensivity on said opposite surfaces, and a pair of electrical leads



connected to the layer of resistive material at points aligned with each other on opposite surfaces of the non-conductive material.

3,267,407
PROGRAMMABLE MATRIX
John Humphries and Robert B. Pierce, Palo Alto, Calif., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Jan. 24, 1964, Ser. No. 340,015
4 Claims. (Cl. 339—18)

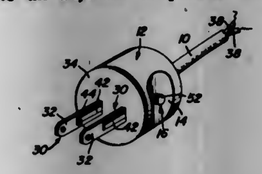


1. A selectively programmable matrix for providing a selected program, comprising:
a dielectric layer having top and bottom surfaces;
a first plurality of conductive paths attached to the top surface of said dielectric layer and extending in a generally common direction therealong;
a second plurality of conductive paths attached to the bottom surface of said dielectric layer and extending in a generally common direction therealong for passing beneath said first plurality of conductive paths in intersecting relationship thereto to form iterative sections of the matrix;
a plurality of contact receiving terminal pairs attached to said dielectric layer, each of said terminal pairs having one conductive terminal which is conductively connected to one of said first plurality of conductive paths and having another conductive terminal which is laterally spaced a selected distance from said one terminal and conductively connected to one of said second plurality of conductive paths; and
at least one conducting element having a pair of conductive contacts for frictionally and removably mating with a selected one of said contact receiving terminal pairs to provide the selected program.

3,267,408
SAFETY PLUG
James E. Baker and Jack D. Mott, Independence, Kans., assignors of one-third to Albert K. Sewell, Edwin L. Scott, and Virgil L. Utz, all of Independence, Kans., jointly
Filed Mar. 6, 1964, Ser. No. 349,889
6 Claims. (Cl. 339—74)

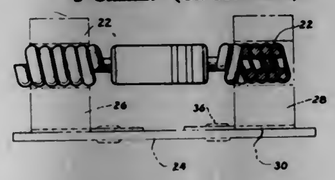
1. A safety-type plug of the class described comprising: a plug body made of insulation material, a hub member mounted in said body, said hub member provided with

spaced parallel latch mounting channels, a pair of strip members secured to respectively aligned portions of said channeled marginal portions, free end portions of said strip members projecting beyond said hub member and body, respectively, said strip members having lengthwise slots formed therein, a latch fitting cooperatively in each slot, each latch having a lug turned in toward and projecting into an adjacent cooperable channel and being



pivotally mounted therein and accordingly movable in the slot provided therefor in said strip member, resilient means exerting constant pivoting pressure on each latch in a direction to position and maintain said latch in a body latching position, each latch having an end portion provided with an outstanding finger operated stud, said stud projecting outwardly through a cooperating portion of the coacting slot and being provided with a manually actuatable pushbutton.

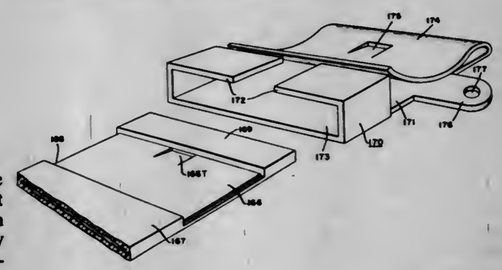
3,267,409
TERMINAL FOR ELECTRONIC COMPONENT
Frederick Horwitz, Woonsocket, R.I., assignor to General Instrument Corporation, Newark, N.J., a corporation of New Jersey
Filed Dec. 30, 1963, Ser. No. 334,281
5 Claims. (Cl. 339—144)



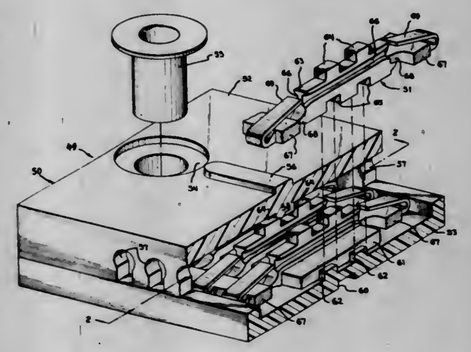
2. A miniature or sub-miniature glass diode having short heavy clip-in terminals, said terminals each consisting of a long thin flexible lead made of Dumet wire sealed to the glass and tightly coiled into a short cylindrical helix, said helix being coated with solder, the glass body of the diode being generally cylindrical and the helix being substantially coaxial with the cylindrical body.

3,267,410
RECTANGULAR CONDUCTOR HARNESS MEANS AND ATTACHMENTS
Donald G. Baer, Girard, Allan S. Van Slyke, Southington, and Robert C. Woofter, Cortland, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Sept. 28, 1961, Ser. No. 141,483. Divided and this application Aug. 30, 1965, Ser. No. 483,758
2 Claims. (Cl. 339—184)

1. Connector means for a conductor harness means to fit in narrow passages of a motor vehicle body and having a plurality of flattened rectangular-shaped conductors substantially co-planar and parallel with each other joined together by a thin covering of insulating material surrounding each of the flattened conductors longitudinally thereof as well as edge to edge therebetween, comprising, a housing means having a predetermined passage therein for conductor and terminal accessibility as well as having transverse abutment means integrally therewith, said passage on one end of said housing means having termination into at least one rectangular opening into which said conductor harness means per se fits substantially complementary directly to said housing means, predetermined terminal means having location at least adjacent to the opening of said housing means and having a substantially bow-shaped contact as well as at least one free-ended tang, and contact surfacing of said flattened rectangular-shaped harness means conductors per se laterally exposed at least on only one side thereof which is engaged by said predetermined terminal means bow-shaped contact directly, said housing and terminal means being integrally formed individually complementary to one of the conductors, said bow-shaped contact including a curved end portion having a tang-like projection struck inwardly therefrom, the one of the conductors also having a tang portion struck laterally complementary to said tang-like projection.

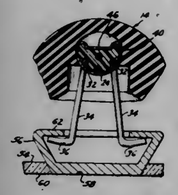


3,267,411
ELECTRICAL CONNECTOR AND ASSEMBLY THEREOF
Robert John Kinkaid, New Cumberland, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Dec. 15, 1964, Ser. No. 418,447
8 Claims. (Cl. 339—198)



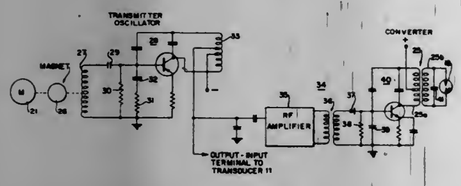
1. In an electrical connector means, a contact having contact-receiving means for receiving contact means, rigid leg means extending outwardly from said contact in a direction substantially parallel to an insertion axis of said contact-receiving means, and spring-locking means extending outwardly from said leg means, extending along said leg means toward said contact-receiving means to lock said contact means thereon and being bendable relative to said leg means.

3,267,412
ANODE CONNECTOR FOR CATHODE RAY TUBE
Richard A. Rosenberg, Dumont, N.J., and James J. Coppola, Elmont, N.Y., assignors to Industrial Electronic Hardware Corp., New York, N.Y., a corporation of New York
Filed Mar. 27, 1964, Ser. No. 355,198
6 Claims. (Cl. 339—223)



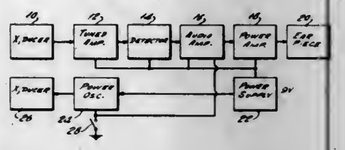
1. An anode connector comprising a short length of insulated high voltage wire having a bared end, a drawn sheet metal cup, a clip bent up out of relatively stiff resilient wire, said clip having a reversely bent base portion and divergent legs extending generally transversely of the base portion and terminating in bent tips, said bared end being bent back along the insulation of the wire, said clip being disposed with its base lengthwise of the wire, said cup enclosing the bared end of the wire and the base, and being forcibly indented to strongly secure the said parts on the wire, said cup contacting the bared end and the clip and thereby electrically connecting one to the other, the legs of the clip projecting transversely of the wire at the open end of the cup.

3,267,413
ECHO SIGNAL DETECTION AND DISPLAY APPARATUS
John N. Beebe and Jacques P. Perron, San Mateo, Calif., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Oct. 23, 1963, Ser. No. 318,312
6 Claims. (Cl. 340—3)



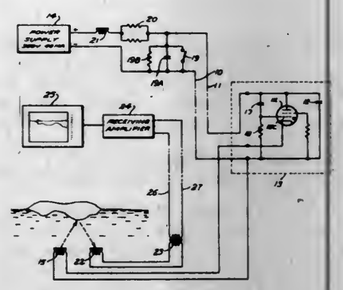
1. Echo signal detection and display apparatus comprising means for converting intermittent oscillatory echo signals having a fundamental frequency component at a first frequency into intermittent oscillatory signals having a fundamental frequency component at a second frequency substantially lower than said first frequency, a light-weight, non-ferrous core, inductive coupling means having first and second substantially concentric windings rotatable with respect to each other, at least one of said windings wound on said core, rotatable indicator means, the first of said windings being coupled to said converting means and the second of said windings being coupled to said rotatable indicator means, said rotatable indicator means being responsive to said intermittent oscillatory signals at said second frequency for producing indications representative of said intermittent echo signals, said rotatable indicator means and said second winding being coupled together for rotation thereof with respect to said first winding.

3,267,414
PORTABLE UNDERWATER COMMUNICATION UNIT
Jack Kritz, Westbury, N.Y., assignor to Janus Products Incorporated, Westbury, N.Y., a corporation of Delaware
Filed Nov. 13, 1963, Ser. No. 323,492
2 Claims. (Cl. 340—3)



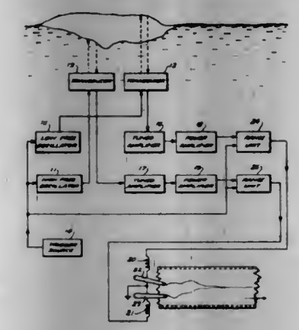
1. A portable communication unit adapted to be utilized under water, comprising a water-tight casing, said casing containing therein, first transducer means located at one end of the casing for converting ultrasonic acoustical energy into electrical energy, a battery, amplifier means connected from said transducer means, a detector for producing audio frequency signals coupled from said amplifier means, and an audio amplifier coupled to the output of said detector, and speaker means separate from said casing and connected from the output of said audio amplifier, for converting the amplified audio signals to sound energy, biasing means in circuit relationship with said audio amplifier, second transducer means mounted to said casing, a normally deenergized power oscillator in circuit relationship with said second transducer means, manually operable switch means disposed on the outer surface of said casing and placed in circuit relationship with the biasing means of said audio amplifier and with said power oscillator, the arrangement being such that operation of said switch means simultaneously energizes said power oscillator and increases the gain of said audio amplifier by varying the nature of said biasing means.

3,267,415
REMOTELY CONTROLLED POWER PULSE GENERATOR
Leighton L. Morse, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 24, 1964, Ser. No. 347,094
4 Claims. (Cl. 340—3)



3. A remotely controlled sonar system comprising:
a power pulse generator including a storage condenser and a gaseous discharge device with a control electrode,
a low impedance projecting transducer, the anode-cathode path of said device being connected in series with said transducer across said condenser,
a power supply, a pair of conductors connecting the output of said supply across the terminals of said condenser,
means for applying a signal pulse to one of said conductors,
a coupling condenser connected between said one of said conductors and said control electrode and responsive to said signal pulse for initiating discharge in said discharge device.

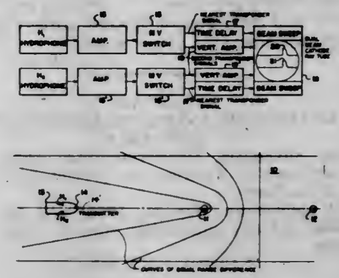
3,267,416
ICE PROFILING SONAR SYSTEM
Leighton L. Morse, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 25, 1964, Ser. No. 347,317
2 Claims. (Cl. 340—3)



1. A system for measuring the thickness of sea-ice and graphing the profile of the ice comprising,
means for simultaneously projecting two sonic waves upward toward said ice, said two waves being differently responsive to the water-ice and the air-ice interfaces,
two transducers for receiving echo signals from said interfaces,
two tuned amplifiers tuned, respectively, to said two waves, and coupler, respectively, to said two transducers,
separate range units connected to the outputs of each amplifier,
separate recording styli connected, respectively, to the outputs of said range units, and
a common recording tape for the two styli.

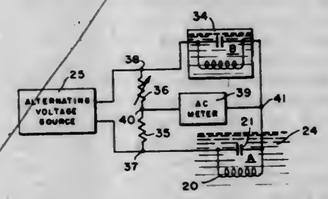
3,267,417
NAVIGATION OF MARKED CHANNELS
Richard T. Galloway, Panama City, Fla., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 24, 1964, Ser. No. 354,480
5 Claims. (Cl. 340—3)

1. A shipborne steering indicator for aiding the navigation of a ship along a channel defined by submerged acoustic transponders spaced lengthwise along the center line of the channel comprising
means for pulse exciting the two transponders defining the segment of the channel immediately forward of the ship,
first and second hydrophones mounted athwartship and equally distant from the ship's center line for receiving pulses from said two transponders, and
means individual to each of said hydrophones responsive to the time interval between the receipt of pulses from said two transponders for displaying said time



intervals as an indication to the steersman of the position of the ship relative to the center line of the channel.

3,267,418
SYSTEM FOR MEASUREMENT OF ELECTRICAL CONDUCTIVITY OF FLUIDS
Halley Wolfe, La Canada, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 14, 1963, Ser. No. 316,166
1 Claim. (Cl. 340—4)



An apparatus for measuring finite fluctuations in temperature along a path of motion in a body of ocean seawater relative to the gross temperature of the surrounding water, said apparatus comprising:
(a) a first tuned unit comprising an inductor L and capacitor means C shunting said inductor, yielding an LC circuit exhibiting parallel resonance at a predetermined frequency;
(b) said first tuned unit being hermetically insulated for submersion, without deleterious effect, for movement through said body of water;
(b–1) a second tuned unit comprising an inductor L′ and capacitor means C′ shunting said inductor, yielding an LC circuit exhibiting parallel resonance at said predetermined frequency;
(b–2) said second tuned unit being submersed in a sample of said ocean water maintained at a reference temperature equal to said gross temperature;
(c) a signal frequency generator for providing at its output an A.C. signal at said predetermined frequency;
(d) said first and second tuned units being connected with first and second reference impedances to form a four-leg impedance bridge, said bridge forming two pairs of opposite corners, the output of said signal frequency generator being applied across one pair of said opposite corners;
(e) output means responsive to the amplitude of an A.C. signal at said predetermined frequency connected across the other pair of opposite corners;

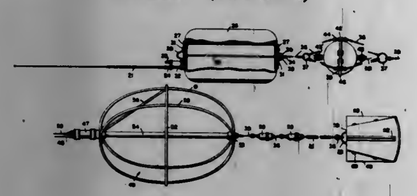
whereby movement of the first tuned unit through zones at which the ocean water temperature, and therefore the water conductivity, differs finitely from the gross temperature of the surrounding water, and detunes said first tuned unit, and thereby produces corresponding amplitude fluctuation at said other pair of opposite corners of the four-leg bridge to actuate the output means.

3,267,419
AUTOMATIC INSTRUMENTED DIVING ASSEMBLY

Abraham Silverstein, Hyattsville, Md., assignor to the United States of America as represented by the Secretary of the Navy

Original application May 31, 1962, Ser. No. 199,197. Divided and this application May 12, 1965, Ser. No. 463,066

2 Claims. (Cl. 340—4)

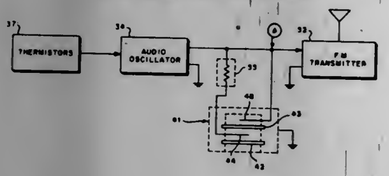


1. An unmanned instrumented deep sea diving assembly for determining the characteristics of electromagnetic radiation present at the bottom of the ocean comprising means for submerging the assembly, means for surfacing the assembly after a predetermined time, an antenna connected to the submerging and surfacing means for detecting the electromagnetic radiations having three concentric loops mutually perpendicular, each loop comprising a single turn of conductive material, an epoxy resin bonded glass cloth completely covering the conductive material and insulating the conductive material from the sea, whereby the combination of conductive material and said glass cloth produces a rigid body which reduces the eddy currents in the conductor and is able to withstand both high sea water pressure and the force of the water currents tending to deform the loop and recording means connected to the antenna for making a permanent record of the radiations detected by the antenna.

3,267,420
DEPTH MEASURING APPARATUS

Samuel Pure, Rydal, Pa., assignor to the United States of America as represented by the Secretary of the Navy

Filed Feb. 27, 1964, Ser. No. 347,967
10 Claims. (Cl. 340—5)

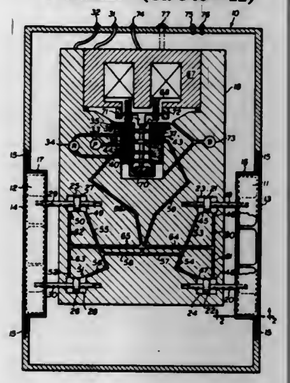


1. Apparatus for determining the depth during descent of a probe in a body of water, comprising:
a nonbuoyant member;
pressure responsive means carried by said member for transmitting a signal, said means including a first diaphragm rupturable at a pre-selected depth, exposed on one side to the surrounding water and on the other side to a confined air space;
a first electrode positioned in said air space, and electrically insulated from said member whereby the rupture of said first diaphragm causes said first electrode to modify the transmitted signal from said pressure responsive means.

3,267,421
UNDERWATER SOUND SOURCE

Leonard L. Robinson, Old Saybrook, and John A. Trevett, Old Lyme, Conn., assignors to Textron Electronics, Inc., Providence, R.I., a corporation of Delaware

Filed Apr. 6, 1962, Ser. No. 185,648
6 Claims. (Cl. 340—12)



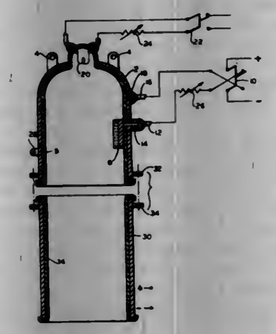
1. An underwater sound source comprising:
a fluid tight housing having rigid wall portions including oppositely directed sound-radiating pistons,
at least two hydraulic actuator means within said housing coupled mechanically one to each of said pistons for imparting reciprocatory motion thereto,
means for obtaining hydraulic power,
a central valving mechanism within said housing,
duct means freely inter-coupling said actuator means in parallel, said duct means additionally coupling said actuator means to said means for obtaining hydraulic power through said central valving mechanism for operating the actuator means under the control of said central valving mechanism, the duct means between said central valving mechanism and said actuator means being dimensioned to provide for hydraulic symmetry between the actuator means coupled respectively to one and the other of said pistons,
spring means coupling each of said pistons to stationary portions of said housing for biasing said pistons toward an intermediate position,
and means for controlling said central valving mechanism so as to cause reciprocation of said pistons substantially in unison alternately outwardly and inwardly relative to the interior of the housing thereby varying the instantaneous volume of said housing.

3,267,422
HULL CAVITY PRODUCTION OF SOUND ENERGY IN WATER

Jack R. Harris, United States Navy (1977 Mariposa, Seaside, Calif.), and Clifford M. Rigsbee, United States Navy (3048 Riviera Drive, Key West, Fla.)

Original application Sept. 20, 1961, Ser. No. 140,173, now Patent No. 3,229,246, dated Jan. 11, 1966. Divided and this application Aug. 1, 1963, Ser. No. 300,131
1 Claim. (Cl. 340—12)

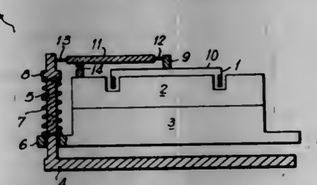
The method of producing sound energy underwater by explosion of gases in a cavity in the hull of a ship immersed at least in part in water which comprises electrolyzing the water to evolve hydrogen into said cavity; admitting to said cavity a predetermined amount of a combustion-supporting gas to provide a predetermined mixture of hydrogen and oxidizing agent; and igniting said mixture.



3,267,423
ELECTROMECHANICAL VIBRATORS

Julien M. Loeb, Saint-Cloud, France, assignor of fifty percent each to Compagnie Generale de Geophysique, Paris, France, and L'Institut Francais du Petrole, des Carburants et Lubrifiants, Rueil-Malmaison (Seine et Oise), France

Filed May 1, 1963, Ser. No. 277,337
Claims priority, application France, May 8, 1962, 896,771
3 Claims. (Cl. 340—17)



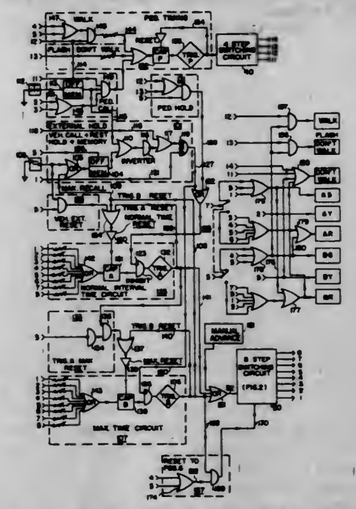
1. An electromechanical vibration generator adapted to rest on the ground and comprising a magnetic body, a movable coil operatively associated with said body and adapted to be vibrated by reaction to magnetic flux in said body, an amplitude transformer adapted for being located between said movable coil and the ground, said transformer being constituted by a lever system, including at least one lever, a pedestal adapted for resting on the ground, said lever having ends pivotally secured respectively to the pedestal and to the movable coil, means floatingly suspending said magnetic body above the ground, and means connecting the lever, at a position intermediate the ends of the lever and closer to the end connected to the pedestal than to the end connected to the coil, pivotally to the floatingly suspended magnetic body.

3,267,424
TRAFFIC ACTUATED CONTROL SYSTEM

Peter C. Brockett, Milford, and Charles L. Du Vivier, Darien, Conn., assignors to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed Jan. 2, 1964, Ser. No. 338,555
23 Claims. (Cl. 340—37)

1. A traffic signal controller including
signal circuits,
electrical timing means providing an electrical output signal on completion of a time period and having plural time control circuits for setting different times for said time period,
a multistage electrical sequence switching circuit including
a cascaded series of electronic switching elements coupled to provide a cycle of steps and to be advanced step-by-step in response to input pulses,
means for coupling said multi-stage circuit to different ones of said time control circuits of said timing means in different steps of said cycle for providing individual timing in said different steps,

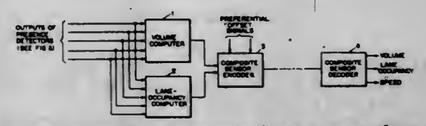


means for coupling said timing means to said multistage circuit to provide said input pulse from said output signal for so advancing said multistage circuit from one step to another in said cycle in response to completion of timing in said one step,
means for resetting said timing means upon such advance in so timing said steps and
means for coupling said multistage switching circuit to said signal circuits for controlling the latter in the several steps of such cycle.

3,267,425
COMPOSITE SENSOR SIGNAL COMMUNICATION SYSTEM

John H. Auer, Jr., Fairport, N.Y., assignor to The General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed Feb. 4, 1964, Ser. No. 342,467
10 Claims. (Cl. 340—38)



1. In a system for communicating average volume and average lane occupancy data over a single communication channel, the combination comprising an encoder, said encoder including means responsive to a voltage analog of average volume for repetitively generating a sawtooth voltage of slope dependent upon the average volume and switching means responsive to the sawtooth voltage generating means and a voltage analog of average lane occupancy for providing an output voltage of a first amplitude when the average lane occupancy voltage amplitude exceeds the sawtooth voltage amplitude and an output voltage of a second amplitude when the sawtooth voltage amplitude exceeds the average lane occupancy voltage

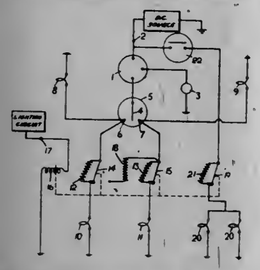
amplitude, and a decoder, said decoder including digital-to-analog conversion means for providing average volume and average lane occupancy analog voltages in response to said first and second output voltage amplitudes.

3,267,426

VEHICLE DIRECTION INDICATOR SYSTEMS

Eric Bernard Parkes, Selly Oak, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

Filed Dec. 10, 1962, Ser. No. 243,273
4 Claims. (Cl. 340—81)



1. A vehicle direction indicator system comprising in combination first and second direction indicating lamps at opposite sides of the vehicle, a terminal for connection to a D.C. source, a manually operable three position switch having a movable contact piece and first and second fixed contact pieces, a flasher unit connected between said terminal and the movable contact piece, first and second resistors through which the first and second fixed contact pieces are connected to the first and second lamps respectively, a third fixed contact piece, a third resistor connected between the second and third contact pieces, a first switch movable between a first position in which it bridges the first resistor and a second position in which it interconnects the first and third contact pieces, a second switch movable between a first position in which it bridges the second resistor and a second neutral position, and means coupling the first and second switches together for simultaneous operation, operation of said three position switch when the first and second switches are in their second positions permitting current flow to one lamp through either the first or second resistor to illuminate the lamp, current also flowing to the other lamp through the third resistor and either the second or the first resistor in series, the resistance of the third resistor being such that current flowing to said lamp is insufficient to illuminate it but is sufficient to maintain the frequency of operation of the flasher unit substantially the same as when the first and second resistors are in their first position.

3,267,427

RHYTHMIC TELEGRAPH SYSTEM FOR THE SIMULTANEOUS TRANSMISSION OF MESSAGES IN OPPOSITE DIRECTIONS

Martinus Jacobus Hoek and Ernest Goldstern, Hilversum, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

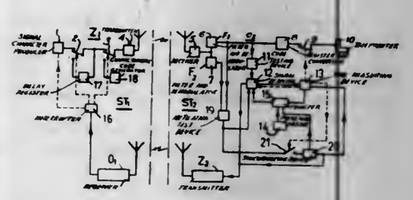
Filed Jan. 21, 1963, Ser. No. 252,955
Claims priority, application Netherlands, Jan. 26, 1962, 274,031
5 Claims. (Cl. 340—146.1)

1. A rhythmic telegraph system for the simultaneous transmission of messages in opposite directions between two stations with the aid of signal characters which are constituted by a constant number of elements of equal duration in an error-detecting bivalent code, in which at the receiver end a testing device is provided which on reception of a signal character immediately tests its code and on reception of a distorted signal responds with the result that a request for repetition is sent back to the transmitter end and there causes a signal detector to respond which causes the transmission of a pre-determined number of the last transmitted signal characters to be repeated and, when the test device responds, at the receiver end an interruptor is actuated which interrupts the feeding of the signal characters to a printing device for a repetition period equal to the duration of the pre-determined number of signal characters, characterized in that

(a) at the receiver end a character generator is provided which, when the signal detector responds, transmits a pre-determined characteristic code character instead of a signal character, said code character containing code elements which are constituted by an intentionally mutilated signal character element,

(b) at the receiver end a further testing device is provided which scans each character element immediately on reception and responds on finding a mutilation,

(c) at the receiver end a code character detector is provided which is controlled by the further testing device and responds on reception of the characteristic code character,



(d) at the receiver end a phase comparison device is provided which compares the phase of the characteristic code character detected by the code character detector with the phase of a pulse generator which has a cycle period equal to the length of a signal character and causes the received signal characters to be fed to the printing device,

(e) at the receiver end a recording device is provided which is controlled by the further testing device and by the code character detector and which performs a recording if in a repetition period a mutilated character element is received which does not form part of the code character detected by the code character detector,

(f) the phase comparison device on ascertaining a phase difference responds, provided that the recording device has not recorded a mutilated character element, and applies a shifting pulse to a phase shifting device which is coupled to the pulse generator and on reception of a shifting pulse shifts the phase of said pulse generator one character element,

(g) the response of the phase comparison device and the recording of a mutilated character element by the recording device result in that at the end of a repetition period a request for repetition is returned to the transmitter end and the interrupter is again actuated for a repetition period.

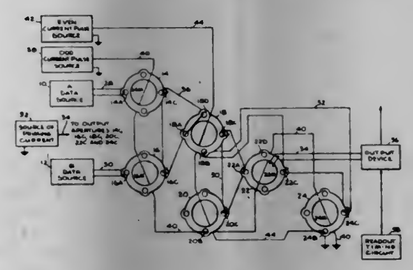
3,267,428

MAGNETIC CORE COMPARATOR SYSTEM

John A. Swanson, Mountain View, Calif., assignor to AMP Incorporated, Harrisburg, Pa., a corporation of New Jersey

Filed Dec. 14, 1962, Ser. No. 244,755
5 Claims. (Cl. 340—146.2)

5. Apparatus for comparing the data received sequentially from two binary data sources comprising first, second, third, fourth, fifth and sixth magnetic cores of the type having a one representative magnetic state of remanence and a zero representative state of magnetic remanence, means coupling said first magnetic core to one of said two binary data sources to be driven to its one or zero state of magnetic remanence in response to an output therefrom, means coupling said second magnetic core to the other of said two binary data sources to be driven to its one or zero state of magnetic remanence in response to an output therefrom, a first output winding coupling said first and second cores to said third core, said first output winding being wound on said first and second core with a sense for opposing similar outputs from said first and second cores and for driving said third core to its one state of remanence in response to dissimilar outputs from said first and second magnetic core, a second output winding coupling said third and fifth magnetic core to said fourth magnetic core, said second output winding being wound on said third and fifth cores with a sense for opposing similar outputs from said first



and second magnetic cores and for driving said fourth core to its one state of remanence in response to dissimilar outputs from said third and fifth magnetic cores, a third output winding coupling said fourth and sixth cores to said third core, said third output winding being wound on said fourth and sixth cores with a sense for opposing similar outputs from said fourth and sixth cores and for driving said third core to its one state in response to dissimilar outputs from said fourth and sixth cores, a first drive means for simultaneously driving said first, second, fourth and sixth cores to their zero states of remanence and said fifth core to its one state of remanence, and a second drive means operative alternately to said first drive means for simultaneously driving said third, and fifth cores to their zero states of remanence and said sixth core to its one state of magnetic remanence whereby the state of remanence of said fourth core represents whether or not identity of data in said first and second sources has occurred.

3,267,429

DIGITAL TO PULSE COMPARATOR APPARATUS

Garry G. Strohmeyer, Hacienda Heights, Calif., assignor to Honeywell Inc., a corporation of Delaware

Filed Sept. 16, 1963, Ser. No. 309,113
4 Claims. (Cl. 340—146.2)

1. Digital comparing apparatus comprising:

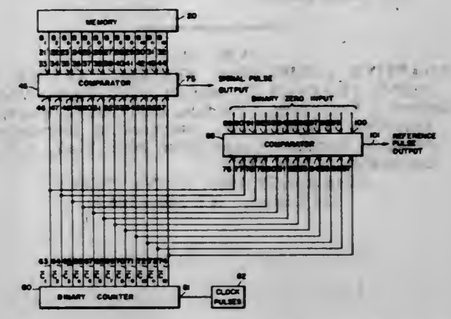
a memory circuit having a binary number output $B_1, B_2 \ldots B_n$ where the subscripts indicate the order of the binary number bit;

a binary counter having a complement output $\overline{C}_1, \overline{C}_2 \ldots \overline{C}_n$;

means for OR'ing like order bits of the memory circuit output and the counter circuit output to produce first signals $B_1+\overline{C}_1, B_2+\overline{C}_2 \ldots B_n+\overline{C}_n$;

means for AND'ing and inverting the first signals to produce a second signal $\overline{B}_1 \cdot C_1+\overline{B}_2 \cdot C_2 \ldots \overline{B}_n \cdot C_n$;

means for AND'ing like order bits of the memory circuit output and the counter circuit output to produce third signals $B_1 \cdot \overline{C}_1, B_2 \cdot \overline{C}_2 \ldots B_n \cdot \overline{C}_n$; and



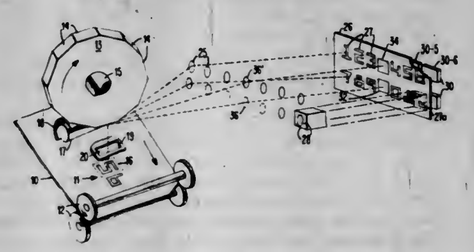
means for OR'ing and inverting said second signal and said third signals to produce an output signal indicative of correspondence between the binary number output of said memory circuit and a count in said binary counter.

3,267,430

CHARACTER RECOGNITION EMPLOYING OFFSET REGISTRATION CONTROL MASKS

Philip H. Howard, Rochester, Minn., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed July 2, 1962, Ser. No. 206,636
13 Claims. (Cl. 340—146.3)



12. Apparatus for determining by its image the identity of a recorded indicium belonging to a predetermined group of indicia, each having a unique image, comprising:

mask means including an image mask of each of the indicia in said group and a pair of registration masks;

scanning means for moving an image of said indicium across each of said image and registration masks in unison so that an image of said indicium achieves maximum coincidence with one of said registration masks prior and with the other registration mask subsequent to optimum registration of said images and said image masks;

means responsive to the degree of coincidence between each said image mask and the image moving thereacross for producing an output signal corresponding to each said image mask of amplitude proportionate to the degree of coincidence between each image mask and the image thereon;

indicating means for each of said image masks

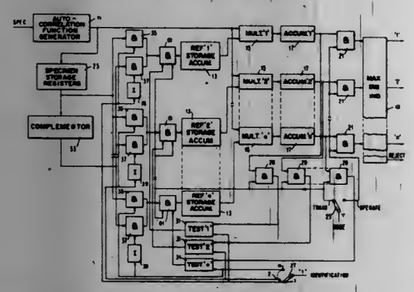
selection means responsive to the output signal of greatest amplitude for activating that one of said indicating means with which said output signal corresponds; and

control means responsive to the coincidence between said registration masks and the images thereon for overriding said selection means except during said optimum registration between said image masks and said images thereon.

3,267,431
ADAPTIVE COMPUTING SYSTEM CAPABLE OF BEING TRAINED TO RECOGNIZE PATTERNS

Herbert J. Greenberg, Scarsdale, and Alan G. Konheim, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Apr. 29, 1963, Ser. No. 276,612
114 Claims. (Cl. 340—146.3)



1. An adaptive recognition system for identifying a specimen based on its similarity to members of a set of reference patterns comprising, in combination:

means for generating nonrandom functions of the specimens;

means for linearly comparing the generated functions with reference functions to provide an indication of the reference pattern that is the most similar to the specimen for each specimen, where each reference function corresponds to a member of the set of reference patterns;

and selectively-controllable means responsive to the comparison means for altering the reference functions during a training mode of operation to improve the comparison between the generated functions and a corresponding reference function that is most similar, and to lessen the comparison between the generated functions and at least one other non-corresponding reference function and for providing an indication of the identity of the specimens based on their similarity to the members of the set of reference patterns, as determined by the comparison means, during an operating mode of operation.

3,267,432
MULTI-LEVEL TEST CHANNEL FOR SPECIMEN IDENTIFICATION

Raymond E. Bonner, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 1, 1963, Ser. No. 320,788
13 Claims. (Cl. 340—146.3)

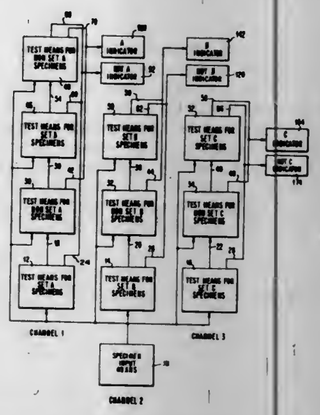
1. A recognition system for identifying input specimens as members of given specimen classes comprising:

an input means responsive to an input specimen selected from said given specimen classes for generating signals characteristic thereof,

a plurality of test channels connected to said input means, each of said test channels being associated with a separate specimen class,

each of said test channels including a plurality of test means connected directly to said input means for performing separate specific tests on said characteristic signals and for producing a first output signal when said test is satisfied and a second output signal when said test is failed,

a separate indicator device connected to each test channel and responsive to the resultant output sig-



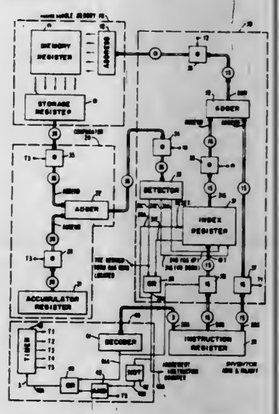
nals of each test means therein for indicating the particular specimen class of said input specimen,

and gating means interconnecting the test means in each test channel such that said first and second output signals from each test means must be gated by a first output signal from the preceding test means in each test channel.

3,267,433
COMPUTING SYSTEM WITH SPECIAL PURPOSE INDEX REGISTERS

Adin D. Falkoff, Croton-on-Hudson, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Aug. 24, 1962, Ser. No. 219,162
10 Claims. (Cl. 340—172.5)



2. A computing system including an addressable memory,

an index register having a plurality of bistable elements arranged from a highest order bistable element to a lowest order bistable element, each of said bistable elements having a ONE state and a ZERO state,

a first register for storing a particular binary word,

means for interrogating memory locations determined by the address in said index register,

comparison means for comparing the contents of interrogated memory locations to the particular word in said first register, and for indicating whether the binary value of the contents of the interrogated location is equal, higher or lower than the contents of said first register,

means operative in response to said comparison means if the contents of said interrogated location is lower than the contents of said first register, for changing the state of the bistable element in said index register associated with the position which is one order lower than the lowest order position which is in the ONE state,

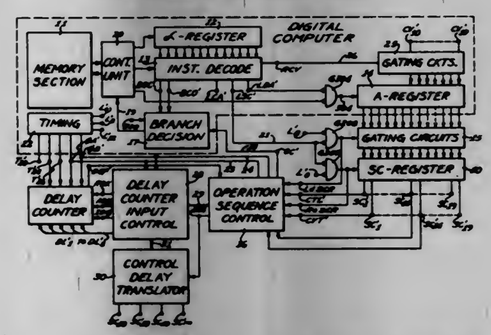
means, including in part said above-mentioned means, operative in response to said comparison means if the contents of said interrogated location is higher than the contents of said first register for changing the state of the bistable element in said register associated with the lowest order position which is in the ONE state and for changing the state of the bistable element associated with the next lower order position,

whereby said memory locations are interrogated in a binary search pattern.

3,267,434
INFORMATION HANDLING SYSTEM

Robert E. Clark, Wallace N. Patterson, and Theodore D. Thomas, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Filed July 5, 1961, Ser. No. 121,975
16 Claims. (Cl. 340—172.5)



1. In an electronic information handling system for selectively scanning a number of variables the values of which are manifested by analog signals, the combination comprising:

a plurality of analog signal sources providing analog signals the amplitudes of which are functions of the respective ones of said variables;

a stored-program digital computer having a memory section for storing instructions and an instruction register for controlling the operation of said digital computer;

an external instruction storage register independent of said digital computer for storing an instruction to scan the analog condition of a specified variable and to transfer its value in digital form to said computer;

transfer means for transferring an instruction to said external instruction storage register, said instruction having an address portion specifying the variable to be scanned whereby scanning the analog condition of a specified variable and transferring its value in digital form to said digital computer may be controlled in accordance with the instruction in said external instruction storage register;

an analog-to-digital converting means for amplifying an analog signal to a predetermined full-scale signal and for converting the amplified signal into digital form;

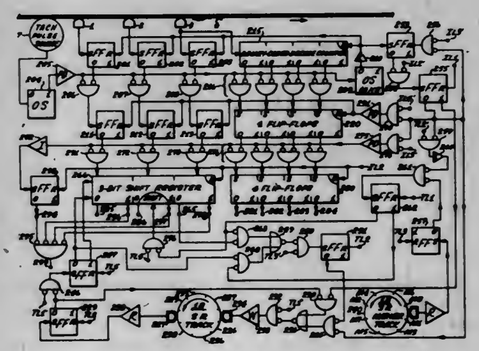
addressing means coupled to said external instruction storage register and responsive to the address portion of said instruction transferred thereinto for selectively coupling the analog signal source of said specified variable to said analog-to-digital converting means; and

a means coupled to said storage register and responsive to said instruction for transferring a group of digital signals representative of the value of said specified variable from said analog-to-digital converting means to said digital computer.

3,267,435
MULTIPLE SHIFT REGISTERS

Charles H. Propster, Jr., San Jose, Calif., assignor to General Electric Company, a corporation of New York

Original application Oct. 27, 1959, Ser. No. 849,002. Divided and this application June 25, 1962, Ser. No. 204,697
3 Claims. (Cl. 340—172.5)



1. A plurality of shift registers each comprising:

a pair of sectors oppositely disposed about a track of a rotating magnetic medium each sector having a corresponding number of cells for storing data;

a marker track storing a plurality of marker pulses arranged in pairs to mark the beginning and end of each sector;

a means for reading said marker pulses;

a first means for reading data stored in said cells of a given sector in a given pair;

a second means for writing data in cells of the other sector of said given pair;

a first gated channel connecting said first means and said second means to record in the cells of one sector the data read from the corresponding cells in the other sector;

a second gated channel having a delay means connecting said first means and said second means to cause a bit read from a given cell in one sector to be recorded in a cell of the second sector following the cell which corresponds to said given cell;

means for selectively enabling one of said first and second gated channels and means for disabling both of said first and second gated channels in response to said marker pulse marking the beginning of a given sector being read;

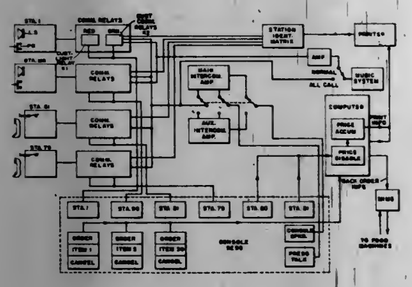
and a third gated channel connecting said first means and said second means, said means for disabling both said first and said second gated channels in response to a marker pulse enabling said third channel, said third channel including means for introducing a bit from an external source to be written by said second means and including means for extracting a bit read by said first means.

3,267,436

ELECTRONIC ORDERING PRICE COMPUTING AND BILLING SYSTEM

Norman Alpert, Scarsdale, N.Y., and Robert M. Berler, Westport, and Ralph Townsend, Darien, Conn., assignors to Americal Machine & Foundry Company, a corporation of New Jersey

Filed Aug. 24, 1962, Ser. No. 219,222
7 Claims. (Cl. 340—172.5)



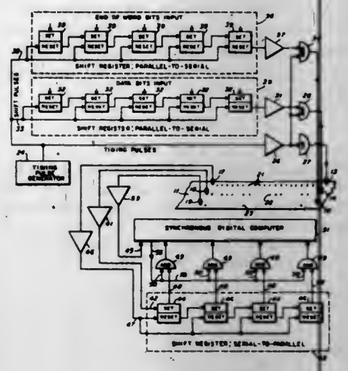
6. In combination in an ordering, price computing and billing system, a computer including a plurality of item quantity memory devices with associated keying controls, one for each of a number of different commodity items of predetermined price values available for ordering, and adapted to produce and store an output signal representing information on the quantity of its particular item entered therein by operation of one of the associated controls by the operator of the system, if ordered on a particular order from a customer, scanner means for sampling the output signals of all of said memory devices in sequence to determine those in which orders have been placed, means for sequentially converting the sampled signals first into binary price information and then into equivalent trains of decimal pulses the number of which in each train represents the total price of a different one of the items on the order, accumulator means fed from the signal output of each of the memory devices in which orders have been placed and the decimal pulse output of the converting means for respectively accumulating and storing information on the quantity of each of the items, the item total price and the total running price of the order and means for visually indicating the accumulated and stored information to a customer, and wherein said means for converting the sampled signals into binary price information includes a diode matrix adapted to invert decimal information into binary form and provide at its diode terminals information representing any predetermined price possible for the ordered items on a single order, and each of said memory devices comprises a multiposition, bidirectional ring counter, with associated order controls including an ADD control means, and the total item price for any quantity of an item ordered is provided and encoded by the operator by operating the ADD control means a number of times equal to the quantity of that item ordered to advance the associated ring counter to a correspondingly numbered output position, and when the ring counter steps itself back to zero units after such operation, the total price for that quantity of the item is effectively entered in binary form in said diode matrix an equal number of times.

3,267,437

APPARATUS FOR OPERATING AN INPUT-DEVICE RECORDING TAPE ASYNCHRONOUSLY WITH A SYNCHRONOUS DIGITAL COMPUTER SYSTEM

Robert H. Harwood, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 29, 1962, Ser. No. 220,950
5 Claims. (Cl. 340—172.5)



1. A system for transferring asynchronous digital data to a synchronous data equipment comprising:
a first shift register having parallel inputs for receiving groups of said asynchronous digital data;
a source of timing pulses, said pulses being connected to actuate said first shift register to produce serial output data commensurate with said groups of asynchronous digital data;
a recording means adapted to receive and separately record said serial output data and said timing pulses;
means for reproducing serial data and timing signals in response to said recorded serial output data and timing pulses; and
a second shift register connected to receive said reproduced serial data signals and adapted to respond to said timing pulse signals for arranging said signal data in parallel groups, said second shift register being responsive to the coincidence of said parallel group of digital data signals with synchronous signals derived from said synchronous data equipment for causing said groups of digital data signals to be synchronously transferred into said equipment.

3,267,438

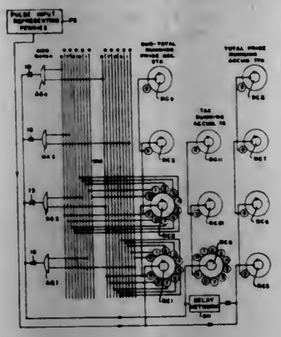
TAX COMPUTATION AND BILLING SYSTEM FOR CASH REGISTER USE

Robert M. Berler, Westport, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Dec. 12, 1962, Ser. No. 244,068
8 Claims. (Cl. 340—172.5)

5. A tax computing and indicating system comprising in combination with a source of individual pulses quantatively representing the total price before tax of a number

of items sold on a single order, ring counter means connected to said source to receive and count pulses therefrom and to store the counted pulses as information representing the total running price of the order, a plurality of multi-input gates selectively connected to the output of said ring counter means and each representing a tax break in accordance with the tax laws which the sale is subject to, control means connected to said gates and together with the output of said ring counter means enabling each of said gates to provide a pulse output the pulses of which quantatively represent the tax at such tax break when said counter means counts the total price of the sale equal to such tax break, counting means connected to the output of said gates for receiving and counting pulses therefrom and for storing the counted pulses as information representing the total tax on the order, and said gates being divided into a set of nonrepeating gates and at least two sets of repeating gates, and said control means includes a first flip-flop means initially set so as to apply an enabling voltage on all nonrepeating



gates only and responsive to the enablement of a selected one of the nonrepeating gates when a sum is counted in said ring counter means equal to the tax break represented by that gate to cause all the nonrepeating gates to become disabled while all the repeating gates will have an enabling voltage present at one of their inputs, a second flip-flop means which is set by the enablement of another of said nonrepeating gates when a sum is counted in said ring counter means equal to the tax break represented by said other gate to supply an enabling voltage input to said selected one of said nonrepeating gates, and a multiposition step ring counter means which is stepped from position-to-position in response to the enablement of said selected one gate to switch the control of the enabling voltage input between said two sets of repeating gates.

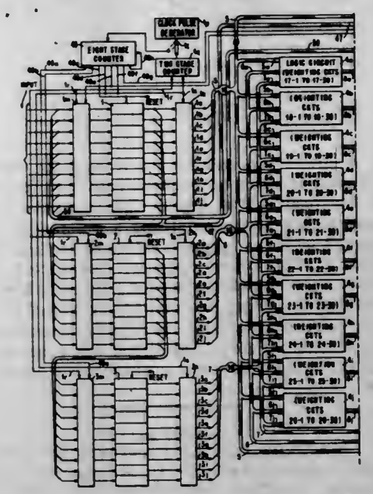
3,267,439

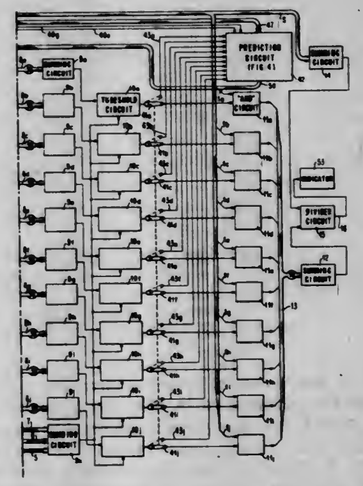
PATTERN RECOGNITION AND PREDICTION SYSTEM

Raymond E. Bonner, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Apr. 26, 1963, Ser. No. 275,849
15 Claims. (Cl. 340—172.5)

1. An adaptive pattern recognition and prediction system comprising:
an input storage means,
an adaptive means coupled to said input storage means,
and an output means coupled to said input storage means and said adaptive means,
said input storage means being responsive to a first plurality of seriately occurring coded signals, each coded signal being composed of *n* data bits being in either a "zero" or "one" binary state,
said adaptive means being responsive to said first plurality of coded signals stored in said input means for producing an analog representation of the relationship of each of the *n* data bits in said "one" binary state in each coded signal in combination with all the data bits in said one binary state of all the coded signals in said first plurality,
said input means being further responsive to a second plurality of seriately occurring coded signals, said second plurality of coded signals being identical to



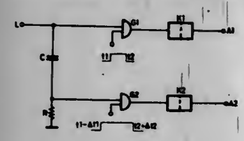


said first plurality with the exception that at least one coded signal of said first plurality is omitted, said first plurality of coded signals being removed from said input storage means upon reception of said second plurality of coded signals,
and said adaptive means being further responsive to said second plurality of coded signals stored in said input storage means for providing at least a first one coded output signal representative of said at least one omitted coded signal.

3,267,440
CIRCUIT ARRANGEMENT FOR READING DIGITAL SIGNALS

Jens Piening and Horst Girke, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Aug. 6, 1962, Ser. No. 215,064
Claims priority, application Germany, Sept. 1, 1961, S 75,542
4 Claims. (Cl. 340—174)

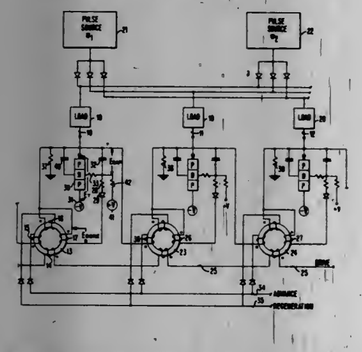


1. A circuit arrangement for recognizing disturbances in the reading signal of magnetic core matrices which are used for reading out digital signals supplied statically thereto at any time, comprising a differentiating circuit connected with the output winding of the matrix, and a bistable flip-flop circuit operatively connected with said differentiating circuit, means for triggering said flip-flop circuit during a rising portion of the curve of the reading signal, said means being operatively responsive to an output of said differentiating circuit when the rising slope of the curve of the reading signal exceeds a predetermined value.

3,267,441
MAGNETIC CORE GATING CIRCUITS

Donald F. Busch, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Aug. 28, 1961, Ser. No. 134,298
7 Claims. (Cl. 340—174)

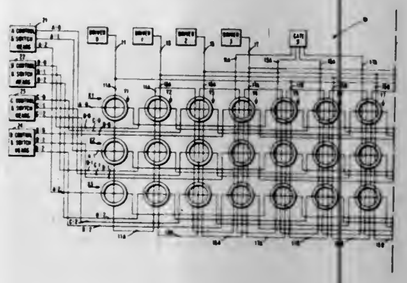


1. A signal control system comprising a plurality of signal lines adapted to be selectively gated; a magnetic core register having a plurality of bistable magnetic cores one for each of said signal lines and having two stable states of magnetic remanence, a drive winding, an advance winding, a regeneration winding, and an output winding all inductively coupled to each of said cores; a potential source; a plurality of transistors, one coupled with each of said signal lines for selectively connecting a signal line with said potential source; means for normally biasing each of said transistors to a nonconductive condition; means coupling the biasing means for each transistor with the output winding of its respective core; means for selectively applying a current pulse to one of said drive windings for switching a selected core from a reference stable state to its other stable state whereby the induced current in the output winding of said selected core serves to overcome the biasing means for the associated transistor for rendering the transistor conductive to thereby apply a gating potential to the signal line associated with the selected core; an energy storing element coupled with said biasing means and serving to store an energy charge during the switching of said core for maintaining said conducting transistor conductive for a predetermined time interval after the termination of said current pulse to said drive winding connecting means; and means for optionally applying a current pulse to the regeneration winding or advance winding on said core during the predetermined time interval that said transistor is maintained conductive for restorably switching said selected core to its reference state of remanence or for switching the next succeeding core to its reference state of remanence.

3,267,442
MEMORY MATRIX

Holger R. Jensen, Jr., Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Oct. 16, 1961, Ser. No. 145,205
2 Claims. (Cl. 340—174)



1. In a memory matrix, an array of bistable magnetic cores where the state of a core is indicative of a binary bit "1" or "0," where the combined states *m* of a series of cores (A1, A2, A3 . . .) is representative of a character B, wherein a number of cores representing characters B1, B2, . . . B*n* equal in number to a constant *n* represents a word, the improvement comprising:

(a) a separate winding beginning with each successive set of cores representing a character B1, B2, . . . B*n* in said array threading successive sets of cores of a number equal to the value *n* and terminating with a set of cores representing the last character of said number of characters,

(b) circuit means connecting the termination of adjacent windings together with a number of other windings to form a group of windings equal to the constant *n*, and operable, when selected, to complete a circuit for the windings,

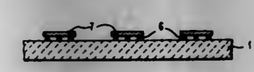
(c) means connecting together the beginnings of all separate windings (a) spaced apart by the constant *n*,

(d) control means for selectively completing a circuit to the beginnings of the connected winding of (c) above so that the cores threaded thereby may be set to a first or second stable state by current through the established circuit whereby a number of cores equal in number to the characters in a word of data are selected by the completion of said circuit means (b) above and any separate winding (a).

3,267,443
MAGNETIC MEMORY ELEMENT

James M. Brownlow, Crompond, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Original application May 27, 1960, Ser. No. 32,360, now Patent No. 3,077,021, dated Feb. 12, 1963. Divided and this application July 24, 1962, Ser. No. 212,012
3 Claims. (Cl. 340—174)

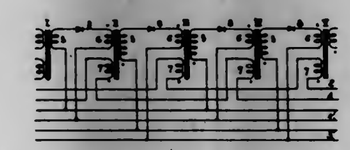


1. A magnetic memory element comprising:
a substrate;
a body of ferrite material bonded to said substrate;
said body of ferrite material being formed of particles of ferrite material sintered together;
said body having a first section and a second section;
said first section of said ferrite body contacting said substrate and bonding said body to said substrate;
said second section being separated from said subtrate by said first section;
said first section having a particle density much less than the particle density in said second section with spaces between the patricles to form bonding connections to said substrate only at spaced points along said substrate.

3,267,444
MAGNETIC CORE CIRCUITS FOR BINARY CODED INFORMATION

Andre Michael Richard, Paris, France, assignor to Societe d'Electronique et d'Automatisme, Courbevoie, France

Original application July 15, 1957, Ser. No. 671,854, now Patent No. 3,058,098, dated Oct. 9, 1962. Divided and this application Sept. 13, 1962, Ser. No. 223,445
Claims priority, application France, July 21, 1956, 719,080, Patent 1,156,488
5 Claims. (Cl. 340—174)

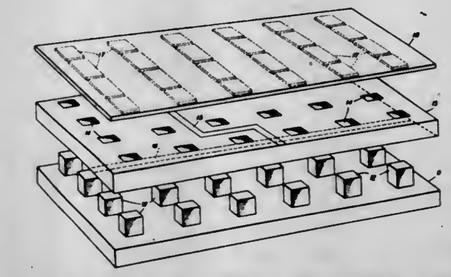


1. A device for handling binary coded information comprising at least one cascaded arrangement of magnetizable cores, each having a substantially rectangular hysteresis cycle of magnetization and having at least one write-in winding, and at least one read-out winding thereon, the write-in winding having a smaller number of turns than the read-out winding, said write-in and read-out windings on the said cores being wound to provide opposite directions of magnetization thereon, and a reset winding, a series network interconnecting each pair of adjacent cores and comprising in series circuit connection a read-out winding on one core, a unidirectional conducting device, a write-in winding of an adjacent core, and a source of alternating voltage; means connecting alternate ones of said network to receive alternating voltages of the same phase relation and the remaining networks to receive alternating voltages of opposite phase with respect to the voltages supplied to said alternate networks, and the unidirectionally conducting devices being similarly connected to conduct current in the same direction in all networks and through both windings of each network; and a source of resetting current supplying said reset windings in any interval between the active periods of write-in and read-out alternations of the said alternating voltage.

3,267,445
MAGNETIC MEMORY CIRCUITS

Brandt P. Ochsner, Gillette, and James L. Smith, Bedminster, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 9, 1962, Ser. No. 236,665
13 Claims. (Cl. 340—174)



1. A magnetic memory circuit comprising a high magnetic permeability base plate having a bottom portion and a plurality of posts extending from said bottom portion, an overlay magnetic sheet having substantially rectangular hysteresis characteristics positioned over said posts, an insulating means positioned between said bottom portion and said overlay sheet and adapted by means of apertures to fit over said posts, a pattern of electrical conductors being affixed to said insulating means, a pattern of high magnetic permeability material bonded to said overlay sheet on the side of said sheet facing said posts, a first one of said posts being contiguous to a first portion of said high permeability material, a second one of said posts adjacent said first post being contiguous to a second portion of said high permeability material, said first and said second portions of high permeability material separated on said overlay sheet by a distance substantially smaller than the distance between said adjacent first and second posts; a memory cell being defined by said bottom portion, said first and second posts, said first and second portions of high permeability material, and said overlay material; means including said pattern of conductors for establishing a first and a second remanent magnetic condition in said cell, and means for detecting when said cell is switched from said first to said second remanent magnetic condition.

3,267,446
MEMORY DECOUPLING CIRCUIT

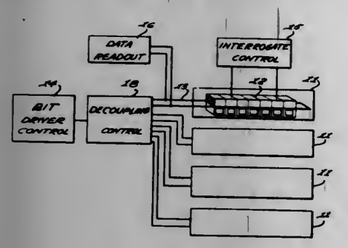
Elvin L. Woods, Tustin, and Robert L. Koppel, Orange, Calif., assignors, by mesne assignments, to Raytheon Company, a corporation of Delaware

Filed Nov. 14, 1962, Ser. No. 237,582
7 Claims. (Cl. 340—174)

1. In a word oriented one element per bit binary memory system,
a plurality of magnetic units, each comprising a block of magnetic material having nonintersecting orthogonally disposed interrogate and storage holes therethrough with said blocks arranged in an array with the storage holes aligned to form bit rows and the bit rows disposed parallel to each other to form bit planes, whereby said interrogate holes are aligned, each said bit row defining a word composed of a plurality of bits,
a plurality of bit conductors, with a bit conductor threaded through the storage holes of the blocks of each bit plane respectively,
a plurality of interrogate conductors, with a interrogate conductor threaded through the aligned interrogate holes of each word respectively,

bit write means for generating bit write current pulses of a polarity corresponding to the information to be stored, on each of said bit conductors,

means for generating interrogate current pulses on interrogate conductors in selected aligned interrogate holes,



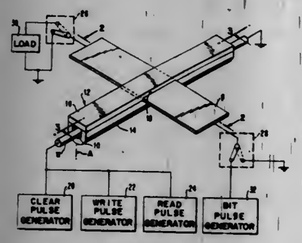
data readout means responsively connected to said bit conductors for determining flux change occurring about each storage hole of a word during an interrogate current pulse,

and means for decoupling said bit write current generating means from said bit conductors during an interrogate current pulse.

3,267,447
MAGNETIC MEMORY

Lawrence R. Bickford, Jr., Tokyo, Japan, and Robert F. Elfant, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 21, 1963, Ser. No. 325,337
10 Claims. (Cl. 340—174)



1. A magnetic information storage system comprising:

(a) a magnetic member having an aperture therethrough forming a slit in each of two opposite sides of said member made of material exhibiting different stable states of flux remanence the distance between said two slits in said magnetic member being less than the length of either one of said slits,

(b) first means for applying a first magnetic field to said member in a direction transverse with respect to the longitudinal dimension of the slits,

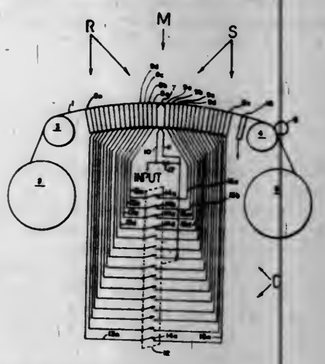
(c) second means applying a second magnetic field directed transverse with respect to said first field which is of insufficient magnitude of and by itself to cause an appreciable flux change in the first state, said first and second magnetic fields being applied concurrently to establish said member in a second state of flux to represent a second information value, and

(d) third means operative to apply a third magnetic field in a direction transverse with respect to the longitudinal dimension of the slits in said member and to sense flux changes in said member.

3,267,448
PULSE SERIES EXTENDER

Roland Eric Gunther, 100 Joanne St., Princeton Junction, N.J.

Filed Sept. 11, 1962, Ser. No. 222,888
1 Claim. (Cl. 340—174.1)

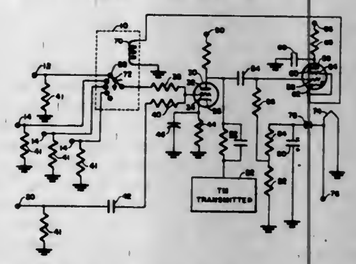


In a device for extending series of electrical pulses of fairly uniform character, a magnetic recording means, an input, a two function recording and sensing main head, a coincidence switching means, said switching means operable by electrical signals appearing either at said input or at said sensing portion of said main head, a bank of closely spaced recording heads closely flanking and ahead of said main head, a bank of closely spaced sensing heads flanking and after said main head, said banks of recording and sensing heads providing pairs each of one recording and one sensing head equidistant from said main head, all of said pairs of recording and sensing heads connectable within said pairs at the same time by means of said coincidence switching means, and said input also connected to said recording portion of said main head.

3,267,449
TELEMETERING SYSTEM WITH AUTOMATIC SCAN FOR MONITORING PLURAL INPUTS

Thomas J. Ryan, Buckingham, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Oct. 9, 1962, Ser. No. 229,506
5 Claims. (Cl. 340—213)



1. In a commanded multiplexing telemetering system, the combination comprising:

(a) multiple sources of signals containing information to be transmitted,

(b) mixer circuit means having one of said sources continuously coupled as an input thereto,

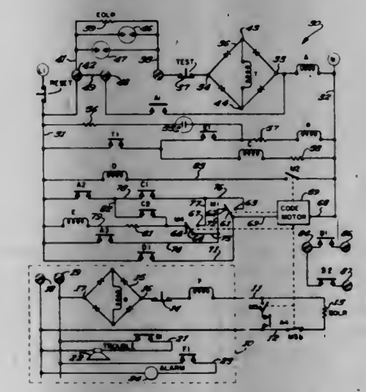
(c) commutator circuit means having a rotating selector member for successively coupling a plurality of said multiple sources to said mixer circuit when actuated by a command pulse from said source that is continuously coupled to said mixer circuit, and

(d) transmitter means being coupled to the output of said mixer circuit means for transmitting the information received from said multiple sources.

3,267,450
ALARM APPARATUS

Glenn K. Thompson, Coon Rapids, Minn., assignor to Honeywell Inc., a corporation of Delaware

Filed Jan. 6, 1964, Ser. No. 335,895
5 Claims. (Cl. 340—213)



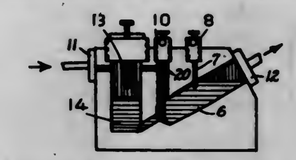
5. A self-supervised alarm system designed to monitor a plurality of normally open condition operated switches, comprising: alarm relay means having a coil and a switch operated thereby; a full wave rectifier bridge having input terminals and output terminals; a source of alternating current; first circuits means including a fixed impedance connecting said alarm relay coil and said input terminals in series with said source to provide a supervisory alternating current therethrough; trouble relay means having a coil and a switch operated thereby; means connecting said trouble relay coil to said output terminals for energization by said supervisory current; trouble indicating means; means connecting said trouble indicating means and said switch of said trouble relay means in series with said source for energization thereby upon a predetermined reduction in the level of said supervisory current; alarm indicating means; at least one normally open condition operated switch connected in parallel with said fixed impedance; and means connecting said alarm indicating means and said switch of said alarm relay means in series with said source to energize said alarm indicating means upon the closing of said condition operated switch to increase the current flow in said first circuit and energize said alarm relay means.

3,267,451
FLUID FLOW MONITOR

Arthur M. Seligman, 1006 Shenley Drive, Erie, Pa. 16505, and Norman J. Anderson, 1050 W. 9th St., Erie, Pa. 16502

Filed Feb. 15, 1963, Ser. No. 258,726
3 Claims. (Cl. 340—239)

1. A monitor for a small flow of an electrically nonconductive working fluid, comprising a chamber having two generally tubular-shaped legs, one leg of said two generally tubular shaped legs being generally vertical and having a first upper portion and a first lower portion, the other leg of said two generally tubular-shaped legs being inclined against the horizontal and having a second lower portion and a second upper portion, said first upper portion having an inlet for said working fluid, said first lower portion and said second lower portion joined at an angle to form a first junction, said second upper portion having an outlet for the working fluid, said chamber having a cross-section of sufficient area to allow unrestricted flow of said working fluid and being provided with a notch along the upper side of the inclined other leg, a first electrode penetrating into the chamber, a second

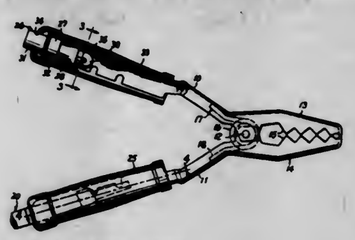


electrode penetrating electrically insulated through the wall of said other leg into said notch in a downward direction at an angle to the axis of the second leg, and an electrically conductive sealing liquid occupying the lower part of said chamber and at a level in contact with the first and second electrode for providing an electrical circuit therebetween.

3,267,452
BATTERY CHARGER CLAMP AND POLARITY DETECTOR

Robert L. Wolf, Granite City, Ill., assignor to Associated Equipment Corporation, St. Louis, Mo., a corporation of Missouri

Filed Dec. 23, 1963, Ser. No. 332,490
20 Claims. (Cl. 340—249)



1. In a battery charger clamp:

(a) a pair of handles hingedly connected to provide jaws at one end,

(b) spring means tending to urge the jaws together, the jaws including terminal contacts,

(c) a cable attached to one of the handles and electrically connected to the terminal contact of its jaw,

(d) a polarity detector carried by one of the handles, the detector including a test contact at the end of one handle adapted to engage a battery terminal, and

(e) an indicating means electrically interconnected to the test contact and to the cable.

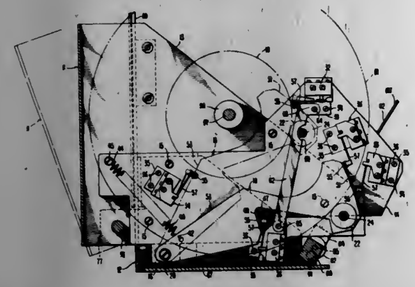
3,267,453
TAPE LEVEL INDICATING APPARATUS

Robert E. Braun, Philadelphia, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

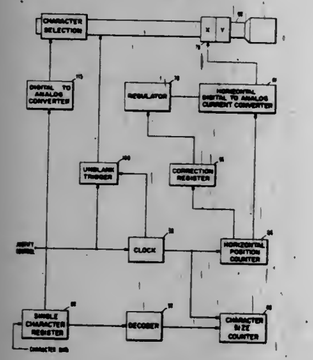
Filed Nov. 20, 1963, Ser. No. 324,995
4 Claims. (Cl. 340—259)

1. In tape level sensing apparatus the combination comprising, a chassis having a reel of tape mounted thereon, said chassis mounted for pivotal movement to accommodate changes in tension of said tape, sensing arm means mounted on one leg of the chassis and having its free end normally in engagement with the periphery of said tape, biasing means normally urging the free end of said sensing arm means into engagement with said tape, said sensing arm means including a plurality of cam surfaces disposed on its periphery, a plurality of switch means mounted upon said chassis in opposed relation to

said cam surfaces, signal means electrically connected to said switch means, each one of said cam surfaces engaging a different one of said switch means to produce successive electrical outputs to energize said signal means upon unreeling of the tape on said reel in predetermined amounts.



3,267,454
LINE JUSTIFYING AND PROPORTIONAL SPACING APPARATUS FOR DISPLAY DEVICES
Fred W. Schaaf, Owego, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 24, 1963, Ser. No. 290,069
12 Claims. (Cl. 340—324)



6. In a cathode ray tube system for displaying across the tube face a line of characters each represented by input data and having characteristic widths, justifying apparatus comprising:

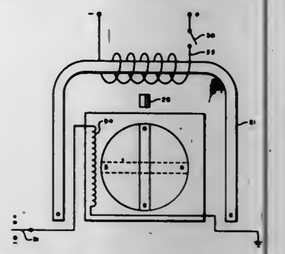
means including counting means connected to said tube for deflecting the cathode beam across said tube face by standard increments up to a maximum number of increments;

means responsive to said input data representing said characters appearing in said line for determining the difference between the number of increments required by said characters and said maximum increments;

means connected to said deflection means for increasing the size of said standard increments in proportion to said difference; and

means for displaying said characters on said tube face with said beam at positions determined in accordance with said increments of increased size.

3,267,455
PULSE SCANNED REFLECTIVE DISPLAY
John P. McGuire, Briarcliff Manor, and John K. McKendry, Pleasantville, N.Y., assignors to General Precision, Inc., a corporation of Delaware
Filed Sept. 25, 1963, Ser. No. 314,574
5 Claims. (Cl. 340—324)



1. A reflective display member comprising,

a displaceable element having oppositely disposed portions with different reflective characteristics and including a magnetized element having poles of opposite magnetic polarity each respectively positioned centrally of a respective different reflective portion,

a fixed magnetic member positioned contiguous to said displaceable element,

said fixed magnetic member coacting with one of the poles of said magnetized element for maintaining said displaceable element in a first stable state wherein one reflective characteristic is visible and coacting with the other pole of said magnetized element for maintaining said displaceable element in a second stable state wherein only the other reflective characteristic is visible,

first selectively operable means for establishing a first unidirectional magnetic field to interact with the magnetic field of said magnetized element to cause said displaceable element to be displaced to a transient position intermediate to said first and second states wherein neither of the poles of said magnetized element is closely adjacent to said fixed magnetic member, and

second selectively operable means for establishing a second unidirectional magnetic field to interact with the field of said magnetized element to displace said displaceable element to one or the other of its stable states wherein one or the other of the poles of said magnetized element is closely adjacent said fixed magnetic member.

3,267,456
APPARATUS FOR CONVERSION FROM MORSE CODE TO VISUAL DISPLAY
George F. Morris, Rochester, and Watson F. Walker, Pittsford, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Oct. 16, 1961, Ser. No. 145,117
8 Claims. (Cl. 340—325)

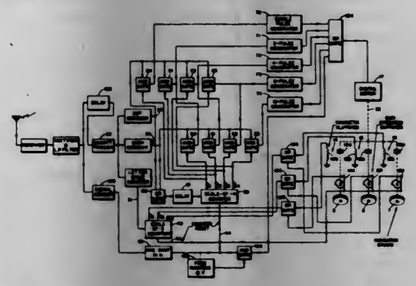
1. A display system for character information contained in groups of dot and dash signal elements, the dot signal elements and the dash signal elements comprising, respectively, voltage pulses of relatively short and relatively long durations, the system comprising in combination:

(a) means for decoding said signal elements and producing signals selectively on one of a first and a second line according to signal element duration,

(b) display means having characters in aligned one-dimensional array for forward step-by-step movement for successive display of each character,

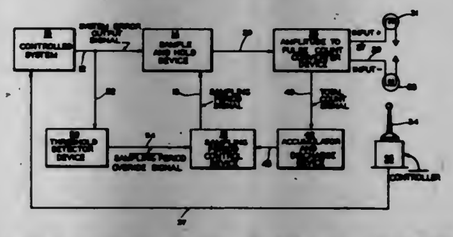
(c) a single step-by-step motor for driving said display means to successively display each of all of the information characters,

(d) a plurality of pulse generators adapted to produce different numbers of pulses in response to a single stimulating signal from either of said first and second lines for pulsing and stepping said motor and display means, and



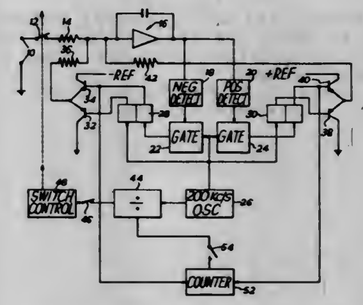
(e) logical circuit means for connecting said first and second lines, respectively, to one pair of said generators during decoding of a first signal element so that the amplitude of movement of said display means is one function of signal element duration, and for connecting said first and second lines to a different pair of said generators during decoding of the next signal element so that the amplitude of movement of said display means becomes a different function of signal element duration.

3,267,457
SYSTEM FOR MONITORING CONTROLLED APPARATUS HAVING FLASHING INDICATOR MEANS RESPONSIVE TO ERROR SIGNALS
Arthur Simon, Fair Lawn, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Apr. 1, 1963, Ser. No. 269,391
8 Claims. (Cl. 340—331)



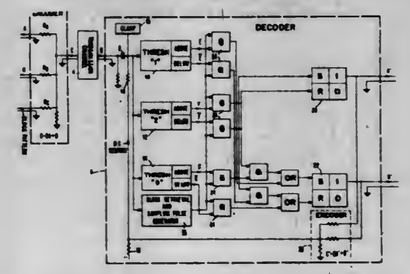
1. In a condition indicator means, the combination comprising means for generating a controlled system error output signal, a sample and hold device for receiving said error signal, means for varying the sampling period of said sample and hold device including a sampling period control device, an amplitude to pulse count converter device for receiving an output signal from said sample and hold device, said amplitude to pulse count converter device including means to selectively apply the sampled signal to first and second output means dependent upon the sense of the sampled signal, a first condition warning device operated by the first output means and a second condition warning device operated by the second output means, means for providing a total count signal output from the amplitude to pulse count converter device, and an accumulator and discharge device operatively connected to the last-mentioned output, said accumulator and discharge device including means to accumulate said count signal and having an output connected to the sampling period control device so as to set the sampling period of the sampling period control device in accordance with the accumulated count signal.

3,267,458
DIGITAL VOLTMETERS
Robin N. Anderson and Howard A. Dorey, Farnborough, England, assignors to The Solartron Electronic Group Limited, Farnborough, England
Filed Aug. 20, 1962, Ser. No. 217,896
Claims priority, application Great Britain, Aug. 24, 1961, 30,582/61
2 Claims. (Cl. 340—347)



1. An analogue to digital converter for use as a voltmeter comprising: an integrating amplifier; a switch connected to the input of said amplifier for applying thereto a voltage to be measured; a circuit responsive to an applied pulse to feed a fixed quantity of charge into said amplifier in opposition to the applied voltage; a source of clock pulses for pulsing the said circuit; means responsive to the output of said amplifier to permit the said circuit to be pulsed when the output level of said amplifier is beyond a predetermined value; means responsive to the clock pulses to close the said switch for a standard number of clock pulses; and a counter for counting the number of times that the said circuit is pulsed.

3,267,459
DATA TRANSMISSION SYSTEM
John S. Chomicki, East Fishkill, and Dale L. Critchlow, Lincolndale, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 18, 1962, Ser. No. 245,550
14 Claims. (Cl. 340—347)



1. A transmission system for binary data comprising, in combination:

a first encoder for converting binary data into multilevel data signals

transmission means coupled to said encoder including a channel for transmitting said multi-level data signals;

a decoder having an input coupled to said transmission means for converting the multi-level data signals into binary data;

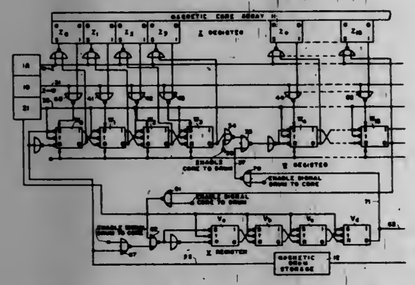
a second encoder coupled to said decoder and responsive to the binary data produced by said decoder for converting said binary data into a multi-level output signal;

and means connected to said decoder and said second encoder for combining the output signal of the second encoder with the input to the decoder.

3,267,460
SERIAL-PARALLEL MODE DIGITAL CONVERTER

Francis M. Merrell and Edward A. Herrera, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Filed July 26, 1963, Ser. No. 297,771
10 Claims. (Cl. 340—347)

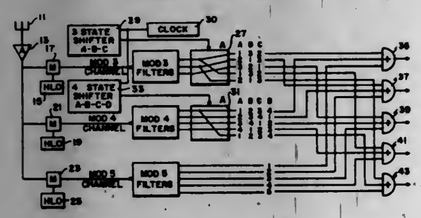


1. A serial-parallel mode digital converter, comprising: parallel mode means for producing an output word in the parallel mode or for receiving a word in the parallel mode, or both; serial mode means for producing an output word in the serial mode or for receiving a word in the serial mode, or both; a first shift register having a storage capacity of L bits connected between said parallel mode means and said serial mode means; and a second shift register having a storage capacity of B bits, where B is a smaller number than L, said second shift register being connected in parallel with a portion of said first shift register.

3,267,461
MIXED BASE DATA REDUCTION TECHNIQUE

William R. Harmon, Burlington, N.C., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Aug. 26, 1963, Ser. No. 304,702
11 Claims. (Cl. 340—347)



1. In a mixed base receiver having a plurality of parallel receiving channels for receiving at least one variable frequency signal, each channel having a different modulus and having means for producing an array of sideband frequencies related to the incoming signal by increments corresponding to the modulus of said channel, each channel having a modulo gamut of adjacent band slot filters, the number of filters of each modulo gamut being equal in number to the modulus of its respective channel and each filter having a bandwidth such that only one filter of each said gamut may be active in response to the array of sidebands and the incoming signal, an improved data reducing system for said receiver comprising:

changeable interconnection means in each of those channels the modulus of each of which is less than the largest channel modulus, for receiving an input from each filter of the modulo filter gamut;

each of said interconnection means including means providing separate outputs equal in number to the largest channel modulus of the receiver whereby digits related to the modulus of each said channel are serially repeatable to the extent of the largest channel modulus at said outputs;

control means connected to each said interconnection means for effectively changing the connections between the inputs and outputs thereof whereby a family of serial digits corresponding to each respective channel modulus may be enabled at the outputs of each said interconnection means in digit groups of which the number of digits in each group is equal to the largest channel modulus;

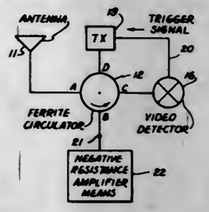
a plurality of AND gates equal in number to the largest channel modulus; and

connection means connecting each AND gate of said plurality of AND gates to a different one of the outputs of said interconnection means and to a different one of the filters in the largest modulus channel in serial order of respective channel modulo digits.

3,267,462
TRANSPONDER INCORPORATING NEGATIVE RESISTANCE AMPLIFIERS AND MULTIPORT DIRECTIONAL COUPLERS

William F. Gabriel, Fairfax County, Va., assignor to Keltec Industries, Inc., a corporation of Virginia

Filed Aug. 13, 1963, Ser. No. 301,705
13 Claims. (Cl. 343—6.8)



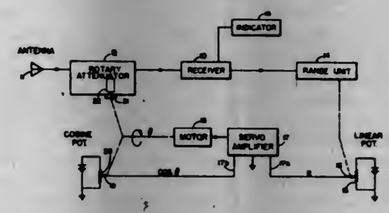
10. A transponder responsive to receipt of a first selected wave energy signal comprising a multiport nonreciprocal directional coupler; antenna means, means connecting said antenna means to a first port of said multiport directional coupler; negative resistance means adapted for negative resistance operation, said negative resistance means operative to produce an output signal in response to a selected characteristic of said first selected wave energy signal, means connecting said negative resistance means to a second port of said multiport directional coupler; signal detection means adapted to produce an output signal in response to the output signal of said negative resistance means; transmitter means having at least one input port and at least one output port; means for applying said output signal of said negative resistance means to said signal detection means; means for applying the output signal of said signal detection means to said one input of said transmitter means; said transmitter means adapted to generate a second selected wave energy signal in response to said output signal of said signal detection means, means connecting said transmitter means via said

one output port thereof to a third port of said multiport directional coupler; said directional coupler adapted such that an input signal incident on said first port is directed to said second port, and an input signal incident on said third port is directed to said first port whereby transmission of said second selected wave energy signal via said antenna means occurs upon receipt of said first selected wave energy signal via said antenna means.

3,267,463
COMPENSATOR FOR VARIATION IN RADAR TARGET REFLECTIVITY DUE TO RANGE CHANGES

Irwin D. Olin, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed May 14, 1964, Ser. No. 367,601
3 Claims. (Cl. 343—7)



1. In a radar receive system, the combination comprising:

means for sensing a condition and producing an electrical output potential proportional to the condition sensed;

an adjustable attenuator connected to said sensing means;

a receiver, range unit means, and a potentiometer connected in series to said attenuator;

an adjustable vane mounted in said attenuator; and

a servo means mechanically and electrically connected to said potentiometer and said vane means whereby the output of said range unit means varies the input of the servo so as to provide variable attenuation to the signals sensed.

3,267,464
RAPID SYNCHRONOUS TIME INTERVAL DETECTOR

Oscar Shames, Philadelphia, Pa., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed Oct. 30, 1963, Ser. No. 320,234
6 Claims. (Cl. 343—7.3)

1. In a ranging system, a detector for use with a receiver for locating a synchronous return pulse propagated from a corresponding beacon and received by the receiver from among a number of non-synchronous pulses received by the receiver comprising:

a source of timing pulses;

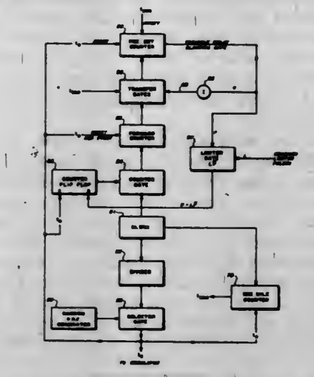
means coupled to said source for generating interrogation pulses;

means for blocking reception of the return pulse for a preset time interval after the generation of each of said interrogation pulses;

means for measuring the time interval between the generation of each of said interrogation pulses and the reception of the first return pulse after the expiration of said blocking time interval;

means coupled to said source of timing pulses and said measuring means for providing an output train of pulses indicative of said measured time interval; and

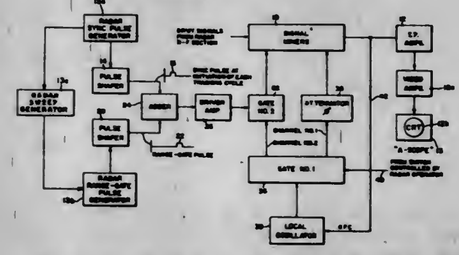
means connecting said measuring means to said blocking means for supplying said output train of pulses to said blocking means for resetting said preset time interval.



3,267,465
PULSE-GATED RADAR RANGE TRACKING SYSTEM

William W. Cuthbert, Oxnard, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed July 6, 1964, Ser. No. 380,710
5 Claims. (Cl. 343—7.3)



1. In a tracking radar of the type in which a video presentation is developed on the screen of a cathode-ray tube for observation by an operator, such video presentation normally including all range information within the capabilities of the radar as well as noise and, when present, indications of unwanted targets and jamming signals either intentionally or unintentionally generated, in addition to the indication representative of the particular target the acquisition and subsequent tracking of which is desired, the reception by the radar of such noise and unwanted energy tending to adversely affect the lock-on sensitivity of the radar, the combination of:

a constant-frequency local oscillator;

circuit means for mixing the output of said local oscillator with the received signal energy to produce an intermediate-frequency signal;

means to amplify such signal energy prior to application thereof to the cathode-ray tube on which the said video presentation is developed;

means for generating a range-gate pulse adapted to scan the entire range tracked by the radar to cause the radar to lock-on to a target the time-wise position of which coincides generally with the instantaneous time-wise position of such range-gate pulse during a particular scan thereof;

a circuit for applying the output of said local oscillator of the radar to said means for mixing in time coin-

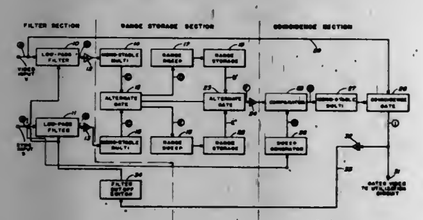
cidence with the leading edge of said range-gate pulse and for removing the output of the local oscillator from said means for mixing in time coincidence with the trailing edge of said range-gate pulse, so that the output of the oscillator is mixed with the received signal energy only during time periods coinciding with those occupied by the range-gate pulse and with no output energy from the local oscillator being mixed with the received signal energy outside of such time periods;

the signal-to-noise ratio of the system being consequently raised inasmuch as no noise or other unwanted signal energy appears in those portions of the radar receiver which follow the signal-mixing means outside of such range-gate pulse time periods, the improvement in the radar's signal-to-noise ratio correspondingly improving the lock-on sensitivity of the system as compared to that which would prevail were the noise and unwanted energy to pass completely through the receiver at all times and appear as a presentation on the screen of said cathode-ray tube.

3,267,466
RADAR INTERFERENCE REJECTION

James L. Poterack, El Paso, Tex., and Joseph P. Mefford, Bellerose, and Edward A. Stroud III, New Rochelle, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Oct. 13, 1964, Ser. No. 404,203
8 Claims. (Cl. 343—7.3)



1. In a radar receiver of the type receiving a first input signal consisting of synchronizing pulses and a second input signal consisting of target return pulses and unwanted intereference signals, interference rejection apparatus comprising:

filter means for receiving the input signals, the outputs of said filter means consisting essentially of sync pulses and target return pulses;

range storage means receiving the outputs of said filter means and generating range voltages whose magnitudes are a function of the time separation between a sync pulse and its associated target return pulse;

voltage comparison means for comparing the magnitude of said range voltages with the range sweep voltage of the radar receiver, said voltage comparison means producing an output pulse at the time when the range sweep voltage equals said range voltage;

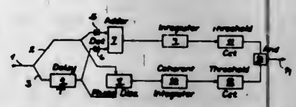
coincidence gate means controlling the passage of the second input signal to other sections of the radar receiver, said coincidence gate controlled by the output of the voltage comparison means, passage of the second input signal through the coincidence gate being permitted only upon the simultaneous occurrence of the second input signal and an output pulse from the voltage comparison means;

means responsive to the output of said coincidence gate rendering said filter means non-conductive for a predetermined period of time after said coincidence gate passes an input signal.

3,267,467
APPARATUS FOR ELIMINATING SPURIOUS ECHOES IN RADARS

Lucien Gerardin, Le Raincy, France, and Jack G. McQueen, Cheadle Hume, Cheshire, England, assignors to Compagnie Francaise Thomson-Houston, Paris, France, a corporation of France

Filed Jan. 16, 1963, Ser. No. 251,961
Claims priority, application France, Jan. 23, 1962, 885,586, Patent 1,344,203
4 Claims. (Cl. 343—7.7)

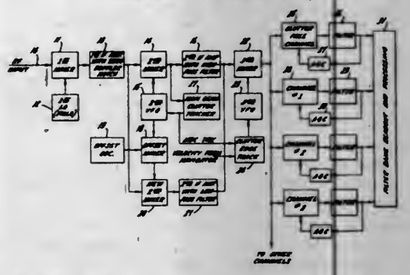


1. In a system for the detection of moving targets, comprising a radar transmitter and a receiver for echoes of transmitted pulses, the improvement whereby said transmitter has means for generating a pair of consecutive composite pulses during each of a succession of operating cycles, said composite pulses being separated by an interval which varies from cycle to cycle, each composite pulse consisting of a predetermined number of constitutive pulses of different frequencies appearing in different relatively inverse order in the paired pulses of one cycle, said receiver including a first and a second input channel for intermediate-frequency signal pulses due to echoes of said composite pulses radiated by said transmitter, delay means in said second channel adapted to retard the signal pulses thereof by a delay close to the duration of said interval, first circuit means connected to said channels for detecting the envelopes of coinciding undelayed and delayed signal pulses thereof and additively combining the pulses thus detected, whereby a first signal indicative of the presence of a localized object is generated, second circuit means connected to said channels for comparing the phases of the alternating-current intermediate-frequency components of coinciding constitutive pulses of like frequency of said signal pulses and generating a second signal indicative of the speed of such localized object in response to a phase difference between said components, and output means jointly triggerable by said first and second signals for producing a moving-target indication upon coincidence of said first and second signals.

3,267,468
PULSE DOPPLER CLUTTER REJECTION SYSTEM

Keefer S. Stull, Jr., Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Jan. 15, 1965, Ser. No. 425,974
7 Claims. (Cl. 343—7.7)



1. A pulse Doppler clutter rejection system for a pulse Doppler radar having first, second, and third local oscillators, first, second, and third mixers, and first, second, and third intermediate frequency amplifiers, the latter of which is frequency divided into a plurality of frequency bands for target detection, comprising:

a supplemental second mixer and supplemental second intermediate frequency amplifier coupled in parallel to said second mixer and second intermediate frequency amplifier;

an offset mixer coupled to and controlled by said second local oscillator with an output coupled to said supplemental second mixer;

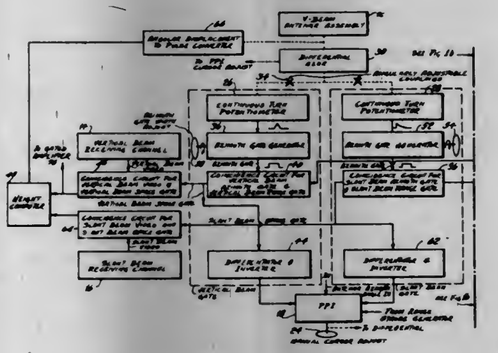
an offset oscillator coupled to said offset mixer to mix the oscillations therefrom with the oscillations of said second local oscillator; and

a high-pass filter in said second intermediate frequency amplifier and a low-pass filter in said supplemental intermediate frequency amplifier to pass frequencies above and below an undesirable band of frequencies on a common output to said third mixer whereby the offset oscillator produces oscillations sufficient to close the gap in the intermediate frequency Doppler spectrum caused by said high-pass and low-pass filters equal to said undesirable frequency thereby eliminating clutter frequencies.

3,267,469
AUTOMATIC RANGE GATING FOR V-BEAM RADAR

Joseph R. Vadus, Carle Place, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 6, 1964, Ser. No. 357,829
3 Claims. (Cl. 343—11)



1. A V-beam radar system comprising:

a V-beam antenna assembly rotatable in azimuth,

a vertical beam receiving channel and a slant beam receiving channel for vertical beam video and slant beam video respectively from the antenna assembly,

a PPI equipment including a cathode ray tube display operatively coupled to the antenna assembly and operable to produce a cursor sweep that tracks the antenna assembly in azimuth, said PPI equipment further including an adjustable azimuth cursor,

a range strobe generator coupled to the PPI and having a range adjust for selectively locating a range mark along the cursor sweep,

a monostable multivibrator coupled to the range strobe generator for generating a vertical beam range gate,

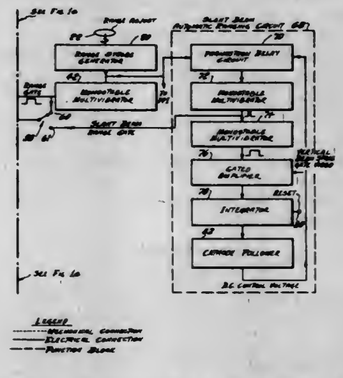
a differential gear having input, output, and means for adjusting the relative angular orientation between input and output, the input being operatively coupled to said antenna assembly for rotation therewith, the means for adjusting the relative angular orientation and the azimuth cursor being coupled for angularly displacing input and output of the differential gear in equal amount to the azimuth displacement of the azimuth cursor,

a circuit including a continuous-turn potentiometer with a rotatable wiper for providing a triangular waveform for each complete rotation of the wiper, for use in vertical beam azimuth gating, the wiper being operatively coupled to the differential output for rotation therewith and angularly adjustable relative thereto,

another circuit including a continuous turn potentiometer with a rotatable wiper for providing a sawtooth waveform for each complete rotation of the wiper, for use in slant beam azimuth gating, the wiper being operatively coupled to the differential output for rotation therewith and angularly adjustable relative thereto,

a vertical beam azimuth gate generator and a slant beam azimuth gate generator coupled to the outputs of the respective circuits, each gate generator having an independent gate width adjust for selecting a threshold level for the input waveform, and providing a rectangular waveform for each input waveform, the edges of the rectangular waveform being in time coincidence with the intersections of the threshold level and the input waveform,

a coincidence circuit coupled to outputs of said vertical beam azimuth gate generator and said monostable multivibrator and responsive thereto to generate a vertical beam space gate,



a coincidence circuit coupled to the vertical beam receiving channel and to the coincidence circuit that generates the vertical beam space gate, and providing to the PPI equipment the vertical beam video within the vertical beam space gate,

a slant beam automatic range gate generator coupled to the output of the range strobe generator and to the output of said coincidence circuit that provides only the vertical beam video within the vertical beam space gate, to generate a slant beam range gate which is a minor fraction of the vertical beam range gate and that covers in range slant beam video from a target which is the furthest in range acquired by the vertical beam space gate,

a coincidence circuit coupled to the output of said slant beam azimuth gate generator and the output of said slant beam automatic range gate generator and responsive thereto to generate a slant beam space gate,

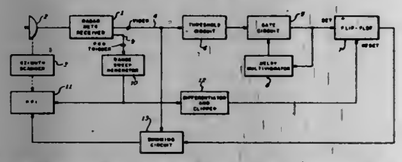
means coupled to said antenna assembly and generating a pulse in response to each predetermined increment of angular displacement of the antenna assembly in azimuth,

a coincidence circuit coupled to the slant beam receiving channel and to the coincidence circuit providing the slant beam space gate and providing the PPI the slant beam video within the slant beam space gate,

a height computer coupled to the pulse generating

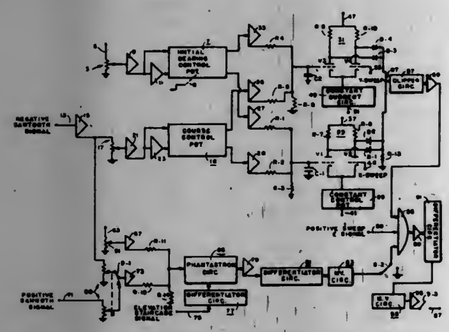
means that is responsive to azimuth displacement of the antenna assembly, to the output of the coincidence circuit that provides only the vertical beam video within the vertical beam space gate, and to the output of the coincidence circuit that provides only the slant beam video within the slant beam space gate.

3,267,470
RADIALLY INTENSIFIED PPI COLLISION COURSE DETECTOR
Robert F. Riggs, Charlottesville, Va., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Dec. 11, 1964, Ser. No. 417,711
7 Claims. (Cl. 343—11)



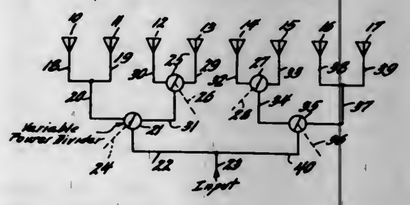
1. In a plan position indicator system wherein target echo signals are represented by intensifications of a cathode ray tube beam and said system provides triggers for synchronizing the radial sweep of said beam, means for intensifying said beam comprising
a bistable device having set and reset terminals,
means for applying said echo signals to said set terminal,
means responsive to said triggers for producing signals delayed with respect thereto, said delayed signals being applied to said reset terminal, and
means for applying the output signal of said bistable device to the beam intensification means of said cathode ray tube.

3,267,471
RADAR TARGET ECHO SIGNAL SIMULATOR
Milton H. Greenfield, Bronx, and Anthony Abajian, Glen Oaks, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 14, 1964, Ser. No. 396,437
6 Claims. (Cl. 343—17.7)



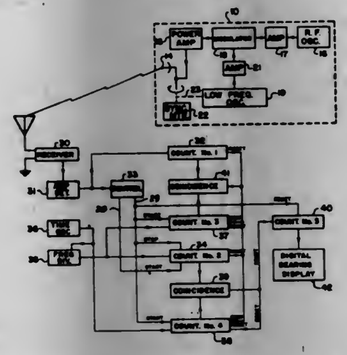
1. Apparatus for generating a simulated target return signal for application to the cathode ray indicator of a radar control system, said apparatus comprising:
(a) means for providing a first D.C. potential;
(b) a first sine cosine potentiometer;
(c) means for applying the D.C. potential across the sine cosine potentiometer such that the amplitude of the D.C. potential represents the initial range of the simulated target and the shaft rotation angle of the potentiometer represents the initial bearing of the simulated target;
(d) means for providing a linearly varying D.C. potential;
(e) a second sine cosine potentiometer;
(f) means for applying the linearly varying D.C. potential across the second sine cosine potentiometer such that the amplitude of the linearly varying potential represents the change in range of the simulated target and the shaft rotation angle of the second potentiometer represents the change in bearing of the simulated target;
(g) means for summing the sine wave output signals of the first and second sine cosine potentiometers;
(h) a circuit for comparing the summed sine wave signals with the X sweep signal of the radar system and developing an output pulse when the amplitude of the X sweep potential exceeds the amplitude of the summed sine wave signal;
(i) means for summing the cosine wave output signal of the first and second sine cosine potentiometers;
(j) a circuit for comparing the summed cosine wave signals with the Y sweep signals of the radar system and developing an output pulse when the amplitude of the Y sweep potential exceeds the amplitude of the summed cosine wave signal;
(k) a coincidence circuit which is coupled to the comparison circuits and which provides an output pulse when the output pulses from the comparison circuits occur simultaneously;
(l) means for providing a second D.C. potential which represents the angle of elevation of the simulated target;
(m) a phantastron circuit;
(n) means for coupling the second D.C. potential to the plate of the phantastron circuit;
(o) means for triggering the phantastron circuit at the start of each elevation scan of the radar system and initiating its linear rundown voltage from the second D.C. potential;
(p) an "AND" circuit;
(q) and means for coupling the output circuit of the phantastron and the output of the coincidence circuit to the "AND" circuit; the output signal from the "AND" circuit being used to simulate the target return signal.

3,267,472
VARIABLE APERTURE ANTENNA SYSTEM
Charles Fink, Silver Spring, Md., assignor to Litton Systems, Incorporated, College Park, Md.
Filed July 20, 1960, Ser. No. 44,174
19 Claims. (Cl. 343—100)



6. A variable aperture antenna comprising an array of antenna units, power dividing means for selectively receiving from and transmitting energy to said units, said power dividing means being adjustable to variable apportion the energy among said units without appreciable attenuation of said energy and while maintaining the phase substantially constant, thereby to vary the beam pattern produced by the array by varying the amplitude distribution of the energy among the antenna units.

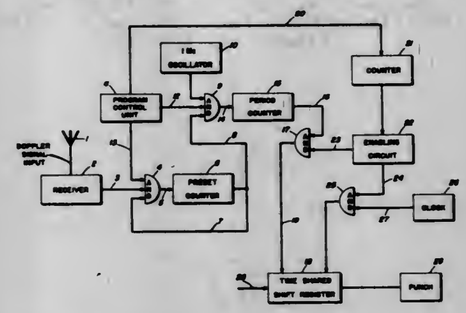
3,267,473
BEARING INDICATING RADIO BEACON
Richard T. Galloway, Panama City, Fla., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 26, 1963, Ser. No. 276,113
1 Claim. (Cl. 343—106)



A system for determining the bearing of a mobile station relative to a fixed point including
a radio beacon at said fixed point,
said radio beacon comprising
means for radiating a directive beam of signal energy,
means for rotating said beam about said fixed point, and
means synchronized with said rotating means for modulating the amplitude of said beam at a frequency which varies linearly with the angular rotation of said beam from a preselected zero bearing,
a receiver at said mobile station comprising
first means for counting the modulation cycles received during one period of reception of said beam,
second means for counting at a fixed rate during said one period of reception,
third means operative at the end of said one period of reception to count at a fixed rate to the number equal to the number of modulation cycles counted by said first means to establish a time interval,
fourth means operative coincident with said established time interval to count repetitively to the number equal to the count on said second means, and
fifth means for registering the number of repetitive counts of said fourth means as a measure of the relative bearing of said mobile station with respect to said zero bearing.

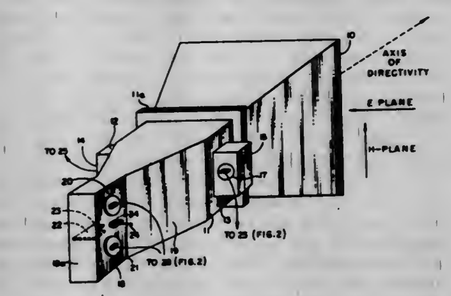
3,267,474
DOPPLER SHIFT DETECTOR
Malcolm B. Greenlee, Rockville, and John B. Fennell, Laurel, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Feb. 24, 1964, Ser. No. 347,099
4 Claims. (Cl. 343—112)

1. A Doppler frequency measuring system comprising means for receiving Doppler pulses,
a preset counter for counting said Doppler pulses to a predetermined number,
an oscillator,
a period counter for counting the pulses from said oscillator,
control means for stopping the counting of said period counter when said preset counter has registered the predetermined number of counts,
a clock, and



display means for presenting the time indication from said clock together with the output of said period counter whereby the Doppler frequency of said pulses may be determined.

3,267,475
SIMPLIFIED SINGLE-HORN MONOPULSE TRACKER
Dean D. Howard, 4230 Oak Lane, Oxon Hill, Md.
Filed May 23, 1962, Ser. No. 197,831
7 Claims. (Cl. 343—113)

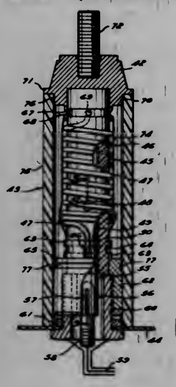


1. In a direction sensitive antenna system, a first waveguide capable of propagating the $TE_{2,0}$ mode in one plane therein and the $TE_{1,1}$ and $TM_{1,1}$ modes, first and second means for coupling to $TE_{1,0}$, $TE_{1,1}$, and $TM_{1,1}$ mode energy in said waveguide, the coupling of the first means to the $TE_{1,1}$ and $TM_{1,1}$ modes being opposite relative to the coupling to the $TE_{1,0}$ mode in comparison to the relationship between the coupling of the second means to the $TE_{1,1}$ and $TM_{1,1}$ modes and to the $TE_{1,0}$ mode, a second waveguide capable of supporting the $TE_{2,0}$ mode in one plane therein, transition means connecting said waveguides whereby $TE_{1,0}$ and the $TE_{2,0}$ mode energy of the first waveguide is delivered to the second waveguide, third and fourth means for coupling to $TE_{1,0}$ and $TE_{2,0}$ mode energy in said second waveguide, the coupling of the third means to the $TE_{2,0}$ mode being opposite relative to the coupling to the $TE_{1,0}$ mode in comparison to the relationship between the coupling of the fourth means to the $TE_{2,0}$ mode and to the $TE_{1,0}$ mode, and means for controlling the division of $TE_{1,0}$ mode energy between the first and second means and the third and fourth means.

3,267,476
VEHICLE-MOUNTED HALF WAVE ANTENNA WITH IMPEDANCE MATCHING TRANSFORMER

Arthur A. Finke, Newbury, Ohio, assignor to Antenna Specialists Co., a corporation of Ohio

Continuation of application Ser. No. 842,969, Sept. 18, 1959. This application Feb. 17, 1965, Ser. No. 438,173
2 Claims. (Cl. 343—715)



1. A vehicle-mounted communications antenna system for communications equipment having an impedance of substantially 50 ohms, said system comprising:

An upstanding half-wavelength antenna;

an antenna lead-in cable for connection to the communications equipment;

and an impedance-matching transformer unit at the lower end of the antenna comprising a rigid upstanding insulation support core having a continuous external helical groove thereon with the successive turns of the groove spaced apart evenly, a transformer coil having successive coil turns seated in said groove and evenly spaced apart thereby, conductive means at the upper end of said support core connecting the upper end of the coil to the lower end of the antenna, a conductive mounting nut telescopically engaging the lower end of said support core and attached to the lower end of the coil for grounding the latter to the vehicle body, and a conductive lead extending from the inner conductor of the antenna lead-in cable up through the support core and rigidly supported by the support core and connected to the coil at an intermediate point on the latter between its ends effective to match the impedance of the antenna to that of said communications equipment, said coil above said last-mentioned point presenting successive turns which are evenly spaced apart by the successive turns of said grove in the support core.

3,267,477
DUAL FREQUENCY MICROWAVE ANTENNA

Orville G. Brickey, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy

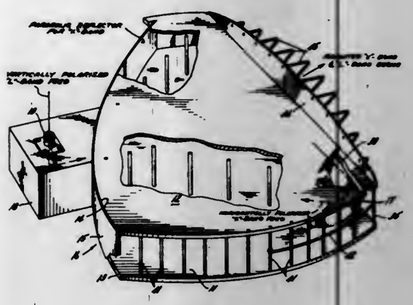
Filed Apr. 28, 1964, Ser. No. 363,309
5 Claims. (Cl. 343—756)

1. A dual frequency microwave antenna comprising:

first and second conductive plates each having a straight edge and a parabolically shaped edge, said plates being similarly disposed in spaced parallel relation with similar edges co-adjacent,

a conductive plate attached to said parabolically shaped edges thereby forming a parabolic reflector, said parabolic reflector having a plurality of horizontally disposed slots in the mid-portion thereof,

means positioned forwardly of said parabolic reflector for illuminating said parabolic reflector with a horizontally polarized wave in a first frequency range, and



means positioned rearwardly of said parabolic reflector for radiating through said slots a vertically polarized wave in a second frequency range.

3,267,478
TUNABLE FERROMAGNETIC ROD LOOP ANTENNA

Gerd Schiefer, Aachen, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 18, 1963, Ser. No. 252,400
Claims priority, application Netherlands, Jan. 19, 1962, 273,756
15 Claims. (Cl. 343—788)



1. A magnetic antenna for use over a predetermined radio frequency band comprising an elongated body of ferromagnetic material, a coupling winding mounted in magnetic coupling arrangement with said body, a sleeve of electrically conductive material having a longitudinal gap and arranged to surround said coupling winding and a substantial portion of said body, and means providing a tuning capacitance between the edges of said longitudinal gap.

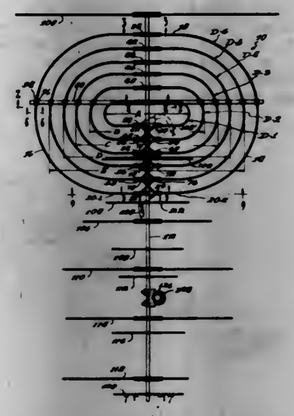
3,267,479
TELEVISION ANTENNA

Leonard L. Smith, Cave Springs, Ark., and Raymond Robbins, Lowell, Ark.

Filed May 18, 1964, Ser. No. 368,270
14 Claims. (Cl. 343—806)

9. A composite broad band antenna having substantially uniform gain over two frequency ranges the approximate center frequency of the lower of which is a whole number multiple of the approximate center frequency of the higher, said antenna being highly directive along a horizontal axis and having a plurality of elements generally arranged in a horizontal plane and the elements being normal to said axis and symmetrically arranged on

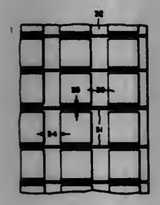
opposite sides thereof, comprising a metallic boom mounting said elements, said elements including a plurality of folded dipoles some of which are resonant at frequencies of one range and others of which are resonant at frequencies of the second range, each dipole being oval in configuration and all ovals lying in the same plane and having the same axis, means mounting all dipoles upon said boom insulated therefrom, and means for connecting a transmission line to all dipoles.



3,267,480
POLARIZATION CONVERTER

David S. Lerner, Smithtown, N.Y., assignor to Hazeltine Research, Inc., a corporation of Illinois

Filed Feb. 23, 1961, Ser. No. 91,133
8 Claims. (Cl. 343—911)



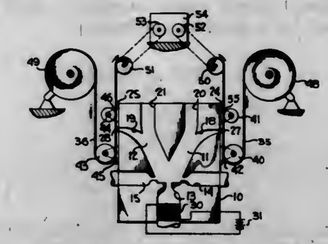
1. A polarization converter for electromagnetic energy comprising: a plurality of transmissive birefringent repetitive sheet arrays of conductive elements, including elements which are discontinuous in all directions in combination with elements which are continuous in one direction; and means for supporting said sheet arrays; said converter including sheet arrays of at least two different configurations.

3,267,481
RECORDING APPARATUS FOR FLUID SYSTEMS

Peter Bauer, Bethesda, and Edward D. Proctor, Riverdale, Md., assignors to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland

Filed Mar. 12, 1964, Ser. No. 351,307
26 Claims. (Cl. 346—1)

1. A method of recording fluid output signals from a fluid unit comprising the steps of supplying the unit with a fluid having a predetermined radiant energy characteristic deflecting the fluid stream as a function of an input fluid signal, and directing deflected fluid of the unit into

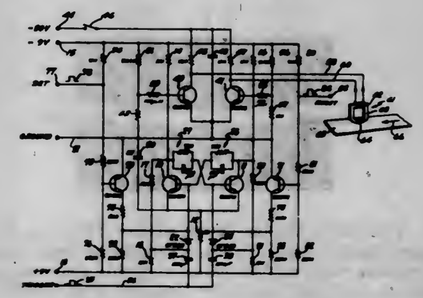


contact with a medium sensitive to the radiant energy characteristic of the working fluid.

3,267,482
DRIVER CIRCUIT FOR MAGNETIC RECORDING HEADS

Ray T. Moore, Jr., Palo Alto, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Jan. 22, 1962, Ser. No. 167,787
8 Claims. (Cl. 346—74)



1. A circuit for driving a magnetic head for non-return-to-zero recording, including

a magnetic head energizing circuit,

a pair of drive transistors, each having a control electrode for controlling current flow through input and output electrodes thereof, output circuits coupled to said output electrodes of said drive transistors,

means coupling the output circuits of the drive transistors in series with the energizing circuit,

a source of relatively fixed potential,

a pair of inductors respectively coupled between the control electrodes of the drive transistors and said source of relatively fixed potential,

a flip-flop circuit coupled to the control electrodes of the drive transistors,

and means for applying trigger pulses to the flip-flop circuit.

3,267,483
MAGNETIC RECORDING CIRCUIT

Andrew Gabor, Port Washington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York

Filed Apr. 30, 1962, Ser. No. 191,361
3 Claims. (Cl. 346—74)

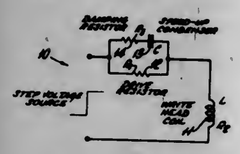
1. In an information processing apparatus comprising,

a medium capable of storing information in magnetic bits,

transducer means adapted to transfer information by means of magnetic spots developed to a predetermined value,

electrical circuit means to develop the magnetic value in the transducer means within a predetermined time interval,

the electrical circuit means including a drive resistor shunted by a speed-up condenser,



resistance means for selecting said predetermined time interval for magnetic flux to build up in said transducer means to develop said magnetic flux, and

said resistance means being located in series with said speed-up condenser.

3,267,484
MAGNETIC STORAGE DRUM
Robert W. Roedder, Wayne, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

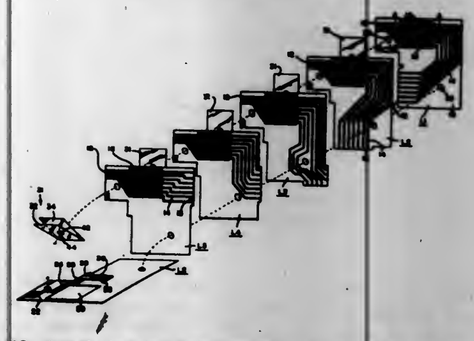
Filed June 25, 1962, Ser. No. 204,888
4 Claims. (Cl. 346—74)



1. A magnetic storage device of the drum type comprising a hollow tubular shaft, a cylinder of foam plastic surrounding said shaft, torque transmission elements connected to said shaft and extending into said cylinder, a sheath of plastic surrounding said cylinder of plastic foam, and a coating of magnetizable material on said sheath.

3,267,485
ELECTRODE PRINTING ASSEMBLY
Richard S. Howell, King of Prussia, Pa., and Dean P. Scott, Detroit, Richard N. Hearn and Alfred T. Jenkins, Mount Clemens, and Michael Powers, Oak Park, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Original application Dec. 2, 1959, Ser. No. 856,868. Divided and this application Jan. 21, 1965, Ser. No. 433,830

22 Claims. (Cl. 346—139)



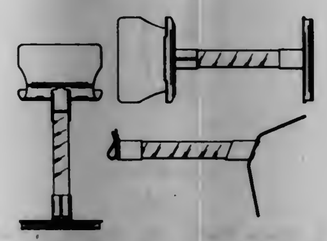
12. A printing head for marking record material including a substrate member of high electrical resistivity material having at least one plane surface, a plurality of electrically resistive elements adhered to said plane surface, each said resistive element being elongated in one dimension to assume the form of a strip and all such strips being arranged in close parallel but insulated proximity to one another on the plane surface, and a plurality of electrical conductors carried by the substrate member and each individually associated with and connected to one of said resistive elements.

DESIGNS

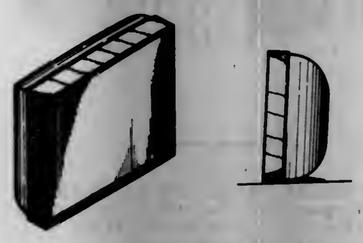
AUGUST 16, 1966

205,492
SIGN HOLDER
Daniel M. McCormick, 7845 Alderman Road, Jacksonville, Fla.
Original design application June 2, 1964, Ser. No. 80,247. Divided and this application July 19, 1965, Ser. No. 86,444

Term of patent 14 years
(Cl. D1—3)



205,493
ILLUMINABLE SIGN
Earl R. Vogt, Milwaukee, Wis., assignor to Kirby-Cogeshall-Steinau Co., Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 19, 1965, Ser. No. 86,651
Term of patent 7 years
(Cl. D1—12)



205,494
REVERSIBLE HOUSE COAT
Lawrence J. Nachman, New York, N.Y., assignor to Swirl, Inc., Easley, S.C., a corporation of South Carolina
Filed Feb. 8, 1965, Ser. No. 83,721
Term of patent 14 years
(Cl. D3—26)



205,495
TASSEL
Sam Silverman, Oxnard, Calif., assignor to Blasco Corp., Beverly Hills, Calif., a corporation of California
Filed Aug. 12, 1965, Ser. No. 86,558
Term of patent 14 years
(Cl. D3—32)



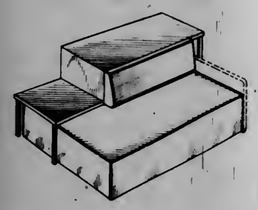
205,496
HANGER FOR USE ON A SHOWER PIPE
Franklin S. Briles, Rolling Hills, Calif., assignor to Franklin S. Briles, Inc., El Segundo, Calif., a corporation of California
Filed Mar. 17, 1965, Ser. No. 84,308
Term of patent 14 years
(Cl. D4—3)



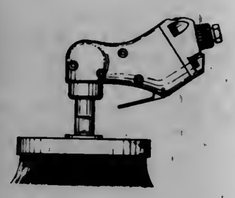
205,497
SUPPORT FOR PAPER ROLLS
Thomas A. Webber, 6408 Stratford Road, Chevy Chase, Md.
Filed Aug. 5, 1965, Ser. No. 86,455
Term of patent 14 years
(Cl. D4—3)



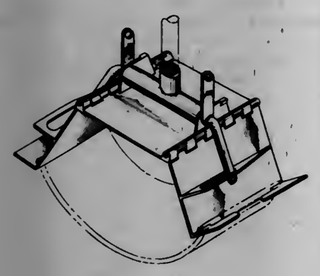
205,498
COMBINED BED AND TABLE UNIT
Chester A. Pink, Highland Park, Ill., assignor to The Englander Company, Inc., a corporation of New York
Continuation of design application Ser. No. 64,993, May 1, 1961. This application Nov. 19, 1964, Ser. No. 82,702
The portion of the term of the patent subsequent to Sept. 25, 1979, has been disclaimed
Term of patent 14 years
(Cl. D5—4)



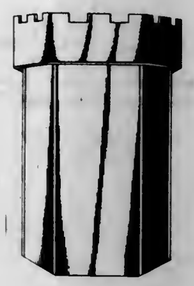
205,499
PORTABLE MOTOR DRIVEN ROTARY BRUSH FOR CLEANING WALLS, FLOORS OR THE LIKE
Roland A. Aaker, Minneapolis, Minn., assignor to Aire-Scrub Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Mar. 2, 1965, Ser. No. 84,038
Term of patent 14 years
(Cl. D9—2)



205,500
HOLDER FOR A DISPOSABLE MOP
Marsha Deitel and Norman Deitel, both of 67 Stoneham Place, Metuchen, N.J.
Filed Sept. 24, 1965, Ser. No. 87,154
Term of patent 14 years
(Cl. D9—2)



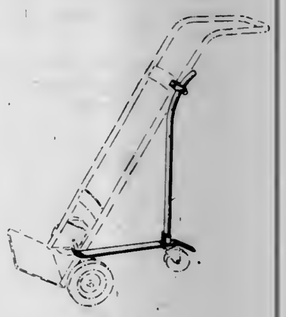
205,501
BUILDING
Irvin B. Beren, 10050 Strait Lane, Dallas, Tex.
Filed Dec. 31, 1964, Ser. No. 83,244
Term of patent 14 years
(Cl. D13—1)



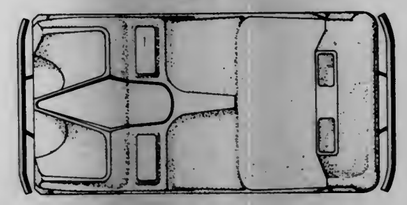
205,502
HOUSE
Donald D. Burris, Wayne, Pa., assignor to Certain-Teed Products Corporation, Ardmore, Pa., a corporation of Maryland
Filed Sept. 22, 1965, Ser. No. 87,123
Term of patent 14 years
(Cl. D13—1)



205,503
THIRD WHEEL FRAME FOR HAND TRUCK
Carey Carpenter, P.O. Box 456, La Mesa, Calif.
Filed Aug. 7, 1964, Ser. No. 81,201
Term of patent 14 years
(Cl. D14—3)



205,504
GOLF CAR
John A. Gale, Wayzata, Minn., assignor to Toro Manufacturing Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 5, 1965, Ser. No. 83,696
Term of patent 14 years
(Cl. D14—3)



205,505
AUTOMOBILE WINDSHIELD DEFROSTING UNIT
Terrence R. Lamb, 1917 S. Randolph St., Arlington, Va.
Filed Oct. 19, 1965, Ser. No. 87,593
Term of patent 7 years
(Cl. D14—6)



205,506
SIDE CHAIR
Bert J. Klein and Andre Bus, Altavista, and John B. Thorn, Lynchburg, Va., assignors to The Lane Company, Inc., Altavista, Va., a corporation of Virginia
Filed Apr. 19, 1965, Ser. No. 84,865
Term of patent 14 years
(Cl. D15—1)



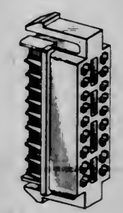
205,507
SIDE CHAIR
Merle C. Melchior, Los Angeles, Calif., assignor of one-half to Sidney Galper, Los Angeles, Calif.
Original design application Sept. 29, 1964, Ser. No. 81,924, now Patent No. 203,437, dated Jan. 11, 1966. Divided and this application July 19, 1965, Ser. No. 86,984
Term of patent 14 years
(Cl. D15—1)



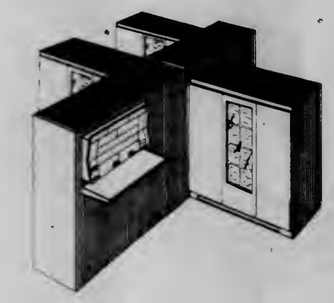
205,508
ELECTRIC FUSE
Frederick J. Kozacka, South Hampton, N.H., assignor to The Chase-Shawmut Company, Newburyport, Mass.
Filed Feb. 21, 1964, Ser. No. 78,715
Term of patent 14 years
(Cl. D26—1)



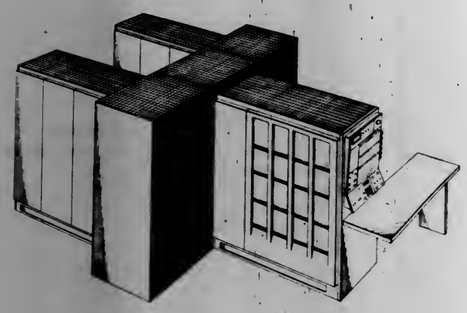
205,509
ELECTRICAL CONNECTOR HOUSING
Charles Edward Reynolds, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed June 28, 1965, Ser. No. 85,915
Term of patent 14 years
(Cl. D26—1)



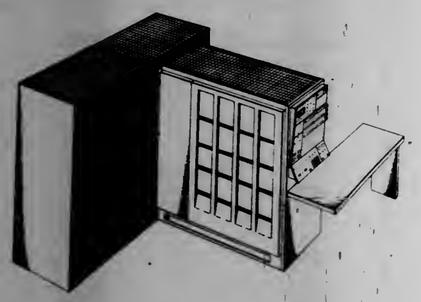
205,510
CABINET FOR ELECTRONIC EQUIPMENT
William F. Dalton, Hopewell Junction, and Arnold M. Davis, Walter F. Kraus, and Walter S. McCormick, Jr., Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 26, 1964, Ser. No. 78,786
Term of patent 14 years
(Cl. D26—5)



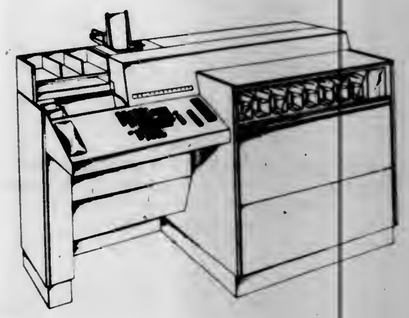
205,511
CABINET FOR A COMPUTER
William F. Dalton, Hopewell Junction, and Arnold M. Davis, Walter F. Kraus, and Walter S. McCormick, Jr., Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 26, 1964, Ser. No. 79,207
Term of patent 14 years
(Cl. D26—5)



205,512
COMPUTER CABINET
William F. Dalton, Hopewell Junction, and Walter F. Kraus and Walter S. McCormick, Jr., Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 26, 1964, Ser. No. 79,214
Term of patent 14 years
(Cl. D26—5)



205,513
COMBINED DOCUMENT PRINTING AND SORTING MACHINE
Jack K. Hockenberry, Vestal, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Apr. 14, 1965, Ser. No. 84,776
Term of patent 14 years
(Cl. D26—5)



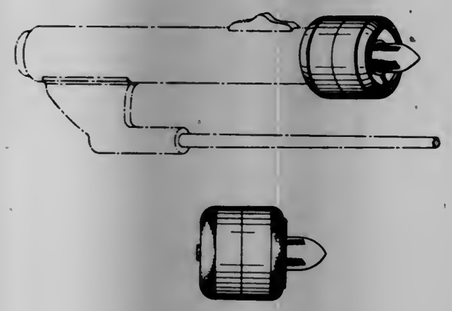
205,514
EASEL
Harold Rubin, New Milford, N.J., assignor to Testrite Instrument Co., Inc., Newark, N.J., a corporation of New York
Filed Sept. 13, 1965, Ser. No. 86,995
Term of patent 14 years
(Cl. D29—20)



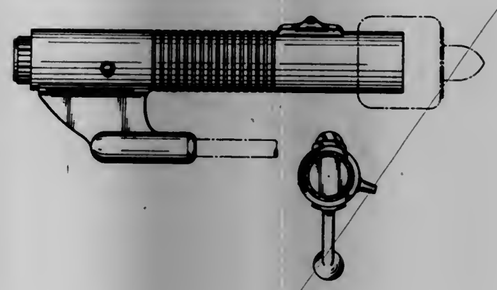
205,515
WALL ORNAMENT
William Earl Crawford, 5428 Spring Road, Bladensburg, Md.
Original design application June 29, 1962, Ser. No. 70,736, now Patent No. 199,356, dated Oct. 13, 1964. Divided and this application Aug. 24, 1964, Ser. No. 81,417
Term of patent 14 years
(Cl. D29—23)



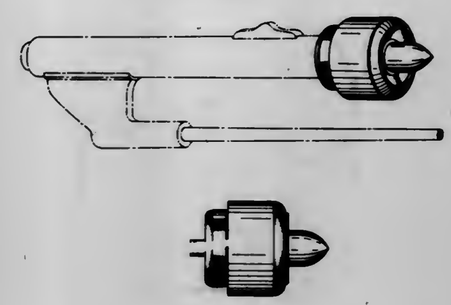
205,516
FISHING REEL
James H. Hopper, 1 Taylor Road, Hazardville, Conn.
Filed Oct. 21, 1965, Ser. No. 87,682
Term of patent 7 years
(Cl. D31—4)



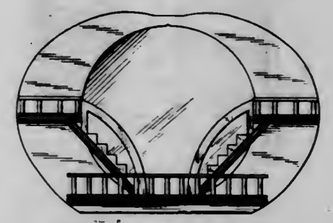
205,517
FISHING POLE HANDLE
James H. Hopper, 1 Taylor Road, Hazardville, Conn.
Filed Oct. 21, 1965, Ser. No. 87,683
Term of patent 7 years
(Cl. D31—4)



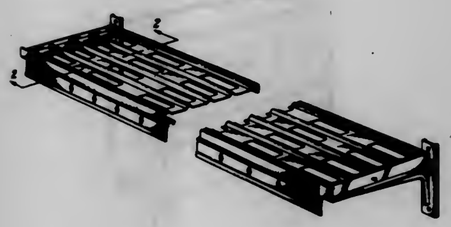
205,518
FISHING REEL
James H. Hopper, 1 Taylor Road, Hazardville, Conn.
Filed Oct. 21, 1965, Ser. No. 87,684
Term of patent 7 years
(Cl. D31—4)



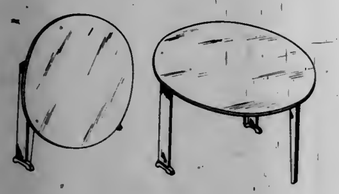
205,519
COMBINED MIRROR AND WALL ORNAMENT
Golden Jennings, 7036 S. Rhodes, and Raymond Rogers, 8014 S. Princeton, both of Chicago, Ill.
Filed Apr. 16, 1965, Ser. No. 84,826
Term of patent 14 years
(Cl. D33—3)



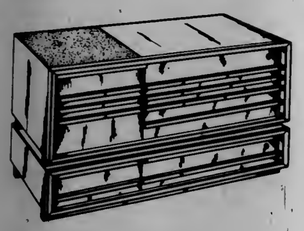
205,520
SHELF ASSEMBLY
Raymond A. Magnuson, Hinsdale, and Robert W. Schler, Northbrook, Ill., assignors to Vogel-Peterson Co., Chicago, Ill., a corporation of Illinois
Filed June 15, 1965, Ser. No. 85,747
Term of patent 14 years
(Cl. D33—8)



205,521
FOLDING TABLE
Pascual Jose Maria Oscoz Sanchez, Ibanez de Bilbao Str. 6, Bilbao, Spain
Filed Apr. 30, 1965, Ser. No. 85,031
Claims priority, application Spain Nov. 6, 1964
Term of patent 14 years
(Cl. D33—14)



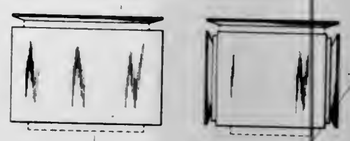
205,522
TOOL CHEST OR SIMILAR ARTICLE
Donald W. Doman, Janesville, Wis., assignor to Snap-On Tools Corporation, Kenosha, Wis., a corporation of Delaware
Filed Jan. 5, 1965, Ser. No. 83,272
Term of patent 14 years
(Cl. D33—19)



205,523
WHEELED TOOL CHEST OR SIMILAR ARTICLE
Donald W. Doman, Janesville, Wis., assignor to Snap-On Tools Corporation, Kenosha, Wis., a corporation of Delaware
Filed Jan. 5, 1965, Ser. No. 83,275
Term of patent 14 years
(Cl. D33—19)



205,524
CABINET
Jerome Joseph, Brooklyn, N.Y., assignor to Toujay Designs, Inc., New York, N.Y., a corporation of New York
Filed Apr. 16, 1965, Ser. No. 84,814
Term of patent 14 years
(Cl. D33—19)



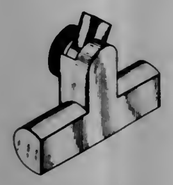
205,525
THREE-DIMENSIONAL GAMEBOARD
Madelyn Tucker, 921 SW. 21st St., Fort Lauderdale, Fla.
Filed July 31, 1964, Ser. No. 81,085
Term of patent 14 years
(Cl. D34—5)



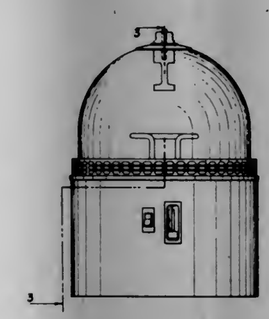
205,526
GOLF BALL RETRIEVER
Ernest Lehman, 23490 Letchworth Road, Cleveland, Ohio
Filed Oct. 22, 1965, Ser. No. 87,765
Term of patent 14 years
(Cl. D34—5)



205,527
GOLF CLUB HEAD
Ernest R. Andis, 3528 N. Bay Drive, Racine, Wis.
Filed Oct. 5, 1965, Ser. No. 87,328
Term of patent 14 years
(Cl. D34—5)



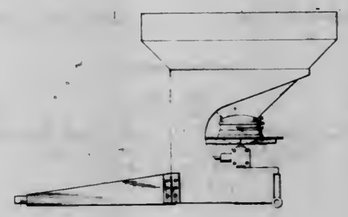
205,528
BINGO BALL DISPENSER
Ben J. Bakos, Arapahoe County, Colo., assignor to King Precision Company, a division of Fire King Company, a corporation of Colorado
Filed Aug. 9, 1965, Ser. No. 86,501
Term of patent 14 years
(Cl. D34—15)



205,529
TOY FIRE ENGINE
James W. Palmer, Erie, Pa., assignor to Louis Marx & Co., Inc., New York, N.Y., a corporation of New York
Filed Apr. 14, 1965, Ser. No. 84,790
Term of patent 7 years
(Cl. D34—15)



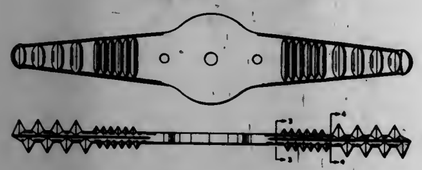
205,530
FERTILIZER SPREADER
Michael V. Bazilli, Oakville, Ontario, and Stanley G. Siddall, Orangeville, Ontario, Canada, assignors to Lilliston Implement Company, Albany, Ga., a corporation of Georgia
Filed Sept. 3, 1965, Ser. No. 86,856
Term of patent 14 years
(Cl. D35—2)



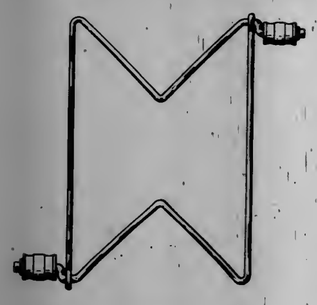
205,531
SNOW PLOW
Byron L. Ertsgaard, Excelsior, and John A. Gale, Wayzata, Minn., assignors to Toro Manufacturing Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 5, 1965, Ser. No. 83,697
Term of patent 14 years
(Cl. D35—2)



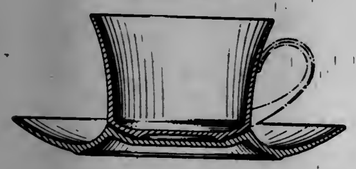
205,532
LAWN MOWER BLADE
Lewis C. Ely, 2406 Greenglade Road, NE., Atlanta, Ga.
Filed Nov. 24, 1965, Ser. No. 88,208
Term of patent 14 years
(Cl. D40—1)



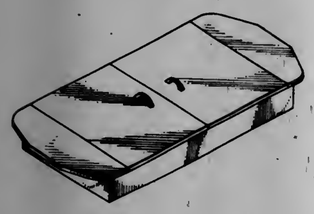
205,533
HAND REEL
Harold C. Grunewald, 2917 Curtis Road, Reading, Pa.
Filed Jan. 10, 1966, Ser. No. 561
Term of patent 14 years
(Cl. D41—1)



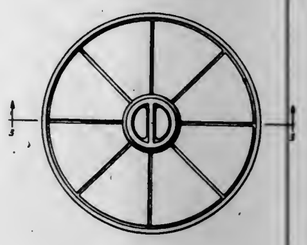
205,534
COMBINED CUP AND SAUCER SERVING UNIT
Gerald Gulotta, New York, N.Y., assignor to Block China Company, a partnership of Elizabeth Block, Jay L. Block, and Robert C. Block, all of New York, N.Y.
Filed Dec. 16, 1964, Ser. No. 83,057
Term of patent 14 years
(Cl. D44—9)



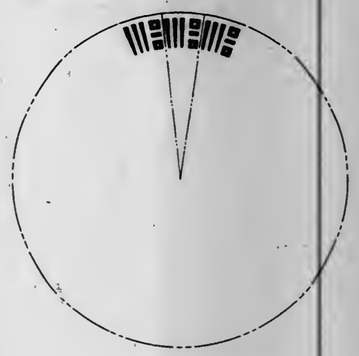
205,535
HOSTESS TRAY
Miroslav Kochman, 34—43 Crescent St., Long Island City, N.Y.
Filed Aug. 23, 1965, Ser. No. 86,673
Term of patent 14 years
(Cl. D44—10)



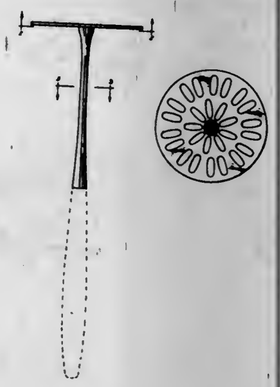
205,536
TRAY
Elmer W. Griese, Jr., 8943 Niles Center Road, Skokie, Ill.
Filed Oct. 21, 1965, Ser. No. 87,492
Term of patent 14 years
(Cl. D44—10)



205,537
DINNER PLATE OR SIMILAR ARTICLE
Monika Adams, West Hartford, Conn., assignor to Onondaga Pottery Company, Syracuse, N.Y., a corporation of New York
Filed Oct. 13, 1965, Ser. No. 87,451
Term of patent 14 years
(Cl. D44—15)



205,538
VEGETABLE MASHER
Richard S. Latham, Chicago, Ill., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 3, 1965, Ser. No. 53
Term of patent 14 years
(Cl. D44—29)



205,539
SPOON OR THE LIKE
Richard S. Latham, Chicago, Ill., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 3, 1965, Ser. No. 54
Term of patent 14 years
(Cl. D44—29)



205,540
TURNER OR THE LIKE
Richard S. Latham, Chicago, Ill., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 3, 1965, Ser. No. 56
Term of patent 14 years
(Cl. D44—29)



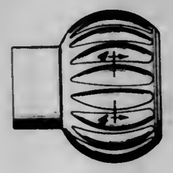
205,541
DECORATIVE CHAIN LINK
Wilbur J. Strohm, Jr., 4150 Canyon Crest Road, Altadena, Calif.
Filed May 14, 1965, Ser. No. 85,282
Term of patent 14 years
(Cl. D45—16)



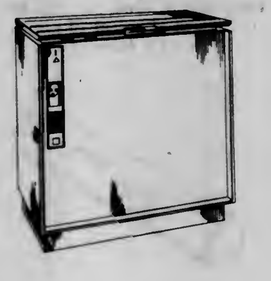
205,542
LIGHTER OR SIMILAR ARTICLE
Seymour Rappoport, Runnson, N.J., assignor to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Original design application Mar. 18, 1964, Ser. No. 79,064, now Patent No. 202,121, dated Aug. 31, 1965. Divided and this application Mar. 24, 1965, Ser. No. 84,973
Term of patent 14 years
(Cl. D48—27)



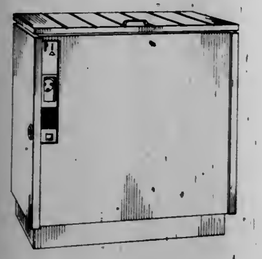
205,543
DOOR KNOB
Fred J. Russell, 8635 Otis St., South Gate, Calif.
Filed Mar. 31, 1964, Ser. No. 79,279
Term of patent 14 years
(Cl. D50—3)



205,544
VENDING MACHINE
Harold L. Smith, Columbus, Ohio, assignor to Ideal Dispenser Company, Columbus, Ohio, a corporation of Ohio
Filed Oct. 7, 1964, Ser. No. 82,075
Term of patent 14 years
(Cl. D52—3)

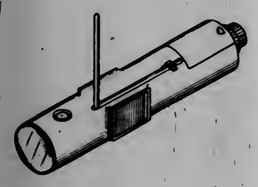


205,545
VENDING MACHINE
Harold L. Smith, Columbus, Ohio, assignor to Ideal Dispenser Company, Columbus, Ohio, a corporation of Ohio
Filed Oct. 7, 1964, Ser. No. 82,076
Term of patent 14 years
(Cl. D52—3)

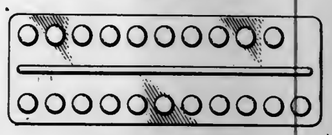


205,546
PHONOGRAPH CABINET
Carl W. Sundberg, Bloomfield Hills, Mich., and Theodore A. Dobson, Chicago, Ill., assignors to The Seeburg Corporation, Chicago, Ill.
Filed Jan. 15, 1965, Ser. No. 83,455
Term of patent 14 years
(Cl. D56—4)

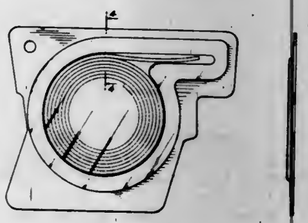
205,547
PORTABLE TELEVISION RECEIVER
William Edmoud Celestin, 14 Place Vendome, Paris 1er, Seine, France
Filed July 8, 1964, Ser. No. 80,767
Term of patent 14 years
(Cl. D56—4)



205,548
PACKAGE FOR MEDICAMENT TABLETS OR THE LIKE
Heinz Grunewald and Karl Heinz Lindner, Berlin, Germany, assignors to Schering AG., Berlin, Germany
Filed July 30, 1964, Ser. No. 81,073
Term of patent 14 years
(Cl. D58—2)



205,549
SOLDER DISPENSING PACKAGE
Manis Wessen, New York, N.Y., assignor to Rayline, Inc., Mineola, N.Y., a corporation of New York
Filed Sept. 15, 1965, Ser. No. 87,041
Term of patent 14 years
(Cl. D58—2)



205,550
JUG
Doyle J. Morgan, Toledo, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Mar. 22, 1965, Ser. No. 84,395
Term of patent 14 years
(Cl. D58—5)



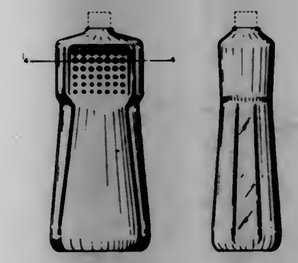
205,551
BOTTLE
Clark E. Swayze, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 29, 1965, Ser. No. 84,463
Term of patent 14 years
(Cl. D58—6)



205,552
BOTTLE
Willard F. Meyers, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Apr. 1, 1965, Ser. No. 84,550
Term of patent 14 years
(Cl. D58—6)



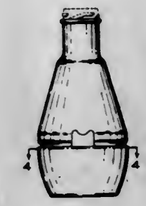
205,553
BOTTLE
Richard L. Weckman, Perrysburg, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Oct. 23, 1965, Ser. No. 87,824
Term of patent 14 years
(Cl. D58—6)



205,554
BOTTLE
Melvin Earl St. Clair, Burlington, Conn., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed June 17, 1964, Ser. No. 80,432
Term of patent 14 years
(Cl. D58—3)



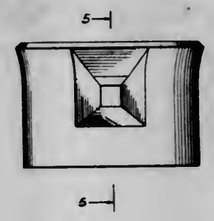
205,555
COMBINED BOTTLE AND BASE THEREFOR
George L. Goodhue, Lancaster, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Jan. 7, 1965, Ser. No. 83,319
Term of patent 14 years
(Cl. D58—8)



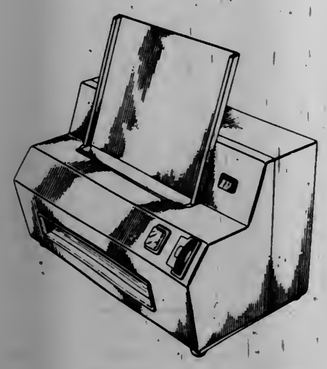
205,556
COMBINED JAR AND COVER THEREFOR
Carl M. Plochman, Jr., Winnetka, Ill., assignor to Plochman, Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 14, 1965, Ser. No. 86,990
Term of patent 14 years
(Cl. D58—25)



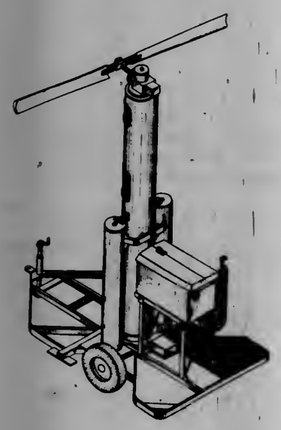
205,557
CAP FOR A PRESSURIZED CAN
Ronald B. White, Bournemouth, England, assignor to Edward Webster Ltd., Bournemouth, England, a British company
Filed Mar. 30, 1965, Ser. No. 84,509
Term of patent 14 years
Claims priority, application Great Britain, Sept. 30, 1964, 918,407/64
(Cl. D58—26)



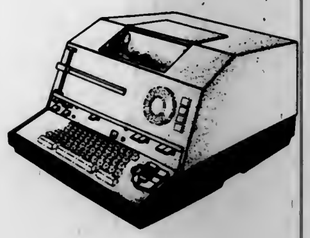
205,558
REPRODUCTION MACHINE
James J. Grimm, 90 Winthrop Road, Columbus 14, Ohio
Filed Sept. 30, 1965, Ser. No. 87,244
Term of patent 14 years
(Cl. D61—1)



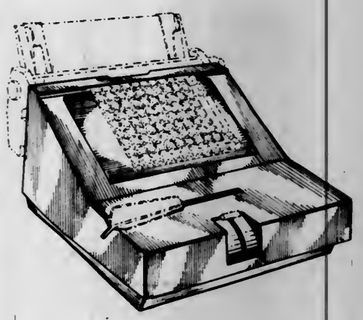
205,559
MOBILE WIND MACHINE FOR FROST PROTECTION OF LOW GROWING CROPS
Kermit J. Nutt, 100 N. Catalina St., Los Angeles, Calif. 90004
Filed Oct. 23, 1965, Ser. No. 87,873
Term of patent 14 years
(Cl. D62—2)



205,560
PAGE PRINTER CABINET
Louis Lucien Lepoix, Baden-Baden, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 2, 1965, Ser. No. 84,569
Claims priority, application Germany Oct. 3, 1964
Term of patent 14 years
(Cl. D64—11)



205,561
CASING FOR A CHECK PRINTING ADDER
Richard Hollerith, Jr., Upper Montclair, and Richard S. Dormer, Hanover, N.J., assignors to Monroe International Corporation, Orange, N.J., a corporation of Delaware
Filed June 1, 1965, Ser. No. 85,542
Term of patent 14 years
(Cl. D64—11)



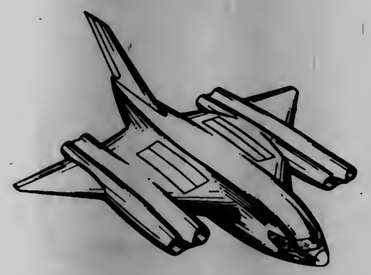
205,562
POWER UNIT FOR AQUARIUM FILTER
Allan H. Willinger, New Rochelle, N.Y., assignor to Aquariums Incorporated, Maywood, N.J., a corporation of Delaware
Filed Sept. 3, 1965, Ser. No. 86,830
Term of patent 14 years
(Cl. D65—1)



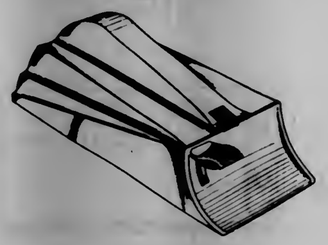
205,563
AIRPLANE
Arthur E. Flock, Jr., Atlanta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed July 28, 1965, Ser. No. 86,332
Term of patent 14 years
(Cl. D71—1)



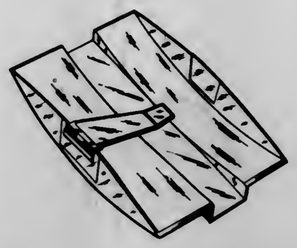
205,564
AIRPLANE
Robert W. Allred, Bellevue, and Fred W. Clayton, Maple Valley, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Continuation of design applications Ser. No. 82,737 and Ser. No. 82,746, Nov. 23, 1964. This application July 26, 1965, Ser. No. 86,861
Term of patent 14 years
(Cl. D71—1)



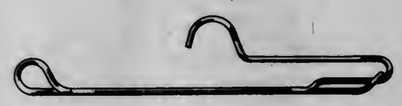
205,565
COMBINED TAPE DISPENSER AND CUTTER THEREFOR
Frank C. Simon, 741 E. Grandview, Sierra Madre, Calif.
Filed Oct. 22, 1965, Ser. No. 87,800
Term of patent 14 years
(Cl. D74—1)



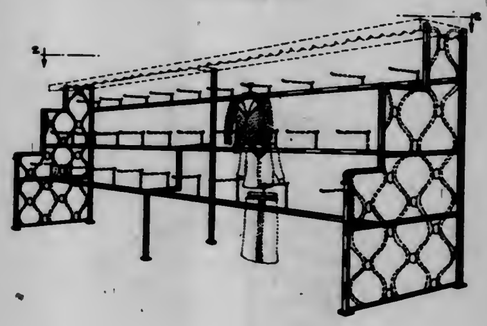
205,566
LETTER TRAY OR THE LIKE
Leo F. Wildgen, Minneapolis, Minn., assignor to Standard Packaging Corporation, New York, N.Y., a corporation of Virginia
Filed Oct. 15, 1965, Ser. No. 87,499
Term of patent 14 years
(Cl. D74—9)



205,567
HANGER FOR GARMENTS, TEXTILES OR THE LIKE
Robert W. Chambers, 6 Tygert Road, Blauvelt, N.Y.
Filed July 2, 1965, Ser. No. 85,999
Term of patent 14 years
(Cl. D80—8)



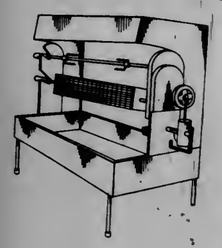
205,568
CLOTHING DISPLAY RACK
Harry A. Robbins, 1516 Vermilion St., Danville, Ill.
Filed May 12, 1965, Ser. No. 85,244
Term of patent 14 years
(Cl. D80—10)



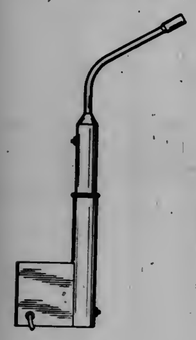
205,569
FIREPLACE STOVE
Donald E. Winegardner, Huntington, Ind., assignor to The Majestic Company, Inc., Huntington, Ind., a corporation of Indiana
Filed Nov. 8, 1965, Ser. No. 88,036
Term of patent 14 years
(Cl. D81—7)



205,570
COMBINED ROTISSERIE AND HOT AIR ENGINE
Orville Z. Frazier, 732 Sherman SE., Grand Rapids, Mich.
Filed June 23, 1965, Ser. No. 85,863
Term of patent 14 years
(Cl. D81—10)



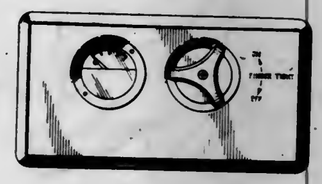
205,571
ELECTRIC CANDLE LIGHTER
Gordon E. Mycue, 5749 23rd Ave. S., Minneapolis, Minn.
Filed Oct. 4, 1965, Ser. No. 87,291
Term of patent 14 years
(Cl. D81—10)



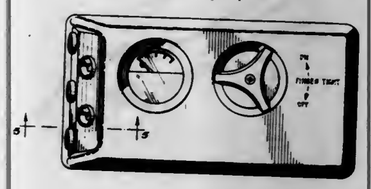
205,572
FROZEN CONFECTION
Mervin T. Davies, Fair Oaks, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Feb. 11, 1965, Ser. No. 83,775
Term of patent 14 years
(Cl. D82—2)



205,573
REGULATOR PANEL FOR AIRCRAFT BREATHING EQUIPMENT OR THE LIKE
Philip H. Stevens, Syracuse, David O. Chase, Camillus, and Roderick F. Bunyea, Skaneateles, N.Y., assignors to Scott Aviation Corporation, Lancaster, N.Y.
Filed Mar. 31, 1965, Ser. No. 84,680
Term of patent 7 years
(Cl. D83—1)



205,574
REGULATOR CONSOLE PANEL FOR AIRCRAFT BREATHING EQUIPMENT OR THE LIKE
Philip H. Stevens, Syracuse, David O. Chase, Camillus, and Roderick F. Bunyea, Skaneateles, N.Y., assignors to Scott Aviation Corporation, Lancaster, N.Y.
Filed Mar. 31, 1965, Ser. No. 84,681
Term of patent 7 years
(Cl. D83—1)



205,575
ADHESIVE BANDAGE
James D. Cumming, Havelock, Ontario, Canada
Filed Nov. 18, 1965, Ser. No. 88,141
Term of patent 14 years
(Cl. D83—1)



205,576
HEAD BAND
Maurine Day, 38 Woodland Road, Chatham, N.J.
Filed June 28, 1965, Ser. No. 85,938
Term of patent 14 years
(Cl. D86—10)

205,577
SAFETY PIN
Ralph F. Van Dean, Morristown, N.J., assignor to R. N. Miksel Corporation, Orange, N.J., a corporation of New Jersey
Filed Dec. 2, 1964, Ser. No. 82,871
Term of patent 14 years
(Cl. D86—10)



205,578
COIN HOLDER
Otto Mayer, R.F.D. 2, Lake Carmel, N.Y.
Filed Aug. 9, 1965, Ser. No. 86,511
Term of patent 14 years
(Cl. D87—3)



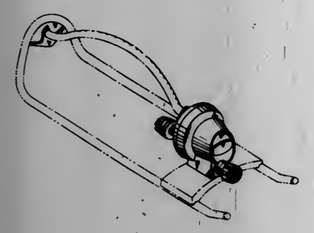
205,579
CARRYING CASE FOR A SOLDERING TOOL OR THE LIKE
Peter T. Schurman, Snyder, N.Y., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Filed May 20, 1965, Ser. No. 85,366
Term of patent 14 years
(Cl. D87—5)



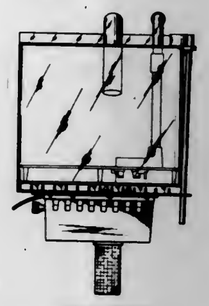
205,580
CARRYING CASE FOR A SOLDERING TOOL OR THE LIKE
Peter T. Schurman, Snyder, N.Y., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Filed June 7, 1965, Ser. No. 85,604
Term of patent 14 years
(Cl. D87—5)



205,581
AUTOMATIC LAWN SPRINKLER OR THE LIKE
Isaac Rinkewich, 290 9th Ave., New York, N.Y.
Filed Dec. 24, 1964, Ser. No. 83,146
Term of patent 14 years
(Cl. D91—1)



205,582
ELECTRIC POWER OPERATED AQUARIUM FILTER
Allan H. Willinger, New Rochelle, N.Y., assignor to Aquariums Incorporated, Maywood, N.J., a corporation of Delaware
Filed Sept. 3, 1965, Ser. No. 86,819
Term of patent 14 years
(Cl. D91—1)



LIST OF DESIGN PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 16TH DAY OF AUGUST, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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Adams, Monika, to Onondaga Pottery Co. Dinner plate or similar article. 205,537, 8–16–66, Cl. D44—15.
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Latham, Richard S. 205,538.
Latham, Richard. 205,539.
Latham, Richard S. 205,540.
Andis, Ernest R. Golf club head. 205,527, 8–16–66, Cl. D34—5.
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Willinger, Allan H. 205,562.
Willinger, Allan H. 205,582.
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Goodhue, George L. 205,555.
Bakos, Ben J., to King Precision Co. Bingo ball dispenser. 205,528, 8–16–66, Cl. D34—15.
Bazilli, Michael V., and S. G. Siddall, to Lilliston Implement Co. Fertilizer spreader. 205,530, 8–16–66, Cl. D35—2.
Beren, Irvin B. Building. 205,501, 8–16–66, Cl. D13—1.
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Boeing Co., The: *See*—
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Briles, Franklin S., to Franklin S. Briles, Inc. Hanger for use on a shower pipe. 205,496, 8–16–66, Cl. D4—3.
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Bunyea, Roderick F.: *See*—
Stevens, Philip H., Chase, and Bunyea. 205,573.
Stevens, Philip H., Chase, and Bunyea. 205,574.
Burris, Donald D., to Certain-Teed Products Corp. House. 205,502, 8–16–66, Cl. D13—1.
Bus, Andre: *See*—
Klein, Bert J., Bus, and Thorn. 205,506.
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Celanese Corp. of America: *See*—
St. Clair, Melvin E. 205,554.
Celestin, William E. Portable television receiver. 205,547, 8–16–66, Cl. D56—4.
Certain-Teed Products Corp.: *See*—
Burris, Donald D. 205,502.
Chambers, Robert W. Hanger for garments, textiles or the like. 205,567, 8–16–66, Cl. D80—8.
Chase, David O.: *See*—
Stevens, Philip H., Chase, and Bunyea. 205,573.
Stevens, Philip H., Chase, and Bunyea. 205,574.
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Cumming, James D. Adhesive bandage. 205,575, 8–16–66, Cl. D83—1.
Dalton, William F., A. M. Davis, W. F. Kraus, and W. S. McCormick, Jr., to International Business Machines Corp. Cabinet for electronic equipment. 205,510, 8–16–66, Cl. D26—5.
Dalton, William F., A. M. Davis, W. F. Kraus, and W. S. McCormick, Jr., to International Business Machines Corp. Cabinet for a computer. 205,511, 8–16–66, Cl. D26—5.
Dalton, William F., W. F. Kraus, and W. S. McCormick, Jr., to International Business Machines Corp. Computer cabinet. 205,512, 8–16–66, Cl. D26—5.
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Schurman, Peter T. 205,580.
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Grimm, James J. Reproduction machine. 205,558, 8–16–66, Cl. D61—1.
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Guiotta, Gerald, to Block China Co., a partnership of E., J. L., and R. C. Block. Combined cup and saucer serving unit. 205,534 8–16–66, Cl. D44—9.
Hockenberry, Jack K., to International Business Machines Corp. Combined document printing and sorting machine. 205,513, 8–16–66, Cl. D26—5.
Hollerith, Richard, Jr., and R. S. Dormer, to Monroe International Corp. Casing for a check printing adder. 205,561, 8–16–66, Cl. D64—11.
Hopper, James H. Fishing reel. 205,516, 8–16–66, Cl. D31—4.
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Lepoix, Louis L. 205,560.
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Joseph, Jerome, to Toujay Designs, Inc. Cabinet. 205,524, 8–16–66, Cl. D33—19.
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Bakos, Ben J. 205,528.
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Latham, Richard S., to American Home Products Corp. Turner or the like. 205,540, 8–16–66, Cl. D44—29.
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Grunewald, Heinz, and Lindner. 205,548.
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Marx, Louis, & Co., Inc.: *See*—
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Monroe International Corp.: *See*—
Hollerith, Richard, Jr., and Dormer. 205,561.
Morgan, Doyle J., to Owens-Illinois Glass Co. Jug. 205,550, 8–16–66, Cl. D58—5.
Mycue, Gordon E. Electric candle lighter. 205,571, 8–16–66, Cl. D81—10.
Nachman, Lawrence J., to Swirl, Inc. Reversible house coat. 205,494, 8–16–66, Cl. D3—26.
Nutt, Kermit J. Mobile wind machine for frost protection of low growing crops. 205,559, 8–16–66, Cl. D62—2.
Onondaga Pottery Co.: *See*—
Adams, Nonika. 205,537.
Oscoz Sanchez, Pascual J. M. Folding table. 205,521, 8–16–66, Cl. D33—14.
Owens-Illinois Glass Co.: *See*—
Morgan, Doyle J. 205,550.
Owens-Illinois, Inc.: *See*—
Meyers, Willard F. 205,552.
Weckman, Richard L. 205,553.
Palmer, James W., to Louis Marx & Co., Inc. Toy fire engine. 205,529, 8–16–66, Cl. D34—15.
Payline, Inc.: *See*—
Wessen, Manis. 205,549.
Pink, Chester A., to The Englander Co., Inc. Combined bed and table unit. 205,498, 8–16–66, Cl. D5—4.
Plochman, Carl M., Jr., to Plochman, Inc. Combined jar and cover therefor. 205,556, 8–16–66, Cl. D58—25.
Plochman, Inc.: *See*—
Plochman, Carl M., Jr. 205,556.
Rappoport, Seymour, to Ronson Corp. Lighter or similar article. 205,542, 8–16–66, Cl. D48—27.
Reynolds, Charles E., to AMP Inc. Electrical connector housing. 205,509, 8–16–66, Cl. D26—1.
Rinkewich, Isaac. Automatic lawn sprinkler or the like. 205,146, 8–16–66, Cl. D91—1.
Robbins, Harry A. Clothing display rack. 205,568, 8–16–66, Cl. D80—10.
Rogers, Raymond: *See*—
Jennings, Golden, and Rogers. 205,519.
Ronson Corp.: *See*—
Rappoport, Seymour. 205,542.
Rubin, Harold, to Testrite Instrument Co., Inc. Easel. 205,514, 8–16–66, Cl. D29—20.
Russell, Fred J. Door knob. 205,543, 8–16–66, Cl. D50—3.
St. Clair, Melvin E., to Celanese Corp. of America. Bottle. 205,554, 8–16–66, Cl. D58—8.
Schering A.G.: *See*—
Grunewald, Heinz, and Lindner. 205,548.
Schier, Robert W.: *See*—
Magnuson, Raymond A., and Schier. 205,520.
Schurman, Peter T., to W. R. Grace & Co. Carrying case for a soldering tool or the like. 205,579, 8–16–66, Cl. D87—5.
Schurman, Peter T., to W. R. Grace & Co. Carrying case for a soldering tool or the like. 205,580, 8–16–66, Cl. D87—5.
Scott Aviation Corp.: *See*—
Stevens, Philip H., Chase, and Bunyea. 205,573.
Stevens, Philip H., Chase, and Bunyea. 205,574.
Seeburg Corp., The: *See*—
Sundberg, Carl W., and Dobson. 205,546.
Siddall, Stanley G.: *See*—
Bazilli, Michael V., and Siddall. 205,530.
Silverman, Sam, to Biassco Corp. Tassel. 205,495, 8–16–66, Cl. D3—32.
Simon, Frank C. Combined tape dispenser and cutter therefor. 205,565, 8–16–66, Cl. D74—1.
Smith, Harold L., to Ideal Dispenser Co. Vending machine. 205,544, 8–16–66, Cl. D52—3.
Smith, Harold L., to Ideal Dispenser Co. Vending machine. 205,545, 8–16–66, Cl. D52—3.
Snap-On Tools Corp.: *See*—
Doman, Donald W. 205,522.
Doman, Donald W. 205,523.
Standard Packaging Corp.: *See*—
Wildgen, Leo F. 205,566.
Stevens, Philip H., D. O. Chase, and R. F. Bunyea, to Scott Aviation Corp. Regulator panel for aircraft breathing equipment or the like. 205,573, 8–16–66, Cl. D83—1.
Stevens, Philip H., D. O. Chase, and R. F. Bunyea, to Scott Aviation Corp. Regulator console panel for aircraft breathing equipment or the like. 205,574, 8–16–66, Cl. D83—1.
Strohm, Wilbur J., Jr. Decorative chain link. 205,541, 8–16–66, Cl. D45—16.
Sundberg, Carl W., and T. A. Dobson, to The Seeburg Corp. Phonograph cabinet. 205,546, 8–16–66, Cl. D56—4.
Swayze, Clark E., to The Dow Chemical Co. Bottle. 205,551, 8–16–66, Cl. D58—6.
Swirl, Inc.: *See*—
Nachman, Lawrence J. 205,494.
Testrite Instrument Co., Inc.: *See*—
Rubin, Harold. 205,514.
Thorn, John B.: *See*—
Klein, Bert J., Bus, and Thorn. 205,506.
Toro Mfg. Corp.: *See*—
Gale, John A. 205,504.
Ertsgaard, Byron L., and Gale. 205,531.
Toujay Designs, Inc.: *See*—
Joseph, Jerome. 205,524.
Tucker, Madelyn. Three-dimensional gameboard. 205,525, 8–16–66, Cl. D34—5.
Van Dean, Ralph F., to R. N. Miksel Corp. Safety pin. 205,577, 8–16–66, Cl. D86—10.
Vogel-Peterson Co.: *See*—
Magnuson, Raymond A., and Schier. 205,520.
Vogt, Earl R., to Kirby-Cogeshall-Steinau Co., Inc. Illuminable sign. 205,493, 8–16–66, Cl. D1—12.
Webber, Thomas A. Support for paper rolls. 205,497, 8–16–66, Cl. D4—3.
Webster, Edward, Ltd.: *See*—
White, Ronald B. 205,557.
Weckman, Richard L., to Owens-Illinois, Inc. Bottle. 205,553, 8–16–66, Cl. D58—6.
Wessen, Manis, to Payline, Inc. Solder dispensing package. 205,549, 8–16–66, Cl. D58—2.
White, Ronald B., to Edward Webster Ltd. Cap for a pressurized can. 205,557, 8–16–66, Cl. D58—26.
Wildgen, Leo F., to Standard Packaging Corp. Letter tray or the like. 205,566, 8–16–66, Cl. D74—9.
Willinger, Allan H., to Aquariums Inc. Power unit for aquarium filter. 205,562, 8–16–66, Cl. D65—1.
Willinger, Allan H., to Aquariums Inc. Electric power operated aquarium filter. 205,582, 8–16–66, Cl. D91—1.
Winegardner, Donald E., to The Majestic Co., Inc. Fireplace stove. 205,569, 8–16–66, Cl. D81—7.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 16TH DAY OF AUGUST, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries Inc.: *See*—
Lane, Thomas L. 3,266,349.
Pulcarano, Frank C. 3,266,441.
AMP Inc.: *See*—
Dowling, Edward C. 3,266,120.
Kinkaid, Robert J. 3,267,411.
Parsons, Stuart L. 3,266,286.
Swanson, John A. 3,267,428.
Abajian, Anthony: *See*—
Greenfield, Milton H., and Abajian. 3,267,471.
Abajian, Richard: *See*—
Abajian, Vincent V. and R. 3,266,318.
Abajian, Vincent V. and R. Thermosensitive device for temperature indication and/or control. 3,266,318, 8–16–66, Cl. 73—368.
Abbey Etna Machine Co.: *See*—
Ruple, Lewis H. 3,266,703.
Abbott, Daniel B.: *See*—
Brinkel, Edwin P., and Abbott. 3,266,521.
Abbott Laboratories: *See*—
Nutting, Leighton A., and Borjas. 3,267,004.
Abel, Donald J. Holding device for an object. 3,266,111, 8–16–66, Cl. 24—81.
Abere, Joseph F., to Minnesota Mining and Mfg. Co. Aqueous emulsion composition. 3,266,921, 8–16–66, Cl. 106—243.
Abere, Joseph F., to Minnesota Mining and Mfg. Co. Aqueous paper pulp mix containing polymeric polyester with carboxyl groups and a polyalkylenimine. 3,267,054, 8–16–66, Cl. 260—17.4.
Abrams, Edward F., W. C. Plunk, and A. Silver, to The Garrett Corp. Vector balanced pressure ratio transducer. 3,266,320, 8–16–66, Cl. 73—407.
Abramson, George, Jr. Fish lure. 3,266,185, 8–16–66, Cl. 43—35.
Acker, Donald S., to E. I. du Pont de Nemours and Co. 2-alkoxy and mercapto-4,6-bis alkoxy alkyl amino-s-triazines. 3,267,099, 8–16–66, Cl. 260—249.8.
Ackley, Avery W., to United States of America, Navy. Stabilized polyurethane propellants containing aluminum. 3,266,959, 8–16–66, Cl. 149—19.
Acme Machine Works Inc.: *See*—
Harper, Jay A. 3,266,340.
Acme Shear Co., The: *See*—
Cummings, Clinton M. 3,266,493.
Acrow (Engineers) Ltd.: *See*—
Maggs, William F., and Mullett. 3,266,208.
Adam, James W., and B. H. Fiedler, to Allis-Chalmers Mfg. Co. Fuel cell. 3,266,939, 8–16–66, Cl. 136—86.
Adams, James E., to The Bishop and Babcock Corp. Method of assembling vehicle body mount parts. 3,266,139, 8–16–66, Cl. 29—509.
Adams, Robert T., to Sichak Associates. Diversity phase control system using subcarrier identifying signals. 3,267,380, 8–16–66, Cl. 325—56.
Addressograph-Multigraph Corp., Charles Bruning Division: *See*—
Hruby, Joseph. 3,266,689.
Adelaar, Hans H., to International Standard Electric Corp. Four-wire/two-wire converter. 3,267,218, 8–16–66, Cl. 179—15.
Adem, Abdulahat, to Weltronic Co. Slope and heat control circuit with inhibit means. 3,267,382, 8–16–66, Cl. 328—72.
Advance Engineering Co.: *See*—
Brooks, Robert B., and Totten. 3,266,670.
Aebi, Claude M., and B. E. Forsyth, to International Business Machines Corp. Diazo development process. 3,266,896, 8–16–66, Cl. 96—49.
Aerojet-General Corp.: *See*—
Havlik, Anton J. 3,267,158.
Kurylko, Lubomyr, Zernow, and Paulson. 3,266,240.
Aerovox Corp.: *See*—
Vega, Paul E. 3,267,224.
Agfa Aktiengesellschaft: *See*—
Kremp, Rudolf, Kisselmann, Winkler, Engelsmann, Matthess, and Zannoth. 3,266,395.
Kremp, Rudolf, Kisselmann, Winkler, and Bammesberger. 3,266,397.
Kremp, Rudolph, and Winkler. 3,266,398.
Ahlquist, Alfred A. Flag and banner support with compressed air outlet means. 3,266,458, 8–16–66, Cl. 116—173.
Air Reduction Co., Inc.: *See*—
Anderson, Nelson E. 3,267,251.
Air-Shields, Inc.: *See*—
Andreasen, Christian B. 3,266,488.
Ajax Hardware Mfg. Corp.: *See*—
Tintary, Raymond. 3,266,634.
Ajinomoto Co., Inc.: *See*—
Kato, Jiro, Iwanaga, Noda, and Tahara. 3,267,130.
Mizoguchi, Naomasa, Hara, Ito, Akashi, Ohno, and Kato. 3,266,871.
Akashi, Takekazu: *See*—
Mizoguchi, Naomasa, Hara, Ito, Akashi, Ohno, and Kato. 3,266,871.
Akiyama, Fumitake: *See*—
Arikawa, Hiroo, and Akiyama. 3,267,238.
Akkerman, Antony M., G. C. Van Leeuwen, and J. F. Michels, to Nederlandsche Combinatie voor Chemische Industrie, N.V. Derivatives of pyrazine. 3,267,101, 8–16–66, Cl. 260—250.
Aktiebolaget Karlstads Mekaniska Werkstad: *See*—
Wahlstrom, Per B., and Larsson. 3,266,414.
Aktiebolaget Malcus Holmquist: *See*—
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Aktieselskabet Paasch & Silkeberg Maskinfabrikker: *See*—
Andersen, Ejner. 3,266,145.
Aldridge, Clyde L., and J. A. Rigney, to Esso Research and Engineering Co. Process for forming olefins by hydrogen transfer. 3,267,170, 8–16–66, Cl. 260—683.3.
Alexander, John R. Removal of contaminants from interiors of enclosures. 3,266,934, 8–16–66, Cl. 134—22.
Al-Jon, Inc.: *See*—
Sharp, Allen B., and Hull. 3,266,413.
Alleman, Carl E., to Phillips Petroleum Co. Carbon black pelleting by controlling power to the pelletizer motor. 3,266,873, 8–16–66, Cl. 23—314.
Alleman, Carl E., to Engelhard Industries, Inc. Agglomerating carbon black by maintaining constant pelletizer motor power requirement. 3,266,875, 8–16–66, Cl. 23—314.
Allen, Alfred E., Jr., to Western Farmers Association. Process of preparing meat sauces and gravies. 3,266,908, 8–16–66, Cl. 99—144.
Allen-Bradley Co.: *See*—
Walters, Robert E., and Boysen. 3,267,236.
Allen, Ernest B. Vibration controlling mount. 3,266,759, 8–16–66, Cl. 248—20.
Allen, George R., Jr., and J. F. Poletto, to American Cyanamid Co. Novel substituted indol-5-ols. 3,267,117, 8–16–66, Cl. 260—326.16.
Allen, John W., to The Lubrizol Corp. Lubricating composition having desirable frictional characteristics. 3,267,033, 8–16–66, Cl. 252—32.7.
Allen Products, Inc.: *See*—
Robertson, Walter A. 3,266,347.
Allen, William A.: *See*—
Williams, Paul D., and Allen. 3,267,314.
Aller, Willis F., to The Sheffield Corp. Machine system. 3,266,854, 8–16–66, Cl. 308—5.
Allied Chemical Corp.: *See*—
Apostle, Basil G., Wiesner, and Le Noir. 3,266,165.
Cosby, John N., and Eberts. 3,266,206.
Lund, Richard B., and Vitrone. 3,267,145.
Moore, William P., Jr. 3,267,011.
Opfell, James E., Miller, and Caison. 3,266,087.
Porter, Frank. 3,266,333.
Rogers, Stuart M. 3,265,462.
Zeitlin, Robert J. 3,267,173.
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Grimes, Patrick G., and Raether. 3,266,786.
Alloyd Electronics Corp.: *See*—
Morley, John R. 3,267,015.
Alluminio, Swizzero S.A.: *See*—
Post, Wolfgang. 3,266,962.
Almassy, William B., to Tung-Sol Electric Inc. Independent load dasher. 3,267,330, 8–16–66, Cl. 315—209.
Alpert, Norman, R. M. Berler, and R. Townsend, to American Machine & Foundry Co. Electronic ordering, price computing and billing system. 3,267,436, 8–16–66, Cl. 340—172.5.
Altman, Gustave. Protective cover having means for releasably securing it to a surface. 3,266,841, 8–16–66, Cl. 297—220.
Aluminium Swisse SA: *See*—
Post, Wolfgang. 3,266,962.
Aluminum Co. of America: *See*—
Zelley, Walter G. 3,266,900.
Aluminum Extrusion Co.: *See*—
Grossman, Abraham. 3,266,210.
Alvarez, Francisco, to Syntex Corp. Process for the production of 17α-hydroxy steroids of the androstane and estrane series. 3,267,119, 8–16–66, Cl. 260—397.4.
American Air Filter Co.: *See*—
Johnson, Gilbert H. 3,266,222.
American Biltrite Rubber Co., Inc.: *See*—
Slosberg, David K., Haemer, and Holmstrom. 3,267,187.
American Brake Shoe Co.: *See*—
Taylor, Thomas S. 3,266,601.
American Can Co.: *See*—
Groves, James H., Hoag, and Znkowski. 3,266,949.
Schultz, Robert S. 3,266,682.
Taylor, William E. 3,266,452.
American Cyanamid Co.: *See*—
Allen, George R., Jr., and Poletto. 3,267,117.
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Howald, Jeremiah M., Dearing, and Shrontz. 3,267,177.
Patterson, Andrew M., Jr., and Pursell. 3,267,127.
Pursell, Herbert P., Jr. 3,267,128.

American Home Products Corp.: *See*—
Foell, Theodore J., Greenspan, and Smith. 3,267,005.
Humber, Leslie G. 3,267,118.
Oadene, Thomas S. 3,267,102.
Sallay, Istvan S. 3,267,107.
Wendt, Gerhard R., and Ledig. 3,267,120.
Wolf, Milton. 3,267,114.

American Machine & Foundry Co.: *See*—
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Berler, Robert M. 3,267,438.
Franklin, Paul W. 3,267,353.
Kluytenaar, Leonard W., Ferrang, Dombrawski, and Austin. 3,266,541.
Morris, Jack. 3,267,252.
Oppenheimer, Edgar D., and Poliak. 3,266,498.
Osborne, Robert J., Potter, Fiore, and Kelly. 3,266,559.
Stewart, Richard E., and Schimpf. 3,267,234.
Udall, Humfrey N., Peters, Opuszenski, Van Wagener, Kocken, and Austin. 3,266,442.

American Motors Corp.: *See*—
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American Optical Co.: *See*—
Brown, Morden G. 3,266,720.

American Potash & Chemical Corp.: *See*—
Stern, David R., and Weck. 3,266,981.

American Radiator & Standard Sanitary Corp.: *See*—
Groteke, Daniel E. 3,266,107.
Reid, John G., Jr. 3,266,266.

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Ametek, Inc.: *See*—
Morgan, Jack. 3,266,457.

Amidon, Roger W., to United States Rubber Co. Rapid coring polyester composition comprising a peroxidic polymerization catalyst, a secondary amine and a cobalt compound soluble in said composition. 3,267,055, 8–16–66, Cl. 260—22.

Ampex Corp.: *See*—
Davis, Robert L., and Patterson. 3,267,386.
Felix, Michael O. 3,267,387.
Liang, Max M., and Mendenhall. 3,267,346.
Moore, Ray T., Jr. 3,267,482.

Amstutz, Walter R., to B. T. Crump Co., Inc. Truss cushion frame. 3,266,844, 8–16–66, Cl. 297—452.

Anchor Hocking Glass Corp.: *See*—
Ochs, Charles S. 3,266,627.

Andersen, Ejner, to Aktieselskabet Paasch & Silkeborg Maskinfabrikker. Plant for the manufacture of cheese. 3,266,145, 8–16–66, Cl. 31—44.

Anderson, Albert P.: *See*—
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Anderson, Fred A.: *See*—
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Anderson, James, to Imex Engineering Ltd. Combined support and carrier for cameras. 3,266,403, 8–16–66, Cl. 95—86.

Anderson, James H. Method and apparatus for evaporating liquefied gases. 3,266,261, 8–16–66, Cl. 62—52.

Anderson, Lloyd L., to Amerock Corp. Pivot construction for corner shelf hardware. 3,266,857, 8–16–66, Cl. 312—252.

Anderson, Nelson E., deceased, by S. B. Anderson, administratrix, to Air Reduction Co., Inc. Electromechanical programming and function generating system. 3,267,251, 8–16–66, Cl. 219—125.

Anderson, Norman J., to North Atlantic Industries, Inc. Phase shifter networks. 3,267,358, 8–16–66, Cl. 323—122.

Anderson, Norman J., to North Atlantic Industries, Inc. Phase slope compensator. 3,267,359, 8–16–66, Cl. 323—122.

Anderson, R., Jr.: *See*—
Galleher, Louis C. 3,266,330.

Anderson, Robert E.: *See*—
Horste, Richard E., and Anderson. 3,267,048.

Anderson, Robert I., and R. C. Kelley, to Brunswick Corp. Bowling ball and shoe bag. 3,266,605, 8–16–66, Cl. 190—48.

Anderson, Robin N., and H. A. Dorey, to The Solartron Electronic Group Ltd. Digital voltmeters. 3,267,458, 8–16–66, Cl. 340—347.

Anderson, Severa B.: *See*—
Anderson, Nelson E. 3,267,251.

Anderson, Walter J., and R. M. Grodinsky, to Chicago Musical Instrument Co. Electronic musical instrument having an attack circuit. 3,267,200, 8–16–66, Cl. 84—1.26.

Andreasen, Christian B., to Air-Shields, Inc. Lung ventilating equipment. 3,266,488, 8–16–66, Cl. 128—29.

Andreasen, Howard P., and D. H. Munzenmaier, to Delavan Mfg. Co., Inc. Cryogenic liquid level sensing apparatus. 3,266,311, 8–16–66, Cl. 73—290.

Andresen, John H., Jr., and J. A. Fitzpatrick, to Intercontinental Dynamics Corp. Automatic pressure generating and regulating system. 3,266,288, 8–16–66, Cl. 73—4.

Andrews, Ernest, to Restaurant booth divider and actuating mechanism therefor. 3,266,204, 8–16–66, Cl. 52—173.

Anelex Corp.: *See*—
Benson, Wilfred Y. 3,266,745.
Russo, Humbert C. 3,266,418.

Angelini, Ernest C., to Perma-Line Mfg. Corp. of America. Road striping apparatus. 3,266,392, 8–16–66, Cl. 94—44.

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Apolick, Eugene S., to General Electric Co. Lead monoxide plate for X-ray electrophotography and method of preparing same. 3,266,932, 8–16–66, Cl. 117—201.

Antenna Specialists Co.: *See*—
Finke, Arthur A. 3,267,476.

Anthony, Jay D., to Screw & Bolt Corp. of America. Chemical compound applicator for threaded fastener. 3,266,459, 8–16–66, Cl. 118—1.

Antosh, George J., and A. S. Hammons. Step for camper body vehicles. 3,266,594, 8–16–66, Cl. 182—91.

Apostle, Basil G., A. H. Wiesner, and F. W. Le Noir, to Allied Chemical Corp. Process and apparatus for segregative drying of nylon-6. 3,266,165, 8–16–66, Cl. 34—68.

Appleberry, Walter T., to Douglas Aircraft Co., Inc. General purpose latch. 3,266,830, 8–16–66, Cl. 292—128.

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Argoudelis, Alexander D., to The Upjohn Co. Process for preparing 4-hydroxypentane-1,2-dione-bis-(2,4-dinitrophenylhydrazone. 3,267,141, 8–16–66, Cl. 260—566.

Argue, Donald D., to General Electric Co. Wire coating apparatus. 3,266,461, 8–16–66, Cl. 118—234.

Arikawa, Hiroo, and F. Akiyama, to Sony Corp. Electrical fuses. 3,267,238, 8–16–66, Cl. 200—123.

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Arnold, Heinz B., to General Mills, Inc. Tough flexible adhesives from guanamines, diglycidyl ethers of polyalkylene glycols and dicyandiamide. 3,267,172, 8–16–66, Cl. 260—830.

Arnold, Vernon E., and S. D. Holmes. Humidity resistance tester. 3,266,306, 8–16–66, Cl. 73—150.

Arrow-Head Truss Plate, Inc.: *See*—
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Arthur, Edwin P., to Beckman Instruments, Inc. Leak structure and method for producing same. 3,267,016, 8–16–66, Cl. 204–195.

Aschauer, George R., to Twin Disc Clutch Co. Jet propelled watercraft. 3,266,242, 8–16–66, Cl. 60—35.54.

Ashcroft, David J., and R. Hartwell, to United Kingdom Atomic Energy Authority. Nuclear fuel assembly. 3,267,000, 8–16–66, Cl. 176—68.

Ashkin, Arthur, to Bell Telephone Laboratories, Inc. Optical parametric amplifier, oscillator, and limiter using nonphase matchable interaction. 3,267,385, 8–16–66, Cl. 330—4.6.

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Auer, John H., Jr., to The General Signal Corp. Composite sensor signal communication system. 3,267,425, 8–16–66, Cl. 340—38.

Aust, John J., and L. M. Dooley, to Owens-Illinois Glass Co. Carton. 3,266,707, 8–16–66, Cl. 229—39.

Austin, Kenneth W.: *See*—
Udall, Humfrey N., Peters, Opuszenski, Van Wagener, Kocken, and Austin. 3,266,442.
Kluytenaar, Leonard W., Ferrang, Dombrawski, and Austin. 3,266,541.

Austin, Lowell W.: *See*—
Smith, Edwin J., and Austin. 3,267,008.

Automatic Electric Laboratories, Inc.: *See*—
Depuer, William A. 3,267,225.
Dimmer, Robert P. 3,267,390.
Maneschi, John R. 3,267,220.
Reimer, William A. 3,267,402.
Scaroni, Joseph A., Jr. 3,267,384.

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Automotive Products Co. Ltd.: *See*—
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Avdel Inc.: *See*—
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Avery, William F., to Union Carbide Corp. Ethylene recovery from gas mixtures. 3,266,221, 8–16–66, Cl. 55—58.

Ayres, Sally Y., and B. A. Kozakiewicz, to The Dow Chemical Co. Rubber reinforced styrene polymer containing a ketone to improve gloss. 3,267,180, 8–16–66, Cl. 260—880.

B and R Associates: *See*—
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Babcock, Stephen W.: *See*—
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Babcock & Wilcox, Ltd.: *See*—
Muller, Arno. 3,267,003.

Badger Plug Co.: *See*—
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Baer, Donald G., A. S. Van Slyke, and R. C. Woofter, to General Motors Corp. Rectangular conductor harness means and attachments. 3,267,410, 8–16–66, Cl. 339—184.

Baginski, Willi A.: *See*—
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Bagley, Robert L., to North American Aviation, Inc. Rocker switch actuator. 3,267,248, 8–16–66, Cl. 200—172.

Baier, Brooke R., to Dravo Corp. Fastener assembly for use in vibratory material handling apparatus. 3,266,828, 8–16–66, Cl. 287—189.36.

Bailey, Francis M., and R. K. Davis, to General Electric Co. Freight car identification system. 3,267,259, 8–16–66, Cl. 235—61.11.

Bailey, Knight V., and D. C. Kowalski, to The Bendix Corp. Photoelectric stereoplotter using a single light source. 3,267,286, 8–16–66, Cl. 250—219.

Bailey Meter Co.: *See*—
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Bailey, Robert L., to National Distillers and Chemical Corp. Method for detecting volatile organic contaminants in reusable containers. 3,266,292, 8–16–66, Cl. 73—23.

Baker, Edward S., and A. B. Lum, to The Boeing Co. Punch card read-out device. 3,267,260, 8–16–66, Cl. 235—61.11.

Baker, Gerald S., to Schlumberger Well Surveying Corp. Apparatus for detecting magnetic anomalies. 3,267,365, 8–16–66, Cl. 324—34.

Baker, Hayward R., and J. G. O'Rear, to United States of America, Navy. Method of preparing fluid silicone compositions and a cerium-containing adduct therefor. 3,267,036, 8–16–66, Cl. 252—49.7.

Baker, James E., and J. D. Mott, ¼ to A. K. Sewell, E. L. Scott, and V. L. Uts, jointly. Safety plug. 3,267,408, 8–16–66, Cl. 339—74.

Baker, Joseph S., R. E. Mersfelder, and R. L. Wille, to The Procter & Gamble Co. Process for improving the flavor stability of peanut butter. 3,266,905, 8–16–66, Cl. 99—128.

Baker Oil Tools, Inc.: *See*—
Chenoweth, David V. 3,266,576.

Baker Perkins Inc.: *See*—
Thomas, Joe E., and Rappaport. 3,266,616.

Balanyi, Leslie. Slalom race game. 3,266,802, 8–16–66, Cl. 273—1.

Balder, Johan C., E. de Boer, C. M. Hart, and C. Kramer, to North American Philips Co., Inc. Transmitter for signal transmission by pulse code modulation. 3,267,391, 8–16–66, Cl. 332—11.

Ball, Ralph K.: *See*—
Litt, Peter S. 3,266,630.

Bally, Adrianus P., and W. G. J. van Dijk, to Shell Oil Co. Selective hydrogen sulfide absorption. 3,266,866, 8–16–66, Cl. 23—2.

Bammesberger, Karl: *See*—
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Barcaro, Eugene B., to Sperry Rand Corp. Tape cleaning means. 3,266,196, 8–16–66, Cl. 51—135.

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Guarnieri, Robert J. 3,267,403.

Barnes, Howard E.: *See*—
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Barr, Gordon W., to Southwestern Portland Cement Co. Bag house facility. 3,266,225, 8–16–66, Cl. 55—273.

Barr, William A., and J. L. Hall, to Atlas Chemical Industries, Inc. Fuel compositions. 3,266,877, 8–16–66, Cl. 44—63.

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Barron, Daniel. Sonar slide rule. 3,266,721, 8–16–66, Cl. 235—61.

Barta, Henry J., to S & C Electric Co. Dropout fuse for high voltage electric power circuits. 3,267,235, 8–16–66, Cl. 200—114.

Bartelink, Dirk J., to Bell Telephone Laboratories, Inc. Pulse generator. 3,267,299, 8–16–66, Cl. 307—109.

Barter, Le Roy D., to Beckman Instruments, Inc. A.C. measuring circuit having an amplifier with feedback path in which a synchronous switch output drives a D.C. meter. 3,267,378, 8–16–66, Cl. 324—118.

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Bassett, Kendall H., and E. M. Williston, to Weyerhaeuser Co. Method for forming composite board. 3,267,188, 8–16–66, Cl. 264—122.

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Battenfeld, Werner, to Gebruder Battenfeld, Firma. Method of applying members, as labels, platens, or the like to hollow bodies in a blowing process. 3,267,186, 8–16–66, Cl. 264—98.

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Bauer, Howard C., Bell, and Mitchell. 3,266,700.

Bauer, Howard C., R. G. Bell, and R. D. Mitchell, to Bauer & Associates, Inc. Pipeline welding assembly. 3,266,700, 8–16–66, Cl. 228—5.

Bauer, Peter, to Sperry Rand Corp. Fluid pulse former. 3,266,509, 8–16–66, Cl. 137—81.5.

Bauer, Peter, and E. D. Proctor, to Bowles Engineering Corp. Recording apparatus for fluid systems. 3,267,481, 8–16–66, Cl. 346—1.

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Beachler, Edward D., and E. J. Justus, to Beloit Iron Works. Method and means for correcting the crown of a roll. 3,266,561, 8–16–66, Cl. 165—2.

Beale, Richard D.: *See*—
Mortlock, James O., Monaghan, Beale, and Petrie. 3,266,752.

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Becker, George J., to Avdel Inc. Releasable fastener. 3,266,364, 8–16–66, Cl. 85—77.

Becker, Rudolf, to Linde Aktiengesellschaft. Process for producing oxygen by fractionation of air at low temperatures in small installations. 3,266,259, 8–16–66, Cl. 62—14.

Beckman Instruments, Inc.: *See*—
Arthur, Edwin P. 3,267,016.
Barter, Le Roy D. 3,267,378.
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Page, Phyllis D., and Young. 3,267,364.
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Bedford, William A., Jr., to Cado Corp. Tooth cap. 3,266,146, 8–16–66, Cl. 32—12.

Beebe, John N., and Perron, to Raytheon Co. Echo signal detection and display apparatus. 3,267,413, 8–16–66, Cl. 340—3.

Behrens, Erroll W. Push cart attachment. 3,265,297, 8–9–66, Cl. 235—1.

Belanger, Paul J., to Foster Grant Co., Inc. Molding apparatus. 3,266,100, 8–16–66, Cl. 18—45.

Belart, Juan, F. Ostwald, and K. Schlor, to Dunlop Rubber Co. Ltd., and Fort Dunlop. Disc brakes. 3,266,602, 8–16–66, Cl. 188—73.

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Bartelink, Dirk J. 3,267,299.
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Bene, Jack F., to International Business Machine. Mark scoring apparatus. 3,267,258, 8–16–66, Cl. 235—61.7.

Bennett, William N., to Fitchburg Paper Co. Drying pulp and paper by a high-frequency electric field. 3,266,164, 8–16–66, Cl. 34—1.

Bennewitz, Robert H., and H. R. Hedlund, to Union Carbide Corp. Thermal hardening of rails. 3,266,956, 8–16–66, Cl. 148—131.

Benson, Harold R., to The Nuarc Co. Photographic printer. 3,266,402, 8–16–66, Cl. 95—76.

Benson, Wilfred Y., to Anelex Corp. Automatic rewinding apparatus. 3,266,745, 8–16–66, Cl. 242—67.4.

Bereday, Sigmund. Tufted upholstery cushion. 3,266,065, 8–16–66, Cl. 5—356.

Bereday, Sigmund. Upholstery cushion construction. 3,266,066, 8–16–66, Cl. 5—361.

Berent, Raymond E. Portable sun dials. 3,266,151, 8–16–66, Cl. 33—62.

Berg, Clyde H. O.: *See*—
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Berg, Heinrich, and K. Weber, to G. M. Pfaff Ag. Firm. Connecting means for double needle sewing machines. 3,266,449, 8–16–66, Cl. 112—221.

Berg, Robert H. Peripherally locked and sealed orifice disk and method. 3,266,526, 8–16–66, Cl. 138—103.

Berger, Erich, to Siemens & Halske Aktiengesellschaft. Method of and circuit arrangement for securing teleprinter messages. 3,267,213, 8–16–66, Cl. 178—69.

Beriger, Ernst, to Ciba Ltd. Phosphorodithioates. 3,267,181, 8–16–66, Cl. 260—943.

Berler, Robert M., to American Machine & Foundry Co. Tax computation and billing system for cash register use. 3,267,438, 8–16–66, Cl. 340—172.5.

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Bickford, Lawrence R., Jr., and R. F. Elfant, to International Business Machines Corp. Magnetic memory. 3,267,447, 8–16–66, Cl. 340—174.

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Bihlmaier, Oskar, and W. O. Bar, to Voigtlands A.G. Photographic flash device. 3,267,273, 8–16–66, Cl. 240—1.3.

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Bissell, Eugene R., to United States of America, Atomic Energy Commission. Glycol esters of difluoronitroacetic acid. 3,267,134, 8–16–66, Cl. 260—487.

Blackhurst, Robert V., and E. Evans, to Rolls-Royce Ltd. Lubrication of bearings. 3,266,596, 8–16–66, Cl. 184—6.

Blackmore, Joseph J., and P. G. Glunt. Flow director and strainer. 3,266,437, 8–16–66, Cl. 103—220.

Blanding, Wendell S., and J. P. Hocker, to Corning Glass Works. Portable electric heating device. 3,267,256, 8–16–66, Cl. 219—446.

Bleiman, Lewis W., to Radio Corp. of America. Data processing. 3,266,497, 8–16–66, Cl. 129—16.1.

Bleiman, Lewis W., to Radio Corp. of America. Means for returning a record card to its stack. 3,266,798, 8–16–66, Cl. 271—64.

Bleukens, Pieter C. M., and J. J. Schuitemaker, to North American Philips Co., Inc. Method of applying an alkali-earth metal getter. 3,266,861, 8–16–66, Cl. 316—16.

Blight, Ronald E., to Raytheon Co. Harmonic generators utilizing a basic multiplying element resonant at both the input and output frequencies. 3,267,352, 8–16–66, Cl. 321—69.

Bloch, Herman S., and E. L. Pollitzer, to Universal Oil Products Co. Sorption process. 3,267,166, 8–16–66, Cl. 260—671.

Block, Aleck, to Merit Products, Inc. Abrasive device. 3,266,200, 8–16–66, Cl. 51—377.

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Bloxsom, Dan E. Automatic radio telephone and signaling communication device. 3,267,379, 8–16–66, Cl. 325—55.

Boadle, Campbell D., to Girling Ltd. Electrical weighing apparatus. 3,266,585, 8–16–66, Cl. 177—154.

Board, Richard G., and N. H. Shapiro. Retractable safety belts. 3,266,842, 8–16–66, Cl. 297—388.

Bobrick, Mitchell. Adapter wall construction. 3,267,332, 8–16–66, Cl. 317—99.

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Bohl, Lester E., to Pittsburgh Plate Glass Co. Fluid bed oxychlorination of aliphatic hydrocarbons and partially chlorinated aliphatic hydrocarbons. 3,267,162, 8–16–66, Cl. 260—654.

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Bonner, Raymond E., to International Business Machines Corp. Multi-level test channel for specimen identification. 3,267,432, 8–16–66, Cl. 340—146.3.

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Bonnette, Roland E., to United Shoe Machinery Corp. Conveyor systems. 3,266,439, 8–16–66, Cl. 104—172.

Bonvicini, Alberto, to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Process for regulating the molecular weight of basic nitrogen polycondensates. 3,267,046, 8–16–66, Cl. 260—2.

Booth, James H. Barbecue apparatus. 3,266,478, 8–16–66, Cl. 126—25.

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Borah, John E. Molding apparatus. 3,266,094, 8–16–66, Cl. 18—16.

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Bosko, John M. and J. L., and J. B. Lindecker. Mobile garden and refuse cart. 3,266,813, 8–16–66, Cl. 280—8.

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Bradham, Clarence, ½ to F. E. Step. Apparatus for peeling fruits and vegetables. 3,266,540, 8–16–66, Cl. 146—49.

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Brenner, Mortimer W., to United States of America, Agriculture. Foam improvement composition in malt beverages. 3,266,902, 8–16–66, Cl. 99—48.

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Brichta, Jerome C., Jr.: *See*—
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Brickey, Orville G., to United States of America, Navy. Dual frequency microwave antenna. 3,267,477, 8–16–66, Cl. 343—756.

Bright, Willard M., to Lever Bros. Co. Synergistic combinations of alkane sulfonates and alkoxy hydroxy propane sulfonates. 3,267,040, 8–16–66, Cl. 252—161.

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Briles, Franklin S. 3,266,764.

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Briscoe, Josiah A., to Imperial Chemical Industries Ltd. Traverse mechanism. 3,266,740, 8–16–66, Cl. 242—43.

Britcher, Harry H., Jr., and L. C. Buterbaugh, to United States Steel Corp. Apparatus for charging scrap into a steelmaking vessel. 3,266,649, 8–16–66, Cl. 214—314.

British Aircraft Corp. (Operating) Ltd.: *See*—
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Brockett, Peter C., and C. L. Du Vivier, to Laboratory for Electronics, Inc. Traffic actuated control system. 3,267,424, 8–16–66, Cl. 340—37.

Brodie, Kenneth G., to The Singer Co. Safety blade clamping means for portable power saws. 3,266,535, 8–16–66, Cl. 143—155.

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Bronson, Keith R., and C. C. Faroni, to Elastic Stop Nut Corp. of America. Nuts with load distributing threads. 3,266,363, 8–16–66, Cl. 85—32.

Brook, David I. Machine for processing tubular goods. 3,266,460, 8–16–66, Cl. 118—38.

Brooks, Eugene H., and R. M. Shelburne, to Hardwicke-Etter Co. High capacity gin stand. 3,266,101, 8–16–66, Cl. 19—57.

Brooks, John D., to United States of America, Navy. Signal summing point device for hybrid fluid and electronic controls. 3,266,514, 8–16–66, Cl. 137—81.5.

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Brooks, Robert J.: *See*—
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Brossard, Pierre C., and J. R. F. Chassagne. Phase modulation networks using variable capacity diodes. 3,267,393, 8–16–66, Cl. 332—30.

Brouard, Dominique, to Compagnie Francaise de Television. Color identification and associated apparatus in sequential color television systems. 3,267,208, 8–16–66, Cl. 178—5.2.

Brown, Charles R., to United States of America, Navy. Compact hold-down and vertical shock mount. 3,266,373, 8–16–66, Cl. 89—1.7.

Brown, Elvin E., and F. W. Johnson, to Collins Radio Co. Quick release tape spool. 3,266,746, 8–16–66, Cl. 242—68.3.

Brown, James M. Spring-loaded line casting gun. 3,266,184. 8–16–66, Cl. 43—19.

Brown, Morden G., to American Optical Co. Apparatus for determining values of components of whole blood. 3,266,720, 8–16–66, Cl. 235—61.

Brown, Neil F.: *See*—
Luksch, Andreas, and Brown. 3,266,846.

Brown, Raymond L., and J. J. Kowalewski, to Electrolux Corp. Cleaning apparatus protection mechanism. 3,266,078, 8–16–66, Cl. 15—319.

Brown, Richard E., and R. I. Meltzer, to Warner-Lambert Pharmaceutical Co. 1-methylthioacyl-benz-[A]-cyclopenta-[F]-quinolizine and process for their production. 3,267,105, 8–16–66, Cl. 260—286.

Brownlow, James M., to International Business Machines Corp. Magnetic memory element. 3,267,443, 8–16–66, Cl. 340—174.

Brownrigg, Gerald K. A., to Possis Machine Corp. Apparatus for preparing specimens for chromatographic analysis. 3,266,554, 8–16–66, Cl. 159—5.

Brownrigg, Gerald K. A., and N. M. Clark, to Possis Machine Corp. Powered forceps. 3,266,494, 8–16–66, Cl. 128—321.

Brudenell, Thomas F.: *See*—
Weisner, Carl S., and Brudenell. 3,266,345.

Brumfield, Philip E.: *See*—
Rudner, Bernard, Brumfield, and Hergenrother. 3,267,081.

Brundage, Walter L., Jr.: *See*—
Buchanan, Chester L., Gennari, Barnes, and Brundage. 3,266,323.

Brunner, Alfred, to Sulzer Freres S.A. Hydraulic vibration damper. 3,266,600, 8–16–66, Cl. 188—1.

Brunson, Virgil A., to Dover Corp. Liquid discharge system. 3,266,425, 8–16–66, Cl. 103—41.

Brunson, Virgil A., to Dover Corp. Pump control. 3,266,426, 8–16–66, Cl. 103—42.

Brunswick Corp.: *See*—
Anderson, Robert I., and Kelley. 3,266,605.

Bryant, Raymond W. Variable speed hydraulic transmission. 3,266,253, 8–16–66, Cl. 60—53.

Bryson, James R., to Washington Ethical Labs, Inc. Method for forming sponges. 3,266,199, 8–16–66, Cl. 51—323.

Buchanan, Chester L., J. J. Gennari, H. E. Barnes, and W. L. Brundage, Jr., to United States of America, Navy. Deep ocean environmental sampler. 3,266,323, 8–16–66, Cl. 73—425.4.

Buchanan, David L.: *See*—
Flower, Archibald T., Ganser, and Buchanan. 3,267,503.

Buchher, Robert P.: *See*—
Graham, Robert E., and Buchner. 3,267,350.

Buck, Roger C., to General Signal Corp. Track circuit. 3,267,280, 8–16–66, Cl. 246—34.

Buck, Roger C., to General Signal Corp. Highway crossing system. 3,267,281, 8–16–66, Cl. 246—125.

Buck, Willard E., and T. E. Holland, to Beckman & Whitley, Inc. Multiple exposure camera shutter. 3,266,399, 8–16–66, Cl. 95—53.

Bucy, Harry R. Breather for die casting and other molds. 3,266,098, 8–16–66, Cl. 18—42.

Bucy, Harry R. Mold parting line venting means. 3,266,099, 8–16–66, Cl. 18—42.

Bucy, Harry R. Hydraulic cylinder and piston safety means. 3,266,254, 8–16–66, Cl. 60—54.5.

Budd Co., The: *See*—
Fust, Arnold. 3,266,281.

Budd, Larry J., to Pallet Devices, Inc. Plant shipper and shelter. 3,266,188, 8–16–66, Cl. 47—28.

Budd, Larry J., to Pallet Devices, Inc. Sliding adjustable pallet. 3,266,444, 8–16–66, Cl. 108—54.

Buehler, Fritz A., to Socony Mobil Oil Co. Inc. Stabilized silicone fluids. 3,267,031, 8–16–66, Cl. 252—18.

Bueler, Gebrueder: *See*—
Eppenberger, Paul. 3,266,781.

Bueler, Richard C. to Wagner Electric Corp. Control valve and system. 3,266,851, 8–16–66, Cl. 303—52.

Bueler, Richard C., to Wagner Electric Corp. Control valve 3,266,852, 8–16–66, Cl. 303—54.

Bulgrin, Walter W.: *See*—
Parent, Gordon C. J., Luther, Bulgrin, and MacKusick. 3,266,702.

Bulla, John G., ½ to S. S. Freedman. Golf club head. 3,266,805, 8–16–66, Cl. 273—78.

Bünger, August. Double fabric. 3,266,529, 8–16–66, Cl. 139—384.

Bunting, Ernest V., to Massey-Ferguson Inc. Fluid system including variable displacement pump. 3,266,424, 8–16–66, Cl. 103—39.

Burch, Hadley K.: *See*—
Burch, Lyndon W. and H. K. 3,266,317.

Burch, Lyndon W. and H. K. Thermo-responsive devices. 3,266,317, 8–16–66, Cl. 73—363.3.

Burk, Marvin C., C. E. Jones, and H. M. Neer, to Phillips Petroleum Co. Analysis apparatus using controlled logic circuitry. 3,267,264, 8–16–66, Cl. 235—151.35.

Burke, Ann T., to Potter Instrument Co., Inc. Production aid. 3,266,162, 8–16–66, Cl. 33—174.

Burke, Ronald R., C. J. Sprague, and S. Gibson, ¼ to N. L. Easley. Rotary internal combustion engine. 3,266,470. 8–16–66, Cl. 123—16.

Burroughs Corp.: *See*—
Braun, Robert E. 3,267,453.
Howell, Richard S., Scott, Hearn, Jenkins, and Powers. 3,267,485.
Simmons, John G. 3,267,389.

Burrows, Arthur T. C., to Geo. W. King, Ltd. Sprocket wheels. 3,266,331, 8–16–66, Cl. 74—243.

Busch, Donald F., to International Business Machines Corp. Magnetic core gating circuits. 3,267,441, 8–16–66, Cl. 340—174.

Buterbaugh, Louis C.: *See*—
Britcher, Harry H., Jr., and Buterbaugh. 3,266,649.

Butt, Alan G., and J. J. Schauls, to The Trane Co. Connecting means for heat exchanger cores. 3,266,568, 8–16–66, Cl. 165—166.

Byrne, Aelred A., and B. W. Schoenbachler, to Hydrolift Inc. Merchandise transporting vehicles with built-in rear end elevators. 3,266,646, 8–16–66, Cl. 214—75.

Cado Corp.: *See*—
Bedford, William A., Jr. 3,266,146.

Caesar, Philip D., to Socony Mobil Oil Co., Inc. Fuel cell containing solid aluminosilicate electrolyte. 3,266,940. 8–16–66, Cl. 136—86.

Cahn, Arno, and T. J. Kaniecki, to Lever Brothers Co. N-(2-hydroxyalkyl)-N-methyltaurine-N-oxides. 3,267,135, 8–16–66, Cl. 260—513.

Cairns, Wallace M. J., to Automotive Products Co. Ltd. Fluid pressure operated cylinders. 3,266,883, 8–16–66, Cl. 92—142.

Caison, Lloyd D.: *See*—
Opfell, James E., Miller, and Caison. 3,266,087.

Caldwell, Harry. Automatic telephone dialing alarm device with pen carrier. 3,267,221, 8–16–66, Cl. 179—90.

Caldwell, Paul. Method of recovering phosphatic values from phosphate rock. 3,266,885, 8–16–66, Cl. 71—39.

Cameron Iron Works, Inc.: *See*—
Lucky, Maurice C. 3,266,341.

Campbell, Charles R., D. E. Danly, and M. J. Mathews III, to Monsanto Co. Process for purification of aqueous mixtures. 3,267,029, 8–16–66, Cl. 210—21.

Campbell, Charles R., and R. Johnson, to Monsanto Co. Product separation and recovery in adiponitrile manufacture. 3,267,131, 8–16–66, Cl. 260—465.8.

Campbell, Clifford J. Can holder. 3,266,765, 8–16–66, Cl. 248—346.

Campbell, Harry J., to United States of America, Navy. Run-out distance counter for catapult bridle arrester. 3,266,158, 8–16–66, Cl. 33—139.

Canada Iron Foundries, Ltd.: *See*—
Sephton, Peter T., and Riden. 3,266,615.

Canadian General Electric Co., Ltd.: *See*—
Eastcott, Peter deH. 3,267,228.
Eastcott, Peter deH., and Spibey. 3,266,376.
Wright, William G. 3,266,279.

Canan, Walter T. Means for introducing flavor imparting agents into tobacco and tobacco articles. 3,266,499, 8–16–66, Cl. 131—133.

Caplan, Isadore, ½ to Markin Tubing, Inc. Machine for making umbrella tubes. 3,266,120, 8–16–66, Cl. 29—25.

Carboni, Rudolph A., to E. I. du Pont de Nemours and Co. Acyl amides or 2-(O-aminoaryl)-2,1,3-benzotriazoles. 3,267,-113, 8–16–66, Cl. 260—398.

Carlson, Dwight B., to International Harvester Co. Rotating elbow construction for discharge spouts and the like. 3,266,-609, 8–16–66, Cl. 193—16.

Carlson, William L., Jr., to Honeywell Inc. Control apparatus. 3,266,235, 8–16–66, Cl. 60—23.

Carnesecca, Egidio: *See*—
Carnesecca, Joseph, Jr., and E. 3,266,534.

Carnesecca, Joseph, Jr., and E., to New Draulics, Inc. Power operated sawing tool. 3,266,534, 8–16–66, Cl. 143—32.

Carpenter, Chloe A., and J. S. Liebmann. Broiler apparatus and food support means. 3,266,484, 8–16–66, Cl. 126—337.

Carpenter, Herbert L., Jr., to The Grief Bros. Cooperage Corp. Plastic lined fiber containers. 3,266,390, 8–16–66, Cl. 93—36.01.

Carr, Hugh B., to S. P. Kinney Engineers, Inc. Gate valve for use in hot blast lines. 3,266,517, 8–16–66, Cl. 137—340.

Carr, Ronald R., to Arrow-Head Truss Plate, Inc. Connector plate for wood joints. 3,266,362, 8–16–66, Cl. 85—13.

Carrier Corp.: *See*—
Merrick, Richard H., and English. 3,266,267.

Carter, Dale A. Bowling ball including thumb hole lined with velvet pile. 3,266,804, 8–16–66, Cl. 273—63.

Carter, Uriel F., to Cutler-Hammer, Inc. Electrical controller. 3,267,239, 8–16–66, Cl. 200—124.

Casavant Freres Limitee: *See*—
Lemieux, Gilbert. 3,266,360.

Case, J. I., Co.: *See*—
Reeser, Esral M. 3,266,810.

Cassidy, Floyd L.: *See*—
Haeske, Don C., Cassidy, and Thompson. 3,266,924.

Castillon, Carlos: *See*—
Pena, Jose M. 3,266,742.

Caterpillar Tractor Co.: *See*—
Peterson, Robert A., and Sunderlin. 3,266,816.

Catu, Pierre H., to Office Central de Gestion et de Controle O.G.E.C. Hydraulic winch with self-clamping jaws. 3,266,-776, 8–16–66, Cl. 254—135.

Cavagnaro, William A., and R. Dally, to General Electric Co. Phonograph cartridge. 3,266,809, 8–16–66, Cl. 274—26.

Celanese Corp. of America: *See*—
Cipriani, Cipriano, and Soehngen. 3,267,189.

Celotex Corp., The: *See*—
Zimmerman, Girard J. 3,266,926.

Cervenka, Joseph J., to M. E. Hetzel. Machine for applying lugs. 3,266,695, 8–16–66, Cl. 227—96.

Champlin, James B., to Collins Radio Co. One-piece plastic semi-articulated self-spring hinge. 3,266,859, 8–16–66, Cl. 312—323.

Chapin, Howard R., to Controls Co. of America. Pressure switch having positive action reset means and adjustable length connection to diaphragm. 3,267,232, 8–16–66, Cl. 200—83.

Chapline, Julea S.: *See*—
Welsh, Herbert F. 3,266,691.

Chassagne, Jacques R. F.: *See*—
Brossard, Pierre C., and Chassagne. 3,267,393.

Check, Albert C., Sr.: *See*—
Plizak, Bruno T., and Check. 3,266,227.
Plizak, Bruno T., and Check. 3,266,228.

Chemical and Aerospace Products, Inc.: *See*—
Stearns, Llewelyn B. 3,266,963.

Chemische Werke Huls Aktiengesellschaft: *See*—
Thier, Bernd. 3,266,555.

Chenoweth, David V., to Baker Oil Tools, Inc. Well packer apparatus. 3,266,576, 8–16–66, Cl. 166—121.

Chesler, Abraham. Mortise cylinder dead-lock. 3,266,277, 8–16–66, Cl. 70—150.

Chevron Research Co.: *See*—
Gould, George D. 3,267,021.
Kozlowski, Robert H. 3,267,164.
Mulaskey, Bernard F. 3,267,043.
Postlewaite, William R., and Ludwig. 3,266,256.
Weisner, Carl S., and Brudenell. 3,266,345.

Chicago Musical Instrument Co.: *See*—
Anderson, Walter J., and Grodinsky. 3,267,200.

Chicago Pneumatic Tool Co.: *See*—
Coulter, John B., Jr., and Steen. 3,266,342.

Childers, Clifford W., to United States Rubber Co. Polymerization catalyst. 3,267,087, 8–16–66, Cl. 260—94.3.

Chipp, Billy B., and M. H. Kinkade, to United States of America, Navy. Intercommunication test set. 3,267,222, 8–16–66, Cl. 179—175.1.

Chitayat, Anwar K., to OPTO Mechanisms, Inc. Means and methods for marking film. 3,266,393, 8–16–66, Cl. 95—1.1.

Chomicki, John S., and D. L. Critchlow, to International Business Machines Corp. Data transmission system. 3,267,459, 8–16–66, Cl. 340—347.

Christensen, Harry N., to George Gorton Machine Co. Portable vise. 3,266,793, 8–16–66, Cl. 269—240.

Christian, George T., and J. Tripini, to Great Western Container, Inc. Wire reel. 3,266,749, 8–16–66, Cl. 242—118.7.

Christ-Janer, Victor F., to Mobil Oil Corp. Double cantilever roof structure. 3,266,201, 8–16–66, Cl. 52—18.

Chromatic Corp.: *See*—
Gantz, Walter C. 3,266,465.

Chrysler Corp.: *See*—
Neumeyer, Martin J. 3,266,588.

Cianfione, Frank A., Jr., to Stiles-Kem Sales Corp. Bypass chemical dissolver with slanted-slot jet agitators. 3,266,-870, 8–16–66, Cl. 23—271.

Ciapetta, Frank G.: *See*—
Wilson, Charles P., Jr., Jones, and Ciapetta. 3,267,044.

Ciba Corp.: *See*—
Margerison, Richard B., Shabica, and Ziegler. 3,267,095.
Mueller, Johannes. 3,267,090.
Wettstein, Albert, Anner, and Ehmann. 3,266,991.
Beriger, Ernst. 3,267,181.

Cichanowicz, Henry J., and R. W. Shariand, to United States of America, Navy. Parallel adder-subtracter with ripple carry. 3,267,269, 8–16–66, Cl. 235—175.

Cipriani, Cipriano, and J. W. Soehngen, to Celanese Corp. of America. Wet spinning of cellulose triesters. 3,267,189, 8–16–66, Cl. 264—129.

Cities Service Research and Development Co.: *See*—
Mattix, Emory D., and Stokes. 3,266,427.

Citroen, Andre, Societe Anonyme: *See*—
Henry-Biabaud, Edmond. 3,266,336.

Clapp, John M., and E. G. Spyridakis, to Ingersoll-Rand Co. Fluid-operated rotating and reciprocating tool. 3,266,580, 8–16–66, Cl. 173—19.

Clark Equipment Co.: *See*—
Gordon, Richard O. 3,266,522.
Goyarts, Wynand M. J. M. 3,266,774.
Kolosowsky, James A. 3,266,548.
Rogers, Cyril B. 3,266,062.

Clark, Gordon A., to North American Philips Co., Inc. Digital electrical calculating apparatus. 3,267,267, 8–16–66, Cl. 235—164.

Clark, Neil M.: *See*—
Brownrigg, Gerald K. A., and Clark. 3,266,494.

Clark, Robert E., W. N. Patterson, and T. D. Thomas, to General Electric Co. Information handling system. 3,267,-434, 8–16–66, Cl. 340—172.5.

Clark, Robert J.: *See*—
Bechtol, Harold D., and Clark. 3,266,174.

Clauson, Lawrence A.: *See*—
West, Jeffery L., and Clauson. 3,266,496.

Cleff, Peter H., to Pametrada. Self-aligning journal bearings. 3,266,855, 8–16–66, Cl. 308—72.

Clement, James W., to Teek-Pak, Inc. Method of shirring synthetic tubular sausage casing. 3,266,911, 8–16–66, Cl. 99—176.

Cockeram, Herbert S., to Gillespie-Rogers-Pyatt Co., Inc. Coating compositions comprising the reaction product of esterified shellac and an epoxy resin. 3,267,059, 8–16–66, Cl. 260—24.

Cockeram, Herbert S., to Gillespie-Rogers-Pyatt Co., Inc. Shellac ester-epoxycycloalkane compositions. 3,267,088, 8–16–66 Cl. 260—103.

Coe, Edgar H. Lineman's gin pole. 3,266,775, 8–16–66, Cl. 254—127.

Cohen, Elie, and S. Roth. Variable-speed alternating-current machines. 3,267,309, 8–16–66, Cl. 310—98.

Cohen, Jacob, and M. J. Kane. Visible valve stem cap air gauge. 3,266,304, 8–16–66, Cl. 73—146.8.

Cohn, Irwin. Noise makers. 3,266,455, 8–16–66, Cl. 116—56.

Cole, Stanton. Vehicle bumper jack. 3,266,773, 8–16–66, Cl. 254—100.

Coleman, Richard B., and N. E. Neese, to General Motors Corp. Level indicator sending unit. 3,266,312, 8–16–66, Cl. 73—313.

Colgate-Palmolive Co.: *See*—
Drukker, Alexander E., and Judd. 3,267,094.

Collins Radio Co.: *See*—
Brown, Elvin E., and Johnson. 3,266,746.
Champlin, James B. 3,266,859.

Colorado Instruments, Inc.: *See*—
Webb, Richard C. 3,267,373.

Columbia Broadcasting System, Inc.: *See*—
Goldmark, Peter C., and McMann. 3,267,212.

Columbia Research and Mfg. Co.: *See*—
Ingalls, James E. 3,266,799.

Combs, Otis H. Folding stool. 3,266,839, 8–16–66, Cl. 297—37.

Comerford, Ronald W. Pouch-wad. 3,266,421, 8–16–66, Cl. 102—42.

Commercial Solvents Corp.: *See*—
Young, Vernon V. 3,267,142.

Compagnie Francaise de Television: *See*—
Brouard, Dominique. 3,267,208.
Melchior, Gerard. 3,267,211.

Compagnie Francaise Thomson Houston: *See*—
Gerardin, Lucien, and McQueen. 3,267,467.

Compagnie Generale de Geophysique: *See*—
Loeb, Julien M. 3,267,423.

Compur-Werk & Co., G.m.b.H.: *See*—
Singer, Franz. 3,266,400.

Computer Control Co., Inc.: *See*—
Stuart, Robert W., Jr. 3,267,262.

Conrad, Thomas A. Shell case cleaner. 3,266,075, 8–16–66, Cl. 15—104.03.

Consolidation Coal Co.: *See*—
Croitoru, Peter P. 3,267,123.

Continental Can Co., Inc.: *See*—
Frankenberg, Henry E. 3,266,659.
Raavve, Abraham, Fitko, and Brichta. 3,267,064.
Walter, Charles T. 3,266,215.

Continental Oil Co.: *See*—
Tillman, Richard M. 3,267,035.

Controls Co. of America: *See*—
Chapin, Howard R. 3,267,232.

Conway, Walter: *See*—
Thorn, Herbert L., and Conway. 3,266,119.

Cook, Ernest E., to Hypro, Inc. End ported pump having an improved porting arrangement. 3,266,431, 8–16–66, Cl. 103—136.

Cook, Harvey A., to TRW Inc. Compression ignition engine and method of operating same. 3,266,234, 8–16–66, Cl. 60—13.

Cooley, Gordon A., and C. Leavell, said Cooley assor., to Mechanical Research Corp. Vibrationless power tool. 3,266,581, 8–16–66, Cl. 173—162.

Cooner, William W., to E. I. du Pont de Nemours and Co. Cyanoethyl carbohydrate caprolactam mixture. 3,266,919, 8–16–66, Cl. 106—178.

Cope, Richard P., Jr., to Cowles Chemical Co. Thioltriazine salt compounds. 3,267,098, 8–16–66, Cl. 260—248.

Copeland, Wayne E., to Western Technology, Inc. Chemical milling machine. 3,266,502, 8–16–66, Cl. 134—57.

Coppola, James J.: *See*—
Rosenberg, Richard A., and Coppola. 3,267,412.

Corbett, Herbert O., to National Distillers and Chemical Corp. Balanced flow die. 3,266,092, 8–16–66, Cl. 18—14.

Corbett, Herbert O., to National Distillers and Chemical Corp. Apparatus for producing laminated products. 3,266,093, 8–16–66, Cl. 18—14.

Cornelius Co., The: *See*—
Kovar, Henry C. 3,266,611.

Corning Glass Works: *See*—
Blanding, Wendell S., and Hocker. 3,267,256.
Bonin, George E. 3,266,195.
Dates, Harold F. 3,266,661.
Domicone, Joseph J., and Mounteer. 3,266,964.
Litterst, Ralph S. 3,266,313.
Novack, Theodore, and Schlotzhauer. 3,266,881.
Pratt Charles R., Jr., and Tarcza. 3,267,342.

Cosby, John N., and R. K. Eberts, to Allied Chemical Corp. Insulated built up roof and insulation therefor. 3,266,206, 8–16–66, Cl. 52—309.

Coulter, John B., Jr., and J. B. Steen, to Chicago Pneumatic Tool Co. Method of forming roller cone cutter. 3,266,342, 8–16–66, Cl. 76—108.

Cournoyer, Sandra. Ironing cover for sewing machine lid. 3,266,182, 8–16–66, Cl. 38—140.

Cowles Chemical Co.: *See*—
Cope, Richard P. Jr. 3,267,098.

Cox, Clifford D., and H. W. Wicb. Key punching machine. 3,266,358, 8–16–66, Cl. 83—225.

Crafius, Gerald R., to Automation Devices, Inc. Vibratory bowl with improved escapement. 3,266,613, 8–16–66, Cl. 198—33.

Craig, George H., deceased (by J. P. Craig, executrix). Cover for sealing liquid surfaces. 3,266,662, 8–16–66, Cl. 220—93.

Craig, Jane P.: *See*—
Craig, George H. 3,266,662.

Craige, Theodore L., to United Transformer Corp. Variable inductance device. 3,267,400, 8–16–66, Cl. 336—134.

Cramer, Francis B., and E. G. Parrish, to E. I. du Pont de Nemours and Co. Process for producing an extensible paper. 3,266,972, 8–16–66, Cl. 162—146.

Crandall, Morris N. Vapor-removing devices. 3,266,474, 8–16–66, Cl. 123—119.

Creutz, Hans-Gerhard, R. M. Stevenson, and E. A. Romanowski, to The Udylite Corp. Electrodeposition of copper from acidic baths. 3,267,010, 8–16–66, Cl. 204—52.

Croitoru, Peter P., to Consolidation Coal Co. Refining of thiocresol isomers. 3,267,123, 8–16–66, Cl. 260—455.

Crompton & Knowles Corp.: *See*—
Feeman, James F. 3,267,089.

Crowell, Charles J., Jr., and F. L. Haake, to United States of America, Navy. Controlled extinguishment and reignition of solid propellant rocket motors. 3,266,237, 8–16–66, Cl. 60—35.3.

Crowley, Jennifer, J. L. Lowe, and B. H. Palmer, to Boots Pure Drug Co. Ltd. Substituted thiourea compounds and methods of using same as anthelmintics. 3,266,987, 8–16–66, Cl. 167—53.

Crowley, Richard P. Method of preparing adsorbent filter paper containing crystalline zeolite particles, and paper thereof. 3,266,973, 8–16–66, Cl. 162—164.

Crucible Steel Co. of America: *See*—
Vordahl, Milton B. 3,266,951.

Crump, B. T., Co., Inc.: *See*—
Amstutz, Walter R. 3,266,844.

Cummings, Clinton M., to The Acme Shear Co. Combination surgical instrument for cutting and removing sutures. 3,266,493, 8–16–66, Cl. 128—318.

Cummings, Lowell O., and J. A. Kneeland, to Pacific Vegetable Oil Corp. Concentrated emulsions of bodied oil in water. 3,266,922, 8–16–66, Cl. 106—252.

Cummings, William, to United States Rubber Co. Stabilized ABS polymers containing zinc sulfide and dialkyl thiodipropionate. 3,267,069, 8–16–66, Cl. 260—45.75.

Cunder, Joseph: *See*—
Ihde, Frederick J., Jr., and Cunder. 3,267,056.

Curry, Nolan A.: *See*—
Timmer, William F., and Curry. 3,266,878.

Curtiss-Wright Corp.: *See*—
Biehl, Richard E., and Loprete. 3,266,236.

Curtiss-Wright Corp.: *See*—
Sabatiuk, Andrew. 3,266,564.

Cuthbert, William W., to United States of America, Navy. Pulse-gated radar range tracking system. 3,267,465, 8–16–66, Cl. 343—7.3.

Cutler-Hammer, Inc.: *See*—
Carter, Uriel F. 3,267,239.
Larkin, Robert E. 3,267,223.

Cyril Bath Co., The: *See*—
Dolney, Stanley M. 3,266,284.

D and D Co., Inc.: *See*—
Dowling, Robert W., Del Riccio, and Goldhammer. 3,266,-367.

Dally, Roy, to General Electric Co. Stereo phonograph cartridge. 3,266,808, 8–16–66, Cl. 274—26.

Dally, Roy: *See*—
Cavagnaro, William A., and Dally. 3,266,809.

Damusis, Adolfas, to Wyandotte Chemical Corp. Polyether urethane coating composition cured with di-imine. 3,267,-078, 8–16–66, Cl. 260—77.5.

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Manning, Jerre V., to Honeywell Inc. Actuating arrangement for tandem devices. 3,267,246, 8–16–66, Cl. 200—168.

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Polythane Corp.: *See*—
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Pomot, Jean-Louis, to The Norwich Pharmacal Co. N-nitroso-N-(2-hydroxyethyl) urea. 3,267,138, 8–16–66, Cl. 260—553.

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Greene, George W., Leland, Ponsen, Schlupp, Scray, Wilkie, and Wiltse. 3,267,017.

Popodi, Alfred E., and C. L. Saunders, to United States of America, Navy. Random access instantaneous digital-to-analog co-ordinate converter. 3,267,265, 8–16–66, Cl. 235—154.

Popoff, Ivan C., to Pennsalt Chemicals Corp. Process for controlling pests. 3,266,982, 8–16–66, Cl. 167—30.

Popov, Constantine. Extensible jib-cranes. 3,266,638, 8–16–66, Cl. 212—39.

Porter, Frank, to Allied Chemical Corp. Process for the extraction of aqueous sugar solution resulting from the hydrolysis of lignocellulosic material. 3,266,933, 8–16–66, Cl. 127—37.

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Post, Wolfgang, to Schweizerische Aluminium AG (Aluminium Swisse SA.) (Aliuminio Swizzero S.A.) (Swiss Aluminium Ltd.). Method of etching electrode foils for electrolytic capacitors. 3,266,962, 8–16–66, Cl. 156—22.

Postlewaite, William R., and M. Ludwig, to Chevron Research Co. Method for laying submarine pipe lines. 3,266,256, 8–16–66, Cl. 61—72.3.

Poterack, James L., J. P. Mefford, and E. A. Stroud III, to United States of America, Navy. Radar interference rejection. 3,267,466, 8–16–66, Cl. 343—7.3.

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Powers, Henry L. Compression leak tester. 3,266,297, 8–16–66, Cl. 73—49.7.

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Praeg, Walter F. Magnetically shielded apparatus for indicating the numbers of turns and the presence of shorted turns in electric coils. 3,267,370, 8–16–66, Cl. 324—55.

Pranovi, Ugo. Garments dry washing machine. 3,266,273, 8–16–66, Cl. 68—12.

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Pratt, Charles R., Jr., and W. H. Tarcza, to Corning Glass Works. Electrical capacitor. 3,267,342, 8–16–66, Cl. 317—258.

Prentice, George D., to A. F. Klinzing Co., Inc. Cutter wheel assemblage. 3,266,643, 8–16–66, Cl. 214—17.

Price, Albert E., and L. H. Shils, to General American Transportation Corp. Railway hopper car body provided with an elongated loading hatch in the roof thereof. 3,266,440, 8–16–66, Cl. 105—377.

Price, Harold A., to Reid Mfg. Inc. Flexible impervious cartridge filter. 3,266,628, 8–16–66, Cl. 210—94.

Price, James, Jr., to Interchemical Corp. Method of decorating polyester textile fabrics and composition therefor. 3,266,863, 8–16–66, Cl. 8—44.

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Prill, Erhard J., and J. C. Wygant, to Monsanto Co. Ester lactones as plasticizers in polyvinyl chloride compositions. 3,267,062, 8–16–66, Cl. 260—30.4.

Pritchett, Ervin G., and N. L. Hofmann, to National Distillers and Chemical Corp. Purification of diene monomers. 3,267,168, 8–16–66, Cl. 260—681.5.

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Pulcarano, Frank C., to ACF Industries, Inc. Railway car underframe and method of manufacture. 3,266,441, 8–16–66, Cl. 105—416.

Purdy, Francis W., and A. L. Pescosolido, to The Standard Oil Co. Sample carrier for pneumatic tube system. 3,266,731, 8–16–66, Cl. 243—35.

Pure, Samuel, to United States of America, Navy. Depth measuring apparatus. 3,267,420, 8–16–66, Cl. 340—5.

Pursell, Herbert P., Jr., to American Cyanamid Co. Process for separation of acrylonitrile. 3,267,128, 8–16–66, Cl. 260—465.3.

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Putnam, Stearns T., and H. M. Spurlin, to Hercules Powder Co. Latex of ethylene propylene copolymer. 3,267,060, 8–16–66, Cl. 260—29.6.

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Raab, Günter, and G. Polensky, to Siemens & Halske Aktiengesellschaft. Automatic charge metering of telephone calls. 3,267,216, 8–16–66, Cl. 179—7.1.

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Rankin, David, G. J. Mantell, and F. R. Galiano, to Gulf Oil Corp. Polymerizable 5-alkylene-m-dioxanyl acrylic esters. 3,267,084, 8–16–66, Cl. 260—86.1.

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Ravenhill, Peter, and T. S. Weaver, to United States of America, Navy. Automatic phase control system. 3,267,357, 8–16–66, Cl. 323—101.

Ravner, Harold, to United States of America, Navy. Metal antioxidants for fluid bis (phenoxyphenoxy) benzene. 3,267,032, 8–16–66, Cl. 252—26.

Ravve, Abraham, C. W. Fitko, and J. C. Brichta, Jr., to Continental Can Co., Inc. Polymeric azo dyes from phenolic resins. 3,267,064, 8–16–66, Cl. 260—38.

Rayburn, Charles C., to Illinois Tool Works Inc. Method of making a capacitor-resistor construction. 3,266,121, 8–12–66, Cl. 29—25.42.

Rayburn, Charles C., to Illinois Tool Works Inc. Wound capacitor and lead assembly. 3,267,343, 8–16–66, Cl. 317—260.

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Reeber, Rudolf, and J. Muller, to H. Deckel, and F. Deckel. Copying milling machine. 3,266,375, 8–16–66, Cl. 90—13.1.

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Reeser, Esral M., to J. I. Case Co. Combined fluid wiper and seal. 3,266,810, 8–16–66, Cl. 277—24.

Reeves, Robert L., to International Paper Co. Multiwall bag and method of making same. 3,266,710, 8–16–66, Cl. 229—55.

Regeffe, Andre J., to Societe Lignes Telegraphiques et Telephoniques. Microwave semi-conductor device. 3,267,340, 8–16–66, Cl. 317—234.

Regie Nationale des Usines Renault: *See*—
Peras, Lucien. 3,266,468.

Reglistic Co., The: *See*—
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Reimer, William A., to Automatic Electric Laboratories, Inc. Multi-turn wrap-around solenoids. 3,267,402, 8–16–66, Cl. 336—200.

Reiss, Carrol R., and J. L. Lichtin, to The Reglistic Co. Process and composition for treating of hair. 3,266,994, 8–16–66, Cl. 167—87.1.

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Republic Packaging Corp.: *See*—
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Riggs, Robert F., to Sperry Rand Corp. Radially intensified PPI collision course detector. 3,267,470, 8–16–66, Cl. 343—11.

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Rixe, Frederick H., to Pan American Petroleum Corp. Method of fracturing subsurface formations. 3,266,573, 8–16–66, Cl. 166—42.

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Robertson, Walter A., to Allen Products, Inc. Seal installation and setting tool. 3,266,347, 8–16–66, Cl. 81—8.1.

Robinson, Leonard L., and J. A. Trevett, to Textron Electronics, Inc. Underwater sound source. 3 267,421, 8–16–66, Cl. 340—12

Rock, John V., and D. L. Wright, to Varian Associates. Magnetic field sensing device. 3,267,368, 8–16–66, Cl. 324—45.

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Rogers, Cyril B., to Clark Equipment Co. Retractable bed. 3 266,062, 8–16–66, Cl. 5—118.

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Roller, Siegfried, and G. Idler, to C. Eugen Maier Metallverarbeitung, Firma. Thread holding device for use on spinning machines. 3,266,231, 8–16–66, Cl. 57—53.

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Rosenberg, Thomas, to Eastern Chain Worker, Inc. Link chain having electrical conducting lacquer piercing ridges. 3,267,203, 8–16–66, Cl. 174—68.

Rosenfeld, Lev M., V. V. Arkhangelsky, and I. L. Gerlovin, to Leningradsky Tekhnologichesky Institute Cholodilnoi Promyshlennosti. Method of increasing a vapour compressing refrigerating machine cooling effect. 3,266,258, 8–16–66, Cl. 62—3.

Ross, Edward J., to Imperial-Eastman Corp. Hose structure. 3,266,527, 8–16–66, Cl. 138—125.

Ross, Hugh C. Vacuum switch. 3,267,247, 8–16–66, Cl. 200—168.

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Routen, William M. Tax figuring device. 3,266,723, 8–16–66, Cl. 235—86.

Rowbotham, William R., to International Harvester Co. Radial float platform for harvesters. 3,266,230, 8–16–66, Cl. 56—208.

Rudner, Bernard, P. E. Brumfield, and P. M. Hergenrother, to Koppers Co., Inc. Benzothiazole dicarboxylic acids and polymers derived therefrom. 3,267,081, 8–16–66. Cl. 260—78.4.

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Rumble, Dale H., to International Business Machines Corp. Waveform converter. 3,267,298, 8–16–66, Cl. 307—88.5.

Runton, Leslie A., to J. P. Stevens & Co., Inc. Stretchable wool and wool-blend fabrics. 3,266,865, 8–16–66, Cl. 8—128.

Ruple, Lewis H., to Abbey Etna Machine Co. Seam guide assembly for welded tube mills. 3,266,703, 8–16–66, Cl. 228—49.

Rush, Raymond W., to Mayer China Co. Support for ceramic ware. 3,266,116, 8–16–66, Cl. 25—153.

Russell, Donald H., and A. E. Borchert, to The Atlantic Refining Co. Acrylic polymers containing 10-pinenylmethanol as processing aids for thermoplastic formulations. 3,267,179, 8–16–66, Cl. 260—899.

Russo, Humbert C., to Anelex Corp. Print hammer assembly for high speed printers. 3,266,418, 8–16–66, Cl. 101—93.

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Ryan, Thomas J., to United States of America, Navy. Telemetering system with automatic scan for monitoring plural inputs. 3,267,449, 8–16–66, Cl. 340—213.

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Safford, William J. Sealed pipe coupling. 3,266,821, 8–16–66, Cl. 285—40.

Sahagian, Edward H. Wheel accessory and tire chain attaching device. 3,266,547, 8–16–66, Cl. 152—236.

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Saito, Akira. Dehumidifier of air. 3,266,784, 8–16–66, Cl. 261—3.

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Sanborn, Jere L., to International Business Machines Corp. Superconductive binary full adders. 3,267,268, 8–16–66, Cl. 235—175.

Sanders, Donald P., to Philco Corp. Process for rapidly etching a flat-bottomed pit in a germanium wafer. 3,267,014, 8–16–66, Cl. 204—143.

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Sarah, Thomas F., to Pflueger Corp. Pick-up pin extension mechanism for spinning reels. 3,266,747, 8–16–66, Cl. 242—84.2.

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Sarv, Nils H., to Jonkoping-Vulcan, Aktiebolaget. Apparatus for peeling and disintegrating of veneer. 3,266,538, 8–16–66, Cl. 144—50.

Sauer, Edgar, W. Gunther, and W. Zink, to Zeiss Ikon Aktiengesellschaft. Photographic camera with labeling means using band shaped transparent character carriers. 3,266,894, 8–16–66, Cl. 95—1.1.

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Popodi, Alfred E., and Saunders. 3,267,265.

Saunders, Harry L., to Smith Kline & French Laboratories. Method of producing anti-adrenal activity. 3,266,988, 8–16–66, Cl. 167—65.

Saunders, Raymond A., to United States of America, Navy. Method of making a liquid microcell. 3,266,967, 8–16–66, Cl. 156—254.

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Sawyer, Edgar W., Jr., and M. Pavol, Jr., to Minerals & Chemicals Philipp Corp. Viscosity stabilized clay slurry. 3,266,917, 8–16–66, Cl. 106—72.

Scanlon, William F., to General Electric Co. Master control assembly for an audio volume control system. 3,266,326, 8–16–66, Cl. 74—10.45.

Scaramucci, Domer. Well swab assembly. 3,266,384, 8–16–66, Cl. 92—192.

Scaramucci, Domer. Swab cup assembly. 3,266,385, 8–16–66, Cl. 92—192.

Scaramucci, Domer. Swab cup. 3,266,386, 8–16–66, Cl. 92—242.

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Scavullo, Angelo C., to Legion Utensils Co., Inc. Room service heater. 3,266,482, 8–16–66, Cl. 126—275.

Schaaf, Fred W., to International Business Machines Corp. Line justifying and proportional spacing apparatus for display devices. 3,267,454, 8–16–66, Cl. 340—324.

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Schaffer, Max A., to Sperry Rand Corp. Gyroscopic apparatus. 3,266,325, 8–16–66, Cl. 74—5.34.

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Schenkengel, Emerich, to G. M. Pfaff, A.G. Device for use on zig-zag sewing machines for making carpets. 3,266,450, 8–16–66, Cl. 112—235.

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Woertz, Byron B., to Union Oil Co. of California. Process for removing acidic constituents from gaseous mixtures. 3,266,220, 8–16–66, Cl. 55—48.

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CLASSIFICATION OF PATENTS

ISSUED AUGUST 16, 1966

NOTE.—First number, class; second number, subclass; third number, patent number

2– 12	3,266,056	29–208	3,266,132	55– 48	3,266,219	73– 80	3,266,301	91–374	3,266,379	106–243	3,266,921
227	3,266,057	211	3,266,133		3,266,220	105	3,266,302	388	3,266,380	252	3,266,922
239	3,266,058	401	3,266,134	58	3,266,221	141	3,266,303	420	3,266,381	288	3,266,923
3– 12.3	3,266,059	408	3,266,135	104	3,266,222	146.8	3,266,304	468	3,266,382	308	3,266,924
4–213	3,266,060	471.1	3,266,136	158	3,266,223	150	3,266,305	92–142	3,266,383	107– 1	3,266,442
5– 60	3,266,061	473.1	3,266,137	241	3,266,224		3,266,306	192	3,266,384	108– 46	3,266,443
118	3,266,062	509	3,266,138	273	3,266,225	190	3,266,307		3,266,385	54	3,266,444
334	3,266,063		3,266,139	274	3,266,226	201	3,266,308	242	3,266,386	125	3,266,445
347	3,266,064	563	3,266,140	426	3,266,227	205	3,266,309	93– 22	3,266,387	153	3,266,446
356	3,266,065	568	3,266,141		3,266,228	233	3,266,310	36	3,266,388	110– 8	3,266,447
361	3,266,066	30– 90.5	3,266,142	505	3,266,229	290	3,266,311		3,266,389	112– 84	3,266,448
8– 44	3,266,863	224	3,266,143	56–208	3,266,230	313	3,266,312	36.01:	3,266,390	221	3,266,449
94.21:	3,266,864	322	3,266,144	57– 53	3,266,231	355	3,266,313	52	3,266,391	235	3,266,450
128	3,266,865	31– 44	3,266,145	157	3,266,232	359	3,266,314	94– 44	3,266,392	113–120	3,266,451
9– 2	3,266,067	32– 12	3,266,146	60– 7	3,266,233	362	3,266,316	95– 1.1	3,266,393	121	3,266,452
8	3,266,068	15	3,266,147	13	3,266,234	362.1	3,266,315		3,266,394	115– 1	3,266,453
341	3,266,069	33– 30	3,266,148	23	3,266,235	363.3	3,266,317	10	3,266,395	35	3,266,454
342	3,266,070	46	3,266,149	35.3	3,266,237	368	3,266,318	11	3,266,396	116– 56	3,266,455
10– 11	3,266,071		3,266,150	35.5	3,266,238	398	3,266,319	31	3,266,397	119	3,266,456
12– 12	3,266,072	62	3,266,151	35.54:	3,266,242	407	3,266,320		3,266,398	129	3,266,457
142	3,266,073	69	3,266,152		3,266,243	422	3,266,321	53	3,266,399	173	3,266,458
15– 77	3,266,074	77	3,266,153	35.55:	3,266,244	423	3,266,322	68	3,266,400	117– 27	3,266,925
104.03:	3,266,075		3,266,154		3,266,245	425.4	3,266,323	73	3,266,401	62	3,266,926
104.06:	3,266,076	85	3,266,155	35.6	3,266,239	432	3,266,324	76	3,266,402	98	3,266,927
	3,266,077	93	3,266,156		3,266,240	74– 5.34:	3,266,325	86	3,266,403	129	3,266,928
319	3,266,078	108	3,266,157		3,266,241	10.45:	3,266,326	89	3,266,404	130	3,266,929
569	3,266,079	139	3,266,158	38	3,266,246	87	3,266,327		3,266,405	132	3,266,930
16– 52	3,266,080	147	3,266,159	39.02:	3,266,247	89.17:	3,266,328		3,266,406	138.8	3,266,931
110	3,266,081	174	3,266,160	39.03:	3,266,236	110	3,266,329	90	3,266,407	201	3,266,932
18– 1	3,266,082		3,266,161	39.16:	3,266,248	230.17:	3,266,330	96– 3	3,266,894	118– 1	3,266,459
	3,266,083		3,266,162	39.36:	3,266,249	243	3,266,331	22	3,266,895	38	3,266,460
	3,266,084	181	3,266,163		3,266,250	354	3,266,332	49	3,266,896	234	3,266,461
2.6	3,266,085	34– 1	3,266,164	39.47:	3,266,251	424.8	3,266,333	61	3,266,897	119– 51.11:	3,266,462
4	3,266,086	28	3,266,165	39.77:	3,266,252	458	3,266,334	65	3,266,898	96	3,266,463
8	3,266,087	32	3,266,166	53	3,266,253	501.5	3,266,335	66	3,266,899	103	3,266,464
9	3,266,088	45	3,266,167	54.5	3,266,254	503	3,266,336	75	3,266,900	120– 42.13:	3,266,465
	3,266,089		3,266,168	61– 53	3,266,255	512	3,266,337	98– 40	3,266,408	122–136	3,266,466
12	3,266,090	58	3,266,169	72.3	3,266,256	565	3,266,338	99– 9	3,266,901	510	3,266,467
13	3,266,091	90	3,266,170	85	3,266,257	579	3,266,339	48	3,266,902	123– 8	3,266,468
14	3,266,092	164	3,266,171	62– 3	3,266,258	584	3,266,340	103	3,266,903		3,266,469
	3,266,093	35– 8	3,266,172	14	3,266,259	626	3,266,341	123	3,266,904	16	3,266,470
16	3,266,094	10.4	3,267,195	21	3,266,260	75– 3	3,266,887	128	3,266,905	41.12:	3,266,471
	3,266,095	11	3,266,173	52	3,266,261	97	3,266,888	131	3,266,906	48	3,266,472
	3,266,096		3,266,174	54	3,266,262	101	3,266,889	139	3,266,907	103	3,266,473
30	3,266,097	19	3,266,175	58	3,266,263	122.7	3,266,890	144	3,266,908	119	3,266,474
42	3,266,098	47	3,266,176	123	3,266,264	159	3,266,891	169	3,266,909	125– 11	3,266,475
	3,266,099	36– 36	3,266,177	344	3,266,265	174	3,266,892	171	3,266,910	30	3,266,476
45	3,266,100	43	3,266,178	476	3,266,266	222	3,266,893	176	3,266,911	126– 19	3,266,477
19– 57	3,266,101	37– 86	3,266,179		3,266,267	76–108	3,266,342	259	3,266,409	25	3,266,478
22– 13	3,266,102	153	3,266,180	489	3,266,268	77– 64	3,266,343	287	3,266,410	85	3,266,479
46	3,266,103	169	3,266,181	64– 17	3,266,269	66	3,266,344	304	3,266,411	109	3,266,480
57.2	3,266,104	38–140	3,266,182	24	3,266,270	73	3,266,345	100– 50	3,266,412	113	3,266,481
67	3,266,105	42– 57	3,266,183	27	3,266,271	79	3,266,346	53	3,266,413	275	3,266,482
129	3,266,106	43– 19	3,266,184	65– 21	3,266,879	81– 8.1	3,266,347	163	3,266,414		3,266,483
192	3,266,107	35	3,266,185	99	3,266,880	82– 2.5	3,266,348	269	3,266,415	337	3,266,484
193	3,266,108	44– 63	3,266,877	130	3,266,881	40	3,266,349	101– 32	3,266,416	360	3,266,485
23– 2	3,266,866	46–202	3,266,186	67– 22	3,266,272	47	3,266,350	41	3,266,417	391	3,266,486
51	3,266,867	239	3,266,187	68– 12	3,266,273	83– 15	3,266,351	93	3,266,418	127– 37	3,266,933
253	3,266,868	47– 28	3,266,188	18	3,266,274	18	3,266,352		3,266,419	128– 1	3,266,487
254	3,266,869	49–152	3,266,189	70– 70	3,266,275	27	3,266,353	102– 4	3,266,420	29	3,266,488
271	3,266,870	397	3,266,192	110	3,266,276	57	3,266,354	42	3,266,421	142	3,266,489
273	3,266,871	489	3,266,190	150	3,266,277	177	3,266,355	49	3,266,422	147	3,266,490
285	3,266,872	504	3,266,191	277	3,266,278	181	3,266,356	89	3,266,423	294	3,266,491
314	3,266,873	51– 12	3,266,193	71– 2.3	3,266,882	215	3,266,357	103– 39	3,266,424	303	3,266,492
	3,266,874	94	3,266,194	2.5	3,266,883	225	3,266,358	41	3,266,425	318	3,266,493
349	3,266,875	97	3,266,195	2.6	3,266,884	367	3,266,359	42	3,266,426	321	3,266,494
24– 20	3,266,109	135	3,266,196	39	3,266,885	84– 1.18:	3,267,196	97	3,266,427	479	3,266,495
78	3,266,110	137	3,266,197	64	3,266,886	1.24:	3,267,197	113	3,266,428	129– 16	3,266,496
81	3,266,111	158	3,266,198	72– 8	3,266,279		3,267,198	120	3,266,429	16.1	3,266,497
201	3,266,112	298	3,266,878	134	3,266,280	1.25:	3,267,199	126	3,266,430	131– 81	3,266,498
204	3,266,113	323	3,266,199	177	3,266,281	1.26:	3,267,200	136	3,266,431	133	3,266,499
205.1	3,266,114	377	3,266,200	238	3,266,282	344	3,266,360	157	3,266,432	132– 53	3,266,500
263	3,266,115	52– 18	3,266,201	284	3,266,283	85– 11	3,266,361	158	3,266,433	133– 6	3,266,501
25–153	3,266,116	39	3,266,202	297	3,266,284	13	3,266,362	162	3,266,434	134– 22	3,266,934
26– 2	3,266,117	80	3,266,203	304	3,266,285	32	3,266,363	170	3,266,435	57	3,266,502
29– 6	3,266,118	173	3,266,204	413	3,266,286	77	3,266,364	174	3,266,436	135– 4	3,266,503
20	3,266,119	175	3,266,205	416	3,266,287	88– 1	3,266,365	220	3,266,437	136– 43	3,266,935
25	3,266,120	309	3,266,206	73– 4	3,266,288	24	3,266,366	255	3,266,438	53	3,266,936
25.42:	3,266,121	459	3,266,207	12	3,266,289	34	3,266,367	104–172	3,266,439	86	3,266,937
91.1	3,266,122	650	3,266,208	15	3,266,290	56	3,266,368	105–377	3,266,440		3,266,938
149.5	3,266,123	665	3,266,209	23	3,266,291	57	3,266,369	416	3,266,441		3,266,939
155.5	3,266,124	690	3,266,210		3,266,292	61	3,266,370	106– 1	3,266,912		3,266,940
	3,266,125	745	3,266,211		3,266,293	78	3,266,371	15	3,266,913		3,266,941
	3,266,126	53– 22	3,266,212	35	3,266,294	89– 1.5	3,266,372	29	3,266,914	90	3,266,942
	3,266,127	49	3,266,213	38	3,266,295	1.7	3,266,373	38.8	3,266,915	120	3,266,943
157.3	3,266,128	122	3,266,214	40	3,266,296	90– 3	3,266,374	54	3,266,916	221	3,266,944
	3,266,129	177	3,266,215	49.7	3,266,297	13.1	3,266,375	72	3,266,917	137– 3	3,266,504
163.5	3,266,130	180	3,266,216	53	3,266,298	91– 47	3,266,376	165	3,266,918	38	3,266,505
173	3,266,131		3,266,217	61	3,266,299	167	3,266,377	178	3,266,919	54	3,266,506
196.1	3,266,876	54– 44	3,266,218	71.5	3,266,300	363	3,266,378	195	3,266,920	81.5	3,266,507

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	3,266,228		3,266,677		3,267,263		3,266,575		3,266,238	48	3,266,073
	3,266,229		3,266,691		3,267,334		3,266,576		3,266,240		3,266,113
	3,266,261		3,266,721		3,267,347		3,266,584		3,266,275		3,266,155
	3,266,264		3,266,725		3,267,356		3,266,594		3,266,451		3,266,178
	3,266,274		3,266,779		3,267,362		3,266,675		3,266,469		3,266,192
	3,266,281		3,266,833		3,267,363		3,266,730		3,266,684		3,266,242
	3,266,282		3,266,876		3,267,364		3,266,742		3,266,709		3,266,346
	3,266,286		3,266,891		3,267,374		3,266,821		3,266,722		3,266,434
	3,266,300		3,266,893		3,267,389		3,266,823		3,266,755		3,266,473
	3,266,313		3,266,900		3,267,397		3,266,832		3,266,783		3,266,527
	3,266,351		3,266,918		3,267,411		3,266,839		3,266,934		3,266,561
	3,266,359		3,266,929		3,267,420		3,266,845		3,267,011		3,266,568
	3,266,369		3,266,930		3,267,449		3,266,859		3,267,099		3,266,633
	3,266,372		3,266,947		3,267,451		3,266,938		3,267,102		3,266,643
	3,266,408		3,266,951		3,267,453		3,267,019		3,267,259		3,266,666
	3,266,419		3,266,982		3,267,464		3,267,020		3,267,343		3,266,744
	3,266,457		3,266,988		3,267,484		3,267,068		3,267,361		3,266,786
	3,266,475		3,267,005		3,267,485		3,267,129		3,267,462		3,266,793
	3,266,488		3,267,014	38	3,267,192		3,267,132	46	3,266,075		3,266,837
	3,266,490		3,267,052		3,267,409		3,267,133		3,266,157		3,266,939
	3,266,508		3,267,074	39	3,266,443		3,267,193		3,266,189		3,266,957
	3,266,511		3,267,081		3,266,535		3,267,293		3,266,253		3,266,975
	3,266,512		3,267,082		3,266,767		3,267,335		3,266,272		3,266,976
	3,266,517		3,267,089		3,267,079		3,267,365		3,266,292		3,267,094
	3,266,533		3,267,098		3,267,470		3,267,369		3,266,536		3,267,219
	3,266,565		3,267,107	41	3,266,095		3,267,371		3,266,729		3,267,223
	3,266,580		3,267,114		3,266,686		3,267,379		3,266,804		3,267,231
	3,266,607		3,267,120		3,266,860		3,267,466		3,266,817		3,267,236
	3,266,613		3,267,123		3,267,091	43	3,266,218		3,266,828		3,267,239
	3,266,616		3,267,139	42	3,266,090		3,266,507		3,266,908		3,267,303
	3,266,617		3,267,152		3,266,101		3,266,534		3,266,928		3,267,345
	3,266,618		3,267,153		3,266,176		3,266,766		3,266,989	49	3,266,061
	3,266,622		3,267,154		3,266,193		3,267,381		3,267,188		3,266,736
	3,266,632		3,267,155		3,266,262	44	3,266,583		3,267,260	50	3,266,800
	3,266,640		3,267,176		3,266,289		3,266,624		3,267,360		3,267,229
	3,266,642		3,267,187		3,266,341		3,267,302	47	3,267,050	51	3,266,065
	3,266,649		3,267,190		3,266,342	45	3,266,087		3,267,058		3,266,066
	3,266,657		3,267,230		3,266,382		3,266,121		3,267,063		3,267,136
	3,266,658		3,267,233		3,266,409		3,266,165		3,267,160	54	3,266,149
	3,266,662		3,267,241		3,266,438		3,266,169		3,267,162	56	3,267,422

Design Patents

4	205,495	6	205,554	13	205,569	29	205,542	31	205,567	34	205,558
	205,496	9	205,492	19	205,497		205,561		205,573	37	205,502
	205,503		205,525		205,515		205,576		205,574		205,509
	205,507	10	205,532	21	205,546		205,577		205,578		205,529
	205,541		205,563		205,551	31	205,494		205,579		205,533
	205,543	12	205,498		205,570		205,510		205,580		205,555
	205,559		205,519	22	205,499		205,511		205,581	42	205,501
	205,565		205,520		205,504		205,512		205,582	43	205,505
	205,572		205,536		205,531		205,513	34	205,526		205,506
5	205,528		205,538		205,566		205,524		205,544	46	205,564
6	205,516		205,539		205,571		205,534		205,545	48	205,493
	205,517		205,540	28	205,508		205,535		205,550		205,522
	205,518		205,556	29	205,500		205,549		205,552		205,523
	205,537		205,568		205,514		205,562		205,553		205,527

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

August 16, 1966 Volume 829 Number 3

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 297,436 (TWIN WORKS), J. A. Henckels (firm), Steel, iron, lead, zinc, and copper; **Reg. No. 649,466** (TWIN), J. A. Henckels Zwillingswerk Aktiengesellschaft, Nail files, nail scissors, nail nippers, nail pliers, etc.; **Reg. No. 658,117** (TWIN WORKS), same; **Reg. No. 768,630** (TWIN), same, Raw and partly worked base metals and metal alloys—namely, iron, manganese, molybdenum, etc.; **Reg. No. 773,473**, same, Metal kitchen utensils, flat and hollow tableware, drainboards, percolators, etc.; **Reg. No. 773,474** (TWIN WORKS), same; Reg. No. 773,491, same, Raw and partly worked precious and base metals and metal alloys—namely, gold and silver, iron, manganese, molybdenum, etc., filed June 1, 1966, D.C., S.D.N.Y., Doc. 66/1576, *J. A. Henckels Zwillingswerk Aktiengesellschaft* v. *General Mills, Inc.*

Reg. No. 344,853 (CHINA DOLL AND DESIGN), Norman Webb Hutchings, doing business as Rice Sales Company, Rice; **Reg. No. 545,541**, same, Norman Webb Hutchings, Sr. and Norman Webb Hutchings, Jr., doing business as China Doll Company, Rice, dried beans, and dried peas, filed June 14, 1966, D.C., S.D.N.Y., Doc. 66/1688, *China Doll, Inc.* v. *Joseph Fierman & Son, Inc.*

Reg. No. 545,541. (See Reg. No. 344,853.)

Reg. No. 556,004 (BAHA'I), The National Spiritual Assembly of the Baha'is of the United States, Publications—namely, books, periodicals, pamphlets, house organs and news reports, filed Nov. 5, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c1878, *The National Spiritual Assembly of the Baha'is of the U.S.A. Under the Hereditary Guardianship, Inc.* v. *The National Spiritual Assembly of the Baha'is of the United States of America.* Judgment for defendant; plaintiff enjoined June 28, 1966.

Reg. No. 580,482 (HAWKINSON), Paul E. Hawkinson Company, Tire buffing machines and rims therefor for truing automotive tires, and tire retreading molds and presses used in conjunction therewith, filed June 6, 1966, D.C. Ariz. (Phoenix), Doc. 6010 Phx., *Paul E. Hawkinson Company* v. *Hawkinson Tire Company of Arizona et al.*

Reg. No. 592,541 (HOLIDAY INN AND DESIGN), Holiday Inns of America, Inc., Motel services—namely, providing lodgings and meals in motels; **Reg. No. 708,521** (HOLIDAY INN OF AMERICA AND DESIGN), same; **Reg. No. 742,490** (MOTEL DESIGN), same, filed June 15, 1966, D.C. Oreg. (Portland), Doc. 66–320, *Holiday Inns of America, Inc.* v. *Donald Woody.*

Reg. No. 669,668 (TOM-BOY), Tom Boy, Inc., Extract of vanilla for food purposes, canned sliced apples, canned apple sauce, canned apricots, etc., filed May 10, 1966, D.C., E.D. Mo. (St. Louis), Doc. 66C178(3), *Tom Boy, Inc.* v. *Tom Boy Systems, Inc.*

Reg. No. 636,503 (U AND DESIGN OF CIRCLE), Union of Orthodox Jewish Congregations of America, Baby foods—namely, strained fruits and vegetables, chopped mixed vege-

CONDITION OF TRADEMARK APPLICATIONS AS OF JUNE 30, 1966

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	27,463
Date of oldest new application	February 10, 1965
Date of oldest amended application (filing date)	April 25, 1963

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF (Acting), Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	6–23–65	7–15–63
II) F. H. WETHERBEE (Acting), Classes 1, 3, 6, 7, 9, 10, 18, 22, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	2–10–65	4–25–63
Renewals (All Classes)	6–30–66	
Sec. 12(c) Publications (All Classes)	6–30–66	

Applications filed during the month of June—2,575

Registrations Issued—459—No. 812,773 to No. 813,231
Renewals Issued—70

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

tables, canned puddings, etc., filed June 6, 1966, D.C., S.D.N.Y., Doc. 66/1609, *Union of Orthodox Jewish Congregations of America* v. *Kashruth Supervisors Union.*

Reg. No. 649,466. (See Reg. No. 297,436.)

Reg. No. 656,117. (See Reg. No. 297,436.)

Reg. No. 665,666 (CHEMSEARCH), National Disinfectant Company, Cleaning compositions for building floors and walls; **Reg. No. 725,564** (NATIONAL CHEMSEARCH AND DESIGN), National Chemsearch Corporation of Texas, Liquid dust mop treatment that fireproofs mops, disinfectants, wetting agents, etc.; **Reg. No. 725,717,** same, Industrial and institutional detergents, solvent degreaser, glass cleaner, etc., filed Dec. 29, 1965, D.C., E.D. Mo. (St. Louis), Doc. 65C456 (2), *National Chemsearch Corp.* v. *Nat'l Chem-Plastics Corp. et al.* By leave, plaintiff dismisses case without prejudice as to defendant Southwestern Bell Telephone Co. Final consent judgment; trademark registration held infringed; plaintiff granted an injunction May 26, 1966.

Reg. No. 668,734 (EXECUTIVE HOUSE (in script)), Executive House Motor Hotels Corporation, Operation and management of motels, hotels, and motor hotels—namely, providing lodging, food, and beverages, and providing facilities and equipment for swimming, etc.; **Reg. No. 718,761** (EXECUTIVE INN), same, Motel, hotel and restaurant services, filed Mar. 30, 1966, D.C., W.D. Ky. (Louisville), Doc. 5328, *Executive House, Inc. et al.* v. *Home Supply Company, Inc.*

Reg. No. 708,531. (See Reg. No. 592,541.)

Reg. No. 711,115 (PEDIMYCIN), The Pfeiffer Co., Therapeutic preparation for treatment of athlete's foot, filed July 28, 1965, D.C., E.D. Mo. (St. Louis), Doc. 65C267(3), *The Pfeiffer Company* v. *Ross Laboratories.* Stipulation of dismissal May 12, 1966.

Reg. No. 711,695 (SAUCY SUSAN), Saucy Sue Products, Inc., Food sauces, filed Oct. 2, 1961, D.C., S.D.N.Y., Doc. 61/3468, *Saucy Susan Products, Inc.* v. *Allied Old English, Inc. et ano.* Order of dismissal June 8, 1966.

Reg. No. 708,761. (See Reg. No. 698,734.)

Reg. No. 725,564. (See Reg. No. 665,666.)

Reg. No. 725,717. (See Reg. No. 665,666.)

Reg. No. 731,144 (THERMO-FISHOMETER), Bright Radio Laboratories, Inc., Temperature measuring device, constructed to show depth, indicating the various types of fish frequenting the stratified water, etc., *filed* June 8, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 66C-526, *Bright Radio Laboratories, Inc.* v. *Honeywell, Inc.*

Reg. No. 742,490. (See Reg. No. 592,541.)

Reg. No. 745,937 (7 SEVEN ELEVEN 11), Best Brewing Corporation, Beer, filed June 14, 1966, D.C.N.J. (Camden), Doc. 597-66, *Metropolis Brewery of N.J., Inc.* v. *Eastern Brewing Corporation et al.*

Reg. No. 757,909 (ULTRONIC), Ultronic Systems Corp., Furnishing of quotations, prices, and related information of security market transactions by means of an electronic computer and communications system, filed June 13, 1966, D.C., S.D.N.Y., Doc. 66/1675, *Ultronic Systems Corp.* v. *Royal Typewriter Company, Inc.*

Reg. No. 768,630. (See Reg. No. 297,436.)

Reg. No. 772,472. (See Reg. No. 297,436.)

Reg. No. 772,474. (See Reg. No. 297,436.)

Reg. No. 772,491. (See Reg. No. 297,436.)

Reg. No. 802,844 (OVATION), Ovation Cosmetics, Inc., Facial cosmetic preparations, skin lotions and creams, etc., filed Feb. 25, 1966, D.C., E.D. Wis. (Milwaukee), Doc. 66-C-56, *Ovation Cosmetics, Inc.* v. *American Cosmetics Co. et al.* Default decree enjoining defendants June 9, 1966.

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 143,809. Dr. Schupp K.G., Freudenstadt, Black Forest, Germany. Filed Apr. 1, 1963.

DR. SCHUPP

Class 6—Chemicals and Chemical Compositions

For Room Deodorants.

Class 51—Cosmetics and Toilet Preparations

For Bath Tablets, Bubble Baths, Bath Salts, Bath Oils, Massage Oils, Massage Creams, and Skin Massaging Lotion.

First use Oct. 18, 1955; in commerce Oct. 18, 1955.

SN 165,994. Design Line, Incorporated, El Segundo, Calif. Filed Apr. 3, 1963.



The mark consists of a monogram which relates to the letters "d" and "L."

Class 21—Electrical Apparatus, Machines, and Supplies

For Lamps.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Furniture Accessories—Namely, Decorative Wall Hangings.

First use on or about June 27, 1962.

SN 165,996. Design Line, Incorporated, El Segundo, Calif. Filed Apr. 3, 1963.

DESIGN LINE

Class 21—Electrical Apparatus, Machines, and Supplies

For Lamps.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Furniture Accessories—Namely, Decorative Wall Hangings.

First use on or about June 27, 1962.

SN 191,551. H. Maihak A.G., Hamburg, Germany. Filed Apr. 20, 1964.



Owner of German Reg. No. 718,192, dated Oct. 1, 1958.

Class 21—Electrical Apparatus, Machines, and Supplies

For Television, Sound and Film Studio Equipment—Namely, Amplifiers, Sound and Light Control Apparatus.

Class 26—Measuring and Scientific Appliances

For Machine Performance Indicators, e.g., for Producing Pressure/Stroke and Pressure/Time Diagrams and Components Thereof, Gas Analysis Recorders, Flue Gas Analyzers and Analysis Indicators, Electronic Remote-Indication Instruments for Measuring Physical Data and for Remote Control, Measuring Relays, Silo Storage Level Indicators and Components Thereof, Synchronising Control Apparatus, Oscillators, Signal Receivers and Sound Signal Generators, Multi-Track Time Registering and Counting Apparatus, High Pressure Gas Flow Regulators, Measuring Air and Gas Pumps.

Class 36—Musical Instruments and Supplies

For Magnetic Tape Recorders.

SN 194,114. Asahi Kasei Kogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan. Filed May 25, 1964.

ANDARIA

Priority claimed under Sec. 44(d) on Japanese applications filed Dec. 24, 1963, and Mar. 30, 1964; Reg. Nos. 663,550, 674,898, 676,279, 693,981, and 701,598, dated Jan. 6, 1965, Apr. 30, 1965, May 29, 1965, Dec. 25, 1965, and Mar. 16, 1966, respectively.

Class 39—Clothing

For Sweaters, Underwear, Hats, and Caps.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Textile and Knitted Fabrics Made of Rayon, Synthetic Fibers and Natural Fibers, and Combinations Thereof, Textile Carpets, Curtains, and Wall Coverings.

Class 43—Thread and Yarn

For Hand Knitting Yarns.

SN 197,704. W. R. Grace & Co., New York, N.Y. Filed July 18, 1964.



Class 100—Miscellaneous

For Counseling Farmers With Regard to Farming Techniques.

Class 103—Construction and Repair

For Conducting Fertiliser Programs for Farmers.

First use June 12, 1964.

SN 200,581. The Mennonite Publishing House, Inc., d.b.a. Provident Bookstore, Scottdale, Pa. Filed Aug. 25, 1964.

PROVIDENT

Class 50—Merchandise Not Otherwise Classified

For Church Offering Plates and Communion Ware of the Non-Precious Metal Type.
First use June 1, 1964.

Class 101—Advertising and Business

For Retail and Mail Order Book Store Services; Book Distributorship Services; Evaluating Books and Providing Facilities for Purchase of Books by Church Groups, Libraries, and Similar Organizations, and Selected Individuals at Special Rates.
First use Nov. 20, 1963.

SN 210,292. Formex Corporation, Elkhart, Ind. Filed Jan. 21, 1965.

FORMEX

Owner of Reg. No. 760,220.

Class 12—Construction Materials

For Flexible Dock Edging and Flotation Pieces.
First use May 1959.

Class 19—Vehicles

For Sailboats and Boat and Dock Bumpers.
First use Mar. 21, 1963.

Class 22—Games, Toys, and Sporting Goods

For Floating Lounges, Floating Rings, Water Games, Marking Floats, Floating Pads and Buoys.
First use Dec. 18, 1960.

SN 210,785. Holiday Designs, Inc., Sebring, Ohio. Filed Jan. 27, 1965.



The drawing is lined for the color green. The word "Designs" is disclaimed apart from the mark as shown.

Class 8—Smokers' Articles, Not Including Tobacco Products

For Ash Trays.

Class 30—Crockery, Earthenware, and Porcelain

For Ceramic Clay Products—Namely, Canister Sets, Cookie Jars, Serving Bowls and Dishes, Vases, Flower Dishes, and Planters.

Class 50—Merchandise Not Otherwise Classified

For Wall Plaques and Decorative Pieces.
First use on or about Nov. 6, 1964.

SN 210,786. Holiday Designs, Inc., Sebring, Ohio. Filed Jan. 27, 1965.



The representation of the vases in the mark is disclaimed apart from the mark as shown.

Class 8—Smokers' Articles, Not Including Tobacco Products

For Ash Trays.

Class 30—Crockery, Earthenware, and Porcelain

For Ceramic Clay Products—Namely, Canister Sets, Cookie Jars, Serving Bowls and Dishes, Vases, Flower Dishes, and Planters.

Class 50—Merchandise Not Otherwise Classified

For Wall Plaques and Decorative Pieces.
First use on or about Sept. 28, 1964.

SN 218,246. Thomas Carvel, Yonkers, N.Y. Filed May 7, 1965.



The word "Ice" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 597,727, 787,994, and others.

Class 45—Soft Drinks and Carbonated Waters

For Syrups for Carbonated and Non-Carbonated Soft Drinks, and the Bases for Making the Same.

Class 46—Foods and Ingredients of Foods

For Bulk Ice Cream; Frozen Dairy Dessert Products—Namely, Pies, Cakes, Logs, Tarts, and Snowballs; Congealed Confections—Namely, Bulk Ices, Sherbets, Ices and Sherbet in Cups, Milk Shakes, and Sundaes; and Syrups, Prepared Flavors, Toppings and Colors, for Use in Connection With Said Bulk Ice Cream, Frozen Dairy Dessert Products, and Congealed Confections.
First use Apr. 1, 1965.

SN 220,001. Kistler Instrument Corporation, Clarence, N.Y. Filed May 28, 1965.



Class 21—Electrical Apparatus, Machines, and Supplies

For Amplifiers.

Class 26—Measuring and Scientific Appliances

For Crystal Transducers for Pressure, Force, Acceleration, and Vibration Measurements, Impedance Matching Circuitry and Calibration Equipment for Use With Crystal Transducers.
First use March 1960.

SN 222,875. Smith Kline & French Laboratories, Philadelphia, Pa. Filed July 7, 1965.

PET'M

Class 6—Chemicals and Chemical Compositions

For Insecticidal Spray for Dogs and Cats.

Class 18—Medicines and Pharmaceutical Preparations

For Concentrated Feed Supplement Containing Vitamins for Animals.

Class 52—Detergents and Soaps

For Shampoo for Animals.
First use June 22, 1965.

SN 222,945. Kayser-Roth Corporation, New York, N.Y. Filed July 8, 1965.

JOHN FREDERICS

"John Frederics" is the name of an individual, now deceased. Owner of Reg. Nos. 400,151, 677,772, and others.

Class 39—Clothing

For Men's, Women's, and Children's Hosiery; and Women's and Children's Tights and Stretch Pants.

Class 40—Fancy Goods, Furnishings, and Notions

For Women's and Girls' Head Bands.
First use Feb. 21, 1963.

SN 226,402. Automatic Canteen Company of America, Chicago, Ill. Filed Aug. 25, 1965.

SCOOP

Owner of Reg. No. 543,332.

Class 45—Soft Drinks and Carbonated Waters

For Syrups and Mixes for Carbonated and Non-Carbonated Soft Drinks.

Class 46—Foods and Ingredients of Foods

For Cookies, Crackers, Chewing Gum, Bagged Nuts, Coffee, and Powdered Chocolate Drink Mix.
First use Dec. 28, 1961.
Subj. to Intf. with SN 148,535.

SN 227,537. Susanne Thierry Parfums, Inc., Miami, Fla. Filed Sept. 10, 1965.

ONDINE

Owner of Reg. Nos. 623,674, 774,308, and 789,462.

Class 51—Cosmetics and Toilet Preparations

For Toilet Waters, Aerosol Toilet Waters, Dusting Powders, and Skin Conditioners.

Class 52—Detergents and Soaps

For Hand Soaps.
First use Nov. 7, 1962.

SN 229,949. Contract Ice Inc., Chicago, Ill. Filed Oct. 12, 1965.

CONTRACT ICE

Applicant disclaims the word "Ice" apart from the mark as shown.

Class 100—Miscellaneous

For Leasing of Ice-Making Machines.

Class 103—Construction and Repair

For Servicing of Ice-Making Machines.
First use on or about June 8, 1965.

SN 230,274. Modine Manufacturing Company, Racine, Wis. Filed Oct. 15, 1965.



The mark consists of a fanciful representation of the letters "M."

Class 19—Vehicles

For Radiators, Oil Coolers, and Air Conditioners, and Components Thereof for Automotive Vehicles.
First use June 2, 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Radiators, Radiator Protection Grids, Oil Coolers, Temperature Control Dampers, Fixed Louvers, Fire Dampers, Shutters, and Air Conditioners and Components Thereof.
First use June 28, 1965.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Unit Heaters, Unit Ventilators, Air Conditioners, and Components Thereof, Radiators and Central Station Air Handlers.
First use June 28, 1965.

SN 234,709. Trans-Atlantic Company, Philadelphia, Pa. Filed Dec. 16, 1965.

TACO

Owner of Reg. No. 638,948.

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Door Hardware, Including Door Closers, Stops, Locks, Lock-Sets, Hinges, Brackets, Handles, Knobs, Pulls, Fasteners, and Accessories and Parts Therefor.
First use August 1954.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Bow Saws and Bow Saw Blades.
First use December 1960.

SN 239,568. Doughboy Industries, Inc., New Richmond, Wis. Filed Feb. 25, 1966.

GRAND CREST

Owner of Reg. No. 791,652.

Class 12—Construction Materials

For Above Ground Portable Swimming Pools Sold in Kit Form and Containing a Plastic Liner or Pool Proper, With Metal Reinforcing Structure.

Class 22—Games, Toys, and Sporting Goods

For Rather Shallow Wading Pools Primarily for Children's Use.

First use Sept. 1, 1965.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 194,939–A. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.



The mark consists of a stylized coniferous tree within a triangle. Owner of Reg. Nos. 698,826 and 722,722.

For Wood Pulp, Wood Fiber, Comminuted Tree Bark, and Chemically Impregnated Wood Fiber.

SN 218,490. Sinclair-Koppers Company, Pittsburgh, Pa. Filed May 10, 1965.

DYLITE

Owner of Reg. Nos. 631,124 and 795,424.
For Expanded Polystyrene in Sheet Form.
First use Nov. 30, 1964.

SN 222,439. The Western Petrochemical Corporation, Chanute, Kans. Filed June 30, 1965.

CARDIPOL

For Polymers—Namely, Synthetic Resins Comprising Reformed Polyethylene in Oxidized and Non-Oxidized Form.
First use Apr. 16, 1965.

SN 226,543. Lowe Seed Company, Kankakee, Ill. Filed Aug. 26, 1965.

GREEN GOLIATH

Owner of Reg. No. 691,843.
For Alfalfa Seed.
First use Nov. 15, 1963.

SN 231,147. George Ledbetter, d.b.a. Ledbetter Seed Company, Ralls, Tex. Filed Oct. 22, 1965.

LEDBETTER

For Agricultural Seed and Vegetable Seed.
First use Apr. 2, 1952.

SN 236,250. Fields Plastics & Chemicals, Inc., New York, N.Y. Filed Jan. 12, 1966.

PussyKat

For Flexible Plastic Sheeting or Film (in the General Nature of an Improvement, Equivalent or Substitute for Leather of Varying Colors and Designs), Unsupported, and Also Laminated to Backings of Cloth or Fabric Made With Natural or Synthetic Fiber, or a Combination of Both, or With Saturated Paper, for Use as Upholstery for Furniture, and Automobiles and Other Vehicles; Wall Covering, and Pocketbooks, on Luggage, Table Tops, Footwear; and for Other Industrial Uses.
First use Sept. 9, 1965.

SN 236,359. The Dow Chemical Company, Midland, Mich. Filed Jan. 13, 1966.

MONTREK

Owner of Reg. Nos. 722,726 and 722,770.
For Polymers and Copolymers Based on Ethylenimine.
First use Dec. 22, 1965.

Class 2—Receptacles

SN 218,186. Enko Box Company Inc., Detroit, Mich. Filed May 6, 1965.



Applicant disclaims the representation of the goods, apart from the mark as shown.
For Corrugated Boxes.
First use on or about Oct. 15, 1957.

SN 221,820. Gordon River Corporation, South Naples, Fla. Filed June 23, 1965.



For Plastic Cups.
First use Apr. 4, 1965.

SN 229,763. Columbus Plastic Products, Inc., Columbus, Ohio. Filed Oct. 11, 1965.

TARGETware

No claim is made to the term "Ware" apart from the mark as shown. Owner of Reg. No. 650,722.

For Plastic Products—Namely, Waste Baskets; Trash Cans; Wash Pails and Tubs; Babies' Bath Tubs; Beverage Decanters; Water Sprinkling Cans; Laundry Baskets; Box-Like Holders for Facial Tissues; Cake Cover Sets; Bread Boxes; Box-Like Storage Receptacles for Toilet Bowl Brushes and the Like; and Ice Cube Buckets.
First use September 1954.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 223,644. Coronet Handbags Mfg. Corporation, New York, N.Y. Filed July 19, 1965.

"NO KIDDING"

For Leather Sold as a Component of Ladies' Handbags.
First use June 17, 1965.

Class 4—Abrasives and Polishing Materials

SN 199,539. Comet Manufacturing Corporation, Atlanta, Ga. Filed Aug. 10, 1964.



For Floor Wax, Floor Finishes for Sealing, Coating and Polishing Wood, Vinyl, Asbestos, Asphalt, Rubber, Linoleum, Concrete, and Terrasso Floors, in Liquid or Paste Form, To Be Applied by Mop or Wool Applicator.
First use June 25, 1964.

SN 202,877. Victoria Products Corp., New York, N.Y. Filed Sept. 28, 1964.

GRILL KING

Applicant disclaims the word "Grill" apart from the mark as shown.
For Griddle Stone Used for Cleaning Metal Grills.
First use Sept. 25, 1950.

SN 219,038. Michigan Abrasive Company, Detroit, Mich. Filed May 17, 1965.



Owner of Reg. No. 634,706.

For Abrasives—Namely, Sandpaper; Emery Cloth; Flexible Cloth-Paper-, Plastic Film-, Fiber- and Metal-Backed Abrasives; Glue-Bonded Abrasives, Glue-Resin Bonded Abrasives; Resin-Bonded Abrasives Including Thermoset and Thermoplastic Resin-Bonded Abrasives; Resin-Coated Abrasives; Resin-Impregnated Paper- and Cloth-Backed Abrasives; Dry- and Wet-Sanding Abrasives in Sheet, Disc, Roll, and Belt Form; Laminated Abrasives in Sheet, Disc, Roll, and Belt Form; and Flexible Rough-Grinding and Fine-Polishing Abrasives.
First use May 14, 1963.

SN 237,459. Lever Brothers Company, New York, N.Y. Filed Jan. 27, 1966.

THE WAX-MAN

For Floor Wax.
First use Dec. 30, 1965.

SN 243,461. Lever Brothers Company, New York, N.Y. Filed Apr. 14, 1966.

CHERISH

Owner of Reg. No. 745,227.
For Floor Wax.
First use Mar. 24, 1966.

Class 5—Adhesives

SN 222,613. Pergament Distributors, Inc., d.b.a. Pedco Products, Westbury, N.Y. Filed July 2, 1965.



Applicant disclaims any particular color or colors as a feature of the mark.
For Adhesives for Vinyl, Rubber, and Asbestos Products, for Ceramics, Mosaics, Linoleum, and Other Floor and Wall Coverings.
First use Nov. 19, 1959.

SN 224,722. Congoleum-Nairn Inc., Kearny, N.J. Filed Aug. 2, 1965.

SU-400

For Cements and Pastes for Installing Rigid Boards of Cellulosic Material, Coated Fabrics, and Surface Covering Products of the Linoleum, Felt Base, Plastic, Asphalt, Rubber, and Cork Type.
First use July 9, 1965.

Class 6—Chemicals and Chemical Compositions

SN 205,623. Tex-Chem Company, Inc., Fairlawn, N.J. Filed Nov. 5, 1964.

fireBAN

For Fire Retardant Spray for Christmas Trees and Household Items—Namely, Upholstery, Clothing, Carpets, and Drapes.
First use Sept. 2, 1964.

SN 211,033. Chemische Werke Witten, Witten, Ruhr, Germany. Filed Feb. 1, 1965.

WITARIX

Owner of German Reg. No. 626,185, dated Apr. 21, 1950.
For Non-Mineral Fats and Oils for Industrial and Technical Purposes.

SN 216,377. American Cyanamid Company, Wayne, N.J. Filed Apr. 13, 1965.

MICRO-SHIELD

For Anti-Microbial Ingredient Incorporated in a Disinfectant-Deodorant.
First use Mar. 12, 1965.

SN 221,169. General Time Corporation, New York, N.Y. Filed June 15, 1965.



For Aerosol Products—Namely, Air Sanitizers, Fragrances, Insecticides, and Odor Neutralizers.
First use Oct. 30, 1964.

SN 221,243. Apollo Chemical Corp., Clifton, N.J. Filed June 16, 1965.

F-23

For Combination Dispersant, Combustion Catalyst, Rust and Soot Inhibitor, for Use in Steam Boiler and Diesel Engine Fuels.
First use Mar. 16, 1965.

SN 223,744. Sun Chemical Corporation, New York, N.Y. Filed July 19, 1965.

SUNKEM

For Pitch Control Agents, Additive Retention Aids, Repulping and De-Inking Aids, Felt Conditioners, Paper Softeners, Wet Rub Improvement Aids, Wax Pick Improvement Aids, Papermakers' Surfactants, Paper Pulp Drainage Aids, Synthetic Sizes, Fiber-Bonding and Stiffening Aids, Insolubilizers, Coating and Starch Insolubilizers and Paper Pulp Additive Retention Aids for the Paper, Board, Plastic Film, and Textile Industries, and Additives for Imparting Water Resistance to Starch-Based Adhesives, Plasticizers for Hard Resins, and Emulsifiable Nylon Concentrates.
First use June 1, 1963.

SN 223,851. U.S. Oil Company, Phillipsdale, R.I. Filed July 20, 1965.

DUO-CURE

For Two-Staged Thermosetting and Reactive-Type Resin Used for Imparting Dimensional Stability, Crease-Resistance, and Wash-and-Wear Properties to Textile Materials.
First use on or about July 6, 1965.

SN 224,364. Agway Inc., Syracuse, N.Y. Filed July 28, 1965.

AGWAY

For Insecticides, Room Deodorants, Moth Preventatives, Aluminum Sulfate, Algaecide, Rust Inhibitors, Fungicides, Herbicides, Water Softening Preparation, Preparation for Controlling Crab Grass, Agricultural and Household Germicides, Disinfectant, Rodenticide, Anti-Freeze, Crow Repellents, Flea Powder, and Legume Inoculant.
First use Mar. 5, 1964.

SN 224,932. Chempar Chemical Co., Inc., New York, N.Y. Filed Aug. 4, 1965.

DENAPON

For Insecticides.
First use June 30, 1965.

SN 225,182. Milchem Incorporated, Houston, Tex. Filed Aug. 6, 1965.

AQUAMEEN

For Chemical Composition Which Is a Surfactant Used in Oil or Gas Wells To Assist in Regulation of the Surface Tension of the Liquids Therein.
First use May 19, 1965.

SN 225,767. The Hilsinger Corporation, Plainville, Mass Filed Aug. 16, 1965.

EVANS

Owner of Reg. Nos. 509,211, 556,122, and others.
For Cigarette Lighter Fluid.
First use February 1964.

SN 229,007. Philip A. Hunt Chemical Corporation, Palisades Park, N.J. Filed Sept. 30, 1965.

UNI-BITE

For Chemical Preparation for Etching Rotogravure Cylinders.
First use Mar. 17, 1965.

SN 232,010. National Lead Company, New York, N.Y. Filed Nov. 2, 1965.

DEXTRID

For Stabilized Polysaccharide for Use in Well Drilling Fluids.
First use Apr. 18, 1962.

SN 233,117. Monsanto Company, St. Louis, Mo. Filed Nov. 22, 1965.

WALLOP

For Insecticide.
First use July 21, 1965.

SN 238,802. Sandos, Inc., Hanover, N.J. Filed Feb. 7, 1966.

XYLENE

For Acid Dyes.
First use Jan. 10, 1925.

SN 244,550. Copia Manufacturing Corporation, Garden City, N.Y. Filed Apr. 29, 1966.

COPIATONER

For Developer for Use in Electrostatic Copiers.
First use Apr. 6, 1966.

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 155,635. Pachmayr Gun Works, Inc., Los Angeles, Calif. Filed Oct. 22, 1962.



The mark consists of a particular multiple "X" pattern.
For Gun Recoil Pads.
First use 1932.

Class 10—Fertilizers

SN 240,994. Weyerhaeuser Company, Tacoma, Wash. Filed Mar. 14, 1966.

WEYERHAEUSER

Owner of Reg. No. 614,708.
For Wood Fiber for Use as Soil Conditioners and Mulches, Comminuted Tree Bark for Use as Soil Conditioners, Mulches, and Plant Culture.
First use July 1959.

Class 11—Inks and Inking Materials

SN 228,314. American Newspaper Publishers Association Research Institute, Inc., New York, N.Y. Filed Sept. 22, 1965.

AdPro

For Color Ink, Specifically Balanced for Use in Multiple Color Process Newspaper Printing.
First use Aug. 6, 1965.

Class 12—Construction Materials

SN 205,493. The Dow Chemical Company, Midland, Mich. Filed Nov. 4, 1964.

DOW

Owner of Reg. Nos. 140,588, 778,057, and others.
For Building and Construction Materials—Namely, Plastic Thermal Insulation; Insulated Panels; Plastic Film and Sheeting for Use as Water and Vapor Barriers, Glazing, and Temporary Enclosures for Buildings and the Like; Plastic Foam Boards and Billets; Plastic Flashing and Roof Membrane; Bonding and Adhesive Cements and Mortars; Magnesium and Aluminum Structural Elements in the Form of Sheets, Plates, and Extrusions.
First use 1917; prior to 1895 as to "Dow."

SN 209,904. Blaw-Knox Company, Pittsburgh, Pa. Filed Jan. 14, 1965.

PONBAKE

For Metal Grating and Open Flooring With an Abrasion and Chemical Resistant Epoxy Base Finish Coating.
First use on or about July 30, 1959.

SN 211,200. Signode Corporation, Chicago, Ill. Filed Feb. 2, 1965.

SIGNODE

Owner of Reg. Nos. 514,800 and 593,510.
For Load Retaining Doors and Load Retaining Strips, Consisting Respectively of Sheets and Strips of Paper or Other Suitable Material, Preferably Reenforced With Metallic Strapping, for Bridging Across the Doorways or Cargo Spaces of Freight Carriers, Such as Railway Box Cars, To Contain Loads of Merchandise Within Such Carriers.
First use Oct. 16, 1964.

SN 217,157. The Upjohn Company, Kalamazoo, Mich. Filed Apr. 22, 1965.

LKF

For Rigid Urethane Foam Thermal Insulation.
First use Dec. 14, 1964.

SN 220,144. Pioneer Log Cabin Company, Roscommon, Mich. Filed June 1, 1965.

PIONEER LOG CABIN CO.

The words "Log Cabin Co." are disclaimed apart from the mark as shown.
For Ready-Cut Log Houses.
First use June 1, 1940.

SN 223,925. United States Steel Corporation (Delaware corporation), Pittsburgh, Pa., by merger and change of name from United States Steel Corporation (New Jersey corporation), Pittsburgh, Pa. Filed July 21, 1965.

MAINSTAY

For Surfacing Composition for Concrete Structures, Specifically a Two-Component System of Coal Tar Pitch and Epoxy Resin for Mix-in-Place Applications.
First use Apr. 23, 1965.

SN 228,927. National Rollex Corporation, Elk Grove Village, Ill. Filed Sept. 29, 1965.



The trademark comprises a design of a number of circles, one within the other, and an outermost curve surrounding the circles and interrupted by a V-shaped marginal line.
For Construction Materials—Namely, Metal Siding and Siding Accessories, Exterior Soffit Systems, Shutters, and Gutters.
First use July 7, 1965.

SN 231,619. M. A. Bruder & Sons, Incorporated, Philadelphia, Pa. Filed Oct. 25, 1965.

VINYL-LASTIC

For Flat Exterior Vinyl-Elastomeric Masonry Coating for Finishing Brick, Stone, Concrete, Stucco, Cement-Asbestos Shingles, and Metal and Wood Surfaces.
First use Apr. 20, 1959.

SN 235,137. Texas Industries, Inc., Arlington, Tex. Filed Dec. 22, 1965.



For Portland Cement.
First use Sept. 25, 1965.

SN 235,242. United States Plywood Corporation, New York, N.Y. Filed Dec. 23, 1965.

ROUGHTEX

For Wood and Wood Products, i.e., Plywood.
First use Apr. 24, 1965.

SN 235,309. Interoceanic Commodities Corporation, Elkhart, Ind. Filed Dec. 27, 1965.

TRUSSCORE

Owner of Reg. Nos. 528,918 and 790,585.
For Metal Partitions and Doors, Detention Doors, Prison Doors, and Wall and Transom Panels.
First use in or about March 1962.

SN 235,503. Fulton Asphalt Company, Chicago, Ill. Filed Dec. 29, 1965.

FULTON XC15

Owner of Reg. Nos. 616,789 and 624,347.
For Resinous Composition, Including Granite Aggregate and Silica Fillers, for Use as Flooring Material.
First use Dec. 13, 1965.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 201,998. Aluminum Specialty Company, Manitowoc, Wis. Filed Sept. 16, 1964.



For Cooking Utensils—Namely, Combination Pan Sets, Covered Sauce Pans, Covered Sauce Pots, Drip Coffee Makers, Fry Pans, Percolators, and Covered Cake Pans.
First use January 1961.

SN 211,201. Signode Corporation, Chicago, Ill. Filed Feb. 2, 1965.

SIGNODE

The drawing is lined for red, but no claim is made to color.
Owner of Reg. Nos. 116,862, 591,634, and others.
For Metallic and Nonmetallic Strapping and Ligatures and Seal Blanks for Use Therewith; Anchor Plates, Wall Cleats, Stays and Staples for Package, Bundle, and Load Binding Strapping; Corner Protectors for Strap Bound Packages, Bundles, and Loads; and Composition Pads and Metallic Binder-Snubbing Plates for Controlling, During Transit, the Movement of Load Units Relative to the Vehicle, Such as a Railway Car.
First use July 1, 1964.

SN 222,412. Dr. Nathaniel W. Price, White Plains, N.Y. Filed June 30, 1965.

AIRE-I-FRESH

For Deodorant Activator, Comprising a Container for a Pressure Valve Spray Can With Lever Operated by the Flush Tank Lever for Actuating the Valve.
First use June 21, 1965.

SN 227,627. The Timms Spring Company, Elyria, Ohio. Filed Sept. 10, 1965.



For Ferrous and Non-Ferrous, Compression and Extension Springs, Flat, Coil, and Torsion Springs, Precision Mechanical Springs, Wire Forms, Spring Clips, Resilient Connectors and Retainers, and Braker Arm Springs.
First use Oct. 1, 1961.

SN 228,374. L & L Manufacturing Company, St. Clair Shores, Mich. Filed Sept. 22, 1965.

EZ-FLARE

For Tubular Fittings and Connections.
First use in or about May 1964.

SN 230,042. Federal Screw Works, Detroit, Mich. Filed Oct. 13, 1965.

PERMA-TORQUE

For Lock Nuts.
First use Aug. 8, 1965.

SN 231,495. Selfix, Inc., Chicago, Ill. Filed Oct. 28, 1965.

SELFIX

Owner of Reg. No. 548,448.
For Pegs for Use With Peg Boards, Dish Cloth Holders, Dish Cloth Hooks, Wash Cloth Holders, Wash Cloth Hooks, Towel Holders, Towel Hooks, Toothbrush Holders, Toilet Tissue Holders, Tumbler Holders, Brush Holder Racks, Towel Bars, Towel Rings, Bath and Laundry Tub Soap Dishes, Faucet Soap Dishes, Wall Soap Dishes, Plastic Utility Shelves, and Plastic Corner Shelves.
First use at least as early as August 1951.

SN 232,032. Superior Tube Company, Norristown, Pa. Filed Nov. 2, 1965.



For Metal Tubing.
First use October 1961.

SN 232,806. Ajax Hardware Corporation, City of Industry, Calif. Filed Nov. 17, 1965.

ESPANA ROYALE

The translation of the mark "Espana Royale" is "royal Spain."
For Cabinet Finishing and Builders' Hardware.
First use Oct. 29, 1965.

SN 234,850. Rocscience Company, Anaheim, Calif. Filed Dec. 17, 1965.



For Lavatories.
First use Nov. 19, 1965.

SN 234,917. McWane Cast Iron Pipe Co., Birmingham, Ala. Filed Dec. 20, 1965.

RUB-R-LOCK

For Pipes and Pipe Fittings.
First use October 1940.

SN 235,001. Illinois Tool Works Inc., Chicago, Ill. Filed Dec. 21, 1965.

"YOU ALWAYS MAKE THE RIGHT MOVE WITH SHAKEPROOF"

Owner of Reg. Nos. 514,706 and 551,549.
For Lockwashers, Pre-Assembled Screws and Washers, Pre-Assembled Nuts and Washers, Thread Cutting and Drilling Screws, Terminals, Locknuts, Metal and Plastic Fastening Components.
First use Nov. 29, 1965.

SN 235,230. Reed-Cromex Corporation, Cleveland, Ohio. Filed Dec. 23, 1965.

CRYSTAL-LITE

For Replacement Handles for Faucets.
First use in or about August 1965.

SN 235,286. Dragon Valves Inc., Norwalk, Calif. Filed Dec. 27, 1965.



For Valves, Valve Parts, and Fittings.
First use at least as early as 1945.

SN 235,287. Dragon Valves Inc., Norwalk, Calif. Filed Dec. 27, 1965.

DRAGON

For Valves, Valve Parts, and Fittings.
First use at least as early as 1945.

SN 235,313. Long-Lok Corporation, Los Angeles, Calif. Filed Dec. 27, 1965.

PATCH-LOK

For Self-Locking Bolts and Screws.
First use Dec. 10, 1965.

SN 235,314. Long-Lok Corporation, Los Angeles, Calif. Filed Dec. 27, 1965.

PATCH-STRIP

For Self-Locking Bolts and Screws.
First use Dec. 10, 1965.

SN 235,356. Symmons Engineering Company, Boston, Mass. Filed Dec. 27, 1965.

SAFETYMIX'ETTE'

Owner of Reg. No. 776,862.
For Mixing Bath Valves.
First use on or about June 24, 1964.

SN 235,486. Bender Machine Works, Inc., Hayward, Wis. Filed Dec. 29, 1965.

POSI-TROL

For Milk Line Conveying and Washing Systems.
First use on or about Nov. 8, 1965.

SN 235,626. Crane Co., New York, N.Y. Filed Jan. 3, 1966.

SABRE

For Pulp Stock Valves.
First use Sept. 16, 1965.

Class 16—Protective and Decorative Coatings

SN 200,250. Hansawerke Lurman, Schutte & Co., Bremen, Germany. Filed Aug. 20, 1964.

DUROGAN

Owner of German Reg. No. 658,451, dated Apr. 11, 1949.
For Coatings for Textiles, and Floor Coverings, Particularly Rugs.

SN 203,083. General Research, Inc., Grand Rapids, Mich. Filed Oct. 1, 1964.

BLOX

For Liquid Coating Suitable for Blocking Out Areas on a Stencil Screen.
First use on or about Dec. 13, 1963.

SN 205,965. Thomas G. Sink, d.b.a. Beauty Prep, Decatur, Ga. Filed Nov. 10, 1964.

BEAUTY PREP

For Automobile Motor Paints; Dye for Fiber Package Shelves, Cloth Headliners, Nylon Carpets, Kick Panels, Rubber Floor Mats, and Trunk Lining and Other Parts of Automobiles.
First use on or about Oct. 15, 1964.

SN 209,579. Moses Bollag, Geneva, Switzerland. Filed Jan. 8, 1965.

PLASTIROUTE

The lining on the drawing does not represent color. Owner of Swiss Reg. No. 196,199, dated Feb. 7, 1958.
For Paints Having Plastic Base.

SN 234,678. Fred'k A. Stresen-Reuter, Inc., Bensenville, Ill. Filed Dec. 15, 1965.

OCTOATE

For Driers for Paints.
First use Dec. 12, 1944.

Class 17—Tobacco Products

SN 235,019. Taylor Brothers, Inc., Winston-Salem, N.C. Filed Dec. 21, 1965.

CONWOOD

For Chewing Tobacco.
First use Aug. 16, 1965.

Class 18—Medicines and Pharmaceutical Preparations

SN 201,363. Brands, Inc., Plainfield, N.J. Filed Sept. 8, 1964.

Preventive R

The word "Preventive" and the symbol "R" are disclaimed apart from the mark as a whole.
For Nail Bite Preventive Preparation.
First use on or about Aug. 10, 1964.

SN 216,867. Peter Hand Brewery Company, Chicago, Ill. Filed Apr. 19, 1965.

ANTI-NEEM

For Vitamin Mineral Preparation for Use as a Supplement and for Use in Animal Feeds.
First use Oct. 7, 1964.

SN 216,868. Peter Hand Brewery Company, Chicago, Ill. Filed Apr. 19, 1965.

FW

For Medicated Vitamin Preparation To Be Incorporated as an Ingredient in Poultry Feed.
First use April 1956.

SN 220,542. Parke, Davis & Company, Detroit, Mich. Filed June 7, 1965.

PARKE-DAVIS

Owner of Reg. Nos. 103,702 and 397,912.
For Pharmaceutical Preparations.
First use on or before Jan. 1, 1961.

SN 220,976. Stanley Drug Products, Inc., Portland, Oreg. Filed June 11, 1965.

SUPER M

For Dietary Supplement Containing Vitamins and Minerals.
First use Apr. 29, 1956.
Subj. to Intf. with SN 225,082.

SN 222,741. Peter Hand Brewery Company, Chicago, Ill. Filed July 6, 1965.

MULTIFAC

For Poultry and Animal Feed Preparation—Namely, Vitamins, Vitamins and Minerals, With or Without Antibiotics, and for Use in Animal and Poultry Feeds.
First use in or about June 1957.

SN 225,660. The Norwich Pharmacal Company, Norwich, N.Y. Filed Aug. 13, 1965.

NORAID

For Buquinolate Veterinary Pharmaceutical Preparation for the Prevention of Coccidiosis.
First use June 25, 1965.

SN 225,661. The Norwich Pharmacal Company, Norwich, N.Y. Filed Aug. 13, 1965.



For Buquinolate Veterinary Pharmaceutical Preparation for the Prevention of Coccidiosis.
First use June 25, 1965.

SN 225,827. Sterimed, Incorporated, Brooklyn, N.Y. Filed Aug. 16, 1965.

ICE 'N COOL

For Pads for Relieving Discomfort and Minor Irritation of the Eyes.
First use Mar. 18, 1965.

SN 225,979. Merck & Co., Inc., Rahway, N.J. Filed Aug. 18, 1965.

RAPIDERM

For Veterinary Medicinal Preparation for Application to the Skin.
First use July 30, 1965.

SN 226,061. Sandos, Inc., Hanover, N.J. Filed Aug. 19, 1965.

MINIKOTE

For Coated Pharmaceutical Tablet Containing a Medicament for Internal Use.
First use prior to July 30, 1965.

SN 226,377. The Purdue Frederick Company, Yonkers, N.Y. Filed Aug. 24, 1965.

SENOGRANN

Owner of Reg. No. 697,009.
For Preparation for the Treatment of Constipation.
First use July 15, 1965.

SN 227,734. Sophie R. Gordon, d.b.a. Gordon Pharmaceuticals, New York, N.Y. Filed Sept. 8, 1965.

PROVASIN

For Preparation for Circulatory Ailments and a Vitamin Dietary Supplement.
First use Aug. 9, 1957.

SN 228,592. Abbott Laboratories, North Chicago, Ill. Filed Sept. 27, 1965.

AURCOSCAN

For Radioactive Gold for Pharmaceutical Use.
First use June 10, 1965.

SN 230,700. The Reese Chemical Company, Cleveland, Ohio. Filed Oct. 20, 1965.

LIP MAGIK

The word "Lip" is disclaimed apart from the mark as shown.
For Preparation for Treating Cold Sores, and the Like.
First use Nov. 18, 1963.

SN 230,701. The Reese Chemical Company, Cleveland, Ohio. Filed Oct. 20, 1965.

STYE MAGIK

The word "Stye" is disclaimed apart from the mark as shown.
For Preparation for Treating Styes, and the Like.
First use Jan. 29, 1965.

SN 236,700. American Cyanamid Company, Wayne, N.J. Filed Jan. 18, 1966.

TRI-IMMUNOL

Owner of Reg. No. 538,930.
For Immunizing Preparation.
First use May 25, 1943.

SN 245,450. Chas. Pfizer & Co., Inc., New York, N.Y. Filed May 12, 1966.

NIAVANE

For Psychotherapeutic Preparation.
First use Apr. 22, 1966.

SN 245,455. American Home Products Corporation, New York, N.Y. Filed May 12, 1966.

PETUP'N GO

For Veterinary Vitamin Preparation.
First use Apr. 13, 1966.

Class 19—Vehicles

SN 211,273. General Motors Corporation, Detroit, Mich. Filed Feb. 3, 1965.

TORONADO

For Automobiles.
First use Jan. 9, 1965.

SN 216,854. Molded Fiber Glass Body Company, Union City, Pa. Filed Apr. 19, 1965.



For Small Boats for Cruising and Sailing.
First use in or about June 1959.

SN 220,392. Lull Engineering Company, Inc., St. Paul, Minn. Filed June 4, 1965.

"TWISTER"

For Hod Buggies.
First use Sept. 25, 1964.

SN 222,203. Rockwell-Standard Corporation, Pittsburgh, Pa. Filed June 28, 1965.

COMFORTILT

For Automotive Vehicle Seating.
First use about May 21, 1965.

SN 225,247. Ace Rubber Products Incorporated, Akron, Ohio. Filed Aug. 9, 1965.

VINADIENE

For Plastic Molding Compound Sold in the Form of a Component of Automobile Floor Mats.
First use Dec. 23, 1964.

Class 20—Linoleum and Oiled Cloth

SN 234,314. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Dec. 9, 1965.

Naturalon

For Self-Adhesive, Paper-Backed Vinyl Wall Covering in the Form of a Roll, and Sold by the Roll.
First use on or about Oct. 6, 1965.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 131,992. Preformed Line Products Company, Cleveland, Ohio. Filed Nov. 14, 1961.

You can look up to Preformed

For Accessories for Electrical Ropes, Cables, Strands, and Wires, Including Armor Rods and Wires, Splices, Line Guards, Patch Rods, Tap Armor, Line Splices, Dead Ends, Telephone Splints, Splint and Tie Assemblies, Lashing Rods, Conductor Suspension Systems, Electrical Splice Shunts, Spacers for Parallel Conductors, Tangent Supports, and Drop Wire Hangers.
First use about July 25, 1961.

SN 167,894. Federal Products Corporation, Providence, R.I. Filed May 1, 1963.

FEDERAL

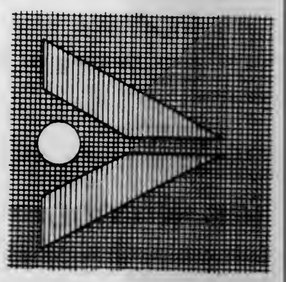
Owner of Reg. Nos. 142,520 and 206,808.
For Electronic Amplifiers, Electrical Alarms, and Electric Signalling Devices for Use in Connection With Manual, Automatic, Pneumatic, Electric, and Electronic Gaging Apparatus; Dimensional Comparators; Process Measuring and Control Equipment; Sorting Devices; Apparatus for Measuring Proportion, Liquid Flow, Liquid Level, Temperature, Pressure, Hardness, Tensile Strength, Durability, Density, and Distance.
First use at least as early as 1947.

SN 185,150. National Cooperatives, Inc., Albert Lea, Minn. Filed Jan. 22, 1964.

Capri

Owner of Reg. Nos. 663,131, 732,496, and others.
For Electric Household Appliances—Namely, Dishwashers, Water Heaters, and Floor Care Equipment, Comprising Scrubbers, Waxers, Polishers, Rug Shampooers, and Combinations Thereof; and Parts Therefor.
First use at least as early as July 25, 1958, on electric water heaters.

SN 209,811. Slater Electric Inc., Glen Cove, N.Y. Filed Jan. 12, 1965.



The drawing is lined for the color red, however, applicant does not claim any particular color.
For Electrical Switches, Electrical Receptacles, Receptacle Plugs, Weatherproof Boxes, Weatherproof Box Covers, Lamp Sockets, Photoelectric Controlled Switches, Dimmer Switches Including Continuously Variable Dimmer Switches, Wall Plates, Combination Switches and Receptacles, Combination Switches and Pilot Lights.
First use July 27, 1964.

SN 218,315. Lighting Corporation of America, Philadelphia, Pa., by change of name from Progress Manufacturing Company, Inc., Philadelphia, Pa. Filed May 7, 1965.

SALES ON THE CEILING NO CEILING ON SALES

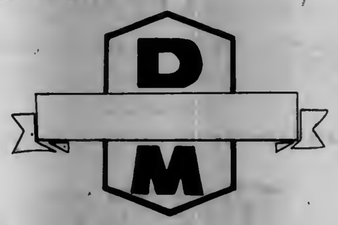
For Electrical Lighting Fixtures.
First use Apr. 21, 1965.

SN 221,624. National Union Electric Corporation, Bloomington, Ill. Filed June 21, 1965.

CORDAWAY

For Retractable Cord Reels Used in Electric Vacuum Cleaners.
First use Jan. 8, 1965.

SN 228,233. Whiting Brothers Oil Company, Holbrook, Ariz. Filed Sept. 20, 1965.



Owner of Reg. No. 689,871.
For Automobile Storage Batteries.
First use at least as early as Dec. 15, 1958.

SN 228,682. Heinemann Electric Company, Trenton, N.J. Filed Sept. 27, 1965.

ROTO-NETIC

For Rotary Solenoids and Stepping Motors.
First use Dec. 18, 1964, on rotary solenoids.

SN 228,818. Giannini Controls Corporation, Duarte, Calif. Filed Sept. 28, 1965.

SONOCONE

For Ultrasonic Transducers for Producing Concentrated Ultrasonic Energy.
First use on or about Apr. 18, 1962.

SN 236,076. Fidelitone, Inc., d.b.a. Electronic Specialties Co., Chicago, Ill. Filed Jan. 10, 1966.

ESCOLITE

For Warning, Utility and Emergency Lights, and Components Thereof, Harbor, Airport, and High Intensity Aircraft Lights and Components Thereof; Automotive Lights and Controls; and Road Building Equipment Safety Lights.
First use 1955.

Class 22—Games, Toys, and Sporting Goods

SN 205,673. Crisloid Plastics Inc., Providence, R.I. Filed Nov. 6, 1964.

COVER-UP

Apparatus Sold as a Unit for Playing a Board-Type Parlor Game.
First use Oct. 26, 1964.

SN 212,808. Harry Hadaway, d.b.a. Exerbelt, Park Ridge, Ill. Filed Feb. 18, 1965.

EXER-BELT

No claim of exclusive right is made to the word "Belt" for the goods recited.
For Exercise Belt Attached to Bed, etc.
First use Jan. 1, 1963.

SN 214,266. The Henson Corporation, Colorado Springs, Colo. Filed Mar. 16, 1965.

THUM CASTER

For Fishing Rods and Related Fishing Gear.
First use Jan. 25, 1965.

SN 220,235. Roddy Recreation Products, Inc., Gardena, Calif. Filed June 2, 1965.

ROD-SUPER

For Fishing Rods.
First use May 4, 1965.

SN 220,536. Mountain Amusement Corp., Denver, Colo. Filed June 7, 1965.



The drawing is lined for the colors red and yellow, but color is not essential feature of the mark. Applicant disclaims the word "Pool" apart from the mark as shown but waives none of its common law rights therein.
For Equipment Sold as a Unit for Playing a Game Played Along the Lines of Pool.
First use May 30, 1964.

SN 227,874. Clyde A. Robertson, Swanton, Ohio. Filed Sept. 15, 1965.

FIGURE SHARP

For Set of Game Pieces To Be Thrown Upon a Surface To Obtain Results According to Prescribed Rules.
First use July 1, 1965.

SN 228,719. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

CASE O'FUN

For Manipulable Toy Assemblage, Primarily for Pre-School Children.
First use Sept. 3, 1965.

SN 228,924. Edward L. Mobley, Jr., d.b.a. The Edward Mobley Co., Wadsworth, Ohio. Filed Sept. 29, 1965.

DANDY

For Fanciful Character Reproduced in the Form of a Squeese-Type Toy Doll.
First use Feb. 27, 1959.

SN 229,497. Robert Carter, d.b.a. Carter's Riverside Tackle Co., Detroit, Mich. Filed Oct. 7, 1965.

R'ESLIN

For Casting Lines for Fishing.
First use Sept. 28, 1965.

SN 233,103. Wilson Sporting Goods Co., River Grove, Ill. Filed Nov. 3, 1965.

CREST

Owner of Reg. No. 208,591.
For Golf Clubs and Golf Balls.
First use Aug. 24, 1925.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 211,100. Ferdinand Rüesch, d.b.a. Ferd. Ruesch Maschinenfabrik, St. Gall, Switzerland. Filed Feb. 1, 1965.

GALLUS

For Printing Machinery, Machinery for the Manufacture of Printed Matter for Data Processing, Machinery for the Manufacture of Tags, Labels and Printed Adhesive Tapes, Machinery for the Manufacture of Cellulose Products Like Tissue Paper, Papen Linen, Hygienic Pads; and Parts of the Above Machinery.
First use Apr. 24, 1954; in commerce Apr. 24, 1954.

SN 211,780. Washington Forge, Incorporated, Englishtown, N.J. Filed Feb. 10, 1965.

NORTHERN SEA

For Stainless Steel Flatware.
First use on or about Nov. 18, 1964.

SN 211,781. Washington Forge, Incorporated, Englishtown, N.J. Filed Feb. 10, 1965.

CHARLESTON

For Stainless Steel Flatware.
First use on or about Nov. 18, 1964.

SN 212,702. Royal Typewriter Company, Inc., New York, N.Y., assignee of Royal McBee Corporation, New York, N.Y. Filed Feb. 24, 1965.

CAVALIER

For Typewriters and Parts Thereof.
First use Feb. 5, 1965.

SN 214,365. The Pandjiris Weldment Co., St. Louis, Mo. Filed Mar. 17, 1965.

WELDMORE

For Manipulators, Shucks and Positioners for Welding Operations—Namely, Cantilever Type, Gantry Type, Mandrel Type, Head and Tailstock Type, Seamers, and Turning Rolls.
First use June 30, 1950.

SN 216,077. Harnischfeger Corporation, West Milwaukee, Wis. Filed Apr. 8, 1965.

STIK-CLAD

The representation of the goods is disclaimed apart from the mark as shown.
For Clam Shell Earth Working Machines.
First use on or about Feb. 26, 1965.

SN 217,307. Corona Forge Company, Corona, Calif. Filed Apr. 26, 1965.

TUF-GO

For Digger Teeth for Use on or in Connection With Earth-Working Machinery.
First use on or about Dec. 15, 1960.

SN 217,528. John Cary, Daytona Beach, Fla. Filed Apr. 28, 1965.

THAT-IT

For Garden Tool—Namely, a Tool Consisting of a "D" Handle, a Shaft, a Blade, and a Folding Footrest, Suitable for Digging and Edging.
First use March 1951.

SN 217,590. The Bahnson Company, Winston-Salem, N.C. Filed Apr. 29, 1965.

Bahnson

For Industrial Type Stationary and Traveling Vacuum Cleaners and Blowers for Cleaning Off Textile Machinery and Textile Work Rooms.
First use 1954.

SN 218,224. Service Steel & Engineering Limited, Hamilton, Ontario, Canada. Filed May 6, 1965.

SERCO

Owner of Canadian Reg. No. 104,759, dated Oct. 19, 1956.
For Mechanical and Hydraulically Actuated Loading Docks, Lift Trucks, Pallet Trucks, and Skid Trucks; and Rolls for Use in Rolling Mills.
First use May 6, 1963; in commerce May 6, 1963.

SN 218,410. Empire-La Vive Corporation, Tuckahoe, N.Y. Filed May 10, 1965.

NORSE KING

For Hunting Knives.
First use Mar. 16, 1962.

SN 219,163. Thomson Industries, Inc., Manhasset, N.Y. Filed May 6, 1965.



For Ball and Roller Bearings, Retaining Rings and Mountings Therefor, and Nylon Bearings and Bearing Liners.
First use Apr. 6, 1965; 1945 in a different form.

SN 221,071. Marine Swimming Pool Equipment Co., North Hollywood, Calif. Filed June 14, 1965.

ELECTRO-CHEM

For Swimming Pool Chlorinator With Electrically Operated Chlorine Generator.
First use on or about Dec. 1, 1964.

SN 221,588. Frederick Tilden Edridge, Marandellas, Southern Rhodesia. Filed June 21, 1965.

TILITA

Owner of Southern Rhodesian Reg. No. 585/60, dated Mar. 21, 1960.
For Metal Clips or Sticks for Holding Tobacco Leaves and the Like in the Harvesting and Curing Processes.

SN 227,122. Chicago Pneumatic Tool Company, New York, N.Y. Filed Sept. 3, 1965.

HUSHED-POWER

For Pneumatic Tools.
First use 1965.

SN 230,154. Harris-Intertype Corporation, Cleveland, Ohio. Filed Oct. 14, 1965.

MACEY

For Machines and Devices for Use in Making Books, Pamphlets, and the Like—Namely, Collators, Saddle Gatherers, Stitchers, and Trimmers.
First use prior to September 1951.

SN 234,759. Lincoln Park Engineering, Inc., Romulus, Mich. Filed Dec. 16, 1965.

ELASTA-LOK

For Expanding Arbors.
First use Mar. 9, 1962.

SN 234,869. Applied Power Industries, Inc., West Allis, Wis. Filed Dec. 20, 1965.

POWER-PACKER

Owner of Reg. No. 517,130.
For Hydraulic Pumps, Electric-Hydraulic Pumps, Air-Hydraulic Pumps, Hydraulic Motors, Hydraulic Cylinders and Rams, Hydraulic Self-Contained Pump-Cylinder-Valve Units, Hydraulic Control Valves, Hydraulic Locking Valves, Hydraulic Velocity Control Valves, Hydraulic Jacks, and Hydraulic Hose, Couplers, and Gages.
First use on or about Oct. 1, 1937, on hydraulic pumps.

SN 234,898. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Dec. 20, 1965.

GULFCO

For Paper Carton Forming and Sealing Machines.
First use Dec. 1, 1965.

SN 234,899. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Dec. 20, 1965.

E-Z LOAD

Owner of Reg. No. 631,342.
For Paper Carton Forming and Sealing Machines.
First use Dec. 1, 1965.

SN 234,924. Mobile Aerial Towers, Inc., Fort Wayne, Ind. Filed Dec. 20, 1965.

THE Linesman

For Aerial Towers Capable of Being Mounted on Trucks.
First use Nov. 10, 1965.

SN 234,925. Nordic Enterprises, Inc., Minneapolis, Minn. Filed Dec. 20, 1965.

FISH-N-FILLET

For Knives.
First use Aug. 31, 1965.

SN 235,094. Eversharp, Inc., Milford, Conn. Filed Dec. 22, 1965.

Krona COMFORT EDGE

Owner of Reg. Nos. 702,520, 789,017, and others.
For Safety Razor Blades and Dispensers for Safety Razor Blades.
First use Dec. 1, 1965.

SN 235,202. Lamb-Grays Harbor Co., Inc., Hoquiam, Wash. Filed Dec. 23, 1965.

UNIWRAP

For Machine for Stacking and Conveying Sheets of Pulp and Paper.
First use Aug. 27, 1965.

SN 235,262. Big Bear, Inc., St. Cloud, Minn. Filed Dec. 27, 1965.

BLUE OX

For Hand Tools and Parts Thereof, Such as Wrecking Bars, Shovels, Hammers, and Fork Handles.
First use Nov. 27, 1965.

SN 235,340. Sandrock Corporation, Rocky River, Ohio. Filed Dec. 27, 1965.

UNI-GIRTH

For Tumbling Units for Plating, Blackening, Pickling, and the Like.
First use July 12, 1965.

SN 235,745. Vanelba Corporation, Charlottesville, Va. Filed Jan. 3, 1966.

TOUCHÉ

Owner of Reg. No. 790,898.
For Hand-Operated Insecticide Sprayer.
First use Nov. 19, 1965.

SN 235,850. National Engineering Company, Chicago, Ill. Filed Jan. 5, 1965.

MULTI-COOLER

For Apparatus for Conditioning Bulk Material—Namely, Sand Cooling and Mixing Equipment.
First use on or about Oct. 15, 1965.

SN 235,985. Illinois Tool Works Inc., Chicago, Ill. Filed Jan. 7, 1966.



Owner of Reg. Nos. 650,060, 730,743, and others.
For Drill Point Milling Machines, Assembly Machines, and Forming Machines.
First use on or about Mar. 18, 1964.

Class 26—Measuring and Scientific Appliances

SN 188,996. Mitsubishi Electric Corporation, Chiyoda-ku, Tokyo, Japan. Filed Mar. 18, 1964.

MITSUBISHI

Owner of Japanese Reg. Nos. 246,913, dated Oct. 3, 1933, and 577,478, dated July 10, 1961.
For Wattmeters, Integrating Wattmeters, Phase Meters, Frequency Meters, Ammeters, Voltmeters, Wave Measuring Meters, Oscillators, Magnetic Measuring Meters, Antenna Meters, Resistance Measuring Meters, Capacity Measuring Meters, Tube Testers, Avometers, Oscillographs, Filters, Strain Meters, Microscopes, Photo-Elasticity Instruments, Polarising Plates, Polarising Teaching Tools, Constant Temperature Ovens, Furnaces for Examination, Telescopes, Prisms, Magnifying Glasses, Cameras, Flashing Apparatus, Moving Picture Cameras, Moving Picture Projectors, Thermometers, Balances, Revolution Indicators, Speed Meters, Photometers, Flow Meters, Automatic Heat Regulators, Automatic Vacuum Regulators, Program Regulators, Material Testing Machines, Surveying Instruments.

SN 206,450. Firma Dr. Johannes Heidenhain, Traunreut über Traunstein, Upper Bavaria, Germany. Filed Nov. 18, 1964.



The mark includes the term "Diadur." Owner of German Reg. No. 686,581, dated Apr. 20, 1954.
For Physical, for Instance, Photoelectric Impulse Senders for Longitudinal-, Angular-, and Speed-Measurings; Photoelectric Autocollimators, and Optical-Measurement and Measuring-Apparatus, for Instance, Longitudinal- and Angular-Measuring Apparatus With Digital Indication of the Position Values, as Well as Precision-Divisions for This Apparatus.

SN 206,584. The Welch Scientific Company, Skokie, Ill. Filed Nov. 19, 1964.

ROL-LABETTE

Owner of Reg. No. 662,210.
For Science Instruction Demostration Tables.
First use May 1, 1964.

SN 207,629. Mattel, Inc., Hawthorne, Calif. Filed Dec. 7, 1964.

CHATTY CATHY

Owner of Reg. No. 704,555.
For Paper Items, Specifically, Paper Patterns for Dolls' Clothes.
First use Nov. 30, 1963.

SN 215,773. Photographic Research Organization, Inc., New York, N.Y. Filed Apr. 5, 1965.

PROMASTER

Owner of Reg. No. 710,242.
For Slide Projectors, Movie Projectors, and 35 mm. Cameras.
First use June 1964.

SN 217,212. Raden C. Auto Step Co., Inc., Kansas City, Mo. Filed Apr. 23, 1965.

RADEN C
AUTO STEP

For Apparatus for Holding Negatives Used in Lithography.
First use August 1956.

SN 217,591. The Bahnson Company, Winston-Salem, N.C. Filed Apr. 29, 1965.

Bahnson

For Electrically and Pneumatically Operated Humidistats for Automatic Control of Humidifying Equipment in Textile Plants.
First use 1931.

SN 228,411. Societe d'Utilisation Scientifique et Industrielle du Froid Usifroid, Boulogne (Seine), France. Filed Sept. 22, 1965.

USIFROID
Procédés RIEUTORD

The translation of the mark is "Usifroid Rieutord processes." Applicant disclaims exclusive rights in the word "Procédés" apart from the mark as claimed. Owner of French Reg. No. 518,302, dated Dec. 27, 1963 (Seine); Natl. Inst. No. 217,007.
For Laboratory Apparatus—Namely, Freeze Drying Plants.

SN 229,418. Elcometer Instruments Limited, Droylsden, Manchester, England. Filed Oct. 6, 1965.

MINITOR

Owner of British Reg. No. 857,301, dated Nov. 30, 1963.
For Electronic Instruments for Measuring Surface Coatings.
First use March 1964; in commerce March 1964.

SN 229,881. Sea & Ski Corporation, d.b.a. Avalon Optical Company, Millbrae, Calif. Filed Oct. 11, 1965.

AVALON

For Sunglasses.
First use May 25, 1965.

SN 230,075. Pyrotector, Incorporated, Hingham, Mass. Filed Oct. 13, 1965.

PYROTECTOR

For Fire and Smoke Detectors.
First use Jan. 18, 1957.

SN 237,370. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 26, 1966.

POSI-TONE

For Proofing Film.
First use Apr. 20, 1964.

SN 240,246. Birns & Sawyer Cine Equipment Co., Inc., Hollywood, Calif. Filed Mar. 7, 1966.

TWI-POD

For Accessory Equipment for Cameras—Namely, Double-Shoulder and Body Harness for Supporting a Camera.
First use Jan. 20, 1966.

SN 240,247. Birns & Sawyer Cine Equipment Co., Inc., Hollywood, Calif. Filed Mar. 7, 1966.

BODY-POD

For Accessory Equipment for Cameras—Namely, Shoulder and Body Apparatus for Supporting a Camera.
First use Feb. 1, 1966.

SN 240,772. Omni-Lab Incorporated, Chicago, Ill. Filed Mar. 11, 1966.

OMNILAB

For Information Retrieval Equipment.
First use Sept. 10, 1965.

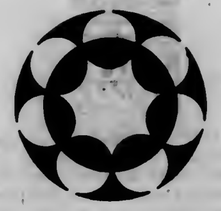
SN 241,391. Ti-Sales, Inc., d.b.a. Tighe & Associates, Sudbury, Mass. Filed Mar. 18, 1966.

MARLBORO

For Instruments for Indicating Liquid Level Changes.
First use at least as early as July 1964.

Class 27—Horological Instruments

SN 228,559. A. Schild, S.A., Grenchen, Solothurn, Switzerland. Filed Sept. 24, 1965.



Owner of Swiss Reg. No. 206,980, dated Oct. 27, 1964.
For Watches and Parts Thereof.

SN 228,571. A. Schild, S.A., Grenchen, Solothurn, Switzerland. Filed Sept. 24, 1965.



Owner of Swiss Reg. No. 206,981, dated Oct. 27, 1964; and U.S. Reg. Nos. 201,832, 201,833, and 369,626.
For Watches and Parts Thereof.

Class 28—Jewelry and Precious-Metal Ware

SN 231,369. Art Craft Wholesale Jewelry and Specialties, Inc., Bloomsburg, Pa. Filed Oct. 28, 1965.

ZIP

For Costume Jewelry.
First use Dec. 15, 1964.

Class 29—Brooms, Brushes, and Dusters

SN 224,151. Chicago Metal Covering Co., Chicago, Ill. Filed July 28, 1965.

SQUNGEE
SPONGE AND SQUEEGEE

Applicant disclaims the words "Sponge" and "Squeegee," and the representation of the squeegee apart from the mark as shown.
For Combination of Squeegee and Sponge Used in Cleaning of Windows.
First use Jan. 5, 1965.

SN 225,655. G. B. Kent & Sons, Limited, London, England. Filed Aug. 13, 1965.

KENT
EST. 1777
ENGLAND

The terms "Est. 1777" and "England" are disclaimed apart from the mark as shown. Owner of U.S. Reg. No. 280,509.
For Toothbrushes, Hair Brushes, Nail Brushes, Hand Brushes, Bath Brushes, Cloth Brushes, Hat Brushes, Shaving Brushes, Complexion Brushes, and Military Brushes.
First use 1935; in commerce about 1937.

SN 228,999. Ethel L. Dreyer, d.b.a. Dreyer Enterprises, Milwaukee, Wis. Filed Sept. 30, 1965.

sani cloths

Applicant disclaims the word "Cloths" apart from the mark as shown.
For Dusting Cloths.
First use Sept. 23, 1965.

Class 30—Crockery, Earthenware, and Porcelain

SN 173,016. Lipper & Mann, Inc., New York, N.Y. Filed July 15, 1963.

CASUAL CERAM

For China Dinnerware and Related Accessories—Namely, Tea Cups and Saucers, Coffee Cups and Saucers, After-Dinner Coffee Cups and Saucers, Dinner Plates, Salad Plates, Bread and Butter Plates, Platters, Vegetable Dishes, Soup Tureens, Coffee Pots, Teapots, Sugar and Creamer Vessels, Fruit Saucers, Gravy Boats, Covered Soup Ramekins, Soup Plates, Casserole Dishes, Salt and Pepper Shakers, Mugs, and Serving Trays.
First use June 25, 1963.

SN 228,199. Harold Simmons, Agawam, Mass. Filed Sept. 20, 1965.

Marquise Fine China

Applicant disclaims the words "Fine China" apart from the mark as shown.
For Chinaware, Earthenware, Crockery and Porcelain—Namely, Plates, Cups, Saucers, Bowls, Pitchers, Porringers, Coffee Pots, Tea Pots, and Cookware.
First use June 3, 1964.

SN 228,787. Wayne Manufacturing Company, Staatsburg, N.Y. Filed Sept. 27, 1965.

FIRE-FREEZE

For Coated Ceramic Cookware.
First use July 12, 1965.

SN 231,324. The Walker China Company, Bedford, Ohio. Filed Oct. 22, 1965.

Table-Rite

For China Dinnerware.
First use Oct. 4, 1965.

Class 31—Filters and Refrigerators

SN 158,618. Granger Sofwater Supply & Mfg. Corp., d.b.a. International Watercare Corporation, Manitowoc, Wis. Filed Dec. 6, 1962.

WATER CARE

The drawing is lined for the color orange.
For Water Conditioning Equipment and Parts Thereof, Said Equipment Specifically Consisting of Water Softeners, Chlorinators, Chemical Feeders, and Filters.
First use Sept. 8, 1961.

SN 201,744. Booth, Inc., Dallas, Tex., by change of name from Specialty Engineering Corporation, Dallas, Tex. Filed Sept. 11, 1964.

COMPAC

For Refrigerated Drink Dispensers.
First use Aug. 4, 1964.

SN 217,592. The Bahnson Company, Winston-Salem, N.C. Filed Apr. 29, 1965.

Bahnson

For Rotary, Drum-Type Air Filters for Textile Work Rooms.
First use 1952.

SN 220,499. Hastings Manufacturing Company, Hastings, Mich. Filed June 7, 1965.

HASTINGS
FLEX-VENT DENSITE CASITE

The drawing is lined for the color red. Owner of Reg. Nos. 525,124, 725,355, and others.
For Filters and Replaceable Filter Cartridges for Lubricating Oil and Fuel Oil for Internal Combustion Engines.
First use Mar. 25, 1965.

SN 229,081. Emhart Corporation, Hartford, Conn. Filed Oct. 1, 1965.

HILLMATIC

Owner of Reg. Nos. 342,821, 786,009, and others.
For Refrigerated Store Fixtures.
First use Sept. 9, 1965.

Class 32—Furniture and Upholstery

SN 219,312. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed May 20, 1965.

Contempo

For Small Portable Rack Made of Plastic for the Display of Merchandise.
First use Apr. 20, 1965.

SN 221,285. Metal Box & Cabinet Corporation, Chicago, Ill. Filed June 16, 1965.

CENTURY

For Mechanic's Metal Tool Chests and Cabinets.
First use June 15, 1962.

SN 226,612. The Berkline Corporation, West Springfield, Mass. Filed Aug. 27, 1965.

BERKLINE

Owner of Reg. No. 597,372.
For Chairs.
First use June 30, 1958.

SN 231,978. Byrd Furniture Company, Incorporated, Greenville, S.C. Filed Nov. 2, 1965.

byrd

Owner of Reg. No. 750,182.
For Upholstered Furniture—Namely, Sofas, Chairs, Rockers, Love Seats, and Ottomans.
First use July 1957.

SN 233,803. Inland Bed Co., Chicago, Ill. Filed Dec. 2, 1965.

HOLLYWOOD ROLL-ABOUT

For Folding Beds.
First use Mar. 14, 1960.

SN 234,327. Bankers Box Company, Franklin Park, Ill. Filed Dec. 10, 1965.

BONUS

For Filing Boxes and Shelving Units.
First use May 21, 1959.

SN 234,453. Modecraft Company, Inc., Brooklyn, N.Y. Filed Dec. 13, 1965.

CURVAIRE

For Beauty Parlor Units, Booths, Partitions, and Shampoo Sections, and Beauty Parlor Furniture Including Lounges, Vanities, Display Cases, Sofas, Stools, Drying Chairs, Styling Chairs, Utility Chairs, Shampoo Chairs, Storage Cabinets, Space Dividers, Dressers, Desks, and Manicure Tables
First use Aug. 1, 1957.

SN 234,509. Carr Engineering Corporation, Los Angeles, Calif. Filed Dec. 13, 1965.

SWING-N-VUE

For Mirrors.
First use July 22, 1965.

SN 234,757. Augustine John Kiefer, d.b.a. Pillopals, Pittsburgh, Pa. Filed Dec. 16, 1965.

PILLOPALS

For Pillows and Pillow Supports.
First use May 20, 1960.

SN 234,776. Serta Associates, Inc., Chicago, Ill. Filed Dec. 16, 1965.

LULLMASTER

For Mattresses.
First use on or about Oct. 21, 1965.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 216,802. Clements Mfg. Co., Chicago, Ill. Filed Apr. 19, 1965.

QUIK-AIRE

Owner of Reg. Nos. 620,749 and 702,576.
For Blow Torches, Hot and Cold Air Blowers, and Furnace Blowers.
First use Apr. 14, 1965.

SN 221,122. United States Register Company, d.b.a. United States Register Co., Battle Creek, Mich. Filed June 14, 1965.



The letters "US" are disclaimed apart from the combination shown.
For Registers, Grilles, and Diffusers for Use in Ventilating Systems as Well as at the Inlet or Outlet of Air Conditioning Systems or Ductwork Suitable for Use With Same.
First use 1939 on registers and grilles.

SN 223,190. Westinghouse Electric Corporation, Staunton, Va. Filed July 12, 1965.

Hi/Re/Li

For Air Conditioning Units and Heat Pumps Therefor.
First use on or about May 7, 1965.

SN 223,204. Allied Thermal Corporation, New Britain, Conn. Filed July 13, 1965.

DUCTURN

For Air Deflectors for Use in Conduits of Air Distribution Systems.
First use at least as early as 1948.

SN 228,667. Doubleco Incorporated, Upland, Calif. Filed Sept. 27, 1965.

HY-LO

For Apparatus for Producing Carbon Dioxide.
First use Aug. 1, 1965.

SN 228,978. Arkwright Merchandising Corporation, New York, N.Y. Filed Sept. 30, 1965.

CHARM HOUSE

Owner of Reg. Nos. 564,473, 794,495, and others.
For Barbeque Grills, Humidifiers, Ventilating Fans, Brass Candlesticks; and Fireplace Equipment—Namely, Andirons, Fire Screens, and Fire Sets Comprising Shovels, Tongs, and Pokers, for the Home.
First use Aug. 19, 1965.

SN 230,386. Gulf Oil Corporation, Pittsburgh, Pa. Filed Oct. 18, 1965.



The drawing is lined for the colors orange and blue. Owner of Reg. Nos. 621,650 and 690,785.
For Oil Burners.
First use at least as early as Sept. 3, 1964.

SN 231,866. WDL, Inc., Los Angeles, Calif. Filed Oct. 29, 1965.

TUNG ARC

Applicant disclaims the word "Arc" except in its use in the mark as a whole, reserving, however, any common law rights thereto.
For Welding Torches.
First use on or before Oct. 19, 1965.

SN 234,142. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Dec. 7, 1965.

GLASS-FLEX

Owner of Reg. No. 775,206.
For Air Transfer Ducts.
First use at least as early as Feb. 16, 1965; at least as early as Dec. 18, 1962, as to "Glass-Flex."

SN 234,742. Econo-Matic Products Company, Inc., Detroit, Mich. Filed Dec. 16, 1965.

VELVAIR

For Humidifiers.
First use on or about Oct. 25, 1965.

SN 234,939. Shur-Line Manufacturing Co., Inc., Lancaster, N.Y. Filed Dec. 20, 1965.

SHUR-VENT

Owner of Reg. No. 659,814.
For Screened Wall Ventilator Plugs.
First use on or about Sept. 16, 1960.

SN 235,092. Eclipse Fuel Engineering Co., Rockford, Ill. Filed Dec. 22, 1965.

UNITITE

For Nozzles for Burners of the Gas/Air Mixture Type.
First use on or about Aug. 17, 1960.

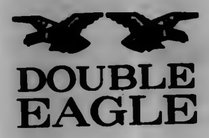
SN 235,510. Integrated Development and Manufacturing Co., Chagrin Falls, Ohio. Filed Dec. 29, 1965.



For Enclosed Chambers Having Controlled Temperature, Humidity and/or Light Intensity, e.g., Environmental Growth Chambers.
First use August 1960.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 225,147. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Aug. 6, 1965.



Owner of Reg. Nos. 251,857, 255,345, and 264,891.
For Tires.
First use May 29, 1963.

SN 225,320. Dean R. Hough and George W. Kendall, Wheeling, W. Va. Filed Aug. 9, 1965.

RAIN-TRAC

For Retread Rubber in Belt Form for Vehicle Tires.
First use June 15, 1965.

SN 229,535. Associated Oil & Gas Co., d.b.a. Long Mile Rubber Company, Dallas, Tex. Filed Oct. 7, 1965.

CertiMile

For Tread Rubber for Tires.
First use on or about Sept. 27, 1965.

SN 242,145. Oliver Tire & Rubber Company, Oakland, Calif. Filed Mar. 29, 1966.

REVO-LOK

For Gaskets and Gasket Cord.
First use Aug. 20, 1965.

Class 36—Musical Instruments and Supplies

SN 227,471. Astronic Corporation, Carolina, Puerto Rico. Filed Sept. 9, 1965.

MICRØNETIC

For Magnetic Tape.
First use July 22, 1965.

Class 37—Paper and Stationery

SN 217,049. Norcross, Inc., New York, N.Y. Filed Apr. 21, 1965.

TISHU ELEGANCE

For Wrapping Paper and Writing Paper.
First use March 1964.

SN 220,109. Letraset Limited, London, England. Filed June 1, 1965.

TEX

For Dry Transfers Comprising a Carrier Sheet and a Releasable Image-Forming and/or Shading Material Thereon.
First use Nov. 16, 1964; in commerce Nov. 16, 1964.

SN 225,408. The Crystal Tissue Company, Middletown, Ohio. Filed Aug. 10, 1965.

DAINTY TINT

Owner of Reg. No. 786,034.
For Tissue Paper.
First use July 26, 1965.

SN 230,258. Kimberly-Clark Corporation, Neenah, Wis. Filed Oct. 15, 1965.

COOSALITH

For Groundwood Papers.
First use Aug. 5, 1965.

SN 230,259. Kimberly-Clark Corporation, Neenah, Wis. Filed Oct. 15, 1965.

COOSAPRESS

For Groundwood Papers.
First use July 22, 1965.

SN 230,260. Kimberly-Clark Corporation, Neenah, Wis. Filed Oct. 15, 1965.

COOSASET

For Groundwood Papers.
First use Aug. 18, 1965.

SN 230,261. Kimberly-Clark Corporation, Neenah, Wis. Filed Oct. 15, 1965.

COOSAPOINT

For Groundwood Papers.
First use Aug. 13, 1965.

SN 231,810. Consolidated Papers, Inc., Wisconsin Rapids, Wis. Filed Oct. 29, 1965.

CONSO-GLOSS W.O.

Owner of Reg. Nos. 500,488, 550,747, and others.
For Coated Printing Papers.
First use June 1965.

SN 231,811. Consolidated Papers, Inc., Wisconsin Rapids, Wis. Filed Oct. 29, 1965.

CONSO-DULL W.O.

Owner of Reg. Nos. 500,488, 550,747, and others.
For Coated Printing Papers.
First use June 1965.

SN 236,493. Kimberly-Clark Corporation, Neenah, Wis. Filed Jan. 14, 1966.

COOSACALIPER

For Groundwood Papers.
First use Nov. 6, 1965.

SN 236,494. Kimberly-Clark Corporation, Neenah, Wis. Filed Jan. 14, 1966.

COOSALEAF

For Groundwood Papers.
First use Nov. 30, 1965.

SN 236,519. Sanford Ink Company, Bellwood, Ill. Filed Jan. 14, 1966.

BIG SIG

For Marking Pens.
First use Dec. 7, 1965.

SN 237,775. Xerox Corporation, Rochester, N.Y. Filed Feb. 1, 1966.

TYPO-PAKE

For Correction Fluid.
First use Dec. 7, 1965.

SN 240,168. Fort Howard Paper Company, Green Bay, Wis. Filed Mar. 4, 1966.



Owner of Reg. Nos. 653,092 and 778, 521.
For Paper Napkins, Toilet Tissue, Paper Tablecloths, Paper Towels, Facial Tissue, Paper Place Mats, and Paper Doilies.
First use Feb. 22, 1966.

SN 240,169. Fort Howard Paper Company, Green Bay, Wis. Filed Mar. 4, 1966.

PAPER IS OUR MIDDLE NAME

The word "Paper" is disclaimed apart from the mark as shown.
For Paper Napkins, Toilet Tissue, Paper Tablecloths, Paper Towels, Facial Tissue, Paper Place Mats, and Paper Doilies.
First use Feb. 22, 1966.

Class 38—Prints and Publications

SN 227,656. Davis Publications Inc., Worcester, Mass. Filed Sept. 13, 1965.

STONE MAGAZINE

The word "Magazine" is disclaimed apart from the mark as a whole.
For Monthly Periodical.
First use 1888.

SN 230,137. Crestwick-Hummelwerk Sales, Inc., New York, N.Y. Filed Oct. 14, 1965.

CRESTWICK

For Greeting Cards and Printed Note Folders.
First use Jan. 8, 1948.

Class 39—Clothing

SN 170,768. Shalimar Vanity Gloves, Inc., New York, N.Y. Filed June 11, 1963.

Shalimar petites

The word "Petites" is disclaimed apart from the mark as shown. Owner of Reg. No. 234,184.
For Ladies' Gloves.
First use Oct. 1, 1962.

SN 179,556. Penn-Dale Knitting Mills, Inc., Sinking Spring, Pa. Filed Oct. 22, 1963.

Penn Dale's

For Men's Underwear and Briefs.
First use Feb. 10, 1962.

SN 195,736. David J. Stinson, d.b.a. Fratsority Products, Los Angeles Calif. Filed June 15, 1964.

Fratsority

Filed June 15, 1964.
For Sweatshirts, T-Shirts, Sweaters, and Jackets.
First use on or about May 21, 1964.

SN 205,644. Sample Dress Mfg. Corp., Montreal, Quebec, Canada. Filed July 29, 1964.



The drawing is lined for the color gold. The word "Niccolini" is disclaimed apart from the mark as shown. Owner of Canadian Reg. No. 113,827, dated Apr. 17, 1959.
For Belts, Trimmings, and Ladies', Misses', Juniors', and Girls' Dresses, Lingerie, Housecoats, Blouses, Skirts, Pajamas, Lounging Pajamas, Suits; and Sportswear—Namely, Beach Pajamas, Bathing Suits, Slacks, Slack Suits, Playsuits, Pinafores, Jackets, Vests, Jodhpurs, Shorts, and Jumpers.

SN 210,437. Glen Raven Mills, Inc., New York, N.Y. Filed Jan. 22, 1965.



The portrait on the drawing is that of "Joni Sawyer," whose consent is of record.
For Women's Hosiery.
First use Sept. 12, 1963.

SN 211,163. Gold Medal Hosiery Co., Inc., New York, N.Y. Filed Feb. 2, 1965.



For Ladies' Hosiery.
First use June 25, 1962.

SN 213,674. Haymaker Sports, Inc., New York, N.Y. Filed Mar. 9, 1965.

HAYMAKER

Owner of Reg. No. 715,101.
For Women's Outer Shirts, Skirts, Blouses, Outer Shorts, Jackets, Dresses, Suits, Slacks, T-shirts, Sweaters, Romper Bottom and Bubble Top Combinations, Combination Skirt and Short Outfits, Jumpers, Shifts, Playsuits, Hats, Socks, and Culottes.
First use May 1943 on Blouses.

SN 213,923. Weyenberg Shoe Manufacturing Company, Milwaukee, Wis. Filed Mar. 11, 1965.

WEYENBERG WOODSMAN

For Men's Boots.
First use Mar. 2, 1965.

SN 214,434. Fun Togs, Inc., New York, N.Y. Filed Mar. 18, 1965.



For Children's Sportswear—Namely, Girls' Jumpers, Jumper Sets, Slacks, Blouses, Slack and Blouse Sets, Shorts, Pedal Pushers, Shorts and Blouse Sets, Pedal Pusher and Blouse Sets, Dress and Panty Sets, Tennis Sets, and Shift Sets.
First use on or about Jan. 22, 1965.

SN 219,893. Manufacture Picarde de Chemises Ets. Seminel Freres, Amiens, France. Filed May 27, 1965.

DOUBLE SIX



Owner of French Reg. No. 2,533, dated Apr. 17, 1962 (Amiens); Natl. Inst. No. 184,213.
For Clothing—Namely, Boots, Shoes, and Slippers, and Shirts.
First use Apr. 17, 1962; in commerce Feb. 15, 1965.

SN 222,310. Sutton Creations, Inc., New York, N.Y. Filed June 29, 1965.

EMI-FORS

For Ladies', Misses', and Juniors' Suits, Coats, Dresses, Skirts, Blouses, Sweaters, Shorts, Pants, Beach Jackets, and Bathing Suits.
First use May 18, 1965.

SN 222,705. Huntington Mfg. Co., Inc., Chicago, Ill. Filed July 6, 1965.

FLUTTERBYE

For Women's and Misses' and Junior Dresses and Frocks.
First use on or about Aug. 15, 1964.

SN 223,690. Judi Lesli, South Miami, Inc., South Miami, Fla. Filed July 19, 1965.

JUDI LESLI

The name "Judi Lesli" is fictitious.
For Ladies' Wear—Namely, Dresses, Blouses, Skirts, Pants, Shorts, Handbags, Shoes, Raincoats, Tennis Dresses, Shifts, Beach Coats, Shirts, Tops, Culottes, Shorts, Bathing Suits, Socks, Hats, Pant Sets, Suits, Coats, Car Coats, Jackets, Sandals, Scarves, and Belts.
First use Nov. 15, 1955.

SN 223,820. Popular Merchandise Co., Inc., Passaic, N.J. Filed July 20, 1965.

TEEN CLUB

For Dresses, Blouses, Skirts, Coats, Slacks, Jumpers, Sweaters, and Shoes.
First use July 6, 1965.

SN 224,300. Crown Foundations, Inc., d.b.a. The Crown Corset Company, Bridgeport, Conn. Filed July 27, 1965.

Under Wonder

For Brassieres, Girdles, Girdle Briefs, and Panty Girdles.
First use May 26, 1965.

SN 224,848. Stedman Manufacturing Company, Asheboro, N.C. Filed July 27, 1965.

STED-SET

For Cotton Knitted Fabrics Treated for Shrinkage Control Made Up Into Underwear and Knitted Sports Shirts for Men and Boys.
First use on or about July 15, 1965.

SN 226,365. Meco, Inc., Wichita, Kans. Filed Aug. 24, 1965.

Magic Hands

Applicant disclaims the word "Hands" apart from the mark as shown.
For Rubber Gloves.
First use July 20, 1964.

SN 228,249. Leslie Fay, Inc., New York, N.Y. Filed Sept. 21, 1965.

LESLIE JUNIORS

Without waiving its common law rights herein, applicant makes no claim to the word "Juniors" apart from the mark as shown.
For Dresses.
First use Aug. 14, 1965.

SN 229,093. Holland-Racine Shoes, Inc., Holland, Mich. Filed Oct. 1, 1965.

LIVE AIR

Owner of Reg. No. 804,326.
For Shoes for Men and Boys.
First use April 1965.

SN 230,630. Harry Fischer Corporation, Philadelphia, Pa. Filed Oct. 20, 1965.

MORLANO

For Men's and Boys' Outercoats.
First use at least as early as 1954.

SN 230,783. Dwight S. Williams Co. Inc., New York, N.Y. Filed Oct. 20, 1965.

MONARCH

Owner of Reg. Nos. 51,535, 59,231, and 92,829.
For Underwear, One-Piece Undergarments Made of Woven Fabrics, and Hosiery.
First use Jan. 1, 1885.

SN 231,152. Lisanne, Inc., Brooklyn, N.Y. Filed Oct. 22, 1965.

LISA SMOCK

Applicant disclaims the word "Smock" apart from the mark as shown. Owner of Reg. No. 631,338.
For Ladies' and Misses' Housecoats and Robes.
First use Oct. 11, 1965.

SN 231,230. Yvonne Rich, Altadena, Calif. Filed Oct. 22, 1965.

JEWEL CASE

For Brassieres.
First use Oct. 14, 1965.

SN 231,686. Jantzen Inc. Portland, Oreg. Filed Oct. 27, 1965.

INTERNATIONAL SPORTS CLUB

For Men's Clothing—Namely, Sweaters, Shirts, Jackets, Socks, Shoes, Swimsuits, and Hats.
First use on or about July 1, 1957.

SN 231,833. Maidenform, Inc., New York, N.Y. Filed Oct. 29, 1965.

BUTTERFLIRT

For Foundation Garments.
First use Oct. 1, 1965.

SN 231,957. Wembley, Inc., New Orleans, La. Filed Nov. 1, 1965.

HISTORICALS

For Men's Neckwear.
First use Aug. 1, 1965.

SN 231,961. Wynn Enterprises, Inc., New York, N.Y. Filed Nov. 1, 1965.

Rain 'n' Spain

For All Weather Coats.
First use on or about July 6, 1965.

SN 231,980. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Nov. 2, 1965.

DRAGSTERS

For Men's and Boys' Pants, Slacks, Coats, Vests, and Trousers.
First use Oct. 14, 1965.

SN 232,101. The Williamson-Dickie Manufacturing Company, Fort Worth, Tex. Filed Nov. 3, 1965.

THE GIRL FROM C.H.I.C.

For Women's and Girls' Outer Garments—Namely, Dresses, Skirts, Blouses, Slacks, and the Like.
First use Sept. 22, 1965.

SN 232,397. Fitts Cotton Goods Company, Atlanta, Ga. Filed Nov. 9, 1965.

CHERIE

Owner of Reg. No. 418,832.
For Infants' Diapers.
First use July 31, 1944.

SN 232,408. Maidenform, Inc., New York, N.Y. Filed Nov. 9, 1965.

LACE-IN-ONE

Owner of Reg. No. 787,222.
For Foundation Garments.
First use Oct. 22, 1965.

SN 232,822. Dura-Tred Hosiery Mills Company, Inc., Burlington, N.C. Filed Nov. 17, 1965.

DURA-TRED

For Hosiery.
First use Nov. 4, 1965.

SN 234,675. Simplex Shoe Manufacturing Company, Inc., Milwaukee, Wis. Filed Dec. 15, 1965.

SIMPLEX Co-ed FLEX-EZE

No claim is made to the word "Co-Ed" apart from the mark as shown. Owner of Reg. Nos. 751,473, 202,732, and others.
For Shoes for Girls.
First use June 1933.

SN 235,986. J. R. Ranch Western Outfitters, Rhinebeck, N.Y. Filed Jan. 7, 1966.

J-R-RANCH

For Hats, Gloves, Boots, Shirts, Coats, Jackets, Pants, and Ties.
First use Dec. 15, 1964.

SN 235,996. La Salle Neckwear Company, Philadelphia, Pa. Filed Jan. 7, 1966.

LONDON 400

Owner of Reg. Nos. 721,369, 425,912, and others.
For Neckties.
First use 1955.

SN 236,247. Exer-Shoe Corporation, Washington, D.C. Filed Jan. 12, 1966.

EXER-SHOE

For Weighted Shoe.
First use Aug. 2, 1965.

SN 244,061. Cosmopolitan Juniors Inc., New York, N.Y. Filed Apr. 22, 1966.

CLOUD MIST

Owner of Reg. No. 634,120.
For Women's Coats.
First use Apr. 13, 1966.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 218,619. Dan River Mills, Incorporated, Danville, Va. Filed May 12, 1965.

DAN RIVER

Owner of Reg. Nos. 407,813 and 779,961.
For Knitted Fabrics of Cotton and Blends of Cotton and Other Fibers, Including Velours and Plushes.
First use Apr. 16, 1965.

SN 225,168. Lawtex Corporation, Dalton, Ga. Filed Aug. 6, 1965.

HEIRLOOM

For Carpeting.
First use July 1, 1964.

SN 233,109. Koratron Company, Inc., San Francisco, Calif. Filed Nov. 22, 1965.

KORATRON

Owner of Reg. No. 764,009.
For Chemically Treated Fabrics for Rendering Products Thereof Press-Free With Retained Creases After Repeated Washings.
First use June 21, 1965.

SN 234,731. Dan River Mills, Incorporated, Danville, Va. Filed Dec. 16, 1965.

TWISTAWAY

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combinations Thereof.
First use Oct. 20, 1965.

SN 234,732. Dan River Mills, Incorporated, Danville, Va. Filed Dec. 16, 1965.

DANCOMB

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combinations Thereof.
First use Dec. 3, 1965.

SN 234,733. Dan River Mills, Incorporated, Danville, Va. Filed Dec. 16, 1965.

DANCLOUD

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combinations Thereof.
First use Dec. 3, 1965.

SN 234,786. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Dec. 16, 1965.

SCULPTRON

Owner of Reg. No. 578,590.
For Decorative Glass Fiber Fabrics.
First use on or about May 19, 1965.

SN 234,810. Dukane Textiles, Inc., New York, N.Y. Filed Dec. 17, 1965.

DUKE

For Carpeting, Carpets, Rugs, and Mats.
First use Oct. 5, 1965.

SN 234,852. Shulman Sunshine, Inc., Paterson, N.J. Filed Dec. 17, 1965.

ARCHITECTURAL

For Drapery Linings Insulated With Synthetic Fibers.
First use Aug. 15, 1965.

SN 235,013. Fred M. Richman Corp., d.b.a. Richloom Fabrics, New York, N.Y. Filed Dec. 21, 1965.

PERMA-LINK

For Fabrics of Synthetic Fibers, of One or More Natural Fibers, and of Combinations Thereof; and Curtains and Draperies Made Therefrom.
First use Nov. 2, 1965.

SN 244,948. Loomskill, Inc., New York, N.Y. Filed May 5, 1966.

ART BY THE YARD

For Textile Fabrics of Wool, Cotton, Silk, and Synthetic Fibers, and Combinations Thereof.
First use Apr. 20, 1966.

Class 43—Thread and Yarn

SN 234,926. Norville Supply Company, d.b.a. Textile Supply Company, Dalton, Ga. Filed Dec. 20, 1965.

SUSY

For Textile Edging Thread.
First use May 4, 1961.

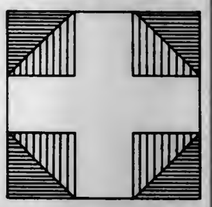
Class 44—Dental, Medical, and Surgical Appliances

SN 203,827. Willy Rusch, Rommelshausen, Germany. Filed Oct. 12, 1964.

KATHETER
RUSCH
mit farbiger Spitze

Applicant disclaims the word "Katheter," and the pictorial representation thereof from the mark. The words "Mit Farbiger Spitze" means "with colored tip." The drawing is lined for decorative purposes, with the tip of the catheter indicated as of different color from the rest. Owner of German Reg. No. 780,537, dated June 28, 1963; and U.S. Reg. Nos. 609,662 and 609,663.
For Catheters.

SN 218,836. The American White Cross Laboratories, Inc., New Rochelle, N.Y. Filed May 14, 1965.



The drawing is lined for red and blue. Owner of Reg. Nos. 540,747 and 588,925.
For First Aid Kit Containing Sterile Bandages, Antiseptic Units, Adhesive Tape, Sterile Gauze Bandage, Sterile Absorbent Cotton and Sterile Gauze Pad.
First use May 1, 1963; January 1912 as to the white cross.

SN 221,173. Ruth Hall, Lake Worth, Fla. Filed June 15, 1965.

DRIP-GUARD

For Headband for Use in Shampooing and Permanent Waving.
First use Jan. 15, 1962.

SN 233,824. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company, Los Angeles, Calif. Filed Dec. 2, 1965.

BROWN MILLED

For Surgeons' Gloves.
First use May 1964.

SN 234,308. Simmons Company, New York, N.Y. Filed Dec. 9, 1965.

MULTI-MATE

Owner of Reg. No. 723,916.
For Hospital Beds, Accessories for Attachment Thereto, and Parts Therefor.
First use Nov. 20, 1965.

SN 234,471. Scott Aviation Corporation, Lancaster, N.Y. Filed Dec. 13, 1965.

DUO-SEAL

For Breathing Mask Respirators.
First use Nov. 17, 1965.

SN 234,524. American Cyanamid Company, Wayne, N.J. Filed Dec. 14, 1965.

LEDERJECT

Owner of Reg. Nos. 280,833, 754,934, and others.
For Disposable Syringe.
First use Nov. 5, 1965.

SN 234,551. Etablissement Dentaire Ivoclar, Schaan, Liechtenstein. Filed Dec. 14, 1965.

SILAMAT

Priority claimed under Sec. 44(d) on Liechtenstein Reg. No. 1,928, dated June 16, 1965.
For Automatic Mixing Installation for Mixing Reactive Substances for Dental Purposes.

SN 234,793. Westinghouse Electric Corporation, Baltimore, Md. Filed Dec. 16, 1965.

MINISCOPE

For Portable Device That Visually Displays the Electrical Activity of the Heart.
First use on or about Apr. 29, 1965.

SN 234,909. Kiddie Products, Inc., Squantum, Mass. Filed Dec. 20, 1965.

KOOY-KOOL

For Baby Teethers.
First use 1958.

SN 235,270. Bristol-Myers Company, New York, N.Y. Filed Dec. 27, 1965.

BRISTOJECT

For Dental, Medical, and Surgical Appliances—Namely, a Syringe.
First use May 17, 1965.

SN 235,560. Frantelle, Inc., Towaco, N.J. Filed Dec. 30, 1965.

FRANTELLE

For Compact Electric Hair Dryer With Attachable Comb, Brush, Curling Iron, or Nozzle, etc.
First use Nov. 17, 1965.

SN 241,518. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company, Los Angeles, Calif. Filed Mar. 21, 1966.

BROWN MILL

For Surgeons' Gloves.
First use May 1964.

SN 242,576. Drummond Scientific Company, Broomall, Pa. Filed Apr. 4, 1966.

HEMOCAPS

Owner of Reg. No. 735,635.
For Disposable Hemoglobin Pipettes.
First use Feb. 23, 1966.

Class 46—Foods and Ingredients of Foods

SN 180,998. Beatrice Foods Co., Chicago, Ill. Filed Nov. 13, 1963.

SURE GOOD

For Oleomargarine.
First use December 1934.

SN 191,901. Amiel's Jumbo Submarine Sandwiches, Inc., Rochester, N.Y. Filed Apr. 24, 1964.

AMIEL'S JUMBO SUBMARINE SANDWICHES

Without waiving common law rights, and only for purposes of the present application for registration, applicant disclaims the exclusive right to the words "Jumbo Submarine Sandwiches" apart from the mark. Owner of Reg. No. 376,316.
For Submarine Sandwiches.
First use Mar. 26, 1964.

SN 197,387. Giant Distributing Co., Oakland, Calif. Filed July 8, 1964.

GIANT

For Snack Items—Namely, Smoked Beef, Pepperoni, Bacon Rinds, Nuts (Shelled or Unshelled), Pretzels, Cheese Crackers, Corn Chips, Cheese and Cracker Sandwiches, Cheese Puffs, Fried Potatoes, Sausage, Wieners, Pickled Pork Hocks, and Pickled Pigs Feet.
First use at least as early as Jan. 15, 1948.
Subj. to Intf. with SN 220,382.

SN 198,477. Hesmer Foods, Inc., Evansville, Ind. Filed July 24, 1964.

Hesmer's
HICKORY PIT

For Barbecued Pork, Barbecued Beef, and Barbecued Mutton.
First use July 1, 1964.

SN 204,244. Donut Shops Management Corporation, Camden, N.J. Filed Oct. 19, 1964.



The representation of the doughnuts is disclaimed apart from the mark as shown. Owner of Reg. No. 652,810.
For Food and Drink Items—Namely, Muffins, Doughnuts, Buns, Hot Dog Sandwiches, Tea, Coffee, Fluid Milk, and Hot Chocolate.
First use as early as July 2, 1964.

SN 209,702. Locatelli S.p.A., Milan, Italy. Filed Jan. 11, 1965.



Priority claimed under Sec. 44(d) on Italian application filed July 15, 1964; Reg. No. 167,193, dated Dec. 7, 1964. The lining on the drawing is an actual part of the mark and does not represent color.
For Meat in the Form of Carcasses and Fresh Cuts and Frozen and Canned; Fresh and Powdered Eggs; Fluid, Condensed, and Powdered Milk; Cheese, Butter, Cream, Yogurt, Curdled Milk, and Milk Whey; Edible Oils and Fats of Vegetal and Animal Origin; Vegetal Extracts and Meat Extracts; Vegetal Preserves; Preserved, Dried and Cooked Fruit and Vegetables; Fresh Fruit and Vegetables; Jellies, Jam and Marmalade; Foods for Swine, Cattle, Sheep, Birds, and Poultry; Preparations for Making Soups Containing Meat, Vegetables, Cereals, and Eggs; Preparations for Making Beverages Containing Milk, Eggs, Fruits, Vegetables, and Cereals; Meatless and Meat-Containing Sauces; Pickles; and Prepared Meat Products Including Sausages.

SN 210,048. The Red Barn System, Inc., Fort Lauderdale, Fla. Filed Jan. 15, 1965.

RED BARN

Owner of Reg. No. 772,953.
For Ready-To-Eat Hamburger, Cheeseburger, Frankfurter, Grilled Cheese and Fish Sandwiches, Fried Chicken, French Fried Potatoes, Onion Rings, Milk Shakes, Hot Coffee, Hot Chocolate, and Fresh Milk.
First use September 1961.

SN 210,103. Diamond Head Food Co., Los Angeles, Calif. Filed Jan. 18, 1965.



The word "Brand" is disclaimed apart from the mark as shown.
For Beef Jerky Strips.
First use on or about July 16, 1962.

SN 211,117. Thomas J. Trotter & Sons, Inc., Hatfield, Pa. Filed Feb. 1, 1965.



For Frozen Baked Pretzels.
First use Aug. 13, 1964.

SN 212,451. Robert F. Schubert, Staten Island, N.Y. Filed Feb. 19, 1965.



No claim is made to the wording "Instant Pickle Mix" or to the smaller pickle representation apart from the mark as shown.
For Cucumbers With Ingredients for Pickling Same.
First use Aug. 14, 1964.

SN 214,099. Export Pacific, Inc., Tacoma, Wash. Filed Mar. 15, 1965.

BIG X

For Alfalfa Meal and Alfalfa and Other Feed Pellets for Consumption by Livestock.
First use Aug. 18, 1964.

SN 215,105. National Biscuit Company, New York, N.Y. Filed Mar. 26, 1965.

CHATS

Owner of Reg. Nos. 86,929 and 780,021.
For Crackers.
First use Mar. 15, 1965.

SN 216,656. The Borden Company, New York, N.Y. Filed Apr. 16, 1965.



The drawing is lined for the colors red, blue, and gold.
Owner of Reg. Nos. 55,233, 357,806, and others.
For Freeze-Dry Dinners—Namely, Chicken Supreme, Macaroni-Cheese With Ham, Turkey Tetrazzini, King Crab Newburg, and Shrimp Imperial.
First use Dec. 23, 1963.

SN 217,523. David Bilgore & Company, Incorporated, d.b.a. David Bilgore & Co., and David Bilgore Groves, Clearwater, Fla. Filed Apr. 28, 1965.

FRUIT-O-GRAM

The word "Fruit" is disclaimed apart from the mark as shown.
For Fresh Citrus Fruits in Packages Excluding Bags, Especially for Gifts for Special Occasions.
First use Jan. 15, 1961.

SN 219,621. Shakey's, Inc., Burlingame, Calif. Filed May 24, 1965.

SHAKEY'S

Owner of Reg. No. 721,138.
For Pizzas and Ingredients for Making Same—Namely, Flour Blends for Making Doughs, and Spice Blends for Seasoning and Flavoring Purposes.
First use Mar. 15, 1965.

SN 220,195. Berns & Koppstein, Inc., New York, N.Y. Filed June 2, 1965.

B & K

Owner of Reg. No. 704,369.
For Canned Luncheon Meat and Sardines.
First use Aug. 14, 1961.

SN 220,382. Jolly Giant System, Inc., Scarsdale, N.Y. Filed June 4, 1965.



The representation of the food items which appear on the tray is disclaimed apart from the mark as shown.
For Hamburgers, Cheeseburgers, French Fried Potatoes, and Hot Dogs.
First use May 15, 1964.
Subj. to Intf. with SN 197,367.

SN 221,554. The Glidden Company, Cleveland, Ohio, assignee of Allied Foods, City of Industry, Calif. Filed June 21, 1965.



For Pickles, Pickle Relishes, and Pickled Peppers.
First use October 1931.

SN 223,799. Lance, Inc., Charlotte, N.C. Filed July 20, 1965.

LANCHEE

Owner of Reg. No. 280,194.
For Cracker Sandwiches Having a Peanut Butter Filling.
First use Aug. 6, 1930.

SN 224,528. General Foods Corporation, White Plains, N.Y. Filed July 29, 1965.

ALPHA-BANANA BITS

Owner of Reg. Nos. 649,823 and 753,052.
For Cereal Breakfast Food.
First use July 9, 1965.

SN 225,383. Frank M. Wilson Company, Inc., Stockton, Calif. Filed Aug. 9, 1965.



The portrait is fanciful and does not represent any known actual person.
For Canned Fruits, Canned Vegetables, Canned Fruit Juices, Canned Tuna, and Pickles.
First use Mar. 18, 1941.

SN 225,865. East India Spice Co., Ltd., Mount Vernon, N.Y. Filed Aug. 17, 1965.

BLACK ANGUS

For Spice and Monosodium Glutamate Based Seasoning.
First use Aug. 4, 1965.

SN 225,923. Samuel E. Brenner, Linwood, N.J. Filed Aug. 18, 1965.

DAVY JONES

The name "Davy Jones" does not identify any living individual.
For Candies.
First use Aug. 3, 1965.

SN 226,034. Big Drum, Inc., Columbus, Ohio. Filed Aug. 19, 1965.

Lov-e-lee

For Ice Cream Cones, Cake Cups, and Old Fashioned Sugar Cones.
First use June 23, 1965.

SN 226,346. The Dietene Company, Minneapolis, Minn. Filed Aug. 24, 1965.

DELMARK FARMS

Owner of Reg. No. 753,774.
For Powdered Egg Custard Mix.
First use Aug. 13, 1965.

SN 226,647. Lawrence S. Kaufman, d.b.a. Pomona Sales Company, Suffern, N.Y. Filed Aug. 27, 1965.

Mary C. Taylor's
MAYACAMAS



The word "Mayacamas" in English means "howl of the mountain lion." "Mary C. Taylor" is the name of a living individual, whose consent is of record.
For Food Seasoning of a Spice Nature.
First use Aug. 6, 1965.

SN 227,124. The Crab Pot, Inc., Rehoboth Beach, Del. Filed Sept. 8, 1965.

CRAB POT

Applicant disclaims the word "Crab" apart from the mark as shown.
For Fresh Crabs, Fresh Crab Meat, Fresh Clams, Clam Chowder, Cooked Crabs, Crab Soup, Frozen Cooked Crabs, and Frozen Clams.
First use March 1958.

SN 227,187. Sternco Industries, Inc., Allendale, N.J. Filed Sept. 8, 1965.

SWIRL STICK

The word "Stick" is disclaimed apart from the mark as shown.
For Fish Food.
First use May 4, 1965.

SN 227,225. Ancona Brothers Wholesale Grocery Company, Omaha, Nebr. Filed Sept. 7, 1965.

Ancona

Applicant disclaims any rights in the words "Quality," "Service," and "Integrity" apart from the mark as shown.
For Food Products—Namely, Canned and Frozen Fruits and Vegetables.
First use Sept. 1, 1955.

SN 227,757. Guano-Werke Aktiengesellschaft, Hamburg, Germany. Filed Sept. 14, 1965.

MAGNAPHOSCAL

Owner of German Reg. No. 795,786, dated Jan. 14, 1964.
For Feed for Livestock.

SN 228,278. Sunshine Biscuits, Inc., Long Island City, N.Y. Filed Sept. 21, 1965.

A GO GO

For Snack Crackers.
First use July 29, 1965.

SN 229,174. Allied Packers Co., Ltd., Jenkintown, Pa. Filed Oct. 4, 1965.

JUNEX

For Composition of Butterfat, Sugar, and Vanilla, for Use in the Manufacture of Ice Cream.
First use July 1961.

SN 229,271. National Biscuit Company, New York, N.Y. Filed Oct. 4, 1965.

HAPPY DAYS

For Cookies.
First use Sept. 17, 1965.

SN 229,273. National Biscuit Company, New York, N.Y. Filed Oct. 4, 1965.

FUN DAYS

For Cookies.
First use Sept. 17, 1965.

SN 229,985. McKee Baking Company, d.b.a. Mighty Mike Bakery, Collegedale, Tenn. Filed Oct. 12, 1965.



For Cakes, Cookies, and Pies.
First use Aug. 25, 1965.

SN 229,986. McKee Baking Company, d.b.a. Mighty Mike Bakery, Collegedale, Tenn. Filed Oct. 12, 1965.

MIGHTY MIKE

For Cakes, Cookies, and Pies.
First use Aug. 25, 1965.

SN 231,058. Cott Corporation, New Haven, Conn. Filed Oct. 22, 1965.

COTT

Owner of Reg. Nos. 540,457, 749,859, and others.
For Fruit Juice Drinks.
First use at least as early as 1931.

SN 231,158. Lusk Candy Company, Davenport, Iowa. Filed Oct. 22, 1965.

Thinshell MR. TWIST

Applicant disclaims the word "Twist" apart from the mark as shown. Owner of Reg. No. 777,490.
For Suckers.
First use Oct. 8, 1965; 1920's as to "Thinshell."

SN 231,246. Sheridan Flouring Mills, Inc., Sheridan, Wyo. Filed Oct. 22, 1965.

DIAMOND D

For Flour and Pancake Mix.
First use November 1922.

SN 233,602. Kellogg Company, Battle Creek, Mich. Filed Nov. 30, 1965.

APPLE JACKS

For Cereal Breakfast Foods.
First use Sept. 13, 1965.

SN 238,041. Bunte Candies, Inc., Oklahoma City, Okla. Filed Feb. 4, 1966.

CHOP STIX

For Candy—Namely, Chopped Sticks of Candy.
First use Mar. 1, 1960.

SN 242,265. Mars, Incorporated, d.b.a. M & M's Candies, Wilmington, Del. Filed Mar. 30, 1966.

STARBURST

For Fruit Candy.
First use Mar. 21, 1966.

Class 47—Wines

SN 220,409. Schenley Distillers, Inc., d.b.a. Weston Winery, New York, N.Y. Filed June 4, 1965.

DIEGO RED

Applicant disclaims the word "Red" apart from the mark as shown.
For Wines.
First use May 13, 1965.

SN 228,702. Ko-Operatieve Wijnbouwers Vereniging Van Zuid-Afrika Beperkt, Suider Paarl, Cape Province, Republic of South Africa. Filed Sept. 27, 1965.

ROODEBERG

Owner of South African Reg. No. 60/2247, dated June 21, 1960.
For Wine.

SN 228,703. Ko-Operatieve Wijnbouwers Vereniging Van Zuid-Afrika Beperkt, Suider Paarl, Cape Province, Republic of South Africa. Filed Sept. 27, 1965.

LADY ANNE

Owner of South African Reg. No. 64/1792, dated May 27, 1964.
For Sherries.

SN 228,704. Ko-Operatieve Wijnbouwers Vereniging Van Zuid-Afrika Beperkt, Suider Paarl, Cape Province, Republic of South Africa. Filed Sept. 27, 1965.

GOLDEN ACRE

Owner of South African Reg. No. 64/1,793, dated May 27, 1964.
For Sherries.

SN 228,709. Ko-Operatieve Wijnbouwers Vereniging Van Zuid-Afrika Beperkt, Suider Paarl, Cape Porvince, Republic of South Africa. Filed Sept. 27, 1965.

MYMERING

Owner of South African Reg. No. 64/1,787, dated May 27, 1964.
For Sherries.

SN 228,710. Ko-Operatieve Wijnbouwers Vereniging Van Zuid-Afrika Beperkt, Suider Paarl, Cape Province, Republic of South Africa. Filed Sept. 27, 1965.



Owner of South African Reg. No. 62/1,168, dated Apr. 13, 1962.
For Wines.

SN 229,695. Tomasello Winery, Hammonton, N.J. Filed Oct. 8, 1965.

Tomasello

For Wines.
First use Aug. 1, 1965.

Class 48—Malt Beverages and Liquors

SN 213,651. Brewmaster California Corporation, Costa Mesa, Calif. Filed Mar. 9, 1965.

HOST

For Draft Beer.
First use in or about October 1963.

Class 50—Merchandise Not Otherwise Classified

SN 212,041. Polymold Plastics, Inc., Chicago, Ill. Filed Feb. 15, 1965.

POLYMOLD

Owner of Reg. No. 585,988.
For Caps, Closures, Seals, and Closure Fitments Made of Plastic Material.
First use February 1954.

SN 220,564. W. S. Shamban & Co., Culver City, Calif. Filed June 7, 1965.

MEMORYLINE

For Plastic Tubing Used in the Encapsulation of Mechanical and Electrical Devices, and in the Protection and Insulation of Electrical Circuitry.
First use Feb. 19, 1965.

SN 225,592. Chris Mueller, Jr., Burbank, Calif. Filed Aug. 12, 1965.

TRAVART

For Decorative Artware Made of Cementitious Material.
First use Feb. 15, 1965.

SN 229,951. Corning Glass Works, Corning, N.Y. Filed Oct. 12, 1965.

CORNING

Owner of Reg. Nos. 545,056, 618,649, and 705,576.
For Printing Plates.
First use July 16, 1965.

SN 238,228. Industrial Decorators, Inc., Whittier, Calif. Filed Feb. 7, 1966.

DAPIM

For Carpet Underlay, Padding or Cushioning.
First use Feb. 10, 1965.

SN 240,996. Weyerhaeuser Company, Takoma, Wash. Filed Mar. 14, 1966.

WEYERHAEUSER

Owner of Reg. No. 614,708.
For Moldable Fiber Mats, Laminated Wood Church Crosses, and Paper Honeycomb Material for Uses Such as Novelty Items.
First use Mar. 1, 1960.

Class 51 — Cosmetics and Toilet Preparations

SN 204,265. Mary Kay, Inc., Dallas, Tex. Filed Oct. 19, 1964.

Mr. K

For Colognes, After-Shave Lotions, Deodorants, Skin Cleansers, Skin Tonic or Toners, Masques or Facial Packs, Skin Ointments or Conditioners, and Shadow Erasers.
First use on or about Sept. 21, 1964.

SN 211,569. Perma Sheen Chemical Company, Washington, Pa. Filed Feb. 8, 1965.

MR. ROBERTS

The mark is fanciful and does not refer to a living individual. No claim is made to the word "Roberts" apart from the mark without waiving any common law rights therein.
For Hair Grooming Preparation for Men.
First use on or about Jan. 15, 1964.

SN 214,916. Pharmaceutical Laboratories, Inc., Plainfield, N.J. Filed Mar. 24, 1965.

400

For Men's Shaving Preparations, Women's Hair Preparations, Skin Lotions and Creams, Bath Preparations, Nail Polish Remover, and Oral Antiseptics and Mouthwashes (Singly and in Combination).
First use on or about Mar. 9, 1965.

SN 215,778. Provigor, Ltd., New York, N.Y. Filed Apr. 5, 1965.

proVigor

For Hair Conditioner.
First use on or about Mar. 14, 1965.

SN 216,988. Walgreen Co., Chicago, Ill., assignee of Walgreen Laboratories, Inc., Chicago, Ill. Filed Apr. 20, 1965.

WALGREEN

Owner of Reg. Nos. 413,516, 504,324, and others.
For Aerosol Hair Spray, Bay Rum, Cleansing Facial Lotion, Cold Cream, Cream Deodorant, Cream Hair Conditioner, Cream Hair Dressing, Depilatories, Face Cream, Floridated Dental Cream, Glycerine and Rosewater, Glycerine and Rosewater Cream, Glycerine and Rosewater Lotion, Hair Dressing, Hair Setting Lotion, Hand Cream, Hand Lotion, Henna Powder, Nail Polish Remover, Powder Deodorant, Suntan Cream, Suntan Liquid, Toothpaste, Mouth Wash, and Witch Hazel.
First use prior to Apr. 12, 1928, on henna powder.

SN 217,438. Avon Products, Inc., New York, N.Y. Filed Apr. 27, 1965.

AVON LEATHER

For After Shave Lotion.
First use Apr. 6, 1965.

SN 218,191. Lenard Herrin, Wyncote, Pa. Filed May 6, 1965.

MONEY

For Men's Toiletries—Namely, Cologne for Men.
First use Apr. 21, 1965.

SN 218,192. Lenard Herrin, Wyncote, Pa. Filed May 6, 1965.

MONEY

For Men's Toiletries—Namely, Cologne for men.
First use Apr. 21, 1965.

SN 222,918. Electra-Mist Corporation, Boston, Mass. Filed July 8, 1965.

Electra Mist

For Hair Spray.
First use June 10, 1965.

SN 225,659. Mildred Miller, Wooster, Ohio. Filed Aug. 13, 1965.

Mildred Miller

For Cosmetics—Namely, Cold Cream, Liquid Cleanser, Liquid Stimulant, Powder Foundation and Emollient.
First use Feb. 20, 1955.

SN 228,118. Beauty Counselors, Inc., Grosse Pointe, Mich. Filed Sept. 20, 1965.

PRIVATE LABEL

For After Shave Lotion.
First use July 8, 1965.

SN 230,286. The Procter & Gamble Company, Cincinnati, Ohio. Filed Oct. 15, 1965.

HOLD & COMB

The word "Hold" is disclaimed apart from the mark as shown.
For Hair Spray.
First use Aug. 26, 1965.

SN 230,792. Countess Mara, Incorporated, New York, N.Y. Filed Oct. 21, 1965.

STEEL

Owner of Reg. No. 415,462.
For Toiletries—Namely, After Shave Lotion, and Eau de Cologne.
First use at least as early as May 22, 1944.

SN 230,793. Countess Mara, Incorporated, New York, N.Y. Filed Oct. 21, 1965.

COPPER

Owner of Reg. No. 503,087.
For Toiletries—Namely, Eau de Cologne, and After Shave Lotion.
First use at least as early as Apr. 8, 1940.

SN 230,980. Robert J. Wendt, d.b.a. Calmar Laboratories, Lakewood, Colo. Filed Oct. 21, 1965.

BEACHCOMBER

For Suntan Lotion.
First use June 19, 1965.

SN 231,667. Bristol-Myers Company, New York, N.Y. Filed Oct. 27, 1965.

OBLIGE

For Women's Hair Dressing and Conditioner.
First use Aug. 25, 1965.

SN 235,895. De Beaufort, Ltd., New York, N.Y. Filed Jan. 6, 1966.

FORUM

For Men's Cologne.
First use Oct. 25, 1961.

SN 235,897. De Beaufort, Ltd., New York, N.Y. Filed Jan. 6, 1966.

ESPRIT

The mark "Esprit" is a French term meaning "spirit."
For Perfume and Toilet Water.
First use Oct. 25, 1955.

SN 235,899. De Beaufort, Ltd., New York, N.Y. Filed Jan. 6, 1965.

BRANDED

For Men's Cologne.
First use Oct. 25, 1957.

SN 236,178. Chesebrough-Pond's Inc., New York, N.Y. Filed Jan. 11, 1966.

Pond's VANISHING CREAM

Applicant disclaims the words "Vanishing Cream" apart from the mark as shown. Owner of Reg. Nos. 180,503, 435,562, and others.
For Toilet and Cosmetic Preparations—Namely, Vanishing Cream.
First use Nov. 16, 1965.

SN 236,425. Studio Girl-Hollywood, Inc., d.b.a. Studio Girl, North Hollywood, Calif. Filed Jan. 13, 1966.

Mr.

For After-Shave Lotion, Pre-Shave Lotion, Cream Hair Dressing, After Shower Talcum, After Shower Spray, Dry Skin Conditioner, Spray Deodorant, Cologne, and Aerosol Shave Cream.
First use on or about Aug. 14, 1962.

SN 237,955. Geigy Chemical Corporation, Ardsley, N.Y. Filed Feb. 3, 1966.

LOP

For Cosmetic Depilatory.
First use Jan. 20, 1966.

SN 238,760. The Mennen Company, Morristown, N.J. Filed Feb. 14, 1966.

LIFT OFF

For Skin Cream.
First use Oct. 21, 1965.

SN 238,761. The Mennen Company, Morristown, N.J. Filed Feb. 14, 1966.

TOP ELIMINATOR

For Personal Deodorant.
First use Oct. 4, 1965.

SN 238,762. The Mennen Company, Morristown, N.J. Filed Feb. 14, 1966.

FUEL

For After Shave Lotion.
First use Oct. 4, 1965.

SN 238,763. The Mennen Company, Morristown, N.J. Filed Feb. 14, 1966.

SPLASH DOWN

For After Shave Lotion.
First use Oct. 21, 1965.

Class 52 — Detergents and Soaps

SN 184,906. Texize Chemicals, Inc., Greenville, S.C., assignee of Fantastic Products, Inc., Tulsa, Okla. Filed Jan. 20, 1964.

FANTASTIC

Owner of Reg. No. 709,443.
For Liquid General Household Cleaner.
First use Mar. 1, 1962.

SN 214,911. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 24, 1965.

PACKY PENGUIN

For Concentrated Powdered Bath Soap.
First use Sept. 21, 1963.

SN 214,912. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 24, 1965.

PACKY PENGUIN

For Hair Shampoo.
First use Sept. 21, 1963.

SN 222,689. Gateway Enterprises, Inc., St. Louis, Mo. Filed July 6, 1965.

FERRODAIZE

For Metal Treating Solution for Descaling and Corrosion Inhibition of the Treated Metal.
First use June 28, 1965.

SN 223,721. Rexall Drug and Chemical Company, d.b.a. Carnegie Laboratories, Los Angeles, Calif. Filed July 19, 1965.



The drawing is lined for the colors red, blue, green, and yellow, but no claim is made as to color as a feature of the mark.
For Foaming Bath Soap for Children, Sold in Aerosol Form.
First use June 1, 1965.

SN 223,991. W. R. Grace & Co., New York, N.Y. Filed July 22, 1965.

EZAWAY

Owner of Reg. No. 797,359.
For Biodegradable Cleaner for Use in Food Processing Plants.
First use June 15, 1965.

SN 224,606. Joseph M. Gidding, d.b.a. J. Gidding Co., New York, N.Y. Filed July 30, 1965.

CHAMPALOO

For Hair Shampoo.
First use July 11, 1965.

SN 226,339. Com-Pak Chemical Corporation, Shakopee, Minn. Filed Aug. 24, 1965.

CHEM-I-SAN

For Detergent for General Purpose Cleaning.
First use Feb. 22, 1964.

SN 227,365. Van Straaten Chemical Company, Chicago, Ill. Filed Sept. 7, 1965.

VLC

For Cleaning Preparation for Use on Machinery, Metals, Concrete, and Wood Surfaces.
First use on or about Aug. 1, 1965.

SN 229,781. Foodland, Inc., Cleveland, Ohio. Filed Oct. 11, 1965.

FOODLAND

Owner of Reg. Nos. 326,478, 785,369, and others.
For Liquid and Powdered Detergent for Household Use.
First use Nov. 14, 1964.

SN 234,973. United Distributors Service, Inc., Roanoke, Va. Filed Dec. 20, 1965.

UDS

Owner of Reg. No. 768,348.
For Wax and Grease Remover.
First use Nov. 15, 1965.

SN 239,677. Texize Chemicals, Inc., Greenville, S.C. Filed Feb. 25, 1966.

FANTASTIK

Owner of Reg. No. 709,443.
For Spray Cleaner for Household Use.
First use June 1, 1965.

SERVICE MARKS

Class 100 — Miscellaneous

SN 204,161. Global Marine Inc., Los Angeles, Calif., assignee of Global Marine Exploration Company, Los Angeles, Calif. Filed Oct. 16, 1964.

GLOMAR

For Offshore Drilling Exploration and Production Services.
First use Feb. 3, 1962.

SN 205,752. Coral Chemical Company, Waukegan, Ill. Filed Nov. 6, 1964.

coral

For Industrial Chemical Consultant Services With Respect to Formulation and Preparation of Chemical Compounds for Industrial and Institutional Maintenance, Cleaning, Etching, Finishing, Lubricating, Deodorising, Conditioning, and Coating.
First use Apr. 1, 1953.

SN 214,484. Transition Incorporated, Chicago, Ill. Filed Mar. 18, 1965.

Corplan ASSOCIATES
CONSULTANTS TO MANAGEMENT

Applicant disclaims the phrase "Consultants to Management" apart from the mark as shown.
For Management Consulting, Corporate Planning, Organization Analysis, Market and Marketing Analysis, New Product Planning, Company Acquisition Analysis, Industrial Engineering, Management Information Systems, Financial Planning and Analysis, Management Training Programs, Area Development, Municipal Management, Urban Planning, International Economics, International Business Operations and Research and Development Planning.
First use Apr. 20, 1964.

SN 219,003. The Kartridg Pak Co., Davenport, Iowa. Filed May 17, 1965.

ALPHA

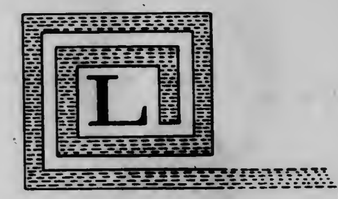
Owner of Reg. Nos. 676,803 and 680,736.
For Research and Development Work, Design Work, and Preparation of Engineering Drawings, in the Mechanical, Electrical, and Production Engineering Fields, and in the Automation Field.
First use Mar. 31, 1945.

SN 221,532. Sveden House Developers, International, Inc., Minneapolis, Minn. Filed June 18, 1965.



Applicant disclaims the exclusive use of the word "Smorgasbord" apart from the mark as shown.
For Restaurant Services.
First use May 1, 1964.
Subj. to Intf. with SN 208,744.

SN 223,868. Carson Pirie Scott & Company, Chicago, Ill. Filed July 21, 1965.



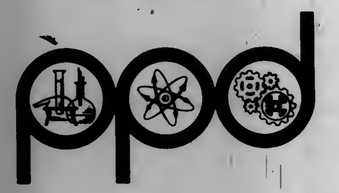
The drawing is lined for the color gray, but no claim is made to color as a feature of the mark.
For Shopping Center Services—Namely, Leasing of Space for Commercial Facilities, Maintenance of Shopping Center Grounds, and Operation of Parking Facilities.
First use Sept. 15, 1962.

SN 224,542. Mister Donut of America, Inc., Westwood, Mass. Filed July 29, 1965.

DOUGHNUTS WERE NEVER IN SUCH GREAT SHAPE BEFORE!

For Snack Bar Services Dealing Primarily With the Sale of Coffee and Doughnuts.
First use Apr. 25, 1965.

SN 229,775. Harvey Franklin Doren, d.b.a. Product Promotions & Development, Boston, Mass. Filed Oct. 11, 1965.



For Evaluation, Market Research, Selling, Management, Marketing, Promotion and/or the Development of Ideas, Inventions, Businesses, and the Like.
First use June 21, 1964.

SN 229,937. The Assembly Corporation, Washington, D.C. Filed Oct. 12, 1965.

ROLL CALL

For Cafe and Restaurant Services.
First use Aug. 4, 1965.

Class 101 — Advertising and Business

SN 197,474. Coffee Clubs, Inc., of America., Chicago, Ill. Filed July 9, 1964.

COLUMBIA COFFEE SERVICE

The words "Coffee Service" are disclaimed apart from the mark as shown.
For Services of Providing Coffee and All of the Necessary Equipment for Preparing Coffee at Places of Business.
First use Apr. 1, 1961.

SN 198,422. Inventors' League, Inc., Bala Cynwyd, Pa. Filed July 23, 1964.



For Product Design, Development, and Marketing Services Rendered to Inventors.
First use in or about June 1964.

SN 203,903. Vacation Bingo, Inc., New York, N.Y. Filed Oct. 13, 1964.

VACATION BINGO

Applicant disclaims the word "Bingo" apart from the composite mark as shown.
For Sales Promotion for Supermarkets and Retail Establishments by Means of a Program Carried Out Through Newspaper Advertising, Radio, and Television Broadcasting, Store Window Displays, Clerk Badges, Advertising Displays and Signs, Game Cards, and Game Instructions.
First use Sept. 15, 1964.

SN 204,646. Fast Foods, Inc., Columbus, Ohio. Filed Oct. 23, 1964.

FAST FOODS MART

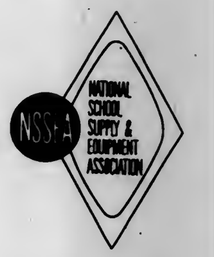
For Advice and Consultation in the Establishment and Operation of Retail Grocery Stores.
First use Feb. 15, 1964.

SN 213,975. Homestead Valve Manufacturing Company, Coraopolis, Pa. Filed Mar. 12, 1965.



For Installation and Maintenance of Self-Service Car Washing Equipment.
First use Nov. 27, 1964.

SN 219,253. National School Supply & Equipment Association, Chicago, Ill. Filed May 19, 1965.



For Association Services in the Field of School Supplies and Equipment.
First use September 1958.

SN 220,879. Red Scissors, Incorporated, Newark, N.J. Filed June 10, 1965.



Applicant disclaims the words "Gift Coupons" apart from the mark as shown. Owner of Reg. Nos. 638,190, 763,682, and others.
For Promoting the Sale of the Goods of Others Through the Medium of Coupons Redeemable in Merchandise.
First use Apr. 26, 1965.

SN 221,390. J. Ray McDermott & Co., Inc., New Orleans, La. Filed June 17, 1965.



The drawing is lined for red and blue.
For Business Services—Namely, Retail Lumber Services and the Retailing of Drillers' Supplies Such as Oil Mud.
First use at least as early as Sept. 30, 1962.

SN 224,787. Profit for You, Inc., Orange, Calif. Filed Aug. 2, 1965.

PROFIT FOR YOU

For Advertising and Managing Fund-Raising Campaigns and Projects by Charitable Organizations, and Selecting and Approving Products Which Are Sold or Offered in Exchange for Donations by Such Organizations in Such Campaigns and Projects.
First use May 1965.

SN 225,174. J. Ray McDermott & Co., Inc., New Orleans, La. Filed Aug. 6, 1965.

MC DERMOTT

For Business Services—Namely, Retail Lumber Services and the Retailing of Drillers' Supplies, Such as Oil Mud.
First use at least as early as 1937.

SN 230,671. Frank H. Magee, d.b.a. Frank H. Magee Associates, Glenside, Pa. Filed Oct. 20, 1965.



For Management Consultation Services Providing Advice on Warehousing, Plant Layout, Materials Handling, Inventory Control, Transportation, and Economic Studies.
First use May 1, 1965.

SN 231,328. The Wingate Corporation, Providence, R.I. Filed Oct. 22, 1965.

Wingate

For Data Processing Services.
First use in or about June 1955.

SN 232,421. Alan J. Richards, Annapolis, Md. Filed Nov. 9, 1965.

RADIO RING-O

No claim is made to the word "Radio" apart from the mark as shown. Owner of Reg. No. 557,014.
For Promoting the Sale of the Goods and Services of Others by Means of a Bingo-Like Game Which Is Broadcast Over the Radio.
First use Aug. 15, 1947.

Class 102 — Insurance and Financial

SN 202,001. American Title Insurance Company, Miami, Fla. Filed Sept. 16, 1964.



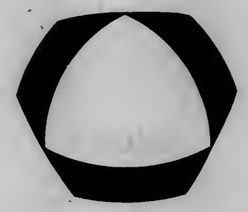
"Nationwide Service," and the outline map of the United States are disclaimed apart from the mark as shown.
For Underwriting Title Insurance.
First use in or about April 1964.

SN 202,002. American Title Insurance Company, Miami, Fla. Filed Sept. 16, 1964.

American TITLE INSURANCE COMPANY

"Nationwide Service," and the outline map of the United States are disclaimed apart from the mark as shown.
For Underwriting Title Insurance.
First use in or about April 1964.

SN 220,508. Industrial Valley Bank and Trust Company, Jenkintown, Pa. Filed June 7, 1965.



For General Banking and Trust Services.
First use Dec. 8, 1964.

SN 221,453. Beneficial Standard Life Insurance Company, Los Angeles, Calif. Filed June 18, 1965.

BENEFICIAL
BIG
INSURANCE GROUP

The words "Beneficial" and "Insurance Group" are disclaimed apart from the mark as shown. Owner of Reg. No. 767,725.
For Underwriting of Insurance.
First use Mar. 8, 1965.

SN 223,616. American Express Company, New York, N.Y. Filed July 19, 1965.

SIGN & TRAVEL

Owner of Reg. No. 801,106.
For Credit Financing of Arranged or Escorted Tours.
First use Mar. 26, 1965.

SN 223,617. American Express Company, New York, N.Y. Filed July 19, 1965.

DINE & SIGN

Owner of Reg. No. 801,106.
For Credit Card Plan for Extension of Credit for Meals, Beverages and Entertainment to Customers Who Patronize Subscribing Establishments and Making Collections From Said Customers Through a Central Billing System.
First use Mar. 22, 1965.

Class 103 — Construction and Repair

SN 199,056. Monte H. Greenawalt, d.b.a. Shoe-Mate Orthopedic Arch Co., Dubuque, Iowa. Filed Aug. 3, 1964.



Owner of Reg. No. 787,624.
For Preparing Arch Supports to the Order of Others.
First use Aug. 3, 1963.

SN 205,554. Grove Manufacturing Co., Shady Grove, Pa. Filed Nov. 4, 1964.

GROVE

Owner of Reg. Nos. 792,129 and 792,130.
For Custom Manufacturing and Maintenance Services for Mobile Hydraulic Cranes, Fire Aerial Ladders, Industrial and Farm Transportation Equipment, Farm Elevators, Conveyors and Associated Equipment, and Snow Removal, Grading, and Digging Attachments for Vehicles.
First use April 1946.

SN 212,427. The Lock-Tronic Corporation, Columbus, Ohio. Filed Feb. 19, 1965.

CONTROLOCK

For Installation, Maintenance, and Rendering of Reports in Connection With Time-Recording Door Locks.
First use June 23, 1964.

SN 220,119. Medafab Corporation, Manitowoc, Wis. Filed June 1, 1965.

BUTTON-ON

For Deodorizing Laundered Garments.
First use Mar. 24, 1965.

SN 220,816. American Buildings Company, Atlanta, Ga. Filed June 10, 1965.



For Construction and Erection of Steel Buildings.
First use on or about Apr. 1, 1960.

SN 222,570. Gateway Erectors, Inc., Chicago, Ill. Filed July 2, 1965.

GATEWAY

Owner of Reg. No. 660,929.
For Leasing of Metal Forms, and Erection of Forms, Reinforcing Steel, and Framing for Concrete Structures.
First use January 1935.

SN 224,397. Cottman Automatic Transmissions, Inc., Cheltenham Township, Pa. Filed July 28, 1965.

COTTMAN

For Repairing Automatic Transmissions in Automotive Vehicles.
First use April 1962.

SN 225,007. Central Air Conditioning & Sheet Metal, Inc., Miami, Fla. Filed Aug. 5, 1965.



For Services in Installation, Maintenance, and Repair of Air Conditioning, Home Construction Work Comprising Installation of Gutters and Ventilation and Heating Equipment, and Sheet Metal Work Comprising Custom Fabrication of Sheet Metal by Cutting, Punching, Stamping, and Welding.
First use May 1, 1965.

SN 226,871. Upour Concrete Company, Portland, Oreg. Filed Aug. 31, 1965.



For Manufacture, Sale, and Delivery of Ready-Mix Concrete to Construction Sites.
First use Feb. 23, 1965.

Class 105 — Transportation and Storage

SN 199,206. Intercontinental Transport, Redondo Beach, Calif. Filed Aug. 4, 1964.



For Freight Forwarding Services and Travel Agency Services.
First use Jan. 10, 1961.

SN 224,539. Richard E. S. Maxson, Amherst, Mass. Filed July 29, 1965.

TREASURY OF TRAVEL

The word "Travel" is disclaimed apart from the mark as shown.
For Travel Agency Service—Namely, the Arranging and Conducting of Travel and Sightseeing Tours.
First use Mar. 21, 1964.

Class 106 — Material Treatment

SN 202,040. Ocean City Research Corporation, Ocean City, N.J. Filed Sept. 16, 1964.



For Testing Goods of Others for Exposure to Salt Air, Salt Water, and Mud.
First use Aug. 15, 1964.

SN 224,383. John Boyle and Company, Incorporated, New York, N.Y. Filed July 28, 1965.

WEATHER-MATE

For Treatment of Fabrics Utilized for Industrial, Outdoor, and Marine Purposes to Render Same Water Repellent and Mildew Resistant, Comprising the Application of Fungicides, Waxes, Dyes, and Pigments.
First use July 9, 1965.

SN 229,536. Associated Oil & Gas Co., d.b.a. Long Mile Rubber Company, Dallas, Tex. Filed Oct. 7, 1965.

CertiMile

For Tire Retread Testing.
First use on or about Sept. 27, 1965.

Class 107 — Education and Entertainment

SN 199,379. Stanton F. Matlock, Cincinnati, Ohio. Filed Aug. 6, 1964.

M.O.A.

For Radio Broadcasts Embodying Narrative Information Covering Diverse Subjects of General and Topical Interest.
First use Mar. 10, 1952.

SN 210,429. Flight Safety Inc., Flushing, N.Y. Filed Jan. 22, 1965.

THE BEST SAFETY DEVICE IN ANY AIRCRAFT IS A WELL-TRAINED PILOT

For Educational Services—Namely, Pilot Training.
First use Mar. 16, 1964.

SN 211,138. Florence Utt Switchboard Training Systems, Inc., Anaheim, Calif. Filed Jan. 12, 1965.



For Educational Services—viz, Instruction in the Operation of the Switchboard and Receptionists' Duties.
First use Jan. 2, 1949.

SN 218,803. Scholastic Magazines, Inc., New York, N.Y. Filed May 13, 1965.



The words "Research Center" are disclaimed apart from the mark as shown. Owner of Reg. No. 687,399.
For Conducting Surveys of Facts, Opinions, Motivations, and Attitudes of Individuals Relating to Various Subjects, and Disseminating Information as to the Results of Such Surveys Through the Medium of Information Reports, Pamphlets, Bulletins, Correspondence, and Periodical Publications.
First use September 1964.

SN 222,103. B.F.C., Inc., Cincinnati, Ohio. Filed June 28, 1965.

SUNDAY GIG

For Title of a Radio Program.
First use Feb. 1, 1965.

SN 232,053. Bill Anderson, Nashville, Tenn. Filed Nov. 3, 1965.

THE PO' BOYS

For Entertainment Services—Namely, Renditions of a Country Music Band.
First use Mar. 20, 1964.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 189,796. National Child Evangelism Fellowship of the U.S.A., Grand Rapids, Mich. Filed Mar. 27, 1964.



For Indicating Membership in the Organization.
First use May 20, 1937.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

812,773. GRAPH-I-TITE. Basic Carbon Corporation. SN 202,538. Pub. 5–31–66. Filed 9–24–64.

812,774. F–4. International Minerals & Chemical Corporation. SN 208,193. Pub. 5–31–66. Filed 12–15–64.

812,775. CHEM-O-SET. Chemical Products Corporation. SN 211,626. Pub. 5–31–66. Filed 2–9–65.

812,776. REPRESENTATION OF A MOLECULE (DESIGN). Chemsol, Incorporated. SN 214,431. Pub. 5–31–66. Filed 3–18–65.

812,777. CAMEO CALF. The Ohio Leather Company. SN 221,838. Pub. 5–31–66. Filed 6–28–65.

812,778. HAPHY. Fields Plastics & Chemicals, Inc. SN 229,224. Pub. 5–31–66. Filed 10–4–65.

Class 2 — Receptacles

812,779. SALTON. Salton, Incorporated. MULTIPLE CLASS (Classes 2, 21, 23, 31, and 33). SN 206,885. Pub. 5–31–66. Filed 11–24–64.

812,780. LAUNDREE KLEAN. Anthony Metal Products Company, Inc. SN 213,081. Pub. 5–31–66. Filed 3–3–65.

812,781. RATERMINAL. J. J. Dill Company. SN 217,613. Pub. 5–31–66. Filed 4–29–65.

812,782. PUSH 'N' PICK. Edmund A. Kustusch, d.b.a. Atlantic Import Company. SN 219,007. Pub. 5–31–66. Filed 5–17–65.

812,783. LUSTRO-WARE. Columbus Plastic Products, Inc. SN 229,760. Pub. 5–31–66. Filed 10–11–65.

Class 4 — Abrasives and Polishing Materials

812,784. W AND DESIGN. J. A. Wright & Co. MULTIPLE CLASS (Classes 4 and 52). SN 205,478. Pub. 5–31–66. Filed 11–3–64.

812,785. DME AND DESIGN. D-M-E Corporation. MULTIPLE CLASS (Classes 4, 16, 23, and 52). SN 216,273. Pub. 5–31–66. Filed 4–12–65.

812,786. VANGARD. Vangard Chemical Corporation. SN 222,086. Pub. 5–31–66. Filed 6–25–65.

812,787. META-GLOSS. The Meta-Therm Corporation. SN 227,767. Pub. 5–31–66. Filed 9–14–65.

Class 6 — Chemicals and Chemical Compositions

812,788. SULFOSOL. Allied Chemical Corporation. SN 195,047. Pub. 7–13–65. Filed 6–8–64.

812,789. TIZOX. Tison Chemical Corporation. SN 195,174. Pub. 4–13–65. Filed 6–8–64.

812,790. RICILAN. American Cholesterol Products, Inc. SN 196,232. Pub. 5–31–66. Filed 6–23–64.

812,791. POLY-THANE. Pelron Corporation. SN 202,101. Pub. 5–31–66. Filed 9–17–64.

812,792. STERI-GAS. Advanced Products Corp. SN 203,061. Pub. 5–31–66. Filed 10–1–64.

812,793. TEXACO. Texaco Inc. SN 203,441. Pub. 5–31–66. Filed 10–6–64.

812,794. BRYTON HI-MOL. Continental Oil Company. SN 205,779. Pub. 5–31–66. Filed 11–9–64.

812,795. P-M-S. Hycel, Inc. SN 206,729. Pub. 5–31–66. Filed 11–23–64.

812,796. SUPER-TEST. Signal Oil and Gas Company. SN 208,775. Pub. 5–31–66. Filed 12–23–64.

812,797. COMPLESOL. American Cyanamid Company. SN 209,648. Pub. 5–31–66. Filed 1–11–65.

812,798. IMCO. International Minerals & Chemical Corporation. SN 210,313. Pub. 5–31–66. Filed 1–21–65.

812,799. DIRECT FILM. General Research, Inc. SN 211,356. Pub. 5–31–66. Filed 2–4–65.

812,800. WOLMANAC. Koppers Company, Inc. SN 211,489. Pub. 5–31–66. Filed 2–5–65.

812,801. CHROMEDIA. W. & R. Balston, Limited. SN 211,491. Pub. 5–31–66. Filed 2–8–65.

812,802. LIPOCHOL. Stonehill Laboratories, Inc. SN 211,846. Pub. 5–31–66. Filed 2–11–65.

812,803. MAGIC DISK. Arthur J. Williams, d.b.a. Vapor Products Company. SN 213,503. Pub. 5–31–66. Filed 3–5–65.

812,804. RSN. Mallinckrodt Chemical Works. SN 215,285. Pub. 5–31–66. Filed 3–29–65.

812,805. DURAFILM. National Starch and Chemical Corporation. SN 215,531. Pub. 4–5–66. Filed 4–1–65.

812,806. PRO-CIDE. Virginia Chemicals Inc. SN 215,804. Pub. 5–31–66. Filed 4–5–65.

812,807. BRADPERMA CPP. Bradford Dyeing Association (U.S.A.) Inc. SN 216,563. Pub. 5–31–66. Filed 4–15–65.

812,808. GREY'S. Grey Industries, Inc. SN 216,589. Pub. 5–31–66. Filed 4–15–65.

812,809. HARSHAW AND DESIGN. The Harshaw Chemical Company. SN 217,540. Pub. 5–31–66. Filed 4–28–65.

812,810. PATROL. Alberto-Culver Company. SN 217,688. Pub. 5–31–66. Filed 4–30–65.

812,811. UTIKEM. Utility Chemical Company. SN 218,348. Pub. 5–31–66. Filed 5–7–65.

812,812. PYROMAG. Mackenzie Chemical Works, Inc. SN 218,557. Pub. 5–31–66. Filed 5–11–65.

812,813. SWEET AIRE. American Cyanamid Company. SN 218,717. Pub. 5–31–66. Filed 5–13–65.

812,814. DAZZLE AND DESIGN. J. L. Prescott Company. SN 219,139. Pub. 5–31–66. Filed 5–18–65.

812,815. FERMCOTEST. Fermco Laboratories, Inc. SN 219,542. Pub. 5–31–66. Filed 5–24–65.

812,816. MAGIC D AND DESIGN. Le Fevre Chemical Company. SN 222,387. Pub. 5–31–66. Filed 6–30–65.

812,817. LYPHOGEL. Gelman Instrument Company. SN 223,399. Pub. 5–31–66. Filed 7–15–65.

812,818. RID-X. Sterling Drug Inc. SN 223,743. Pub. 5–31–66. Filed 7–19–65.

812,819. TRI-BO. Chapman Chemical Company. SN 224,583. Pub. 5–31–66. Filed 7–30–65.

812,820. DE-FI AND DESIGN. The Climalene Company. SN 225,928. Pub. 5–31–66. Filed 8–18–65.

812,821. DDI. General Mills, Inc. SN 226,047. Pub. 5–31–66. Filed 8–19–65.

Class 7 — Cordage

812,822. SAFARI. Noorani Cordage Limited. SN 228,176. Pub. 5–31–66. Filed 9–20–65.

Class 8—Smokers' Articles, Not Including Tobacco Products

812,823. THE DOODLER. William John Mincer. SN 229,670. Pub. 5–31–66. Filed 10–8–65.

Class 9—Explosives, Firearms, Equipments, and Projectiles

812,824. INDIAN HEAD (DESIGN). Emhart Corporation. SN 213,859. Pub. 5–31–66. Filed 3–11–65.

Class 11—Inks and Inking Materials

812,825. FABCO. Fabco Incorporated. MULTIPLE CLASS (Classes 11, 37, and 52). SN 183,046. Pub. 5–31–66. Filed 12–16–63.

812,826. SUNVURE. Sun Chemical Corporation. SN 225,683. Pub. 5–31–66. Filed 8–13–65.

Class 12—Construction Materials

812,827. STURDI-TIES. Central Texas Iron Works. SN 216,482. Pub. 5–31–66. Filed 4–14–65.

812,828. W AND DESIGN. Widescope, Incorporated. SN 216,547. Pub. 5–31–66. Filed 4–14–65.

812,829. SAM BRAEN AND DESIGN. Samuel Braen. MULTIPLE CLASS (Classes 12, 15, 103, and 105). SN 217,436. Pub. 5–31–66. Filed 4–27–65.

812,830. CHEVRON (DESIGN). Standard Oil Company of California. SN 218,336. Pub. 5–31–66. Filed 5–7–65.

812,831. QUAWOOD. Barnes Lumber Corporation. SN 218,609. Pub. 5–31–66. Filed 5–12–65.

812,832. FLAIR. Rohm & Haas Company. SN 218,700. Pub. 5–31–66. Filed 5–12–65.

812,833. PARA-PLASTIC. W. R. Grace & Co. SN 219,875. Pub. 5–31–66. Filed 5–27–65.

812,834. RAM (DESIGN). The S. Obermayer Company, d.b.a. The Ramtite Co. SN 220,227. Pub. 5–31–66. Filed 6–2–65.

812,835. HOMASOTE COLOR COATED. Homasote Company. SN 224,612. Pub. 5–31–66. Filed 7–30–65.

812,836. ALUMA-WOOD. Newman Brothers, Inc. SN 226,273. Pub. 5–31–66. Filed 8–23–65.

812,837. PANEL-MATES. Evans Products Company. SN 227,133. Pub. 5–31–66. Filed 9–3–65.

812,838. BUFFER-SEAL. Bridgeport Fabrics, Inc. SN 227,551. Pub. 5–31–66. Filed 9–10–65.

812,839. REGAL CREST. Doughboy Industries, Inc. MULTIPLE CLASS (Classes 12 and 22). SN 228,431. Pub. 5–31–66. Filed 9–23–65.

812,840. MO-SAI. Mo-Sai Institute Inc. SN 228,794. Pub. 5–31–66. Filed 9–27–65.

812,841. CONTINENTAL BLUE. The Georgia Marble Company. SN 228,816. Pub. 5–31–66. Filed 9–28–65.

812,842. USM AND DESIGN. United States Mineral Products Company. SN 228,957. Pub. 5–31–66. Filed 9–29–65.

812,843. KK AND DESIGN. Kollar Kap Corp. SN 229,014. Pub. 5–31–66. Filed 9–30–65.

812,844. GRAHN'S AND DESIGN. Grahn Manufacturing Company. SN 232,073. Pub. 5–31–66. Filed 11–3–65.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

812,845. SEAQUIST AND DESIGN. Pittsburgh Railways Company, assignee, by mesne assignment, of Seaquist Manufacturing Corp. SN 200,208. Pub. 5–31–66. Filed 8–19–64.

812,846. M AND DESIGN. Melnor Industries, Inc. MULTIPLE CLASS (Classes 13 and 26). SN 219,748. Pub. 5–31–66. Filed 5–26–65.

812,847. WELD-SAFE. Earl E. Howe. SN 220,372. Pub. 5–31–66. Filed 6–4–65.

812,848. EMPIRE CRAFTS. Empire Crafts Corporation. SN 222,139. Pub. 5–31–66. Filed 66–28–65.

812,849. ICC. International Controls Corp. SN 227,295. Pub. 5–31–66. Filed 9–7–65.

812,850. WEATH-R. Bethlehem Steel Corporation. SN 228,610. Pub. 5–31–66. Filed 9–27–65.

812,851. WR. Bethlehem Steel Corporation. SN 228,611. Pub. 5–31–66. Filed 9–27–65.

812,852. VERIBOLT. Brownline Corporation. SN 229,063. Pub. 5–31–66. Filed 10–1–65.

812,853. TUKTITE. Screw and Bolt Corporation of America. SN 229,300. Pub. 5–31–66. Filed 10–4–65.

812,854. LITTLE STUFF. Paragon Spring Company. SN 229,370. Pub. 5–31–66. Filed 10–5–65.

812,855. MINNIE. Paragon Spring Company. SN 229,371. Pub. 5–31–66. Filed 10–5–65.

812,856. LUSTRO-WARE. Columbus Plastic Products, Inc. SN 229,761. Pub. 5–31–66. Filed 10–11–65.

Class 14—Metals and Metal Castings and Forgings

812,857. ZEROL'D. Sharon Steel Corporation. SN 220,798. Pub. 5–31–66. Filed 6–9–65.

812,858. PC AND DESIGN. Precasco Corporation. SN 220,877. Pub. 5–31–66. Filed 6–10–65.

812,859. JORGENSEN AND DESIGN. Earle M. Jorgensen Co. SN 222,710. Pub. 5–31–66. Filed 7–6–65.

812,860. GRIALINOX. Compagnie Generale du Duralumin et du Cuivre, CEGEDUR. SN 228,241. Pub. 5–31–66. Filed 9–21–65.

Class 15—Oils and Greases

812,829. (See Class 12 for this trademark.)

812,861. BOY (DESIGN). Thriftway Gas Stations, Inc. SN 206,780. Pub. 5–31–66. Filed 11–23–64.

812,862. OIL MISER AND DESIGN. Union Carbide Corporation. SN 218,344. Pub. 5–31–66. Filed 5–7–65.

Class 16—Protective and Decorative Coatings

812,785. (See Class 4 for this trademark.)

812,863. DC OUTDOOR ADVERTISING PAINTS AND DESIGN. Danacolors, Inc. SN 198,461. Pub. 5–31–66. Filed 7–24–64.

812,864. DIKON. Fleet Wholesale Supply Co., Inc. SN 216,584. Pub. 5–31–66. Filed 4–15–65.

812,865. RUST-FIX. Bright Beauty, Inc. SN 220,354. Pub. 5–31–66. Filed 6–4–65.

Class 17—Tobacco Products

812,866. PARTNER. Amer-Tupakka Oy. SN 206,912. Pub. 5–31–66. Filed 11–25–64.

812,867. RIES' THREE STAR MIXTURE AND DESIGN. Iwan Ries & Co. SN 211,899. Pub. 5–31–66. Filed 2–12–65.

812,868. VAUTIER AND DESIGN. Societe Anonyme Vautier Freres et Cie. SN 218,032. Pub. 5–31–66. Filed 5–4–65.

812,869. MASTERCRAFT. Mastercraft Pipes, Inc. SN 228,266. Pub. 5–31–66. Filed 9–21–65.

812,870. CALIPH. Garcia y Vega, Inc. SN 229,230. Pub. 5–31–66. Filed 10–4–65.

812,871. WEBER ROYAL BANNER. Wally Frank, Ltd. SN 229,425. Pub. 5–31–66. Filed 10–6–65.

Class 18—Medicines and Pharmaceutical Preparations

812,872. TETTERINE. Shuptrine Company. SN 195,724. Pub. 5–31–66. Filed 6–15–64.

812,873. BUTICAPS. McNeil Laboratories, Incorporated. SN 204,079. Pub. 5–31–66. Filed 10–15–64.

812,874. HAROLD WHITE'S MIRACLE LEG PAINT AND DESIGN. Harold J. White, d.b.a. Harold White & Co. SN 205,896. Pub. 5–31–66. Filed 11–9–64.

812,875. TRIMNEED. E. Francis Hanlon, d.b.a. Hanlon Drug Products. SN 209,436. Pub. 5–31–66. Filed 1–6–65.

812,876. 1. Miles Laboratories, Inc. SN 210,029. Pub. 5–31–66. Filed 1–15–65.

812,877. B-ALERT. Forest Laboratories, Inc. SN 215,609. Pub. 5–31–66. Filed 4–2–65.

812,878. AMIPERM. White Laboratories, Inc. SN 216,458. Pub. 5–31–66. Filed 4–13–65.

812,879. MISCELLANEOUS DESIGN. The Vitarine Co., Inc. SN 218,507. Pub. 5–31–66. Filed 5–10–65.

812,880. NEFROLAN. May & Baker Limited. SN 219,128. Pub. 5–31–66. Filed 5–18–65.

812,881. HORSE-PLUS. Ralston Purina Company. SN 219,263. Pub. 5–31–66. Filed 5–19–65.

812,882. PILODUR. Crookes-Barnes Laboratories, Inc. SN 219,861. Pub. 4–5–66. Filed 5–27–65.

812,883. TALPENTO. Richardson-Merrell Inc. SN 223,725. Pub. 5–31–66. Filed 7–19–65.

812,884. AQUEX. Sandos, Inc. SN 228,911. Pub. 5–31–66. Filed 7–21–65.

812,885. DRIAL. American Home Products Corporation. SN 225,709. Pub. 5–31–66. Filed 8–16–65.

812,886. HUMEGON. N.V. Organon. SN 226,073. Pub. 8–15–66. Filed 8–19–65.

812,887. DIAPLASTIN. Ortho Pharmaceutical Corporation. SN 226,939. Pub. 5–31–66. Filed 9–1–65.

812,888. REASEC. Janssen Pharmaceutica NV. SN 227,203. Pub. 5–31–66. Filed 8–30–65.

812,889. RIPERCOL. Janssen Pharmaceutica NV. SN 227,204. Pub. 5–31–66. Filed 8–30–65.

812,890. ECOMER. Aktiebolaget Astra, Apotekarnes Kemiska Fabriker. SN 227,215. Pub. 5–31–66. Filed 9–7–65.

812,891. THERA-COMBEX H-P. Parke, Davis & Company. SN 230,882. Pub. 5–31–66. Filed 10–21–65.

812,892. BUTAZONE. Geigy Chemical Corporation. SN 231,752. Pub. 5–31–66. Filed 10–28–65.

812,893. LAVOLAN. Harcliffe Laboratories, Inc. SN 231,758. Pub. 5–31–66. Filed 10–28–65.

812,894. SULKAMYCIN. Norden Laboratories, Inc. SN 231,771. Pub. 5–31–66. Filed 10–24–65.

812,895. RAGUS. Miller Pharmacal Company. SN 232,926. Pub. 5–31–66. Filed 11–18–65.

812,896. UNCLE SAM. J. T. Gibbons, Inc., d.b.a. American Quality Products Company. SN 234,342. Pub. 5–31–66. Filed 12–10–65.

812,897. SULFACET-R. Dermik Pharmacal Co., Inc. SN 235,034. Pub. 5–31–66. Filed 12–16–65.

812,898. TENDA-HC. Dermik Pharmacal Co., Inc. SN 235,035. Pub. 5–31–66. Filed 12–16–65.

Class 19—Vehicles

812,899. A-1 AND DESIGN. Ford Motor Company. SN 175,911. Pub. 5–31–66. Filed 8–28–63.

812,900. SKAT-KITTY AND DESIGN. Projects Unlimited, Inc. SN 192,943. Pub. 5–31–66. Filed 5–7–64.

812,901. DAF PONY. Van Doorne's Automobielfabriek N.V. SN 205,211. Pub. 5–31–66. Filed 10–30–64.

812,902. FLEXIFORM AND DESIGN. Hans J. Raab. MULTIPLE CLASS (Classes 19 and 44). SN 211,746. Pub. 5–31–66. Filed 2–10–65.

812,903. BARBIE. Mattel, Inc. SN 211,823. Pub. 5–31–66. Filed 2–10–65.

812,904. ALLVIT. Huret et ses Fils, Societe Anonyme Francaise. SN 212,116. Pub. 5–31–66. Filed 2–16–65.

812,905. FURY. The Huffman Manufacturing Company. SN 213,567. Pub. 5–31–66. Filed 3–8–65.

812,906. EXPANSO. Ray M. Jourdan, d.b.a. Jourdan Expanso Manufacturing Company. SN 213,682. Pub. 5–31–66. Filed 3–9–65.

812,907. FAF AND DESIGN. Milton K. Foss. SN 216,287. Pub. 5–31–66. Filed 4–12–65.

812,908. PINTAIL. Molded Fiber Glass Body Company. SN 216,857. Pub. 5–31–66. Filed 4–19–65.

812,909. CAT-A-GATOR AND DESIGN. Cat-A-Gator Corporation. SN 217,086. Pub. 5–31–66. Filed 4–22–65.

812,910. MCMD CUSTOM SPECIAL AND DESIGN. Mid-Continent Aerial Sprayers, Inc. SN 218,207. Pub. 5–31–66. Filed 5–6–65.

812,911. KIT FAIRVIEW AND DESIGN. Kit Manufacturing Company, Inc. SN 222,715. Pub. 5–31–66. Filed 7–6–65.

Class 20—Linoleum and Oiled Cloth

812,912. LOGIFLEX. La Manufacture de Feutres de Mouson (Anciens Etablissements Roger Sommer & ses Fils). SN 218,875. Pub. 5–31–66. Filed 5–14–65.

812,913. PROPYFLEX. La Manufacture de Feutres de Mouson (Anciens Etablissements Roger Sommer & ses Fils). SN 219,885. Pub. 5–31–66. Filed 5–27–65.

812,914. PROPYSOM. La Manufacture de Feutres de Mouson (Anciens Etablissements Roger Sommer & ses Fils). SN 219,886. Pub. 5–31–66. Filed 5–27–65.

812,915. PROPYDALLES. La Manufacture de Feutres de Mouson (Anciens Etablissements Roger Sommer & ses Fils). SN 219,889. Pub. 5–31–66. Filed 5–27–65.

Class 21—Electrical Apparatus, Machines, and Supplies

812,779. (See Class 2 for this trademark.)

812,916. MBS PARKWAY AND DESIGN. Merchants Buying Syndicate Inc. SN 186,101. Pub. 5–31–66. Filed 2–5–64.

812,917. IDENT-O-LITE. Marvin T. Naive, Jr., d.b.a. Naive Manufacturing Co. SN 206,741. Pub. 5–31–66. Filed 11–23–64.

812,918. VARIABLE-D. Electro-Voice, Incorporated. SN 206,927. Pub. 5–31–66. Filed 11–25–64.

812,919. FEATHER-FONE. Communications Industries, Inc. SN 209,766. Pub. 5–31–66. Filed 1–12–65.

812,920. QUICKEE. Dynamic Classics, Ltd. SN 210,286. Pub. 5–31–66. Filed 1–21–65.

812,921. SPORTS RADIO. Sports Radio, Inc. SN 210,613. Pub. 5–31–66. Filed 1–25–65.

812,922. POLE-TRAN. Reliance Electric & Engineering (Canada) Limited. SN 210,987. Pub. 5–31–66. Filed 1–29–65.

812,923. ELECTRO-KEY. Berry Industries, Inc. SN 212,957. Pub. 5–31–66. Filed 3–1–65.

812,924. CHROMATONE. The Magnavox Company. SN 213,339. Pub. 5–31–66. Filed 3–4–65.

812,925. HOT START. Fox Products Company. SN 213,958. Pub. 5–31–66. Filed 3–12–65.

812,926. P-KW. The Patterson Kelley Co., Inc. SN 214,545. Pub. 5–31–66. Filed 3–19–65.

812,927. PICTURE SNATCHER. Bernard Burlingame, d.b.a. Greenbriar Antenna Company. SN 214,833. Pub. 5–31–66. Filed 3–24–65.

812,928. ELECTRO-MATIC-CHEF AND DESIGN. Charles L. Terragno, d.b.a. Electro-Matic Sales Company. SN 215,128. Pub. 5–31–66. Filed 3–26–65.

812,929. ZIP. Electrical Fittings Corporation. SN 215,606. Pub. 5–31–66. Filed 4–2–65.

812,930. K–111. International Telephone and Telegraph Corporation. SN 215,745. Pub. 5–31–66. Filed 4–5–65.

812,931. VALUCHIME. Wheelock Signals, Inc. SN 215,911. Pub. 5–31–66. Filed 4–6–65.

812,932. POW WOW. Gould-National Batteries, Inc. SN 216,299. Pub. 5–31–66. Filed 4–12–65.

812,933. ARABIAN NITE LIGHT AND DESIGN. Ira R. Seltzer, d.b.a. Pasadena Specialty Co. SN 217,217. Pub. 5–31–66. Filed 4–23–65.

812,934. SUPREME. Sunbeam Corporation. SN 218,584. Pub. 5–31–66. Filed 5–11–65.

812,935. LS. Howard Industries, Inc. SN 222,030. Pub. 5–31–66. Filed 6–25–65.

812,936. PRIVATE I. Aluminum Housewares Co., Inc. SN 223,483. Pub. 5–31–66. Filed 7–16–65.

812,937. WEE BONNIE GLOW. George N. Moffitt. SN 223,701. Pub. 5–31–66. Filed 7–19–65.

812,938. COBRA CORD. Robert M. Parks Co. SN 224,113. Pub. 5–31–66. Filed 7–23–65.

812,939. ADJUSTAWELD. Welch Relay Company, Inc. SN 225,621. Pub. 5–31–66. Filed 8–12–65.

812,940. TRIMLESS. Smithcraft Corporation. SN 226,003. Pub. 5–31–66. Filed 8–18–65.

812,941. SYNCRO-FLASH. Tech-Data Corporation. SN 226,006. Pub. 5–31–66. Filed 8–18–65.

812,942. TVC. Television and Electronics Service Corporation, d.b.a. TV Cable Supply Company. SN 226,100. Pub. 5–31–66. Filed 8–19–65.

812,943. MISCELLANEOUS DESIGN. Marquette Corporation. MULTIPLE CLASS (Classes 21, 26, and 34). SN 226,698. Pub. 5–31–66. Filed 8–30–65.

Class 22 — Games, Toys, and Sporting Goods

812,839. (See Class 12 for this trademark.)

812,944. SHELCO PITCH-PLATE AND DESIGN. Shelco Mfg. Co. Inc. SN 203,034. Pub. 5–31–66. Filed 9–30–64.

812,945. SPONGE ART. Rainbow Crafts, Inc. SN 207,658. Pub. 5–31–66. Filed 12–7–64.

812,946. KRYPTO. Krypto Company, assignee of Learning House. SN 209,748. Pub. 5–31–66. Filed 1–11–65.

812,947. ABDO-FLEX. Donald C. Hancock, d.b.a. Abdo-Flex Co. SN 214,064. Pub. 5–31–66. Filed 3–15–65.

812,948. BULLWORKER. Gert F. Kolbel. SN 214,348. Pub. 5–31–66. Filed 3–17–65.

812,949. THERMO-FLEX. Thermo-Flex, Inc. SN 214,720. Pub. 5–31–66. Filed 3–22–65.

812,950. "ORPHANT ANNIE." Alexander Doll Company, Inc., d.b.a. Madam Alexander. SN 216,468. Pub. 5–31–66. Filed 4–14–65.

812,951. RINGO. Amsco Industries, Inc. SN 216,887. Pub. 5–31–66. Filed 9–1–65.

812,952. GRIP LOCK. Grip Lock Golf Glove Co., Inc. SN 228,032. Pub. 5–31–66. Filed 9–17–65.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

812,779. (See Class 2 for this trademark.)

812,785. (See Class 4 for this trademark.)

812,953. SE-LIN. Scientific Advances, Inc. SN 205,203. Pub. 5–31–66. Filed 10–30–64.

812,954. GROUNDSAW. Inhofer Industries, Inc. SN 206,263. Pub. 5–31–66. Filed 11–16–64.

812,955. ARID-PAC. Ingersoll-Rand Company. SN 208,192. Pub. 5–31–66. Filed 12–15–64.

812,956. ALDENS. Aldens, Inc. SN 217,240. Pub. 5–31–66. Filed 4–26–65.

812,957. BALMAR. Balmar Tractor Corporation. SN 220,350. Pub. 5–31–66. Filed 6–4–65.

812,958. ROTO-TOOTH. The Cleveland Trencher Company. SN 220,460. Pub. 5–31–66. Filed 6–7–65.

812,959. POSTAFIX. Data-Link Corporation. SN 220,475. Pub. 5–31–66. Filed 6–7–65.

812,960. CME CERAMIC & METAL ENGINEERS AND DESIGN. Keystone Valve Corporation. SN 221,992. Pub. 5–31–66. Filed 6–25–65.

812,961. SCHMETZ. Firma Ferdinand Bernard Schmetz. SN 222,019. Pub. 5–31–66. Filed 6–25–65.

812,962. DC AND DESIGN. Dura Corporation. SN 224,732. Pub. 5–31–66. Filed 8–2–65.

812,963. GROTESQUE REPRESENTATION OF A DRAGON. Poor & Company. SN 226,375. Pub. 5–31–66. Filed 8–24–65.

812,964. ALLMA AND DESIGN. Allma Allgauer Maschinenbau G.m.b.H. SN 227,541. Pub. 5–31–66. Filed 9–10–65.

812,965. GOPHER. Owatonna Tools, Inc. SN 229,448. Pub. 5–31–66. Filed 10–6–65.

Class 24 — Laundry Appliances and Machines

812,966. IRON ALL AND DESIGN. W & D Electronics Corp. SN 220,179. Pub. 5–31–66. Filed 6–1–65.

812,967. TRUFLO. Archie Solomon. SN 225,209. Pub. 5–31–66. Filed 8–6–65.

Class 26 — Measuring and Scientific Appliances

812,846. (See Class 13 for this trademark.)

812,943. (See Class 21 for this trademark.)

812,968. SPERRY AND DESIGN. Automation Industries, Inc. SN 190,582. Pub. 5–31–66. Filed 4–8–64.

812,969. RHODES AND DESIGN. M. H. Rhodes, Inc. SN 191,213. Pub. 5–31–66. Filed 4–15–64.

812,970. MAMIYA C. Caprod, Ltd., assignee of Mamiya Koki Kabushiki Kaisha, d.b.a. Mamiya Camera Co., Ltd. SN 195,232. Pub. 5–31–66. Filed 6–9–64.

812,971. NC AND DESIGN. Nuclear-Chicago Corporation. SN 202,099. Pub. 5–31–66. Filed 9–17–64.

812,972. LECTRO-PLAQUE. The Simco Company, Inc. SN 203,208. Pub. 5–31–66. Filed 10–2–64.

812,973. TEMP-CHEK. The L. S. Starrett Company. SN 203,346. Pub. 5–31–66. Filed 10–5–64.

812,974. ACME AND DESIGN. Acme Ruler & Advertising Company, Limited. SN 203,909. Pub. 5–31–66. Filed 10–12–64.

812,975. DIDACTON TIC-TAC. Emile Deletaille. SN 204,893. Pub. 5–31–66. Filed 10–27–64.

812,976. MERCURY AND DESIGN. Mercury Electronics Corporation. SN 205,438. Pub. 5–31–66. Filed 11–3–64.

812,977. CONTROLATOR AND DESIGN. Controlator, Inc. SN 213,415. Pub. 5–31–66. Filed 3–5–65.

812,978. GOLD CUP. Fred Meyer, Inc. MULTIPLE CLASS (Classes 26 and 27). SN 214,593. Pub. 5–31–66. Filed 3–22–65.

812,979. SPACE ARC. Radio Corporation of America. SN 215,268. Pub. 5–31–66. Filed 3–29–65.

812,980. DIGIDAPTER. Abbey Electronics Corp. SN 215,569. Pub. 5–31–66. Filed 4–2–65.

812,981. N AND DESIGN. Navionics, Inc. SN 215,771. Pub. 5–31–66. Filed 4–5–65.

812,982. RAP/ROUND. E. D. Bullard Company. SN 216,136. Pub. 5–31–66. Filed 4–9–65.

812,983. RITE-KNOT. Meco Model Electromechanical Corporation. SN 216,420. Pub. 5–31–66. Filed 4–13–65.

812,984. HY-THERM. Hy-Cal Engineering. SN 216,595. Pub. 5–31–66. Filed 4–15–65.

812,985. MULTI-FLUX. Hy-Cal Engineering. SN 216,697. Pub. 5–31–66. Filed 4–16–65.

812,986. MELLO LITE. Univis, Inc. SN 216,760. Pub. 5–31–66. Filed 4–16–65.

812,987. BLUE LABEL. Speed-O-Print Business Machines Corporation. SN 216,877. Pub. 5–31–66. Filed 4–19–65.

812,988. THREADWELL. Threadwell Tap and Die Company. SN 219,157. Pub. 5–31–66. Filed 5–18–65.

812,989. DUO PILOT. General Services Company, d.b.a. Microfloc Corporation. SN 224,856. Pub. 5–31–66. Filed 8–3–65.

812,990. MONO PILOT. General Services Company, d.b.a. Microfloc Corporation. SN 224,857. Pub. 5–31–66. Filed 8–3–65.

812,991. LOGICATOR AND DESIGN. Bowmar Instrument Corporation. SN 225,631. Pub. 5–31–66. Filed 8–13–65.

812,992. ARGUS AND DESIGN. Argus Incorporated. SN 228,977. Pub. 5–31–66. Filed 9–30–65.

812,993. ULTRACOTE. American Optical Company. SN 242,306. Pub. 5–31–66. Filed 3–31–66.

Class 27 — Horological Instruments

812,978. (See Class 26 for this trademark.)

812,994. BARBIE AND KEN. Mattel, Inc. SN 210,145. Pub. 5–31–66. Filed 1–18–65.

Class 30 — Crockery, Earthenware, and Porcelain

812,995. LADY FAIR. National Potteries Corporation. SN 227,953. Pub. 5–31–66. Filed 9–16–65.

Class 31 — Filters and Refrigerators

812,779. (See Class 2 for this trademark.)

812,996. FLUITRON. Morton International, Inc., by change of name from Morton Salt Company. SN 203,514. Pub. 5–31–66. Filed 10–7–64.

812,997. MULTI-CEL. Wix Corporation. SN 206,796. Pub. 5–31–66. Filed 11–23–64.

812,998. FRICK AND DESIGN. Frick Company. SN 223,882. Pub. 5–31–66. Filed 7–21–65.

Class 32 — Furniture and Upholstery

812,999. CHARLESTON GALLERIES. Globe Furniture Company. SN 207,879. Pub. 5–31–66. Filed 12–10–64.

813,000. CHEVRON (DESIGN). Standard Oil Company of California. SN 218,338. Pub. 5–31–66. Filed 5–7–65.

813,001. BACK CARE. Simmons Company. SN 223,837. Pub. 5–31–66. Filed 7–20–65.

813,002. CHAPTER AND VERSE AND DESIGN. Maurice J. Rhude. SN 231,596. Pub. 5–31–66. Filed 10–24–65.

Class 33 — Glassware

812,779. (See Class 2 for this trademark.)

Class 34 — Heating, Lighting, and Ventilating Apparatus

812,943. (See Class 21 for this trademark.)

813,003. HEAT AND CONTROL, INC. AND DESIGN. Heat and Control, Inc. SN 134,543. Pub. 5–31–66. Filed 12–22–61.

813,004. BURNRITE. Esterline-Owen Industries, Inc. SN 169,714. Pub. 5–31–66. Filed 5–27–63.

813,005. WELSH FIREGLASS AND DESIGN. J. H. Welsh & Son Contracting Co. SN 195,031. Pub. 5–31–66. Filed 6–5–64.

813,006. ELECTRO-GAS. E. L. Townsend, d.b.a. E. L. Townsend & Co. SN 204,316. Pub. 5–31–66. Filed 10–19–64.

813,007. SUPER MIGET. Air Reduction Company, Incorporated. SN 206,995. Pub. 5–31–66. Filed 11–27–64.

813,008. DEOXALUMINITE AND DESIGN. Special Chemicals Corporation. SN 209,463. Pub. 5–31–66. Filed 1–6–65.

813,009. COMPACT 400. The Patterson Kelley Co., Inc. SN 214,548. Pub. 5–31–66. Filed 3–19–65.

813,010. FLO/TRAY. The Ducon Company, Inc. SN 217,100. Pub. 5–31–66. Filed 4–22–65.

813,011. LAFAYETTE. Lafayette Radio Electronics Corporation. SN 217,550. Pub. 5–31–66. Filed 4–28–65.

813,012. HELIWELDER. Air Reduction Company, Incorporated. SN 222,242. Pub. 5–31–66. Filed 6–29–65.

813,013. SKYMARK. Lennox Industries Inc. SN 223,800. Pub. 5–31–66. Filed 7–20–65.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

813,014. H.D.T.L. The Hercules Tire & Rubber Company. SN 211,435. Pub. 5–31–66. Filed 2–5–65.

813,015. TUF-E-NUZ. W. S. Shamban & Co. SN 217,667. Pub. 5–31–66. Filed 4–29–65.

Class 37—Paper and Stationery

812,825. (See Class 11 for this trademark.)

813,016. LUMBER GARD. Thilmany Pulp & Paper Company. SN 201,063. Pub. 5–31–66. Filed 9–1–64.

813,017. THRIFTISETTE. Hammermill Paper Company. SN 206,103. Pub. 5–31–66. Filed 11–12–64.

813,018. FLEXY. Micropoint, Inc. SN 214,001. Pub. 5–31–66. Filed 3–12–65.

813,019. POWER-CLIK. The Power-Clik Corporation. SN 216,102. Pub. 5–31–66. Filed 4–8–65.

813,020. POWER PEN. American R.D.M. Corporation. SN 227,809. Pub. 5–31–66. Filed 9–15–65.

813,021. DISCOTHEQUE. David Kahn, Inc. SN 230,398. Pub. 5–31–66. Filed 10–18–65.

Class 38—Prints and Publications

813,022. THE METAL FABRICATOR ETC. AND DESIGN. Walter B. Frost & Co., Inc. SN 124,734. Pub. 5–31–66. Filed 7–26–61.

813,023. DESIGN WEEK. The Penton Publishing Company. SN 167,041. Pub. 5–31–66. Filed 4–18–63.

813,024. MECA AND DESIGN. Florida Power & Light Company. SN 216,158. Pub. 5–31–66. Filed 4–9–65.

813,025. SPINNING WHEEL AND DESIGN. Everybodys Poultry Magazine Publishing Co. SN 216,284. Pub. 5–31–66. Filed 4–12–65.

813,026. ARTIA AND DESIGN. Artia, Podnik Zahranicniho Obchodu Pro Dovoz a Vyvoz Kulturnich Statku. SN 216,644. Pub. 5–31–66. Filed 4–15–65.

813,027. ARTIA AND DESIGN. Artia, Podnik Zahranicniho Obchodu Pro Dovoz a Vyvoz Kulturnich Statku. SN 216,645. Pub. 5–31–66. Filed 4–15–65.

813,028. MASTERPIECE MURALS. Standard Packaging Corporation. SN 216,917. Pub. 5–31–66. Filed 4–19–65.

813,029. MASTERPIECE POSTERS. Standard Packaging Corporation. SN 216,918. Pub. 5–31–66. Filed 4–19–65.

813,030. THE CLASSIC COLLECTION. Plastichrome Greetings, Inc., d.b.a. The Newbury Guild Division. SN 217,781. Pub. 5–31–66. Filed 4–30–65.

813,031. THE WIZARDY OF WORDS AND DESIGN. Daniel G. MacMillan. SN 224,107. Pub. 5–31–66. Filed 7–23–65.

813,032. LASER FOCUS AND DESIGN. International Data Corporation. SN 225,568. Pub. 5–31–66. Filed 8–12–65.

813,033. CAMPUS LIFE. Youth for Christ International Inc. SN 228,294. Pub. 5–31–66. Filed 9–20–65.

813,034. UNITED CHURCH HERALD. United Church Board for Homeland Ministries. SN 228,770. Pub. 5–31–66. Filed 9–27–65.

Class 39—Clothing

813,035. NORSE VILLAGE. Shirley Rae Moon. SN 179,055. Pub. 5–31–66. Filed 10–15–63.

813,036. MICHELLE K. Young Set, Inc. SN 184,121. Pub. 5–31–66. Filed 1–6–64.

813,037. BROOMSTICKS. Glen Oaks Sales, Inc. SN 192,389. Pub. 5–31–66. Filed 4–30–64.

813,038. COUTURIER. De Luxe Girdlecraft Co., Inc. SN 193,762. Pub. 5–31–66. Filed 5–19–64.

813,039. M MORESCHI. Fabbrica di Scarpe Moreschi di Gian Beppe Moreschi. SN 203,054. Pub. 5–31–66. Filed 9–30–64.

813,040. CORBETT'S AND DESIGN. Marion J. Corbett. SN 206,519. Pub. 5–31–66. Filed 11–19–64.

813,041. THE "LITTLE PEOPLE" KNOW AND DESIGN. Mar Tee Original Inc. SN 207,138. Pub. 5–31–66. Filed 11–30–64.

813,042. MINNIE PANTS. Mense, Incorporated. SN 208,370. Pub. 5–31–66. Filed 12–17–64.

813,043. BLUE BLAZER. Adams-Millis Corporation. SN 208,873. Pub. 5–31–66. Filed 12–28–64.

813,044. IT. Blair Fashions, Inc. SN 208,882. Pub. 5–31–66. Filed 12–28–64.

813,045. ANCHOR LIFT. Blair Fashions, Inc. SN 210,929. Pub. 5–31–66. Filed 1–29–65.

813,046. SPORTS LTD. Personal Sportswear, Inc. SN 213,350. Pub. 5–31–66. Filed 3–4–65.

813,047. ROSEDA. Roseda of California. SN 214,177. Pub. 5–31–66. Filed 3–15–65.

813,048. MR. SUTTON. Spartans Industries, Inc. SN 214,925. Pub. 5–31–66. Filed 3–24–65.

813,049. CHALETTE. Delamere Company, Inc. SN 215,197. Pub. 5–31–66. Filed 3–29–65.

813,050. TRAIL BOSS. Miller & Co. SN 215,248. Pub. 5–31–66. Filed 3–29–65.

813,051. THE ORIGINAL BUNNY LOUNGER. Weil Manufacturing Co. SN 215,808. Pub. 5–31–66. Filed 4–5–65.

813,052. SQUIRE. Glen Oaks Sales Co., Inc. SN 217,331. Pub. 5–31–66. Filed 4–26–65.

813,053. DUDE SHAPER. Genesco Inc. SN 218,102. Pub. 5–31–66. Filed 5–5–65.

813,054. NIGHT SHAPER. Genesco Inc. SN 218,103. Pub. 5–31–66. Filed 5–5–65.

813,055. SLACK SHAPER. Genesco Inc. SN 218,108. Pub. 5–31–66. Filed 5–5–65.

813,056. MISCELLANEOUS DESIGN. Stephen Putney Shoe Company. SN 218,793. Pub. 5–31–66. Filed 5–13–65.

813,057. SADDLE 'N SPURS. Unishops, Inc. SN 219,930. Pub. 5–31–66. Filed 5–27–65.

813,058. CHEMI-BRA. Character Foundations, Inc. SN 219,965. Pub. 5–31–66. Filed 5–28–65.

813,059. SAIL AWAYS. Huth-James Shoe, Inc. SN 220,103. Pub. 5–31–66. Filed 6–1–65.

813,060. FASHION AWARD. Emporium World Millinery Co. SN 220,484. Pub. 5–31–66. Filed 6–7–65.

813,061. DLA DOLOMITE AND DESIGN. Calzaturificio Giuseppe Garbuio Societa in Accomandita Semplice. SN 222,114. Pub. 5–31–66. Filed 6–28–65.

813,062. PLAYAD FOR THE FORM OF BEAUTY AND DESIGN. Irvine I. Turner, d.b.a. The Playad Company. SN 222,532. Pub. 5–31–66. Filed 6–18–65.

813,063. PEAU DE FEMME. La Resista, Inc. SN 222,950. Pub. 5–31–66. Filed 7–8–65.

813,064. PETIQUE. Davidson-Bigelow, Incorporated. SN 223,874. Pub. 5–31–66. Filed 7–21–65.

813,065. SWAN-STORK. White Swan Uniforms, Inc. SN 224,133. Pub. 5–31–66. Filed 7–23–65.

813,066. THOM McAN G-TOE. Melville Shoe Corporation. SN 224,871. Pub. 5–31–66. Filed 8–3–65.

813,067. THOM McAN GEE-TOE. Melville Shoe Corporation. SN 225,850. Pub. 5–31–66. Filed 8–3–65.

813,068. "JOHN BULL" AND DESIGN. Elliott Glove Co., Inc. SN 227,402. Pub. 5–31–66. Filed 9–8–65.

813,069. PROUVOST T2 AND DESIGN. Filatures Prouvost & Cie, La Lainiere de Roubaix, Societe en Commandite par Actions. MULTIPLE CLASS (Classes 39, 42, and 43). SN 228,236. Pub. 5–31–66. Filed 9–21–65.

Class 40—Fancy Goods, Furnishings, and Notions

813,070. ALLISON WOVON WIGS AND DESIGN. Ethel Allison. SN 171,416. Pub. 5–31–66. Filed 6–17–63.

813,071. VERSA-TAIL. David and David, Inc. SN 215,335. Pub. 5–31–66. Filed 3–30–65.

813,072. POLY-GRIP. Beltx Corporation. SN 222,107. Pub. 5–31–66. Filed 6–28–65.

813,073. COME-ON BLACK. Kleer-Vu Industries, Inc. SN 230,548. Pub. 5–31–66. Filed 10–19–65.

813,074. SASSY BLACK 'N BROWN. Kleer-Vu Industries, Inc. SN 230,549. Pub. 5–31–66. Filed 10–19–65.

813,075. COOL BLACK 'N BLUE. Kleer-Vu Industries, Inc. SN 230,550. Pub. 5–31–66. Filed 10–19–65.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

813,069. (See Class 39 for this trademark.)

813,076. ALEW. Puritan Fashions Corporation. SN 218,907. Pub. 5–31–66. Filed 5–14–65.

813,077. NC AND DESIGN. Nailhead Creations, Inc. SN 221,735. Pub. 5–31–66. Filed 6–22–65.

813,078. THE UNUSUAL AS USUAL. Nailhead Creations, Inc. SN 221,736. Pub. 5–31–66. Filed 6–22–65.

813,079. QUINTERO. Penco Fabrics, Inc. SN 223,339. Pub. 5–31–66. Filed 7–14–65.

813,080. PERMA-CONE. Cone Mills Corporation. SN 230,237. Pub. 5–31–66. Filed 10–15–65.

813,081. POLY LEGS. Cone Mills Corporation. SN 230,614. Pub. 5–31–66. Filed 10–20–65.

Class 43—Thread and Yarn

813,069. (See Class 39 for this trademark.)

813,082. NANTUK SPECTRA. Columbia-Minerva Corporation. SN 222,664. Pub. 5–31–66. Filed 7–6–65.

Class 44—Dental, Medical, and Surgical Appliances

812,902. (See Class 19 for this trademark.)

813,083. MASK-EEZ AND DESIGN. Paulina Peavy. SN 185,234. Pub. 5–31–66. Filed 1–23–64.

Class 46—Foods and Ingredients of Foods

813,084. MORBLOOM. Meat Industry Suppliers, Inc. SN 146,503. Pub. 5–31–66. Filed 6–8–62.

813,085. ATLANTIC. A. M. Look Canning Company. SN 189,753. Pub. 5–31–66. Filed 3–27–64.

813,086. PFAELZER'S WESTCHESTER STYLE. Armour and Company, d.b.a. Pfaelzer Brothers. SN 191,353. Pub. 5–31–66. Filed 4–17–64.

813,087. DIET-WISE. Armour and Company, d.b.a. Armour Creameries. SN 195,579. Pub. 5–31–66. Filed 6–15–64.

813,088. TOP TASTE. National Tea Co. SN 198,067. Pub. 5–31–66. Filed 7–17–64.

813,089. SO FRESH. National Tea Co. SN 198,202. Pub. 5–31–66. Filed 7–20–64.

813,090. BLACKIE'S DRESSING. Ulysses G. Auger, d.b.a. Blackie's House of Beef. SN 198,396. Pub. 5–31–66. Filed 7–23–64.

813,091. PAM-PAK AND DESIGN. Charles Baloian Co., Inc. SN 199,651. Pub. 5–31–66. Filed 8–11–64.

813,092. FIGURE OF BALINESE DANCER (DESIGN). The Hollinda Co. SN 199,780. Pub. 5–31–66. Filed 8–13–64.

813,093. ONKO. Hag A.G., d.b.a. Onko-Werke. SN 202,200. Pub. 5–31–66. Filed 9–21–64.

813,094. TEXAS LONGHORNS. Lamme's. SN 202,811. Pub. 5–31–66. Filed 9–28–64.

813,095. SIMON SEZ! AND DESIGN. Simon Sez Hamburger System Inc. SN 203,035. Pub. 5–31–66. Filed 9–30–64.

813,096. ROSE ROYAL. Ward Foods, Inc. SN 205,018. Pub. 5–31–66. Filed 10–28–64.

813,097. VEGETATION (DESIGN). Redfern Sausage Company. SN 206,968. Pub. 5–31–66. Filed 11–25–64.

813,098. SUPRA MIX. Koninklijke Fabrieken C. J. van Houten & Zoon N.V., by change of name from C. J. van Houten & Zoon N.V. SN 208,005. Pub. 5–31–66. Filed 12–11–64.

813,099. LACTOFAT. The Theobald Industries. SN 208,212. Pub. 5–31–66. Filed 12–15–64.

813,100. SOPHIE'S. Trifon Nicholas, d.b.a. Sophie's Home Made. SN 212,362. Pub. 5–31–66. Filed 2–18–65.

813,101. DOMINO. American Sugar Company. SN 212,376. Pub. 5–31–66. Filed 2–19–65.

813,102. PARK'S JR. Chiclecraft, Inc. SN 212,501. Pub. 5–31–66. Filed 2–23–65.

813,103. POLYANOX. Flavor Corporation of America. SN 212,998. Pub. 5–31–66. Filed 3–1–65.

813,104. BEL-CAPRI AND DESIGN. Losurdo & P.M.J., Inc. SN 213,387. Pub. 5–31–66. Filed 3–2–65.

813,105. TIMBERLINE. Fred Meyer, Inc., d.b.a. Eve's Candy Kitchen. SN 214,673. Pub. 5–31–66. Filed 3–22–65.

813,106. CINDERELLA. Associated Food Stores, Inc. SN 216,128. Pub. 5–31–66. Filed 4–9–65.

813,107. FRESH SCOTTIE MARGARINE AND DESIGN. Dutch Maid Food Products, Inc. SN 216,675. Pub. 5–31–66. Filed 4–16–65.

813,108. MARIE'S. Marie's Blue Cheese Dressing, Inc., d.b.a. Marie's. SN 216,724. Pub. 5–31–66. Filed 4–16–65.

813,109. POINSETTIA. The Borden Company, d.b.a. T.B.C. SN 217,705. Pub. 5–31–66. Filed 4–30–65.

813,110. OUR TOP TASTE. National Tea Co. SN 218,210. Pub. 5–31–66. Filed 5–6–65.

813,111. CATERPILLARS. Fairmont Foods Company. SN 218,628. Pub. 5–31–66. Filed 5–12–65.

813,112. MINITS. Leaf Brands, Inc. SN 220,517. Pub. 5–31–66. Filed 6–7–65.

813,113. DOMINO. American Sugar Company. SN 221,689. Pub. 5–31–66. Filed 6–22–65.

813,114. JOHN AND MARY'S. Pikle-Rite Company, Inc. SN 221,750. Pub. 5–31–66. Filed 6–22–65.

813,115. GOLD TIP. Philadelphia Chewing Gum Corporation. SN 221,845. Pub. 5–31–66. Filed 6–23–65.

813,116. PARTAKE. Household Products Co. SN 222,483. Pub. 5–31–66. Filed 7–1–65.

813,117. FAN. Toyomenka, Inc. SN 223,919. Pub. 5–31–66. Filed 7–21–65.

813,118. JUNE BLOSSOM. Eppens, Smith Company. SN 224,182. Pub. 5–31–66. Filed 7–26–65.

813,119. FREEZE-TEX. Lanco Products Corporation. SN 224,761. Pub. 5–31–66. Filed 8–2–65.

813,120. MARKA BIALY ORZEL. Honeysuckle Corporation. SN 227,031. Pub. 5–31–66. Filed 9–2–65.

813,121. PRODUCERS PRIDE AND DESIGN. Producers Cooperative Exchange of Coatesville, d.b.a. Producers Cooperative Exchange. SN 227,706. Pub. 5–31–66. Filed 9–13–65.

813,122. PETER PAUL AND DESIGN. Peter Paul, Inc. SN 229,121. Pub. 5–31–66. Filed 10–1–65.

813,123. BAKON KRISP. Filler Products, Inc. SN 230,812. Pub. 5–31–66. Filed 10–21–65.

813,124. NUTTY DOODLES. The Borden Company. SN 231,032. Pub. 5–31–66. Filed 10–22–65.

Class 47 — Wines

813,125. BLACKBERRY JULEP. Jack Poust & Company, Inc. SN 190,643. Pub. 5–31–66. Filed 4–8–64.

Class 48 — Malt Beverages and Liquors

813,126. MALTA INDIATA. Reiter's Beer Distributors. SN 185,240. Pub. 5–31–66. Filed 1–23–64.

813,127. MILLI-DRAFT. Jackson Brewing Company. SN 225,161. Pub. 5–31–66. Filed 8–6–65.

Class 49 — Distilled Alcoholic Liquors

813,128. BELL'S AND DESIGN. Arthur Bell & Sons, Ltd. SN 206,598. Pub. 5–31–66. Filed 11–20–64.

813,129. RON ORO NATIVO AND DESIGN. Puerto Rico Distillers, Inc. SN 215,545. Pub. 5–31–66. Filed 4–1–65.

813,130. COUNT PULASKI. Hiram Walker & Sons, Inc. SN 224,274. Pub. 5–31–66. Filed 7–26–65.

813,131. RONRICO ETC. AND DESIGN. Ronrico Corporation. SN 225,201. Pub. 5–31–66. Filed 8–6–65.

813,132. EL COQUI AND DESIGN. Puerto Rico Distillers, Inc., d.b.a. Compania de Bebidas del Tanama. SN 228,935. Pub. 5–31–66. Filed 9–29–65.

Class 50 — Merchandise Not Otherwise Classified

813,133. PULCAP. Crown Cork & Seal Company, Inc. SN 190,702. Pub. 5–31–66. Filed 4–9–64.

813,134. EXCELIGHT. White Metal Rolling & Stamping Corporation. SN 211,784. Pub. 5–31–66. Filed 2–10–65.

813,135. VIP. Vibration Isolation Products, Inc. SN 217,227. Pub. 5–31–66. Filed 4–23–65.

813,136. MAYKA. Bethell Brothers Limited. SN 222,108. Pub. 5–31–66. Filed 6–28–65.

Class 51 — Cosmetics and Toilet Preparations

813,137. EYELINE. Lejon Freres. SN 147,569. Pub. 5–31–66. Filed 6–25–62.

813,138. DURA-CURL. Crowning Glory, Inc. SN 161,011. Pub. 5–31–66. Filed 1–21–63.

813,139. CARICATURE OF A FLOWING HAIR MANNEQUIN (DESIGN). Gerber Enterprises, Inc. SN 189,775. Pub. 5–31–66. Filed 3–27–64.

813,140. ROYALL LYME. Royall Lyme (Bermuda) Limited. MULTIPLE CLASS (Classes 51 and 52). SN 200,806. Pub. 5–31–66. Filed 8–3–64.

813,141. 813,141. BLACK LEOPARD. Yardley of London, Inc. SN 209,747. Pub. 5–31–66. Filed 1–11–65.

813,142. EL CID. Pharmaceutical Laboratories, Inc. SN 211,465. Pub. 5–31–66. Filed 2–5–65.

813,143. LADY WESTBROOK. Fortunoff's Shopping Center, Inc. SN 212,765. Pub. 5–31–66. Filed 2–25–65.

813,144. PHOEBE ANN. Phoebe Ann Products, Inc. SN 213,352. Pub. 5–31–66. Filed 3–4–65.

813,145. VY-TRAL. Alberto-Culver Company. SN 213,642. Pub. 5–31–66. Filed 3–9–65.

813,146. VOTRE CHARME. Celares, Inc. SN 216,384. Pub. 5–31–66. Filed 4–13–65.

813,147. SOLFEGE. Funel. SN 217,729. Pub. 5–31–66. Filed 4–30–65.

813,148. SUDDEN ACTION. American Home Products Corporation. SN 218,601. Pub. 5–31–66. Filed 5–12–65.

813,149. THINK RICH. Chas. Pfizer & Co., Inc. SN 223,818. Pub. 5–31–66. Filed 7–20–65.

813,150. SIGNORICCI. Nina Ricci, S.A.R.L. SN 227,061. Pub. 5–31–66. Filed 9–2–65.

813,151. BONUS. The Procter & Gamble Company. SN 229,125. Pub. 5–31–66. Filed 10–1–65.

813,152. "NOBLESSE OBLIGE." Etienne Aigner Parfums, Inc. SN 229,172. Pub. 5–31–66. Filed 10–4–65.

Class 52 — Detergents and Soaps

812,784. (See Class 4 for this trademark.)

812,785. (See Class 4 for this trademark.)

812,825. (See Class 11 for this trademark.)

813,140. (See Class 51 for this trademark.)

813,153. TUBE LUBE. Ross Cook, Inc. SN 154,211. Pub. 5–31–66. Filed 10–1–62.

813,154. WOOLTONE. Van Wyck Products Company, Inc. SN 179,979. Pub. 5–31–66. Filed 10–28–63.

813,155. LANOLIN-D. Purex Corporation, Ltd., assignee of Fels and Company. SN 191,918. Pub. 5–31–66. Filed 4–24–64.

813,156. PERFORM. W. R. Grace & Co. SN 205,940. Pub. 5–31–66. Filed 11–10–64.

813,157. AERO-DRY. Wyandotte Chemicals Corporation. SN 206,672. Pub. 5–31–66. Filed 11–20–64.

813,158. TUNE UP. Charles Grossman, d.b.a. Victor Co. SN 209,853. Pub. 5–31–66. Filed 1–13–65.

813,159. HI-HO. Haag Laboratories, Inc. SN 211,274. Pub. 5–31–66. Filed 2–3–65.

813,160. SOAP BUDS. John T. Stanley Co., Inc. SN 211,594. Pub. 5–31–66. Filed 2–8–65.

813,161. GOLD-CHEM 22XX. Frank Chemical Company, d.b.a. Frank Chemical Co., Inc. SN 215,494. Pub. 5–31–66. Filed 4–1–65.

813,162. DEFY. C-Z Chemical Company, Inc. SN 216,567. Pub. 5–31–66. Filed 4–15–65.

813,163. TRIPE WASH 2-P BC ETC. AND DESIGN. Birko Chemical Corporation. SN 226,205. Pub. 5–31–66. Filed 8–23–65.

813,164. EPOCLEANSE. Adhesive Engineering Company. SN 227,987. Pub. 5–31–66. Filed 9–17–65.

813,165. GLOW AND SHINE. Bristol-Myers Company. SN 230,029. Pub. 5–31–66. Filed 10–13–65.

813,166. MESS-GO. Moli Research Laboratories. SN 230,410. Pub. 5–31–66. Filed 10–18–65.

813,167. TOP DECK. Churchill Chemical Company. SN 230,777. Pub. 5–31–66. Filed 10–21–65.

813,168. CROESUS. Churchill Chemical Company. SN 230,778. Pub. 5–31–66. Filed 10–21–65.

813,169. PRO/PEL. Embassy Industries, Inc. SN 231,082. Pub. 5–31–66. Filed 10–22–65.

813,170. SONOKLEEN. Sonneborn Building Products, Inc. SN 231,258. Pub. 5–31–66. Filed 10–22–65.

813,171. WESCOHEX. West Chemical Products, Inc. SN 233,424. Pub. 5–31–66. Filed 11–26–65.

Service Marks

Class 100 — Miscellaneous

813,172. LITTLE GIRL (DESIGN). Dairy Queen National Development Co. SN 187,732. Pub. 5–31–66. Filed 3–2–64.

813,173. CH2M AND DESIGN. Cornell, Howland, Hayes & Merryfield, Inc., assignee of Cornell, Howland, Hayes & Merryfield. SN 207,945. Pub. 3–1–66. Filed 12–11–64.

813,174. GLASS CONDITIONING. Pittsburgh Plate Glass Company. SN 215,649. Pub. 5–31–66. Filed 4–2–65.

813,175. LUMS. Lum's, Incorporated. SN 220,676. Pub. 5–31–66. Filed 6–8–65.

813,176. LUMS AND DESIGN. Lum's, Incorporated. SN 220,677. Pub. 5–31–66. Filed 6–8–65.

813,177. A AND DESIGN. Ohio Valley Chapter, The Arthritis Foundation. SN 224,781. Pub. 5–31–66. Filed 8–2–65.

Class 101 — Advertising and Business

813,178. REALCO THE NATIONAL RAILROAD TRAILER POOL. Rea Leasing Corporation. SN 178,737. Pub. 5–31–66. Filed 10–10–63.

813,179. PDP. Public Data Processing Corporation. SN 205,095. Pub. 5–31–66. Filed 10–29–64.

813,180. CHAR-STEAK HOUSE. Char-Steak House, Inc. SN 213,180. Pub. 5–31–66. Filed 3–2–65.

813,181. RBA AND DESIGN. RBA Research and Public Information, Incorporated. SN 217,137. Pub. 5–31–66. Filed 4–22–65.

813,182. KROGER. The Kroger Co. SN 218,878. Pub. 5–31–66. Filed 5–14–65.

813,183. CS AND DESIGN. Char-Steak House, Inc. SN 219,400. Pub. 5–31–66. Filed 5–21–65.

813,184. WM ETC. AND DESIGN. Nash-Finch Company, d.b.a. Warehouse Market. SN 221,742. Pub. 5–31–66. Filed 6–22–65.

813,185. METROPROCESSING. Leon Davidson. SN 228,658. Pub. 5–31–66. Filed 9–27–65.

813,186. INTERPOL. International Criminal Police Organization INTERPOL. SN 232,493. Pub. 5–31–66. Filed 11–10–65.

Class 102 — Insurance and Financial

813,187. CREDITHRIFT OF AMERICA. Interstate Management Corporation. SN 196,786. Pub. 5–31–66. Filed 6–30–64.

813,188. MEDIFUND. Citizens Insurance Agency. SN 224,720. Pub. 5–31–66. Filed 8–2–65.

Class 103 — Construction and Repair

812,829. (See Class 12 for this trademark.)

813,189. McCOACH AND DESIGN. McCoach Construction Co. SN 173,584. Pub. 5–31–66. Filed 7–23–63.

813,190. BP AND DESIGN. Birchwood Park, Inc., d.b.a. Birchwood. SN 182,767. Pub. 5–31–66. Filed 12–11–63.

813,191. STEVENS AVIATION INC. AND DESIGN. Stevens Aviation, Inc. SN 209,737. Pub. 5–31–66. Filed 1–11–65.

813,192. COLORFULL. Rodeffer Industries, Inc. SN 214,175. Pub. 5–31–66. Filed 3–15–65.

813,193. AMERICAN BUILDING MAINTENANCE ETC. AND DESIGN. American Building Maintenance Co. of California, d.b.a. American Building Maintenance Company. SN 219,502. Pub. 5–31–66. Filed 5–24–65.

813,194. KEYSTONE. United Refining Company. SN 226,482. Pub. 5–31–66. Filed 8–25–65.

Class 105 — Transportation and Storage

812,829. (See Class 12 for this trademark.)

813,195. FLEXIPLAN. Travel Wholesalers International, Inc. SN 197,922. Pub. 5–31–66. Filed 7–15–64.

813,196. HOLIDAY. American Holiday Van Lines, Inc., by change of name from Park City Storage & Van Lines, Inc. SN 209,530. Pub. 3–8–66. Filed 1–7–65.

813,197. GOGO TOURS AND DESIGN. Gogo Tours. SN 224,089. Pub. 5–31–66. Filed 7–23–65.

Class 106 — Material Treatment

813,198. SUPREME COLOR AND DESIGN. Supreme Color, Inc. SN 219,630. Pub. 5–31–66. Filed 5–24–65.

Class 107 — Education and Entertainment

813,199. DANTE AND DESIGN. Barrett N. Kirkendall. SN 216,511. Pub. 5–31–66. Filed 4–14–65.

813,200. WORLD WIDE AND DESIGN. Department of the Army. SN 218,747. Pub. 5–31–66. Filed 5–13–65.

813,201. FASCINATING WOMANHOOD. Helen B. Andelin. SN 230,121. Pub. 5–31–66. Filed 10–14–65.

813,202. THE INTRUDERS. John E. Weaver. SN 230,465. Pub. 5–31–66. Filed 10–18–65.

813,203. THE BOOGIE KINGS. The Boogie Kings. SN 230,766. Pub. 5–31–66. Filed 10–21–65.

Collective Membership Marks

Class 200

813,204. MAPA AND DESIGN. Michigan Asphalt Paving Association, Inc. SN 185,058. Pub. 5–31–66. Filed 1–21–64.

813,205. MEMBER THE UNITED STATES JAYCEES ETC. AND DESIGN. The United States Jaycees. SN 229,896. Pub. 5–31–66. Filed 10–11–65.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

813,211. Fritz Sennheiser, d.b.a. Sennheiser Electronic Dr.-Ing Fritz Sennheiser, Bissendorf bei Hannover, Germany. SN 191,619. Filed P.R. 4–20–64; Am. S.R. 9–23–65.

Class 21—Electrical Apparatus, Machines, and Supplies

SENNHEISER

For Sounder Recorders and Reproducers, Sound Amplifiers, Microphones, Ear Phones, and Component Parts Thereof.

Class 26—Measuring and Scientific Appliances

For Measuring and Testing Apparatus for Measuring and Testing the Electrical and Acoustic Characteristics of Electrical and Electroacoustical Apparatus and Devices.

First use Apr. 30, 1958; in commerce July 31, 1963.

SECTION 2

Class 2—Receptades

813,206. Henny Penny Corporation, Eaton, Ohio. SN 242,452. Filed P.R. 4–1–66; Am. S.R. 6–15–66.

TOTE-A-MEAL

For Portable Paperboard Cartons for Food Products.
First use Aug. 6, 1962.

Class 11—Inks and Inking Materials

813,207. Hamilton Thrift, d.b.a. Thrift Products Co., Myrtle Point, Oreg. SN 222,081. Filed P.R. 6–25–65; Am. S.R. 6–14–66.

RI-BON-NU

For Composition for Restoring Ribbons Used on Typewriters, Cash Registers, Adding Machines, and Like Equipment.
First use May 31, 1965.

Class 12—Construction Materials

813,208. Cascade Industries, Inc., Edison, N.J. SN 229,634. Filed P.R. 10–8–65; Am. S.R. 6–17–66.

SNAPLOK

For Swimming Pool Liners Having a Beaded Edge Adapted To Snap Into a Groove of a Swimming Pool Coping.
First use May 27, 1965.

Class 16—Protective and Decorative Coatings

813,209. Westfield Chemical Corporation, Westfield, Mass. SN 204,429. Filed P.R. 10–20–64; Am. S.R. 6–15–66.

CAT-A-LAC

For Industrial Catalyzed Lacquer Used in the Manufacture of Various Wood Products Such as Furniture, Salad Bowls, Lamps, Gun Stocks, Shoe Trees, Kitchen Cabinets, etc.
First use June 12, 1963.

813,210. Phelan-Faust Paint Manufacturing Company, d.b.a. Phelan's, St. Louis, Mo. SN 232,588. Filed P.R. 11–12–65; Am. S.R. 6–13–66.

FOR THE BEST LOOKING HOUSE ON THE BLOCK

For Protective and Decorative Coatings—Namely, Latex and Oil Base Paint for Exterior and Interior Use.
First use Apr. 6, 1965.

Class 21—Electrical Apparatus, Machines, and Supplies

813,211. See Section 1 (Combined Certificate).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

813,212. Greenlee Tool Co., Rockford, Ill. SN 229,802. Filed P.R. 10–11–65; Am. S.R. 6–16–66.

FLIP-TOP

For Pipe Benders.
First use Feb. 3, 1964.

Class 26—Measuring and Scientific Appliances

813,211. See Section 1 (Combined Certificate).

813,213. Rockwell Manufacturing Company, Pittsburgh, Pa. SN 170,857. Filed P.R. 6–12–63; Am. S.R. 6–13–66.

TURBO METER

For Turbine Type Meters and Parts Thereof.
First use Oct. 6, 1960.

813,214. Biological Research, Inc., Bridgeton, Mo. SN 185,859. Filed P.R. 2–3–64; Am. S.R. 6–23–66.

TRI-POUR

For Beakers for Measuring and Pouring Procedures.
First use July 31, 1963.

813,215. United States Safety Service Co., Kansas City, Mo. SN 206,097. Filed P.R. 11–12–64; Am. S.R. 6–13–66.

FLEX-FACESHIELD

For Combination Safety Goggle and Faceshield Assembly.
First use Nov. 5, 1964.

Class 31—Filters and Refrigerators

813,216. Seaton-Wilson Manufacturing Company, Inc., Burbank, Calif. SN 199,229. Filed P.R. 8–4–64; Am. S.R. 1–24–66.

SEPARATE-AIRE

For Vacuum Devices for Removing Gases From Liquids, Particularly Air From Oil in Hydraulic Systems.
First use Aug. 8, 1963.

Class 36—Musical Instruments and Supplies

813,217. Adell Recording Corporation, Minneapolis, Minn. SN 213,083. Filed P.R. 3–2–65; Am. S.R. 6–17–66.

ADELL

For Phonograph Records.
First use Jan. 14, 1965.

813,218. Telephone Dynamics Corp., Baldwin, N.Y. SN 213,170. Filed P.R. 3–2–65; Am. S.R. 6–15–66.

EZ WIND AUTOMATIC THREADING

For Magnetic Recording Tape Reels.
First use Feb. 19, 1965.

Class 38—Prints and Publications

813,219. United Newspapers Magazine Corporation, New York, N.Y. SN 222,084. Filed P.R. 6–25–65; Am. S.R. 5–31–66.

LAUGH AND LEARN

For Column in a Newspaper Magazine Section.
First use Apr. 25, 1965.

Class 39—Clothing

813,220. Chase Department Stores, Inc., Newark, N.J. SN 208,443. Filed P.R. 12–18–64; Am. S.R. 5–25–66.

CHASE

For Ladies' Coats, Jackets, Stoles, Dresses, and Hats, Made of Fur or in Part Thereof.
First use July 15, 1964.

813,221. J. W. Landenberger & Company, Philadelphia, Pa. SN 212,549. Filed P.R. 2–23–65; Am. S.R. 5–31–66.

No-Band

For Foot Hose.
First use Jan. 18, 1965.

813,222. Wembley, Inc., New Orleans, La. SN 213,922. Filed P.R. 3–11–65; Am. S.R. 6–2–66.

CHADWICK

For Neckwear.
First use Feb. 1, 1965.

813,223. HK Corporation, Atlanta, Ga. SN 219,119. Filed P.R. 5–18–65; Am. S.R. 4–18–66.

SCRUBBed

For Dungarees and Casual Slacks Made From a Denim Cloth Prepared by a Process Which Gives the Fabric the Appearance and Texture of Being Washed and Worn for a Long Period of Time.
First use Apr. 15, 1965.

813,224. Munsingwear, Inc., Minneapolis, Minn. SN 220,018. Filed P.R. 5–28–65; Am. S.R. 6–13–66.

SHEER SUPPORT

For Hosiery.
First use Feb. 26, 1963.

813,225. Carolina Hosiery Mills, Inc., Burlington, N.C. SN 221,010. Filed P.R. 6–14–65; Am. S.R. 6–9–66.

WORLD FAMOUS

For Hosiery.
First use May 4, 1965.

813,226. Matsil Brothers, Inc., New York, N.Y. SN 221,283. Filed P.R. 6–16–65; Am. S.R. 6–20–66.

PERSONALIZED

For Robes and Terry Cloth Wraps.
First use May 31, 1965.

813,227. Briar Hall Classics, New York, N.Y. SN 221,692. Filed P.R. 6–22–65; Am. S.R. 6–16–66.

NEVA PRESS

For Ladies' and Misses' Blouses, Shirts, and Dresses.
First use June 7, 1965.

813,228. Tex-Togs, Inc., d.b.a. Lazy J, El Paso, Tex. SN 222,080. Filed P.R. 6–25–65; Am. S.R. 1–1–66.

NEV-R-EVR IRON

For Boys' Slacks.
First use on or about Sept. 1, 1964.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

813,229. L. J. Schott Company, Akron, Ohio. SN 224,649. Filed P.R. 7–30–65; Am. S.R. 6–6–66.

MI-T-TUF

For Laminated and Unlaminated Polyethylene Fabric, and on Greige, Dyed and/or Water Resistant Treated Duck.
First use May 15, 1965.

813,230. Breneman, Inc., Cincinnati, Ohio, by change of name from Breneman-Hartshorn Inc., Cincinnati, Ohio. SN 227,096. Filed P.R. 9–1–65; Am. S.R. 6–13–66.

FILIGREE

For Valances.
First use June 1, 1965.

Class 46—Foods and Ingredients of Foods

813,231. California Date Growers Association, Indio, Calif. SN 213,942. Filed P.R. 3–12–65; Am. S.R. 6–24–66.

CALIFORNIA DATES WORLD'S FINEST DATES

For Whole and Pitted Dates Intended for Eating and Cooking Purposes and Diced Dates, To Which Dextrose Has Been Added, Intended Primarily for Culinary Use in, or With, Foods Such as Cereals, Waffles, Salads, Breads, Puddings, Pancakes, Muffins, Cookies, and the Like.
First use June 25, 1964.

TRADEMARK REGISTRATIONS RENEWED

27,959. DUNDEE. Cl. 49. 3–17–1896.
29,166. BENEDICTINE. Cl. 49. 11–17–1896.
48,569. TK AMERICAN BITTER WINE HORKE VINO AND DESIGN. Cl. 47. 1–2–06.
49,727. RUPPINER. Cl. 48. 2–13–06.
52,049. CRYSTAL. Cl. 12. 5–1–06.
53,173. SYLPHON. Cl. 34. 5–29–06.
53,998. SKAT. Cl. 52. 6–19–06.
55,161. KNICKERBOCKER. Cl. 48. 8–7–06.
57,684. D.O.M. AND DESIGN. Cl. 49. 11–27–06.
200,080. SNOW BALL. Cl. 46. 6–23–25.
211,268. COLUMBIAN. Cl. 23. 4–6–26.
211,945. SNOW FLAKE AND DESIGN. Cl. 46. 4–20–26.
212,894. SOLAR GLOW. Cl. 21. 5–18–26.
214,128. K AND DESIGN. Cl. 5. 6–15–26.
214,619. DEBUTANTE. Cl. 28. 6–29–26.
215,282. ETHYL AND DESIGN. Cl. 15. 7–13–26.
215,475. PATINA. Cl. 42. 7–20–26.
215,636. SNUGTEX. Cl. 40. 7–20–26.
215,875. MILANA. Cl. 42. 7–27–26.
216,141. ETHYL. Cl. 15. 8–3–26.
216,267. SNOW FLAKE. Cl. 52. 8–10–26.
217,093. ASHES OF ROSES. Cl. 51. 8–24–26.
217,176. CHARMINA. Cl. 42. 8–24–26.
217,869. ALGARA. Cl. 17. 9–14–26.
217,985. TESTACOIDS. Cl. 18. 9–14–26.
218,205. MIRADA. Cl. 42. 9–21–26.
218,206. FLORIA. Cl. 42. 9–21–26.
218,207. CAPRINA. Cl. 42. 9–21–26.
218,209. HAKIMA. Cl. 42. 9–21–26.
218,213. RAJANAH. Cl. 42. 9–21–26.
218,263. CHESTERFIELD CIGARETTES AND DESIGN. Cl. 17. 9–21–26.
218,274. FANTOMA. Cl. 42. 9–21–26.
218,275. MASCOTTA. Cl. 42. 9–21–26.
218,277. KALIFA. Cl. 42. 9–21–26.
218,278. KHEDIVA. Cl. 42. 9–21–26.
218,280. ROLANDA. Cl. 42. 9–21–26.
218,796. EX. Cl. 28. 10–5–26.
219,829. AMERICUS AND DESIGN. Cl. 17. 10–26–26.
220,305. GLORIA. Cl. 21. 11–9–26.
220,353. FINGER POINTING TO BALL OF FOOT (DESIGN). Cl. 44. 11–9–26.
220,808. THIO-BISMOL. Cl. 18. 11–16–26.
220,829. CRESYLONE. Cl. 6. 11–16–26.
221,175. "OUR OWN." Cl. 16. 11–23–26.
221,415. A-S-H. Cl. 34. 11–30–26.
221,461. PRIMO DEL RAY. Cl. 17. 11–30–26.
419,588. D AND DESIGN. Cl. 14. 2–26–46.
421,813. KINITE AND DESIGN. Cl. 14. 6–18–46.
421,937. WELDCO. Cl. 13. 6–25–46.
421,946. SULTRY. Cl. 51. 6–25–46.

421,997. WINDMILL AND DESIGN. Cl. 13. 6–25–46.
421,998. WINDMILL. Cl. 13. 6–25–46.
421,999. WINDMILL (DESIGN). Cl. 13. 6–25–46.
422,468. CELLUCORD AND DESIGN. Cl. 21. 7–23–46.
423,024. ROTHANE. Cl. 6. 8–20–46.
423,279. DISARMING. Cl. 51. 8–27–46.
423,502. SANDROLA. Cl. 42. 9–3–46.
424,488. JOHNNY SURGE. Cl. 23. 10–8–46.
424,533. FARMERS FRIEND. Cl. 46. 10–8–46.
424,716. DR. SWETT'S AND DESIGN. Cl. 45. 10–22–46.
424,871. BLACKHAWK. Cl. 23. 10–29–46.
425,272. MARCAL. Cl. 37. 11–12–46.
425,318. DOVE. Cl. 52. 11–12–46.
425,499. PLASTO. Cl. 44. 11–26–46.
425,546. VALLEY-VIEW. Cl. 46. 11–26–46.
425,547. BONE-ETS. Cl. 46. 11–26–46.
425,614. FORMO-MET. Cl. 44. 11–26–46.
425,664. EVERCIDE. Cl. 6. 11–26–46.
425,685. AIRWAY. Cl. 32. 11–26–46.
425,847. HOLO SKY. Cl. 34. 12–3–46.
426,365. SCORE. Cl. 51. 12–24–46.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

770,001. SMART-EEZ. Cl. 40. 5–19–64.
791,097. HORSE KRUNCH. Cl. 46. 6–15–65.
791,224. ASEPTICLEAN. Cl. 51. 6–15–65.

Section 8

The following registrations issued June 28, 1960

700,007. FRESCO. Cl. 1.
700,012. KENT AND SONS STRING KEEPER AND DESIGN. Cl. 2.
700,013. MR. JEEVES. Cl. 2.
700,015. B & M TIME MISER. Cl. 2.
700,016. OVER-TURE. Cl. 3.
700,019. SULGO. Cl. 6.
700,020. ADP AND DESIGN. Cl. 6.
700,022. GEE BEE. Cl. 10.
700,023. DC AND DESIGN. Cl. 11.
700,024. COMPOLAY. Cl. 12.
700,027. GRIPSTEEL. Cl. 12.
700,029. VIRON. Cl. 12.
700,035. H,D MULTI-PORT. Cl. 12.
700,036. KING FOLD. Cl. 12.
700,038. U-DENT. Cl. 12.
700,039. VU-MASTER AND DESIGN. Cl. 12.
700,046. WESTALLOY. Cl. 14.
700,051. M & T. Cl. 16.
700,058. BLUE SHIELD. Cl. 18.
700,061. VIVO-TONE. Cl. 18.
700,063. SATIN-GLEAM. Cl. 19.
700,075. WINDSOR. Cl. 21.
700,076. MOTORCRAFT. Cl. 21.
700,078. AUTO JOCKEY. Cl. 21.
700,087. SCOTH FAIRWAYS AND DESIGN. Cl. 22.
700,088. EKCOEDGE. Cl. 23.
700,091. DURABILT. Cl. 23.
700,099. AINJEST. Cl. 23.
700,103. CENTRI-DISC. Cl. 23.
700,105. MOLECULONICS. Cl. 23.
700,106. GLT AND DIAMOND DESIGN. Cl. 23.
700,109. WONDALUME. Cl. 24.
700,110. IMPERIAL LINE. Cl. 25.
700,113. POLYPLAN AND DESIGN. Cl. 26.
700,116. LECTOROTIMER ETC. AND DESIGN. Cl. 26.
700,117. ICONORAMIC. Cl. 26.
700,121. ADDALINK. Cl. 26.
700,126. CHANNELINE AND DESIGN. Cl. 26.
700,127. SUPER CON. Cl. 26.
700,128. FLEXIGRAPH AND DESIGN. Cl. 26.
700,139. EAR. Cl. 26.
700,140. ATHENA. Cl. 26.
700,141. APO-LANTHAR. Cl. 26.
700,148. MIXSTICK. Cl. 26.
700,150. ALHAMBRA. Cl. 27.
700,151. BRUCEWOOD. Cl. 27.
700,153. HEATHER. Cl. 27.
700,154. GREETER. Cl. 27.
700,155. CHIPPENDALE. Cl. 27.
700,156. GRAD. Cl. 27.
700,157. ORACLE. Cl. 27.
700,160. COPPERWOOD. Cl. 28.
700,163. MINI-RING. Cl. 28.
700,164. MISS INTERNATIONAL. Cl. 28.
700,166. AUTEX. Cl. 31.
700,169. SPUNGOLD AND DESIGN. Cl. 32.
700,170. SPACE MAKER AND DESIGN. Cl. 32.
700,174. KING ARTHUR. Cl. 32.
700,175. SPOTLITE. Cl. 32.
700,181. WEATHER-BEATER. Cl. 34.
700,194. PAT-A-SHINE. Cl. 37.
700,195. TEN-STRIKE AND DESIGN. Cl. 37.
700,200. GOLDEN FOLDER-PAD. Cl. 38.
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701,420. THE REGENT BY AFTER SIX. Cl. 39. 7–19–60. S. Rudofker's Sons, Inc., Philadelphia, Pa. Corrected: In the statement, column 1, line 1, before ", Inc." *Sons* should be inserted.

713,637. ADJUST-O-MATIC. Cl. 50. 4–4–61. Harrison Home Products Corp., Harrison, N.J. Corrected: In the statement, column 1, line 1, ", Inc." should be deleted and *Corp.* should be inserted.

798,359. AUTOPACER. Cl. 26. 11–2–65. Robert A. Mitchell, doing business as Cadence Instruments Company, Philadelphia, Pa. Corrected: In the statement, column 1, line 1, "R." should be deleted and *A.* should be inserted.

805,102. TRANSVAC. Cl. 23. 3–8–66. Hamac-Hansella Aktiengesellschaft, assignee of Hamac-Hansella Maschinen GmbH, Viersen, Rhineland, Germany. Corrected: In the statement, column 1, before line 1, *Hamac-Hansella Aktiengesellschaft, (German corporation), Viersen, Rhineland, Germany, assignee of* should be inserted.

805,103. VACUMAT. Cl. 23. 3–8–66. Hamac-Hansella Aktiengesellschaft, assignee of Hamac-Hansella Maschinen GmbH, Viersen, Rhineland, Germany. Corrected: In the statement, column 1, before line 1, *Hamac-Hansella Aktiengesellschaft (German corporation), Viersen, Rhineland, Germany, assignee of* should be inserted.

808,314. LDX. Cl. 6. 5–17–66. Xerox Corporation, Rochester, N.Y. Corrected: In the statement, column 1, line 1, "Zerox" should be deleted and *Xerox* should be inserted and in column 2, line 1, "xerog-" should be deleted and *xerog-* should be inserted.

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Purex Corp., Ltd.
Fenske, Fedrick & Miller, Inc., Los Angeles, Calif. 700,117, canc. Cl. 26.
Fermco Laboratories, Inc., Chicago, Ill. 812,815, pub. 5–31–66. Cl. 6.
Fields Plastics & Chemicals, Inc., Lodi, N.J. 812,778, pub. 5–31–66. Cl. 1.
Filatures Prouvost & Cie, La Lainiere De Roubaix Societe en Commandite par Actions, Rue d'Oran, Roubaix (Nord), France. 813,069, pub. 5–31–66. Multiple Class (Classes 39, 42, and 43).
Filler Products, Inc., Forest Park, Ga. 813,123, pub. 5–31–66. Cl. 46.
Firma Ferdinand Bernard Schmetz, Hersogenrath, Germany. 812,961, pub. 5–31–66. Cl. 23.
Flash Sales Co., Inc.: *See*—
Blakeslee, Havilah A.
Flavor Corp. of America, Northbrook, Ill. 813,103, pub. 5–31–66. Cl. 46.
Fleet Wholesale Supply Co., Inc., Appleton, Wis. 812,864, pub. 5–31–66. Cl. 16.
Flexigraph Co., Inc., West Hartford, Conn. 700,128, canc. Cl. 26.
Florida Power & Light Co., Miami, Fla. 813,024, pub. 5–31–66. Cl. 38.
Ford Motor Co., Dearborn, Mich. 700,076, canc. Cl. 21.
Ford Motor Co., Dearborn, Mich. 812,899, pub. 5–31–66. Cl. 19.
Forest Laboratories, Inc., Elizabeth, N.J. 812,877, pub. 5–31–66. Cl. 18.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 215,475, ren. 8–16–66. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 215,875, ren. 8–16–66. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 217,176, ren. 8–16–66. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 218,205, ren. 8–16–66. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 218,206, ren. 8–16–66. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 218,207, ren. 8–16–66. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 218,209, ren. 8–16–66. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 218,213, ren. 8–16–66. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 218,274, ren. 8–16–66. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 218,275, ren. 8–16–66. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 218,277, ren. 8–16–66. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 218,278, ren. 8–16–66. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 218,280, ren. 8–16–66. Cl. 42.
Forstmann Woolen Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 423,502, ren. 8–16–66. Cl. 42.
Fortunoff's Shopping Center, Inc., Westbury, N.Y. 813,143, pub. 5–31–66. Cl. 51.
Fox Products Co., Philadelphia, Pa. 812,925, pub. 5–31–66. Cl. 21.
Frank Chemical Co., d.b.a. Frank Chemical Co., Inc., Minneapolis, Minn. 813,161, pub. 5–31–66. Cl. 52.
Frank Chemical Co., Inc.: *See*—
Frank Chemical Co.
Frank, Wally, Ltd., New York, N.Y. 812,871, pub. 5–31–66. Cl. 17.
Freres, Lejon, Philadelphia, Pa. 813,137, pub. 5–31–66. Cl. 51.
Frick Co., Waynesboro, Pa. 812,998, pub. 5–31–66. Cl. 31.
Frost, Walter B., & Co., Inc., Peacedale, R.I. 813,022, pub. 5–31–66. Cl. 38.
Fulton Co., The, Knoxville, Tenn., to Robertshaw Controls Co., Richmond, Va. 53,173, ren. 8–16–66. Cl. 34.
Funel, Le Cannet de Cannes, Alpes-Maritimes, France. 813,147, pub. 5–31–66. Cl. 51.
Gam, Ben Zion, Contamines, Geneva, Switzerland. 700,113, canc. Cl. 26.
Garcia y Vega, Inc., New York, N.Y. 812,870, pub. 5–31–66. Cl. 17.
Geigy Chemical Corp., Ardsley, N.Y. 812,892, pub. 5–31–66. Cl. 18.
Gelman Instrument Co., Ann Arbor, Mich. 812,817, pub. 5–31–66. Cl. 6.
General Beauty Products, Inc., New York, N.Y. 700,278, canc. Cl. 51.
General Mills, Inc., Minneapolis, Minn. 812,821, pub. 5–31–66. Cl. 6.
General Research, Inc., Grand Rapids, Mich. 812,799, pub. 5–31–66. Cl. 6.
General Services Co., d.b.a. Microfloc Corp., Corvallis, Oreg. 812,989, pub. 5–31–66. Cl. 26.
General Services Co., d.b.a. Microfloc Corp., Corvallis, Oreg. 812,990, pub. 5–31–66. Cl. 26.
General Time Corp., New York, N.Y. 700,150, canc. Cl. 27.
General Time Corp., New York, N.Y. 700,151, canc. Cl. 27.
General Time Corp., New York, N.Y. 700,153, canc. Cl. 27.
General Time Corp., New York, N.Y. 700,154, canc. Cl. 27.
General Time Corp., New York, N.Y. 700,155, canc. Cl. 27.
General Time Corp., New York, N.Y. 700,156, canc. Cl. 27.
General Time Corp., New York, N.Y. 700,157, canc. Cl. 27.
Genesco Inc., Nashville, Tenn. 813,053, pub. 5–31–66. Cl. 39.
Genesco Inc., Nashville, Tenn. 813,054, pub. 5–31–66. Cl. 39.
Genesco Inc., Nashville, Tenn. 813,055, pub. 5–31–66. Cl. 39.
Georgia Marble Co., The, Atlanta, Ga. 812,841, pub. 5–31–66. Cl. 12.
Gerber Enterprises, Inc., Akron, Ohio. 813,139, pub. 5–31–66. Cl. 51.
Gibbons, J. T., Inc., d.b.a. American Quality Products Co., New Orleans, La. 812,896, pub. 5–31–66. Cl. 18.
Gilman Paper Co.: *See*—
Millett Corp.
Glen Oak Sales, Inc., New York, N.Y. 813,037, pub. 5–31–66. Cl. 39.
Glen Oaks Sales Co., Inc., New York, N.Y. 813,052, pub. 5–31–66. Cl. 39.
Globe Furniture Co., High Point, N.C. 812,999, pub. 5–31–66. Cl. 32.
Gogo Tours, New York, N.Y. 813,197, pub. 5–31–66. Cl. 105.
Golden, C. W., d.b.a. Golden Lithograph Co., San Francisco, Calif. 700,200, canc. Cl. 38.
Golden Lithograph Co.: *See*—
Golden, C. W.
Gould-National Batteries, Inc., St. Paul, Minn. 812,932, pub. 5–31–66. Cl. 21.
Grace, W. R., & Co., Cambridge, Mass. 812,833, pub. 5–31–66. Cl. 12.
Grace, W. R., & Co., New York, N.Y. 813,156, pub. 5–31–66. Cl. 52.
Grahn Mfg. Co., Kansas City, Mo. 812,844, pub. 5–31–66. Cl. 12.
Great Lakes Tractor Co., The, Cleveland, Ohio. 700,106, canc. Cl. 23.
Greenbriar Antenna Co.: *See*—
Burlingame, Bernard.
Greenlee Tool Co., Rockford, Ill. 813,212. Cl. 23.
Grey Industries, Inc., Glen Cove, N.Y. 812,808, pub. 5–31–66. Cl. 6.
Grip Lock Golf Glove Co., Inc., Maywood, N.J. 812,952, pub. 5–31–66. Cl. 22.
Grossman, Charles, d.b.a. Victor Co., Franklin Square, N.Y. 813,158, pub. 5–31–66. Cl. 52.
HK Corp., Atlanta, Ga. 813,223. Cl. 39.
Haag Laboratories, Inc., Blue Island, Ill. 813,159, pub. 5–31–66. Cl. 52.
Hag A.G., d.b.a. Onko-Werke, Bremen, Germany. 813,093, pub. 5–31–66. Cl. 46.
Hamac-Hansella Aktiengesellschaft, d.b.a. Hamac-Hansella Maschinen G.m.b.H., Viersen, Rhineland, Germany. 805,102, cor. Cl. 28.
Hamac-Hansella Aktiengesellschaft, d.b.a. Hamac-Hansella Maschinen G.m.b.H., Viersen, Rhineland, Germany. 805,103, cor. Cl. 23.
Hamac-Hansella Maschinen G.m.b.H.: *See*—
Hamac-Hansella Aktiengesellschaft.
Hammermill Paper Co., Erie, Pa. 813,017, pub. 5–31–66. Cl. 37.
Hancock, Donald C., d.b.a. Abdo-Flex Co., Portland, Oreg. 812,947, pub. 5–31–66. Cl. 22.
Hanlon Drug Products: *See*—
Hanlon, E. Francis.
Hanlon, E. Francis, d.b.a. Hanlon Drug Products, Poughkeepsie, N.Y. 812,875, pub. 5–31–66. Cl. 18.
Harcliffe Laboratories, Inc., Brooklyn, N.Y. 812,893, pub. 5–31–66. Cl. 18.
Harrison Home Products Corp., Harrison, N.J. 713,637, cor. Cl. 50.
Harshaw Chemical Co., The, Cleveland, Ohio. 812,809, pub. 5–31–66. Cl. 6.
Havatampa Cigar Corp.: *See*—
Sanchez & Haya Co.
Heat and Control, Inc., San Francisco, Calif. 813,008, pub. 5–31–66. Cl. 34.
Hedwin Corp., Baltimore, Md. 700,267, canc. Cl. 50.
Hercules Tire & Rubber Co., The, Stamford, Conn. 813,014, pub. 5–31–66. Cl. 35.
Hollander Metal Products Corp., Bridgeport, Conn. 421,997, ren. 8–16–66. Cl. 13.
Hollander Metal Products Corp., Bridgeport, Conn. 421,998, ren. 8–16–66. Cl. 13.
Hollander Metal Products Corp., Bridgeport, Conn. 421,999, ren. 8–16–66. Cl. 13.
Hollinda Co., The, San Gabriel, Calif. 813,092, pub. 5–31–66. Cl. 46.
Holophane Co., Inc.: *See*—
Holophane Glass Co., Inc.
Holophane Co., Inc., New York, N.Y. 425,847, ren. 8–16–66. Cl. 34.

Holophane Glass Co., Inc., to Holophane Co., Inc., New York, N.Y. 220,305, ren. 8–16–66. Cl. 21.
Homasote Co., Trenton, N.J. 812,835, pub. 5–31–66. Cl. 12.
Honeysuckle Corp., New York, N.Y. 813,120, pub. 5–31–66. Cl. 46.
House of Triner, Inc.: *See*—
Triner, Joseph.
Household Products Co., Evanston, Ill. 813,116, pub. 5–31–66. Cl. 46.
Howard, G. E., & Co.: *See*—
Howard, George E.
Howard, George E., d.b.a. G. E. Howard & Co., Newburgh, N.Y., to G. E. Howard & Co., New Windsor, N.Y. 200,080, ren. 8–16–66. Cl. 46.
Howard Industries, Inc., Racine, Wis. 812,935, pub. 5–31–66. Cl. 21.
Howe, Earl E., Chicago, Ill. 812,847, pub. 5–31–66. Cl. 13.
Huffman Mfg. Co., The, Miamisburg, Ohio. 812,905, pub. 5–31–66. Cl. 19.
Huret et Ses Fils, Societe Anonyme Francaise, Naterre (Seine), France. 812,904, pub. 5–31–66. Cl. 19.
Hy-Cal Engineering, Santa Fe Springs, Calif. 812,984, pub. 5–31–66. Cl. 26.
Hy-Cal Engineering, Santa Fe Springs, Calif. 812,985, pub. 5–31–66. Cl. 26.
Hycel, Inc., Houston, Tex. 812,795, pub. 5–31–66. Cl. 6.
Industrial Enterprises, Inc., New York, N.Y. 700,103, canc. Cl. 23.
Industrial Vinyls, Inc., Miami, Fla. 700,029, canc. Cl. 12.
Ingber, Inc., Philadelphia, Pa. 700,016, canc. Cl. 3.
Ingersoll-Rand Co., New York, N.Y. 812,955, pub. 5–31–66. Cl. 23.
Inhofer Industries, Inc., Eagle Grove, Iowa. 812,954, pub. 5–31–66. Cl. 23.
Institutional Products, Inc., Philadelphia, Pa. 700,174, canc. Cl. 32.
Institutional Products, Inc., Philadelphia, Pa. 700,175, canc. Cl. 32.
Integrity Magnesia Corp., The, Philadelphia, Pa. 700,058, canc. Cl. 18.
International Controls Corp., Fairfield, N.J. 812,849, pub. 5–31–66. Cl. 13.
International Criminal Police Organization INTERPOL, Paris, France. 813,186, pub. 5–31–66. Cl. 101.
International Data Corp., Newtonville, Mass. 813,023, pub. 5–31–66. Cl. 38.
International Minerals & Chemical Corp., Skokie, Ill. 812,774, pub. 5–31–66. Cl. 1.
International Minerals & Chemical Corp., Skokie, Ill. 812,798, pub. 5–31–66. Cl. 6.
International Telephone and Telegraph Corp., New York, N.Y. 812,930, pub. 5–31–66. Cl. 21.
Interstate Management Corp., Evansville, Ind. 813,187, pub. 5–31–66. Cl. 102.
Jackson Brewing Co., New Orleans, La. 813,127, pub. 5–31–66. Cl. 48.
James, Huth, Shoe, Inc., Milwaukee, Wis. 813,059, pub. 5–31–66. Cl. 39.
James International Corp., New York, N.Y. 700,075, canc. Cl. 21.
Janssen Pharmaceutica NV, Beerse, Belgium. 812,888, pub. 5–31–66. Cl. 18.
Janssen Pharmaceutica NV, Beerse, Belgium. 812,889, pub. 5–31–66. Cl. 18.
Jorgensen, Earle M., Co., Los Angeles, Calif. 812,859, pub. 5–31–66. Cl. 14.
Jorgensen, Hans, d.b.a. F.A.S. Fabrik Automatischer Schaltapparate Hans Jorgensen, Hamburg-Stellingen, Germany. 700,166, canc. Cl. 31.
Jourdan Expanso Mfg. Co.: *See*—
Jourdan, Ray M.
Jourdan, Ray M., d.b.a. Jourdan Expanso Mfg. Co., Kansas City, Mo. 812,906, pub. 5–31–66. Cl. 19.
Kahn, David, Inc., North Bergen, N.J. 813,021, pub. 5–31–66. Cl. 37.
Kalish, Charles, Brooklyn, N.Y. 700,126, canc. Cl. 26.
Keach, Charles B., d.b.a. Kemo Textile Products Co., Providence, R.I., to Lever Bros. Co., New York, N.Y. 425,318, ren. 8–16–66. Cl. 52.
Kemo Textile Products Co.: *See*—
Keach, Charles B.
Kenrob, James, Inc., The, Cleveland, Ohio. 700,218, canc. Cl. 39.
Kent, Lee D., d.b.a. Kent and Sons, Akron, Ohio. 700,012, canc. Cl. 2.
Kent and Sons: *See*—
Kent, Lee D.
Keystone Valve Corp., Houston, Tex. 812,960, pub. 5–31–66. Cl. 23.
Kirkendall, Barnett N., Rochester, N.Y. 813,199, pub. 5–31–66. Cl. 107.
Kit Mfg. Co., Inc., Long Beach, Calif. 812,911, pub. 5–31–66. Cl. 19.
Kleer-Vu Industries, Inc., New York, N.Y. 813,073, pub. 5–31–66. Cl. 40.
Kleer-Vu Industries, Inc., New York, N.Y. 813,074, pub. 5–31–66. Cl. 40.
Kleer-Vu Industries, Inc., New York, N.Y. 813,075, pub. 5–31–66. Cl. 40.
Kolbel, Gert F., Hannover, Germany. 812,948, pub. 5–31–66. Cl. 22.
Kollar Kap Corp., Champaign, Ill. 812,843, pub. 5–31–66. Cl. 12.
Koninklijke Fabrieken C. J. van Houten & Zoon N.V., from C. J. van Houten & Zoon N.V., Weesp, Netherlands. 813,098, pub. 5–31–66. Cl. 46.
Koppers Co., Inc., Pittsburgh, Pa. 812,800, pub. 5–31–66. Cl. 6.
Kroger Co., The, Cincinnati, Ohio. 813,182, pub. 5–31–66. Cl. 101.
Krypto Co., San Francisco, Calif., from Learning House, Burlington, Iowa. 812,946, pub. 5–31–66. Cl. 22.
Kushner & Pines, Inc., New York, N.Y. 700,163, canc. Cl. 28
Kustusch, Edmund A., d.b.a. Atlantic Import Co., Detroit, Mich. 812,782, pub. 5–31–66. Cl. 2.
Lafayette Radio Electronics Corp., Syosset, N.Y. 813,011, pub. 5–31–66. Cl. 34.
Lakeland Electronics, Chicago, Ill. 700,116, canc. Cl. 26.
La Manufacture de Feutres de Mouzon (Anciens Etablissements Roger Sommer & ses Fils), Paris, France. 812,912, pub. 5–31–66. Cl. 20.
La Manufacture de Feutres de Mouzon (Anciens Etablissements Roger Sommer & ses Fils), Paris, France. 812,913, pub. 5–31–66. Cl. 20.
La Manufacture de Feutres de Mouzon (Anciens Etablissements Roger Sommer & ses Fils), Paris, France. 812,914, pub. 5–31–66. Cl. 20.
La Manufacture de Feutres de Mouzon (Anciens Etablissements Roger Sommer & ses Fils), Paris, France. 812,915, pub. 5–31–66. Cl. 20.
Lamme's, Austin, Tex. 813,094, pub. 5–31–66. Cl. 46.
Lanco Products Corp., New York, N.Y. 813,119, pub. 5–31–66. Cl. 46.
Landenberger, J. W., & Co., Philadelphia, Pa. 813,221. Cl. 39.
La Resista, Inc., Bridgeport, Conn. 813,063, pub. 5–31–66. Cl. 39.
Lazy J: *See*—
Tex-Togs, Inc.
Leaf Brands, Inc., Chicago, Ill. 813,112, pub. 5–31–66. Cl. 46.
Learning House: *See*—
Krypto Co.
Le Fevre Chemical Co., Oklahoma City, Okla. 812,816, pub. 5–31–66. Cl. 6.
Lennox Industries, Inc., Marshalltown, Iowa. 813,013, pub. 5–31–66. Cl. 34.
Lever Bros. Co.: *See*—
Keach, Charles B.
Liggett & Myers Tobacco Co., New York, N.Y. 218,263, ren. 8–16–66. Cl. 17.
Losurdo & P.M.J., Inc., Moonachie, N.J. 813,104, pub. 5–31–66. Cl. 46.
Lum's Inc., Miami Beach, Fla. 813,175, pub. 5–31–66. Cl. 100.
Lum's Inc., Miami Beach, Fla. 813,176, pub. 5–31–66. Cl. 100.
MacIntosh, Paul G., Cincinnati, Ohio. 700,254, canc. Cl. 44.
Mackenzie Chemical Works, Inc., Long Island, N.Y. 812,812, pub. 5–31–66. Cl. 6.
MacMillan, Daniel G., New York, N.Y. 813,031, pub. 5–31–66. Cl. 38.
Madame Alexander: *See*—
Alexander Doll Co., Inc.
Magnavox Co., The, Fort Wayne, Ind. 812,924, pub. 5–31–66. Cl. 21.
Mallinckrodt Chemical Works, St. Louis, Mo. 812,804, pub. 5–31–66. Cl. 6.
Marcal Paper Mills, Inc.: *See*—
Marcalus Mfg. Co., Inc.
Marcalus Mfg. Co., Inc., to Marcal Paper Mills, Inc., East Paterson, N.J. 425,272, ren. 8–16–66. Cl. 37.
Marcle Dale, Inc., New York, N.Y. 700,235, canc. Cl. 39.
Marie's: *See*—
Marie's Blue Cheese Dressing, Inc.
Marquette Corp., Minneapolis, Minn. 812,943, pub. 5–31–66. Multiple Class (Classes 21, 26, and 34).
Material Industries, Inc., Rochester, Mich. 700,039, canc. Cl. 12.
Mattel, Inc., Hawthorne, Calif. 812,903, pub. 5–31–66. Cl. 19.
Mattel, Inc., Hawthorne, Calif. 812,994, pub. 5–31–66. Cl. 27.
Matthews, Clinton A., Paris, Tenn. 700,215, canc. Cl. 39.
Matsil Bros., Inc., New York, N.Y. 813,226. Cl. 39.
May & Baker Ltd., Dagenham Essex, England. 812,880, pub. 5–31–66. Cl. 18.
Marie's Blue Cheese Dressing, Inc., d.b.a. Marie's, Seattle, Wash. 813,108, pub. 5–31–66. Cl. 46.
Mar Tee Original, Inc., St. Louis, Mo. 813,041, pub. 5–31–66. Cl. 39.
Mastercraft Pipes, Inc., New York, N.Y. 812,869, pub. 5–31–66. Cl. 17.
McCoach Construction Co., Philadelphia, Pa. 813,189, pub. 5–31–66. Cl. 103.
McLaughlin Gormley King Co., Minneapolis, Minn. 425,664, ren. 8–16–66. Cl. 6.
McNeil Laboratories, Inc., Fort Washington, Pa. 812,873, pub. 5–31–66. Cl. 18.
Meat Industries Suppliers, Inc., Northfield, Ill. 813,084, pub. 5–31–66. Cl. 46.
Meco Model Electromechanical Corp., Ridgefield, N.J. 812,983, pub. 5–31–66. Cl. 26.
Mellwood Distillery Co., The, Louisville, Ky., to National Distillers and Chemical Corp., d.b.a. National Distillers Products Co., New York, N.Y. 27,959, ren. 8–16–66. Cl. 49.
Melnor Industries, Inc., Carol Place, N.J. 812,846, pub. 5–31–66. Multiple Class (Classes 13 and 26).
Melville Shoe Corp., New York, N.Y. 813,066, pub. 5–31–66. Cl. 39.
Melville Shoe Corp., New York, N.Y. 813,067, pub. 5–31–66. Cl. 39.
Mense, Inc., Fair Oaks, Calif. 813,042, pub. 5–31–66. Cl. 39.
Merchants Buying Syndicate Inc., New York, N.Y. 812,916, pub. 5–31–66. Cl. 21.
Mercury Electronics Corp., Mineola, N.Y. 812,976, pub. 5–31–66. Cl. 26.

Metal & Thermit Corp., Woodbridge, N.J. 700,051, canc. Cl. 16.
Meta-Therm Corp., The, New York, N.Y. 812,787, pub. 5–31–66. Cl. 4.
Meyer, Fred, Inc., Portland, Oreg. 812,978, pub. 5–31–66. Multiple Class (Classes 26 and 27).
Meyer, Fred, Inc., d.b.a. Eve's Candy Kitchen, Portland, Oreg. 813,105, pub. 5–31–66. Cl. 46.
Meyer, Otto W., d.b.a. Farmers Friend Mineral Co., Napoleon, Ohio, to Michigan Chemical Corp., St. Louis, Mich. 424,533, ren. 8–16–66. Cl. 46.
Michigan Asphalt Paving Association, Inc., Lansing, Mich. 813,204, pub. 5–31–66. Cl. 200.
Michigan Chemical Corp.: *See*—
Meyer, Otto W.
Microfloc Corp.: *See*—
General Services Co.
Micropoint, Inc., Sunnyvale, Calif. 813,018, pub. 5–31–66. Cl. 37.
Mid-Continent Aerial Sprayers, Inc., Hyti, Mo. 812,910, pub. 5–31–66. Cl. 19.
Miles Laboratories, Inc., Elkhart, Ind. 812,876, pub. 5–31–66. Cl. 18.
Miller & Co., Denver, Colo. 813,050, pub. 5–31–66. Cl. 39.
Miller Pharmacal Co., West Chicago, Ill. 812,895, pub. 5–31–66. Cl. 18.
Millett Corp., to Gilman Paper Co., New York, N.Y. 422,468, ren. 8–16–66. Cl. 21.
Mincer, William J., Indianapolis, Ind. 812,823, pub. 5–31–66. Cl. 8.
Missiles-Jets & Automation Fund, Inc., Washington, D.C. 700,283, canc. Cl. 102.
Mitchell, Robert A., d.b.a. Cadence Instruments Co., Philadelphia, Pa. 798,359, cor. Cl. 26.
Modernair Corp., San Leandro, Calif. 700,105, canc. Cl. 23.
Moffitt, George H., Indianapolis, Ind. 812,937, pub. 5–31–66. Cl. 21.
Molded Fiber Glass Body Co., Union, Pa. 812,908, pub. 5–31–66. Cl. 19.
Moll Research Laboratories, Hackensack, N.J. 813,166, pub. 5–31–66. Cl. 52.
Moon, Shirley R., Miami, Fla. 813,035, pub. 5–31–66. Cl. 39.
Moro Cigar Co., Inc.: *See*—
Cuesta, Rey & Co.
Morton International, Inc., d.b.a. Morton Salt Co., Chicago, Ill. 812,996, pub. 5–31–66. Cl. 31.
Morton Salt Co.: *See*—
Morton International, Inc.
Mo-Sai Institute, Inc., Newark, N.J. 812,840, pub. 5–31–66. Cl. 12.
Moyer, J., Bird Co., Inc.: *See*—
Richardson-Merrell Inc.
Munsingwear, Inc., Minneapolis, Minn. 813,224. Cl. 39.
Myers, John G., Co., Inc., Albany, N.Y. 700,222, canc. Cl. 39.
Nailhead Creations, Inc., New York, N.Y. 813,077, pub. 5–31–66. Cl. 42.
Nailhead Creations, Inc., New York, N.Y. 813,078, pub. 5–31–66. Cl. 42.
Naive Mfg. Co.: *See*—
Naive, Marvin T.
Naive, Marvin T., d.b.a. Naive Mfg. Co., Brentwood, Tenn. 812,917, pub. 5–31–66. Cl. 21.
Nash-Finch Co., d.b.a. Warehouse Market, Minneapolis, Minn. 813,184, pub. 5–31–66. Cl. 101.
National Distillers and Chemical Corp.: *See*—
Mellwood Distillery Co., The.
National Distillers Products Co.: *See*—
Mellwood Distillery Co., The.
National Potteries Corp., Bedford, Ohio. 812,995, pub. 5–31–66. Cl. 30.
National Starch and Chemical Corp., New York, N.Y. 812,805, pub. 4–5–66. Cl. 6.
National Tea Co., Chicago, Ill. 813,088, pub. 5–31–66. Cl. 46.
National Tea Co., Chicago, Ill. 813,089, pub. 5–31–66. Cl. 46.
National Tea Co., Chicago, Ill. 813,110, pub. 5–31–66. Cl. 46.
Navionics, Inc., College Park, Md. 812,981, pub. 5–31–66. Cl. 26.
Newbury Guild Division, The: *See*—
Plastichrome Greetings, Inc.
Newman Bros., Inc., Cincinnati, Ohio. 812,836, pub. 5–31–66. Cl. 12.
Nicholas, Trifon, d.b.a. Sophie's Home Made, Rockaway Park, N.Y. 813,100, pub. 5–31–66. Cl. 46.
Nina Ricci, S.A.R.L., Paris, France. 813,150, pub. 5–31–66. Cl. 51.
Noorani Cordage Ltd., Tanga, Tanzania. 812,822, pub. 5–31–66. Cl. 7.
Norden Laboratories, Inc., Lincoln, Nebr. 812,894, pub. 5–31–66. Cl. 18.
Nuclear-Chicago Corp., Des Plaines, Ill. 812,971, pub. 5–31–66. Cl. 26.
Obermayer, S., Co., The, d.b.a. The Ramtite Co., Chicago, Ill. 812,834, pub. 5–31–66. Cl. 12.
Ohio Leather Co., The, Girard, Ohio. 812,777, pub. 5–31–66. Cl. 1.
Ohio Valley Chapter, The Arthritis Foundation, Cincinnati, Ohio. 813,177, pub. 5–31–66. Cl. 100.
Onko-Werke: *See*—
Hag A.G.
Organon, N.V., Oss, Netherlands. 812,886, pub. 3–15–66. Cl. 18.
Ortho Pharmaceutical Corp., Raritan, N.J. 812,887, pub. 5–31–66. Cl. 18.
Outboard Marine Corp., Waukegan, Ill. 700,148, canc. Cl. 26.
Owatonna Tools, Inc., Owatonna, Minn. 812,965, pub. 5–31–66. Cl. 23.
Padcraft Mfg. Co.: *See*—
Trio Mills Mfg. Corp.
Paragon Spring Co., Chicago, Ill. 812,854, pub. 5–31–66. Cl. 13.
Paragon Spring Co., Chicago, Ill. 812,855, pub. 5–31–66. Cl. 13.
Park & Hagna, Washington, D.C. 700,262, canc. Cl. 46.
Park City Storage & Van Lines, Inc.: *See*—
American Holiday Van Lines, Inc.
Parke, Davis & Co., Detroit, Mich. 220,808, ren. 8–16–66. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 220,829, ren. 8–16–66. Cl. 6.
Parke, Davis & Co., Detroit, Mich. 812,891, pub. 5–31–66. Cl. 18.
Parks, Robert M., Co., Hollywood, Calif. 812,938, pub. 5–31–66. Cl. 21.
Pasadena Specialty Co.: *See*—
Seltzer, Ira R.
Patterson Kelley Co., Inc., The, East Stroudsburg, Pa. 812,926, pub. 5–31–66. Cl. 21.
Patterson Kelley Co., Inc., The, East Stroudsburg, Pa. 813,009, pub. 5–31–66. Cl. 34.
Pearson Pharmacal Co., Inc., Miami, Fla. 700,282, canc. Cl. 18.
Peavy, Paulina, New York, N.Y. 813,083, pub. 5–31–66. Cl. 44.
Pelron Corp., Lyons, Ill. 812,791, pub. 5–31–66. Cl. 6.
Penco Fabrics, Inc., New York, N.Y. 813,079, pub. 5–31–66. Cl. 42.
Penny, Henry, Corp., Eaton, Ohio. 813,206. Cl. 2.
Penton Publishing Co., The, Cleveland, Ohio. 813,023, pub. 5–31–66. Cl. 38.
Personal Sportswear, Inc., South Boston, Mass. 813,046, pub. 5–31–66. Cl. 39.
Peter Paul, Inc., Naugatuck, Conn. 813,122, pub. 5–31–66. Cl. 46.
Pfaelzer Bros.: *See*—
Armour and Co.
Pfizer, Chas., & Co., Inc., New York, N.Y. 813,149, pub. 5–31–66. Cl. 51.
Pharmaceutical Laboratories, Inc., Plainfield, N.J. 813,142, pub. 5–31–66. Cl. 51.
Phelan-Faust Paint Mfg. Co., d.b.a. Phelan's, St. Louis, Mo. 813,210. Cl. 16.
Phelan's: *See*—
Phelan-Faust Paint Mfg. Co.
Philadelphia Chewing Gum Corp., Havertown, Pa. 813,115, pub. 5–31–66. Cl. 46.
Phoebe Ann Products, Inc., New York, N.Y. 813,144, pub. 5–31–66. Cl. 51.
Pikle-Rite Co., Inc., Pulaski, Wis. 813,114, pub. 5–31–66. Cl. 46.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 813,174, pub. 5–31–66. Cl. 100.
Plastichrome Greetings, Inc., d.b.a. The Newbury Guild Division, Jamaica Plain, Mass. 813,030, pub. 5–31–66. Cl. 38.
Playad Co., The: *See*—
Turner, Irvine I.
Polarad Electronics Corp., Long Island City, N.Y. 700,139, canc. Cl. 26.
Poor & Co., Chicago, Ill. 812,963, pub. 5–31–66. Cl. 23.
Poust, Jack, & Co., New York, N.Y. 813,125, pub. 5–31–66. Cl. 47.
Power-Clik Corp., The, Waterbury, Conn. 813,019, pub. 5–31–66. Cl. 37.
Precasco Corp., Atlanta, Ga. 812,858, pub. 5–31–66. Cl. 14.
Prescott, J. L., Co., Passaic, N.J. 812,814, pub. 5–31–66. Cl. 6.
Procter & Gamble Co., The, Cincinnati, Ohio. 813,151, pub. 5–31–66. Cl. 51.
Producers Cooperative Exchange: *See*—
Producers Cooperative Exchange of Coatsville.
Producers Cooperative Exchange of Coatsville, d.b.a. Producers Cooperative Exchange, Coatsville, Pa. 813,121, pub. 5–31–66. Cl. 46.
Projects Unlimited, Inc., Dayton, Ohio. 812,900, pub. 5–31–66. Cl. 19.
Public Data Processing Corp., Chicago, Ill. 813,179, pub. 5–31–66. Cl. 101.
Puerto Rico Distillers, Inc., Arecibo, Puerto Rico. 813,129, pub. 5–31–66. Cl. 49.
Puerto Rico Distillers, Inc., d.b.a. Compania de Bebidas del Tanama, Arecibo, Puerto Rico. 813,132, pub. 5–31–66. Cl. 49.
Purex Corp., Ltd., Lakewood, Calif., from Fels and Co., Philadelphia, Pa. 813,155, pub. 5–31–66. Cl. 52.
Puritan Fashions Corp., New York, N.Y. 813,076, pub. 5–31–66. Cl. 42
Purity Baking Co., St. Paul, Minn., to American Bakeries Co., Chicago, Ill. 211,945, ren. 8–16–66. Cl. 46.
Putney, Stephen, Shoe Co., Richmond, Va. 813,056, pub. 5–31–66. Cl. 39.
RBA Research and Public Information, Inc., Beverly Hills, Calif. 813,181, pub. 5–31–66. Cl. 101.
Raab, Hans J., Fort Lauderdale, Fla. 812,902, pub. 5–31–66. Multiple Class (Classes 19 and 44).
Radio Corp. of America, New York, N.Y. 812,979, pub. 5–31–66. Cl. 26.
Railways Co., d.b.a. SeaQuist Mfg. Co., Cary, Ill. 812,845, pub. 5–31–66. Cl. 13.
Rainbow Crafts, Inc., Cincinnati, Ohio. 812,945, pub. 5–31–66. Cl. 22.
Ralston Purina Co., St. Louis, Mo. 812,881, pub. 5–31–66. Cl. 18.

Ramtite Co., The: *See*—
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Rea Leasing Corp., New York, N.Y. 813,178, pub. 5–31–66. Cl. 101.
Redfern Sausage Co., Atlanta, Ga. 813,097, pub. 5–31–66. Cl. 46.
Reed & Carnrick, Kenilworth, N.J. 217,985, ren. 8–16–66. Cl. 18.
Reig Duplicator Co., Chicago, Ill. 700,023, canc. Cl. 11.
Reiter's Beer Distributors, Brooklyn, N.Y. 813,126, pub. 5–31–66. Cl. 48.
Reliance Electric & Engineering (Canada) Ltd., Toronto, Ontario, Canada. 812,922, pub. 5–31–66. Cl. 21.
Renoir of California, Inc., Los Angeles, Calif. 700,160, canc. Cl. 28.
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Rohm & Haas Co., Philadelphia, Pa. 423,024, ren. 8–16–66. Cl. 6.
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Ronrico Corp., San Juan, Puerto Rico. 813,131, pub. 5–31–66. Cl. 49.
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Sigma Chi Fraternity, Chicago, Ill., to Sigma Chi Corp., Evanston, Ill. 218,796, ren. 8–16–66. Cl. 28.
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PATENTS

NOTICES

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Extensions of Time

It is ordinarily desirable that notice of the action taken by the Patent Office on requests for extension of time be communicated to the persons making the requests as soon as is reasonably possible. In order to improve Patent Office service to patent and trademark applicants in this regard, the following procedure is being instituted effective immediately. If a request for extension of time is filed in duplicate and accompanied by a stamped return-addressed envelope, the Office will indicate the action taken on the duplicate and return it promptly in the envelope. Utilization of this procedure is optional on the part of applicant.

EDWARD J. BRENNER,
Commissioner of Patents.

Aug. 3, 1966.

Disclaimers

2,839,909.—*John E. Morgan*, Tamaqua, Pa. KNITTED FABRIC. Patent dated June 24, 1958. Disclaimer filed July 20, 1966, by the assignee, *J. E. Morgan Knitting Mills, Inc.*

Hereby enters this disclaimer to claims 14–18 of said patent.

2,845,912.—*Ralph C. Bird, Jr.*, Lansing, Mich. INDUCTION SYSTEM. Patent dated August 5, 1958. Disclaimer filed May 2, 1966, by the assignee, *General Motors Corporation.*

Hereby enters this disclaimer to claim 1 of said patent.

2,864,697.—*Lee S. Busch, George W. Bauer* and *Paul E. Moorhead*, Warren, Ohio. TITANIUM-VANADIUM-ALUMINUM ALLOYS. Patent dated Dec. 16, 1958. Disclaimer filed July 13, 1966, by the assignee, *National Distillers & Chemical Corporation.*

Hereby enters this disclaimer to claims 1 through 6 inclusive of said patent.

2,996,822.—*David W. Souza*, Oakland, Calif. CONTRAST COLOR EMBOSSED PLASTICS. Patent dated Aug. 22, 1961. Disclaimer filed Apr. 6, 1966, by the assignee, *Dymo Industries, Inc.*

Hereby disclaims the terminal portion of the term of said patent subsequent to Feb. 23, 1977.

3,061,744.—*Joel S. Spira*, New York, N.Y. ELECTRIC RECTIFYING POWER CONTROL AND LAMP DIMMING SYSTEM. Patent dated Oct. 30, 1962. Disclaimer filed May 18, 1966, by the inventor.

Hereby enters this disclaimer to claims 1, 2, 3, 4, 5, and 12 of said patent.

3,138,764.—*Oliver Dalton* and *Robert G. Rullman*, Beaverton, Oreg. RAMP GENERATOR EMPLOYING COMPARATOR CIRCUIT FOR MAINTAINING CONSTANT STARTING VOLTAGES FOR DIFFERENT TIMING RESISTORS. Patent dated June 23, 1964. Disclaimer filed May 11, 1966, by the assignee, *Tektronix, Inc.*

Hereby enters this disclaimer to claims 2 and 4 of said patent.

3,213,758.—*Lawrence H. Workman*, Muskegon, Mich. AIR OPERATED CONTROL DEVICE. Patent dated Oct. 26, 1965. Disclaimer filed May 2, 1966, by the assignee, *Gardner-Denver Company.*

Hereby enters this disclaimer to the terminal portion of the term of said patent subsequent to Oct. 26, 1981.

3,250,846.—*Richard H. Peterson*, Oak Lawn, and *William H. Hass*, Elmwood Park, Ill. ELECTRONIC MUSICAL INSTRUMENTS. Patent dated May 10, 1966. Disclaimer filed July 18, 1966, by the inventors.

Hereby enter this disclaimer to claims 1 to 7 of said patent.

New Applications Received During June 1966

Patents	7746
Designs	399
Plant Patents	8
Reissues	16
Total	8169

Issue—August 23, 1966

Patents	1425	No. 3,267,486 to No.	3,268,910, incl.
Designs	26	No. 205,583 to No.	205,608, incl.
Plant Patents	4	No. 2,662 to No.	2,665, incl.
Total	1455		

ADDRESS OF COMMISSIONER EDWARD J. BRENNER

Delivered before the Patent, Trademark and Copyright Section of the American Bar Association, Royal Embassy Hotel, Montreal, Canada, Saturday, August 6, 1966

It is a pleasure to meet with you this noon to review the highlights of Patent Office activities during fiscal year 1966 and to discuss with you the outlook for fiscal year 1967.

The operations of the Patent Examining Corps during fiscal year 1966 involved a transition from working primarily on amended cases to working on a normal proportion of new applications. Disposals for the year amounted to 91,000 as compared with 102,000 last year. It is significant to note that disposals for the two-year period 1965–1966 represent approximately 97 percent of our overall goal of 100,000 disposals per year for this two-year period. Further, production records for the past four months confirm our ability to act on and dispose of at least 100,000 patent applications per year. During fiscal 1966 we received 93,000 patent applications, an all-time record, as compared with 89,000 applications the previous year. Our backlog of pending patent applications at the end of the year stood at 209,000 as compared with 207,000 at the end of the previous year. We also issued an all-time record of nearly 67,000 patents during the past year, as compared with 53,000 the previous fiscal year.

During fiscal 1966 we also initiated a number of significant procedural changes in our patent examining operations. These included supplying, without charge, to patent applicants, copies of references with Office actions. Also, we initiated a new streamlined continuation practice.

During the past year, as you know, the United States Supreme Court decided a number of important patent cases. I believe it is of interest to note that the two cases in which the Patent Office was directly involved were decided by the Court in favor of the Patent Office position. Several other cases which were decided by the Court concerning the standard of patentability were also particularly significant with regard to our operations.

I have emphasized to all of our patent examiners the important responsibility they carry in making sure that the standard of patentability enunciated by the Supreme Court and by the Congress is applied *in each and every case*. In order to further clarify Office policy on this important aspect of patent examination, I have recently instructed the Patent Examining Corps that any application covering an invention of doubtful patentability should not be allowed, unless and until such doubt is removed in the course of examination and prosecution, since otherwise the resultant patent would not justify the statutory presumption of validity, nor would it "strictly adhere" to the requirements laid down by Congress in the 1952 Act as interpreted by the Supreme Court. Our objective, the timely issuance of valid patents, is in the best interest of the inventor, the scientific community, industry, the patent system and the Patent Office.

Our Board of Appeals reduced the number of pending appeals to 5500 by the end of the year, as compared with 10,800 at the end of the previous year. This is the lowest number of pending appeals since 1956. The Board of Patent Interferences reduced the number of pending interferences to about 1300 by the end of the year (including an inventory adjustment), as compared with approximately 1900 at the end of the previous year. This is the lowest number of pending interferences since 1958.

Our Office of Patent Classification reclassified approximately 79,000 original patents in fiscal 1966 as compared with about 72,000 the previous year. Included in our fiscal 1966 activities was Class 52, Static Structures in which there were nearly 35,000 original patents. This class and the total number of patents reclassified were the highest since 1959. During this past year considerable emphasis was placed on "hot spot" reclassification projects. We believe that these "hot spot" reclassification projects, which have a high payout, will provide considerable immediate assistance to the Patent Examining Corps and to the public.

Fiscal 1966 also saw the adoption of a formal Career Development Program for patent professionals. We are continuously reviewing and studying this program to improve it as a result of experience and suggestions received.

There were 188 separations of patent professionals in fiscal 1966, as compared with 196 in the previous year. It is of particular interest to note that the turnover of patent professionals would undoubtedly have been substantially lower, perhaps about 160, in fiscal 1966 had it not been for the unusually high number of retirements resulting from the special retirement law enacted during the past year. This, I believe, is very encouraging. It is also of interest to note that approximately 30 percent of the new patent examiners who joined the Patent Office during the past year had previous technical experience in industry or government.

It is appropriate, I believe, to recognize the fine job done throughout the year by the clerical groups of our Patent Examining Corps and other patent organization units, the Office of Patent Services and the Administrative Services Division in handling the heavy workloads resulting from the high output from our professional patent operation, as well as the high activity generated by the passage of the new fee bill. For example, the workload handled by the Patent Copy Sales Branch and the Document Services Branch was up 10 percent. The number of patents processed through the Issue and Gazette Branch was up 20 percent, and the number of assignments recorded by the Assignment Branch was up more than 50 percent over the previous year.

Our Organization and Systems Analysis Division completed a contract for a new Patent Copy Fulfillment System during the year. This system will result in the future in better service to the public and reduced costs in supplying copies of patents from microform. This system will also provide a basis for the future establishment of classified sets of the United

States patents in microform for use by the Office as well as the public. The Organization and Systems Analysis Division also completed an extensive computer feasibility study which we hope will result in our acquisition of a computer in the near future. This Division also initiated a number of systems studies relating to our patent examination process and the flow of patent applications throughout the Office.

The Office was also quite active in the international patent field during the past year. Official visits were made to a number of foreign patent offices. Also, representatives of the Office attended a number of international meetings, including the International Patent Classification Working Group, the International Design Patent Classification Working Group, ICIREPAT, and meetings of the International Bureau at Geneva, as well as several other international conferences. During the year we also conducted a joint program with the Patent Office of the Federal Republic of Germany, exchanging search results on 1000 cases filed initially in each of the countries and subsequently filed in the other country. The results of this experimental search exchange program are currently being evaluated by the two Offices. It is apparent at this point that a considerable amount of valuable information for the future will be obtained from this experiment and study.

Our Research and Development Division was very active this past year with the patent offices of other countries who are members of the ICIREPAT organization. ICIREPAT has developed plans to bring into shared-use operation over the next five years approximately 25 to 30 mechanized search systems. Technical fields involved would include alloys, glass technology, lasers and masers, steroids, A–D converters and lubricants. It is estimated that at the end of this five-year period approximately 5 percent of our total search files will be mechanized.

During the past year the Patent Office participated actively in the nation-wide program commemorating the 175th Anniversary of the United States Patent System. We were particularly pleased to have been awarded the 1965 Silver Anvil by the Public Relations Society of America for our contributions to this program.

In fiscal 1966 our Trademark Examining Corps disposed of 25,000 applications, as compared with 25,500 during the previous year. An all-time record of 28,400 trademark applications were filed during the year, as compared with 27,000 during the previous year. Trademark registrations during the year amounted to 19,400 as compared with about 20,000 last year. The Trademark Trial and Appeal Board continued to maintain their work on a current basis.

Several procedural changes were made during the year in our trademark examining operations, including the initiation of a new procedure for making trademark applications special and a new streamlined trademark examining program, patterned somewhat after our streamlined patent examining program. Also, during the year, a formal Career Development Program for trademark professionals was adopted. In the international trademark field, representatives of the Office attended several meetings relating to the Madrid Convention, and were active in discussing the possible adherence of the United States to the Madrid Agreement with the patent bar and industry groups.

Total Patent Office expenditures for fiscal year 1966 amounted to $34,400,000, as compared with $31,300,000 for the previous fiscal year. As a result of the enactment of the new fee bill and its effect during a portion of the year, income from patent operations increased from $9,200,000 in fiscal 1965 to $18,200,000 this past year. During the year the Office also initiated a program under which fees may now be charged to deposit accounts.

To summarize our activities for fiscal 1966, I would say that it was definitely an all-around good year. Further, I believe we have laid a solid groundwork for the future. I would like particularly to thank the members of the patent bar whose excellent cooperation has contributed so much to make this past year such a successful year.

For the coming year, fiscal 1967, we estimate that the Patent Examining Corps will dispose of approximately 102,000 patent applications. Receipts of patent applications for this year are estimated at 92,000 so that we expect a reduction in our backlog of pending applications of approximately 10,000 cases, leaving a backlog of approximately 199,000 applications at the end of this fiscal year. We also anticipate that we will issue approximately 75,000 patents during the year, the increase over the previous year being primarily due to the doubling up of final fee payments over a three-month period as a result of the change in the law which now requires payment of final fees within three months of allowance rather than the six months under prior law.

We have initiated a program to fully implement our policy of providing Group Managers with the authority to determine the staffing requirements needed to meet their examining goals, including the determination of optimum staffing of examiners and clerical personnel and optimum utilization of overtime. We also expect during the coming fiscal year to fully implement the new Government-wide Planning, Programming and Budgeting System in the Patent Office, under which we are required to develop in detail our plans, programs and budgets over the next five years. This program will cover all major activities in the Patent Office. In the case of the Patent Examining Corps, the five-year program will be developed in terms of six-month increments corresponding to our six-month running plans of the type we have used during the past year. However, we plan, in the future, to develop our six-month plans from the "grass-roots" level rather than from the Office of Examining Control. More particularly, it is our plan to have each of our Supervisory Primary Examiners develop a five-year plan for their Art Units for attaining a pendency of 18 months on all dockets, which will then be combined into a Group plan, and then into an Operation plan, and ultimately into a Corps plan.

We anticipate very few changes in our patent examining procedures during the year. However, effective September 1, 1966, we have decided to change, on a trial basis, our second action final rejection procedure to provide that a second action on the merits will not be made final where new art or a new ground of rejection is introduced by the examiner and is not necessitated by an amendment or change in the claims or specification by the applicant or his attorney or agent. One of the side effects of this change will be the elimination of final rejections having a four-month response period, so that in the future all actions on the merits will have three-month response periods.

Also, we have decided to incorporate into our Career Development Program for patent professionals, the new career program referred to in my speech of March 30, 1966, which was published in the Official Gazette. Under this program, career patent professionals will be eligible to participate in the Patent Office Academy program, our training programs at local universities covering technical and legal courses, field trips, career development assignments, and the like.

We also expect during the next six months to develop and implement a new quality audit program in which allowed applications will be sampled and reviewed with respect to the application of current patent examining procedures, field of search, and standard of patentability.

Our Trademark Examining Operation has developed a three-year program covering fiscal years 1967–69 under which it is planned that our trademark examining will attain a current status in which new applications will be taken up for examination within three months of filing. We hope to be able to bring our professional trademark examining staff up to full budget strength in the very near future to assist in accomplishing the goal of this three-year program.

We are also currently developing a program for a Speakers' Bureau in the Patent Office covering both patents and trademarks. Members of the Speakers' Bureau will be available to speak on patents or trademarks to local groups.

We also plan to initiate and complete during the year a number of special studies, including development of a long range documentation program for the Office, a cost-benefit analysis of the U.S. patent system and a cost-benefit analysis of an international patent system.

During this coming year we also look forward to continued progress towards international cooperation in the patent and trademark fields on a bi-lateral as well as a multi-lateral basis. We are currently developing possible future cooperative programs with the patent offices of a number of other countries.

With regard to the status of a new Patent Office building, I have nothing new to report. However, continuous efforts are being exerted to improve the working environment for our employees and members of the public who use our facilities. For example, as you probably know, our Public Search Room was recently air-conditioned. Also, additional air-conditioning units have recently been installed in our examining and supporting service areas.

In conclusion, I believe that fiscal 1967 will be a most important year for both our patent and trademark operations. Our performance during the year will undoubtedly have a considerable bearing on the future of the United States patent system, particularly in light of the activities during the year of the Presidential Commission and the Senate Subcommittee on Patents. I am quite sure that I can count on the patent bar for their continued cooperation and best efforts to make fiscal 1967 the most successful year in the history of the United States Patent Office.

Thank you!

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JULY 1, 1966

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7-1-63	11-14-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—G. D. MITCHELL, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	1-29-63	2-20-61
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	7-1-63	4-13-62
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	7-1-63	7-11-60
COMPOSITIONS AND MOLDING, GROUP 150—M. STERMAN, Manager Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	7-23-63	2-26-60
COATING AND LAMINATING, GROUP 160—J. R. LIBERMAN, Manager Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	6-4-63	12-4-61
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	11-16-62	10-11-61
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1-11-63	12-18-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER AND ELEMENTS, GROUP 210—M. L. LEVY, Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	12-31-62	10-19-61
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	8-26-63	1-16-62
INFORMATION TRANSMISSION, GROUP 230—E. J. SAX, Manager Communications; Multiplexing Techniques; Facsimile and Related Art.	4-4-63	12-22-61
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—E. J. SAX, Manager Data Processing, Computation and Conversion; Storage Devices and Related Art.	12-28-62	2-6-61
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—F. M. STRADER, Manager Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	12-17-62	7-31-61
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager Optics; Radiant Energy; Measuring.	1-8-63	8-8-61
PHYSICS, GROUP 280—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	9-18-63	10-25-62
DESIGNS, GROUP 290—S. BOYD, Manager Industrial Arts; Household, Personal and Fine Arts.	5-17-65	9-21-64

Total number of pending applications (excluding Designs)	196,314
Total number of Design applications pending	4,534
Total number of applications awaiting action (excluding Designs)	145,101
Total number of Design applications awaiting action	2,563
Date of oldest new application awaiting action	Nov. 16, 1962
Date of oldest amended application awaiting action	Feb. 26, 1960

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during August 1966, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1965*.

Patents..... Numbers 2,477,558 to 2,490,820, inclusive

Plant Patents..... Numbers 858 to 860, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	10-5-64	2-19-64
MANUFACTURING; METAL, PLASTICS WORKING; MACHINE TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders.	3-3-64	3-6-62
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	7-7-64	4-30-63
FLUID HANDLING, GROUP 360—T. J. HICKEY, Manager Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	5-18-64	11-7-62
HEAT AND POWER ENGINEERING, GROUP 370—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration, Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	8-17-64	11-14-63
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, Etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletry.	10-14-63	1-3-62
CIVIL ENGINEERING, GROUP 420—T. J. HICKEY, Manager Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	7-1-64	6-25-62
TEXTILES AND APPAREL, GROUP 440—W. S. COLE, Manager Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	7-1-64	6-21-62
TRANSPORTATION, GROUP 450—A. BERLIN, Manager Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	7-16-64	7-22-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	7-1-64	1-24-63
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—A. RUEGG, Manager Printing; Typewriters; Stationery; Material Treatment.	7-1-64	7-25-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE RALPH M. DURHAM

No. 7595. Decided March 10, 1966

[53 CCPA —; 356 F.2d 1013; 148 USPQ 684]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"METHOD OF TREATING MEAT."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Method of Treating Meat," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 135,887.

AFFIRMED.

Charles W. Coffee for appellant.

Clarence W. Moore (*Raymond E. Martin* of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN, SMITH, and ALMOND, JR., *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

SMITH, *J.*, delivered the opinion of the court.

The only issue remaining in this appeal is whether the method or process of appealed claims 10–15, inclusive,[1] is obvious under 35 U.S.C. 103.

The invention is described in appellant's brief as follows:

> Appellant's invention is for artificially marbling meat.
>
> One of the factors in the quality and grading of beef is the amount of intramuscular fat found in the beef as "marbling." The term marbling is a common term used in the trade and understood by those in the trade as being small flecks or particles of fat within the muscle of the meat.
>
> The desirability of marbling is recognized. Also the desirability of adding fat to lean meat has long been recognized. • • •
>
> Appellant adds the extra fat into the meat by inserting a hollow needle into the meat and injecting fat by a pump under pressure in the order of 25 p.s.i. The fat must be in a liquid state and therefore at a temperature sufficient to keep it melted. Furthermore, the fat must not be so hot as to cook the meat when it is injected. Generally a temperature range of 100° to 140° F. is desirable.
>
> The product produced by such artificial marbling of the meat is one which closely resembles natural marbling. The amount of fat injected into the meat may be closely regulated to the desired taste of the consumer. Generally about 8 to 10% by weight is added.
>
> The added fat will not be connected to the muscle fibers and therefore is different from natural marbling. The fat will be outside of the blood vessels or extravascular.

Claim 10 is the only appealed claim to use the term "marble" and reads as follows:

> 10. The method of treating meat comprising intramuscularly injecting fat into the meat, under pressure by needle inserted into the muscle, sufficient fat being injected to marble the meat.

Claim 15 is the most detailed of the appealed claims and reads as follows:

> 15. The method of treating meat comprising intramuscularly injecting fat by needles spaced less than one inch apart into pieces of meat, said fat is supplied

[1] Application Ser. No. 135,887, filed Feb. 5, 1961, for "Method of Treating Meat." No claims have been allowed. Appellant originally appealed the rejection of all 17 claims but has now withdrawn the appeal as to all except claims 10–15, inclusive.

to the needles under a pressure of from 20 to 40 p.s.i.g. and said fat is at a temperature between 100° F. and 150° F.

Claim 11 differs from claim 10 only in the terms used to define the amount of fat to be injected. It requires that "the injected fat may be visible upon slicing the meat." Claim 12 limits the fat used in the process to that "which will solidify at normal meat storing temperature, but will liquify at normal cooking temperatures into juices in the meat." Claim 13 is specific to the treatment of beef and the use of beef tallow as the injected fat. Claim 14 relates to the treatment of meat generally by the described fat injection process and includes the use of "fat other than the fat from the animal from which the meat was taken."

According to appellant, as used in the claims the term "fat" designates vegetable oils as well as animal fats.

In a letter to the Patent Office dated October 31, 1963, appellant expressed what seems to be his present position, i.e., "if the broad principle is not patentable, that certain limitations such as are contained in claim 15 limiting temperatures, etc. are not patentable." We shall, therefore, here consider only the patentability of the "broad principle" set forth in the appealed claims.

The rejection of the appealed claims was predicated on the finding that they did not cover an unobvious method or process in view of the following references:

Williams et al. [Williams], 2,805,163, September 3, 1957.
Bettencourt,[2] 2,473,191, June 14, 1949.
Tichy, 2,418,914, April 15, 1947.

The pertinent disclosures of Tichy and Williams may be summarized as follows: Tichy discloses a process for making meat more tender which comprises projecting animal fats in the form of a spray of finely divided particles from nozzles. The material sprayed may be in the form of a suspension of solid particles, powdered solids, emulsion or a solution. The nozzles have openings of .0001 in. diameter, and the particles are said to penetrate deeply into the interior of the meat by reason of the high pressure (from 1,000 to 7,000 p.s.i.) employed.

Williams teaches the injection of an aqueous medium (e.g., a solution of an enzyme or monosodium glutamate) into muscular tissue of meat, indirectly through the vascular system or directly by a procedure known as "stitch pumping" or both. The parties agree that "A stitch pumping process is by insertion of needles into the meat and injecting the liquid under pressure."

The Board sustained the rejection of process claims 10–15 in view of the combined teachings of Tichy and Williams, stating:

> Even though Tichy injects the fat by a high velocity spray which apparently does not require insertion of the needle into the meat, we believe that it would be obvious to a person of ordinary skill to inject the fat by the simple "stitch pumping" procedure of Williams et al. Tichy's objective is the introduction of fat deep into the interior of the meat, and this end may be achieved by either a high velocity spray, as in Tichy, or by "stitch pumping," as in Williams et al. * * *

Appellant takes issue with this statement of what Tichy teaches and states in his brief:

> Tichy states as his main object: "The principal object of my invention is to rapidly create a change in meat which will result in its being more easily masticated and more tender in a short time after slaughtering of the animal.

[2] We do not find it necessary to discuss this reference.

> "Another object of my invention is the treatment of meat in such a way that the normal ripening process will be aided by physical and/or chemical means."

A study of the complete disclosure of Tichy has led appellant to the conclusion that if Tichy attempted to introduce enough fat to marble the meat that he would beat the surface of the meat to a pulp and would not achieve sufficient depth of penetration with large quantities of fat to achieve a "marbling" effect.

Even accepting appellant's position as sound with regard to Tichy, it does not meet the above ground of rejection as stated by the Board. The issue raised by the Board's rejection is whether, admitting the limitations on Tichy's disclosures as to his particular method of fat injection through a very small orifice at high pressures, it would have been obvious under the conditions stated in 35 U.S.C. 103 to have used an insertable needle and low pressures as taught by Williams, to inject fat into meat. On this issue we agree with the Board that such a substitution would have been obvious under 35 U.S.C. 103.

In view of the dispositive nature of the foregoing, we deem it unnecessary to review the other grounds of the Board's rejection of the appealed claims. [1] The decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

JOHN C. KRANTZ, JR. AND LOUISE SPEER CROIX *v.* JOHN F. OLIN

No. 7415. Decided March 10, 1966

[53 CCPA —; 356 F.2d 1016; 148 USPQ 659]

1. INTERFERENCE—CONSTRUCTIVE REDUCTION TO PRACTICE—UTILITY—SUFFICIENCY OF DISCLOSURE.

On the issue whether there was a constructive reduction to practice in an application relied upon to support a count in interference to a process for preparing a compound, and with reference to appellants' contentions that the application included in part incorrect and misleading statements of utility for the compound as a solvent and omitted mention of known hazards in handling the compound, the court agreed with the Board of Patent Interferences that the evidence showed "that a good many solvents are more or less hazardous to use, but this fact alone does not prevent their use," that "the Patent Office has not been charged by Congress with the tasks of protecting the public against possible misuse of chemical patents," that there was no "substance in the 'safety' argument," and that "Since there is proof of one of the disclosed utilities, it is unnecessary to reach the other uses set forth" in the application.

2. APPLICATION—DISCLOSURE—COMPLIANCE WITH STATUTORY CONDITIONS.

"Appellants suggested at argument that we should apply the law of contracts as set forth in 17 C.J.S. 155, note 48, to the effect that while there may be no obligation to disclose a fact, such [as] a particular utility of a compound made by a process, if it *is* disclosed in an application the *whole* truth about it must be told, such as the toxicity of a material alleged to be useful as a solvent. We would suggest that this is not a contract case and that an applicant for a patent, notwithstanding the popular myth that a patent is a contract, is not negotiating a contract with the Government. Rather, he is applying for a grant in accordance with a statute under which the right to a patent depends on compliance with the statutory terms and conditions. The prosecution of an application is not bargaining but a process of demonstration and persuasion that the statute has been complied with."

APPEAL from the Patent Office. Interference No. 91,447.

AFFIRMED.

H. Hume Matthews, Melford F. Tietze for appellants.

William M. Epes, Emil W. Milan (William A. Smith, Jr. of counsel) for appellee.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Board of Patent Interferences awarding priority to appellee Olin, the senior party, in Interference No. 91,447, between Krantz et al. application Serial No. 657,482, filed May 7, 1957, for "Pharmaceutical Agent," and Olin application Serial No. 37,035, filed June 20, 1960, for "Chemical Product," a continuation of application Serial No. 556,056, filed December 29, 1955.

The Krantz et al. application is assigned to Air Reduction Company, Inc., of New York. Pennsalt Chemicals Corporation, of Pennsylvania, is assignee of the Olin applications.

In declaring the interference the Examiner accorded Olin the benefit of the filing date of his earlier application, thereby making him senior party.

The sole count, which originated as claim 15 of the Krantz et al. application and was suggested by the Examiner to Olin for the purpose of contesting priority, reads:

A process which comprises reacting 2,2,2-trifluoroethyl p-toluene sulfonate with an alkali metal 2,2,2-trifluoroethanolate and obtaining 2,2,2,2',2',2'-hexafluorodiethyl ether as a product therefrom.[1]

In the proceedings below, the parties filed a stipulation of facts and stipulated testimony in lieu of taking testimony. They also filed briefs and were represented at final hearing.

Part of the Board's decision was that Olin, on the facts stipulated, did not have an *actual* reduction to practice and that he was not entitled to an award of priority on that basis. That issue is not before us because it was not raised on appeal by either party. With respect to it we wish it to be clearly understood that our decision herein is not to be taken as an approval of that holding or of the reasons given in the Board's opinion in support thereof.

The Board's award of priority to Olin was on the ground that he had a *constructive* reduction to practice of the process of the count as of the date of his parent application, December 29, 1955, prior to the filing date of Krantz et al., May 7, 1957, the Board further holding that all of the proofs of Krantz et al. for an actual reduction to practice were subsequent to Olin's effective filing date. Since Krantz et al. expressly approve the last-mentioned finding of the Board, it is not before us and, again, it is to be understood that this decision is not to be taken as an approval of it or the reasons in support of it.

The issue on appeal is a narrow one. As Olin states it, it is simply whether he constructively reduced to practice by filing his parent application. Krantz et al. say that the decision of the Board "is clear and correct in every material respect save one—the Board erred in holding that the parent Olin case * * * is (was) a complete and allowable application and that Olin is entitled to the 1955 filing date of his said parent application, for a constructive reduction to practice of the count."

Appellants' attack on Olin's applications is based on three main contentions: (1) that Olin intentionally included categorical disclosures or statements of utility for the compound produced by the claimed process and that these statements have been shown during the interference "to be in at least material part incorrect and misleading," (2) that Olin excluded or omitted information known to him at the time of filing which has been shown "to be of great importance to the proper and safe practice of the claimed new process and of the disclosed uses of the new compound produced thereby," and (3) that Olin has failed "to remove from the application the said misleading statements or to include or attempt to include therein the said omitted information." As may be seen, point (3) is somewhat repetitive of points (1) and (2).

Appellants carefully point out that the issue, in their opinion, is whether under these circumstances the Olin parent application can properly be considered complete and allowable,[2] and thus constitute a constructive reduction to practice of the process invention of the count.

Olin's applications both say (bracketed numbers inserted):

The resulting new chemical compound of my invention, bis(2,2,2-trifluoroethyl) ether, is a colorless liquid which vaporizes readily at ordinary temperatures and [1] has useful solvent properties. For example, it may be used to prepare pastes or dispersions of high molecular weight fluorine compounds such as fluorocarbon waxes. [2] It also may be used to soften or solubilize polymeric materials, e.g., synthetic fibers. [3] It is chemically reactive and may be used in the preparation of other fluorinated compounds.

This passage, particularly the three numbered portions, constitutes all of the positive disclosure upon which appellants' objections are based.

As to disclosure [1], appellants contend the evidence shows that Olin, at the time of filing, had no experimental basis for such assertion and that, while his "guess" turned out to be correct as shown by the Neeley and Wamser affidavits introduced by appellants, one wishing to prepare the new compound and use it should first be informed of the following "caution" Olin had received from his pharmacologist Latven: "Thus it is apparent that this compound is extremely toxic and is absorbed systemically within seconds following inhalation. WE URGE YOU TO TAKE EVERY PRECAUTION IN HANDLING THIS MATERIAL AND TO AVOID ACCIDENTAL INHALATION AT ALL COSTS. You can imagine what might happen if the glass container were accidentally dropped and broken on the laboratory floor." Absent such information, say appellants, Olin's teaching of the use of the new chemical as a solvent to form a paste or dispersion is "misleading to the ordinary chemist who might attempt to follow the teaching of Olin according to the ordinary and normal meaning of the words and statements used in the Olin application."

As to disclose [2], appellants point to evidence showing they tried the new compound with a number of synthetic fibers and found it would not soften or solubilize polystyrene, "Nylon," "Mylar," "Orlon," "Dacron," "Acrilan," and "Dynel," but that it did soften or swell polyethylene and cellulose acetate "to some extent." Polyvinylidene chloride was "slightly soluble" and polymethacrylate was said to be the only one "significantly soluble." Olin testified that he never tested or used the new compound to soften or solubilize a synthetic material.

[1] This product, the patentability of which is still in dispute so far as the record shows, has been approved by the Federal Food and Drug Administration and is now marketed under the trademark "Indoklon." It has been found to be a "potent convulsant" and is used in the treatment of mental illness. A motion by appellants to add a count directed to this compound was denied. Its simple formula is: $CF_3—CH_2—O—CH_2—CF_3$. It is also known as bis(2,2,2-trifluoroethyl) ether and so referred to by Olin.

[2] Whether this issue is ancillary to priority is itself a potential issue (see *Glass v. DeRoo*, 44 CCPA 723, 239 F.2d 402, 112 USPQ 62), but will not be considered since it has not been raised.

As to disclosure [3], again Olin testified that he had never chemically reacted the new compound. Appellants' "experts" Wamser and Neeley found it to be "extremely stable."

The Board's response to appellants' position was:

> We cannot agree with Krantz et al's. position that the subject matter of the Olin applications is dangerous to the public and for that reason cannot serve as constructive reductions to practice. The record is decidedly to the contrary. It shows that the compound was safely handled while it was being prepared, and used for experimental and testing purposes. * * * It is, therefore, unnecessary to explore this aspect of the case in any great depth. There is of record pages 7 to 23 of The Handbook of Solvents, Schefian and Jacobs, Tab 29, which are devoted to "Safe Practices in the Use of Solvents." On page 22, examples of labeling "dangerous" solvents, recommended by the Manufacturing Chemists Association, are given. The handbook article shows that a good many solvents are more or less hazardous to use, but this fact alone does not prevent their use.
>
> A similar situation exists in the case of drugs where the question of safety in humans was raised by the Patent Office. The Court of Customs and Patent Appeals has expressed its views regarding this subject. In *In re Krimmel*, 48 CCPA 1116, 292 F.2d 948, 773 O.G. 607, 130 USPQ 215, 220, the court said:
>
> > . . . the fact remains that the Patent Office has not been charged by Congress with the tasks of protecting the public against possible misuse of chemical patents [materials].
>
> And in *In re Hartop*, 50 CCPA 780, 311 F.2d 249, 787 O.G. 235, 135 USPQ 419, 428, the court, after an extended discussion of "safety" reiterated its position as set forth in its earlier decision, *In re Krimmel*, supra.
>
> In short we fail to find any substance in the "safety" argument pressed by Krantz et al.
>
> Nor do we agree with Krantz et al's. contention that the Olin applications are not constructive reductions to practice because Olin did not test for any of the utilities set forth in his applications. * * *
>
> The difficulty with Krantz et al's. position is that Speers, Krantz's co-inventor, did make pastes or dispersions of fluorocarbon waxes as set forth in the Olin applications; * * *. As stated in Robinson on Patents (1890), vol. 1, page 464, "When actual utility exists, its degree is unimportant." On page 466 of the same work, "a patent is valid if the invention serves any use though it will not apply to all uses claimed for it"; see *Phillips* v. *Risser* (1885) 26 F.R. 308. In *Landon* v. *Ginzton et al.*, 41 CCPA 950, 214 F.2d 160, 688 O.G. 213, 102 USPQ 230, 233, the court said:
>
> > The patent application may reveal a number of purposes for the same invention. The inventor need prove only one practical use; only one useful result or effect.
>
> * * * See also *Friedman* v. *Overseas Scientific Corporation et al.* (CA–2), 248 F.2d 274, 115 USPQ 42, 44, wherein it was held:
>
> > An article invented may have patentable utility even though the patented device is not unfailingly operable in all its applications. *Hildreth* v. *Mastoras*, 257 U.S. 27.
>
> Since there is proof of one of the disclosed utilities, it is unnecessary to reach the other uses set forth in the Olin specification.
>
> Krantz et al. also contend that the Olin applications should contain a warning of the danger to people of the ether. We are not impressed by this argument. The specification is addressed to persons skilled in the art. Moreover, the "safety" aspects of the case has been discussed above and need not be repeated.
>
> Krantz et al's. contention that the Olin applications are not constructive reductions to practice because Olin "guessed" at the disclosed utilities must be rejected. The answer to this argument is supplied by the case *Automatic Weighing Machine Co.* v. *Pneumatic Scale Corp. Ltd.* (CCA–1), 166 Fed. Rep. 288, 1909 C.D. 498, 506, 507. The court, in that case, referred to the Supreme Court holding in the *Telephone Cases*, 126 U.S. 1535, 1888 C.D. 321. There, when Bell applied for his patent he had never actually transmitted, telegraphically, spoken words so that they could be distinctly heard and understood at the receiving end of his line. But in his specification he described with sufficient precision to enable one of ordinary skill in such matters to make an apparatus, which, if used in the way pointed out, would produce the required effect, receive the words, and carry them to and deliver them at the appointed place.

> The Supreme Court said in that case:
>
> > The law does not require that a discoverer or inventor, in order to get a patent for a process, must have succeeded in bringing his art to the highest degree of perfection. It is enough if he describes his method with sufficient clearness and precision to enable those skilled in the matter to understand what the process is, and if he points out some practicable way of putting it into operation.
>
> Clearly, Olin has complied with the law as set forth in the foregoing excerpt. The record shows that Speers produced pastes and solutions of fluorocarbon waxes, as pointed out above. Therefore, it is our view that the Olin cases are complete and allowable applications and that Olin is entitled to the filing date of his parent application, namely, December 29, 1955, for a constructive reduction to practice of the count; the *Automatic Weighing Machine case*, supra.

[1] We agree with the foregoing reasoning of the Board in disposing of appellants' arguments. That being so, we do not accept appellants' contention that a decision in their favor is compelled by *In re Citron*, 51 CCPA 852, 325 F.2d 248, 139 USPQ 516, the case alleged to be closest in point. That case is entirely distinguishable on the facts, for the application there asserted a use of "much public importance," namely the effective treatment of cancer, which assertion was believed to be incredible in light of the knowledge of the art. Nothing to the contrary being shown, we affirmed the rejection in *Citron* of all claims, regardless of type. Here, asserted utilities have been shown to exist.

[2] Appellants suggested at argument that we should apply the law of contracts as set forth in 17 C.J.S. 155, note 48, to the effect that while there may be no obligation to disclose a fact, such as a particular utility of a compound made by a process, if it *is* disclosed in an application the *whole* truth about it must be told, such as the toxicity of a material alleged to be useful as a solvent. We would suggest that this is not a contract case and that an applicant for a patent, notwithstanding the popular myth that a patent is a contract, is not negotiating a contract with the Government. Rather, he is applying for a grant in accordance with a statute under which the right to a patent depends on compliance with the statutory terms and conditions. The prosecution of an application is not bargaining but a process of demonstration and persuasion that the statute has been complied with. The Examiner was persuaded that Olin had complied and the Board of Patent Interferences was not persuaded to the contrary by Krantz et al. Nor are we.

The decision of the Board is affirmed.

AFFIRMED.

WORLEY, *Chief Judge*, concurs in the result.

SMITH, *J.*, concurring, with whom MARTIN, *J.*, joins.

The weakness of appellants' case is manifest. They conceived the invention in issue subsequent to appellee and filed their patent application subsequent to appellee's parent application. Appellants' proofs of an asserted actual reduction to practice establish a date subsequent to the date of appellee's constructive reduction to practice.

While appellee failed to prove an actual reduction to practice to the Board's satisfaction, priority of the invention was awarded on the basis of appellee being the first to establish a constructive reduction to practice. To prevail here, appellants must establish that appellee was improperly given the benefit of the earlier filing date of

a parent application. They seek to do so by asserting that appellee's applications

> *can not*, under the applicable law, be taken or regarded as complete and allowable applications and that Olin is *not* entitled to the filing date of his parent application * * * for a constructive reduction to practice of the count.

The *theory* of appellants' case is that if it can be shown that Olin did not file "complete and allowable" applications, appellee is not entitled to rely upon them to establish a constructive reduction to practice. In this case appellants, by reason of their filing date, would then be entitled to the award of priority. The *arguments* urged and authorities cited in support of appellants' *theory* are confused and I do not find them to be persuasive.

Appellants assert that appellee's applications are not "complete and allowable" essentially for two reasons: (1) Olin did not disclose in his application that the product made by the process defined by the count was "dangerous" because of its usefulness as a convulsant agent[3]; and (2) while the count relates to a process, Olin did not actually make the products which he stated in his specification could be prepared from the product of the process.

As authority for the proposition that appellee failed to file a "complete and allowable" application, appellants cite 35 U.S.C. 112, 35 U.S.C. 282, and *Union Carbide & Carbon Corp.* v. *Stuart Laboratories, Inc.*, 194 F.2d 823, 92 USPQ 262 (3rd Cir. 1952). These authorities will be considered individually.

First, considering 35 U.S.C. 112, appellants argue that *because* appellee failed to disclose that the product made by the process was useful as a convulsant, *it follows* that the disclosure failed to set forth, "in such full, clear, concise, and exact terms as to enable any person skilled in the art" to "make and use" *the process*. I fail to understand the relationship between such cause and effect reasoning. Appellants admit that the appellee's disclosure does teach one of ordinary skill in the art how to practice the process defined by the count. It seems to me, therefore, that this satisfies the terms of section 112. *Swain et al.* v. *Crittendon*, 51 CCPA 1459, 332 F.2d 820, 141 USPQ 811.

Appellants' reliance on section 112 is unfounded for another reason. The Board in its opinion found that appellee's right to the filing date of his parent application was "not in dispute here." That is to say, appellee is entitled under 35 U.S.C. 120 to rely on the filing date of his parent application. This would seem to be tantamount to a finding that the terms of 35 U.S.C. 112 were satisfied by the parent application. See *Swain*, supra. I am unable to understand how appellants can consistently concede that section 120 is satisfied and yet argue that section 112 has not been complied with.

As the majority opinion notes, we are first required to assume that the matters raised by appellants are ancillary to priority. I would add that we are also asked to assume that while the conditions of

[3] This is the apparent source of conflict between the parties. Olin's agent stated in a report dated August 29, 1955 that "violent clonic convulsions appeared in the mice within twenty (20) seconds," after inhaling the product made by the process. Olin's agent testified that this was "opposite to what was anticipated." Olin testified that he had expected the product would be "an anesthetic of low toxicity." Olin filed an application disclosing the product and the process. He did not disclose or claim use of the product as a convulsant. Krantz also conducted experiments with mice in January 1956, and discovered the convulsant properties of the product. They then conducted experiments with humans beginning in September 1956, and finally filed an application disclosing and claiming the process, the product made by the process and the use of the product as a convulsant agent. The record shows that the Patent Office, prior to the interference, considered the product to be unpatentable over the prior art and refused to add a count, upon appellants' motion, defining the product, to this interference.

35 U.S.C. 120 have been met by appellee, we are expected to go further and decide whether appellee's parent application was "complete and allowable" as filed, for alleged failure to comply with 35 U.S.C. 112. The Patent Office has not raised any question about the compliance of appellee's parent application with the conditions of section 112. It seems to me on the present record that appellee's parent application complies with section 112 and that appellee was properly permitted to rely upon its filing date as appellee's date of a constructive reduction to practice.

Appellants also allege, without setting forth any explanation or reasoning, that the terms of 35 U.S.C. 282 have not been complied with. Independent investigation reveals that section 282 provides as a defense in an infringement suit the "invalidity of the patent * * * on any ground specified in Part II of this title [Patentability of inventions and grant of patents] as a condition for patentability," and "invalidity of the patent * * * for failure to comply with any requirements of sections 112 or 251 [Reissue of defective patents] of this title." I am at a loss to see how these sections aid appellants in establishing that appellee's parent application as filed was incomplete. It seems to me that appellants' unsupported and broad allegation that Part II of Title 35 (35 U.S.C. 100–188), has not been complied with, is insufficient as a matter of law to warrant consideration.

Finally, appellants cite *Union Carbide*, supra. In that case the question was whether the description of the process in the patent was sufficient to enable a person skilled in that art to practice the invention. The court generalized broadly that where "the patentee omitted elements which he knew were important, fraud will be implied by the fact finder." 92 USPQ at 265. The defendants had argued that the invention would have worked *better* if the patentee had disclosed certain procedural steps which, admittedly, at the time of the filing of the application were of questionable value. The court also generalized that a patentee must disclose "the whole truth relative to their invention." The court affirmed the judgment of the trial court which found the patent valid and infringed.

Broad generalizations drawn from prior decisions solve few problems and often are cited incorrectly for propositions which they do not support. The issue in dispute in *Union Carbide* was whether the terms of 35 U.S.C. 112 had been satisfied. As we have previously noted, appellants concede this issue here. Thus appellants' reliance on *Union Carbide* seems to have been misplaced.

The theory of appellants' arguments appears to have been extracted from the following statement concerning Constructive Reduction to Practice to be found in Rivise & Caesar, Interference Law & Practice, vol. 1, sec. 158, at p. 497. It is there stated:

> The third prerequisite [for an applicant to be entitled to rely upon the filing date of a patent application for his reduction to practice] is that the application relied upon for a constructive reduction to practice must be one that could result in a valid patent if *prosecuted to final allowance*.

Appellants, while footnoting the above statement with no particular emphasis, argue that the alleged deficiencies they have "found" in appellee's application are uncontroverted proof that appellee's application, if prosecuted to final allowance, could not result in a valid patent. The statement from Rivise & Caesar and appellants' reliance thereon is not supported by reference to any statutory provision

or by case law. Rivise & Caesar refers the reader to section 13 in which the authors discuss and cite cases concerned with the alteration of an application after execution. This area of law was extensively reviewed by Judge Rich in *Vandenberg* v. *Reynolds*, 44 CCPA 873, 242 F.2d 761, 113 USPQ 275. Therein it was determined that the junior party was entitled to attack the sufficiency of the senior party's application as filed, on the grounds that it had been altered after execution, where the senior party relied on the filing date of the thus altered application as a constructive reduction to practice. It was there reasoned that a *decision on priority* rested on the sufficiency of the application as filed and the critical question raised, based on the allegations, was whether the application was void ab initio. An application burdened with such a defect could not, under the law, be relied upon as establishing a constructive reduction to practice because there was no sworn support for the altered application.

From the foregoing, it seems clear that appellants must have taken the statement from Rivise & Caesar out of context as the authors apparently intended only to cover the area of law which was more fully developed in *Vandenberg*, supra.

The dispositive issue here for decision is *priority of inventorship*. It is not whether appellee's parent application would result in a valid patent if prosecuted to final allowance.

In the instant case, priority of inventorship was awarded to Olin by the Board because it found that Olin was the first to conceive the invention and file an application on it with no argument to the contrary. Priority thus was determined on the basis of Olin's first conception plus his first constructive reduction to practice. This clearly is an adequate basis upon which to make a valid award of priority.

I do not question the authorities cited by the majority. It seems to me, however, that this appeal presents questions of patent law which are broader in scope than the majority opinion has chosen to deal with, hence my concurrence. I would predicate affirmance of the appealed decision on the failure of the arguments advanced by appellants in showing why appellee's parent application was so "incomplete" as to be insufficient as a matter of law.

U.S. Court of Customs and Patent Appeals

IN RE CARL D. LUNSFORD

No. 7478. Decided March 17, 1966

[53 CCPA —; 357 F.2d 380; 148 USPQ 716]

1. PATENTABILITY—COMPOUND—ORTHO, META, PARA ISOMERS.

"As to the remaining references, we agree with the Board that they 'pertain to a fact so well known in organic chemistry, namely the existence of ortho, meta and para isomers of disubstituted benzene compounds, that it is hardly necessary to refer to them further.'"

2. SAME—SAME—OBVIOUSNESS—PROPERTIES OF PRIOR ART COMPOUND DISCOVERED BY APPELLANT.

"Our principal difficulty, at this point, in accepting the Examiner's and Board's positions is that their reasoning is predicated on the premise, to use the Board's own words, that 'the prior art compound has significant potency as an anticonvulsant against electroshock-induced convulsions * * *.' While that is the fact, as shown by some of the above-mentioned affidavits, we are unable to find a disclosure of it in the art of record. Clearly, *appellant's* discoveries in this regard cannot be relied upon to show the obviousness of

his invention. Those discoveries are not *prior* art within the purview of section 103, and are made known to us in the record only through affidavits, not references."

3. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—JUDICIAL NOTICE—*In re Knapp-Monarch* DISTINGUISHED.

"* * * *Knapp-Monarch* involved the issue of likelihood of confusion under section 2(d) of The Trademark Act of 1946 (15 U.S.C. 1052(d)), in which we said that 'Factual matters of which judicial notice is taken' can be challenged by production of contrary evidence, but, in the absence of such evidence, a finding by the Board *based on its judicial notice* is conclusive. We are unable to see, in the case at bar, any finding by the Board based on such judicially noted facts. Rather, we tend to construe its statement that the prior art compound has anti-convulsant activity as an allegation, unsupported by any facts * * *."

4. PATENTABILITY—COMPOUND—OBVIOUSNESS—*In re Carabateas* CONSTRUED.

"To dispel any misunderstanding, we wish to point out that what *Carabateas* held was that the two substituted-piperidines there claimed, differing from the primary reference by a so-called 'reverse ester' configuration in the 4-position, and which were shown to be six and nine times more potent as analgesics than the primary reference compound, constituted 'obvious' subject matter within the meaning of section 103 *because* the secondary references were believed to teach that esters having the structure of the claimed compounds would possess greater analgesic activity than their 'reverse esters' *by an amount approximating that found by the appellant*. In brief, *the* enhanced potency of the invention was considered to have been reasonably suggested to one of ordinary skill in the art. Stated differently, the very property there relied upon for patentability was suggested *in both its qualitative and quantitative sense*. That is all *Carabateas* says."

5. SAME—SAME—SAME—*In re Rosselet* CONSTRUED.

"In *Rosselet*, we affirmed because of a lack of proof, saying 'that the Spero compounds [against which no comparisons had been made] are * * * *sufficiently close* to the claimed compounds to make the claimed invention prima facie obvious and * * * a showing of some unexpected effectiveness or property relative to *those* compounds is required to support a finding of patentability.' We *expressly* said that we were *not* holding 'that a showing of activity 4.7 and 1.6 times that of the prior art is insufficient as a matter of law to establish patentability * * *.'"

6. SAME—SAME—SAME—EVIDENCE OF ENHANCED POTENCY.

In connection with evidence presented showing that the claimed compounds were 4.4 and 7.0 times as potent anti-convulsants as the prior art compound, *Held* that "Inventions of this type cannot, we think, be passed off as 'mere improvement in the same property' or as mere shades 'in matter of degree' which compel, ipso facto, a finding of unpatentability."

7. SAME—SAME—SAME—DISCOVERED ACTIVITIES OR PROPERTIES ARE PART OF CLAIMED COMPOUNDS—35 U.S.C. 103.

"* * * the discovered activities or properties are *part of* the things claimed, the compounds. Whereas the inventor may or may not know what part of the compound is responsible for the enhanced activity, the important point, under the law, is that there be proof that the compound in fact possesses that activity. Once that has been done, we, like the Patent Office, are required by the clear wording of section 103 to regard it as a relevant portion of the invention 'as a whole.'"

8. SAME—SAME—SAME—"IMPROVEMENT" INVENTION DIFFERING ONLY IN DEGREE TREATED AS ANY OTHER INVENTION—35 U.S.C. 103.

"* * * we find no authority in section 103 for treating 'improvement' inventions, or inventions differing from the prior art only 'in matter of degree,' any differently from other types of inventions."

9. SAME—SAME—SAME—NEW COMPOUND IS A NOVEL COMBINATION OF ELEMENTS—UNEXPECTEDLY GREATER EFFECTIVENESS.

"* * * we agree 'that new compounds are nothing more than a novel combination of elements, all of which elements are *per se* old,' to quote appellant, 'a fundamental association [of atoms],' to quote the Examiner, and we see no basis in logic or in law for distinguishing mechanical and chemical inventions on an issue such as that before us. Certainly a novel combination of

old *mechanical* elements which so cooperate as to produce a new and useful result, or merely a substantial increase in efficiency, can be patentable. *In re Wright*, 46 CCPA 955, 268 F.2d 757, 122 USPQ 522, and cases there cited. Furthermore, like the Patent Office, we have frequently found novel chemical *processes* producing the *same* product, but in unexpectedly higher yields, to be patentable by reason of that yield, a 'matter of degree.' Should not chemical products, also displaying an unexpectedly higher degree of effectiveness, be treated in like manner?".

10. SAME—SAME—SAME—35 U.S.C. 103.

"In the final analysis, as in all section 103 cases, we must look first to the *differences* between the prior art and the subject matter sought to be patented and then determine if what appellant did, or made, *as a whole*, would have been obvious."

11. SAME—SAME—SAME—*In re Papesch* CONSTRUED.

"In *Papesch* we reversed the Board's affirmance of a rejection of claims to a triethyl compound on a reference disclosing the corresponding trimethyl compound because the invention possessed unexpectedly potent anti-inflammatory activity. While *Papesch* did not involve the 'so many times greater' situation we have here, that case and the ensuing cases cannot be distinguished from the instant case on that ground. Appellant has here proved his compounds to possess anti-convulsant activity substantially greater than the prior art compound. We find this to have been unpredictable from the prior art, even upon considering the Solicitor's arguments about suggestions of *some* activity allegedly derivable from knowledge about 'related' compounds mentioned in the reference. Therefore, as in *Papesch*, there exists a significant, advantageous, unexpected difference between appellant's invention and the prior art, which renders the invention patentable."

12. SAME—PARTICULAR SUBJECT MATTER—"HALO-SUBSTITUTED PHENOXYMETHYL OXAZOLIDONES."

The decision of the Board of Appeals refusing certain claims in an application entitled "Halo-Substituted Phenoxymethyl Oxazolidones," as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 821,358.

REVERSED.

Gordon W. Hueschen for appellant.

Clarence W. Moore (*Fred W. Sherling* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

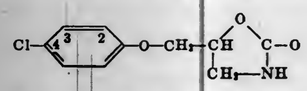
RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 4 and 5 in application Serial No. 821,358, filed June 19, 1959, for "Halo-Substituted Phenoxymethyl Oxazolidones." No claim is allowed.

The sole issue is obviousness under 35 U.S.C. 103 in view of the following references:

Beasley et al., Chem. Abstracts, vol. 51, col. 8723 (1957).[1]
Karrer, "Organic Chemistry" (Elsevier), pp. 434, 445 (1950).
Noller, "Chem. of Organic Compounds," 2nd ed. (Saunders), pp. 440–1 (1957).
Fieser et al., "Organic Chemistry" (Reinhold), pp. 624–626 (1956).

The subject matter on appeal and its relation to this art can best be understood by referring to the following formula:



[1] It is conceded that the abstract itself, not the article abstracted, is the reference relied on.

Claim 4 defines the compound shown, namely, 5-(p-chlorophenoxymethyl)-2-oxazolidone.

Claim 5 defines the compound having the same structure except that the chloro atom is in the meta or 3 position rather than the 4 position as shown.

Beasley, the principal reference, discloses the compound having the same structure except that the chloro atom is in the ortho or 2 position.

[1] As to the remaining references, we agree with the Board that they "pertain to a fact so well known in organic chemistry, namely the existence of ortho, meta and para isomers of disubstituted benzene compounds, that it is hardly necessary to refer to them further."

The Board also said:

> • • • we have come to the conclusion that, under the facts of this particular case, the appealed claims are not patentable over the cited Beasley et al. publication.

This issue therefore is: are appellant's m- and p-chloro compounds patentable over the o-chloro isomer, and other disclosure, of Beasley?

Appellant admits "that, as pure chemical compounds," his compounds "have a relationship sufficiently close to the compound of the prior art so that they would be held obvious under 35 U.S.C. 103 *absent a showing of a significant difference in properties.*" [Our emphasis.] He urges patentability however, on the grounds: that his compounds are anti-convulsants, particularly effective against electroshock-induced convulsions, which fact is said to be indicative of ultimate anti-convulsant use against epilepsy; that there is no teaching in the art that the reference compound is at all active as an anti-convulsant of any type; that, while *he* discovered the Beasley compound to have anti-convulsant properties, he also found his compounds to be 4.4 and 7.0 times as potent as that compound against electroshock-induced convulsions; and that the claimed compounds are therefore patentable because (1) based upon what the *reference* teaches, appellant's compounds very clearly possess an unexpected property, and (2) even if one assigns to the "prior" art that information about the Beasley compound which appellant himself discovered, his compounds have been shown to possess unexpected superiority in potency which itself is conclusive of nonobviousness.

The Examiner's basic position was that Beasley discloses not only the o-chloro isomer of appellant's compounds but other "related" compounds as well. One of these shows "a para-chloro positioning" and "mephenesin is mentioned," this latter compound being 3-o-toloxy-1,2-propanediol. The Examiner also stated that 5-(*o-methoxy*phenoxymethyl)-2-oxazolidone "is a well-known pharmaceutical."

From this the Examiner argued that the "prior art has found closely related compounds to have potent pharmacological properties" and contended that "When an important medicine is discovered it is customary practice to produce various molecular variants of it seeking the optimum as well as seeking other medicines which may derive from the fortunate association of atoms." In a compound, according to the Examiner, "there is a fundamental association which gives the 'personality' of the compound and, usually, minor substituents then merely shade the properties in matter of degree." That being so, the Examiner found the so-called "Second Ward Affidavit," showing a number of quite startling changes in pharmacological properties

resulting from seemingly minor structural changes in compounds appellant believed to be "related," *un*persuasive of patentability, saying:

> * * * the exceptions sometimes prove the rule and that there are exceptions does not negative the fact that generally changes as in isomers or homologues only affect properties in degree only. This does not make the compounds any the less obvious [2] as such.

The Board, in an opinion dated February 28, 1964, took somewhat the same approach. While stating that "properties of the compounds must be considered together with the chemical structures and, in a proper case, a patent may be granted by virtue of the unobvious properties," it found affidavits submitted by appellant showing the compound of claim 4 to be 4.4 times and the compound of claim 5 to be 7.0 times as potent as the Beasley compound not convincing that the claimed compounds are "possessed of properties not possessed by the ortho compound of the prior art," and affirmed the Examiner on the ground that "A mere improvement in the same property does not establish unobviousness * * *."

[2] Our principal difficulty, at this point, in accepting the Examiner's and Board's positions is that their reasoning is predicated on the premise, to use the Board's own words, that "the prior art compound has significant potency as an anticonvulsant against electroshock-induced convulsions * * *." While that is the fact, as shown by some of the above-mentioned affidavits, we are unable to find a disclosure of it in the art of record. Clearly, *appellant's* discoveries in this regard cannot be relied upon to show the obviousness of his invention. Those discoveries are not *prior* art within the purview of section 103, and are made known to us in the record only through affidavits, not references.

The Solicitor's brief gives signs of his having struggled with the same problem. There, and at oral argument in an effort to show that the Examiner and Board "must have had some basis in mind" for their statement, the Solicitor contended that appellant "should not make such an argument [that anti-convulsant activity in the prior art compound is taught only by him] because *he should know* that the reference compound *would be expected* to be active as an anti-convulsant." [Our emphasis.] This follows, according to the Solicitor, because (1) appellant has suggested no other activity for the reference compound and his specification states that compounds of similar structure to his were "known, and previously most active," (2) the original Beasley article appeared in the Journal of Pharmacy and Pharmacology, which fact is noted in the abstract and therefore suggests pharmaceutical activity of the compounds disclosed therein, (3) the abstract describes experimentation with mephenesin which is a known anti-convulsant according to The Merck Index, 6th ed., 1952, and thereby also suggests anti-convulsant activity of other compounds disclosed in the reference, especially *those prepared from* mephenesin, and (4) appellant himself took out a prior art patent [3] showing that

[2] Just how one finds the compounds "obvious" in the first instance, the Examiner does not say, but apparently he envisions a comparison of structures *only*. That such an approach is not sanctioned by this court, although concededly the law was less well-defined in June 1961, the date of the Examiner's answer, can be seen, e.g., in *In re Kazinski*, 52 CCPA 1447, 347 F.2d 656, 146 USPQ 25; *In re Ruschig*, 52 CCPA 1238, 343 F.2d 965, 145 USPQ 274; *In re Ward*, 51 CCPA 1132, 329 F.2d 1021, 141 USPQ 227; *In re Lunsford*, 51 CCPA 1000, 327 F.2d 526, 140 USPQ 425; *In re Riden, Jr.*, 50 CCPA 1411, 318 F.2d 761, 138 USPQ 112; *In re Papesch*, 50 CCPA 1084, 315 F.2d 381, 137 USPQ 43; *In re Petering*, 49 CCPA 993, 301 F.2d 676, 133 USPQ 275; *In re Lambooy*, 49 CCPA 985, 300 F.2d 950, 133 USPQ 270.

[3] U.S. Patent 2,895,960, issued July 21, 1959, disclosing and claiming a method of preparing 5-*o-methoxy*phenoxymethyl-2-oxazolidone.

compounds of similar structure are known to possess anti-convulsant activity. This, says the Solicitor, is "some evidence" of what appellant knew and should be considered, notwithstanding the fact that that patent, technically speaking, was not used as a reference after the first action. Finally, the Solicitor argues, since appellant has not submitted evidence to show the reference compound would *not* be expected to have anti-convulsant activity, the "finding" of the Board that it has known activity should prevail, citing *In re Knapp-Monarch*, 49 CCPA 779, 296 F.2d 230, 132 USPQ 6.

[3] Without implying our acceptance of the arguments above summarized, we defer for the moment further comment on them except to point out that *Knapp-Monarch* involved the issue of likelihood of confusion under section 2(d) of The Trademark Act of 1946 (15 U.S.C. 1052(d)), in which we said that "Factual matters of which judicial notice is taken" can be challenged by production of contrary evidence, but, in the absence of such evidence, a finding by the Board *based on its judicial notice* is conclusive. We are unable to see, in the case at bar, any finding by the Board based on such judicially noted facts. Rather, we tend to construe its statement that the prior art compound has anti-convulsant activity as an allegation, unsupported by any facts, unless of course the Solicitor is suggesting that the Examiner and Board were somehow impliedly taking judicial notice of such publications as The Merck Index, supra, or appellant's issued patent, and which he *seems* to be asking us to do now.

The Solicitor's brief, like the Examiner and the Board, makes a point about enhanced potency in the *same kind* of property, saying:

> Appellant also urges throughout his brief that the increased potency of 440% and 700% of his compounds is necessarily an unexpected result which makes his compounds patentable, and he finally poses the question as to what greater degree of activity would have to be shown to make the compounds patentable * * *. It is clear from the decisions of this court that a showing of up to nine times greater activity does not necessarily make a compound patentable, *In re Carabateas*, 52 CCPA —, 145 USPQ 549; *In re Rosselet et al.*, 52 CCPA —, 146 USPQ 183.

While the statement in the last sentence above quoted is true, it becomes so merely by reason of the word "necessarily." [4] To dispel any misunderstanding, we wish to point out that what *Carabateas* held was that the two substituted-piperidines there claimed, differing from the primary reference by a so-called "reverse ester" configuration in the 4-position, and which were shown to be six and nine times more potent as analgesics than the primary reference compound, constituted "obvious" subject matter within the meaning of section 103 *because* the secondary references were believed to teach that esters having the structure of the claimed compounds would possess greater analgesic activity than their "reverse esters" *by an amount approximating that found by the appellant.* In brief, *the* enhanced potency of the invention was considered to have been reasonably suggested to one of ordinary skill in the art. Stated differently, the very property there relied upon for patentability was suggested *in both its qualitative and quantitative sense.* That is all *Carabateas* says.

[5] *In Rosselet*, we affirmed because of a lack of proof, saying "that the Spero compounds [against which no comparisons had been made] are * * * *sufficiently close* to the claimed compounds to make the claimed invention prima facie obvious and * * * a showing of some unexpected effectiveness or property relative to *those* compounds

is required to support a finding of patentability." We *expressly* said that we were *not* holding "that a showing of activity 4.7 and 1.6 times that of the prior art is insufficient as a matter of law to establish patentability * * *."

We have neither of those situations here. Unlike *Rosselet*, appellant has presented evidence of enhanced potency compared with the only prior art compound. That evidence is "clear and convincing of substantially greater" effectiveness, as required by this court in *In re Lohr*, 50 CCPA 1274, 317 F.2d 388,137 USPQ 548, 550–551. Unlike *Carabateas*, we find nothing in the art of record to suggest to one of ordinary skill that appellant's m-chloro and p-chloro isomers would have anti-convulsant activity substantially greater than the prior art o-chloro compound in an amount approximating that discovered by appellant. We therefore find *Carabateas* and *Rosselet* are not controlling or persuasive precedents in this appeal.

[6] Inventions of this type cannot, we think, be passed off as "mere improvement in the same property" or as mere shades "in matter of degree" which compel, ipso facto, a finding of unpatentability.

[7] In the first place, the discovered activities or properties are *part of* the things claimed, the compounds. Whereas the inventor may or may not know what part of the compound is responsible for the enhanced activity, the important point, under the law, is that there be proof that the compound in fact possesses that activity. Once that has been done, we, like the Patent Office, are required by the clear wording of section 103 to regard it as a relevant portion of the invention "as a whole."

[8] Second, we find no authority in section 103 for treating "improvement" inventions, or inventions differing from the prior art only "in matter of degree," any differently from other types of inventions.

Third, we are inclined to agree with appellant that inventions of the type here involved are frequently made only after the expenditure of vast amounts of research time and effort; in short, they represent the very kind of invention some industries, most notably the drug industry, seek in order to obtain, or maintain, the kind of competitive advantage which promotes progress in the "useful arts."

[9] Fourth, we agree "that new compounds are nothing more than a novel combination of elements, all of which elements are *per se* old," to quote appellant, "a fundamental association [of atoms]," to quote the Examiner, and we see no basis in logic or in law for distinguishing mechanical and chemical inventions on an issue such as that before us. Certainly a novel combination of old *mechanical* elements which so cooperate as to produce a new and useful result, or merely a substantial increase in efficiency, can be patentable. *In re Wright*, 46 CCPA 955, 268 F.2d 757, 122 USPQ 522, and cases there cited. Furthermore, like the Patent Office, we have frequently found novel chemical *processes* producing the *same* product, but in unexpectedly higher yields, to be patentable by reason of that yield, a "matter of degree." Should not chemical products, also displaying an unexpectedly higher degree of effectiveness, be treated in like manner?

[10] In the final analysis, as in all section 103 cases, we must look first to the *differences* between the prior art and the subject matter sought to be patented and then determine if what appellant did, or made, *as a whole*, would have been obvious.

In the pre-1952 Act case of *Schering Corp.* v. *Gilbert*, 153 F.2d 428, 68 USPQ 84 (2d Cir.) where, on the question of patentability of a compound proved to possess unobvious and highly useful properties as an X-ray contrast agent in cholecystography, the majority said (68 USPQ at 86):

> * * * it is necessary to understand what the inventors did as well as what they sought to accomplish and *give recognition to their end result* as a novel and useful improvement, not in the art of organic chemistry but in that of cholecystography. [Our emphasis.]

We followed that rationale, applying the present statute, in *In re Papesch*, supra footnote 2, and have continued to follow it since.

[11] In *Papesch* we reversed the Board's affirmance of a rejection of claims to a triethyl compound on a reference disclosing the corresponding trimethyl compound because the invention possessed unexpectedly potent anti-inflammatory activity. While *Papesch* did not involve the "so many times greater" situation we have here, that case and the ensuing cases cannot be distinguished from the instant case on that ground. Appellant has here proved his compounds to possess anti-convulsant activity substantially greater than the prior art compound. We find this to have been unpredictable from the prior art, even upon considering the Solicitor's arguments about suggestions of *some* activity allegedly derivable from knowledge about "related" compounds mentioned in the reference. Therefore, as in *Papesch*, there exists a significant, advantageous, unexpected difference between appellant's invention and the prior art, which renders the invention patentable.

[12] The decision of the Board is reversed.

REVERSED.

WORLEY, *Chief Judge*, concurs in the result.

ALMOND, *J.*, concurring, with whom MARTIN, *J.*, joins.

The prior art does not suggest the property, in a qualitative sense, exhibited by the claimed compounds. It follows, of course, that the relative activity, i.e., the quantitative aspect, of the property is not suggested either. Thus, I do not find a consideration of the quantitative aspect of the property to be necessary to a conclusion in this case. On the basis of unexpectedness of property alone, I agree with the reversal here.

The factors which compel me to that view are: Nowhere in the Beasley abstract is it mentioned that any of the compounds therein disclosed have pharmacological activity of any sort, let alone anticonvulsant activity. The fact that the Beasley article is reported in the Journal of Pharmacy and Pharmacology certainly does not warrant the conclusion that the compounds therein disclosed have pharmacological activity. Nor, in my view, does the fact that mephenesin is an anticonvulsant provide any basis for a finding that the ortho-chloro compound of Beasley has anticonvulsant activity. As for the Lunsford patent, which discloses 5-o-methoxyphenoxy-2-oxazolidone as having anticonvulsant properties, there is nothing in the patent or any reference of record to indicate that substitution of a chlorine atom for the methoxy group would provide a compound having anticonvulsant properties.

U.S. Court of Customs and Patent Appeals

IN RE ARTHUR L. REESE

No. 7596. Decided April 21, 1966. Petition for rehearing and motion to vacate order entered November 4, 1965, dismissing the appeal on the ground that it was not timely filed, denied

[53 CCPA —; 359 F.2d 462; 149 USPQ 362]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—RULE 197(b).

Held, with respect to Rule 197(b) of the Rules of Practice, that "It relates only to the time for a request or petition to the Board of Appeals for a rehearing or reconsideration or modification of its decision by it, not by us."

2. SAME—TIME FOR APPEAL—35 U.S.C. 142—RULES 197(b) AND 304.

"The time for appealing to this court is governed by Patent Office Rule 304, promulgated in accordance with 35 U.S.C. 142, and appellant makes no contention that he has complied with that rule. Rather, he argues that Rule 197(b) provides for an exception to Rule 304. That is not the fact."

3. SAME—SAME—RULE 304.

"The application of Rule 304 to the facts here is as follows: the 60-day provision, measuring from the original decision of the Board on June 29, 1964, does not apply because a timely petition for rehearing was filed on July 24, 1964. The decision on the petition was dated September 21, 1964, which started the 30-day provision in Rule 304 running. Under the rule, the time for appeal expired October 21, 1964, and the notice of appeal was not filed until 12 days thereafter."

4. SAME—SAME—SECOND REQUEST FOR RECONSIDERATION BY BOARD OF APPEALS—ADVERSE DECISIONS ARE PROPER SUBJECT OF APPEAL—RULE 304.

"Petitioner filed a second request for reconsideration with the Board September 24, 1964, which was denied with an opinion on October 16, 1964, except for the consideration given to it. We deem that second request irrelevant [on the time for taking an appeal] since, regardless of appellant's contention, the date of *the decision* appealed from is June 29 [original decision of the Board], notwithstanding the fact the *opinion* dated September 21 [on a first petition for rehearing] provided additional *reasons* for that earlier decision and also notwithstanding the Board's action on September 21 constituted a 'new' decision to the extent the Board changed its earlier position on a rejection of three other claims, not on appeal, from an affirmance to a reversal. Adverse *decisions*, not their supporting reasons, are the proper subject of an appeal."

5. SAME—SAME—COURT CANNOT WAIVE COMPLIANCE WITH RULE REQUIRED BY STATUTE—35 U.S.C. 142—RULE 304.

"While the times for taking appeal are stated in a Patent Office rule [Rule 304], compliance with them is required by statute. 35 U.S.C. 142 provides that an applicant *shall* file his notice of appeal within such time as the Commissioner appoints (not less than sixty days from 'the date of the decision appealed from') and it is mandatory. We are without power to waive the requirement."

6. SAME—SAME—COMMISSIONER CAN WAIVE REQUIREMENTS OF RULE 304—RULE 183.

"This is not to say *the Commissioner* is without power to waive the requirement of Rule 304, for he clearly can under the provision of Rule 183. *Eckey* v. *Watson*, 268 F.2d 891 (D.C. Cir.)."

7. SAME—SAME—TERMINATION OF PROCEEDINGS IN APPLICATION—RULES 197(c) AND 304.

"* * * Rule 197(c), which makes express reference to Rule 304, contains the further provision that 'proceedings in the application are considered terminated as of the * * * expiration' of the time to appeal, set by Rule 304, in the event an appeal has not been timely taken. In this case proceedings did so terminate October 21, 1964, and notice of appeal was not filed until November 2, 1964."

APPEAL from the Patent Office. Serial No. 106,914.

DENIED.

Charles O. Bruce, Bruce & Brosler for appellant.

Joseph Schimmel for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

PER CURIAM:

Appellant has (1) filed a petition for rehearing of our order granting the motion of the Patent Office to dismiss his appeal on the ground that it was not timely filed and (2) moves to vacate said order.

The petitioner argues, as he did in the opposition to the Patent Office motion, that he is entitled to the "benefit" of Patent Office Rule 197(b). The lengthy petition is mostly devoted to arguing why appellant is entitled to that "benefit."

[1] Assuming, arguendo, that appellant is entitled to whatever benefit is to be had from Rule 197(b), though he admits that he has not technically come within its provisions, we think that rule is not germane to the issue here. It relates only to the time for a request or petition to the Board of Appeals for a rehearing or reconsideration or modification of its decision by it, not by us.

[2] The time for appealing to this court is governed by Patent Office Rule 304, promulgated in accordance with 35 U.S.C. 142, and appellant makes no contention that he has complied with that rule. Rather, he argues that Rule 197(b) provides for an exception to Rule 304. That is not the fact.

[3] The application of Rule 304 to the facts here is as follows: the 60-day provision, measuring from the original decision of the Board on June 29, 1964, does not apply because a timely petition for rehearing was filed on July 24, 1964. The decision on the petition was dated September 21, 1964, which started the 30-day provision in Rule 304 running.[1] Under the rule, the time for appeal expired October 21, 1964, and the notice of appeal was not filed until 12 days thereafter.

[5] While the times for taking appeal are stated in a Patent Office rule, compliance with them is required by statute. 35 U.S.C. 142 provides that an applicant *shall* file his notice of appeal within such time as the Commissioner appoints (not less than sixty days from "the date of the decision appealed from") and it is mandatory. We are without power to waive the requirement.[2]

[7] Furthermore, Rule 197(c), which makes express reference to Rule 304, contains the further provision that "proceedings in the application are considered terminated as of the * * * expiration" of the time to appeal, set by Rule 304, in the event an appeal has not been timely taken. In this case proceedings did so terminate October 21, 1964, and notice of appeal was not filed until November 2, 1964.

Appellant's petition has been granted to the extent that we have reconsidered, but is otherwise denied. The motion to vacate is denied.

SMITH, *J.*, dissenting.

The determination of issues raised in a petition for reconsideration

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[4] [1] Petitioner filed a second request for reconsideration with the Board September 24, 1964, which was denied with an opinion on October 16, 1964, except for the consideration given to it. We deem that second request irrelevant since, regardless of appellant's contention, the date of *the decision* appealed from is June 29, notwithstanding the fact the *opinion* dated September 21 provided additional *reasons* for that earlier decision and also notwithstanding the Board's action on September 21 constituted a "new" decision to the extent the Board changed its earlier position on a rejection of three other claims, not on appeal, from an affirmance to a reversal. Adverse *decisions*, not their supporting reasons, are the proper subject of an appeal.

[6] [2] This is not to say *the Commissioner* is without power to waive the requirement of Rule 304, for he clearly can under the provision of Rule 183. *Eckey* v. *Watson*, 268 F.2d 891 (D.C. Cir.). The question of the applicability of that rule not being before us, however, we express no views regarding appellant's rights should he rely on Rule 183.

should not ordinarily engender either a lengthy majority opinion or a lengthy dissent. The office of a petition for rehearing under our Rule 7 is to bring to the court's attention matters of substance which may have been "overlooked or misapprehended" in the original determination of the issue. The instant case is an exception and seems to me to require an elaboration of the reasons for my dissent from the original majority decision which was predicated on points I believe were "overlooked or misapprehended" in the original opinion and hence are of continuing significance in my dissent from the decision of the majority to deny the petition for rehearing.

In the instant case, the motion to dismiss appellant's appeal was granted without opinion. I then dissented from the granting of that motion, also without stating my reasons. Now the majority has decided to state its reasons for its original decision and to do so utilizes the petition for rehearing as its platform and I shall do likewise.

A statement of the facts which gave rise to the petition for rehearing in this case is essential to an understanding of the legal issue presented to this court for determination. I believe the facts show that appellant's appeal was timely under the *Patent Office Rules*, that the majority denies him his day in court, and therefore that appellant has been denied due process of law.

The facts are as follows: Appellant filed a timely appeal to the Patent Office Board of Appeals from the Examiner's final rejection of claims 1 through 6. On June 29, 1964, the Board rendered a decision (which the majority here calls "the original decision") in which the Examiner's rejection as to claims 3, 4 and 6 was *reversed*; and *sustained* the rejection of claims 1, 2 and 5, stating "we have no evidence presented for consideration leading to a contrary conclusion."

On July 24, 1964, some 25 days after the Board's "original decision," appellant filed a petition for rehearing of the Board's decision. In this petition, appellant pointed out that:

> On the bottom of page 9 of its decision, the Board has given some indication that it would be amenable to evidence leading to a conclusion contrary to its holding as to claims 1, 2 and 5, and it is believed the foregoing discussion of claims 1, 2 and 5 will provide adequate basis for such consideration.

Appellant also argued that the Board erred in its interpretation of claims 3, 4 and 6.

On September 21, 1964, some 84 days after its "original decision," the Board took "action on the petition," stating as follows:

> This is a petition for reconsideration of our decision dated June 29, 1964.
>
> * * * * * * *
>
> Appellant's second point is that we were in error in our treatment of claims 1, 2 and 5 and the reason why we were in error. * * *
>
> We have considered appellant's contentions and find that he is correct. As will be apparent from our opinion, we [erred] * * *. Therefore, we modify our decision and *reverse the rejection of claims 1, 2 and 5.* [Emphasis added.]

The Board additionally stated that (1) its interpretation of appealed claims 3, 4 and 6 in its "original decision" did not place an unreasonable limitation on those claims, and (2) it was "of the opinion that the present claims, consonant with the tenor of the petition, do not properly protect the novel concept which is clearly patentable over the prior art * * *." The Board then recommended allowance of a new claim.

I would state at this point that I agree with appellant's argument that the above opinion by the Board was a "new decision." Where

a lawfully composed legal entity empowered to render decisions, after reconsidering the evidence before it, *reverses* its position and reinterprets the prior art, it is clear to me that a *new* decision has been made.[3] Applying the terms of Rule 304 to this decision as shown infra, it is readily seen that appellant's notice of appeal was *timely filed*, being within 30 days after "action on the petition" (Rule 304) for rehearing directed to this "new decision" (Rule 197(b)) which is "the decision appealed from." 35 U.S.C. 142.

On September 24, 1964, some 87 days after the "original decision" and 3 days after the "new decision," appellant filed a request for reconsideration as to claims 3, 4 and 6, submitting in his request a diagram in support of his arguments.

The Board, on October 16, 1964, some 109 days after its "original decision," and some 22 days after its "new decision," rendered a third opinion, stating as follows:

> This is a second petition for reconsideration in the instant case.
>
> It is not our custom to entertain a second petition for reconsideration outside of the period specified by Rule 197(b). [Rule 197(b) provides, "Any request or petition for rehearing or reconsideration, or modification of the decision, must be filed within thirty days from the date of the original decision, unless that decision is so modified as to become, in effect, a new decision, and the Board of Appeals so states."] *However, under the special facts of the instant case, we are making an exception and will entertain the instant petition.* [Emphasis added.]
>
> * * * * * * * *
>
> The petition has been *granted* to the extent that we have considered the same but is denied with respect to making any change in our opinion in the case or opinion on the first request for reconsideration. [Emphasis added.]

On November 2, 1964, the appellant filed in the Patent Office a notice of appeal to this court. This was some 126 days after the Board's "original decision," some 42 days after the Board's "new decision" reversing its holding as to claims 1, 2 and 5, and some 17 days after the Board's third opinion granting appellant's second request for reconsideration wherein the Board refused to make any change in its "opinion in the case."

Thereafter appellant perfected his appeal to this court. In January of 1965 appellant sent to the clerk of this court a check for $265.00 to cover the estimated cost of printing the record. In August of 1965, twenty five copies of appellant's brief were delivered to the clerk of this court.

On September 22, 1965, after receipt by the clerk of the printed brief and record, some 321 days after the third opinion by the Board (October 16, 1964), the Commissioner of Patents filed a motion to extend time to file a brief as to the merits and to dismiss the appeal "because (1) the court lacks jurisdiction to determine the issues raised by appellant's reasons of appeal (R–42), and because (2) the appeal was not filed timely under Patent Office Rule 304." This motion was granted based on ground (2), Judge Almond and myself dissenting.

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[3] Finding as I do that the Board rendered a new decision does not resolve the broader question, which factually is the paramount concern of the Patent Office in this case, of whether an applicant has the right to appeal from a Board decision wherein the Examiner's rejection is reversed and all appealed claims stand allowed. 35 U.S.C. 141.

The Solicitor, however, refuses to separate these two inquiries. He argues that the Board's second decision was not "new" because it is not "adverse" and did not set forth anything "new" as to the claims finally appealed. The Solicitor's argument is that an appeal is taken as to *claims* and not from *decisions* and that the time within which to file a notice of appeal as to those claims runs from the date that the Board took action on those claims. The Solicitor's argument requires the conclusion that different times for filing an appeal may exist, depending when the Board took action on different claims. This I find to be a totally unworkable scheme of appeal which is certainly not contemplated by the rules. For purposes of orderly procedure, consistent with due process of law, I find that the Board rendered a new decision and the appeal is taken from the decision as a whole and not only that portion of the decision dealing with a given claim.

Appellant then filed the present petition for rehearing, which is now before the court for decision.

In passing, it seems to me the delay on the part of the Solicitor in making the present motion to dismiss strongly suggests that the time factor in the present appeal here is not as certain as one might suppose from reading the majority opinion and the Solicitor's belated motion. To me it savors of the unconscionable to encourage such a technical approach to a problem in the administration of justice. Appellant here had perfected his appeal and carried it far beyond the point where any judicial tribunal should see fit to approve the rigid and unfounded technical approach here urged by the Solicitor. It is the sometimes forgotten duty of the courts, despite heavy dockets, to give a litigant his day in court. It seems to me it also should be the duty of the Patent Office to encourage and assist litigants through its maze of rules and regulations (written and unwritten) to the end that he too should have his day in court. As a public agency it should be particularly alert to serve the best interests of the public which supports it instead of playing a technical "rule" game with those who would appeal its decisions. This entire proceeding here seems to me to be so foreign to modern jurisprudential concepts that it argues strongly for basic and far reaching reforms in Patent Office appeal procedures.

It is my view, despite contrary indications in the majority, that it is our duty as a court to construe the statute and the various rules of the Patent Office in *pari materia* to the end that the right of litigants be preserved wherever possible.

As I see it, and the majority agrees, the issue before the court is whether appellant's appeal was timely within the provisions of Rule 304 when so construed.

It appears to be the majority opinion that:

> The time for appealing to this court is governed by Patent Office Rule 304, promulgated in accordance with 35 U.S.C. 142, and *appellant makes no contention that he has complied with that rule.* [Emphasis added.]

I find this position to be contrary to the facts of record. Appellant has argued before this court that the Board's decision of September 21, 1964 (the second opinion) was a "new decision." He then interpreted Rule 304 as follows:

> Thus appellant was required to file his appeal within thirty days of the date of the Board's decision on his petition for reconsideration. Such decision was dated October 16, 1964, and *appellant in compliance with Rule 304* filed his appeal on November 2, 1964, and well within the time allowed therefor.[4] [Emphasis added.]

[4] See appellant's "Opposition to Motion to Dismiss," filed October 11, 1965, at p. 6. Appellant argues in the present petition for rehearing that the Board's action was a new decision, in accordance with the Patent Office rules, and therefore that his appeal was filed timely within the periods specified by the rules.

Appellant also argues that the Commissioner should be estopped from arguing here that the second decision of the Board was not a new decision, first, because the Commissioner did not oppose the second petition for rehearing and therefore has waived any right to protest here; second, as the Commissioner *is* a member of the Board, 35 U.S.C. 7, he is therefore estopped from contesting that the granting of a second petition for rehearing resulted in a new decision; and third, as appellant relied, to his detriment on the Commissioner's silence, an equitable estoppel arises in his favor preventing the Commissioner from contesting that the Board rendered a new decision.

The majority does not deal with the above arguments nor does the Solicitor answer them. While I prefer to hold for appellant on the ground that the appeal was timely filed within the meaning of the rules, and therefore do not feel that the above arguments are necessary to succeed here, the Supreme Court has recently stated, in *Brenner* v. *Manson*, — U.S. —, 148 USPQ 689, in footnote 6 concerning the Commissioner:

> * * * As a member of the Board and the official responsible for selecting the membership of its panels, 35 U.S.C. § 7 (1964 ed.), it may be considered appropriate that the Commissioner be bound by Board determinations.

Appellant's arguments that the Commissioner, in effect, here refuses to be bound by the Board's determination, become all the more convincing.

Rule 304 may now be examined. The relevant portions may be conveniently grouped as follows:

> 1. The time for filing the notice and reasons of appeal to the U.S. Court of Customs and Patent Appeals * * * is sixty days from the date of the decision of the Board of Appeals * * *.
>
> 2. If a petition for rehearing or reconsideration is filed within thirty days after the date of the decision of the Board of Appeals * * * the time is extended to thirty days after action on the petition.
>
> 3. No petition for rehearing or reconsideration filed outside the time specified herein after such decision, nor any proceedings on such petition shall operate to extend the period of sixty days hereinabove provided.

It is apparent that the portions identified as (1) and (2) above must be read together as they provide two alternatives for the dissatisfied litigant: either, under (1), file a notice of appeal within 60 days or, under (2), file a "petition for rehearing or reconsideration" within 30 days. In either case the period runs from "*the decision*" of the Board. Where a petition for rehearing or reconsideration is filed, the 60 day period under (1) for filing the notice of appeal to this court is inapplicable. Under (2) appellant then has 30 days after "action on the petition" to file the notice of appeal to this court.

It also is apparent that the portion of Rule 304 identified under (3) above covers the period from 30 to 60 days after the "decision" of the Board as it states the consequences of filing a petition outside the 30 day period specified in the rule. It recognizes that timely petitions under the rule may extend the time for filing a notice of appeal to this court and no petition filed after 30 days from the "decision" or any proceeding thereon can operate to extend the 60 day period specified in (1). The Solicitor's argument, in his original motion to dismiss the appeal, that the portion of Rule 304 here considered under grouping (3) set the time for filing notice of appeal at 60 days after the Board's "original decision" is obviously in error as in this case the provisions grouped under (2) above then would be a nullity.

For purposes of this appeal, the portions of Rule 304 grouped under pars. (1) and (3) above are inapplicable as appellant filed a timely petition for rehearing under (2). The majority so admits as to (1) but it ignores what I consider to be the relevant considerations grouped under (3) above.

Can Rule 304 be of any further help in determining the timeliness of appellant's appeal? The critical facts as to which Rule 304 must be applied are as follows: On September 21, 1964, the Board took "action on the [first] petition." According to grouping (2) of the provisions of Rule 304, appellant had 30 days within which to file a notice of appeal and the Board retained jurisdiction in the case for that period. The record shows that appellant, during this period, filed a *second* petition for rehearing. The Board, within this period, took "action on the [second] petition." Appellant filed his notice of appeal 17 days thereafter, *more* than 30 days after action on the *first petition* but *less* than 30 days from action on the *second petition.*

The majority so interprets Rule 304 as to find "the time for appeal expired October 21, 1964," which is 30 days after the Board took "action on the [first] petition." The majority reasons that the second petition is "irrelevant since * * * the date of the decision appealed from is June 29 * * *."

The construction of the rule or reasoning in support thereof which the majority thus places on Rule 304 is not clear to me. From the

holding of the majority it seems that its position is that (1) a *first* petition *irrevocably* sets the time within which to file notice of appeal, i.e., 30 days after "action on the petition"; (2) second petitions are "irrelevant"; and (3) an applicant shall file his notice within the time fixed by 35 U.S.C. 142, which the majority considers to be a mandatory provision; and (4) on the facts of this case Rule 304 provides that the time for appeal expired October 21, 1964.

My objections to the majority's position are as follows: (1) Rule 304 does not provide that there shall be but *one* petition which *irrevocably* sets the time for filing notice of appeal; (2) second petitions are not "irrelevant" as shown by past decisions of this court (see e.g., *In re Schutte*, 44 CCPA 922, 244 F.2d 323, 113 USPQ 537); (3) Rule 304 is silent on its face as to the time for appeal in this case; and (4) 35 U.S.C. 142 is both a prohibition against the Commissioner and a source of discretionary authority as the Commissioner *must* exercise his *discretion* when requested to accept for filing a notice of appeal outside the time limits specified in Rule 304, *Eckey* v. *Watson*, 268 F.2d 891 (D.C.C.A. 1959).

I do not believe that the majority meets or decides what seems to me to be the issue before us, i.e., where does a second petition for rehearing, if such is a lawful method of redress, fit into the plan of appeal regarding timeliness? First, it is clear that Rule 304 or any other Patent Office rule cannot require the Board, when it is vested with jurisdiction, to *grant* or *deny* a rehearing. 35 U.S.C. 7 states: "The Board of Appeals has sole power to grant rehearings," and 35 U.S.C. 6 provides that the Commissioner "may * * * establish regulations, not inconsistent with law, for the conduct of proceedings in the Patent Office." There is no prohibition by rule or by statute which prevents the filing of such a second petition for rehearing. Thus, appellant proceeded lawfully in submitting the second petition for rehearing to the Board which then had jurisdiction over the case. The Commissioner had no authority to prevent the Board from *granting* such a second petition for *rehearing*.

Thus, second petitions are not to be considered "irrelevant" as the majority does. Assuming the Board desires to entertain a second petition, is its power to grant a rehearing subject to the time bar the majority finds in Rule 304? I cannot imagine the Board's power to be so limited as the Commissioner clearly lacks authority to control the Board's exercise of its power as to such petitions, 35 U.S.C. 6, 7. What the Commissioner may not do directly he cannot do indirectly through Rule 304.

In the fact situation before us the Board exercised its lawful power and it granted the second petition for rehearing within the 30 day period following its "action on the [first] petition." At that time there remained 5 days in which to file a notice of appeal within 30 days after action on the first petition under Rule 304.

Would this fact be fatal to appellant's right to appeal, i.e., does Rule 304 require that appellant file a notice of appeal within this 5 day period? I do not believe so. It is obvious that the Board in some cases may require more time in considering a second petition for rehearing. The 30 day period following action on the first petition wherein the Board rendered a new decision could well have run before the Board took action on the second petition. As the Board had jurisdiction when the petition was filed, I believe that it was entitled

to as much time as necessary in order to act on the petition. In this case it is clear that the Board did not dismiss the second petition or refuse to act on it. Perhaps the majority means to imply that the second petition was "irrelevant" because the Board acted on the second petition within 30 days after action on the first petition.

I do not agree with such a position. If this consideration is accepted as controlling it would, in effect, limit the Board's power to entertain more than one petition for rehearing and would require the Board to render its decision within a strict time limit, which I believe leads to a result wholly unsanctioned by the statute or any rule. The majority's holding has the effect of making *all* second petitions irrelevant as to *time* within which to appeal under Rule 304, yet it does not go so far as to say the Board may not consider a second petition for rehearing.[5] Must the Board act upon such petitions within 30 days after its action on the first petition if an applicant's right to appeal under Rule 304 is to be preserved? I do not believe that the Board can be certain (which I do not imply happened in this case) that no adverse appellate decisions will be rendered by the simple expedient, (1) of entertaining second petitions for rehearing and (2) delaying decision on them until the 30 day period of Rule 304 as here erroneously applied by the majority has run. Litigants and their attorneys should not be subjected to such a technical pitfall in pursuing an appeal. On the facts of this case, appellant had 5 days, from Friday, October 16, 1964, the date of the Board's decision, to Wednesday, October 21, 1964, in which to receive notification of the Board's granting of the second petition and file a notice of appeal. Under the majority's reasoning the result is the same no matter what day the Board took action on the second petition.

There remains the question, where does a second petition for rehearing fit into the plan of appeal regarding timeliness? This must be determined before we can answer how much time after the Board's "action on the [second] petition" did appellant have within which to file a notice of appeal? Considering only Rule 304 and 35 U.S.C. 7, it seems to me that Rule 304 should be liberally construed to preserve the power of the Board without judicially imposed limitations to grant rehearings. Under this view appellant should be entitled to the same benefits as accrue from the filing of a first petition. On the facts of this case appellant would have 30 days after "action on the petition" filed as a result of the new decision. The term "petition" in Rule 304 would thus mean petitions filed while the Board had jurisdiction.

However, I do not believe a forced construction of Rule 304 is necessary to arrive at a just resolution of the issue here. The Commissioner has enacted another rule which, contrary to the majority, I think must be considered. This is Rule 197(b) which provides in pertinent part:

> 197. *Action following decision* [by the Board of Appeals].
>
> (b) Any request or petition for rehearing or reconsideration, or modification of the decision, must be filed within thirty days from the date of the original

[5] The majority appears to be following *In re Grier*, 52 CCPA 1081, 342 F.2d 120, 144 USPQ 654, to the effect that the Patent Office has the authority to act in a case after an appeal has been filed in this court. I agree to the extent that the Patent Office may recede from its position or point out facts which may render an appeal to this court moot. To me it is not a question of the Patent Office exercising *jurisdiction* as it is acting as a party litigant. *In re Allen*, 28 CCPA 792, 115 F.2d 936, 47 USPQ 471, is not the law insofar as it purports to hold that the Patent Office cannot act in a case after notice of appeal is filed in this court. In view of the majority's holding, I would urge litigants to continue to file second petitions for rehearing in order to clarify the issues for appeal, and the majority does not hold otherwise, but also file a notice of appeal within 30 days after action on the first petition as second petitions will not stay the time for filing a notice of appeal, contrary, in my view, to the rules.

decision, unless that decision is so modified as to become, in effect, a new decision, and the Board of Appeals so states.

If Rule 197(b) is considered, the total plan of appeal contemplated by the Commissioner is apparent, the fact situation which developed below is understood, the Board's decision is clear, and Rule 304 may be correctly understood.

Rule 197(b) is broadly worded and contemplates second petitions for rehearing. If a litigant can persuade the Board to modify its "original decision" so it becomes, "in effect, a new decision" and the Board "so states," a petition for rehearing is permitted.[6]

Rule 197(b) thus in effect recognizes that situations may develop wherein what the majority terms the "original decision," apparently the Board's first decision, may become "modified," e.g., as the result of a (first) petition for rehearing, or on the Board's own motion to correct error. It also recognizes that a litigant should have the *right* to submit a (second) petition for rehearing *outside* the time limit provided in Rule 304, i.e., 30 days, which is not subject to the provisions of Rule 304 grouped under par. (3) above. The rationale seems clear to me and is: where the "original decision" is so changed as to become a "new decision," *the post-decision review process begins all over again.* I would add that thus giving a litigant the *right* to *submit* a petition for such rehearing does not appear to be contrary to 35 U.S.C. 7.

Finally, Rule 197(b) recognizes that a controversy could occur as to whether a "modified" decision was a "new" decision. It provides, as I view it, that the right to file a (second) petition arises where the original decision "is so modified as to become, in effect, a new decision." This is the test which I think should be applied here. Rule 197(b) concludes with the phrase that the Board must so state in its "new decision." It is not clear whether the intent of Rule 197(b) is that certain magic words such as "new decision" must appear or whether it is sufficient if as a matter of fact the Board recognized that it has so modified the original decision that its second decision is, in effect, a new decision. As I view it, the test is one of substance not words. The Board can no more denominate a second "decision" as a "new decision" or as not a "new decision" by the mere recitation or absence of such magic words. Whether a decision is *new* must be determined by what the Board *did*.

Ignoring possible inconsistences between Rule 197(b) and Rule 304, it seems clear to me that they fit together and they must be construed together.[7] The majority glorifies the titles of the two rules while ignoring their substance and meaning to say that Rule 197(b) applies to "it," the Board, and Rule 304 applies to "us." Moreover, it seems to me the majority fails to appreciate the total *plan of appeal*

[6] It is readily apparent from an examination of Rule 197(b) that the first portion of the rule merely states the 30 day limitation concerning petitions for rehearing set forth in Rule 304. Lest silence be mistaken for my approval of this portion of Rule 197, however, it seems that it denies the right to submit petitions outside the 30 day period provided in Rule 304, while the Board still has jurisdiction and is therefore contrary to the provisions of Rule 304 which allows that a litigant may file a petition for rehearing outside the 30 day limitation, but that any such petition or proceeding thereon will not extend the 60 day period therein provided.

[7] The confusion generated by the term "decision" in Rules 196 and 197 is readily apparent upon examination. I find therein the following terminology: "the decision," "its decision," "new decision," "final decision," and "decision," all of which may be rendered either by the Primary Examiner or the Board. These rules are the preceding procedure to Rule 304. The question here is which of the "decisions" the Board is permitted to render under Rules 196 and 197 is "the decision" in Rule 304? Suffice it to say the proliferation of the term "decision" in Rules 196 and 197 hardly tells an applicant *what* decision he is to appeal from unless it is construed in *pari materia* with Rule 304 in light of 35 U.S.C. 142; and does not provide that the Board may render "original decisions," so aptly coined in the majority.

as set forth by the Commissioner when *all* relevant rules are considered together.

First, it is clear that Rule 197(b) recognizes "original decisions" and "new decisions." Assuming that such a situation occurs, which "decision" is a dissatisfied litigant to appeal from? Rule 304 provides only that a litigant may appeal from "the decision" of the Board. It seems to me that "the decision" includes both "original decisions" and "new decisions." Would anyone argue otherwise than that "the decision" in Rule 304 refers to the *controlling decision* of the Board and a "new decision" controls over and supplants such an "original decision"? The majority seems to ignore the fact that an action on a petition for rehearing is not simply "reasoning" in support of the original decision; it may, in effect, be a *new decision* which is "*the decision*" specified in Rule 304 regarding timeliness.

Second, 35 U.S.C. 142 provides as follows:

> * * * appellant *shall* give notice [of the appeal] * * * to the Commissioner, and *shall* file in the Patent Office his reasons of appeal, * * * within such time after the date of *the decision appealed from*, not less than sixty days, as the Commissioner appoints. [Emphasis added.]

It is clear to me that the Commissioner acted in accordance with section 142 and provided, in Rule 304, 60 days within which to file notice of appeal, measured from "the date of *the decision appealed from.*" "The decision" in Rule 304 refers to "the decision appealed from" in section 142. 35 U.S.C. 6. And it seems to me "the decision" in Rule 304 refers to a "new decision" referred to in Rule 197(b), and if none exists, to the "original decision" of the Board.

Did the Board render a decision on the first petition for rehearing which, "in effect," so modified its original decision that it is a "new decision" under Rule 197(b)? The facts here seem clear that the Board *did in fact* render a *new* decision as discussed, supra, and the Board *in effect* so stated. Even the Solicitor concedes, which the majority appears to overlook, that the real issue is whether the Board's action was, in effect, a new decision. Dealing as he does with the practicalities arising within the Patent Office, it seems to me the Solicitor would have no problem in recognizing that the Board's action was a new decision, except for the fact that all 6 claims in appellant's application stand allowed and a seventh claim has been recommended by the Board as being allowable. For reasons not stated, the Solicitor apparently argues that the decision is not *new* because the Board did not state some new basis for affirming a *rejection* of a claim.

The Solicitor here is concerned with a somewhat unique problem of how to deal with an appeal from a Board decision's *allowing* claims. He has phrased his objection in the motion to dismiss the appeal in two ways, i.e., (1) the court lacks jurisdiction (no adverse decision) and (2) appellant, while admittedly filing notice of appeal from a decision of the Board within 30 days as provided by Rules 197(b), 304, and 35 U.S.C. 142, has not appealed from a new decision (apparently because it is not an adverse decision). As I see it, the Solicitor only advances, in substance, one objection. The majority, sua sponte, considers only Rule 304 and *in effect decides the Board's decision is not "adverse,"* hence not an appealable decision.

The error of the majority is shown most clearly in footnote 1. Therein the majority states that the Board's action of "September 21 provided additional *reasons* notwithstanding the Board's action * * *

constituted a 'new decision' to the extent the Board changed its earlier position * * *." If the Board's action was a new decision, then appellant had 60 days within which to file a notice of appeal. I conclude that it was a new decision, the Board thought it was, the majority states it was, and the Solicitor argues it was not. Yet the majority decision is to deny appellant's petition! This leaves but the alternative of dissent.

I cannot but approve of the acts of both the appellant and the Board below. In its first decision the Board carefully expressed its reasoning precisely why claims *1*, *2* and *5* were not allowable. Pursuant to the Board's reasoning and suggestions appellant submitted additional arguments in a petition for rehearing as to the non-allowed claims and as to the error in the Board's interpretation of claims 3, 4 and 6. The Board then reversed its original position and, additionally, assisted appellant with suggestions as to additional new claims. It set forth for the first time its support for its interpretation of claims 3, 4 and 6. Appellant then attempted to finalize the issues in dispute for appeal if necessary. The Board obliged *because of the facts of this case* and granted a second petition for rehearing. This orderly procedure below is an assist to this court, i.e., defining the issues for appeal.

Following the reasoning of the majority, appellant should have appealed within thirty days from the Board's second opinion. No matter how poorly the issues are drawn below, the majority says in effect you must file a notice of appeal and bring them to this court.

Appellant attempted to exhaust his remedies below as witnessed by the record. The majority opinion determines that the 30 days in which to file an appeal ran from the Board's second opinion and not the third. Apparently the majority view is that appellant utilized a remedy (second petition for rehearing) which is outside Rule 304, in spite of 35 U.S.C. 7, 142, and with respect to which it considers the Board's action to have been "irrelevant."

I believe the majority has "overlooked or misapprehended" factors which seem to me to be essential to a proper resolution of the issue presented by the Solicitor's motion to dismiss the appeal. The result has been what seems to me to be a denial of appellant's right to appeal. It is for these reasons I dissent from the majority's disposition of this petition for rehearing.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,201,490, E. E. Howe, INCLINED HINGE, **filed** Dec. 17, 1954, D.C., N.D. Ill. (Chicago), Doc. 54c1893, *Earl E. Howe v. General Motors Corporation*. Complaint and supplemental complaint dismissed without prejudice May 1, 1961. Final judgment; Patent No. 2,201,490 held invalid; complaint and supplemental complaint as amended dismissed with prejudice May 6, 1966.

2,440,550, C. H. Martin, TRACTOR-CONVEYED IMPLEMENT AND HITCH THEREFOR, **filed** Oct. 13, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–1489–IH, *Towner Manufacturing Company v. Deere & Company*. Stipulation and order dismissing complaint and counterclaim with prejudice Mar. 30, 1966.

2,441,960, P. Eisler, MANUFACTURE OF ELECTRIC CIRCUIT COMPONENTS; **2,706,697(a)**, same; **Re. 24,165(a)** (of 2,587,568), same, **filed** Sept. 17, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1761, *Technograph Printed Circuits, Ltd. et al. v. Methode Electronics, Inc.* Judgment in favor of defendant dismissing complaint Dec. 30, 1964. Filed notice of Appeal Dec. 31, 1964. Mandate of U.S. Court of Appeals—Judgment of District Court reversed and cause remanded May 17, 1966. **Same, filed** Jan. 24, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c142, *Technograph Printed Circuits, Ltd. et al. v. Croname, Inc.* Judgment in favor of defendant, dismissing complaint Dec. 30, 1964. **Appealed**—Mandate of U.S. Court of Appeals filed—Judgment of District Court reversed and remanded June 28, 1966.

2,507,556, H. Bobst, DRIVING MECHANISM OF A MOBILE PLATEN IN A PRESS; **2,850,280**, B. de Kalbermatten, MACHINES FOR OPERATING ON SHEETS, SUCH FOR EXAMPLE AS A STRIP-CUTTING PRESS OR A PRESS FOR CORRUGATING CARDBOARD SHEETS; **2,895,570**, J. Kury, PNEUMATIC BRAKE WITH PRESSURE CLOSED VALVE; **2,935,932**, F. Laufer, PRESSES FOR PROCESSING PAPER AND CARDBOARD; **2,949,297**, H. Bobst, PRESSES FOR TREATING MATERIAL IN THE FORM OF SHEETS;

3,001,416, B. de Kalbermatten, MACHINES OPERATING ON SHEETS; **3,009,377**, Laufer and de Trey, ADJUSTABLE TOOL CONNECTION FOR PLATEN PRESSES; **3,009,776**, Bobst and Kury, PRESSES FOR CUTTING SHEET MATERIAL; **3,063,263**, same, OVERLOAD RELEASE COUPLING, **filed** May 10, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c824, *J. Bobst & Fils S.A. v. Consolidated International Equipment and Supply Co.*

2,512,517, R. A. Bruce, WIRE CONTAINER HAVING A WIRE STACKING RING, **filed** June 18, 1965, D.C., E.D. Mo. (St. Louis), Doc. 65C206(3), *Barker Equipment Company, Inc. v. E. H. Baare Mfg. Co. et al.* Final judgment; Patent held infringed; defendants enjoined; defendants' counterclaims dismissed with prejudice May 11, 1966.

2,512,621, J. H. Emerson, THERAPEUTIC VIBRATOR, **filed** Jan. 13, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c100, *Associated Mills, Inc. v. The Songrand Corp. et al.* Motion of defendants to dismiss for improper venue granted Apr. 15, 1966. Order of Apr. 15, 1966, vacated as to defendant The Songrand Corp. and cause reinstated as to said defendant May 4, 1966. **Transferred** May 9, 1966, D.C., W.D. Mo. (Kansas City), Doc. 16008–1, *Associated Mills, Inc. v. The Songrand Corporation*.

2,587,993, W. Gray, SPRAY GUN AIR CAP, **filed** June 14, 1965, D.C., S.D. Calif. (San Diego), Doc. 3325–SD–C, *Econo-Spray, Inc. v. Fog-Less Corp. et al.* Stipulation of dismissal Apr. 18, 1966.

2,597,533, A. L. Rogers, FOLDING DRAWBAR FOR HARROW, **filed** Oct. 14, 1964, D.C. Minn. (Minneapolis), Doc. 4–64/337, *Noble Manufacturing Company v. Lindsay Bros. Company*. Order joining Northern Wisconsin Mfg. Co. as a party defendant May 11, 1966. Stipulation and order of dismissal as to defendant Lindsay Bros. Co. May 11, 1966. Consent decree in favor of plaintiffs; injunction granted May 11, 1966.

2,603,226, N. C. Smith, METHOD FOR PREVENTING AND REMOVING ACCUMULATIONS OF FOREIGN MATERIALS, **filed** Feb. 14, 1958, Ct. Cls., Doc. 62/58, *Yosemite Chemical Company v. The United States*. Judgment holding claim 7 of Patent No. 2,603,226 invalid, and claims 1–5 of said Patent valid and infringed May 13, 1966.

2,613,106, G. F. Kraus, FLUID DISPENSERS; **3,018,656**, A. N. Montgomery, TIMED SPRAY DISPENSERS, **filed** May 20, 1966, D.C., E.D. Mo. (St. Louis), Doc. 66C90(1) (transferred from D.C., E.D.N.Y. (Brooklyn), Doc. 65C–1131 on Feb. 28, 1966), *Syncro-Mist Controls, Inc. et al. v. Continental Mfg. Corp.* Final consent judgment; Patents held infringed; defendant enjoined May 20, 1966.

2,625,683, Roth and Lombard, CRASH HELMET, **filed** May 24, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66–879WB, *United Tanks, Inc. v. Sears, Roebuck and Company*.

2,648,428, White and Scott, SHIPPING CONTAINER, **filed** May 25, 1966, D.C., N.D. Calif. (San Francisco), Doc. 45148, *Fabricated Metals, Inc. v. Hoover Ball & Bearing Company et al.*

2,657,618, W. Eisbein, DEVELOPING APPARATUS, **filed** Oct. 4, 1962, D.C., S.D.N.Y., Doc. 62/3352, *Smith-Corona Marchant, Inc. v. American Photocopy Equipment Co.* Consent judgment for defendant—complaint dismissed May 23, 1966. **Same, filed** Dec. 27, 1962, D.C., S.D.N.Y., Doc. 62/4190, *Richard A. Gordon et al. v. American Photocopy Equipment Co. et ano.* Consent judgment for defendant May 24, 1966. **Same, filed** Nov. 9, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c2080, *American Photocopy Equipment Company v. Rovico, Inc.* Judgment holding Patent No. 2,657,618 valid and claims 1, 5 and 11 thereof infringed; defendant enjoined June 28, 1966.

2,676,471, W. M. Pierce, Jr., METHOD FOR MAKING AND DISTRIBUTING SNOW, **filed** May 23, 1966, D.C., W.D.N.Y. (Buffalo), Doc. 11,847, *Larchmont Engineering, Inc. v. Ratnik Industries, Inc. et al.*

2,683,901, H. W. Grishwold, FLY PREVENTION FOR CARDS, **filed** May 20, 1966, D.C., W.D.N.C. (Charlotte), Doc. 2132, *Jenkins Metal Shops, Inc. et al. v. Pneumafil Corporation*.

2,702,049, M. M. Seeloff, FLUID VALVE, **filed** June 4, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c903, *Versa Products Company, Inc. v. Mead Specialties Company, Inc.* Stipulation and order of dismissal without prejudice May 9, 1966.

2,706,697(a). (See 2,441,960.)

2,706,697(b); **Re. 24,165(b)** (of 2,587,568), **filed** Jan. 7, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c36, *Technograph Printed Circuits, Ltd. et al. v. General Telephone & Electronics Corp. et al.* Defendants' motion for summary judgment allowed; judgment in favor of defendant dismissing complaint Dec. 30, 1964. **Appealed**—mandate of U.S. Court of Appeals reversing District Court judgment and remanding cause June 28, 1966.

2,709,504, J. B. Brandell, GOLF PUTTING PRACTICE DEVICE, **filed** May 9, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c816, *Brandell Products Corporation v. Broadstreets, Incorporated*.

2,728,678, P. F. Sharp, PROCESS FOR DRYING SOLUTIONS CONTAINING CRYSTALLIZABLE MATERIAL AND PRODUCT PRODUCED THEREBY; **2,835,586**, D. D. Peebles, DRIED MILK PRODUCT AND METHOD OF MAKING SAME; **2,850,388**, Peebles and Clary POWDERED CHOCOLATE PRODUCT AND PROCESS OF MANUFACTURE, **filed** May 19, 1966, D.C. Minn. (Minneapolis), Doc. 4–66/166, *Dairy Foods Incorporated v. Isanti Coop. Creamery et al.*

2,741,690, O. Junker, ELECTRIC INDUCTION HEATING PLANT AND A METHOD OF CONNECTING IT TO A THREE-PHASE NETWORK, **filed** Dec. 29, 1964, D.C.N.J. (Newark), Doc. 1164–64, *Inductotherm Corporation et al. v. Brown Boveri Corporation*. Stipulation of dismissal May 18, 1966.

2,742,327, T. Marks, FULLY AUTOMATIC MACHINE FOR MAKING BRUSHES, **filed** May 3, 1966, D.C., N.D.N.Y. (Utica), Doc. 66–CV–163, *American Technical Machinery Corp. v. Joe's Bazaar's Machine Shop et al.* **Same, filed** May 27, 1966, D.C.N.J. (Newark), Doc. 542–66, *American Technical Machinery Corp. v. Puleo's Novelty Company*. **Same, filed** June 10, 1966, D.C., M.D. Pa. (Scranton), Doc. 9422, *American Tecnical Machinery Corp. v. Star Products, Inc. et al.*

2,742,462, G. Gever, NEW N-(5-NITRO-2-FURFURYLIDENE)-3-AMINO-2-OXAZOLIDONES, **filed** Oct. 1, 1965, D.C., E.D. Tex. (Tyler), Doc. 4498, *The Norwich Pharmacal Company v. Morris S. Gatewood, Sr.* Consent judgment; defendant enjoined June 1, 1966. **Same, filed** May 5, 1966, D. C. Conn. (Bridgeport), Doc. 11,423, *The Norwich Pharmacal Company v. T & T Poultry Company*. Consent judgment for plaintiff July 22, 1966.

2,748,480, B. Weissman, ARTIFICIAL DENTURE; **Reg. No. 665,139** (TACH-E-Z), Whaledent, Inc., Attachment for partial dentures, **filed** Mar. 11, 1964, D.C., S.D.N.Y., Doc. 64/781, *Whaledent, Inc. v. Weinbaum Dental Supply Co., Inc. et al.* Order discontinuing action May 20, 1966.

2,749,715, R. S. Tice, DRINKING GLASS CHILLER; **2,857,075**, J. C. de Shazor, CAN LID SEAL RING; **3,000,195**, G. J. Feberighi, DRINKING GLASS FROSTER, **filed** May 2, 1966, D.C., S.D.N.Y., Doc. 66/1262, *The H–C Manufacturing Co., Inc. et al v. Dynamics Classics, Ltd. et al.*

2,753,694, Trow and Nelson, ICE DISINTEGRATING AND CHIP DELIVERING SPIRAL ICE CHIP PRODUCING MACHINE; **3,034,311**, M. L. Nelson, ICE MAKING APPARATUS, **filed** Nov. 14, 1962, D.C., W.D. Okla. (Oklahoma City), Doc. 9930, *King-Seeley Thermos Co. v. Refrigerated Dispensers, Inc. et al.* Patents held not infringed Sept. 8, 1964. **Appealed**, C.C.A., 10th Cir., Doc. 8016, *King-Seeley Thermos Co. v. Refrigerated Dispensers, Inc. et al.* Judgment of District Court reversed and remanded for further proceedings Dec. 27, 1965. Patents held infringed; defendants, Refrigerated Dispensers, Inc., Diamond Ice Machine Company, and The Diamond Corporation, enjoined (notice May 5, 1966). **Same, filed** July 27, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c1389, *King-Seeley Thermos Co. v. Reynolds Products, Inc.*

2,754,827, E. P. McCreery, CORN SHELLER AND SEPARATOR, **filed** June 21, 1965, D.C., E.D.N.C. (Raleigh), Doc. 934, *Bartlett-Snow-Pacific, Inc. v. Planters Industries, Inc.* Consent judgment in favor of plaintiff; injunction shall issue enjoining defendant (notice May 23, 1966).

2,762,359, G. B. Entz, STONE CUTTING MACHINE, **filed** May 31, 1966, C.C.A., 8th Cir., Doc. 18436, *Imperial Stone Cutters, Inc. et al. v. Herman Schwartz*.

2,769,584, M. Zinamon et al., METHOD OF PERMANENTLY PLEATING FABRICS; **2,974,432**, Warnock and Hubener, PRESS-FREE CREASE RETAINED GARMENTS AND METHOD OF MANUFACTURE THEREOF, **filed** May 3, 1966, D.C., S.D.N.Y., Doc. 66/1278, *J.E.Z. Textiles Corp. v. Koret of California, Inc.*

2,784,038, G. Schneider, MEANS FOR PNEUMATICALLY CONVEYING PLASTIC PARTICULATE MATERIA.., filed Apr. 10, 1964, D.C., S.D. Tex. (Houston), Doc. 64–H–164, *Fuller Company* v. *Metal Arts Company*. Judgment holding Patent valid; claims 1 and 2 infringed; defendant enjoined May 9, 1966.

2,819,562, K. H. Barnes, CENTRIFUGAL BLASTING WHEEL AND BLADES FOR USE IN SAME, filed Dec. 23, 1963, D.C., W.D. Mich. (Grand Rapids), Doc. 4655, *The Wheelabrator Corporation* v. *Benfur Engineering Company et al.* Order dismissing plaintiff's amended complaint and defendants' counterclaim with prejudice (notice May 6, 1965).

2,835,586. (See 2,728,678.)

2,839,900, J. E. Morgan, KNITTED FABRIC, filed May 31, 1966, D.C., E.D. Pa. (Philadelphia), Doc. 40392, *J. E. Morgan Knitting Mills, Inc.* v. *Royal Manufacturing Company, Inc.* Same, filed July 22, 1966, D.C. Minn. (Minneapolis), Doc. 4–66/247, *J. E. Morgan Knitting Mills, Inc.* v. *Munsingwear, Inc.*

2,842,072, G. O. Graves, FOOD PROCESSING MACHINE, filed Sept. 10, 1964, C.C.A., 8th Cir., Doc. 17800, *Kell Dot Industries, Inc.* v. *Michiana Mills*. Judgment of District Court reversed and cause remanded with directions to set aside judgment in its entirety May 18, 1966.

2,847,145, Brasile and Richardson, DISPENSING MECHANISM, filed June 23, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c1053, *Form-A-Pak Corporation* v. *Liquid Package Equipment Co.* Stipulation and order dismissing complaint with prejudice and counterclaim and third party complaint dismissed May 23, 1966.

2,850,280. (See 2,507,556.)

2,850,388. (See 2,728,678.)

2,856,645, V. H. Herrmeyer, TRAILER HOUSE, filed May 24, 1966, D.C., W.D. Mich. (Grand Rapids), Doc. 5330, *Travelhome, Inc.* v. *Wago Campers, Inc. et al.*

2,857,075. (See 2,749,715.)

2,868,749, J. K. Hugg, PAVING COMPOSITION CONTAINING SYNTHETIC RUBBERY POLYMER, filed May 12, 1966, D.C., N.D. Ohio (Cleveland), Doc. C66–342, *The Firestone Tire & Rubber Company* v. *Lomelo Construction Company.*

2,872,203, C. W. Hedstrom, CONVERTIBLE AND FOLDABLE BABY VEHICLES, filed May 18, 1966, D.C., S.D.N.Y., Doc. 66/1433, *Hedstrom Union Company* v. *The Welsh Company.*

2,876,005, G. H. Eash, RECORDER-PLAY BACK INSTRUMENT EMPLOYING ENDLESS MAGNETIC TAPE, filed May 2, 1966, D.C., E.D. La. (New Orleans), Doc. 16513, *The Ohio Citizens Trust Co. et al.* v. *Trans-world, Incorporated.*

2,895,570. (See 2,507,556.)

2,935,932. (See 2,507,556.)

2,940,297. (See 2,507,556.)

2,974,432. (See 2,769,584.)

3,000,195. (See 2,749,715.)

3,001,416. (See 2,507,556.)

3,009,377. (See 2,507,556.)

3,018,056. (See 2,613,108.)

3,034,311. (See 2,753,694.)

3,060,776. (See 2,507,556.)

3,063,263. (See 2,507,556.)

Re. 24,165(a). (See 2,441,960.)

Re. 24,165(b). (See 2,706,697(*b*).)

Re. 24,165(c), filed Jan. 18, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c111, *Technograph Printed Circuits, Ltd. et al.* v. *Webcor Incorporated*. Judgment in favor of defendant dismissing complaint Dec. 30, 1964. Filed notice of Appeal Dec. 31, 1964. Mandate of U.S. Court of Appeals—Judgment of District Court reversed and remanded for further proceedings May 5, 1966.

Erratum

In the OFFICIAL GAZETTE, volume 822, January 1966, page 394, under "Patent Suits," column 2, line 62, delete paragraph beginning Des. 199,978, W. J. Carnese * * *; and, in column 2, line 40 (after paragraph beginning 3,197,181, E. F. Hill * * *) insert the following:

3,199,978, J. T. Brown et al., HIGH-STRENGTH, PRECIPITATION HARDENING AUSTENTIC ALLOYS, filed Oct. 8, 1965, D.C., District of Columbia, Doc. 2490–65, *Allegheny Ludlum Steel Corporation* v. *Westinghouse Electric Corporation.*

PLANT PATENTS

GRANTED AUGUST 23, 1966

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,662
PIN OAK
David B. Cole, Mentor, Ohio, assignor to The Cole Nursery Company, Mentor, Ohio, a corporation of Ohio
Filed Apr. 7, 1965, Ser. No. 446,441
1 Claim. (Cl. Plt.—51)

A new and distinct variety of pin oak tree (*Quercus palustris*) substantially as herein shown and described, characterized particularly as to novelty by its well-spaced lower branches which diverge from the main trunk at angles of generally from 90° to about 45° upwardly, substantially all of the other branches also diverging from the main trunk at upward angles, by the exceptionally vigorous uniform growth habit of the tree, and by resistance to snow and ice damage.

2,663
PEACH TREE
Chris Floyd Zaiger, 537 Rosemore Ave., Modesto, Calif.
Filed July 26, 1965, Ser. No. 475,027
1 Claim. (Cl. Plt.—43)

A new and distinct variety of peach tree, substantially as illustrated and described bearing large, firm, freestone fruit having yellow flesh and being characterized as to novelty when compared with the Springtime by ripening 2 to 4 days earlier, having larger fruit, the fruit being yellow fleshed and having a brighter red blush color.

2,664
ROSE PLANT
Gordon J. Von Abrams, 614 Laurel Place, Davis, Calif.
Filed Feb. 12, 1965, Ser. No. 432,437
1 Claim. (Cl. Plt.—12)

A new and distinct variety of rose plant of the hybrid tea class substantially as herein shown and described, primarily characterized by: an intense, distinct fragrance of fresh, ripe, red raspberries; an unusually sharp contrast between the colors of the deeply pigmented blood red upper and chalk white lower surfaces of the petals; an unusually effective display of this contrast brought about by the production of solitary, large, sculptured flowers of classical form in which the whorls of petals reflex in reduced degree and with reduced speed centripetally and in which the petal margins curl slightly downward, hiding the lightly pigmented marginal band on the reverse of the petals, which events together result in the rich red of the upper surface of the petal being displayed in regular tiered order against what appears to the eye to be the chalk white reverse of the petal; large, abundant, very glossy foliage which is unusually heavily red pigmented when young and which remains pigmented and of the color of purple leaved forms of Prunus for an unusually long time.

2,665
PEACH TREE
Corwin Palmer, Rte. 4, Box 232, Montrose, Colo.
Filed Mar. 21, 1963, Ser. No. 267,895
1 Claim. (Cl. Plt.—42)

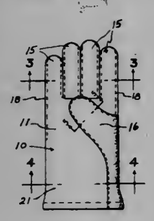
A new and distinct variety of peach tree of the white-flesh, freestone class, substantially as herein shown and described, particularly characterized as to novelty by the unique combination of the coloration of the wild peach and the size of the Elberta, by its large and showy blossoms and by the fine texture, abundance of juice, firmness, relative lack of pubescence and the delicate, desirable flavor of its fruit.

PATENTS

GRANTED AUGUST 23, 1966

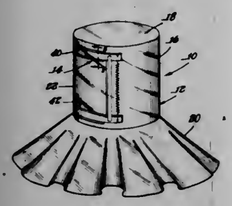
GENERAL AND MECHANICAL

3,267,486
INSULATED GLOVES
Herman Madnick, Framingham, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 27, 1964, Sr. No. 392,664
1 Claim. (Cl. 2—164)



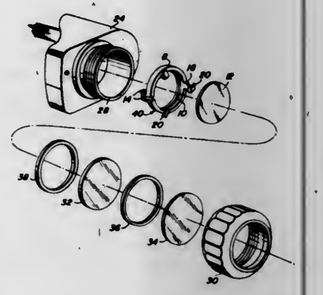
A partially insulated glove to protect the hand of the user in cold weather while permitting dexterous use thereof comprising a front portion, a back portion, and fingers and a thumb, a single layer of polyester insulating material covering only the inner surface of said back portion, the back of said thumb, and the entire length of the back and side portions of said fingers, a lining covering said insulating material, and means securing said lining and said insulating material to said glove.

3,267,487
FACE PIECE EXPANDER UNIT
Donald W. Johnson, Wooster, Ohio, assignor to Snyder Manufacturing Company, Inc., New Philadelphia, Ohio, a corporation of Ohio
Filed June 29, 1964, Ser. No. 378,497
6 Claims. (Cl. 2—9)



1. A structure of the type described comprising a flexible sheet material member, first and second generally U-shaped means respectively including bight portions secured to space portions of said sheet material member, said U-shaped means respectively having opposed leg portions extending from said bight portions, first and second spacer members respectively extending between first leg portions of said first and second U-shaped means and second leg portions of said first and second U-shaped means, said leg portions of one of said U-shaped means being pivotally connected with said spacer members, and means connected to and pivotally biasing said one U-shaped means for urging the bight portion thereof away from the other bight portion for tensioning an area of said sheet material member between said bight portions.

3,267,488
LENS HOLDER
Jack M. Colvin, Box 227, Sulphur, La.
Filed July 22, 1964, Ser. No. 384,293
5 Claims. (Cl. 2—14)



1. For mounting in a goggle of the type including a lens cell comprising a neck and a removable cap on the neck, a lens holder, said holder comprising a ring for the reception of a lens, said ring including inner and outer sides and an outer peripheral edge, said ring being selectively expansible and contractible, said ring in its contracted position presenting a substantially continuous outer peripheral edge free of lateral projections so as to adapt said holder to an unmodified lens cell, and a plurality of mounting legs fixed to the outer side of said ring at peripherally spaced points thereabout, said legs projecting laterally of said outer side generally inward of the outer peripheral edge.

3,267,489
NECKTIE CLIP
Robert Phillips, Roslyn, and Cosmo Centrella, West Hempstead, N.Y., assignors to Redl-Knot Tie Clip Corporation, New York, N.Y.
Filed Sept. 20, 1965, Ser. No. 488,648
6 Claims. (Cl. 2—153)



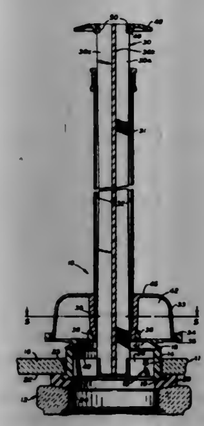
1. A tie clip comprising a unitary one piece molded substantially rigid plastic frame member of approximately triangular shape with the apex thereof at the bottom and the side portions tapering rearwardly; said frame member having, in the mid portion of its upper edge, a forwardly opening socket forming an integral axle bearing, said socket having a bottom portion and upper rearwardly directed laterally spaced projections defining an upwardly opening notch, said projections overlying said bottom portion, a unitary plastic hook element pivotally connected to said frame member in said bearing socket, and a spring element secured to the front face of said frame and contacting the front face of said hook element adjacent said bearing for holding said hook element in operative position.

3,267,490
ADJUSTABLE SINGLE-TAPE STRAP
Bert H. Wallace, 1261 Birch St., Lakeville Estates, Uniondale, N.Y.
Filed Feb. 25, 1963, Ser. No. 260,396
2 Claims. (Cl. 2—323)



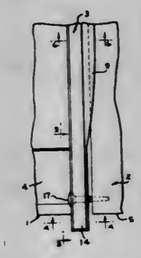
1. An adjustable single-tape strap comprising a pair of identical buckles each having three transverse slots to define in successive order a first end bar, first and second intermediate bars and a last end bar, and a continuous tape threaded through said buckles to cause the tape to pass under the first end bar, over and under the second intermediate bar, and over and under the first intermediate bar of the one buckle to form a locking loop anchoring said one buckle, the tape then being extended to the other buckle to pass under and over the first end bar thereof from which point it is extended back to the one buckle to define a first take-up loop, the tape then passing under and over the last end bar of the one buckle and extending back to the other buckle to define a second and overlapping take-up loop, the tape then travelling sinuously over the first end bar, under the first intermediate bar, over the second intermediate bar and under the last end bar of the other buckle to define an adjusting section.

3,267,491
FLUSH VALVE ASSEMBLY
Herbert J. Snyder, Loudonville, Clayton D. Obrecht, Ashland, and Howard A. Fulton, Perrysville, Ohio, assignors to Mansfield Sanitary, Inc., Perrysville, Ohio, a corporation of Ohio
Filed Apr. 28, 1964, Ser. No. 363,111
2 Claims. (Cl. 4—58)



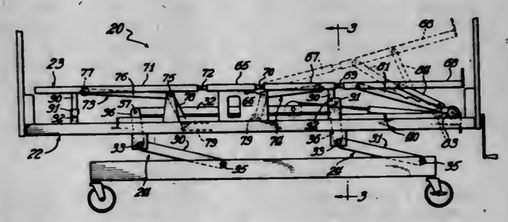
1. A flush valve assembly for a water closet having a tank with a discharge opening close coupled to a bowl, said valve assembly comprising, a spud having an annular body portion and a flange portion, said body portion insertably received in said discharge opening with said flange portion extending radially outwardly of said body portion between said tank and said bowl, a single annular gasket frictionally engaged with said flange portion to seal the tank to the bowl and the annular body portion to the tank, said sealing gasket extending from beneath said flange portion outwardly thereof and having a greater outer diameter than said spud flange portion and a greater axial dimension than said flange portion, a guide attached to and extending axially of said body portion, an overflow pipe slidably encircling said guide, a flexible valve element carried on the lower end of said overflow pipe for selective engagement with said spud body portion.

3,267,492
TRIM STRIP
Thomas E. Jenkins, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Nov. 12, 1963, Ser. No. 322,656
4 Claims. (Cl. 4—187)



1. A universal trim strip for mounting an appliance in a cabinet comprising:
(a) a horizontal portion to cover the space between the appliance and the cabinet,
(b) said horizontal portion terminating rearwardly of the front of the appliance and the cabinet,
(c) a U-shaped portion having two, spaced, resilient, downwardly-extending arms,
(d) said U-shaped portion being formed integrally with said horizontal portion and extending forwardly therefrom,
(e) said U-shaped portion projecting beyond the front of the appliance and the cabinet,
(f) one of said arms overlying the appliance, and
(g) the other of said arms abutting the cabinet.

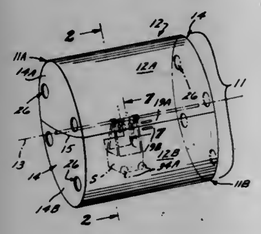
3,267,493
ADJUSTABLE BED
Fred Pruim, Chicago, and Irvin E. Mischler, Blue Island, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed July 20, 1964, Ser. No. 383,573
7 Claims. (Cl. 5—63)



1. An adjustable bed comprising a relatively fixed frame, a movable frame, first and second link means pivotally interconnecting said fixed frame and said movable frame to move said movable frame substantially parallelly with respect to said fixed frame when said first

and second link means are pivoted relative to said movable frame, a third rigid link means pivotally interconnecting said first and second link means, and means for pivoting said first and second link means whereby said movable frame will be moved with respect to said fixed frames.

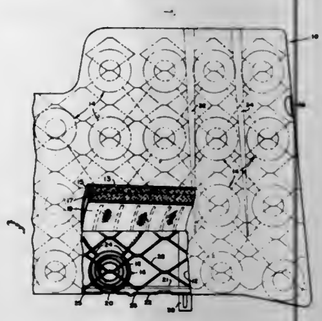
3,267,494
SAFETY PEN FOR AN INFANT
Ben L. Bryant, Newport Beach, Calif.
(385 Weymouth Place, Laguna Beach, Calif.)
Filed Feb. 1, 1965, Ser. No. 429,284
14 Claims. (Cl. 5—93)



1. A safety pen for an infant, comprising: a substantially cylindrical hollow enclosure means including substantially cylindrical side wall means substantially cylindrical around a centrally positioned normally horizontally directed imaginary axis and having integral oppositely outwardly convex end wall means similarly symmetrically positioned with respect to said normally horizontal imaginary axis and sealingly closing off opposite ends of said cylindrical side wall means, said enclosure means being provided with controllably openable and closable entry and access means, said opposite end wall means of said enclosure means being provided with normally horizontally directed support bar means in a position substantially concentric with respect to said side wall means and said end wall means of said enclosure means and extending centrally horizontally across the hollow interior of said enclosure means; an infant's seat of a type having a flexible fabric buttock-receiving portion provided with a pair of leg apertures and having at each side thereof a pair of upwardly directed strap members having effectively interconnected controllably engageable and disengageable strap loop portions at the tops thereof comprising corresponding strap loop means rotatively carried by said horizontal support bar means; the cylindrical exterior of said cylindrical side wall means effectively comprising rollable floor-contacting exterior surface means, a bottom portion of which is normally adapted to rest upon an auxiliary substantially horizontal underlying floor and the complete exterior of which is adapted to roll along said floor for rolling transporting movement of the entire enclosure means from one location to another while said infant's seat means effectively rotates with respect to said horizontal support bar means and remains in depending relationship with respect thereto during such rolling transporting movement of said enclosure means from one location to another.

3,267,495
SEAT STRUCTURE
Paul C. Tabor, Clawson, Mich., assignor, by mesne assignments, to Rockwell-Standard Corporation, a corporation of Delaware
Filed May 11, 1964, Ser. No. 366,254
6 Claims. (Cl. 5—263)

1. A seat assembly comprising a rigid frame, an expanded metal sheet secured across said frame, a series of side by side coil springs having corresponding ends secured supportingly to said sheet and extending away



from said sheet, and an upholstery layer on said frame overlying the other ends of said coil springs.

3,267,496
PILLOW CASE
Alex J. Gionet, 24 Melrose St., Boston, Mass.
Filed Apr. 9, 1964, Ser. No. 358,500
3 Claims. (Cl. 5—339)

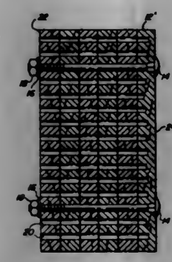


1. A pillow case comprising
front and rear rectangular panels of equal length secured together along each side edge and along the bottom,
a hem sewn along the open top edge of each of the panels,
and a flap sewn to one of the panels inwardly of the hem by a first seam parallel to the open end, and second and third seams at the side edges of said one of the panels, whereby said flap forms a pocket opening toward the bottom of the panels and spaced from the open end.

3,267,497
BEE HATCHING DEVICE
John N. Dority, 8 N. 1st, Nyssa, Oreg.
Filed Dec. 14, 1964, Ser. No. 418,044
3 Claims. (Cl. 6—11)

1. A bee hatching device comprising:
a board having a pair of opposite, flat, parallel faces, said board being laminated parallel to said faces and comprising a plurality of separable, flat faced sections, and means releasably securing said sections together, said board having a plurality of bee-cell sized holes

therein extending from one of said faces of said board toward the opposite face thereof, said holes



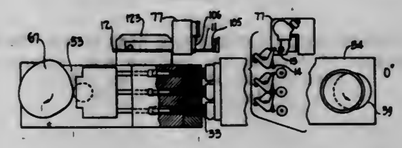
extending perpendicularly to said sections and terminating within the section defining the said opposite face.

3,267,498
MARKING DEVICE
Parry W. Pearson, Jr., Rte. 3, Alpena, Mich.
Filed Sept. 14, 1964, Ser. No. 396,145
1 Claim. (Cl. 9—8)



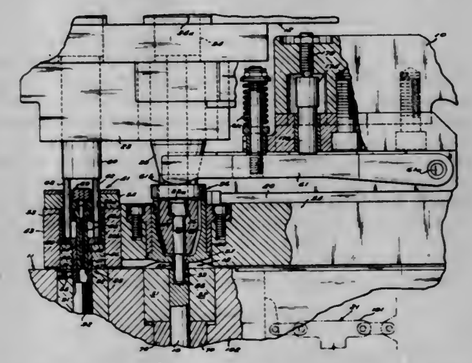
In a marking device, a float, a line having a pair of ends one of which is secured to said float, a sinker secured to the other end of said line, said sinker comprising a weighted, spool, a pair of axially spaced discs secured to opposite sides of said spool, said discs having portions thereof located radially outwardly of said spool, said disc portions having a plurality of axially aligned openings formed therein and located so that the openings in each disc are spaced from each other and are arranged in a substantially circular formation extending about and closely spaced from said spool, a plurality of pins removably extended through said aligned disc openings and frictionally engaged with said disc portions so that said pins are arranged in a similar substantially circular formation about and closely spaced from said spool, said line extending first about said spool, then about said spool and one of said pins, then about said spool and said one pin and another one of said pins adjacent to said one pin proceeding in one direction around said circular formation, said line extending successively about one more pin as said line extends about said spool until finally said line extends about all of said pins, whereby as each pin in said formation is removed proceeding in a reverse direction around said formation the length of said line which can be unwound from said sinker on falling of the sinker from said float is increased.

3,267,499
ARTICLE FORMING METHOD
Howard D. Prutton, Cleveland, Ohio, assignor to Prutton Corporation, a corporation of Ohio
Original application Oct. 4, 1961, Ser. No. 142,967, now Patent No. 3,189,191, dated June 15, 1965. Divided and this application Mar. 19, 1965, Ser. No. 441,111
11 Claims. (Cl. 10—27)



1. A method of working a piece which comprises the steps of positioning the piece for working thereon, enveloping it in a die while the piece remains substantially fixed in longitudinal position, simultaneously therewith moving said die and a punch longitudinally against the piece with sufficient pressure to form the piece and moving said die and punch transversely, retracting the die and punch while ejecting the piece from the die to maintain the piece substantially fixed in longitudinal position, transferring the piece to a second working position, again enveloping it in a die while the piece remains substantially fixed in longitudinal position, and simultaneously therewith moving both the die and the punch against the piece with sufficient pressure for further forming the piece.

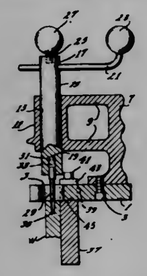
3,267,500
APPARATUS FOR FORMING HOLLOW ARTICLES
Herbert L. McClellan, Tiffin, Ohio, assignor to The National Machinery Company, Tiffin, Ohio, a corporation of Ohio
Filed Sept. 18, 1963, Ser. No. 309,787
13 Claims. (Cl. 10—76)



1. In a machine of the character described, a frame, a die breast on said frame, a slide reciprocable in said frame toward and away from said breast, an open die in said breast, first means connected to clamp said open die for gripping stock and releasing said open die for feeding stock, a station in said die breast spaced from said open die, second means feeding wire stock to said open die while said first means releases such die, a tool on said slide operable to engage the end of stock in said first die and form a blind bore therein when said slide moves to its forward position adjacent said die while said first means operates to clamp said open die, shear means movable into alignment with said first die when said slide moves back from said die, said shear means being proportioned to receive a predetermined

length of stock having said blind bore therein, said second means operating to feed said length of stock into said shear means, said shear means thereafter shearing off said length of stock, said shear means carrying said length of stock into alignment with said station as said slide moves forward again, means on said slide engaging said shear means ejecting said length of stock into said station.

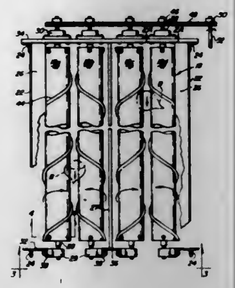
3,267,501
MANUALLY OPERABLE MACHINE TOOL
Theodore M. Wright, 934 Haddon Ave., Camden, N.J.
Filed May 20, 1964, Ser. No. 368,923
1 Claim. (Cl. 10—129)



A manually operable thread tapping tool for cutting a thread in a workpiece, said tool comprising a base, a hand grip on said base, said hand grip including a portion overlying said base and terminating in a bearing member having a bore therein, an arbor mounted in said bore for free sliding and rotational movement therein, gauge means on said base for locating said workpiece in such a position that said hole is aligned with said tap, said gauge means comprising a plate member movably mounted on said base for adjustment thereon relative to said tap and against which said workpiece can be placed for accurate location thereof relative to said tap, means on said gauge plate for releasably locking said plate to said base in any position of adjustment thereon, said locking means comprising a pair of opposed clamps on said gauge plate which embrace said base along opposite edges thereof, said clamps including jaws in overlapping relation with one surface of said base and lock screws carried by said clamps and threaded into said gauge plate for tightening said jaws against said base surface when turned down thereagainst, crank means slidably carried by said arbor for rotating said arbor and tap while said tap is in engagement with said workpiece, and means releasably securing said crank means to said arbor in any position of adjustment thereof on said arbor.

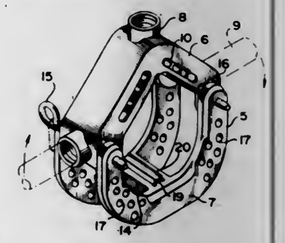
3,267,502
FLEXIBLE MOUNTING FOR ROTATABLE MEMBERS
Novell E. Wells, 927 Ranch Road, Boise, Idaho
Filed Feb. 19, 1965, Ser. No. 433,976
9 Claims. (Cl. 15—3.11)

9. A cleaning roll for a crop harvester and the like comprising:
an elongate cylindrical rigid tube,
a rib wound helically around said tube and extending from one end of said tube to the other,
an elastomer means within said tube,
means securing said elastomer means to the inside wall of said tube,
a drive shaft extending centrally through said elastomer means,
and rigid sleeve means extending through said elastomer means and drivingly engaging said elastomer means and said drive shaft so that rotary forces applied to said drive shaft are transmitted through said elastomer means to said roll for rotating the same



and so that said tube can be displaced laterally relative to the axis of said shaft while said shaft is stationarily mounted.

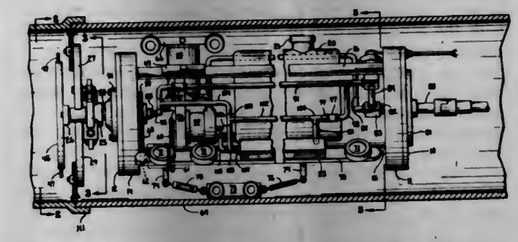
3,267,503
COATING CUTTER TOOL
Archibald T. Flower, 2637 Church Road, Glenside, Pa.; Paul Ganser, 108 W. Clearfield Road, Havertown, Pa.; and David L. Buchanan, 6333 Valley Green Road, Flourtown, Pa.
Filed June 17, 1965, Ser. No. 464,748
8 Claims. (Cl. 15—104.04)



1. A tool for removing a coating from a pipe comprising a pair of members adjustably joined together to surround the pipe, rollers adjustably mounted along the inner sides of one of said members so as to permit said rollers to be adjusted for rolling contact with the surface of pipes of different diameter and a cutter carried by the other member for engagement with the surface of the pipe.

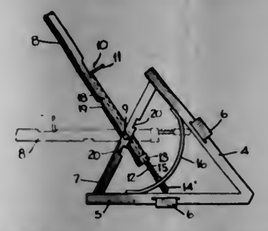
3,267,504
PIPE CLEANING APPARATUS
Robert W. Cook and Lee F. McBride, Decatur, Ind., assignors to C. W. Fuelling, Inc., Fort Wayne, Ind., a corporation of Indiana
Filed June 1, 1964, Ser. No. 371,463
4 Claims. (Cl. 15—104.14)

1. Apparatus for cleaning the interior surface of an underground pipe comprising a frame structure, a rotatable cleaning head mounted on one end of said frame structure, a motor mounted within said frame structure and coupled to said head for driving it, means mounted on said frame for engaging said pipe and locking said frame to said pipe upon rotation of said cleaning head, said cleaning head comprising a plurality of brushes and means pivotally mounting said brushes for movement outwardly of said head in response to rotation of the head, said brush mounting means comprising at least one curved arm having one end pivoted to said head inwardly of the head periphery and the other end free for movement outwardly of said head, and a spring connected between



said arm and said head in tension normally to bias said arm to a retracted position within the periphery of said head.

3,267,505
ROD-HANDLED TOOL
George E. Seufert and Janet H. Seufert, both of 82—10 60th Road, Elmhurst, N.Y.
Filed Aug. 12, 1963, Ser. No. 301,675
1 Claim. (Cl. 15—144)



The combination of a plate assembly having two mounting plates for work heads as described joined together at an angle of 90° or less and two parallel struts attached by their sides at the edges of the extended sides of said plates so as to form the third side of the triangle so described, said struts located centrally between the further ends of said plates, and a rod handle whose lower end extends between said struts and is attached thereto with a hinge pin, said hinge pin located midway between the ends of the struts, said rod handle having a movable shaft extending beyond the bottom of said rod handle, said plate assembly having sockets into which said shaft can be inserted, said plate assembly rotated by gravity pull when said handle is held in horizontal position and said shaft is withdrawn, said plate assembly rotating to its original position when said handle is given a half turn, said plate assembly being located in position for the use of either work head on a horizontal or vertical surface by inserting said shaft in the appropriate socket for that purpose.

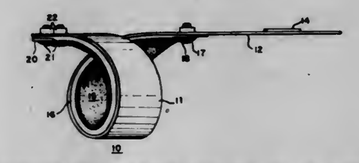
3,267,506
TOOL STRUCTURE
Dale L. Van Patten, Prairieville Township, Barry County, Mich. (Rte. 1, Delton, Mich.)
Filed May 21, 1964, Ser. No. 369,125
1 Claim. (Cl. 15—236)

A tool for cleaning and repairing engines, the combination comprising:
an elongated rigid and substantially straight shank member having a substantially uniform cross-sectional contour;
an acruate end portion integral with said shank member and curving substantially within a single plane away from the extended axis of said shank member, said end portion defining an arc of between about one eighth and one fourth of a circle and being rectangular in cross section throughout the length of the curvature thereof to provide four sides defining four relatively sharp edges therebetween, two of said edges being along the radially outermost surface of said end portion and the other two edges being along the radially innermost surface of said end portion, whereby a pair of said four edges is located on each axial side of said end portion for simultaneous engagement with a flat surface, said end portion being gradually tapered toward the free end thereof to provide a substantially pointed tip, the circumferential length



of said end portion being approximately the same as the length of said shank member, said end portion having a radius of curvature of between one and one-half inches and three and one-half inches; and
a handle member rigidly secured to the other end of said shank and extending in a lengthwise direction away from the other end of said shank member, said handle member being formed by an integral part of said shank member folded upon itself to form with the remainder of said shank member a loop extending toward said curved portion and spaced a substantial distance therefrom.

3,267,507
CONDUCTOR WIRE CLEANING DEVICE
Paul Elbert Cox, 210 Pine St., Fuquay Springs, N.C.
Filed Mar. 30, 1962, Ser. No. 183,901
8 Claims. (Cl. 15—160)



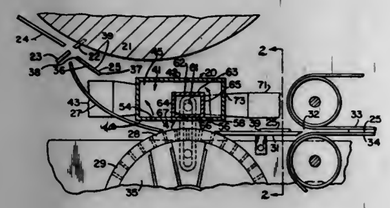
1. A cleaning and abrading tool for use on high voltage conductor cable comprising a spirally wound backing member forming a circular opening extending axially therethrough, a substantially stiff textile member secured to the inner surface of the backing member, a plurality of closely spaced, substantially stiff metal bristles of substantially uniform length secured at one end to said textile member and extending outwardly therefrom in a generally radial direction inwardly of said backing member, the free ends of said metal bristles forming a circle and adapted to engage the surface of the conductor cable during the cleaning thereof without coming into contact with the hand of a user, and means associated with said backing member for detachable engagement with an actuating handle to move said backing member back and forth along the conductor cable.

3,267,508
BLAST BRUSH CLEANER
Edward T. Bryand, South Portland, Maine, assignor to Metal-Tech, Inc., Biddeford, Maine, a corporation of Maine
Filed Mar. 4, 1964, Ser. No. 349,352
2 Claims. (Cl. 15—306)

1. A blast brush, for removing dust from dry, thin sheet-like material advancing individually and successively along a predetermined path, said brush comprising:
a fluid tight, elongated hollow suction box having a flat

lower wall with a treatment face extending generally parallel to the path of said material and having means for connecting the interior of said box to a source of suction;

at least two rows of spaced suction apertures in said wall extending axially of said box and transversely of the path of said material, each said row being on an opposite side of a central axially extending portion of said face for collecting dust from said material into said suction box;

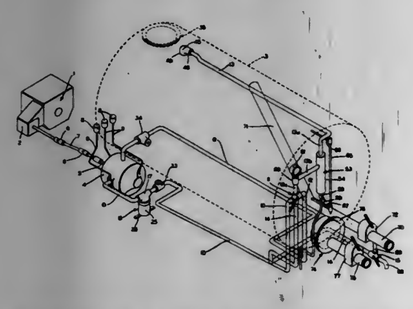


at least one row of air blast orifices in said wall extending axially of said box and transversely of the path of said material in the said central, axially extending portion of said face between said rows of suction apertures;

a fluid tight plenum centrally mounted within said box and connected to said row of air blast orifices;

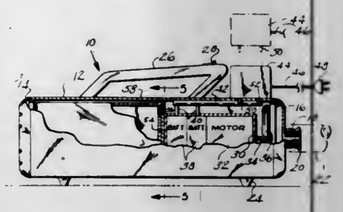
and means on said box for connecting said plenum to a source of air under positive pressure for blowing air through said air blast orifices in said wall against said material to separate dust therefrom.

3,267,509
APPARATUS FOR CLEANING SEPTIC TANKS
Holmes E. Boyd, 4211 47th St. NW., Canton, Ohio 44718
Filed Feb. 12, 1965, Ser. No. 432,320
14 Claims. (Cl. 15—314)



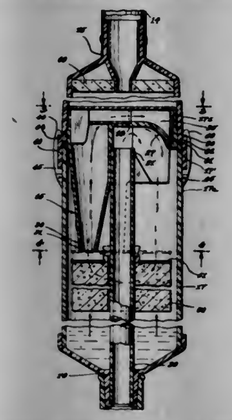
1. Apparatus for cleaning septic tanks and the like, including a tank, a rotary air pump adjacent the tank, a vacuum line connected to the intake side of the pump, a pressure line connected to the discharge side of the pump, a four-way valve to which said vacuum line and pressure line are connected, an air pipe communicating with the top of said tank and connected to said four-way valve, an air exhaust and intake pipe connected to said four-way valve, a three-way agitator valve connected to said air exhaust and intake pipe, an inlet pumping pipe located through one end of the tank near the lower side thereof, the inner end of said inlet pumping pipe terminating within the tank near the top thereof, means connecting the outer end portion of said inlet pumping pipe to said three-way valve, an inlet pumping valve in said inlet pumping pipe between said connection to the three-way valve and the tank, an atmospheric connection to said three-way valve, a dumping pipe communicating with the lower portion of said tank, a dumping valve in said dumping pipe, means for alternately connecting a hose to said inlet pumping pipe and said dumping pipe with the other end of the hose in the septic tank being cleaned, means for operating the four-way valve to vacuum position connecting said vacuum line to said air pipe communicating with the top of the tank, and simultaneously connecting said pressure line to said air exhaust and intake pipe, to create a vacuum in said tank to draw sewage from the septic tank through the hose and the inlet pumping pipe into the tank when said inlet pumping valve is opened, and means for operating the four-way valve to pressure position connecting said pressure line to said air pipe communicating with the top of the tank, and simultaneously connecting said vacuum line to said air exhaust and inlet pipe to create a pressure in said tank to force the contents thereof through said dumping pipe when said dumping valve is opened.

3,267,510
PORTABLE VACUUM CLEANER
Amanda B. Cote, Orlando, Fla. (2 Armory Lane, Southbridge, Mass. 01550)
Filed Apr. 22, 1964, Ser. No. 361,861
1 Claim. (Cl. 15—344)



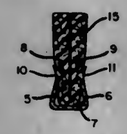
A portable, battery operated vacuum cleaner comprising, in combination, an elongated casing having a substantially square cross-section, a pair of snappable end covers carried by said casing, one of said covers provided with a circular inlet neck, a motor, a shaft extending outwardly from said motor, a propeller mounted on said shaft for drawing air into said casing during the operation of said motor, a handle secured to said casing, a switch mounted on said handle for starting and stopping said motor, a plurality of batteries adapted to provide power means for said motor, a flexible hose connected to said neck and adapted to provide guiding means for the dirt particles when they enter the vacuum within said casing, a printed circuit strip secured within said casing, said plurality of batteries secured to said printed circuit strip, a removable battery charger secured to the exterior of said casing and adapted to supply said batteries with the electric power through said printed circuit strip, a container for securing said batteries and said motor therein, said container secured within said casing and positioned to provide an air passage between the container and casing, a laterally disposed inner wall within said casing, said wall provided with a plurality of openings therein to provide a passage for airborne dust and dirt ingressed through said circular neck, a disposable bag within said casing, the open end of said bag being adapted to be removably secured to said inner wall within said casing, said bag being adapted to receive dust and dirt passed through the perforations of said inner wall, and the free end of said circular neck is provided with an annular bead for retaining said hose upon said neck.

3,267,511
VACUUM MOPPING APPARATUS
Carl E. Meyerhoefer, Little Neck, N.Y., assignor, by mesne assignments, to General Floorcraft, Inc., a corporation of New York
Filed June 1, 1964, Ser. No. 371,451
5 Claims. (Cl. 15—353)



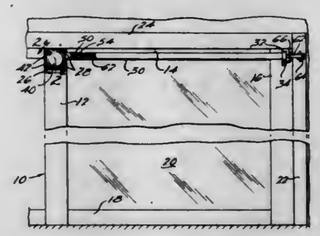
2. In a vacuum mopping device a wand type pick-up attachment comprising a tubular container of a length several times its diameter, an intake orifice at the bottom of said container for connection to a fluid pick-up head, an exhaust aperture at the top of said container for connection to a vacuum source, a conduit within said container extending from said intake orifice part way toward said top end of said container, a baffle interposed between the upper end of said conduit and said top of said container to divide said container into upper and lower chambers, said baffle including an uninterrupted blocking portion, a guide portion forming a continuation of said blocking portion, said guide portion curving gradually downward toward said bottom end of said container, the lower portions of said guide portion defining an acute angle with respect to and merging with the inner surfaces of said container, said guide portion and blocking portion together defining a segment overlying the entirety of the upper end of said conduit whereby fluids following said guide will be impinged against said surfaces at an acute angle, and intake tube means leading from said upper chamber into said lower chamber and providing the sole passageway between said chambers, the lower end of said intake tube means being disposed below the upper end of said conduit.

3,267,512
SPONGE APPLICATOR
Bruce C. Wiley, 4982 Stevens Creek Blvd., San Jose, Calif.
Filed Mar. 30, 1964, Ser. No. 355,565
6 Claims. (Cl. 15—561)



6. An applicator comprising a handle and an applicator head, said head comprising a folded-over piece of sponge material which expands upon contact with liquid, said handle having a slot therein in which the folded edge of said sponge head is received, the inside faces of said folded sponge material being provided with grooves extending from adjacent the fold of said folded-over sponge material to the free upper end of each side of the fold, the width of said slot and the thickness of the folded sponge being such that the inside faces of the two leaves of the folded sponge are pressed against each other even when dry, and material to be applied by said applicator being stored in said grooves.

3,267,513
CLOSER FOR SLIDING DOOR
George Wartian, East Detroit, Mich., assignor to Wartian Lock Company, St. Clair Shores, Mich., a corporation of Michigan
Filed July 14, 1965, Ser. No. 471,968
1 Claim. (Cl. 16—67)



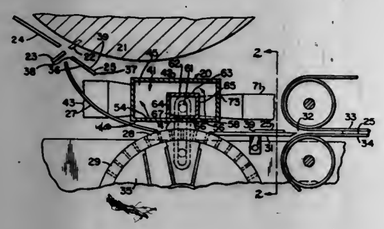
A door closer for use in closing a sliding door comprising a cylinder, a piston reciprocable in said cylinder and normally positioned at one end thereof, a housing secured to said one end of said cylinder and having an interior chamber communicating with said cylinder, a cap seated on the outside of said housing and forming one wall of said chamber, a torque transmitting shaft freely rotatable within said chamber with one end thereof journaled in the chamber wall opposite said cap and the other end thereof journaled in said cap, a flexible line wrapped around said shaft adjacent said one end of said shaft with one end thereof extending into said cylinder and secured to said piston, a flat coil spring located in said chamber and wound around said shaft, the inner end of said coil spring being secured to said other end of said shaft and the outer end thereof being secured to said cap, clamping means for clamping said cap against said housing and being releasable to permit rotation of said cap relative to said housing to adjust the tension of said spring, a piston rod projecting through the other end of said cylinder, and an adjustable air bleed connecting said chamber to atmosphere so as to permit a regulated flow of air therebetween as the piston is moved in the cylinder, whereby the coil spring tension is independently adjustable by rotating said cap relative to said housing and the air bleed rate is independently adjustable to control the return movement of said piston toward said one end of said cylinder.

3,267,514
APPARATUS FOR PRODUCING SLIDE-FASTENER MEMBERS
Hans Porepp, Essen, Germany, assignor to Opti-Holding A.G., Glarus, Switzerland, a corporation of Switzerland
Original application Dec. 31, 1962, Ser. No. 248,394. Divided and this application Feb. 24, 1965, Ser. No. 443,738
13 Claims. (Cl. 18—1)

1. An apparatus for producing slide-fastener members, comprising feed means for progressively advancing an elongated flexible element along a predetermined path, a pair of co-operating dies with mating sinuous formations disposed on opposite sides of said path, said dies being periodically displaceable toward and away from each other for shaping a portion of said element into a substantially planar undulating section with oppositely

lower wall with a treatment face extending generally parallel to the path of said material and having means for connecting the interior of said box to a source of suction;

at least two rows of spaced suction apertures in said wall extending axially of said box and transversely of the path of said material, each said row being on an opposite side of a central axially extending portion of said face for collecting dust from said material into said suction box;

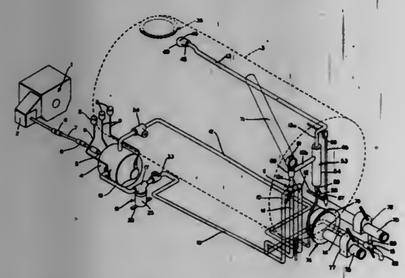


at least one row of air blast orifices in said wall extending axially of said box and transversely of the path of said material in the said central, axially extending portion of said face between said rows of suction apertures;

a fluid tight plenum centrally mounted within said box and connected to said row of air blast orifices;

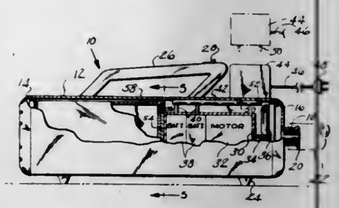
and means on said box for connecting said plenum to a source of air under positive pressure for blowing air through said air blast orifices in said wall against said material to separate dust therefrom.

3,267,509
APPARATUS FOR CLEANING SEPTIC TANKS
Holmes E. Boyd, 4211 47th St. NW., Canton, Ohio 44718
Filed Feb. 12, 1965, Ser. No. 432,320
14 Claims. (Cl. 15—314)



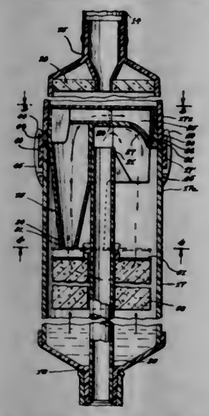
1. Apparatus for cleaning septic tanks and the like, including a tank, a rotary air pump adjacent the tank, a vacuum line connected to the intake side of the pump, a pressure line connected to the discharge side of the pump, a four-way valve to which said vacuum line and pressure line are connected, an air pipe communicating with the top of said tank and connected to said four-way valve, an air exhaust and intake pipe connected to said four-way valve, a three-way agitator valve connected to said air exhaust and intake pipe, an inlet pumping pipe located through one end of the tank near the lower side thereof, the inner end of said inlet pumping pipe terminating within the tank near the top thereof, means connecting the outer end portion of said inlet pumping pipe to said three-way valve, an inlet pumping valve in said inlet pumping pipe between said connection to the three-way valve and the tank, an atmospheric connection to said three-way valve, a dumping pipe communicating with the lower portion of said tank, a dumping valve in said dumping pipe, means for alternately connecting a hose to said inlet pumping pipe and said dumping pipe with the other end of the hose in the septic tank being cleaned, means for operating the four-way valve to vacuum position connecting said vacuum line to said air pipe communicating with the top of the tank, and simultaneously connecting said pressure line to said air exhaust and intake pipe, to create a vacuum in said tank to draw sewage from the septic tank through the hose and the inlet pumping pipe into the tank when said inlet pumping valve is opened, and means for operating the four-way valve to pressure position connecting said pressure line to said air pipe communicating with the top of the tank, and simultaneously connecting said vacuum line to said air exhaust and inlet pipe to create a pressure in said tank to force the contents thereof through said dumping pipe when said dumping valve is opened.

3,267,510
PORTABLE VACUUM CLEANER
Amanda B. Cote, Orlando, Fla.
(2 Armory Lane, Southbridge, Mass. 01550)
Filed Apr. 22, 1964, Ser. No. 361,861
1 Claim. (Cl. 15—344)



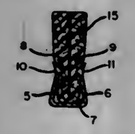
A portable, battery operated vacuum cleaner comprising, in combination, an elongated casing having a substantially square cross-section, a pair of snappable end covers carried by said casing, one of said covers provided with a circular inlet neck, a motor, a shaft extending outwardly from said motor, a propeller mounted on said shaft for drawing air into said casing during the operation of said motor, a handle secured to said casing, a switch mounted on said handle for starting and stopping said motor, a plurality of batteries adapted to provide power means for said motor, a flexible hose connected to said neck and adapted to provide guiding means for the dirt particles when they enter the vacuum within said casing, a printed circuit strip secured within said casing, said plurality of batteries secured to said printed circuit strip, a removable battery charger secured to the exterior of said casing and adapted to supply said batteries with the electric power through said printed circuit strip, a container for securing said batteries and said motor therein, said container secured within said casing and positioned to provide an air passage between the container and casing, a laterally disposed inner wall within said casing, said wall provided with a plurality of openings therein to provide a passage for airborne dust and dirt ingressed through said circular neck, a disposable bag within said casing, the open end of said bag being adapted to be removably secured to said inner wall within said casing, said bag being adapted to receive dust and dirt passed through the perforations of said inner wall, and the free end of said circular neck is provided with an annular bead for retaining said hose upon said neck.

3,267,511
VACUUM MOPPING APPARATUS
Carl E. Meyerhoefer, Little Neck, N.Y., assignor, by mesne assignments, to General Floorcraft, Inc., a corporation of New York
Filed June 1, 1964, Ser. No. 371,451
5 Claims. (Cl. 15—353)



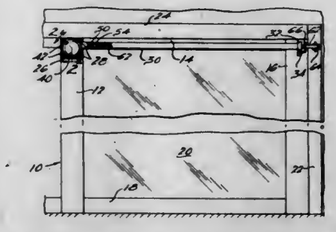
2. In a vacuum mopping device a wand type pick-up attachment comprising a tubular container of a length several times its diameter, an intake orifice at the bottom of said container for connection to a fluid pick-up head, an exhaust aperture at the top of said container for connection to a vacuum source, a conduit within said container extending from said intake orifice part way toward said top end of said container, a baffle interposed between the upper end of said conduit and said top of said container to divide said container into upper and lower chambers, said baffle including an uninterrupted blocking portion, a guide portion forming a continuation of said blocking portion, said guide portion curving gradually downward toward said bottom end of said container, the lower portions of said guide portion defining an acute angle with respect to and merging with the inner surfaces of said container, said guide portion and blocking portion together defining a segment overlying the entirety of the upper end of said conduit whereby fluids following said guide will be impinged against said surfaces at an acute angle, and intake tube means leading from said upper chamber into said lower chamber and providing the sole passageway between said chambers, the lower end of said intake tube means being disposed below the upper end of said conduit.

3,267,512
SPONGE APPLICATOR
Bruce C. Wiley, 4982 Stevens Creek Blvd., San Jose, Calif.
Filed Mar. 30, 1964, Ser. No. 355,565
6 Claims. (Cl. 15—561)



6. An applicator comprising a handle and an applicator head, said head comprising a folded-over piece of sponge material which expands upon contact with liquid, said handle having a slot therein in which the folded edge of said sponge head is received, the inside faces of said folded sponge material being provided with grooves extending from adjacent the fold of said folded-over sponge material to the free upper end of each side of the fold, the width of said slot and the thickness of the folded sponge being such that the inside faces of the two leaves of the folded sponge are pressed against each other even when dry, and material to be applied by said applicator being stored in said grooves.

3,267,513
CLOSER FOR SLIDING DOOR
George Wartian, East Detroit, Mich., assignor to Wartian Lock Company, St. Clair Shores, Mich., a corporation of Michigan
Filed July 14, 1965, Ser. No. 471,968
1 Claim. (Cl. 16—67)

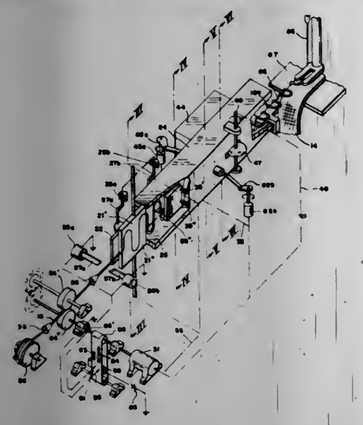


A door closer for use in closing a sliding door comprising a cylinder, a piston reciprocable in said cylinder and normally positioned at one end thereof, a housing secured to said one end of said cylinder and having an interior chamber communicating with said cylinder, a cap seated on the outside of said housing and forming one wall of said chamber, a torque transmitting shaft freely rotatable within said chamber with one end thereof journaled in the chamber wall opposite said cap and the other end thereof journaled in said cap, a flexible line wrapped around said shaft adjacent said one end of said shaft with one end thereof extending into said cylinder and secured to said piston, a flat coil spring located in said chamber and wound around said shaft, the inner end of said coil spring being secured to said other end of said shaft and the outer end thereof being secured to said cap, clamping means for clamping said cap against said housing and being releasable to permit rotation of said cap relative to said housing to adjust the tension of said spring, a piston rod projecting through the other end of said cylinder, and an adjustable air bleed connecting said chamber to atmosphere so as to permit a regulated flow of air therebetween as the piston is moved in the cylinder, whereby the coil spring tension is independently adjustable by rotating said cap relative to said housing and the air bleed rate is independently adjustable to control the return movement of said piston toward said one end of said cylinder.

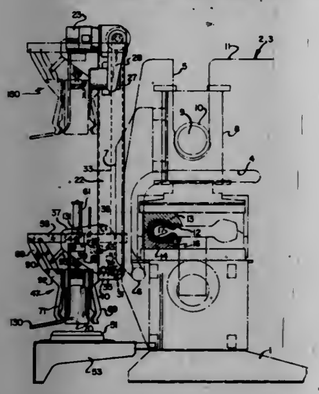
3,267,514
APPARATUS FOR PRODUCING SLIDE-FASTENER MEMBERS
Hans Porepp, Essen, Germany, assignor to Opti-Holding A.G., Glarus, Switzerland, a corporation of Switzerland
Original application Dec. 31, 1962, Ser. No. 248,394. Divided and this application Feb. 24, 1965, Ser. No. 443,738
13 Claims. (Cl. 18—1)

1. An apparatus for producing slide-fastener members, comprising feed means for progressively advancing an elongated flexible element along a predetermined path, a pair of co-operating dies with mating sinuous formations disposed on opposite sides of said path, said dies being periodically displaceable toward and away from each other for shaping a portion of said element into a substantially planar undulating section with oppositely

facing loops, guide means beyond said dies extending along said path and forming a channel accommodating said undulating section, transport means synchronized with said dies for advancing successively formed undulating sections through said channel, said transport means including a movable member with a plurality of projections positioned to enter the bights of respective loops of said sections and drive means for intermittently displacing said member generally longitudinally of said channel, tool means supported on said guide means for intermittent motion substantially perpendicular to the plane of said loops and synchronized with said dies for producing at least one deformation in each of said loops, and shaping means beyond said tool means co-operating with said guide means for bending said sections transversely into U-shape, said shaping means including a flat body projecting into said channel in a direction perpendicular to said loops.



3,267,515
TIRE CURING PRESS LOADER
Ernest S. Ulm, Stow, Ohio, assignor to NRM Corporation, a corporation of Ohio
Filed Oct. 4, 1963, Ser. No. 314,052
7 Claims. (Cl. 18—2)



1. In combination, a carcass holder for a tire curing press of the type having complementary top and bottom mold sections, holder guide means mounted on such press to support such holder for vertical movement, means laterally to shift said guide means to register said holder with such bottom mold section when such press is open, means operative vertically to move said holder along said guide means, said holder comprising a plurality of vertically extending tire gripping elements, a support for said elements, parallelogram linkage means extending substantially vertically from the top of each element to said support, the lowermost pivots of said parallelogram linkage means being laterally spaced from each other and connected to said respective gripping elements adjacent the top edge thereof, both the interior and exterior of said elements thus being clear to grip a tire carcass; means operative to swing said elements toward and away from each other comprising a piston-cylinder assembly mounted on said support, and means connecting each of said elements with said piston-cylinder assembly radially to move said elements in response to extension or retraction of said piston-cylinder assembly.

3,267,516
LOW-FRICTION LOW-ADHESION TOOLS AND UTENSILS AND METHODS OF MAKING SAME
Allan Eckhaus, 57 Claire Ave., New Rochelle, N.Y.
Filed Mar. 2, 1964, Ser. No. 348,688
3 Claims. (Cl. 18—3.5)

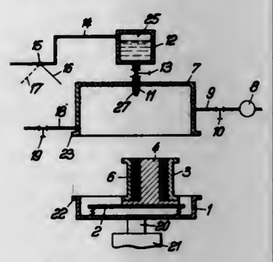


1. A tool for use with sticky substances comprising a Teflon blade which has an elastic region of deformation up to a given amount of stress (S_{max}), said blade having a length-width-thickness-ratio less than S_{max} where

$$S_{max}=\frac{\text{length}\times\text{thickness}/2}{\text{width}\times\frac{(\text{thickness})^2}{12}}\times 1 \text{ pound}$$

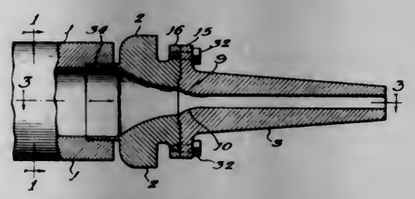
and a handle attached to the blade.

3,267,517
APPARATUS FOR MOLDING HARDENABLE PLASTICS IN A VACUUM
Max Altermatt, Zullwill 54A, Solothurn, Switzerland
Original application Nov. 9, 1961, Ser. No. 151,262. Divided and this application May 18, 1964, Ser. No. 368,182
Claims priority, application Austria, Nov. 15, 1960, A 8,490/60
8 Claims. (Cl. 18—5)



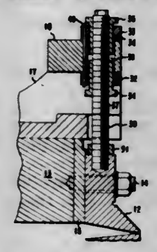
1. Apparatus for molding articles of hardenable plastic in a vacuum comprising, in combination, a composite vacuum vessel having a stationary part and a movable part movable toward and away from said stationary part, each of said parts having an end face parallel to and facing the end face of the other part; a vacuum pump; a first conduit extending between and providing communication between said vacuum pump and the interior of said stationary part; a shut-off valve in said first conduit; a reservoir for plastic; a second conduit extending between and providing communication between said reservoir for plastic and said stationary part, said second conduit having an end portion projecting into the interior of said stationary part; a shut-off valve in said second conduit; means operatively connected to said reservoir for plastic for venting and pressurizing the interior thereof; a composite mold disposed in said movable part of said vacuum vessel and having walls defining a mold cavity corresponding to the shape of the article to be manufactured, one of said walls of said mold facing said stationary part being formed with an opening communicating with said cavity and aligned with said end portion of said second conduit and having a shape adapted to sealingly receive said end portion; and moving means cooperating with said movable part for moving the latter in a direction transverse to said end face thereof between a closed position in which the end face of said movable part sealingly engages the end face of said stationary part, and an open position in which said end faces are spaced apart from each other a distance sufficient to permit removal of said mold in lateral direction from the interior of the open composite vacuum vessel, said end portion of said second conduit being spaced from said end face of said stationary part a distance so that said end portion sealingly engages in said opening when said end face of said movable part sealingly engages said end face of said stationary part and said movable part is in said closed position.

3,267,518
APPARATUS FOR MAKING CARBON ELECTRODES OR NEUTRONIC REACTOR CORE BARS
Leslie H. Juel and Bruce L. Bailey, Lewiston, N.Y., assignors to Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware
Original application Feb. 9, 1961, Ser. No. 88,064. Divided and this application Dec. 27, 1963, Ser. No. 337,970
9 Claims. (Cl. 18—12)



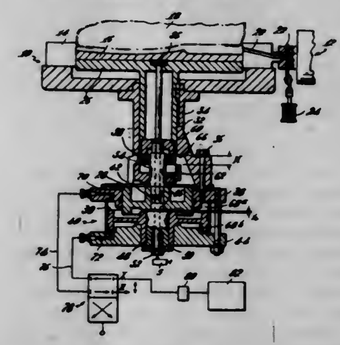
6. An apparatus suitable for acting upon an extrudable material and causing preferential orientation therein while it is being extruded comprising in combination a forming zone consisting of a transition section having an inlet which is substantially inscribable by a circle and a substantially rectangular outlet one dimension of which is substantially less than the diameter of the inlet and the other dimension of which is at least equal to the diameter of the inlet, and a final forming section having a substantially rectangular inlet whose dimensions are the same as the outlet of the transition section and a substantially rectangular outlet the larger dimension of which is substantially the same as and corresponds to the larger dimension of the inlet, and the smaller dimension of which is substantially less than the smaller dimension of said inlet, said final forming section having two substantially parallel walls and two walls which converge for a portion of their length and which are adapted to compress a mass as it passes therethrough from the transition section.

3,267,519
DIFFERENTIAL LOCK NUT ADJUSTER
Richard James Albert, Clinton, Iowa, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 23, 1964, Ser. No. 406,849
7 Claims. (Cl. 18—12)



1. A adjustment mechanism comprising, in combination: a first body member; a threaded stud fixedly attached to said body member; a second body member having an opening therein, said stud projecting through said opening; two internally and externally threaded adjusting nuts, the internal threads being in threaded engagement with the stud; two internally threaded lock nuts engaging the second body member on opposite faces of said opening, the internal threads being in threaded engagement with the external threads of said adjusting nuts, said adjusting nuts adapted to move one of said body members with respect to the other said body member from a predetermined position.

3,267,520
APPARATUS FOR INJECTING PLASTIC OR RUBBER SOLES TO SHOE UPPERS
Herbert Ludwig, Desmastrasse 112, Uesen, near Bremen, Germany
Filed Nov. 17, 1964, Ser. No. 411,924
Claims priority, application Germany, Nov. 27, 1963, L 46,427
11 Claims. (Cl. 18—17)



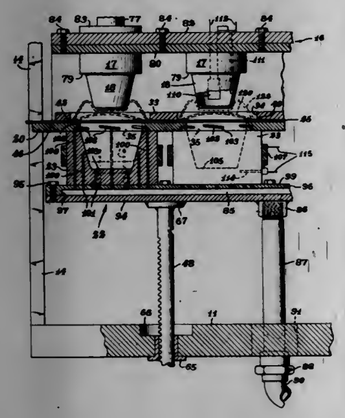
1. Apparatus for making shoes by injection molding comprising a sole plate, a mold ring with which the sole plate is associated in such fashion as to form with a last supported against the top of the mold ring a bottom-forming cavity into which may be injected a bottom-forming composition for attachment to the bottom of an upper assembled on the last, and means for moving the sole plate relative to the bottom of the last to position the sole plate for injection and after injection to apply an increased pressure: said means comprising a rod, means at one end of the rod adapted to support the sole plate, a first piston loose on the rod operable to raise the sole plate to a predetermined position relative to the mold ring, and to sustain said sole plate at said predetermined position up to

a predetermined injection pressure, a second piston loose on the rod situated below the first piston operable to apply an increased pressure to the sole plate at said predetermined position, and means for supplying from a single source of constant pressure, pressure first to the first piston and then to the second piston.

3,267,521
MACHINE FOR MAKING HEAT FORMED ARTICLES

J Edward Kostur, Elmhurst, Ill.; Pioneer Trust & Savings Bank, executor of the estate of said Kostur, deceased, assignor to Comet Industries, Inc., Bensenville, Ill., a corporation of Illinois

Filed Oct. 25, 1963, Ser. No. 318,888
7 Claims. (Cl. 18—19)



1. A machine for making shaped and externally threaded articles out of heat-formable plastic material comprising in combination, support frame means, a first movable platen mounted on said frame means for back and forth movement between a first position and a second position, a second movable platen mounted on said frame means for back and forth movement between a third position and other positions, a matrix mounted on said first platen, a patrix mounted on said second platen, a male die part mounted on said second platen adjacent said patrix, a female die part mounted on said frame means at a position between said first and second platens, said female die part having grooved portions for forming threads on one of said articles, said male die part having a shoulder adapted for pushing said one article out of said female die part after blanking-out same, said first and second die parts being cooperable for blanking-out said one article, first power-operated means for moving said first platen between said first and second positions, second power-operated means for moving said second platen between said third and other positions, and third power-operated means for moving the plastic material selectively into engagement with at least one of said die parts, said patrix and said matrix each being in predetermined relative positions for performing other article-forming functions.

3,267,522
DEVICE FOR PRODUCING EMBOSSED TUBING

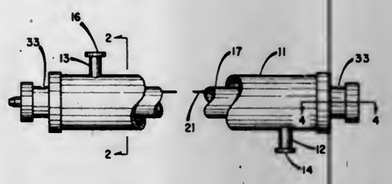
John R. Vukovich, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

Filed Apr. 12, 1965, Ser. No. 447,405
2 Claims. (Cl. 18—19)

1. A device for producing embossed tubing comprising

a mold pipe having a predetermined internal diameter, means for expanding said tubing within said mold pipe, and

an elongated indicia carrying strip mounted longitudinally in said mold pipe along a wall thereof and extending continuously along a substantial portion of the length thereof for embossing said tubing as said tubing is expanded,

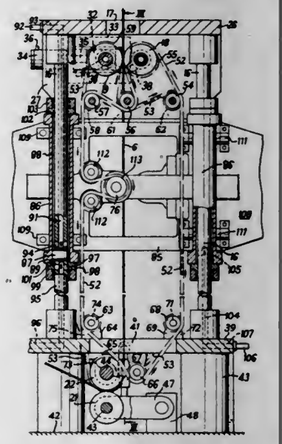


said strip having at least one abrupt edge, and said strip having sufficient thickness at said abrupt edge to form with said mold pipe wall a continuous air passage for exhausting air from between said tubing and said mold pipe.

3,267,523
APPARATUS FOR MOULDING ARTICLES FROM PLASTICS MATERIAL

Jack M. Schneider, Kingswood, Surrey, England, assignor to Calmec (Manufacturing) Limited

Filed Apr. 16, 1965, Ser. No. 448,595
Claims priority, application Great Britain, Apr. 22, 1964, 16,731/64; Oct. 21, 1964, 42,903/64
9 Claims. (Cl. 18—19)



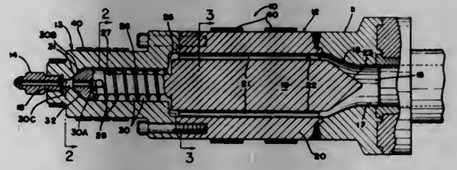
1. Apparatus for forming articles from sheet plastics material comprising two parallel arranged, relatively movable platens respectively providing co-operating tool means adapted, when the platens are disposed in their operative positions, to form an article from a section of a sheet of hot plastics material disposed between the platens, means for effecting relative movement of the platens towards one another, stop means having parts which engage when the platens reach their operative positions and serve to retain the platens in these positions against the action of the moving means, cutting means fixedly secured to one of the platens, remotely of the stop means, and so arranged that the periphery of the sheet section is engaged from opposite sides of the sheet by the cutting means and facing parts of the other

platen, respectively when the platens are in their operative positions, and means for causing the cutting means and the said facing parts to be urged together more strongly, whereby the inherent flexibility of a platen allows further, limited relative movement between the cutting means and the said facing parts sufficient to cause the sheet to be cut along at least a major part of the periphery of the section.

3,267,524
FIXED SCREW PLASTIC INJECTION DEVICE

Albert Reynolds Morse, Cleveland, Ohio, assignor to Injection Molders Supply Co., Inc., Cleveland, Ohio, a corporation of Ohio

Filed May 29, 1963, Ser. No. 284,243
7 Claims. (Cl. 18—30)



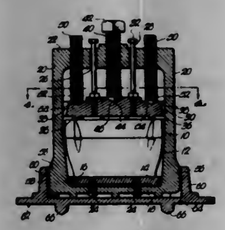
1. A heating cylinder for plastic injection molding which includes a housing member having a charge opening and a discharge opening with a flow path having a helical portion therebetween,

alternate flow path portions in said flow path intermediate said helical portion and said discharge opening such that a first substantial quantity of fluidized plastic material moves radially and then toward said discharge opening axially in a passage from adjacent the end of the last turn of said helical portion and a second substantially lesser quantity of material simultaneously moves into a converging passage and wipes the outer surface of the structure defining the axial passage before joining the axial flow of material toward said discharge opening.

3,267,525
COMBINATION HANDPRESS AND CURING CLAMP

George F. McGowan, 4509 Forest Ave., Kansas City, Mo.

Filed July 1, 1965, Ser. No. 468,790
8 Claims. (Cl. 18—33)



1. For use with a dental flask having a pair of sections provided with investment-retaining sidewalls, a combination press and curing clamp comprising:

a pair of standards;

a bed between the standards and rigid therewith;

a leveling plate resting on said bed for receiving said flask with one of said sections disposed thereon;

a support member above said base and interconnecting said standards;

a horizontal pressure plate between the leveling plate and the member having a pair of opposed, upper and lower major faces and a peripheral edge provided with opposed slots receiving respective standards,

said lower face having a pair of feet projecting downwardly therefrom for engaging the other of said sections and disposed in substantial alignment with said walls when the flask is on the leveling plate,

said upper face having a pair of pressure-receiving bearing surfaces vertically aligned with respective feet;

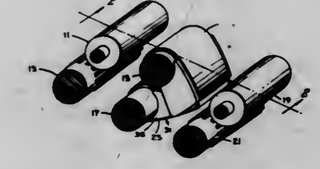
structure on the member disposed to apply downward force to the central portion of said upper face to shift the pressure plate toward said leveling plate, whereby to apply pressure to said sections to force the same into intimate contact when the flask is on the leveling plate; and

a pair of upright setscrews threaded in said member and aligned with respective surfaces for engaging the latter to force the pressure plate toward the leveling plate and thereby clamp the flask between said feet and said leveling plate when the flask is disposed thereon, whereby to prevent disproportionate expansion of the flask upon heating thereof during the curing process.

3,267,526
TEXTILE DRAFTING APPARATUS

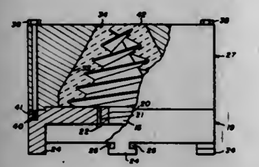
Reginald F. Pippin, Jr., and William P. Warthen, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware

Filed Oct. 15, 1962, Ser. No. 230,437
5 Claims. (Cl. 19—245)



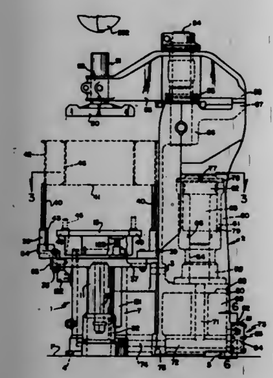
1. A drafting assembly for textile fibers comprising a pair of drafting rolls each having an annular apron-carrying surface and further annular surfaces beyond each side of the respective apron-carrying surface, said further annular surfaces on at least one of said rolls are of a reduced diameter relative to the annular apron-carrying surface of said one roll and form neck portions, an endless apron disposed about the annular apron-carrying surface on each of said rolls, and an apron-guiding-and-cleaning device including two separable apron-guiding elements, each of said apron-guiding elements having an apron-guiding portion with two apron-guiding-and-cleaning surfaces converging in a direction extending away from its respective roll and culminating in a convex nose end portion for apron reversal, each of said apron guiding elements having two arcuate surfaces disposed on respectively opposite lateral sides of and extending beyond the side edges of said aprons, each of said arcuate surfaces being complementary to and riding in radial load-bearing relation on the annular periphery of said further annular surfaces of said rolls, one of said apron-guiding elements having side shoulders thereon forming said arcuate surfaces and engaging in load-bearing and side-stabilizing relation on said neck portions and having an intermediate recessed section between said shoulders, said intermediate recessed section engaging said apron-carrying surface of said one roll in roll-cleaning relation to aid in maintaining said roll clean.

3,267,527
METHOD AND APPARATUS FOR MAKING CERAMIC MOLDS
George M. Brown, 7536 Johnnycake Ridge Road, Mentor Township, Lake County, Ohio
Filed Nov. 5, 1962, Ser. No. 235,245
3 Claims. (Cl. 22—14)



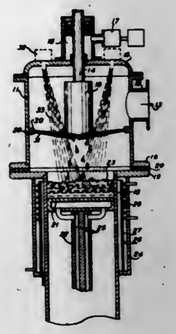
1. A method of forming a ceramic mold for an impeller having a conical hub with a plurality of equally spaced screw-type blades of constant lead radiating therefrom, including the steps of; forming a positive pattern of the impeller so that the spacing between adjacent turns is constant, coaxially securing the positive pattern to a cylindrical flask base for rotation therewith along its axis, securing a cylindrical flask to said flask base so as to define an investment cavity about said pattern, investing the pattern with a slurry of self-bonding ceramic refractory mix so as to form a ceramic mold within the flask, after setting of the slurry but before appreciable expansion thereof twisting the flask base so as to unscrew the impeller pattern from the ceramic mold which is held in the flask, with the thread formed by the pattern in the ceramic mold functioning as the sole pitch guide for movement of the pattern whereby the stresses on the mold developed during such twisting are equally distributed.

3,267,528
FOUNDRY MOLDING MACHINE
Robert W. Ellms, North Olmsted, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 5, 1963, Ser. No. 321,514
19 Claims. (Cl. 22—42)



16. In a foundry molding machine of the type having a vertically movable table adapted to support a pattern containing sand filled flask thereon, a squeeze head thereabove, and power means operative to raise and lower said table to squeeze such sand against said head and to draw the pattern from the mold thus produced; a table height responsive control for said power means comprising a valve having a vertically elongated valve member connected to said table.

3,267,529
APPARATUS FOR MELTING METALS UNDER HIGH VACUUM
Helmut Gruber and Herbert Stephan, both of Hanau (Main), Germany, assignors to W. C. Heraeus G.m.b.H., Hanau (Main), Germany, a firm
Filed Oct. 4, 1961, Ser. No. 142,937
2 Claims. (Cl. 22—57.2)

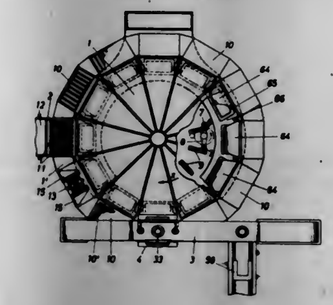


1. An apparatus for melting metals, comprising a furnace chamber, means for evacuating the furnace chamber, means for vertically suspending within the furnace chamber a rod of the metal to be melted, at least one first electron source mounted in the furnace chamber in an annular horizontal arrangement around and spaced from the metal rod, means for maintaining the lower end of the metal rod substantially at the horizontal level of the first electron source, electron focusing means associated with the first electron source and defining a focusing aperture located in the space between the first electron source and the metal rod and substantially in a horizontal plane through the lower end of the metal rod for concentrating substantially all of the electrons emitted by the first electron source onto the lower end of the metal rod to cause metal to melt at and drip off from the lower end of the metal rod, a crucible located within the furnace chamber and below the metal rod for collecting the molten metal dripping off the lower end of the metal rod and forming a pool of the molten metal, means for maintaining the upper surface of the pool of molten metal at a predetermined level, and at least one second electron source arranged above the first electron source for projecting electrons through the furnace chamber and onto the pool of molten metal to maintain the metal in the pool in a molten condition.

3,267,530
PIG CASTING MACHINE
Paul Buttkereit, Wuppertal-Barmen, and Walter Wolf, Dortmund-Korne, Germany, assignors to Firma Wuppermetall G.m.b.H., Wuppertal-Barmen, Germany, a corporation of Germany
Filed Nov. 19, 1963, Ser. No. 324,702
Claims priority, application Germany, Feb. 23, 1963, W 33,967
4 Claims. (Cl. 22—63)

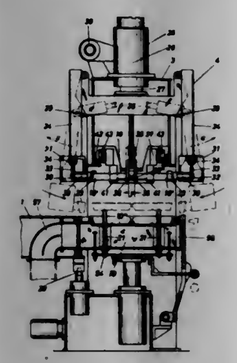
1. A pig casting machine, comprising
a plurality of groups of chills arranged in repeated succession and forming pigs,
means for pouring material into each of said groups of chills and including casting lips equal in number with that of said chills in each of said groups,
an expulsion means,
means for moving successively each of said groups of chills into a position below the corresponding of said pouring lips, and thereafter to said expulsion means,

means for moving close to each other to form a layer of said pigs of each of said groups of chills and following said expulsion means, and



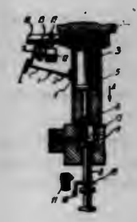
a pallet chill disposed in the repeated succession of said group of chills.

3,267,531
PIG CASTING MACHINE
Paul Buttkereit, Wuppertal-Barmen, and Walter Wolf, Dortmund-Korne, Germany, assignors to Firma Wuppermetall G.m.b.H., Wuppertal-Barmen, Germany, a corporation of Germany
Filed Nov. 19, 1963, Ser. No. 324,750
Claims priority, application Germany, Mar. 14, 1963, W 34,085
6 Claims. (Cl. 22—63)



1. A pig casting machine, comprising
a plurality of groups of adjacently arranged chills,
a device pouring material successively into each of said groups of chills to form pigs complementary to said chills,
means for moving successively said groups of chills below said pouring device,
means for removing said pigs from said chills,
means for lifting each of said group of pigs from said removing means to a conveying position,
means for piling up adjacent each other said pigs of each of said groups,
said piling means following said lifting means,
said pigs being of trapezoidal cross-section and having gripping projections,
said lifting means including means for turning each second pig of each of said groups for an angle of about 180° about its longitudinal axis,
a transporation fork having at least two teeth and receiving said pigs from said lifting means,
means for changing the level position of said piling means, and
an abutment means disposed between said teeth of said transportation fork above said piling means and stripping off said pigs from said transporation fork and, thereby, moving closely to each other said pigs during the return stroke of said transportation fork.

3,267,532
APPARATUS FOR REMOVING FLASH IN PRESSURE CASTING
Alexandr Borisovich Znev, ulitsa Rybalko, I, Apt. 23; Viktor Pavlovich Savitsky, ulitsa Shelpichi, 28; and Grigory Emeljanovich Galaida, Mogilevskoe chausses, 7, Apt. 32, all of Minsk, U.S.S.R.
Filed Aug. 27, 1963, Ser. No. 304,791
2 Claims. (Cl. 22—68)

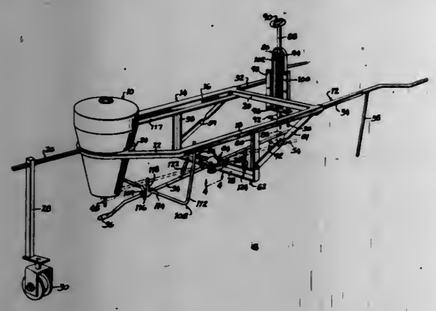


1. An apparatus for removing the flash resulting from the operation of a pressure casting machine having a frame, a pressure chamber, a pressure plunger movable into and out of said chamber, a flange on said pressure plunger, a knock-out plunger, and a knock-out piston mounted on said knock-out plunger and slidably received in said chamber, said apparatus comprising a bracket on said frame adjacent said pressure plunger, a bell crank lever pivotally mounted on said bracket for vertical swinging movement, said lever having a long arm and a short arm, a flash engaging striker on the outer end of said long arm, the outer end of said short arm being disposed in the path of movement of said flash, whereby upon movement of said pressure plunger in one direction said flange will engage said short arm to swing said long arm and striker upwardly to a cocked position and means for releasably retaining said striker in cocked position, whereby upon release of said retaining means said striker will swing downwardly under the force of gravity and will impinge on the flash projecting outwardly of said chamber to detach the flash, the force of impact of said striker resulting solely from the kinetic energy developed during downward swinging movement of said striker.

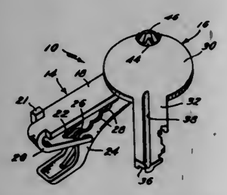
3,267,533
TRIP MECHANISM FOR WELDING CRUCIBLE
George B. Yaeger, 8701 Belleville Ave., Belleville, Mich.
Filed Feb. 21, 1964, Ser. No. 346,455
5 Claims. (Cl. 22—85)

1. For use in combination with a welding crucible for molten metal, the crucible having a discharge opening at the lower end, a firing pin extending downwardly from the opening and drivable upwardly to free the opening for the discharge of molten metal, the crucible being mounted in a frame, a tripping mechanism comprising a firing rod pivotally mounted intermediate its ends, means for positioning the forward end of the rod beneath the firing pin, guide means for directing said forward

end upwardly to drive the firing pin upwardly and free said crucible opening, power means for driving the rearward portion of the firing rod downwardly and the forward portion upwardly, and biasing means for pivoting the firing rod sidewardly away from said crucible opening subsequent to driving the firing pin upwardly.



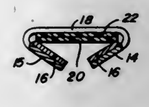
3,267,534
COMBINATION TIE CLASP AND KEY HOLDER
Raymond R. Dansereau, Warwick, R.I., assignor to Beatrix Jewelry Co., Providence, R.I., a corporation of Rhode Island
Filed Aug. 3, 1964, Ser. No. 387,057
3 Claims. (Cl. 24—3)



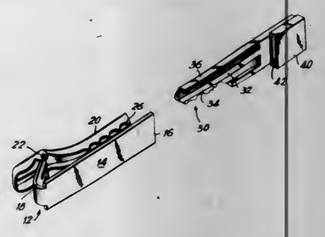
1. In a combination tie clasp and key holder device, an elongated bar, a retaining jaw interconnected to one end of said bar and being urged into engagement with the inner surface thereof for securing said combination device on the shirt of the user, a key including a head and a shank and normally overlying the outer surface of said bar to define the exterior of said device, a pivot connection joining the head of said key to an end of said bar, wherein said key is pivotally movable with respect to said bar to a position that exposes said shank for use in a lock, said shank having a longitudinal groove formed therein, and said bar having a lug formed on the end opposite the pivot connection for engaging said groove and for normally retaining said key in overlying relation with respect to said bar, said pivot connection including a collar that is disposed between said head and bar, the end of said collar that engages said head being inclined so as to position said shank in positive engagement with the lug formed on said bar.

3,267,535
SEAL
Hollinshead T. Martin, Evanston, Ill., Arvid I. Ericsson, Fort Lauderdale, Fla., and Ilmar J. Vilcins, Northbrook, Ill., assignors to Signode Corporation, a corporation of Delaware
Filed May 26, 1965, Ser. No. 458,903
6 Claims. (Cl. 24—16)

6. A ligature of plastic strap having overlapped strap portions joined and secured together by a seal which includes a body of sheet material having a hardness which exceeds the hardness of said plastic strap, said body including a center wall and a pair of flange walls, said center wall having a plurality of apertures and said flange walls having blunt irregular formations on their strap contacting surfaces, said flange walls being bent about said plastic strap so that said irregular formations are pressing portions of said overlapping strap portions into said apertures.



3,267,536
COMBINED CLIP AND IMPLEMENT HOLDER
Marvin D. Brown, Great Neck, and Carter A. Towbin, Riverdale, N.Y., assignors to B and R Associates, New York, N.Y., a firm
Filed June 14, 1965, Ser. No. 463,701
3 Claims. (Cl. 24—49)



1. An assembly, adapted to be carried about on one's person, comprising a tie clasp having a front bar portion adapted to extend across the front of a tie when the tie clasp is worn, said tie clasp having a rear lever pivotally connected to said front bar portion and a spring urging a free end of said lever toward a free end of said front bar portion, an elongated key situated between said lever and front bar portion and having a free end situated between said free end of said lever and said free end of said front bar portion so that the force of said spring urging said free end of said lever toward said free end of said front bar portion will urge said key toward said front bar portion, said key fixedly carrying, at said free end thereof, a sleeve member which slidably receives in its interior the free end of said front bar portion of said tie clasp.

3,267,537
BUCKLE FOR LUGGAGE STRAPS AND THE LIKE
James H. De Claire, East Detroit, and Akira Tanaka, Southfield, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 29, 1964, Ser. No. 378,673
8 Claims. (Cl. 24—75)

8. A buckle for connecting first and second strap members comprising

first and second relatively flat buckle members,

the first buckle member being bent intermediate its ends to form offset end portions and having a transverse slot adjacent one end thereof forming an end bar embraceable by the first strap member,

one end portion of the second buckle member being bent to form a tongue insertable through the slot to interengage the buckle members and clamp the first strap member against the end bar of the first buckle member,

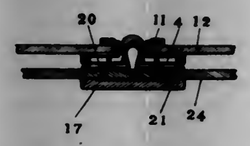
the other end portion of the second buckle member having an end bar,

and a strap adjusting member slidably mounted on the second buckle member and embraceable by a loop portion of the second strap member passing between the adjusting member and the second buckle end bar for positioning the second strap member relative to the first buckle member,



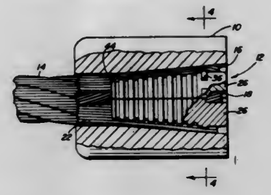
the bent intermediate portion of the first buckle member being engageable with the loop portion of the second strap member during buckle interengagement to slidably cam the adjusting member toward the second buckle member end bar to lockingly clamp a portion of said loop portion thereagainst in a selected position.

3,267,538
GRIP OR SNAP-ON FASTENERS
Hidenosuke Ishizaki, 289—46 Kitahata, Motoyama-cho, Higashinada-ku, Kobe, Japan
Filed June 10, 1964, Ser. No. 374,091
Claims priority, application Japan, Apr. 8, 1964, 39/27,357; Apr. 15, 1964, 39/29,353
1 Claim. (Cl. 24—96)



A snap fastener comprising a female fastening element comprising a base plate having a snap fastener socket therein and an inner washer contained in said base plate and having bendable projections thereon adapted to be pierced through an associated fabric and also through the central opening of a tab-carrying washer positioned on the other side of the fabric so that the outer ends of said projections may be bent over the tab-carrying washer to secure the parts of the female fastening element together, and a male fastening element comprising a base plate having a recess, an inner washer contained in the said recess and having bendable projections adapted to be pierced through an associated fabric and also through the central opening of an associated washer disposed on the other side of the fabric and having a snap fastener stud thereon so that the outer ends of said projections may be bent over the stud-carrying washer to secure the parts of the male fastening element together, said tab-carrying washer having a plurality of grooves in its upper surface positioned and dimensioned to receive the bent over projections of the female fastening element inner washer and said tabs being positioned at the outer ends of the said grooves and adapted to be bent over the last mentioned projections to conceal same, said snap fastener stud and socket being dimensioned so as to readily snap together.

3,267,539
CABLE FITTING
Edward R. Mark, 6819 NE. Broadway, Portland, Oreg.
Filed June 30, 1964, Ser. No. 379,187
5 Claims. (Cl. 24—122.6)

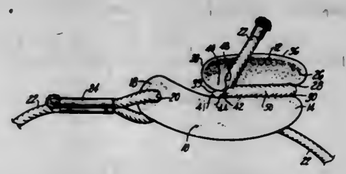


1. In a cable fitting,

a sleeve having a frustoconical inner portion,

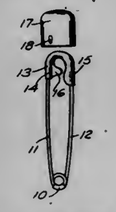
and a wedge having a frustoconical outer portion and a thin, malleable, exterior flange having notches therein spaced substantialy equidistantly therearound for positioning exterior strands of a wire cable and holding the strands in positions spaced evenly apart as the wedge and sleeve are moved lengthwise relative to each other, said flange being collapsible as movement of said wedge and said sleeve proceeds, whereby the wires of the cable become uniformly spread apart around the entire circumference of said wedge and clamped between the frustoconical portions of said wedge and said sleeve.

3,267,540
CORD FASTENER
Frank E. Wolcott, West Hartford, Conn., and Walter Dorwin Teague, Alpine, and Anthony P. Montalbano, Jackson Heights, N.Y., assignors to The Hartford Company, Hartford, Conn., a corporation of Connecticut
Filed Mar. 23, 1965, Ser. No. 442,030
4 Claims. (Cl. 24—130)



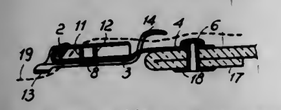
1. For use in tying an article with a flexible cord, a cord fastener comprising a generally flat body having a substantially planar, elongated base portion with an opening for securing the cord at one end of the fastener body and an ear portion at the opposite end of the fastener body, the ear portion being integral with the base portion at one side thereof, the ear portion and the base portion having spaced opposed edges at said opposite end of the fastener body forming a first notch for receiving the cord, the ear portion and a longitudinal edge of the base portion forming intermediate the ends of the fastener body a generally J-shaped wedging notch for the cord opposed to the first notch, and the J-shaped notch providing a passage and an enlarged mouth for loosely receiving a first wrap of the cord, the enlarged mouth forming a secondary notch at the tip of the J-shaped notch for receiving a second wrap of the cord and for wedging the first and second wraps of the cord within the enlarged mouth of the J-shaped notch.

3,267,541
SAFETY PIN
Anthony Chrones, Pawtucket, R.I., assignor to Reliance Molded Plastics Inc., Woonsocket, R.I., a corporation of Rhode Island
Filed July 17, 1964, Ser. No. 383,347
2 Claims. (Cl. 24—158)



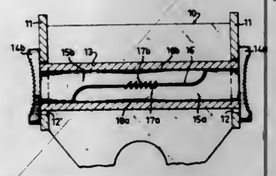
1. A lock safety pin comprising a spring wire bent into a loop having integral spring arms extending therefrom, an inverted U-shaped cap having one leg secured to one of said arms, the other of said arms being pointed, the other leg of said cap forming a U-shaped channel for receiving said pointed arm in closed position, an integral flat tongue extending from said first leg toward said channel leg but spaced therefrom to form a slot for the passage of said pointed arm, and a lock hood mounted on said cap, said hood comprising an inverted U-shaped housing having a solid unbroken wall portion and open at the bottom, said hood being frictionally slidably mounted on said cap whereby in raised position said pointed arm can be moved into and out of engagement with said cap, and said hood locking said arm in said cap in lowered position and means integral with said hood for releasably retaining said hood in raised or lowered position, said retaining means guiding said hood during its sliding movement, said retaining means forming a stop to prevent withdrawal of said hood from said cap, said retaining means engaging the bottom edge of said tongue to releasably lock said hood in lowermost locking position on said cap.

3,267,542
SLIDE BUCKLE
Adalberto Steinberg Sussman, Via Frassinetti 25, Milan, Italy
Filed Dec. 7, 1964, Ser. No. 416,652
Claims priority, application Italy, Dec. 17, 1963, 25,886/63
7 Claims. (Cl. 24—194)



1. A sliding frame buckle structure, comprising a movable frame having side bar members, each of said side bar members having a front end and a rear end, a front end bar member connecting said front ends of said side bars, a cross-bar member intermediate said front end bar member and said rear ends of said side bar members and having at least a lip portion upwardly projecting therefrom, said side bar members having their edges in the form of relative guide ways, a constrained frame having a longitudinal extension and provided with side rod members, an end rod member near said rear ends of said side bar members and connecting said side rod members, an end piece connected with said end rod member and having fastening means for fastening said end piece on a clothing portion, a transverse rim member connecting the ends of said side rod members distant from said end rod member, said transverse rim member having an upwardly projecting smooth surface, said movable frame having a width exceeding the width of said constrained frame over the entire longitudinal extension thereof, said relative guideways having laterally bent wall portions outwardly shielding said side rod members and surrounding a substantial part of each and slidably receiving said side rod members thereby to allow said movable frame to slide with said relative guideways thereof along said side rod members from an end position to another end position thereof, said cross-bar member being arranged intermediate said end rod member and said transverse rim member to leave a first passage for a strap portion between said cross-bar member and said transverse rim member in an intermediate position of said movable frame and to clamp said strap portion between said transverse rim member and said cross-bar member with said lip portion thereof in an end position of said movable frame when said strap portion is pulled in a direction directed from said end rod towards said transverse rim member.

3,267,543
DEVICES FOR THE FASTENING OF STRAPS
Göte Eskil Yngve Holmberg, Anderstorp, Sweden, assignor to G. E. Y. Patenter AB, Anderstorp, Sweden, a corporation of Sweden
Filed May 25, 1964, Ser. No. 369,690
Claims priority, application Sweden, Aug. 14, 1963, 8,883/63
1 Claim. (Cl. 24—196)

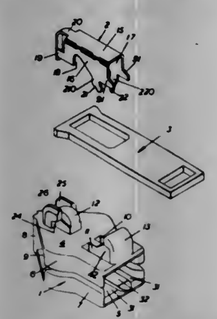


A strap fastening device comprising a frame, a tubular clamping member which is non-rotatably but slidably guided for movement in its transverse direction in said frame, elements inserted in the ends of said clamping member to form finger grips for the manipulation of said clamping member and each forming one half of a plug substantially filling the hollow interior of the clamping member, opposite knurled portions on said elements along a substantially axial part of the surfaces thereof facing each other in the interior of the clamping member, said portions forming inclined knurls allowing said elements to be inserted into the clamping member from opposite ends thereof by sliding over each other but preventing, by their interengagement, said elements from being pulled apart and thereby extracted from the clamping member, and a concavely curved surface portion on each said element opposite the knurled portion thereof and facing the hollow interior of the clamping member, said concavely curved surface forming a shallow recess enabling the plug halves to yield when the knurls slide over each other.

3,267,544
SLIDING CLASP FASTENERS
Alfred V. Davies, Glamorgan, South Wales, assignor to Aero Zipp Fasteners Limited, Wembley, Middlesex, Great Britain, a British company
Filed Dec. 9, 1964, Ser. No. 417,177
Claims priority, application Great Britain, Dec. 18, 1963, 49,922/63
7 Claims. (Cl. 24—205.14)

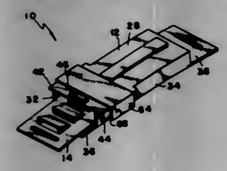
1. An automatically locking slider for a sliding clasp fastener, comprising a slider body, an elongated hollow cap movably attached to said slider body, a pull member linked to said hollow cap, a leaf-spring extending outwardly from said cap and bearing against a part of said

slider body, two opposite side walls of said cap, at least one locking finger carried by one of said side walls, said leaf-spring urging said locking finger into locking position, said locking finger being displaced from the general plane of said one side wall towards the longitudinal



centre line of said cap and being substantially parallel to said one side wall, whereby the free end of said locking finger is enabled, when in use, to enter a gap between adjacent interlocking elements of a sliding clasp fastener at a region close to the centre line of said fastener.

3,267,545
OVERSHOE BUCKLE
Clarence M. Eckart, Rte. 2, Wamego, Kans.
Filed Aug. 21, 1964, Ser. No. 391,103
1 Claim. (Cl. 24—206)



An overshoe buckle comprising a strip-like part having notches; a tubular member for receiving said part, a detent on the exterior of two opposite side walls of said tubular member, there being a slot in the top wall of said tubular member, a leaf spring attached at one end to the exterior of said top wall and having a bent portion forming a catch at its other end extending through said slot into the interior of said tubular member to engage the notches on said strip-like part, a substantially U-shaped lift for manual engagement attached at its base portions to said spring adjacent said catch and having its legs extending along the exterior of said side walls, inwardly extending bends on the ends of the legs directed toward said side wall and engageable with said detents to limit upward movement of said lift.

3,267,546
CLIP SUPPORT
Ray A. Kraft, 2102 E. McDowell Road, Phoenix, Ariz.
Filed June 12, 1964, Ser. No. 374,707
1 Claim. (Cl. 24—259)

A clip structure comprising

(a) a single piece generally U-shaped member of relatively large cross section and limited resiliency bent on itself to form

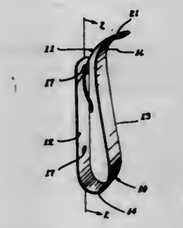
(1) a base attachable to a suitable surface,

(2) a spring clip spaced from the base with a top outflared curved portion and

(3) a generally curved bottom portion interconnecting said base and clip,

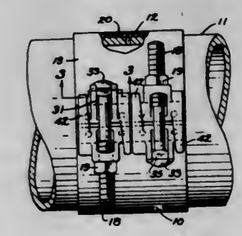
(4) said base and clip spaced from each other, and

(b) a bowed leaf spring clip of relatively small cross section and of highly resilient material having one end attached to said outflared portion, an intermediate arcuate portion normally engaging said base, and a free end spaced from the base,



(c) said leaf spring clip adapted to engage against the curved portion of said clip when a relatively thick stack of documents or the like are inserted between said clip and base, the resilience of the spring clips and the dimensions of their curved portions being such that said leaf spring clip will continue to be biased towards said base and can not be stressed beyond its elastic limit during the life of the clip structure.

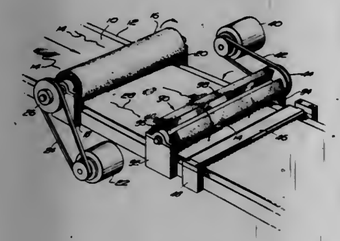
3,267,547
PIPE CLAMP
James C. Morriss, Jr., Nash, Tex., assignor to Smith-Blair, Inc., San Francisco, Calif., a corporation of California
Filed Feb. 10, 1964, Ser. No. 343,673
2 Claims. (Cl. 24—279)



1. In a pipe clamp of the type having a malleable band with end portions secured in lugs, with the lugs in pairs and tightened together by bolts of the type having a flat-sided portion near its head end and a series of threads at its opposite end, said bolts being alternately disposed between the pair of lugs with the head ends and threaded ends of adjacent bolts opposite each other, the combination wherein each said lug comprises an elongated base member, at least one pair of generally parallel upright and connected projections for receiving a threaded end of a bolt and spaced therefrom at least one pair of generally parallel upright and unconnected projections on said base member, said unconnected projections on both said lugs define between them an open slot for receiving the flat-sided portion of a bolt, said open slots being aligned with openings for receiving the threaded ends of the bolts which are formed by said pairs of upright and connected projections on the base member of the opposite lug, said connected projections on both said lugs having a bearing face for a nut on the bolt extending through an aligned slot and an opening, a strengthening

means extending between the base member of each said lug and the outside surface of one of each pair of unconnected upright projections, said strengthening means being adjacent the right-hand side of the bolt when viewed from its threaded end toward the opposite head end and operable to prevent any substantial deflection in the adjacent projection due to the force exerted on it when a nut is tightened on the threaded end of the bolt.

3,267,548
THREAD TRIMMING APPARATUS
Wilfred N. Hadley, Springfield, Vt., assignor to Hadley Company, Inc., Springfield, Vt., a corporation of Vermont
Original application Nov. 21, 1963, Ser. No. 325,407, now Patent No. 3,186,057, dated June 1, 1965. Divided and this application Nov. 23, 1964, Ser. No. 413,216
2 Claims. (Cl. 26—15)

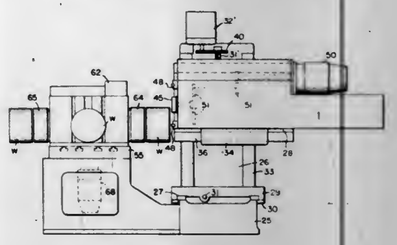


1. Apparatus for trimming relatively long threads attached at one end to a traveling woven web, comprising a first rotary brush tangent to the surface of said web and extending across said web, means for rotating said brush in a direction opposite to the movement of said web whereby said threads will all be arranged with their attached ends leading their free ends, a second rotary brush spaced rearwardly of said first brush and extending transversely of said web, said second brush being formed with a plurality of bristles clustered in spaced radial sectors, the bristles of each sector continuously and uniformly extending the full length of said brush and adjacent sectors forming a gap lengthwise of said brush, means for rotating said second brush in the same direction as the movement of said web and at a higher speed whereby each of said threads will be picked up and tensioned outwardly of said web and across at least one of said gaps and a cutting member extending in parallel proximity behind said second brush and spaced over said web in position to sever threads tensioned across said gap.

3,267,549
METHOD OF STABILIZING TEXTILE GOODS
Edward R. Rand, Colmar, Haut-Rhin, France, assignor to DHJ Industries Inc., a corporation of New York
No Drawing. Filed May 25, 1964, Ser. No. 370,054
5 Claims. (Cl. 28—76)

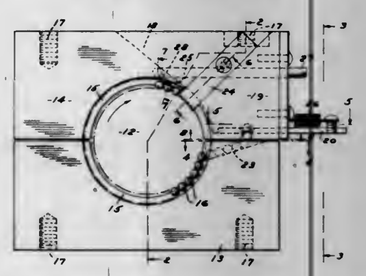
1. A method of stabilizing cellulose fiber fabric comprising thoroughly impregnating the fabric with a solution containing a resin cellulose reactant and a catalyst capable of effecting at least a partial reaction between the resin and the cellulose fiber at a predetermined temperature, applying compressive shrinking forces to the fabric in the direction of the warp yarns while the fabric is damp with the impregnated solution, applying predetermined heat sufficient to effect reaction between the resin and the cellulose fiber while the fabric is undergoing compressive shrinking forces and thereafter curing the fabric for a limited period.

3,267,550
MACHINE TOOL
Warren C. Whittum, Orange, Conn., and William R. Miller, Rochester, N.Y., assignors to Farrel Corporation, Rochester, N.Y., a corporation of Connecticut
Filed Dec. 2, 1963, Ser. No. 327,281
20 Claims. (Cl. 29—27)



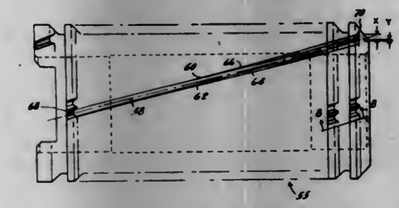
7. A machine tool comprising
(a) a tool support,
(b) a tool spindle journaled in said tool support,
(c) means for securing a first tool to said tool spindle to rotate therewith,
(d) means for moving said tool spindle axially in opposite directions to advance and retract a tool secured thereto,
(e) means for mounting a second tool non-rotatably on said tool support in offset, parallel relation to said tool spindle,
(f) means for moving said mounting means on said tool support in opposite directions parallel to the axis of said tool spindle to advance and retract said second tool,
(g) a work support,
(h) a work spindle journaled in said work support,
(i) means for securing a workpiece to said work spindle to rotate therewith,
(j) means for selectively rotating one of said spindles,
(k) means for locking said work spindle against rotation,
(l) and means interlocking the means for moving said tool spindle axially and the means for moving said mounting means so that said first tool cannot be advanced when said second tool is advanced, and vice versa.

3,267,551
BALL TRACK BURNISHING DEVICE
Edward E. Judge, Lansing, Mich., assignor to Industrial Metal Products Corporation, Lansing, Mich., a corporation of Michigan
Filed Sept. 19, 1963, Ser. No. 310,089
6 Claims. (Cl. 29—90)



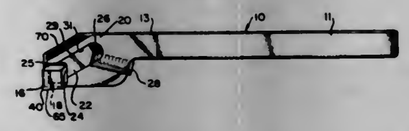
1. A ball bearing burnishing unit for burnishing annular corner workpiece radii including a plurality of burnishing ball holding elements separable to a non-operative position for workpiece loading and unloading and closeable to an operative burnishing position, and means for introducing and removing burnishing balls while said elements are in said burnishing position with the workpiece in place.

3,267,552
BROACH
Joseph A. Psenka, Bloomfield Hills, Mich., assignor to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan
Original application Apr. 10, 1961, Ser. No. 101,887. Divided and this application Oct. 19, 1964, Ser. No. 404,632
10 Claims. (Cl. 29—95.1)



2. A broach comprising a series of longitudinally spaced finish cutting teeth disposed in aligned spiral relation, the teeth having a center line disposed in a spiral slightly offset from a true lead angle in such a manner that the center line is adapted to traverse a lead path divergent from the path which the broach traverses.

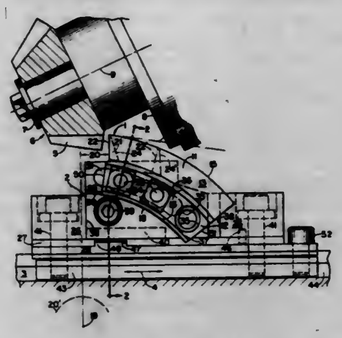
3,267,553
TOOL HOLDERS
Peter E. Mortensen, Milwaukie, Oreg., assignor to The Pem Company, Milwaukie, Oreg., a corporation of Oregon
Filed Feb. 28, 1964, Ser. No. 348,198
7 Claims. (Cl. 29—96)



1. In a lathe tool holder,
a body member provided with a head portion having an elongated corner notch therein and also having a guideway extending longitudinally of the head portion and generally transversely from the longitudinal axis of the notch,
the head portion having a tapped bore extending to the guideway at an acute angle relative to the longitudinal axis of the guideway,
an elongated tool having a corner portion fitting into the notch,
a clamping member slidable along the guideway for clamping the tool in the notch and having an end face normal to the tapped bore,
and a clamping screw threaded into the tapped bore for engaging said end face of the clamping member to force the clamping member against one side of the guideway and against the tool to lock the tool rigidly in the tool holder.

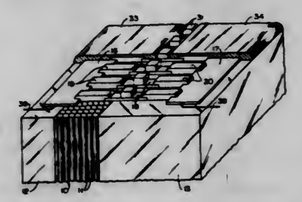
3,267,554
GEAR PLANING TOOL AND SUPPORT THEREFOR
Arthur B. Ryan, Victor, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed Aug. 11, 1964, Ser. No. 388,905
8 Claims. (Cl. 29—102)

1. A reciprocatory planing tool for gear cutting comprising an integral cutting portion and shank of arcuate form, constituting a segment of a ring, with the tip and side faces of the cutting portion and the sides and bottom faces of the shank being surfaces of revolution about an axis perpendicular to the intended cutting direction, the cutting portion extending radially outward from the shank



and having a cutting edge at the front, considered in the direction of cutting, of one side face thereof, said edge being in a plane perpendicular to said direction and spaced rearwardly from said axis.

3,267,555
IMAGE RECORDING
James A. Berger, Horseheads, and Michael G. Blankenship, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed May 11, 1964, Ser. No. 366,506
8 Claims. (Cl. 29—155.5)



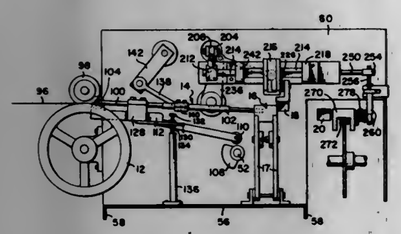
1. The method of fabricating a control unit for electrostatic image recording apparatus, such method comprising; providing a longitudinal laminated basic support which includes a first fiber optic bundle member sandwiched between a second and a third support member, at least such second support member being dielectric and transparent and at least one longitudinal surface of each of such three members extending in the same plane to form a common planar surface having the individual fiber optics of said first member disposed normal to such surface; providing a pattern of a thin electrically conductive coating material adjacent said planar surface, such pattern comprising first and second coated areas extending substantially the full length of said longitudinal surfaces of said second and third support members respectively to form first and second bus bars respectively, and such pattern also including a row of narrow closely adjacent coated areas extending adjacent said planar surface between said bus bars and isolated therefrom and from each other to form individual discrete electrical conductors; providing a pattern of a thin photoconductive coating material adjacent said planar surface, such pattern comprising a first row of narrow closely adjacent coated areas extending between and overlapping said first bus bar and first ends of said discrete conductors to form a first row of discrete photoconductive cells isolated from each other, and such pattern also including a second row of narrow closely

adjacent coated areas extending between and overlapping said second bus bar and second ends of said discrete conductors to form a second row of discrete photoconductive cells isolated from each other and adjacent the ends of the individual fibers of said fiber optic bundle member; providing first and second electrical leads connected to said first and second bus bars respectively to supply electrical control current to said bus bars; encapsulating the components provided adjacent said planar surface, excepting the free ends of said electrical leads and a selected area in the vicinity of the center of each of said discrete electrical conductors, with a thin smooth layer of a dielectric material to protect the encapsulated components; and depositing a durable electrically conducting material upon said selected area of each of said discrete electrical conductors to form electrostatic printing contacts, the summit of the exposed surface of each such printing contact being substantially even with the summit of the exposed surface of said layer of dielectric material.

3,267,556
WIRE PROCESSING AND TERMINAL AFFIXING MACHINE

Herbert D. Scharf, 151 Leverington Ave., Philadelphia, Pa.

Filed July 29, 1965, Ser. No. 475,710
42 Claims. (Cl. 29—155.55)



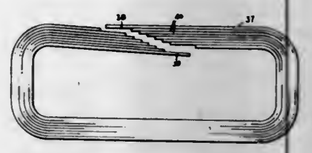
42. A method of processing wire comprising providing a cutting and stripping station, moving said wire over and beyond said cutting and stripping station, severing said wire at a point, the severed length of wire being designated the downstream wire and the remainder of the wire being designated the upstream wire, cutting the insulation upstream and downstream of said point and stripping away the insulation lying between said point and said upstream and downstream cuts by exerting opposed axial and linear pulls on said wire including an upstream pull on said upstream wire and a downstream pull on said downstream wire and feeding the bared downstream end of said upstream wire to a terminal affixing station, affixing a terminal on said bared end, moving said wire over and beyond said cutting and stripping station and repeating the aforesaid steps to produce a bared upstream end of said upstream wire and moving said bared end toward a terminal affixing station in order to produce a length of wire having terminals affixed to both ends thereof.

3,267,557
METHOD OF MAKING A LAMINATED CORE

Willy Olsen and Howard D. Tindall, Lynchburg, Va., assignors to H. K. Porter Company, Inc., Lynchburg, Va., a corporation of Delaware

Original application Nov. 13, 1961, Ser. No. 151,655, now Patent No. 3,223,955, dated Dec. 14, 1965. Divided and this application Oct. 3, 1963, Ser. No. 318,472
4 Claims. (Cl. 29—155.56)

1. The method of making a wound rectangular transformer core having a rectangular window formed from a plurality of internested single turn laminations in which the opposite ends of each lamination are in abutment, comprising the steps of cutting a plurality of successively shorter strips of core material of substantially constant thickness each differing in length from the next longer strip by an amount equal to at least $2\pi T$ where T is the strip material thickness, stacking the strips in size order, end-shifting the strips in the same direction relative to one another to displace the strip ends at one end of the stack by predetermined amounts, at least one of the said strips being end-shifted by an amount substantially greater than the amount of end-shift of the remaining strips, maintaining the strips in their end-shifted condition while bending the stack into circular annular form with the shortest strip disposed on the inside of the annulus to bring the opposite ends of each strip into abutment and form a first core section having a joint defined by the successively displaced abutments of the strips, making additional annular core sections in the same manner as that by which the said first core section was made but of successively larger size so that all core sections may be closely internested, internesting all of said core sections with the section joints of said additional sections overlying one another in successively offset relation to form a composite joint while the section joint of said first section is disposed substantially diametrically across the core from the composite joint, placing a central forming mandrel having at least one pair of spaced-apart parallel sides within the window of the annular first core section so that a line perpendicular to the parallel sides of the mandrel passes transversely through the composite joint, each of said mandrel parallel sides being of shorter length than the longer dimension of the rectangular window of the core to be formed, exerting a first pair of colinear oppositely directed inward forces upon the core along a line perpendicular to the parallel sides of the mandrel to form the initially circular core into a flattened oval with the core section joints clamped tightly between the parallel sides of the mandrel and the first force applying means, maintaining the core clamped as aforesaid and exerting a second pair of colinear oppositely directed inward forces upon the curved ends of the oval core along a line perpendicular to the line of action of said first pair of forces to form the flattened oval core into a rectangular core, securing the core in its rectangular form and annealing the same to stress relieve it.

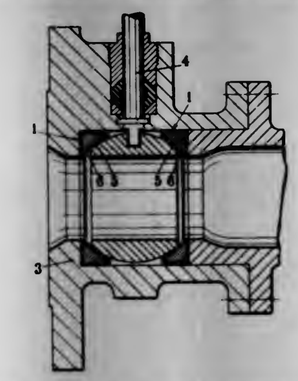


3,267,558
BALL VALVE SEALS

Ian M. Wilson, Halliwell, Bolton, England, assignor to Henry Crossley (Packings) Limited, Bolton, England, a British company

Filed Sept. 25, 1963, Ser. No. 311,153
Claims priority, application Great Britain, Oct. 17, 1962, 39,331/62
1 Claim. (Cl. 29—156.7)

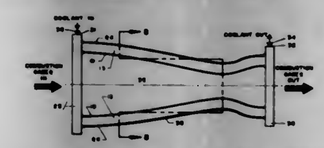
A method for making a seal for ball valves comprising the steps of producing a metal core having a configuration identical to final requirements with all dimensions reduced by a controlled amount, enveloping the metal core in a wrapping of unsintered P.T.F.E. to effect the required final dimensions, heating the enveloped metal core to the sintering temperature of the P.T.F.E. and immediately thereafter positioning the enveloped metal core in a die wherein the desired pressure is applied to the wrapping and allowing the enveloped core to cool.



3,267,559
MULTI-CONTOURED STRUCTURES AND PROCESS

Leon E. Laux, Towson, Md., assignor to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland

Filed Dec. 1, 1961, Ser. No. 156,327
12 Claims. (Cl. 29—157)



1. The method of forming a multi-contoured corrugated structure comprising the steps of:
(a) Corrugating a flat sheet of metal,
(b) Compressing the resulting flat corrugated metal sheet transversely with respect to the corrugations,
(c) Profile-contouring said flat corrugated metal sheet,
(d) Expanding said profile-contoured corrugated metal sheet over a preformed inner shell,
(e) Securing resulting multi-contoured corrugated metal sheet to said inner shell, and
(f) Providing an outer shell over said multi-contoured corrugated metal sheet.

3,267,560
METHOD FOR FLARING A COLLAPSIBLE TUBE

William E. Rejeski, Farmington, Conn., assignor to The Wiremold Company, West Hartford, Conn., a corporation of Connecticut

Filed Feb. 26, 1962, Ser. No. 175,544
4 Claims. (Cl. 29—157)

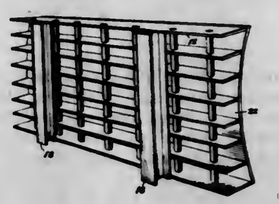


1. The method of expanding a plurality of convolutions of a length of collapsible tubing of the type which is comprised of a resilient helical form-giving strip whose edges are reversely bent and a flexible strip whose edges are clamped between and frictionally held by the edges of adjacent convolutions of the helical strip, the steps of causing the flexible strip to move to a new permanent position with respect to and within the clamping edges of the helical strip while simultaneously expanding the helical strip from a point along the body of the tubing to another point along the tubing, the edges of said flexible strip in said new position remaining clamped between the edges of the form-giving strip.

3,267,561
METHOD OF FORMING AN AXIAL SEAL PLATE

Chester J. Richer, Wellsville, and Harold R. Rahr, Belmont, N.Y., assignors, by mesne assignments, to The Air Preheater Company, Inc., a corporation of Delaware

Filed Jan. 3, 1963, Ser. No. 249,226
4 Claims. (Cl. 29—157)

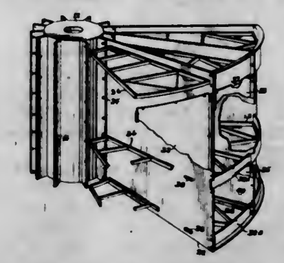


1. The method of providing a stucturally reinforced curvilinear plate which comprises the steps of cutting a series of equi-length ribs to graded widths, arranging said ribs in a laterally abutting stack with the ends and one side of said ribs in alignment and having progressively wider ribs at the top and bottom of said stack, drilling a plurality of longitudinally spaced openings in said stacked ribs equally spaced from the aligned sides thereof to provide web portions of equal size at one side of the openings and web portions of various sizes at the opposite side thereof, inserting tubular support members through said openings in aligned ribs, separating the ribs apart in parallel planes on said support members and securing them thereto, machining the variously sized web portions of said ribs sufficient to place each longitudinal edge thereof on the periphery of a cylindrical segment having a predetermined radius, forming a curved metallic plate to fit within the cylindrical segment formed by said ribs, and bonding the plate to said ribs to provide an integral structure therewith.

3,267,562
ROTOR ASSEMBLY

Louis Chiang and Norman Casagrande, Wellsville, N.Y., assignors, by mesne assignments, to The Air Preheater Company, Inc., a corporation of Delaware

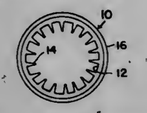
Filed Apr. 29, 1963, Ser. No. 276,296
5 Claims. (Cl. 29—157.3)



1. The method of manufacturing a cylindrical rotor for a rotary regenerative heat exchanger that comprises the steps of forming a plurality of sector shaped rotor compartments, forming a plurality of sector shaped grid mem-

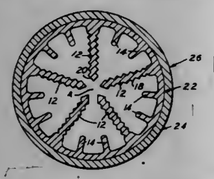
bers, and arranging the rotor compartments and grid members alternately about a central rotor post in lateral juxtaposition and securing them thereto to provide a continuous series of sectoral compartments with radial walls therebetween extending outward from the rotor post.

3,267,563
METHOD OF PRODUCING COMPOSITE TUBES
Ralph E. Seaton, Detroit, Mich., assignor to Calumet & Hecla, Inc., Allen Park, Mich., a corporation of Michigan
Filed Sept. 30, 1963, Ser. No. 312,453
8 Claims. (Cl. 29—157.3)



1. The method of making a composite tubular device which comprises extruding a liner tube having a smooth outer surface and a finned inner surface, assembling over said liner tube a shroud tube having smooth inner and outer surfaces and having a yield strength substantially less than the yield strength of the liner tube, sinking the shroud tube onto the liner tube by drawing the assembly through a die sized to materially stress the liner tube.

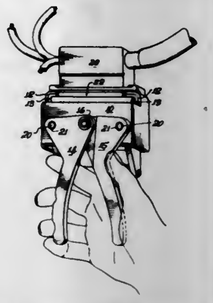
3,267,564
METHOD OF PRODUCING DUPLEX INTERNALLY FINNED TUBE UNIT
John M. Keyes, Northville, Mich., assignor to Calumet & Hecla, Inc., Allen Park, Mich., a corporation of Michigan
Filed Apr. 23, 1964, Ser. No. 362,029
6 Claims. (Cl. 29—157.3)



1. A method of producing an internally finned tube unit, comprising extruding a first metal tube to provide fins predeterminedly spaced circumferentially about and projecting inwardly of the inner surface of said tube, drawing said tube to reduce the outer diameter thereof and bring the inner extremities of said spaced fins radially and circumferentially closer to one another than was practically possible in said extruding of said first tube, telescoping said first tube within a second tube of metal, and sinking said telescoped tubes to bring the same in tight contact with one another.

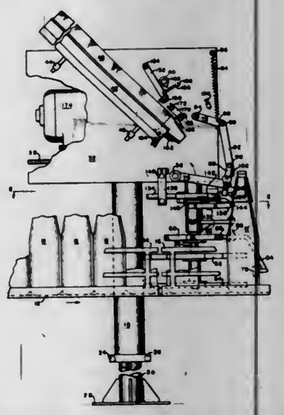
3,267,565
MULTIPLE CONNECTOR TOOL
Martin A. Stuhler, Lemon Grove, Calif., assignor to General Dynamics Corporation, Pomona, Calif., a corporation of Delaware
Filed Nov. 6, 1964, Ser. No. 409,522
12 Claims. (Cl. 29—206)

7. A tool adapted for connecting and disconnecting multi-pin electrical connectors comprising: a first member having a body portion and a pair of flange portions, said flange portions each having a protruding member with end portions extending toward one another; a second member having a body portion and a pair of flange portions, said flange portions each having a protruding member with end portions extending toward one another; said first member being positioned between said flange portions of said second member and adapted to move with respect thereto; handle members pivotally connected to one of said first and second members, one of said first and second members being provided with at least one pair



of slot-like apertures, and means interconnecting the other of said first and second members with said handle members, said means being adapted to move within said slot-like apertures to allow movement between said first and second members upon movement of said handle members.

3,267,566
BOTTLE COLLAR APPLYING MECHANISM
Clarence P. Ouellette, East Longmeadow, Mass., assignor to United States Envelope Company, Springfield, Mass., a corporation of Maine
Filed Nov. 29, 1962, Ser. No. 240,865
2 Claims. (Cl. 29—208)

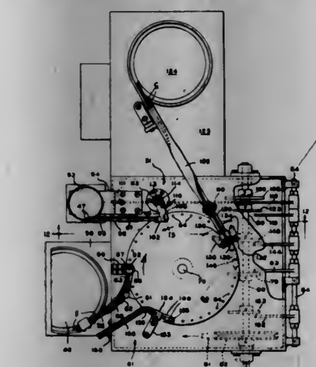


1. The combination with a bottle conveyor having a bottle collaring station, of apparatus for applying tapered, tubular collars to the bottles at said bottle collaring station, said apparatus comprising

(a) means for supporting a stack of collars at said bottle collaring station nested with their smaller ends closest to a bottle to be collared,
(b) means for detecting a bottle ready to be collared at a predetermined point on the conveyor,
(c) grasping means responsive to said detecting means for grasping the end collar in the nest,
(d) means operably connected to said grasping means for moving it through a cycle of reciprocation having a collar transferring stroke and a return stroke, said means being pivotally mounted for movement in a vertical plane for moving said grasping means from collar grasping position to collar applying position,

(e) means for turning said grasping means during its collar transferring stroke so that a collar held thereby assumes a large-end-down position, and
(f) means for releasing the collar from said grasping means over the neck of the bottle being collared,
(g) whereby the entire transferral of said collar between the nest and the bottle is effectuated by single collar grasping means.

3,267,567
APPARATUS FOR DELIVERING CLOSURE CAPS AND ASSEMBLING VALVES IN SAID CLOSURE CAPS
Walter A. Shields, Jamaica, N.Y.
(38—09 24th St., Long Island City, N.Y.)
Filed Nov. 19, 1963, Ser. No. 324,800
29 Claims. (Cl. 29—208)

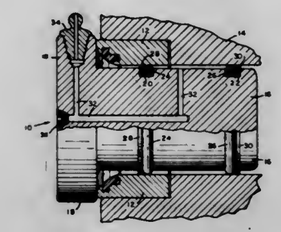


25. In means for delivering closure caps to articles, a chute having a closure cap receiving end and a closure cap discharge end, a pair of levers pivotally mounted at the upper ends on axes parallel to the closure cap discharge end of the chute and normally positioned perpendicularly to the horizontal axis of said discharge end of the chute and each lever having a portion extended from the lower end thereof toward each other substantially in the horizontal plane of the bottom of the discharge end of the chute with the extremities of said portions spaced from each other to engage and support the foremost closure cap as it leaves the discharge end of the chute, a pair of resilient members mounted on the discharge end of the chute and extended over the closure cap supporting portions to yieldingly retain said foremost closure cap on said closure cap supporting portions, means to transport and successively position articles between the extremities of the closure cap supporting portions, and means to lift an article past the closure cap supporting portions and into engagement with the foremost closure cap, and the transporting means removing the foremost closure cap with the engaged articles from the chute.

3,267,568
APPARATUS FOR HYDRAULICALLY REMOVING AND REPLACING INTERFERENCE FITTED PARTS AND THE LIKE
Howard M. Johnson, Lafayette, La., and Jeffery D. Irons, Tulsa, Okla., assignors to Orbit Valve Company, Tulsa, Okla., a corporation of Oklahoma
Filed May 8, 1963, Ser. No. 278,958
8 Claims. (Cl. 29—213)

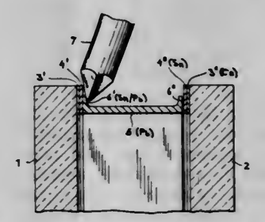
6. Apparatus for hydraulically removing a cylindrical shaped valve seat from interference fit with a valve body comprising in combination therewith:

a cylindrical portion having a cross-sectional configuration to permit said portion to telescope within said valve seat and valve body, one end of which terminates outwardly in a larger diameter portion abuttable against said valve seat;
a first annular sealing means on said body portion contacting against the annular surface of said valve seat adjacent to said body;
a second annular sealing means on said body contacting against said valve body to form an annular hydraulic chamber between said sealing means;



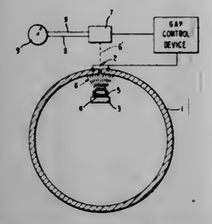
each of said sealing means comprising a groove and respectively outward from said hydraulic chamber a resilient O-ring and an expansible ring; and
passage means through said body to said chamber for the passage of hydraulic fluid to force said valve seat from fit with said valve body whereby said valve seat contacts said larger diameter portion causing said valve seat and said apparatus to move in the same direction.

3,267,569
HEAT-INSULATING GLASS PANE AND METHOD OF MAKING SAME
Rudolf Eichhorn, Wolf von Reis, and Günther Stöckmann, all of Gelsenkirchen, Germany, assignors to Deutsche Libbey-Owens Gesellschaft für Maschinelle Glasherstellung A.G., Gelsenkirchen-Rotthausen, Germany, a corporation of Germany
Filed Mar. 11, 1964, Ser. No. 351,252
Claims priority, application Germany, Mar. 12, 1963, D 41,096
4 Claims. (Cl. 29—471.5)



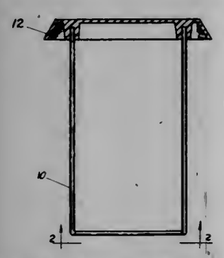
1. A method of making a heat-insulating glass pane from two glass sheets, comprising the steps of forming continuous metal deposits of closed configuration along coextensive peripheral zones of confronting faces of said sheets, applying preformed solder strips to opposite longitudinal edges of a lead billet, passing the composite lead billet and solder strips through a heated extruder for transforming said composite into a unitary channel-shaped strip having a web predominantly of lead and two flanges predominantly of solder, with thermal interdiffusion between the solder from said strips and the lead from said billet, fashioning said channel-shaped strip into an endless band coextensive with said deposits, and spacedly interconnecting said sheets by fusing said band onto said deposits by said flanges.

3,267,570
METHOD FOR MEASURING AND CONTROLLING THE WIDTH OF THE WELDING GAP IN THE PRODUCTION OF HELICAL SEAM PIPE
Kurt Winkler, Waldshut, Upper Rhine, Germany, assignor to Driam Société Anonyme, Vaduz, Liechtenstein
Filed Jan. 16, 1963, Ser. No. 251,899
Claims priority, application Germany, Jan. 18, 1962, D 37,949
2 Claims. (Cl. 29—477.7)



1. A method for continuous measurement and control of the changeable width of the welding gap during the manufacture of pipes with welded helicoidal seams, comprising the steps of subjecting that portion of said welding gap closely adjacent to the welding spot to the penetration therethrough of the rays of a radioactive isotope, measuring the fluctuations in quantity of said rays in response to changes in said width, and utilizing said fluctuations for the control of said width.

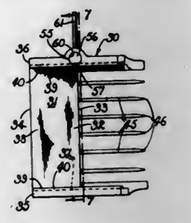
3,267,571
PET FOOD SERVER, CHOPPER, AND COVER
Arthur Joseph Cavanaugh, 12 Christopher Lane, Sudbury, Mass. 01776
Filed Apr. 7, 1964, Ser. No. 358,399
2 Claims. (Cl. 30—116)



1. A device for removing soft foods from a container comprising; a flat disc-shaped body member having an upturned annular flange, said body member further having a pair of diametrically spaced, upwardly extending projections, a wire comprising a pair of longitudinally extending leg members joining an intermediate S-shaped portion, the plane of which extends generally transverse to said leg members, each of said projections having a longitudinal bore therein receiving and securing the free terminals of said wire, said S-shaped portion extending parallel to said body member whereby said S-shaped portion may be inserted into the container for removal of said food.

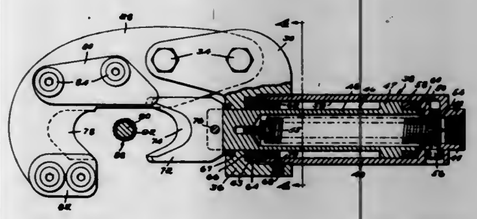
3,267,572
TAPERING SHOE COMB
James Cordova, 242 N. E St., Tulare, Calif.
Filed Oct. 15, 1963, Ser. No. 316,367
6 Claims. (Cl. 30—201)

1. A tapering shoe comb adapted for detachable connection to a stationary comb plate of a hair clipper which has opposed marginal edges comprising a body member having laterally opposed guide walls transversely spaced to accommodate said comb plate therebetween, said guide walls providing inwardly directed flanges disposed in overlying relation to said comb plate to support the body member thereon in longitudinally slidable relation; and locking means carried by the body member adapted to engage the comb plate for detachable connection of the shoe comb thereto in selective positions of adjustment longitudinally thereof with the body member disposed



in supporting engagement with the comb plate, said locking means having a semicylindrical cam member pivotally mounted in one of said guide walls and adapted for movement between a released position spaced from one of said marginal edges and a locked position in engagement with said one marginal edge and urging the other of said guide walls into engagement with the other of said marginal edges of said stationary comb plate.

3,267,573
SHOCK ABSORBER
Rowland E. Hill, Stoneham, Mass., assignor to H. K. Porter, Inc., Somerville, Mass., a corporation of Massachusetts
Filed May 26, 1964, Ser. No. 370,200
2 Claims. (Cl. 30—228)



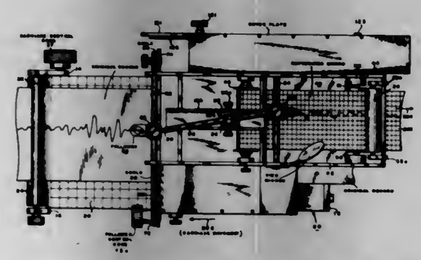
1. Apparatus for forcing a tool through a workpiece comprising the combination of: a tubular actuating cylinder having an extensible piston slidably contained therein, said piston provided with a reduced diameter portion spaced from the inner wall of said cylinder to provide an annular chamber therebetween; a collar member fixed to the end of said cylinder, said collar member having a passageway extending therethrough in axial alignment with said cylinder, the reduced diameter portion of said piston slidably extending through said passageway with said tool mounted on the end thereof; fixed retaining means associated with said collar, said retaining means spaced from and oppositely disposed to said tool; means for advancing said piston in order to force said tool through a workpiece positioned between said tool and said fixed retaining means; stop and shock absorbing means positioned within said annular chamber for gradually stopping further motion of said piston following passage of said tool through said workpiece, said stop and shock absorbing means comprising a resilient tubular member having its outer cylindrical surface fitted tightly against the inner cylinder wall, the inner cylindrical surface of said tubular member being spaced radially from the reduced diameter portion of said piston to provide an annular passageway into which said tubular member is allowed to deform under impact from said piston; and means for subsequently retracting said piston within said cylinder.

3,267,574
PARTIAL DENTURE WITH MOVABLE RETAINING ARM
Vincent J. Oddo, Jr., 161 Bretton Woods Drive, Cranston, R.I.
Filed Mar. 6, 1963, Ser. No. 263,196
8 Claims. (Cl. 32—5)



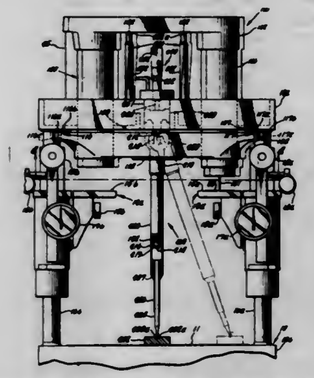
1. A denture including a frame, a plastic bed on said frame, an artificial tooth mounted in said bed, means for bracing one end of said denture against the side edge of an adjacent natural tooth, and means for releasably locking said braced end to the rear of the adjacent natural teeth, said locking means comprising an arm pivotally mounted behind said denture, said arm being adapted to pivotally enter the space between the adjacent natural teeth at the gum line, means for yieldingly retaining said arm in locking position, a housing embedded in said plastic bed, a member pivotally mounted in said housing and extending from said bed, said arm being mounted on said pivoted member.

3,267,575
BIDIRECTIONAL SCALE CONVERTER
Clarence O. Beard, Houston, Tex., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Apr. 16, 1964, Ser. No. 360,190
3 Claims. (Cl. 33—23)



1. Apparatus for reproducing a graph at different vertical and horizontal scales comprising: a graph support; a single carriage, a line-following member mounted on the carriage; a stylus also mounted on the carriage; a baseplate on the carriage for supporting paper upon which the graph is to be reproduced; means interconnecting the line-following member and the stylus and adapted to move the stylus along the vertical direction of said paper an amount proportional to the vertical component of movement of the line-following member; means for moving the carriage along the horizontal direction of the graph support; and means responsive to movement of the carriage and adapted to move said paper with respect to the stylus in a horizontal direction an amount proportional to the amount of movement of the carriage.

3,267,576
MECHANICAL REDUCTION APPARATUS
Peter V. N. Heller, 33832 Malaga Drive, Dana Point, Calif.
Filed June 14, 1963, Ser. No. 287,930
20 Claims. (Cl. 33—24)

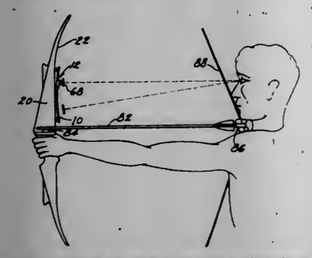


1. A device for manipulating the position of a tool on a reduced scale from a pattern defined in a reference plane comprising a reference surface on which desired patterns to be reduced are defined, a housing including at least three flat bearing pads spaced apart and oriented facing the reference surface to allow movement on each parallel with the reference surface, a work table for supporting objects to be worked on, a tool carriage for supporting tools with respect to said work table including at least three carriage bearings adapted for movement on the bearing pads, a first ball, an elongated inner linkage device connected to said first ball, a ball support device connected to said housing including a first bearing for pivotally mounting said first ball and the connected inner linkage with respect to the reference surface, a second ball, an elongated outer linkage device having an end connected to said second ball, said second ball and outer linkage device including an opening therein in which said inner linkage extends, a second bearing for coupling movement of the outer linkage to the inner linkage device and adapted to permit sliding relative motion between the elongated inner linkage device and the outer linkage device, a third bearing for pivotally connecting said second ball to the carriage, a compression spring in the opening of the outer linkage device and coupled between the inner linkage device and the outer linkage device for forcing such linkage devices in opposite directions such that the second ball applies a force through the third bearing to the carriage tending to force same and the connected carriage bearings against the bearing pads, and an extensible linkage device mounted at an end of said elongated outer linkage device opposite the second ball and having an end adapted for movement parallel with the reference surface to allow desired patterns to be defined by movement of such end on the reference surface and thereby cause movement of the second ball which in turn causes movement of the carriage in a pattern defined by the movement of such end of the extensible linkage device.

3,267,577
BOW SIGHTING DEVICE
Charles E. Markham, 7123 Stafford Court, Affton 23, Mo.
Filed Jan. 2, 1964, Ser. No. 335,093
10 Claims. (Cl. 33—46)

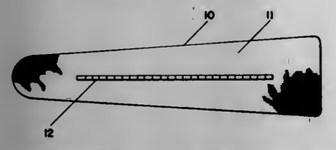
1. In an archery bow having a sighting element thereon, an arrow rest thereon for positioning the fore end of an arrow and a nocking point on the bow string for positioning the nock end of the arrow thereon, means for observ-

ing and precisely indicating a predetermined angular relationship in both vertical and horizontal planes of the arrow axis and a sight line from the archer's eye to the sighting element when at full draw comprising a reflecting element mounted on the bow and having a highly reflective opaque surface positioned so as to reflect to the archer's aiming eye a portion of his face, said sighting element being closely adjacent said reflecting surface but out of reflecting position therewith thereby to permit convenient observation of the spaced relationship of the sighting element and an image of a portion of the archer's face appearing on



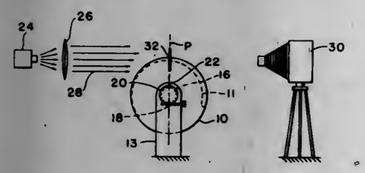
said reflective surface as the bow and sighting element are moved on target, and said reflecting element being adjustably mounted on said bow for angular adjustment of its reflecting surface in both vertical and horizontal planes whereby a preselected portion of the archer's face adjacent to and having a predetermined relationship with the nock end of the arrow may be imaged in a predetermined horizontal and vertical spaced relationship with the sighting element as viewed by the archer's eye to indicate correct, predetermined, angular relationship of the arrow axis and sight line.

3,267,578
MEASURING DEVICE FOR IRONING BOARD
Bertha M. Rachlin, 4817 Sheyboygan Ave., Apt. 411, Madison, Wis.
Filed Sept. 18, 1963, Ser. No. 309,780
6 Claims. (Cl. 33—76)



1. In combination, an ironing board cover and measuring means integral with said cover, said measuring means comprising first indicia designating lineal distances, said first indicia being impressed in the ironing board cover.

3,267,579
METHOD AND APPARATUS FOR INSPECTION OF TUBE REDUCING DIES
Charles J. House, Dearborn, and John C. Huber, Jr., Wayne, Mich., assignors to Calumet & Hecla, Inc., Allen Park, Mich., a corporation of Michigan
Filed Mar. 8, 1965, Ser. No. 437,671
7 Claims. (Cl. 33—174)



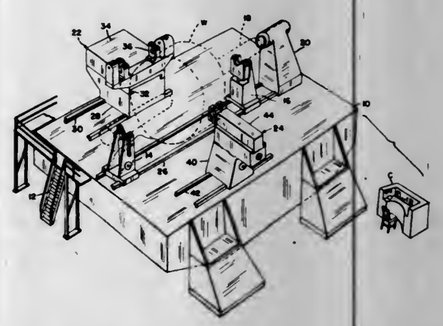
1. The method of checking a roll die having a peripheral tapered groove of generally arcuate cross-section which comprises supporting the die for indexed rotation, projecting from one side of the die a beam of parallel light rays tangent to an edge of the die, positioning a camera in position at the opposite side of the die to intercept light rays passing the edge of the die through the groove therein, providing a scale on the edge of the die having size indicia thereon, photographing the die and scale, making an enlarged reproduction thereof, and using the scale for proportions, drawing on the reproduction the curve representing the designed cross-sectional shape of the groove.

3,267,580
ADJUSTABLE BORE GAUGE
George Hohwart, Farmington Township, and Vites Joseph Brundza, Detroit, Mich., assignors to N. A. Woodworth Company, Ferndale, Mich., a corporation of Michigan
Filed Apr. 21, 1961, Ser. No. 104,638
8 Claims. (Cl. 33—178)



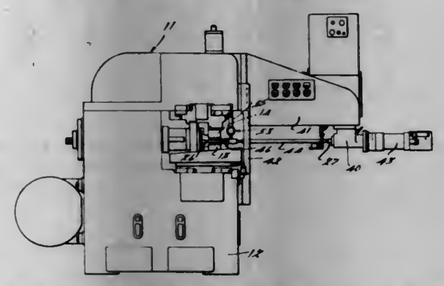
1. An adjustable bore gauge provided with a head having a pilot hole therein adapted to receive an element of a fixture used in the adjustment of said gauge, a pair of diametrically opposed "go" pins carried by said head on opposite sides thereof, means mounting said pins for longitudinal adjustment and for positioning equidistantly from said pilot hole, means mounting a pair of diametrically opposed "no go" pins on said head at right angles to and in the same transverse plane as said "go" pins and at opposite sides of said pilot hole also for longitudinal adjustment and for positioning equidistantly from said pilot hole, said "go" pins adapted to be positioned a predetermined minimum distance apart and said "no go" pins adapted to be positioned a predetermined maximum distance apart.

3,267,581
CHECKING DEVICE
Arthur B. Bassoff, Detroit, Mich., assignor to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan
Filed May 31, 1963, Ser. No. 284,440
9 Claims. (Cl. 33—179.5)



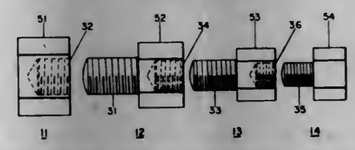
4. A checking device for very large gears comprising a platform, a pair of journal stands spaced apart on said platform, vertically adjustable slides on said stands, a plurality of rollers on said slides for supporting the shaft of a massive work gear for rotation thereon, an upwardly open V-block vertically slidable on each of said journal stands and movable between positions slightly above and slightly below said rollers to receive a work gear, means for effecting controlled vertical movement of said V-blocks to provide for lowering of a massive work gear onto said rollers without substantial impact.

3,267,582
METHOD AND APPARATUS FOR SETTING UP TOOLS FOR FORMING TEETH ON WORKPIECES
Willard B. McCardell, Royal Oak, Mich., assignor to Michigan Tool Company, Detroit, Mich., a corporation of Delaware
Filed Feb. 7, 1963, Ser. No. 257,041
8 Claims. (Cl. 33—185)



1. In a method for checking the positioning of a pair of tools having facing sets of teeth with respect to the axis of a circular toothed workpiece to be formed between said tools, the steps of inserting a circular member with teeth shaped similarly to those of said workpiece between said tools in a direction parallel to said workpiece axis with the axis of said member coincident with the workpiece axis during tooth formation, and sensing any deflection of the axis of said member in directions at right angles to said workpiece axis during such insertion in response to asymmetrical engagement of the teeth of said member with said tools.

3,267,583
THREAD GAUGE ADAPTABLE TO GAUGING VARIOUS CHARACTERISTICS OF MACHINE SCREW THREADS
Diamond E. Erminy, 4107 Connecticut Ave. NW., Washington, D.C.
Filed July 30, 1963, Ser. No. 298,713
8 Claims. (Cl. 33—199)



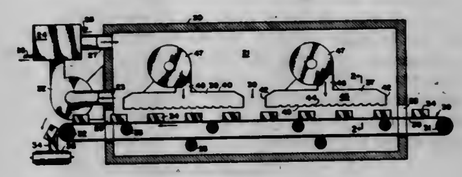
1. A device for determining various machine screw thread characteristics comprising: an assembly of elements including a first and second group of interior elements, each element of said first group of interior elements having a pair of machine screw threads, one of which is different from the other in at least one thread characteristic and at least one of which is a male screw thread, and each element of said second group of interior elements having a pair of machine screw threads, one of which is different from the other in at least one thread characteristic and at least one of which is a female screw thread, the screw threads of each interior element in said first and second group being selected so that they comprise a varied set of screw threads of which a predetermined number are gauging threads and so that the interior elements in said first and second group may be mounted in threaded engagement with each other to form a single unit of interior elements, the interior elements in said first and second group being constructed in a manner such that when the male and female screw threads of the assembled unit of interior elements are engaged but not completely screwed together, two or more interior elements of the assembled unit are not constrained to maintain the same angular orientation relative to each other.

3,267,584
PROCESS AND APPARATUS FOR DRYING FABRIC BY ELECTRICAL ENERGY
Wyndham F. Southwell, Wilkesboro, N.C., assignor to L&L Manufacturing, Inc., a corporation of Delaware
Filed May 24, 1963, Ser. No. 283,027
10 Claims. (Cl. 34—1)



5. A process of drying tubular knitted fabric which comprises passing a wet tubular knitted fabric with the flat sides in contact with each other continuously over a pair of relatively widely spaced electrodes with one side in electrical contact therewith substantially thruout the width thereof and then over a pair of less widely spaced electrodes with one side in electrical contact therewith substantially thruout the width thereof while supplying heat-producing radio frequency energy over branch circuits inoluding the respective pairs and the fabric therebetween.

3,267,585
CHANGING THE TEMPERATURES OF OBJECTS BY GAS JETS
Rudolph E. Futer, Piedmont, Calif. (2515 Willow St., Oakland, Calif.)
Filed Mar. 3, 1965, Ser. No. 436,857
23 Claims. (Cl. 34—20)

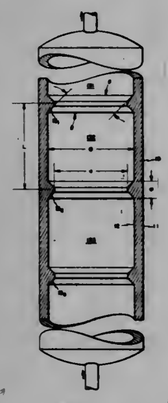


1. The method of changing the temperatures of objects having initial temperatures to be changed, which comprises the steps of:
(a) moving a succession of said objects at said initial temperatures with a moving supporting conveyor,
(b) moving said conveyor and the objects through a temperature-conditioning zone in a longitudinal downstream direction,
(c) forming a sheet of conditioning gas having a high velocity relatively to said moving objects by
(1) flowing a series of high-velocity, overlapping gas jets having temperatures different from said initial temperatures from spaced points within said conditioning zone,

(2) said jets being inclined at angles less than 30° to a line joining said points and being so directed and so closely spaced that each jet, save that at an end of the series, issues substantially parallel to at least one other jet, and successive jets of the series jointly form said gas sheet, and

(d) sweeping said objects while moving through said zone with said gas sheet at high relative velocity to effect a rapid change in the temperature thereof.

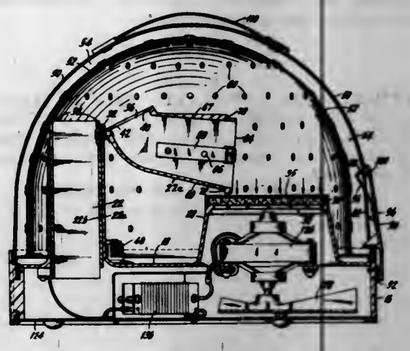
3,267,586
APPARATUS FOR TREATING FLUIDIZED SOLIDS SYSTEMS
Byron Victor Molstedt, Baton Rouge, La., and Gary Kent Patterson, Rolla, Mo., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Sept. 17, 1964, Ser. No. 397,186
4 Claims. (Cl. 34—57)



1. Apparatus for the improvement of gas-solids contact in fluidized solids systems and for the reduction of slugging comprising a tubular member containing therein a plurality of spaced apart, circumferentially, inwardly projecting, constricting surfaces which lessen the internal diameter of the member to provide, in effect, a series of contiguous zones separated one from another by passageways of lesser diameter than that of the internal diameter of the tubular member, the ratio of the diameter of a passageway relative to the internal diameter of the tubular member ranging from about 0.5 to about 0.9 and the longitudinal distance between constricting surfaces ranging from about 0.5 to about 2.0 times the internal diameter of the tubular member.

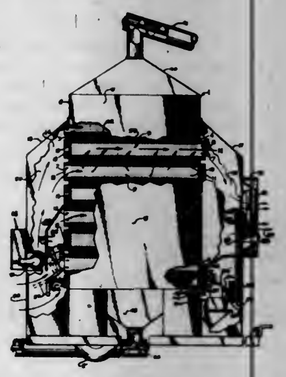
3,267,587
HAIR DRYER
Walter P. Niemiec and Donald E. Satterlee, St. Paul, Minn., assignors to Rayette, Inc., St. Paul, Minn., a corporation of Minnesota
Filed Feb. 11, 1964, Ser. No. 344,134
6 Claims. (Cl. 34—99)

1. A portable hair dryer, comprising a rigid, dome-shaped hood, open at one end, the size of the opening and the internal dimensions of the hood being not substantially greater than that required to receive and encompass with clearance a person's head with hair set in style to be dried, a base housing adapted to fit over said opening and to be clamped thereto to form a self-contained portable unit, air conduit means mounted on said housing and enclosed by said hood when said housing is clamped thereto comprising an air inlet duct and an air outlet duct, a communicating duct within said housing connecting the inlet and outlet ducts, a fan and an air heater within the connecting duct for drawing air through the inlet into the connecting duct, heating it and discharging it through the



outlet duct, the said hood having an inlet in proximity to its said opening adapted to communicate with and to be mounted to said outlet duct for the reception of hot air internally of said hood.

3,267,588
GRAIN DRYER
William A. Timmons, Jr., 6345 Antioch Road, Merriam, Kans.
Filed Sept. 18, 1963, Ser. No. 309,782
3 Claims. (Cl. 34—174)

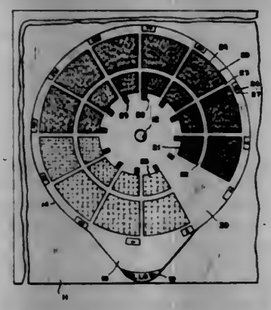


1. In a grain dryer, a grain-containing chamber having a plurality of generally horizontally extending inlet and outlet air ducts extending therethrough, said ducts each being closed in cross-section with the top and bottom thereof pointed vertically and the side curving smoothly continuously outwardly and downwardly from said top and then inwardly to said bottom, said ducts having walls perforated with spaced apart air-transmitting holes, said holes being of a size unable to pass grain therethrough.

3,267,589
COLOR INDEX
William Stanish, Temperance, Mich., assignor of one-third to Robert F. Fournier, Detroit, Mich., and one-third to Remi Tas, St. Clair Shores, Mich.
Filed Mar. 23, 1964, Ser. No. 353,877
4 Claims. (Cl. 35—28.5)

1. In a color index having a base with an upright pivot;
a centrally apertured transparent first color disc on said base journaled on said pivot;

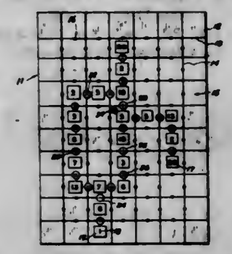
an outer series of spaced radially extending color sectors of varying color density of a first color ranging progressively from 10% to 100% in 10% increments arranged in an outer circle upon said disc;
an inner series of spaced radially extending color sectors of varying color density of said first color spaced radially inward of said outer series ranging progressively from 5% to 100% in 10% increments arranged in an inner circle upon said disc;
with the respective sectors of the outer and inner series being radially aligned and at 5% color graduations therebetween;
a series of spaced numbered outer code boxes imprinted on said disc outwardly of the outer series of sectors arranged in a circle of a predetermined first radius;
a series of spaced numbered code boxes imprinted on said disc inwardly of the inner series of sectors, arranged in a circle of a predetermined second radius;
said code boxes being in radial alignment with corresponding sectors respectively and having numerical designations corresponding to the color densities of the respective sectors;
each sector representing a layer pigment of pre-determined different color density;



a centrally apertured second color disc overlying said first color disc journaled on said pivot;
there being similar spaced outer and inner series of spaced radially aligned color sectors of varying color density of a second color of the same progressive color density ranges as in the first color disc, arranged in outer and inner circles corresponding to said first disc;
there being similar outer and inner series of numerically designated code boxes correspondingly imprinted on the second disc and located at said first and second coresponding radii;
the code boxes of one disc being laterally displaced from the code boxes of the other disc, whereby with any selected rotation of one disc relative to the other and with the corresponding sectors aligned between discs, there is visually produced at each sector location a composite color based upon the combination of overlying different color sectors of the same or different color densities; and
with the adjacent code boxes of the respective disc giving a composite index number for the adjacent composite color produced.

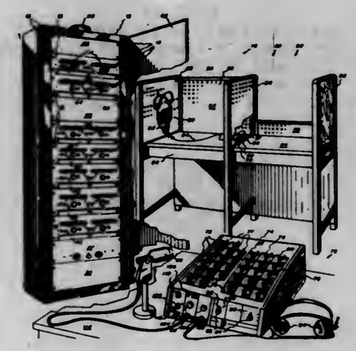
3,267,590
EDUCATIONAL GAME APPARATUS
Carolynn P. Browning, 22535 Metamora Drive, Birmingham, Mich.
Filed May 8, 1964, Ser. No. 365,974
2 Claims. (Cl. 35—31)

1. An educational game apparatus comprising a rectangular game board having a playing surface;
a series of parallel lines and right angularly related parallel lines applied to the playing surface providing intersecting horizontal and vertical rows of squares thereon;
there being an aperture formed into the center of each of the four sides of each square, said apertures registering with said lines;
a large number of square flat tiles of a size smaller than said squares, selectively positionable respectively upon the playing surface in a row within some of said squares;



numerical indicia on each tile, adapted for use in a completed mathematical problem and answer; and
a plurality of mathematical symbol markers, each including a shank adapted for selective positioning respectively in apertures between the tiles applied;
each problem requiring a pair of symbol markers;
a cap on each shank; and
indicia on each cap taken from the group consisting of "plus," "minus," "multiplication," "division," and "equals" signs.

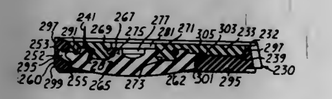
3,267,591
AUDIO TEACHING AID
William N. Locke, Newtonville, Lewis S. Billig, Wayland, and Arthur Bisberg, Lexington, Mass., assignors to General Electronic Laboratories, Inc., Cambridge, Mass., a corporation of Delaware
Continuation of application Ser. No. 42,822, July 14, 1960. This application Aug. 25, 1964, Ser. No. 397,061
8 Claims. (Cl. 35—35)



6. In an audio teaching aid system, the combination of a plurality of student positions; playback equipments grouped together in remote relation to said student positions; and a control console remote to both the student positions and playback equipments; a plurality of switching means in the control console including a student selector switch for each of the student positions and a master selector switch, each of said student selector switches and said master selector switch having a plurality of selector terminals one selector terminal of each switch

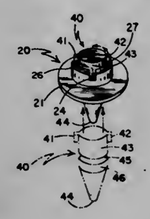
coupled to a corresponding playback equipment and one of the selector terminals on each student selector switch coupled to the master selector switch thereby providing in each student selector switch a capacity for selectively coupling each individual student position to a selected playback equipment and alternatively to the master selector switch.

3,267,592
HEEL
William T. Champion, 2333 Presidio Drive, San Diego, Calif.
Filed Jan. 29, 1965, Ser. No. 428,895
12 Claims. (Cl. 36—35)



1. An article of manufacture comprising a heel for a shoe, said heel having:
(A) An upper horizontally extending section through which section the entire heel is secured to a shoe, said section having:
(1) means forming an annular support on the underside thereof;
(B) an annular impact section rotatably supported by said means;
(C) and a third section including:
(1) an arcuately shaped, downwardly extending, outwardly flexible and downwardly collapsible skirt-like portion, said portion being formed of resilient material, such as rubber, and disposed outwardly of the second mentioned section throughout at least the margin of the rear and an immediate part of one side of the second mentioned section,
(2) and portions extending forwardly of the first mentioned portion and on opposite sides of the first and second mentioned sections, and second mentioned portions extending to the forward ends of the heel.

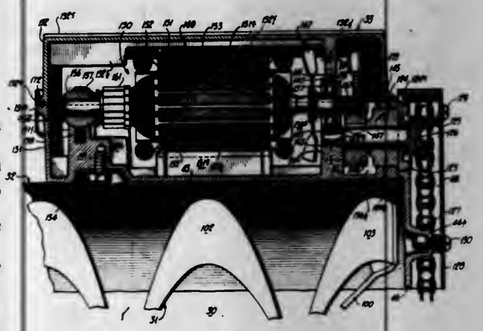
3,267,593
REPLACEABLE SPIKE FOR SHOES
Henry W. Turner, 29 Agatha Road, Revere, Mass.
Filed Sept. 30, 1965, Ser. No. 496,236
4 Claims. (Cl. 36—59)



1. In combination:
(a) anchor means comprising an integral solid rim adapted to engage the inner surface of a shoe sole and a tubular portion adapted to extend through such sole,
(b) a spike member and
(c) an insert member having a portion adapted to fit tightly inside said anchor tubular portion and having an annular rim adapted to engage the outer surface of the shoe sole and means for engaging the spike member in locked position;

the bottom exterior wall of the insert member having a keyway and the top of the spike member having a protrusion engageable with the keyway, and locking means being provided for said protrusion in said keyway.

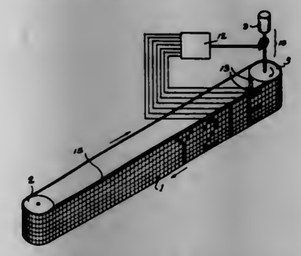
3,267,594
APPARATUS FOR REMOVING SNOW
Charles A. Mattson, Oak Park, Ill., Fredrick O. Ottosen, deceased, late of Chicago, Ill., by Harriet Ottosen, executrix, Chicago, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed June 5, 1963, Ser. No. 286,142
21 Claims. (Cl. 37—43)



1. Apparatus for removing snow comprising an elongated cylindrical impeller housing open along one side and closed at both ends, means for supporting said housing with the longitudinal axis thereof disposed in a generally horizontal position for movement in a direction transverse to said longitudinal axis, a rotatable impeller mounted in said impeller housing including a first impeller portion for moving snow within said impeller housing in the direction of said longitudinal axis and in good heat exchange relationship with at least a portion of said impeller housing and a second impeller portion for throwing snow engaging said second impeller portion outwardly at high speed, an electric motor including an elongated casing, said casing completely sealing said motor against the entrance and exit of fluids, means for mounting said casing with its longitudinal axis parallel with the axis of said impeller housing and with a substantial area of said casing in good heat exchange relationship with said portion of said impeller housing whereby the moving snow in said impeller housing cools said portion of said impeller housing and said motor, and drive means interconnecting said electric motor and said impeller.

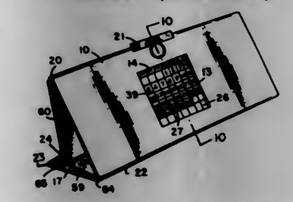
3,267,595
DISPLAY UNIT
Maurice M. Levy, 208 Clemow Ave., Ottawa, Ontario, Canada, and David S. Hay, Ottawa, Ontario, Canada; said Hay assignor to said Levy
Filed June 5, 1963, Ser. No. 285,543
20 Claims. (Cl. 40—28)

1. A display unit comprising a row of multi-faced elements each mounted for independent display changing movement relative to the row between a plurality of stable positions in each of which a respective distinctive face of said element defines a display array with the display faces of the other elements, actuating and indexing means for initiating and completing display changing movement of a said element from one said position towards another and for retaining said element in said other position, and means for moving the row and the actuating means relative to each other to bring each element successively into cooperating relationship with the actuating means, said actuating means comprising trigger means movable in the path of travel of each said element, and at least one face of each said element having a co-operating surface for direct



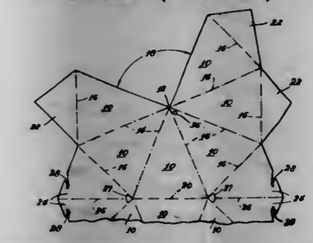
mechanical engagement with said trigger means for initiating said display changing movement of each element upon engagement of its said co-operating surface with said trigger means.

3,267,596
PERPETUAL CALENDARS
Walter C. Boggiss, 229 Berry St., Norwood, Winnipeg 6, Manitoba, Canada
Filed Nov. 21, 1963, Ser. No. 325,423
11 Claims. (Cl. 40—109)



1. In a perpetual calendar: a casing having a window therein; a pair of plates slidable in said casing, for selective exposure of material thereon through said window, in the movement of said plates therepast; means for frictionally restricting the movement of one of said plates on the casing; means for manually moving the other of said plates past said restricted plate for a predetermined distance, to mask, and expose, specific material; and the other of said plates further operable, in the continued manual movement thereof at the end of said predetermined distance, to move the first mentioned one of said plates along the casing, against said restricting means.

3,267,597
HOLLOW FOLDABLE DISPLAY
Nicholas G. Jannes, 161 W. Huron St., Chicago 10, Ill.
Filed Jan. 27, 1964, Ser. No. 340,174
1 Claim. (Cl. 40—126)



In a hollow foldable display,
(a) a single sheet of flexible material cut, scored, and folded to similar facets on opposite sides of a common center line;
(b) a triangular facet on each side having a base hinged to a similar facet base;
(c) other triangular facets hinged to the sides of (b) and having a common center;
(d) the facets on each side of the said center line having an angular omitted space, allowing the bases of said facets (c) to be drawn together in a common plane about said center which projects therefrom;
(e) projections from the bases of said facets extending inwardly together;
(f) means connecting some of said projections together to abut and limit the movement together of each structure (d);
(g) some of the projecting facets having engaging hook means formed therein;
(h) and an elastic band to engage said hooks
(1) to draw the facets of each half of (d) together;
(2) to draw each pair of halves together.

3,267,598
INTERNALLY ILLUMINATED MATRIX
Bobby G. Olesen, Inglewood, Barbero Di Martino, Rolling Hills, Richard T. Heap, Los Alamitos, and Norman G. Haddad, Long Beach, Calif., assignors to North American Aviation, Inc.
Continuation of application Ser. No. 21,825, Apr. 12, 1960. This application June 5, 1963, Ser. No. 285,840
8 Claims. (Cl. 40—130)

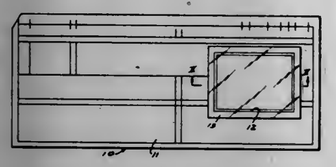


1. The combination of:
a panel of transparent material in relatively thin sheet form having indicia on an outer surface of said panel,
a light source comprising at least one electric light bulb integrally united to said material by encapsulation therewithin so that the outer surface of said bulb is in substantially uniform contact with said material over substantially the entire surface of said bulb, and
means for energizing said light source to illuminate said material from within.

3,267,599
FILM RECORD CARD
Thomas P. Anderson, Hubbards Woods, and Robert Beispel, Skokie, Ill., assignors to Microseal Corporation, Chicago, Ill., a corporation of Illinois
Filed June 2, 1965, Ser. No. 460,802
3 Claims. (Cl. 40—158)

1. A film record card comprising:
a card having an aperture formed therein,
a pair of transparent enveloping members made of polyethylene terephthalate overlying said aperture and secured to said card on opposite sides of the card for providing a pocket therebetween in said aperture to receive a translucid film and to maintain the film in coplanar relation with said card, and

a coating of reflective material applied to the external surface of at least one of said enveloping members



and having the property of partially reflecting light rays directed toward said external surface.

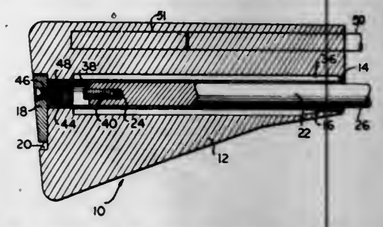
3,267,600
ARRANGEMENT DISGUISING A TOY CAP GUN
John W. Ryan, Bel Aire, Calif., assignor to Mattel, Inc., a corporation of California
Filed Jan. 18, 1965, Ser. No. 426,150
9 Claims. (Cl. 42—54)



1. A toy comprising:
first and second housings;
a cap-firing mechanism mounted on one of said housings and comprising a manually operable trigger,
the other housing being movably mounted on said one housing and having a chamber therein and an opening from the exterior of said other housing into said chamber, said other housing being mounted on said one housing for movement between a first position wherein said chamber encloses and hides said trigger and a second position wherein said trigger is exposed, and
means for selectively maintaining said other housing in said first position wherein it and said one housing jointly define a shape simulating an innocuous object, or in said second position wherein it and said one housing simulate a gun, a gun barrel simulating member mounted on said first housing and adapted to be hidden therewithin, means for maintaining said gun barrel member hidden within said first housing when said second housing is in said first position, and means for exposing said gun barrel member when said second housing is in said second position.

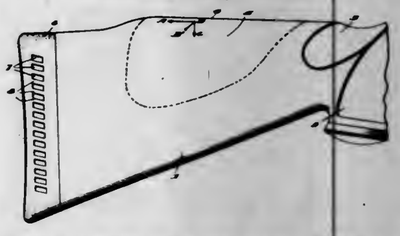
3,267,601
ADJUSTABLE LENGTH BUTTSTOCK
Robert E. Roy, East Haven, Conn., assignor to Colt's Inc., Hartford, Conn., a corporation of Arizona
Filed Oct. 26, 1964, Ser. No. 406,295
8 Claims. (Cl. 42—73)

1. An adjustable length buttstock assembly comprising: a stock having a bore extending therethrough; a tube mounted within said bore; a rod member having one end slidably extending into said tube; and guide means between said tube and said rod member precluding rotation of said stock relative to said rod, while permitting limited relative sliding movement between said tube and said rod member; whereby, when said rod is secured to a fire-



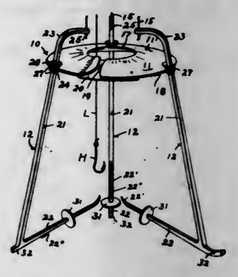
arm, the length of the firearm may be varied by sliding said tube and said stock along said rod member.

3,267,602
BUTTSTOCK PAD
Arthur Miller, Costa Mesa, Calif., assignor to Armalite, Inc., Costa Mesa, Calif., a corporation of California
Filed Feb. 25, 1965, Ser. No. 435,175
2 Claims. (Cl. 42—74)



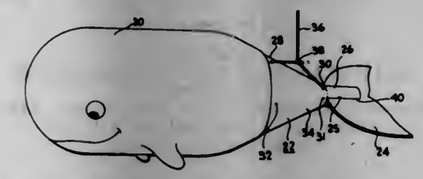
1. A pad for mounting a firearm stock having a shoulder rest portion and a cheek rest portion, said pad being mounted on the butt of the stock, said pad having at least a portion thereof formed of resilient material and having a plurality of spaced slots formed in said resilient portion, said slots extending in a transverse direction with respect to said stock and being slanted downwardly from the rear of the stock towards the front thereof thereby forming a plurality of slanted webs therebetween so that upon firing, the force of recoil will cause said stock to pivot about the rear portion of said webs to move said cheek rest portion downwardly.

3,267,603
FISH GRAPPLE
Nancy L. Josephs and Leland E. Josephs, both of 1924 Courtland Ave., Oakland, Calif.
Filed June 29, 1964, Ser. No. 378,664
2 Claims. (Cl. 43—5)



1. For cooperation with a fishing line having terminal fishing tackle including a fishhook operatively engaging a caught submerged fish, a grapple comprising a rigid body member including an annular ring adapted to freely receive the fishing tackle through its bore, a plurality of like planar grapple hook members each having an intermediate shank portion connecting piercing prong and lever arm portions coterminous with opposite ends of the shank portion, means hingedly connecting said shank portions of the hook members to the body at symmetrically related peripheral body points for limited gravity biased free swinging of the hook members about axes parallel to the peripheral plane of the body member, and a positioning control and pull line for the grapple connected to said arm portions and operative axially of the body member, said prong portions being directed obliquely toward both the axis and plane of the body opening to provide for a mutual wedging separation of the prongs by the engaged head of the caught fish and a grappling penetration of the prongs in the fish by reason of a continued relative movement of the fish and grapple body toward each other by said control line, and said hook prongs mounting stop members in spaced relation from the prong points for limiting the penetration of the prongs with respect to a grappled fish.

3,267,604
TOY BALLOON HOLDER
Willis H. Goldsmith, 10805 Hess Drive, La Mesa, Calif.
Filed June 29, 1964, Ser. No. 378,544
27 Claims. (Cl. 46—88)



5. A toy balloon holder comprising,
balloon holder means for holding a balloon having an inflating stem,
said balloon holder means having hollow longitudinal means for receiving the inflating stem of a balloon and securing the inflating stem of a balloon when inflated against release and deflation,
flared end means capable of being secured to said longitudinal means for forming a seat for the end of the inflated balloon,
the end of said longitudinal means opposite said flared end means having counterbalancing means fixed thereto for substantially counterbalancing the weight of the balloon,
and suspension means capable of being attached to said flared end means for suspending said holder means and said counterbalancing means and the balloon.

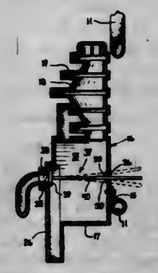
3,267,605
ANIMATED WHEELED PULL TOYS
Gifford H. Allen, Hotchkiss, Colo.
Filed Oct. 12, 1964, Ser. No. 403,300
2 Claims. (Cl. 46—99)

1. An animated pull toy comprising: a body block; concentrically mounted front wheel supporting the forward extremity of said body block; an eccentrically mounted rear wheel supporting the rear extremity of said body block; a figure block fixedly mounted on and arising from said body block; a lower beak projecting forwardly from the upper extremity of said figure block; a head block pivotally mounted on the upper extremity of said figure block so that it may tilt forwardly and backwardly; an upper beak mounted on said head block and projecting forwardly above and in alignment with said lower back and adapted to contact the latter when said figure block moves forwardly and to swing upwardly from said lower beak when said figure block is tilted rearwardly in consequence of the eccentric mounting of said rear wheel; a flat side on said rear wheel adjacent the point of least diameter of the latter to accentuate the descent and ascent of the rear extremity of said body block as said toy moves forwardly to cause said upper beak to rapidly close against and open away from said lower beak; a plurality of clicker teeth on the circumference of said rear wheel at the point of greatest radius; an elongated reed secured at one extremity in said body block and positioned at its other extremity to be contacted by said clicker teeth when said point of greatest



radius is in alignment with said reed to produce a quacking sound following each opening of said upper beak; a cheek block on each side of said head block extending downwardly on each side of and overlapping said figure block; a pivot pin extending through said figure block and through the overlapping cheek blocks to form the pivotal mounting of said head block; and counter-balance means extending forwardly from said cheek blocks to cause an over-balance in said head block when said figure block moves forwardly to cause said upper beak to close against said lower beak.

3,267,606
IMITATION BICYCLE MOTOR
Fred R. Forbis, Indianapolis, Ind. (203 S. Crescent Drive, Frankfort, Ind.), and J. Wilbur Duff Robbins, 4950 W. Caven St., Indianapolis, Ind.
Filed July 16, 1963, Ser. No. 295,476
1 Claim. (Cl. 46—175)

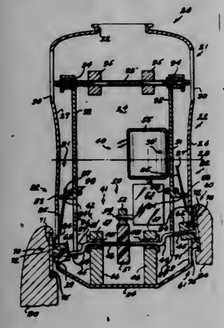


The combination of a bicycle and a toy simulated motor, said motor comprising a hollow plastic member having an inside wall and an outside wall, a simulated exhaust pipe extending from said outside wall rearwardly of the bicycle, said bicycle having a frame and wheel spokes, means securing said member to the frame of the bicycle with said inside wall adjacent said wheel spokes, an elongated resilient element having an enlarged head and integral collar, said member having a first aperture in its outside wall which leads into said exhaust pipe and a second aperture in the inside wall, said enlarged head

being press fitted within said first aperture with said collar in abutment with said outside wall, sand elongated element extending through the hollow portion of said member and through said second aperture into the path of said spokes, said second aperture being larger than the cross section of said elongated element and providing a pair of mutually facing striking surfaces for said elongated element.

3,267,607
WALKING TOY

John W. Ryan, Bel Air, Calif., assignor to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed Nov. 27, 1963, Ser. No. 326,544
12 Claims. (Cl. 46—247)



8. A doll adapted to walk independently with natural body and leg motions, comprising:

a body including a torso and rigid legs pivotally attached thereto;

drive means mounted in said torso, said drive means being controlled by the motion of said body to synchronize said motion and drive means, said drive means comprising:

(a) rotatable crank means connecting said torso to said legs and adapted to periodically bend said torso and legs toward each other, twist said torso with respect to said legs and lift said legs with respect to each other alternately on each side of said doll;

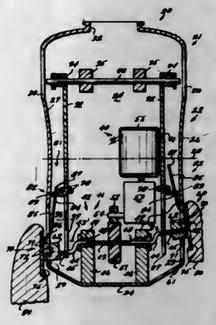
(b) gear means for rotating said crank means; and

(c) motor means for driving said gear means, said crank means comprising a substantially offset shaft having a finger extending outwardly at each end at an acute angle to the axis of the central body of said shaft, the axes of said fingers being displaced from each other.

3,267,608
WALKING TOY

John W. Ryan, Bel Air, Calif., assignor to Mattel, Inc., a corporation of California
Filed Aug. 4, 1965, Ser. No. 477,146
11 Claims. (Cl. 46—247)

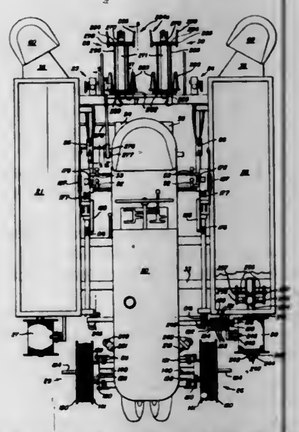
1. A walking figure comprising: a substantially upright torso having a pair of depending substantially rigid legs separately pivoted thereto and relative to each other and having ground-engaging feet at their lower ends; said legs each being mounted on said torso for fore and aft swinging movement relative thereto substantially about a transverse axis and for limited lateral swinging movement relative to said torso about a fore and aft axis; drive means in said figure and arranged to swing said legs in opposite fore and aft directions relative to said torso; said drive means being arranged to swing at least one leg laterally relative to said torso to thereby throw the weight of said figure onto said one leg and to swing the other leg forwardly while also swinging said one leg rearwardly to move said torso forwardly, said ground-engaging feet each having an inner edge, an outer edge and a portion



sloping downwardly and laterally from said inner edge to an apex portion, said apex portion being located intermediate said edges at a position which is closer to said inner edge than to said outer edge whereby said apex acts as a fulcrum when the weight of said figure is shifted.

3,267,609
POLE BEAN STAKING AND TRELLISING MACHINE

Harvey H. Rasmussen, 273 W. 1st S., Preston, Idaho
Filed June 1, 1964, Ser. No. 371,731
19 Claims. (Cl. 47—1)



10. A pole bean staking and trellising machine comprising a tractor; a pair of stake presses carried by said tractor, each of said stake presses including a fixed sleeve and a reciprocating member having a head thereon, said reciprocating member being guided in said fixed sleeve; means for driving said reciprocating member from a raised rest position to a low reversing position and back to the raised rest position; a pair of trellisers carried by said tractor, each of said trellisers including upper and lower front sprockets, a trelliser chain interconnecting said upper and lower front sprockets, another trelliser chain interconnecting said upper and lower rear sprockets, a first hollow axle journalled through said upper sprockets, a second hollow axle journalled through said lower sprockets, support means for said first and second hollow axles, means rigidly interconnecting said upper sprockets, means rigidly interconnecting said lower sprockets, a plurality of means for holding spools of string on the

chain interconnecting the front sprockets, string guide means fixed to and carried by the chain interconnecting the rear sprockets, and a drive sprocket fixed to the lower sprocket and rotatable therewith; drive means for said drive sprocket, said drive means including a sprocket fixed to the rear axle of the tractor and means interconnecting the sprocket fixed to the rear axle and the drive sprocket whereby said trelliser chains are driven at a speed dependent upon the speed of the tractor; means for supplying wire under constant tension through said first hollow axles; and means for supplying cord under constant tension through said second hollow axles.

3,267,610
APPLICATOR

Michael Robert Hills, Fernhurst, near Haslemere, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed June 5, 1964, Ser. No. 372,790
Claims priority, application Great Britain, June 5, 1963, 22,321/63
11 Claims. (Cl. 47—1.7)



11. An applicator for applying liquid to the ground at the base of a tree comprising a portable handle member bearing towards one end thereof a supporting means, a guard, said guard being attached to said supporting means, said handle member incorporating a pump and an applicator head, said applicator head being pivotally connected to both the handle member and the pump whereby when the pump is actuated the applicator head is caused to move about its pivotal connections, said guard being adapted to surround a substantial part of the circumference of said tree.

3,267,611
HINGE

George C. Hayman, 2350 E. Iliff, Apt. 9, Denver, Colo.
Filed Mar. 2, 1964, Ser. No. 348,613
2 Claims. (Cl. 49—251)

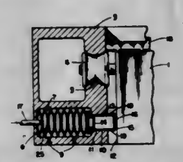
1. In a window structure having a rectangular frame including upstanding side members and a rectangular sash within said frame and including top and bottom horizontal members and upstanding side members respectively adjacent and in opposing relationship to said first mentioned side members, hinge means at opposite sides of said sash removably and pivotally supporting said sash within said frame, each of said hinge means including a first element secured to one of said sash side members and comprising a resilient upper end portion offset outwardly of said one sash side member and extending above an uppermost edge of said sash top member, an elongated track member secured to the frame side member opposing said one sash side member, a pivot and slide member secured to said resilient upper end portion and pivotally and slidably engaging said track member, said pivot and slide member being disposed with its pivotal axis above said uppermost edge, said resilient upper end portion yieldably biasing said pivot and slide member toward said track member, a strut element having a first end pivotally connected to said one sash side member below said pivot and slide member and an opposite end portion adjacent said track member, a second pivot and slide member connected to said opposite end portion and pivotally and slidably engaging said track member, said



strut member being resilient and extending away from said sash for yieldably urging said second pivot and slide member into engagement with said track member, said track member including flange means confining said pivot and slide member and a wall disposed in opposing relationship to said one sash side member, and said pivot and slide members engaging said wall for frictionally retaining said sash in any desired opened position.

3,267,612
RETRACTABLE METAL DOOR SEAL

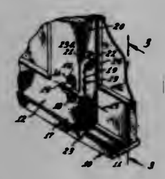
Walter Horvat, Santa Monica, Calif., and Bud D. Lobaugh, Marco, Fla., assignors to North American Aviation, Inc.
Filed Apr. 15, 1964, Ser. No. 359,889
1 Claim. (Cl. 49—316)



In a sealing arrangement for an exterior sliding retractable aircraft door assembly exposed to aerodynamic and wind forces, the combination of a door frame surrounding a door and having formed therein a track with opposed convex track surfaces and a linearly extending chamber adapted to receive an expansible member, said chamber having access to the interior of said door frame adjacent an edge portion of the door by means of an interconnecting linearly extending slotted opening in said door frame; a door having rollers projecting from edge portions thereof with said rollers having a surface of revolution complementary to and operatively contacting said opposed track surfaces to permit the door to slide longitudinally to open and closed positions with respect to said door frame while restraining movement in directions other than said longitudinal direction, the exterior portion of said door frame and said door that is exposed to the air stream forming a flush substantially continuous surface; a linearly extending slidable metallic piston extending through said linearly extending slotted opening adapted for movement into contact with an edge portion of said door for sealing the same, said piston including

a resilient metallic strip removably attached to its inner end adjacent to said door for contacting an edge portion of said door, said piston and said resilient metallic strip having rubbing surfaces and having a dry film lubricant on such rubbing surfaces; a linearly extending expansible resilient metallic member in said linearly extending chamber for actuating said piston into sealing contact with an edge portion of said door, said resilient metallic member having a static retracted position whereby said piston is not forceably pressed into contact with said door when said resilient metallic member is in such static retracted position; and means for actuating said expansible metallic member into an expanded position by means of fluid pressure.

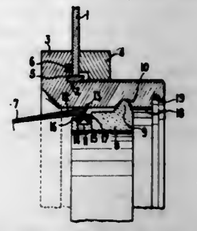
3,267,613
LOCK FOR SLIDABLY MOUNTED CLOSURES
Denny C. McQuiston, 4824 W. Encanto Blvd., Phoenix, Ariz.
Filed Feb. 25, 1965, Ser. No. 435,204
2 Claims. (Cl. 49—449)



1. A lock for a slidably mounted closure door comprising in combination:
(A) a swinging arm having,
(B) a horizontally disposed portion pivotally journaled on the inside surface of the door for swinging about a horizontal axis parallel to the door movement,
(C) a radially outwardly extending portion from one end of said horizontally disposed portion arranged to abuttingly engage the end of said door,
(D) and a locking pin portion formed on the outer end of said last mentioned portion extending at right angles to said radially extending portion in a plane parallel to said end of said door,
(E) a door sill including a locking notch to receive said locking pin portion,
(F) a track on said door sill for slidingly supporting the door,
(G) said arm being adapted to be swung downwardly from a position against said door end face into the bottom of said notch so as to present said locking pin portion in said notch when said door is in closed position on said sill.

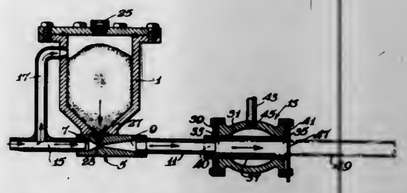
3,267,614
INTERCHANGEABLE SEALING DEVICE FOR JOINING A DETACHABLE COMPONENT TO A RIGID WALL
Jean-Pierre Cazalis, Bezons, and Jean Vertut, Paris, France, assignors to Commissariat à l'Energie Atomique, Paris, France
Filed Nov. 1, 1963, Ser. No. 320,640
Claims priority, application France, Nov. 8, 1962, 914,849
9 Claims. (Cl. 49—488)

1. A sealing device for joining a detachable component to a rigid wall, comprising: a rigid wall having a passageway extending therethrough, the perimeter of said passageway including a continuous sealing surface extending therearound and a groove adjacent said sealing surface; and a detachable component mounted in said passageway, said detachable component having an outwardly extending, semi-rigid bead disposed in said groove securely and detachably fastening said detachable component in said passageway, said detachable component including a continuous channel facing said sealing surface



of said passageway; and a deformable sealing joint having at least two sealing lips, one being in sealing engagement with a surface of said channel and the other being in sealing engagement with said sealing surface.

3,267,615
PRESSURE BLAST APPARATUS
Ralph W. Moore, Hagerstown, Md., assignor to The Pangborn Corporation, Hagerstown, Md., a corporation of Delaware
Filed Feb. 11, 1964, Ser. No. 343,973
4 Claims. (Cl. 51—8)

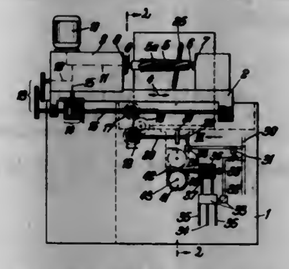


1. A pressure blast apparatus for projecting a stream of abrasive particles comprising a hopper for receiving and storing a quantity of said abrasive particles under pressure, an opening in said hopper for receiving gas under pressure, and a discharge opening in said hopper for discharging said abrasive particles, a mixing chamber attached to said hopper at said discharge opening for receiving said discharged particles therefrom, an opening in said mixing chamber for receiving a stream of gas under pressure, and a discharge opening in said mixing chamber for discharging said particles and said stream of gas, the interior of said mixing chamber conforming to a venturi configuration with the point of discharge from said hopper into said mixing chamber being at the point of smallest diameter in the venturi configuration.

3,267,616
GRINDING MACHINE
Gerhard Stade, Berlin, and Georg Stahn, Berlin-Tegel, Germany, assignors to Firma Herbert Lindner G.m.b.H. & Co., Berlin-Wittenau, Germany
Filed Feb. 12, 1964, Ser. No. 344,266
Claims priority, application Germany, May 14, 1963, L 44,878
8 Claims. (Cl. 51—95)

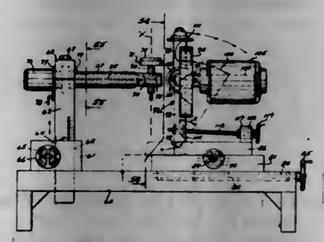
2. A device for relieving, and particularly relief grinding, the cutting teeth of grooved workpieces such as a tap drill, comprising means for rotatably supporting a workpiece, grinding wheel means, feed gear means for moving said grinding wheel means backwardly and forwardly toward and away from said workpiece and for rotating said workpiece supporting means, said feed gear means including a rotatable relief control cam, relief grinding control means operatively associated with said relief

control cam and movable thereby effective to shift said grinding wheel means for relieving the workpiece, such feed gear means further including means rotatable in timed relationship with said relief control cam effective



to shift said grinding wheel means by a predetermined fixed increment when said gear wheel means is aligned with the groove of the workpiece whereby cutting of the next tooth will be at a changed radius.

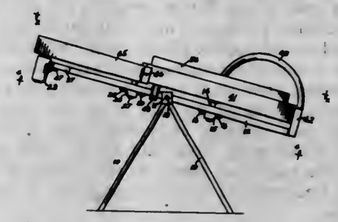
3,267,617
LENS GENERATING APPARATUS
David Volk, 336 Kersdale Road, Pepper Pike, Ohio
Original application Aug. 22, 1962, Ser. No. 218,601, now Patent No. 3,218,765, dated Nov. 23, 1965. Divided and this application Aug. 18, 1965, Ser. No. 480,726
9 Claims. (Cl. 51—105)



1. A machine for generating optical surfaces and templates for the same comprising a base, means for mounting a work blank above said base, a tool having a circular grinding edge, means for mounting said tool on said base for movement toward and away from said blank, said last named mounting means providing adjustments of said tool to vary the angle of the plane of said grinding edge relative to said work blank about two diameters of said circle at 90° to each other, means for rotating said tool about an axis normal to the center of said circular grinding edge, and means for causing said tool grinding edge to engage and form said work blank.

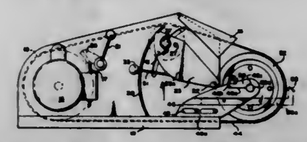
3,267,618
LAPIDARY MACHINE
Charles L. Giezentanner, 521 Juniper Drive, Moses Lake, Wash.
Filed Aug. 28, 1963, Ser. No. 305,176
2 Claims. (Cl. 51—129)

1. In a lapidary machine:
a stationary supporting framework;
an upwardly open dished pan having a plane bottom interior surface, said pan being rotatably mounted on said framework for rotation about an axis perpendicular to said surface;
a plurality of arms fixed relative to said framework and extending outwardly from a location directly adjacent to and above the pan along said axis, said arms extending partially toward the periphery of said pan and parallel to said surface;
enclosure means freely resting on said surface in the areas between said arms, said enclosure means overlapping said arms in a direction parallel to said axis; and an eccentric upright wall fixed relative to said pan



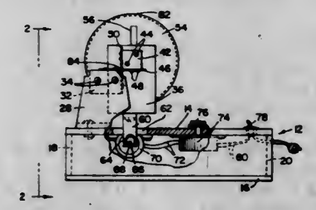
extending upwardly from said surface, said wall being located radially beyond the ends of said arms by a distance less than the width of said enclosure means.

3,267,619
BELT GRINDING MACHINE
Gerald Den Herder, Tacoma, Wash., assignor to Square Wheel Co., Seattle, Wash., a corporation of Washington
Filed Feb. 17, 1964, Ser. No. 345,147
8 Claims. (Cl. 51—148)



1. In a belt grinding machine having a frame and a removable driven abrasive belt carried on parallel spaced shafts cantilevered from one side of said frame, a block adjacent said frame, swing means on said frame for swinging said block in a plane parallel to that occupied by said belt, said swing means comprising a parallel linkage having parallel spaced swing members pivoted at one end to said block and at their other end to said frame, positioning means for holding said block relative to said frame in selected positions of its swinging travel, a dead shaft cantilevered from said block toward said belt, and a tensioning idler for said belt journal-mounted on said dead shaft.

3,267,620
VIBRATORY POLISHER
Edwin R. Dayton, 48 N. Main St., South Yarmouth, Mass.
Filed Nov. 1, 1963, Ser. No. 320,865
4 Claims. (Cl. 51—163)



1. A vibratory machine for use in polishing small metallic articles, precious and semi-precious stones and the like comprising the combination of: a base member having supporting standards extending upwardly therefrom in opposed spaced relationship; a polishing drum removably mounted on an intermediate cradle, said cradle suspended between said standards by spring means, said spring means

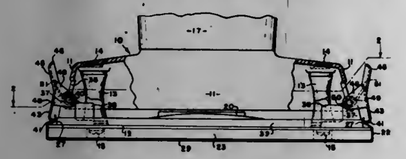
comprised of two elongated bendable flexure members, one end of each said flexure members fixed to one of said standards, said flexure members extending in spaced parallel planes with their longitudinal axes angularly disposed, the other ends of said flexure members fixed to said intermediate cradle; a vibratory unit mounted on said base and connected to said polishing drum, said vibratory unit comprised of a motor mounted on said base, said motor having a rotating drive shaft extending outwardly therefrom, an eccentric mounted on said drive shaft for rotation therewith, said eccentric journalled within a bracket depending downwardly from said cradle, and means for varying the rotational speed of said motor in order to vary the frequency of vibrations imparted to said polishing drum.

3,267,621
ARTICLE DECORATING
Willard F. Meyers and Lowell J. Wells, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio
Filed Dec. 6, 1963, Ser. No. 328,541
17 Claims. (Cl. 51—312)



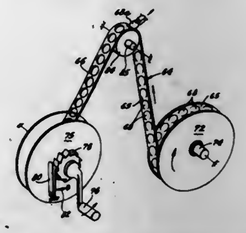
17. Method of decorating a selected surface area of an article comprising the steps of applying a thin, adhesive film to the surface area to be decorated, screening a resist material over the adhesive film with a preselected image pattern corresponding to a predetermined design, grit blasting over the surface area to cut the design and then removing the resist material and adhesive thereby to provide an article having a surface cut decoration therein.

3,267,622
ABRASIVE PAD STRUCTURE FOR PORTABLE SANDING MACHINE
Lars Frostad, Syracuse, N.Y., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 19, 1964, Ser. No. 376,498
6 Claims. (Cl. 51—384)



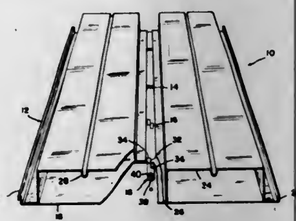
3. An abrasive sheet carrying pad for portable power-operated sanding machines including a flat base plate formed at each end with a pair of upstanding shoulders, the shoulders of each pair being contiguous to the side edges of said plate, said shoulders being spaced apart transversely of the plate in a common plane and being spaced inwardly from the end edge of the plate, said plate being formed contiguous to each pair of shoulders with an upstanding lug, a pivot pin carried by said lug and an abrasive sheet clamp member mounted on said pivot pin and having an abrasive sheet engaging jaw portion extending transversely of the base plate outwardly of said shoulders, said jaw portion having a length comparable to the width of said base plate, a pair of torsion springs mounted on said pivot pin at opposite sides of said lug, each of said springs having one leg thereof extending forwardly and upwardly from said pivot pin and engaging said clamp member in an area above the horizontal plane passing through said pivot pin, the opposite leg of each of said pair of springs extending rearwardly from said pivot pin and engaging a support located contiguous to said horizontal plane.

3,267,623
ABRASIVE ARTICLE
Aleck Block, Los Angeles, Calif., assignor to Merit Products, Inc., Los Angeles, Calif., a corporation of California
Filed Feb. 8, 1963, Ser. No. 257,263
13 Claims. (Cl. 51—406)



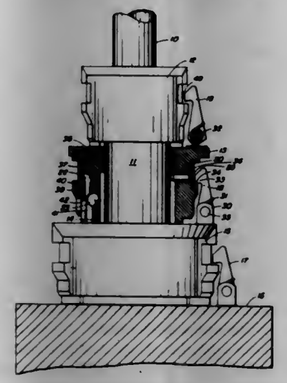
1. Means for dispensing adhesively coated abrasive disks comprising a ribbon of flexible material in the form of a spirally wound roll, said ribbon having a series of manually releasable disks disposed in spaced relationship to one another along the ribbon and separated from the ribbon along substantially the full circumferences of the disks and attached to the ribbon at narrow neck portions of the disks, each disk being coated with abrasive material on one of its faces and being coated on its other face with a pressure-sensitive adhesive.

3,267,624
COMPOSITE PANEL WITH CONCRETE BACKER AND HANGING MEMBERS
Albert J. Wozniak, Cheektowaga, and Ralph H. Stoos, Depew, N.Y., assignors to Fenestra, Incorporated, Detroit, Mich., a corporation of Michigan
Filed May 31, 1963, Ser. No. 284,574
4 Claims. (Cl. 52—100)



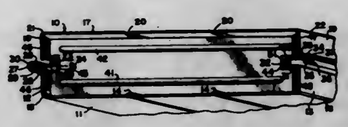
1. A building structure comprising a plurality of panels including an elongated, rectangular, substantially flat bottom plate member having means at the sides thereof for securing adjacent panels together, at least two longitudinally extending, transversely spaced apart downwardly opening hat-shaped members secured to the upper surface of the bottom plate member, at least one transversely extending slot in said bottom plate between the hat-shaped members being formed from a knock-out portion of the bottom plate and having a transverse dimension less than the longitudinal dimension thereof, and a T-bar hanger comprising an elongated, substantially flat bar having a stem portion extending through said slot with the upper end thereof bifurcated and bent to provide portions extending in each direction transversely of the slot and an opening through the lower portion of the T-bar hanger for use in hanging members therefrom.

3,267,625
LATCHING MECHANISM FOR AN EXTENSIBLE ANTENNA
Donald L. Holzschuh and Allan Van Horne, Richardson, and James L. Seymour, Jr., Mesquite, Tex., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed May 16, 1963, Ser. No. 280,831
5 Claims. (Cl. 52—111)



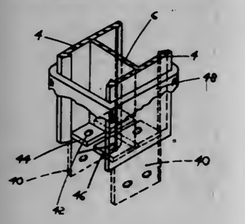
1. In an extensible antenna having a plurality of telescopic tubular sections that are to be extended in an inner to outer sequence and to be retracted in an outer to inner sequence, the combination of a hold-down latch and a supporting stop for each of said sections to control sequence of extension and retraction, said latch and said stop for any of said sections being mounted on the periphery of the upper end of that section, a latch seat for each section in alignment with said latch of an adjacent section, means for urging each of said latches inwardly to engage a respective one of said seats in the immediate adjacent inner one of said sections thereby to prevent separation of said adjacent sections, a release pin extending inwardly from each of said latches to the outer surface of the adjacent inner one of said sections, means for urging said supporting stop of any one of said sections inwardly in response to the extension of that section from its fully telescoped position relative to its adjacent outer section, each of said tubular sections having an outer control surface near its lower end comprising a protruding upward facing ledge and a protruding downward facing ledge, said upward facing ledge being in vertical alignment with said release pin of the adjacent outer one of said sections, said downward facing ledge being in vertical alignment with said supporting stop of the same adjacent outer one of said sections, said upward facing ledge of any of said sections in response to substantially full extension thereof engaging said release pin of that one of said sections immediately adjacent to the outer surface of said extended section to force the respective one of said latches outwardly for unlatching said immediately adjacent outer section from the next adjacent outer section, thereby to permit extension of said immediately adjacent outer section, said supporting stop that is mounted on said immediately adjacent outer section being operated inwardly in response to upward movement of this immediately adjacent outer section to engage said downwardly facing ledge of said fully extended section to fasten said extended section to said immediately adjacent outer section, said supporting stop being operated outwardly in response to subsequent full retraction of said immediately adjacent outer section to release said extended section for permitting its retraction, and said respective release pin being forced inwardly in response to downward movement of said extended section to cause said respective latch to engage its seat for latching together said immediately adjacent outer section and said next adjacent outer section.

3,267,626
COMPOSITE PANEL WITH INSULATING INSERT
Edwin A. Daly, Detroit, Mich., assignor to Walcon Corporation, Ecorse, Mich., a corporation of Michigan
Filed Sept. 3, 1963, Ser. No. 306,184
7 Claims. (Cl. 52—145)



1. A building construction panel comprising: an inner section and an outer section spaced from said inner section; said sections being formed from sheet-like material; a longitudinally extended joint means formed on each side of the panel and extending longitudinally thereof and adapted to interfit with a complementary joint means on a similar panel when assembled with other panels in side-to-side cooperative relationship; each of said joint means having a female member extended inwardly into the panel and a male member disposed parallel with said female member and laterally offset therefrom and extended sidewardly outwardly from the panel; said inner section including an inner wall and a pair of integral inwardly extended end walls; said outer section including an outer wall and a pair of integral inwardly extended end walls; the end walls on each of the panel sections being extended perpendicularly inward with the adjacently disposed end walls on each end of the panel being aligned with each other; the female member of the joint means on one end of the panel being U-shaped and including a first wall portion integral with the end wall on the outer panel and a second wall portion parallel to the first wall portion and spaced apart therefrom and having the end thereof extended sidewardly outward from the panel beyond the adjacent end walls of the panel; the male member of the joint means on said one end of the panel being U-shaped and including a first wall portion integral with the adjacent end wall on the inner panel and a second wall portion parallel to the first wall portion and spaced apart therefrom and having the end thereof extended towards said last mentioned end wall but stopping short thereof; the U-shaped female member being offset from the U-shaped male member; the open ends of said U-shaped members facing each other; the outwardly extended end of the female U-shaped member second wall portion being extended into the U-shaped member of the male member of the joint means; the female member of the joint means on the other end of the panel being formed identical to said last named female member but being integral with the inner panel; and, the male member of the joint means on the other end of the panel being identical to the last named male member but being integral with the outer panel; said panel including a closure plate on each end of said panel, said closure plate having friction gripping means at each end thereof to hold the closure plate in said panel, and opposed inwardly disposed recesses at each end of said closure plate receiving the U-shaped portion of said female joint means.

3,267,627
POST AND BASE MEMBER
Andrew B. Hammitt, 909 W. State St., Trenton, N.J.
Filed Aug. 17, 1965, Ser. No. 480,404
1 Claim. (Cl. 52—298)



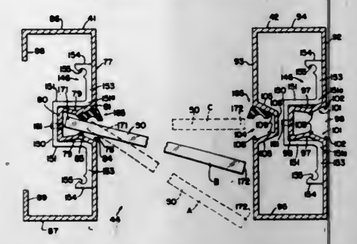
A building construction comprising a vertically extending post which is generally H-shaped in cross section and embodies a central web portion extending between and at right angles to spaced parallel face portions of said post and located between the opposite vertical edges of said face portions of the post, the face portions of said post at the lower end of the post extending beyond the central web portion of the post, the extended lower ends of the face portions of said post projecting inwardly in opposite directions at right angles to all of said portions of the post and positioned beneath the plane of the lower end of said central web portion of the post, and a base member resting on a supporting surface and surrounding the lower end of said post, said base member engaging the parallel face portions of the post adjacent the lower end of the post and cooperating with the inwardly extending ends of said face portions to hold the post in an erect position.

3,267,628
DECORATIVE SCREENS AND RAILS
Robert F. Seery, Louisville, Ky., assignor to Julius Blum & Co., Inc., Carlstadt, N.J., a corporation of New York
Original application Mar. 27, 1962, Ser. No. 182,905, now Patent No. 3,197,931, dated Aug. 3, 1965. Divided and this application June 11, 1965, Ser. No. 463,276
3 Claims. (Cl. 52—311)



1. In a decorative element, a mullion rectangular in cross-section having longitudinal grooves in opposite faces thereof transversely displaced from each other, each groove extending the length of the mullion and being of reduced width at that portion which is exposed at the face of the mullion, and a rosette stock element mounted to said mullion on one side thereof, said rosette element being concave at its outer face and convex at its inner face and having a pair of wings at right angles to the rosette, spaced from each other by the thickness of the mullion and straddling the latter, the groove at one face of the mullion being at a greater distance from an end of the mullion than the groove at the other face thereof, one wing of the rosette having a generally spherical protuberance with a reduced neck between the protuberance and the wing, corresponding to the reduced width of the groove, said protuberances fitting into the groove on one face of the mullion.

3,267,629
FRAME CONSTRUCTION WITH PANEL AND YIELDABLE PREFORMED SEPARATOR THEREFOR
James C. Waring, Richmond, Va., and Leslie A. Fream, Louisville, Ky., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Dec. 29, 1961, Ser. No. 163,276
9 Claims. (Cl. 52—397)

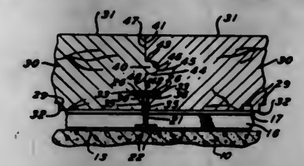


1. In combination, a plurality of operatively interconnected frame members each having an inner surface means defining part of an opening bounded by said frame members, each of said inner surface means being interrupted by a channel, said channel of one of said frame members having an hourglass-like cross-sectional configuration, said hourglass-like channel being defined by an end wall of the respective frame member and a pair of opposed side walls thereof, said end wall being spaced from said inner surface means, each side wall being formed of two sections, one pair of adjacent sections of said side walls converging toward each other as they extend away from said end wall, the other pair of adjacent sections of said side walls diverging away from each other as they approach said inner surface means of the respective frame member, each section of said other pair of sections of said side walls having a groove, each said groove being bounded by a pair of angularly disposed lips converging toward each other as they extend away from the respective side wall, one lip of each pair of lips being adjacent said inner surface means of the respective frame member and the other lip of each pair of lips being adjacent the juncture of the two sections of the respective side wall, a panel means disposed in said opening and having a plurality of edge means respectively received in said channels of said frame members whereby the overall size of said panel means is greater than said opening, and resilient holding means disposed in said channels to hold said panel means in a fixed position relative to said frame members, said holding means disposed in said hourglass-like channel being held therein by being received in said grooves thereof.

3,267,630
FLOORING SYSTEMS
Ray E. Ombolt, Berwyn, Pa., assignor to Powerlock Floors, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 20, 1964, Ser. No. 360,887
3 Claims. (Cl. 52—489)

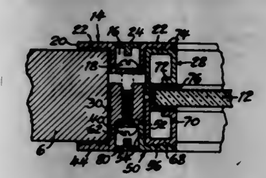
1. A flooring system comprising:
a plurality of spaced parallel channels each with a pair of spaced rims having upper face portions,
draw-down clips having lower portions in gripping engagement with each of said channels and having at least one upper outwardly extending board engaging portion above said channels,

a plurality of parallel homogeneous floor boards of wood each having an upper wear face and a lower horizontal face transversely disposed with respect to the channel and in engagement with said channel face portions,
each of said boards on one side thereof spaced intermediate the upper and lower faces of the board having a tongue with upper and lower horizontal face portions and opposite thereto a tongue receiving groove with upper and lower horizontal face portions,
said upper and lower face portions of a tongue of one board being in substantially continuous engagement with said upper and lower face portions of a groove of the next board for restraining independent vertical movement of one of said boards with respect to the other and for preventing warpage,



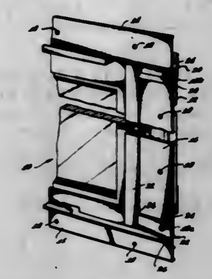
said boards each having along at least one side margin thereof a longitudinally extending side marginal groove spaced below the tongues and tongue receiving grooves with a bottom horizontal face,
said marginal groove being in more closely spaced relation to the lower horizontal face than to said upper wear face,
said clips being disposed at the intersection of each of said boards with each of said channels and including a gripping finger extending into one of said marginal grooves and in engagement therewith and urging said boards downwardly into engagement with the rims of the channel.

3,267,631
MOUNTING MEANS FOR SHEET MATERIAL
Andrew B. Hammitt, 909 W. State St., Trenton, N.J.
Filed Apr. 10, 1963, Ser. No. 272,112
6 Claims. (Cl. 52—495)



1. A partition assembly comprising two sheets of material arranged with adjacent edges thereof parallel but spaced apart, and means for securing said sheets in fixed relative positions comprising two members each of which has a flange thereon, said flanges bearing against the opposite faces of one of said sheets of material adjacent said edge thereof, bolt-receiving means engaging means carried by one of said members and located in the space between the adjacent edges of said sheets, bolts extending through the other of said two members and into said bolt-receiving means and serving to urge said flanges on said two members into clamping engagement with the opposite faces of the sheet which they engage, one of said two members having a second flange thereon extending into position to engage one face of the other of said two sheets in said assembly, a third member having a flange thereon extending parallel to said second flange and engaging the opposite face of the other of said two sheets, and bolts engaging said third member and the bolt-receiving means for urging said second flange and the flange on the third member into clamping engagement with the other of said two sheets.

3,267,632
FRAME CONSTRUCTION FOR DOORS AND WINDOWS
Harry M. Riegelman, Rolling Hills, Calif., assignor to Ador Corporation, Fullerton, Calif., a corporation of California
Filed July 20, 1964, Ser. No. 383,654
1 Claim. (Cl. 52—656)



In a frame construction, the combination comprising:
a plurality of frame members secured together at their remote ends to form a substantially rectangular frame, a pair of said frame members being in abutment at each corner to form a butt joint therebetween, one of said frame members at each corner having a raised rectangular rib integral therewith and extending the full length thereof, said rib being in interlocking engagement with the walls defining a close-fitting rectangular complementary slot in an integral flange of the other frame member of said pair at the same corner, said flange extending the full length of said other frame member and extending from the same surface of said other frame member in abutment with said one frame member, whereby said flange overlaps and conceals the butt joint between said pair of frame members, said one frame member further including at least one screw channel integral with and in abutment with said other frame member in registry with a hole in said other frame member, and a screw passing through said hole and into said screw channel whereby said one frame member and said other frame member are secured together at said corner.

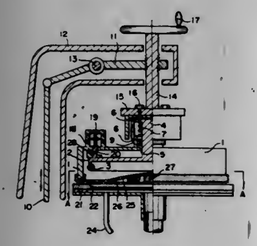
3,267,633
PACKAGE AND METHOD FOR MANUFACTURING SUCH PACKAGE
Harold S. Goodman, 51 Marcellus Drive, Newton Center 59, Mass.
Filed Feb. 5, 1963, Ser. No. 256,429
8 Claims. (Cl. 53—22)



1. In a process for packaging articles of merchandise between a backing board and a sheet of thermoplastic film which has been treated on at least one surface to adhere to materials without the aid of further adhesive agents, the surface of said backing board adjacent said

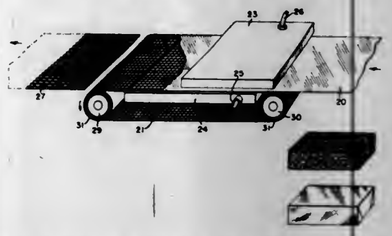
articles also being untreated with adhesive, the steps of: positioning at least one said article on the surface of said backing board; preheating said article and said backing board by applying heat to respective surfaces of said article and said backing board; heating a sheet of thermoplastic film; draping said heated sheet of thermoplastic film over said article and said backing board; mechanically supporting said article and said backing board and simultaneously drawing said sheet of thermoplastic film closely to the surface of said article and of said backing board by means of a pressure differential across the combination of said sheet of thermoplastic film, said article, and said backing board.

3,267,634
METHOD AND APPARATUS FOR PRODUCING VACUUM PACKAGES FOR FOOD
Shozo Omori, 7–4 Negishi 5-chome, Daito-ku, Tokyo, Japan
Filed July 15, 1963, Ser. No. 294,979
Claims priority, application Japan, Aug. 2, 1962, 37/32,252
11 Claims. (Cl. 53—22)



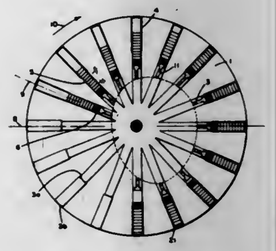
1. A method of producing vacuum packages in succession from two sheets of films successively fed from supply rolls having material to be packaged interposed therebetween comprising: first moving a first frame against a work table in a direction transversely of the plane of the work table and pressing it against said table so as to sandwich the films lengthwise with the portions of the films containing the material therebetween being enclosed within said first frame and said work table, said first frame being yieldably connected to a second frame with a spring means being interposed therebetween and said first frame being indirectly driven through said spring means by movement of said second frame; evacuating the space enclosed by said first frame and said work table; moving said second frame transversely of the plane of the table and pressing it against said work table with said portions of films being sandwiched at their respective peripheral edges between said second frame and said work table while said first frame is maintained in said pressing relationship against said work table by yielding action of said spring means thereby keeping said space enclosed by said first frame and said work table in an evacuated state; sealing the films along said peripheral edges while the material to be packaged is contained therebetween by means of sealing means attached to said second frame while said second frame is pressed against said work table with the films sandwiched therebetween; releasing said second frame from said work table by drawing it away from the table transversely of the plane of the table while leaving said first frame maintained in pressing relationship against said work table by virtue of the yielding action of said spring means; admitting air into the space enclosed by said first frame and said work table; releasing said first frame from said work table by further movement of said second frame after the yielding action of said spring means is terminated; and ejecting the sealed package from the position between said first frame and said work table by feeding the films.

3,267,635
PACKAGING FILM
Carl B. Stoker, Jr., Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Original application Sept. 5, 1962, Ser. No. 221,560. Divided and this application Feb. 17, 1964, Ser. No. 345,172
2 Claims. (Cl. 53—30)



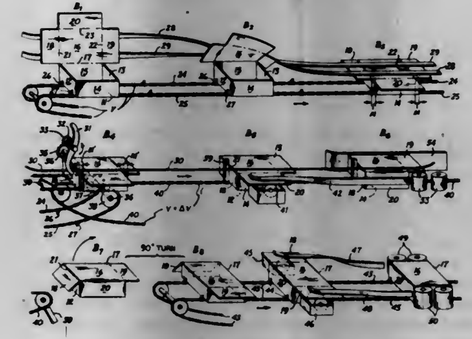
1. The process of forming a package, using transparent thermoshrinkable film having different areas of the film over substantially the whole of the film area being stretched relatively more than adjacent areas to form irregularities of a concavo-convex nature, the stretched areas extending into a different plane from the relatively unstretched areas, which process comprises enclosing the material to be packaged in the film with said unstretched area adjacent the material to be packaged and forming an enclosure thereabout which is greater in area than the surface area of said material by substantially the amount that the film area is increased by virtue of certain areas having been stretched, and then heating the film and thereby causing the stretched areas of the film to contract toward the material to be packaged whereby the film forms a tighter enclosure about the material to be packaged.

3,267,636
METHOD FOR PACKAGING TABLETS AND APPARATUS THEREFOR
Kurt Sternberg, Rosskampffsgasse 6, Soest, Westphalia, Germany
Filed Sept. 17, 1964, Ser. No. 397,127
Claims priority, application Germany, Sept. 19, 1963, St 21,091
11 Claims. (Cl. 53—35)



10. Method for automatically loading a stack of tablets into a tube, comprising the steps of: providing a rotatable support having a plurality of radially extending channels and arranging the support at a skew angle; placing the tube and stack of tablets upon one channel while said channel is in a substantially horizontal plane; rotating the support 180 degrees to move said channel from said horizontal to a vertical plane and again to a horizontal plane while simultaneously loading the tablets into the tube against gravity; thereafter rotating the support another 90 degrees in the same direction for discharging the filled tube while said channel is again in a substantially vertical position; and discharging said filled tube.

3,267,637
METHOD OF CLOSING, SQUARING AND SEALING FOLDING BOXES COMPRISING COVER FLAPS
Thomas R. Baker, Los Altos, Calif., assignor, by mesne assignments, to Kliklok Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 17, 1963, Ser. No. 316,807
4 Claims. (Cl. 53—38)

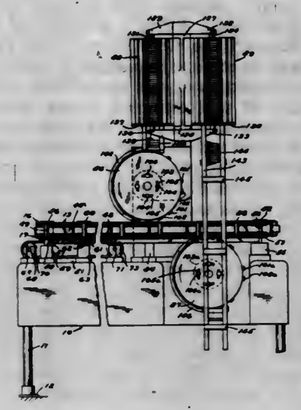


1. The method of closing, squaring and sealing a folding box comprising a box body, a box cover panel articulated to the rear panel of the box body, a cover front flap and cover side flaps to be adhered to the body front wall and the body side walls, respectively, the method comprising, advancing the box with one box body side wall leading; folding the cover panel into closing position over the box body, folding the trailing cover side flap over the outside of the other body side wall, moving a transport element against the trailing cover side flap to engage the cover panel at the cover side flap fold line and displacing said side flap fold line relatively to the box body until said side flap fold line is in squared position with respect to the top edge of the said other side wall; applying adhesive to the cover front flap and folding it against the body front wall into sealing position; and then turning the box and sealing the cover side flaps.

3,267,638
SIX-PACK HANDLE APPLYING MACHINE
James F. Earp, Orchard Lake, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich.
Filed Sept. 30, 1963, Ser. No. 312,554
9 Claims. (Cl. 53—48)

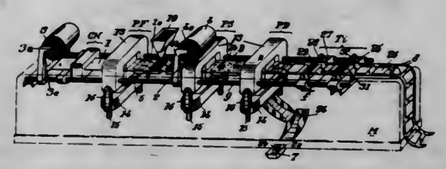
1. An automatic machine for applying combination packaging and carrying handle clips to six-packs of cans, comprising:

(a) an elongated base member,
(b) a continuously operating rotary clip applying means mounted on said base member for applying a clip to at least the top end of a pack of six cans as the pack is moved past the rotary clip applying means,
(c) a clip magazine feeder means for storing and feeding clips to the rotary clip applying means,
(d) a can grouping and transfer means operatively mounted on said base member and extending longitudinally thereof, for grouping cans fed to the machine into packs of six cans each, and moving said packs into operative engagement with said rotary clip applying means,
(e) power drive means for operating the can grouping and transfer means, the rotary clip applying means and the clip magazine feeder means in a predetermined timed relationship,
(f) said clip magazine feeder means comprises at least one rotatable drum provided with a plurality of clip storing stack means,



(g) a clip guide track for conveying the clip from said drum to said rotary clip applying means, and
(h) a clip selector means at the discharge end of the clip guide track for pressing the clips onto the rotary clip applying means.

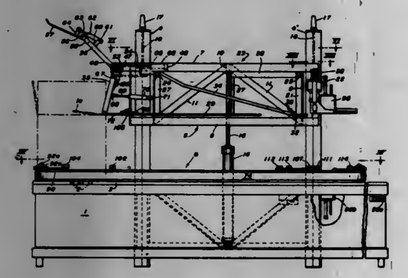
3,267,639
APPARATUS FOR MAKING CLOSED BOXES
Jacques Gaspard Honoré Ollier, 17 Rue General Henrion Bertier, Neuilly-sur-Seine, France; Georges Frédéric Grosshans, 53 bis Rue de Boulainvilliers, Paris, France; and Robert Gaston Masson, 6 Blvd. de Courbevoie, Neuilly-sur-Seine, France
Filed Oct. 17, 1962, Ser. No. 231,230
1 Claim. (Cl. 53—51)



Apparatus for making packages from two strips of material, of which a first strip is deformed to produce a longitudinally extending series of open-topped boxes of equal length which are equally spaced longitudinally of the first strip while a second flat strip is provided on the one hand with a longitudinally extending series of identification markings for positioning in a predetermined relationship on the boxes of said first strip, the longitudinal spacing between the beginning of successive markings on the second strip being systematically smaller than the longitudinal spacing between the beginning of successive boxes on the first strip, and on the other hand with a longitudinally extending series of detectable means, the longitudinal spacing between successive detectable means being substantially equal to the longitudinal spacing between the beginning of successive markings, said appara-

tus comprising conveying means for advancing step-by-step each of said strips along respective paths through the apparatus, said two strips lying alongside one another over a part of their paths, detecting means disposed alongside the path of said second strip and arranged to detect the passage of each detectable means, said detecting means providing a signal each time a detectable means passes the detecting means, means for heat-sealing the part of said second strip bearing said marking to the open-topped box to form a package while they are in said predetermined relationship, during a standstill of said conveying means between two steps thereof, and clamping means operable in response to said signal to retain in a stationary position the portion of said second strip which is disposed rearwardly of said clamping means, while the portion of said second strip disposed forwardly of said clamping means is advanced by said conveying means, whereby said identification marking is brought into said predetermined relationship due to actual movement of said conveying means and to the longitudinal extension of said portion of said second strip disposed forwardly of said clamping means, at the heat-sealing level thereof, said clamping means including a stationary guide roller providing a guiding surface for the second strip along its path through the apparatus, a movable roller disposed on the side of the path remote from the stationary roller, and means operable in response to said signal for moving the movable roller towards the stationary roller so as to grip the second strip therebetween.

3,267,640
APPARATUS FOR AUTOMATICALLY CLOSING AND SEALING CARTON FLAPS
Jack H. Romney and Ronald G. Campbell, Butler, Pa., assignors to International Staple & Machine Company, Butler, Pa., a corporation of Pennsylvania
Filed May 28, 1963, Ser. No. 283,880
9 Claims. (Cl. 53—75)



6. Apparatus for automatically sealing the open top flaps of a carton passing therethrough, comprising

(a) a bed portion supporting a carton moving thereover,

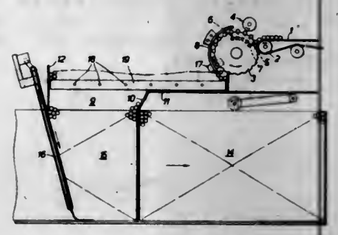
(b) a bridge member disposed longitudinally above at least a portion of said carton supporting bed,

(c) means associated with said bed and supporting said bridge member for vertical reciprocal movement relative to a carton body with open top flaps moving over said bed,

(d) means on said bridge member for automatically and sequentially sensing the height of a carton body moving thereunder and applying sealing means thereto, and

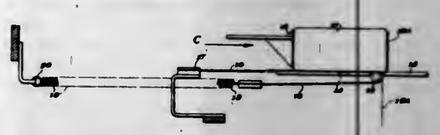
(e) said height sensing member when engaged by the body portion of a moving carton being displaced to actuate said bridge supporting means to raise the bridge and the height sensing member above a position for contact by said carton.

3,267,641
APPARATUS FOR FILLING BOXES, TRAYS OR THE LIKE
Desmond Walter Molins, Deptford, London, England assignor to The Molins Organisation Limited
Filed Jan. 3, 1964, Ser. No. 335,634
Claims priority, application Great Britain, Jan. 7, 1963, 711/63
12 Claims. (Cl. 53—148)



1. Apparatus for filling containers with articles, comprising means to move containers in succession past a delivery station, feeding means to feed articles to said delivery station for delivery to successive containers, a closure member, means to move said closure member over a container to close the container when the latter has been filled, and means operable thereafter to move the said closure member with the filled container to prevent articles from moving into it while permitting articles to be fed into the next succeeding container.

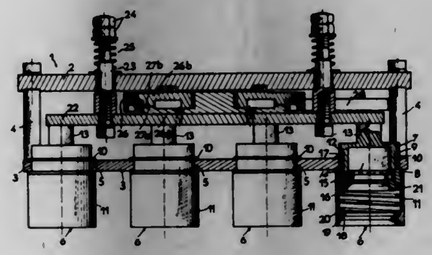
3,267,642
WRAPPING MACHINES
Arthur Dalton Broadbent, Harrogate, England, assignor to The Forgrove Machinery Company Limited, Leeds, England, a company of Great Britain
Filed Jan. 28, 1963, Ser. No. 254,278
3 Claims. (Cl. 53—228)



1. A wrapping machine, adapted for wrapping soft and limp articles, which includes grippers for supporting an article with a wrapper folded around three surfaces thereof in U formation with a projecting tail, said grippers contacting the portions of the U-shaped partially folded wrapper which cover the side walls of the article and thus aid in preserving the shape of said article, an elongated folder disposed in a plane parallel to and immediately adjacent to that of the remaining uncovered surface from which the tail projects, and means for imparting to said folder a movement from a point laterally of said article which movement is exclusively a linear movement in the plane of said folder across said surface of the article from which said tail projects to fold said tail against said surface; said folder comprising a rigid support, a rotatable roller at the leading end of said support, and a smooth thin flexible belt fixed at one end thereof to an anchorage approximately in the plane of said surface but located further away from said article than said roller, and extending from said anchorage over the surface of said support which faces said surface of the article and around said roller, means for anchoring the opposite end of the belt to maintain the necessary tautness in the belt during operation; said belt being adapted, upon advance of said folder, to be drawn around said roller and extended progressively linearly forward from said anchorage over said surface of the article to engage said tail of the wrapper

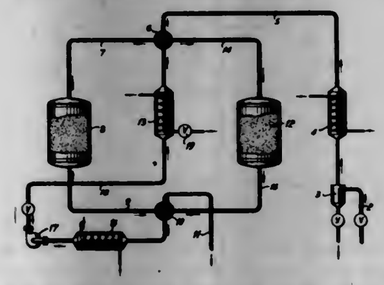
and apply it progressively against said surface of the article without the exertion of friction or pressure on the article in the direction of travel of the folder.

3,267,643
GRIPPING HEADS FOR BOTTLES OR THE LIKE
Edgar Jean Marcel Dardaine, Poissy, France, assignor to E. P. Remy & Cie, Poissy, France, a French body corporate
Filed Nov. 5, 1963, Ser. No. 321,571
Claims priority, application France, Nov. 7, 1962, 914,661
11 Claims. (Cl. 53—246)



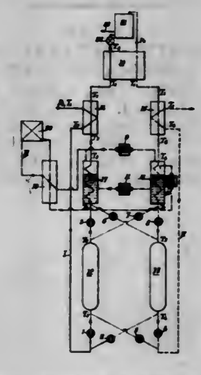
1. A gripping head for gripping miscellaneous articles such as bottles and encasing them into or uncasing them from crate compartments comprising an upper and a lower plate assembled by means of distance pieces, a series of gripping members adapted to cap the necks of a plurality of bottles, each gripping member consisting of a cylindrical sleeve secured to said lower plate and of a cylindrical body secured to said sleeve and extending below said lower plate, resiliently deformable rings in said sleeves, said resiliently deformable rings being engageable by the necks of the bottles, movable members overlying said rings and adapted to exert thereon a pressure causing a reduction of their inner diameter, positioning means resiliently mounted below said rings and adapted to bear against the bodies of the bottles for centering same with respect to said rings and a control member adapted to move simultaneously said movable members and cause them to clamp the necks of the bottles.

3,267,644
PROCESS FOR DRYING VINYL CHLORIDE
Armin Jacobowsky, Knapsack, near Cologne, Germany, assignor to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany
Filed May 18, 1965, Ser. No. 459,522
5 Claims. (Cl. 55—33)



1. A process of drying hydrous vinyl chloride in a continuous drying cycle comprising (i) contacting gaseous vinyl chloride containing water vapor with a drying agent selected from the group consisting of silica gel and aluminum gel and adsorbing the water vapor from the gaseous vinyl chloride to the drying agent, (ii) regenerating the drying agent now charged with water by contacting the drying agent with dry vinyl chloride at a temperature between about 130° C.–about 200° C., (iii) cooling the drying agent and (iv) using the cooled drying agent for drying gaseous vinyl chloride containing water vapor.

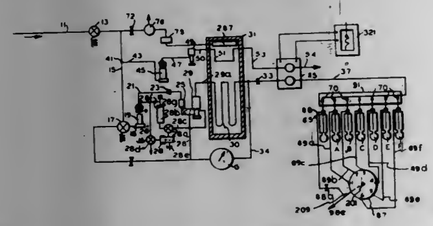
3,267,645
DEVICES FOR PURIFYING A GAS OR A GASEOUS MIXTURE BY REVERSIBLE ADSORPTION
Guy Simonet, Paris, France, assignor of one-half to Commissariat à l'Energie Atomique, Paris, France, an organization of France, and one-half to l'Air Liquide (Societe Anonyme pour l'Etude et l'Exploitation des Procedes Georges Claude), Paris, France, a society of France
Filed June 21, 1961, Ser. No. 118,632
Claims priority, application France, June 23, 1960, 830,845
1 Claim. (Cl. 55—179)



In a device for purifying a gaseous substance containing at least one impurity to permit treatment of the purified substance at low temperature in a treatment apparatus, the combination of two adsorbers, a first one and a second one, a feed circuit connected to said first adsorber and said treatment apparatus for passing said gaseous substance under high pressure through said first adsorber, to leave said impurity therein, and thence to said treatment apparatus, an outflow circuit connected to said treatment apparatus and second adsorber for passing a portion of the treated gas from said treatment apparatus, called sweeping gas, through said second adsorber, to remove therefrom the impurity precedingly accumulated therein, valve means for periodically reversing the connections between on the one hand said feed circuit and said outflow circuit and on the other hand said two adsorbers, whereby during one period one of said adsorbers acts as purifying adsorber while the sweeping gas removes the impurity accumulated in the other adsorber, and during the next period the functions of the two adsorbers are exchanged, and an auxiliary fluid circuit out of communication with said feed circuit and with said outflow circuit, said auxiliary circuit being arranged for the circulation therethrough, always in the same direction, of an auxiliary fluid, heat interchange means between a portion of said auxiliary circuit and said outflow circuit, upstream of the second adsorber thereof, and heat interchange means between another portion of said auxiliary circuit and said feed circuit downstream of the first adsorber thereof, for conveying to said outflow circuit substantially the whole of the heat given off in said feed circuit by the adsorption of the impurity in the purifying adsorber, pressure variation valve means in said auxiliary circuit for determining the respective pressures in said portions of said auxiliary circuit where said respective heat interchange means

are provided, said auxiliary fluid circuit comprising a first heat exchanger forming a first chamber through which extends said feed circuit downstream of said first adsorber, and a liquid in the presence of its vapor in said first chamber, a second heat exchanger forming a second chamber through which extends said outflow circuit upstream of said second adsorber, the same liquid in the presence of its vapor being in said second chamber, a compressor having its output connected to the top part of said second chamber, an expansion valve interposed between said compressor output and said second chamber, said compressor having its intake connected with the top part of said second chamber, conduit means between the top parts of said chambers, conduit means between the bottom parts of said chambers, and expansion valves in each of said two last mentioned conduit means to permit the flow of vapor and liquid, respectively, from said second chamber to said first chamber.

3,267,646
AUTOMATIC PREPARATIVE GAS CHROMATOGRAPH
James M. Kauss, Dallas, Tex., Urban J. Peters, Wilmington, Del., and Aaron J. Martin, Kennett Square, Pa., assignors, by mesne assignments, to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Mar. 4, 1963, Ser. No. 262,426
14 Claims. (Cl. 55—197)



1. In a chromatographic separator of the type which comprises a separating column for separable component-containing sample material, and plural collecting means for collecting separated components of said material, the improvement which comprises:

a common manifold means for simultaneously conveying said separated components to all of said collecting means;

a multi-position indexing valve located downstream of said manifold means, having a separate valve inlet from each of said collecting means, by-pass inlet means from said manifold by-passing said valve inlets, and an output means connected for fluid flow from any of said inlets and from said by-pass inlet means;

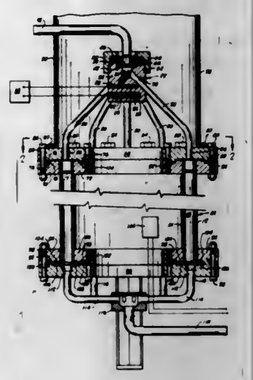
and means for indexing said valve alternately between a different one of said separate inlets and said by-pass inlet means, whereby each of the particular separated components of said material is passed to a different collecting means and contamination of the valve by such components is reduced.

3,267,647
VAPOR PHASE CHROMATOGRAPHY SYSTEM
Alfred B. Carel and George A. Brown, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma
Filed July 15, 1963, Ser. No. 295,108
21 Claims. (Cl. 55—197)

19. A vapor phase chromatography system comprising:

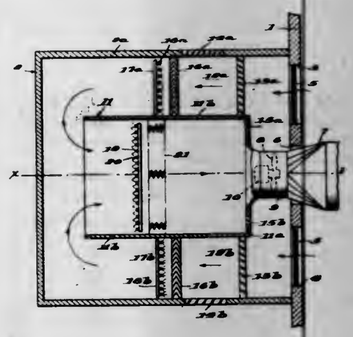
(a) an annular column having two concentric cylindrical walls defining an annular space therebetween;

(b) means including a plurality of pipes in fixed relationship to said annular column for simultaneously introducing substantially equal quantities of a gaseous sample to one end of the column at a plurality of points spaced circumferentially around said annular space; and



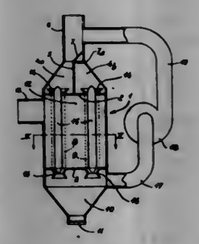
(c) means for simultaneously removing substantially equal quantities of a gaseous sample from the other end of said column at a plurality of points spaced circumferentially around said annular space.

3,267,648
AIR WASHER
Luther H. Allcorn, Jr., Lewisville, N.C., assignor to The Bahnson Company, Winston-Salem, N.C., a corporation of North Carolina
Filed June 4, 1964, Ser. No. 372,464
1 Claim. (Cl. 55—258)



In an air washer for removing air from within a room for washing and for returning the conditioned and cleansed air into the room, the combination comprising an outer washer housing generally enclosing the washer components, an inner casing located within and extending longitudinally of said housing and spaced from the side walls thereof to thus establish a longitudinally extending outer passageway between each side wall and the appertaining wall of said inner casing, air inlet means placing the room in communication with the air entrance end to each of said outer air passageways, first spray nozzles in each of said outer air passageways for discharging water into contact with the air passing therethrough, said first spray nozzles having a direction counter to the direction of air flow, baffle means located in each of said outer air passageways on the upstream side of said spray nozzles for blocking passage of water in that direction, an air discharge passageway from the air discharge end of said inner casing and in which is located a fan unit for moving air in the washer and returning it to the room, the opposite air inlet end of said inner casing being open and spaced from an end wall of said washer housing to effect a turning of the air through 180° after reaching the air exit ends of said outer air passageways for flow in the opposite direction through said inner casing to the inlet of said fan unit, second spray nozzles within said inner casing directing water sprays counter to the direction of air flow therethrough, said first and second spray nozzles establishing a mixing action as between the air and water sprays before, during and after a reversal in direction of air flow involved in the transfer thereof from said outer air passageways to said inner casing, a water droplet eliminator located within said inner casing intermediate the spray nozzles therein and said fan unit, a first damper means located in each of said outer air passageways, fresh air damper means located between said first damper means and said spray nozzles in said outer air passageways for controlling the amount of fresh air taken into the washer, and by-pass damper means located in a wall of said inner casing for permitting air received through said air inlet means to be returned directly into the room through said fan without coming into contact with the water sprays.

3,267,649
SLEEVE FILTERS AND CLEANING MEANS THEREFOR
Pierre Georges Vicard, 15 Cours Eugénie, Lyon, France
Filed Nov. 10, 1964, Ser. No. 410,060
Claims priority, application France, Nov. 25, 1963, 44,207, Patent 1,384,885; Mar. 5, 1964, 44,544, Patent 85,461
1 Claim. (Cl. 55—286)



A fluid filter comprising first and second groups of substantially tubular vertical sleeves each being comprised of a filtering wall and having an upper end and a lower end; a common collecting chamber disposed below said first and second groups of sleeves and communicating with the lower ends thereof; a fluid inlet chamber disposed above said first and second groups of sleeves and communicating with the upper ends thereof, said inlet chamber being of substantially pyramidal shape; a fluid inlet conduit opening into the upper end of said fluid inlet chamber; a substantially vertical partition dividing said fluid inlet chamber into a first and a second portions respectively connected with the upper ends of said first and second groups of sleeves, said partition having an upper edge; a flap hinged to the upper edge of said partition to form a two-way valve which alternately isolates from said fluid inlet conduit either said first portion of said fluid inlet chamber or said second portion thereof; means to collect the fluid filtered through the filtering walls of said sleeves; and means to re-cycle a portion of the fluid to be filtered from said collecting chamber into said fluid inlet conduit.

3,267,650
VACUUM CLEANER TRAP
Philip A. Lundin, 1519 Tangerine St., Clearwater, Fla.
Filed Oct. 7, 1963, Ser. No. 314,354
1 Claim. (Cl. 55—433)



A rigid unitary trap device adapted to releasably inter-connect the wand of a vacuum cleaner with a suction hose for entrapping relatively heavy solids drawn by suction into the wand,

said unitary device comprising parallel and straight inlet and outlet pipe portions of substantially the same diameter and longitudinally off-set from each other for an appreciable distance in a common plane and adapted when used to be disposed in a vertical plane with said outlet pipe portion being disposed below the inlet pipe portion,

the remote ends of said parallel pipe portions being respectively shaped for detachable connection to a wand and a suction hose,

an inclined pipe portion of substantially the same diameter as said parallel straight pipe portions and integrally connecting said parallel and straight pipe portions and arcuately connected to the latter at each of its opposite ends, said inclined pipe portion having its upper interior surface curving uniformly downwardly from said inlet pipe portion to said outlet pipe portion to deflect downwardly the heavier solids drawn by suction into the cleaner and to provide minimum turbulence and minimum resistance to the flow of air therethrough,

a relatively large elongated single opening formed in the bottom of said inclined pipe portion and the adjoining bottom portion of said lower parallel and straight outlet pipe portion,

an elongated generally rectangular receptacle disposed in the same said plane and of a width corresponding substantially to that of the upper and lower parallel and straight pipe portions and integrally connected to the lower end portion of said inclined pipe portion and said lower parallel and straight pipe portion to enclose said elongated opening,

a portion of said receptacle extending beyond said inclined pipe portion to underlie a portion of said upper parallel and straight inlet pipe portion,

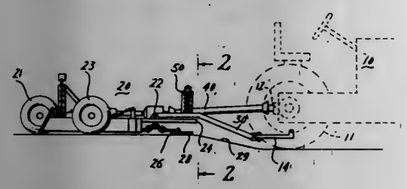
a relatively large single access and clean-out opening in the bottom of said receptacle,

closure means hinged to the lower side of said receptacle for closing said access and clean-out opening,

means for releasably latching said closure means in closing position relative to said access and clean-out opening,

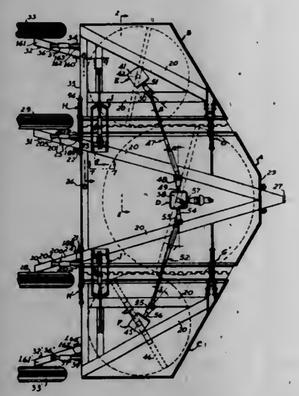
and an operating member on said closure means for unlatching the same and opening said access and clean-out opening to enable the removal of solids entrapped in said receptacle.

3,267,651
MOWER DRAWBAR CONNECTION
John F. Engler, % Engler Mfg. Corp., P.O. Box 7616, Houston, Tex.
Original application Nov. 3, 1960, Ser. No. 66,967. Divided and this application July 10, 1963, Ser. No. 294,107
4 Claims. (Cl. 56—6)



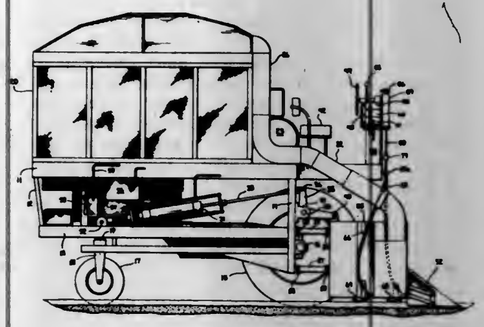
1. A moving machine comprising
a platform,
mower cutter means suspended beneath said platform,
support means on said platform for supporting said cutter means above ground level,
a drawbar,
means pivotally coupling said drawbar to said platform at a point forward of said support means for relative movement in a vertical plane,
a clevis member pivotally mounted on said platform forward of the drawbar connection,
an aperture in said clevis,
a rod attached to said drawbar and extending upwardly through said aperture, and
means engaging said rod and said clevis adapted to allow reduced downward movement of said platform upon downward pivoting of said drawbar so as to decrease the engagement of the cutter means with the ground.

3,267,652
ROTARY CUTTER
Douglas E. Dahlgren and Marvin L. Nafziger, Albany, Ga., assignors to Lilliston Implement Company, Albany, Ga., a corporation of Georgia
Filed Aug. 15, 1963, Ser. No. 302,327
11 Claims. (Cl. 56—6)



1. A rotary cutter of the type described, said rotary cutter having a plurality of cutting blades with cutting planes positionable in the same flat plane of reference and having means for pivoting the cutting planes with respect to each other about a line of reference in the reference plane, said means for pivoting being displaced from said line of reference.

3,267,653
HEADER CONTROL FOR COTTON PICKER
Winfield D. Dawalt and Preston M. Wright, Elwood, Ind., assignors to Roper-Wright Manufacturing Co., Inc., Elwood, Ind., a corporation of Indiana
Filed Aug. 13, 1963, Ser. No. 301,722
3 Claims. (Cl. 56—11)

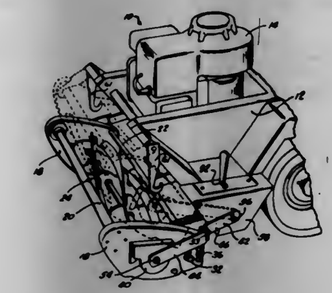


1. A crop picking apparatus comprising a vehicle having a frame, a header pivotally mounted on said frame for vertical movement and comprising a forward crop picking device and a rear crop picking device spaced laterally and rearwardly of said forward picking device for traversing both sides of a row of crop-bearing plants, a hydraulic system including ram means coupled to said header and said frame, control valve means connected to said ram means for selectively operating said ram means to elevate or lower said header, and ground-contacting feeler means comprising a first pivoted arm disposed laterally of said forward picking device and forwardly of said rear picking device and a second pivoted arm disposed laterally of said rear picking device and rearwardly of said forward picking device, said feeler means being connected to said control valve means for elevating or lowering said header in response to variations in ground level.

3,267,654
FRONT MOUNTING FOR REEL TYPE MOWER
Rudolph A. Hanson, Edward J. Ziegler, and John E. Fischer, Jackson, Mich., assignors to Yard-Man, Inc., Jackson, Mich., a corporation of Michigan
Filed Sept. 4, 1964, Ser. No. 394,464
4 Claims. (Cl. 56—26)

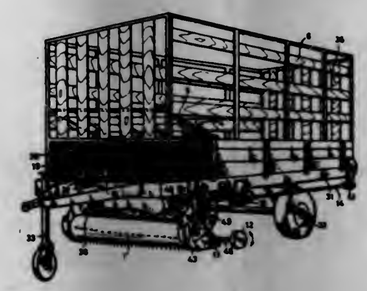
1. A reel lawn mower attachment adapted to be mounted upon supporting and motive means comprising, in combination,
(a) reel lawn mower structure including a pair of spaced end plates interconnected by elongated spacer members,
(b) an arm pivotally connected to each of said end plates, each of said arms including first and second L-shaped portions each having an end portion transversely disposed to the length of the associated arm portion forming an abutment surface, said end portions of a common arm being adjacently disposed in opposed relation whereby the abutment surfaces thereof are in opposed relation,
(c) spacer means adapted to be inserted directly between the abutment surfaces of end portions of the arm portions of a common arm,
(d) fastener means interposed between the end portions of the arm portions of a common arm maintaining the assembly of the arm portions and associated spacer means,

(e) horizontally disposed pivot means pivotally attaching each arm to the motive means permitting said reel lawn mower structure to be vertically positioned between cutting and transporting positions,
(f) a reel rotatably mounted upon and supported between said end plates,



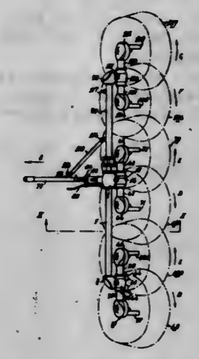
(g) a chain drive sprocket mounted on said motive means coaxial with said horizontally disposed pivot means,
(h) a chain sprocket mounted on said reel, and
(i) a chain interconnecting said sprockets.

3,267,655
AGRICULTURAL LOADING AND TRANSPORTING APPLIANCES
Ernst Weichel, Goppingen, Heiningen, Germany
Filed Aug. 23, 1963, Ser. No. 303,998
14 Claims. (Cl. 56—364)



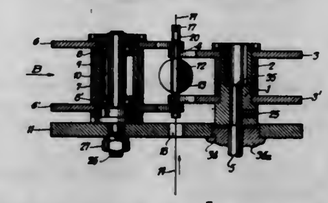
1. An agricultural loading and transporting appliance comprising in combination: a vehicle chassis, a superstructure mounted upon said chassis to form a loading chamber, partition means separating a space forming a secondary chamber at the forward lower end of said loading chamber, a flap pivoted at the rear upper edge of said secondary chamber and forming a cover thereof, said flap having two end positions and in the first end position contacting the forward end of said superstructure and in the other end position contacting the bottom of said loading chamber, a pick-up drum and a conveyor duct arranged below said loading chamber, said pick-up drum being pivotally mounted on said chassis and said conveyor duct leading from said pick-up drum into said loading chamber from below, and conveyor elements engaging into said conveyor duct.

3,267,656
DEVICE FOR WORKING CROP LYING ON THE GROUND
Cornelis van der Lely, Zug, Switzerland, assignor to Patent Concern N.V., Willemstad, Curacao, Netherlands Antilles, a limited-liability company of the Netherlands Antilles
Filed Aug. 24, 1964, Ser. No. 391,384
Claims priority, application Netherlands, Aug. 30, 1963, 297,381
18 Claims. (Cl. 56—370)



1. A tedding device comprising a frame, groups of rake members, a supporting member connecting each of said groups to said frame, ground wheels supporting said supporting members, said rake members having a fixed position relative to their respective supports, said frame comprising a first beam pivotally coupled to a second beam, at least two groups of rake members being supported on said first beam, a further group of rake members being supported on said second beam, means for pivoting said second beam both horizontally and vertically relative to said first beam, said rake members being arranged in a single row which extends substantially parallel to said frame beams and transverse to the direction of travel, the first frame beam accommodating a rotatable shaft, said rotatable shaft being connected to at least one drive shaft for rotating said raking members, said drive shaft being substantially perpendicular with respect to said rotatable shaft.

3,267,657
FALSE TWISTING DEVICE
August Kunzle and Willy Roth, Wattwil, Switzerland, assignors to Heberlein Patent Corporation, New York, N.Y., a corporation of New York
Filed Nov. 4, 1959, Ser. No. 850,908
Claims priority, application Switzerland, Nov. 11, 1958, 66,023/58
6 Claims. (Cl. 57—77.45)



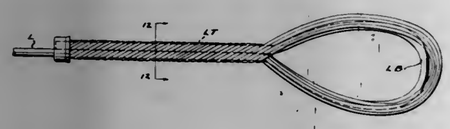
1. Apparatus for false twisting textile yarns comprising a pair of rollers, at least one of which is driven, spaced one from the other to form a crotch therebetween, a yarn twisting tube positioned in said crotch in frictional engagement with the peripheral edges of said rollers at portions substantially spaced longitudinally of said tube and having means for imparting a twist to yarn passing

therethrough upon rotation of said tube, and separate magnetic means located substantially equidistant from the axes of said rollers and acting on said tube between said spaced portions to maintain the tube positioned in said crotch and in said friction engagement, the portions of said tube in frictional engagement with the edges of said rollers having diameters substantially smaller than those of the rollers taken at the corresponding peripheral edges.

3,267,658
METHOD AND APPARATUS FOR FORMING SPLICES AND DEAD ENDS AND LOCKING MEANS THEREFOR

Seymour N. Schlein, University Heights, Ohio, assignor to The Fanner Manufacturing Company, a division of Textron, Inc., Cleveland, Ohio, a corporation of Rhode Island

Filed Apr. 16, 1964, Ser. No. 360,220
10 Claims. (Cl. 57—145)

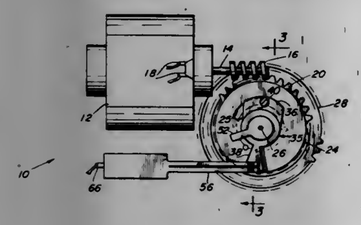


1. In combination with a line to be dead ended, said line being bent back upon itself to form a bight with the line and a portion of the bent back portion extending in contact with each other, means to hold the contacting line parts in frictional contact with each other comprising a plurality of clamp rods having portions of generally helical form wrapped around said contacting line parts to hold them together and at least a pair of said rod portions having a portion bent to form a loop extending beyond one end of the contacting line parts.

3,267,659
AUTOMATIC CLOCK SPRING REWIND MECHANISM

John L. Hancock, Villa Park, Ill., assignor to Mastercrafters Clock Corporation, Chicago, Ill., a corporation of Illinois

Filed May 4, 1964, Ser. No. 364,424
4 Claims. (Cl. 58—41)



1. In an automatic clock spring rewind mechanism including a winding gear, and an electric motor having an energizing circuit for rotating said gear, the improvement comprising

a contact plate on a face of said gear comprising an element of said circuit,

a wiper in said circuit adapted to engage said contact plate to complete said circuit,

a thin switch plate connected to said contact plate in parallel abutting relationship therewith for spacing said wiper from said contact plate to open said circuit,

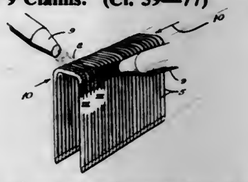
means permitting relative movement between said switch plate and said contact plate, and

drive means for periodically rotating said switch plate independently of said contact plate whereupon said wiper cooperates with said switch plate to snap therefrom and make substantially instantaneous contact with said contact plate.

3,267,660
METHOD OF SECURING FASTENERS IN STICK FORM

Richard G. Matthews, Park Ridge, N.J., assignor, by mesne assignments, to Swingfast, Inc., Long Island City, N.Y., a corporation of New York

Filed Aug. 30, 1963, Ser. No. 305,645
9 Claims. (Cl. 59—77)



1. A method of securing fasteners of the kind to be driven in semi-automatic fastener driving machines,

which comprises assembling in stick relationship precoated fasteners having solidified thermoplastic coatings,

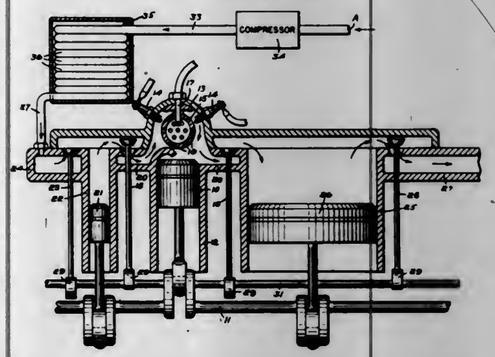
and while maintaining the coatings on the contiguous portions of the fasteners in abutment fusing limited areas of the abutting coatings while utilizing the remainder of the abutting coatings as spacers,

whereby to maintain the fused portions of the coatings at substantially twice the thickness of the individual coatings.

3,267,661
INTERNAL COMBUSTION ENGINE

Frank J. Petrie, 80 Speen St., Natick, Mass.

Filed Jan. 19, 1965, Ser. No. 426,519
9 Claims. (Cl. 60—15)



1. An internal combustion engine apparatus comprising:

(a) a primary piston and cylinder assembly,

a drive shaft connected to said primary piston so as to be activated thereby,

a fuel injection means connected to said primary cylinder and adapted to inject a fine dispersion of fuel thereinto,

an ignition means associated with said primary cylinder and adapted to provide ignition of the fuel injected into said primary cylinder,

a primary intake valve adapted to supply gas to said primary cylinder and a primary exhaust valve adapted to allow exhaust of combustive gas therefrom;

(b) an air supply cylinder connected for gas communication to said primary cylinder through said primary intake valve,

an air supply piston positioned for movement within said air supply cylinder and adapted to force gas from said air supply cylinder into said primary cylinder via said primary intake valve,

an air supply inlet valve connected for gas communication with said air supply cylinder and adapted to supply gas thereto,

an air supply driving means connected to said air supply piston and adapted to provide an instroke thereof during each outstroke of said primary piston,

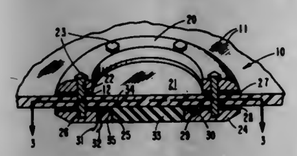
a primary intake valve control means adapted to open said primary intake valve during the instroke of said air supply piston and to close said primary intake valve during the outstroke thereof, and

an air supply inlet valve control means adapted to open said air supply inlet valve during the outstroke of said air supply piston and to close said air supply inlet valve during the instroke thereof.

3,267,662
FLUID VENTING DEVICE

Robert M. Miller, Annandale, Va., assignor to Atlantic Research Corporation, Fairfax, Va., a corporation of Virginia

Filed Nov. 20, 1962, Ser. No. 238,958
24 Claims. (Cl. 60—35.6)



1. A fluid-venting device adapted for use in a pressure vessel having a filament-wound casing, said device comprising

(a) a first member having a first aperture,

(b) a second member having a second aperture, the diameter of said second aperture being smaller than the diameter of said first aperture,

(c) fastening means adapted to extend through said casing from said first member to said second member for fixedly mounting said first and second members opposite each other on opposite sides of said casing in tight clamping engagement therewith, and

(d) rupturing means, mounted on the portion of said second member which extends radially inwardly relative to said first member, for rupturing the portion of said casing contiguous with said apertures to provide a passageway through said casing.

3,267,663
BRAKE MEANS

Harold B. Schultz, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed Sept. 12, 1963, Ser. No. 308,514
3 Claims. (Cl. 60—10.5)

1. A means to independently actuate a power valve and fluid pressurizing device within a housing comprising:

a support bracket affixed to said housing;

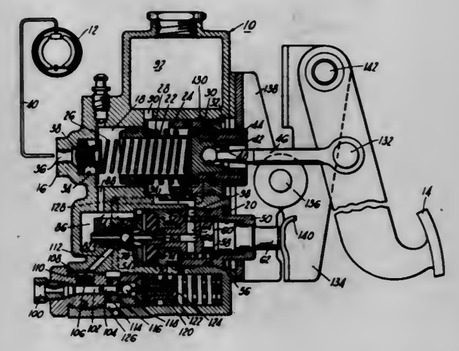
a first lever pivotally connected intermediate its ends to said support bracket;

a second lever pivotally connected to said first lever at one end thereof;

a valve operating means affixed to said first lever at the end thereof opposite that connected to said second lever;

a push rod connected to said second lever and said fluid pressurizing device;

a fluid pressure motor operatively connected to said fluid pressurizing device to normally pull said second lever towards said housing until it abuts on said valve operating means so that said first and said second levers pivot in unison about the pivotal connection with said support bracket of said first lever to operate said valve means; and

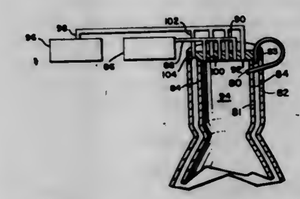


a means operatively connected to said fluid pressure motor to raise said second lever from said valve operating means to a position where force on said second lever can move said fluid pressurizing device independently of said valve operating means with a lower mechanical advantage than is available for operation of said power valve.

3,267,664
METHOD OF AND DEVICE FOR COOLING

Robert D. Jones, Canoga Park, Robert N. Macdonald, Los Angeles, and Charles P. Morse, Pacific Palisades, Calif., assignors to North American Aviation, Inc.

Filed Mar. 19, 1963, Ser. No. 266,445
6 Claims. (Cl. 60—35.3)



3. A method of cooling a thrust chamber and imparting thrust thereto which comprises:

providing a propellant at a first temperature, said propellant having a higher heat absorption charcteristic at a higher temperature than at said first temperature,

diverting a portion of said propellant and conveying said portion in heat transfer relationship to said thrust chamber so as to expand said propellant,

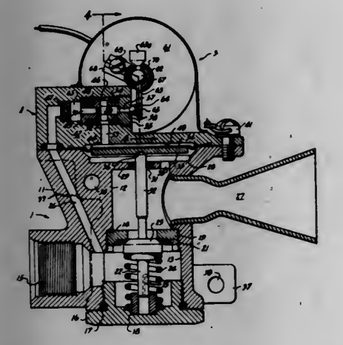
pre-heating said portion whereby the heat absorption characteristics of said propellant is increased,

accelerating said portion of said propellant,

allowing said propellant portion to expand overboard,

whereby said thrust chamber is cooled by said propellant portion and thrust is imparted to said thrust chamber by said propellant portion.

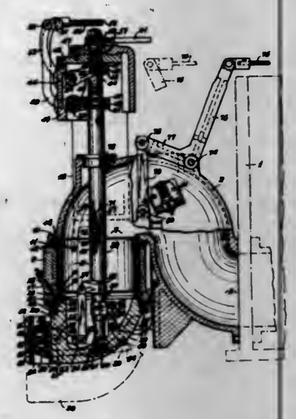
3,267,665
PROPORTIONAL THRUST-CONTROL VALVE
Kenneth G. Heller, Redwood City, Calif., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 14,649, Mar. 14, 1960. This application Dec. 26, 1962, Ser. No. 248,832
6 Claims. (Cl. 60—35.5)



1. Apparatus for controlling the thrust of a nozzle operating in a zero pressure environment in direct proportional response to a demand signal comprising: a valve body having a pilot conduit arranged to communicate at one end with a source of gas under pressure, said pilot conduit having a constant orifice therein and a variable orifice, the latter of which orifices terminates the other end of said pilot conduit, an expandable chamber having a single expansible portion, means communicating one side of said expansible portion with said pilot conduit intermediate said orifices, signal responsive means for varying the size of said variable orifice in proportion to the magnitude of a demand signal, a main conduit in said valve body having one end arranged to communicate with said source of gas under pressure; a thrust nozzle having an open discharge end and a constant throat area, said thrust nozzle having the inlet end thereof connected to the other end of said main conduit, a normally-closed valve disposed in said main conduit, means responsive to the expansion of said expandable chamber for opening said valve, and means for subjecting the other side of said expansible portion of said expandable chamber to the gaseous pressure of said main conduit at the inlet of said thrust nozzle.

3,267,666
COMBINED MARINE PROPULSION AND STEERING MEANS
Joseph L. Kiraly, Spring Lake, Mich., and Ernest C. Webb, Cleveland, Ohio, assignors to Lakewood Manufacturing Co., Westlake, Ohio, a corporation of Ohio
Filed Nov. 23, 1962, Ser. No. 239,681
7 Claims. (Cl. 60—35.54)

1. Marine propulsion and steering means for a watercraft comprising a housing having a fluid passageway therein with a fluid pressure inlet thereto, a jet head carried in said housing and communicating with said passageway, said head being movable in said housing along and about a substantially vertical axis for jet running depth regulation and steering, respectively, said jet head having forward thrust and reverse thrust openings, means in the jet head for selectively directing the fluid pressure to either the forward or the reverse openings, means in the jet head for directing the fluid pressure about a horizontal axis for watercraft trim control, and for maintaining a balanced fluid-volume pressure ratio through at least one of said outlets.



3,267,667
REVERSIBLE FLOW FAN
John R. Erwin, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed June 25, 1964, Ser. No. 378,014
9 Claims. (Cl. 60—35.54)

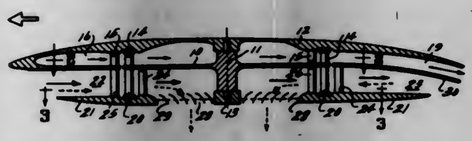


5. A reversible flow fan for attachment to an aircraft for vertical propulsion comprising,
an aircraft supporting structure having a substantially vertical duct therethrough,
a horizontal disc supported on an axis for rotation within said duct,
radially extending impulse compressor blades disposed about the disc periphery,
means to rotate said disc,
rotatable cambered airfoil inlet guide vanes supported in said duct adjacent to and upstream of said blades,
rotatable cambered airfoil outlet guide vanes supported in said duct adjacent to and downstream of said blades,
and means to rotate said guide vanes to form inlet guide vanes of said outlet guide vanes and vice versa whereby air flow through said duct is reversed.

3,267,668
CONVERTIBLE RADIAL FLOW FAN
John R. Erwin, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed June 25, 1964, Ser. No. 378,015
8 Claims. (Cl. 60—35.54)

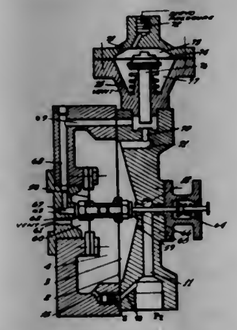
1. A convertible radial flow fan for attachment to an aircraft for vertical and cruise propulsion comprising,
a disc supported for rotation on an axis vertical with respect to the aircraft,
means connected to rotate said disc,

a peripheral row of vertically attached impulse compressor blades on said disc,
a stationary casing enclosing said disc and having diametrically opposed segment inlet and outlet passages to said blading,
outlet guide vanes in said passages,
said vanes in the outlet passage being movable,
movable inlet guide vanes in at least said outlet passage,
said fan providing cross flow two stage compression from said inlet passage through said outlet passage for horizontal thrust,



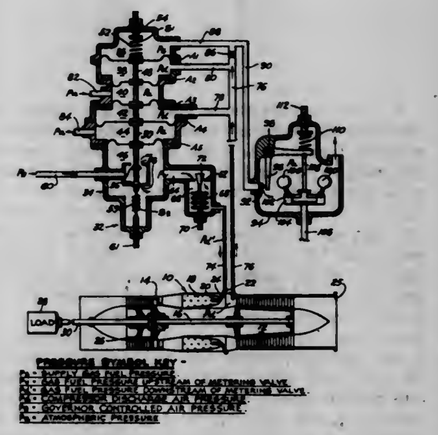
a louver controlled vertical opening in said casing disposed centrally below said disc,
said guide vanes in said outlet passage being movable more than 80° whereby said outlet guide vanes therein become inlet guide vanes and vice versa to provide single compression radial inflow through said passages and discharge through said vertical opening for vertical thrust.

3,267,669
ANTISURGE SYSTEM ADAPTED TO PREVENT THE STALLING OF TURBINE AEROENGINES
Roger Henri Tissier, Paris, France, assignor to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed Jan. 13, 1964, Ser. No. 337,365
Claims priority, application France, Jan. 16, 1963, 921,606
2 Claims. (Cl. 60—39.28)



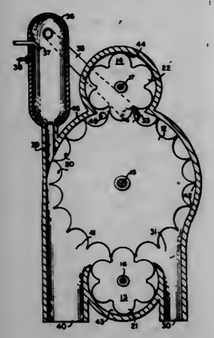
1. In combination with a turbine aeroengine including a compressor subject to surges, the provision of an antisurge arrangement comprising signalling means detecting the surges and including a chamber, two diaphragms subdividing said chamber into three separate compartments of which one outer compartment is permanently connected with the atmosphere, an unobstructed connection between one of the other compartments and the compressor, a throttled connection between the last compartment and the compressor, means through which the two first-mentioned compartments communicate, a member rigidly interconnecting the two diaphragms, a valve controlled by said interconnecting member and controlling last-mentioned means, a member adapted to unload the engine to prevent a stalling of the engine under the action of surges, and means operatively interconnecting the diaphragm system with the engine-unloading member and adapted to transmit to the latter with a very short time lag the shifting of the diaphragm system produced by the surges acting differentially in the two last-mentioned compartments, the valve controlling the means through which the two first-mentioned compartments communicate opening said communicating means upon shifting of the diaphragm-interconnecting member.

3,267,670
GAS TURBINE ENGINE CONTROL
Howard L. McCombs, Jr., South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Dec. 13, 1963, Ser. No. 330,466
7 Claims. (Cl. 60—39.28)



1. A fuel control for a gas fired gas turbine engine having an air compressor comprising: gas supply conduit means connected to said engine for supplying a pressurized gas fuel thereto, a metering restriction in said conduit means causing a gas fuel pressure drop, a regulator valve in said conduit movable to control said gas fuel pressure drop across said metering restriction, pressure responsive means responsive to gas pressure in said conduit means and a pressure generated by said engine compressor, said pressure responsive means being connected to said regulator valve to control a substantially constant ratio pressure drop across said metering restriction, engine speed responsive governor means connected to said pressure responsive means operative to control said compressor generated pressure acting thereon, said governor means operative when said engine is under speed to control said compressor discharge pressure to a first high pressure value causing said pressure responsive means to regulate a first high substantially constant ratio pressure drop across said metering restriction to define an upper fuel limit during engine accelerations, said governor means operative when said engine is over speed to control said compressor discharge pressure to a second lower pressure value causing said pressure responsive means to regulate a second lower substantially constant ratio pressure drop across said metering restriction to define a lower fuel limit during engine decelerations, said governor means further operative to control said compressor discharge pressure between said first high and second low pressure values during engine governing and thereby regulate the pressure ratio across said metering restriction to a value intermediate said upper and lower substantially constant limits.

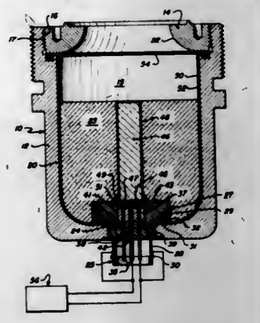
3,267,671
TURBINE ENGINE
Charles L. Hill, 111 Foster St., Olney, Ill.
Filed July 6, 1965, Ser. No. 469,798
13 Claims. (Cl. 60—39.43)



1. A gas turbine engine comprising a casing, a turbine rotor journaled in said casing and having a plurality of peripheral pockets, a valve wheel having a plurality of peripheral lobes and rotatably journaled in said casing at a first position with its lobes adapted to engage the pockets of said rotor as said rotor and valve wheel are rotated, a compressor wheel having a plurality of peripheral lobes and rotatably journaled in said casing with its lobes adapted to engage the pockets of said rotor as said wheel and rotor are rotated at a second position spaced along the direction of rotation of said rotor from the first position of said valve wheel, an air intake passage through said casing adjacent the position of said valve wheel and said rotor where their lobes and pockets disengage, an exhaust passage through said casing adjacent the position of said valve wheel and said rotor where their lobes and pockets engage, a compressed air passage through said casing adjacent the position of said compressor wheel and said rotor where their lobes and pockets engage, a combustion chamber, means to inject fuel into said chamber, means connecting said air passage to said chamber to inject compressed air into said chamber to form a gaseous mixture with the injected fuel, means to ignite the gaseous mixture in said chamber, passage means to convey expanding gaseous products of combustion from said chamber into said casing against the periphery of said rotor at a third position spaced from the position of said compressor wheel along the direction of rotation of said rotor, and means to convey exhaust gases in said casing from said third position to said exhaust passage, the side walls of said casing fitting closely in gas restricting relation around said valve and compressor wheels, the side walls of said casing fitting closely in gas restricting relation around said rotor between said valve wheel and said compressor wheel from said intake passage to said compressed air passage and between said third position and said compressor wheel.

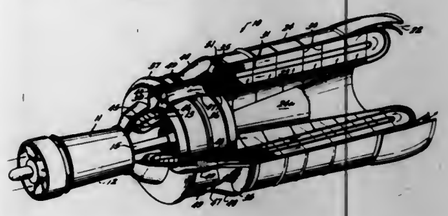
3,267,672
GAS GENERATING DEVICE WITH INITIATOR INSULATING MEANS
James R. Craig and Daniel J. Sasmor, Albuquerque, N. Mex., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 17, 1964, Ser. No. 419,258
6 Claims. (Cl. 60—39.47)

1. A gas generating device of the character described comprising in combination a housing having an inner wall and a closed end and an open end defining a combustion chamber, a liner of aluminum metal disposed in close contiguity to the inner wall of said housing to isolate said inner wall from the combustion chamber, ignition means including electrical leads penetrating said housing and extending into said combustion chamber, a bridgewire coupling at least one of said electrical leads



with said bridgewire being destroyed upon application of an electrical current to said leads, and an ignitable gas generating charge within said combustion chamber and liner to provide gas and the essentially simultaneous erosion of said liner to effect deposition of liner portions on said ignition means.

3,267,673
RECUPERATOR FOR GAS TURBINE POWERPLANTS
Martin Carl Hemsworth, Cincinnati, Ohio, and Ted Floyd Stirgwolt, Manchester, Mass., assignors to General Electric Company, a corporation of New York
Continuation of application Ser. No. 382,046, July 13, 1964. This application Oct. 22, 1965, Ser. No. 513,610
12 Claims. (Cl. 60—39.51)



1. In a gas turbine powerplant having in axially spaced relationship a fluid compressor, a combustor, a turbine drivingly connected to said compressor, a discharge opening, and a passageway connecting said turbine to said discharge opening, a recuperator comprising, in combination:

(a) first manifold means comprising a first toroidal header and first ducting means in fluid flow relationship,

(b) second manifold means comprising a second toroidal header and second ducting means in fluid flow relationship,

(c) one of said first and second ducting means communicating with the discharge portion of the compressor and the other ducting means communicating with the inlet portion of the combustor,

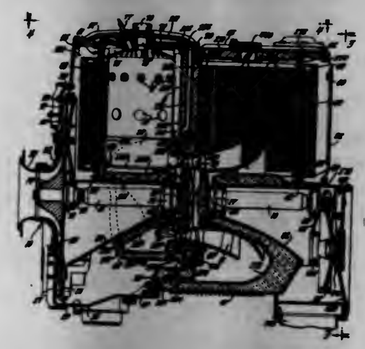
(d) said first ducting means secured to said first header such that said first header is supported by said first ducting means, and said second manifold means including flexible means such that second header is substantially unsupported by said second ducting means,

(e) axially extending support means connecting said first manifold means and said second header such that said second header is supported axially by said first manifold means, said support means permitting substantially unrestrained radial expansion and contraction of said second header,

(f) and a plurality of heat exchange elements connecting said first and second headers in fluid flow relation, said heat exchange elements extending into the passageway between the turbine and the discharge opening in heat exchange relation to combustion products flowing therethrough,

(g) whereby fluid supplied to said heat exchange elements from the compressor is heated by the combustion products prior to being delivered to the combustor.

3,267,674
REGENERATIVE GAS TURBINE
John S. Collman, Orchard Lake, Eugene E. Flanigan, Bloomfield Hills, James M. Ricketts, Oxford, William A. Turunen, Birmingham, and Paul T. Vickers, Royal Oak, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 21, 1964, Ser. No. 361,444
14 Claims. (Cl. 60—39.51)



1. A regenerative gas turbine engine comprising, in combination,

a housing,

a bulkhead extending across the housing and dividing the interior of the housing into a high pressure chamber and a low pressure chamber,

a compressor discharging into the high pressure chamber,

a turbine connected to drive the compressor and providing a flow path from the high pressure chamber to the low pressure chamber,

an engine exhaust from the low pressure chamber,

a rotary regenerator matrix rotatable about a generally vertical axis disposed in both chambers and passing through the bulkhead,

seal means effective to direct the compressor discharge through the portion of the matrix in the high pressure chamber and to direct the turbine exhaust through the portion of the matrix in the low pressure chamber,

combustion apparatus disposed in the flow path from the matrix to the turbine, the combustion apparatus including a combustion chamber and a transition section connecting the combustion chamber to the turbine,

thermal insulation disposed around the combustion apparatus and spaced from the housing and bulkhead to define a cool compressed air zone supplied by the compressor to bathe the housing and bulkhead with cooling air,

the said insulation and the matrix enclosing the combustion apparatus, air flowing from the cool air zone through the matrix to the combustion apparatus,

thermal insulation lining the bulkhead and housing in the low pressure chamber to insulate the bulkhead and housing from the turbine exhaust gases,

two rollers in the low pressure chamber having axes parallel to the matrix axis each frictionally engaging the periphery of the matrix at points spaced axially of the matrix,

a location roller disposed between the first-mentioned rollers engaging the underside of the matrix to locate the matrix axially,

the matrix being biased against the first-mentioned rollers by the pressure drop across the bulkhead and against the locating roller by gravity,

yieldable means biasing the matrix against the first-mentioned rollers,

means responsive to a condition indicative of the said pressure drop effective to increase the biasing effect of the yieldable means at low values of pressure drop, and

means for driving one of the first-mentioned rollers so as to rotate the matrix.

7. A rotary regenerator comprising, in combination,

a housing,

a bulkhead extending across the housing dividing the housing into a high pressure chamber and a low pressure chamber,

a regenerator matrix rotatable about a generally vertical axis in the housing and passing through the bulkhead between the two chambers when rotated,

two rollers having axes parallel to the matrix axis each frictionally engaging the periphery of the matrix at points spaced axially of the matrix,

the rollers being in the low pressure chamber,

a locating roller disposed between the first-mentioned rollers engaging the underside of the matrix to locate the matrix axially,

the matrix being biased against the first-mentioned rollers by the pressure drop across the bulkhead and against the locating roller by gravity,

yieldable means biasing the matrix against the first-mentioned rollers,

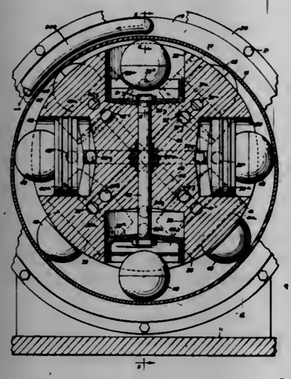
means responsive to a condition indicative of the said pressure drop effective to increase the biasing effect of the yieldable means at low values of pressure drop, and

means for driving one of the first-mentioned rollers so as to rotate the matrix.

3,267,675
ROTARY APPARATUS FOR ACTING MECHANICALLY ON FLUIDS
Carlos Idaho Gesell, Villa Gesell, F.G.R., Argentina
Filed Feb. 13, 1964, Ser. No. 344,772
1 Claim. (Cl. 60—39.61)

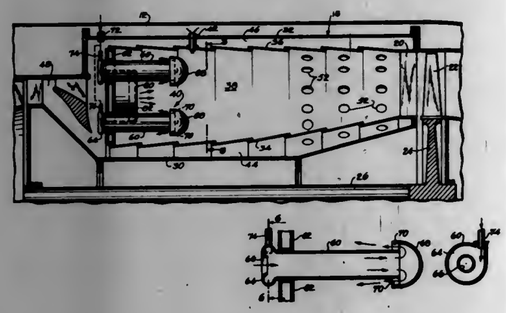
A multiple cylinder and piston engine, comprising a block rotatable about a first axis, a series of radially disposed cylinders in said block, opening externally of the latter and connected in opposed pairs by bores extending through said block, pistons in said cylinders connected in opposed pairs by rods snugly slidable with a gas tight fit in respective bores, the cross-section of said bores and rods being substantially less than that of said cylinders and pistons, to thereby provide expansible chambers in said cylinders at the inner ends of respective pistons, a cylindrical housing enveloping said block, rotatable about a second axis parallel to but displaced from said first axis, the inner surface of said housing forming an uninterrupted cylindrical pressure backup means for said pistons, and spherical pressure transmitting means coacting with said pistons adjacent the open ends of respective cylinders,

in engagement with the outer ends of respective pistons and said backup pressure surface, thereby permitting substantially frictionless tangential reciprocating changes of speed of the movement engendered within the circular



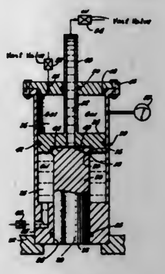
motion of the pistons and cylinders with relation to said pressure backup means, by the distance separating said first and second axes, simultaneously and cyclically accelerating certain of said pistons and decelerating respectively opposed cylinders in their circular movement.

3,267,676
FUEL BURNER STRUCTURE
Ralph J. Sneeden, Woodcliff Lake, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed June 23, 1965, Ser. No. 466,346
10 Claims. (Cl. 60—39.74)



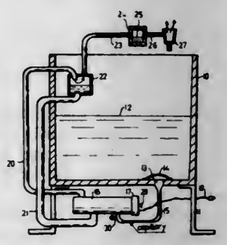
1. Combustion chamber structure comprising:
(a) a casing forming a combustion space, said casing having a wall across its upstream end;
(b) a plurality of circumferentially-spaced linear tubes extending downstream from said wall;
(c) means for introducing fuel into each tube tangentially of the tube wall and adjacent to the tube upstream end, said tubes also being open at their upstream ends for air flow thereinto; and
(d) a cap member supported across and spaced from the downstream end of each tube for directing the fuel and air discharging from said tube in an upstream direction externally of said tube from the tube discharge end.

3,267,677
IMPACT FORMING MACHINE
Leo C. Bollar, Pomona, Calif. (20344 Eastwood Ave., Torrance, Calif.)
Filed May 9, 1963, Ser. No. 279,055
20 Claims. (Cl. 60—54.5)



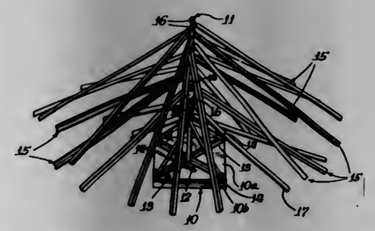
17. In an impact apparatus of the character described, the combination of:
a fluid-confining structure;
a ram piston slidingly mounted in the structure with its leading end exposed for delivering impact force, said ram piston having a rearwardly facing surface to receive fluid pressure for driving the ram piston;
a body of liquid confined in the structure to exert driving pressure on said rearwardly facing surface;
a body of gaseous fluid in the structure to expand to transmit energy to the ram piston;
a freely movable piston slidingly mounted in the structure to isolate the body of liquid from the body of gaseous fluid and to transmit pressure from the gaseous fluid to the body of liquid;
means in the structure normally isolating the rearwardly facing surface of the ram piston from the pressurized body of liquid at a retracted position of the ram piston to keep the ram piston from being driven; and
control means operable to give the pressurized body of liquid access to said rearwardly facing surface to drive the ram piston.

3,267,678
VAPOR-GENERATING DEVICE
Nat Camp, 1316 Langdon Lane, Mamaroneck, N.Y.
Filed May 6, 1964, Ser. No. 370,750
7 Claims. (Cl. 60—108)



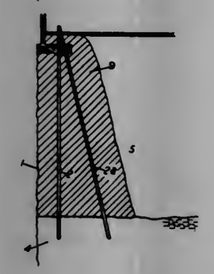
1. A vapor-generating device comprising a boiling chamber, a reservoir containing a body of liquid substantially larger than the volume of said chamber, said body of liquid being under a substantially constant downward pressure of an overlying body of air, capillary-tube means forming a restricted passage of predetermined hydrostatic resistance between said reservoir and said chamber, and heating means for boiling a liquid in said chamber, said capillary-tube means being so dimensioned as to develop thereacross an appreciable pressure differential Δp maintaining the liquid in said chamber at a substantially constant level with development of a substantially constant output pressure p_o at the chamber end of said capillary-tube means in the presence of a substantially constant input pressure p_i at the reservoir end of said capillary-tube means, with $P_i \approx P_o + \Delta p$.

3,267,679
BEACH BUILDING APPARATUS
Stanley A. Morse, 167—3601 Sheffield, Hammond, Ind.
Filed Oct. 4, 1963, Ser. No. 313,828
8 Claims. (Cl. 61—3)



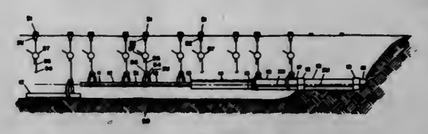
1. In a beach building apparatus, a center base member including a mast carried in an upright position, a plurality of struts each having a loop at one end thereof, each of said struts positioned with the loop thereof encircling said mast and extending from said mast in an outwardly and downwardly inclined direction, said plurality of struts further relatively positioned to define the general configuration of a cone with a maze of struts within said cone.

3,267,680
CONSTRUCTING A FROZEN WALL WITHIN THE GROUND
Etienne Maurice Schlumberger, London, England, assignor to Conoch International Methane Limited, Nassau, Bahamas, a company of the Bahamas
Filed July 15, 1963, Ser. No. 294,892
Claims priority, application Great Britain, Apr. 18, 1963, 15,244/63
7 Claims. (Cl. 61—36)



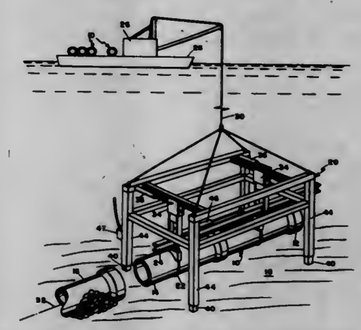
1. A method for constructing a frozen wall for an excavation in the ground which comprises inserting freeze pipes into the ground along the line of the top of the desired wall, said freeze pipes being alternately vertical and at an angle of from 3° to 30° to the vertical with the tops of said freeze pipes being closer together than the bottoms, and circulating a refrigerant through said freeze pipes until the frozen wall is complete.

3,267,681
METHOD OF CONSTRUCTING INSULATED CONDUIT
James E. Maloney, Rte. 3, Madison, Wis.
Original application May 3, 1961, Ser. No. 107,525, now Patent No. 3,144,050, dated Aug. 11, 1964. Divided and this application Dec. 9, 1963, Ser. No. 328,806
4 Claims. (Cl. 61—72.1)



1. The method of constructing an insulated conduit for the underground distribution of fluids which comprises, excavating a ditch deeper than the desired lower line of the conduit, placing a necessary number of pipe sections in said ditch, placing a plurality of supporting members across said ditch, suspending adjustable lifting means from each of said supporting members, connecting a plurality of said lifting means to each of said pipe sections in supporting relation, raising the pipe sections to the desired level by operation of said adjustable lifting means, connecting the ends of said pipe sections to form a pipe, covering a portion of said pipe between said lifting means with a plurality of structurally rigid insulation sections to form a length of tubular casing which encloses said pipe in slidable relation, wrapping said tubular casing with a heat resistant protective material to form a protective envelope, removing said lifting means adjacent to said length of tubular casing from said pipe and repositioning said lifting means around said tubular casing and protective envelope to maintain said pipe at the desired level, continuing the construction of said tubular casing and said protective envelope until the entire length of pipe is enclosed in slidable relation to form an insulated conduit at the desired level and grade, filling said ditch until said insulated conduit is supported by said fill, removing said lifting means from said insulated conduit, filling said ditch to cover said insulated conduit.

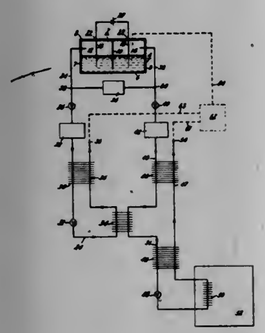
3,267,682
METHOD OF SUBMARINE PIPE LAYING
Spencer H. Robley, La Crescenta, Calif., assignor to Gunther and Shirley Company, Sherman Oaks, Calif.
Filed Dec. 21, 1964, Ser. No. 419,693
5 Claims. (Cl. 61—72.3)



1. The method of laying pipe on the floor under a body of water, comprising the steps of: releasably securing a length of pipe to a mobile frame; lowering said frame and pipe in said body of water to a stable position wherein said frame is supported securely by and in fixed relation to said floor with said length of pipe generally aligned with but

spaced from the end of a pipeline already on said floor; moving at least a portion of said length of pipe, laterally of its length and relative to said frame, while holding the same secured thereto and supported thereby to bring the axis of said length of pipe into a desired and stable relation to the axis of said pipeline; and then moving said length of pipe axially, relative to said frame while holding the same secured thereto and supported thereby, into engagement with the end of said pipeline to form a continuation thereof.

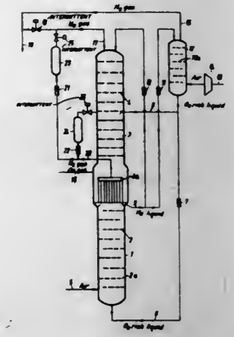
3,267,683
REFRIGERATION SYSTEM
Loyd B. Nesbitt, Alplaus, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 1, 1965, Ser. No. 468,813
10 Claims. (Cl. 62—3)



1. A refrigeration system comprising
a gas generating apparatus for producing at least two distinctive gases,
means for cooling one of these gases,
means for bringing these two gases in heat transfer relationship so that heat is passed between the two for substantially reducing the temperature of one, and
means for passing the gas having the reduced temperature into heat transfer relationship with the load desired to be cooled to effectuate that cooling.

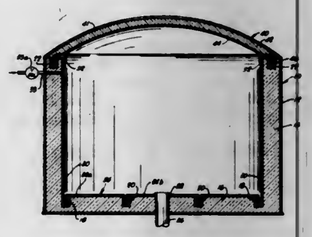
3,267,684
METHOD AND APPARATUS FOR LOW-TEMPERATURE SEPARATION OF GASES
Fritz Jakob, Achmuhle, near Wolfratshausen, Germany, assignor to Linde Aktiengesellschaft, Wiesbaden, Germany
Filed Jan. 19, 1962, Ser. No. 167,330
Claims priority, application Germany, Jan. 26, 1961, G 31,471
6 Claims. (Cl. 62—29)

1. A process for low temperature separation of gas mixtures and comprising the steps of rectifying a first part of the gas mixture to be separated in a first column to obtain a lower boiling point product and a liquid enriched with a higher boiling point component of said gas mixture; expanding a second part of the gas mixture to be separated to produce external work; rectifying said second part of the gas mixture to be separated in a third column to obtain a lower boiling point product and a liquid enriched with a higher boiling point component of said gas mixture; withdrawing the liquids enriched with a higher boiling component of said gas mixture from said first column and said third column and rectifying these in a second column so that rectification vapors pass upwardly through perforated baffles, and liquids accumulate on the perforated baffles to obtain a lower boiling point product and a higher boiling point product, the first column being at a higher pressure than the second column; storing the lower boiling point product produced in the first column; and intermittently releasing the stored lower boiling point product into



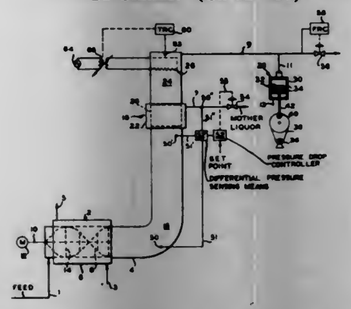
the head of the second column to intermittently force the liquids accumulating on the perforated baffles downwardly therethrough, thereby periodically interrupting the upward flow of rectification vapors in said second column.

3,267,685
CONTAINER FOR STORING LIQUIDS AT LOW TEMPERATURES
Carl E. Schroeder, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma
Filed Mar. 3, 1965, Ser. No. 436,876
22 Claims. (Cl. 62—45)



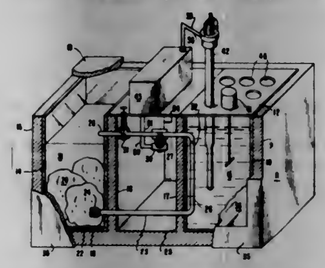
1. A container for storing liquids at low temperatures comprising:
a rigid outer shell;
thermally insulating material lining said outer shell;
a plurality of liquid impermeable membranes lining said thermally insulating material; and
a frozen seal structure between said liquid impermeable membranes and preventing fluid flow between said membranes, said seal structure including
a sealant material sealingly engaging portions of said membranes and having a melting point below about 25° C. and above the temperature at which said liquids are to be stored, and
trough means for retaining said sealant material in a substantially horizontal plane whereby said sealant material can be positioned for sealing engagement with said portions of the membranes by pouring the sealant material into trough means in liquid form.

3,267,686
FRACTIONAL CRYSTALLIZATION HAVING A LIQUOR WITHDRAWAL RESPONSIVE TO A PRESSURE DIFFERENTIAL
Chester C. Holley, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 16, 1963, Ser. No. 309,182
11 Claims. (Cl. 62—58)



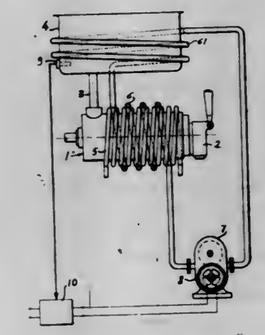
1. In a process wherein a body of solids is moved through a stationary prefilter zone, a filter zone, wherein liquid is removed, a reflux zone and a solids melting zone; solids are melted in said melting zone, part of the melt being removed from the system and another part being forced in the direction countercurrent to the direction of movement of solids; and the materials in said zones are subjected to an intermittent back-pressure simultaneously with the described movement of said solids; the improvement which comprises maintaining a predetermined solids content of said body of solids by measuring the differential pressure across a portion of said solids and regulating the withdrawal of liquid from said filter zone in response to said pressure differential.

3,267,687
CONSTANT TEMPERATURE DEVICE
Robert E. Manning and Wallis A. Lloyd, Boalsburg, Pa., assignors to Cannon Instrument Company, Boalsburg, Pa., a corporation of Pennsylvania
Filed Sept. 22, 1964, Ser. No. 398,349
5 Claims. (Cl. 62—168)



1. A constant temperature device comprising a bath section for holding bath liquid, a reservoir section for holding coolant solution, and a central section intermediate said first two sections, said coolant solution being maintained out of direct contact with the bath liquid, switching means associated with said central section, said bath and said reservoir sections having the same floor level and substantialy the same liquid levels, temperature-sensitive means in said bath liquid, means for transferring coolant laterally from the reservoir section to the bath section for indirect heat exchange therewith and means for transferring the coolant laterally back to the reservoir section, said transfer means having a valve disposed therein responsive to said switching means for controlling coolant flow, said switching means being actuatable by said temperature-sensitive means to operate said valve, said valve being operative to open to permit coolant flow therethrough when the temperature-sensitive means signals a high bath liquid temperature and to close to shut off coolant flow when the temperature-sensitive means signals a low bath liquid temperature.

3,267,688
PRE-COOLING CIRCUIT FOR LIQUID MIXES OF ICE-CREAM MACHINES
Poerio Carpigiani, Bologna, Italy, assignor to APAW S.A., Fribourg, Switzerland
Filed June 25, 1964, Ser. No. 377,886
Claims priority, application Italy, July 5, 1963, 14,208/63
2 Claims. (Cl. 62—185)

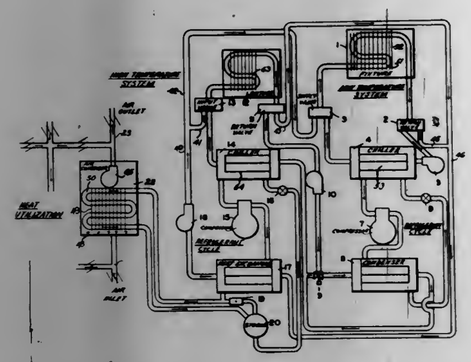


1. In an ice-cream machine of the type which continuously makes and/or dispenses ice cream, the combination of an ice-cream mixing and freezing chamber surrounded by an evaporator forming part of a first refrigerating fluid circuit, a vat disposed above said chamber for storing liquid ice-cream mix, a feed conduit connecting the bottom of said vat to an upper portion of said chamber for gravity feeding the mix to the chamber, and a precooling refrigerating circuit for said vat comprising a first heat exchange means mounted in physical contact with and jacketing said evaporator for heat exchange therewith, a second heat exchange means surrounding said vat, a pump, an electric motor for driving said pump, a thermostat mounted in said vat and connected to said motor and a source of power for starting and stopping said pump at predetermined temperatures of liquid mix in said vat, and conduit means connecting said pump and first and second heat exchange means in an endless, unobstructed refrigerating fluid circuit entirely independent of said first refrigerating fluid circuit, whereby refrigerant in said precooling refrigerating circuit is pumped from said first to said second heat exchange means solely in response to the operation of said thermostat and the temperature of ice-cream mix in said vat.

3,267,689
HIGH AND LOW TEMPERATURE REFRIGERATION SYSTEMS WITH COMMON DEFROSTING MEANS
Ralph C. Liebert, 580 Keyes Lane, Worthington, Ohio
Filed Mar. 19, 1964, Ser. No. 353,154
12 Claims. (Cl. 62—277)

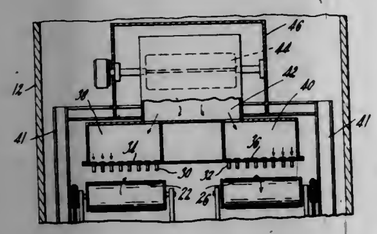
10. A refrigeration system for refrigerating separate areas to selectively different temperatures comprising a first closed system including cooling coils in a first area refrigerated, a liquid coolant, means for circulating said liquid coolant through said coils, and first refrigeration means including chiller means for maintaining said liquid

coolant at a predetermined temperature below the temperature of said first area, a second closed system including second cooling coils in a second area refrigerated, a second liquid coolant, means for circulating said second liquid coolant through said second coils, and second re-



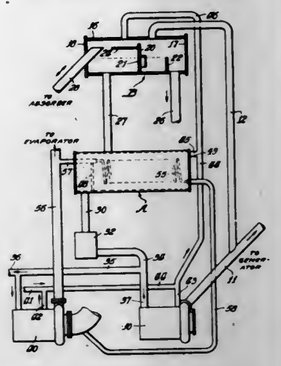
frigeration means including second chiller means for maintaining said second liquid coolant at a second predetermined temperature below the temperature of said second area; and means combining said systems to effect a common heat recovery of heat separately absorbed by said respective system coolants.

3,267,690
GASEOUS FLOW REFRIGERATING APPARATUS
Grenville B. Gerrish, Melrose, Mass., assignor to J. W. Greer Company, Wilmington, Mass., a corporation of Massachusetts
Filed May 28, 1964, Ser. No. 370,800
1 Claim. (Cl. 62—380)



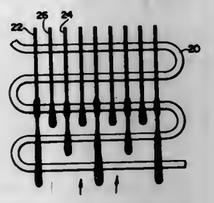
In a gaseous flow refrigerating apparatus for freezing products comprising U-shaped conveyor means for advancing products at a uniform rate in a single horizontal path, a series of conduits for directing gaseous streams for downward flow in parallel vertical paths into contact with products supported by said conveyor means, each of said conduits serving a pair of zones lying side by side for directing gaseous streams downwardly in parallel vertical paths, duct and fan means for each of said conduits for collecting the gases separately from each side by side zone after they have contacted products in such zones and for mixing the gases after they have been separately collected from said zones for recirculating said mixed gases from said zones into the intake ends of the conduits leading to the same two zones from which they have been collected and mixed, and a separate cooling coil for each conduit for cooling the gases before they are directed through said conduits.

3,267,691
COOLING AND LUBRICATING SYSTEM FOR ABSORPTION REFRIGERATION APPARATUS
William L. Osborn, York, Pa., assignor to Borg-Warner Corporation, a corporation of Illinois
Filed Oct. 23, 1964, Ser. No. 406,011
5 Claims. (Cl. 62—476)



1. In an absorption refrigeration system including a generator, a condenser, an evaporator, and an absorber connected in a closed refrigeration circuit, and a plurality of hermetically sealed pump-motor units for circulating solution and refrigerant through said system, a cooling and lubricating circuit comprising a heat exchanger; means for circulating a liquid coolant in a first path through said heat exchanger and said pump-motor units; a solution chamber connected to provide a second path for coolant in parallel with said heat exchanger; means for continuously supplying absorbent solution from said refrigeration circuit to said solution chamber; conduit means for interconnecting said absorber and said solution chamber to provide a passage for water vapor flow to and from said absorber in order to establish a concentration of said coolant solution somewhat below the normal concentration of solution flowing within the refrigeration circuit; and means for supplying a secondary coolant to said heat exchanger such that it passes in indirect heat exchange relation to the solution flowing therethrough.

3,267,692
STAGGERED FINNED EVAPORATOR STRUCTURE
Aelred J. Pfeiffer and Philip F. Harbour, both of Columbus, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 28, 1965, Ser. No. 459,756
6 Claims. (Cl. 62—515)

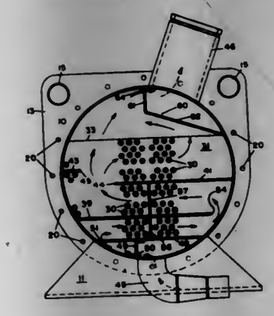


3. A fin arrangement for a fin and tube type refrigerant evaporator adapted to normally operate at a below-freezing temperature, including:

a series of spaced-apart, generally parallel fins between which air to be chilled is directed, the upstream edges of adjacent fins being staggered to project upstream and to be recessed downstream with respect to each other to provide multiple spacing, as measured in a direction transverse to the direction of air flow, between facing fins in the upstream portion of said evaporator as compared to the spacing between facing fins in the main body portion of said evaporator;

said upstream projecting fins including cut-out portions in that area of their surfaces facing, in a transverse direction, the leading edges of the recessed fins to delay bridging of frost between said leading edges of said recessed fins and said fins having said facing cut-out portions.

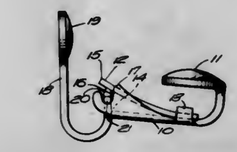
3,267,693
SHELL-AND-TUBE TYPE LIQUID CHILLERS
Douglas K. Richardson and James R. Harnish, Staunton, Va., and John L. Ditzler, York, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 29, 1965, Ser. No. 467,988
11 Claims. (Cl. 62—527)



5. A liquid chiller comprising a substantially horizontally extending shell having liquid manifolds at its ends, a plurality of vertically spaced apart rows of substantially horizontally extending, closely spaced tubes extending within said shell substantially the length of said shell, and connecting at their ends with the spaces within said manifolds, one of said manifolds having a liquid inlet, one of said manifolds having a liquid outlet, said shell having a refrigerant inlet in its bottom and having a refrigerant gas outlet in its top, a first, substantially horizontally extending baffle sheet extending substantially the length of said shell with its edges in contact with the inner surface of said shell below the lowermost of said rows of tubes, one of said edges having longitudinally spaced apart, constricted refrigerant distribution notches, and a second baffle sheet extending substantially vertically downwardly from said first sheet to the inner surface of said shell adjacent to said refrigerant inlet, said second sheet extending substantially the length of said shell and having longitudinally spaced apart, constricted refrigerant distribution notches in its bottom edge.

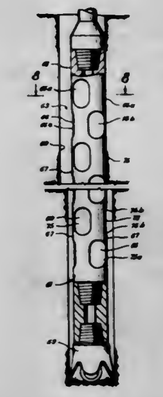
3,267,694
EARRING WITH DETACHABLE SPRING ARM
Louis S. Ficocelli, Cranston, R.I., assignor to Lectron Tool & Die Corp., Cranston, R.I., a corporation of Rhode Island
Filed Feb. 17, 1964, Ser. No. 345,334
1 Claim. (Cl. 63—14)

A clamping earring comprising a clamping member having a longitudinal channel at one end thereof and an ornament carrying, U-shape member, said ornament member being releasably pivotally mounted adjacent one end to said clamping member, said clamping member channel having sidewalls with aligned slot means therein and extending transversely thereof, said ornament member having aligned pivot pin means adapted to enter said slot by means by movement in a first direction longitudinal of said clamping member and then in a direction transverse thereto said clamping member having a leaf spring overlying and resiliently engaging an end of said orna-



ment member and urging said pin means into said slots, said spring extending beyond the end of the remainder of said clamping member for forming a tab engageable by said ornament member end to lift said spring during assembly and pivot said members, said slot means having walls adjacent said end and inner walls remote therefrom, the inner walls of said slot means being raised above said other walls to form a stop means to engage said pin means during the assembly operation.

3,267,695
TUBULAR MEMBER FOR USE IN WELL DRILLING OPERATIONS
Lester W. Toelke, 2308½ Bingle Road, Bldg. B, Houston, Tex.
Filed Mar. 29, 1965, Ser. No. 443,362
9 Claims. (Cl. 64—1)

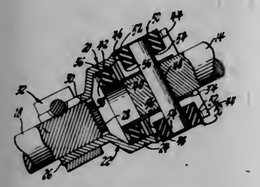


1. A tubular member adapted to be connected in a drill string for use in well drilling operations having an outer peripheral surface, a plurality of recesses in said surface, said recesses terminating in side portions, said recesses being circumferentially staggered in said outer surface whereby said side portions of successive, adjacent recesses overlap circumferentially, said recesses terminating end portions, said end portions of successive, adjacent recesses being spaced longitudinally of the tubular member, and said outer peripheral surface extending uninterruptedly between said recesses.

3,267,696
VIBRATION ISOLATION COUPLING

Chester E. Sieja, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 14, 1964, Ser. No. 367,314
2 Claims. (Cl. 64—11)

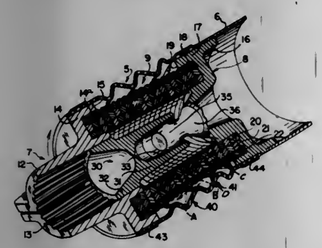


1. An isolation coupling, comprising, inner and outer concentrically arranged and relatively rotatable members, one of said members including a generally cup-shaped portion receiving an end of the other of said members, an elastomeric isolation bushing interconnecting said end of said other member and said cup-shaped portion, a pair of diametrically opposed openings in said cup-shaped portion mounting pin means extending radially from said other member adjacent said end thereof and having a pair of end portions each respective to one of said openings, and a pair of elastomeric isolation coupling buttons each mounted on a respective said end portion within said respective opening and engageable with said cup-shaped portion, said bushing normally locating said members in a substantially nondrivingly connected neutral relation wherein said buttons are located out of engagement with said cup-shaped portion, said buttons engaging said cup-shaped portion upon predetermined relative rotation between said members from said neutral relation to establish resilient driving connection therebetween.

3,267,697
UNIVERSAL JOINT

Sidney Oldberg, Birmingham, and Robert E. Stuemky, Royal Oak, Mich., assignors to Eaton Yale & Towne Inc., a corporation of Ohio

Filed Oct. 23, 1963, Ser. No. 318,268
13 Claims. (Cl. 64—15)

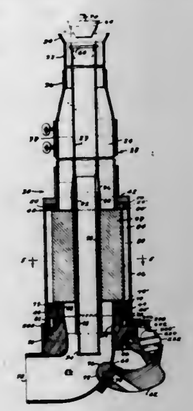


1. A coupling member for transmitting torque between driving and driven members comprising spring means operatively connected to said driving and driven members to effect the transmission of torque therebetween; said spring means including inner, intermediate, and outer spring units in a telescoped relation and having their opposite ends connected to said driving and driven members to transmit torque therebetween; said inner spring unit being torsionally loaded in a direction causing said spring unit to tend to expand and said intermediate and outer spring units being torsionally loaded in a direction causing said inner and outer spring units to tend to contract; said inner and intermediate spring units and said intermediate and outer spring units having a radial pressure engagement therebetween which prevents expansion of said inner spring unit and contraction of said intermediate and outer spring units causing said spring units to remain in radial engagement during the transmission of torque whereby drive noises due to radial separation and return of the spring units into engagement are eliminated.

3,267,698
MEANS FOR TURNING FLEXIBLE TUBULAR ARTICLES

George A. Poteat, Gibsonville, N.C., assignor to Engineered Plastics, Incorporated, Gibsonville, N.C., a corporation of Delaware

Filed Apr. 30, 1963, Ser. No. 276,918
25 Claims. (Cl. 66—149)



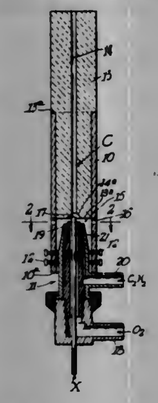
1. Means for turning flexible tubular articles comprising an outer tubular member, an inner tubular member extending within said outer tubular member to define therewith an intermediate annular space, pneumatic means for drawing articles in said tubular members, first support means for supporting said inner tubular member for drawing tubular articles into said intermediate space over said inner tubular member, and second support means for supporting said inner tubular member for turning articles from said intermediate space into and through said inner tubular member, said first and second support means being alternately disengageable from said inner tubular member to provide continuous support thereof and being spaced apart longitudinally with respect to said inner tubular member to permit any unturned articles to be discharged through said intermediate space.

3,267,699
ATOMIZER BURNER

Richard N. Kniseley, Ames, Iowa, assignor to Iowa State University Research Foundation, Inc., Ames, Iowa, a corporation of Iowa

Filed Sept. 18, 1963, Ser. No. 309,638
2 Claims. (Cl. 67—87)

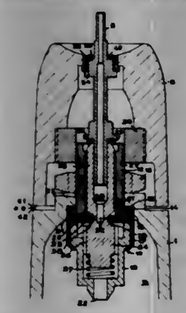
1. A total consumption burner for flame emission and absorption spectroscopy, comprising a tubular burner casing having an open top, means operably associated with said burner for providing an oxygen-acetylene mixture at said open top, and means for providing an atomized test solution at said open top, and a tubular element fixed to said casing in coaxial alignment therewith, a uniform diameter axial bore substantially over the length of said element, said element having a bottom surface spaced from said casing open top to define a pre-mixing chamber for said mixture and atomized test solution, said chamber having a height of from about 0.2 to about 1.0 millimeter, said element being equipped with a radially-extending port communicating said chamber with the atmosphere, said element also having an unobstructed open top for positioning a flame for spectroscopic analysis.



3,267,700
GAS FUELED CANDLE

Eddy Marie Kommer, Paulus Potterlaan 29, Rijswijk, Netherlands, and Gerardus Cornelis van Gulik, Pomonalaan 7, The Hague, Netherlands

Filed Dec. 23, 1963, Ser. No. 334,968
Claims priority, application Netherlands, Dec. 21, 1962, 287,082
5 Claims. (Cl. 67—87)

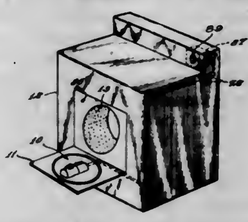


1. A gas fueled candle or like implement, including a hollow body member having therein a chamber constructed to hold fuel of the butane type under pressure, a fuel outlet valve mechanism mounted in the top portion of said body member, a tip member enclosing at least the space above said valve mechanism and having an opening in the upper portion thereof, means mounting said tip member to move angularly with respect to said body member, said valve mechanism including a depressible hollow valve stem extending by a burner tube passing through said opening in said tip member, spring means tending to press the valve stem upwardly into its closed position, the upper portion of the valve stem carrying the burner tube being mounted for a free downward movement through said tip member to open the valve mechanism under the action of an axial downwardly directed force exerted directly on the valve stem and burner tube assembly, the tip member and the valve stem being interconnected to depress the valve stem also as a result of an angular movement of the tip member.

3,267,701
FABRIC CONDITIONER FOR CLOTHES DRYER

Vincent C. Mandarino, St. Joseph, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware

Filed Feb. 12, 1964, Ser. No. 344,490
22 Claims. (Cl. 68—12)



8. A clothing conditioner including a cabinet having therein means forming a treatment chamber and having an access door including an inner side exposed to said chamber,

a nebulizer including a housing having a discharge opening therefrom and mounting therein electrically operated nebulizing means,

a socket recess in said door conformably shaped to said nebulizer housing to receive the nebulizer in nested relation,

an electrical connector externally on said housing and connected with said electrically operated means,

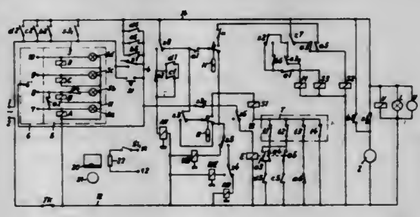
and a mating electrical connector carried by the inner side of said door in said socket recess,

said discharge opening positioned for discharging into said chamber in response to operation of said electrically operated nebulizing means.

3,267,702
PROGRAMMING CONTROL APPARATUS FOR AUTOMATIC WASHING MACHINES

Jakob Rub and Eugen Baumgartner, Zurich, Switzerland, assignors to Maschinenfabrik Ad. Schulthess & Co. AG., Zurich, Switzerland

Filed Apr. 30, 1964, Ser. No. 363,939
Claims priority, application Switzerland, Nov. 25, 1963, 14,393/63
3 Claims. (Cl. 68—12)



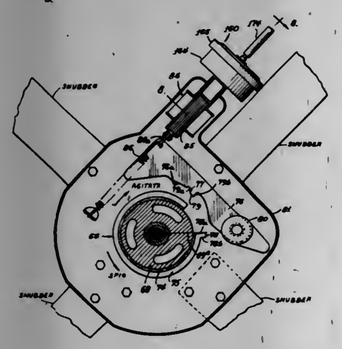
1. A program control for an automatic washing machine having valves and liquid level devices for controlling the washing liquid, said washing machine also having motor control relays for washing and spin cycles, a program selector having a series of selector relays, at least two of said selector relays being adapted for washing fabrics of different texture at different temperatures, a constant speed timer, a circuit having a source of electrical energy and including a series of selective switches for selectively energizing said selector relays, a second series of control switches in said circuit, certain of said second series of switches being actuated by said selector relays to condition said circuit for a predetermined washing operation, a third series of switches in said circuit, said third series of switches being controlled by said timer to actuate the liquid level devices, valves

and motor control relays in timed sequence through said preselected washing operation, a series of normally closed thermostatic switches responsive to different temperatures, a first one of said thermostatic switches opening at 95° and a second such switch opening at 45°, one of said thermostatic switches being connected in said circuit by one of said second series of switches when a first one of said selector relays is actuated and by another one of said second series of switches when another selector relay is actuated and a relay control switch in circuit with said thermostatic switches for interrupting a circuit through said timer when the thermostatic switch placed in circuit by actuation of at least one of said aforementioned selector relays is actuated, whereby when said first thermostatic switch is connected in the circuit by actuation of said first one of the selector relays the washing machine will operate through a time period of 55 minutes for laundry composed of white fabric, and when said second thermostatic switch is connected by actuation of said another selector relay said washing machine will operate at a reduced time period of approximately 25 minutes with a short centrifuging cycle.

3,267,703
AUTOMATIC WASHER

Richard L. Conrath, Herrin, and Clarence M. Overturf, Carterville, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed June 1, 1964, Ser. No. 371,347
3 Claims. (Cl. 68—23)

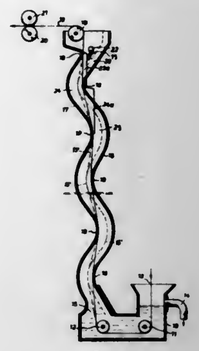


1. In a washing machine having a tub for holding a liquid, a spinnable basket rotatably mounted in the tub for receiving articles to be washed, an agitator in said basket, a motor operable in either forward or reverse direction and respective agitate and spin drive trains, each drive train operative only in one of respective opposite directions of rotation of said motor, a brake assembly for effecting selective braking of said basket against rotation comprising in combination, first braking means carried by said spin drive train and rotatable therewith, second braking means positioned for selective engagement with said first braking means for effectively retarding rotation thereof, a tang carried by said second braking means having respective opposite agitate and spin control faces engageable upon rotation of said second braking means in respective opposite agitate and spin directions, a latch pivotally mounted for selective movement toward and away from said second braking means and a finger having respective opposite agitate and spin-control faces carried by said latch, said brake tang spin face and said latch finger spin-control face complementarily formed to concentrate engagement forces so as to permit engagement at high speeds and thereby effectively stop basket rotation.

3,267,704
APPARATUS FOR THE CONTINUOUS WET PROCESSING OF TEXTILE MATERIAL

Hermann Georg Müller, Herisau, Appenzell, Switzerland, assignor to Aktiengesellschaft Cilander, Herisau, Appenzell, Switzerland

Filed Feb. 10, 1964, Ser. No. 343,614
Claims priority, application Switzerland, Feb. 13, 1963, 1,797/63
5 Claims. (Cl. 68—62)



1. Apparatus for continuous wet processing of textile material in sheet or web form, comprising a first pair of continuous, upwardly directed, spaced walls substantially parallel to one another, a second pair of continuous opposed walls connecting the first pair to form an enclosing conduit for a stream of treating liquid, means at the top of said conduit for feeding treating liquid under pressure downwardly through the conduit, means at the bottom of the conduit for discharging treating liquid from the conduit, the inner surfaces of said first pair of walls being provided with vertically spaced staggered portions extending the full width of the first pair and to said second pair of walls and projecting inwardly to provide edges lying substantialy in a common plane extending longitudinally of said conduit, and means for feeding a tensioned sheet of textile material, having a width substantially equal to the width of said first pair of walls and the width of said staggered portions, upwardly in said conduit along said common plane and contacting said edges of the staggered wall portions to divide the conduit into a series of compartments formed on either side of the sheet of material and which except for the uppermost and lowermost compartments are completely enclosed by said first and second pairs of walls, said staggered portions of the walls and the sheet of material, whereby a stream of treating liquid in its flow from the top to the bottom of said conduit is compelled to pass through the tensioned, moving sheet of textile material in order to move from one of said compartments to the following compartment.

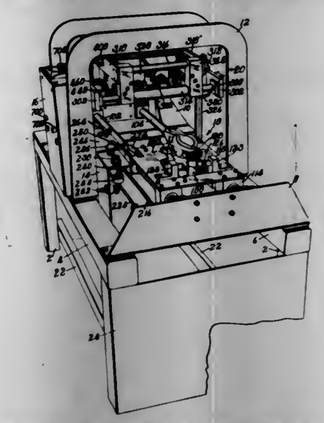
3,267,705
AUTOMATIC ROUGHENING MACHINES

Robert C. Simmonds, Jr., Topsfield, Paul G. Rumball, Beverly, and Robert V. Brophy, West Gloucester, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey

Filed Mar. 16, 1964, Ser. No. 352,009
11 Claims. (Cl. 69—6.5)

1. An automatic roughing machine comprising a roughening drum, said drum comprising rotatable cutter discs and non-rotating gauge vanes, means for selectively varying the heightwise distance between the work-engaging edges of said discs and said vanes, means for rotating

the cutter discs, means for reciprocating the drum, and means for causing relative movement of the drum in a

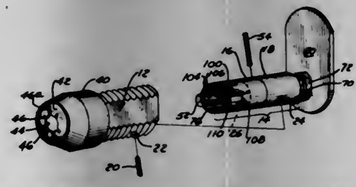


direction normal to the axis of the discs across a surface to be roughened.

3,267,706
TAMPER-PROOF AXIAL TUMBLER-TYPE LOCK

William J. Kerr, Glenview, Ill., assignor to Chicago Lock Company, Chicago, Ill., a corporation of Illinois

Filed Feb. 15, 1965, Ser. No. 432,618
9 Claims. (Cl. 70—363)



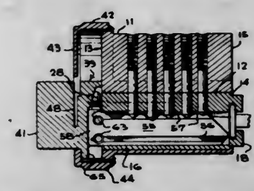
8. In an axial tumbler lock, a lock cylinder, a lock barrel rotatable within said cylinder between locking and unlocking positions, a series of circumferentially spaced driver tumbler pins slidable axially in said barrel and projecting forwardly therefrom, a key receivable axially in said cylinder and having pin-engaging portions thereon designed for engagement with the forward ends of said tumbler pins, means on said lock cylinder and engageable with said pin-engaging portions for preventing rotation of the key and for maintaining said portions out of axial register with said tumbler pins during initial projection of the key axially into the lock cylinder, said means being ineffective after the key has been projected into the lock cylinder a predetermined extent whereby the key may then be rotated to bring said portions into axial register with said tumbler pins.

3,267,707
CYLINDER KEY LOCK

Leon Adams, Rochester, N.Y., assignor to Sargent & Greenleaf, Inc., Rochester, N.Y., a corporation of New York

Filed Aug. 27, 1964, Ser. No. 392,433
10 Claims. (Cl. 70—419)

1. A cylinder lock adapted to be unlocked by a key comprising a lock body having a front wall portion and a cylindrical bore extending along an axis perpendicular to said front wall portion and opening therethrough, a cylindrical plug rotatably seated in said bore for rotation about the bore axis having a cylindrical surface closely conforming to and located immediately adjacent the bounding surface of said bore, said plug having a key slot therein for receiving said key, adjacent portions of said plug and lock body having complemental recess portions therein opening through said front wall portion collectively defining an interlock recess, interlock pin means having a head closely conforming to the configuration of said interlock recess supported for axial movement in said plug along an axis paralleling and rotatably spaced from said bore axis from a retracted position disposing said head in said interlock recess to a projected position disposing said head wholly forward of said front wall portion free of said recess, biasing means continuously urging

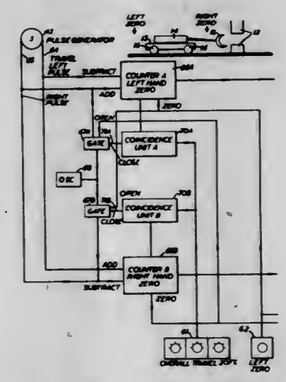


said interlock pin means to said projected position, and a manually operable slide member supported for radial movement relative to said bore axis at said front wall portion from a first position completely covering said key slot against access thereto to a second position exposing said key slot to admission of a key, said slide member having pin control means permitting movement of said interlock pin head to said projected position only when said slide member occupies said first position and for driving said interlock pin head to said retracted position when said slide member is displaced from said first position.

3,267,708
FORGING PRESSES

Raymond Bernard Sims, Sheffield, and James Arthur Harrison, Chesterfield, England, assignors to Davy and United Engineering Company Limited, Sheffield, England

Filed Aug. 12, 1963, Ser. No. 301,391
Claims priority, application Great Britain, Aug. 29, 1962, 33,078/62
13 Claims. (Cl. 72—6)



1. A method of operating a forging press and manipulator in which the manipulator is moved continuously in the direction of the length of a workpiece, and the workpiece is elastically mounted on the manipulator for lengthwise movement relative thereto, and for forging along its length in a succession of bites, the method including measuring the period of the first press cycle and setting the speed of the manipulator for successive cycles,

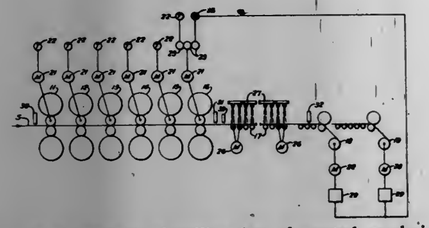
such that the workpiece in the said period either traverses a distance substantially equal to the desired bite, or, if the desired bite exceeds a pre-set maximum distance, traverses that pre-set distance.

3,267,709

METHOD AND APPARATUS FOR CONTROLLING TEMPERATURE OF THE WORKPIECE DURING ROLLING

Jeremiah Wagner O'Brien, Mount Lebanon, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 14, 1963, Ser. No. 302,024
Claims priority, application Great Britain, Aug. 24, 1962, 32,574/62
12 Claims. (Cl. 72—13)



1. In a method of rolling hot elongated workpieces, such as strip, in a train of rolling mills for reducing the thickness of the workpieces, wherein a temperature differential exists between lengthwise portions of the workpieces, comprising the steps of:

detecting a difference in temperature between two lengthwise portions of the strip,

determining the amount of said differences, and

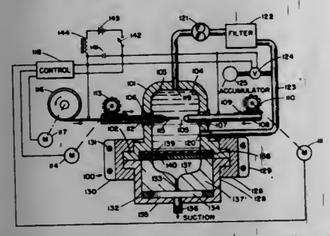
adjusting the speed of the train commensurate with said amount to reduce said temperature difference by reducing the conduction and radiation losses of the portion of the strip having the lower temperature as it passes through the train.

3,267,710

IMPULSIVE SHAPING AND BONDING OF METALS AND OTHER MATERIALS

Kiyoshi Inoue, 182 3-chome, Tamagawayoga-machi, Setagaya-ku, Tokyo, Japan

Filed Sept. 24, 1963, Ser. No. 311,061
Claims priority, application Japan, Sept. 24, 1962, 37/41,770; Oct. 1, 1962, 37/43,376; Dec. 25, 1962, 37/58,729
16 Claims. (Cl. 72—56)



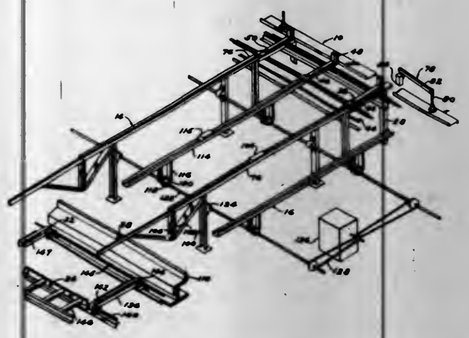
1. A method of shaping a body, comprising the steps of forming a closed pressure vessel having at least one movable energy-receiving surface for transferring pressure from said vessel to said body, immersing electric-discharge means including at least two electrodes spaced apart within a liquid medium filling said vessel, one of said electrodes having an elongated portion fusible upon development of a spark between said electrodes, and impulsively triggering said electric-discharge means for producing an initial spark discharge across interelectrode gap with subsequent melting of said fusible portion and lengthening of the spark within said vessel to generate a pressure wave in said medium directed against said surface.

3,267,711

AUTOMATIC EXTRUSION HANDLING EQUIPMENT

Richard N. Anderson, Rome, Ga., assignor to V. E. Anderson Mfg. Co., Owensboro, Ky., a corporation of Kentucky

Original application Sept. 5, 1961, Ser. No. 136,080, now Patent No. 3,157,268, dated Nov. 17, 1964. Divided and this application Apr. 1, 1963, Ser. No. 269,404
14 Claims. (Cl. 72—254)



1. Automatic extrusion handling equipment comprising a runout conveyor onto which extrusions are extruded, a cooling rack positioned adjacent the runout conveyor for receiving extrusions therefrom, mechanical means operably associated with the runout conveyor and cooling rack for automatically transferring extrusions from the runout conveyor to the cooling rack, walking beam apparatus operably associated with the cooling rack for transferring the extrusions from one side of the cooling rack to the other, an extrusion stretcher, one side of which is positioned adjacent said other side of the cooling rack, a transverse conveyor, one end of which is located adjacent the other side of the extrusion stretcher for moving stretched extrusions away from the extrusion stretcher, a saw conveyor positioned at the other end of the transverse conveyor operable to receive extrusions from the transverse conveyor and to move the extrusions longitudinally into position for cutting, and a saw operably associated with said saw conveyor for cutting the extrusions into predetermined lengths.

3,267,712

APPARATUS FOR FORMING SPIRALED EXTRUSIONS

Dale E. Atkin, Hudson, Mich., assignor to Purpose Extruded Aluminum, Inc., Hudson, Mich., a corporation of Michigan

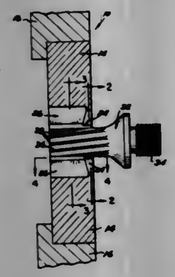
Filed Dec. 18, 1963, Ser. No. 331,601
3 Claims. (Cl. 72—260)

1. Apparatus for extruding tubing having spiral fins on its outer diameter, comprising:

a die holder;

a die plate mounted in said holder having a rear bearing area shaped in substantially the same size and configuration as the cross-section of said tubing and including slots to form the fins in the tubing and a forward section adjacent to a relief section having a shape with somewhat larger dimensions than said rear area and rotated with respect thereto; and a relief section forward of the bearing area having a diameter greater than the bearing area;

a cylindrical mandrel fixed with respect to the die plate and extending co-axially through the bearing area and the relief area; and a plurality of equally spaced grooves formed on the surface of the mandrel and spiraling along the length of the mandrel within both the bearing area and the relief area of



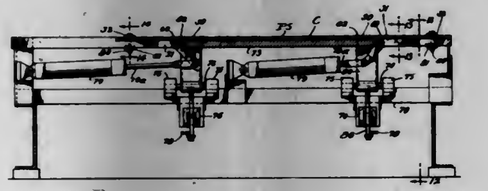
the die plate with a lead substantially equal to that of the slots in the die plate, whereby metal extruded between the die plate and mandrel will mesh with the configuration of the grooves on the mandrel and will be rotated about the axis of the mandrel as it is fed along the mandrel.

3,267,713

APPARATUS FOR SHAPING STRAPS FOR USE IN THE HANDLING OF STACKS OF GOODS

Helge C. Johnson, West Chester, and Gerald V. Beggin, Philadelphia, Pa., assignors to Certain-Teed Products Corporation, Ardmore, Pa., a corporation of Maryland

Filed Apr. 29, 1963, Ser. No. 276,353
6 Claims. (Cl. 72—297)



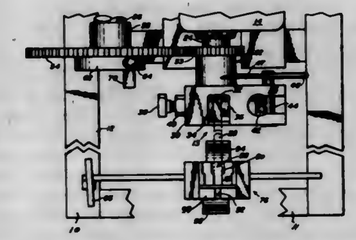
1. Apparatus for positioning and shaping a pallet strap for use under a bundle stack of the type having a base layer and upper layers overhanging the sides of said base layer, comprising a conveyor table adapted to support a stack thereon with its overhanging portions oriented toward opposite sides of said table, a strap channel on the surface of said table extending under the base layer of said stack and under the overhanging portions thereof, for holding a strap beneath said stack, a pair of of clamps positioned on said table beneath said base layer, one at each edge thereof, said clamps each being movable between first position beneath said base layer but away from said channel, and a second position over said channel and a strap therein but beneath said base layer at the edge thereof, a pair of bending levers pivotally mounted on said table beneath said channel outboard of said base layer of said stack, said levers being pivotally movable upwardly through said channel toward said base layer, and a pair of bending guides mounted over said channel, one positioned outboard of each of said levers to resist upward movement of the ends of said strap under the influence of said levers.

3,267,714

METAL TWISTING APPARATUS

William O. Phillips, Rte. 3, Selma, N.C.

Filed Nov. 14, 1963, Ser. No. 323,665
3 Claims. (Cl. 72—299)



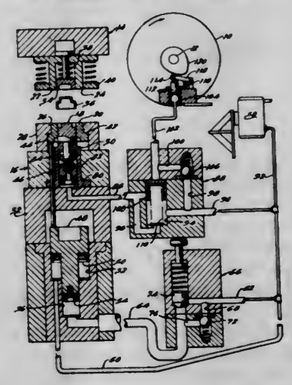
1. Apparatus for twisting an elongated metal workpiece such as a square or rectangular shaped ornamental bar, which apparatus comprises first chuck means for holding one end of said elongated workpiece, said first chuck means including clamping means for clamping said end of said workpiece; second chuck means for supporting the other end of said workpiece in a non-rotating position; means for rotating said first chuck means about the axis of said workpiece so as to twist said workpiece; means effective to automatically release said clamping means so as to release the end of said workpiece on said first chuck means after producing a predetermined amount of twist in said workpiece; and means effective to pivot the released workpiece in a vertical plane so as to release the other end thereof from said second chuck means.

3,267,715

HYDRAULIC CONTROL FOR DIES IN RAM TYPE PRESSES

Floyd M. Williamson, Detroit, Mich., assignor, by mesne assignments, to Di-Dro Engineering Company, Detroit, Mich., a corporation of Michigan

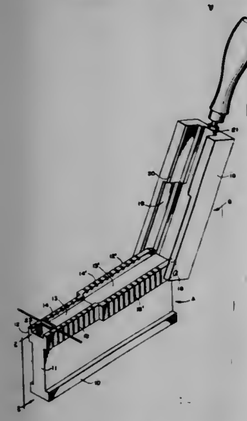
Filed Oct. 16, 1961, Ser. No. 145,297
6 Claims. (Cl. 72—351)



1. In a crank type press having a plurality of dies engageable with a work blank, one of said dies being movably mounted and disposed so as to be moved relative to the other die from an extended to a retracted position by a punch on the press ram upon the closing of the press ram, a hydraulic cushion for said one of said dies to resist such movement thereof and to effect return movement of said die to its extended position upon opening of the press ram, said hydraulic cushion comprising a hydraulic pressure cylinder having a piston therein movable with said one of said dies, a tank containing hydraulic fluid under pressure, a hydraulic fluid

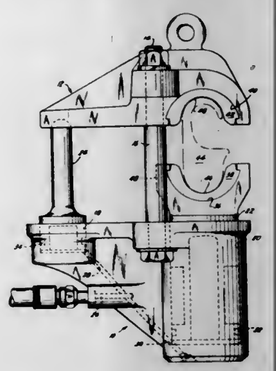
pressure transmitting connection between said tank and said hydraulic pressure cylinder whereby pressure of the fluid in said tank is transmitted to said piston so as to bias said one of said dies to its extended position, a normally closed pressure relief valve in said connection to provide a predetermined resistance, substantially greater than tank pressure, to flow of hydraulic fluid from said hydraulic pressure cylinder due to movement of said piston in said hydraulic pressure cylinder upon closing of the press ram, said other of said dies being positioned to engage and hold a portion of the work blank while the punch on the ram and said one of said dies draw the work blank thereover, and hydraulic pressure means operable by the crank of the press for generating hydraulic pressure substantially greater than tank pressure for moving one of said dies toward an extended position connected to said hydraulic pressure cylinder of said hydraulic cushion for supplying hydraulic fluid thereto at a pressure higher than that of the hydraulic fluid supplied through said connection from said tank.

3,267,716
APPARATUS FOR BENDING THE LEADS OF ELECTRONIC COMPONENTS
Rhubin Hales, 4540 Don Diego Drive, Los Angeles 8, Calif.
Filed July 1, 1963, Ser. No. 291,620
5 Claims. (Cl. 72—384)



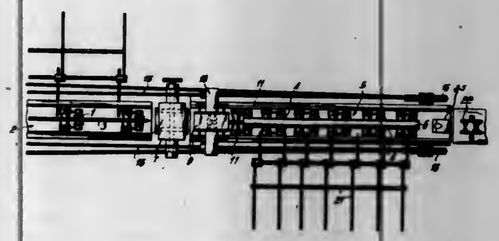
1. Apparatus for bending the terminal leads of an electronic component having such leads projecting from opposite ends of a generally cylindrical body, comprising: an anvil having a die head of channel section including respective upwardly projecting side flanges defining between them a longitudinal recess to receive said central body portion and having transversely aligned slots adapted to receive said lead adjacent the ends of said body portion with the remainders of the leads projecting laterally outwardly from said flanges, said flanges further having vertical outer side faces provided with pairs of vertical slots registering with respective transverse slots and adapted to receive said projecting lead portions when bent downwardly; and a bending head of rigid channel section comprising a central back web and respective rigid side wings projecting therefrom in opposed parallel relation, said side wings having laterally opposed, parallel internal walls adapted to snugly embrace the vertical side walls of said die head, said bending head having one end thereof hinged to the rear end of said anvil on a transverse axis so positioned that said bending head may be swung downwardly over said die head, with said side wings engaging the projecting leads and bending them downwardly into said vertical grooves.

3,267,717
OPEN-SIDE COMPRESSION TOOL
Walter Reischer, Darien, Conn., assignor to Burndy Corporation, a corporation of New York
Filed Jan. 10, 1964, Ser. No. 337,033
8 Claims. (Cl. 72—416)



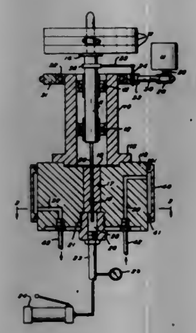
1. An operating head for a compression tool, comprising: a first body portion supporting a die section, a second body portion supporting a complementary die section; means for holding the first body portion to the second body portion; means on one side of said holding means for advancing one die section toward the other die section independently of said body portions; and means for applying a counterbalancing force, on substantially the opposite side of said holding means, to resist tilting of the two body portions with respect to each other.

3,267,718
APPARATUS FOR FORCING A MANDREL THROUGH A BILLET AND FOR FORCING THE MANDREL AND BILLET INTO A TUBE ROLLING MILL
Dietrich Grube, 43 Ambrosiusring, Ratingen-Tiefenbroich, Germany
Filed Dec. 30, 1963, Ser. No. 334,236
Claims priority, application Germany, Dec. 29, 1962, Sch 32,535
10 Claims. (Cl. 72—422)



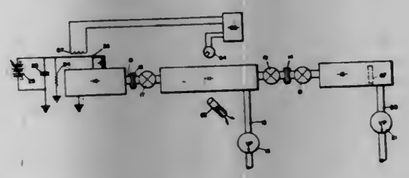
1. An apparatus for forcing a mandrel through a billet and for forcing the mandrel and billet into a tube rolling mill, said apparatus comprising a roll table for supporting a mandrel, a second roll table in alignment with said first roll table for supporting a billet, a first carriage having an abument for engaging said mandrel, a second carriage having an abutment for engaging said billet and a common drive means for moving said carriages to engage and move said mandrel and billet on said roll tables and into the rolling mill.

3,267,719
CONTROLLED CLEARANCE PISTON GAGE
Fred P. A. Wagner, Upper Moreland Township, Montgomery County, and John C. Bowen, Huntingdon Valley, Pa., assignors to Astra Corporation, Hatboro, Pa., a corporation of Pennsylvania
Filed Oct. 8, 1964, Ser. No. 402,417
10 Claims. (Cl. 73—4)



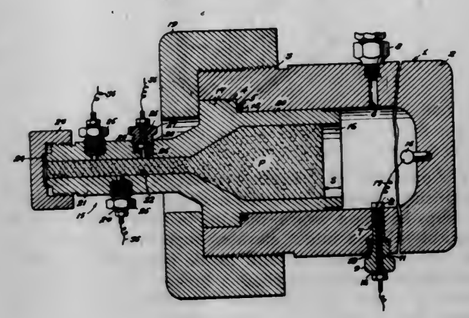
1. An apparatus for controlling the clerance between a first member having a bore and a fluid chamber and a second member extending along said bore and having a portion for application thereagainst of the fluid in the chamber, the improvement comprising at least one of said members being of a material having a predetermined thermal coefficient of expansion, and means for controlling the temperature of said first member to determine the size of the bore thereof in its relation to the second member.

3,267,720
ACCELERATOR
Edward A. Escallier, Norwalk, and Charles N. Scully, Whittier, Calif., assignors to North American Aviation, Inc.
Filed May 27, 1963, Ser. No. 283,202
14 Claims. (Cl. 73—12)



14. An apparatus for accelerating projectiles comprising:
- a high energy capacitor bank having first and second voltage portions,
- a power supply electrically connected to the capacitor bank,
- a target chamber having a target holder,
- a flight range aligned with the target chamber,
- means for measuring the velocity of accelerated projectiles,
- a gun chamber aligned with the flight range on the opposite end thereof from the target chamber, said gun chamber comprising:
- a connecting tube in fluid communication with the flight range,
- a gun barrel having an axial passage therethrough contained in the connecting tube,
- a front electrode adjacent to and coaxial with the gun barrel and having an axial passage therethrough,
- a thin vaporizable film between the gun barrel and the front electrode, said film supporting a projectile to be accelerated in a position intermediate the walls of the passage through the gun barrel,
- an insulating cylinder adjacent the front electrode coaxial with the gun barrel and having an axial passage therethrough,
- a lithium wire substantially filling the passage through the insulating cylinder,
- a dielectric film between the lithium wire and the front electrode,
- a flat rear electrode aligned with the gun barrel and in electrical contact with the lithium wire at the opposite end thereof from the front electrode,
- a first electrically continuous path between the rear electrode and the first voltage portion of the capacitor bank,
- a second electrically continuous path between the front electrode and the second voltage portion of the capacitor bank,
- a resilient hollow cylinder surrounding the insulating cylinder, and
- a pressure retaining cylinder surrounding the resilient cylinder.

3,267,721
APPARATUS FOR DETERMINING THE BURNING RATES OF SOLID ROCKET PROPELLANTS
Kenneth H. Jacobs, Redlands, Calif., and Joseph Pinsky, Skokie, and Philip Rosenberg, Highland Park, Ill., assignors to the United States of America as represented by the Secretary of the Army
Filed Nov. 15, 1963, Ser. No. 324,142
1 Claim. (Cl. 73—35)



An apparatus for determining the burning rate of a propellant comprising in combination, a cup shaped body forming a first part of an expansion chamber and having external threads and a counterbore at its open end, a tubular body having open ends and adapted to receive a solid propellant for testing therein, said tubular body defining an enlarged portion adapted to fit snugly within said first part of said expansion chamber and forming the second part thereof, said tubular body diverging towards one end to form an elongated test chamber of uniform dimension throughout and of smaller diameter than said second expansion chamber part, there being an external, annular flange on said tubular body and being disposed adjacent said divergence, said flange adapted to fit snugly within said counterbore in said cup shaped body, sealing means between said flange and said cup shaped body, a threaded collar adapted to tightly secure said tubular body in said cup shaped body, a

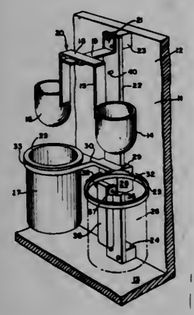
closure cap for threadable engagement with said elongated test chamber, pressure sensing and igniting means in said expansion chamber, a series of longitudinally spaced, timing terminals in communication with said elongated test chamber, each terminal including a member threadably secured therein and a conductor carried by and insulated from said member whereby ionic gases caused by combustion of said propellant is effected to form a closed electric circuit between said conductor and said test chamber, and electric circuitry in connection with said pressure sensing means, said igniting means and said terminals, said circuitry including a power supply for energizing said igniting means and indicating pressure from said pressure sensing means, and means in said circuitry for recording the time of said closing of an electric circuit by said ionic gases including a thyratron tube connected to each said conductor in each said terminal and fired by said circuit closing and an oscilloscope connected to said thyratron tubes.

3,267,722

PORTABLE APPARATUS FOR COMPARATIVE TESTING OF TWO OR MORE LIQUIDS

Myron S. Gordon, Annapolis, Md., assignor to Lengor, Incorporated, Annapolis, Md., a corporation of Maryland

Filed May 1, 1963, Ser. No. 277,207
6 Claims. (Cl. 73—56)



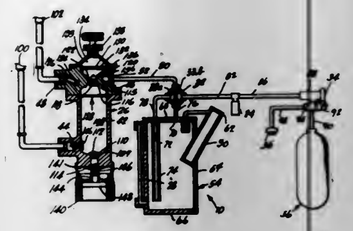
1. Apparatus for comparative test of oil and the like comprising a suitable sectional casing, a brace of identical test cups having a central opening in the bottom of each identical to each other, elevated support means for the test cups, a vertical standard to the upper end of which said support means attaches, a brace of reservoir cups relatively larger than said test cups for holding sample liquids to be comparison tested with said test cups, said standard having vertically spaced spacer means between the standard and the wall of the suitable sectional casing providing a space between the standard and the said casing wall, a bracket slidable on said standard between the said spacer means, said bracket having horizontally extending arms with cup holding rings carried by each arm, said arms being so arranged and positioned as to align respectively each reservoir cup below one of the said relatively smaller test cups, and a handle pivoted between lug means secured to said slidable bracket, said handle being movable from an inoperative to an operative position between said spacer means to thereby raise the slidable bracket with the brace of reservoir cups filled with oil to be comparison tested to a concentrically oil test cup immersion position for equally filling the said test cups, until said handle is released to permit the slidable bracket with the reservoir cups in the said rings to return to their lowermost rest positions under the oil test cups.

3,267,723

LIQUID INSPECTION SYSTEM AND APPARATUS

Norman F. Robinson, Manhattan Beach, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.

Filed Dec. 18, 1963, Ser. No. 331,474
10 Claims. (Cl. 73—61)



1. Apparatus for determining the presence of contaminants in a liquid comprising:
a fluid housing having an open bottom and an open top;
a first liquid inlet port mounted in said housing above said open bottom;
a first poppet valve normally closing said first inlet port;
a first partition mounted in said housing intermediate said first inlet port and said open bottom;
a first liquid outlet port mounted in said first partition in communication with said open bottom;
a second poppet valve normally closing said first outlet port;
a second liquid outlet port mounted in said housing intermediate said first inlet port and said open top;
a check valve mounted in said second outlet port for permitting flow of liquid from said housing while preventing back flow into said housing;
a second partition mounted in said housing intermediate said open top and said second outlet port;
a second liquid inlet port mounted in said second partition for placing said open top in fluid communication with said housing;
a normally closed poppet valve mounted in said second inlet port for permitting flow of fluid into said housing while preventing flow of fluid from said housing;
a first filter patch mounted in said open top above said second inlet port;
a third inlet port mounted in said housing in fluid communication with said open top above said first filter patch;
a removable cover member for closing said open top above said first filter patch; and
a field monitor positionable in said open bottom, said field monitor housing a second filter patch and including an inlet neck engageable with said first outlet valve to unseat said valve and permit flow of liquid from said housing through said first outlet port and said second filter patch.

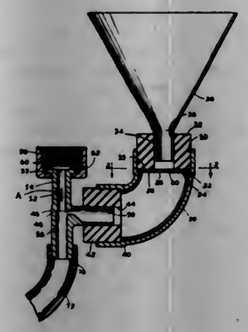
3,267,724

MILK SEDIMENT TESTER

Michael H. Roman, 18 Eugene St., Lowville, N.Y.

Filed June 8, 1964, Ser. No. 373,387
3 Claims. (Cl. 73—61)

2. A milk sediment tester comprising a short tubular body member, open at both ends, a plate disposed across the member inwardly of one end by a short distance, said plate having a central circular aperture of predetermined diameter, a removable plug disposed in the plate end of said member, and adapted to clamp the marginal edge of a cotton filter disk upon said plate around the marginal edge of said aperture, said plug having an aperture extending therethrough of a diameter corresponding to



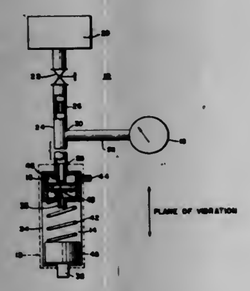
and aligned with the plate aperture funnel means mounted in said plug aperture for receiving a test quantity of milk for delivery to the plate aperture, a plug removably held in the other end of the member, said plug having a central aperture therethrough, and a water actuated aspirator having its suction port connected to said last named plug aperture to create suction in said member.

3,267,725

VIBRATION RESPONSIVE PNEUMATIC SWITCH AND SYSTEM

Phillip M. Connaught, King of Prussia, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed May 28, 1965, Ser. No. 459,951
11 Claims. (Cl. 73—71)



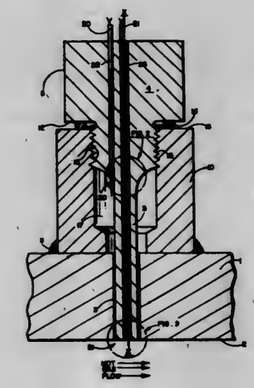
1. A vibration responsive pneumatic switch comprising a pneumatic thyratron, said thyratron comprising a housing, flexible diaphragm means in said housing forming a chamber therewith, an input orifice in said housing communicating with said chamber, nozzle means exterior to said chamber immediately adjacent said diaphragm means impinging a flow of pneumatic fluid on said diaphragm means, a source of supply pressure connected with said nozzle means, a flow restriction between said pressure source and said nozzle, a pressure tube connecting said nozzle with said flow restriction, a pressure signal outlet port in said pressure tube between said flow restriction and said nozzle, and means responsive to movement of said diaphragm toward said nozzle to further move said diaphragm means into sealing engagement with said nozzle to prevent the further flow of fluid therefrom and thereby cause the pressure at said pressure signal outlet port to rise to substantially the value of said supply pressure; and vibration sensing means coupled with said input orifice including output means effecting an actuating movement of said diaphragm toward said nozzle in response to a predetermined vibration to impart an actuating force to said diaphragm, actuate said thyratron and thereby effect a pressure rise at said signal outlet port thereof upon the occurrence of said predetermined vibration.

3,267,726

HEAT FLUX PROBE

John P. Sellers, Jr., Canoga Park, Calif., assignor to North American Aviation, Inc.

Filed Sept. 14, 1961, Ser. No. 138,045
3 Claims. (Cl. 73—190)



2. A heat flux probe assembly constructed and arranged on a longitudinal axis in combination with a wall member, said wall member providing an inner surface thereon which is adapted to become heated and means forming an aperture therethrough substantially located on said axis, a cylindrically shaped support member secured to an outer surface portion of said wall member and including means forming an aperture therein on said axis, said probe assembly comprising a probe member formed on said axis and having a first portion thereof constructed and arranged adjacent to said support member, sealing means arranged between said first portion and said support member for preventing fluid flow thereby, cooperative securing means formed on said support member and said first portion for securing to and permitting removal of said probe assembly from said support member, said probe member further comprising a second portion which is slender in configuration relative to said first portion, said second portion extending from said first portion through the aperture formed in said support member and the aperture formed in said wall member, said second portion forming a chamber with the aperture formed in said support member and terminating in a surface portion which is in substantially flush relationship with respect to the inner surface of said wall member, means forming a first aperture through said probe member and substantially on the longitudinal axis thereof, means forming a second aperture in the first portion of said probe member and in substantially parallel relationship with respect to said first aperture, said

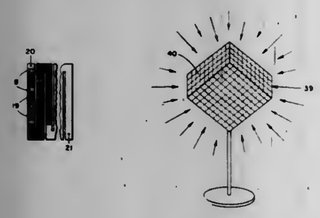
second aperture terminating in exposed relationship with said chamber, a first thermocouple means arranged in said first aperture and terminating in a first thermocouple junction at the surface portion of said probe member which terminates at the inner surface of said wall member, a wedge means in said first aperture for securing said first thermocouple means therein, said wedge means providing a surface portion which is in substantially flush relationship with respect to the inner surface of said wall member, a second thermocouple means arranged in said second aperture and terminating in a second thermocouple junction which is at a fixed distance from said first thermocouple junction, said second thermocouple junction substantially located at that portion of said probe member whereat the first and second portions thereof meet and filling means securing said second thermocouple junction to said probe member, whereby a heat transfer measurement between said first and second thermocouple junctions may be effected said probe member and said wedge means being constructed of a material having similar heat conducting properties to the material of said heated wall member.

3,267,727

THERMOPILE AND RADIOMETER INCLUDING SAME AND METHOD OF PRODUCING THERMOPILE

Theodor H. Benzinger, 8730 Preston Place, Chevy Chase, Md.

Filed Nov. 16, 1961, Ser. No. 153,269
23 Claims. (Cl. 73—190)



1. In a method for producing a chain of thermojunctions from a thin, metallic sheet made of a first material, the steps of applying spaced rows of a second material which is thermoelectrically different from said first material to one side of said sheet, forming in said sheet a first pattern of slots, applying a layer of dielectric material to said one side of said sheet, forming a second pattern of slots in said sheet, the individual slots of said first and second patterns cooperating to form a series of elongated slots which subdivide said sheet into a multiplicity of columns with adjacent pairs of columns being bridged only at either corresponding upper or lower ends thereof whereby a chain of thermojunctions is formed.

14. A chain of thermojunctions comprising, in combination, a metallic sheet made of a first material, spaced rows of a second material which is thermoelectrically different from said first material applied to one side of said sheet whereby thermojunctions are formed at the boundary edges of each row, said sheet having a series of elongated slots formed therein which subdivide said sheet into a multiplicity of columns, with adjacent pairs of columns being bridged only at either corresponding upper or lower ends thereof, a layer of dielectric material applied to said one side of said sheet, and finite spots of a reflecting material superimposed on said dielectric material at every other thermojunction.

17. A radiometer comprising, in combination, a metallic sheet made of a first material, spaced rows of a second material which is thermoelectrically different from said first material contacting one side of said sheet thereby to form thermojunctions at opposite boundary edges of each row, said sheet having a multiplicity of slots cut therein which divide said sheet into columns of thermojunctions with adjacent pairs of columns being bridged only at either corresponding upper and lower ends thereof, a layer of dielectric material applied to one side of said sheet, said dielectric material being absorptive of the thermal energy which is to be measured by said radiometer, means superimposed on said dielectric material to reflect thermal energy impinging upon alternate thermal junctions, a layer of dielectric material applied to an opposite side of said sheet, a metallic base member, said opposite side of said sheet being secured to said base member, means for rotating said base member about two mutually perpendicular axes and means for indicating the magnitude of the voltage developed by said columns of thermojunctions.

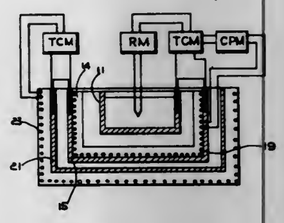
20. A radiometer comprising, in combination, a multiplicity of thermopile panels, each of said panels comprising a base member made of a first metallic material, spaced rows of a second metallic material which is thermoelectrically different from said first metallic material applied to one side of said base member whereby thermojunctions are formed at the opposite boundary edges of each row, said base member having a series of slots formed therein which subdivide said base member into columns of thermojunctions with adjacent pairs of columns being bridged only at either corresponding upper or lower ends thereof, a dielectric layer applied to said one side of said base member, finite spots of a thermally reflecting material superimposed on selected portions of said dielectric material so as to cover only alternate thermojunctions of said columns, a dielectric layer applied to the opposite side of said base member, an enclosed container, the inner wall surface of said container being completely covered with said thermopile panels, and means for indicating the total sum of the output voltages developed by said thermopile panels to give an indication of the total amount of radiation emitted from a source disposed within said enclosed container.

3,267,728

DYNAMIC AUTOMATICALLY CONTROLLED CALORIMETER AND MELTING POINT DEVICE

Cyril Solomons, Edina, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Aug. 25, 1964, Ser. No. 391,929
6 Claims. (Cl. 73—190)



3. A calorimeter assembly comprising in combination:
a calorimeter unit including a sample container and heating means for said sample container
temperature sensing means in said sample container for monitoring the temperature thereof
an adiabatic enclosure housing said calorimeter unit
first temperature control means for maintaining a constant temperature gradient between said heating means and said sample container, and

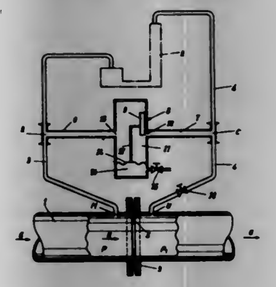
second temperature control means for maintaining a zero temperature differential between said adiabatic enclosure and said heating means whereby the energy supplied to said heating means substantially equals the heat supplied to said sample container and the amount of the heat may be determined as a function of time.

3,267,729

COMPENSATING DEVICE FOR GAS FLOWMETERS

Benjamin Hodkinson Cowburn, 5 Rue Denfert-Rochereau, Boulogne-sur-Seine, France

Filed Nov. 8, 1963, Ser. No. 322,483
Claims priority, application France, Nov. 15, 1962, 915,506, Patent 1,350,705
8 Claims. (Cl. 73—205)



1. In a conduit having a pressure-reducing restriction therein and having an upstream passageway means and a downstream passageway means communicating at one end of each with the interior of the conduit on the upstream and downstream sides, respectively, of the restriction and at the other end of each with the inlet and outlet, respectively, of a device for measuring differential fluid pressure as a measure of the rate of flow of fluid in the conduit; the improvement comprising bypass means having a passageway therethrough communicating at opposite ends between said upstream and downstream passageways and having a port in said bypass passageway, an obturator movable across the port to vary the size of the port, a sealed chamber containing a quantity of a reference gas subject to substantially the same temperature and pressure conditions as the fluid flowing in said conduit, one wall of said reference chamber being a flexible diaphragm, and means interconnecting said flexible diaphragm and said obturator for movement in a sense such that movement of the diaphragm upon expansion of the volume of said sealed chamber moves said obturator in a direction to open the port and movement of the diaphragm in the opposite direction moves the obturator in a direction to close the port so that a change in the density of the fluid flowing in said conduit is accompanied by an inverse change in the volume of fluid flowing through said bypass passageway.

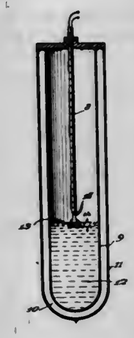
3,267,730

SENSING ELEMENT FOR THE MEASUREMENT OF LIQUID LEVEL

Cameron B. Satterthwaite and Roger P. Ries, Urbana, Ill., assignors to University of Illinois Foundation, Urbana, Ill.

Filed Oct. 11, 1963, Ser. No. 315,443
6 Claims. (Cl. 73—295)

1. In a gauge used for measuring the level of liquid in a container, a sensing element comprising a resistance wire having a super-conducting material coated on a portion thereof while a portion of said wire is free of the super-conducting material, said element exhibiting substantially constant resistance between room temperature to about 4° K., said element being adapted to be immersed



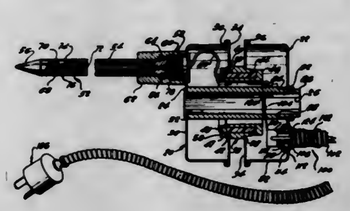
in said liquid whereupon the resistance of the portion of the element immersed in said liquid is substantially reduced to zero.

3,267,731

OVEN HEAT SENSOR

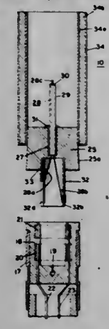
Richard F. Wharton, Chicago, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Nov. 26, 1963, Ser. No. 325,852
6 Claims. (Cl. 73—351)



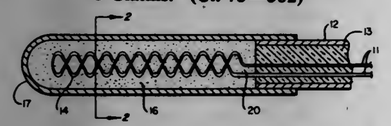
1. An electric meat thermometer for use with a rotisserie spit comprising a sleeve having a through-bore to removably receive said spit for rotation therewith, a cup-shaped casing concentrically fixed to one end of said sleeve, a sharp projection extending from the bottom end of said casing and adapted to be inserted into the meat on the spit, a thermistor within said projection, an annular cover plate fixed about its periphery to the open end of said casing, a substantially tubular contact bearing rigidly carried by said cover plate externally of said casing and concentric about the axis of said spit means, means electrically connecting said thermistor to said contact bearing, a second cup-shaped casing having a cylindrical bearing surface centrally disposed in the bottom end thereof matably receiving the other end of said sleeve for rotation of the casing with respect to said sleeve, a second annular cover plate fixed about its periphery to the open end of said second casing, said second cover plate surrounding but not engaging said tubular contact bearing, contact means rigidly supported by and insulated from said second casing slideably engaging said contact bearing, and connector means for connecting said contact means and contact bearing to an electrical meter for indicating the internal temperature of the meat on the probe.

3,267,732
EXPENDABLE PHASE CHANGE DETECTOR DEVICE
Richard J. Hance, Philadelphia, Pa., assignor to Leeds and Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed June 7, 1963, Ser. No. 286,312
16 Claims. (Cl. 73—359)



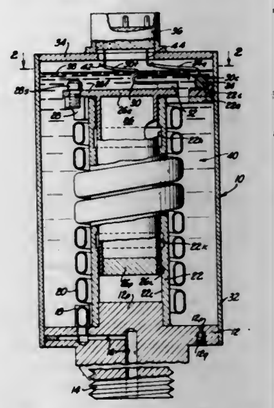
1. An expendable phase change detector device adapted for vertical disposition for use in obtaining a cooling curve of molten material outside of the melting furnace comprising a body member, temperature sensing means supported by said body member and extending from one end of said body member a predetermined distance, said temperature sensing means having electrical conductors extending through at least part of said body member toward the opposite end thereof and forming plug-in electrical contact structure accessible from said opposite end of said body member, tubular wall structure carried by said body member at said one end thereof and together therewith forming an open end liquid-tight well around said temperature sensing means so that upon vertical disposition of the device said open end of said well is adapted to receive and said well retain a quantity of molten material, said tubular wall structure having a length substantially greater than said predetermined distance which said temperature sensing means extends beyond said one end of said body member which forms the bottom of said well, said tubular wall structure and body member being comprised of material having the characteristic of retarding the cooling of a sample of the molten material to be received in said well, the depth of said well being related to said predetermined distance said temperature sensing means extend beyond said bottom of said well so as to maintain said temperature sensing means within the sample of molten material in said well and below any shrinkage cavity formed in the sample during cooling.

3,267,733
THERMOMETER
John T. Chambers, Sunnyvale, Calif., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed June 19, 1963, Ser. No. 289,082
5 Claims. (Cl. 73—362)



1. A temperature responsive device comprising an elongated resistive element having a first temperature coefficient of resistivity which changes in one direction with increasing temperature, encapsulating means serving to encapsulate and support said elongated resistive element, said encapsulation serving additionally to provide a shunt resistance path, said encapsulating means having a preselected temperature coefficient of resistivity which changes in an opposite direction with increasing temperature in such a way as to compensate for said change of said first temperature coefficient of resistivity to maintain the temperature coefficient of resistivity of the combination substantially constant over a predetermined range of temperature.

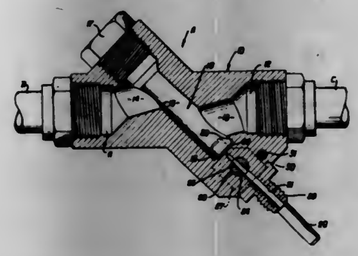
3,267,734
HELICAL BOURDON TUBE PRESSURE TRANSDUCER
Eugene A. Marks, Riverside, Calif., assignor to Bourns, Inc., a corporation of California
Filed Apr. 13, 1964, Ser. No. 359,241
11 Claims. (Cl. 73—414)



1. A helical Bourdon tube pressure transducer comprising:
first means, including rigid means forming a sealed fluid-tight enclosure for enclosing operating members of the transducer, said first means including stationary structure providing an anchor for anchoring a fixed end of a helical Bourdon tube and for admitting fluid under pressure to such tube; said first means further including means providing an elongate stationary support presenting a first cylindrical surface;
second means, including a helical Bourdon tube disposed in said enclosure encircling said support and having a fixed end sealed to said anchor and having a sealed second end subject to movement relative to the fixed end incident to change of pressure exhibited by fluid in the interior of the tube;
third means, including an elongate movable hollow sealed member having an extensive second cylindrical surface very closely adjacent to and concentric with said first cylindrical surface and forming with said stationary support a bearing for said movable member, and said member being connected to the second end of said Bourdon tube to restrict the movements of the latter;
fourth means, including relatively movable means connected in part to said first means and in part to said second means, functioning to indicate changes in pressure exhibited by the fluid in said Bourdon tube; and
fifth means, including a dense liquid in said enclosure and surrounding said third means and in contact with the movable part of said Bourdon tube, said liquid serving to render substantially weightless therein said movable hollow sealed member and said Bourdon tube and serving to lubricate said bearing,

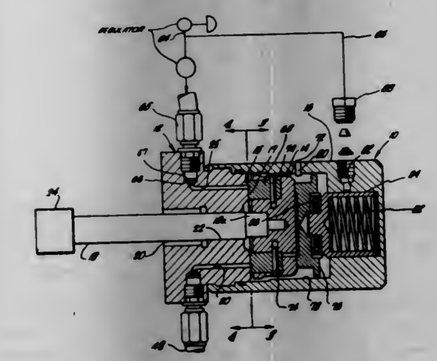
whereby said transducer may be subjected to accelerations in excess of one hundred times that of gravity without structural damage thereto.

3,267,735
FLUID SAMPLING VALVE
Malcolm L. Fickel, Inglewood, Calif., assignor to Contamination Control Corporation, Los Angeles, Calif., a corporation of California
Filed Jan. 14, 1963, Ser. No. 251,138
7 Claims. (Cl. 73—422)



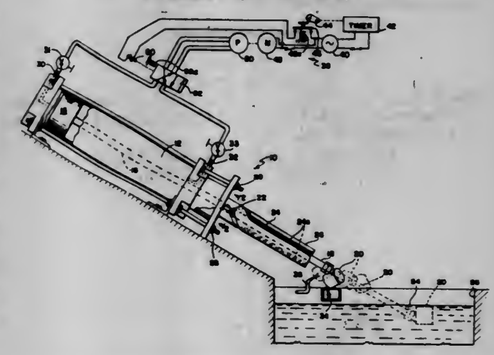
1. In apparatus for sampling fluid flowing through a line: a body through which fluids in the line can flow and having a fluid inlet and a fluid outlet; said body also having a mixing passageway therein between said inlet and outlet, said mixing passageway comprising a first portion communicating with said inlet and having its axis angled substantially with respect to the axis of said inlet, a second portion communicating with said outlet and having its axis angled substantially with respect to the axis of said outlet, and an intermediate portion communicating at one end with said first portion and communicating at its other end with said second portion, said intermediate passageway having its axis angled substantially to the axes of said first and second portions; said body having a sampling passageway communicating with said other end of said intermediate passageway; and means for opening and closing said sampling passageway.

3,267,736
CHROMATOGRAPHIC SAMPLING VALVE
Heinz G. Boettger, Tujunga, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif.
Filed Jan. 20, 1964, Ser. No. 338,836
6 Claims. (Cl. 73—422)



1. A sampling valve for chromatograph specially adapted for use with high temperature and pressure fluids comprising:
a cylindrical stationary body having a plurality of inlet and outlet ports,
a sample chamber connected to one of the body inlet and outlet ports,
a cage having an annular shaped depression formed therein,
an annular shaped resilient valve insert having recesses formed therein for selectively interconnecting the body inlet and outlet ports mounted in the cage,
a cap fixedly mounted upon the body and in gas-tight relation therewith,
a piston mounted upon the cage and slidable within the cap,
means for ducting fluid pressure into the cap from a source of one of the fluids for urging the cage into intimate relation with the body, and
spring means disposed between the cap and the piston for constantly urging the valve insert into engagement with the body.

3,267,737
SAMPLING APPARATUS
Karl A. Biebighauser, St. Paul, Minn., assignor to Minneapolis-St. Paul Sanitary District, St. Paul, Minn., a municipal corporation
Filed Oct. 28, 1963, Ser. No. 319,150
3 Claims. (Cl. 73—423)

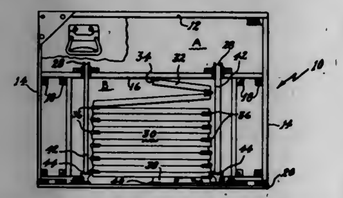


1. In a sampling apparatus the combination including an air cylinder provided with a piston chamber and a reciprocal piston therein, a shaft operatively connected to said piston and provided with a sampling cup and a cam follower said shaft being disposed adjacent the surface of a fluid material to be sampled and angularly disposed with respecct thereto, a cylindrical cam means attached to one end of said air cylinder and surrounding said shaft, a cam surface in said cam and circumscribing a substantially helical path around a portion of said cam and said shaft, said follower operatively engaging said cam surface and cooperating with said surface to rotate said shaft and said cup between a first extended upright material receiving position and a second retracted material discharge position during the actuation of said piston.

3,267,738
ENVIRONMENTAL EXPOSURE DEVICE
Arthur O. Korn, Jr., Nashua, N.H., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 13, 1964, Ser. No. 337,507
6 Claims. (Cl. 73—432)

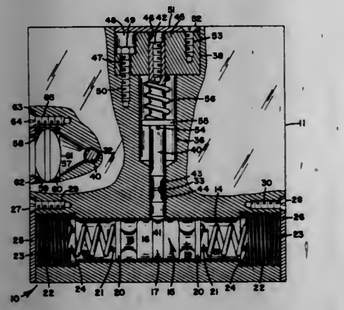
1. An assay test unit for deploying test specimens at high altitudes and repositioning them in stowed condition, said test unit comprising a package having top and side walls, an intermediate immovable floor element dividing said package into upper and lower compartments, a movable lower floor in said lower compartment, pulley and winding wheel means for supporting said floor, motor

means for operating said winding wheels in either direction for raising or lowering said floor, test frames adapted to carry specimens of material to be tested and adapted also to be stowed in said lower compartment the uppermost of said frames being hinged to the lower surface of said intermediate floor element, the lowermost of said frames being hinged to said movable floor, each of the



intermediate ones of said frames being hinged on alternate opposite edges to its adjacent frame, so that, when said lower floor is lowered away from said package, said frames deploy from said package, depending therefrom in substantial vertical formation, locking means for locking said floor to said package, said locking means being operable only upon the raising of said floor after a previous lowering has taken place.

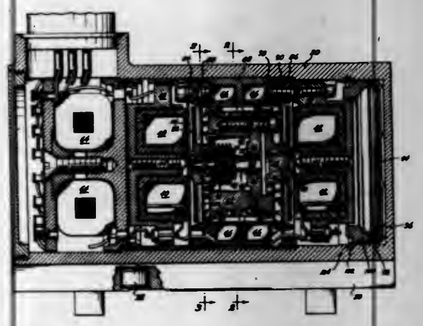
3,267,739
ACCELEROMETER
John S. Epps and William A. Woodford, Huntsville, Ala., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Nov. 8, 1963, Ser. No. 322,431
6 Claims. (Cl. 73—492)



1. An accelerometer for use with a solid propellant rocket motor comprising a housing, a plurality of members mounted for reciprocal movement in said housing, said members being responsive to acceleration in two directions along the vertical, longitudinal, and transverse axes of said rocket motor, indicating rods coacting with said members to indicate the directional and axial movement thereof, and each of said indicating rods having an internally threaded bore in the outer end thereof to receive means for retracting each of said indicating rods to reset said accelerometer.

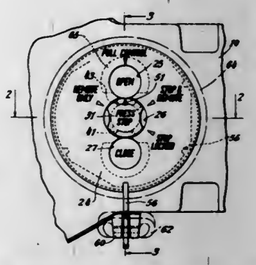
3,267,740
TEMPERATURE COMPENSATED DAMPING SYSTEM FOR ACCELEROMETERS AND THE LIKE
Cecil K. Stedman, Enumclaw, Wash., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California
Filed Apr. 11, 1963, Ser. No. 272,407
26 Claims. (Cl. 73—497)

18. A liquid damped motion sensing device comprising a case, a mass mounted in said case by means of a yieldable constraint allowing relative motion of said mass in said case, a damping liquid in said case, said suspended mass being immersed in said liquid, a plurality of flow paths for said liquid permitting flow thereof from one end of said mass to the other upon relative movement of said mass within the case, the passageways for liquid flow comprising a relatively high impedance flow path between the suspended mass and the case, and a further



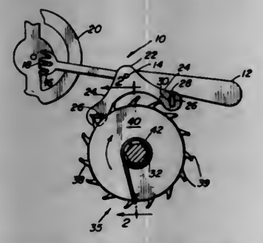
flow path in parallel relation to said high impedance flow path and comprising a primarily inertial element in series flow relation with a primarily resistive temperature controlled gap and a primarily resistive bypass passageway means in parallel with said temperature controlled gap, the temperature controlled gap varying in cross-sectional area in relation to change in volume of a liquid within a hermetically sealed capsule.

3,267,741
COVER ASSEMBLY FOR THE ELECTRICAL CONTROL PANEL OF AN ACTUATOR
Jeremy Joseph Fry, Bath, Somerset, England, assignor to Rotork Engineering Company Limited, Somerset, England
Filed June 5, 1964, Ser. No. 372,999
Claims priority, application Great Britain, June 7, 1963, 22,842/63
5 Claims. (Cl. 74—1)



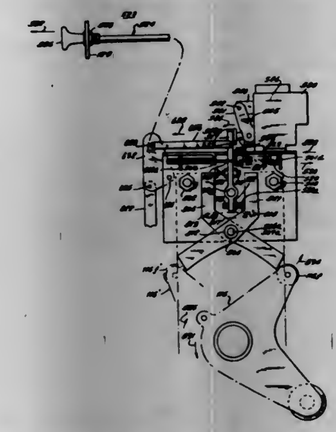
1. A cover assembly in combination with a control panel having a plurality of push buttons controlling a series of operations, said assembly comprising a selector disc extending over said control panel and having a plurality of holes normally respectively aligned with at least a portion of said buttons to permit the manual actuation thereof, means rotatably mounting said disc with respect to said control panel, a control knob fixed to said disc for rotating same into and out of said aligned position, said control knob being movable axially to and from a corresponding push button to respectively actuate and release said button, and means on said mounting means for preventing said axial movement and for locking said button in an actuating position.

3,267,742
ESCAPEMENT NOISE REDUCING MEANS
John L. Hancock, Villa Park, Ill., assignor to Mastercrafters Clock Corporation, Chicago, Ill., a corporation of Illinois
Filed July 6, 1964, Ser. No. 380,269
7 Claims. (Cl. 74—1.5)



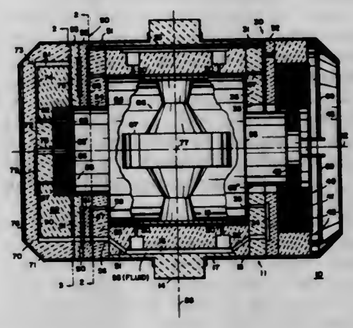
1. In an escapement mechanism including an escape wheel shaft and an escape wheel mounted on said shaft, means loosely mounting said wheel on said shaft to permit relative rotation therebetween, and means resiliently coupling said wheel to said shaft for rotation therewith, said first-mentioned means comprising
a bearing mounted on said shaft,
said wheel being rotatably mounted on said bearing, and
a pair of members mounted on said shaft and sandwiching said bearing therebetween,
the spacing between said members being greater than the thickness of said wheel whereby said wheel is capable of rotation between said members.

3,267,743
LATCH MEANS FOR SPRING OPERATOR
Arthur S. Caswell and Sigurd O. Rodeseike, both of Greensburg, Pa., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 22, 1965, Ser. No. 500,793
7 Claims. (Cl. 74—2)



1. Latch means for use in latching a spring means having a spring lever arm mounted to rotate about a shaft and spring means linked at one end to said spring lever arm and being restrained from linear movement at the opposite end thereof, comprising, a first pin; a first latch member being pivoted about said first pin at a point intermediate its ends; a second pin; a latch releasing lever being pivoted about said second pin at a point intermediate its ends; biasing means for urging said first latch member in a first direction to cause said first latch member to abut said latch releasing lever at a first end thereof; stop means for preventing said latch releasing lever from rotating under control of said first latch member; one end of said first latch member being positioned to abut said spring lever arm when said latch releasing lever abuts said stop means to latch said spring means in a first compressed position; a manual actuating means for rotating said latch releasing lever in a direction to move said latch releasing lever away from said stop means; the rotation of said latch releasing member moving said latch member to release said spring means from the compressed position.

3,267,744
CONTROL APPARATUS
Rolland G. Baldwin, St. Paul, Goffe J. Erickson, St. Anthony Village, and Lynn H. Rood, New Brighton, Minn., assignors to Honeywell Inc., a corporation of Delaware
Filed Mar. 18, 1963, Ser. No. 265,877
6 Claims. (Cl. 74—5)

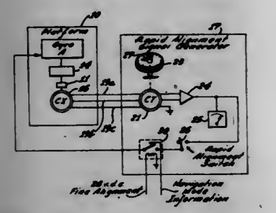


1. In a single degree of freedom gyroscope: closed hollow housing means; fluid means within said housing means; a closed hollow gimbal element positioned within said housing means; spin motor means mounted within said gimbal element for rotation about a first axis; hydrostatic bearing means located on said housing means for suspending said gimbal element for rotation relative to said housing means about a second axis perpendicular to said first axis; viscous shear pump means including a rotor member rotatably mounted within said housing means for rotation about said second axis, a first and a second plane surface located on said rotor member perpendicular to said second axis, a plurality of spiral grooves in said first and said second plane surface, said spiral grooves being symmetrical with respect to said second axis; a third plane surface located on said housing means spaced apart from and parallel to said first plane surface; a fourth plane surface located on said housing means spaced apart from and parallel to said second plane surface; motor means for rotating said rotor member at a substantially constant velocity relative to said housing means; said pump means functioning upon relative rotation between said first and second surface on said rotor and said third and fourth surface on said housing means to generate a relatively high pressure fluid; and distribution means operatively connecting said pump means to said hydrostatic bearing means for directing the relatively high pressure fluid to said hydrostatic bearing means, said relatively high pressure fluid becoming relatively low pressure fluid after passage through said hydrostatic bearing means, the relatively low pressure fluid returning to said viscous shear pump means through said distribution means thereby providing closed cycle fluid suspension of said gimbal element.

3,267,745
STABILIZED PLATFORM RAPID ALIGNMENT SYSTEM

Harold J. Smead, Sherman Oaks, Calif., and Karl-Heinz Busch, Bad Godesberg, Germany, assignors to Litton Systems, Inc., Beverly Hills, Calif.

Filed Apr. 12, 1962, Ser. No. 187,098
11 Claims. (Cl. 74—5.4)

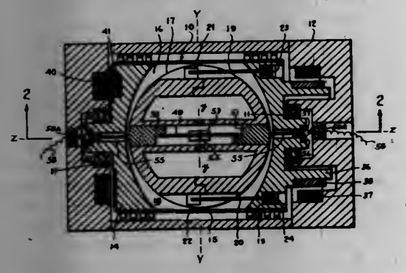


1. In combination:
a vehicle;
a gyroscopically stabilized platform, supported by said vehicle, capable of azimuth alignment, including at least an azimuth gyroscope for stabilizing and positioning said platform about an azimuth axis, electromagnetic torquing means coupled to said azimuth gyroscope to cause said gyroscope to precess about said azimuth axis in response to electrical torquing signals, and electrical angular sensing means connected and positioned to generate an electrical azimuth signal which is a measure of the azimuth angle of said platform relative to said vehicle;
a shaft;
second electrical angular sensing means, connected to and positioned in response to the position of said shaft, electrically connected to receive said electrical signal from said first angular sensing means, and adapted to generate a difference signal which is a measure of the angular difference between said azimuth angle and the angle of said shaft;
electro-mechanical servo means including an electric motor mechanically connected to drive said shaft, and an amplifier electrically connected to receive and amplify said difference signal, said amplifier being electrically connected, in a first mode of operation to drive said motor and in second mode of operation to drive said electromagnetic torquing means.

3,267,746
TWO AXIS RATE GYROSCOPE

Dominick P. Scotto, Plainview, N.Y., assignor to American Bosch Arma Corporation, a corporation of New York

Filed Dec. 6, 1961, Ser. No. 157,470
13 Claims. (Cl. 74—5.6)

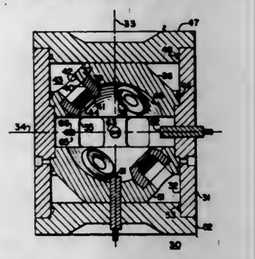


1. In a device of the character described, a frame, a rotor journalled in said frame, a chamber in said rotor, motive means for driving said rotor about a first axis, a mass within said chamber, a pair of rigid connectors, one end of each of said connectors being attached to said rotor, the other end of each of said connectors being attached to said mass at diametrically opposite points, and force sensitive transducer means, said force sensitive transducer means being connected to said rigid connectors and adapted to sense torsional forces on said mass about a second axis perpendicular to said first axis, and to produce an output signal indicative thereof.

3,267,747
CONTROL APPARATUS

David L. Paine, Bloomington, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed May 4, 1964, Ser. No. 364,627
5 Claims. (Cl. 74—5.7)

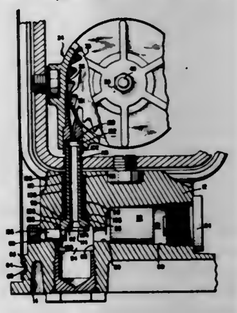


5. An attitude gyro comprising:
a porous spherical rotor having a cavity therein, said rotor having a plurality of drive nozzles tangentially positioned along the equator thereof, said drive nozzles being in communication with said cavity;
hydrostatic bearing means including a plurality of bearing pads, said bearing means being adapted to be connected to a high pressure fluid source whereby a fluid flows from said fluid source through said bearing pads, through aid rotor into said cavity, and exhausts through said drive nozzles so as to simultaneously support said rotor and to rotate the rotor at a substantially constant velocity, said rotor thereby having full angular freedom in all directions relative to said bearing pads; and
pickoff means for providing an output signal indicative of the position of said rotor.

3,267,748
PYROTECHNIC ROLL REFERENCE GYRO

Clement L. Conklin, Jr., Baltimore, Md., assignor to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland

Filed July 23, 1962, Ser. No. 211,688
16 Claims. (Cl. 74—5.12)

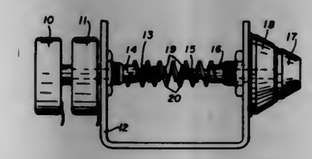


1. An improved roll reference gyro of the pyrotechnic-powered type comprising: a relatively stationary gyro frame, at least one gimbal assembly pivotably mounted to said gyro frame, said gimbal assembly including a fixedly-mounted nozzle, said gyro frame member including an axially aligned bore terminating at its inner end with a counterbore forming a sharp edge therebetween, a hollow nozzle-plunger mounted for reciprocation in said bore for movement into said nozzle, said nozzle-plunger including an enlarged portion at its inner end, an annular tapered seating surface on said enlarged portion of said nozzle-plunger adjacent said sharp edge, said gimbal assembly further including a rotor associated with said nozzle provided on its periphery with vanes adapted to receive a blast of fluid to effect rotation thereof, and means effective during the delivery of pressurized fluid to said rotor for causing said tapered seating surface of said nozzle-plunger to move into said counterbore and to effect a seal with said sharp edge whereby said seal will not be broken in the event of axial misalignment between said nozzle-plunger and said nozzle.

3,267,749
GANGED CONTROL WITH VARIABLE ANGULAR DIFFERENCE

Robert H. Tanner and Sydney M. K. Horne, both of Ottawa, Ontario, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Dec. 9, 1963, Ser. No. 328,954
8 Claims. (Cl. 74—10.45)



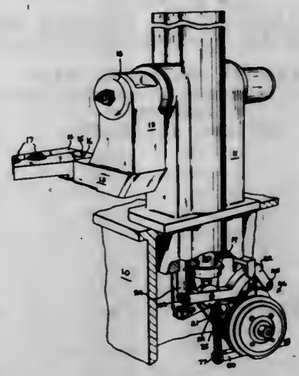
6. In combination, a drive mechanism and a ganged control comprising: first and second controls each having a rotatable control shaft with a stop position; first and second rotatable control knobs; a first helical spring concentrically connected at one end to the shaft of the first control and at the other end to said first rotatable control knob, and a second helical spring concentrically connected at one end to the shaft of the second control and at the other end to the second rotatable control knob; said knobs being disengageably coupled to each other.

3,267,750
CAM SPEED ADJUSTING MECHANISM

Edwin A. Rosin and Urban P. Trudeau, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio

Filed Aug. 4, 1964, Ser. No. 387,458
3 Claims. (Cl. 74—69)

1. A continuous cam control apparatus comprising, a main support member, a drive shaft extending from said support member, a first hub connected to said shaft and rotated thereby, a radially extending slot formed in said first hub, a second hub mounted for rotation on said shaft and having a radially extending slot formed therein, said slots being displaced 180° with respect to each other, an intermediate hub positioned between said first and second hubs, said intermediate hub having a pair of slide blocks connected thereto and positioned within the slot in said first and second hubs respectively, said slide blocks being mounted to said intermediate hub at equal radial distances from the axis thereof, a yoke surrounding and supporting said intermediate hub for rotation, a pair of posts fixed to said support and extending outward therefrom in a direction parallel to and on opposite sides of said shaft, a first arm having its ends pivotally connected to one of said posts and said yoke, a second arm pivotally connected between the other post and a diametrically opposed point on said yoke, said second arm having an extension thereon, means

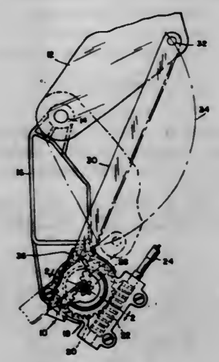


connected between said first arm and the extension of said second arm for varying the spacing therebetween to shift the axis of said yoke and intermediate hub, and cam means fixed to said second hub, whereby the peripheral speed of a sector of said cam may be adjusted as the cam is rotated.

3,267,751
RACK AND PINION ASSEMBLY

Joseph C. Littmann, Grosse Pointe Woods, Mich., assignor to Ferro Manufacturing Corporation, a corporation of Michigan

Filed July 1, 1963, Ser. No. 291,661
6 Claims. (Cl. 74—89.11)



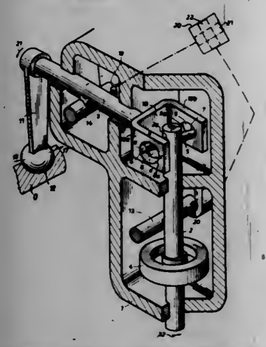
1. An actuator for moving a portion of a driven member in a path of compound curvature comprising a housing, a pivot mounting for said housing, a pinion within said housing having its axis disposed angularly with respect to the axis of said pivot mounting, a rack having a smooth rear edge and teeth in mesh with said pinion, a rack retainer mounted for swinging movement about the axis of said pinion, said rack retainer having means slidably engaging the rear edge of said rack to retain it in

proper mesh with said pinion while providing for angular movement about the axis of said pinion as well as longitudinal movement thereof resulting from rotation of said pinion.

3,267,752
DRIVE SYSTEM FOR RECIPROCATING AN ELEMENT

Walter Hauser-Bucher, Zurich, Switzerland, assignor to Bucher-Guyer A.G. Maschinenfabrik, Niederweningen, Switzerland

Filed Feb. 11, 1964, Ser. No. 344,118
Claims priority, application Switzerland, Feb. 14, 1963, 1,884/63
14 Claims. (Cl. 74—99)

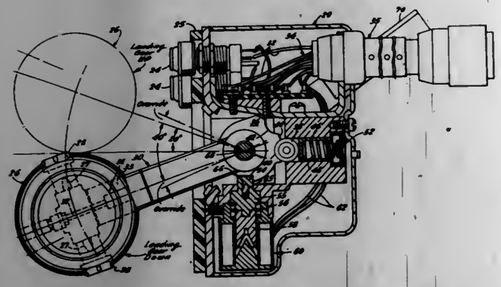


4. A drive system for reciprocating an operable element, comprising means carrying the operable element for reciprocatory motion, drive means operatively coupled with said carrying means for reciprocating the operable element at a predetermined rate of reciprocatory motion, an oscillatory fly weight, means operatively coupling said fly weight to said carrying means for reciprocating said fly weight at said predetermined rate of reciprocatory motion of said operable element and at a predetermined relative phase displacement with respect to the reciprocatory motion of the operable element, said coupling means incorporating at least two cooperating power transmitting coupling elements coacting with one another with play operable in a manner to cause reversal of the reciprocatory motion of the operable element when the latter is prevented by an external force from completing its reciprocatory motion in a given direction.

3,267,753
LANDING GEAR CONTROL

Jay A. Harper, Gardena, Calif., assignor to Acme Machine Works, Inc., Hawthorne, Calif., a corporation of California

Filed Aug. 2, 1963, Ser. No. 299,638
14 Claims. (Cl. 74—109)



7. In a system for controlling the landing gear of an aircraft wherein the landing gear operates in response to a plurality of switches, a manually operable control mechanism, comprising:

a control lever movable from a lower position to lower the landing gear to an upper position to raise the landing gear;

means to yieldingly resist the movement of the lever away from either of its two positions and to boost the movement of the lever as it approaches either of its two positions;

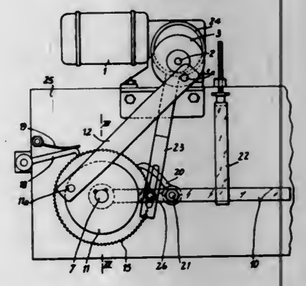
cam means to operate said switches; and

means including a rack and pinion operatively connecting said lever with said cam means for actuation thereof.

3,267,754
PROGRESSIVELY ADVANCING MECHANISM

Jean Bouchez, 130 Rue de Cambrai, Arras, France

Filed Nov. 12, 1964, Ser. No. 411,680
Claims priority, application France, Nov. 16, 1963, 954,004
5 Claims. (Cl. 74—117)



1. A device of the character described comprising, in combination, support means; a first member having an axis and being mounted on said support means turnably about its axis; drive means connected to said first member for turning the same about said axis; a second member mounted on said support means turnably about a second axis; connecting means connecting said first to said second member in such a manner so that said second member is oscillated about said second axis through a forward and an equal return stroke during each revolution of said first member; a third member coaxial with said second member; friction means between said second and said third member for frictionally driving said third member along a forward and return stroke during oscillation of said second member; stop means movable along a path coaxial with said second axis and arranged for engagement with said third member for limiting the return stroke of the latter; and moving means connecting said first member to said stop means for stepwise moving the latter along said path through forward strokes smaller than the forward strokes of said second member.

3,267,755
CONTROL APPARATUS

William H. Isely, Clearwater, Fla., assignor to Honeywell Inc., a corporation of Delaware

Filed Apr. 10, 1964, Ser. No. 358,745
7 Claims. (Cl. 74—198)

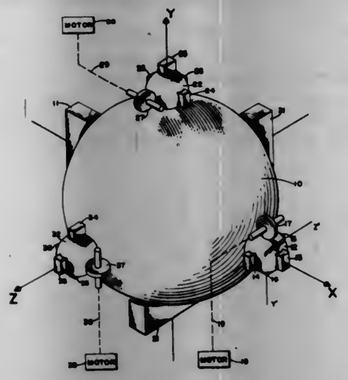
1. Apparatus for transferring rotary motion between members comprising:

(a) a driven member;

(b) a driving member; and

(c) idler means mounted in substantially point contact with said driven member and said driving member, said point contact between said idler means and said driven member being spaced apart from said point

contact between said idler means and said driving member, for transferring rotary motion from said driving member to said driven member about one

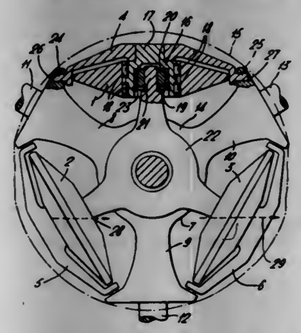


axis of said driven member and acting substantially as a bearing for rotary motion of said driven member about all other axes of said driven member.

3,267,756
CONTINUOUSLY VARIABLE TRANSMISSION

Forbes George de Brie Perry, Felbridge, East Grinstead, and Thomas George Fellows, London, England, assignors to National Research Development Corporation, London, England, a corporation of Great Britain

Filed May 1, 1964, Ser. No. 364,894
Claims priority, application Great Britain, May 7, 1963, 18,089/63
10 Claims. (Cl. 74—200)

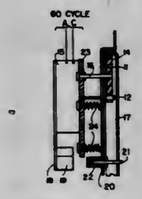


1. A transmission unit of the type wherein rollers provide a driving connection between facing toroidal surfaces of an input disc and an output disc journalled for rotation about a common main axis, each of the rollers being mounted for rotation about an axis which extends in a generally radial direction from, and normally intersects, the main axis, a mounting for each roller comprising a journal defining the said rotational axis and a swivel bearing around which the journal can vary its inclination about a ratio change axis which is normal to the roller rotational axis and which lies in a plane inclined to the plane containing the main axis and the roller centre by an angle differing from 90° by a camber angle which may be zero, the roller centre being defined as a point on the roller rotational axis and between two planes each of which contains an outer edge of the running track on the roller which makes driving contact with the discs, the roller mounting further comprising means for restraining rotation of the roller about an axis passing through its points of contact with the discs, means for guiding the roller for bodily motion in a direction normal to its rotational axis in a mode such that the rotational axis may be moved from a position in which it lies in a plane containing the main axis and the roller centre to a position in which it lies in a plane parallel to the former plane but displaced from the main axis characterised in that the rollers are individually coupled to different spaced apart thrust receiving points on a common thrust receiving member by means of elements which act internally upon the inner surfaces of the journals of the rollers respectively but are themselves anchored against participation in inclination motions of the rollers about their ratio change axes and characterised in that the said restraining means for each roller comprises at least one guide member anchored to fixed parts of the transmission unit and at least one slide member co-operating with the guide member to provide a slide assembly whereby the slide member is guided for sliding in a direction normal to the main axis.

3,267,757
LOW-RUMBLE PHONOGRAPH TURNTABLE DRIVE SYSTEM

Donald J. Hammerand, Franklin Park, and Allen J. Bury, Chicago, Ill., assignors to Admiral Corporation, Chicago, Ill., a corporation of Delaware

Filed June 12, 1964, Ser. No. 374,565
6 Claims. (Cl. 74—206)



1. In combination with a phonograph turntable; an electric motor having a drive shaft; an idler wheel frictionally coupled to said turntable and said drive shaft and translating motion from said drive shaft to said turntable; a base plate mounting said motor and said idler wheel and being resiliently supported with respect to said turntable; and mass distribution means coupled to said motor establishing the axis of gyration of said motor and idler wheel substantially on a line joining the axis of said idler wheel and the point of engagement between said idler wheel and said turntable, whereby any torque pulse induced vibrations in said motor are converted into forces substantially tangential to said idler wheel at said point of engagement.

3,267,758
IDLER ROLLERS AND METHOD OF MAKING THE SAME

William N. Poundstone, Morgantown, W. Va., assignor to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 7, 1964, Ser. No. 416,533
10 Claims. (Cl. 74—230.4)

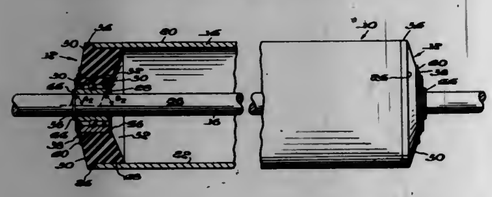
1. An idler roller assembly comprising,

a tubular roller member having a cylindrical outer surface, a cylindrical inner surface and opposite end portions,

a shaft, said shaft coaxially positioned within said tubular member,

a pair of annular bearing assemblies coaxially mounted on said shaft within said tubular roller member and adjacent said tubular roller opposite end portions, said bearing assemblies each having an inner race, an outer race and bearing elements therebetween,

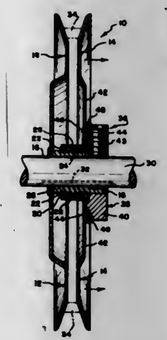
a pair of annular resilient support members coaxially mounted on said shaft adjacent said respective roller member opposite end portions and between said respective annular bearing assemblies and said roller member cylindrical inner surface,
said annular resilient support members coaxially supporting said roller member on said bearing assemblies and maintaining said bearing assemblies at a predetermined spaced relation to each other and adjacent to said tubular roller member opposite end portions,
said annular resilient support members each having an external surface, an internal surface, a substantially frusto conical concave end wall and a substantially frusto conical convex end wall,
said pair of annular resilient support members mounted on said shaft with said substantially frusto conical concave end walls facing each other,
said pair of annular resilient support members mounted on said shaft in spaced relation to each other with their respective external surfaces abutting said roller member cylindrical internal surface adjacent said tubular roller member end portion,



each of said annular support members having their internal surfaces abutting an external surface of a bearing assembly outer race,
stop means restraining axial movement of said annular resilient support members toward each other,
said pair of annular resilient support members restraining axial movement of said bearing assemblies toward each other, and
securing means to axially retain said bearing assemblies on said shaft, said securing means urging said bearing assemblies toward each other and exerting an axial deforming force on both of said annular resilient support members to thereby distort said annular resilient support members and urge said annular resilient support member external surfaces into frictional engagement with said tubular roller member cylindrical inner surface and urge said annular resilient support member internal surfaces into frictional engagement with said respective bearing assembly outer race external surface.

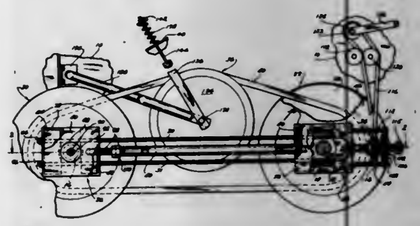
3,267,759
PULLEY APPARATUS
Joseph E. Udvardi, Cleveland, Ohio, assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Filed Feb. 25, 1964, Ser. No. 347,244
6 Claims. (Cl. 74—230.17)

1. A pulley apparatus for automatically maintaining a constant tension on a cooperating drive means, comprising:
a generally cylindrical hub portion,
a first sheave half secured to said hub portion and extending generally radially outwardly therefrom,
a second sheave half axially slideably mounted on said hub portion and axially spaced from said first sheave half, said sheave halves beng adapted to receive said drive means therebetween and defining the effective diameter of said pulley apparatus in accordance with the axial spacing therebetween,
compensating means for releasably maintaining said sheave halves in any one of a plurality of relative compensating positions to maintain a constant tension on said drive means, said compensating means comprising in turn:
an annular stop member rigidly secured to said hub portion and having a substantially flat face disposed adjacent to said second sheave half,
said second sheave half having a substantially flat face disposed adjacent said stop member face to define a cam groove therebetween, and



an annular garter-type spring disposed in said cam groove and in tight compressive engagement with said stop member face and said second sheave half face,
said garter-type spring beng adapted to exert a sufficient force against said second sheave half to maintain the sheave halves in any one of a plurality of relative compensating positions against the force of said drive means to maintain a constant tension on the latter said cam-groove having an angle of inclination so that said garter-type spring is only radially inwardly movable in said cam groove.

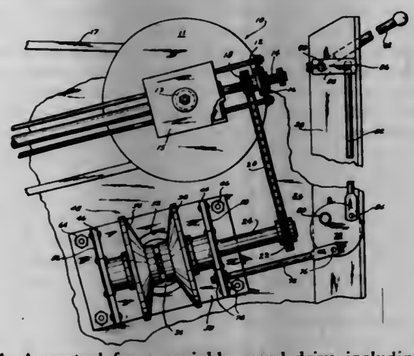
3,267,760
TRANSMISSIONS
Maurice H. Wenning, Moline, Ill., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Apr. 30, 1964, Ser. No. 363,717
17 Claims. (Cl. 74—230.17)



1. In a variable speed drive of the type including
a pair of spaced rotatable shafts, a compressible V-belt sheave on each shaft, and a V-belt engaged about said sheaves; means for compressing said V-belt sheaves including an
expansible thrust block structure carried on each shaft and engaged with one of said V-belt sheaves
opposed wedging means carried on and in expanding engagement with each of said thrust block structures, and

means connected to said opposed wedging means and constituted to expand one of said thrust block structures while allowing the other to contract and rotary means for actuating said wedging means.

3,267,761
POWER CONTROL MECHANISM FOR A VARIABLE RATIO DRIVE
Maurice H. Wenning, Moline, Ill., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed May 8, 1964, Ser. No. 365,995
9 Claims. (Cl. 74—230.17)

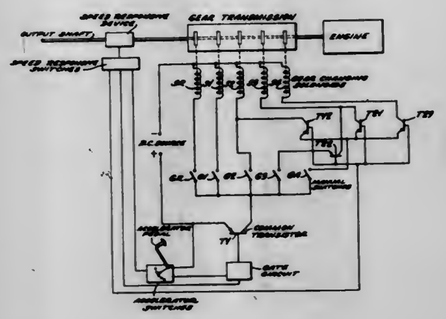


4. A control for a variable speed drive including
a support, a variable ratio drive on the support having a control element which is rotatable to vary the ratio of said variable speed drive, a
driving shaft on said support, a
frictional driving element on said driving shaft, a
driven shaft support carried on said support, a
driven shaft carried on said driven shaft support transversely of said driving shaft, a
frictionally driven element on said driven shaft spaced from said frictional driving element, said driven shaft support comprising
spaced bearings in which said driven shaft is supported,
yielding means fixed to said support in supporting relation to said bearings to be displaced to provide for axial displacement of said driven shaft,
means for shifting said driven shaft axially to bring said frictionally driven element into driven contact with said frictional driving element, and
transmission mechanism connected to said driven shaft and to said control element to transmit rotations of said driven shaft to said control element for changing the ratio of said variable speed drive,

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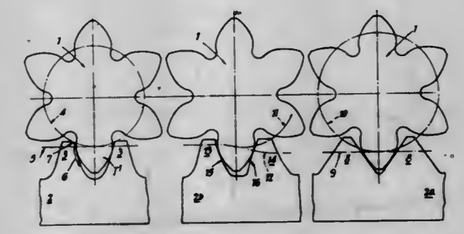
3,267,762
CONTROL CIRCUIT FOR AN AUTOMATIC ROAD VEHICLE TRANSMISSION MECHANISM
Hardev Reval, Eastcote, Middlesex, England, assignor to C.A.V. Limited, London, England
Filed Dec. 3, 1962, Ser. No. 241,890
29 Claims. (Cl. 74—365)

1. A control circuit for an automatic road vehicle transmission mechanism having an accelerator pedal and three automatically controllable gears, comprising three electromagnets which are adapted when energised to engage said three gears respectively, a D.C. source having one terminal connected to one end of each of the electromagnets, a common transistor connected between the other ends of the electromagnets and the other terminal of the D.C. source so that current flowing to any electromagnet must flow through the common transistor, means for rendering said common transistor conductive when said accelerator pedal is depressed, means for rendering said common transistor conductive when the vehicle engine speed exceeds a predetermined value, and switch means between the common transistor and the electromagnets, and means responsive to engine speed for operating the switch means



at selected engine speeds to allow selective energisation of the electromagnets, said circuit further including means for switching off said common transistor in the event of simultaneous engagements of two gears.

3,267,763
VARIABLE-RATIO TOOTHED GEARING MECHANISMS
Henry Edward Merritt, Warwickshire, England, assignor to Merritt & Co. (Engineering) Limited, Warwickshire, England, a British company
Filed Jan. 23, 1964, Ser. No. 339,639
7 Claims. (Cl. 74—422)

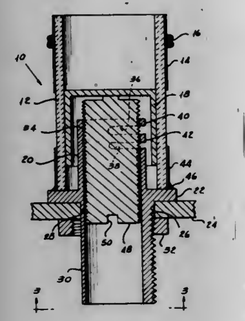


1. A variable-ratio toothed gearing mechanism including a concentrically mounted driving pinion of circular form, all of the teeth thereof having substantially identical shape; and a meshing toothed driven member having at least one group of teeth thereon having relatively low pitch at one point thereon and having relatively high pitch an another point thereon thereby providing a relatively high velocity ratio at said one point and a relatively low velocity ratio at said other point, the teeth on said driven member between said point and said other point being constructed and arranged to provide a gradual progression of velocity ratio between said relatively high velocity ratio and said relatively low velocity ratio.

3,267,764
TORQUE ELEMENT
Nelson Berman, New Hyde Park, N.Y. (235 Beach 19th St., Far Rockaway, N.Y.)
Filed Mar. 3, 1964, Ser. No. 349,054
7 Claims. (Cl. 74—441)

4. In an electrical parameter-varying device, an element having a wall defining a generally cylindrical bore

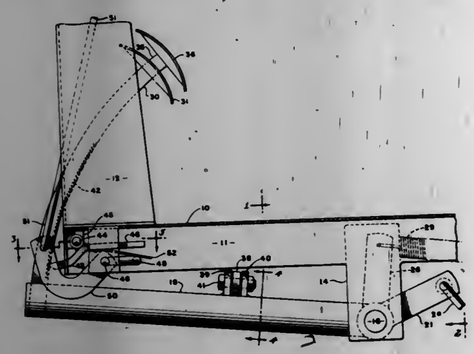
having an axis, threads in said bore, said wall being provided with spaced transverse slots to define a pair of fingers carrying a portion of said threads, each of said fingers being resiliently biased toward said axis.



3,267,765
BRAKE DEVICE

John Lester Stohler, Ephrata, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware

Filed June 3, 1964, Ser. No. 372,164
2 Claims. (Cl. 74—480)

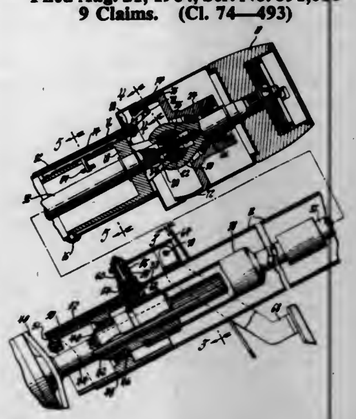


1. A brake control device for a wheeled vehicle having a frame structure and first and second wheel brakes, said brake control device comprising a shaft mounted on said frame structure and extending transverse to the direction of travel of said vehicle, a pair of generally horizontal brake levers journalled on said shaft for vertical swinging movement between a raised brake release position and a lowered brake actuating position, means operatively connecting the first of said pair of levers to said first wheel brake, means operatively connecting the second of said pair of levers to said second wheel brake, a first arm mounted on said first lever and evtending upwardly therefrom toward the operator of the vehicle, a second arm mounted on said second lever and extending upwardly therefrom toward the operator of the vehicle parallel to said first arm, a pair of brake pedals respectively mounted on the upper ends of said first and second arms, said pedals being spaced apart and lying in a common plane when said levers are in brake release position, a generally horizontal master brake lever journalled on said shaft between said first and second levers for vertical swinging movement between a raised release position and a lowered actuating position, said first and second levers and said master brake lever lying in substantially the same generally horizontal plane, a cross bar disposed above said levers and extending transversely across all three levers, means mounting said cross bar on said master brake lever for pivotal movement transverse to the axis of the master brake lever a fixed predetermined distance from said shaft whereby said cross bar engages with equal force and simultaneously actuates said first and second brake levers upon movement of said master brake lever from release position toward actuating position, a master brake arm mounted on said master brake lever and extending upwardly therefrom parallel to and between said first and second brake arms, said master brake arm extending farther above said brake levers than said first and second brake arms, a master brake pedal mounted on the upper end of said master brake arm whereby said master brake pedal is disposed closer to the operator of the vehicle than said pair of pedals, said master brake arm having a series of ratchet teeth formed therein, a locking pawl, pivot means mounting said locking pawl on said frame structure in position to engage said teeth and lock said master brake pedal in actuating position for parking said vehicle, and a manually operable control member mounted on said frame structure and engageable with said pawl to move and hold said pawl out of engagement with said ratchet teeth during operation of said vehicle.

3,267,766
ADJUSTABLE STEERING COLUMN

Earl W. Glover and Robert D. Wight, Saginaw, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 21, 1964, Ser. No. 391,086
9 Claims. (Cl. 74—493)



6. In an adjustable steering column assembly including an upper movable jacket portion arranged for telescoping movement relative to a fixed jacket portion, a support arranged for reciprocal movement with said fixed jacket and connected in spaced relation to said movable jacket, means forming a longitudinally elongated recess in said support radially adjacent said fixed jacket, means forming abutment portions at opposite ends of said recess defining the longitudinal dimension thereof, a plunger reciprocally mounted on said fixed jacket for movement perpendicular to the longitudinal plane of said recess and normally extending therein, and a plurality of longitudinally movable rollers caged in said recess, said rollers being of uniform diameter and dimensioned so as to occupy all of the longitudinal dimension of said recess exclusive of the space occupied by said plunger.

3,267,767
ADJUSTABLE CAM STRUCTURE

James S. Neal, Whitefish Bay, Wis., assignor to Energy Conversion Systems Corporation, Grafton, Wis., a corporation of Wisconsin

Filed Aug. 3, 1964, Ser. No. 386,914
11 Claims. (Cl. 74—568)

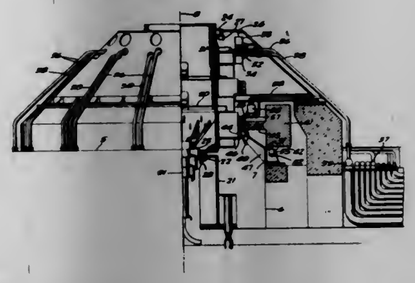


1. An adjustable cam structure comprising: a rotatable cam member having a control surface thereon interrupted by a cam station, said cam station including a cam element formed integral with said cam member and adapted to be flexed transversely of said control surface, and first and second locking detents formed in said cam member opposing said cam element, said cam element being shiftable between a first position in which the cam element is engaged with said first locking detent and forms a continuation of said control surface and a second position in which said cam element is engaged with said second locking detent and provides a discontinuance in said control surface.

3,267,768
HIGH ENERGY CENTRIFUGE DRIVE

Kingsley C. Drone, Orinda, Howard J. Bates, Walnut Creek, and Ian C. Begg, Orinda, Calif., assignors to The Rucker Company, a corporation

Filed July 23, 1962, Ser. No. 211,810
6 Claims. (Cl. 74—572)

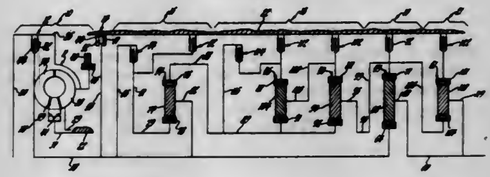


1. A high energy centrifuge drive comprising a base, a drive shaft journalled on and rotatable relative to said base about a vertical axis, a centrifuge rotor arm fixed on said drive shaft, a flywheel journalled on and rotatable relative to said base about said axis, means for rotating said flywheel, a plurality of drive clutch plates surrounding and coupled to rotate with said drive shaft, said drive clutch plates being vertically stacked and axially movable on said drive shaft, a plurality of driven clutch plates coupled to rotate with said flywheel, said driven clutch plates being vertically stacked and axially movable on said drive shaft, said drive clutch plates and said driven clutch plates being interspersed, means for urging said drive clutch plates and said driven clutch plates apart against the force of gravity, superior means for urging said drive clutch plates and said driven clutch plates together, and means responsive to the speed of rotation of said drive shaft relative to said base for controlling the operation of said superior means.

3,267,769
TRANSMISSION

Robert M. Tuck and Marion D. Smith, both of Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 9, 1964, Ser. No. 336,755
33 Claims. (Cl. 74—759)

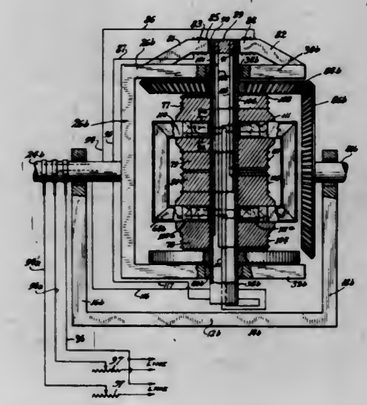


1. In a transmission the combination of
(a) power input means, power output means and a plurality of gear units operable to transmit drive from said power input means to said power output means,
(b) said plurality of gear units including a torque multiplying and torque combining planetary gear unit operatively connecting said power input means to said power output means operable in one condition to provide a variable drive ratio when operated with plural input drive,
(c) a torque splitter planetary gear unit connected to said power input means operable in one condition to provide an overdrive ratio,
(d) and a variable speed planetary gear unit connecting said torque splitter planetary gear unit to said torque multiplying and torque combining planetary gear unit operable in one condition to provide one reduction drive ratio.

3,267,770
DIFFERENTIAL FLUID COUPLER

William J. Fry, 68 Greencroft, Champaign, Ill.

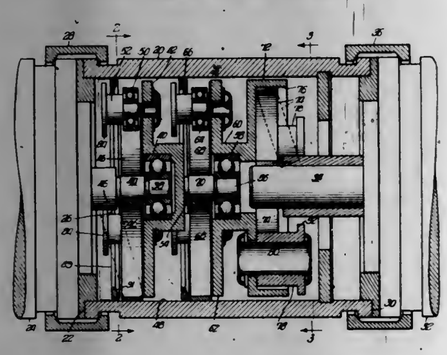
Filed Oct. 27, 1961, Ser. No. 148,164
35 Claims. (Cl. 74—751)



1. A hydrodynamic transmission comprising an input member, a rotatable shaft disposed in a plane normal to the axis of said input member, means driven by said input member for rotating said shaft, first gear means affixed to said shaft, second gear means in mesh with said first gear means, an output member affixed to said second gear means, a hydrodynamic coupling comprising substantially annular fluid-filled tubes mounted on said shaft, said tubes being rotatable simultaneously about the axis of said input member and about the axis of said shaft, so

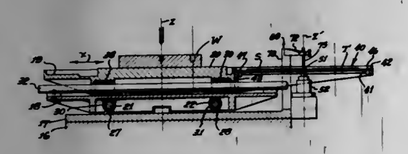
that the fluid oscillates in said tubes, and means for controlling the oscillation of the fluid while maintaining the speed of said input member at a predetermined level, whereby a nonzero average precessional force is created perpendicular to the axis of said shaft, said precessional force tending to exert torque on said shaft.

3,267,771
MOTION TRANSMITTING MECHANISM
Kenly C. Bugg, Fort Wayne, Ind., assignor to Kendick Manufacturing Company, Inc., Fort Wayne, Ind., a corporation of Indiana
Filed Mar. 9, 1964, Ser. No. 350,459
15 Claims. (Cl. 74—798)



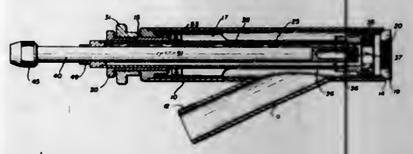
1. In a motion transmitting mechanism adapted to be operably associated with a drive shaft, a housing having a cylindrical inner surface, a plurality of compressible circular members symmetrically disposed within said housing in abutting relation to the cylindrical inner surface thereof, the configuration and disposition of said housing and said circular members being such as to maintain said members normally in a plane normal to the axis of said housing but permitting initial disposition of said members in relation to said housing so that said members are not in compressive abutting relation thereto, but are capable of being put under such compression by movement thereof generally along the axis of and relative to said housing.

3,267,772
QUICK POSITIONING TABLE
Joseph L. Burg, Beverly Hills, Calif., assignor, by mesne assignments, to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Apr. 23, 1964, Ser. No. 361,949
12 Claims. (Cl. 77—64)



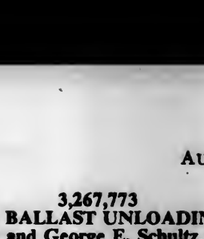
1. For use with a machine tool having a bed: a support; a work table having a surface; means mounting the work table on the support for movement in a rectangular coordinate system; said work table having an open frame for detachably receiving a template, said frame being located laterally of said surface; locating means mounted on the support beneath the frame and for movement toward and away from the frame for interlocking template; and means for positioning the locating means.

3,267,773
POWDERED BALLAST UNLOADING DEVICE
Charles D. Irwin and George E. Schultz, Boulder, Colo., assignors to Led Ballast, Inc., Boulder, Colo., a corporation of Colorado
Filed Nov. 27, 1964, Ser. No. 414,263
8 Claims. (Cl. 81—3)



1. A device for releasing powdered ballast and air under pressure from a pneumatic tire comprising cover means arranged to telescope over a tire filler stem and its cap; clamp means arranged to telescope in said cover means; sealing means on one end of said clamp means for sealing on the neck of a tire filler stem; means on said one end of said clamp means cooperative with said cover means for clamping said sealing means on a tire filler stem; means for temporarily securing said clamp means in said cover means; a socket wrench reciprocally telescoped in said clamp means arranged for engaging and manipulating the cap on a tire filler stem means for holding the cap of a filler stem in relation to said socket wrench; and outlet means for powder and air from said clamp means and said cover means.

3,267,774
COAXIAL CABLE STRIPPER
Arthur Bilco Greene, and Wilbur J. Kupfrian, Binghamton, N.Y., assignors to Robinson Technical Products Inc., a corporation of New York
Filed Aug. 28, 1961, Ser. No. 135,103
15 Claims. (Cl. 81—9.51)



14. A method of stripping a braided tubular wire shield from an electrical wire having a conductor and an insulating layer between said conductor and said shield, said method comprising expanding said shield to thermally isolate said layer from said shield in the region to be stripped, severing said braid annularly in said region, and reinforcing the enlarged exposed outer edge of said shield so as to strengthen the edge for subsequent terminating operations.

3,267,775
ADJUSTABLE TORQUE TOOL HAVING PREDETERMINED OVERLOAD YIELDING MEANS
Ralph V. Talley, Bartlesville, Okla., assignor of fifty percent to Vashti Y. Holt, Tulsa, Okla.
Filed Dec. 17, 1962, Ser. No. 245,146
1 Claim. (Cl. 81—52.4)

A torque head for winding and applying a torque of selected value to chart drives or parking meter timing springs comprising:

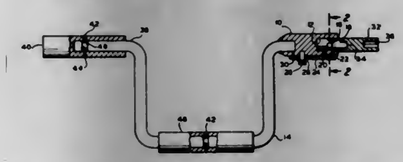
a cylindrical socket having means at one end for attachment to a handle and an axial cylindrical recess in the other end;

a shaft of substantially the diameter of said recess rotatably positioned within said recess and having a portion thereof extending beyond the end of said socket;

a plurality of seats circumferentially aligned in the wall of said shaft within said recess, said seats adapted to seat a single ball member;

an opening through the wall of said socket in alignment with said seats to accommodate said ball member;

said ball member having a diameter substantially greater than the thickness of said socket wall whereby a portion of said ball member extends beyond said socket wall when said ball member is seated in one of said seats;

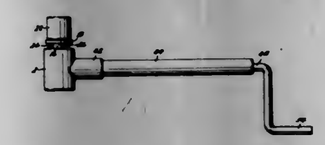


a flat spring adjustably attached longitudinally to said socket by means of a set screw adjacent one end of said spring and near said handle attachment, the other end being biased aganist said portion of said ball member extending exteriorly of said socket wall;

a spring locking pin adjacent one end of said spring and extending through said spring into said socket to hold the spring in proper alignment with said ball member; and

a polygonal recess on the outer end of said shaft for accommodating the male element of said timing spring rewind element.

3,267,776
WRENCH FOR CRANKCASE DRAIN PLUGS
Orla E. Watson, 2911 W. 67th St., Shawnee Mission, Kans.
Filed Oct. 21, 1964, Ser. No. 405,446
2 Claims. (Cl. 81—57)



1. A wrench comprising:

(a) a tubular body member,

(b) a spindle carried rotatably and coaxially in said body member and extending outwardly therefrom, said spindle being longitudinally movable in said body member to a limited degree and being provided externally of said body member with a peripheral flange,

(c) a plurality of pins fixed in said flange eccentrically to said spindle and extending toward said body member in a direction parallel to said spindle, said pins terminating short of said body member when said spindle is moved to the outer limit of its longitudinal movement, the wall of said body member confronting said flange being provided with holes capable of being aligned with said pins and to receive said pins when said spindle is moved longitudinally inwardly with respect to said body member, whereby said spindle and body member are locked against relative rotation,

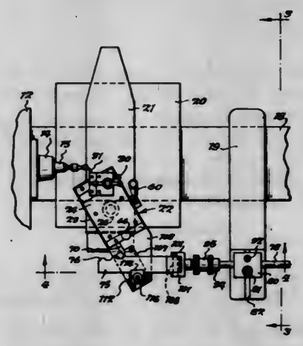
(d) a spring biasing said spindle longitudinally outwardly,

(e) a work engaging member outed on the extended end of said spindle and operable by rotation thereof,

(f) an elongated handle affixed at one end to said body member and extending therefrom angularly to the axis of said spindle, and

(g) operating means carried by said body member and handle and operable from the distal end of said handle to rotate said spindle without movement of said handle or body member.

3,267,777
ATTACHMENT FOR LATHES
James R. Cordier, Elmira, N.Y., assignor to Hardinge Brothers, Inc., Elmira, N.Y.
Filed Oct. 12, 1964, Ser. No. 403,152
5 Claims. (Cl. 82—14)

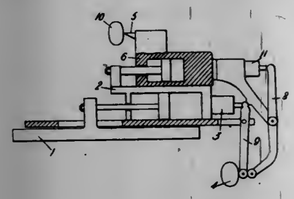


1. An attachment for lathes and the like having a rotary work-holding member and a stationary bed, a tool slide including an upper part and a lower part, the upper part being mounted on the lower part for longitudinal movement toward and from said rotary work-holding member, a template mounted on said bed, spring means for urging said upper member of said slide in a direction away from said work-holding member and toward said template, a stylus mounted on said upper part of said slide to contact with said template, manually operable means releasably connecting said upper and lower parts of said slide for holding said upper part in position in which said stylus is out of engagement with said template, in which said connecting means includes a pin mounted on said upper part of said slide and movable toward and from said lower part of said slide, means on said lower part of said slide for engagment with said pin to hold said upper part of said slide in position in which said stylus is out of contact with said template, means for releasably holding said pin out of engagment with said lower part of said slide, and a hand lever connecting the upper and lower parts of the slide to move said upper part of the slide into positions in which said pin holds said upper part of the slide in withdrawn position.

3,267,778
COPYING DEVICES
Edward G. Thomas, Adlington, England, assignor to J. & E. Arnfield Limited, Audenshaw, England, a corporation of Great Britain
Filed Nov. 27, 1964, Ser. No. 414,248
Claims priority, application Great Britain, Nov. 27, 1963, 49,633/63; June 25, 1964, 26,375/64
3 Claims. (Cl. 82—14)

1. A copying device for use in controlling the movement of a machine tool in conformity with the contour of a model being copied, such device comprising, in

combination, a first cross-slide, a first sensing arm rockable about a pivot secured to said first cross-slide, a first follower on said first sensing arm effective to follow the contour of said model, means for moving said first cross-slide in response to movement of said first follower on a model being copied, a second cross-slide carried by said first cross-slide for movement therewith, a second sensing



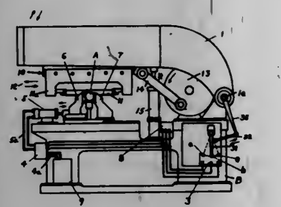
arm rockable about a pivot secured to said second cross-slide, a second follower on said second sensing arm effective to follow the contour of said model and means for moving said second cross-slide relative to said first cross-slide in response to movement of said second follower on a model being copied and means for connecting said second cross-slide to said tool.

3,267,779

METHOD AND APPARATUS FOR CUTTING BARS

Yoshio Miyata, 4 4-chome, Nishinagasuhondori, Amagasaki, Japan

Filed Apr. 16, 1964, Ser. No. 360,224
Claims priority, application Japan, Apr. 16, 1963, 38/20,223
3 Claims. (Cl. 82—46)



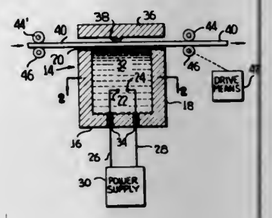
1. An apparatus for cutting bars of hard material, comprising a base, a cutter arm pivotally mounted on side base and pivotable toward and away from said base, at least one saw means mounted on said cutter arm and having drive means coupled thereto, a vise on said base below the saw means on said cutter arm, said vise having at least one pair of opposed jaws adapted to hold a bar to be cut so that it extends transversely of the direction of movement of said cutter arm and saw means, at least one of said jaws in said at least one pair being movable toward and away from the other jaw, jaw moving means coupled to said movable jaw, means on said base and acting on said cutter arm for raising and lowering the cutter arm, bar rotating means adjacent said base for holding and rotating a bar, said bar rotating means having start and stop means as a part thereof, and control means on said apparatus actuated by movement of said cutter arm and interconnected with said jaw moving means, said raising and lowering means and said start and stop means for stopping the bar rotating means when the depth of cut reaches a predetermined limit and at the same time controlling movement of the jaw moving means to close the movable jaw on the bar, and for controlling the movement of the jaw moving means to open the movable jaw and to raise the cutter arm when the saw means cuts through the bar.

3,267,780

ELECTROHYDRAULIC IMPULSE SCORING AND/OR WEAKENING OF THIN MATERIALS

Donald J. Roth, Chicago Heights, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Mar. 25, 1965, Ser. No. 442,733
37 Claims. (Cl. 83—7)



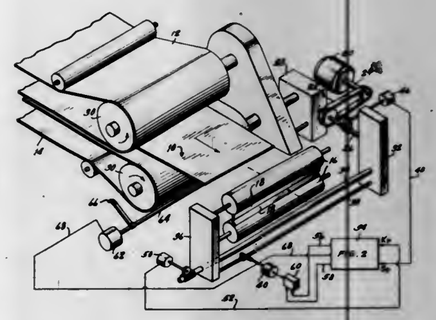
1. Material scoring apparatus comprising a fluid filled chamber having an open end, a scoring die positioned over said chamber and coextensive with the open end, said die being in spatial relationship to said chamber and defining a work area therebetween, and means for displacing the fluid in said chamber to exert a force on said scoring die.

3,267,781

METHOD AND APPARATUS FOR PRESETTING MATERIAL CONSUMING MACHINES TO ADJUST PRODUCT PARAMETERS

Robert B. Sterns, Great Neck, and Richard McGuire, Brooklyn, N.Y., assignors to Logic Systems, Inc., Great Neck, N.Y., a corporation of New York

Filed Oct. 30, 1963, Ser. No. 320,224
27 Claims. (Cl. 83—37)



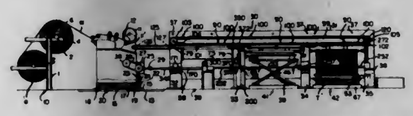
1. A method for presetting material consuming machinery comprising the steps of disengaging said machinery from particular ones of its material consuming elements, generating signals simulative of the effect of the disengaged material consuming elements and re-engaging said machinery with said material consuming elements when said simulative signals achieve a preselected value.

3,267,782

APPARATUS FOR SEVERING AND CONVEYING SHEETS

James A. Benzing, Hamilton, Ohio, assignor to Champion Papers Inc., Hamilton, Ohio, a corporation of Ohio

Filed July 26, 1962, Ser. No. 212,570
8 Claims. (Cl. 83—94)



1. An apparatus for cutting and delivering sheets from a continuous web to one of a plurality of selective pile forming stations comprising a stationary frame, a sheet cutting device movably mounted for movement with respect to said frame in a direction parallel to that of the movement of the sheets cut thereon, said sheet cutting device including a rotary cutting member for making cuts transverse of the web, a plurality of pile forming stations positioned beneath said frame and means on the frame for positively engaging the leading edge of the cut sheets and conveying said sheets to a release point above a selected one of said stations, and control means operative on said conveying means for releasing said sheets at said point and means for selectively positioning said cutting device in such direction during operation of said apparatus by moving said cutting device to a selected position and holding it there while maintaining a predetermined velocity relationship wherein the lineal velocity of said means for positively engaging is at least equal to the peripheral lineal velocity of said rotary cutting device.

3,267,783

LEAD SLEEVE CUTTING AND HANDLING EQUIPMENT

George B. Kepes, Montreal, Quebec, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Sept. 14, 1964, Ser. No. 396,002
24 Claims. (Cl. 83—112)



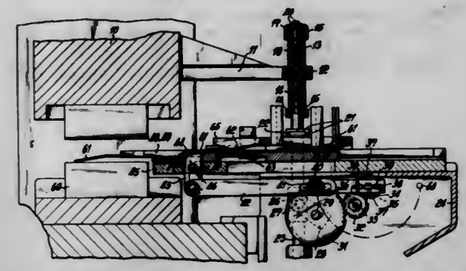
1. Apparatus for cutting and handling rigid tube or bar material fed continuously from a source comprising: means to grip the material as it is fed from the source; means to sever a given length of material as it is fed from the source; the gripping means and the severing means being adapted to travel with the material as it moves away from the source whereby their given functions may be performed; and transfer means for moving the gripping means transversely of the line of travel of the continuously fed material to transfer the severed material laterally away from said line of travel and thereafter release the severed material from the gripping means.

3,267,784

MULTISTEP, ESPECIALLY TWO-STEP INSERTION DEVICE

Erwin Schwarz, Auermuhle 4321, Oberelfringhausen, Germany

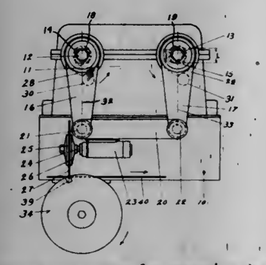
Filed Jan. 8, 1965, Ser. No. 424,406
Claims priority, application Austria, Jan. 10, 1964, A 175/64
9 Claims. (Cl. 83—226)



1. A multiple, especially two-step insertion device as for shears-platens, comprising
a machine tappet,
a slide linearly moved by said machine tappet,
means causing a reciprocating movement of said slide corresponding with a sinus curve,
means for performing an upward and downward movement, respectively, of said machine tappet,
said machine tappet having an arm,
a driving rod movable upwardly and downwardly, respectively, simultaneously and in the same direction with said machine tappet,
a stroke balancing member retained by said arm of said machine tappet and releasably coupling said driving rod with said machine tappet,
said driving rod having a cross guide,
a guide block carried by said driving rod in said cross guide,
an axle,
one end of said axle being received in said guide block,
a coupling lever receiving rotatably the other end of said axle,
a gear box having a housing wall,
a shaft rotatably mounted in said housing wall and keyed at one end to said coupling lever,
a transmission member secured to the other end of said shaft,
a plurality of gears rotatably mounted in said housing wall and operatively engaging said transmission member,
a crank operatively connected for joint rotation with the last of said gears,
said means causing a reciprocating movement of said slide including a drive link for said slide and mounted on said crank and including means for adjustment of its stroke,
a tipping lever having two lever arms connected with said slide drive link at the remote end from said crank and adapted to cause an indirect and retarded movement respectively of said slide,
said slide having a recess of a width surpassing the width of said tipping lever,
a bearing axle disposed in said slide recess crosswise to the longitudinal axis of said slide and supporting said tipping lever,
slide tongs received in said slide,
the upper free end of said tipping lever having an inclined end face to form a control wedge,
said slide tongs having two arms and each of said arms having an inclined face complementary to that of said tipping lever, and

said tipping lever cooperating with said arms of said tongs in order to bring about a forced control of said slide tongs prior to the start of the advancing stroke of said slide retarded by a braking action for the gripping of a workpiece and prior to the start of the return stroke of said slide for the release of said workpiece.

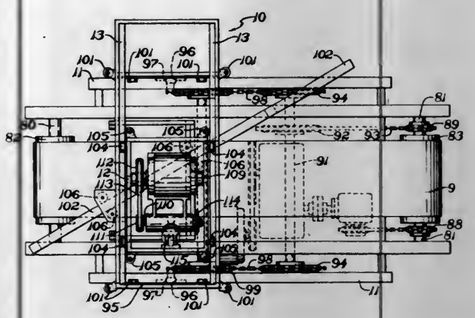
3,267,785
FLYING SAW
Hans Pferdekämper, Dusseldorf, Germany, assignor to Schloemann Aktiengesellschaft, Dusseldorf, Germany
Filed Dec. 15, 1964, Ser. No. 418,518
Claims priority, application Germany, Dec. 18, 1963, Sch 34,346
4 Claims. (Cl. 83—310)



1. A flying saw apparatus for severing a continuously moving workpiece, said apparatus comprising a frame, a pair of spaced parrallel crank shafts rotatably mounted in said frame and projecting outwardly, a unitary crank arm non-rotatably mounted at one end on the projecting end of each shaft, each complete arm being longitudinally slidable transversely of the axis of each shaft, a link pivotally connecting the opposite ends of said arms, a motor mounted on said link and having a drive shaft, a saw mounted on said drive shaft, the plane of said saw being substantially parallel to the axes of said crankshafts, means for supporting a workpiece for movement transversely of the plane of said saw, and automatic means for moving said complete arms longitudinally during each rotation of said crankshafts, whereby said saw will move into engagement with and through said moving workpiece to sever the same, the rotation of said crank arms causing said saw to move with said workpiece and the longitudinal movement of said complete crank arms during each rotation of said crankshafts serving to increase the radius of curvature of the path of said saw substantially at the moment of and during engagement with said workpiece to increase the time during which the saw is in engagement with the workpiece.

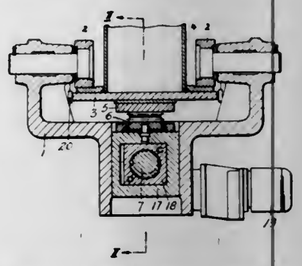
3,267,786
CUTTING DEVICE FOR A CONTINUOUSLY MOVING TUBE
Mathew Kuts and Ralph F. Cooper, Akron, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Aug. 5, 1964, Ser. No. 387,686
3 Claims. (Cl. 83—318)

1. A machine for cutting a longitudinally extruded tube into successive segments comprising: a frame having longitudinally extending ways thereon; a continuous belt mounted on said frame having a conveying run and a return run; said runs movable in a direction parallel to said ways; motive means operatively connected to said belt for continuously moving said conveying run in a direction and speed corresponding to that of such extruded tube; a carriage mounted on said ways, said motive means being connected to said carriage for moving said carriage on said ways in a first direction parallel to and at the same speed as said conveying run; and said motive means including means for moving said carriage in a second direction opposite to said first direction; a cam bar adjustably mounted on said frame having a longitudinally extending guiding means angularly disposed relative to said ways; said carriage having guideways extending in a direction normal to said ways; a cross slide mounted on



said carriage and movable rectilinearly on said guideways; means operatively connecting said cross slide to said cam bar for moving said cross slide laterally relative to said longitudinally movable carriage; cutting means mounted on said cross slide; and means operatively connected to said cutting means for pivoting said cutting means into and out of cutting position.

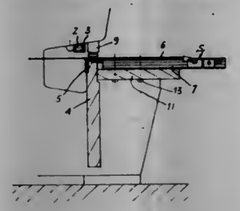
3,267,787
MEANS COOPERABLE WITH A SHEAR OR SAW ASSEMBLY FOR ASSURING A PROPER LENGTH CUT OF ROLLED STOCK
Willi Benz, Neuss/a, Germany, assignor to Schloemann Aktiengesellschaft, Dusseldorf, Germany
Filed Aug. 25, 1964, Ser. No. 392,007
Claims priority, application Germany, Aug. 27, 1963, Sch 33,765
7 Claims. (Cl. 83—419)



1. In an assemblage for adjusting the cutting length of rolled stock behind a cutting means for a rolling mill train, a discharge roller bed, a support beam mounted above said discharge roller bed, a flange carried by said beam, a wheeled carriage movable along said flange and capable of being locked to the beam the desired distance behind the cutting means for determining the cutting length of the stock, a toothed rack constituting a locking strip fixedly mounted on said flange, an eccentric shaft mounted axially on said carriage in the path of movement thereof, a toothed rack segment complementary to said toothed rack on said shaft and constituting lock bolt means, a threaded spindle on said shaft, a worm wheel on the spindle, a worm shaft engaging said worm wheel whereby rotation thereof shifts said eccentric shaft and rack segment axially, and further gear means operably connected with said eccentric shaft

for swinging said shaft for the engagement of the lock bolt means independent of said worm and worm wheel with such gear means preventing rotation of the shaft during shifting of the shaft.

3,267,788
SHEARING APPARATUS HAVING YIELDABLE WORK-STOP MEANS
Roger François Giordano, 2 Rue Pasteur Deuil-la-Barre, Seine et Oise, France
Filed Aug. 5, 1965, Ser. No. 477,380
Claims priority, application France, Feb. 17, 1965, PV 5,888
13 Claims. (Cl. 83—467)



1. Shearing means for shearing metal plates or the like comprising, in combination, support means; a pair of shear blades having each a cutting edge, one of said blades being stationarily and the other movably mounted on said support means movable between an open position in which said cutting edges are spaced from each other so that a plate to be cut may be fed between said cutting edges and a cutting position in which the cutting edge of the movable blade cuts through the plate; and stop means on said support means and comprising a member fixed to said support means at a selected distance from said cutting edges of said blades, engaging means spaced from said member and on the side of the latter facing said blades and constructed and arrange so as to engage the front edge of a plate fed between said blades in open position, connecting means connecting said engaging means to said member and being constructed and arranged to prevent movement of said engaging means away from said member beyond a predetermined distance while permitting movement of said engaging means toward said member, and prestressed spring means operatively connected to said engaging means and said member and biased to maintain said engaging means spaced said predetermined distance from said member in a stopping position determining the distance of the front edge of the plate from said cutting edges of said blades while permitting said engaging means to yield toward said member when during cutting of the cutting edge of said movable blade through said plate a force is exerted by said front edge of the plate on said engaging means which is greater than the force developed by said prestressed spring means, whereby the force exerted by the cut edge of the plate on said movable blade will be reduced substantially to the force of the compressed spring means.

3,267,789
HAND PUNCH FOR PERFORATING THE SHEETS OF LOOSELEAF BINDERS
Arthur F. Brook, Poughkeepsie, N.Y.
Filed Sept. 22, 1964, Ser. No. 398,364
1 Claim. (Cl. 83—622)

A portable hand punch for perforating sheets used in looseleaf binders, comprising

a hollow base in the form of a single casting open at the bottom and having a projecting flange about the rim of said open bottom,

said base having a flat top wall for support of sheets to be punched and

an upstanding ridge at the back of said flat top wall, forming a front gage for sheets placed on said top wall and having

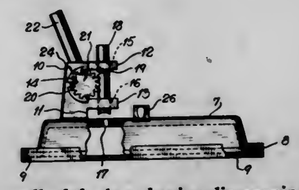
forwardly extending upper and lower parallel ledges with a semi-circular connecting groove at the back and forming a forwardly facing half bearing open toward the front of the base,

a rock shaft journalled in said half bearing,

said rock shaft having pinion teeth faced toward the front of the base,

a handle on one end of said shaft for rocking the same in opposite directions,

vertically aligned bearings in said upper and lower ledges in front of said rock shaft,



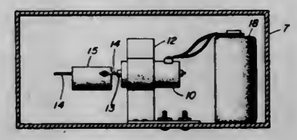
said flat top wall of the base having die openings therein in line with said bearings,

punches slidably guided in said bearings in cooperative relation with said die openings and having racks on the back of the same in mesh with said pinion teeth,

said punches by engagement of the racks thereon with said pinion teeth holding and rotatably confining said rock shaft in said open half bearings, and

an elastic pad stretched in detachable engagement over said projecting flange of the base and forming a cover confining punch cuttings driven through said die openings in the top wall and a compressible supporting pad for holding said portable punch in non-slipping position on a desk top without scratching or marring the same.

3,267,790
DEVICE FOR PRODUCING VIBRATO IN MUSICAL INSTRUMENTS
Charles R. De John, 35 Beverly Road, West Caldwell, N.J., and Julius Vanarelli, 544 3rd Ave., Lyndhurst, N.J.
Filed Feb. 13, 1964, Ser. No. 344,739
3 Claims. (Cl. 84—313)



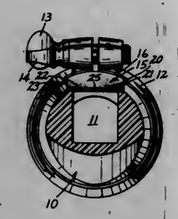
1. A vibrato producing device for connection to an accordian comprising an electric motor, said motor having a shaft, an eccentric weight connected to the shaft, a rigid casing, said motor weight being mounted within said casing, mounting means for said casing, said mounting means including a resilient member, said resilient member being adapted to be fixedly secured to the musical instrument.

3,267,791
REED CONSTRUCTION
Charles L. Roberts, Chamberlain, S. Dak., assignor to Roberts Enterprises, Inc., Chamberlain, S. Dak.
Filed Aug. 24, 1965, Ser. No. 482,167
3 Claims. (Cl. 84—383)

1. A reed for musical instruments comprising:

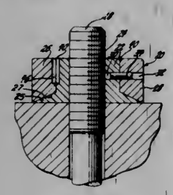
(a) an anchoring portion for fixedly attaching the reed to the musical instrument,

(b) a free portion having a gradually diminished thickness adjacent the end thereof for vibrating when air is passed thereover,
(c) grooves in said reed extending generally longitudinally therealong,
(d) said grooves having a lower wall with an approximately constant thickness over the length thereof,



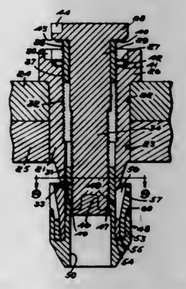
(e) said grooves being characterized by gradually diminishing in depth at the end lying in said free portion as the thickness of said free portion approaches the thickness of the lower wall of said grooves, and
(f) said grooves being further characterized by each having a second end which terminates adjacent an edge of said free portion whereby the free portion of said reed is capable of a complex vibration about more than one axis:

3,267,792
TORQUE LIMITED HEX NUT
Siegfried L. Yackle, Milwaukee, Wis., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 31, 1964, Ser. No. 341,598
1 Claim. (Cl. 85—61)



A nut assembly adapted to be used in combination with a bolt to result in a fastening means comprising:
an annular inner portion having a threaded axial bore therethrough adapted to threadedly receive said bolt, said inner portion having a radial bore formed into a portion thereof, a radially extending lip means at its upper axial extremity a smooth outer periphery and a radially extending inclined flange at its lower axial extremity adapted to engage a body to be fastened;
an outer portion having a cylindrictal bore receiving said annular inner portion, said outer portion further having an annular inclined surface engaging said inner portion inclined flange and being rotatably mounted thereon, the outer periphery of said outer portion being non-circular to receive a suitable tool for applying torque to said nut assembly, said outer portion having radial bore formed therethrough and adapted to be aligned with the radial bore in said inner portion, said outer portion being fixed in the axial direction relative to said inner portion between said lip means and said inclined flange on said inner portion;
a shear pin residing in the aligned radial bores in said inner and outer portions and fixing said portions relative to each other, said shear pin being selected to fracture at a given shear load resulting from the predeterminted torque applied to said outer portion thereby releasing the connection between said inner and outer portions and allowing said outer portion to rotate relative to said inner portion,
and said inner and outer portions having a small axial segment removed thereby forming openings on the top of the assembly at the juncture of the inner and outer portions, said openings when aligned forming an axially extending slot adapted to receive a lock pin extending axially of said nut assembly for the purpose of connecting said inner and outer portions to facilitate the removal of said nut assembly from said bolt, said lock pin having sufficient shear strength to withstand the torque necessary to remove said nut from said bolt.

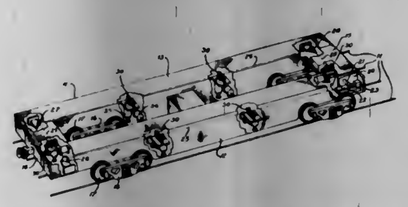
3,267,793
SELF-CONTAINED BLIND BOLT
James Henry Devine and Evelyn Yurcessen Devine, both of 380 Washington St., Brookline, Mass.
Filed June 16, 1964, Ser. No. 375,454
12 Claims. (Cl. 88—75)



8. A blind bolt for clamping together two or more structural panels having concentric openings therethrough, irrespective of the accessibility of the opening in the innermost panel, the bolt being insertable as a unit into said openings and removable as a unit therefrom, and comprising:
a sleeve component extending through said openings and constituting a centering sleeve for the bolt, said sleeve having a flanged outer head portion engageable with a surface of the outermost panel, and having an inwardly tapered skirt portion extending beyond the innermost surface of the innermost panel, at its inner end portion;
said head portion having an annular socket therein and having circumferentially spaced recesses in its margin for receiving a holding tool, and the bore of said sleeve being screw threaded from said socket inwardly thereof;
a center component receivable in the bore of said sleeve and having a flanged head receivable in the sleeve socket and a cylindrical shank portion, the inner portion of said shank being screw threaded, and said head having circumferentially spaced recesses in its margin for receiving a torquing tool;
the annular socket of said sleeve and the underside of the head of the center component having mutually engageable serrations for restraining loosening of the bolt under vibration when it is torqued to clamping position;

a lifting collar slidable over said shank portion and keyed thereto against relative rotation thereon, at the outer portion of said shank from said head portion inwardly, the exterior of the collar having screw threads mating with the screw threads in the bore of said sleeve; and
a nut component having a tubular body slidable longitudinally within the inner and skirt portions of said sleeve and keyed thereto against relative rotation therein, the outer portion of the bore of said body having screw threads mating with the screw threads of said shank portion;
said nut component having an exterior annular socket and a pair of concentric clamping rings disposed in said socket, each of said rings having a plurality of circumferentially spaced, upstanding spring fingers, and said rings being keyed together against relative rotation, whereby the fingers of one ring are maintained in staggered relation to the fingers of the other ring, said fingers being adapted to slide over and be flared outwardly by the tapered skirt portion of said sleeve and to engage the innermost panel, when the nut component is moved to clamping position by rotation of the center component therein.

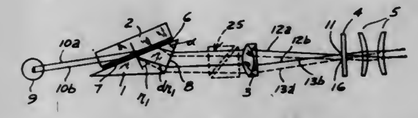
3,267,794
OPTICAL ALIGNMENT SYSTEM FOR DETECTING AND CORRECTING DISTORTION IN A STRUCTURE
George E. Howe, Pacoima, Calif., assignor to Guy F. Atkinson Company, San Francisco, Calif., a corporation of Nevada
Filed Jan. 16, 1961, Ser. No. 82,757
3 Claims. (Cl. 88—14)



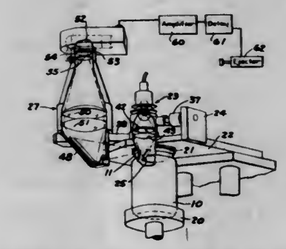
1. Apparatus for correcting distortion in a structure comprising an optical alignment system having optical targets mounted on the structure one behind another in a single line of sight, a telescope for viewing said targets, a television camera receiving a target image through said telescope, a control station having a television receiver connected with said camera, means in said station for focusing said telescope on each of said targets, means for identifying said targets as viewed in said receiver, means for applying a distortion corrective force to the structure at a plurality of points, and means in said station for controlling said corrective means.

3,267,795
TEMPERATURE COMPENSATED REFRACTOMETERS
Herbert E. Goldberg, Keene, N.H., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Feb. 20, 1961, Ser. No. 90,499
12 Claims. (Cl. 88—14)

7. A refractometer operating with a source emitting bundles of light and having an entrance face to receive different substances within a range of refractive indices to be measured, said refractive indices varying with temperature changes, an objective having an image plane, said entrance face and said image plane being positioned in such a way that bundles of light from said source leave said face at various angles and are focused by said objective to an optical image in said image plane, comprised of a compensating member arranged in the path of said bundles of light to compensate for said variations of said refractive indices with temperature, said bundles of light striking said compensating member which is oriented at an angle of incidence and has a variation in its refraction with respect to temperature which is sufficient for the range of refractive indices to be measured, said compensating member utilizing the variation in its refraction with respect to temperature to cause the light which has been deviated by various angles depending on said angle of incidence and said temperature changes to compensate at two different points in said image plane for the temperature error resulting from the temperature coefficient of refraction of said different substances under test.

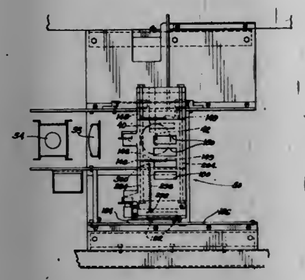


3,267,796
INSPECTING RIMS OF OPEN MOUTH CONTAINERS
Benny B. Mathias, Maumee, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Continuation of application Ser. No. 317,871, Oct. 18, 1963, which is a continuation of application Ser. No. 816,765, May 29, 1959. This application Dec. 24, 1964, Ser. No. 423,637
7 Claims. (Cl. 88—14)



5. The method of inspecting the rim of an open mouth container for line over finish defects comprising generally cylindrical voids in the rim extending generally axially of the container, which method comprises projecting a beam of radiation from a source of radiant energy, directing said beam against one side of the wall of the rim of a container while the container is empty, focusing said beam in a small spot on the interior of the rim of said container, said spot having a greater dimension in a direction parallel to the axis of the container, causing relative movement of the beam and the container about the axis of the container, positioning an element sensitive to the said radiation with its line of vision forming an angle ranging from 125° to 175° with the path of the beam toward the wall of the rim of the container, causing a portion of the beam to be refracted and reflected by movement of a line over finish defect into the path of the beam, restricting the field of vision of the sensitive element to the area of the rim of the container onto which the beam is focused in a small spot, and creating a reject signal in response to energization of said element.

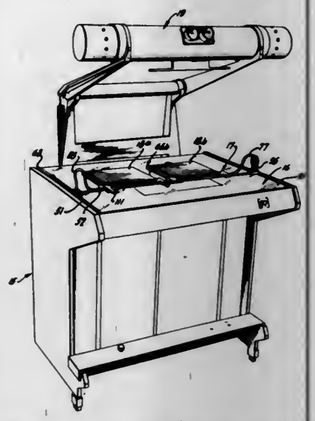
3,267,797
APPARATUS FOR COPYING MATERIAL FROM PLURAL POSITION ON A CORD
Wallace R. Fowlie, North Riverside, Joseph Bzdelik, Jr., Morton Grove, and Paul S. Colecchi and Bruce C. Wanatowicz, Chicago, Ill., assignors to A. B. Dick Company, Chicago, Ill., a corporation of Illinois
Filed June 18, 1963, Ser. No. 288,678
20 Claims. (Cl. 88—24)



1. An apparatus for the handling of material to be copied wherein said material is disposed in a plurality of separate positions on a mounting card, said apparatus comprising a hopper for retaining a plurality of said cards, a platen situated adjacent said hopper, card loading means for moving said cards one at a time from said hopper to said platen, means located adjacent said platen for scanning the material of the card located on the platen for effecting copying of the material, first drive means for moving said card and scanning means relative to each other during the copying operation, separate drive means for shifting said card after scanning of one of said positions whereby other positions on said card can be successively located for scanning, means for reactivating said first drive means for an additional scanning operation, means for alternately operating the respective drive means until scanning of all of said positions is completed, and card eject means for removing each card from said platen after completion of the scanning operation.

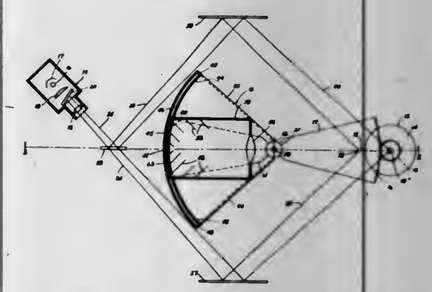
3,267,798
SUPPORT AND TRANSPORT SYSTEM
Gilbert L. Hobrough and George A. Wood, Los Altos, Calif., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Oct. 4, 1963, Ser. No. 313,882
32 Claims. (Cl. 88—24)

1. A support and transport system adapted for use in a photogrammetric viewing system, comprising a base, a relatively planar platform superjacent at least a portion of said base and being movable relative thereto in directions generally normal to the plane of said platform, seal structure intermediate said base and a platform and defining therewith a pressurizable chamber, inlet means communicating with said chamber for supplying a pressurized fluid thereto, outlet means communicating with said chamber for permitting the escape of such pressurized gaseous fluid therefrom, means for regulating the relative rates to such supply and escape of fluid to maintain said platform in a predetermined positional relation with respect to said base to provide an accurately located reference plane for such viewing system, a frame adapted to receive an article thereon, at least three support pads carried by said frame in non-linearly oriented relation therealong and each having a plane-defining undersurface in juxtaposition with said platform, each of said pads being provided with a supply space and in flow communication therewith gaseous fluid discharge means disposed along such undersurface, conduit means connected with each of said supply spaces and being adapted to deliver compressed gaseous fluid thereto, and valve means for controlling the flow of such gaseous fluid to said supply spaces, the escape of such gaseous fluid through said discharge



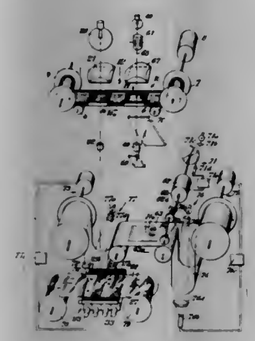
means being effective in one condition of said valve means to elevate said pads above said platform and thereby afford relatively free movement of said frame with respect thereto.

3,267,799
SYSTEM FOR RECORDING THE SURFACE CHARACTERISTICS OF AN OBJECT
Lee Harrison III, 72 E. Germantown Pike, Norristown, Pa.
Filed Oct. 21, 1963, Ser. No. 317,632
6 Claims. (Cl. 88—24)



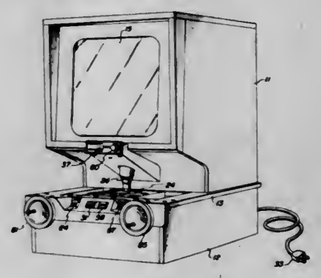
1. A system for recording irregularities on the surface of an object comprising a support for the object, a camera for containing a sheet of light sensitive film and having a lens aimed at the object for focusing light reflected by the object onto the surface of the film, means for focusing a plane of light along the plane defined by a selected axis of the object and the focal axis of the camera lens and for causing the light plane to have points of intensity that differ in predetermined correspondence with the distance of such points from the selected object axis, means for producing relative revolution of the object and the light plane while maintaining the said correspondence of points of light intensity with object axis, and means for moving and exposing predetermined portions of the film to the light reflected by the portions of the object surface that intersect the light plane, and means operative with said means for producing relative revolution and means for moving and exposing for synchronizing the movement of the object and the film.

3,267,800
APPARATUS FOR THE SELECTION AND REPRODUCTION OF DOCUMENTS
Philippe Charles Victor Baillod, Paris, France, assignor to The Centre d'Etudes et de Recherches pour la Documentation Automatique (C.E.R.D.A.), Paris, France, a French civil company
Filed Sept. 9, 1963, Ser. No. 307,601
Claims priority, application France, Sept. 13, 1962, 909,395
9 Claims. (Cl. 88—24)



1. Apparatus for selecting,
among a succession of documents recorded along a longitudinal photographic carrier, each particular document being accompanied by an adjacent coded representation, in a predetermined code based on areas of different opacities, of a given number of elementary characteristic items covered by said particular document, said coded representation comprising a plurality of bands of a substantially equal breadth located transversally to said carrier, the number of said bands in said plurality being equal to said number of items,
any document covering at least one series of searched for elementary characteristic items, the total number of items in said series being at the most equal to said number of items in said plurality, said at least one series being embodied in a coded pattern including several parallel rows of substantially equal breadth, the number of said rows being equal to the total number of items in said at least one series, each of said rows embodying a representation of one searched for elementary characteristic item in a code based on areas of different opacities and corresponding to said predetermined code, and the disposition and dimension of the coded areas on said rows and said bands for a same item being related by a transformation of similarity,
and for reproducing any selected document, comprising, in combination,
a frame including a transparent window adapted to receive said coded pattern, and, behind said window, several photoelectric transducers, at least one transducer being located behind each row of said pattern located on said window,
an optical projection system for projecting, on said coded pattern located on said frame, the real optical image of a given zone,
means for continuously longitudinally advancing said carrier through said zone, thereby successively passing therethrough all bands of each coded representation thereof and successively projecting the images of all said bands on each of the rows of said pattern located on said window,
means for delivering a control signal in response to the correspondence of all coded rows of said pattern corresponding to at least one series of searched for items and of images of said coded bands of a coded representation accompanying one document,
and means operating, during the continuous advancing of said carrier, the reproduction of said one document in response to said control signal.

3,267,801
MICRO-IMAGE VIEWER
Tirey C. Abbott, Jr., Manhattan Beach, and William H. Lawrence, Palos Verdes, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Dec. 11, 1963, Ser. No. 329,743
11 Claims. (Cl. 88—24)

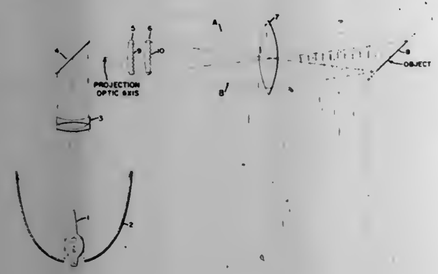


1. A micro-image viewer for reading a flat flexible film having a micro-image provided thereon, said viewer comprising: a transparent rigid plate having a flat surface against which said film is disposed; a transport means for supporting and moving said plate so that said flat surface moves within a plane; a light source including a light condensing and heat filtering system arranged on one side of said plate and opposite said flat surface for directing a concentrated high intensity light spot at said flat surface; a projection lens system including a projection lens and a screen arranged on the side of said plate opposite from said light condensing system to receive light passing through said plate and said film and to focus an enlarged picture on said screen of said micro-image; said projection lens having a construction such that the distance between said projection lens and said film when said picture is in focus on said screen is less than two millimeters; and vacuum means for sucking air from between said film and said plate to allow atmospheric pressure to hold said film in continuous contact with said plate to allow said plate to conduct heat away from said film.

3,267,802
LENTICULATED COLLIMATING CONDENSING SYSTEM FOR OBLIQUE OBJECT PLANES
Milton L. Noble, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 4, 1965, Ser. No. 422,909
6 Claims. (Cl. 88—24)

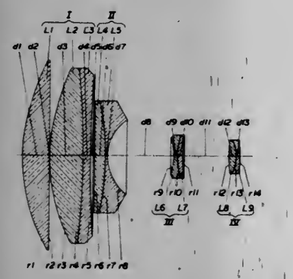
1. A light condensing system for uniformly illuminating a projection object in a plane disposed at an oblique angle with respect to the optic axis of the system, comprising:
(a) a light source,
(b) a first lenticular lens plate including a first multiplicity of lens elements,
(c) a second lenticular lens plate having a second multiplicity of lens elements corresponding to said first multiplicity, said lenticular lens plates being spaced apart and coaxially arranged so as to intercept the light energy emitted from said source and produce

an array of diverging light beams, one beam for each pair of corresponding lens elements, at least said first multiplicity of lens elements being nonuniform and having dimensions in the direction orthogonal to the rotational axis of object plane obliquity which are geometrically proportioned so as to modify the cross sectional configuration of said light beams, and



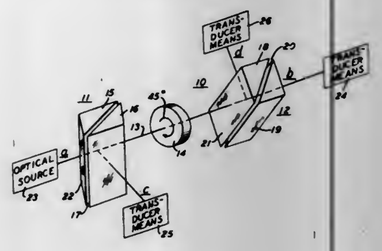
(d) lens means disposed between said lenticular lens plates and said projection object for collimating said light beams along converging principal axes, the geometrically proportioned dimensions of the nonuniform lens elements providing a superposition of the collimated light beams upon said object, thereby obtaining a uniform intensity, uniform angular spread illumination of the object.

3,267,803
FOUR-COMPONENT VARIFOCAL ATTACHMENT WITH MOVABLE NEGATIVE LENS MEMBERS
Karl Macher and Günter Klemt, Bad Kreuznach, Germany, assignors to Jos. Schneider & Co., Bad Kreuznach, Germany, a corporation of Germany
Filed Jan. 21, 1965, Ser. No. 427,064
Claims priority, application Germany, Aug. 17, 1960, Sch 28,339
2 Claims. (Cl. 88—57)



1. A varifocal attachment for an optical objective, consisting of four components separated from one another by variable air spaces and together constituting an afocal system, said components including a fixed front component of positive refractively constituted by two air-spaced positive members of strong forward convexity of which the first one is a singlet and the second one is a doublet, a first movable intermediate component constituted by a doublet of negative refractivity, a second movable intermediate component constituted by a doublet of negative refractivity, and a fixed rear component of positive refractivity, said rear component having a focal length equal to at most 75% of the focal length of said front component, the focal length of said first intermediate component exceeding that of said second intermediate component in absolute value and differing from it by at most 25%, said rear component being a biconvex doublet having a front surface whose radius of curvature at least equals in absolute magnitude the radius of curvature of its rear surface, said biconvex doublet further having a collective internal surface strongly curved toward the image side of the system.

3,267,804
OPTICAL CIRCULATOR
Joseph F. Dillon, Jr., Morris Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 3, 1963, Ser. No. 249,173
3 Claims. (Cl. 88—61)



1. An optical circulator having at least three ports comprising

first birefringent means for transmitting incident electromagnetic wave energy of orthogonal polarizations through different surfaces thereof,

said first birefringent means comprising first and second prisms of given refractive index which are separated by a gap of refractive index less than said given index and which have optic axis directions which are parallel,

second birefringent means for transmitting incident electromagnetic wave energy of orthogonal polarizations through different surfaces thereof spaced away from said first means along the path of energy transmitted therebetween,

said second birefringent means comprising third and fourth prisms of given refractive index which are separated by a gap of refractive index less than said given index and which have optic axis directions which are parallel,

all external surfaces of said prisms through which said energy propagates being oriented normal to the propagation direction therethrough,

the optic axis direction of said first and second prisms and the optic axis direction of said third and fourth prisms being related by a 45 degree angle in a given rotational sense,

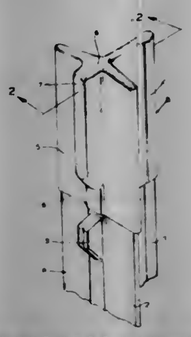
means for illuminating a first surface of one of said prisms with plane polarized electromagnetic wave energy having a polarization plane containing the optic axis of the illuminated means,

the illuminated surface of said prism defining the first port of said circulator,

means disposed on said path for rotating the plane of polarization of said wave energy into a plane which is related to the input polarization by 45 degrees in said given rotational sense,

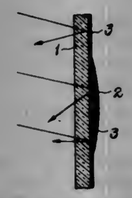
and low loss means for receiving wave energy disposed at the remainder of the external surfaces of said prisms through which energy can propagate, said remainder of surfaces comprising the remainder of ports of said circulator.

3,267,805
LIGHT REFLECTORS FOR ELONGATED POST-LIKE MEMBERS
George H. Ackerman, Webster Groves, Mo., assignor to Missouri Rolling Mill Corporation, St. Louis, Mo., a corporation of Missouri
Filed Feb. 21, 1962, Ser. No. 174,866
6 Claims. (Cl. 88—82)



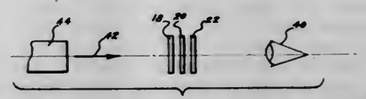
1. For use with T-shaped fence posts and similar structural members adapted to extend upwardly from the ground and terminate in a substantially free upper end portion, said T-shaped fence posts having an upper surface and a series of studs spaced downwardly at equal intervals from the upper surface, the distance from the upper surface to the first full stud varying between different T-shaped fence posts; a flexible resilient hollow cap having a downwardly presented T-shaped bottom-opening and a closed top, said cap also having a plurality of side walls marginally connected to form the T-shaped bottom opening, said side walls being contoured to fit snugly and conformably around said upper end portion, said cap further having an outwardly projecting axially elongated chamber which opens inwardly to the hollow interior of said cap for accommodating the studs and for retentively engaging said upper end portion to prevent unauthorized removal of the cap from the post, said axially elongated chamber having a vertical length sufficient to cover the first full stud irrespective of its distance from the upper surface, and a myriad of minute light reflective elements being embedded in the outwardly presented surface of at least one of the side walls.

3,267,806
MIRROR HAVING A MAGNIFYING PORTION
Keiji Azegami, 4592 Koshigaya, Koshigaya-shi, Saitama-ken, Japan
Filed Apr. 4, 1962, Ser. No. 185,144
1 Claim. (Cl. 88—84)



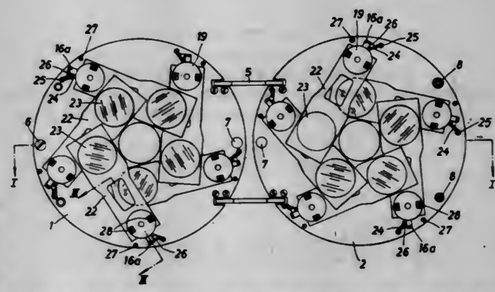
A mirror for simultaneously obtaining an ordinary reflected image and a magnified image in a part of the mirror, said mirror comprising a flat glass plate with opposite flat surfaces, a transparent plano-convex lens, the plano surface of which is adherently secured to one of said flat surfaces of the plate, said plano-convex lens having a substantially smaller extent than said plate, and a layer of reflective material applied to and extending over the exposed portion of said one surface of the plate and the plano-convex lens which is secured thereto to thereby form a plane mirror with a concave mirror in part therein, said lens having a convex surface with a radius of curvature between 50 and 100 cm., such that the concave mirror in combination with the glass plate portion covering the same cooperate to form an erect enlarged image.

3,267,807
PLURALITY OF SHIELD UNITS FOR ABSORBING ENERGY FROM A LASER BEAM
Charles H. Swope, Millbury, Mass., and Charles J. Koester, South Woodstock, Conn., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Mar. 12, 1964, Ser. No. 351,372
3 Claims. (Cl. 88—112)



1. A light-transmitting shield for protecting eyes against a beam of laser energy of selected wavelength where the intensity of said beam is sufficient to destroy a homogeneous filter substantially opaque to said energy, said shield comprising a plurality of shield units and means adapted to mount said units in sequence between a laser and the eyes, said shield units each being primarily adapted for absorption of laser energy of said selected wavelength and for relatively lesser absorption of visible light energy of other wavelengths, said shield units each being sufficiently transmissive to laser energy of said selected wavelength to avoid destruction of said unit upon exposure of said shield to a laser beam of said intensity, said shield units each being adapted to absorb sufficient laser energy of said selected wavelength to prevent destruction of subsequent shield units in said sequence upon exposure of said shield to a laser beam of said intensity, said shield units being adapted to cooperate in substantially completely absorbing a laser beam of said intensity and selected wavelength for protecting the eyes.

3,267,808
FILTER ASSEMBLY FOR PHOTOGRAPHIC APPARATUS HAVING TWO SETS OF PIVOTED FILTERS
Roland Czekalla, Wilhelm Baasner, and Hans-Ado Brandt, Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany
Filed Jan. 28, 1963, Ser. No. 254,163
Claims priority, application Germany, Jan. 27, 1962, A 39,312
8 Claims. (Cl. 88—113)



1. A filter assembly for photographic apparatus comprising, in combination, a pair of substantially parallely arranged spaced support plates having inner faces facing

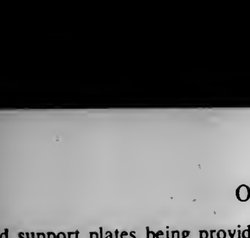
each other, said support plates being provided with substantially centrally arranged aligned openings having a common axis; two sets of filter means, each of said sets of filter means composed of a plurality of filter means mounted on said inner face of one of said support plates with said filter means spaced from each other in circumferential direction and in direction of said common axis of said openings, each of said filter means being pivoted on the respective support plate turnably in its plane about an axis parallel to said common axis between an operative position in alignment with said openings and an inoperative position out of alignment with said openings; and two sets of actuating means, each set carried by one of said support plates on said inner face thereof, each of said actuating means being coupled with one of said filter means for moving the same between said inoperative and operative positions thereof, the actuating means of each set of actuating means arranged circumferentially spaced from each other and projecting into the space between said support plates to such an extent that at least part of said acuating means of said two sets of actuating means are located in a common plane parallel to said support plates, said two sets of actuating means being offset in circumferential direction relative to each other so that the actuating means of one set of actuating means are located between the actuating means of the other set of actuating means.

3,267,809

APPARATUS FOR LAUNCHING SATELLITE-CARRYING ROCKETS

Jozef Sikora, Beloeil, Quebec, Canada (455 Rang des Trente, St. Hilaire, Rouville County, Quebec, Canada)

Filed Apr. 18, 1963, Ser. No. 273,993
Claims priority, application Great Britain, Apr. 25, 1962, 15,663/62
1 Claim. (Cl. 89—1.819)



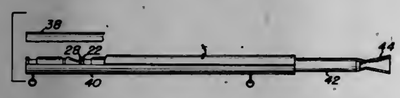
An apparatus for launching satellite carrying rockets comprising a runway, a sledge adapted to slide on the runway, accelerating means on the sledge, means for supporting and means for launching a satellite carrying rocket on the sledge, at least one track on the runway for supporting the sledge, an ice coating on the track and at least one conduit including refrigerating fluid for maintaining the ice coating frozen.

3,267,810

GRENADE CARRYING ROCKET

Thomas G. Lancaster, Perry Hall, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed June 23, 1964, Ser. No. 377,429
6 Claims. (Cl. 89—1.816)



1. A rocket device for dispersing grenades with a rocket launcher comprising in combination:

(a) split tube means of predetermined length having a diameter substantially less than the diameter of said rocket launcher, said split tube means comprising a first and second half section, said first half section having a plurality of circular disk means mounted transversely to the axis of said tube means and spaced a predetermined distance apart throughout the length of said section, said section being mounted on end plate means having attaching means therein, said first and second sections being provided with a plurality of spacing means on the exterior thereof whereby said tube means is substantially centered in said rocket launcher;

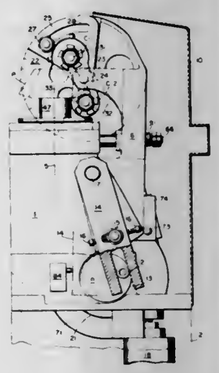
(b) rocket means comprising a finned casing having propellant means, nozzle means, and igniter means therein, said rocket casing having attaching means on the forward end thereof adapted to be secured to the end plate attaching means.

3,267,811

GEAR CHAMFERING MACHINE

Edwin A. Hediger, Fairport, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York

Filed Nov. 27, 1964, Ser. No. 414,078
14 Claims. (Cl. 90—1.4)



1. A chamfering machine comprising a frame, a work spindle journaled for rotation in the frame, indexing mechanism for angularly advancing the work spindle about its rotation axis, a cutter support pivoted to the frame for oscillation about an axis transverse of the work spindle, a multi-bladed milling cutter rotatable on the support about an axis parallel to said axis of oscillation, means for rotating the cutter, and coordinated drive means for actuating the indexing mechanism and for oscillating the cutter support to swing the cutter axis about said axis of oscillation and thereby infeed and withdraw the cutter relative to a workpiece on the spindle, said drive means being coordinated to cause indexing of the spindle while the cutter is withdrawn.

3,267,812

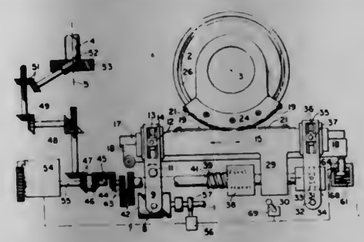
FLEXIBLE BAND DRIVE

Ernst J. Hunkeler, Fairport, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York

Filed July 22, 1964, Ser. No. 384,331
12 Claims. (Cl. 90—5)

1. A drive comprising a sector angularly movable on a support, a member movable tangentially of the sector on a guide which is movable relative to the support to displace said member toward or away from the sector, flexible bands anchored to said sector and to said member for transmitting motion between them as though they

were rolling together in non-slip relation, and means for exerting pressure between the support and the guide to



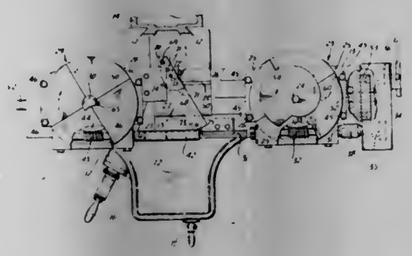
press said member and sector together and thereby effect a friction drive between them supplementary to the positive drive through said bands.

3,267,813

METHOD OF PROPORTIONAL DUPLICATING

Magnus Wahlstrom, Easton, Conn., assignor to The Bridgeport Machines Inc., Bridgeport, Conn., a corporation of Connecticut

Original application Nov. 28, 1962, Ser. No. 240,632, now Patent No. 3,224,340, dated Dec. 21, 1965. Divided and this application Oct. 20, 1965, Ser. No. 498,562
3 Claims. (Cl. 90—13.3)



1. The method of generating in a rotating workpiece configuration proportionally like that of a rotating pattern, which comprises the steps of, rotating a pattern of irregular configuration with respect to the axis of pattern rotation, maintaining the contours of said pattern configuration in coincidence with a fixedly stationed reference point thereby simultaneously to move said pattern axis toward and away from said reference point, confining the movement of said pattern axis to a rectilinear pathway, rotating a workpiece about a work axis parallel with and spaced from said pattern axis along said pathway in working engagement with a fixedly stationed configuration generator, and simultaneously moving said work axis in the same direction as said pattern axis along said pathway to extents substantially in proportion to the movement of said pattern axis.

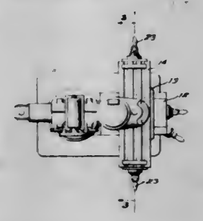
3,267,814

SAFETY COUPLER FOR FEED SCREW HANDLE

William M. Hoddinott, Milford, Conn., assignor to The Bridgeport Machines, Inc., Bridgeport, Conn., a corporation of Connecticut

Filed Aug. 12, 1964, Ser. No. 389,166
5 Claims. (Cl. 90—21)

1. In a machine tool the combination with a table-like member for carrying work to be machined of, an axially stationed feed screw having screw threaded driving engagement with said member, a source of power, gearing permanently connecting said source of power to said feed screw in a manner to rotate the same continuously about its own axis, a crank handle supported to rotate loosely on and coaxially of said feed screw and constrained against movement in an axial direction relative thereto, a collar remote from said gearing permanently fixed in rotary relation to said feed screw having a strike shoulder



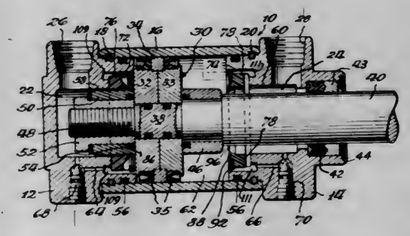
flanking said handle, and a bolt slidably carried by said handle in a manner to be shiftable manually into and out of engagement with said strike shoulder, whereby manual shifting of said bolt at a safe distance from said gearing is operative to connect and disconnect said crank handle and feed screw.

3,267,815

CUSHIONING STRUCTURE FOR POWER CYLINDERS

Alva H. Ortman, Crown Point, and Robert A. Ortman, Highland, Ind., assignors to Ortman-Miller Machine Company, Inc., Hammond, Ind., a corporation of Indiana

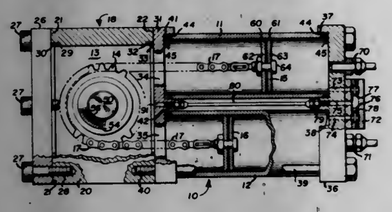
Filed Oct. 21, 1965, Ser. No. 506,432
18 Claims. (Cl. 91—26)



1. In a fluid power cylinder having end covers with ports for admitting and exhausting fluid, a piston reciprocable in a chamber in the cylinder and having at least one cushion nose, a cavity in one end cover to receive the cushion nose and capture such fluid in the chamber near the termination of the piston stroke and a metering passageway in said one cylinder head between said chamber and one of said ports, the invention herein which comprises: a gallery in the one cylinder end cover opening to said chamber and coaxial with said cavity, a coaxial valve seat formed in said gallery, an annular imperforate sealing ring of semirigid plastic material axially reciprocable in said gallery and adapted to engage said seat in fluid tight engagement, said metering passageway being connected between said gallery and the port of said one end cover, a plurality of axially arranged fluid passageways in the wall surrounding said gallery, said passageways normally in communication with said cavity, said communication being blocked when said sealing ring is seated, and means for limiting axial movement of said

sealing ring off said seat, said sealing ring having a constricted nose extension adapted to sealingly but slidingly engage said cushion nose.

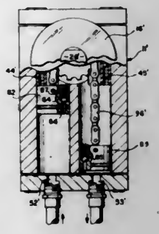
3,267,816
ROTARY ACTUATOR DEVICE
Charles H. Graham, Mountain View, Calif., assignor to Graham Engineering Company, Inc., Palo Alto, Calif., a corporation of California
Filed May 15, 1962, Ser. No. 194,924
11 Claims. (Cl. 91—178)



1. A rotary actuator device comprising: a pair of parallel cylinders; a fluid-tightly slidable piston disposed in each cylinder and separating each cylinder into a first and a second cylinder portion; a chamber fluid-tightly sealed across said first cylinder portions and providing communication therebetween; an output shaft rotatably mounted in said chamber; a chain sprocket within said chamber and rigidly mounted to said output shaft, said chain sprocket having a pitch diameter substantially equal to the axial separation of said pair of cylinders; a chain mounted over said sprocket, opposite ends of said chain being coupled to adjacent ends of said pair of pistons; a closure member fluid-tightly sealing across said second cylinder portions; and control means for controlling the rotational motion of said output shaft, said control means applying actuating fluid under pressure simultaneously to said chamber and a selected one of said second portions while the nonselected second portion is being communicated with a low pressure area, said control means also including switching means for switching the selected and then nonselected second portion for reverse motion of said output shaft.

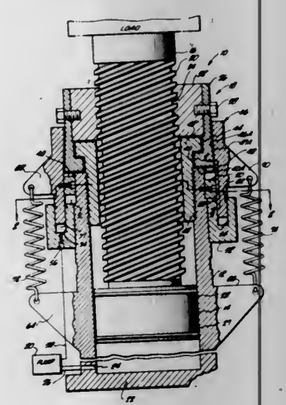
3,267,817
FLUID ROTARY ACTUATOR
Rudolph R. Adams, Cleveland, Ohio, assignor to Graham Engineering Company, Inc., Palo Alto, Calif., a corporation of California
Filed Aug. 8, 1962, Ser. No. 215,665
4 Claims. (Cl. 91—186)

1. A fluid device comprising:
(a) a cylinder block having first and second piston bores therein and a drive wheel compartment communicating with each of said first and second piston bores;
(b) first and second pistons disposed in said first and second bores, respectively, both said pistons being slidable in their respective bores between a retracted position near said drive wheel compartment and an extended position distant from said drive wheel compartment;
(c) said cylinder block having first and second ports opening into said first and second piston bores, respectively, to pressurize and exhaust said piston bores;
(d) drive wheel means rotatably supported within said drive wheel compartment;
(e) a bendable drive means interconnecting the pistons and operatively engaging the drive wheel means to inter-transmit mechanical power between said drive wheel and said pistons, and
(f) said first and second pistons each including a check valve therein, said check valves each passing fluid



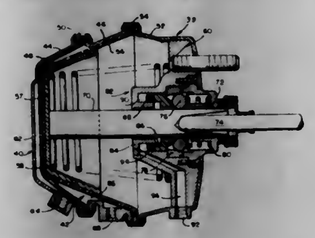
through the piston into the drive wheel compartment only.

3,267,818
HYDRAULIC JACK
Henry B. Chambers, Santa Barbara, Calif., assignor to Lear Siegler, Inc., El Segundo, Calif., a corporation of Delaware
Filed Mar. 9, 1964, Ser. No. 350,381
6 Claims. (Cl. 92—17)



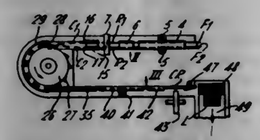
1. In a hydraulic jack including a ram mounted on a piston that is slidably disposed in a cylinder and operated by a pressurized fluid subjected on one side of the piston to move the ram in a first direction, the improvement comprising:
the ram has a continuous helical groove formed thereon,
a ring rotatably mounted on the ram engages the ram groove,
the ring is restrained from moving with the ram but may freely rotate thereon,
the ring includes a portion which abuts the cylinder in supporting fashion,
a lock disposed adjacent to the ring,
a means for urging the lock out of engagement with the ring including a second cylinder disposed in telescoping relationship with the ring,
a fluid conduit communicating with the second cylinder and the pressurized fluid acting on the piston, and
means for urging the lock into engagement with the ring.

3,267,819
BRAKE MECHANISM WITH MECHANICAL LOCK
Harry M. Valentine and Frank R. Schubert, Elyria, Ohio, assignors to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware
Original application July 5, 1961, Ser. No. 121,970, now Patent No. 3,173,726, dated Mar. 16, 1965. Divided and this application May 11, 1964, Ser. No. 366,456
2 Claims. (Cl. 92—24)



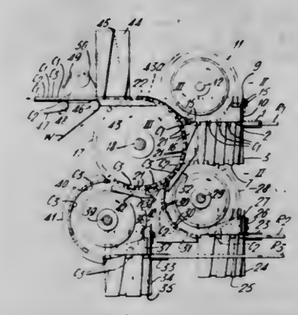
2. A fluid pressure actuator for operating vehicle brakes and the like, comprising a housing having a first end wall provided with a centrally arranged opening, a brake actuating rod extending freely through said opening and movable axially outwardly from an inner inoperative position, a second end wall having an inlet port for an emergency source of fluid under pressure, first and second cup-shaped diaphragms marginally attached to said housing and movable relative thereto and to each other, the effective area of the first diaphragm being less than the second diaphragm, the first diaphragm defining an emergency pressure chamber between one side thereof and said second end wall, and both diaphragms defining a service pressure chamber between the marginal portions thereof, resilient means interposed between the first end wall and the brake actuating rod for normally maintaining the latter in its inoperative position with the inner end thereof contacting the central portion of the second diaphragm, said resilient means normally maintaining the central portions of the diaphragms in contacting relationship with a portion of the central portion of the first diaphragm in engagement with said second end wall, said housing having a port for admitting fluid under pressure to said service pressure chamber spring-applied brake locking means mounted in said housing adjacent said first end wall for locking said rod against movement toward said second end wall and a fluid pressure operated device within the housing for releasing said locking means.

3,267,820
MANUFACTURE OF MOUTHPIECE FOR CIGARETTES
Desmond Walter Molins and Tom Rowlands, Deptford, London, England, assignors to The Molins Organisation Limited
Filed Aug. 20, 1963, Ser. No. 303,297
Claims priority, application Great Britain, Sept. 5, 1962, 34,067/62
14 Claims. (Cl. 93—1)



6. A method of making composite mouthpiece rod comprising the steps of simultaneously feeding lengthwise two rods of mouthpiece material, cutting each rod transversely of is length to sever components of a desired length therefrom, spacing endwise successive components severed from each rod by a distance at least equal to the length of component severed from the other rod, feeding the spaced components from the two rods lengthwise along convergent paths in such timed relationship that each component from one rod becomes positioned between and in axial alignment with two spaced components from the other rod, and wrapping the aligned components in a continuous wrapper to form a continuous composite mouthpiece rod.

3,267,821
MANUFACTURE OF MOUTHPIECE FOR CIGARETTES
Tom Rowlands, Deptford, London, England, assignor to The Molins Organisation Limited
Filed Sept. 23, 1963, Ser. No. 310,646
Claims priority, application Great Britain, Oct. 5, 1962, 37,785/62
14 Claims. (Cl. 93—1)

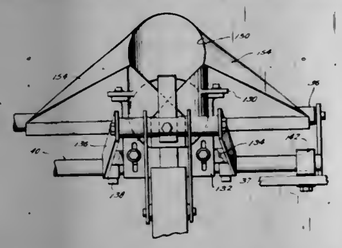


1. A method of making composite mouthpiece rod, comprising the steps of feeding lengthwise simultaneously a plurality of continuous rods of mouthpiece material, cutting each rod transversely of its length to sever components of a desired length therefrom, spacing apart endwise successive component severed from each rod, feeding the components severed from the rods in timed relationship to a moving conveyor at positions spaced along the conveyor as considered in its direction of movement, the components severed from each rod being fed to the conveyor at each of the said positions respectively, so that the components are carried lengthwise by the conveyor, arranged in line and in a desired sequence along the conveyor, transferring the aligned components to a continuous wrapper, and forming said wrapper into a tube enclosing said components to make a continuous composite mouthpiece rod.

3,267,822
PACKAGING APPARATUS
Harry W. Harrison, 2510 Broad St., Houston, Tex.
Original application June 28, 1963, Ser. No. 291,539. Divided and this application Sept. 30, 1963, Ser. No. 312,774
7 Claims. (Cl. 93—82)

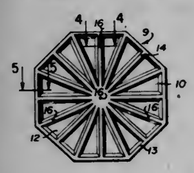
1. A former for transforming sheet material into tubular form comprising
a flat central back portion,
curved wing portions, and
a tubular portion,
said central back portion extending at an acute angle with respect to the axis of said tubular portion,
said curved wing portions merging smoothly with said central back portion and intersecting the end of the

tubular portion along a line of juncture extending around from about 210 degrees to about 270 degrees of the circumference of the tubular portion,



said tubular portion comprising a substantially chevron-shaped member rolled into tubular form with its ends overlapped and spaced-apart.

3,267,823
STEPPING STONES
John R. MacRae, Atwater, Calif. (274 College Ave., Palo Alto, Calif.)
Filed June 10, 1963, Ser. No. 286,710
1 Claim. (Cl. 94—13)



A stepping stone comprising:

(a) a horizontally disposed panel having an upper face forming a walk surface;

(b) side edges integral with and depending downwardly from the periphery of said panel to form the sides of said stepping stone and to define an open body space below said panel, the lower end face of said side edge forming a ground engagement surface;

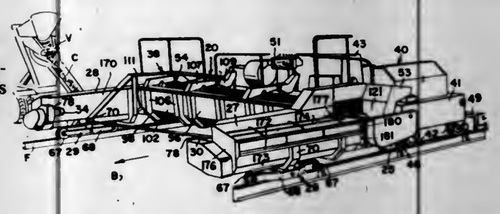
(c) a cell-like reinforcing structure within said open body space and integral with said panel and said side edges;

(d) at least one closed cylindrical vertically extending bore integral with said reinforcing structure for disengageable reception with a ground supported stake-like registration means; and

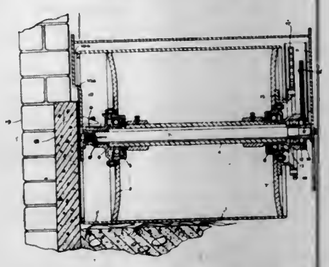
(e) side edge mating means integral with said side edges for horizontally engaging a corresponding mating means of an adjoining stepping stone, said mating means including at least three horizontally undulating and vertically stacked adjoining surfaces in which the upper and lower undulating surfaces are in phase with one another and the center undulating surface is out of phase with the upper and lower undulating surfaces so that along the length of each side edge the three undulating surfaces alternately form a male and a female engagement member.

3,267,824
PAVEMENT LAYING APPARATUS
Michael I. Hudis, Brookfield, Wis., assignor to Rex Chainbelt Inc., a corporation of Wisconsin
Filed May 22, 1963, Ser. No. 282,295
8 Claims. (Cl. 94—46)

1. In apparatus for distributing and placing newly mixed concrete in plastic condition to form a slab of pavement, a framework adapted to extend over and to be advanced along the site of a pavement slab being laid, a distributing trough for concrete carried by said framework in position to extend transversely of the slab site and provided along the bottom thereof with an adjustable concrete discharging opening, two conveyor screws arranged in end-to-end alignment within said distributing trough for moving concrete therealong, driving means operatively connected to each of said conveyor screws in manner to drive each screw independently in either direction selectively, a feeding trough connected to and extending forwardly from each end of said distributing trough, a feeding screw arranged within each of said feeding troughs for moving concrete deposited therein into said distributing trough, driving means operatively connected to each of said feeding screws in manner to drive each screw independently and selectively, and an adjustable strike-off member carried by said framework behind and closely adjacent to said distributing trough in position to engage and strike off the plastic concrete discharged from the bottom of said distributing trough through said adjustable concrete discharging opening, the arrangement being such that concrete may be charged into either or both of said feeding troughs as said apparatus advances along the site being paved and fed therefrom into said distributing trough for prompt placement upon the site the deposited concrete then being leveled by said strike-off member to form the slab of pavement.

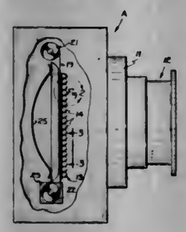


3,267,825
VIBRATORY ROLLERS
William Arthur Owen, Bardsey, near Leeds, and Geoffrey William Bee, Moortown, Leeds, England, assignors to Thomas Green and Son Limited, Leeds, Yorkshire, England, a British company
Filed June 13, 1963, Ser. No. 287,611
Claims priority, application Great Britain, Aug. 17, 1962, 31,724/62
2 Claims. (Cl. 94—50)



1. A vibratory roller of the class described, comprising: a hollow cylindrical roller member open at one end; an axle member upon which said roller member is journalled, one end of said axle member being located axially inwardly of said open end, the other end portion of said axle member extending axially outwardly beyond the other end of said roller member; revoluble eccentric means on said axle member for imparting vibrations to said roller member; drive means for said eccentric means on the other end portion of said roller member; a first arm member having one end connected to said one end of said axle axially inwardly of said open end of said roller member, said first arm member having an offset jog formed therein, said jog being located within said open end, said jog causing said first arm member to extend with a small clearance generally radially outwardly past the periphery of said roller member at said open end; a second arm member having one end connected to said other end portion of said axle member axially outwardly of said drive means; and supporting means for motor means rigidly interconnecting the other ends of said first and second arm members.

3,267,826
PHOTOGRAPHIC RECORDING AND REPRODUCTION METHOD AND APPARATUS
Iben Browning, 1176 Sesame Drive, Sunnyvale, Calif.
Filed Mar. 4, 1963, Ser. No. 262,562
1 Claim. (Cl. 95—18)



A photographic recording and reproducing apparatus including a casing, a lens mosaic rigidly supported in said casing and comprising a multitude of lenses constructed and arranged in a stationary closely packed array, said mosaic having a front and a back surface with said front surface substantially consumed by the front surfaces of said lenses for receiving light to be transmitted to said back surface, a film plate positioned within said casing adjacent the back surface of said mosaic, and means for moving said film plate past said mosaic in a direction that lies at an angle with respect to any row of said lenses, the front surface of each of said lenses receiving light on a distinct portion of said front surface of said mosaic and focusing a substantial portion of that light in a minute spot on said film plate, said mosaic constructed such that the diameter of said spots is at least as small as the quotient of the distance between the centerlines of two adjacent rows of lenses making the same minimum angle with the film direction by the greatest number of lenses in either row whereby when said film plate moves past said mosaic the spot from each of said lenses traces a streak on said film plate and the streaks from all of said lenses are parallel.

3,267,827
PROJECTION OFFSET PLATEMAKING CAMERAS AND THE LIKE
Henry N. Fairbanks, Rochester, N.Y., assignor, by mesne assignments, to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Oct. 4, 1963, Ser. No. 313,879
6 Claims. (Cl. 95—31)

1. In combination:

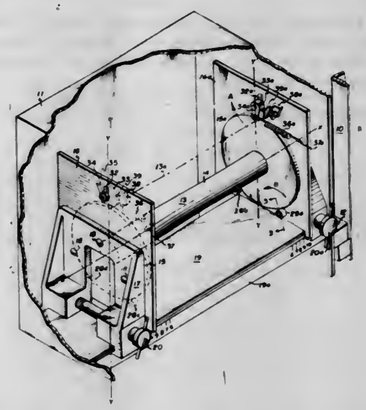
a light-tight housing;

a spool for supporting photographic film wound thereon, said spool having circular flanges at the ends thereof;

a cradle positioned within said housing for supporting said spool at lower portions of said flanges;

spool restraining means positioned above and out of contact with the upper portion of at least one of the flanges of said spool when said spool is seated in said cradle for preventing substantial translational movement of said spool along a first line lying between said spool restraining means and the center of said circular flanges and for permitting substantial translation movement along a second line transverse to said first line;

said spool restraining means further comprising a pivotable member;

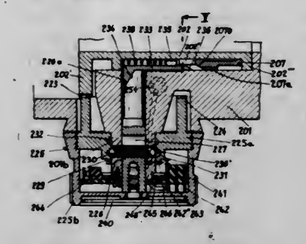


means for pivotably supporting said pivotable member;

a stop member; and

means for biasing said pivotable member against said stop member to allow said pivotable member to be displaced along said second line but not along said first line.

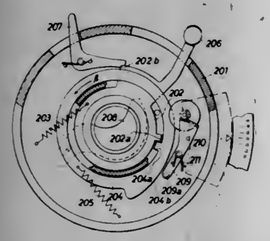
3,267,828
MECHANISM FOR VARYING THE FOCAL LENGTH OF PHOTOGRAPHIC OR CINEMATOGRAPHIC OBJECTIVES OR THE LIKE
Karlheinz Raab, Bad Kreuznach, Germany, assignor to Jos. Schneider & Co. Optische Werke, Bad Kreuznach, Rhineland, Germany, a corporation of Germany
Filed Sept. 27, 1962, Ser. No. 226,691
Claims priority, application Germany, Dec. 15, 1960, Sch 30,436
5 Claims. (Cl. 95—45)



1. In a camera objective having a housing and at least one optical component axially displaceable in said housing, in combination, automatic drive means for said component, control means in engagement with said component, a manually rotatable member on said housing shiftable between a first position and an alternate second position parallel to said first position, said member engaging said control means in said first position for displacing said component upon rotation of said member, coupling means spring-urged into establishment of an operative connection between said drive means and said control means for automatic displacement of said component upon a shifting of said member into said second position in which said member is disengaged from said control means,

said member upon re-engaging said control means overcoming the spring force of said coupling means for breaking said connection, and switch means controllable by said member in said second position for energizing said drive means by rotation of said member.

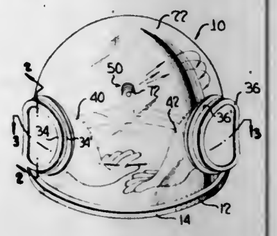
3,267,829
CENTRAL PHOTOGRAPHIC SHUTTER
Gerd Kiper, Unterhaching, near Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany
Filed Feb. 20, 1964, Ser. No. 346,340
Claims priority, application Germany, Mar. 13, 1963, A 42,575
4 Claims. (Cl. 95—63)



1. A photographic shutter of the central type comprising a housing, a pair of rotatably mounted concentric sector operating rings in said housing, a number of shutter sectors, each of said sectors being movably connected to both of said rings to cause them to open and close said sectors when the angular phase between said rings varies from the normal conditions and returns to it, driving means connected to each of said rings for imparting separate driving forces to them, releasing means connected to said rings to cause said rings to commence their driven movement, retarding means on said housing for reducing the angular velocity of one of said sector operating rings whereby the angular phase between said sector operating rings varies from said normal condition, control means on said housing for regulating the time of initiation and the duration of retarded movement of said one sector operating ring whereby the shutter opening and exposure time may be controllably varied, a projection being on one of said sector operating rings, said retarding means comprising a retarding element in the path of motion of said projection, said control means adjusting the angular orientation of said retarding element with respect to said rings in their unreleased condition whereby the starting time and duration of retarded movement are varied, wherein said projection being a camming edge on said one sector operating ring, said retarding element being a lever, and pivot means connected to said lever whereby said lever rotates toward and away from said camming edge.

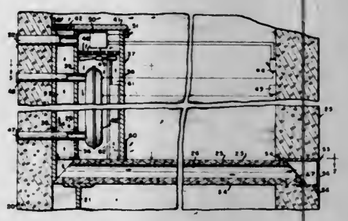
3,267,830
DRY BOX APPARATUS
William H. Van Gaasbeek, 23 Park St., Orange, N.J.
Filed June 22, 1964, Ser. No. 376,854
4 Claims. (Cl. 98—1)

1. Dry box apparatus comprising a body means including a base portion having a support surface which lies substantially in a plane, said base portion defining a central open bottom for the body means, the upper portion of the body means including a cylindrical side wall portion and a dome-shaped top portion, access opening means formed in the side portion of said body means for gaining access to the interior of the body means, and gas inlet means mounted in the side wall portion of said body means, said gas inlet means including an inlet passage which extends within the gas inlet means and opens into the interior of the body means in a direction extending



obliquely away from the plane of said support surface and substantially parallel to the adjacent inner surface of the body means to impart a tangential upward swirl to the incoming gas.

3,267,831
HEATING, COOLING AND VENTILATING SYSTEM
Paul T. Day, Jr., Baltimore, Md., assignor to American Metalcore Systems, Inc., Baltimore, Md.
Filed Jan. 3, 1966, Ser. No. 518,452
6 Claims. (Cl. 98—33)



1. A heating, cooling and ventilating system for an area of a building including a floor having longitudinally extending air conduits coextensive therewith, ducts at opposite ends of the floor extending transversely of, and in communication with the air conduits of the floor, air treating means adjacent to, and in communication with, one of said ducts, a vent stack adjacent said air treating means, said vent stack being in communication with selected air conduits of floor and with the area, and means for directing air through said air treating means and through the remainder of said air conduits to the duct remote from said air treating means, said means returning the air through said selected conduits to said vent stack for delivery to the area.

3,267,832
CHIMNEY COVER ASSEMBLY
Charles G. Hinkle, 5 Roberta Drive, Taylors, S.C.
Filed June 8, 1964, Ser. No. 373,351
6 Claims. (Cl. 98—59)

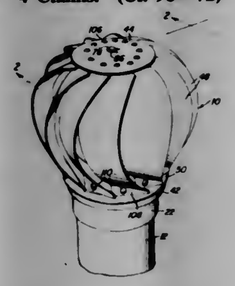
1. A cover assembly for a fireplace chimney liner including, a cover plate, a housing spaced below said cover plate, means carried by said housing for positioning same upon the liner, vertical link means connected to said plate extending downwardly through said housing for access adjacent the fireplace, a protuberance carried by said link, a vertical guide carried by said housing receiving said protuberance, a pair of vertically spaced stop portions extending laterally from said vertical guide for

receiving said protuberance, and spring means positioned for urging the plate upwardly and urging the link means



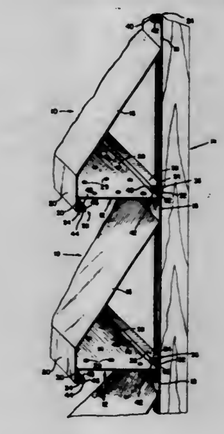
to rotate in a direction to cause said protuberance to be received by a lateral stop portion when aligned therewith.

3,267,833
TURBINE VENTILATOR
Edward J. Artis and Samuel W. Artis, Jr., both % Artis Metals Co., Inc., P.O. Box 7986, Boise, Idaho
Filed June 22, 1964, Ser. No. 376,708
4 Claims. (Cl. 98—72)



1. A turbine ventilator including an upstanding rotor assembly adapted to be supported for rotation about a vertical axis and in vertically spaced relation above the upper end of an upstanding ventilation or smoke pipe, said rotor assembly including a lower upstanding sleeve portion and an upper horizontal support plate supported in vertically spaced relation above said sleeve portion for rotation therewith, a plurality of strap-like vane members including one set of corresponding end portions, means securing said one set of end portions to said upper support plate with said one end portions substantially horizontally disposed in a circle about said plate, and with the longitudinal centerlines of the end portions of said set of end portions disposed tangential to said circle, the free end portions of said vane members curving smoothly downwardly and inwardly toward and secured to corresponding portions of said sleeve portion, said ventilator including an upstanding tubular mounting member having its upper end loosely telescoped into the lower end of said sleeve portion, said tubular mounting member being adapted to be secured to the upper end of said pipe in telescopic engagement therewith, said mounting member including a spider supporting a centrally disposed mounting portion, an upstanding shank portion supported at its lower end from said spider, said sleeve portion including a second spider disposed above said tubular mounting member and defining a centrally disposed hub spaced above the first-mentioned spider, an antifriction sleeve supported in said hub and journaled on said shank portion, said plate being provided with a centrally disposed aperture, an antifriction cap secured through said aperture and depending downwardly therefrom, the lower end of said cap having a vertical blind bore formed therein including a concave semispherical upper end wall, said upstanding shank portion including a convex semispherical upper end seated against said upper end wall, and a spacer sleeve disposed about said shank portion with its upper and lower ends telescopingly engaged with said cap and said antifriction sleeve, respectively.

3,267,834
VENTILATING SYSTEM INCLUDING LOUVER SHEET MEMBERS
Corwin G. Hockett, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Sept. 16, 1963, Ser. No. 308,934
5 Claims. (Cl. 98—121)



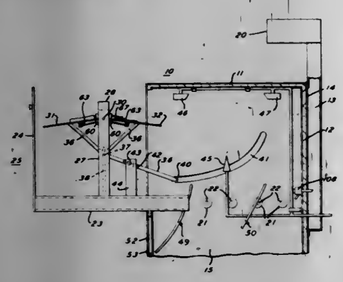
5. A ventilator sheet member having a central horizontal apertured main ventilator portion with an outer vertical downward edge ventilator extension and with an inner vertical upward edge ventilator extension to be secured to a vertical framing construction, said downward edge ventilator extension having an inward ventilator hook, and said upward edge ventilator extension having an outward ventilator hook said downward edge ventilator extension and said inward ventilator hook being symmetrical with said upward edge ventilator extension and said outward ventilator hook, with said inward ventilator hook having an inward horizontal extension and an upward vertical extension, and with said outward ventilator hook having an outward horizontal extension and a downward vertical extension.

3,267,835
AUTOMATIC BROILER
Angelo C. Romano, 423 Jefferson Drive, Southampton, Pa., and George E. Bergey, 220 Cedar Ave., Horsham, Pa.
Filed Mar. 23, 1965, Ser. No. 442,096
17 Claims. (Cl. 99—334)

1. Automatic broiling apparatus comprising
an enclosing cabinet,
heating elements in said cabinet,
a support movable into and out of said cabinet,
a meat supporting rack carried by said support,

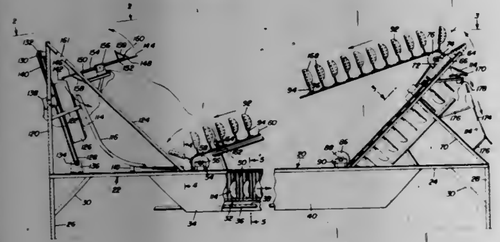
a meat engaging member movable with said rack for engaging meat supported on said rack,

a temperature sensing element for engagement with meat on said rack,



and members controlled by said temperature sensing element controlling said meat engaging member and moving said meat engaging member to a disengaged position.

3,267,836
AUTOMATIC TACO SHELL COOKER
Alfonso F. Yepis, 231 Garrett, Chula Vista, Calif.
Filed Apr. 27, 1964, Ser. No. 362,827
16 Claims. (Cl. 99—404)



1. A cooker for converting tortillas into taco shells, comprising in combination:

(A) A cooking vessel adapted to contain cooking oil;

(B) confronting yieldable elements fixedly mounted within the vessel disposed in spaced relationship;

(C) a plurality of tortilla engaging molds having side plates;

(D) a conveyor for moving the molds through the space between said confronting yieldable elements whereby tortillas frictionally engage the confronting yieldable elements while being moved by the molds through the vessel, said yieldable element being disposed for yieldingly urging the tortillas against the side plates of the mold.

3,267,837
PACKAGE BINDER
Yo Sato, Tokyo, and Kiyoji Nagashima, Saitama-ken, Japan, assignors to Sato Kiko Company Limited, Chiyoda-ku, Tokyo, Japan, a company of Japan
Filed Jan. 28, 1963, Ser. No. 254,108
Claims priority, application Japan, Jan. 30, 1962, 37/2,580 (utility model) 37/3,105; July 5, 1962 (utility model) 37/27,638; Mar. 7, 1962 (utility model), 37/11,028
5 Claims. (Cl. 100—27)

1. A package binder comprising

a frame,

a fixed table secured to said frame,

a traveling table disposed adjacent to but spaced apart from said fixed table and movably secured to said frame,

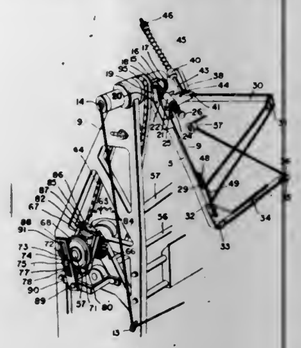
a string carrying arm operatively connected with said traveling table and pivotally secured to said frame in order to permit rotation relative to said frame,

a knot forming device operatively connected with said string carrying arm,

a main shaft and a second shaft operatively connected with said main shaft,

means for operation of said string carrying arm from said main shaft,

said means for operation including a change differential gear device operatively connected with and driven by said main shaft in order to control the rotation of



said string carrying arm from a slow start to a maximum speed and to terminate with a slow speed,

said change differential gear device comprising a first bevel gear mounted for relative rotation on said second shaft and adapted to drive said string carrying arm and a second bevel gear keyed to said second shaft,

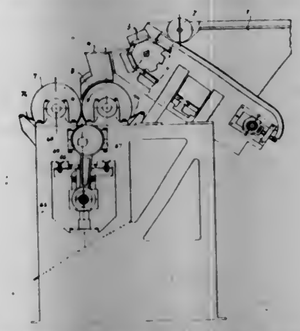
a pin carrier including third and fourth bevel gears pivotally mounted thereon the latter gears meshing with said first and second bevel gears, said pin carrier being supported for rotation on said second shaft, and

an oscillating rod having a longitudinal slot pivoted about a fitting frame and being adapted to receive two members independently oscillating therein, one of said members being connected for rotation with said second bevel gear, while the other of said members being operatively connected with said fourth bevel gear to oscillate it about the second shaft.

3,267,838
MACHINE FOR EXTRACTING JUICES FROM CITRUS FRUITS
Alberto Bertuzzi, Via G. Marcora 11, Milan, Italy
Filed May 26, 1964, Ser. No. 370,265
Claims priority, application Italy, Oct. 10, 1963, 20,690/63
3 Claims. (Cl. 100—97)

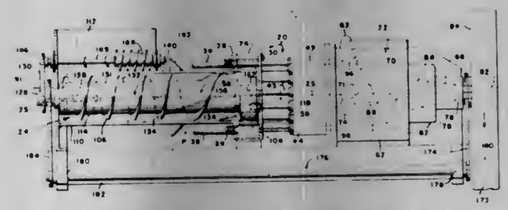
1. A machine for extracting juices from citrus fruits comprising a pair of cooperating rotatable drums each provided with a plurality of cooperating cells for receiving the fruits, means for imparting a rotary step by step motion to the drums, means for cutting the fruits in said cells into two halves during movement of the drums, a squeezing member for each respective half of a fruit, means for imparting a straight reciprocating motion to said squeezing members, means for imparting a slow rotary motion to said squeezing members, means for stopping the slow rotary motion of said squeezing members at the end of the squeezing operation of said squeezing members, and a pair of opposed slides arranged for

straight reciprocating movement for holding the half fruits in the cells of the respective drums, said slides being



movable apart to permit penetration of the squeezing members into the respective cells.

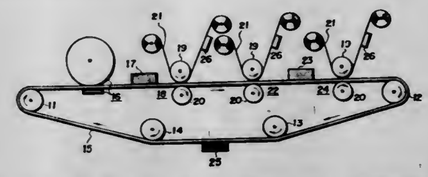
3,267,839
AGRICULTURAL MACHINE
Jack W. Crane, New Holland, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Mar. 1, 1965, Ser. No. 435,861
30 Claims. (Cl. 100—139)



1. A three stage material compression and pellet forming machine comprising a die ring having interior and exterior peripheries and side walls, material receiving cavities embraced by the side walls and open on one periphery for the receipt of infed material to be pelleted, an annular series of pellet forming dies opening into the cavities from one side wall of the ring, a corresponding series of material compressing plungers entering into the cavities from the other side wall in axial alignment with the dies, material receiving and precompressing means coacting with the cavity openings periphery of the die ring to cylically compress into the cavities material fed thereto, an initial precompressing means receiving loose material and feeding it under an initial compression to the aforesaid precompressing means, said initial precompressing means acting at an angle to said material receiving and precompressing means, and means for cyclically operating said plungers across the cavities to the dies in timed relationship to said precompressing means whereby said material already twice precompressed in finally compressed and forced through the dies in pellet form.

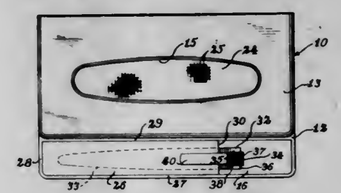
3,267,840
POWDER IMAGE TRANSFER SYSTEM
Tsutomu Honma, Kawasaki-shi, and Eiichi Hirano and Tsuneo Yoneyama, Tokyo, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Nov. 27, 1963, Ser. No. 326,588
5 Claims. (Cl. 101—1)

1. A powder image transfer system comprising, means for moving a recording medium along a path of travel, printing means for forming electrostatic latent images on said recording medium, a developing apparatus in said travel path for developing the latent image formed on said recording medium to form visible powder images, a transfer material payoff station for supplying transfer material for receiving said powder images on the recording medium, a plurality of transfer devices including press means sequentially disposed along said travel path adapt-



ed to press said transfer material and recording medium together, said press means having two sections, one section being formed of conductive material positioned closest to the transfer material and another section formed of insulating material disposed closest to the recording medium, said sections serving to press said transfer material therebetween, and means for applying an electric charge to said conductive material.

3,267,841
CHECK BOOK COVER MEANS
Derek N. G. Metcalf, North Riverside, Ill., assignor to Athena Industries, Inc., La Grange, Ill., a corporation of Illinois
Filed June 16, 1964, Ser. No. 375,595
10 Claims. (Cl. 101—22)

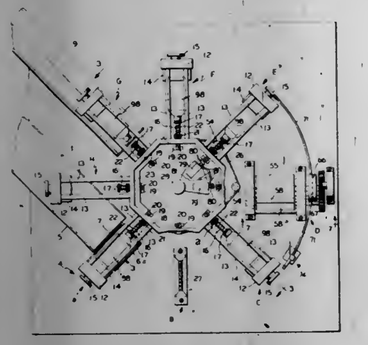


4. A cover for check books and the like comprising, in combination, back and front cover parts foldably connected together by hinge means, means secured to the outer margins of the inner surface of the front cover part to form therewith a pocket having an opening adjacent the hinge means, an elongated opening at the mid-region of the front cover part, a plate of relatively hard material having projecting teeth thereon mounted in said pocket with the teeth exposed through said opening in the front cover part, means comprising sheet material having its marginal portions secured to the inner surface of the back cover part, and the last mentioned means having diagonal and marginal slots therein in spaced and transverse relationship to one another for receiving different types of check books.

3,267,842
DECORATING
Joseph Y. Resnick and William A. Jacobs, Ellenville, and Heinz T. Bracklow, Kerhonkson, N.Y., assignors to Questron America, Inc., Ellenville, N.Y., a corporation of New York
Filed Apr. 22, 1964, Ser. No. 361,640
8 Claims. (Cl. 101—40)

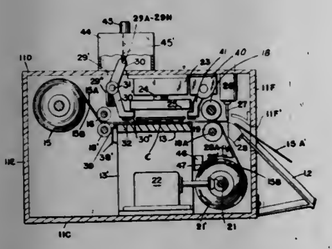
1. A rotary table type machine for applying decoration to articles having a cylindrical surface, comprising a table rotatable on a vertical axis, a flexographic printer mounted below said table, said printer having a printing plate having a rotatable cylindrical printing face adapted

to rotate in printing contact with said cylindrical surface and means for rotating said cylindrical printing face, article receiving means mounted on said table at spaced positions around the periphery thereof for receiving and holding said article, means for rotating said receiving



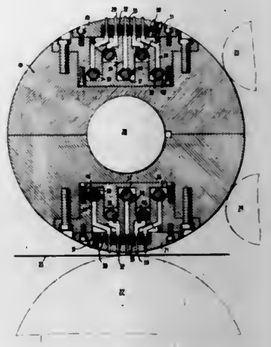
means on an axis parallel to said printing plate to rotate the cylindrical surface of said article held thereby in printing contact with said printing face, first registering means for registering said article in said receiving means and second registering means for registering said receiving means with said printing plate.

3,267,843
DOCUMENT PRODUCING MEANS
Jerome H. Lemelson, 8B Garfield Apts., Metuchen, N.J.
Filed July 25, 1963, Ser. No. 297,719
12 Claims. (Cl. 101—59)



1. In a document producing means employing an oblong paper sheet workpiece and a card member having raised portions identifying said card, and including means for feeding said sheet through the document producing means, the improvement comprising a housing for said document producing means; an opening in said housing for removably receiving said card; means for positioning said sheet adjacent the card inserted into said opening; driving means, switch means controlled by the insertion of said card for energizing said driving means for movement into a path to urge the inserted card against said sheet to form an impression thereon; a plurality of manually settable means, each having a raised portion defining a discrete character and each being movably mounted between a first position out of the path of movement of said driving means and a second position in the path of movement of said driving means; said driving means comprising a single platen member for simultaneously urging said card and selected ones of said manually settable means into engagement with said sheet wherein the raised portions on said card and on said selected settable means create an impression on said sheet.

3,267,844
ROTARY SERIAL MARKING OF DOCUMENTS
Oliver D. Johnson, Vestal, and Kenneth B. Maynard, Apalachin, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 19, 1964, Ser. No. 376,350
13 Claims. (Cl. 101—76)

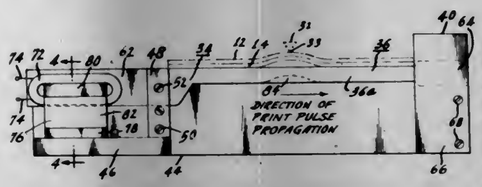


1. A rotary marking apparatus for serially number coding documents comprising, in combination:
a rotatable numbering cylinder;
a rotatable impression cylinder in close proximity to said numbering cylinder for supporting document forms fed between said cylinders;
a plurality of rows of automatic print bars disposed around the periphery of said numbering cylinder, each said row having a plurality of said automatic print bars extending transversely across said cylinder;
said automatic print bars being normally held in a radially retracted position and capable of being extended radially outward to a printing position;
slideable members mounted in alignment with said print bars;
rotatable actuating means associated with each said row and disposed axially of the cylinder, said actuating means being operable to sequentially reciprocate said members and the print bars in the related row radially to and from said printing position;
and rotatable indexing means effective during rotation of said numbering cylinder for operating said actuating means whereby said auotmatic print bars will serially number code successive documents presented between those print bars which are in the extended position and said impression cylinder.

3,267,845
MATRIX PRINTER EMPLOYING PRINT BARS
Elvin D. Simshauser, Camden, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 20, 1963, Ser. No. 266,548
8 Claims. (Cl. 101—93)

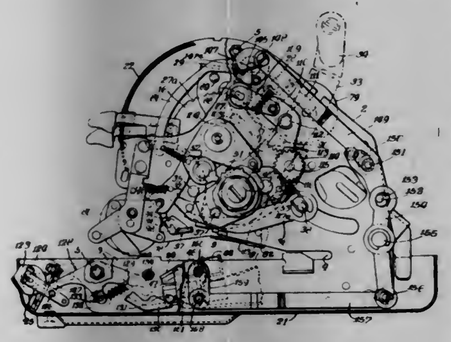
1. In an apparatus for printing on a document, the combination comprising
(a) a plurality of bars of resilient material,
(b) a backing element movable longitudinally along said bars and spaced therefrom to provide a passage for said document therebetween, a lineal surface of said backing element being disposed laterally across said bars,

(c) a magnetic field structure having an air gap across which a constant magnetic field is established,
(d) a plurality of coils each secured to end portions of a different one of said bars and immersed in said magnetic field, and
(e) means for applying electrical pulses selectively to said coils to establish magnetic fields therearound



which react with said constant magnetic field for generating mechanical pulses which propagate longitudinally along said bars to displace said selected bars incrementally toward said document and print a column of marks on said document when said incremental bar displacements press said document against said surface of said element.

3,267,846
CHECK AND SIGNATURE PRINTING MACHINE
Ardath A. Gopperton, Mount Prospect, Ill., assignor to Theodore B. Hirschberg, Jr., Chicago, Ill.
Original application Aug. 14, 1964, Ser. No. 389,583, now Patent No. 3,241,481, dated Mar. 22, 1966. Divided and this application Jan. 21, 1966, Ser. No. 513,650
4 Claims. (Cl. 101—96)

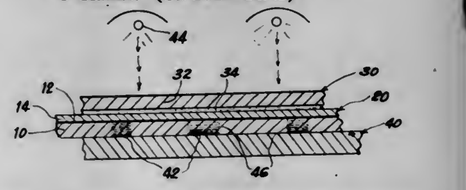


1. In a check and signature printing machine having means defining a printing line and a plurality of printing members individually adjustable to positions selectively disposing printing characters on the printing line, a signature printing plate insertible into and removable from said machine in advance of and adjacent one end portion of the printing line, platen means cooperable with said plate and printing members, means for moving said platen means toward and away from said printing line and signature plate for effecting a printing operation, means for inking said plate and characters on the printing line incident to a printing operation, and a counter; the improvement comprising means for actuating said counter responsive to a printing operation when said signature plate is mounted in the machine, and means for enabling and disabling said counter actuating means responsive to insertion and removal of said plate.

3,267,847
METHOD OF PREPARING STENCILS FOR USE IN STENCIL DUPLICATING
Noboru Hayama and Kazuo Ishijima, Tokyo, Japan, assignors to Riso Kagaku Corporation, Tokyo, Japan, a corporation of Japan
Filed Aug. 3, 1964, Ser. No. 387,098
Claims priority, application Japan, Aug. 3, 1963, 38/41,499, 38/41,500; Aug. 19, 1963, 38/43,395
4 Claims. (Cl. 101—128.2)

1. A method of preparing a stencil sheet for use in reproducing black master material comprising the steps of heat stretching a stencil sheet having thereon a heat shrinkable film of a copolymer of vinylidene chloride and vinyl chloride to the extent that said sheet will shrink between about two to three millimeters for a sheet of about twenty centimeters square, superposing said sheet upon the material to be reproduced, irradiating said stretched sheet with infrared rays from a lamp moving at between about three to six centimeters per second across the sheet so as to perforate the sheet, the shape of the perforations corresponding to the master material to be reproduced.

3,267,848
OFFSET MASTER AND METHOD OF IMAGING
Frederick O. Bach, Du Page, Ill., assignor to A. B. Dick Company, Niles, Ill., a corporation of Illinois
Filed Aug. 15, 1963, Ser. No. 302,332
5 Claims. (Cl. 101—149.2)

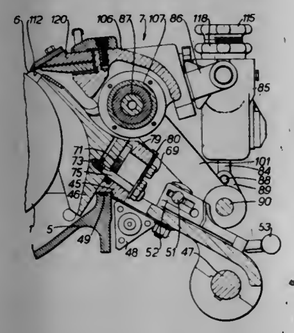


2. In the method of imaging a lithographic offset master formed of a base sheet having a surface which is water insoluble, water repellent, oleophilic and ink receptive and a continuous removable coating on the surface which coating is water insoluble, water receptive, hydrophilic and ink repellent, the steps of forming an assembly by positioning a sheet having a continuous coating which is rendered adhesive in response to heat with the adhesive coating in surface contact with the coated side of the master, providing an original containing an infrared ray absorbing-heat generating material in the imaged portions to be reproduced, directing radiations rich in infrared onto the original whereby radiations are absorbed in the imaged portions and converted into heat to form a heat pattern corresponding thereto, said heat pattern transferring to the adhesive coating to render the latter adhesive, and separating the adhesive surface from the master whereby portions of the coating corresponding to the original image are removed with the adhesive surface to expose the underlying ink receptive, water repellent portions on the base sheet while the remainder of the coating remains to define the water receptive, hydrophilic, non-imaged portions.

3,267,849
INTAGLIO PRINTING MACHINE WITH COVER ASSEMBLIES AND REMOVABLE INK TROUGH
Donald S. Berry, Watford, England, assignor to Sun Printers Limited, Watford, England, a British company
Filed Nov. 26, 1963, Ser. No. 326,184
Claims priority, application Great Britain, Nov. 27, 1962, 44,817/62
7 Claims. (Cl. 101—157)

1. In a rotary intaglio printing machine having a printing cylinder rotatably supported on a frame and means for rotating said cylinder in opposite directions, an ink

trough having a cavity disposed below said cylinder with the lower portion of said cylinder immersed in ink in said cavity, means supporting said trough for selective vertical displacement between a raised position where the lower portion of said cylinder is immersed in the ink in said cavity and a lowered position where said trough is removable from said machine, said trough having upwardly facing surfaces on opposite sides of said cavity and said cylinder and extending longitudinally of said cylinder, means cooperating with said trough for enclosing said printing cylinder during operation comprising two similar multi-part cover assemblies disposed one on each side of said cylinder and each having (a) upper and lower parts and (b) means mounting said upper part on said lower part, means pivotally mounting the lower part of each of said cover assemblies on parallel axes on said frame for movement of said cover assemblies toward and



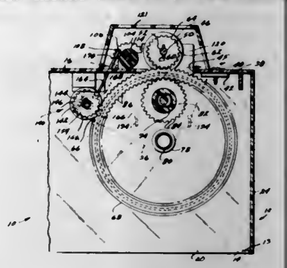
away from said printing cylinder, means mounting a reciprocal doctor blade on the upper part of one of said cover assemblies, the upper parts of both said cover assemblies facing and radially spaced from the periphery of said printing cylinder in partially peripheral surrounding relation thereto when said cover assemblies are pivoted to cylinder closed positions, said upper part of at least said one assembly being adjustable in a direction that is substantially parallel to a radius of said cylinder in the line of contact of said cylinder and doctor blade, the lower parts of said cover assemblies each having longitudinal surfaces facing downwardly in opposing relation to respective ones of said upwardly facing surfaces when said trough is in said raised position and when said cover assemblies are closed, and means engaged between opposing ones of said upwardly and downwardly facing surfaces when said cover assemblies are closed to provide fluid tight seals on opposite sides of said cylinder.

3,267,850
TOY PRINTING MACHINE

John William Ryan, Bel Air, and Warren Dale Kabot, Manhattan Beach, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California

Filed Mar. 19, 1965, Ser. No. 441,208
4 Claims. (Cl. 101—232)

1. A toy printing machine, comprising:
a housing having a front wall, side walls, and a rear wall defining an open top;
a deck member pivotally connected to said side walls for closing said open top, said deck being swingable to a closed position and an open position;
roller carriage means depending from said deck into said housing;
a printing drum rotatably mounted in said carriage means, whereby said drum will be exposed when said lid is moved to said open position;
roller means rotatably mounted in said carriage means for feeding material to be printed upon to said drum;
printing plate means adhered to said drum;

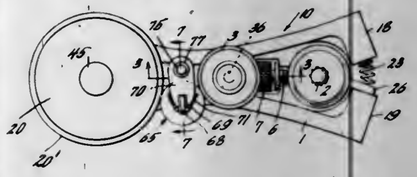


inking roller means rotatably mounted in said carriage means for inking said printing plate means; and
means mounted in said housing for rotating said drum.

3,267,851
MARKING ROLL ASSEMBLY WITH INK REGULATING MEANS

Lewis C. Price, Jr., Yonkers, N.Y., assignor, by mesne assignments, to Control Print Corporation, a corporation of New Jersey

Original application Nov. 22, 1963, Ser. No. 325,713, now Patent No. 3,220,341, dated Nov. 30, 1965. Divided and this application Mar. 24, 1965, Ser. No. 442,312
6 Claims. (Cl. 101—329)



1. A printing assembly for printing on moving articles comprising a movable arm having a free end and a pivotally mounted end, bracket means for removably mounting said arm at a selected location on a frame adjacent the articles to be imprinted with the free end of said arm positioned so as to be movable toward and away from said article, a printing roll mounted on the free end of said arm for contact with and imprinting said articles, means on said arm for inking said printing roll, means for regulating the transfer of ink to said printing roll and spring biasing means for returning said printing roll to a fixed position after each article has been contacted thereby, said regulating means comprising a non-rotating slide member carried by said arm and movable longitudinally thereof, a floating screw member and an operator threadedly mounted thereon, said floating screw member having one end fixedly engaged with said slide means and having its other end resiliently connected to said arm to provide yieldable and adjustable interconnection between said regulating means and said arm.

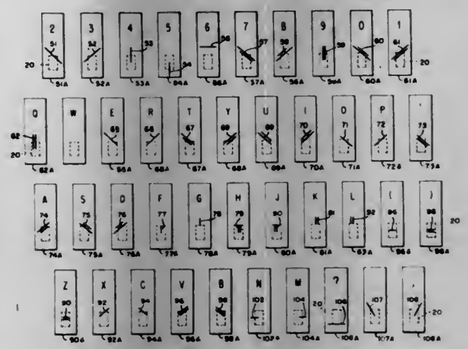
3,267,852
TYPE FONT PARTICULARLY ADAPTED FOR PRODUCING CHEMICAL NOTATIONS

Maxwell Gordon, Elkins Park, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

Filed Dec. 23, 1964, Ser. No. 420,676
19 Claims. (Cl. 101—399)

1. In a sequential character producing device having a character field having a width equal to the distance of a single character spacing movement of the device and

a height equal to the distance of a single line spacing movement of the device, a plurality of characters each overlying portions of at least two character fields and extending along a line between the centers of two char-

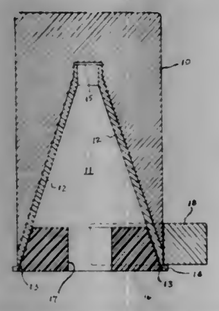


acter fields, said characters comprising at least a vertical character, a sloping character, and a second sloping character having a slope equal to and opposite to the slope of the first mentioned sloping character.

3,267,853
HYPERVELOCITY PELLET PROJECTOR

Alfred B. Merendino, Baltimore, and Joseph M. Regan and Seymour Kronman, Aberdeen, Md., assignors to the United States of America as represented by the Secretary of the Army

Filed May 14, 1964, Ser. No. 367,603
5 Claims. (Cl. 102—24)



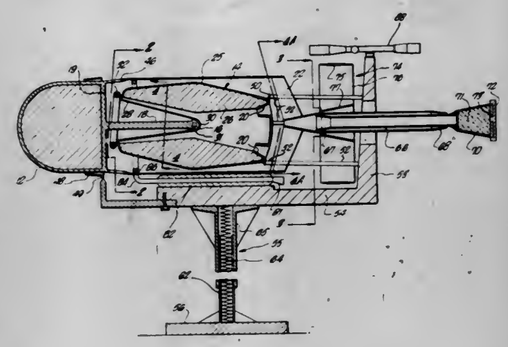
1. An apparatus for converting a collapsed shaped charge liner to a single pellet comprising a conical hollow shaped charge with the base open, a metal liner for said shaped charge, an inhibitor secured within said open base and substantially closing same, said inhibitor provided with a small opening in the center and means attached at the base for limiting the output of said inhibitor to a single pellet.

3,267,854
MISSILE

Gunnar P. Michelson, 505 Sea Ranch Drive, Santa Barbara, Calif.

Filed Dec. 17, 1963, Ser. No. 331,300
40 Claims. (Cl. 102—49)

1. A missile comprising a payload, a housing secured to the payload and extending rearwardly of the payload and having an exhaust opening spaced rearwardly of the payload, a main rocket motor in the housing rearwardly of the payload for providing substantially all forward motive power for the missile and having discharge nozzle means directed toward the housing exhaust opening, swivel bearing means in the housing mounting the main rocket motor for spinning and swivelling movement of the motor relative to the housing about the center of

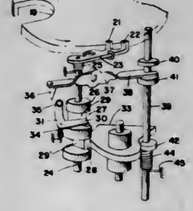


gravity of the missile and of the motor, means coupled to the main rocket motor for rotating the main motor, and a tail assembly disposed coaxially of the missile rearwardly of the main rocket motor.

3,267,855
TIME-CONTROLLED FUZE ARMING MECHANISM

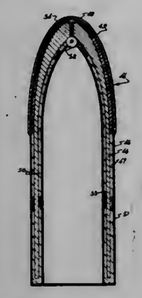
William V. Padula, Cranford, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Nov. 5, 1964, Ser. No. 409,334
4 Claims. (Cl. 102—83)



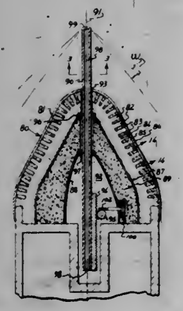
1. A fuze arming mechanism comprising
a rotatably mounted timing disc having slot means extending inwardly from its peripheral edge,
a shaft extending transversely of said disc and rotatable between three predetermined successive positions,
a firing arm extending from said shaft,
said arm having a pair of spaced protuberances,
separate cam means on said shaft,
a pivoted rotor arm normally engaged by one of said cam means and biased for movement to a fully armed position when disengaged and said shaft reaches its second position,
firing pin latching means normally engaged by the other of said cam means and biased for movement to a retracted position when disengaged and said shaft reaches its third position, and
means biasing said shaft for rotation from a first position with one of said protuberances engaging said disc peripheral edge, successively to its second position with said one protuberance engaging said slot means and to its third position with the other protuberance engaging said slot means.

3,267,856
NOSE-CONE COOLING OF SPACE VEHICLES
John E. Lindberg, Jr., 1211 Upper Happy Valley Road, Lafayette, Calif.
Original application Apr. 5, 1962, Ser. No. 186,600. Divided and this application Aug. 12, 1964, Ser. No. 389,103
1 Claim. (Cl. 102—92.5)



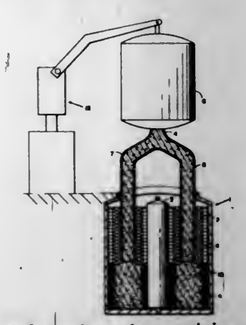
In a space vehicle, a nose having an imperforate outer surface and incorporating adjacent said surface a heat-dissociable metallic hydride belonging to the group of metals consisting of lithium, sodium, potassium, rubidium, cesium, francium, calcium, strontium, barium, radium, beryllium, magnesium, scandium, titanium, vanadium, ytterbium, zirconium, niobium, palladium, hafnium, tantalum, the rare earth metals (atomic numbers 57–71), and the actinides (atomic numbers 89–103), said hydride emitting hydrogen gas by dissociation when heated by atmospheric friction against said nose, and means to convey the emitted gas away from the nose upon dissociation of said hydride, said means to convey including a pump for moving both the hydrogen and the metal back away from the nose after after dissociation, means providing a cooling portion to which they are moved by said pump and where they recombine as a metallic hydride, and means for recirculating said cooled hydride to said nose.

3,267,857
NOSE-CONE COOLING OF SPACE VEHICLES
John E. Lindberg, Jr., 1211 Upper Happy Valley Road, Lafayette, Calif.
Original application Apr. 5, 1962, Ser. No. 186,600. Divided and this application Aug. 10, 1964, Ser. No. 389,518
8 Claims. (Cl. 102—92.5)



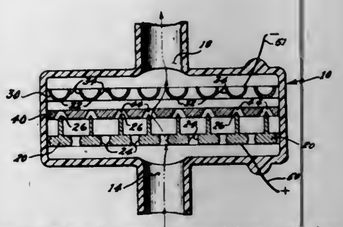
1. A missile nose having an axially extending shock diffusion rod extending therebeyond from inside said missile and means for moving said rod outwardly as it is consumed by heat.

3,267,858
METHOD OF CASTING STAPLE-CONTAINING PROPELLANT GRAINS AND GRAIN
Joseph E. Nix, Guntersville, and Winford G. Brock, Athens, Ala., assignors to the United States of America as represented by the Secretary of the Army
Filed Oct. 4, 1965, Ser. No. 492,955
6 Claims. (Cl. 102—98)



5. A cast perforated, staple-containing propellant grain comprising a generally cylindrical grain body having an axially disposed perforation extending through the length thereof, a layer of honeycomb material containing staples aligned perpendicular to the surface of said grain being imbedded in said grain adjacent the outer wall and internal perforation.

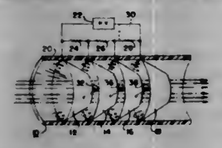
3,267,859
LIQUID DIELECTRIC PUMP
Sakari T. Jutila, Lafayette, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 18, 1964, Ser. No. 345,812
4 Claims. (Cl. 103—1)



1. A liquid dielectric pump comprising: a casing having an inlet and an outlet for liquid flow therethrough; a pair of spaced parallel grid electrodes within said casing between said inlet and outlet, one of said electrodes having a plurality of points protruding in direction of said flow from said inlet toward said outlet, and other of said electrodes defining surfaces spaced opposite to said points; a non-conducting barrier between said electrodes, said barrier having for said flow therethrough a plurality of pressure orifices into which said points protrude; and electrical conductors connecting said electrodes to a source of electrical potential.

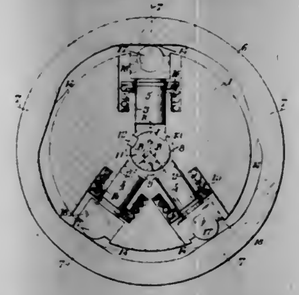
3,267,860
ELECTROHYDRODYNAMIC FLUID PUMP
Thomas Townsend Brown, Malvern, Pa., assignor, by mesne assignments, to Martin M. Decker, Montgomery County, Pa.
Filed Dec. 31, 1964, Ser. No. 422,839
5 Claims. (Cl. 103—1)

1. A pump for dielectric fluids comprising an insulated tube through which said fluids may pass, an equispaced series of baffles in the form of electrically conducting annular truncated cones, each having an outer surface engaging said tube, said cones being axially aligned within said tube and all but one of said electrodes



including an axially extending rod and means for maintaining different electrical potentials upon the successive cones of said series.

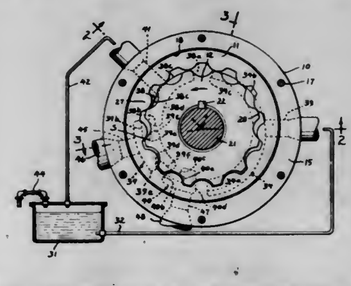
3,267,861
FUEL INJECTION PUMPS COMPRISING A DISTRIBUTING VALVE FOR USE WITH FIVE CYLINDERS INTERNAL COMBUSTION ENGINES
Jean Pigeroulet, Villeurbanne, and Henri Bordel-Mathiolon, Lyon, France, assignors to Societe Industrielle Generale de Mecanique Appliquee S.I.G.M.A., Paris, France
Filed Nov. 16, 1964, Ser. No. 411,218
Claims priority, application France, Nov. 21, 1963, 954,602, Patent 354,986
2 Claims. (Cl. 103—2)



1. A fuel injection pump of use with an internal combustion engine having five cylinders, which pump comprises, in combination, a body provided with three radial cylindrical bores, three pistons fitting slidably in said bores so as to form therewith three pump chambers respectively, an annular cam having five lobes coaxially surrounding said body and adapted to cooperate with said pistons, said body and said cam being adapted to rotate with respect to each other in synchronism with said internal combustion engine to actuate said pistons in said bores respectively, and a distributing valve operative in response to the relative rotation of said body and said cam and provided with a central passage communicating with the whole of said pump chambers, two of said bores being of equal respective cross sections and having their respective axis disposed at an angle of about 72° and the third bore being of a larger cross section equal to approximately 1.6 times the cross section of each of the two first mentioned bores, the axis of said third mentioned bore being disposed along the bisectrix of the angle made by the respective axes of the two first mentioned bores.

3,267,862
APPARATUS FOR PUMPING AND SEPARATING LIQUID AND GASEOUS FLUIDS
Bruce H. Mosbacher, Rockford, Ill., assignor to Roper Industries, Inc., Rockford, Ill., a corporation of Illinois
Filed Mar. 16, 1964, Ser. No. 352,067
14 Claims. (Cl. 103—6)

1. A positive displacement pump and separating apparatus comprising, means defining a plurality of expansible and contractible pumping compartments arranged in an annular bank and segregated from each other, said compartments having inner and outer walls, means for rotating said compartments about an axis paralleling the axis of said annular bank to centrifugally separate the fluids in the compartments into radially inner and outer layers according to the relative density of the fluids, said apparatus including means for effecting relative movement of the inner and outer walls away from each other to progressively expand the compartments as they move past an inlet zone and for effecting relative movement of said inner and outer walls toward each other during a different portion of each revolution to progressively contract the compartments as they move past a discharge zone, inlet means including at least one inlet passage communicating with said compartments as they move past said inlet zone for supplying fluid thereto containing liquid and gaseous fluids of relatively different densities whereby expansion of the compartments draws the fluids to be separated into the compartments, said apparatus including a first outlet port

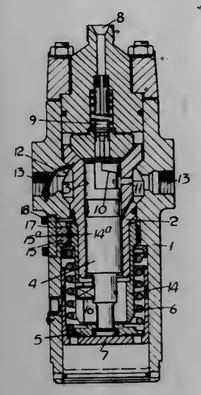


having one end angularly spaced in the direction of rotation of the compartments from said inlet means and communicating with said compartments at the side thereof as they move past a first sector of said discharge zone, said first outlet port terminating at its other end intermediate the ends of the discharge zone, the radially outer edge of said first outlet port being spaced radially inwardly at all points therealong from the outer walls of said compartments, said radially outer edge at said other end of said first outlet port being located to approximately merge with the innermost periphery of said compartments as they move past said other end of the first outlet port whereby the initial contraction of the compartments discharges fluid containing the centrifugally separated gaseous fluid from the first outlet port, and a second outlet port means spaced from the first outlet port and communicating with said compartments as they move past a second sector of said discharge zone whereby subsequent contraction of said compartments discharges the liquid fluid from the second outlet port means.

3,267,863
LIQUID FUEL INJECTION PUMPS
William L. Clifton, Churchdown, England, assignor to Bryce Berger Limited, Gloucester, England
Filed Mar. 13, 1964, Ser. No. 351,619
Claims priority, application Great Britain, Mar. 14, 1963, 10,097/63
1 Claim. (Cl. 103—41)

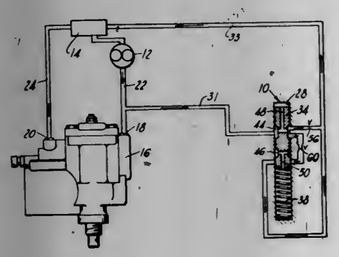
A liquid fuel injection pump comprising in combination, a body part, a reciprocable pumping plunger mounted within the body part, a sleeve surrounding said plunger, means interconnecting the sleeve and plunger so that angular movement of the sleeve will result in angular movement of the plunger, a plurality of teeth formed on the outer periphery of the sleeve, a toothed control rod slidable in the body part the teeth of the control rod being engageable with the teeth of the sleeve, the control rod and sleeve having apertures formed therein and into

which a rod or wire can be inserted so as to guide the engagement of the teeth of the rod with the teeth of the sleeve during assembly of the rod to the body part, and



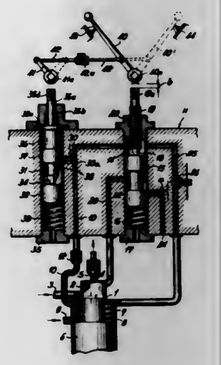
a cover which can be secured to the body part to retain the control rod therein after the engagement of the teeth of the sleeve and the teeth of the rod have been effected.

3,267,864
EFFORT SELECTOR
Robert T. Eddy, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Nov. 2, 1964, Ser. No. 408,246
6 Claims. (Cl. 103—42)



1. In a hydraulic power steering system having a pump and a control valve, an effort selector device for permitting a portion of the fluid flowing from said pump to said control valve to bypass said control valve, said device comprising a housing, an inlet port in said housing for receiving the fluid being bypassed, an outlet port in said housing for returning the bypassed fluid to said system, first and second passage means located in said housing for communicating said inlet port with said outlet port, first restricted orifice means located in said first passage means and second restricted orifice means located in said second passage means, means operatively connected to said first and second orifice means for varying the restriction therein, and means responsive to the fluid pressure at said inlet port for controlling flow through said first and second passage means, said pressure responsive means having a first position at a pressure below a predetermined value for permitting fluid flow through said first passage means and a second position at a pressure above a predetermined value for permitting fluid flow through said second passage means.

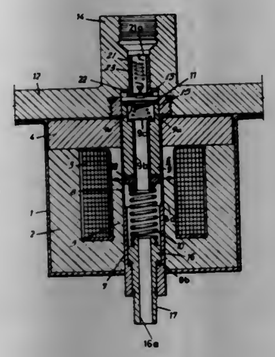
3,267,865
FUEL INJECTION PUMP
Wolfgang Deininger, Deizisau, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Dec. 7, 1965, Ser. No. 512,128
Claims priority, application Germany, Dec. 24, 1964, B 79,900
10 Claims. (Cl. 103—42)



1. A fuel injection pump for internal combustion engines, comprising a first and a second cylinder each having a fuel-admitting inlet and an outlet, the outlet of said first cylinder being arranged to discharge fuel into the engine; first and second pistons reciprocably received in the respective cylinders; means for reciprocating said pistons so that said pistons perform alternating working and return strokes; a housing defining a chamber communicating with the outlet of said second cylinder; a valve member reciprocable in said chamber to and from an operative position; relief conduit means connected with said first cylinder and controlled by said valve member to permit outflow of fuel from said first cylinder and to thereby terminate the outflow of fuel through the outlet of said first cylinder when said pistons perform a working stroke and the second piston expels fuel into said chamber to move the valve member to said operative position; a return conduit connecting said chamber with said second cylinder; first adjustable throttle valve means in said return conduit; a storage compartment communicating with the outlet of said second cylinder upstream of said chamber; second adjustable throttle valve means for regulating the flow of fuel between the outlet of said second cylinder and said compartment; and means for expelling fuel from said compartment when said second throttle valve means is open and while said pistons perform a return stroke.

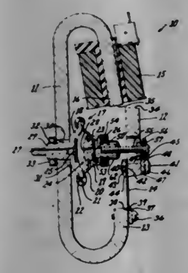
3,267,866
ELECTROMAGNETIC OSCILLATING-ARMATURE PISTON PUMP
Ladislaus Unger, Malsch, Kreis Karlsruhe, Germany, assignor to Otto Eckerle
Filed Aug. 25, 1964, Ser. No. 392,012
12 Claims. (Cl. 103—53)

1. In an electromagnetic piston pump, a cylinder having an inlet connection at its first end and an outlet connection at its second end, a piston of magnetic material slidably fitting said cylinder and having an axial passageway for fluid, a suction valve in said inlet connection and spring-urged to closed position, a pressure valve carried by said piston at the end thereof nearest said suction valve and spring-urged to closed position, a spring in said cylinder between the second end thereof and said piston, and urging the latter toward said first end of said cylinder, and electromagnetic means comprising a solenoid surrounding said cylinder, said piston forming the armature for said electromagnet, said spring being a coil spring compressed by motion of said piston in a suction stroke,



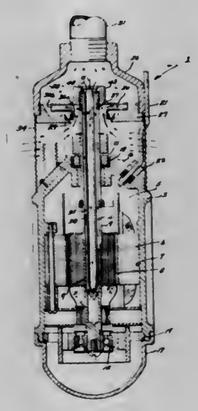
and means positively connecting the respective ends of said spring with said piston and the second end of said cylinder, said spring being substantially unstressed when said piston is at its normal position spaced from the first end of said cylinder, and is under tension when the piston is displaced from said normal position toward said first end whereby the motion of the piston is checked during operation to limit movement to a predetermined distance from said first end.

3,267,867
ELECTROMAGNETIC DEVICE AND METHOD
Alva R. Davis, Jr., Corona Del Mar, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Aug. 26, 1964, Ser. No. 392,245
19 Claims. (Cl. 103—53)



1. In combination, an electromagnetic motor having a core, an armature for moving relative to said core in an arcuate path, means driven by movement of said armature, support means supporting said motor, said armature and said driven means, and flexible metallic means interconnecting said armature and said driven means together so that said armature can move in its arcuate path while said driven means moves in a substantially rectilinear path, said flexible metallic means having one end secured to said armature and having the other end secured to said driven means whereby said flexible metallic means flexes between its ends when said armature moves in said arcuate path.

3,267,868
ELECTRIC MOTOR WITH PLURAL COOLING PATHS THROUGH THE SHAFT
Oswald V. Page, Mansfield, Ohio, assignor to Barnes Manufacturing Co., Mansfield, Ohio, a corporation of Ohio
Filed Nov. 13, 1963, Ser. No. 323,293
10 Claims. (Cl. 103—87)



1. In a motor-pump assembly, a motor housing defining a motor chamber and a pump housing defining an impeller chamber, a motor including a stator and a rotor disposed in said motor chamber, a rotatable shaft extending between and being disposed in said chambers, said rotor being secured to said shaft for rotation therewith, an impeller in said impeller chamber secured to said shaft for rotation therewith, said pump housing having inlet means communicating with the suction side of said impeller and outlet means communicating with the high pressure side of said impeller for directing liquid from said inlet means through said impeller to said outlet means, and means for cooling said shaft and adjacent motor chamber area with liquid from said pump housing, the last mentioned means comprising a first passage in said shaft extending generally lengthwise thereof, both ends of said first passage being closed, elongated means mounted in said first passage and defining a second passage extending generally lengthwise of said shaft, said elongated means being connected to the shaft-rotor-impeller assembly for rotation therewith, said second passage at one end thereof communicating with said first passage, orifice means in said shaft communicating one of said passages with the high pressure side of said impeller for introducing pressurized liquid from said pump housing into said one passage, and other orifice means communicating the other passage with the suction side of said impeller for egress of the pressurized liquid from said other passage, whereby liquid from said pump housing will circulate through said passages upon rotation of said shaft-rotor-impeller assembly, for cooling said shaft and adjacent motor chamber area, and thus cooling said motor.

3,267,869
MULTI-STAGE AXIAL FLOW HIGH PRESSURE PUMP

Michael Shamirovitch Vartapetov, ul. Goncharova 15, Apt. 36; Leonid Solomonovitch Glikman, Dorogomilovskaja Naberjnaja 1/2, Apt. 36A; Jakov Markovitch Kershenbaum, Leninski Prospect 22, Apt. 52; and Victor Nikolaevitch Spektorski, Dokuchaev by-Street 14, Apt. 4; all of Moscow, U.S.S.R., and Michael Ivanovitch Kornev, deceased, late of Moscow, U.S.S.R., by Araksija Sergeevna Korneva and Aleksandr Michailovich Kornev, heirs, both of Moscow, U.S.S.R.

Filed Nov. 15, 1963, Ser. No. 324,608
8 Claims. (Cl. 103—93)



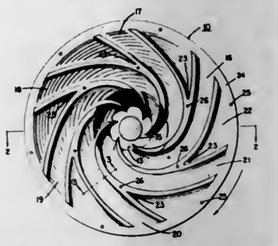
1. A multi-stage axial flow high pressure pump comprising a base, an elongated tubular housing mounted on said base, a shaft extending axially through said housing in concentric relationship, an intake casing secured to one end of said housing and surrounding said shaft, a thrust bearing having one part fixed to said casing and a relatively rotating part fixed to said shaft, an intake fitting on said casing communicating with the annular space between said housing and shaft, a drive motor mounted on said base and coupled to said shaft exteriorly of said casing, a discharge fitting secured to the opposite end of said housing and communicating with the annular space between said housing and shaft, a plurality of axially spaced pump stages disposed in the annular space between said housing and shaft, each stage comprising an impeller including an elongated bushing slidably and non-rotatably received on said shaft, an impeller body ring fixed to said bushing adjacent one end, a peripheral bearing surface on said bushing between said ring and the opposite end and a plurality of circumferentially spaced radially projecting blades on the peripheral surface of said ring, said blades being elongated and having a generally airfoil cross section and being disposed at an angle to the axis of said shaft, a guide vane structure spaced downstream from said impeller and comprising an outer sleeve slidably and non-rotatably received in said housing with a portion of said outer sleeve surrounding said impeller, a plurality of circumferentially spaced guide vanes projecting radially inwardly from said outer sleeve, said vanes being elongated and having a curved generally curved airfoil cross section and being disposed substantially axially of said housing, an inner ring on the inner side of said vanes and a non-metallic bearing ring fixed to the inner surface of said inner ring and engaging said bearing surface, whereby a shaft supporting bearing is provided for each stage, a nut threadedly received on the end of said shaft adjacent said discharge fitting for clamping said bushings on said shaft and a nut threadedly received in said housing adjacent said discharge fitting for clamping said outer sleeve in said housing.

3,267,870
COMBINED CENTRIFUGAL PUMP AND DISTRIBUTOR

Oscar C. Blomgren, Sr., and Oscar C. Blomgren, Jr., both of Lake Bluff, Ill., assignors to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

Filed June 10, 1964, Ser. No. 374,058
4 Claims. (Cl. 103—115)

1. A combination pump and distributor comprising:
a centrifugal impeller;
a shroud coextensive with said impeller;
a suction eye on the inner edge of said shroud in fluid communication with said impeller;
said impeller including a plurality of vanes defining fluid conducting passages of uniform width extending from said eye to the outer edge of said shroud; and

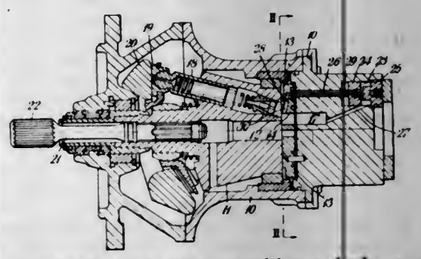


a cylindrical housing secured to said impeller and said shroud and having a plurality of apertures in fluid communication with said passages, said apertures having cross-sectional areas substantially equal to the cross-sectional areas of said fluid passages.

3,267,871
HYDRAULIC APPARATUS

Dennis Ernest Lee, Acocks Green, Birmingham, and Kenneth Percy Palmer, Solihull, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England

Filed June 17, 1964, Ser. No. 375,784
Claims priority, application Great Britain, June 19, 1963, 24,357/63
4 Claims. (Cl. 103—162)



1. Hydraulic apparatus comprising a body, a rotor mounted within the body, the rotor having, in an end face, ports through which fluid passes as the rotor rotates, a non-rotatable valve plate disposed between said end face of the rotor and the body, the valve plate having a passage through which fluid passes to and from said ports in the rotor, and a piston in a cylinder formed in the body, the end of the cylinder at the side of the piston remote from the valve plate communicating with said passage in the valve plate, and the other end of the cylinder at the side of the piston nearer to the valve plate communicating with the interfaces of the rotor and of the valve plate, and also with said passage in the valve plate.

3,267,872
OIL WELL PUMP

Peter S. Bloudoff, Whittier, Calif., assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

Filed May 5, 1964, Ser. No. 364,973
1 Claim. (Cl. 103—179)

A sucker rod operated oil well pumping apparatus adapted to be set in a well tubing having a standing valve and a pump barrel at the lower end thereof comprising, a pump plunger, a polish rod interposed between said pump plunger and its operating sucker rods, a seal assembly surrounding said polish rod and comprising spaced seal elements and an intervening polish rod barrel, said seal assembly having an upper shoulder, means carried by said sucker rods and engageable with said seal shoulder to force said seal assembly downward in said pump to a predetermined position with respect to said pump barrel, means carried by said seal assembly to engage the wall of said pump barrel in said predetermined position, a perforated nipple disposed immediately over said pump barrel, the perforations of said nipple being sealed off

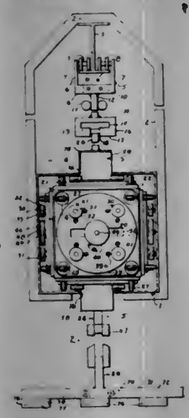


when said seal assembly is in said predetermined position, and opened when said seal assembly is removed to facilitate drainage of said tubing as said pump plunger and seal assembly are taken out of the well, and a spaced, oppositely facing shoulder on said pump plunger adapted to release said seal assembly when said pump is removed from the well to forcibly remove said seal assembly as said pump plunger is removed.

3,267,873
CONVEYORS

Joseph E. Sheehan, Sr., Flint, Mich., assignor to Mary Ann Sheehan, Detroit, Mich.

Filed Apr. 13, 1964, Ser. No. 359,165
22 Claims. (Cl. 104—93)

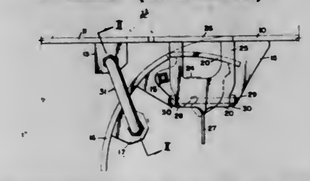


1. A conveyor system including
(a) a first track,
(b) a track follower having a first path of travel along said track,
(c) drive means to impel said track follower in said travel,
(d) a load carrier transported by the track follower,
(e) one or more attitude control elements mounted on the track follower, and engageable with surfaces of the track to support said track follower in said travel,
(f) said track having a normal running surface on which said supports are engaged, and also having
(g) deviant surfaces formed at predetermined intervals along the path of travel, the deviation of said latter surfaces inducing a desired change in attitude of the track follower when said control elements encounter said deviant surfaces.

3,267,874
MOUNTING YOKE FOR TRACK RAIL SWITCHES

John Opie, 64 S. Herbert Road, Riverside, Ill.

Filed Aug. 7, 1964, Ser. No. 388,095
5 Claims. (Cl. 104—103)



1. In combination with an overhead track system having a primary track and one or more branch tracks, said primary track and said branch track each having a mounting extension thereon; each of said extensions having an aperture therein;
a substantial U-shaped metal connecting yoke extending through said apertured extensions respectively for holding said extensions of a section of said primary track and a section of said branch track in spaced relation to each other;
means for removably mounting said yoke in connecting position including nuts threaded on the ends of said yoke to hold said branch track in spaced relation to said primary track and to facilitate mounting of said tracks in secured spaced apart stationary positions;
a mounting plate secured to said primary track;
a lever pivoted to said mounting plate and a track section mounted on said lever, said lever when actuated being adapted to position said primary track in alignment with said branch track to form a continuous track with a part of said primary track.

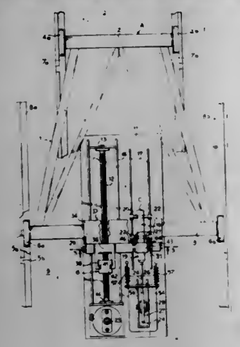
3,267,875
DEVICE FOR OPERATING A MOVABLE TROLLEY

Roger Chabassier, Paris, Pierre Chaffiotte, Cormeilles en Parisis, and Jean Megret, Argenteuil, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Jan. 6, 1964, Ser. No. 335,874
Claims priority, application France, Jan. 10, 1963, 920,988
5 Claims. (Cl. 104—162)

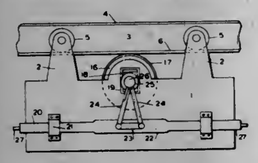
1. An installation for the operation of a trolley which is mounted for movement on a relatively stationary support means, especially for the operation of trolleys which are employed for the purpose of moving an irradiation loop away from the core of a swimming pool reactor or for the purpose of moving said loop nearer to said core, said installation comprising: a main drive mechanism carried by said support means; first coupling means carried by said trolley and normally engaged with said main drive mechanism to couple said trolley thereto, said first coupling means being movable to release from said main drive mechanism, and said main drive mechanism being operable when said first coupling means is engaged therewith to alternately displace said trolley in two opposite directions; an auxiliary drive mechanism

carried by said support means, and operable independently of said main drive mechanism to effect relative linear and parallel displacement between said drive mechanisms; and second coupling means carried by said trolley and engaged with said auxiliary drive mechanism, said auxiliary drive mechanism being operable when said first coupling means is released from said main drive mechanism to displace said trolley in at least one direction



independently of said main drive mechanism, and said second coupling means being connected with said first coupling means and being operable by displacing said auxiliary drive mechanism relative to said main drive mechanism to move said first coupling means to release the same from said main drive mechanism, so that said auxiliary drive mechanism alone is thereafter effective to displace said trolley.

3,267,876
DRIVES FOR OVERHEAD HAULAGE VEHICLES
Herbert V. Henderson, Germiston, Transvaal, Republic of South Africa, assignor to Anglo-Transvaal Consolidated Investment Company Limited, Johannesburg, Transvaal, Republic of South Africa
Filed July 6, 1965, Ser. No. 469,541
Claims priority, application Republic of South Africa, July 10, 1964, 64/3,269
4 Claims. (Cl. 105—73)



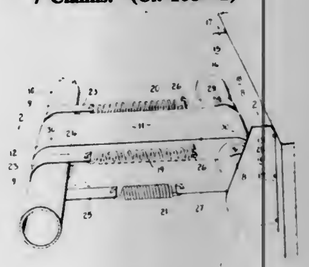
1. A locomotive adapted to be suspended from an overhead track, said locomotive comprising a rigid frame having track engaging wheels relatively positioned for engaging against opposite sides of the support track, bearing blocks carried by and spaced apart transversely of said frame, means supporting said blocks on the frame to have up and down movement relative thereto, one of said track engaging wheels being a drive wheel which is operatively connected with said bearing blocks for rotation, an elongate draw bar extending longitudinally along one side of said frame, means on the frame supporting said draw bar for reciprocal movement, the draw bar being substantially perpendicular to the rotational axis of said wheel and being below said axis, said operative connection of the drive wheel with the bearing blocks including support means for the drive wheel, a pair of relatively long rigid links extending in divergent relation downwardly toward said draw bar from and pivotally connected at their upper ends to one of said support means to swing in a vertical plane substantially paralleling the draw bar, means coupling the lower ends of said links with said draw bar for imparting an upward thrust to one link upon longitudinal movement of the draw bar in one direction, and a drive means for said drive wheel.

3,267,877
FLEXIBLE METAL BAND FOR DRUM BAKE OVENS
Friedrich Thiele, Walter-Flex-Strasse 3, Hannover, Germany, and Ferdinand Kovac, deceased, late of Linz (Danube), Austria, by Wolfgang Kovac, heir, and Alexandra Kovac, guardian of minor heir, Steingasse 17, Linz (Danube), Austria
Filed Apr. 3, 1962, Ser. No. 185,773
4 Claims. (Cl. 107—58)



4. A flexible metal band for use in a drum oven comprising, a relatively thin metal band provided with a plurality of spaced-apart grooves in one of its faces, said grooves extending angularly and transversely across a face of said band, one set of such grooves intersecting the grooves of a second set, whereby raised diamond-shaped elevations are provided on one face of the band between the grooves, said band being provided with a plurality of boreholes for steam-escape, said holes extending from one face of the band to its opposite face.

3,267,878
BALANCING MECHANISM FOR DRAFTING TABLES
Alfred William Faux, Don Mills, Ontario, and Russel Earl Helland, Toronto, Ontario, Canada, assignors to Norman Wade Company Limited, Ontario, Canada, a corporation of Canada
Filed Aug. 6, 1964, Ser. No. 387,852
7 Claims. (Cl. 108—2)



1. In a balancing mechanism for an adjustable table mounting means, the combination of a fixed non-rotatable stationary member, an arm having one end pivotally mounted on the member for pivotal swinging movement thereon and a table support member rotatably mounted on the other end of said arm, said table support member being parallel to the stationary member, said support member having a radially extending table mounting means at each end thereof providing a rotatable mounting means for a table and interdependent, interacting and mutually compensating counter-balancing means comprising a lift spring system arranged and operatively connected to the stationary member and to the said arm, the lift spring system having a maximum and minimum value obtained from the differential equation

$$\frac{dT_2}{d\alpha}=\frac{-Z\sin\alpha\, W_T}{r_2}\frac{-Y\sin\alpha\, W_a}{r_2}=0$$

wherein:

W_a=Weight of the arm
W_T=Weight of the table and mounting attachments
T_2=Tension in the spring counterbalancing W_a and W_T
α=A variable angle between the arm and the horizontal
Y=A fixed distance from the axis of the fixed stationary member to the center of gravity of the arm
Z=A fixed distance from the axis of the fixed stationary member to the axis of the support member
r_2=The moment arm between the spring and the axis of the fixed stationary member,

and a tilt spring system arranged and operatively connected to the lift spring system and to said table support member to apply a balancing moment thereto equal to a moment caused by the weight of the table and the mounting means, the tilt spring system having a maximum and minimum value obtained from the differential equation

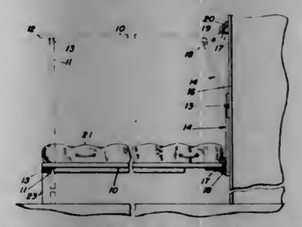
$$\frac{DT_1}{d\theta}=\frac{-X\sin\theta}{r_1}\cdot W_T=0$$

wherein:

W_T=Weight of the table and mounting attachments
T_1=Tension in the spring counter balancing W_T
r_1=Moment arm between the axis of the support member and the spring
θ=A variable angle between the axis of the table and the horizontal
X=A fixed distance from the centre of gravity of the table to the axis of the support member,

whereby said lift spring system and said tilt spring system cooperate to balance said arm, said mounting brackets and related parts in a state of static equilibrium when the table is in any operative position of use relative to the supporting arm.

3,267,879
CONVERTIBLE ARTICLE OF FURNITURE
Ronald E. Jackson, 432½ N. Lafayette St., Greenville, Mich.
Filed Aug. 3, 1964, Ser. No. 386,828
8 Claims. (Cl. 108—11)



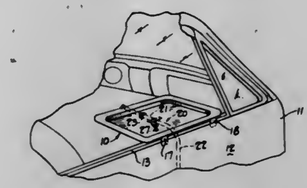
1. In combination with a wall structure, a convertible article of furniture, comprising:

a panel including folding support means mounted on the under side thereof;

a dual-position support for the inner side of said panel including a link pivotally connected to the under side of said panel for rotation on an axis spaced from the edge of said inner side, and said link further being pivotally connected to said wall structure on a normally horizontal axis, said support also including a socket mounted on said wall structure, and a hook engageable with said socket and mounted on said panel at a position adjacent the edge of said inner side and spaced from the axis of the pivotal connection of said link to said panel, and engageable with said socket only on displacement of said panel from a horizontal position in an upward position of said link; and

support means disposed under the said panel to receive the same in the lower position thereof.

3,267,880
SERVING TRAY FOR AUTOMOBILES
Alan Bedol, Shaker Heights, Ohio, assignor to Marshallan Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 23, 1965, Ser. No. 489,499
1 Claim. (Cl. 108—46)



A serving tray adapted to be mounted in the window opening of an automobile door, comprising in combination,

(a) a rectangular planar surface, defining a tray bottom, bounded by a continuous upstanding wall having an outwardly extending rim parallel to the plane of the tray bottom,

(b) two longitudinally spaced fingers, depending from one edge of the rim, said fingers being insertable into the window well of an automobile door,

(c) two spaced resilient bearing clips mounted on the underside of the tray bottom, aligned cross-wise thereof between the dependent fingers,

(d) a tubular L-shaped arm having one leg thereof slidably mounted through said clips for movement parallel to the tray bottom, toward and away from said dependent fingers, between adjusted positions, and with the other leg of said arm depending in a plane parallel to that of said fingers, and

(e) means for locking said arm in adjusted positions; the depending leg of said arm being adapted to engage the vertical surface of an automobile door and cooperate with said fingers to hold said tray bottom in a horizontal plane when said fingers are positioned within the window well of an automobile door.

3,267,881
BEAUTICIAN'S MODULE AND METHOD OF MAKING SAME
Johanna M. Saggione, 4340 W. 95th St., Oak Lawn, Ill.
Filed July 6, 1964, Ser. No. 380,222
1 Claim. (Cl. 108—50)

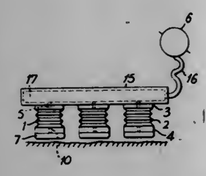
A worktable for use by a beautician comprising, a plurality of modules having generally horizontal tops, the top of each of the modules having a pair of spaced arcuate edges disposed in parallel alignment, the top of each of the modules having an additional pair of edges connecting the pair of spaced arcuate edges, each of the plurality of modules being provided with a support means connected to the top for supporting the top a predetermined distance above a floor, the plurality of modules being assembled with the additional edges of one of the modules in abutting contact with the additional edges of the abutting modules end-to-end to produce a continuous serpentine configuration consisting of a plurality of interconnected S-shapes, each of the modules being releasably secured

to abutting adjacent modules to produce a rigid structure, each of the S-shapes providing a plurality of alternately opposed work areas in linearly spaced relation, and operative means pivotally connected to the top of every



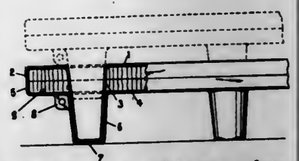
other module of the serpentine configuration and along an edge thereof in a manner permitting a beautician to utilize the operative means in a work area on one side of the worktable and in an adjacent work area on the other side of the table.

3,267,882
LOAD CARRYING UNIT
John Edward Rapson and Brian John Nicholson, Southampton, and Peter Norman Dent, Hythe, England, assignors to Hovercraft Development Limited, London, England, a British company
Filed July 28, 1964, Ser. No. 385,732
Claims priority, application Great Britain, July 31, 1963, 30,450/63
10 Claims. (Cl. 108—51)



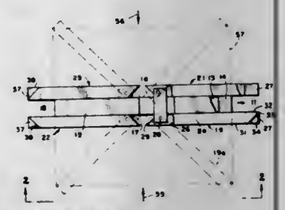
8. A load supporting device including a platform, and at least three load supporting units mounted on said platform, each unit comprising a hollow member having two opposed end faces, an extensible wall connecting the end faces to form a closed space and permit the distance between the end faces to vary, means defining a cup-shaped cavity on one of the end faces on the side thereof outside the closed space, and including a rim for cooperation with a supporting surface or the load, flow restricting inlet means for normally supplying an uninterrupted flow of pressurised fluid to said closed space, and flow restricting outlet means connecting said closed space to the interior of said cup-shaped cavity through which the fluid supplied to said closed space normally flows into said cavity to form a cushion of pressurised fluid therein effective to maintain a restricted fluid escape gap between said rim and the surface or load.

3,267,883
PALLET
Herbert Vissers, Nieuw Vennep, Netherlands, assignor to Landbouwwerktuigen- en Machinefabriek H. Vissers N.V., Nieuw Vennep, Netherlands, a company of the Netherlands
Filed Sept. 27, 1965, Ser. No. 490,320
Claims priority, application Netherlands, Nov. 12, 1964, 6,413,163
1 Claim. (Cl. 108—53)



A pallet comprising top and bottom plates and means spacing said plates, said spacing means including hollow projections depending from both said plates with the top plate projections nested in said bottom plate projections to reinforce said bottom plate projections which constitute supporting feet, said top plate projections being longer than said bottom plate projections to space said plates and to receive the feet of another pallet in stacked relation.

3,267,884
"OCTOPUS" PALLET
Arno Lessheim, 109 Beech Grove Ave., Batesville, Ind.
Filed Sept. 7, 1965, Ser. No. 485,319
13 Claims. (Cl. 108—54)



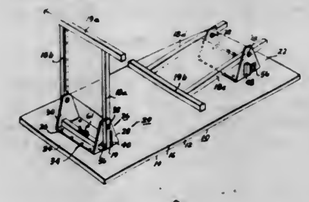
1. A pallet comprising:
a primary beam including an elongated upper plate and an elongated lower plate and a plurality of horizontally spaced blocks affixed to said plates and disposed therebetween and thereby supporting said plates in vertically spaced parallel relationship, two of said blocks being located at opposite ends of said primary beam and two of said blocks being spaced apart near the mid-point between opposite ends of said beam, said two blocks near the mid-point being arranged to project outwardly from opposite sides of said beam to provide mounts for pallet arms;
a pallet arm having an elongated upper plate identical in thickness to the upper plate of said primary beam and having an elongated lower plate identical in thickness to the lower plate of said primary beam, and said arm having a spacer block affixed to the upper and lower plate of the arm at one end thereof, the upper and lower plates of the arm being pivotally connected at the other end of the arm to one of said mounts at one side of said primary beam, the arm being thereby swingable between a folded position alongside said primary beam and an open position projecting outwardly from said one side of said primary beam, the inner ends of the upper and lower plates of the arm adjacent the pivotal connection being mitered at 45 degrees with respect to the sides of said plates which abut the side of said primary beam when the arm is folded, and the pivotal axis being located to cause abutting engagement of the

mitered inner end of the upper and lower arm plates with sides of the upper and lower primary beam plates when the arm is swung outwardly from the primary beam to a 45 degree angle therewith, the outer ends of said upper and lower arm plates being mitered parallel to the inner ends thereof, the block affixed to the outer ends being flush with the outermost points on the outer ends of the upper and lower arm plates and projecting therefrom at 45 degrees with respect to the outer ends of the upper and lower arm plates to provide a mounting ledge;
therebeing four arms similar to said arm, two of said arms being identical and the other two of said arms being identical, each different one of said arms being mounted to a different one of said mounts and the lengths of said arms being such that when all of said arms are opened and disposed at 45 degrees with respect to said primary beam, the ends of said arms define the four corners of a rectangle with the ends of the primary beam being disposed on opposite sides of the rectangle, the upper faces of all of said upper plates lying in a first common plane and the lower faces of all of said lower plates lying in a second common plane vertically spaced below and parallel to said first plane;
all of said plates being parallelograms, and the plates for said primary beam being rectangular parallelograms.

3,267,885
FOLDING TABLE
Charles Shore, 7505 Rowland Ave., Cheltenham, Pa.
Filed July 14, 1964, Ser. No. 382,554
5 Claims. (Cl. 108—112)

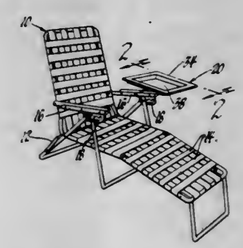
1. A folding table comprising a pair of table tops and a central supporting frame, said central supporting frame including a pair of vertical legs on each lateral side of said table tops, said legs being positioned adjacent the inner ends of said table tops when said table tops are in a horizontal position and aligned, said frame further including a pair of members having transverse portions passing under said table tops and being connected to said legs on opposite sides of said table tops, said members being substantially U-shaped with the transverse portions forming the bridging portions of the U and the legs of the U are secured to said vertical legs, said legs of said U having flanges formed at the bottom thereof and projecting inwardly toward each other, said flanges being integral with and formed from said legs of said U, pivot means secured to said frame and to each of said table tops whereby each of said table tops may be pivoted from a substantially horizontal position to a position which is substantially vertical, but slightly beyond the vertical, said pivot means comprising a pair of first bars and a pair of second bars secured to each of the legs of each of said members and to each of the table tops, said flanges providing means for maintaining said table tops in said substantially vertical position when pivoted upwardly around said pivot means, and legs secured to the outer ends of said table tops for maintaining said table tops in a horizontal position.

3,267,886
LEG MOUNTING MEANS FOR FURNITURE
Henry P. Glass, Chicago, Ill., assignor to Fort Smith Plywood Company, Fort Smith, Ark., a corporation of Arkansas
Filed June 1, 1964, Ser. No. 371,257
3 Claims. (Cl. 108—127)



1. In mounting means for attaching a pair of legs to an article of furniture, in combination, a bracket comprising a first portion adapted to be secured to said article of furniture and further comprising a pair of end portions extending at angles from said first portion, each end portion having a latch accommodating opening therethrough, each end portion also having means for pivotably mounting one of said legs thereon so that said leg is movable from a collapsed to an extended position, a housing mounted on said first portion of said bracket in axial alignment with both openings, a pair of latches movably mounted in said housing, biasing means in said housing for normally biasing each latch through a respective opening and into the path of movement of a respective leg, each latch being adapted to be moved out of said path by its respective leg as the latter moves to its extended position, stop means on said end portions of said bracket for limiting travel of said legs as they move to their extended positions and for cooperating with said latches to maintain said legs in their extended position, and a handle on each latch extending outwardly from said housing, said handles being located sufficiently close to each other so as to be movable simultaneously to move said latches simultaneously out of the path of movement of their respective legs so that said legs can be moved from their extended to their collapsed positions.

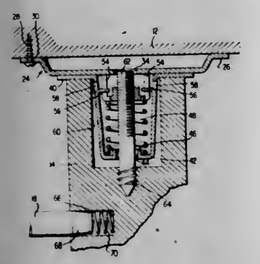
3,267,887
SERVICE TRAY
Robert G. Boyd, 3790 Covert Road, Pontiac, Mich.
Filed June 22, 1964, Ser. No. 376,679
3 Claims. (Cl. 108—152)



1. A service tray device for use with lawn furniture and the like, comprising:
a frame member of wire rod material formed to include parallel spaced arms for receiving and supporting a tray member in close fitted engagement therebetween and having a transversely disposed connecting wire rod member extended between adjacently disposed ends of said arms,

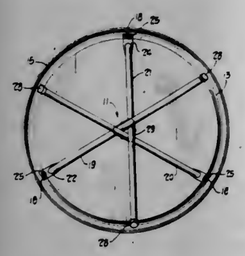
said arms having the free terminal ends thereof bent in towards each other and in substantially parallel spaced relation to said connecting wire rod member for providing means precluding lateral movement of a tray member received and supported thereby, and a gooseneck support provided between the ends of said connecting wire rod member and extended outwardly therefrom for over-and-under engagement with receptive arms of suitable lawn type furniture.

3,267,888
FURNITURE FASTENERS
Raymond T. Carlson, Lookout Mountain, Tenn., assignor of one-half to John I. Foster, Jr., Chattanooga, Tenn.
Filed Apr. 24, 1964, Ser. No. 362,515
15 Claims. (Cl. 108—153)



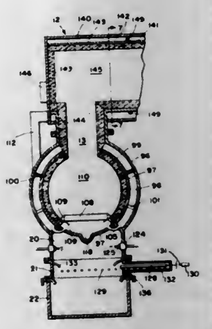
1. In a table having a top and demountable legs for supporting said top, fastening means detachably securing said legs to said top, each said fastening means comprising cartridge means, a screw emanating from one end of said cartridge means, a helical spring within said cartridge means surrounding said screw therewithin, said spring bearing against one end of said cartridge means, a screw-threaded member threadedly engaging said screw, said spring being associated with said screw in such a manner that entrance of said screw into said screw-threaded member causes tensioning of said spring, one of said mounting means being attached to said legs, and the other of said mounting means being attached to said top, whereby said legs may be attached to said top in a rigid fashion throughout a considerable and continuous angle of rotational adjustment.

3,267,889
COLLAPSIBLE TABLE
Alan Bedol, Shaker Heights, Ohio, assignor to Marshallan Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 26, 1965, Ser. No. 435,475
1 Claim. (Cl. 108—157)



A collapsible table, comprising in combination, a circular sheet material top having a plane portion bounded by a circumferential convexo-concave ridge rising above the central portion, the ridge defining a continuous circular abutment at the central portion at approximately 30° to the plane of the under-side thereof; three, circumferentially spaced, headed studs mounted on the under-side of the top, at the circular abutment, with their heads spaced outwardly of the abutment in a plane inclined at approximately 30° to the under-side of the top central portion; three support leg elements, arranged in clustered relation within a collar positioned intermediate the ends of said legs, and adapted to hold said legs in either expanded or collapsed positions; each leg having a flat anchor plate, at the upper end thereof, extending crosswise of its longitudinal axis; each anchor plate having two intersecting holes therethrough defining a first, stud entry, aperture and a second, stud retaining, aperture, positioned on opposite sides of the longitudinal axes of the legs, joined through a lock slot; the diameter of the first aperture being greater than that of the stud head, the diameter of the second aperture being less than that of the stud head; the entry and retaining apertures of one of the leg anchor plates being reversely positioned relative to the longitudinal axis of its leg, to those of the other two leg anchor plates; the several table-top studs being adapted to be inserted through the leg anchor plate first apertures, when the legs are in their expanded positions, and moved laterally thereof through the lock slots into the second apertures, whereat the leg anchor plates are pressed between the table-top abutment and the stud heads, to secure the top and legs together in interlocked engagement.

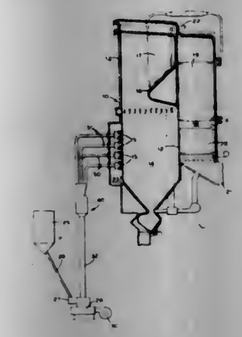
3,267,890
MUNICIPAL INCINERATOR
Robert E. Zinn and Thomas J. Lamb, Lexington, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Apr. 19, 1963, Ser. No. 274,202
10 Claims. (Cl. 110—18)



10. An incinerator suitable for burning refuse, comprising in combination
(a) a substantially cylindrically-shaped, substantially horizontal stationary combustion chamber means having a lining of a self-supporting refractory over substantially all of that part of the interior exposed to hot combustion products and formed of a metal shell adapted to be cooled by contact with fluid thereabout, said combustion chamber means being divided into
(1) a first cylindrical section adapted to burn solid refuse therein; and
(2) a second cylindrical section, joined at its inlet end to the outlet end of said first section by refractory-lined conduit means, adapted to burn volatiles therein;

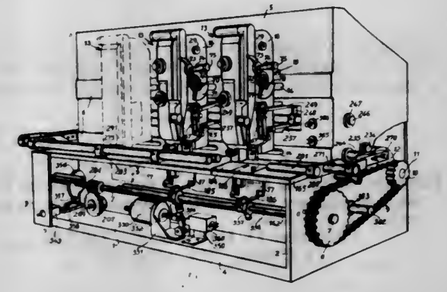
(b) refuse charging means associated with the inlet end of said first section of said combustion chamber means;
(c) grate means within said first section of said combustion chamber means and adapted to support said solid refuse and to advance it during burning;
(d) means for providing over-fire combustion air to said first and second sections of said combustion chamber means and combustion air under said grate in said first section;
(e) ash removal means located at said outlet end of said first section and associated with said grate means to remove the ashes resulting from said burning of said solid refuse in said first section; and
(f) flue gas discharge means associated with the outlet end of said second section of said combustion chamber means.

3,267,891
DISTRIBUTOR FOR PARTICLE-FORM MATERIAL
Fritz L. Hemker, Wadsworth, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 7, 1964, Ser. No. 402,207
11 Claims. (Cl. 110—28)



10. In combination, walls defining a combustion space, a multiplicity of burners arranged to discharge combustion gases into said space, and means for delivering particle-form fuel to said burners comprising a pulverizer, a source of air, means for delivering raw solid fuel to said pulverizer for converting said raw coal fuel into particle-form material to be carried to said burners in suspension in said air, and means for dividing the fuel/air stream from said pulverizer into a plurality of equal density streams comprising a distributor disposed adjacent the walls of said furnace chamber and near to said burners, said distributor including walls defining a substantially unobstructed vertically disposed cylindrical mixing chamber, a bottom closure for said chamber including means forming a centrally disposed inlet for the introduction of a jet of said fuel and said air axially into said chamber, the dimensions of said chamber being such that said jet is substantially completely dissipated within said chamber, a top closure for said chamber formed with a centrally disposed discharge opening, walls defining a transition zone disposed co-axially with and immediately above said mixing chamber and being symmetrically arranged about its vertical axis, a downwardly extending conduit connected to the lower end of said transition zone and extending downwardly through said discharge opening and into said chamber to form a re-entrant outlet therefrom, and a plurality of spaced outlet conduits connected to said burners and opening into and symmetrically arranged about the vertical axis of said transition zone, the combined cross-sectional flow area of said outlet conduits being substantially equal to the area of said inlet.

3,267,892
MULTIPLE AUTOMATIC SEWING APPARATUS
Hans Maschmann, West Orange, N.J., and Reinhold Dobner, Kaiserslautern, Pfalz, Heinrich Bungert, Karlsruhe, and Ernst Albrecht, Hochspeyer, Germany, assignors to G. M. Pfaff AG, Kaiserslautern, Pfalz, Germany, a corporation of Germany
Filed Aug. 5, 1964, Ser. No. 387,605
Claims priority, application Germany, Sept. 21, 1963, P 32,637
12 Claims. (Cl. 112—2)

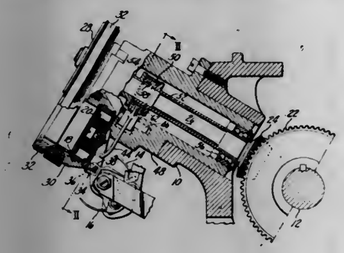


1. Multiple-pattern sewing apparatus comprising in combination:
(a) a common work supporting bed,
(b) an array of zigzag sewing units in operative relation to said bed each including stitch-forming tools and first and second adjusting means therefor, to vary the overstitch width and stitching position, respectively,
(c) common drive means for said sewing units including means for starting and stopping said units in unison,
(d) a common work-displacing carrier and a plurality of work clamps supported thereby each for cooperation with one of said units,
(e) a common stitching pattern control device including data storage and pickup means cooperating therewith,
(f) means to operate said device in synchronism with said units, to produce control movements for said first and second adjusting means and operating movement for said carrier, respectively, in accordance with the configuration of the multiple stitching patterns to be produced by said units upon the work supported between said bed by said clamps, and
(g) motion-transmitting means operably connecting said pickup means with the coordinated adjusting means of said units and with said carrier, respectively.

3,267,893
THREAD CASE KICKER MECHANISMS
Joseph R. Ioannilli, Beverly, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed May 22, 1963, Ser. No. 282,277
5 Claims. (Cl. 112—54)

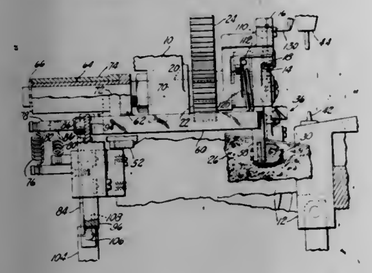
1. A lock stitch leather sewing machine comprising a hook needle for penetrating a work piece and withdrawing carrying a loop of needle thread, a thread case containing a supply of locking thread, a nose on the thread case, a rotary loop taker for carrying the loop of needle

thread over the thread case to form a stitch, a stationary abutment engaging the nose to retain the thread case against rotation with the loop taker and kicker means for



moving the nose away from the abutment in timed relation to the loop taker rotation to permit the free passage of the needle loop between the nose and the abutment.

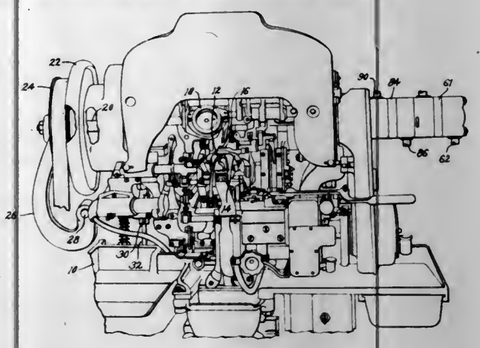
3,267,894
ARTICLE STRINGING MACHINES
Herman A. Imhof, Hamilton, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed May 13, 1963, Ser. No. 279,749
8 Claims. (Cl. 112—104)



1. An article stringing machine comprising a pedestal, means for holding a workpiece against the pedestal, a curved eye-pointed needle, a carrier upon which the needle is mounted to be oscillated to carry the leading end of a strand through the workpiece and to retract, a main needle guide located near the point of the needle as the workpiece is being penetrated, an auxiliary needle guide for supporting the midportion of the needle, and a driving connection for the auxiliary guide from the needle carrier to impart motion to the guide in step with the needle at the time of workpiece penetration.

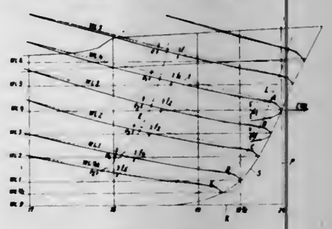
3,267,895
DRIVING AND STOPPING MECHANISMS FOR SEWING MACHINES
Robert G. Akerley and Joseph R. Ioannilli, Beverly, Mass., assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Feb. 27, 1963, Ser. No. 261,342
11 Claims. (Cl. 112—219)

1. A sewing machine having stitch-forming devices, a main sewing shaft for actuating the stitch-forming devices, means for driving the sewing shaft under variable control by an operator of the machine, a hydraulic displacement unit, means mechanically connecting said displacement unit to the sewing shaft, a flow restricting circuit connectable to the displacement unit to retard rotation of the sewing shaft, a stop cam on the sewing shaft having a radial shoulder and a pivotally mounted dog arranged to move into and out of the path of said cam and to be engaged by the shoulder when the shaft reaches a predetermined stopping position, in combination with an arm engaged by the stopping dog when moved



into the path of the cam and means mechanically connecting said arm to the flow restricting circuit to render the flow restricting circuit effective to retard rotation of the sewing shaft.

3,267,896
SHIP'S HULL
Leo Costa, Vienna, Austria, assignor to Maierform Holding S.A., Geneva, Switzerland
Filed June 9, 1964, Ser. No. 373,670
7 Claims. (Cl. 114—56)

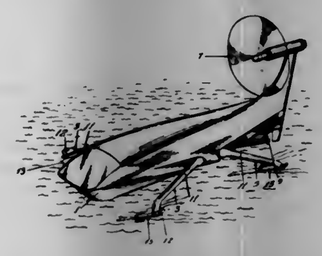


1. A bow of a ship's hull comprising a stem provided with a swelling, the horizontal cross-sections of said swelling having the shape of a section of a cone, the diameters of said cone sections decreasing in size from the load waterline to the keel, said swelling extending above said load waterline into the dead work of the ship's hull to a height corresponding at least to one fourth of the draught.

3,267,897
HYDROFOIL CRAFT
Francois M. Picker, 1958 Des Cedres Ave., St. Bruno, Quebec, Canada
Filed Nov. 16, 1964, Ser. No. 411,439
8 Claims. (Cl. 114—66.5)

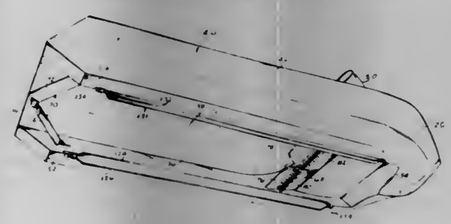
1. A hydrofoil craft comprising: a hull, a pair of fore hydrofoil assemblies, one on each side, and a pair of aft hydrofoil assemblies, one on each side, for supporting the hull while in motion, means rotatably mounting each hydrofoil assembly of the fore and the aft hydrofoil assemblies on its respective side of the hull for movement about an outwardly and upwardly directed axis transverse to said hull, the outwardly and upwardly directed axis transverse to said hull of each hydrofoil assembly of any of said pairs of hydrofoil assemblies being normal to the outwardly and upwardly directed axis transverse to said hull of the other hydrofoil assembly of the same of said

any of any pairs of hydrofoil assemblies and being symmetrical thereto with respect to said hull, each hydrofoil assembly comprising a leg member at one end of which are the said means rotatably mounting the assembly to the hull and at the other end of which is rotatably mounted a wing shaped hydrofoil fin, said wing shaped hydrofoil fin being mounted for dampened rotary move-



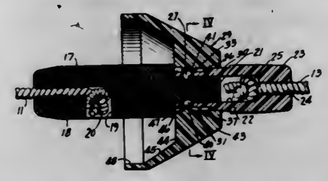
ment about its own axis, said axis of said wing shaped hydrofoil fin being parallel to the respective said outwardly and upwardly directed axis transverse to said hull of the same assembly, each of said wing shaped hydrofoil fins having a hydrodynamic profile whereby it naturally adjusts its angle of attack and depth of immersion so as to sustain the craft out of water, while in motion.

3,267,898
AMPHIBIOUS VEHICLE
Carmi G. Evans, Crestwood Apts., 7551 La Jolla Blvd., La Jolla, Calif.
Filed June 10, 1965, Ser. No. 462,999
12 Claims. (Cl. 114—67)



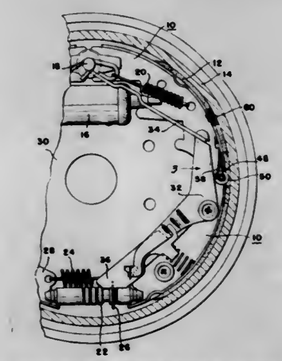
1. A vehicle such as a boat or sled, comprising in combination:
(A) means forming a body having:
(1) an elongated floor;
(2) two elongated and parallelly disposed runners extending longitudinally of and below the floor to provide with the floor an elongated inverted channel;
(3) a stationary wall sloping downwardly and rearwardly and disposed forwardly of the floor;
(4) a second stationary wall spaced rearwardly of the stationary wall and sloping downwardly and rearwardly beyond the front portion of the first mentioned stationary wall;
(5) confronting side walls connected with the forwardly disposed and rear walls, said forwardly disposed, rear and side walls forming a section having an opening at the top for the ingress of air and having an opening at the rear for expelling air into the front end of the channel;
(B) means for motivating the vehicle comprising an impeller for forcing air through said section;
(C) a motor for actuating the impeller;
(D) valve means immediately adjacent the rear opening of the section, said valve means being movable to a position for directing air, which emanates from said section, rearwardly, and, movable to a position for directing air, which emanates from said section, forwardly;
(E) and means for moving the valve means to either of said positions.

3,267,899
SKI TOW ROPE RELEASE
Rollow D. Kimball, 2647 Hall Circle, Kearns, Utah
Filed Nov. 9, 1964, Ser. No. 409,693
10 Claims. (Cl. 114—235)



1. A release for water ski tow ropes particularly adapted to release the tow rope from the skier comprising:
a coupling member,
a socket member,
means retaining said coupling and socket members in coupled relation with respect to each other including a movable release member mounted on one of said members and movable axially of said members upon engagement of said release member with the water, to accommodate separation of said members and the freeing of the skier from the tow rope.

3,267,900
BRAKE SHOE—WORN LINING INDICATING DEVICE
Herman E. Saylor, Waynesville, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 30, 1964, Ser. No. 414,779
1 Claim. (Cl. 116—67)



A brake lining wear sensing device comprising: a brake shoe carrying friction material and having a struck-out portion forming a retaining strip on a side opposite from the friction material, said brake shoe and friction material having aligned openings spaced from said retaining strip therethrough, a support member including a tang engageable by said retaining strip to resiliently and releasably hold said support member on said brake shoe; bearing means integral with said support member and spaced from said tang; a wheel element rotatably supported by said

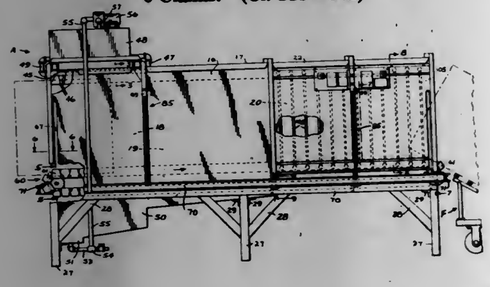
bearing means and disposed in said aligned openings to a depth determined to be the minimum acceptable wear level of said lining; a ratchet wheel carried by said wheel element non-rotatably with respect thereto; and a resilient strip struck out from said support member and engaging the ratchet wheel, said wheel element being rotated by contacting a brake drum as said friction material wear progresses to a predetermined point whereby the ratchet wheel is rotated against the resilient strip thereby generating an audible sound.

3,267,901
GRADE INDICATOR STAKE
Willard D. Carroll, Abilene, Tex., assignor of one-half to Robert A. Smith, Odessa, Tex.
Filed Apr. 21, 1965, Ser. No. 449,811
3 Claims. (Cl. 116—114)



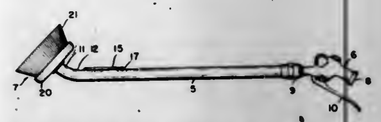
1. A grade marker comprising:
(a) a stake adapted to be driven into the ground, and
(b) at least two readily visible, stiff, resilient strands attached to the top of the stake,
(c) said strands divergently extending upward and outward from a single area on top the stake; so that when the marker is driven into the ground the distance from the present grade to the top of the stake is indicated by a machine operator from as far a distance as may be seen.

3,267,902
IMPREGNATING AND COATING APPARATUS
George A. Pritchard and Leon E. Van Zile, both of 303 10th St., Atlantic Beach, Fla.
Filed July 15, 1963, Ser. No. 294,902
6 Claims. (Cl. 118—642)



4. Coating and impregnating including an elongate housing having elongate side walls and an elongate top wall defining a continuous uninterrupted space providing a liquid coating compartment, a drip-drying compartment and a heat-dry compartment, said housing being open at both ends and the lower portions of said side walls defining an elongate mouth; supports means for said housing including a base top consisting of two horizontally-disposed elongate, subtantially flat sections, with their inner edges spaced apart and facing one another and defining an elongate slot, aligned with said mouth; an upwardly-opening reservoir below said slot and below said coating and impregnating compartment and drip-dry compartment; heating means in said heat-dry compartment and carried by said side walls; means to selectively move said side walls toward and away from each other; conveyor means for sections of sheet material to travel through all of said compartments from said coating and impregnating compartment and disposed above and aligned longitudinally with said mouth; liquid discharge means adjacent and below said top wall and aligned longitudinally with said mouth to discharge liquid upon said sections of sheet material within said coating and impregnating compartment; and means to convey liquid from said reservoir to said liquid discharge means.

3,267,903
DEVICE FOR THE PREPARATION OF A COW'S UDDER FOR MILKING
Clarence R. Valentine, Davie, Fla. (Rte. 4, Rupert, Idaho 83350)
Filed Feb. 8, 1965, Ser. No. 430,959
3 Claims. (Cl. 119—1)



1. A device for the preparation of a cow's udder for milking comprising
(a) a tubular handle section for connection to a water supply,
(b) valve control means on said handle for controlling the flow of water through said handle,
(c) a nozzle at one end of said handle,
(d) brush means surrounding said nozzle, and
(e) a strip pad located on said handle adjacent the nozzle and in the path of deflected water flow from said nozzle and brush.

3,267,904
ANIMAL EXCLUDING TROUGH MEANS
Heinrich Biehl, Heinrichshof, near Trittau, Germany
Filed July 29, 1964, Ser. No. 385,968
Claims priority, application Germany, Oct. 31, 1963, B 74,092
3 Claims. (Cl. 119—63)



1. Apparatus for rearing and feeding piglets weaned away from the mother sow comprising, in combination, a series of cages in side-by-side relationship, each cage adapted to accommodate a piglet, said cages each including opposed side walls and the side walls of said series of cages being in spaced relationship, a fixed cover member within each of said cages, said cover members of the cages constituting said series being in longitudinal alignment, said cage side walls each being open at the portion thereof in alignment with said cover members, an elongated feed trough having closed upper portions inserted through said cages and below said cover members and longitudinally movable with respect thereto, said trough having closed ends and being of a length greater than the total length of said series of cages, a plurality of openings defined in the trough upper portion between said closed portions and axially spaced along the length of said trough, the axial spacing between adjacent openings corresponding to the spacing between adjacent cover members whereby said feed trough may be axially moved to a first position relative to said cover members locating said openings under a respective cover member within each cage and thereby preventing access to said openings by the piglets within said cages, axial shifting of said feed trough to a second axial position removing said openings from under said cover members and providing access to the interior of said feed trough through said openings.

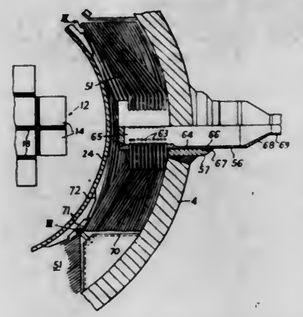
3,267,905
LEASH FOR ANIMALS
Barry Francis Fleming, Los Angeles, Calif., assignor of one-fourth to Lawrence E. Slavik, Milwaukee, Wis.
Filed June 8, 1964, Ser. No. 373,433
8 Claims. (Cl. 119—109)



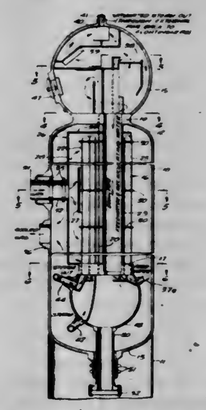
6. In a leash for pets; leash means attachable to the pet for retaining the pet under control; a shield carried by said leash means; and means for moving said shield between a collapsed position about said leash for storage and an open position extending outwardly of said leash means wherein it protects the pet that is attached to said leash means from the weather.

3,267,906
COMPACT HEAT SOURCE AND HEAT EXCHANGER
Thomas Deighton, London, England, assignor to Babcock & Wilcox Limited, London, England, a corporation of Great Britain
Filed June 30, 1964, Ser. No. 379,284
Claims priority, application Great Britain, July 3, 1963, 26,360/63
6 Claims. (Cl. 122—32)

1. A heat exchanger comprising a vertically elongated pressure vessel, a containing vessel disposed within and spaced from said pressure vessel forming an annular space therebetween, a heat source located within said containing vessel for heating a first fluid, a plurality of tube banks disposed within said annular space for flow through the tubes of said tube banks of a second fluid in indirect heat transfer relationship with said first fluid which flows upwardly through said containing vessel and downwardly through said annular space over said tube banks, each of said tube banks comprising a multiplicity of parallel sinuous tubes of similar shape and length and each formed by a number of horizontally arranged tube limbs interconnected by return bends, each of said tube limbs being arcuate in form and having substantially the same radius of curvature as the adjacent wall of said pressure vessel, said sinuous tubes in each tube bank arranged in a number of vertically extending horizontally spaced platens with the tube limbs in a single platen spaced apart and the tube limbs in adjacent platens disposed in staggered relationship, the return bends interconnecting said adjacent tube limbs in the same platen arranged in contacting engagement, and an inlet header and an outlet header for each of said tube banks disposed in said annular space superjacent said banks.

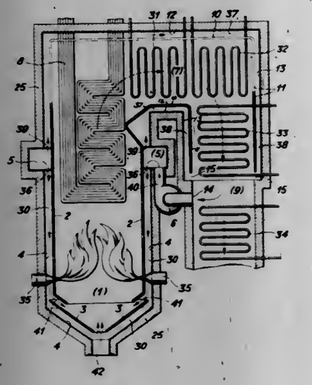


3,267,907
STEAM GENERATOR
Wayne E. Glausser, Arcadia, Carl H. Unruh, Pasadena, and Bernard J. Grotz, Jr., Arcadia, Calif., assignors to C. F. Braun & Co., Alhambra, Calif., a corporation of California
Continuation of application Ser. No. 73,615, Dec. 5, 1960. This application Aug. 27, 1963, Ser. No. 304,939
19 Claims. (Cl. 122—34)



1. In a steam generator, the combination of: an upright shell, means including a tubesheet closing the upper end of said shell, an upright bundle of generally parallel fluid-carrying tubes positioned within said shell, at least some of the tubes having ends fixed to said tubesheet, the shell having a lateral inlet pipe for hot gas located adjacent one side of said tube bundle, shroud means within said shell connected to said inlet pipe and enclosing at least a portion of said tube bundle to direct hot gas from said inlet pipe to flow substantially in a lateral direction within said shroud means across and through said tube bundle at least once before contacting the interior of said shell, and an outlet pipe for discharging cooled gas from said shell, said shroud means being positioned to direct gas, which has passed across said tubes, to said outlet pipe from the interior of the shell while preventing further contact between said gas and said tubes.

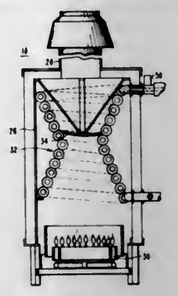
3,267,908
STEAM GENERATOR WITH FLUE GAS RETURN
Harendra Nath Sharan, Winterthur, Switzerland, assignor to Sulzer Brothers, Limited, Winterthur, Switzerland, a corporation of Switzerland
Continuation of application Ser. No. 331,214, Dec. 17, 1963. This application Aug. 3, 1965, Ser. No. 479,043
4 Claims. (Cl. 122—235)



1. A steam generator comprising a combustion chamber, a plurality of tubes forming a wall of said combustion chamber, said wall having a plurality of horizontally elongated apertures uniformly disposed longitudinally and circumferentially thereof and said tubes conducting operating medium of the steam generator, means for heating said tubes in said combustion chamber, said heating means including a hot combustion gas, a gas-tight wall placed outside of and in spaced relation to said tubes for forming a space therebetween, a flue connected to said combustion chamber for conducting flue gas produced by said combustion gas in said combustion chamber, and conduit means connecting an intermediate part of said flue and the space between said tubes and gas-tight wall, said conduit means including a blower for returning flue gas from said flue through the space between said tubes and gas-tight wall to said combustion chamber at a pressure higher than the pressure in said combustion chamber whereby the returning flue gas passing through the apertures in said combustion chamber wall prevents contact of said hot combustion gas and said combustion chamber wall.

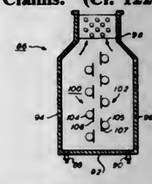
3,267,909
WATER HEATING APPARATUS
Bernard E. McClanahan, La Habra, Calif., assignor to Ace Tank and Heater Company, Santa Fe Springs, Calif., a corporation of California
Filed Apr. 20, 1964, Ser. No. 361,146
12 Claims. (Cl. 122—250)

1. Water heating apparatus for use in conjunction with a swimming pool or the like comprising a housing of substantially cylindrical form, a burner positioned at the base of said housing, a flue at the top of said housing, and a water tube member arranged in a vertically disposed hourglass configuration between the burner and the flue with the top and bottom portions of said hourglass configuration adjacent the housing to block the passage of combustion gases thereby and having a baffle member positioned across the narrow portion of the hourglass configuration, said water tube member including concentric portions for the bidirectional conduction of water therein and having a blocking member terminating the lower end of the water tube member in a manner such as to permit the reversal of water flow thereat within the water tube member and further having a coupling member connected to the upper end thereof for admitting water to flow into



an inner concentric portion of the water tube member and for permitting the flow of water out of the outer concentric portion of said water tube member.

3,267,910
PROCESS HEATER
Salvatore A. Guerrieri, Rowayton, Conn., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Sept. 2, 1964, Ser. No. 393,989
4 Claims. (Cl. 122—356)

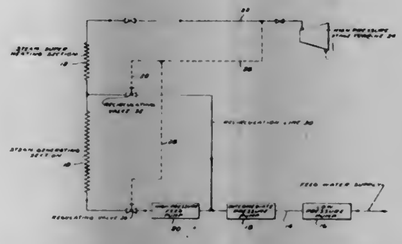


4. A radiant process heater comprising
a housing defining a chamber;
a plurality of burners in the walls of said chamber around the periphery thereof;
a plurality of process tubes arranged in two rows within said chamber, said tubes being adapted to receive radiant heat from said burners;
a heat conductive fin on each of said tubes extending the length thereof on the side of the tube away from the source of radiant heat; and
means for passing process fluid through said tubes.

3,267,911
SUPERCRITICAL STEAM POWER PLANTS
John Heathcote, New Malden, England, assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Nov. 20, 1964, Ser. No. 412,764
Claims priority, application Great Britain, Feb. 5, 1964, 4,928/64
4 Claims. (Cl. 122—406)

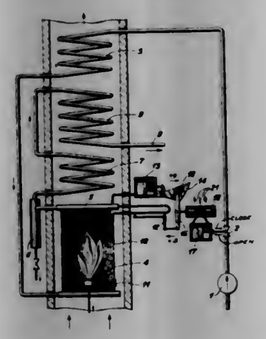
2. A circuit arrangement for a forced flow once through steam generator comprising:
a first heating section of heat absorbing conduit,
a second heating section of heat absorbing conduit connected downstream of said first heating section,
a high pressure pump means and a low pressure pump means upstream of the high pressure pump means, the high pressure pump means being upstream of the first heating section,
a first signal-actuated flow control means to control the flow from the high pressure pump means entering the first heating section and to maintain at least a predetermined minimum flow through the first heating section at all times during operation,

a recirculation conduit connecting a first point between said first heating section and said second heating section and a second point between said low pressure pump means and said high pressure pump means, said high pressure pump means being adapted to add sufficient pressure to form a greater pressure level at said first point than at said second point whereby the direction of any flow through said recirculation conduit is from said first point to said second point,



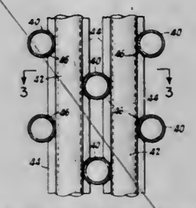
a second signal-actuated flow control means located in the recirculation conduit,
means to actuate said first signal-actuated flow control means and said second signal-actuated flow control means in accordance with the load on the steam generator, said second signal-actuated flow control means being adapted to maintain a flow through the recirculation conduit in excess of the load requirement when the first signal-actuated flow control means is maintaining the predetermined minimum flow through the first heating section.

3,267,912
METHOD OF AND APPARATUS FOR INFLUENCING THE RATE OF FEEDWATER SUPPLY TO FORCED FLOW STEAM GENERATORS
Fritz Läubli, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a corporation of Switzerland
Filed June 29, 1964, Ser. No. 378,775
Claims priority, application Switzerland, July 4, 1963, 8,332/63
10 Claims. (Cl. 122—451)



1. A method of influencing the rate of feedwater supply to a forced flow steam generator including means for regulating the rate of feedwater supply to the steam generator, an evaporator composed of a plurality of tubes arranged in parallel relation with respect to the flow of operating medium therethrough, one of said tubes being provided with a throttling means and being operated to produce slightly superheated steam, the others of said tubes being operated to produce substantially saturated steam, and a water separator arranged downstream of said evaporator, the method comprising:
measuring the temperature of the steam substantially at the outlet of said tube producing slightly superheated steam for producing a signal corresponding to said temperature,
measuring the pressure of the steam adjacent said water separator for producing a signal corresponding to said pressure,
combining said two signals for producing a combined signal, and
influencing said means for regulating the rate of feedwater supply by said combined signal for increasing the rate of feedwater supply upon an increase of the temperature and for decreasing the rate of feed water supply upon an increase of the pressure, and conversely.

3,267,913
APPARATUS AND METHOD FOR SUPPORTING TUBES
Jakob Brühl, Suessen, Germany, assignor to Kohlenscheidungs-Gesellschaft m.b.H., a corporation of Germany
Filed Aug. 4, 1964, Ser. No. 387,359
Claims priority, application Germany, Aug. 9, 1963, K 50,473
3 Claims. (Cl. 122—510)

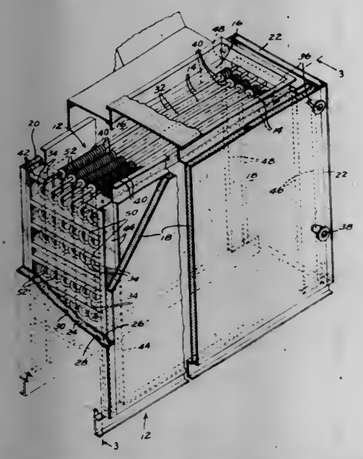


1. In a heat exchanger having an elongated gas pass for flow of heating gases therethrough, in combination a bank of upright parallelly spaced tubular coils suspended in said gas pass, each coil comprising a multiplicity of vertically spaced tubes; supporting means for said coils comprising a fluid cooled hanger tube positioned between said tubular coils; at least one continuous longitudinal fin projecting from said hanger tube and facing said vertically spaced tubes and extending throughout the height of said coils, said fin having a width within the cooling range of said hanger tube to prevent high temperature corrosion of said fin; said fin being provided with cut-outs to fit the contour of said vertically spaced tubes, said cut-outs being of a depth penetrating the major portion of the width of said fin; and a weld applied to said fin only and to said vertically spaced tubes within the extent of said cut-outs and without employing a direct weld to the body of said hanger tube.

3,267,914
ECONOMIZER SUPPORT
John M. Connell, Mountain Lakes, N.J., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Oct. 27, 1964, Ser. No. 406,752
3 Claims. (Cl. 122—510)

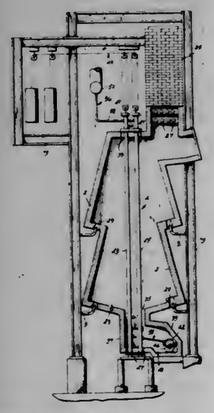
1. An economizer comprising
wall means including at least two opposed walls defining a vertically extending hot gas passageway;
a plurality of vertically oriented side-by-side tube banks;
each bank comprising tube sections including parallel straight tubes connected by tube bends to define a sinuous circulating fluid element;

support assemblies for the tube banks each comprising spaced apart vertical oriented channels;
a plurality of horizontal shelf members between the channels at vertically spaced intervals;
the support assemblies being disposed against said opposed walls to define a plurality of horizontally extending compartments adjacent each wall opening inwardly to the hot gas passageway;



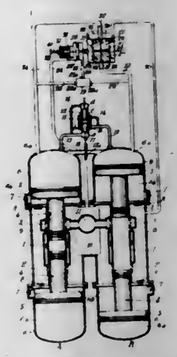
the shelf members being adapted to support the tube sections beneath each tube bend thereof;
the support assemblies further comprising vertical spaced elements extending through the shelf members in engagement with the parallel tubes holding the tube sections upright and the tube banks in spaced apart relationship.

3,267,915
FIRED HEATER
Kenneth A. De Ghetto, Livingston, William P. Long, Chester, and George Kratsios, Verona, N.J., and Shih-Yaun Yeh, Bronx, N.Y., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed June 11, 1965, Ser. No. 463,211
6 Claims. (Cl. 122—510)



1. A fired heater comprising:
an enclosure forming a chamber;
means for supplying hot gases to said chamber;
a row of tubes located in a common plane within said chamber, the longitudinal axis of each tube being parallel to the longitudinal axis of the other tubes;
means for supplying fluid into said tubes near one end of said tubes;
a header located in a plane parallel to said plane of said row of tubes and having its longitudinal axis at approximately right angles to the longitudinal axis of said tubes;
connectors extending directly from near the ends of said tubes opposite from the ends for supplying fluid into said header;
a bar parallel to said header in contact with each tube in said row of tubes and having a rate of thermal expansion approximately similar to said header whereby said tubes are spread apart by the thermal expansion of said bar as said header thermally expands preventing the breaking of said connectors by the thermal expansion of the header; and
means for retaining said bar in contact with said tubes.

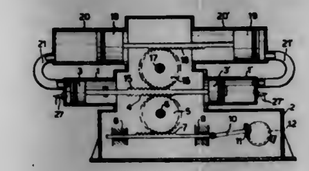
3,267,916
PLANTS INCLUDING AT LEAST TWO FREE PISTON AUTO-GENERATORS INTENDED TO WORK IN GIVEN PHASE RELATION TO EACH OTHER
Auguste Moiroux and Jean Guy, Lyon, France, assignors to Societe d'Etudes et de Participations, Eau, Gaz, Electricite, Energie S.A., Geneva, Switzerland
Filed July 7, 1964, Ser. No. 380,832
Claims priority, application France, July 25, 1963, 942,694
6 Claims. (Cl. 123—46)



1. A plant which comprises, in combination, at least two free piston auto-generators, each of said auto-generators comprising a motor unit and a compressor unit, said motor unit including two motor elements, a motor piston and a motor cylinder, one movable in the other to form between them a variable volume fuel combustion chamber, said compressor unit including two compressor elements, a compressor piston and a compressor cylinder, one movable in the other, each of said compressor elements being fixed to one of said motor elements, respectively, a casing fixed with respect to said motor cylinder for feeding compressed air thereto, said compressor elements forming between them on the one hand an air compression chamber for feeding said casing with compressed air and on the other hand a closed air cushion chamber the volume of which is reduced on every increase of volume of said fuel combustion chamber, whereby expansion of said air cushion produces every return stroke of said motor piston, a conduit having one end thereof in communication with said air cushion chamber, and a stabiliser mounted to control the communication between

the other end of said conduit and said casing, said stabiliser including a cylindrical housing, a hollow slide valve slidable in said casing and having a neutral position therein and check valve means carried by said slide valve arranged to open through said slide valve a unidirectional communication from said casing to said conduit when said slide valve is moved from said neutral position thereof in one direction and a unidirectional communication from said conduit to said casing when said slide valve is moved from said neutral position thereof in the other direction, means for producing a predetermined phase relation between the respective operations of said auto-generators, and means for urging the slide valve of each of said stabilisers in said first direction in response to an increase of the load of the plant and, in said second direction in response to an increase of the mean value of respective pressures characteristic of the pressures in the cushion chambers of said auto-generators, respectively.

3,267,917
OPPOSED CYLINDER VARIABLE PISTON STROKE INTERNAL COMBUSTION ENGINE
Camillo Bargero, Via Aristide Oggero, Casale Monferrato, Italy
Filed July 16, 1964, Ser. No. 383,065
5 Claims. (Cl. 123—56)

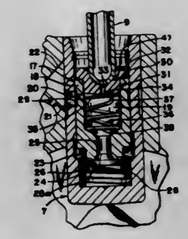


1. Internal combustion engine of the type having a crank case, at least one pair of opposite coaxial cylinders, one piston slidable in each cylinder, a first rack interconnecting said pistons, an engine outlet shaft and a toothed wheel meshing with said first rack, said engine comprising further a second rack meshing with said toothed wheel at a region thereof which is diametrically opposed to the region at which said toothed wheel meshes with the said first rack, means for supporting said second rack in the engine crank case and means for connecting the said second rack with the engine outlet shaft, the last mentioned means comprising a crank carried by the engine outlet shaft and radially freely displaceable with respect to the latter, a pin on said crank parallel to said outlet shaft and a connecting rod interposed between one end of the said second rack and the said pin.

3,267,918
FLUID METERING VALVE STRUCTURE
Harry Vincent Ayres, Saginaw, Mich., assignor to Eaton Manufacturing Company, a corporation of Ohio
Filed Aug. 3, 1964, Ser. No. 387,024
16 Claims. (Cl. 123—90)

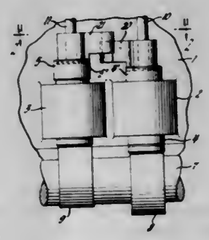
1. In a valve lifter including a hollow plunger having an open end and defining a fluid reservoir, a closure member fitted on the open end having a centrally disposed passageway extending therethrough communicating with the reservoir, and a fluid inlet extending through the wall of the plunger, the improvement which comprises:
(a) a closure member, the inwardly facing surface of which is a surface of revolution generated about the longitudinal axis of the passageway, the portion of the surface adjacent the axis of generation extending farther into the reservoir than the portion of the surface remote from the axis and adjacent the periphery thereof;
(b) a valve plate disposed in the hollow plunger adjacent said surface in tilted partially obstructing relation to the passageway for metering and filtering the flow of fluid therethrough; and
(c) resilient means supported in the hollow plunger engaging the valve plate for resiliently holding the valve plate in contact with said surface in tilted relation to the passageway.

6. A flow metering assembly for metering fluid under pressure through a passageway in a valve seat comprising:



(a) a valve seat having a centrally disposed passageway extending therethrough, through which the fluid passes, the extremity of the valve seat exposed to the source of fluid being a surface of revolution generated about the axis of the passage and diverging in a direction away from said source of fluid;
(b) a valve plate larger in diameter than the passageway disposed adjacent and in tilted relation to the passageway, and partially obstructing the passageway for metering and filtering fluid therethrough; and
(c) means for resiliently holding the valve plate in fluid metering relation to the passageway.

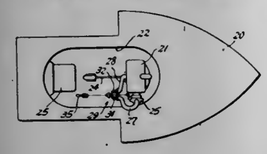
3,267,919
TAPPET ANTI-ROTATING DEVICE
Donald E. Wortman, Grand Rapids, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 21, 1965, Ser. No. 465,436
4 Claims. (Cl. 125—90)



4. A retainer for preventing axial rotation of adjacent tappets of the type having a cylindrical body with an open cylindrical cavity in one end, an annular internal groove in said cavity and a transversely extending recess adjacent said end, said retainer having a part-cylindrical portion and an integral out-turned leg portion, one of said portions engaging said recess, said part-cylindrical portion having an external flange at one end engaging said groove, and said leg portion terminating outwardly with a reverse-bent portion for slidably receiving a similarly reverse-bent portion of a retainer on an adjacent tappet.

3,267,920
MARINE ENGINE PROVIDED WITH MEANS TO PREVENT THE FLOODING THEREOF IN THE EVENT OF UPSET IN WATER

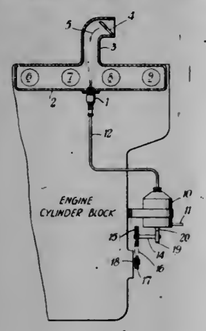
Fabio Pagenstecher, Milan, Italy
(541 E. 87th St., New York, N.Y.)
Filed Feb. 25, 1965, Ser. No. 435,314
15 Claims. (Cl. 123—98)



1. The improvement in marine type internal combustion engines for closing the intake and exhaust thereof when the engine becomes accidently submerged which engine includes a carburetor having an air intake, and an exhaust outlet from the engine, the improvement comprising:
(a) valve means for opening and closing the air intake and the exhaust outlet from the engine respectively,
(b) a manually operated means for moving the carburetor throttle valve toward open position,
(c) a connection between said valve means and said throttle means for opening and closing said throttle and valve means together,
(d) and spring means for urging said manually operated means to a position positively closing said throttle and valve means on release of the manual pressure from said manually operated means.

3,267,921
FUEL INJECTION FOR INTERNAL COMBUSTION ENGINES

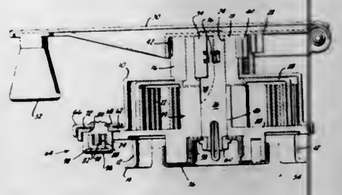
George Whitehurst, 37 Merton Road, Harrow, England
Filed Dec. 23, 1964, Ser. No. 420,533
5 Claims. (Cl. 123—139)



1. A combustion engine fuel system for an internal combustion engine having a plurality of operating cylinders comprising wall means defining a manifold connecting each of the engine cylinders and having an air inlet, a liquid fuel spray nozzle mounted on said manifold and arranged to direct a spray of liquid fuel into the stream of air coming in through said inlet of said manifold, and a positive displacement pump connected to said engine and operated thereby and having a discharge connected directly to said fuel spray nozzle, said pump being set to discharge at distinct and separate times needed quantities of fuel for each cylinder only during the respective intake portions of the cycles of operation of each affected engine cylinder and only over very short periods of the engine cycle time during which the affected cylinder is receiving fuel and air from said manifold.

3,267,922
RELEASE MECHANISM FOR STARTER

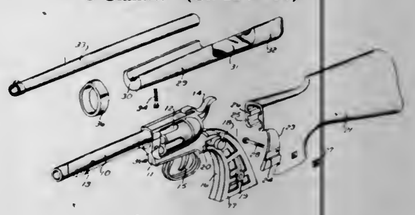
Lyle J. Hamman, Eaton Rapids, Mich., assignor to Eaton Stamping Company, Eaton Rapids, Mich., a corporation of Michigan
Filed June 20, 1963, Ser. No. 289,355
6 Claims. (Cl. 123—179)



1. A spring starter for internal combustion engines comprising, in combination,
(a) a housing adapted to be mounted on an internal combustion engine,
(b) spring winding means rotatably mounted on said housing,
(c) a drive member rotatably mounted on said housing,
(d) a drive spring connected to said spring winding means and said drive member,
(e) a release dog support mounted on said housing selectively movable between operative and inoperative positions,
(f) a release dog mounted on said release dog support,
(g) abutment means defined on said drive member adapted to be selectively engaged by said release dog, and
(h) means automatically shifting said release dog relative to said release dog support to clear said release dog from the path of said abutment means rotation upon disengagement of said release dog from said abutment means when said release dog is preventing rotation of said drive member.

3,267,923
CONVERTIBLE TOY FIREARM

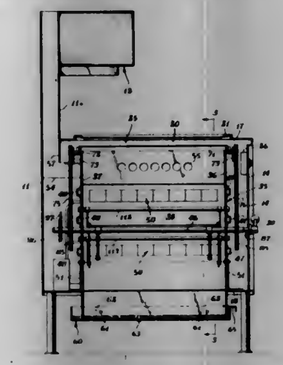
John N. Ronci, Mexico City, Mexico, assignor to Belron de Mexico, S.A., Calzada de Tulyehualco, Mexico, a corporation of Mexico
Filed Sept. 11, 1963, Ser. No. 308,289
5 Claims. (Cl. 124—30)



1. A convertible toy comprising a pistol having a housing with a revolver mechanism, a barrel extending from the front of said housing, a grip portion extending from the rear of said housing, a rifle stock member having a socket portion at its front end, said grip portion fitting into said socket portion, interlocking means for preventing relative movement between said grip and said socket portion, means for securing said stock to said grip, an auxiliary barrel, a mounting securing said auxiliary barrel in axial alignment with said barrel, said interlocking means including a cut out portion on said housing adjacent said grip, and complementary socket portions in said stock for meshing with said cut out portion to provide rigidity between said grip and said stock.

3,267,924
FOOD BROILING APPARATUS

Thomas C. Payne, Rte. 1, Rockton, Ill.
Filed May 25, 1964, Ser. No. 369,775
2 Claims. (Cl. 126—41)

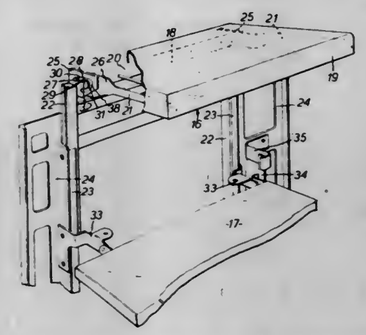


1. Apparatus for broiling food comprising a chamber defining an internal controlled atmosphere broiling compartment having an open upper end through which the food may be introduced into said compartment, food supporting means mounted within said chamber, including rack means adapted to under-support said food in a substantially horizontal attitude, pantograph linkage means mounted in said compartment and operatively connected to said food supporting means and adapted to maintain said rack means substantially horizontal throughout movement of said supporting means vertically within said compartment, closure means mounted adjacent the open upper end of said chamber and adapted to be moved selectively to close over and open the same, means for actuating said linkage means to move said food supporting means vertically between upper and lower limits within said chamber, means interlinking said actuating means and said closure means for operatively moving the latter to close the open end of said chamber in response to movement of said food supporting means to its said lower limit and for conversely opening the upper end of said chamber in response to movement of said food supporting means to its said upper limit, spring means associated with said actuating means for effectively assisting the opening movement of said closure means and positionable by said actuating means for resiliently holding said closure means closed over the open end of said chamber, and gas fired infra-red heat-producing means mounted on opposite sides of said chamber and arranged above and below a horizontal plane coincident with said food supporting means when the latter is in its said lower limit whereby food on said rack means has its top, bottom and side surfaces subjected substantially directly to infra-red rays from said heat-producing means.

3,267,925
GRILLING APPLIANCES

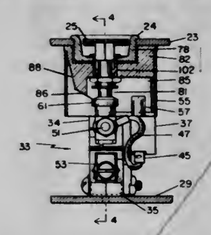
Arthur Frederick Oatley, Wilton Lodge, Wergs Road, Tettenhall, Wolverhampton, England
Filed Aug. 31, 1964, Ser. No. 393,114
7 Claims. (Cl. 126—41)

1. A grilling appliance comprising in combination:
a supporting structure forming the rear of the appliance;
carrier means vertically movable on said supporting structure;
a radiant;
heating means for said radiant;
a pivot swivelly mounting said radiant on said carrier means and adapted to permit limited horizontal movement between forward and rearward positions of said radiant with respect to said supporting structure;
and interengageable elements respectively associated with said radiant and said supporting structure and engaging one with the other in said rearward position so as to prevent downward angular movement of said radiant about said pivot and, in combination with said pivot, to support said radiant in cantilever fashion from the rear in a forwardly extending position-of-use, said interengageable elements disengaging one from the other in said forward position to allow pivotal movement about said pivot so that said radiant can be swung down into a vertical stored position.



3,267,926
ILLUMINATED PUSH BUTTON SWITCH ASSEMBLY

Arthur Ennis Prince, Succasunna, N.J., assignor to Otis Elevator Company, New York, N.Y., a corporation of New Jersey
Filed July 27, 1964, Ser. No. 385,193
6 Claims. (Cl. 200—167)



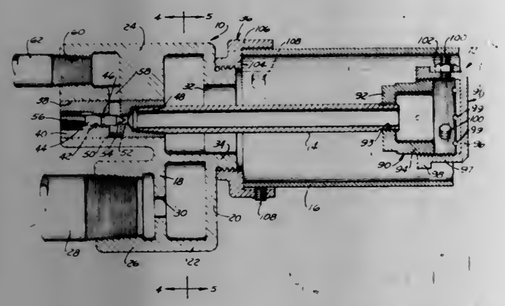
1. An illuminated push button switch assembly, comprising,
a face plate formed with an aperture,
a hollow member of transparent material disposed within and engaging the edges of said aperture and including an outwardly extending flange engaging the surface of said face plate,
said member protruding through said aperture on the side of said face plate opposite to said flange,
a switch mounted behind and spaced from that side of said member which is remote from said flange,
a push button recessed in said flange and operatively connected to said switch,
a lamp, and
means for transmitting light from said lamp to said flange, said means comprising,
a block of transparent material surrounding the protruding portion of said member and formed with a recess accommodating said lamp,

said block being formed with an exterior contour including a curved surface and a plurality of non parallel planar surfaces.

3,267,927
NOZZLE MIXING BURNER ASSEMBLY

Erwin E. Hirschberg, Rockford, Ill., assignor to Eclipse Fuel Engineering Co., Rockford, Ill., a corporation of Illinois

Filed Aug. 20, 1964, Ser. No. 390,886
12 Claims. (Cl. 126—91)



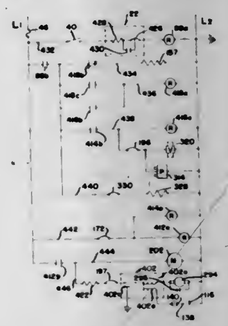
1. A gas burner assembly for the interior firing of an open-ended radiant tube, said assembly comprising, in combination, a burner casing having a rear wall provided with an air discharge opening therein designed for register with one open end of the radiant tube to be fired, said casing having another wall provided with an air inlet opening therein, means constraining air introduced into the casing to flow in an involute path and become discharged from said air discharge opening in a rearward direction with a swirling motion and at a low velocity, an elongated tubular gas nipple supported at its front end by said casing and projecting coaxially through said air discharge opening, a generally cylindrical gas nozzle mounted on the rear end of said gas nipple in coaxial relationship with the nipple and providing an internal gas chamber in communication with said gas nipple, said nozzle and nipple being adapted for projection into said tube through said one rear open end thereof, means providing a series of circumferentially spaced radial ports in communication with said internal gas chamber, means for regulably supplying gas to said gas nipple, and means for supplying air to said casing through said air inlet opening.

3,267,928
HEATER

Richard C. Spooner, Fairview Park, Ohio, assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia

Filed Jan. 15, 1964, Ser. No. 337,898
5 Claims. (Cl. 126—110)

1. Heating apparatus adapted to be energized by an electrical source, comprising:
(a) a liquid fuel burner,
(b) electrically energized fuel supply means to deliver fuel to said burner,
(c) electrically energized ignition means to ignite fuel within said burner,
(d) combustion air supply means,
(e) heat transfer air supply means,
(f) an electric motor for driving said combustion air supply means and said heat transfer air supply means.
(g) control switch means to start and stop operation of said burner,
(h) a burner preheater which is energized when said switch means is closed to warm said burner,
(i) a burner thermostat having normally open contacts which close when said burner thermostat reaches a predetermined temperature, said burner thermostat being in heat exchange relation with said burner, and
(j) a control circuit incorporating first, second and third relay means,
(1) said first relay means being energized when the contacts of said burner thermostat are closed to close a first normally open contact in circuit with said motor and ignition means, and to close a second normally open contact in series with said control switch means and in series parallel branch circuits through said fuel supply means and second relay means; thus energizing said motor, ignition means, fuel supply means and second relay means,



(2) said second relay means including a normally open contact in series with said third relay means, said normally open contact closing and energizing said third relay means when said relay means is energized,
(3) said third relay means incorporating;
(a) a normally closed contact in series with said control switch means and said preheater, and
(b) a normally open holding contact in parallel with the contact of said second relay means; whereby, when said third relay means is energized, said normally closed contact opens and deenergizes said preheater, and said normally open contact closes and keeps said third relay means energized, even if said first and second relay means later become deenergized.

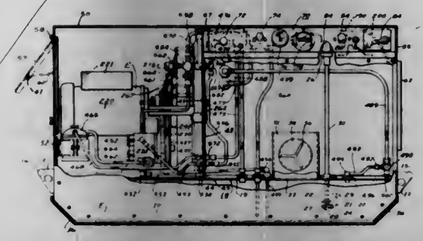
3,267,929
HEATING APPARATUS

Ralph S. Damon, Cleveland, Ohio, assignor to Hunter Manufacturing Company, Solon, Ohio, a corporation of Ohio

Filed Feb. 16, 1965, Ser. No. 433,104
13 Claims. (Cl. 126—110)

1. In a heating apparatus including a heat exchanger for heating air and a fuel burner for supplying heat to the exchanger, said burner being of the type having means defining a combustion chamber and nozzle means adapted to project fuel into the combustion chamber, a fuel system comprising:
pump means for supplying fuel under pressure to said nozzle means;
a fuel reservoir coupled to said pump means;
return flow means coupled between said nozzle and said reservoir to return a portion of the fuel from said nozzle to said reservoir;

modulator valve means coupled in said return flow means for controlling the back pressure in said return flow means and thereby control the fuel returned to said reservoir, said modulator valve means including a pressure responsive valve biased to open

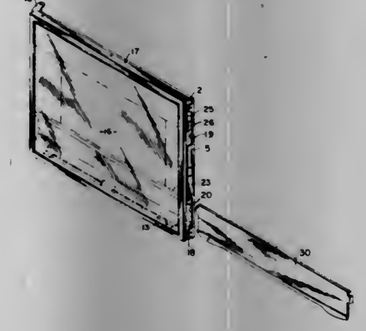


position by said back pressure and an adjustable means for biasing said valve to a closed position, and temperature responsive means positioned in the path of the heated air from said heat exchanger and coupled to said valve for opposing said biasing means.

3,267,930
OVEN DOOR WITH PANEL INSERTS

Richard E. Casciani, Ashland, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio

Filed Sept. 29, 1964, Ser. No. 400,130
3 Claims. (Cl. 126—200)

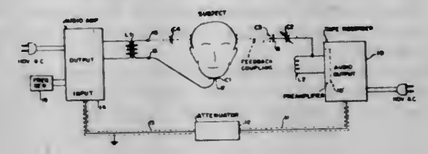


1. An oven door comprising an inner door liner having an opening therein, an outer frame likewise defining an opening, said inner door liner and outer frame having inturned flanges and being assembled with said flanges spacing the liner and frame apart and serving also to form a substantially fully closed peripheral wall, an inner glass pane disposed within said peripheral wall and interiorly against said liner, an outer glass pane also within the peripheral wall disposed interiorly against the outer frame, spacers between the inner and outer glass panes in engagement therewith maintaining said panes in spaced relation, a separately formed decorative panel insert, the peripheral wall being provided with a limited opening for passage of said panel insert to the interior of the thus assembled door between the inner and outer glass panes, and panel guide and support means adjacent the limited opening of the wall for slidably receiving the panel insert as inserted through the opening and supporting the insert behind a minor unobscured portion of the outer glass pane, whereby the decorative panel insert can be observed from the front of the door without precluding viewing therethrough.

3,267,931
ELECTRICALLY STIMULATED HEARING WITH SIGNAL FEEDBACK

Henry K. Puharich, 87 Hawkes Ave., Ossining, N.Y., and Joseph L. Lawrence, 570 Fort Washington Ave., New York, N.Y.

Filed Jan. 9, 1963, Ser. No. 250,301
7 Claims. (Cl. 128—1)

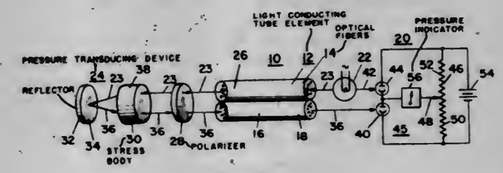


1. A system for electrically stimulating hearing in a human subject, which comprises
(a) a signal source of audio modulated electrical signals including an amplification stage,
(b) means adapted to be connected to viable nerves of the facial nerve system of a subject to effect a high impedance capacitive coupling between said signal source and said facial system of the subject, and
(c) means adapted to effect a high impedance capacitive feedback coupling between the body of the subject and said signal source on the input side of said amplification stage.

3,267,932
OPTICAL CATHETER MEANS

Edward G. Valliere, Roslyn, Pa., assignor to American Electronic Laboratories, Inc., Colmar, Pa., a corporation of Pennsylvania

Filed Nov. 13, 1962, Ser. No. 237,100
18 Claims. (Cl. 128—2.05)



1. Catheter means including a flexible light conducting tube element having a first end with means for receiving light from an external source and a second end, and a pressure transducing device for being insertable into the vascular system secured with the second end of said element for receiving light conducted by said element and delivering to the first end of said element light which is modified by said device responsive to the fluid pressure surrounding the locus of said device in the vascular system.

3,267,933
EKG COMPUTER

William E. Mills, Torrance, and Clifford Sanctuary, Rolling Hills Estates, Calif., assignors to Del Mar Engineering Laboratories, Los Angeles, Calif., a corporation of California

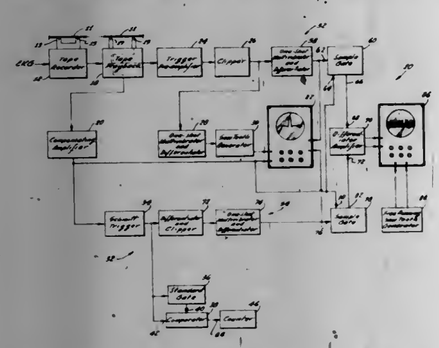
Filed Sept. 10, 1962, Ser. No. 222,272
20 Claims. (Cl. 128—2.06)

1. In a device of the class described, the combination of:
time-delay means for receiving electrocordiac signals and providing a first train of trigger signals and a second train to EKG signals having P, Q, R, S and T waves substantially identical to the original electrocardiac signals, each of the EKG signals in said

second train being delayed from a corresponding trigger signal in the first train by a predetermined time interval,

display means operatively interconnected with said delay means and responsive to the EKG signals in said second train to provide visual displays of the waveforms of the successive EKG signals in the second train, said display means being responsive to said trigger signals to synchronize said display means so as to superimpose each of said displays on a preceding display,

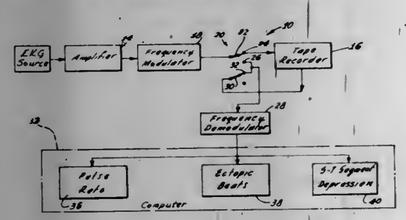
first sampling means operatively interconncted with said first time-delay means and including second time delay means responsive to the trigger signals in said



first train, said second time delay means including a varible time delay to actuate said sampling means to sample each of the EKG signals in the second train during the isoelectric reference portion between the P and Q waves, and

second sampling means including third time-delay means responsive to the ending of the QRS complex of the EKG signal in the second train, said third time-delay means including a variable time delay to actuate said sampling means to sample each of said EKG signals in the second train during the ST segment, each of said sampling means being operatively interconnected with said display means for producing visual displays on portions of the waveforms being sampled.

3,267,934
ELECTROCARDIAC COMPUTER
William E. Thornton, Chapel Hill, N.C., assignor to Avionics Research Products Corporation, Venice, Calif., a corporation of California
Filed Sept. 20, 1962, Ser. No. 224,969
23 Claims. (Cl. 128—2.06)



1. In a device of the class described for receiving electrocardiac signals wherein said signals will normally have a QRS complex preceded by a reference portion and followed by an ST segment, the combination of:

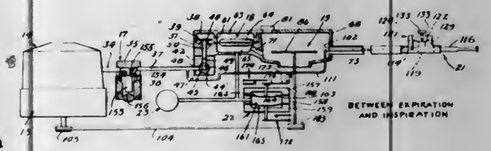
pickup means for receiving the electrocardiac signal,

first sampling means interconnected with said pickup means and effective to sample said electrocardiac signal during said reference portion to provide a first sample signal corresponding to the potential of said electrocardiac signal during said reference portion,

second sampling means interconnected with said pickup means and effective to sample said electrocardiac signal during said ST segment to provide a second sample signal corresponding to the potential of said electrocardiac signal during said ST segment, and

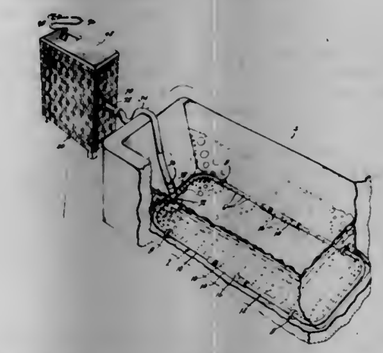
means operatively interconnected with said first and second sampling means, said last means being responsive to said first and second sample signals for comparing said signals and indicating the difference therebetween.

3,267,935
RESPIRATORY ASSISTER
Christian B. Andreasen, New Hope, Harold K. Richter, Willow Grove, and George H. Stoner, Warminster, Pa., assignors to Air-Shield, Inc., Hatboro, Pa., a corporation of Delaware
Filed May 4, 1961, Ser. No. 107,756
9 Claims. (Cl. 128—29)



1. A respiratory assister having a portable casing in which are housed the parts of a pneumatically self-contained assembly including fan means for generating a stream of air under pressure above atmospheric, and motor means for driving the fan means, the assembly comprising a patient's delivery device, conduit means for connecting the fan means with the patient's delivery device, a main control valve disposed in the conduit means, an exhaust port for connecting the conduit means to atmosphere at a point between the main control valve and the patient's delivery device, an exhaust port valve responsive to expiration by the patient to open the exhaust port, a fluid pressure device for urging the exhaust valve toward closed position during inspiration by the patient and including a fluid pressure control line having a point of connection with the conduit means between the main valve and the exhaust port, a check valve in the conduit means between said connection point and the exhaust port, said check valve being oriented to permit air flow in the direction from the fan toward the patient's delivery device and to prevent air flow in the opposite direction, control mechanism for the main control valve including a first diaphragm moveable to a control position in response to a build-up of pressure in the conduit means between the check valve and the patient's delivery device a second diaphragm movable to a control position in response to a build-up of pressure in the conduit means between the check valve and the patient's delivery device to close the main valve, a pneumatic connection between said diaphragms and the conduit means, means interconnecting said diaphragms and said main control valve for opening the main valve when the first diaphragm moves to its control position and for closing the main valve when the second diaphragm moves to its control position, a port for venting the fluid pressure control line; and means associated with the main valve to open the port upon closure of the main valve and to close the port upon opening of the main valve.

3,267,936
HYDROTHERAPY APPARATUS
Edward L. Brady, Leawood, Kans., assignor to Osborn Engineering Corporation
Filed Nov. 1, 1963, Ser. No. 320,645
16 Claims. (Cl. 128—66)



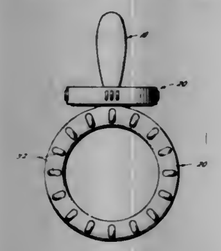
1. A hydrotherapeutic bath apparatus comprising, in combination:

(a) an elongated tubular ring adapted to be placed in a bathtub and to conform generally to the bottom interior contour thereof, said ring having apertures formed therein at intervals along its length and communicating with the interior thereof, the longer reaches of the tube forming said loop being divided substantially at their midpoints, whereby said ring is divided into two generally U-shaped sections,

(b) a tubular hinge joining each of the pairs of associated ends of said ring sections, the axis of said hinges being transverse to the hinged reaches of said ring whereby said ring may be folded into a position wherein the sections thereof are parallel and coextensive, each of said hinges being of a type such that when said ring is extended to its planar position the tubular interior thereof are uninterrupted through said hinges, and

(c) means for supplying air under pressure to the interior of said ring.

3,267,937
TEETHING RING-PACIFIER
Frans Verschoor, Mexico City, Mexico, assignor to Dunhill International, Inc., Ravenna, Ohio, a corporation of Delaware
Filed Apr. 23, 1964, Ser. No. 362,129
3 Claims. (Cl. 128—360)



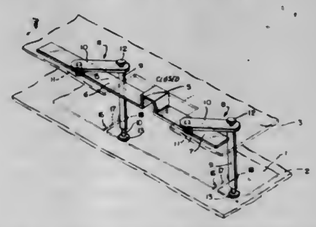
1. In an infant pacifier, the combination of:

a nipple having a barrel portion and an annular flange attached to said barrel portion and extending outwardly a substantial distance from adjacent one end of said barrel, said flange being of substantially uniform thickness from its juncture with said barrel to a point near its outer periphery, the outer periphery of said flange being substantially thicker than said uniformly thick portion and the upper surface of said flange tapering downwardly and inwardly in a relatively straight line from said periphery to said point near said flange's outer periphery;

a cap portion having a centrally perforated top receiving the barrel portion of said nipple, the upper surface of said top being of concave configuration, and an interiorly threaded skirt portion, the under surface of said top including means biting into the upper surface of said nipple flange, said biting means comprising a depending annular extension concentric with said perforated portion, and an annular cavity formed in said under surface of said cap top radially outward of said extension, said cavity being correlative in configuration to said thicker portion of said nipple flange, and receiving said nipple flange thicker portion therein; and

a teething portion having a ring member attached to a base member, said base member having securing means attaching said base member to said cap whereby said nipple flange is securely locked therebetween, said securing means including an exteriorly threaded disc portion for mating with said threaded portion of said cap skirt, said disc portion of said base member pressing against the underside of said nipple flange when said disc threads are mated with said cap skirt threads thereby causing said cap top extension to bite into said nipple flange.

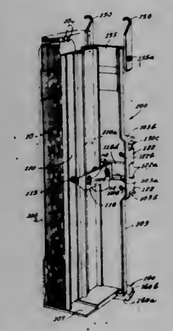
3,267,938
LOOSE-LEAF HOLDERS
Solomon Kopelovitz, 36 Brandeis St., Tel Aviv, Israel
Filed Dec. 14, 1964, Ser. No. 417,871
2 Claims. (Cl. 129—18)



1. Loose-leaf binder cover apparatus for holding loose sheets in a stack between front and back covers, each of said sheets having a keyhole slot extending as a throat from one edge to a circular hold portion which is appreciably greater in width than said throat, said apparatus comprising: a one-piece injection molded flat strip push rod having a central raised knob portion which projects through and is slidable in an elongated opening in the front cover at an edge thereof and having apertures between the central knob portion and its ends, said rod being disposed inside said edge of the front cover, each of said covers having apertures adjacent said edge serving to mount rotatable post units; injection molded one-piece plastic rotatable post units, one for each hole of the filler sheet, each of said post units having a vertical main body portion of oblong cross section which is adapted to enter the throat and hole portion of the keyhole slot of the filler sheet, pin portions at the upper and lower ends of the oblong body portion rotatably mounted in the apertures of said cover and a right angle lever arm portion extending from each upper pin portion and serving as the operator for said post units inside said front cover, each of said lever arm portions having a pin element near the end of its under surface engaging in the adjacent aperture of said flat strip push rod, said lever arm portions being

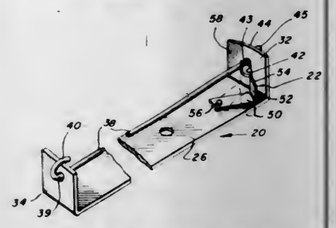
parallel to each other whereby the lever portion with its pin element in said aperture moves freely with its under surface in contact with the upper surface of the flat strip push rod below the front cover and said knob portion serves as the sole means which is operated from the outside of said front cover through which it projects; mounting caps disposed over the ends of said post pin portions securing said post units rotatably in the apertures in the front and back covers respectively.

3,267,939
RETAINING AND REPLACEMENT MEANS FOR DATA-STORAGE ELEMENTS
Ronald K. Ford, Orange, and Louis W. Thies, Jr., Palos Verdes Estates, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed July 11, 1962, Ser. No. 209,121
2 Claims. (Cl. 129—28)



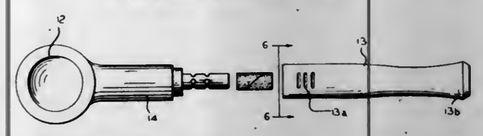
1. A canister for use in retaining and permitting rapid removal of a plurality of flexible generally rectangular data-storage strips each having coded notches at one edge thereof, comprising: a body portion having first and second generally rectangular walls at substantially right angles to one another and a bottom plate at substantially right angles to both of said first and second walls, the length of said walls being chosen so that when the bottom short edges of said strips are rested on said bottom plate the major portion of the lengths of said strips will be within said first and second walls with the coded notches of said strips extending thereabove, a control bracket slidably mounted to said second wall in the central vicinity thereof and accessible from the outside thereof for movement in a direction away from said first wall, a movable generally rectangular plate having approximately the same width and length as said first wall and disposed substantially parallel thereto, spring means coupling said control bracket to the side of said movable plate opposite from said first wall so that the position of said movable plate relative thereto is controllable in response to the action of said spring means on said movable plate as said control bracket is moved with respect to said second wall, releasable locking means including a spring biased ratchet affixed to the outside of said second wall adjacent said control bracket, a tooth affixed to said control bracket in cooperative relationship with said ratchet so as to permit a set of strips interposed between said first wall and said movable plate to be resiliently locked therebetween as a result of movement of said control bracket towards said first wall, and a releasing flange depending from said ratchet and disposed so as to permit removing said ratchet away from said tooth to unlock said control bracket for movement of said movable plate away from said first wall whereby to release a set of strips interposed therebetween, a pair of spaced curved hooks affixed to the upper portion of said second wall and extending thereabove beyond the coded notches of a set of strips when held in said canister, said hooks being located so that a line drawn between the inner curved surfaces of said hooks is located substantially parallel to said bottom plate and substantially perpendicular to said first wall and spaced from the outside of said second wall with the inner curved portion of said hooks facing toward said second wall, and a step member depending from the bottom of said second wall and having an aligning surface extending below and parallel to said second wall.

3,267,940
LOCK DEVICE FOR BINDER
Hector La Fleur, 4527 N. Damen Ave., Chicago 25, Ill.
Filed Aug. 17, 1964, Ser. No. 389,851
2 Claims. (Cl. 129—38)



1. In a binder of the character described which has a channel shaped bracket having a pair of upstanding ears connected by a flat plate for supporting a catalog thereon between said ears, an elongated clamping wire pivotally secured at one end thereof to one of said ears and being longer than the distance between said ears, a hook on the second end of said wire adapted to reach beyond said second ear, said second ear having a slot formed therein, said slot having a narrow portion for receiving said hook end of the wire therethrough only with accompanying foreshortening of the wire and a wider portion, and a lock device comprising a relatively flat segment having an upstanding flange portion, said lock device being pivotally secured on said plate next adjacent said slot for movement on a pivot axis perpendicular to the plane of said flat plate to a lock position where said upstanding flange is juxtaposed said second ear and said slot, and said segment is parallel to and in contact with said flat plate, said upstanding flange being of a height to extend from said flat plate to substantially cover said wider portion of said slot and subtend said wire whereby to prevent foreshortening of the wire, said lock device being pivoted to a release position with the lock offset from said flat plate and said slot to permit the clamping wire to be released from said second ear by a foreshortening movement of said wire.

3,267,941
SMOKING DEVICE
Max J. Doppelt, 1920 W. Sunnyside Ave., Chicago, Ill.
Filed Feb. 14, 1964, Ser. No. 344,851
4 Claims. (Cl. 131—198)



1. A smoking device comprising:
a tobacco receiving bowl;
a hollow mouthpiece including a bit portion, said mouthpiece having a plurality of air intake openings therein;

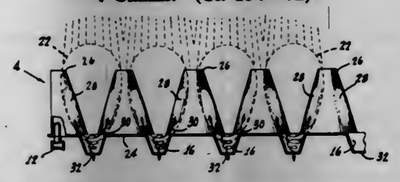
a hollow tubular member extending from said bowl and received within said mouthpiece, said tubular member having a perforated sleeve-receiving portion spaced from the internal wall of said mouthpiece, said tubular member providing a passageway for smoke from said bowl to said bit portion; and
a porous moisture absorbing sleeve means slidably mounted on and in intimate engagement with the perforated sleeve receiving portion of said tubular member, the air intake openings of said mouthpiece and the perforations on the sleeve receiving portion being in proximity and cooperating with said porous sleeve to cause air from the atmosphere to mix with the warm smoke being drawn from said bowl as the smoker creates a vacuum at said bit portion of the mouthpiece, the heat from said smoke being transferred through said sleeve receiving portion to said sleeve causing evaporation of moisture therefrom.

3,267,942
SELF-SUPPORTING FABRIC HAIR CURLER
George de Mestral, Commugny, Vaud, Switzerland
Filed June 19, 1963, Ser. No. 289,118
Claims priority, application Switzerland, July 3, 1962, 7,995/62; July 12, 1962, 8,410/62
4 Claims. (Cl. 132—40)



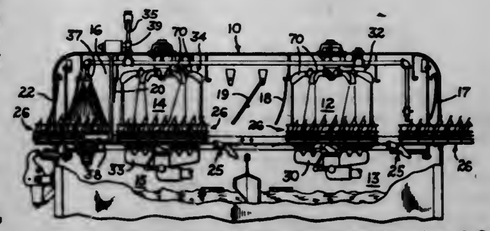
1. A hair curler comprising a self supporting cylindrical body of flexible fabric material including warp and weft threads, a plurality of hair engaging bristles projecting from the outer surface of said material, certain of said warp threads being of larger cross section than the other warp and weft threads forming said body and providing reinforcing rings at least at each end of the body to impart additional rigidity thereto such that said body will return to its original cylindrical shape after being crushed.

3,267,943
EGG WASHING EQUIPMENT
Henry Y. Kuhl and Paul R. Kuhl, both of Copper Hill-Reaville Road, Flemington, N.J.
Filed Jan. 11, 1965, Ser. No. 424,674
4 Claims. (Cl. 134—72)



1. Egg washing equipment comprising a chamber, conveying means movable through the chamber, egg supporting trays removably supported on the conveying means and movable therewith through said chamber, said trays having upwardly facing egg receiving recesses therein which are closed about the sides and provided with a discharge opening in the bottom thereof, said trays also having generally conical egg spacing projections extending above the recesses adjacent the sides of the recesses with said projections presenting closed downwardly inclined surfaces for directing liquid into the recesses, and liquid spraying means located above the trays and conveying means in position to project liquid downward onto and about eggs located in said recesses and over the inclined surfaces of the egg spacing projections into said recesses for discharge through the openings in the bottoms of the recesses.

3,267,944
SPRAY DEVICE FOR DISHWASHING APPARATUS
David A. Meeker, Thomas B. Heckman, and Gerald B. Fox, Troy, Ohio, assignors to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio
Filed Dec. 5, 1963, Ser. No. 328,226
2 Claims. (Cl. 134—179)

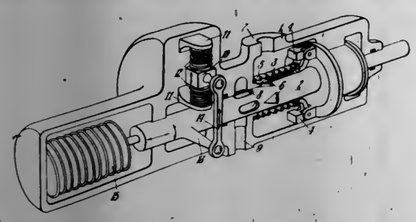


1. In a dishwashing machine having a housing defining a cleansing chamber and means for supporting articles to be cleansed in said chamber, an improved rotary spray device comprising a hub member having a plurality of radially extending liquid passages, means supporting the center of said hub member defining an axis of rotation of said hub member extending vertically of said chamber, means forming inlet passages in said hub member spaced inward from the periphery of said hub member and connected to said liquid passages, a nozzle member mounted to extend radially outward from said hub member at the radially outward end of each of said liquid passages, each of said nozzle members including a curved flow directing scoop having an inlet portion fitted to said hub member and of approximately the same cross-sectional dimension as the corresponding liquid passage, a discharge portion on each of said scoops extending transversely to the associated said nozzle member to direct all of the liquid flowing from the associated said nozzle member in a direction generally parallel to said axis of rotation and to confine the flow of discharged liquid essentially to within a cylindrical path which coincides with the circular path of travel of the respective discharge portions about said axis of rotation, and a curved guiding wall extending between said inlet portion and said discharge portion of each said scoop, said guiding wall being curved through approximately 90° to change the direction of liquid passing therethrough, said nozzle member having a flow directing surface extending toward said guiding wall of the associated said scoop to direct substantially the entire flow of liquid therethrough against the wall surface of the associated said scoop to cause the liquid to flow along said curved wall of said scoop and to leave said discharge portion of said scoop in a relatively wide stream.

3,267,945
ANTI-STICKING FUEL FLOW CONTROLLING DEVICE
Harry Simister Bottoms, Olton, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed May 23, 1963, Ser. No. 282,736
3 Claims. (Cl. 137—19)

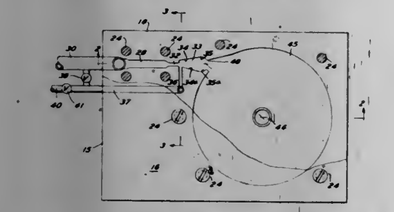
1. A fuel flow controlling device comprising in combination a body adapted for mounting so as to be capable of limited movement relatively to an engine to which the device is intended to supply fuel, the body defining a

cylindrical bore, a hollow cylindrical member axially movable within the bore, an aperture defined in the wall of the cylindrical member and through which fuel can flow, the size of said aperture being controlled by the axial setting of the cylindrical member within the bore, an arm extending laterally outwardly from the cylindrical member and being connected to a rod, which is adapted



for connection to a part which is capable, in use, of oscillating in sympathy with the engine vibrations, said vibrations being transmitted through the rod and arm to cause angular oscillations of the cylindrical member relatively to the bore, but said rod permitting free movement of the cylindrical member relatively to the bore in a direction parallel to the bore axis.

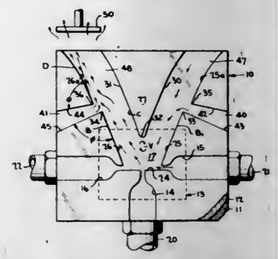
3,267,946
FLOW CONTROL APPARATUS
Robert B. Adams, Abington, and Coleman B. Moore, Uwchland, Pa., assignors to Moore Products Co., Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 12, 1963, Ser. No. 272,663
11 Claims. (Cl. 137—81.5)



1. Fluid flow control apparatus comprising
a vortex chamber whose section is substantially a circle in one plane,
said vortex chamber having an outlet axially disposed with respect to said chamber section,
a fluid inlet portion in the peripheral wall of said chamber,
means exteriorly of said chamber for supplying a fluid jet through said inlet portion,
said means having members for varying the direction of said jet at the point where it enters said chamber in a range between delivery radially toward said vortex chamber outlet and tangentially in said vortex chamber for discharge.

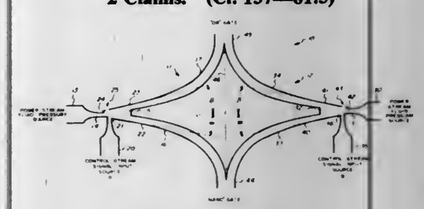
3,267,947
PRESSURE RECOVERY FROM BISTABLE ELEMENT
Ronald E. Bowles, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed June 17, 1963, Ser. No. 288,567
22 Claims. (Cl. 137—81.5)

15. A pure fluid system comprising an interaction chamber, a divider having a relatively narrow end and walls diverging outwardly at an angle of not greater than approximately 90° relative to one another, said end of said divider defining one end of said interaction chamber, a power nozzle for issuing a stream of fluid across said interaction chamber towards said end of said divider, a pair of outwardly diverging sidewalls defining opposite sides of said interaction chamber and extending from a location upstream of said end of said divider to a location downstream thereof, at least one of said sidewalls being located such as to cause a boundary layer to be established between



said sidewall and a stream of fluid issued by said power nozzle, said sidewall defining an outlet passage with an adjacent wall of said divider, a further passage extending generally transverse to and through said one of said sidewalls into communication with said outlet passage, said further passage extending into communication with a region of predeterminable pressure.

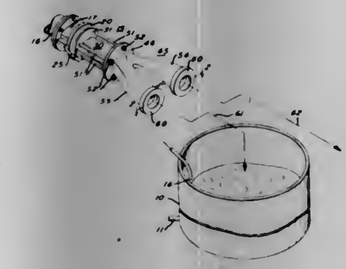
3,267,948
FLUID LOGIC APPARATUS
Eugen Groeber, Salt Lake City, Utah, assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Aug. 15, 1963, Ser. No. 302,396
2 Claims. (Cl. 137—81.5)



1. A pure fluid logic device comprising:
(a) a pair of monostable fluid logic elements,
(b) each of said elements having an input channel for defining a path of power stream fluid flow, first and second output channels each defining a path of fluid flow, a chamber formed by the intersection of said input channel and said output channels, and a control signal channel connected to said chamber for defining a path of control stream fluid flow cooperative with said power stream fluid flow, said chamber being so constructed that power stream fluid from said input channel tends to flow through said first output channel in the absence of control stream fluid flow, while in the presence of said control stream fluid flow said power stream fluid tends to flow through said second output channel,
(c) said first output channels of said pair of elements being directly connected to form a first common output channel,
(d) said second output channels of said pair of elements being directly connected to form a second common output channel,
(e) NAND gate means connected to said first common output channel for providing a NAND signal when control signals are applied simultaneously to said control signal channels, and

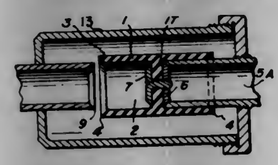
(f) OR gate means connected to said second common output channel for providing an OR signal when a control signal is applied to one of said control signal channels.

3,267,949
LEVEL CONTROL APPARATUS
Robert B. Adams, Bethayres, Pa., assignor to Moore Products Co., Spring House, Pa., a corporation of Pennsylvania
Filed Mar. 2, 1964, Ser. No. 348,514
5 Claims. (Cl. 137—81.5)



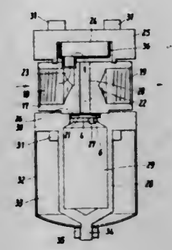
1. Control apparatus comprising a vessel, and an elongated fluid interaction chamber for controlling the liquid level in the vessel, said interaction chamber being bounded by upper and lower walls and by opposite side walls each with continuous divergent and convergent portions for guiding fluid flow in two different conditions, said chamber having a nozzle member at one end thereof for directing into said chamber a fluid jet along an axis lying between said side walls, portions of said side walls being asymmetrically disposed with respect to the axis of said jet, said chamber having a control opening in one only of said side walls communicating with the divergent portion thereof, said chamber at the other end thereof having a discharge opening for discharging fluid from said chamber in a direction determined by the pressures on the opposite sides of the stream along said divergent side wall portions, a sensing fluid connection for continuous fluid flow in communication with said vessel at the level to be maintained and with said control opening for continuous fluid flow to said opening, and a delivery section connected to said chamber at said discharge opening, said delivery section having a fluid passageway connected to said vessel for fluid delivery thereto.

3,267,950
ALTERNATING CHECK VALVE ARRANGEMENT
Jesse D. Langdon, East Rockaway, N.Y.
(1000 Franklin Ave., Valley Stream, N.Y. 11580)
Filed Mar. 11, 1963, Ser. No. 264,390
6 Claims. (Cl. 137—112)



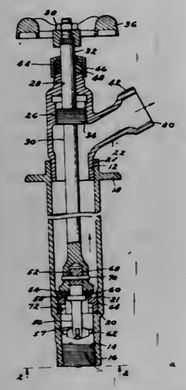
1. A device of the character described comprising hollow casing means provided with opposite inlet ends and outlet means extended thru the wall of the casing means, tubular means extended convergently from the opposite ends and communicating with the hollow of the casing, the outer wall surfaces of said tubular means forming seats, sleeve valve means shiftable longitudinally of said tubular means and including annular skirt means made of deformable material capable of resuming form after being deformed, said skirt means surrounding and projecting forwardly of valve seat means disposed transversely of the hollow sleeve valve means forming closure means arranged to seat alternately against respective inner ends of either convergent seat means according to relative conditions of pressure in said inlets, the inner ends of the converging tubular seat means being spaced apart and arranged to be extended into at least one skirted end of said sleeve valve means at all times, the hollow of said casing means clearing the outer diameter of said sleeve valve means to permit passage of pressure fluid from either inlet end to said outlet means, whereby fluid pressure inside said casing means is effective to compress respective skirt means around the outside of that tubular valve seat means that is subject to a lower pressure, the opposite tubular seat means projecting positive fluid pressure inside of and expanding its associated skirt means to permit fluid flow into the hollow of said casing means.

3,267,951
DISCHARGER FOR CONDENSATION WATER
Hans-Martin Pape, Bremen-Horn, Germany, assignor to Gustav F. Gerdts K.G., Bremen, Germany, a corporation of Germany
Original application Apr. 16, 1962, Ser. No. 187,517, now Patent No. 3,200,834, dated Aug. 17, 1965. Divided and this application Nov. 25, 1964, Ser. No. 420,480
2 Claims. (Cl. 137—183)



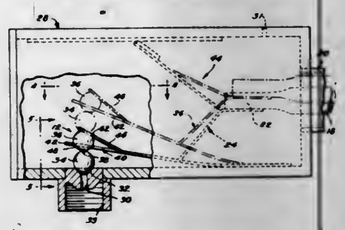
1. A condensate discharger, comprising a central casing block, a casing located below said casing block and connected therewith, a valve plate movable within said casing from a closing position to an open position and vice versa through a stroke space within said casing, said casing block having an inlet opening, an outflow opening and inflow and outflow channels connected with said openings and communicating with the interior of said casing, a cover mounted upon said casing block and enclosing a hollow space communicating with said inflow channel, a sieve constituting a dirt collector and mounted in said hollow space, said casing being located opposite said cover relatively to said casing block, said valve plate and said casing block having sealing surfaces which are in engagement when said valve plate is in said closing position, said valve plate closing said inflow channel in said closing position, said casing enclosing a pressure chamber located below said stroke space, said pressure chamber being of substantially large size and a multiple of the size of said stroke space, whereby steam produced by the condensate in the pressure chamber diminishes the frequency of the stroke of said valve plate, the inflow channel extending through the entire casing block from said hollow space to said sealing surfaces and said pressure chamber.

3,267,952
FROSTPROOF SILLCOCK
Donald L. Pletcher and John D. Stalter, Elkhart, Ind., assignors to Nibco, Inc., Elkhart, Ind., a corporation of Indiana
Filed Nov. 13, 1962, Ser. No. 236,867
8 Claims. (Cl. 137—316)



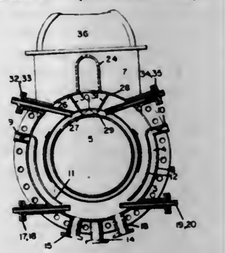
1. A sillcock comprising an elongated tubular member, an internal shoulder in said tubular member near one end thereof, a portion of said member above said shoulder being threaded, and a removable sub-assembly for said tubular member comprising a body threaded to the other end of said tubular member, said body having a passage therein connected to the interior of said tubular member, an elongated valve stem movably carried by said body and having one end thereof extending into said tubular member, means for rotating said valve stem and effecting lengthwise movement thereof with respect to said tubular member, said one end of said valve stem being provided with a cavity which opens toward said shoulder, an abutment on said one end of the stem surrounding said cavity, a rod having an end portion in said cavity, means for securing said rod to said stem, a flange on said rod axially spaced from said abutment, a resilient valve element interposed on said stem and held against said abutment by the flange on said rod, a plurality of fingers on the other end portion of said rod, an externally threaded annular valve seat member removably mounted with a threaded fit with the threaded portion of said tubular member in abutting engagement with said shoulder, said rod extending freely through the passage in said seat member, and a selectively engageable and disengageable driving connection provided between said threaded annular valve seat and said fingers consisting of a plurality of slots provided in the surface of said threaded valve seat member facing said shoulder, one slot for each of said fingers, said fingers being disengaged from said seat member in the normal valving movement of said stem and said rod, said fingers having abutment surfaces which are constructed and arranged upon selected movement of said valve stem to engage and interlock with the walls of the slots in said threaded valve seat member to form said driving connection which is effective upon rotation of said valve stem in one direction to rotate said seat member into threaded engagement with the threaded portion of said tubular member and into shoulder engaging position, and said driving connection being effective upon rotation of said stem in the other direction to rotatably unthread said seat member from said threaded portion and move said seat member away from said shoulder engaging position upon disassembly of said body from said tubular member.

3,267,953
VALVE ASSEMBLY
Leo Marcoux, Pawtucket, R.I., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed May 7, 1963, Ser. No. 278,640
12 Claims. (Cl. 137—329.04)



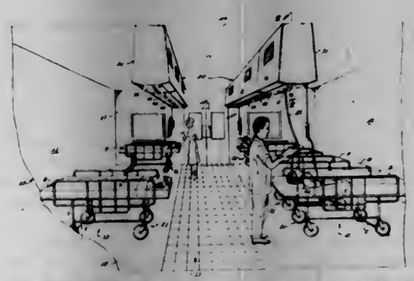
1. A device for the control of fluid flow comprising a housing, said housing having a port communicating with the exterior of said housing; first and second spherical members, said first member being engageable with said port for controlling fluid flow therethrough said first and second spherical members being substantially identical in size whereby they may be used interchangeably one for the other; said members being rigidly directly interconnected at contiguous tangential portions of the peripheries of each of said members; and means engaged with said second member for mounting said first member for movement relative to and for seating in a portion of said port to restrict fluid flow therethrough.

3,267,954
SLIDE VALVE, PARTICULARLY A HOT-BLAST SLIDE VALVE OR A HOT-GAS VALVE
Johannes Uerlichs, Duren-Birkesdorf, Germany, assignor to Hermann Rappold & Co., G.m.b.H., Duren-Birkesdorf, Germany
Filed Mar. 16, 1964, Ser. No. 352,117
4 Claims. (Cl. 137—340)



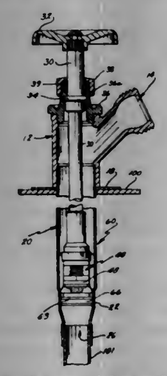
1. A slide-valve, particularly a hot-blast slide-valve or a hot-gas valve comprising a casing having an inner and an outer wall and a gas passage aperture therethrough, a valve tongue slidable in said casing to open or close said aperture, a cooling chamber having an inlet and an outlet through which a cooling medium may flow located in said casing at each side of said tongue, said inlets being located at the outer wall of said casing approximately level with the middle axis of said passage aperture on both sides of said aperture, guiding members for conducting the cooling medium in the cooling chamber from said inlets away in vertical direction along the outer wall of said casing and reversing the cooling medium in the area of the lowest point of said cooling chamber between the ends of said guiding members, said ends being spaced at a distance from each other so that said medium is subsequently conducted between said guiding members and the inner wall of said casing and flows upwardly to and out of said outlets located at the highest point of said cooling chambers, and connections located in the area of reversing said cooling medium for compressed air or water under pressure for momentary scavenging of said cooling chambers.

3,267,955
HOSPITAL RECOVERY ROOM FACILITY
Hugh H. Logan, Glendale, George I. Doty, La Canada, James F. Nelson, Woodland Hills, Frank K. Alfultis, Sunland, Charles E. Lockhart, Jr., Glendale, and Henry M. White, Woodland Hills, Calif., assignors to Logan Hospital Equipment Co., Glendale, Calif., a corporation of California
Filed Oct. 1, 1963, Ser. No. 312,958
8 Claims. (Cl. 137—357)



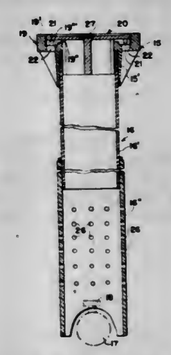
1. A hospital facility comprising a room with walls, a floor and a ceiling, a doorway in a wall of said room, there being an areaway for attendant personnel on a portion of the floor of said room, including a walkway connected with said doorway, a row of beds disposed with the head ends thereof generally along a line bordering said areaway, and service means in said room comprising horizontally elongated housing means extending generally along said line, a series of repeated groups of service outlets in and spaced longitudinally along said housing, one proximate to the head end of each of said beds, duct means extending longitudinally through said housing means, and supply means in said duct means having feeder branches leading and connected to said outlets.

3,267,956
FROST-PROOF SILLCOCK
Robert R. Kline, Nacogdoches, Tex., assignor to Nibco, Inc., Elkhart, Ind., a corporation of Indiana
Filed May 11, 1964, Ser. No. 366,322
9 Claims. (Cl. 137—360)



1. A frost-free sillcock comprising: a hollow body member having an exterior portion and an elongated interior portion projecting therefrom; said exterior portion having a discharge port and an open end, said open end aligned with said interior portion of said body member; means for closing said open end; a valve stem extending through said means and lengthwise substantially the full length of said interior portion; the inner end of said valve stem mounting a valving unit, said valving unit having a valve body, a valve member and a valve seat said valve member being mounted, intermediate said valve stem and said valve seat; the diameter of said valving unit being less than that of the opening in said open end and being axially slideable into said body member and a locking element on said valve body locking said valve body against rotation to said interior portion of said housing adjacent the inner end thereof, permitting said stem, and valving unit to be withdrawn axially from said body member through said open end.

3,267,957
GAS VALVE SERVICE BOXES WHICH ARE VENTILATED AND OFFER CHIMNEY-ACTION FOR ESCAPING GAS
Joseph T. Glennon, 127 Lincoln Ave., Elizabeth, N.J.
Filed July 13, 1964, Ser. No. 382,266
10 Claims. (Cl. 137—364)

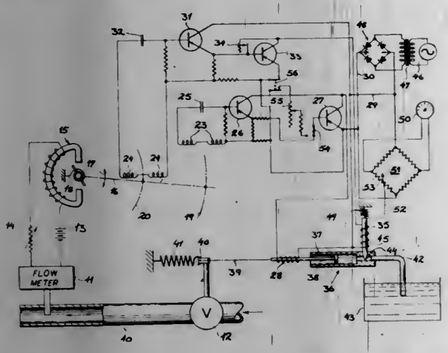


1. In a valve box of the character described, a pipe leading downwardly from substantially ground level to a sunken gas valve having an upright formation which is to be turned to open and shut said valve by use of a long-shanked wrench to be inserted through said pipe, a collar member mounted on the upper end of said pipe; said collar member at its upper end having an outward flange around it which is an upright annular channel having an outer ring wall and an inner ring wall and a closure lid having a plurality of feet extending downwardly therefrom and resting in said channel; said lid being positioned within said outer ring wall and substantially filling said outer ring; the undersurface of said lid being spaced from said lower ring wall; the upper surface of said lid being substantially flush with the upper ring surface of said outer ring wall; said lid having openings in its periphery which make the interior of the pipe communicative with the atmosphere.

3,267,958
STABILIZING SYSTEM FOR FLUID PARAMETERS
Georg Weisheit, 37 Trappenbergstr., Essen-Stadtwald, Germany
Filed June 22, 1964, Ser. No. 376,849
9 Claims. (Cl. 137—486)

1. A system for automatically stabilizing a variable parameter of a fluid, comprising in combination with control means for said parameter and sensing means for determining its instantaneous magnitude first signal-generating means responsive to said sensing means for producing a switching signal upon a departure of said parameter from

a predetermined value; second signal-generating means responsive to said sensing means for producing a voltage progressively varying with said departure; actuating means for said control means connected to said first signal-generating means for operation in response to said switching



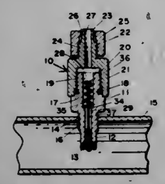
signal; and adjustable retardation means coupled with said actuating means and connected to said second signal-generating means for varying, in response to said progressively varying voltage, the operating rate of said actuating means.

3,267,959

ANTI-FOULING ANTI-SYPHONING VALVE

Harry A. Savage, Miami, Fla., assignor of fifty percent to Donald W. Barlow, Miami, Fla.

Filed Sept. 25, 1963, Ser. No. 311,506
4 Claims. (Cl. 137—516.11)



1. An anti-fouling anti-syphoning valve comprising a main valve body having a longitudinally disposed fluid duct, a valve stem extending along said fluid duct, an outlet chamber having a substantially cylindrical side wall communicating with said fluid duct at one end, a valve slidably mounted in said chamber and secured to one end of said valve stem, spring means operatively connected to said valve stem yieldingly urging said valve to a closed position, and a resilient O-ring mounted on said valve and engaging said cylindrical side wall for sealing said outlet chamber at said one end, said cylindrical side wall having a plurality of longitudinally disposed slotted portions extending from the other end of said cylindrical side wall to a position spaced from said one end permitting a discharge of fluid through said slotted portions before said valve arrives at its fully open position.

3,267,960

AUTOMATIC DRAIN VALVE

Leslie B. Warburton, Downey, Calif., assignor to Thompson Manufacturing Company, Los Angeles, Calif., a corporation of California

Filed Aug. 19, 1963, Ser. No. 302,988
2 Claims. (Cl. 137—517)

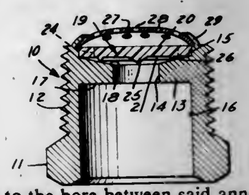
2. As an article of manufacture, a drain valve unit, comprising:

(a) a hollow cylindrical screw plug body having an externally threaded inner end;

(b) an interior transverse baffle wall adjacent said inner end having a central bore of reduced diameter communicating at said inner end with a surrounding annular seating surface, the other end of said bore being open to atmosphere;

(c) a relatively flat diaphragm disc of resilient material extending over said annular seating surface;

(d) a plurality of integral spaced apart radially extending lobes at the disc periphery providing passages therebetween for low pressure fluid flow in-



wardly to the bore between said annular surface and adjacent surface of said diaphragm;

(e) a projecting circular rib carried by said diaphragm for engaging said seating surface radially outwardly of said bore upon flexure of said diaphragm disc towards said seating surface, said rib being normally closely spaced with respect to said seating surface; and

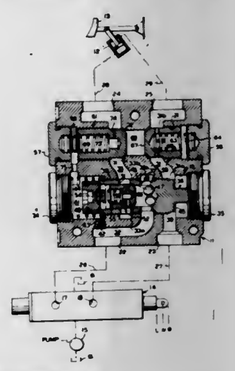
(f) a cupped strainer secured at the inner end of said body extending over said diaphragm, said strainer having its peripheral margin in clamping engagement with the tip ends of said lobes.

3,267,961

VALVE

Orval L. Rice, Kalamazoo, Mich., assignor to The New York Air Brake Company, a corporation of New Jersey

Filed Apr. 16, 1964, Ser. No. 360,294
3 Claims. (Cl. 137—596)



1. A valve comprising

(a) a housing containing four ports;

(b) a valve bore intersected by two longitudinally spaced passages, there being a first passage which communicates with the first port and a second passage which communicates with the second port;

(c) a third passage interconnecting the third and fourth ports;

(d) a flow control valve reciprocable in the bore between first and second positions in which it closes and opens, respectively, communication between the first and second passages through the valve bore, the flow control valve carrying means which cooperates with the wall of the bore to throttle progressively said communication as the valve moves toward the first position;

(e) spring means biasing the flow control valve toward the first position;

(f) means defining a damping chamber in restricted communication with the second passage and enclosing one end of the flow control valve;

(g) means at the other end of the flow control valve responsive to the pressure in the third passage for urging the flow control valve toward the second position;

(h) an internal passage in the flow control valve intersected by first and second longitudinally spaced transverse passages that open through the outer periphery of the flow control valve and register with the first and second passages, respectively, when the flow control valve is in the first position;

(i) a first check valve located in the internal passage and arranged to prevent flow from the first transverse passage to the second transverse passage through the internal passage but to permit flow in the reverse direction;

(j) biasing means, including means responsive to the pressure in the first passage and a spring, urging the first check valve closed;

(k) a by-pass passage interconnecting the first and third passages;

(l) a second check valve arranged to prevent flow from the third passage to the by-pass passage but to permit flow in the reverse direction;

(m) a control chamber having a restricted inlet connection leading to the first passage and an outlet connection;

(n) a by-pass valve controlling communication between the first passage and the by-pass passage;

(o) spring means biasing the by-pass valve closed; and

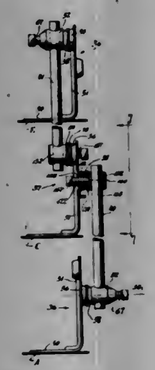
(p) means responsive to the pressure differential between the first passage and the control chamber for moving the by-pass valve in the opening direction.

3,267,962

DAMPER ASSEMBLIES

Louis Josephson, New York, and Ho Chow, Yonkers, N.Y., assignors to Elgen Manufacturing Corp., Long Island City, N.Y., a corporation of New York, and Link-Age Corporation, Yonkers, N.Y., a corporation of New York

Filed Mar. 13, 1963, Ser. No. 264,954
16 Claims. (Cl. 137—601)



9. In a damper assembly:

a damper frame;

a pair of blades;

means mounting said blades on said frame for pivotal movement of the blades between closed positions in which the blades are aligned in substantially planar relationship and open positions in which the blades are angularly disposed relative to said closed positions;

a bracket mounted on one of said blades inwardly of the ends thereof and including a flange portion extending transversely from said blade;

a shank extending transversely from said flange portion;

means mounting said shank on the flange portion for 360° rotation of said shank about the shank axis;

means mounting said shank on the flange portion for swiveling movement of the shank to vary the angular disposition of the shank axis relative to the flange portion;

a rod extending between said one blade and the other of said pair of blades;

means for connecting one end of said rod to said shank;

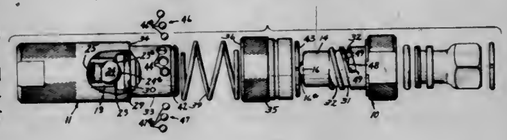
and means on the other of said pair of blades for connecting the latter to the other end of said rod at a location on the other blade inwardly of the ends thereof.

3,267,963

HYDRAULIC COUPLER

George F. Hupp, Minneapolis, Minn., assignor to Metro Hydraulics, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed Nov. 26, 1963, Ser. No. 326,020
1 Claim. (Cl. 137—614.04)



In a fluid coupling device,

cooperating male and female body members each defining an axial bore,

said male member having a diametrically reduced outer end portion receivable in the bore of said female member,

the outer end of said male member and said female member within said bore each defining a diametrically reduced annular valve seat which are in closely spaced axially aligned relationship when said body members are in an operative coupled relationship,

a check ball within each of said bores,

means yieldingly biasing each of said balls toward engagement with its respective valve seat whereby a portion of each thereof projects axially outwardly through the opening defined by its respective seat,

said male member in axially inwardly spaced relation to the extreme outer end thereof being formed to define a pair of helical grooves each starting and terminating 180 degrees removed from the other,

said female member having a reduced outer end portion the axially inner limit of which terminates in an annular shoulder,

a locking sleeve slidably axially received over the outer end of said female member,

said sleeve adjacent its inner end being counterbored to define a second annular shoulder which opposes said first-mentioned annular shoulder,

a coil compression spring slidably received over said reduced outer end portion of said female member and having its opposite ends in abutting relationship with said opposed shoulders whereby to yieldingly bias said locking sleeve in an axially outward direction,

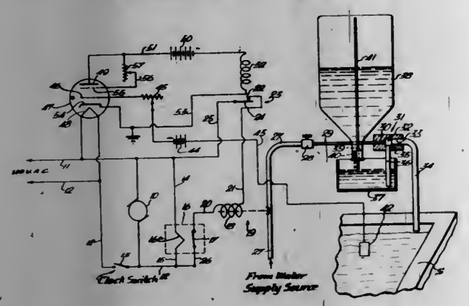
stop means adjacent the axially outer end portion of said female member and said locking sleeve limiting axially outward movements of said locking sleeve with respect to said female member,

said reduced outer end portion of said female member intermediate said shoulder thereof and said stop means defining a plurality of diametrically opposed radially inwardly tapering apertures which are circumferentially spaced apart in a helical pattern corresponding to the helical pattern of the grooves defined by said male member,

a plurality of thread-forming balls one each within one of said apertures, the balls being closely fitted within the grooves, and

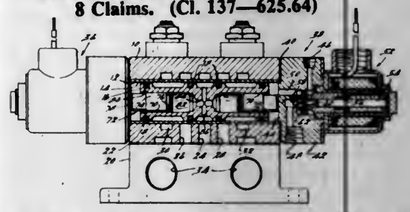
the axial outer walls of each of said grooves being formed adjacent its terminal end to define a plurality of notches for the simultaneous reception of said balls under the yielding bias of said first-mentioned yielding means, when the balls are each aligned with the respective grooves, the thread-forming balls being seated in the notches until unseated by axial inward movement of the body members.

3,267,964
APPARATUS FOR AUTOMATIC DILUTION OF MEASURED CONCENTRATES
Fred J. Steinmetz, 2241 Jamaica Drive, Miramar, Fla.
Filed Apr. 26, 1963, Ser. No. 275,889
4 Claims. (Cl. 137—624.13)



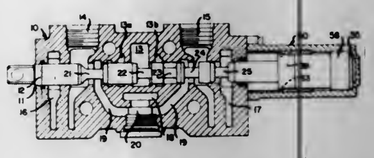
1. Apparatus for automatic dilution of measured concentrates comprising, in combination, an injector member having an interior cavity, an input channel in said injector member and having at one end an injector nozzle opening communicating with one side of said interior cavity, an output channel in said injector member and having an opening at one end communicating with the other side of said interior cavity, a concentrate input channel in said injector member having an opening at one end communicating with the interior of said interior cavity, a container for holding a quantity of liquid concentrate, conduit means communicating between said concentrate input channel and the interior of said container, input conduit means leading from a source of water under pressure and communicating with the other end of said input channel, a normally closed valve in said input conduit means, and means for automatically opening said valve periodically for an interval of time, whereby water under pressure will be periodically injected into said cavity to produce a partial vacuum therein serving to draw liquid concentrate from said container into said cavity to be diluted with the water and discharged through said discharge channel, said container containing a supply of concentrate only sufficient to supply a predetermined volume for one of said periodic time intervals, and means for automatically refilling said container with concentrate at an even rate during intervals between said periodic time intervals.

3,267,965
PILOT OPERATED SPOOL VALVE
Kenneth K. Krofike, Parma, Ohio, assignor to Airmatic Valve, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Mar. 28, 1963, Ser. No. 268,677
8 Claims. (Cl. 137—625.64)



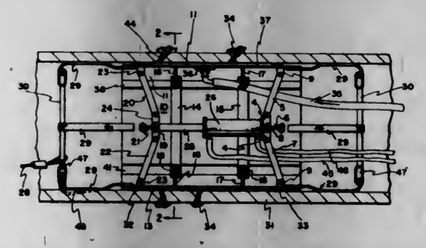
1. In a flow control valve, a valve body having a bore therein, an inlet port, a pair of exhaust ports and a pair of work ports communicating with said bore, a spool valve reciprocable in said bore, said spool valve being constructed and arranged relative to said inlet port so that said inlet port is always open, said spool valve being constructed so as in one position to connect one work port with said inlet port while the other work port is connected to an exhaust port, means at one end of said spool valve for shifting said spool valve in one direction to connect said other work port to said inlet port and said one work port to the other exhaust port, said spool valve having a compression chamber at the other end thereof and a plunger reciprocable in said chamber, passage means establishing constant communication between the inner end of said chamber and said inlet port in said bore, the outer end of said plunger being engageable with the end wall of said bore whereby shifting of said spool valve in said one direction causes said plunger to retract into said compression chamber whereby the pressure fluid in said chamber will shift said spool valve in the opposite direction.

3,267,966
REGENERATIVE FLUID PRESSURE CONTROL VALVES
Arthur J. Williams, Hubbard, Ohio, assignor to Commercial Shearing & Stamping Company, a corporation of Ohio
Filed Oct. 11, 1963, Ser. No. 315,961
6 Claims. (Cl. 137—625.69)



2. In a control valve, a housing having a bore extending therethrough and open at each end to receive an elongated spool valve element, a fluid inelt in said housing extending transverse to said bore and intersecting the bore intermediate its ends, a fluid outlet in said housing extending transversely of said bore and intersecting the bore at a point adjacent to but spaced from the intersection of the inlet passage, a parallel fluid inlet in the housing spaced from the fluid inlet and adapted with the fluid inlet to receive high pressure fluid from a source of fluid under pressure, a valve element slidable in said bore, a pair of high pressure outlets intersecting the bore one on either side of the said fluid inlet and outlet, a pair of exhaust outlets in the housing intersecting the bore, one adjacent each of the high pressure outlets, and passage means communicating between the parallel fluid inlet and the bore adjacent each of the high pressure outlets, said valve element being shiftable in opposite directions longitudinally of the bore from a neutral position in which fluid passes directly through the fluid inlet and the bore into the fluid outlet to a power position on one side of the neutral position in which fluid is directed from the parallel fluid inlet through the said passage means to one high pressure outlet while directing fluid from the other high pressure outlet to the exhaust outlet adjacent it and to a pair of successive power positions on the opposite side of the neutral position, the first of which directs fluid from the parallel fluid inlet through the passage means to the other high pressure outlet while directing fluid from the said one high pressure outlet to the exhaust outlet adjacent it and the second, most remote from the neutral position, which directs fluid from the parallel inlet through the passage means into said other high pressure outlet and simultaneously directs fluid from said one high pressure outlet into the said passage means to supplement the fluid entering the parallel fluid inlet and going to said other high pressure outlet.

3,267,967
PIPE REPAIR TOOL
Kenneth R. Guthrie, Newton, Kans., assignor to The Midland National Bank, Newton, Kans.
Filed Feb. 18, 1963, Ser. No. 259,118
4 Claims. (Cl. 138—97)



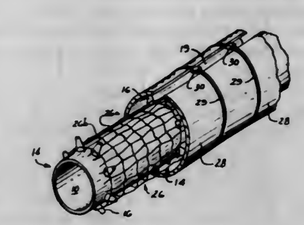
1. A tool for repairing leaks in underground pipes comprising: a hollow right cylindrical shell capable of being expanded and contracted in exterior diameter, said shell comprising rigid circumferentially telescopic shell sections; flexible, compressible and stretchable O-ring seals, one encircling said shell exteriorly near each of its ends; guide means carried by each end of said shell for centering it in the bore of a pipe during its travel therethrough to a point of leakage therein; and remotely controlled means for selectively expanding and contracting said shell in exterior diameter while it is in the pipe.

3,267,968
LAMINATED GLASSINE PAPER COIL FORM
William A. Foll, 3475 Doris Road, Cleveland 9, Ohio, and Albin M. Hancik, 2021 Clarence Ave., Lakewood, Ohio
Filed Mar. 19, 1963, Ser. No. 266,345
4 Claims. (Cl. 138—141)



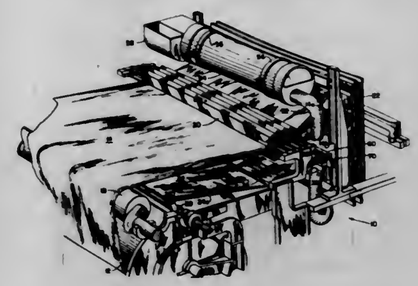
1. A speaker voice coil form comprising an outer ply of glassine paper, an external coating of thermosetting resin thereon, an internal ply of glassine paper, an inner layer of heat sealable polyethylene on said outer ply of glassine paper bonded to an outer layer of heat sealable polyethylene on said internal ply of glassine paper, and a coating of thermosetting resin on the interior of said coil form on the inner ply of glassine paper.

3,267,969
REENFORCED WEIGHTED PIPE
James B. Mallard, 8703 Richmond Ave., Houston, Tex.
Filed Aug. 17, 1964, Ser. No. 390,152
9 Claims. (Cl. 138—178)



1. A pipeline having additional weight per running foot added thereto by the application of a reenforced weighting material outwardly of the pipe periphery, said pipeline comprising a length of metallic pipe with outer surface covered with an insulative, corrosion resistant coating, reenforcing means for said weighting material spaced outwardly of the pipe outer surface and form spacer means thus spacing the reenforcing means and in turn positioned by said reenforcing means upon the pipe and extending radially outwardly beyond said reenforcing means, and weighting material of substantially high specific gravity concentric about the pipe and including said reenforcing means therein and said spacer means therein to the height of said spacer means.

3,267,970
TEXTILE MACHINERY CLEANING APPARATUS
Philip F. Maguire, Jr., Providence, Arthur Magson, Cumberland, and Lionel A. J. Sousa, Coventry, R.I., assignors to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed Mar. 26, 1965, Ser. No. 444,511
18 Claims. (Cl. 139—1)



1. For a textile loom which has parts including a warp beam, warp strands, drop wires, heddles, lay and a cloth roll, which has warp strands extending generally horizontally from said warp beam to said cloth roll, which generate from said warp strands lint which moves about in the air spaces in the neighborhood of said warp strands, apparatus for gathering said lint before it collects on the surfaces of the loom parts, said apparatus comprising:

(A) a first roller mounted on said loom:
  (1) underneath said warp strands,
  (2) between said warp beam and drop wires,
  (3) parallel to said warp beam,

(B) a second roller mounted on said loom:
  (1) underneath said warp strands,
  (2) between said drop wires and heddles,

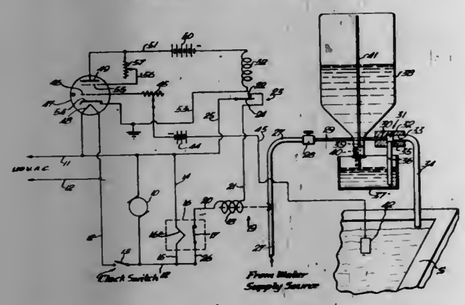
stop means adjacent the axially outer end portion of said female member and said locking sleeve limiting axially outward movements of said locking sleeve with respect to said female member,

said reduced outer end portion of said female member intermediate said shoulder thereof and said stop means defining a plurality of diametrically opposed radially inwardly tapering apertures which are circumferentially spaced apart in a helical pattern corresponding to the helical pattern of the grooves defined by said male member,

a plurality of thread-forming balls one each within one of said apertures, the balls being closely fitted within the grooves, and

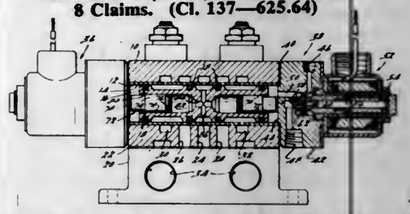
the axial outer walls of each of said grooves being formed adjacent its terminal end to define a plurality of notches for the simultaneous reception of said balls under the yielding bias of said first-mentioned yielding means, when the balls are each aligned with the respective grooves, the thread-forming balls being seated in the notches until unseated by axial inward movement of the body members.

3,267,964
APPARATUS FOR AUTOMATIC DILUTION OF MEASURED CONCENTRATES
Fred J. Steinmetz, 2241 Jamaica Drive, Miramar, Fla.
Filed Apr. 26, 1963, Ser. No. 275,889
4 Claims. (Cl. 137—624.13)



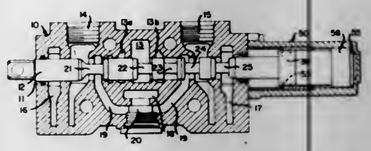
1. Apparatus for automatic dilution of measured concentrates comprising, in combination, an injector member having an interior cavity, an input channel in said injector member and having at one end an injector nozzle opening communicating with one side of said interior cavity, an output channel in said injector member and having an opening at one end communicating with the other side of said interior cavity, a concentrate input channel in said injector member having an opening at one end communicating with the interior of said interior cavity, a container for holding a quantity of liquid concentrate, conduit means communicating between said concentrate input channel and the interior of said container, input conduit means leading from a source of water under pressure and communicating with the other end of said input channel, a normally closed valve in said input conduit means, and means for automatically opening said valve periodically for an interval of time, whereby water under pressure will be periodically injected into said cavity to produce a partial vacuum therein serving to draw liquid concentrate from said container into said cavity to be diluted with the water and discharged through said discharge channel, said container containing a supply of concentrate only sufficient to supply a predetermined volume for one of said periodic time intervals, and means for automatically refilling said container with concentrate at an even rate during intervals between said periodic time intervals.

3,267,965
PILOT OPERATED SPOOL VALVE
Kenneth K. Kroffke, Parma, Ohio, assignor to Airmatic Valve, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Mar. 28, 1963, Ser. No. 268,677
8 Claims. (Cl. 137—625.64)



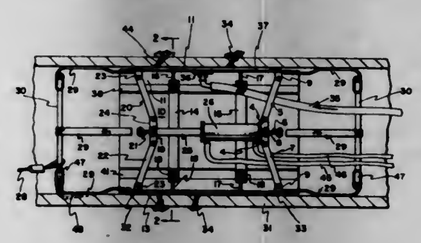
1. In a flow control valve, a valve body having a bore therein, an inlet port, a pair of exhaust ports and a pair of work ports communicating with said bore, a spool valve reciprocable in said bore, said spool valve being constructed and arranged relative to said inlet port so that said inlet port is always open, said spool valve being constructed so as in one position to connect one work port with said inlet port while the other work port is connected to an exhaust port, means at one end of said spool valve for shifting said spool valve in one direction to connect said other work port to said inlet port and said one work port to the other exhaust port, said spool valve having a compression chamber at the other end thereof and a plunger reciprocable in said chamber, passage means establishing constant communication between the inner end of said chamber and said inlet port in said bore, the outer end of said plunger being engageable with the end wall of said bore whereby shifting of said spool valve in said one direction causes said plunger to retract into said compression chamber whereby the pressure fluid in said chamber will shift said spool valve in the opposite direction.

3,267,966
REGENERATIVE FLUID PRESSURE CONTROL VALVES
Arthur J. Williams, Hubbard, Ohio, assignor to Commercial Shearing & Stamping Company, a corporation of Ohio
Filed Oct. 11, 1963, Ser. No. 315,561
6 Claims. (Cl. 137—625.69)



2. In a control valve, a housing having a bore extending therethrough and open at each end to receive an elongated spool valve element, a fluid inelt in said housing extending transverse to said bore and intersecting the bore intermediate its ends, a fluid outlet in said housing extending transversely of said bore and intersecting the bore at a point adjacent to but spaced from the intersection of the inlet passage, a parallel fluid inlet in the housing spaced from the fluid inlet and adapted with the fluid inlet to receive high pressure fluid from a source of fluid under pressure, a valve element slidable in said bore, a pair of high pressure outlets intersecting the bore one on either side of the said fluid inlet and outlet, a pair of exhaust outlets in the housing intersecting the bore, one adjacent each of the high pressure outlets, and passage means communicating between the parallel fluid inlet and the bore adjacent each of the high pressure outlets, said valve element being shiftable in opposite directions longitudinally of the bore from a neutral position in which fluid passes directly through the fluid inlet and the bore into the fluid outlet to a power position on one side of the neutral position in which fluid is directed from the parallel fluid inlet through the said passage means to one high pressure outlet while directing fluid from the other high pressure outlet to the exhaust outlet adjacent it and to a pair of successive power positions on the opposite side of the neutral position, the first of which directs fluid from the parallel fluid inlet through the passage means to the other high pressure outlet while directing fluid from the said one high pressure outlet to the exhaust outlet adjacent it and the second, most remote from the neutral position, which directs fluid from the parallel inlet through the passage means into said other high pressure outlet and simultaneously directs fluid from said one high pressure outlet into the said passage means to supplement the fluid entering the parallel fluid inlet and going to said other high pressure outlet.

3,267,967
PIPE REPAIR TOOL
Kenneth R. Guthrie, Newton, Kans., assignor to The Midland National Bank, Newton, Kans.
Filed Feb. 18, 1963, Ser. No. 259,118
4 Claims. (Cl. 138—97)



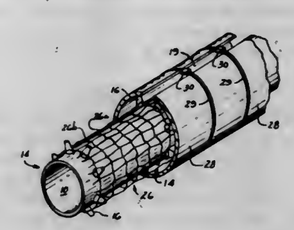
1. A tool for repairing leaks in underground pipes comprising: a hollow right cylindrical shell capable of being expanded and contracted in exterior diameter, said shell comprising rigid circumferentially telescopic shell sections; flexible, compressible and stretchable O-ring seals, one encircling said shell exteriorly near each of its ends; guide means carried by each end of said shell for centering it in the bore of a pipe during its travel therethrough to a point of leakage therein; and remotely controlled means for selectively expanding and contracting said shell in exterior diameter while it is in the pipe.

3,267,968
LAMINATED GLASSINE PAPER COIL FORM
William A. Foll, 3475 Doris Road, Cleveland 9, Ohio, and Albin M. Hancik, 2021 Clarence Ave., Lakewood, Ohio
Filed Mar. 19, 1963, Ser. No. 266,345
4 Claims. (Cl. 138—141)



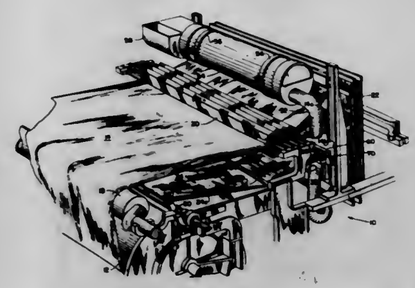
1. A speaker voice coil form comprising an outer ply of glassine paper, an external coating of thermosetting resin thereon, an internal ply of glassine paper, an inner layer of heat sealable polyethylene on said outer ply of glassine paper bonded to an outer layer of heat sealable polyethylene on said internal ply of glassine paper, and a coating of thermosetting resin on the interior of said coil form on the inner ply of glassine paper.

3,267,969
REENFORCED WEIGHTED PIPE
James B. Mallard, 8703 Richmond Ave., Houston, Tex.
Filed Aug. 17, 1964, Ser. No. 390,152
9 Claims. (Cl. 138—178)



1. A pipeline having additional weight per running foot added thereto by the application of a reenforced weighting material outwardly of the pipe periphery, said pipeline comprising a length of metallic pipe with outer surface covered with an insulative, corrosion resistant coating, reenforcing means for said weighting material spaced outwardly of the pipe outer surface and form spacer means thus spacing the reenforcing means and in turn positioned by said reenforcing means upon the pipe and extending radially outwardly beyond said reenforcing means, and weighting material of substantially high specific gravity concentric about the pipe and including said reenforcing means therein and said spacer means therein to the height of said spacer means.

3,267,970
TEXTILE MACHINERY CLEANING APPARATUS
Philip F. Maguire, Jr., Providence, Arthur Magoon, Cumberland, and Lionel A. J. Sousa, Coventry, R.I., assignors to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed Mar. 26, 1965, Ser. No. 444,511
18 Claims. (Cl. 139—1)



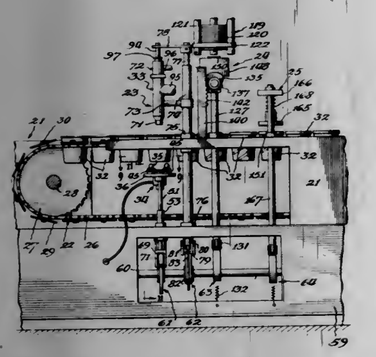
1. For a textile loom which has parts including a warp beam, warp strands, drop wires, heddles, lay and a cloth roll, which has warp strands extending generally horizontally from said warp beam to said cloth roll, which generate from said warp strands lint which moves about in the air spaces in the neighborhood of said warp strands, apparatus for gathering said lint before it collects on the surfaces of the loom parts, said apparatus comprising:

(A) a first roller mounted on said loom:
  (1) underneath said warp strands,
  (2) between said warp beam and drop wires,
  (3) parallel to said warp beam,

(B) a second roller mounted on said loom:
  (1) underneath said warp strands,
  (2) between said drop wires and heddles,

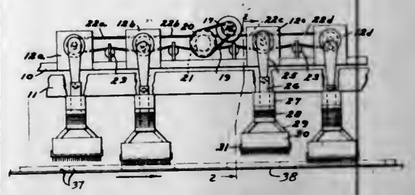
(3) parallel to said first roller,
(C) an endless belt which:
(1) encircles both said rollers,
(2) has an upwardly presented surface,
(3) clears the bottom ends of said drop wires,
(D) an elongated manifold which:
(1) extends along said second roller,
(2) has walls forming with said second roller and the portion of the belt adjacent thereto a hollow chamber which:
(a) is substantially closed,
(b) has between the second roller and one of the manifold walls an opening slot which:
(i) is presented generally upwardly,
(ii) is of substantially uniform width,
(iii) is as long as the width of the belt,
(c) has spaced apart intake and outlet openings,
(E) a third roller which:
(1) is journalled on said manifold,
(2) extends along said slot,
(3) engages both said second roller and said one manifold wall to substantially close said slot,
(4) rotates with said belt to wring lint thereon into said chamber,
(F) means for rotating one of said rollers to move said belt continuously around said first and second rollers,
(G) means for collecting lint,
(H) means for moving air:
(1) into said manifold intake,
(2) along said chamber,
(3) perpendicular to the path of movement of said belt,
(4) out of said manifold outlet,
(5) to said lint collecting means.

3,267,971
PACKAGING APPARATUS AND PROCESS
Martin Mueller, Chicago, Ill., assignor to Seymour C. Graham
Filed July 22, 1963, Ser. No. 296,563
29 Claims. (Cl. 141—9)



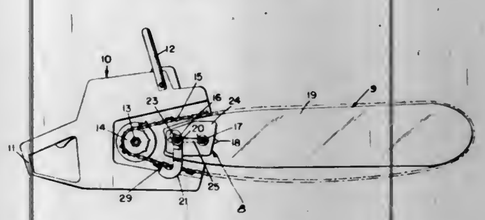
22. A method for filling containers with at least two pressure-flowable food products of different colors in a spiral pattern which comprises moving a container to a station to receive said food products, initiating the flow of a composite stream of said products into the container, providing relative rotation of said container and stream during filling and shutting off said flow after the container has been filled, and moving said container away from said station.

3,267,972
METHOD AND APPARATUS FOR TAMPING FIBROUS MATERIAL
Walter W. Thompson, P.O. Box 627, Hazlehurst, Ga.
Filed Aug. 11, 1961, Ser. No. 130,926
6 Claims. (Cl. 141—12)



1. A method for compacting fibrous material into an open faced cellular structure characterized by placing the cellular structure face up on a support structure, spreading the fibrous material onto the open face, and progressively moving the cellular structure along the support structure while reciprocating a plurality of flexible, subcellular sized fingers through the fibrous material from above the uppermost level of the fibrous material to below the uppermost level of the open face of the passing cellular structure, said fingers deflecting upon engagement with the upper edge of a cell of the open faced cellular structure.

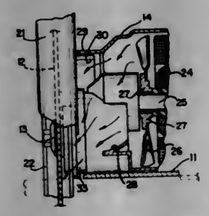
3,267,973
CHAIN SAW BAR ADJUSTING DEVICE
William D. Beard, Lancaster, Pa., assignor to C-B Tool Company, a corporation of Pennsylvania
Filed June 1, 1964, Ser. No. 371,290
5 Claims. (Cl. 143—32)



1. For use in combination with a chain saw having a frame with a pair of spaced laterally extending studs, a guide bar having an elongated slot at its rear end for slidably receiving said studs, a saw chain extending peripherally along said guide bar, and locking nuts mounted upon said studs to clamp said guide bar to said frame, an adjusting device interposed between said guide bar and said locking nuts for selectively shifting said guide bar in a chain tightening direction, said adjusting device comprising
a plate member having an elongated slot therein similar to said guide bar slot,
an adjusting lever having a slot at one end and an engagement surface at its other end, and
means pivotally connecting said adjusting lever and said plate member to each other with their respective slots at least partially overlying and intersecting one another,
said adjusting device being mountable upon said chain saw with one end of said studs extending through said plate member and said adjusting lever slots,
said means engaging said guide bar for movement thereof when said adjusting device is mounted upon said chain saw,

said adjusting lever being pivotable in response to an actuating force applied to its engagement surface to thereby move said means and cause said guide bar to move both forwardly and upwardly to tighten said saw chain.

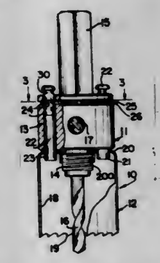
3,267,974
SAW DUST BLOWER FOR PORTABLE POWER-DRIVEN SAW
Donald E. Elson, Baltimore, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed July 16, 1964, Ser. No. 383,051
6 Claims. (Cl. 143—43)



1. In a portable power-driven saw of the type having a shoe plate by means of which the unit may be supported on the top surface of a workpiece, a blade extending through the shoe plate to engage the work, a housing with a motor to drive the blade, means to raise and lower the housing with respect to the shoe plate for selective depths-of-cut of the blade, a blade guard pivotable mounted on the housing, and means to pivot the guard on the housing in accordance with the selective raising and lowering movements of the housing with respect to the shoe plate, the improvement which comprises:
(a) air discharge means including an aperture formed in the housing:
(b) a first arcuate flange mounted on the housing around said aperture;
(c) a second arcuate flange carried by the guard;
(d) said flanges telescoping with respect to one another, thereby forming an air conduit which is in communication with said aperture formed in the housing;
(e) said second flange and the housing having an air discharge opening therebetween, whereby a stream of air is directed to the approximate point where the cutting edge of the blade leaves the work for blowing the saw dust away from the vicinity of the succeeding portion of the line-of-cut on the work surface; and
(f) whereby as the housing is raised or lowered with respect to the shoe plate, the guard pivots on the housing, thereby automatically changing the position of said air discharge opening with respect to the shoe plate, and thereby providing for the air stream to be directed at all times to the proximity of the said line-of-cut regardless of the particular depth-of-cut position of the blade.

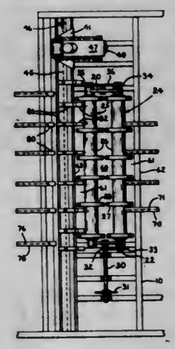
3,267,975
COUPLING MEANS FOR HOLE SAW ASSEMBLY
Sherwood G. Enders, Bowley's Quarters, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed June 16, 1964, Ser. No. 375,615
2 Claims. (Cl. 143—85)

1. In a hole saw assembly comprising a driving mandrel and a tubular hole saw, the hole saw having a cutting edge and further having a base portion formed with a pair of apertures, the improvement in coupling means between the mandrel and the saw, which comprises:
(a) a pair of drive pins journaled for longitudinal sliding movement in respective bores formed in the mandrel;
(b) means for positively limiting the longitudinal sliding movement of each pin in each direction relative to the mandrel, whereby each pin has two positive locations with respect to the mandrel, one advanced and the other retracted;
(c) said last-named means including:
(1) a pair of external annular grooves formed on each pin;



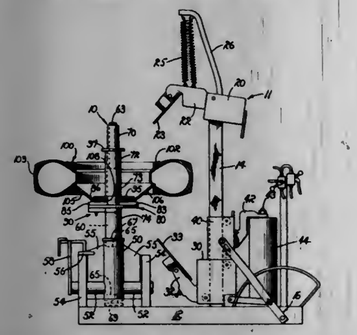
(2) a resilient ring seated in an external annular groove formed on the mandrel, radially of the bores and in communication therewith; and
(3) said ring being received within one of the external annular grooves formed on each pin, thereby exerting a retaining force of the pins in a direction radially inwardly of the mandrel;
(d) whereby, in their advanced position, the pins are received through the apertures in the base portion of the hole saw, thereby coupling the driving mandrel to the saw without requiring a visual alinement of the pins and apertures.

3,267,976
LOG BARKER
Vaderon E. Keeney, Eugene, Oreg., assignor to Miller Redwood Company, Portland, Oreg., a corporation of California
Filed Apr. 27, 1964, Ser. No. 362,655
9 Claims. (Cl. 144—208)



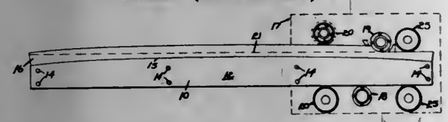
1. In a log barker, a pair of trunnion wheel units forming a trough to support a log, means for rotating said trunnion wheels to turn the log, means to lower one of said trunnion wheel units relative to the other to roll the log out of one side of said trough, and means to roll a log into said trough from its opposite side whereby the log rolls against the trunnion wheels on said one side with an impact, said lowering means including a resilient shock absorber arranged to cushion said impact.

3,267,977
SUPPORT DEVICE FOR VEHICLE WHEELS
Eugene W. Turpin, 66 N. Academy, Sanger, Calif.
Filed May 21, 1965, Ser. No. 457,866
9 Claims. (Cl. 144—288)



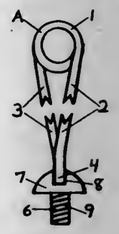
8. A support device for accommodating vehicle wheels of varied configuration and for maintaining such wheels in an optimum work position on the device, comprising a base; an elongated spindle supported on the base for rotation about a predetermined substantially upright axis and providing an elongated axially extended groove; a lock nut carried by the spindle; a plurality of cylindrical spacer sleeves of different predetermined lengths having opposite ends slidable over said lock nut and interchangeably axially positionable on said spindle in endwardly intimately facing engagement with each other and with such a wheel; a circular wheel support plate having a central opening therethrough slidable over said lock nut for positioning the support plate upon said spindle with the support plate including a detent retractably engageable with said groove in the spindle, said sleeves, support plate and wheel forming a stacked assembly on the spindle in spaced relation to said lock nut with the wheel selectively disposable within the stacked assembly in a plurality of positions variably spaced from the base; and a slotted ring laterally extendable about said spindle between the stacked assembly and the lock nut for axially constraining said stacked assembly on the spindle incident to tightening of the lock nut thereagainst to hold said wheel in said selected positions in driven relation on the spindle.

3,267,978
METHOD OF PRODUCING CAMBERED CAUL BOARDS
Royce Poole, Warren, Ark., assignor to Potlatch Forests, Inc., Lewiston, Idaho, a corporation of Delaware
Filed Oct. 21, 1963, Ser. No. 317,544
1 Claim. (Cl. 144—323)



A method of producing matched caul boards of complementary configuration comprising the following steps:
machining a rigid pattern of wood, including a longitudinal plane surface and an opposite longitudinal surface having the desired curved longitudinal configuration;
laying longitudinally upon the curved surface of the pattern a rectangular board of constant thickness;
feeding the board and pattern through a planer while in abutment with one another so as to trim the board surface opposite to that resting upon the pattern while bending the board in surface to surface contact with the pattern along the curvature of the abutted pattern surface, the separation between the board surface being trimmed and the plane surface of the pattern being constant and of a magnitude less than the minimum combined thickness of the board and pattern and greater than the maximum thickness of the pattern alone;
separating the trimmed board from the pattern;
placing a second board on the trimmed board in longitudinal alignment therewith and abutting the surface cut previously by the planer;
and feeding the two boards through a planer while in such abutment with one another so as to trim the board surface of said second board opposite to that resting upon the trimmed board while bending the second board in surface to surface contact with said board along the curvature of the previously trimmed surface thereof, the separation between the board surface being trimmed on said second board and the plane surface of said trimmed board being constant and of a magnitude less than the minimum combined thickness of the two boards and greater than the maximum thickness of said trimmed board alone.

3,267,979
COMBINED SCREWDRIVER AND HOLDER
Daniel A. Gerardi, 157 Grove St., Stamford, Conn.
Filed Dec. 29, 1964, Ser. No. 421,884
2 Claims. (Cl. 145—50)

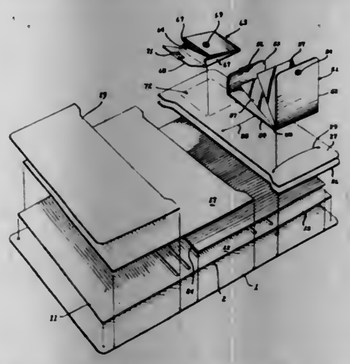


1. A screwdriver comprising, a body consisting of a single length of a spring wire bent back upon itself into a circle to form a coil spring at the top end, two resilient arms extending downwardly from the said coil spring top and having flat-shaped bottom ends, said coil spring top biasing said bottom ends out of a common plane and said bottom ends being adapted to be moved into a common plane so as to be inserted into the head slot of a bolt or screw for holding and turning the same.

3,267,980
BILLFOLD AND CHECKBOOK COMBINATION
James P. Bird, Scottsdale, Ariz., assignor of one-half to Edward B. Lane, Phoenix, Ariz.
Filed Nov. 18, 1964, Ser. No. 412,196
3 Claims. (Cl. 150—35)

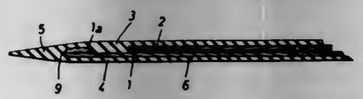
1. A billfold and checkbook combination comprising
(a) base member in the form of a relatively large rectangular plastic lamination,
(b) a reinforcement comprising three substantially equally spaced fibrous members on said base lamination, said large rectangular lamination being divided into three parts by said reinforcing members, said parts having a center part, a left hand part and a right hand part,
(c) a pair of intermediate laminations, each about two thirds of the length of said base lamination, said intermediate laminations overlapping at said center part to form a first pocket, and said laminations having a peripheral plastic weld to hold the same in permanent assembled relation, said first pocket adapted to contain check registers,

(d) a first top lamination approximately covering said left part and plastic welded to said base lamination around three sides forming a second pocket for check forms or the like facing toward said center part,
(e) a second top lamination substantially covering said right hand part and plastic welded around three sides of the base lamination to form a third pocket to hold currency and the like facing toward said center part,



(f) two pairs of beaded score lines separating said three sections and providing reinforced side edges when the device is folded, and
(g) releasable means for holding said device in folded relation with said three parts superposed to produce a billfold and checkbook combination about one-third the area of said base lamination.

3,267,981
REPAIR PATCH FOR DAMAGED PNEUMATIC TIRES OF AUTOMATIVE VEHICLES
Franz Willy Bennies, Hamburg-Altona, Germany, assignor to Fritz Hesselbein Chemische Fabrik, Hamburg, Germany, a corporation of Germany
Filed Dec. 21, 1964, Ser. No. 419,983
Claims priority, application Germany, June 9, 1964, H 52,913
2 Claims. (Cl. 152—367)



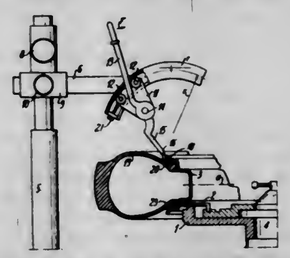
1. A tire repair patch of the class described, comprising: at least two superposed layers of cords, each layer comprising a series of parallel cords forming a reinforcing ply for said patch, the cords in one layer extending substantially perpendicularly with respect to the cords in the other layer, each cord being formed of molecularly oriented synthetic polymeric filaments, the lateral surfaces of said filaments having been subjected to treatment for adhesion to caoutchouc when vulcanized thereto, said treatment being omitted from the end surfaces of said filaments, the end portions of each cord extending reversely toward the central portion thereof, whereby said cords terminate in 180° bends forming a layer of substantially double thickness; a surface cover layer of caoutchouc extending over all of said layers of cords and therebeyond at one side thereof; a padding layer of caoutchouc extending over all of said layers of cords and therebeyond at the other side thereof, said cover and padding layers being peripherally joined to form an outwardly convergently tapering peripheral portion for said patch connected to said cords at said 180° bends, said padding layer including an outer adhesive layer portion for securing said patch to a repaired tire.

3,267,982
TIRE REPAIR DEVICE
Harry F. Garrison, 7470 Gerald, Warren, Mich.
Filed Sept. 14, 1964, Ser. No. 396,132
1 Claim. (Cl. 152—370)



A tire puncture repair device, comprising
a repair plug of elastomeric material having an elongated shank and an enlarged head at one end of said shank,
and tire-penetrating means engageable with said shank and insertable in the puncture for guiding said shank through the puncture while pulling said head into mating engagement with the tire,
said tire-penetrating means comprising a stiff substantially headless pull wire embedded in said shank substantially the entire length of said shank with the embedded inner end of said pull wire disposed near said head and with the outer end of said pull wire projecting outwardly from the outer end of said shank remote from said head,
said wire being releasably secured to said shank and separable therefrom in response to a pulling force exceeding the force required to draw said shank through the tire by way of the puncture.

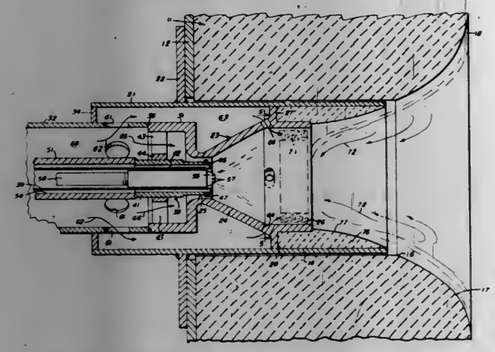
3,267,983
APPARATUS TO PULL TYRES OUT FROM THE RIMS OF VEHICLE WHEELS
Ferdinand Furrer, Zurich, Switzerland, assignor to Julio Villars, Geneva, Switzerland
Filed Oct. 12, 1964, Ser. No. 403,057
Claims priority, application Switzerland, Oct. 15, 1963, 12,730/63
7 Claims. (Cl. 157—1.24)



1. Apparatus for pulling out a tyre from the rim of a vehicle wheel comprising means for supporting said rim; support means; tyre loosening means adjustably mounted on said support means, said loosening means comprising arcuate guide means, a slide mounted for movement on said guide means, a tyre engaging tool mounted on said slide, and means operatively connected to said slide for initially positioning said tool between the tyre and rim so that said tool extends to a point approximately midway between the outer edges of said rim and after movement of said slide on said guide means said tool is positioned approximately in a plane defined by an outer edge of said rim; means for adjusting the position of said tyre loosening means in relation to said rim supporting means; and means for moving said tyre loosening means and said

rim supporting means relative to one another in a circular path having an axis coincident with the center axis of said rim, whereby upon relative movement between said tyre loosening means and said rim, said tool pulls out an edge of the tyre along the periphery of said rim.

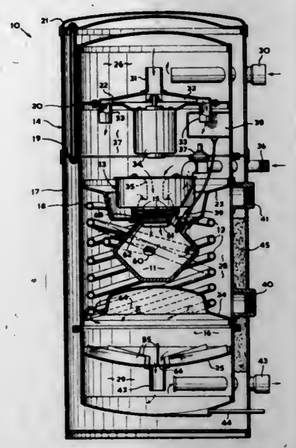
3,267,984
BURNER ASSEMBLY PRODUCING RADIANT HEAT
Robert D. Reed, Hershel Goodnight, and John Smith Zink, all of Tulsa, Okla., assignors to John Zink Company, Tulsa, Okla., a corporation of Delaware
Filed Nov. 12, 1964, Ser. No. 410,375
4 Claims. (Cl. 158—1.5)



1. In a burner assembly for producing radiant heat, a refractory wall, a ceramic tile member mounted in said wall with the inner face thereof flush with the inner face of said wall, said tile member having an opening through the central portion thereof, a flared annular surface defining the exit end of said opening, said flared annular surface being of convex shape in section and merging smoothly with the inner face of side wall, a housing member within said opening, an annular element within said housing member having a throat of smaller cross section than other portions of said annular element, a burner head unit mounted within said throat, means for supplying fuel into said burner head unit for discharge in a flaring pattern into the downstream end portion of said annular element, means guiding air over the exterior of said burner head unit and through said throat into the presence of the fuel discharged from the burner head unit to support combustion of the fuel, said annular element having a plurality of circumferentially spaced apertures therethrough downstream of said burner head unit arranged generally tangentially of the annular element with the axes of all of said apertures sloping in the same direction in proceeding circumferentially of said annular element, means guiding air at pressures above atmospheric through said apertures, said apertures producing pressure drop in the air passing therethrough and directing the air in a circumferential swirl as a consequence of the tangentially disposition of the apertures whereby the burning fuel is drawn into the swirling air so that the burning fuel moves along said flared surface without development of flames of any substantial extent away from said flared surface.

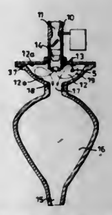
3,267,985
PULSE COMBUSTION APPARATUS
John A. Kitchen, Markham, Ontario, Canada (R.R. 2, Aurora, Ontario, Canada)
Filed Mar. 12, 1964, Ser. No. 351,284
23 Claims. (Cl. 158—4)

1. A pulse combustion apparatus comprising a combustion chamber having an inlet and at least one outlet, means for admitting a charge of air and fuel into the combustion chamber through the inlet thereof and in timed relation with pressure pulses therein, an air cushion chamber to provide a reservoir for air and having an inlet for air and an outlet in communication with the air and fuel admitting means, and fuel pressure regulating



means in direct pressure responsive relation with air in the air cushion chamber to maintain a substantially constant relationship between the pressure of fuel and the pressure of air within the air cushion chamber, whereby a substantially constant air/fuel ratio is maintained.

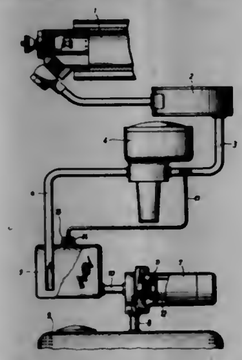
3,267,986
APPARATUS FOR PULSATING COMBUSTION
Karl Borje Olsson, Smedjevagen 9, Nacka, Sweden
Filed June 4, 1965, Ser. No. 461,490
Claims priority, application Sweden, May 18, 1962, 5,639/62
9 Claims. (Cl. 158—4)



1. Apparatus for the pulsating combustion of a combustible mixture of air and fluid fuel, including, in series
an inlet duct for a current of such mixture said duct including a non-return valve and having a discharge mouth;
a first chamber into which said inlet duct discharges, said first chamber having a rear end wall in which said inlet duct is located and an opposite forward end wall at least a portion of which is generally concave;
a restricted connecting passageway communicating with said first chamber at said forward end wall;
a second chamber communicating with said first chamber by means of said connecting passageway; and
a discharge outlet in said second chamber opposite to said connecting passageway;
each of said inlet ducts, first chamber, connecting passageway, second chamber and discharge outlet being rotationally symmetrical about one common main axis and serially providing a straight flow-through direction and symmetrical and stable flow for such mixture;

said first chamber being characterized in that its main axial dimension from the rearmost portion of its rear end wall to said restricted passageway is shorter than is its maximum inner radius resulting in a relatively flat configuration and in that the rearmost portion of its rear end wall is axially offset rearwardly in relation to the mouth of said inlet duct and in that said at least partially concave forward end wall forms a substantially concave annular wall portion extending radially outwardly to the inner periphery of the first chamber, whereby whirling vortical flow of air-fuel mixture in said first chamber is ensured.

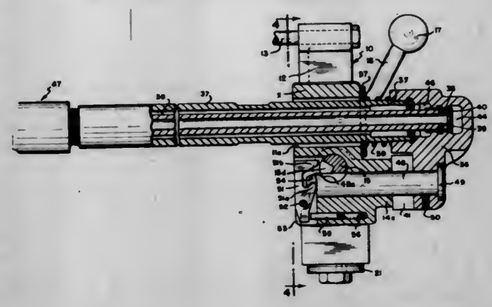
3,267,987
SUPPLY OF FUEL TO BURNERS MORE ESPECIALLY FOR VEHICLE HEATERS
Reiner Friedl, Starnberg, Upper Bavaria, and Robert von Linde, Grafelfing, near Munich, Germany, assignors to Webasto Werk G.m.b.H., Stockdorf, near Munich, Germany
Filed Nov. 8, 1963, Ser. No. 322,490
Claims priority, application Switzerland, Nov. 30, 1962, 14,092/62
2 Claims. (Cl. 158—36.3)



1. A device for supplying liquid fuel to a burner comprising:
a first pump, said pump having a suction port and a discharge port;
a storage tank for liquid fuel connected to the suction port of said first pump;
an intermediate tank connected to the discharge port of said first pump;
a second pump, said pump having a suction port and a discharge port;
a suction pipe connected between the suction port of said second pump and said intermediate tank;
a delivery pipe means connected between the discharge port of said second pump and the burner, said delivery pipe means having a cross-sectional area to maintain a lower pressure therein than the pressure maintained in said intermediate tank; and
a by-passing pipe providing communication between said intermediate tank and said delivery pipe means.

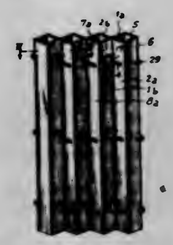
3,267,988
SAFETY DEVICES FOR OIL BURNERS
Donald E. Schott, Emerson, N.J., assignor, by mesne assignments, to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed June 2, 1964, Ser. No. 371,999
15 Claims. (Cl. 158—73)

1. A safety device for an oil burner comprising a valve housing having a passageway for oil, a valve in the housing for controlling the flow of oil through the housing passageway, means for securing the housing and the burner together, means on the housing adapted to connect the passageway of said housing in fluid flow relationship with said burner, means carried by the housing for opening the valve, the securing and valve opening means



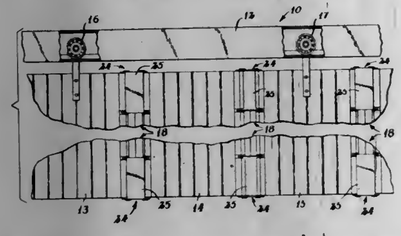
having parts mechanically interlocked to prevent the release of the securing means when the opening means has opened the valve, and means on the housing rendered effective by the release of the securing means to prevent the opening means from being operated to open the valve.

3,267,989
FOLDING SCREEN
Marc Claude Voisine, Cande, Maine et Loire, France
Filed Jan. 21, 1963, Ser. No. 252,824
Claims priority, application France, Jan. 22, 1962, 885,463, Patent 1,312,746; Mar. 10, 1962, 890,647; Dec. 4, 1962, 894,236
1 Claim. (Cl. 160—84)



A folding screen comprising a plurality of rectangular main panels and rectangular auxiliary panels, respective main panels being hingedly joined together along one longitudinal side thereof in pairs; said main panels having their other longitudinal sides rigidly connected to respective auxiliary panels extending substantially in the planes of said main panels; said auxiliary panels being hingedly joined together in pairs, and said pairs being hingedly joined together; said main panels and said auxiliary panels, at their points of rigid connection, being arranged to intersect each other to form joined lozenges; the hinge connection between adjacent pairs of auxiliary panels at the points of intersection with pairs of main panels lying within the extension of the planes of the outer surfaces of said main pairs of panels, so that the auxiliary panels at said intersections extend forward of said last hinge connection to cover any openings between the adjacent pairs of main panels; said rigid connections of the main panels with the auxiliary panels being arranged on the inner surfaces of the main panels and vertically disposed with respect to each other and forming said lozenges with said last hinge connection.

3,267,990
FOLDING DOOR
Donald S. Harris, New Castle, Ind., assignor to New Castle Products, Inc., New Castle, Ind., a corporation of Indiana
Filed Mar. 20, 1964, Ser. No. 353,341
6 Claims. (Cl. 160—199)



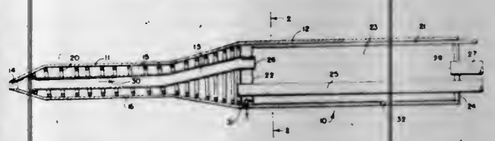
1. In a door of the type characterized by a plurality of elongated panels adapted to be suspended from an overhead track, said panels being serially connected to each other along their marginal edges for folding and unfolding movement between stacked and extended positions in an opening, each of said marginal edges being provided with an outwardly opening groove, a plurality of flexible hinge strips provided with enlarged marginal formations, which formations of each strip are positioned within the grooves on the marginal edges of adjoining panels to serially connect adjacent panels, the improvement which comprises each of said grooves in said panels being interrupted adjacent the ends thereof to form a slot transversely of said groove, said slot being spaced from an end portion of each of said panels, a rigid hinge means having interconnected spaced portions thereof projecting into each of said slots and over the end portion of each of said panels thereby to provide a support between adjacent panels to prevent relative longitudinal shifting movement therebetween, and pin means holding said projecting portions of said hinge means to each of said panels without impairing the smooth folding movement thereof.

3,267,991
HATCH COVER AND LINKAGE THEREFOR
Ramon Zubiaga Aldecoa, Las Arenas, Guecho, Vizcaya, Spain, assignor to Consulmar S.A., Panama, Panama, a Panamanian corporation
Filed Oct. 31, 1963, Ser. No. 320,337
Claims priority, application Great Britain, Dec. 3, 1962, 45,631/62
5 Claims. (Cl. 160—206)



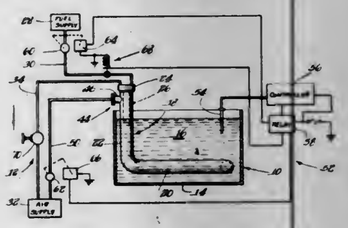
1. A hatch and cover assemblage for a deck comprising substantially rectangular frame means defining a hatch opening having opposite sides and ends in the deck, a similar ramp on each opposite side outwardly of the hatch opening including a portion sloping upwardly in a direction away from one end of the frame means and a planar portion located at a stowage space provided beyond said one end of the frame means, a plurality of coplanar hatch cover sections adapted to cover the hatch opening and supported on the opposite sides of the frame means, a wheel on each side of each cover section adapted to travel along said ramps, a chain arrangement operably related to each side of the cover sections, said chain arrangement comprising a plurality of pairs of elongated links, one link of each pair having pivotal connections to a cover section at one end and to one end of the other link of such pair at the opposite end, respectively, the opposite end of said other link being pivotally connected to the next cover section, and means associated with the pivotal connection between the opposite ends of each pair of links for limiting the pivoting of the links in relation to each other so that the chain arrangements can transmit pushing forces when the cover sections are moved from the closed position on the hatch opening to the stowage space during travel of the wheels on the cover sections along said ramps.

3,267,992
PITOT TUBE HAVING MEANS FOR REMOVING WATER FROM THE AIR
Frank D. Werner, Richard L. Englund, and Willard L. Moline, Minneapolis, Minn., assignors to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota
Filed May 6, 1963, Ser. No. 278,353
6 Claims. (Cl. 165—2)



1. A Pitot tube comprising:
an outer shell,
a tubular forward portion of relatively small diameter mounted in said outer shell,
a cylindrical chamber having front and rear walls formed in said outer shell, and being of substantially greater transverse dimension than said tubular forward portion, said tubular forward portion opening through said front wall into said chamber,
a rear tubular portion of relatively small diameter located partially within said outer shell and opening from said chamber through said rear wall at a position remote from the forward portion, and
heating means mounted within said outer shell for maintaining the entire forward portion of said tube at a temperature above the freezing point of water, the rear portion of said chamber being substantially unaffected by said heating means and remaining at a temperature substantially as low as the temperature of the coldest part of the rear tubular portion of said Pitot tube.

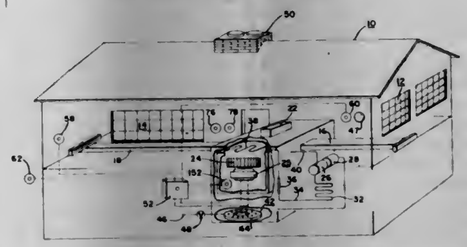
3,267,993
HEAT TRANSFER SYSTEM FOR A LIQUID BATH
Anthony A. Fennell, % Fennell Corp., 379 E. Sibley Blvd., Harvey, Ill.
Filed Jan. 8, 1964, Ser. No. 336,526
2 Claims. (Cl. 165—26)



2. In a heat transfer system for a liquid bath, the combination comprising: a tubular heat transfer member including a lower portion adapted to be submersed in a liquid bath and including an upper portion; burner means disposed in said upper portion aligned axially thereof

for delivering heat to said lower portion, including an air inlet, a fuel inlet and a flame outlet; coolant means in said upper portion separate from said burner means for selectively delivering a coolant fluid to said lower portion, including aperture means opening into said upper portion and including a coolant air inlet; and control means for selectively operating said burner means and said coolant means, including individual valve means for said fuel inlet and said coolant air inlet, thermosensing means disposed in thermal contact with said bath, and means for operating said valve means in compliance with the conditions sensed by said thermosensing means.

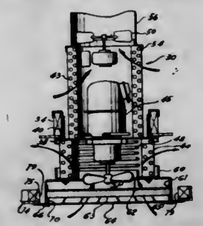
3,267,994
HOUSEHOLD CONDITIONING SYSTEM
William L. Sones, Dayton, James O. Elliott, Xenia, and George A. Neyhouse, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 31, 1964, Ser. No. 393,202
16 Claims. (Cl. 165—28)



4. In combination, means including an A.C. induction motor means for cooling a mass of air, means for heating the mass of air, means including a second electric motor for circulating the mass of air for conditioning predetermined environments, means for selectively conditioning said A.C. induction motor means for energization from a power source, means for sensing at least two conditions in the environment and adapted to produce two signals in proportion respectively to each of said sensed conditions, and a computer control means including semiconductor switch means in power supply relationship to said A.C. induction motor means for selectively varying the power supply to said A.C. induction motor means, said computer control means including means for simultaneously processing said signals together to control the voltage characteristic of power supplied through said semiconductor switch means to said A.C. induction motor means whereby the supply of heat and the cooling of the mass of air is regulated within predetermined limits to maintain a substantially uniform comfort level in the environment.

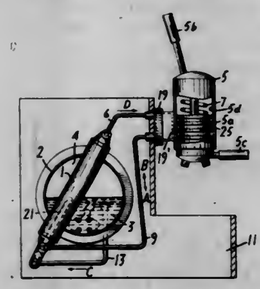
3,267,995
CENTRALIZED HEATING AND AIR CONDITIONING SYSTEM
Wendell E. Maudlin, Lebanon, Ind., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed July 15, 1963, Ser. No. 294,949
5 Claims. (Cl. 165—29)

1. A centralized heating and air conditioning system for a residential dwelling unit having a main dwelling space and an attic space seperated from one another by a ceiling and further having the main dwelling space divided by a plurality of interior partitions to the ceiling into separate interior rooms, comprising the combination of the ceiling having spaced from all of said interior partitions generally centrally of the dwelling unit an opening between the main dwelling space and the attic space, support means formed in the ceiling adjacent the opening, a self-contained heating and air conditioning unit including coaxially arranged space condensing and evaporating coils and a compressor encircled by one of said coils and all fixedly carried by a common plate supported by the support means with one of said coils and said compressor being inserted through said opening into said attic space irrespective of the angular position of said one coil and compressor relative to the opening, and said plate adjacent the lower side of said ceiling to suspend the other coil and the conditioned air outlet within the main dwelling space, means to operate the conditioning unit on a cycle for cooling the dwelling space and on a cycle for heating the dwelling space, a centralized distributor en-



closure formed around the outlet portion of the conditioning unit for distributing the temperature conditioned air to the rooms of the dwelling unit selectably as desired, said distributor enclosure including a false ceiling structure supported below the first-mentioned ceiling and extended to at least nearby intermediate partitions adjacent the unit, inlet and outlet register means in the distributor enclosure effective to communicate selectively to various separate rooms, and fan means carried by said plate coaxial with said other coil disposed adjacent the outlet of the conditioning unit effective to force the temperature conditioned ar from the distributor enclosure to the separate rooms.

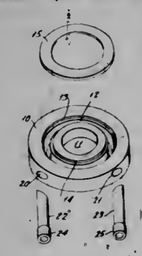
3,267,996
HEAT EXCHANGE SYSTEM HAVING RECYCLING FLUENT MATERIAL RECEIVING AND DISCHARGING HEAT
Ernesto Valente, 5 Via G. Ventura, Milan, Italy
Filed Aug. 10, 1965, Ser. No. 478,775
3 Claims. (Cl. 165—106)



1. A coffee-making machine comprising, a dispensing head having a valved outlet communicating with the ambient, a boiler disposed spaced from said dispensing head for heating water therein and having a space for receiving steam from water heated therein, means defining a water-flow path having a portion external to said boiler for recirculating heated water from said boiler through said dispensing head and back to said boiler, said heated water being cooled while in said external portion of said flow path, and having a portion defining a heat exchanger portion of said flow path passing through said boiler at an inclination to the vertical and being partially immersed

in the boiler water for extracting heat from the water and steam in said boiler, and said means defining said external portion of said flow path comprising a first conduit external of said boiler and communicating between said heat exchanger portion and said dispensing head for supplying heated water from said heat exchanger portion to said dispensing head and a return conduit external of said boiler and communicating between said heat exchanger portion and said dispensing head for returning water from said dispensing head to said heat exchange portion when said valved outlet of said dispensing head is closed, said return conduit communicating with said heat exchanger portion at a point spaced along said flow path from a point at which said first conduit communicates with said heat exchanger portion, and means for supplying water to said boiler, whereby water is circulated through said water-flow path automatically due to convection flow.

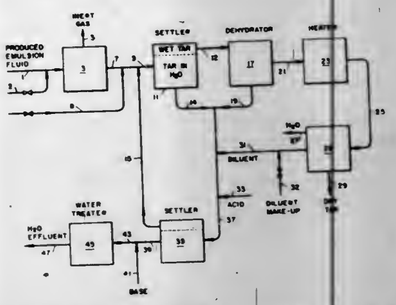
3,267,997
FLUID COOLED WASHER
Joseph F. Matarese, Burlington, and Paul F. Waivers, Florence, N.J., assignors to Aero-Chatillon Corporation, a corporation of New York
Filed Sept. 20, 1962, Ser. No. 225,014
1 Claim. (Cl. 165—168)



A washer comprising a disk having an annular channel extending from a surface thereof, a first and second opening extending from respective first and second portions of said channel to respective first and second exterior regions of said disk; said first and second openings receiving first and second conduit means therein for forming a circulation path for a heat exchange fluid from said first conduit, through said channel and to said second conduit; said first and second openings in said first and second conduits extending in the plane of said disk; said first and second conduits being parallel to one another; the ends of said first and second conduits adjacent said channel being flush with the wall of said first and second openings having respective internal shoulders for receiving portions of said ends of said first and second conduits; respectively, and a disk shaped cover enclosing said channel at the surface thereof extending through said disk.

3,267,998
SEPARATION PROCESS
Warren C. Simpson, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed June 1, 1964, Ser. No. 371,642
5 Claims. (Cl. 166—7)

1. A process for separating and recovering the heavy hydrocarbon crude from a produced fluid comprising a heavy hydrocarbon crude-water emulsion which comprises degasifying said fluid to remove inert gases and producing a degasified fluid, diluting the degasified fluid by adding a heavy hydrocarbon crude/diluent phase produced from a secondary separation zone defined hereinafter thereto to form a diluted fluid, passing said diluted fluid to a primary separation zone wherein a wet heavy hydrocarbon crude/diluent layer and a heavy hydrocarbon crude-in-water emulsion layer are recovered as substantially separate phases, passing said heavy hydrocarbon crude/diluent layer to a dehydrating zone, recovering a water phase and a dry hydrocarbon crude/diluent phase from said dehydrating zone as separate phases, recovering a dry heavy hydrocarbon crude product by removing said diluent from said dry heavy hydrocarbon crude/diluent phase, adjusting the pH of said heavy hydrocarbon crude-in-water emulsion layer from said primary separation zone to a value between 3 and 7 to produce a pH adjusted phase having a minimum spreading pressure, passing said pH adjusted phase to a secondary separation zone, recovering from said secondary separation zone a heavy hydrocarbon crude/diluent phase and an aqueous phase as separate phases and passing said heavy hydrocarbon crude/diluent phase to said primary separation zone for dilution of said degasified fluid and rejecting said aqeous phase as the effluent from the process.



3,267,999
SOLVENT FLOOD WITH EXPANDING OIL PHASE
Ronald L. Reed, Austin, Tex., and Joseph J. Taber, Chesswick, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Mar. 18, 1963, Ser. No. 265,931
15 Claims. (Cl. 166—9)

1. In a method for recovery of oil from a petroleum reservoir containing brine and oil by introducing into said reservoir through an injection well a slug of amphipathic solvent and displacing said solvent toward a producing well by the injection of water into the reservoir at the injection well, the improvement comprising injecting into the reservoir ahead of said solvent slug a mixture of said amphipathic solvent and a hydrocarbon that is miscible with the reservoir oil, the amounts of solvent and hydrocarbon in said mixture being such that said mixture adjusts the liquid concentrations in a transition zone ahead of said solvent slug in a manner such that as said solvent forms brine- and oil-solvent phases in said transition zone said oil-solvent phase will increase in volume.

3,268,000
CRUDE OIL RECOVERY BY ENRICHED GAS DRIVE
Johannes M. Dumoré, Rijswijk, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Aug. 14, 1963, Ser. No. 302,103
6 Claims. (Cl. 166—9)

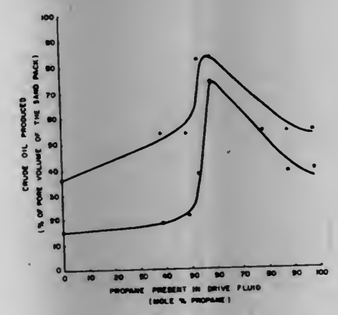
1. A method of recovering crude oil from a subsurface reservoir providing with at least one injection well and at least one production well, comprising:

(a) conducting an experiment by injecting a selected quantity of a drive fluid consisting substantially of a selected ratio of methane and an intermediate hydrocarbon into a test tube containing a permeable medium containing a fluid having substantially the same characteristics as the crude oil present in the subsurface reservoir and under conditions of pressure and temperature substantially equal to the conditions to which the crude oil is subject in the subsurface reservoir, and measuring the amount of fluid displaced by the drive fluid from the test tube, in which the ratio between the superficial rate of the fluids in the permeable medium and the critical rate, as determined by the formula:

$$\frac{(\rho_f-\rho_m)k_m\cdot g\cdot\sin\alpha_m}{\frac{\mu_f}{k_{mf}}-\frac{\mu_m}{k_{mm}}} \quad \text{(centimeters/second)}$$

is between 1 and 3, where:

ρ_f is the density of the fluid to be recovered (gram/cubic centimeter),
ρ_m is the density of the methane (gram/cubic centimeter),
k_m is the permeability of the medium contained in the test tube (square centimeter),
μ_f is the viscosity of the fluid to be recovered (poise),
μ_m is the viscosity of the methane (poise),
k_{mf} is the relative permeability of the medium in the test tube to the fluid to be recovered (dimensionless),
k_{mm} is the relative permeability of the medium in the test tube to the methane (dimensionless),
g is the acceleration of gravity (centimeters/second²) and



α_m is the angle between the horizontal and the direction of flow of the drive through the permeable medium contained in the test tube in which the fluid is being displaced in a downward direction;

(b) repeating the experiment under substantially the same conditions with other selected ratios of methane and an intermediate hydrocarbon and measuring in each experiment the amount of fluid displaced from the permeable medium in the test tube;

(c) injecting into the injection well a drive fluid consisting substantially of methane and an intermediate hydrocarbon, the composition of the drive fluid being substantially the same as that of the drive fluid with which in the experiments the highest recovery was obtained at a cumulative injection of at least the volume of the drive fluid necessary for breakthrough and the ratio between the mean superficial rate of the fluids in the reservoir and the critical rate, as determined by the formula:

$$\frac{(\rho_c-\rho_m)k_r\cdot g\cdot\sin\alpha_r}{\frac{\mu_c}{k_{re}}-\frac{\mu_m}{k_{rm}}} \quad \text{(centimeters/second)}$$

being substantially equal to the ratio at which the experiments were carried out, in which formula:

ρ_c is the density of the crude oil (gram/cubic centimeter),

ρ_m is the density of the methane (gram/cubic centimeter),
k_r is the permeability of the reservoir (square centimeters),
μ_c is the viscosity of the crude oil (poise),
μ_m is the viscosity of the methane (poise),
k_{re} is the relative permeability of the reservoir to the crude oil to be recovered (dimensionless),
k_{rm} is the relative permeability of the reservoir to the methane (dimensionless),
g is the acceleration of gravity (centimeters/second²), and
a_r is the angle between the horizontal and the direction flow of the drive through the reservoir and in which the crude oil is being displaced in a downward direction; and,

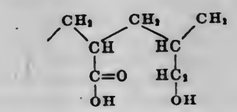
(d) withdrawing crude oil originally contained within the subsurface reservoir via the production well.

3,268,001
METHOD OF RUNNING A PREPACKED SAND CONTROL LINER
Harry Brandt, Whittier, Calif., assignor to Chevron Research Company, a corporation of Delaware
Filed Jan. 20, 1964, Ser. No. 338,867
9 Claims. (Cl. 166—12)

1. A method of positioning a prepacked sand control liner in a well comprising the steps of determining the temperature in a well at a position where a prepacked sand control liner is to be positioned, selecting a wax having a melting temperature of from substantially equal to but less than the said determined temperature up to 40° F. less than the determined temperature, coating the exposed surfaces and filling the voids of the permeable matrix of said prepack with said wax, inserting said prepack in said well, lowering said prepack through the portion of said well where the well temperature is less than the melting temperature of said wax at a rate to provide a thermal gradient through said prepack sufficient to maintain at least a portion of the wax in said prepack unmelted for a time interval after the melting temperature of the wax is exceeded in the well, continuing to lower said prepack to said position during said time interval through the portion of said well where the well temperature exceeds the melting point of said wax at a rate to maintain at least a portion of said wax unmelted in said prepack until said prepack reaches said position to prevent drilling mud invasion of said prepack, and positioning said prepack at said position.

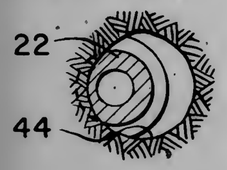
3,268,002
PROCESS FOR TREATING SOILS AND RESULTING PRODUCTS
Rudolph F. Fischer, Oakland, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 5, 1965, Ser. No. 506,595
7 Claims. (Cl. 166—33)

7. A process for treating porous earth formation surrounding a borehole comprising the steps of isolating a zone of said borehole adjacent to the formation to be treated, pumping an aqueous solution of a salt of a polymeric polyhydroxy polycarboxylic acid having a plurality of structural units.



into said formation and through said isolated zone of said borehole, retaining the solution for sufficient time to effect hardening of the soil particles and then producing the well.

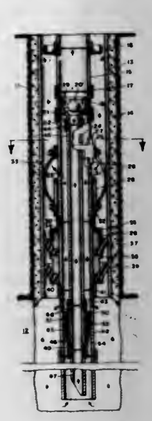
3,268,003
METHOD OF RELEASING STUCK PIPE FROM WELLS
Roy L. Essary, Midland, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 18, 1963, Ser. No. 309,644
2 Claims. (Cl. 166—35)



1. A method freeing for movement within a well a tubular member stuck against the wall of the well by a pressure differential between the mud column hydrostatic pressure in the well and the formation pressure at the stuck point, said method comprising the steps of:
providing a sealed fluid flow connection between the stuck tubular member and the top of the well,
determining the upper point in the well where the tubular member is stuck,
perforating a selected length of said tubular member below its uppermost stuck point, said perforating taking place at least in the direction of the portion of well wall against which said tubular member is stuck,
pumping fluid down said fluid flow connection and into said tubular member and out the perforations therein to be discharged at a pressure above the hydrostatic pressure of said mud column within the well at that point,
injecting said fluid into the formation until the fluid pressure within the formation is substantially at least equal to the fluid pressure within the borehole at that point,
adding to said fluid being pumped down the tubular member and into the fish, perforation blocking elements of a size and configuration and specific gravity to become lodged against those perforations through which a disproportionately large amount of said fluid is passing and at least partly blocking said perforations to limit the flow therethrough and divert a major portion of the fluid flow to other perforations, and
subsequently, moving said tubular member after the fluid being discharged from said perforations has pushed it away from the well wall.

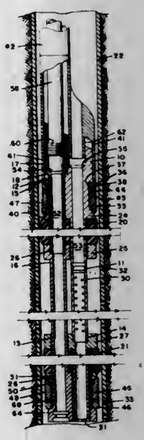
3,268,004
APPARATUS FOR IMPROVING THE PERMEABILITY OF SUBTERRANEAN FORMATIONS
Othar M. Kiel, Tulsa, Okla., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Original application Apr. 1, 1963, Ser. No. 269,518. Divided and this application Oct. 5, 1964, Ser. No. 401,618
6 Claims. (Cl. 166—106)

1. Apparatus for alternately increasing and decreasing the pressure on a subterranean formation surrounding a wellbore containing a conduit communicating with said formation which comprises:
(a) a string of pipe of suitable diameter and sufficient length to extend downwardly in said conduit from the earth's surface to a point adjacent said subterranean formation;
(b) a packer mounted on the outer surface of said string of pipe near the lower end thereof for maintaining a seal between said string of pipe and the inner wall of said conduit;
(c) an axially movable member which can be lifted and dropped within said string of pipe, said movable member in its lowermost position seating within said string of pipe at a point near the lower end thereof adjacent said packer;
(d) a packer element on the outer surface of said axially moveable member for maintaining a seal between said member and the inner wall of said string of pipe; and,



(e) a check valve in said axially movable member near the lower end thereof for permitting the upward movement of fluid through said member but preventing the movement of fluid in a downward direction.

3,268,005
MULTIPLE-TUBING WELL PACKER
John P. Moore, Metairie, La., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 16, 1963, Ser. No. 309,071
6 Claims. (Cl. 166—119)



1. A permanent packer assembly for use in well casing traversing closely spaced upper and lower formations, said casing being perforated opposite said upper and lower formations, said assembly comprising:
a pair of vertical tubular conduits arranged in a side-by-side relationship,

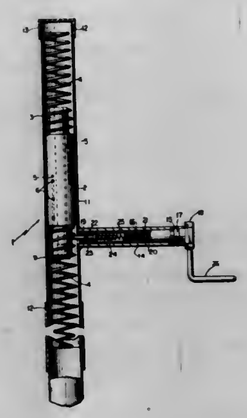
bracket means fixedly secured to one of said conduits and extending transversely to engage said other conduit, said other conduit being axially movable through said bracket means in a direction parallel to said one conduit,
one of said conduits having fluid port means through the wall thereof intermediate the ends thereof and said conduit being closed below said port means,
first and second expandible packer means arranged in speed relationship and surrounding both of said conduits above and below the port means through the wall of said conduit,
the other of said conduits having fluid port means in communication between the bore thereof and the space below the second packer means, and
anchoring means carried outwardly on each of said packer means and adapted to be expanded outwardly against the inner surface of a well casing to anchor the packer assembly therein.

3,268,006
METHOD AND APPARATUS FOR INSTALLING AND RETRIEVING WELL TOOLS IN WELL STRINGS
William J. Hayes, West Covina, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 10, 1962, Ser. No. 222,473
10 Claims. (Cl. 166—154)



10. An apparatus for removing well tools from pockets disposed laterally of and in communication with the interior of a well string, said apparatus comprising:
a well string having laterally disposed pockets therein;
a carrier adapted to be pumped through the well string, said carrier including packer means in fluid-tight engagement with the interior of the well string;
a tool retriever carried by said carrier, said retriever being adapted to attach itself to a tool positioned in a laterally-disposed pocket of the well string;
means operatively associated with said retriever to bias the retriever towards the pockets disposed laterally of the well string in which a tool may be positioned;
and, indexing means to facilitate positioning of the retriever adjacent the preselected pocket which holds the tool to be removed, said indexing means comprising first and second engageable portions included in the structure of said well string and said carrier, respectively.

3,268,007
PARAFFIN CLEANER FOR WELL TUBING
Davis S. Bodie, Norman, Okla., assignor to Cities Service Oil Company, Bartlesville, Okla., a corporation of Delaware
Filed Aug. 16, 1963, Ser. No. 302,543
2 Claims. (Cl. 166—170)



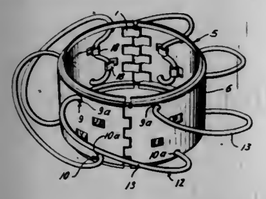
1. A device for maintaining an oil well production tubing essentially free from paraffin accumulation comprising:
an elongated body adapted to move freely within the production tubing, said body including a main body portion with extended portions at each end, said main body portion having a cross-sectional size slightly less than that of the production tubing so that the device may freely travel up and down said production tubing, said extended portions having a smaller cross-sectional size than the main portion of said elongated body;
helical springs mounted on said extended portions of the elongated body, said helical springs having a width slightly less than that of the production tubing, said width being sufficient so that the springs contact the sides of said production tubing as the springs vibrate during the travel of the device up and down said production tubing, the length of said helical springs being at least approximately twice the length of the extended portions of the elongated body;
whereby the device falls freely in a tubing stop due to its own weight when the well is shut-in and is lifted to the surface by the well fluids and gas when flow is resumed, the turbulence caused by fluid and gas movement through the springs causing said springs to vibrate and contact the inner walls of the production tubing thereby removing paraffin from the walls before any appreicable accumulation occurs.

3,268,008
CABLE WIPER
Charles W. Turbyfill, Marshall, Tex., assignor to Pathfinder Oil Tool Co., a corporation of Texas
Continuation of application Ser. No. 312,019, Sept. 27, 1963. This application Apr. 7, 1965, Ser. No. 446,317
7 Claims. (Cl. 166—173)

1. A well bore wiper comprising:
(a) a support member adapted to be secured to a well pipe,
(b) there being a pair of rows of openings in said member,
(c) each of said rows of openings lying in different planes in said support member,

(d) a cable extending from an opening in one of said rows to the next adjacent opening in the other row of openings to form a loop extending at an angle relative to the axis of said support member,

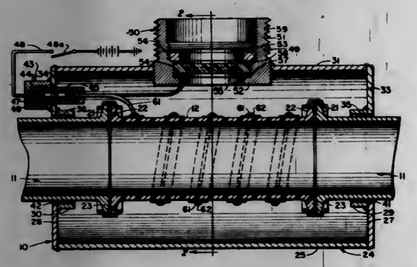
(e) a plurality of cable loops carried by said support member, each of which is inclined in the same direction on said support member,



(f) means for securing said cable extending through said openings to retain said loops formed on said member, and

(g) said cable loops each having a portion spaced from and overlying the next adjacent cable loop.

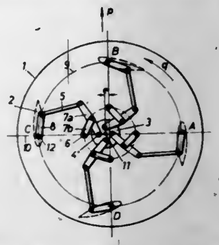
3,268,009
DELUGE DEVICE FOR EXTINGUISHING FIRE IN PIPELINE
Atlee H. Bussey and Horace W. Ray, Pasadena, and Buddie W. Morris, Anaheim, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed June 4, 1963, Ser. No. 285,852
3 Claims. (Cl. 169—16)



1. An explosive operated deluge device adapted to be mounted in a run of pipeline carrying inflammable material, comprising: a length of frangible pipe secured at each end, in leak-proof relation, to adjacent segments of the pipeline; a leak-proof housing enclosing said length of frangible pipe and mounted on the adjacent segments of the pipeline in leak-proof relation thereto; a tubular member sealed into a wall of said housing and adapted to admit fire extinguishing fluid into said housing; a frangible closure member mounted in said tubular member; explosive means to disintegrate said length of frangible pipe and said frangible closure member at the same time; and initiating means operated from outside of said housing to detonate said explosive means.

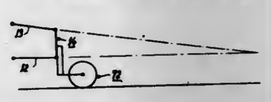
3,268,010
CYCLOIDAL SHIP PROPELLER
Karl Blickle, Bolheim, Eugen Höflich, Heidenheim (Brenz), and Wilhelm Hub, Saarbrucken, Germany, assignors to J. M. Voith G.m.b.H., Heidenheim (Brenz), Germany
Filed Apr. 7, 1965, Ser. No. 446,202
7 Claims. (Cl. 170—151)

3. A cycloidal ship propeller comprising: a blade wheel body, a plurality of blades pivotally supported by said blade wheel body and having their pivot axes arranged along a circle in substantially uniformly spaced relationship to each other, said pivot axes being substantially parallel to each other, each of said blades being capable of an oscillating movement about its pivot, adjustable control means common to all of said blades and movable selectively from a central poistion coaxial with said blade wheel body into any one of a plurality of positions eccentric with regard to said blade wheel body and vice versa to govern the oscillating movement of said blades, each of said blades comprising a pivot and being oscillatable about a middle position thereof in which the respective blade is tangential to the circle along which the pivot axes of said blade are arranged, a plurality of blade actuating linkage systems respectively operatively connecting said adjustable control means with said blades,



each of said blade actuating linkage systems comprising at least one lever operatively connected to the respective blade pivot and also comprising a connecting rod linked to said lever, each of said blade actuating linkage systems furthermore comprising a two-arm lever pivotally connected to said blade wheel body and having one of its arms connected to said connecting rod and having its other arm pivotally connected at the center of said adjustable control means, the arrangement being such that for each blade and the linkage system pertaining thereto the axis of the pivotal connection of the two-arm lever of the respective linkage system with said blade wheel body is located in the radial plane which passes through the axis of rotation of said blade wheel body and through the axis of the pivotal connection of the respective blade with said blade wheel body.

3,268,011
COMBINATIONS OF TRACTORS WITH AGRICULTURAL IMPLEMENTS
Cornelis van der Lely, 7 Bruschenrain, Zug, Switzerland
Filed June 26, 1964, Ser. No. 378,127
5 Claims. (Cl. 172—276)



1. In combination, a tractor and an agricultural implement adapted to be connected to the forward part of said tractor and pushed in normal farming operations, at least two arms extending forwardly from the forward part of said tractor, said agricultural implement being coupled to said tractor by said arms and disposed forward of said tractor, said two arms located at different levels above the ground, said arms being pivotally fastened both to said tractor and said implement for pivoting about substantially horizontal axes, said horizontal axes of said pivots intersecting a vertical plane along the longitudinal axis of the tractor, the points of intersection with said vertical plane forming corners of a trapezium, a forward planar extension through the two upper of said horizontal axes intersecting with a forward planar extension through the two lower of said horizontal axes in front of said agricultural implement, whereby when said agricultural implement encounters obstructions in the ground said agricultural implement tends to move upwardly and rearwardly with respect to said tractor.

3,268,012
DIGGER TEETH
Thomas A. Ratkowski, Chicago Heights, Ill., assignor to Abex Corporation, a corporation of Delaware
Original application July 22, 1963, Ser. No. 296,522. Divided and this application Sept. 7, 1965, Ser. No. 485,164
2 Claims. (Cl. 172—700)



1. A replaceable shroud for protecting the leading and ground breaking wall of a shank of a digger assembly adjacent an attached digger tooth secured to the shank, said shank having at least one integrally formed projection on its leading wall by which said shroud is secured to said shank, said shroud comprising:

a hollow shell member for covering said projection and the portion of said leading side wall of the shank adjacent said digger tooth,

said shell having a forward leading wall and having opposed lateral side walls terminating in end walls for engaging the leading wall of said shank adjacent the outer edges of said side walls of said shank, and

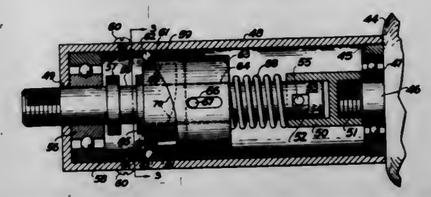
each of said lateral side walls having elongated apertures, said apertures having elongated side walls constituting elongated surfaces for welding said shroud to said shank, said elongated apertures adapted to expose said projection on said shank, access being provided through said apertures on said shroud for welding said shroud to said shank.

3,268,013
IMPACT TOOLS
Ernst Sussman, Biery's Bridge Road, Bethlehem, Pa.
Filed Feb. 18, 1964, Ser. No. 345,777
12 Claims. (Cl. 173—53)



1. An impact tool comprising a hollow tubular body member, an anvil slidably disposed within said body member and having a stem projecting forwardly from the body member to carry a tool-bit, a hammer slidably disposed within said body member rearwardly of said anvil, a hammer-projecting spring disposed for compression between said hammer and a portion of said body member and urging said hammer toward said anvil, a handle member carried by said body member and movable longitudinally with respect thereto, a lost motion connection between said hammer and said handle member whereby retractive movement of said handle member will pull said hammer rearwardly and compress said projecting spring whilst the handle member may be moved in the forward direction independently of said hammer, a compression spring disposed between said handle member and said hammer urging the hammer and handle member apart to take up the slack of the lost motion connection, and means for cocking the hammer and tripping it to project it toward said anvil.

3,268,014
ROTARY IMPACT HAMMER
Ambrose W. Drew, 2183 Campus Road, Cleveland 21, Ohio
Filed Apr. 17, 1964, Ser. No. 360,719
3 Claims. (Cl. 173—97)

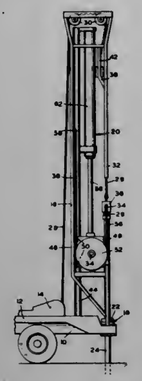


2. A rotary impact hammer for use with a portable electric drill having a case and a drive shaft protruding therefrom comprising an elongated hollow housing arranged for attachment to said case at one end, a spindle journalled in said housing for rotary and limited axial movement relative to said housing, detachable coupling means on said spindle engaging said drive shaft, a cylindrical hammer slidably mounted on said spindle, means on said spindle engaging said hammer arranged to permit reciprocal movement of said hammer on said spindle, an anvil on said spindle spaced relative to said hammer and positioned for engagement by said hammer, spring means on said spindle biasing said hammer toward said anvil, circumferentially arranged interconnecting cam means on said hammer, an apertured sleeve received in said housing, rotatable cam followers positioned in said apertured sleeve for registry with said cam means.

3,268,015
HYDRAULIC PULL-DOWN MECHANISM FOR ROTARY DRILLING RIGS
Wilbur M. Stevenson, 2675 S. Jasmine, Arapahoe County, Colo.
Filed Apr. 13, 1964, Ser. No. 359,363
10 Claims. (Cl. 173—147)

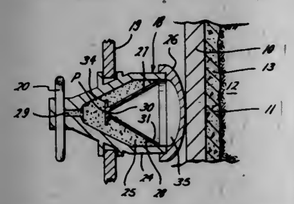
1. In a rotary drilling device of the type having an upstanding mast, drill pipe supporting means adapted to transmit rotational movement to a string of drill pipe suspended therefrom, drive means connected to the drill pipe supporting means operative upon actuation to rotate same, swivel means connected to the mast for vertical movement and connectable to the drill pipe supporting means for raising and lowering the drill pipe while it rotates, and winch means connected to the swivel means operative upon actuation to raise and lower same, the improved mechanism for supplementing the downward force exerted on the drill pipe string which comprises: cable means connecting the swivel means to a fixed support, a running pulley block in rolling engagement with the cable means intermediate the ends thereof operative to exert a downward pull upon the swivel means when a force is applied against said running block in a direction selected to foreshorten the segment of said cable means extending between said block and swivel means, and a double-acting hydraulic servo-motor including a reciprocatable piston and extendable piston rod means opera-

tively interconnecting said piston and running pulley block, said servo-motor upon actuation in a direction to move the piston from a retracted toward and extended position being operative to extend said piston rod means and force said running block in the direction required to exert the downward pull upon the swivel means, and



said servo-motor upon actuation to place the piston in any position other than fully extended becoming operative to decouple the running block and permit limited independent movement thereof so that the swivel means can be raised up the mast by the winch means and dropped free of any damping action that would otherwise be exerted thereon by the piston.

3,268,016
SHAPED CHARGE APPARATUS
William T. Bell, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed June 11, 1964, Ser. No. 374,414
2 Claims. (Cl. 175—4.51)



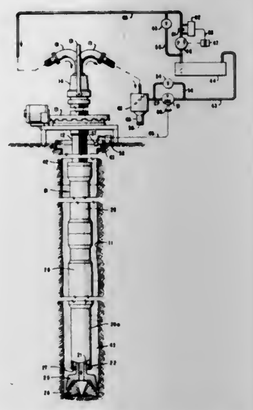
2. Shaped charge apparatus comprising: explosive means in said apparatus having a forward shaped recess; means for detonating said explosive means to cause a perforating jet to form along a perforating axis; and liner means for said forward recess including a solid rearward apical portion received therein and extending transversely across said perforating axis a distance greater than the dimension of an entry hole formed by the resulting perforating jet.

3,268,017
DRILLING WITH TWO FLUIDS
Jack G. Yarbrough, Corpus Christi, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed July 15, 1963, Ser. No. 294,877
9 Claims. (Cl. 175—25)

1. Method of extending the depth of a borehole in the earth by drilling which comprises the steps of:

(a) rotating a drill bit in engagement with the bottom of said borehole at the end of a dual drill string having separate up-flow and down-flow passages,

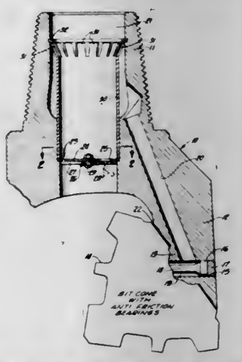
(b) establishing and maintaining an annular substantially stationary column of liquid that contains wall-coating material between the wall of the borehole and said dual drill string at a pressure at least sufficient to balance substantially the pressure of fluids in the earth formation encountered by the borehole, the bottom of said up-flow passage being in communication with the bottom of said liquid column and with the space at the bottom of the borehole adjoining the drill bit,



(c) simultaneously with the rotation of said drill bit, flowing a substantially solids-free drilling fluid from a source at superatmospheric pressure downwards through said down-flow passage and the drill bit and thence, laden with formation cuttings, upward through said up-flow passage, and

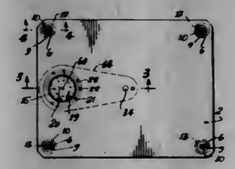
(d) controlling the pressure of the drilling fluid in said space to balance the bottom pressure of said column of liquid.

3,268,018
AIR OR GAS CIRCULATION ROCK BIT ANTI-CONTAMINATION VALVE
William J. Neilson, Whittier, Calif., assignor to Smith Tool Co., Compton, Calif., a corporation of California
Filed Oct. 14, 1963, Ser. No. 316,064
3 Claims. (Cl. 175—318)



1. A rock bit having a body on which cutters are rotatably mounted, said body having a main circulation passage therethrough for the discharge of circulation fluid, and having branch passages each with a point of communication with the main circulation passage and leading to the interiors of the cutters, an imperforate tubular sleeve having its lower end snugly fitting the main circulation passage below the points of communication of the branch passages therewith, said sleeve extending above said points of communication, the wall of said main circulation passage adjacent the upper end of said sleeve being spaced outwardly from said sleeve to provide circulation in the main passage exteriorly of the sleeve to said points of communication with said branch passages as well as interiorly of the sleeve, releasable sleeve anchoring means engaging the wall of said passage and said sleeve, and a substitutable downwardly opening one-way valve supported in and upwardly removable from said main circulation passage and held in position beneath and by said sleeve.

3,268,019
WEIGHING SCALE
Woodson C. Deeds, 5409 Morella Ave., North Hollywood, Calif.
Filed June 14, 1965, Ser. No. 463,504
3 Claims. (Cl. 177—136)



1. In a low silhouette weighing scale for determining a load imposed by the wheel of a vehicle on a road surface, a base plate adapted to rest on a vehicle supporting road surface, a load carrying plate disposed in spaced parallel relation above said base plate, a plurality of compression springs of substantially uniform length and rate having the opposite ends thereof disposed in opposed pairs of sockets formed in adjacent faces of said plates along the perimeter of said base plate, said springs being operative to yieldingly resist the load of at least a portion of a vehicle imposed by a wheel thereof disposed on said load carrying plate, means associated with each of said springs constantly operative both to limit the permissible extent of movement of said load carrying plate toward and away from said base plate and to secure the associated spring in its respective pair of sockets, spring biased indicating devices carried by said base operative to translate load responsive movement of said load carrying plate toward said base plate in visually determined expression of imposed load, means for actuating said indicating devices in opposition to the spring bias thereof while permitting relative lateral movement of said load carrying plate while maintaining the operative integrity of the indicating devices, said actuating means comprising motion reducing means carried by said base plate and engaging said load carrying plate and said indicating devices and telescopically disposed wall elements carried by the adjacent faces of said plates and substantially surrounding said indicating devices and said motion reducing means.

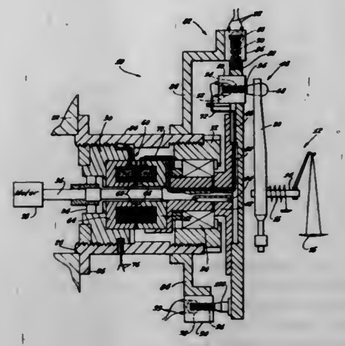
3,268,020
NUMERICAL INDICATOR
Lucien P. Puechberty, Paris, France, assignor to Biagio F. Ambrosio, doing business as B.F.A. Products Co., Tarzana, Calif.
Filed Sept. 9, 1963, Ser. No. 307,743
24 Claims. (Cl. 177—210)

1. Means for indicating the weight of an object, including the combination of:

means for generating a series of signals representing increments in the weight of the object,

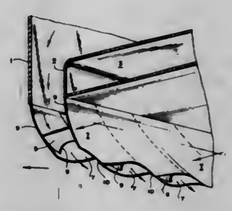
scale means having an indicator movable in proportion to the weight of the object,

pickup means disposed on said generating means relative to said indicator for indicating when said indicator is contiguous to said pickup means, and



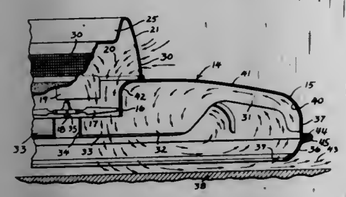
means electrically interconnected with said pickup means and said generating means and responsive to the number of said signals occurring during an interval until the indication by the pickup means for indicating the weight of said object.

3,268,021
FLEXIBLE DOUBLE WALLED SKIRT FOR GROUND EFFECT VEHICLES
Richard Stanton Jones, Cowes, Isle of Wight, and Alexander Walpole Prickett, East Cowes, Isle of Wight, England, assignors to Westland Aircraft Limited, Yeovil, England
Filed Jan. 11, 1963, Ser. No. 250,881
Claims priority, application Great Britain, Jan. 22, 1962, 2,178/62; Apr. 6, 1962, 13,254/62
14 Claims. (Cl. 180—7)



1. An amphibious ground effect vehicle comprising flexible walls forming downwardly directed jets, the opposed flexible walls forming a flexible jet system being connected at spaced intervals by cross-members disposed to avoid presenting a surface which induces the build up of water within the jet orifices, said cross-members being substantially vertically disposed flexible diaphragms in combination with diagonally disposed flexible diaphragms attached to and placed between said flexible walls, the lower edges of said flexible walls being cut to form stepped portions substantially on the line of said vertical diaphragms, said diagonal diaphragms being placed across the outlets of the square orifices formed by said vertical diaphragms and said walls, and attached at their ends to the stepped portions on either wall, so that the angle formed by said diagonal diaphragms and said inner wall forms a leading edge.

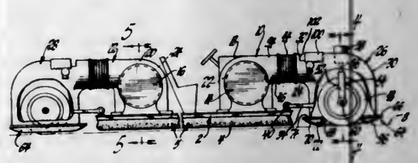
3,268,022
GROUND EFFECTS VEHICLE
Wayne A. Gustafson, North Hudson, Wis., assignor to John E. Magner, South Beloit, Ill.
Filed Jan. 29, 1964, Ser. No. 341,069
4 Claims. (Cl. 180—7)



1. A ground effects vehicle comprising an inverted substantially circular dished shell of rigid material providing a downwardly curved outer rim and having a substantially central opening of substantially circular form provided therein defined by a downwardly projecting neck on said shell, a rotary fan disposed on a substantially vertical axis in the neck driven by an engine mounted on the shell above the fan and adapted to discharge air downwardly so as to build up air pressure under said shell for both lift and propulsion purposes, a passenger support carried on top of the central portion of said shell over the engine with engine control means operable by the passenger to speed up or slow down the engine speed, said support allowing free inlet of air to the fan between said support and shell, an annular skirt of flexible resilient material depending from the downwardly curved rim portion of said shell and curved inwardly to scoop up air flowing outwardly from the fan along the ground under said shell and direct it upwardly toward the underside of the shell so as to create vortex air currents under said shell on substantially horizontal axes, said skirt permitting substantially uniform air discharge in all directions under all portions of its lower edge with the vehicle hovering motionless, but said skirt serving to shut off discharge at any selected portion of its lower edge by tilting of the shell by the passenger, whereby the vehicle is propelled in the direction of the lowermost edge portion of said skirt by the air discharged at the diametrically opposite highermost edge portion of said skirt, vanes in rigid relationship to said shell extending substantially radially of said shell under the neck portion in the path of the air discharged downwardly from said fan, said vanes deflecting the air so as to set up in said shell a counteracting torque in a direction tending to neutralize the shell's torque reaction from the fan, and reinforcing ribs on the underside of said shell radially aligned with said vanes and projecting downwardly sufficiently to define pie-shaped air pockets in which to localize vortex air currents under the shell.

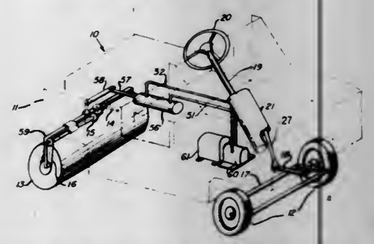
3,268,023
VARIABLE TRACTION SELF-PROPELLED AIR BEARING SUPPORTED LOAD TRANSPORT DEVICE
Nicholas J. Di Napoli, Jr., Goleta, Calif., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 10, 1964, Ser. No. 396,809
10 Claims. (Cl. 180—7)

1. In combination, a superatmospheric pressure energized load supporting structure, a traction wheel connected to said load supporting structure for free vertical movement relative thereto, a subatmospheric pressure energized ground proximate attraction device mounted in fixed vertical relation to said traction wheel, air flow generating means on one of said structures, and means connecting said subatmospheric pressure energized attraction device



and said superatmospheric pressure energized load supporting structure to the intake and exhaust sides respectively of said air flow generating means.

3,268,024
VEHICLE STEERING SYSTEM
Heinz Werner Neidhardt, Limburg an der Lahn, and Gerhard Hauske, Diez (Lahn), Germany, assignors to Scheid Maschinenfabrik G.m.b.H., Limburg an der Lahn, Germany
Filed Feb. 13, 1964, Ser. No. 344,786
11 Claims. (Cl. 180—20)

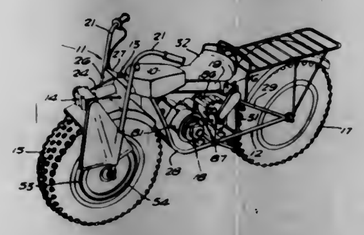


5. In a self-propelled vehicle, in combination, a chassis, rolling support means for said chassis including a dirigible part provided with a steering mechanism, said support means including a road roller, drive-operable steering means on said chassis, transmission means operatively linking said steering means with said steering mechanism, restoring means including a fluid line coupled with said transmission means for tending to maintain said support means in a centered position, said steering mechanism including auxiliary power-steering means independent of said restoring means for controlling said dirigible part in response to displacement of said transmission means by said steering means, and driver-actuatable control means connected with said restoring means for substantially deactivating the latter by obstructing said fluid line.

3,268,025
MOTORCYCLE HAVING TWO DRIVEN WHEELS
Charles H. Fehn, Thousand Oaks, Calif., assignor to Nethercutt Industrial Corporation, Sylmar, Calif., a corporation of California
Filed Aug. 20, 1963, Ser. No. 303,357
2 Claims. (Cl. 180—31)

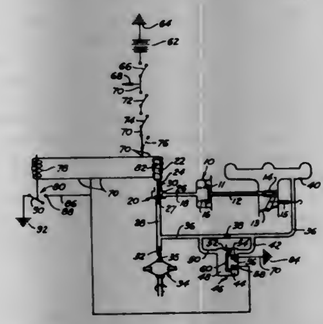
1. A one-passenger motor vehicle for overland travel in mountainous areas, which comprises a rear frame having an upper generally-horizontal hollow longitudinal component, frame means connected to said upper component to support a power unit immediately therebeneath and to rotatably mount a rear wheel at the rear thereof, a seat mounted above the rear portion of said upper component, a front frame including handle bar elements extending downwardly for pivotal support of a front wheel, a hollow front frame component connected to said handle bar elements and extending forwardly in general alignment with said upper component of said rear frame, pivot means to pivotally connect said front frame to said rear

frame between said hollow components thereof to thereby permit steering movement of said front frame relative to said rear frame, front and rear wheels rotatably mounted on said frames and incorporating large-size light-weight tires, front gear means mounted at the forward end of the hollow component of said front frame and incorporating right-angle bevel gears, chain drive means connecting said front gear means to a large sprocket on said front wheel, rear gear means mounted at the rear end of said upper component of said rear frame and incorporating right-angle bevel gears, front and rear shafts respectively connected to said front and rear gear means and extending



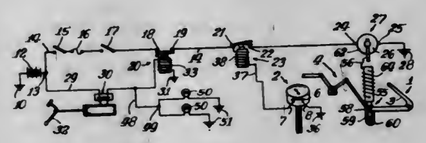
through the hollow components of said front and rear frames, a universal joint connecting said shafts at said pivot means, an engine mounted on said rear frame beneath said upper component thereof, a fluid drive mounted on said rear frame beneath said upper component and driven by said engine, means to connect said fluid drive to said rear gear means, means to connect said rear gear means to said rear wheel and including a chain and a sprocket mounted on said rear wheel, and over-riding clutch means interposed in the drive from said motor to said front wheel to permit rotation of said front wheel at a greater speed than said rear wheel when the vehicle is turning a corner.

3,268,026
AUTOMOTIVE CRUISE CONTROL
Stanley I. MacDuff and Ward C. Suttle, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Dec. 26, 1962, Ser. No. 247,227
1 Claim. (Cl. 180—82.1)



In an automotive vehicle having an engine and a driver operated throttle control member for controlling the fuel supply to the engine, a vacuum power unit having a pressure responsive element located therein, said pressure responsive element being operatively connected to said throttle control member for regulating and controlling movement thereof, first passage means for communicating vacuum from the intake manifold of said engine to one side of said pressure responsive element, said vacuum varying as a function of the movement of the throttle control member, first valve means located in said first passage means and operatively connected to said power unit, said valve means having a first position for communicating atmospheric pressure to the vacuum side of said pressure responsive element and a second position for preventing communication therebetween, solenoid means operatively connected to said first valve means for causing movement thereof from one position to the other independently of vehicle speed, second passage means for communicating atmospheric pressure to the vacuum side of said pressure responsive element when said first valve is in said second position, modulating valve means interposed in said second passage means for regulating the degree of communication between the atmosphere and the vacuum side of said pressure responsive element via said second passage means, means responsive to vehicle speed operatively connected to said modulating valve for controlling movement thereof, a fixed orifice located in said first passage means between the intake manifold and said modulating valve, a second vacuum unit having a pressure responsive member located therein, passage means for communicating one side of said pressure responsive member with the upstream side of said orifice and the other side of said pressure responsive member with the downstream side of said orifice, and an electrical circuit for energizing said solenoid means, said circuit including in series an ignition switch which is closed upon turning of the ignition key, a shift interlock switch which is open in the park, neutral and reverse positions but is closed in the drive position, a speed selector switch which is open when the selector is in the "off" position but is closed when the selector is moved to any given selected speed position, a brake switch which is normally closed but is opened upon application of the brakes, and a speed responsive switch operatively connected to the pressure responsive member of said second vacuum unit and closable by movement of said pressure responsive member, and a holding switch in parallel with said speed responsive switch for holding said solenoid mean energized after said speed responsive switch has opened.

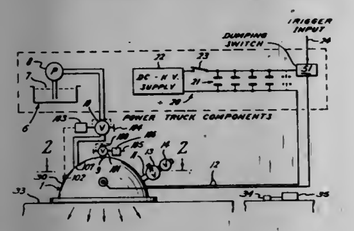
3,268,027
AUTOMOTIVE VEHICLE SPEED INDICATING MEANS
Max Leichsenring, 4525 N. Francisco St., Chicago, Ill.
Filed Feb. 23, 1965, Ser. No. 434,485
13 Claims. (Cl. 180—82.1)



1. For use in an automotive vehicle having vehicle power regulating means comprising an actuating member movable in power increasing and decreasing directions, and normally open motion controlled switch means adapted to be closed at a predetermined selected speed of the vehicle, the combination of vehicle speed indicating means comprising electromagnetic means having a solenoid and a plunger therefor, movable control means between said plunger of said electromagnetic means and having connection with said actuating member for movement by the latter, means for energizing said solenoid of

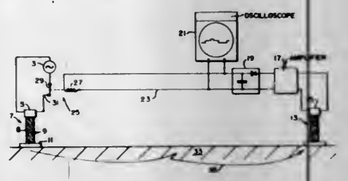
said electromagnetic means upon closing of said motion control switch means, stationary abutment means, said plunger upon energization of said solenoid frictionally engaging said control means with said abutment means restraining movement of said control means and said actuating member in a power increasing direction at said predetermined selected speed of the vehicle, and said control means including means operative upon engagement of said control means with said abutment means to increase the force required to continue to move said actuating member in a power increasing direction beyond said predetermined selected speed of the vehicle.

3,268,028
METHODS AND APPARATUSES FOR SEISMIC EXPLORATION
John W. Miller, Midland, Tex., assignor, by mesne assignments, to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Apr. 18, 1963, Ser. No. 273,967
9 Claims. (Cl. 181—.5)



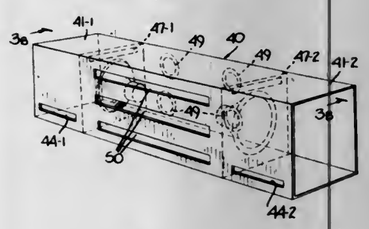
1. A system for seismic prospecting comprising:
a number of pulsers;
each of said pulsers comprising,
a housing having a top and integral side walls, an open face opposite said top having an area large in relation to the maximum horizontal area bounded by said side walls to be disposed on the ground, and being heavily weighted for firm contact with the ground,
a flexible, fluid tight diaphragm over said face, secured in fluid tight relation to said housing and situated thereon for placement in solid pressure-transmitting relation to the ground,
a substantially incompressible liquid in said housing,
an exploding electric plasma firing means disposed in said housing to receive a high electric current that causes a pressure impulse in said liquid to be coupled through said diaphragm to the ground for transmission to a seismic receiver;
separate electrical power supply means for each pulser for supplying a high electric current to said exploding electric plasma firing means in each of said pulsers;
means at each pulser responsive to a firing signal for triggering said current supply means to transfer said high current to said exploding electric plasma firing means, creating the pressure impulse at a precise time;
each said housing being shaped to concentrate the pressure impulse in the direction of said open face and to the ground through said diaphragm thereof;
means for generating a firing signal, said means being coupled to each of said triggering means and including control means for controlling the arrival of said firing signal at each of said triggering means and, thereby, the firing times of said pulsers; and
means for receiving and recording the seismic wave produced by said pulsers.

3,268,029
SEISMIC MULTIVIBRATOR
Kurt Ikrath, Elberon, Gordon W. Kerr, Spring Lake, and Wilhelm A. Schneider, Fair Haven, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Apr. 23, 1964, Ser. No. 362,211
10 Claims. (Cl. 181—.5)



6. A seismic instrument comprising, means to transmit a substantially monochromatic seismic wave from one point and receive said seismic wave at a second point, means responsive to the reception of said seismic wave at said second point to stop the transmission of said seismic wave from said one point, whereby said instrument oscillates at a frequency dependent on the seismic wave velocity between said points.

3,268,030
ACOUSTIC SYSTEM
Finn H. Magnus, Washington Valley Road, Morristown, N.J.
Filed Apr. 13, 1965, Ser. No. 447,825
3 Claims. (Cl. 181—31)

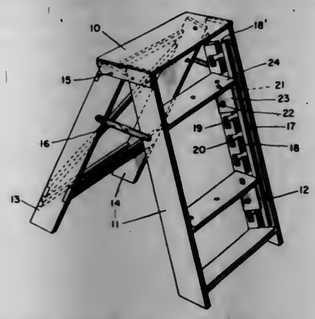


1. In an audio system of the class described, an enclosure partitioned into a central blending chamber and open ended resonance chambers, first and second sound propagating systems each comprising a plurality of speakers, one speaker of each system being mounted in the partitions to direct its forwardly propagated acoustic energy into one respective resonance chamber and thence to a listening area and its rearwardly directed energy into said blending chamber, the remaining speakers of each system mounted to direct their forwardly propagated energy directly into the listening area and their rearwardly directed energy into said blending chamber, and means defining an access opening permitting the energy in said blending chamber to pass to the listening area.

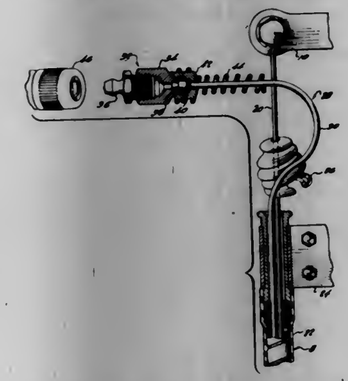
3,268,031
ADJUSTABLE STEPLADDER
James L. Hampson, 2301 Mono St., Oxnard, Calif. 93032
Filed Sept. 22, 1964, Ser. No. 398,163
5 Claims. (Cl. 182—220)

1. In a stepladder including a pair of front legs, means on the interior opposed surfaces of said legs defining a plurality of bayonet type slots running at equally spaced intervals along substantially the entire length of said legs; and at least one step having pairs of vertically spaced

projections extending from opposite ends adapted to be received in selected pairs of said bayonet type slots in each opposed surface of said legs, respectively, to support said step between said front legs at a desired level and stabilize said step so as to maintain it substantially horizontal.



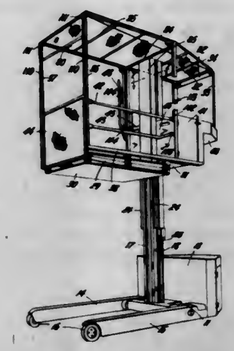
3,268,032
MEANS FOR AND METHOD OF LUBRICATING FLEXIBLE CABLE ASSEMBLIES
Avon Dannels, Commerce City, Colo., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Feb. 28, 1964, Ser. No. 348,105
4 Claims. (Cl. 184—1)



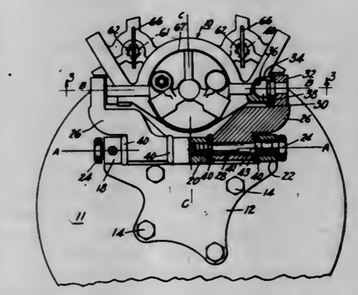
1. A method of lubricating a flexible cable assembly adapted to be disposed along a non-linear path and having an outer casing and an inner movable cable disposed therein with a limited degree of annular clearance, comprising the steps of inserting to the length required a small diameter flexible tubing capable of following a non-linear path into the open end of the casing adjacent the movable cable therein, and injecting into the opposite end of the tubing a quantity of lubricant to be discharged thereby into the casing.

3,268,033
LOAD-HANDLING APPARATUS SUCH AS PALLET-LIFTING TRUCKS
Cecil Goodacre, Basingstoke, England, assignor to Lansing Bagnall Limited, Basingstoke, England, a British company
Filed Jan. 9, 1964, Ser. No. 336,719
Claims priority, application Great Britain, Jan. 11, 1963, 1,372/63; Aug. 6, 1963, 31,054/63
11 Claims. (Cl. 187—9)

1. A truck having in combination a wheeled body, a mast upstanding from the body which is narrow in relation to the width of the body, a carriage movable up and down the mast, an operator-platform on the carriage extending lengthwise of the body from the mast in one direction, pallet-supporting means on the carriage extending in the opposite direction, a guard surrounding the pallet-supporting means and, between the guard structure and the mast at least one opening the enable the operator to step beside the mast from the platform on to a pallet supported within the guard.



3,268,034
SPOT TYPE DISC BRAKE
Richard T. Burnett, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed May 7, 1962, Ser. No. 192,857
5 Claims. (Cl. 188—73)

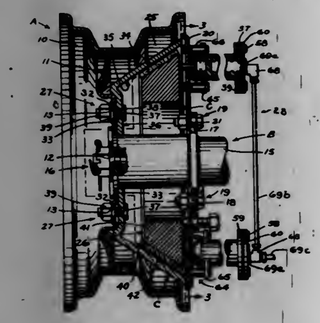


1. In a disk brake: a rotor having friction faces thereon, a housing straddling said rotor and having a pair of circumferentially spaced bearing portions on one side of said rotor, a support member, and two links, each link being pivotally mounted independently of each other at one end on said support member about an axis generally parallel to the plane of said rotor friction faces, and means connecting the other end of each link to a respective one of said circumferentially spaced bearing portions of said housing for relative rotation therebetween about at least two axes which intersect.

3,268,035
FLUID-OPERATED CONE BRAKE
Harold E. Wagner, 1561 Lindaire Lane, Mansfield, Ohio
Filed Oct. 19, 1964, Ser. No. 404,642
3 Claims. (Cl. 188—71)

1. A fluid pressure-actuated cone brake for a rotatable member fixedly mounted upon an axle, said brake including an outermost truncated conical member having a friction means contacting face; means for fixedly attaching said outermost truncated conical member to said

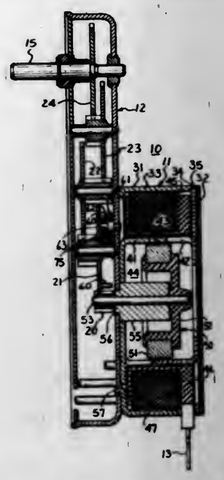
rotatable member to rotate therewith for braking said rotatable member, an innermost truncated conical member slidably mounted upon said axle to move longitudinally thereof and having friction means for contacting said face upon sliding of said innermost truncated conical member upon said axle toward said outermost truncated conical member, and with said friction means contacting said face; a non-rotatable back plate fixedly mounted upon said axle with said back plate inwardly of said innermost truncated conical member and provided with a perforation spaced from the axis of rotation of said axle, and having a face facing rearwardly away from said innermost truncated conical member; fluid pressure actuated means carried by said back plate and functioning upon application of fluid pressure thereto to move said innermost truncated conical member so that said friction means will contact said face to brake said rotatable member, said fluid pressure actuated means including a



cylinder and cylindrical piston and a rigid projection extending outwardly from said piston and slidably extending through said perforation, means detachable securing said cylinder to said back plate to extend wholly rearwardly of said back plate, whereby said piston and cylinder being wholly outwardly of said back plate will be free of the heat of braking confined between said back plate and innermost truncated conical member; retraction means carried by said back plate and said innermost truncated conical member to retract said innermost truncated conical member upon release of fluid pressure; limiting means carried by said back plate for limiting the retraction of said innermost truncated conical member away from said outermost truncated conical member upon release of said pressure; and guide means carried by said back plate for guiding said innermost truncated conical member toward and away from said outermost truncated conical member.

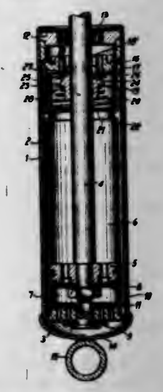
3,268,036
UNIDIRECTIONAL ROTATION CONTROL DEVICE
Alfred M. Nebiolo, Torrington, and Robert S. Lundin, Thomaston, Conn., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware
Original application Sept. 13, 1962, Ser. No. 223,387. Divided and this application Aug. 3, 1965, Ser. No. 479,045
8 Claims. (Cl. 188—82.1)

1. An improved rotation controlling device for insuring unidirectional rotation of a motor shaft journaled for rotation within a frame; said device comprising, in combination, a circular rack member and means for coupling said member to the shaft so that said member rotates at a speed slower than said shaft, first and second coaxial star wheels having an axis stationarily mounted with respect to the frame for meshing with the rack teeth, said second star wheel having teeth disposed about only a portion of its periphery and having a lost motion connection with respect to said first star wheel, means for rotating said star wheels in unison when the motor shaft rotates in the forward direction, said means causing said star wheels to rotate in an out-of-phase condition for obstruction with a tooth on said rack member when the motor



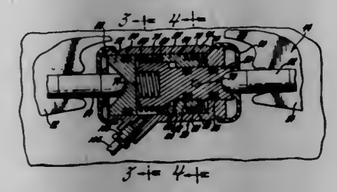
starts in the reverse direction, the teeth on said rack member having a broad crown and the teeth on said star wheels being relatively sharp so that impact between the interfering teeth takes place in a generally radial direction substantially free of wedging action at the point of impact to provide well-defined rebound of the shaft in the direction of forward rotation.

3,268,037
VALVE-IN-LIQUID SHOCK ABSORBERS
Alexander von Löwis of Menar, Mauren uber Ehningen, Kreis Boblingen, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Sept. 30, 1964, Ser. No. 400,457
Claims priority, application Germany, Oct. 4, 1963, B 73,753
4 Claims. (Cl. 188—100)



1. In a liquid shock absorber, in combination, a cylinder; a piston slidable in said cylinder; a piston rod fixed to said piston and extending from the latter outwardly beyond said cylinder; a first bearing sleeve carried by said cylinder and surrounding said piston rod to guide the latter for axial movement; a second bearing sleeve located in said cylinder adjacent said first sleeve and surrounding said piston rod with slight clearance; spring means in said cylinder engaging said second sleeve and urging the latter toward said first sleeve; and ball-and-socket means situated between said sleeves for limiting the movement of said second sleeve toward said first sleeve while providing for said second sleeve at least a limited freedom of radial movement relative to said first sleeve.

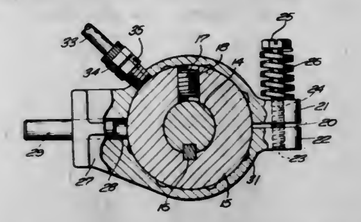
3,268,038
DIFFERENTIAL AREA WHEEL CYLINDER FOR ANTI-SKID
Robert H. Bauman, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 13, 1964, Ser. No. 389,246
2 Claims. (Cl. 188—152)



1. Force multiplying apparatus for the actuation of vehicle brakes, said vehicle brakes comprising a plurality of brake shoes carrying frictional elements thereon and adapted to be driven into frictional engagement with a rotatable drum disposed therearound, said force multiplying apparatus comprising: a pressure source; wheel cylinder means adapted to apply forces in opposite directions to drive the brake shoes into engagement with the rotatable drum; and means connecting a pressure source to the wheel cylinder means for communicating the pressure created in the pressure source; said wheel cylinder means comprising: a cylinder body having a bore therein; first piston means disposed in said bore adapted to be driven into engagement with a vehicle brake shoe; second piston means disposed in said bore and being in communication with said pressure source; and third piston means slidably disposed within said second piston means and adapted to transmit a force to another brake shoe oppositely disposed from said first-mentioned brake shoe, and a chamber wherein hydraulic fluid is disposed generally formed by one surface of the first piston means and the third piston means, said chamber being pressurizable by the application of force from the pressure source to the second pressure means whereby the first piston means and the third piston means are driven in opposition to one another in a force multiplying manner thereby bringing the brake shoes into frictional engagement with the rotatable drum with a force greater than provided to the wheel cylinder by the pressure source.

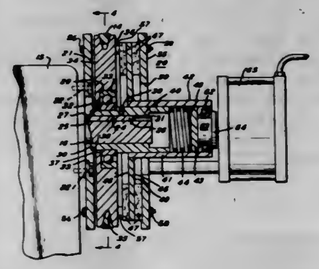
3,268,039
FRICTION BRAKE FOR AN INTERMITTENT FEED MECHANISM
Gary R. Skeen, Cranston, and Carl Peterson, Barrington, R.I., assignors to Carl G. Peterson Co., East Providence, R.I., a corporation of Rhode Island
Filed Aug. 24, 1964, Ser. No. 391,413
6 Claims. (Cl. 188—264)

1. An inertia brake for an intermittently rotating shaft comprising a cylindrical drum keyed to the shaft, a metallic brake band surrounding said drum, said band having a transverse gap, means for adjusting said gap to adjust the pressure of said band on said drum, and means for supplying a predetermined flow of lubricating oil between said drum and said band, said band having a plurality of internal transverse spaced grooves, said drum having an axial opening, and a set screw in said opening bearing



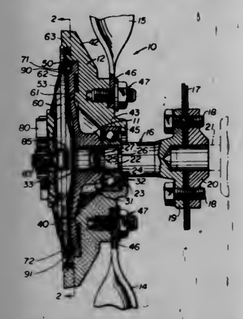
against the shaft, said screw being recessed in said opening to define an oil reservoir in said drum above said screw.

3,268,040
CLUTCH AND BRAKE MECHANISM
Jack Dreeben, Camden, N.J. (% Mercury Packaging Machinery Corp., 2601 N. Howard St., Philadelphia, Pa. 19133)
Filed July 2, 1964, Ser. No. 379,803
8 Claims. (Cl. 192—18)



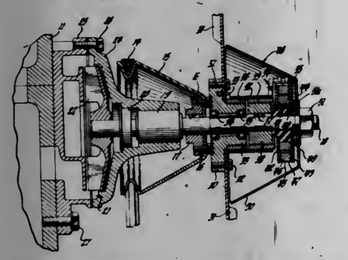
1. A clutch and brake mechanism comprising
a first frame plate and a second frame plate in spaced relation thereto,
members for supporting one of said frame plates,
members for removably securing the frame plates in spaced relation,
a power input pulley interposed between said frame plates,
a power take off sleeve in the space between said frame plates having a bearing mounting portion and a polygonal extension with a terminal end,
a combined radial and thrust bearing on said bearing mounting portion of said sleeve on which said pulley is freely rotatably mounted,
a mounting sleeve having a portion complemental to said extension and in longitudinal sliding engagement therewith,
a disc secured to said sleeve between said pulley and one of said frame plates and having opposite faces, each of said disc faces having friction members thereon for selective engagement with said pulley face and with said frame plate,
an abutment member in said mounting sleeve,
a spring interposed between said abutment member and said terminal end urging said mounting sleeve in one direction to engage the friction members on one face of said disc with said one of said frame plates, and
a member for urging said mounting sleeve in the opposite direction to engage the friction members on the other face of said disc with said pulley face.

3,268,041
VISCOUS DRIVE
Daniel W. Roper, Rochester, Mich., assignor to Eaton Yale & Towne, Inc., a corporation of Ohio
Filed July 23, 1964, Ser. No. 384,703
16 Claims. (Cl. 192—58)



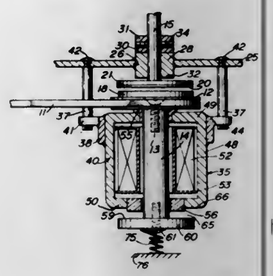
8. A fluid coupling comprising an input coupling member and an outlet coupling member disposed adjacent the input coupling member, said input and output coupling members having spaced opposed surface portions defining a fluid shear space therebetween cooperable with a fluid shear medium within the shear space to provide a shear type fluid drive between said members, means for evacuating fluid from said shear space including pumping means supported by said output coupling member and having a surface portion adjacent a surface of said input coupling member and defining therebetween a chamber of decreasing cross-sectional dimension as the chamber extends in the direction of rotation of the coupling members.

3,268,042
TEMPERATURE SENSITIVE FAN DRIVE CLUTCH CONTROL
Walter E. Sargeant, Clawson, and James E. Wilson, St. Clair Shores, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 20, 1963, Ser. No. 289,270
14 Claims. (Cl. 192—84)



1. In a cooling system, a rotatable member, a fan driven by said rotatable member, a power input member, clutch means for alternately clutching said power input member to said rotatable member and declutching said power input member from said rotatable member including friction clutch elements, means connecting one friction clutch element to one of said members for rotation therewith and another friction clutch element to another of said members for rotation therewith and mounting said friction clutch elements for relative movement between clutched and declutched positions, temperature responsive control means coacting with said friction clutch means for controlling relative movement of said friction elements between said clutched and declutched positions, said control means including a permanent magnet having a curie point higher than the highest temperature normally encountered in operation of the cooling system and a magnetic shunt having a curie point falling within the temperature range normally encountered in operation of the cooling system, said shunt being positioned in shunt relation to said permanent magnet and being effective to shunt said permanent magnet at temperatures below the curie point of said shunt for releasing said friction clutch elements and effective at temperatures above the curie point of said shunt to render said permanent magnet effective to engage said friction clutch elements.

3,268,043
MAGNETIC CLUTCH
Colin D. Murdoch, Union City, Calif., assignor of twenty percent to Chad W. Pennebaker, San Leandro, Calif.
Filed Feb. 14, 1964, Ser. No. 344,907
5 Claims. (Cl. 192—84)

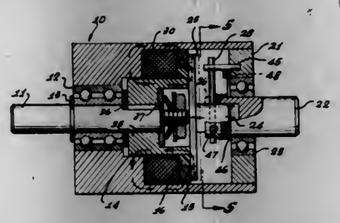


1. A clutch mechanism actuatable between engaged and dis-engaged conditions in response to energization and de-energization of a solenoid coil, comprising:
a solenoid coil;
a frame of magnetic material supporting said coil, said frame extending from end to end of said coil;
a continuously rotating input shaft of magnetic material extending through said coil and movable axially thereof, said input shaft constituting the sole magnetic core element for said coil, said input shaft being in close proximity to said frame at one end of said coil and being spaced from said frame by a non-magnetic gap of substantial length at the other end of said coil;
an output shaft aligned axially with said input shaft; and
an armature disc of magnetic material, mounted on said input shaft adjacent said other end of said coil in position to divert a substantial part of the magnetic flux developed upon energization of said coil around said non-magnetic gap, for moving said input shaft axially of said core into and out of engagement with said output shaft in response to energization and de-energization of said coil.

3,268,044
COUPLING DEVICE
Myron E. Lippman, Northridge, Calif., assignor to General Scientific Corp., San Fernando, Calif., a corporation of California
Filed Apr. 13, 1964, Ser. No. 359,235
7 Claims. (Cl. 192—84)

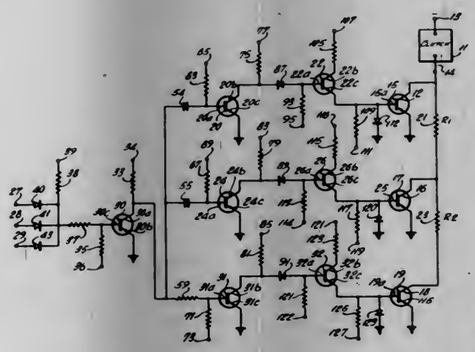
1. A coupling device comprising:
a cup-like body having a flange at its open end, wherein said flange is formed of a pair of concentric integral rings, the inner ring being of non-metallic material and the outer ring being of magnetic material;
an input shaft extending into said body;

a mechanical slip clutch within said body interconnecting said shaft and body for unitary rotation;
an output shaft coaxial with and spaced from said input shaft;
an armature element adjacent said flange mounted on said output shaft for rotation therewith and axial movement with respect thereto;



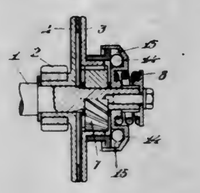
an energizing coil surrounding said body and adapted to be energized to establish a magnetic field to cause said armature to be attracted and held to said flange;
a pair of washers on said input shaft respectively positioned inside and outside the bottom of said body, said washers being rotatable with said input shaft; and means resiliently forcing said washers toward each other so they capture the bottom of said body between them, and with sufficient force to cause said body to turn with said input shaft.

3,268,045
CLUTCH DRIVE CIRCUIT
Eleuthere Poumakis, East Islip, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Apr. 13, 1964, Ser. No. 359,320
6 Claims. (Cl. 192—84)



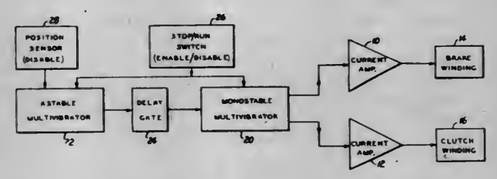
1. In combination,
an electrically actuated clutch which engages in response to current flowing therethrough,
means operable in response to an input signal to apply a first voltage across said clutch for a predetermined time interval after the time said input signal is applied,
means operable in response to said input signal to apply across said clutch a second voltage lower than said first voltage for a predetermined time interval immediately following said first time interval, and
means operable in response to said input signal to apply across said clutch a third voltage lower than said second voltage after the end of said second time interval.

3,268,046
AUTOMATIC CLUTCH
Bunzo Hirano, 539 Nishinoshima, Toyotamura, Iwata-gun, Shizuoka, Japan
Filed Sept. 9, 1963, Ser. No. 307,681
Claims priority, application Japan, Dec. 3, 1960, 35/47,699
1 Claim. (Cl. 192—103)



A clutch comprising a driving member, a driven member, and means mounting said members for driving engagement and disengagement, said means comprising means responsive to speed for engaging said members with a predetermined force and means responsive to a given predetermined torque to reduce the force of engagement of the members, wherein the torque responsive means comprises threaded members and spring means urging the threaded members into engagement, said threaded members urging the driving and driven members out of engagement upon an increase of the torque in the driving direction above said predetermined torque.

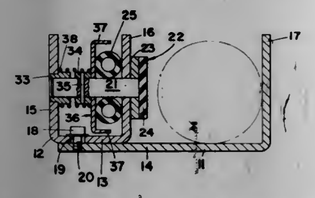
3,268,047
POSITIONING CONTROL
James W. Grygera, Racine, and Aubrey H. Smith, Kenosha, Wis., assignors to Eaton Yale & Towne, Inc., a corporation of Ohio
Filed July 22, 1964, Ser. No. 384,327
18 Claims. (Cl. 192—144)



1. A control for stopping, at a predetermined position, a rotatable member driven by a driving member through an electric clutch and braked by an electric brake; said control comprising:
means for actuating said clutch to rotate said driven member;
means for actuating said brake to brake rotation of said driven member;
a circuit including a switch having a first position in which the circuit energizes the clutch actuating means thereby to rotate said driven member at a desired speed, said switch having a second position in which the brake actuating means is energized by said circuit to brake the driven member, said circuit further including means to deenergize the brake actuating means after a predetermined time interval and means operative after said interval for alternately and repetitively energizing said brake and clutch actuating means thereby to rotate said driven member at a reduced speed;

and means connected in said circuit for sensing a predetermined position of said driven member and energizing said brake actuating means whereby the driven member is brought to a stop at said predetermined position.

3,268,048
PNEUMATICALLY OPERATED LOADING CHUTE
Robert H. Noble, Randolph Township, Morris County, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 4, 1964, Ser. No. 409,033
5 Claims. (Cl. 193—32)



1. A chute for loading explosive pellets into a carrier or dispenser, comprising

means defining an open ended trough having at least two side walls in fixed space relationship with each other,

a flat rod mounted on one of said side walls coextensive therewith and movable with respect to the other of said side walls to vary the space therebetween,

actuating means connected with said rod comprising,

a laterally movable shaft mounted on one of said side walls and fixedly connected to said rod,

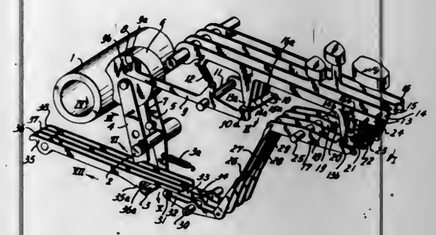
a length of flexible tubing in substantial abutting relationship with said movable shaft,

said flexible tubing being connected to a source of pressurized fluid whereby said tubing expands when the fluid is admitted thereto causing said rod to move in a direction to increase the distance between said rod and said other of said side walls, and

means mounted on said movable shaft urging a force on said shaft in a direction opposite to that exerted by the pressurized tubing whereby release of the pressure in said tubing effects restriction of the lateral distance between said rod and said other of said side walls.

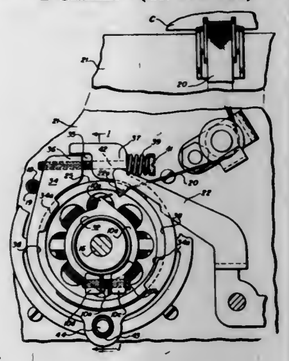
3,268,049
FUNCTION CONTROL ARRANGEMENTS HAVING COMMON DRIVE MEANS
Otto Krauss, Nurnberg, Joachim Meinherz, Kaufbeuren, Allgau, Manfred Link, Nurnberg, Leonhard Kraus, Coburg, and Rudolf Schneider, Berlin-Tempelhof, Germany, assignors to Max Grundig, Furth, Bavaria, Germany
Filed July 2, 1962, Ser. No. 211,466
15 Claims. (Cl. 197—17)

1. In a business machine, in combination, drive means including a rotary power roll, a coupling member cooperating with said power roll, and a drive member connected to said coupling member so that said drive member reciprocates when said coupling member is moved by said power roll; a plurality of actuating means located rearwardly of said power roll for effecting different operations in the business machine; a plurality of coupling means extending below said power roll and having rear ends connected to said actuating means and front end having coupling portions located forwardly of said power roll, each coupling means being separately movable to and from a coupling position for connecting the coupling portion thereof with said drive member; and a plurality of operator controlled means respectively associated with said operations and jointly connected to said coupling member for effecting movement of the same to a position engaging said power roll and individually connected with



said coupling means for selectively moving individual coupling means to said coupling position so that each actuating means is driven by said drive member to effect the respective correlated operation when selected by operation of the correlated operator controlled means.

3,268,050
TORQUE LIMITER
David Lee MacFeiggan and Joseph E. Campisi, West Hartford, Conn., assignors, by mesne assignments, to Royal Typewriter Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 14, 1964, Ser. No. 396,146
2 Claims. (Cl. 197—65)



1. In an electric typewriter having a frame,

a carriage movable relative to said frame,

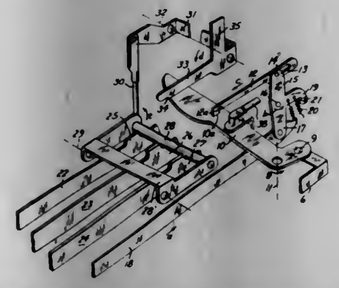
a carriage return drawband pulley,

a carriage return drawband secured to said pulley and to said carriage operable to return said carriage upon connection of said pulley to a motor source,

a wrap spring carriage return clutch operable to connect said motor source to a driven member comprising a torque limiter drum,

and a torque limiter band comprising a split molded resilient plastic element releasably encircling the periphery of said torque limiter drum and having a pair of shoulders for the reception of an adjusting screw manipulatable to control the coefficient of friction between said band and said drum whereby the starting torque between said band and drum may be controlled, said band having a slot formed therein for the reception of a stud projecting from said drawband pulley to interconnect said band and said pulley whereby the starting torque between said drum and said pulley may be adjustably controlled.

3,268,051
MEANS PREVENTING SIMULTANEOUS OPERATION OF CARRIAGE RETURN AND ANY OTHER CARRIAGE CONTROL FUNCTION
Otto Krauss and Manfred Link, Nurnberg, and Leonhard Kraus, Coburg, Germany, assignors to Max Grundig, Furth, Bavaria, Germany
Continuation of application Ser. No. 233,528, Oct. 29, 1962. This application Dec. 27, 1965, Ser. No. 517,525
Claims priority, application Germany, Oct. 27, 1961, G 33,444
17 Claims. (Cl. 197—65)



1. A carriage return control arrangement, comprising, in combination, carriage return means having an inoperative condition and an operative condition for moving a carriage means in a return direction; means permanently urging said carriage return means to move from said operative to said inoperative condition thereof; manually controlled means for placing said carriage return means from said inoperative into said operative condition thereof; locking means having a locking condition for locking said carriage return means in said operative condition, and a releasing condition in which said carriage return means assumes under the action of said urging means said inoperative condition thereof; a plurality of independently operable carriage control means each movable between an inoperative position and an operative position for engaging the carriage means so that return movement of said carriage is impeded; and means operatively connecting each of said carriage control means with said locking means to place the same in said releasing condition when the respective carriage control means is moved to said operative position thereof engaging said carriage means whereby said carriage return means is moved by said urging means into said inoperative condition thereof, so that said carriage means is not driven by said carriage return means while engaged by said carriage control means.

3,268,052
ROADWAY SIGNAL DEVICE RETRIEVER
Edward M. Asbury, 450 Burton Drive, Pittsburgh, Pa.
Filed Sept. 1, 1964, Ser. No. 393,659
14 Claims. (Cl. 198—7)

8. A retractable roadway signal device retriever comprising,

a base frame positioned in a vehicle haulage compartment in fixed relation thereto and in a substantially horizontal position,

an auxiliary support frame pivotally secured at one end to an end portion of said base frame and having a cross member adjacent the other end,

a stop member limiting the extended position of said auxiliary support frame to a substantially upright vertical position,

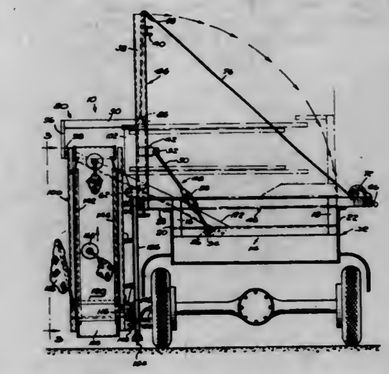
a conveyor frame supported by and extending laterally from said auxiliary support frame,

said conveyor frame slidably positioned in said auxiliary support frame,

a plurality of conveyor pulleys supported by said conveyor frame in spaced parallel relation to each other,

an endless conveyor belt reeved around said conveyor pulleys and arranged to convey roadway signal devices thereon from said roadway surface to said vehicle haulage compartment,

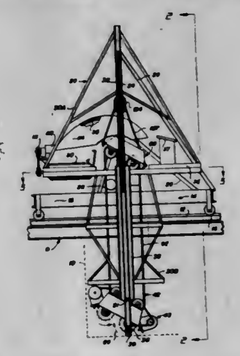
drive means for orbiting said endless conveyor belt around said conveyor pulleys,



said conveyor frame and said endless conveyor belt, in an operative position, arranged to extend laterally from said vehicle compartment and depend downwardly from said auxiliary support frame with one of said conveyor pulleys positioned adjacent the roadway surface, and

said conveyor frame arranged to slidingly move upwardly in said auxiliary frame and said auxiliary frame arranged to pivot relative to said base frame to thereby retract said conveyor frame and said endless conveyor belt into said vehicle haulage compartment.

3,268,053
MATERIAL HANDLING APPARATUS
Leopold W. Llewellyn, 4740 Southlawn Drive, Burnaby, British Columbia, Canada
Filed Dec. 28, 1964, Ser. No. 421,438
7 Claims. (Cl. 198—9)



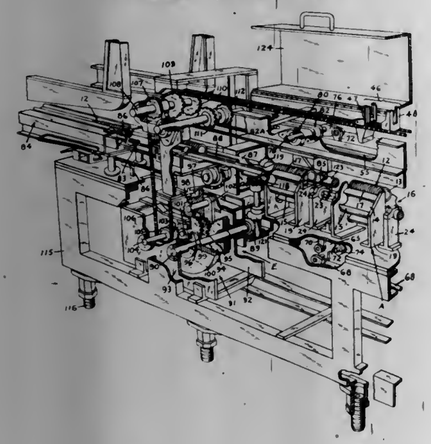
1. Material handling apparatus comprising a frame, a pick-up head rockingly mounted on the free end of the frame and adapted to be advanced through a pile of material substantially parallel to a surface of said pile of

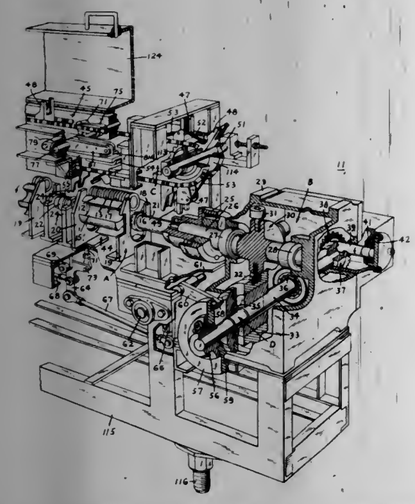
material, said pick-up head having a pair of feed rolls spaced apart to define an intake throat, means for rocking the pick-up head to enter the trailing feed roll farther into the pile of material than the leading feed roll as said head is advanced through said pile of material and means for rotating the pair of feed rolls to sweep material from the pile of material into the intake throat.

3,268,054
METHOD AND APPARATUS FOR ASSEMBLING AND FEEDING GROUPS OF ARTICLES

John E. Murphy, Jr., Dumont, and Donald M. Johnson, Upper Saddle River, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

Filed Dec. 12, 1963, Ser. No. 330,167
11 Claims. (Cl. 198—20)



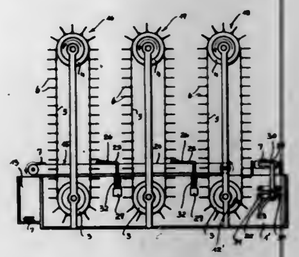


1. A method for transferring pluralities of individual articles in predetermined serially aligned groups from a source of supply to a mechanism having an infeed operating at a predetermined speed, comprising the steps of feeding a plurality of individual articles to a first predetermined location, aligning a predetermined plurality of the individual articles serially in a group at said first predetermined location, indexing the serially aligned group to a second predetermined location to facilitate transfer of the serially aligned group to the mechanism, moving the serially aligned group from the second predetermined location to the mechanism input, and varying the speed of movement of the group at a controlled progressively accelerated rate from a state of substantial rest at the second predetermined location to a speed corresponding to the predetermined infeed speed of the mechanism.

3,268,055
DRYING DEVICE FOR THE SOLES OF SHOES

Karl Stein, Friedrichstrasse 36, and Theo Bimber, Kirchbergerstrasse 32, both of Pirmasens, Germany

Filed Aug. 24, 1964, Ser. No. 391,535
Claims priority, application Germany, Aug. 24, 1963, Sch 34,353; July 15, 1964, Sch 36,370
3 Claims. (Cl. 198—21)



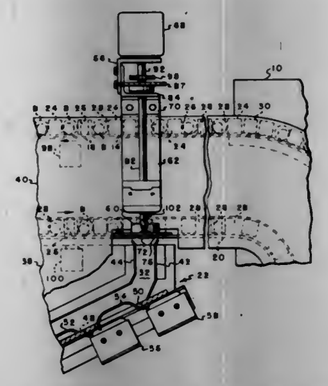
1. Apparatus for the drying of shoe soles to which adhesive has been applied, said apparatus comprising a generally vertical conveyance means having feed and removal sides and including spaced deposit means adapted for receiving soles for the transport thereof along a determinable vertical path from said feed to said removal side, conveying means operatively associated with said vertical conveyance means and directed towards the feed side of and away from the removal side of the latter, drive means for driving said vertical conveyance means, first sensing means operatively disposed relative to said conveying means to sense the presence of a sole on the latter and the conveying thereof towards the feed side of said conveyance means and to activate the drive means to drive said vertical conveyance means whereby the conveyed sole is deposited on one of said deposit means and transported thereby, and second sensing means to sense a predetermined displacement of the vertical conveyance means and to respond thereto to control said drive means to halt the displacement of the vertical conveyance means until the sensing of the next sole being conveyed to the feed side of said vertical conveyance means, said conveying means comprising a conveyor juxtaposed to the feed side of said vertical conveyance means, arms operatively disposed relative to said conveyor, and means to drive said arms along a generally circular path to lift soles from the conveyor and place the same in said deposit means.

3,268,056
AUTOMATIC BOBBIN GATE SYSTEM

John K. McCollough, Jr., Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware

Filed June 26, 1964, Ser. No. 378,099
14 Claims. (Cl. 198—26)

1. A bobbin transfer mechanism comprising an endless belt having bobbin receiving pockets on the outer surface thereof, means supplying bobbins to said pockets, said belt having at least one run in which said pockets open downwardly, belt guiding means operably associated with said one run and preventing said bobbins from dropping out of said downwardly opening pockets, means forming an opening in said belt guiding means of sufficient size to allow a bobbin to fall through, a gate member rotatably supported adjacent said opening, said gate member having a plurality of blade members operably associated therewith with at least one of said blade members being under said opening preventing bobbins from falling through said opening from said one run. bobbin receiving and guiding means located below said opening,

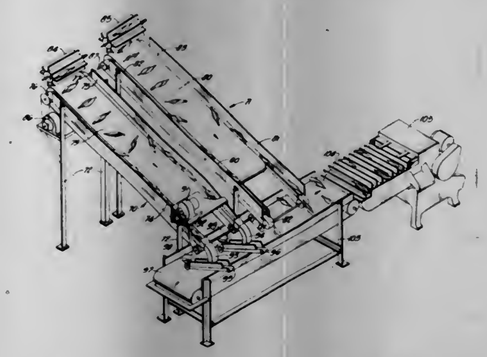


and means operably associated with said bobbin receiving and guiding means and said gate member to rotate said blade member under said opening away from said opening to allow bobbins to drop through said opening into said bobbin receiving and guiding means in response to the level of bobbins in said bobbin receiving and guiding means.

3,268,057
TAPERED AGRICULTURAL PRODUCT ORIENTING APPARATUS AND METHOD

Edward E. Ross and Jack Cunningham, San Francisco, Calif., and Fred Hartman, Toppenish, Wash., assignors to California Packing Corporation, San Francisco, Calif., a corporation of New York

Filed Sept. 10, 1963, Ser. No. 308,025
9 Claims. (Cl. 198—33)



1. A method of orienting tapered agricultural products with their larger diameter ends in the same direction, comprising:

placing said products at the top of an inclined endless belt in a position generally perpendicular to the longitudinal dimension of said belt;

sequentially releasing said products whereby each of said products rolls down said belt in an arcuate manner until it is aligned generally parallel with said longitudinal dimension with its larger diameter end downward;

removing said products from the sides of said belt after they have rolled to said aligned position but before they reach the lower end of said belt while maintaining said products in their larger diameter end oriented position;

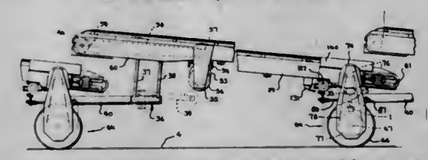
moving said belt downwardly in the direction of its longitudinal dimension sumultaneously with the releasing of said products to discharge from the lower end of the belt any debris, trash or products not previously removed from the sides thereof; and

separately transporting the larger diameter end oriented products and the discharged material away from said belt.

3,268,058
SINUOUS CONVEYOR

Roger M. Buckeridge, Downers Grove, Coleman Gyure, Riverdale, and Conrad J. Ricker, Oak Forest, Ill., assignors, by mesne assignments, to Westinghouse Air Brake Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 17, 1964, Ser. No. 419,114
22 Claims. (Cl. 198—92)



1. A sinuous mobile self-powered steerable conveying apparatus comprising:

a series of pivotally interconnected cascading conveyors; one end of each conveyor being ground-supported by a pair of pivoted wheels,

a reversible electric tram motor individually connected directly to each wheel,

an orbitally movable conveyor belt driven from a power source,

steering means including a steering linkage associated with each wheel;

a steering screw connected to both linkages and effective, when rotated in one direction or the other, to steer each pair of wheels to right or left;

steering motor means;

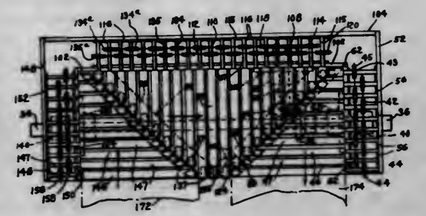
first and second steering clutches connected between the steering motor means and the screw and effective when individually actuated to rotate the screw in opposite directions;

steering clutch control means selectively operable to actuate either of said clutches individually to rotate the steering screw in a selected direction.

3,268,059
CONVEYOR APPARATUS

William Hill, 75 Taylor Road, Belmont, Mass.

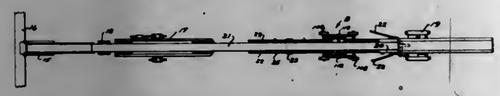
Filed Nov. 17, 1964, Ser. No. 411,744
7 Claims. (Cl. 198—127)



1. Conveyor apparatus comprising a plurality of first conveyor rolls, means to rotate said rolls, a plurality of second conveyor rolls extending angularly from and com-

mencing adjacent said first rolls, means to rotate said second rolls, said first rolls diminishing in length from front to rear thereof in a direction towards said second rolls, the latter rolls diminishing in length from the outer one in a direction towards said first rolls, and supporting means for said first and second conveyor rolls and for said means to rotate said rolls.

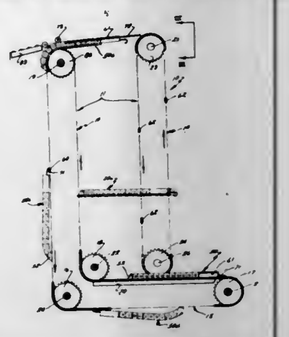
3,268,060
BELT CONVEYOR SYSTEM
John B. Long, Oak Hill, W. Va., assignor to Marmon-Herrington Company, Inc., Oak Hill, W. Va., a corporation of Indiana
Filed Sept. 3, 1964, Ser. No. 394,278
10 Claims. (Cl. 198—139)



1. In strand supported conveyor systems including the combination of a head section and a tail section, said tail section being movable toward and away from said head section in extension and retraction of the conveyor, mobile conveyor like apparatus for anchoring the strands of the conveyor system adjacent to and spaced apart from said tail section, said apparatus including a frame; means mounted on said frame for enabling and facilitating bodily movement of said frame in longitudinal alignment with the strands of the strand supported conveyor, said last mentioned means including spring means attached to said frame and wheel means attached to said spring means, said spring means and said wheel means being juxtaposed with respect to said frame to permit vertical movement of said frame on said spring means and with respect to said wheel means; ground engaging means mounted on said frame for locking said frame at a given ground location, said ground engaging means including means for causing abutment of said frame means with the surface upon which said wheel means rides whereby actuation of said ground engaging means renders said frame immobile; and clamp means mounted on said frame, said clamp means including means operable to lock the strands of the strand supported conveyor onto said frame.

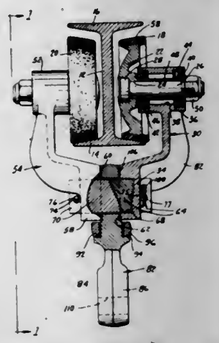
3,268,061
CONTINUOUS AND REVERSIBLE VERTICAL CONVEYOR
Maynard J. De Good and Clyde L. Bowman, Grand Rapids, Mich., assignors to The Rapids-Standard Company, Inc., Grand Rapids, Mich., a corporation of Michigan
Continuation of applications Ser. No. 386,718, July 31, 1964, and Ser. No. 437,131, Mar. 4, 1965. This application Oct. 20, 1965, Ser. No. 505,588
18 Claims. (Cl. 198—153)

1. A vertical conveyor having a loading station at one end and an unloading station at the other end and a first pair and a second pair of endless chains synchronously driven at an identical speed with vertical portions thereof traveling between the loading and unloading stations; a plurality of carriages each capable of flexing under loads acting in one direction and locking up to form a rigid, flat platform under loads acting in the opposite direction; the carriages being aligned with and in the same vertical plane as the chains of the first pair of chains when traveling from the unloading station to the loading station; the first pair of chains having a horizontal leg at each of the stations, at least as long as the carriages; the vertical portions of the first and second pairs of chain traveling toward the unloading station being spaced apart the length of the carriages; the improvement in said conveyor comprising; each of said carriages being pivotally attached at one of its ends to and between the chains of the first pair of chains and at the other of its ends being free and having a support member; lift members attached to the chains of the second pair of chains in such spaced relationship that at least certain of the lift members are



horizontally aligned with the pivotal connections of the carriages when the carriages are traveling the spaced apart vertical portions; the pairs of lift members engaging beneath the support members for supporting the carriages in extended horizontal position traveling vertically toward the unloading station.

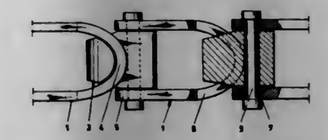
3,268,062
OVERHEAD CONVEYER TROLLEY
Ben Gladstone, 12745 Elgin, Huntington Woods, Mich.
Filed Oct. 7, 1964, Ser. No. 402,265
6 Claims. (Cl. 198—177)



1. A trolley wheel construction for an overhead conveyer, comprising: a pair of trolley wheels, said trolley wheels being adapted to engage horizontal surfaces of an overhead track, a pair of hanger arms situated on each side of said track and including portions that are offset in the direction of the axis of said wheels, said hanger arms including also juxtaposed base portions that are situated relatively close together, means for rotatably journalling one of said trolley wheels on an upward terminal portion of each hanger arm, each base portion including a mounting surface, a carrier member depending from said base portions and situated in engaged relationship with said mounting surfaces, said carrier member having formed therein only one aperture, a keeper member formed on each base portion and extending outwardly from its associated mounting surface through the aperture in the carrier member, the keeper member for one hanger arm being disposed out of alignment with respect to the keeper member for the companion hanger arm, the base portion for one hanger arm being apertured to receive

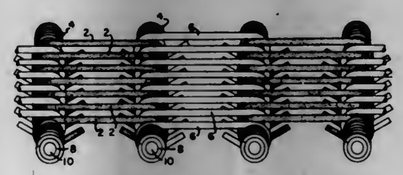
the outer end of the keeper member for the other hanger arm and the base portion for said other hanger arm being apertured to receive the outer end of the keeper member for said one hanger arm whereby said keeper members are end supported, and means bearing against only one keeper and only one of said hanger arms for securing the keeper members against displacement.

3,268,063
CONVEYOR CHAIN HAVING U-SHAPED LINKS
Jouko Viljami Solla and Erkki Pietari Niskanen, both of Malmi, Helsinki, Finland
Filed May 26, 1964, Ser. No. 370,169
Claims priority, application Germany, Oct. 2, 1963, K 50,979
8 Claims. (Cl. 198—189)



1. A conveyor chain comprising a plurality of U-shaped links connected together, each link having a curved base portion and parallel spaced shanks extending therefrom, intermediate members adapted for gripping the teeth of a driving wheel, and a pivot pin for each intermediate member pivotally connecting the same to the shanks of a corresponding link, each link having a slot in the base portion thereof, each intermediate member including a base portion extending through the slot in a corresponding link, projecting lugs on said base portion of each intermediate member extending beyond the slot to engage the base portion of said corresponding link, each pin pivotally connecting the base portion of the intermediate member with the shanks of the corresponding link such that the intermediate member can be inserted, from within the shanks of a link, through the slot in the base portion thereof into the space between the shanks of an adjacent link until the lugs on the intermediate member contact the base portion of the first link.

3,268,064
REFRACTORY METAL CONVEYOR BELT
Theodore J. Pricenski, Ipswich, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 31, 1963, Ser. No. 334,777
13 Claims. (Cl. 198—193)



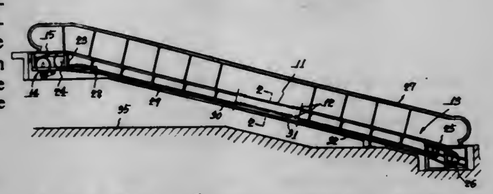
1. A refractory metal conveyor belt section comprising: a connector with an abutment disposed at either end thereof; said connector being formed of a substantially irresilient helical convolution of refractory metal wire, the outer surfaces of said convolution forming a thread; a plurality of links disposed about said connector, said links comprising an elongated shank; an incurved prolongation disposed at either end of said shank; the distal ends of said prolongation being bent toward said shank at an angle not more than about 90° with respect to a perpendicular dropped from said shank.

3,268,065
COUPLED DRIVE MEANS FOR BELT CONVEYORS
Charles Thomson, Esher, Surrey, England, assignor to Solar Thomson Engineering Company Limited, Surrey, England
Filed Dec. 23, 1963, Ser. No. 332,519
Claims priority, application Great Britain, Dec. 24, 1962, 48,550/62
4 Claims. (Cl. 198—203)



1. A belt conveyor comprising an endless conveyor belt, the inner surface of which is patterned; means for driving said belt, said means extending over substantially the whole length and over substantially the whole of at least the central portion of the load-carrying flight of said conveyor belt, said means comprising at least one endless driving belt having a patterned surface complementary to and in frictional engagement with that of said conveyor belt; a plurality of prime movers for actuating said driving means; power distributing means independent of the conveyor belt driving coupling adjacent prime movers; and at least one roller having a patterned surface complementary to said patterned surface of said driving belt, said driving belt passing around said roller with said patterned surfaces in frictional engagement.

3,268,066
BELT CONVEYOR WITH MOTORIZED PULLEY
Akira Kishimoto, 33 Kurigaoka-cho, Toyonaka, Osaka, Japan
Filed May 15, 1964, Ser. No. 367,646
Claims priority, application Japan, Nov. 27, 1963, 38/63,853
2 Claims. (Cl. 198—203)

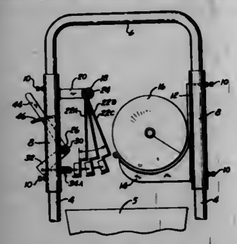


1. An endless conveyor comprising a pair of spaced pulleys, an endless belt traveling over said pulleys, a pair of spaced chain wheels located within the space between said pulleys, an endless chain traveling over said chain wheels and including closely spaced elements traversing the width of said endless belt and supporting the endless belt beneath the upper run thereof, one of said pulleys including therein motor drive means for rotating the same in one direction and a shaft projecting axially from the said one pulley and rotating in an opposite direction, and a drive connection between an adjacent chain wheel and said shaft.

3,268,067
FEED DISTRIBUTOR
George D. Prentice, Glendale, and Carl E. Potter, Fond du Lac, Wis., assignors to A. F. Klinzing Co., Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed June 14, 1965, Ser. No. 463,815
10 Claims. (Cl. 198—213)

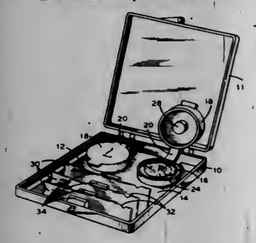
1. A feed distributing device comprising, an elongated trough having one upstanding side wall and a bottom wall extending laterally therefrom to provide an open side, an auger rotatably supported within said trough for conveying feed therealong, a plurality of gates for succes-

sive sections of the open side of said trough, said gates being spaced longitudinally of said trough and being swingably supported at their upper extremities on a common pivot shaft, means connected to said gates below and remote from said pivot shaft and operable from a single



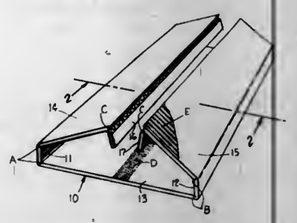
station for simultaneously swinging all of said gates toward and away from the adjacent edge of said bottom wall, and means for independently adjusting the relative positions of said gates about said pivot shaft to thereby provide variable discharge openings longitudinally of said trough.

3,268,068
CONTACT LENS APPARATUS
Joseph A. Le Grand, 16 Arrowhead Trail, Media, Pa.
Filed Oct. 15, 1965, Ser. No. 496,617
1 Claim. (Cl. 206—5)



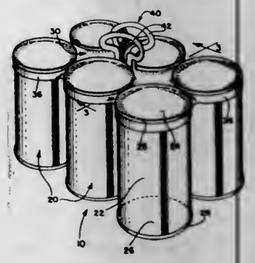
Apparatus for soaking contact lenses comprising:
(a) a protective case;
(b) a plurality of packets, each comprising
(c) a plurality of single use capsules containing a sterile soaking solution,
(d) a unitarily moldable insert removably positioned within said case and readily removed therefrom, said insert having
(e) structure defining a pair of upwardly opening concave lens wells each adapted to hold a concavo-convex contact lens and a small quantity of soaking solution for said lens,
(f) the concave surface of each lens well being formed with one or more grooves to provide a passageway between upper and lower portions of said well and thereby promote distribution of said soaking solution within said well,
(g) liquid tight covers for the wells each having an internal central projection adapted to be received in the concavity of said lens to displace soaking solution therefrom to a higher level in said well,
(h) flexible straps providing an integral hinge connection between said structure and said caps,
(i) and a plurality of spaced projections receiving said capsules therebetween and hold them in readily accessible position on said insert,
(j) and wrapping entirely enveloping said capsules and said insert;
(k) each of said lens wells having the capacity for receiving and holding at least one-half the quantity of liquid contained in one capsule, which capacity is sufficient liquid in which to immerse a contact lens.

3,268,069
CLOTH REEL
Alexander B. Clark, Jr., Box 2012, Hendersonville, N.C.
Filed June 4, 1964, Ser. No. 372,613
3 Claims. (Cl. 206—50)



1. A cloth reel including, a single rectangular section of cardboard having fluting, a first pair of scored portions parallel to each other across said fluting in the top side of said section, a second pair of scored portions parallel to each other across said fluting in the top side of said section, the portion of said section between said first pair of scored portions and the portions of said section between said second pair of scored portions forming the sides of the reel, the portion of said section between said first pair of scored portions and said second pair of scored portions forming the bottom of the reel, a slit score at an angle of about 45 degrees to the section in the bottom of said section spaced from each free edge of the section the thickness of the reel and parallel to the first mentioned scored portions forming a pair of longitudinal ribs with fluting therein disposed at an angle to the bottom of the reel, the portions of said section between the 45 degree slit scores and the next adjacent scored portions forming the top of the reel, said ribs abutting in the medial portion of the reel with the free edges of said scored portions being closely adjacent each other in the top of the reel, said ribs being vertical and perpendicular to top and bottom of the reel in the central portion thereof joining the top and bottom, said sides joining the top and bottom of the reel at marginal portions thereof, and an adhesive strip fixing the free ends of the ribs in the medial portion of the inside bottom portion of the reel.

3,268,070
CONTAINER PACKAGE
Ernest R. Cunningham, Libertyville, Ill., assignor to Illinois Tool Works, Inc., Chicago, Ill., a corporation of Delaware
Filed Oct. 24, 1965, Ser. No. 504,301
7 Claims. (Cl. 206—65)



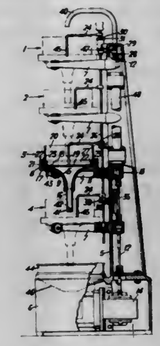
1. A container package comprising at least one pair of containers or the like of predetermined diameter, and a carrier device for securing said containers together as a unit, but permitting removal therefrom, said carrier device being in the form of a resilient, elastic and deformable sheet of plastic material having at least a pair of oppositely arranged sockets provided therein, the maximum transverse dimension of each socket being less than the predetermined diameter of the container associated therewith whereby upon the insertion of containers axially into the sockets, the material adjacent each socket assumes the shape of a substantially axially extending bracing collar to resist container withdrawal, said carrier device having handle means integral therewith initially lying within the plane thereof, said handle means extending from at least one discrete material area generally intermediate the generally opposed sockets and substantially traversing one of said sockets, said handle means being positioned and maintained by said containers in extended position above the plane of said carrier and above the terminal end of said containers after the insertion of said containers into said sockets whereby to provide a handle strap suitable for transporting the containers.

3,268,071
PROCESS FOR THE SEPARATION OF SOLIDS BY AGGLOMERATION
Ira E. Puddington, Ottawa, Ontario, Canada, Hilary M. Smith, Wandsworth Common, London, England, and Joseph R. Farnand, Ottawa, Ontario, Canada, assignors to National Research Council, Ottawa, Ontario, Canada, a corporation of Canada
No Drawing. Filed Aug. 22, 1962, Ser. No. 218,571
6 Claims. (Cl. 209—5)

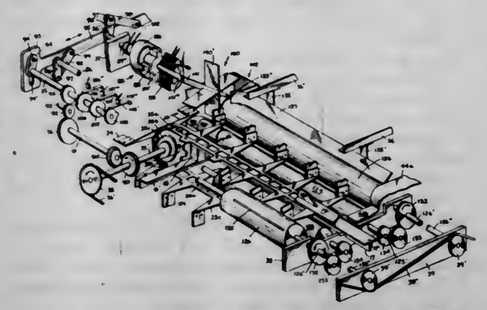
2. A process for the agglomeration and separation of mixtures of at least two different physically separate particulate solids selected from the group consisting of minerals and metals from an aqueous suspendant liquid, one of said solids being hydrophobic and the second one of said solids being hydrophilic to the said suspendant liquid, which comprises,
(a) adding to said mixture in said suspendant liquid a bridging liquid, which preferentially wets only said hydrophobic solid, and which is selected from the group consisting of nitrobenzene, an aliphatic hydrocarbon, kerosene, petroleum lubricating oil, liquid chlorinated biphenyl, fuel oil, tall oil, acid petroleum oil, and octyl amine, in amounts of 1% to 30% by volume based on said hydrophobic solid to form a film over said wetted hydrophobic solid,
(b) subjecting the resulting mixture to mechanical agitation and turbulent conditions to flocculate the said wetted hydrophobic solid and continuing said mechanical agitation and turbulent conditions for at least one hour to compact the resulting flocculates into spherical agglomerates of greater density than that of said suspendant liquid, and
(c) separating by screening said agglomerates from the remaining suspension.

3,268,072
METHOD OF AND APPARATUS FOR CLASSIFYING FIBRES BY LENGTH
Bernard Lincoln, Sale, England, assignor to Turners Asbestos Fibres Limited, Manchester, England, a British company
Filed Apr. 23, 1963, Ser. No. 275,142
Claims priority, application Great Britain, Apr. 24, 1962, 15,580/62
8 Claims. (Cl. 209—10)

1. A method of classifying asbestos fibres of different lengths which comprises supplying liquid continuously to the uppermost of a series of vessels mounted one above another, removable independently of one another with the upper edge of each vessel spaced below the lower edge of the next higher vessel, the bottoms of the vessels including horizontal sieves of mesh sizes that decrease downwards from one vessel to the next, the screen surfaces of said sieves being substantialy planar, introducing fibres to be classified into the uppermost vessel, agitating the material in the uppermost vessel, maintaining a continuous downward flow of liquid through the vessels and a substantially constant head of liquid in each vessel, collecting the liquid from each vessel and discharging the collected liquid into the vessel below as a jet the axis of which intersects the sieve of such vessel at a point between the center and the periphery of the vessel to maintain the contents of the vessel below in a state of turbulence and thus to assist in dispersing the fibres in the liquid, whereby the longer fibres in a vessel are retained in that vessel as the liquid passes through the sieve in that vessel carrying with it the shorter fibres, and collecting the fibres accumulated in each vessel as a separate fraction.



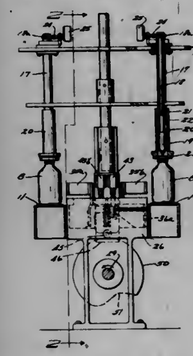
3,268,073
SEPARATING APPARATUS
Henry C. Lehde, Northport, N.Y. (P.O. Box 415, Midway City, Calif.), and John J. Dickerman, 22 Oak St., Northport, N.Y.
Original application Feb. 15, 1960, Ser. No. 8,649. Divided and this application Feb. 25, 1963, Ser. No. 268,207
11 Claims. (Cl. 209—73)



1. Apparatus for separating a mixture of objects into two classes of different electrical conductivity which includes, a receiving area to which said objects are supplied, sensing means responsive to objects of higher conductivity but unresponsive to objects of substantially lesser conductivity, object deflecting means positioned adjacent said sensing means, a single file column of spaced object advancing paddles extending in an upwardly inclined direction from said receiving area to said object sensing means, means for advancing said column of paddles from the receiving area to said object sensing means, an upwardly inclined object conducting passage positioned along the line of travel of said column of paddles and providing support for the objects advanced by the adjacent column of paddles, means for tumbling the advancing objects to thereby eject all but one of the objects from the advancing influence of each paddle as the successive paddles arrive in proximity to said sensing

means, means for returning ejected objects to said receiving area for recycle, and driving means under the control of said object sensing means, and operating in synchronism with the movement of said advancing paddles, for activating said deflecting means when said object engaging paddles have respectively advanced to a predetermined position with respect to said deflecting means, and whereby objects of higher conductivity are deflected in one direction and objects of lesser conductivity are deflected in another direction.

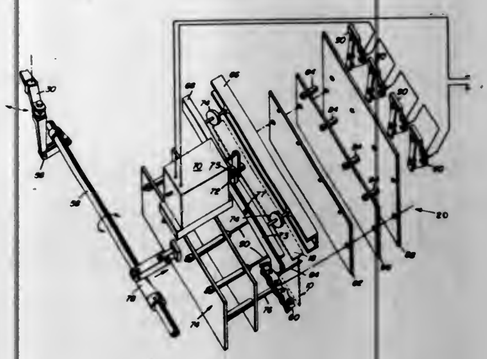
3,268,074
GAUGING APPARATUS
John R. Johnson, Toledo, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio
Filed Nov. 29, 1963, Ser. No. 326,726
30 Claims. (Cl. 209—74)



1. In a gauging apparatus, the combination comprising
conveyor means for moving articles to be inspected into and out of position at an inspection station,
means at said inspection station for inspecting an article and creating an electrical signal in response to a failure of the article to meet a predetermined standard,
reject means positioned at a reject station beyond said inspection station and adapted to move said article off the conveyor means,
means mechanically holding said reject means in retracted position,
said last-mentioned means being responsive to an electrical signal from said gauging means to release said reject means,
and means mechanically operated in synchronism with said conveyor means and said gauging means for moving said reject means into reject position when an article has been moved by the conveyor means into position at said reject station,
said last-mentioned means being operable to return said reject means to its retracted position where it is held by said holding means,
said reject means including a reject member,
and spring means yieldingly urging said reject member toward said reject position.

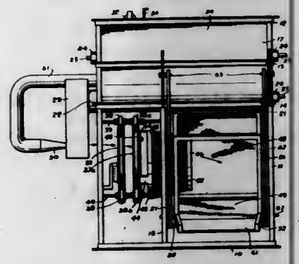
3,268,075
MAIL SORTING MACHINE
Howard J. Kreis, 3523 Abbie Place, Baltimore, Md. 21207
Continuation of application Ser. No. 199,309, June 1, 1962. This application Jan. 19, 1965, Ser. No. 429,198
1 Claim. (Cl. 209—110)

In combination, a plurality of pieces of mail each having coded indicia thereon and means forming a T-shaped configuration extending longitudinally thereof and a machine for sorting said pieces of mail according to said coded indicia, comprising at least one registration station having means for engaging said means forming said T-shaped configuration during the presence of each piece of said mail in said registration station, means for passing longitudinally, one-by-one, said pieces of mail through said registration station, said registration station having means positioned on one side of said pieces of mail passing therethrough for seeking and finding certain coded



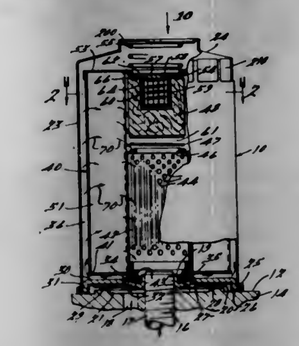
indicia of said coded indicia on said pieces of mail and means responsive to the finding of said certain coded indicia for releasing the mail corresponding thereto from said passing means, with said coded indicia including said certain coded indicia on said pieces of mail being present in symmetrical reverse lateral order and being common to each side thereof, whereby the sides of said pieces of mail can be reversed with respect to said registration station.

3,268,076
APPARATUS FOR CLEANING SEEDS
William Charles Walker, The Brae, Cracow, Queensland, Australia
Filed May 22, 1963, Ser. No. 282,387
Claims priority, application Australia, May 29, 1962, 18,277/62
4 Claims. (Cl. 209—250)



1. Apparatus for cleaning seeds including an air conduit, a receptacle, a nozzle for directing an airstream from said conduit towards said receptacle, feeding means to feed said seed to be cleaned into said airstream, a first and a second substantially flat perforated screen parallel to each other and spaced from said nozzle to intercept said airstream between said conduit and said receptacle, each said screen being rotatable in its own plane about an axis displaced from said airstream, and means for rotating said screens in opposite directions, said first screen being nearer said nozzle than said second screen, and a fixed brush contacting that side of said first screen nearer said nozzle, said brush being positioned out of said airstream.

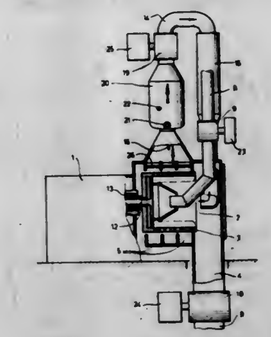
3,268,077
DUAL ELEMENT, DUAL VALVE FILTER
Jeremy T. Ball, Birmingham, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Apr. 10, 1963, Ser. No. 272,057
8 Claims. (Cl. 210—131)



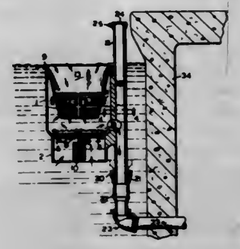
1. A multistage filter unit comprising a hollow, substantially cylindrical, casing having one closed end and the other end portion closed except for a pair of ports providing respectively fluid inlet and outlet ports for the casing, a first, substantially cylindrical, hollow, filter element, mounted concentrically within and spaced from the interior walls of said casing with the bore of said first filter element extending longitudinally of the casing and substantially aligned with and connected to the casing outlet port, said first filter element providing a first stage of filtering action, a second pre-formed, substantially bar-shaped, fibrous, filter element mounted in and arranged for movement longitudinally of the bore in said first filter element, and a first pressure fluid responsive valve means carried by the upper end of said second filter element to control fluid flow through a first portion of said bore and through said second filter element to provide a second stage of filtering action, and a second pressure fluid responsive valve means carried by said second filter element to control fluid flow through a second portion of said bore for by-passing said second filter element.

3,268,078
PUSH-TYPE CENTRIFUGE
Günther Muggli, Zurich, Switzerland, assignor to Escher Wyss Aktiengesellschaft, Zurich, Switzerland, a corporation of Switzerland
Filed Oct. 28, 1963, Ser. No. 319,136
Claims priority, application Switzerland, Nov. 14, 1962, 13,307/62
1 Claim. (Cl. 210—149)

A push-type centrifuge for the separation of liquid from a liquid-solid mixture comprising a housing; a foraminous centrifuge drum mounted for rotation in said housing; said drum having a supply end for the liquid-solid mixture and a discharge end for the solid mixture, said housing defining a collecting chamber for the separated liquid which encircles said drum and a collecting chamber for the solid mixture adjoining the discharge end of said drum; duct means extending between said liquid-collecting chamber and the interior of the drum; a blower in said duct serving to withdraw ventilation gas from the liquid-collecting chamber and deliver it to said interior of the drum; a heat exchanger in said duct means in heat-exchanging relation with said ventilating gas; sealing means for preventing gas exchange between the interior of the housing and its surroundings; control means regulating said heat exchanger to maintain said ventilation gas at least approximately at a predetermined temperature and a liquid separator in said duct means between said blower and said liquid-collecting chamber.



3,268,079
WATER SKIMMER
Gilfred J. Sharrow, Jr., 25 Bacon Ave., West Springfield, Mass.
Filed Dec. 19, 1962, Ser. No. 245,902
4 Claims. (Cl. 210—169)

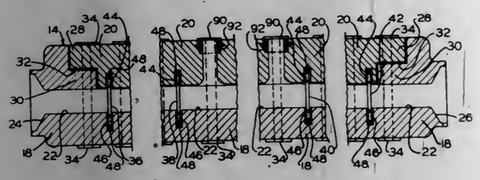


1. A water skimmer having a buoyancy control valve assembly for controlling the feed of surface water to a filter, said water skimmer having an axially vertical unitary upper cylindrical housing with an open top and a lower cylindrical housing with an open bottom and having a basket mounted within the upper housing, said valve assembly being mounted in the lower housing and comprising a weighted counterbalance, a fixed flat member above said counterbalance, said fixed member connected to the interior periphery of the skimmer, a movable lid member, said movable lid member having a rod means extending therefrom for permanent connection with said counterbalance, an opening within said fixed member for permitting the aforesaid connecting means to pass therethrough, a lip extending downwardly from said lid for contact with said fixed member, other openings in said fixed member whereby when said lip is not in contact with said fixed member water will pass through said opening and between said lip and said fixed member from the basket into an outlet in the upper housing which is connected to the filter.

3,268,080
SELF-CLARIFYING FILTER SYSTEM

David H. Eberly, Jr., York, Pa., assignor, by mesne assignments, to Avco Corporation, Williamsport, Pa., a corporation of Delaware

Filed Sept. 26, 1962, Ser. No. 226,372
5 Claims. (Cl. 210—180)



1. In a water treatment system, an automatic self-cleaning filter for removing and eliminating ignitable products of carbonaceous sewage material from a fluid flowing through a sewage conduit and for forward flushing said filter system utilizing the normal fluid flow in said conduit, the combination comprising:

a plurality of electric conducting filters longitudinally spaced within said conduit and extending transversely thereacross, the porosity of said filters decreasing in the direction of fluid flow, said conduit being formed of a nonconducting material, said fluid passing through said filters, said particles of carbonaceous material being trapped by said filters, each of said filters being comprised of electric conducting electrical resistance elements, said filters being supported between two spaced electric conducting electrodes and electrically connected thereto, said electrodes being maintained in spaced relationship by two insulated spreader members, said electrodes and said spreader members forming a frame for said filter, said frame being seated within said conduit;

first and second sources of electric current, said second source being relatively small compared with said first source;

a normally open switch for connecting said first source across the electrodes of each of said filters for heating the elements of said filter to a temperature sufficient to ignite said carbonaceous sewage material, whereby the size of said particles is reduced and said particles are forward flushed by the normal fluid flow through said filter;

a relay for closing said switch, said relay having a winding connected in series with said second source across the electrodes of each of said filters, said relay being energized by the currents flowing through said winding to close said switch when the currents through said winding exceed a predetermined level, the electrical resistance of said filters decreasing as trapped particles of carbonaceous sewage material accumulates thereon;

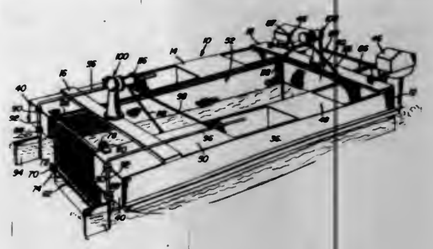
and gas pressure relief means in said conduit adjacent said filters for venting said conduit when the pressure in said conduit, due to the ignition of said materials, exceeds a predetermined magnitude.

3,268,081
WATER SKIMMER BOAT

Lawrence H. Menkee, Manhattan Beach, Calif., and Norman Dunkerley, P.O. Box 472, Avalon, Calif.; said Menkee assignor of one-sixth to said Dunkerley

Filed Jan. 8, 1964, Ser. No. 336,401
11 Claims. (Cl. 210—242)

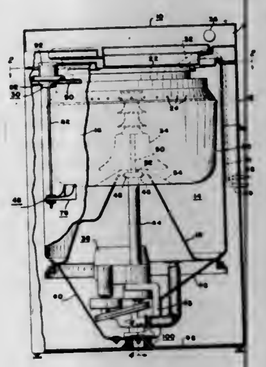
1. A water skimmer boat comprising a pair of generally parallel elongated hull members, elongated transverse brace members interconnecting said hull members, and an elongated channel-shaped scoop extending longitudinally of said boat between said hull members including a pair of upstanding side walls interconnected by means of a foraminated bottom wall and closed at one end by means of an upstanding end wall, means pivotally supporting said one end of said scoop between the corresponding ends of said hull members for movement about a generally horizontally disposed transversely extending axis and swinging movement of the other end of said scoop, and means carried by said hull members and operatively connected to said other end of said scoop for maintaining said other end in vertically adjusted positions.



3,268,082
DOMESTIC APPLIANCE

Robert Galin, Bellbrook, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 31, 1963, Ser. No. 284,411
8 Claims. (Cl. 210—364)

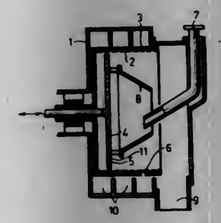


1. A suspension system comprising, fixed support means, a rotatable spin tub, drive means for rotating said spin tub, movable support means for supporting said drive means and said spin tub, suspension means including an elongated rod for supporting said movable support means on said fixed support means, means for connecting one end of said elongated rod to one of said support means, spring means on the other of said support means, connector means on the opposite end of said elongated rod having said spring means in engagement therewith whereby said spring means resiliently supports said movable support means for relative movement with respect to said fixed support means, said spring means serving to resiliently connect said opposite end of said rod to said other of said support means to allow lateral and vertical relative movement of said rod with respect to said other support means during movement of said movable support means both toward and away from said fixed support means without fixedly restraining such movements, and coacting means on said elongated rod and said other of said support means for damping the transfer of vibrations from said movable support means to said fixed support means.

3,268,083
PUSH-TYPE CENTRIFUGE

Ernst Ruegg, Kusnacht, Switzerland, assignor to Escher Wyss Aktiengesellschaft, Zurich, Switzerland, a corporation of Switzerland

Filed May 10, 1963, Ser. No. 279,452
Claims priority, application Switzerland, June 4, 1962, 6,709/62
4 Claims. (Cl. 210—376)

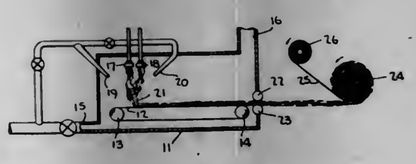


1. In a push-type centrifuge of the type including a rotary, foraminous drum having an open end, and a reciprocable pusher plate having an outer annular portion, that portion being arranged to move material to be centrifuged stepwise along the foraminous drum toward said open end, the improvement which comprises a screen mounted on the front of the outer annular portion of the pusher plate; and annular webs forming said outer annular portion of the plate and supporting said screen, said webs defining concentric annular discharge chambers for liquid separated from the material to be centrifuged, each chamber including a drainage duct extending through said outer annular portion, and ducts serving to distribute the separated liquid longitudinally along the foraminous drum.

3,268,084
BULKED NON-WOVENS

William T. Allman, Jr., Charles W. Joseph, and Ralph G. Higgins, Jr., Rock Hill, S.C., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

Original application Dec. 4, 1958, Ser. No. 778,248, now Patent No. 3,100,328, dated Aug. 13, 1963. Divided and this application Feb. 20, 1963, Ser. No. 266,123
The portion of the term of the patent subsequent to Aug. 13, 1980, has been disclaimed
2 Claims. (Cl. 210—503)

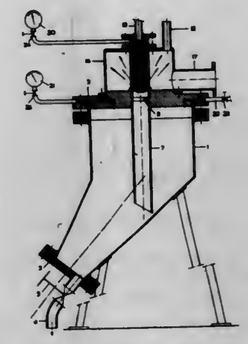


2. A filter cartridge comprising a perforated core containing a roll of a bulky non-woven sheet material comprising substantially continuous substantially randomly directed cellulose acetate filaments fused to one another at spaced points, said filaments ranging in denier from about 1 to 20 and being crimped in three dimensions between fusion points as a result of having been contacted with steam.

3,268,085
APPARATUS FOR SEPARATING A MIXTURE INTO ITS COMPONENTS

Pieter Marinus van der Meer, Gemaalweg 6, Lemmer, Netherlands

Filed Apr. 8, 1963, Ser. No. 271,059
Claims priority, application Netherlands, Apr. 11, 1962, 277,087
2 Claims. (Cl. 210—511)

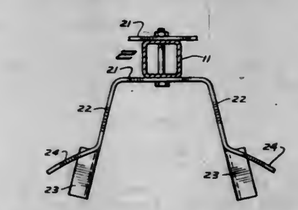


1. Apparatus for separating into its components a mixture of a first liquid and a heavier substance, said apparatus comprising a generally closed vessel provided with an opening, a nozzle for discharging the mixture under pressure into said vessel, said nozzle having an axial bore and being arranged in facing relation with at least a portion of said opening, said vessel including a collar at said opening which tapers in narrowing fashion into the interior of the vessel, said collar including an inner edge defining an opening therein, said nozzle extending within said collar, said nozzle having an extreme edge which reaches at least substantially to the plane of the inner edge of the collar, said nozzle edge and said collar edge being spaced radially from one another to form therebetween an annular passage, said edge of the collar being formed as a sharp edge, the area of the annular passage being equal to the cross-sectional area of the nozzle bore.

3,268,086
GARBAGE CAN HOLDER

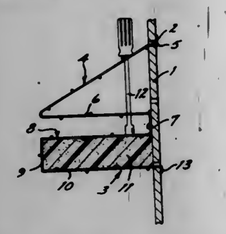
Ralph L. Hendrickson, 3720 Lilac Drive, Minneapolis, Minn.

Filed Oct. 20, 1965, Ser. No. 498,352
5 Claims. (Cl. 211—71)



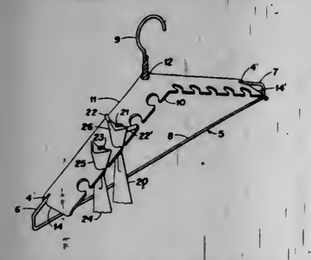
1. In a garbage can holder, an upright support, a base member mounted on the support so that the plane thereof is substantially upright, said base member having a pair of legs extending divergingly outwardly from said base member, a pair of support flanges on the legs forming substantially horizontal surfaces to support a garbage can, and a handle holding member mounted on the support above the base member in position to receive and hold a handle of the garbage can supported on the support flanges.

3,268,087
TOOL HOLDER
George A. Kramer, 6984 Lake Ave., Long Beach, Calif.
Filed Jan. 22, 1965, Ser. No. 427,335
4 Claims. (Cl. 211—86)



1. A tool holder comprising a panel having spaced holes therein,
a wire screen frame including an upper inclined portion,
a rectangular space formed in said frame and spaced below the said inclined portion,
a pad positioned in the rectangular space,
and fastening means extending from the wire screen frame and through a plurality of said holes to support the wire screen frame on the panel.

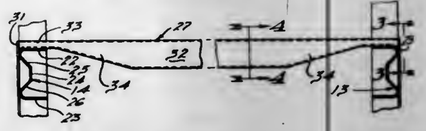
3,268,088
NECKTIE HOLDER
Carl O. Lawhorn, Knoxville, Tenn.
(Rte. 5, Box 205, Lenoir City, Tenn.)
Filed May 21, 1964, Ser. No. 369,100
3 Claims. (Cl. 211—113)



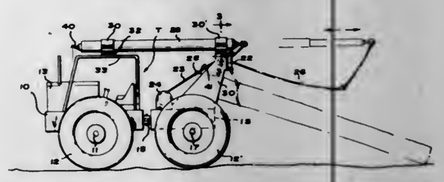
1. A necktie holder for pre-tied neckties comprising the combination of single-point suspension mount means having lateral extensions, said means and extensions adapted for mounting in a substantially vertical plane, an elongated shelf member secured along one of its edges to said lateral extensions and extending at substantially right angles therefrom in a horizontal direction, and a multiplicity of open recesses in the unattached edge of said shelf member for receipt of pre-tied four-in-hand neckties therein.

3,268,089
DECK SECTION FOR STORAGE RACK
Lee Z. Hall, Huntington Woods, Mich., assignor to Palmer-Shile Company, Detroit, Mich., a corporation of Michigan
Filed Feb. 16, 1965, Ser. No. 432,991
3 Claims. (Cl. 211—153)

1. In a deck section for use in conjunction with a storage rack of a type having front and rear cross rails, a flat rectangular platform portion, downwardly extending flanges at the opposite ends of said platform portion, the distance between said end flanges being substantially equal to the distance between the outwardly facing surfaces of the front and rear cross rails on which the deck section is to be mounted, a pair of sides extending downwardly from the longer edges of said platform portion along its entire length, said sides having relatively wide central portions, relatively narrow end portions of constant height and gradually sloping portions connecting the central and end portions, and inturned flanges along the lower edges of said sides.

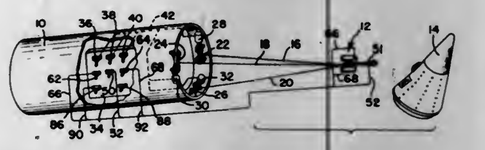


3,268,090
ARTICULATED LOG SKIDDER HAVING A TELESCOPIC BOOM FOR THROWING OUT THE INHAUL CABLE
Albert R. Wirkkala, Naselle, Wash.
Filed Aug. 23, 1965, Ser. No. 481,805
3 Claims. (Cl. 212—7)



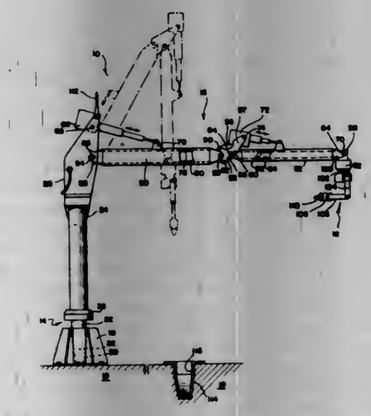
1. A mobile logging vehicle comprising a powered, steerable forward section and a trailing arch section; said sections being joined by an articulated shaft connection, a telescopically extendable boom supported at its opposite ends, respectively, on the joined sections of said vehicle and having a rearwardly extendable piston rod and means for its extension and retraction, a cable winding drum mounted on said vehicle, a fairleader mounted by said trailing arch section below the rear end of the boom, an inhaul cable wound on said drum and extended rearwardly therefrom over said fairleader, log pick-up means attached to the end of the cable, a connector means attached at one end to the free end of said cable and at its other end to the extendable end of said piston rod whereby said cable may be drawn out from said drum by the extending of the piston rod from the boom and the pick-up means cast thereby rearwardly from the vehicle for log-making log connections.

3,268,091
REACTION THRUST OPERATED MANIPULATOR
Donald F. Melton, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed June 1, 1961, Ser. No. 114,143
1 Claim. (Cl. 214—1)



A reaction thrust operated manipulator comprising a frame, a work performing device carried by said frame, reaction motor means attached to said frame for producing thrust, said motor means including at least a first motor means for producing thrust sufficient to cause said work performing device to move in both directions along one of three mutually perpendicular axes, a second motor means for producing thrust sufficient to cause said work performing device to move in both directions along another of said three mutually perpendicular axes, a third motor means for producing thrust sufficient to cause said work performing device to move in both directions along the third of said three mutually perpendicular axes, a fourth motor means for producing thrust sufficient to cause said work performing device to rotate clockwise and counterclockwise about said one of said mutually perpendicular axes, a fifth motor means for producing thrust sufficient to cause said work performing device to rotate clockwise and counterclockwise about said another of said mutually perpendicular axes, and a sixth motor means for producing thrust sufficient to cause said work performing device to rotate clockwise and counterclockwise about said third of said mutually perpendicular axes, and means for individually controlling said reaction motor means to cause any of said movements and rotations of said device.

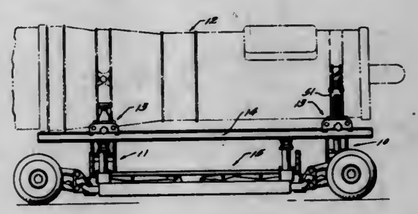
3,268,092
FLOOR MOUNTED MANIPULATOR SUPPORT STRUCTURE
William H. Hainer, St. Paul, and Robert J. Sullivan, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware
Filed Oct. 18, 1963, Ser. No. 317,358
13 Claims. (Cl. 214—1)



1. A support structure for supporting a material handling unit within a work area comprising an elongate post supported in a floor mounted socket so that its longitudinal axis is normal to the floor, said socket provided with means for preventing relative rotation between said post and said socket, said post being readily removable from said socket, a tubular member circumposing a portion of said post, means for rotating said tubular member relative to the post about the longitudinal axis of said post, and means for attaching said material handling unit to said tubular member.

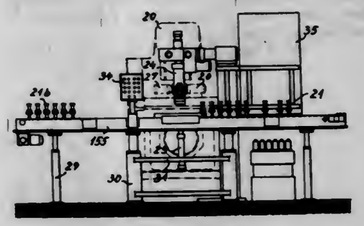
3,268,093
OBJECT HANDLING SYSTEM
Robert W. Kelter, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Mar. 18, 1964, Ser. No. 352,913
7 Claims. (Cl. 214—1)

1. Apparatus for handling elongated objects of essentially circular outline, such as gas turbine engines,
said apparatus comprising a wheeled vehicle having a pair of elongated laterally spaced side rails,
a pair of cradle assemblies extending between and spaced apart along the length of said rails,
each of said assemblies comprising an inner cradle and an outer cradle both of which are generally of the same arcuate configuration with the concave portions thereof facing upwardly,
one of said cradles being relatively fixed and secured at its opposite ends to said side rails,



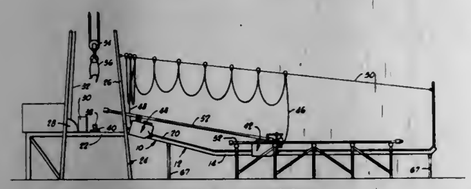
means guiding the other cradle for vertical movement relative to said one cradle from a lower position, in which the cradles are nested, to an elevated position,
means acting between said cradles for effecting such relative movement, and
bracket means to be attached to said object and supported by said relatively movable cradle whereby the object may be maintained in a lower position for transportation and raised to an elevated position for other purposes.

3,268,094
APPARATUS FOR TRANSFERRING WORKPIECES AND THE LIKE
Heinrich Fischer and Max Kriegl, both of Munich, Germany, assignors to Carl Hurth Maschinen- und Zahnradfabrik, Munich, Germany
Filed June 9, 1964, Ser. No. 373,740
16 Claims. (Cl. 214—1)



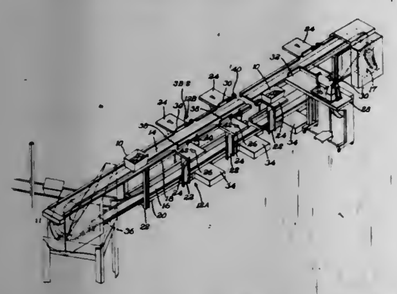
1. In an apparatus for transferring workpieces and similar discrete articles to and from the working stations of machine tools and the like, in combination, guide means defining an elongated pathway having an end adjacent to a working station; a transfer unit mounted on said guide means to reciprocate along said pathway between a plurality of spaced positions, said unit comprising a plurality of article-engaging arms arranged to orbit about an axis of rotation which is substantially perpendicular to said pathway; stop means for arresting said unit in each of said positions; shock absorber means provided on said unit and arranged to cooperate with said stop means so as to cushion the impact on engagement between said unit and said stop means; means for reciprocating said unit along said pathway at different speeds; and control means arranged to reduce the speed of said unit prior to engagement between said stop means and the respective shock absorber means.

3,268,095
PIPE RACKING DEVICE
J W Durbin, P.O. Box 427, Lindsay, Okla.
Filed Apr. 6, 1964, Ser. No. 357,637
9 Claims. (Cl. 214—2.5)



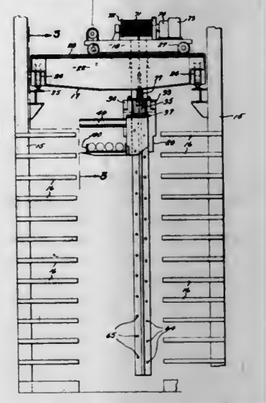
1. A pipe racking device comprising:
an elongated track including a rack gear extending substantially the length of said track;
a first car arranged for movement along said track and including:
a pinion gear rotatably mounted on said first car in engagement with said rack gear,
driving means operably connected with said pinion gear for causing rotation thereof, and
releasable latch means on said first car for releasably securing one end of the pipe thereto;
a second car arranged for movement along said track and including:
pipe engaging means thereon for releasably supporting the other end of the pipe on said second car; and,
control means operably connected with said driving means for causing said driving means to rotate in a direction to move said first car along said track, said control means being operably connected with said latch means and engaging means for simultaneously releasing said latch means and engaging means from said pipe.

3,268,096
MANUALLY CONTROLLED SELECTIVE DELIVERY CONVEYOR SYSTEM
Charles J. Kitchener, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Jan. 10, 1964, Ser. No. 337,042
5 Claims. (Cl. 214—11)



1. A conveyor system, comprising a conveyor belt, a series of work stations disposed alongside the conveyor belt, each work station having an article storage platform, a switch mechanism associated with each platform adapted to be actuated by an article resting on the platform, a diverting arm at each station, each of said arms being movable between a diverting and a non-diverting position, signal means energized by the switch mechanism during the absence of an article on a platform, means controllable by a dispatcher at the head of the conveyor to move the diverting arm to the diverting position, means responsive to the arrival of a dispatched article at the work station to cause said diverting arm to return to the non-diverting position and to actuate said switch mechanism to de-energize the signal means.

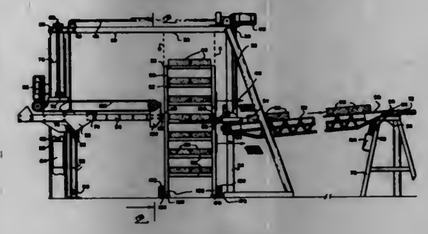
3,268,097
STACKER CRANE
Stewart F. Armington, Jr., East Cleveland, and Henry Engel, Euclid, Ohio, assignors to The Euclid Crane and Hoist Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 10, 1963, Ser. No. 329,415
12 Claims. (Cl. 214—16.4)



1. Load transfer apparatus having load handling means movable vertically and horizontally in an aisle between vertically and horizontally spaced load support means comprising overhead carrier means movable parallel with said aisle; a trolley movable transversely of said aisle on said carrier; power means for moving said trolley; a mast depending from said trolley and laterally movable in said aisle by said trolley; said load handling means carried by said mast; said load handling means being movable up and down said mast and having generally horizontal, cantilevered lifting means rotatable from one side of said aisle to the other and adapted to pick up or deposit a load from any of said load support means on either side of said aisle; power means for rotating said lifting means; power means for moving said load handling means up and down said mast; said trolley adapted to position said mast toward one side of said aisle when said cantilevered lifting means is oriented toward the other side of said aisle in such manner as to minimize the necessary width of said aisle for allowing vertical and horizontal movement of said load handling means in said aisle; and a safety interlock connection between said trolley moving power means and said power means for rotating said lifting means enabling operation of said power means for moving said load handling means up and down said mast only when said mast and said lifting means are oriented toward opposite sides of said aisle.

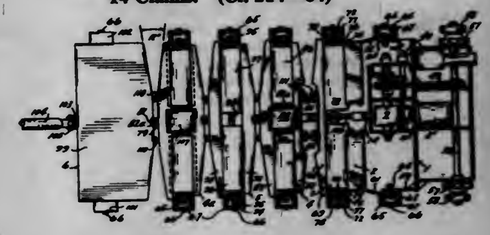
12. In a warehouse system for moving loads into and out of storage racks having load receiving stations at different levels located adjacent an aisle, a carrier having a load supporting means movable along said aisle and to various levels of said racks and into and out of said racks to deposit and pick up loads, power means for moving said carrier and for moving said load supporting means into and out of said racks with vertical manipulation to deposit and pick up loads, a series of high and lower level indicators on said carrier for stopping said load support means respectively above or below a series of associated load receiving stations, two level detectors responsive respectively one to said high level indicators and one to said lower level indicators, a load detector device carried by said load supporting means and actuated by a load thereon, and operative connections causing said high level detectors to respond only to said load detector device in actuated condition and causing said lower level detectors to respond only to said load detector device in unactuated condition.

3,268,098
RACK UNLOADER AND PALLET STRIPPING MACHINE
Paul M. Thomas, 6530 E. Edgewood Road, Phoenix, Ariz., and Lawrence W. Wright, Scottsdale, Russell W. Burge, Glendale, and Eugene E. Crile, Phoenix, Ariz.; said Burge, Wright, and Crile assignors to said Thomas
Filed May 28, 1964, Ser. No. 370,812
14 Claims. (Cl. 214—16.4)



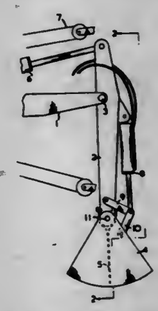
1. In a rack unloader and concrete block pallet stripper the combination of: first and second horizontally spaced upstanding frame portions disposed to receive a concrete block pallet rack therebetween, said rack having vertically superimposed spaced pallet shelves disposed to support substantially horizontally disposed concrete block laden pallets; a first carriage vertically movable on said first upstanding portion of said frame; a second carriage vertically movable on said second upstanding portion of said frame; means for driving said first and second carriages in unison and upon a common level with each other up and down, said first and second upstanding frame portions, respectively; means for supporting said pallet rack between said first and second carriages; a conveyor having one end pivotally supported on said second carriage and disposed to receive blocks slidably moved horizontally from said pallets; a power driven pusher mounted on said first carriage and movably extendable and retractable beyond an end of said first carriage toward said second carriage for pushing blocks off from said pallets and toward said conveyor; said pusher when slidably pushing blocks off from said pallets tending to slide said pallets out of the shelves in said rack in a direction toward said second carriage; pallet retraction means pivoted on said pusher on a horizontal axis; downwardly directed pallet edge engaging means of said pallet retraction means at an end of said pusher directed toward said second carriage; and second cam means on said pallet retraction means; engagement of said first and second cam means caused by movement of said pusher on said first carriage disposed to cause pivotal movement of said pallet retraction means about a horizontal axis and downwardly at said pallet edge engaging means when said pusher projects blocks from one of said pallets toward said conveyor, whereby an edge of the respective pallet is engaged by said downwardly directed pallet edge engaging means whereupon retraction of said pusher causes the pallet to be pulled back into position in a respective shelf of a supporting rack; said first and second cam means being disposed to permit pivotal movement of said pallet retraction means upwardly to move said pallet edge engaging means out of engagement with an edge of said pallet when said pusher is retracted relative to said first carriage to a position corresponding with a proper position of a pallet relative to a shelf in said rack.

3,268,099
UNIVERSAL POWER CONVEYOR
Fortunato S. Ajero and William C. Benson, Springfield, Ohio, assignors to Koehring Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 4, 1964, Ser. No. 408,872
14 Claims. (Cl. 214—84)



6. A power conveyor comprising:
a power base assembly having a wheeled support means and further including a drive means mounted thereon adapted for driving engagement with said wheeled support means;
a plurality of power roller assemblies each having a wheeled support means and a rotatably mounted power roller adapted for engagement with an object to be transferred thereover;
a plurality of idler roller assemblies each having a wheeled support means and a freely rotatably mounted idler roller means adapted to support objects to be transferred thereover;
drive shaft means to establish driving engagement between said drive means on said power base assembly and the power roller on each of said power roller assemblies;
connection means for pivotally connecting said power base, said power roller and said idler roller assemblies together; and
control means for selectively coupling said drive means with said wheel support means on said power base assembly.

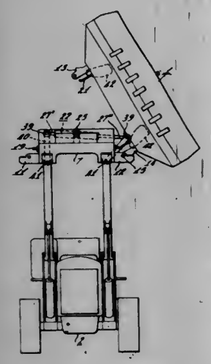
3,268,100
BUCKET WITH SCRAPER
Norman A. Drouillard, 1600 Cavalry, Detroit 9, Mich.
Filed July 1, 1965, Ser. No. 468,878
1 Claim. (Cl. 214—138)



A multi-purpose excavating bucket comprising in combination a boom, a dipper stick mounted on the boom, an open ended excavating bucket pivotally mounted at the end of the dipper stick, the sides of the bucket being parallel, a scraper rigidly mounted at the end of and extending linearly from the dipper stick, said scraper being adapted for excavation and means adapted to rotate the bucket about the dipper stick, the bucket being adapted to rotate about the scraper whereby the scraper removes material

contained in the bucket, the bucket rotation being of sufficient degree to expose the dipper stick for excavation purposes when desired.

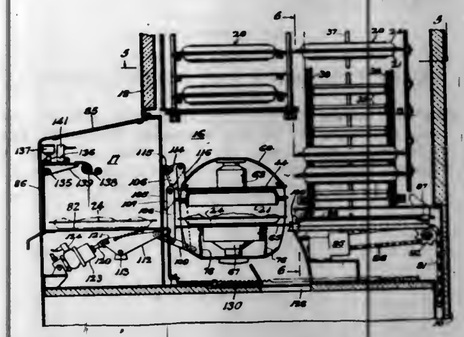
3,268,101
SIDE DUMP BUCKET
Pietro Pensa, Milan, Italy, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Jan. 17, 1962, Ser. No. 166,854
Claims priority, application Italy, Mar. 27, 1961, 646,552
7 Claims. (Cl. 214—140)



1. In an excavating vehicle, the combination of a bucket support structure having a pivot element at each of its laterally opposite sides, a bucket structure having a pair of laterally spaced pivot members adapted for pivotal connection with said pivot elements, respectively, hydraulic control means for selectively connecting one of said elements to one of said members for relative pivotal movement, camming surfaces formed on said bucket at laterally opposite sides of the longitudinal center of said vehicle, a double hydraulic ram including a cylinder partitioned into two chambers mounted on said support and a pair of reciprocable pistons in said chambers with rods, respectively, extending laterally from opposite ends of said cylinder, and rollers on said rods in confronting relation to said camming surfaces, one of said rollers engaging one of said camming surfaces upon outward movement of the rod associated therewith.

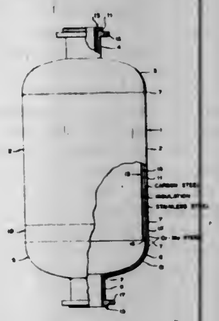
3,268,102
APPARATUS FOR DISPENSING AND INVERTING FOOD PACKAGES
William W. Cease, Fredonia, N.Y., assignor to Cease Central, Inc., Dunkirk, N.Y.
Original application Feb. 18, 1963, Ser. No. 259,158. Divided and this application Apr. 29, 1965, Ser. No. 462,161
2 Claims. (Cl. 214—314)

1. Apparatus for handling food packages each comprising a food container and an overlying inverted service dish acting as a cover for the container, said apparatus comprising a support surface adapted to receive a food package thereon and a generally horizontal platen member overlying the same, means for moving said support surface and said platen member toward each other to clamp a package therebetween, means for rotating said support surface and platen member jointly approximately 180° about a horizontal axis to invert said package and transfer the contents of said container to said service dish, means for moving said support surface and platen member apart, means for retaining said container in raised position adjacent to said support surface whereby said container and service dish are separated and said service plate remains on said platen member ready for delivery, and rotating means being operative upon delivery of said service plate from said platen member to rotate said support surface



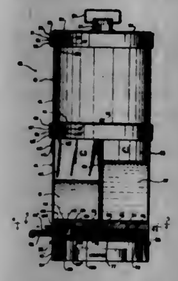
and platen member to initial position, said container being adapted to slide downwardly on said retaining means from between said support surface and platen member during such return rotation to thereby discharge the container.

3,268,103
PRESSURE VESSEL DESIGN
George A. Nelson, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Aug. 3, 1964, Ser. No. 386,903
7 Claims. (Cl. 220—3)



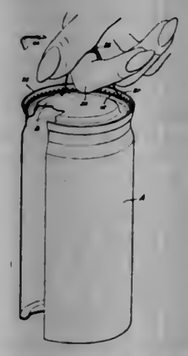
1. A pressure vessel comprising:
a shell having a first section of metal which is subject to deterioration by gas absorption at the pressures and temperatures existing within said pressure vessel and a second section of metal which is resistant to deterioration by gas absorption at said pressures and temperatures;
a layer of thermal insulation completely lining the interior surface of said first section of said shell and extending over the adjacent portion of the interior surface of said second section of said shell a distance sufficient to produce a temperature gradient across the insulated portion of said second section of said shell sufficient to reduce the temperature of said second section of said shell at its junction with said first section of said shell to a temperature at which said first section of said shell is resistant to deterioration by gas absorption; and,
a lining of metal which is resistant to corrosion by the contents of the pressure vessel and to deterioration by gas absorption at the temperatures and pressures existing in said vessel, said metal lining being supported within said vessel and completely covering the interior surface of said layer of thermal insulation.

3,268,104
COMBINED ADJUSTABLE VALVE FOR LIQUIDS IN MULTIPLE FOOD VESSELS
Tohchung Wei, 169 E. Broadway, New York, N.Y.
Filed Apr. 23, 1964, Ser. No. 362,016
10 Claims. (Cl. 220—4)



1. A vessel for liquids, comprising a hollow body having a cylindrical wall, a closed circular bottom and open top, a plurality of partitions within said wall and sealed to the bottom to define a plurality of compartments, said bottom having individual outlet holes for the several compartments, a bottom support for said body, a plurality of outlet pipes connected to said support, said support having a plurality of first passages therein connecting the hole of one compartment with each of the outlet pipes, said body having second passages respectively connecting the holes in the bottoms of the other compartments with said first passages, and valve means in said support interposed between said first and second passages and the outlet pipes for selectively opening any one of the first passages and a communicating one of the second passages, whereby the liquid contents of the one compartment is mixed with the liquid contents of any one of the other compartments and the mixed liquids are discharged from one of the outlet pipes.

3,268,105
FIBROUS RIP-OPEN MEANS FOR METALLIC CONTAINERS
Joseph A. Geiger, 1701 16th St. NW., Washington, D.C. 20009
Filed July 14, 1964, Ser. No. 382,479
25 Claims. (Cl. 220—49)



2. The combination with a metallic container comprising at least two separate sections connected by a seam formed from wall portions of said sections, of a non-metallic opening means consisting of a thin elongated and resiliently compressible member of substantially continuous cross section, said opening means being arranged in such relation to said container that over at least part of its length it is resiliently compressed and longitudinally confined between the wall portions forming said seam, whereby, under application of a pulling force to said opening means the container is opened at least partially through severance of the metal of said confining wall portions by said opening means.

3,268,106
RESEALABLE CONTAINER CLOSURE
William Satz, 6404 Colgate Ave., Los Angeles, Calif.
Filed Jan. 20, 1964, Ser. No. 338,822
14 Claims. (Cl. 220—60)

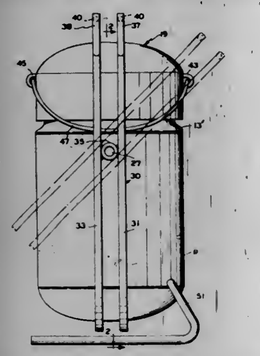


1. A sealed package comprising a container and a closure therefor, said container comprising a peripheral wall open at one end, a rim on said wall at the open end, said rim comprising an annular substantially radially extending sealing surface, an annular radially inwardly convex portion adjacent the inner edge of the sealing surface located radially inwardly of the peripheral wall and axially inwardly of the sealing surfaces, and an annular outwardly facing reinforcing bead on the wall of said container removed from said sealing surface located outwardly of said sealing surface, said closure comprising a cover plate having an annular substantially radially extending sealing surface, an annular reinforcing bead on said closure located and facing generally outwardly relative to said last identified sealing surface and relative to said first identified reinforcing bead, there being a portion of said closure lying between the sealing surface and reinforcing bead of said closure, an intermediate portion of the closure at the inner edge of said last identified sealing surface extending in a generally axial direction toward said container, said intermediate portion having an annular outwardly convex camming section extending to a position underlying said inwardly convex portion and having a diameter slightly greater than said inwardly convex portion, and an annular sealing member confined under pressure between said annular sealing surfaces.

3,268,107
CONTAINER FOR HAZARDOUS MATERIALS
Stevens C. Sperling, Watchung, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed July 24, 1964, Ser. No. 384,853
14 Claims. (Cl. 220—63)

1. A portable carrier or container apparatus for holding and/or testing hazardous materials, which comprises an open top vessel having an outer wall structure of high tensile and impact strength, an energy absorbing liner

within said outer wall, a telescoping cover element also of high tensile and impact strength for closing said open top, and a reinforcing band of high tensile strength capable



of holding said cover against removal from said vessel during explosions of test magnitude within said vessel.

3,268,108
SHIPPING CONTAINER
Mattheus Johannes Martinus Coppens, Delft, Netherlands, assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 15, 1965, Ser. No. 505,102
Claims priority, application Great Britain, July 10, 1962, 26,451/62, Patent 973,373
6 Claims. (Cl. 220—67)



1. A metal shipping container comprising, in combination, a generally cylindrical sidewall having an inside diameter D, said sidewall being formed of metal having a gauge G, a pair of end members rigidly seamed to respective ones of the opposite extremities of said sidewall, said sidewall having a plurality of radially outwardly extending peripheral beads each having a radius R_1 and spaced axially from one another by a pitch distance P with the spacing between adjacent beads defining a plurality of radially inwardly extending peripheral furrows each having a radius R_2, the top portion of each of said beads and the bottom portions of the adjacent furrows defining a smoothly curved radial cross-section, the top portion of each of said beads being spaced radially outward from the inside diameter D by a distance B_1 and the bottom portion of each of said furrows being spaced radially outward from the inside diameter D by a distance B_2, the respective flanks of each of said beads blending smoothly into a flank of each of the adjacent furrows, the parameters P, R_1, R_2, B_1 and B_2 all comprising variables V which are determined in accordance with the equations:

[I] $$V=V_o\times G/G_o\times K$$

and

[II] $$G=G_o\times D/D_o$$

where

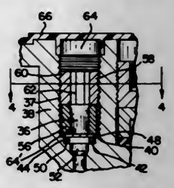
(a) V_o equals 1.187" (where $V=P$), 0.313" (where $V=R_1$), 0.500" (where $V=R_2$), 0.419" (where $V=B_1$), and 0.188" (where $V=B_2$);
(b) G_o (in Equations I and II) equals 0.025";
(c) D_o equals 22.5";
(d) K comprises a predetermined scaling constant;
(e) D equals the inside diameter of the sidewall; and,
(f) G equals the gauge of the sidewall.

3,268,109
SHIPPING CONTAINER AND METHOD OF MANUFACTURE THEREOF
Mattheus Johannes Martinus Coppens, Delft, Netherlands, assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Original application July 5, 1963, Ser. No. 293,071. Divided and this application July 12, 1965, Ser. No. 470,983
4 Claims. (Cl. 220—72)



1. A sidewall for use with a generally cylindrical sheet metal shipping container of the type having a pair of end members respectively connected to the opposite extremities of the sidewall, said sidewall having a multiplicity of radially outwardly extending peripheral beads spaced axially from one another with the spacing between adjacent beads defining a plurality of radially inwardly extending peripheral furrows, the top portion of each of said beads and the bottom portion of the adjacent furrows defining a smoothly curved radial cross section, the respective flanks of each of said beads blending smoothly into a flank of each of the adjacent furrows, said sidewall having an average net axial strain as measured from top to bottom thereof of about 2%.

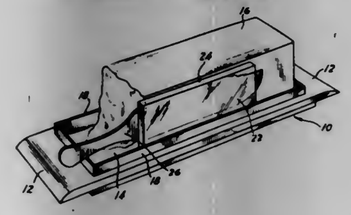
3,268,110
RUPTURE DISC CONSTRUCTION
Milton Edward Noel, Knoxville, Tenn., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Feb. 11, 1964, Ser. No. 344,077
3 Claims. (Cl. 220—89)



1. In combination: pressure fluid passageway means with substantially constant diameter internal threads and having a disc supporting annular continuously horizontal

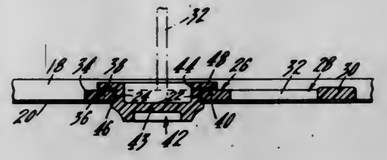
flat surface shoulder at its lower end, and having a resilient ring continuously horizontal supporting shoulder in axially spaced relationship with said disc supporting shoulder by a vertical cylindrical wall; a flat circular pressure ruptured disc with a flat rim against and substantially covering said rupture disc supporting shoulder; a resilient ring against said resilient ring supporting shoulder, said ring having greater uncompressed width than said axially spaced relationship of said shoulder; a sleeve in said passageway means engaging said disc rim on the opposite rim side from said disc supporting shoulder, said sleeve having an outer cylindrical surface and an inner sleeve cylindrical surface with right angled flat surface ends having small radius arc inner edge surfaces joining said inner sleeve cylindrical surface and said flat surface ends, one of said flat surface ends engaging said opposite rim side with said flat surface end in alignment and substantially coextensive with said flat surface of said disc supporting shoulder; a hollow nut with constant diameter external threads engaging said constant diameter internal threads of said passageway means, said nut having an end wall compressively engaging the other of said flat surface ends of said sleeve, said nut having an internal hexagonal surface of substantially the same transverse extent as said inner cylindrical surface of said sleeve.

3,268,111
BUTTER DISH
James J. Duddy, 514 N. Metcalf St., Lima, Ohio
Filed July 14, 1964, Ser. No. 382,552
2 Claims. (Cl. 220—90)



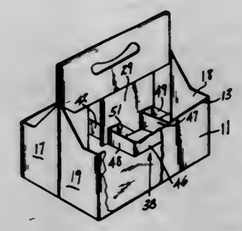
1. A dish for holding a rectangular block of butter substantially square in cross-section and of the order of approximately one inch high, said dish comprising a bottom having a rectangular central portion complementary in shape to such block of butter to receive and support it, flange means extending laterally outwardly from said central portion, a vertical rib fixed to and extending along one side of said central portion of said dish adjacent said flange means and the upper edge thereof being substantially straight and parallel to said central portion and of the order of approximately one inch in height, thereby being at least as high as the height of the block of butter to be placed upon said dish and parallel to said dish, said rib also being at least substantially half as long as said rectangular central portion of said bottom of said dish, whereby said rib serves as positioning means to support a knife vertically to the central portion of said dish when placed between said rib and a block of butter when supported by said plate and the upper edge of said rib serving as a wiping edge to remove butter from said knife, vertical flange means extending around the perimeter of said central portion of said bottom of said dish and upwardly therefrom a short distance substantially less than the height of a block of butter of conventional size to define a shallow rectangular recess to receive said block of butter, and a cover having an open bottom shaped and of suitable dimensions to extend over and cover a block of butter when positioned within said recess, the lower edges of said cover freely engaging the outer surfaces of said flange means to position and cover relative to said dish and said vertical rib extending upward from said dish within the confines of said flange means to a height less than the interior height of said cover, whereby said rib will be contained within said cover when the latter is mounted operatively in covering position upon said dish.

3,268,112
FLEXIBLE CARRYING HANDLE
Leonard Thomas La Croce, Dumont, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 19, 1963, Ser. No. 331,765
2 Claims. (Cl. 220—94)



1. A carrying container, comprising a can body having a metal top end seamed thereto in an upstanding end seam, said end having an opening formed therein, and an upstanding throat defining said opening, and a carrying handle formed of flexible material and having an anchor ring which surrounds said throat, the upper portion of said throat being curled outwardly into tight engagement with said anchor ring to secure said handle in place on said metal end, said handle also including a grip bar and a pair of legs which connect said grip bar to opposite sides of said anchor ring, said grip bar and legs normally lying flatly against said metal end below the level of the top of the end seam but being movable to a substantially upright position when in use.

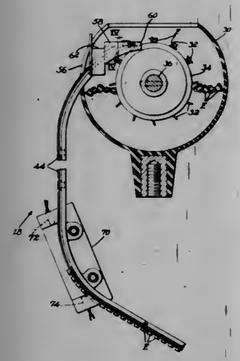
3,268,113
BASKET STYLE ARTICLE CARRIER HAVING STRAIGHT SIDE WALLS
Richard L. Schuster, Monroe, La., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Aug. 13, 1964, Ser. No. 389,377
3 Claims. (Cl. 220—113)



1. A blank for a basket style article carrier comprising at least one side wall, end walls, a handle panel assembly including two exterior handle panels having an edge portion hingedly interconnected, an interior handle panel hingedly connected to one of said exterior handle panels, an anchor panel having an edge portion hingedly connected to said interior handle panel and having its remaining edge portion free from the adjacent area of the blank, and at least one transverse partition assembly including an anchor

tab having one edge portion hingedly connected to an edge of said side wall, partition straps hingedly connected to opposite edges of said anchor tab, and glue flaps hingedly connected to the free edges of each of said partition straps.

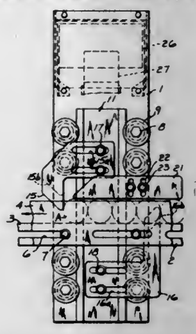
3,268,114
MECHANISM FOR FEEDING SMALL TUBULAR ARTICLES
Albert E. Newton, Beverly, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Oct. 8, 1964, Ser. No. 402,457
7 Claims. (Cl. 221—13)



1. Mechanism for feeding tubular fasteners comprising a container, fastener separating means located in the container and including a series of spaced pins movable through a closed path to capture fasteners singly thereon and elevate them for delivery, a raceway having a main track extending into and terminating in the upper portion of the container adjacent the top of the delivery means, a reject lip mounted above said main track and spaced from said delivery means substantially at the termination of said track, said lip being disposed to deflect fasteners not oriented in the desired position from the separator means for return to the container, said raceway main track having a fastener receiving mouth between said lip and said delivery means shaped and disposed to receive fasteners which are uniformly oriented in the desired position.

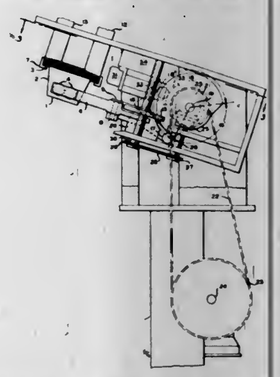
3,268,115
WORKPIECE ESCAPEMENT FOR RUNWAYS
John G. Kay, Detroit, Mich., assignor to F. Jos. Lamb Company, Warren, Mich., a corporation of Michigan
Filed July 15, 1964, Ser. No. 382,793
10 Claims. (Cl. 221—15)

6. An escapement including a backplate adapted to be mounted in fixed relation to a runway along which workpieces travel, a slide mounted for straight line reciprocation on the backplate, dogs mounted on the slide for reciprocation therewith, one dog being positioned to halt workpieces at one point along the runway when said slide reaches one end of its travel and the other dog being positioned to halt workpieces at another point along the runway when the slide reaches the opposite end of its travel, and means mounted in fixed relation on the backplate for intermittently reciprocating the slide, said means for reciprocating the slide including a cylinder mounted on the backplate and having a piston therein, a piston rod projecting from the piston, means connecting the piston rod to the slide whereby they move as a unit, a timer controlled electrically operated valve to which a fluid pressure supply line is adapted to be connected, a separate feed line connecting said valve to each end of the cylinder, a flow control valve in each feed line, and said electrically



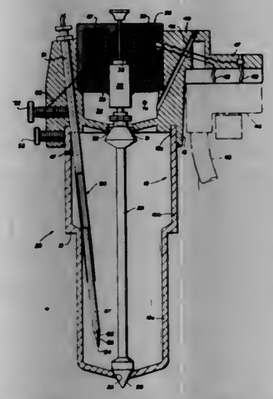
operated valve being adapted to connect each feed line alternately with the fluid pressure supply line for a predetermined time.

3,268,116
APPARATUS FOR DENESTING FLEXIBLE CONTAINERS BY SUCTION MEANS
Andrew J. Gass and Herman W. Baer, Oranceburg, N.Y., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 10, 1964, Ser. No. 410,230
5 Claims. (Cl. 221—40)



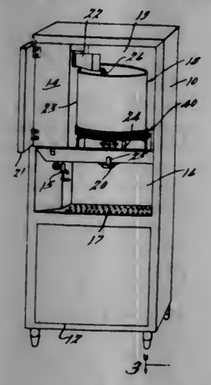
1. An apparatus for denesting a stack of flexible, open-top containers, each container having a bottom and a continuous side wall, said apparatus comprising:
(a) means for holding said stack of flexible containers in a vertical position, open end up;
(b) means for supporting the bottom container on two opposite sides of said container;
(c) suction means;
(d) means for moving said suction means to the outer surface of said side walls of said bottom container;
(e) means for drawing a vacuum on said suction means to thereby attach said suction means to said outer surface;
(f) means for moving outwardly and inwardly said suction means thus pulling said outer surface of said side walls of said bottom container outwardly and then inwardly;
(g) means for moving upwardly and downwardly said suction means;
(h) means for releasing said vacuum; and
(i) means for withdrawing said suction means from said bottom container.

3,268,117
DISPENSING HEAD
Andrew Lenkey, Menlo Park, and Robert J. Ehret, Los Altos, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Apr. 9, 1965, Ser. No. 446,959
8 Claims. (Cl. 222—14)



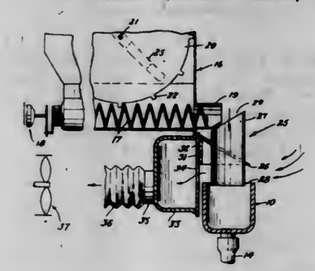
1. In a fraction collector wherein predetermined quantities of fluid are delivered to each of a number of test tubes disposed in an array, a dispensing unit comprising electro-mechanical means for establishing said predetermined quantities, the last named means including valve means controlling delivery of said quantities, a pair of conductors coupled to control said electro-mechanical means, a thermo-responsive impedance element, said conductors being disposed to be electrically coupled to said element, circuit means for normally holding said element at a predetermined temperature, means for supporting said element to be contacted by the fluid to change the temperature of said element when so contacted, said circuit means serving to sense said temperature change and respond thereto to actuate said valve means to effect said control.

3,268,118
FLAKED ICE DISPENSER
Walter H. Hoenisch, Albert Lea, Minn., assignor to King-Seeley Thermos Co., Ann Arbor, Mich., a corporation of Michigan
Filed Sept. 27, 1963, Ser. No. 312,065
21 Claims. (Cl. 222—108)



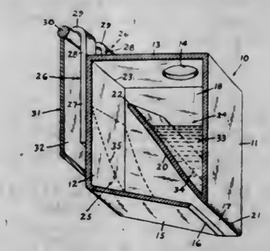
1. In combination in a dispensing cabinet for dispensing particulate ice, a dispensing cavity, a drainboard provided at the bottom of said dispensing cavity, liquid dispensing means mounted in said cavity above said drainboard, particulate ice dispensing means mounted in said dispensing cavity above said drainboard, drainage means providing a drain passage between said ice dispensing means and said drainboard, rotatable ice storage means mounted above said ice dispensing means and having drain passages connected to said drainage means, and means for conveying particulate ice away from said ice storage means including auger means disposed adjacent said ice storage means and comprising a plurality of rotatably mounted spaced blade means.

3,268,119
VENDING MACHINE EQUIPMENT
John H. Kopera, Trenton, N.J., assignor to Rudd-Melikian, Inc., Warminster, Pa., a corporation of Pennsylvania
Filed Oct. 1, 1964, Ser. No. 400,852
12 Claims. (Cl. 222—129.1)



1. In apparatus for dispensing hot beverages, said apparatus including a receptacle containing powdered food having an outlet for dispensing food therefrom, and a trough having bottom and side wall portions within which beverages are prepared by mixing the powdered food with a hot beverage forming liquid, the combination comprising:
a delivery conduit for discharging the food from the receptacle downwardly into the trough,
a hood disposed above the trough, said food delivery conduit passing through said hood and extending downwardly to a point slightly below the top of the trough sidewalls,
air intake and outlet openings spaced between said hood and said trough side walls, and
means for creating a flow of air through said openings and transversely of the trough.

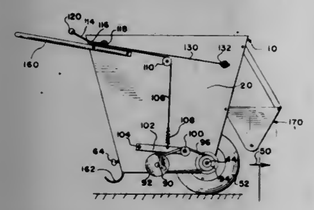
3,268,120
DISPENSER
Stephan F. Durst, Rutherford, N.J., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed June 25, 1964, Ser. No. 377,928
5 Claims. (Cl. 222—168)



5. A fluid dispenser for a rotary washing machine basket having a rim at its upper end, said dispenser comprising a receptacle having a top, bottom and sides, baffle

means within said receptacle extending upwardly from substantially the bottom of said receptacle and terminating in spaced relation to said top and dividing the interior of said receptacle into a first inner chamber and a second outer chamber communicating with said first chamber above said baffle, inlet means in the top of said receptacle for introducing a rinse agent into said first chamber, fluid outlet means in the bottom of said receptacle for discharging said rinse agent from said second chamber, and inverted hooks on said receptacle for hooking over the rim of the washing machine basket to hang said receptacle within said basket in substantially fixed relation thereto, whereby rotation of said basket discharges said agent from said first chamber over said baffle into said second chamber and retains said agent therein by centrifugal force, and substantial cessation of rotation of said basket enables gravity discharge of said agent from said second chamber through said outlet means.

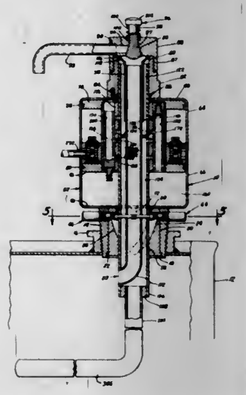
3,268,121
SPREADER HAVING A VARIABLE RATIO DRIVE
Robert G. Walker, Fort Wayne, Ind., and Raymond D. Hoobler, 3823 Park Side Drive, Fort Wayne, Ind.; said Walker assignor to said Hoobler
Filed Mar. 9, 1964, Ser. No. 350,271
5 Claims. (Cl. 222—177)



2. A dispensing apparatus comprising in combination:
(a) a carriage means having a bin including a discharge at the bottom thereof, said bin being adapted for receiving the material to be dispensed and mounted on wheels for ease of transportation;
(b) manual operable control means for controlling the start and termination of dispensing operations;
(c) dispensing means operated by said control means and located at the discharge end of the bin to receive the material therein and including a drive connection with said carriage means whereby the material in the bin is controllably dispensed;
(d) adjustable means for regulating the rate of movement of said dispensing means and thereby to control the amount of material which is dispensed per lineal unit of movement of the apparatus;
(e) and shaker means forming a wall of said bin and operatively movable during translational movement of the apparatus to urge the material in a generally downward direction within the bin toward its discharge opening end.

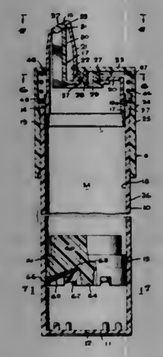
3,268,122
PUMP WITH DUAL, FLUID PRESSURE ACTUATED PISTONS AND MOVABLE PICK-UP TUBE
Myron S. Berman, 1518 Lone Oak Road, St. Paul 11, Minn.
Filed Dec. 9, 1964, Ser. No. 417,144
4 Claims. (Cl. 222—246)

4. A combination pump and liquid agitator comprising:
A. a pump body adapted to be secured to a liquid container;
B. means for driving said pump comprising:
(a) a cylinder secured to said pump body;
(b) a pair of spaced apart pistons rigidly secured to one another and adapted to reciprocate within said cylinder;
(c) a wall member secured to said cylinder and interposed between said pistons;
(d) means for introducing fluid under pressure between the first of said pistons and said wall member while exhausting fluid contained between the second of said pistons and said wall member; and,
(e) means for reversing said fluid under pressure inlet and exhaust at one end of the stroke of said pistons so that fluid under pressure is introduced between the second of said pistons and said wall member and fluid is exhausted from between the first of said pistons and said wall member, and another reversing means to change the inlet and exhaust back when at the other end of the stroke of said pistons;
C. means for drawing liquid out of the container and into said pump body;
D. means for forcing liquid out of said pump body comprising:
(a) a valve member longitudinally slidably secured to said pistons said valve having two extreme positions, said valve including at least one blind bore opening in each longitudinal



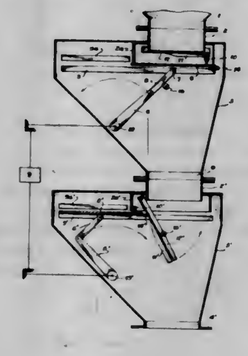
direction, each of said blind bores being in communication with the space between a piston and a cylinder end;
(b) a tube slidably secured to said valve member including a plurality of transverse ports therein, the lower end of said tube extending into the liquid container;
(c) a dividing wall transverse to said tube secured therein so as to separate said tube into lower and an upper chamber, said dividing wall being disposed so as to have an equal number of transverse ports on either side thereof
(i) said valve member including a series of ports communicating said bore with the junction thereof with said tube,
(ii) said ports being disposed so that when said pistons are at the bottommost position the top opening blind bore is in communication with the upper chamber of said tube only and said bottom opening of blind bore is in communication with said lower chamber of said tube only, and when said pistons are in the topmost position that said top opening blind bore is in communication with the lower chamber of said tube only and said bottom opening blind bore is in communication with the upper chamber of said tube only;
(d) resilient locking means secured to said valve member to yieldingly secure said valve member at each of its extreme positions; and,
(e) resilient means secured to said valve member for urging said valve member towards the other extreme position from the position occupied;
E. means for selectively delivereing a quantity of liquid and returning liquid not so delivered comprising:
(a) a liquid outlet at the top of said tube communicating therewith;
(b) a return tube disposed within said tube and secured thereto including an outlet into the liquid container above the bottom of said tube, the top of said return tube being in communication with the top of said tube; and,
(c) valve means for selectively interrupting communication between said liquid outlet and said tube while leaving the communication between said tube and return tube open for selectively opening communication between said liquid outlet and said tube while simultaneously restricting communication between said tube and said return tube;
F. and means for agitating the liquid within the container simultaneously with said pumping comprising:
(a) a generally horizontally disposed arm secured to the bottom of said tube, said tube being rigidly secured to said pistons and adapted to reciprocate therewith;
(b) a helical cam track means included in said pump body; and,
(c) cam follower means secured to said tube and adapted to travel in said cam track means.

3,268,123
DISPENSERS FOR FLUENT MASSES
Walter B. Spatz, 11182 Sunset Blvd., Los Angeles, Calif.
Filed Apr. 21, 1964, Ser. No. 361,465
20 Claims. (Cl. 222—400.5)



1. In a dispenser for a fluent mass: a container for the mass; closure means for the container and having an outlet; a valve member movable relative to said closure means to open and close said outlet; said closure means being movable in a direction inwardly of said container to apply pressure to the mass therein and force it through said outlet; and actuating means connected to said valve member for shifting said valve member to open position whereby subsequent movement of said closure means in a direction inwardly of said container applies pressure to the fluent mass therein and forces a portion of said mass through the open outlet.

3,268,124
APPARATUS FOR DUMPING DUST AND/OR GRANULAR MATERIAL FROM COLLECTING HOPPERS
Joachim Weber, Kronberg, Taunus, Germany, assignor to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany
Filed Mar. 31, 1965, Ser. No. 444,234
Claims priority, application Germany, Apr. 4, 1964, M 60,539
6 Claims. (Cl. 222—445)



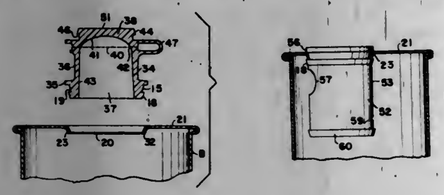
1. Dumping means for a dust or granular material collecting uppermost hopper exposed to less than atmospheric pressures and/or high temperatures comprising a pipe secured to the bottom of said uppermost hopper and forming a discharge opening in said bottom, said pipe having a lower edge, an intermediate hopper beneath said uppermost hopper and surrounding the lower edge portion of said pipe, a trap door mounted in said intermediate hopper for opening and closing said discharge opening, wall means surrounding said trap door for providing an enclosure beneath said trap door when closed, and slide door plate means movably mounted beneath said frame means for engaging and closing an opened trap door and for bearing against said wall means to form a tight seal for the enclosure; and a lowermost hopper similar to said intermediate hopper positioned below said intermediate hopper.

3,268,125
CONTAINER CLOSURES
John E. Waldrum, 349 Fairview Ave., Ambler, Pa.
Filed July 24, 1964, Ser. No. 385,005
8 Claims. (Cl. 222—482)

1. In a container closure, the combination of a receptacle provided with a circular opening and a pouring spout slidably arranged within said opening, said receptacle provided with spout retaining means; said spout comprising an elongated, hollow, cylindrical sleeve telescoping within said opening, said sleeve being closed at upper end by a solid top of diameter greater than diameter of both sleeve and diameter of said opening providing an annular retaining flange, an inwardly tapered exterior sleeve wall extending downwardly from said top being set off from an inwardly inclined inserting face by a locking surface, said locking surface contacting said spout retaining means when spout is in the closed position, said sleeve having open bottom and an annular retaining shoulder encircling

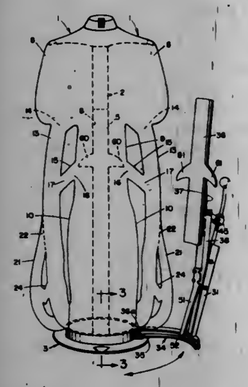
said bottom, said sleeve provided with a large pouring opening immediately below said inserting surface and a relatively small vent opening provided in said sleeve diametrically opposite from said pouring opening and closer to said bottom annular shoulder.

7. In a tamperproof closure, the combination of an elongated, hollow, cylindrical male fitting and a female receptacle, the said fitting being contained within the said receptacle, the said fitting terminating at the bottom thereof in an outwardly projecting barb and terminating at the



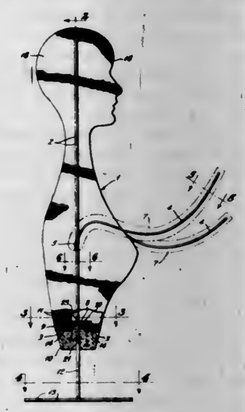
top thereof in a solid severable cap; a flexible strap connecting the said cap to the said fitting; the said receptacle being provided with a circular opening of sufficient width to receive the said barb; means to lock the said barb within the said receptacle opening; means to reclose the said fitting upon severing the said cap, said means including an upwardly facing, cylindrical extension peripherally formed at the top of the said cap, the said extension being constructed to a diameter suitable to jam within the said hollow interior of the male fitting.

3,268,126
GARMENT FINISHER
Lloyd W. Killey, 421 N. Main St., Monmouth, Ill.
Filed Jan. 29, 1964, Ser. No. 341,048
6 Claims. (Cl. 223—67)



1. A garment finisher comprising a base adapted to support a garment-receiving bag, a horizontal swingable arm pivoted adjacent one end to said base, an upwardly extending bracket fixed at its lower end to the other end portion of said swingable arm, a part pivotally connected to said bracket below its upper portion, a garment-engaging pad resiliently connected to the upper portion of said pivoted part, lever and link means acting between said pad and the upper portion of said bracket for clamping said pad against said bag, and a lock connected with the lower end of said pivoted part for locking said swingable arm to said base closely adjacent the latter, release of said lock serving to free said arm for movement of said arm and pad away from said base and bag.

3,268,127
APPAREL DISPLAY DEVICE AND METHOD FOR THE MAKING THEREOF
Cristobal Mora Aguilar, Juan J. Diaz 897, San Isidro F.N.G.B.M., Buenos Aires, Argentina
Filed Sept. 1, 1964, Ser. No. 393,694
4 Claims. (Cl. 223—68)



1. A process for making a manikin comprising:
(a) Molding a pair of sections of wire-mesh material to impart thereto anatomic characteristics corresponding to the upper part of the human body, said molding including:
(1) Die-molding one of the sections to impart thereto anatomic characteristics corresponding to the front upper part of the human body;
(2) Die-molding the other section to impart thereto anatomic characteristics corresponding to back upper part of the human body;
(b) Molding a number of strengthening and reinforcing wire-rods for said molded wire-mesh sections, said molding including:
(1) Die-molding a pair of wire rods to impart thereto the elongated contour of the cross-section median plane of the upper part of the human body;
(2) Die-molding a pair of wire rods imparting to each one a semi-circular form;
(c) Joining said strengthening and reinforcing wire-rods to said wire-mesh molded sections including:
(1) Positioning an elongated wire-rod in lengthwise contour registry and within each wire-mesh section, and adjacent the external periphery of each said section;
(2) Positioning a semi-circular wire-rod in transverse contour registry adjacent and within the bottom periphery of each wire-mesh section;
(3) Removing the wire-mesh section along the lines defined by the said wire-rods;
(4) Attaching the said wire-rods to the wire-mesh sections;
(5) Attaching, at right angles to the interior portion of each semi-circular wire rod, means radially extending elongated rigid tabs, each tab including a hole adjacent its free end;
(d) Joining together said wire mesh sections by uniting a front body section to a back body section to form a manikin unit of the upper part of the human body;
(e) Joining arm-like members to the back portion of the manikin, said joining including:
(1) Welding a stub-like elongated element to each opposite side of a contoured wire-rod corresponding to a back portion wire-mesh section;

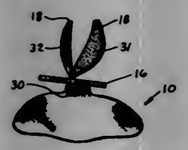
(2) Threading a part of the free end of each said stub-like element welded to the said contoured rod, the said stub-like element further including a hole bored at a point substantially engaging the said threaded part;
(3) Inserting a heavy gauge malleable wire through the said hole bored on the stub-like element;
(4) Immobilizing the said malleable wire by fixedly securing it to the said stub-like element by means of a nut screwed to the said threaded portion;
(5) Covering the said malleable wire and nut with plastic material to define contoured arms for the manikin;
(f) Fixedly securing a supporting and decorative base to the bottom of the manikin; and
(g) Fixedly securing to the supporting base an inserted stand for the manikin.

3,268,128
SKIRT OR TROUSER HANGER AND STRETCHER
Ernst Hobi, Alte Landstrasse 69, Oberrieden, Zurich, Switzerland
Filed June 12, 1963, Ser. No. 287,288
3 Claims. (Cl. 223—96)



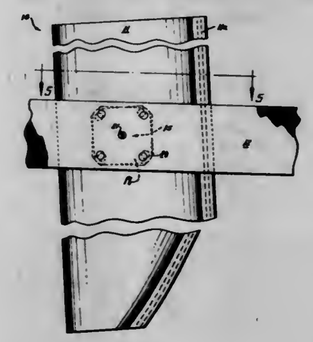
1. A garment hanger and stretcher, comprising support means; a pair of elongated generally horizontal arms longitudinally extending in opposite lateral directions from said support means and longitudinally shiftable relative to one another and to said support means; respective clamps slidably displaceable on each of said arms outwardly of said support means for releasably holding a garment, said arms each including a pair of parallel horizontally spaced shanks, each of said clamps including a pair of pivotable members each mounted upon a respective shank of a respective arm, each of said members having a longitudinally extending trough-shaped groove receiving said shanks and being deflectable upon attachment to a garment to lock against the respective shank; and spring means urging said arms outwardly from said support means.

3,268,129
TOMATO PIN CUSHION
George W. Roth, Queens Village, N.Y., assignor to Needlecraft Pad Corp., Brooklyn, N.Y.
Filed July 6, 1964, Ser. No. 380,448
3 Claims. (Cl. 223—109)



3. A tomato pin cushion including a body portion formed of a tomato-shaped styrofoam plastic ball having a hole extending vertically therethrough and a tubular covering of knitted stretchable fabric thereon, said covering having a top end portion and a bottom end portion, a staple, said top end portion being shirred by attaching said staple to said top end portion and inserting the same into said hole at the top of said ball, said bottom end portion being shirred by inserting the same into said hole at the bottom of said ball, a first leaf-shaped felt piece covering said hole and being secured to said bottom end portion, a second leaf-shaped felt piece having a slit therein, a pair of petals having stems, said petals being formed of emery cloth and having flock applied to one surface thereof to form the outer surface of said petals, said petals being inserted into said slit in said second leaf-shaped felt piece and secured thereto, and said stems and said second leaf-shaped felt piece covering said hole and being secured to said top end portion of said body covering.

3,268,130
FIREARM CASE
Walter M. Simpson, Evansville, Ind., assignor to Damon A. Vaughn, Dixon, Ky.
Filed Oct. 24, 1963, Ser. No. 318,602
1 Claim. (Cl. 224—2)

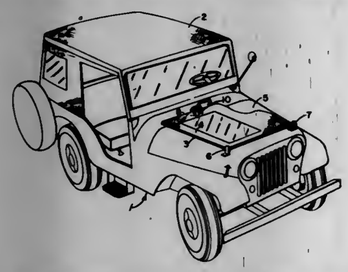


A device comprising a firearm case, a carrying belt, and means pivotally mounting said case to said belt about an axis extending in a direction normal to the belt surface, said mounting means including a first plate fixed to said belt, a second plate adjacent said first plate, said second plate fixed to the side of said case and pivotal about said mentioned axis, equally spaced outer projections secured to said second plate and directed towards said first plate, equally spaced inner projections secured to said first plate and directed towards said second plate, said projections serving to space said plates, and torsion springs located between said plates and extending about said axis, each spring being connected at one end to an inner projection and at the other end to an outer projection.

3,268,131
MOUNTING DEVICE FOR DOORS OF JEEP-TYPE VEHICLES
Raymond L. Benton, Denver, Colo., assignor to Kayline Manufacturing, Inc., Denver, Colo., a corporation of Colorado
Filed May 17, 1965, Ser. No. 456,272
11 Claims. (Cl. 224—29)

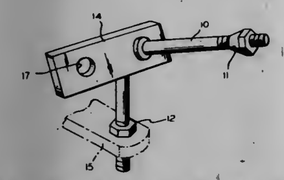
1. A device for mounting doors on the hood of a Jeep-type vehicle having a demountable top and door assembly, said device comprising a pair of support means each having spaced base portions for rigid attachment to a top surface of the hood of said vehicle and alined socket portions disposed above the respective base portions adapted for receiving at least one upper and lower

hinge pin attached to the door, said socket portions when in a holding position spaced a distance less than the ends of the upper and lower hinge pins when the



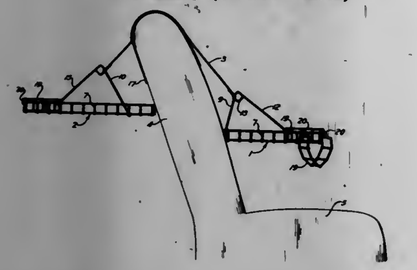
ends are positioned in said socket portions, and means for releasing the hinge pins so supported for detachment of the door.

3,268,132
MOTORCYCLE CARRIER
Louis E. Vogelsang, 919 45th St., Kenosha, Wis.
Filed Nov. 18, 1964, Ser. No. 412,185
9 Claims. (Cl. 224—42.03)



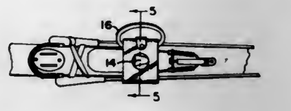
6. In a motorcycle carrier, a frame, a first threaded end on said frame for insertion vertically through an aperture associated with a motor vehicle, bearing means fixed to said frame and having an aperture for receiving the left rear foot rest of a motorcycle when one side of a structural member of said motorcycle rests against said bearing means, a second threaded end on said frame, and compression means including a tapered nut for bearing against the opposite side of said structural member of said motorcycle to retain said member adjacent said bearing means.

3,268,133
FOOD TRAYS FOR AUTOMOBILES
Le Roy A. McAnallen, 222 Acre Ave., Butler, Pa.
Filed May 5, 1965, Ser. No. 453,362
7 Claims. (Cl. 224—42.42)



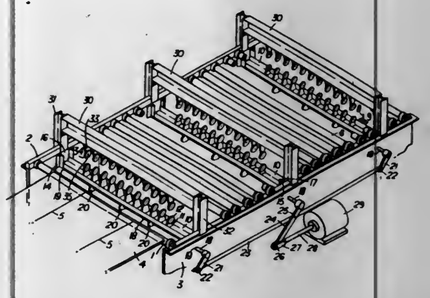
1. A collapsible tray assembly for supporting food in an automobile, comprising a pair of longitudinally spaced trays having adjacent inner ends, a pair of parallel straps adapted to rest on top of the back of the front seat of an automobile and support one of the trays against the front of said back and the other tray against the back of said back, a bail for each tray having a substantially straight top member extending transversely of the tray and having downwardly extending side members hinged at their lower ends to the tray near its inner end, the ends of said straps being secured to the top members of the bails adjacent their ends, and a pair of inclined suspension links pivotally connected at their lower ends to the opposite sides of each tray near its outer end, the upper ends of each pair of links being provided with loops surrounding the top member of the adjoining bail between said straps to hold said member above a point spaced from said inner end toward the outer end of the tray, and said loops being large enough to permit them to move toward each other along the bail and swing the adjoining links toward each other to allow the bail to be folded down toward the outer end of the tray after the tray assembly has been removed from a seat back.

3,268,134
SKI CARRIER
Prescott W. Baston, 1 Lookout Court, and Arthur Benge Gleason, 38 Stony Brook Road, both of Marblehead, Mass.
Filed Mar. 16, 1965, Ser. No. 440,165
6 Claims. (Cl. 224—55)



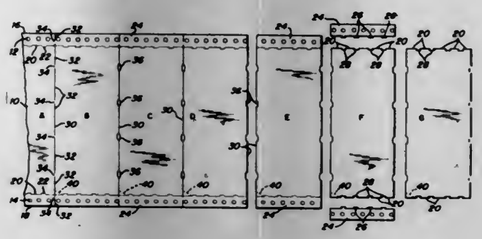
1. A ski carrier for securing a pair of skis with their bottoms together, comprising a band of stretchable resilient material adapted to be wrapped twice around the skis centrally thereof in the region of the toe pieces thereon, said band having apertures spaced lengthwise along the band, the apertures having a size to fit over the toe pieces and longitudinally spaced to receive the toe pieces when the band is wrapped in stretched condition around the skis, and handle means for carrying the skis by said band.

3,268,135
SNAPPING OF SHEETS OF GLASS
Richard Barradell-Smith, St. Helens, England, assignor to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain
Filed Nov. 13, 1964, Ser. No. 411,041
Claims priority, application Great Britain, Nov. 20, 1963, 45,876/63
12 Claims. (Cl. 225—2)



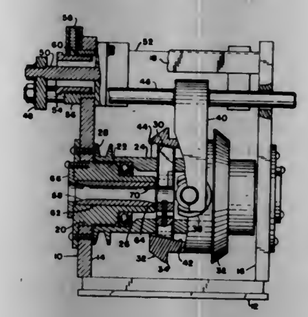
1. A method of snapping a sheet of glass having a score line extending along the sheet, characterised by simultaneously imposing a transverse curvature on the whole length of the sheet, which curvature is sufficient to snap the sheet along any score line parallel to the axis of the curvature but is insufficient to break any unscored area of the sheet.

3,268,136
DATA CARD AND METHOD OF MAKING SAME
Harold W. Huffman, Hamilton, Ohio, assignor to The Hamilton Tool Company, Hamilton, Ohio, a corporation of Ohio
Filed Jan. 14, 1965, Ser. No. 425,417
11 Claims. (Cl. 225—2)



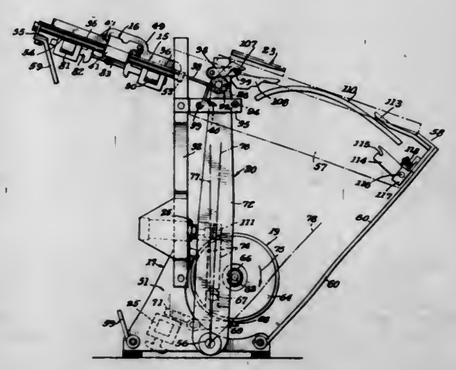
1. The method of data card manufacture, which comprises: rapidly advancing a long card-stock web of substantially uniform width; piercing the web transversely at predetermined intervals with a single succession of elongate cuts in end to end alignment, the ends of each cut being spaced from the ends of the next adjacent cuts to provide connecting ties maintaining continuity of the web; then excising the connecting ties by punching pads from the web wherein the transverse dimension of the pads are the same as the connecting ties, to sever the web along the succession of cuts.

3,268,137
METHOD AND APPARATUS FOR CUTTING TUBES
John R. Martin, Allen Park, Mich., assignor to Calumet & Hecla, Inc., Allen Park, Mich., a corporation of Michigan
Filed May 3, 1965, Ser. No. 452,512
21 Claims. (Cl. 225—2)



1. The method of severing tubing which comprises supporting the tubing at a support zone against lateral displacement and rotation, applying a cutting and bending action progressively around the tubing at a severing zone displaced axially of the tubing from the support zone, terminating the cutting action before the depth of cut approaches the wall thickness of the tubing and continuing the bending action progressively around the tubing until the tubing is severed.

3,268,138
MACHINE FOR SEPARATING THE SHEETS OF A MANIFOLD FORM
Ernest C. Bangert, Pasadena, Calif., assignor of one-half to Alfred H. Lowers, Downey, Calif.
Filed Jan. 25, 1965, Ser. No. 427,784
8 Claims. (Cl. 225—101)



1. A machine for separating the sheaf of form sheets of a manifold form from the discardable end at which said sheets and interleaved carbon sheets are bound, each form sheet having a perforated tear line adjacent and parallel to said bound end and similarly spaced therefrom, the unbound ends of the form sheets extending beyond the unbound ends of the carbon sheets, said machine comprising:

(a) means to clamp the bound end of the form and separate means to clamp the unbound end of the sheaf of form sheets,

(b) means to bend the form along the portion thereof having the perforated tear lines, to cause the tear lines of the sheaf of form sheets to assume an offset relationship to each other, and

(c) means to pull on said bound end of the form to cause the sheaf of form sheets to become separated from the discardable end of the form,

(d) said means to clamp the bound end of the form comprising a transverse member defining an interior corner that constitutes a stop for the bound end of the form upon feed thereof to the machine,

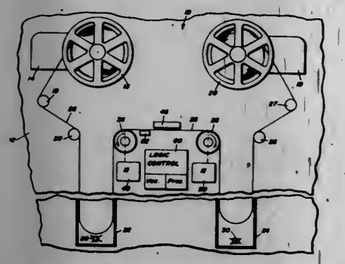
(e) a gripper plate with an edge held normally spaced from the end of a form engaged in said corner and providing with resiliently biased means to move to form-gripping position, and

(f) means to move the transverse member to cause release of the gripper plate for movement under said bias to grip the bound end of the form between said edge and said transverse member.

3,268,139
MAGNETIC TAPE CAPSTAN SYSTEM
Wallace B. Edwards, Jr., Minneapolis, Minn., assignor to Control Data Corporation, Rockville, Md., a corporation of Minnesota
Filed June 2, 1964, Ser. No. 372,016
18 Claims. (Cl. 226—7)

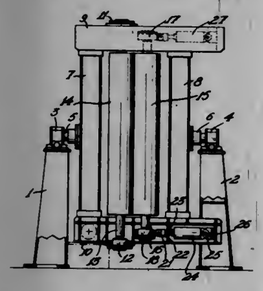
11. In a system for transporting a flexible tape in a select direction and for stopping the tape by means of contra-rotating capstans, the steps of driving the tape by engaging the tape with a first of the capstans, and disengaging the tape from a second of the capstans, and stopping the tape by disengaging the tape from said first capstan, and engaging the tape with said second capstan for a predetermined duration thereby dynamically braking and

decelerating the tape owing to the direction of rotation of said second capstan which at the instant of engage-



ment with said tape is opposite to the direction of tape motion.

3,268,140
APPARATUS FOR GUIDING AN ADVANCING STRIP SUCH AS A STRIP OF CONTINUOUS SHEET-METAL
Robert Jules Auguste Rouyer, Levallois-Perret, France, assignor to Societe Anonyme Heurtey, Paris, France
Filed May 6, 1963, Ser. No. 278,245
Claims priority, application France, May 8, 1962, 896,834, Patent 1,330,780; Aug. 6, 1962, 906,147, Patent 82,128
9 Claims. (Cl. 226—18)



1. In an apparatus for guiding an advancing strip between an uncoiling former and a coiling former, by guiding means including at least one oscillating frame supporting at least one orientating roll having an orientation which is responsive to the direction of travel of said strip, an improvement comprising controlling means for the orientation of said orientating roll, at least one primary detector for sensing the transverse position of an edge of said strip without material contact with said edge, a secondary detector associated with a respective frame for sensing the transverse position of an opposite edge of the strip without material contact with such edge, and electrical means connecting said primary detector, said secondary detector and said controlling means, said electrical means collecting displacement information from said primary detectors and damping information from said secondary detector, to damp oscillations of said frame when correction is made due to change in orientation in said strip.

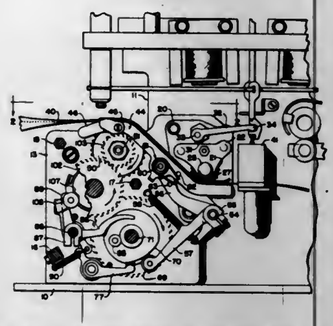
3,268,141
REVERSIBLE TAPE FEED MECHANISM
Kurt Rothlisberger, Chicago, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed June 11, 1964, Ser. No. 374,460
6 Claims. (Cl. 226—50)

3. A tape drive for moving tape in either of two directions comprising:

a first sprocket wheel for feeding the tape in one direction;

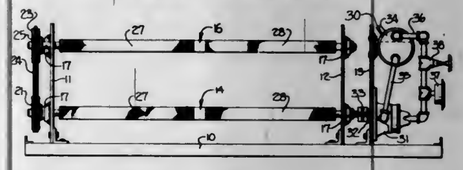
a second sprocket wheel for feeding the tape in the other direction; and

a movable tape guide having two effective positions such that in one of the two positions the tape is en-



gaged with the one sprocket wheel and in the other of the two positions the tape is engaged with the other sprocket wheel.

3,268,142
WEB TENSIONER AND SPREADER
Wistar Wright Macomson, 124 Hollyday Court, Charlotte, N.C.
Filed Mar. 12, 1964, Ser. No. 351,359
7 Claims. (Cl. 226—195)

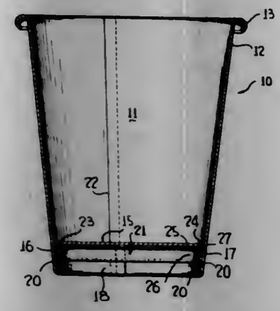


1. A web tensioner and spreader mechanism for applying longitudinal tension and transverse spreading to a traveling web of material comprising a stationary frame a plurality of roll means rotatably mounted on said frame and adapted to apply longitudinal tension and transverse spreading to the traveling web of material as it travels over and under said roll means, means interconnecting each of said roll means for synchronizing the rotation of said roll means to equalize the tension and spreading forces between said roll means, and an adjustable hydraulic control means coupled to said roll means for maintaining constant the amount of force necessary to rotate the rolls, thereby regulating and maintaining constant the amount of tension and spreading forces applied to the traveling web of material.

3,268,143
PAPER CUP WITH OUTSIDE CAULKING ON BOTTOM
John B. Bolcato, Three Rivers, Mich., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Original application Sept. 13, 1961, Ser. No. 137,782, now Patent No. 3,202,065, dated Aug. 24, 1965. Divided and this application Nov. 13, 1964, Ser. No. 410,867
1 Claim. (Cl. 229—1.5)

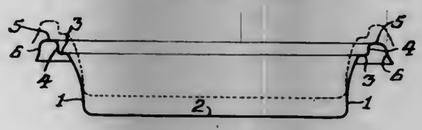
A cup comprising a tubular body, a bottom received in said body in internal telescopic relationship at an end portion thereof, said bottom including a bottom wall generally normal to the cup body axis and a depending peripheral flange joined by an integral radius portion to said bottom wall, said body edge portion having a reversely turned terminal portion disposed inwardly of said

bottom flange, said terminal portion terminating in a free edge, said free edge terminating adjacent and spaced from said bottom wall radius portion, means adhesively bonding said bottom flange to both said cup body end portion and said terminal portion, and an annular band of caulking compound sealing said cup body to said cup bottom, said band of caulking compound being disposed in a corner of said cup defined by said terminal portion and



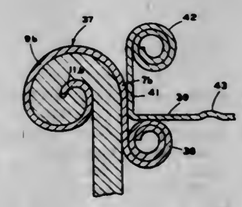
said bottom wall, said caulking compound band being generally L-shaped in transverse cross section and having first and second caulking compound leg portions overlying portions of the respective bottom wall and terminal flange portion, and a portion of said caulking compound band in a plane common to said first leg portion being disposed in said space whereby said corner is wholly sealed by said band of caulking compound.

3,268,144
THERMOPLASTIC CONTAINER WITH SIDE WALL AND RIM STRENGTHENING CHARACTERISTICS
Thomas Norman Gaunt, Leeds, England, assignor to Illinois Tool Works Inc., Chicago, Ill.
Filed Mar. 23, 1964, Ser. No. 354,170
Claims priority, application Great Britain, Mar. 25, 1963, 11,641/63; Nov. 16, 1963, 45,342/63
1 Claim. (Cl. 229—2.5)



A thin-walled one-piece seamless container formed from thermoplastic sheet stock material, comprising peripherally continuous side wall means of substantially uniform cross-section extending upwardly and outwardly from a bottom wall and terminating in a rim area adjacent the open upper end thereof, said side wall means in the area of juncture with said bottom wall being first radially outwardly bowed and then radially inwardly bowed as it proceeds upwardly therefrom until it terminates in said rim area, said radially outwardly bowed portion having an outer peripheral dimension greater than a predetermined area of said radially inwardly bowed portion immediately thereabove to provide interference between such portions on similarly configured containers when stacked in telescopic relationship, said radially outwardly bowed portion serving as a pilot means in centralizing containers as they are stacked and aiding in preventing contact between the radially inwardly bowed portions of adjacent containers, said rim area including a shelf portion radially outwardly directed from said side wall and being disposed therefrom by an included angle of at least eighty degrees, said rim area further including a substantially vertically extending portion integrally joined to said shelf portion at its lower end and to a substantially horizontally extending portion at its upper end, said rim area terminating in a skirt portion depending from said horizontally extending portion, at least the major portion of which is generally parallel to said vertically extending portion whereby to provide a parametrical strengthening bead of inverted generally channel-shaped cross-section, each portion of said channel-shaped rim area having a dimensional extent such that said rim area is capable of deriving both lateral and longitudinal support from said radially inwardly bowed side wall in imparting increased strength to said rim area.

3,268,145
CONTAINER CLOSING MEANS
Gerald C. Bauer, Portage Township, Kalamazoo County, Mich., assignor, by mesne assignments, to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Original application Feb. 25, 1963, Ser. No. 261,941, now Patent No. 3,195,426, dated July 25, 1965. Divided and this application Nov. 9, 1964, Ser. No. 416,669
3 Claims. (Cl. 229—5.6)



1. A container construction, comprising:

a cylindrical member defining the side wall of a container, said cylindrical member being formed of fibrous material;

a one-piece rim having the general appearance of a figure eight in cross-section and disposed transversely across one end of said cylindrical member, said rim having an intermediate wall portion of substantially the same external diameter as the internal diameter of said cylindrical member and which is snugly telescoped within said one end of said cylindrical member, said rim having an outer wall portion which merges smoothly with and extends radially outwardly from said intermediate wall portion and then downwardly and back toward said member, said outer wall portion being curved through an arc of at least about 360° and being rigidly interlocked with an end portion of said cylindrical member and forming an outer ring projecting radially outwardly from the outer surface of said cylindrical member, said rim having an inner wall portion extending radially inwardly and then upwardly and back toward said cylindrical member, said inner wall portion being curved through an arc of at least about 360° and forming an inner ring which projects radially inwardly from the inner surface of said cylindrical member, said inner and outer rings being disposed in at least partially overlapping relation in an axial direction along said cylindrical member so that they provide reinforcement for each other in a radial direction, said rim also having an upwardly opening groove between said rings.

3,268,146
GRIPPING AND SUPPORTING DEVICE FOR PAPER BOXES

Evelyn M. Caselman, Box 7, Wheeling, Mo.

Filed Feb. 21, 1966, Ser. No. 529,152
4 Claims. (Cl. 229—6)

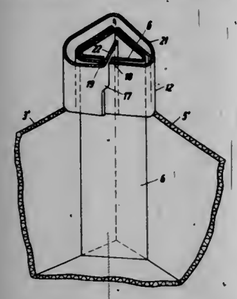


1. A gripping and supporting device for paper boxes comprising, in combination, a rectangular paper container adapted to have a semi-circular opening therein for emptying the contents from said container, a protective gripping member firmly secured to a corner portion of said container, the outside portion of said gripping member is provided with corrugated surface thus establishing non-slipping gripping means for wet hands, said gripping member also adapted for preventing said box from sagging when said box is exposed to fluid, and a receptacle made of plastic material adapted to support and reenforce the bottom portion of said box when said box is exposed to fluid.

3,268,147
CRATES FOR THE CARRIAGE AND STORAGE OF VARIOUS GOODS

Karl-Hans Burger, Gellerstrasse 23,
Karlsruhe, Germany

Filed June 1, 1964, Ser. No. 371,330
Claims priority, application Germany, June 11, 1963, B 72,240; Aug. 3, 1963, B 72,995; Jan. 23, 1964, B 75,815
16 Claims. (Cl. 229—32)

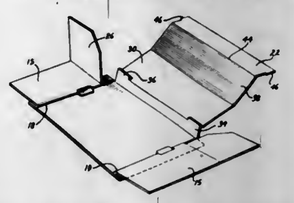


1. For transporting and storing goods of the most varied kind, for example fruit, meat and fish products, agricultural produce and the like, a crate rectangular in horizontal section and adapted to be made up from a blank of corrugated pasteboard, fiberboard, plastics material or the like, said blank having slits therein, fold lines in said blank and providing in co-operation with said slits a rectangular bottom panel, two end panels, lateral extensions extending in each direction from each end panel, each extension being adapted to be folded inwardly about two fold lines to form load-bearing corner supports of triangular cross-section when the end panels are erected, and two side panels each including two flaps each adapted to be folded about fold lines to enwrap completely said corner supports when the side panels are erected, said flaps having therein notches then to be interengaged to secure the flaps in the corner support-enwrapping condition.

3,268,148
FLANGED FOLDING BOX

Karl Engel, Toronto, Ontario, Canada, assignor to Somerville Industries Limited, London, Ontario, Canada

Filed Jan. 10, 1966, Ser. No. 519,683
7 Claims. (Cl. 229—34)

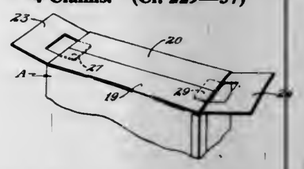


1. A knock down paperboard box comprising a blank having a bottom with opposed side edges and opposed end edges, a side wall intermediate panel hinged to each side wall, a side wall hinged to each side wall intermediate panel, an end wall intermediate panel hinged to each end wall, an end wall hinged to each end wall intermediate panel, a flap hinged to each end of each side wall, tabs projecting from each of said end wall intermediate panels in the direction of said end walls, said side wall intermediate panels and said end wall intermediate panels being adapted to fold upwardly and inwardly to a reverse turn position relative to said bottom to form a marginal box flange, said side wall intermediate panels being glued in reverse turn position, said side walls and said end walls being adapted to fold to a vertical position with respect to said bottom adjacent their respective edges, said flaps being adapted to fold to assume a juxtaposed position with respect to their adjacent end wall, said flaps each having a first edge adapted to overlie one of said tabs when said flaps are in juxtaposed relation to said end walls and when said side wall intermediate panels are in said reverse turn position, a folding panel hinged to each of said end walls, said folding panels each being adapted to fold over said end flaps on said side walls and to assume a juxtaposed position with respect to their respective end walls when said box is in a set up position, said folding panels being adapted to hold their respective flaps with their said first edge overlying one of said tabs as aforesaid whereby to maintain said end wall intermediate panels in reverse turn position relative to said bottom in use, and interlocking means carried by each of said folding panels adapted to lock the walls of said box in a set up position.

3,268,149
REENFORCED FLAP CONTAINER

John C. Brackett, St. Paul, Minn., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota

Filed June 17, 1964, Ser. No. 375,749
4 Claims. (Cl. 229—37)



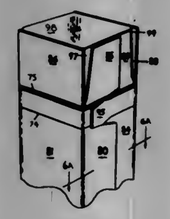
1. A container flap support for use in a container including:
side and end walls hingedly connected in tubular relation,

side and end wall closure flaps hingedly connected to said side and end walls and foldable into superimposed relation to form a closure,
two opposed of said closure flaps having auxiliary flaps defined by cut lines terminating at the fold lines connecting said two opposed closure flaps to their walls,
said auxiliary flaps being independently foldable from the plane of said two opposed flaps from which they are cut,
said auxiliary flaps being folded into a common plane,
the remaining two opposed closure flaps being folded to partially overlie said auxiliary flaps,
said first mentioned two opposed closure flaps being secured in overlying relation to portions of said remaining two opposed closure flaps.

3,268,150
LIQUID-TIGHT CARTON

Morris W. Kuchenbecker and John F. Helms, Neenah, Wis., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

Original application July 26, 1963, Ser. No. 297,861. Divided and this application June 14, 1965, Ser. No. 473,270
5 Claims. (Cl. 229—51)



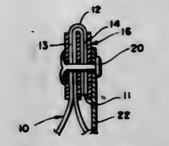
1. A leakproof carton made from a paperboard blank comprising three hingedly connected full main panels consecutively positioned at right angles to each other and a pair of overlapping partial main panels, hingedly connected to the opposed pair of said three full main panels, together forming a fourth full main panel; end flaps hingedly connected to the edges of said main panels and forming end closures for the carton; one of said partial main panels having a cut-out portion extending inwardly from the free edge thereof and the other of said partial main panels having a pull tab extending outwardly therefrom, said pull tab being threaded in said cut-out portion, substantially parallel lines of weakness extending from said pull tab through said main panels to said cut-out portion; a liner on the interior of said paperboard having a first edge portion adjacent said one partial main panel overlying and adhered to the other edge portion, which along with the other partial main panel is interposed between said first edge portion and said one partial main panel; a tear tape positioned on said liner between said lines of weakness by a film material cover, said liner material and said tear tape.

3,268,151
BAG CLOSURE

Ricardo Hurtado Soto, 9263 Aptdo. Aereo,
Bogota, Colombia

Filed Mar. 10, 1965, Ser. No. 438,600
4 Claims. (Cl. 229—62)

1. A closed flexible container comprising a flexible bag having an open end defining a mouth, said bag being folded on itself along the lines spaced from and generally parallel to said mouth to define a first fold portion generally aligned with the remainder of said bag and a second fold portion overlying said first fold portion, a flexible tubular closure having first and second passages arranged in side-by-side relation, said first fold portion being positioned in said first passage and said second fold

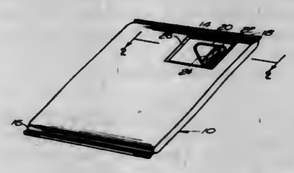


portion being positioned in said second passage, and fastening means extending through said tubular closure and folded portions to immobilize said bag remainder at one end of said closure and the bag portion immediately adjacent to said fold line at the other end of said closure.

3,268,152
SELF-SEALING VALVE BAG

Henry D. Swartz, Brookline, Mass., assignor to Thermoplastic Industries, Inc., Brockton, Mass., a corporation of Massachusetts

Filed Nov. 27, 1964, Ser. No. 414,072
8 Claims. (Cl. 229—62.5)



1. A self-sealing container, comprising
(a) walls forming a container,
(b) at least one of said walls being formed from a plastic material having one heat sealing characteristic,
(c) said one wall being formed with an opening therein,
(d) a valve bonded to the inner face of said wall and across said opening,
(e) said valve comprising a pair of flexible plastic panels joined about portions of their margins,
(f) one of said panels having a heat sealing characteristic similar to that of said wall,
(g) said one panel being formed with an opening in register with said wall opening and being bonded thereto at least about said opening,
(h) the other of said panels being formed from a material having a heat sealing characteristic higher than that of said wall or said other panel.

3,268,153
MAILING PIECE

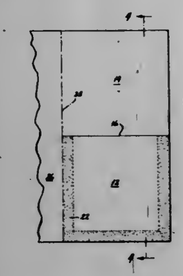
Ralph K. Stone, Longmeadow, Mass., assignor to United States Envelope Company, Springfield, Mass., a corporation of Maine

Filed Oct. 6, 1964, Ser. No. 401,797
1 Claim. (Cl. 229—68)

A page for a booklet or the like having as a part thereof a detachable, substantially rectangular message sheet adapted for subsequent forming into a mailing wrapper, said message sheet comprising
(a) a layer of opaque envelope material detachably connected to said page
having a fold line defining two substantially equal panels and

a strip of pressure sensitive adhesive which is readily adherent to said envelope material extending around the free side edges of only one of said panels

(b) a layer of thin, transparent, film overlying the portion of said layer of opaque envelope material having the strip of pressure sensitive adhesive, said film having a release coating,

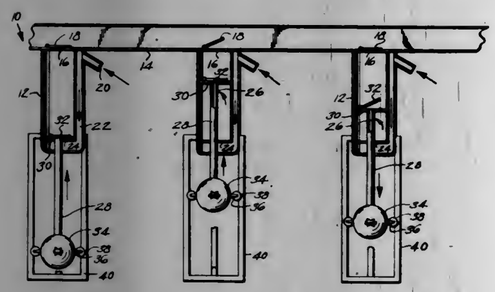


said film being substantially coextensive with said panel having the strip of pressure sensitive adhesive

and being held in juxtaposition to said panel entirely by said strip of adhesive,

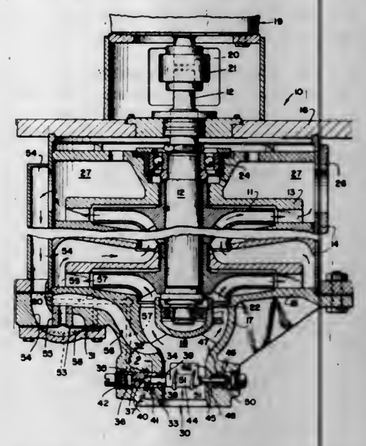
(c) whereby said message sheet has characteristics of a single thickness sheet, and said film can be peeled away leaving said adhesive on said layer of envelope material.

3,268,154
OCEAN POWERED COMPRESSOR
Gyula Aranyi, 336 Morgan St., Phoenixville, Pa.
Filed July 22, 1964, Ser. No. 384,332
6 Claims. (Cl. 230—67)



1. An ocean powered compressor apparatus comprising, in combination, a plurality of cylinders, a single storage tank carried by said cylinders providing storage means for compressed air produced by said apparatus, an elongated hollow connecting rod and attached piston carried by said cylinders providing a means for ingressing air into said cylinder and compressing air within said cylinder and urging it into said compressor storage tank, a hollow metallic ball carried by said apparatus providing a means for transferring the amplitude of the waves of the ocean into vertical motion for urging said piston upward to compress said air, a guide rail frame carried by said cylinder providing guide means for said ball and a plurality of rollers providing a means for preventing lateral oscillation of said connecting rods.

3,268,155
FLUID-FLOW CONTROL SYSTEM
Hanns Hornschuch, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 7, 1964, Ser. No. 343,271
10 Claims. (Cl. 230—115)



1. In a centrifugal compressor or pump having an inlet and an outlet, a fluid-flow control system comprising

(a) a recirculation-line communicating at one end with the outlet and at the opposite end with the inlet of the pump,

(b) a recirculation-valve disposed in said recirculation-line and responsive to a differential pressure in said recirculation-line to control the flow of fluid therethrough,

(c) a pilot valve associated with said inlet to be operative in response to the mass flow of fluid through said inlet,

(d) said pilot valve connected to said recirculation-valve to effect actuation of the latter to allow the flow of fluid through said recirculation-line when the pilot valve is operative in response to a predetermined mass flow of fluid through said inlet, and

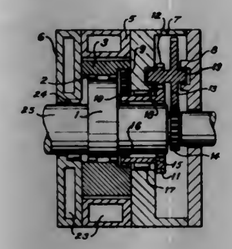
(e) an equalizer line communicating with said outlet to receive fluid at a pressure substantially that of the fluid flowing through said outlet,

(f) said equalizer line being connected to conduct such fluid to said recirculation-valve, while said pilot valve is closed, to provide for balanced pressures on said recirculation-valve and, upon opening of said pilot valve, to communicate said recirculation-valve with the inlet pressure and conduct the fluid from said recirculation-valve to unbalance the pressures thereon.

3,268,156
ENGINE OR POWER DRIVEN MACHINE WITH THE ROTARY PISTON
Maciej Radziwill, Kozietulskiego Str. 2 Fl. 1, and Andrzej Cezary Broel-Plater, Smolna Str. 14/10, both of Warsaw, Poland
Filed Nov. 7, 1963, Ser. No. 322,517
Claims priority, application Poland, Nov. 8, 1962, P 100,013
6 Claims. (Cl. 230—145)

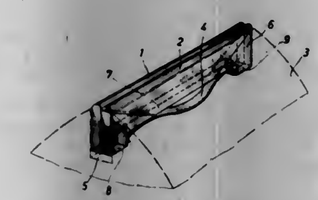
1. Apparatus comprising a stationary cylinder, a rotatable main shaft extending into said cylinder, an eccentric fixed on said shaft, a rotary piston, bearings supporting said piston directly on said eccentric, sealing elements peripherally spaced on said piston and engaged against said cylinder and defining with the latter and

said piston a plurality of isolated zones, a rotatable member coaxially arranged with respect to said shaft, first and second toothed members in coaxial arrangement respectively fixed on said piston and rotatable member and engaged so that rotation of the piston rotates said rotatable member, a third toothed member, said third toothed member being fixed on said rotatable member and having a pitch which is different from that of said second toothed member, a first rotatable toothed wheel having an axis parallel to said shaft, a second rotatable



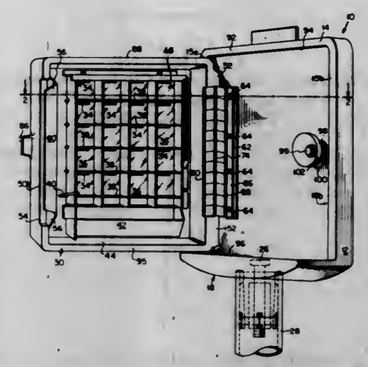
toothed wheel fixed to and concentric with said first wheel for rotation therewith, said toothed wheels having different diameters and pitches, a further toothed wheel fixed on said main shaft and in engagement with said second wheel, means to supply fuel to said cylinder, means to ignite said fuel in said cylinder, and means to vent the fuel combustion products from the cylinder, the supply of fuel, ignition of fuel and venting of combustion products being effected at angularly spaced zones in the cylinder adapted for being isolated by said sealing elements.

3,268,157
RADIAL PACKING FOR ROTARY PISTON MACHINES, ESPECIALLY INTERNAL COMBUSTION ENGINES
Manfred Frenzel, Burscheid, Germany, assignor to Goetzewerke Friedrich Goetze, A.-G., Burscheid, Germany
Filed May 4, 1964, Ser. No. 364,732
Claims priority, application Germany, May 10, 1963, G 37,717
10 Claims. (Cl. 230—145)



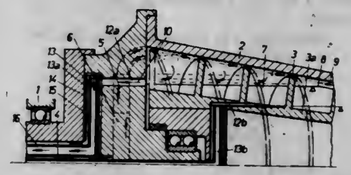
1. Sealing strip means for sealing between a rotary piston, having at least one axial slot to receive the strip means, and a cylinder in which the piston rotates, comprising; at least two strip members in face-to-face relation slidably mounted in the slot in the piston, one of said strip members being a unitary member extending substantially the full length of the slot and having a continuous outer edge for sliding sealing engagement with the axial inner wall of the cylinder, and at least one other of said strips comprising a multiple part member having at least opposite end portions with radial end surfaces for sliding sealing engagement with the end walls of the cylinder at the ends of the piston.

3,268,158
STRONG BOX
Elbert V. Abbott, 69 Vicksburg St., San Francisco, Calif.
Filed Oct. 22, 1964, Ser. No. 405,808
4 Claims. (Cl. 232—1)



1. A strong box comprising a plate having confronting first and second channels formed along opposite sides thereof, a tray having oppositely located first and second side walls spaced from each other to fit into the space defined by and between said first and second channels, said first side wall having an outwardly turned lip formed along its bottom edge and said second side wall having a recess, latch means hingedly supported adjacent said second side wall, plural series-connected hinge means interposed between, and having their opposite ends secured, respectively, to said first side wall and an area of said plate to permit rotation of said tray from an open position into position wherein said first and second side walls thereof are located at right angles to said plate and intermediately of said first and second channels.

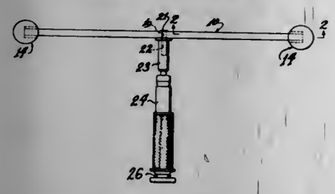
3,268,159
CENTRIFUGE
Robert Kern, Heidenheim, Germany, assignor to J. M. Voith G.m.b.H., Heidenheim (Brenz), Germany
Filed Oct. 11, 1963, Ser. No. 315,477
Claims priority, application Austria, Oct. 16, 1962, 8,153/62
4 Claims. (Cl. 233—7)



1. A centrifuge for the separation of dispersed solids from a mud, said centrifuge comprising a continuous rotatable body carrying on its radially outer surface a helically elongated screw flange, a rotatable drum surrounding the body and mounted for rotation relative to the body, one end of the drum being provided with an end-wall carrying a central hollow shaft for rotatably supporting the drum the end-wall having conduit means for conducting the mud into the annular space between the body and the drum, the outer periphery of said flange substantially fitting the adjacent wall of said drum, the opposite end of the drum being of reduced diameter and having openings in it for the discharge of solids which have been moved by the screw flange to that end of the drum, and passageway means in said body extending lengthwise of the axis of rotation thereof opening at one

end into said annular space and extending through an end portion of said body for conducting the separated liquid away from said annular space, said passageway means being of restricted cross-section to prevent the deposition therein of solids from the separated liquid.

3,268,160
CENTRIFUGE
Alvin W. Talley, 661 Bourbon Circle, Birmingham, Ala.
Filed Apr. 6, 1964, Ser. No. 357,542
1 Claim. (Cl. 233—26)



In a centrifuge for materials carried in elongated receptacles:

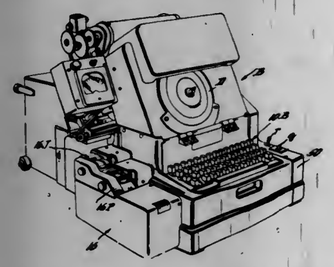
(a) an elongated tube-like member of a size and length for each end thereof to receive one of said receptacles,

(b) said elongated tube-like member being provided with external threads adjacent each end thereof,

(c) removable closure members having internal threads engaging said external threads at the ends of said elongated tube-like member, said members comprising nuts with resin-like outer coverings to facilitate balancing of the centrifuge by removing some of the resin, and

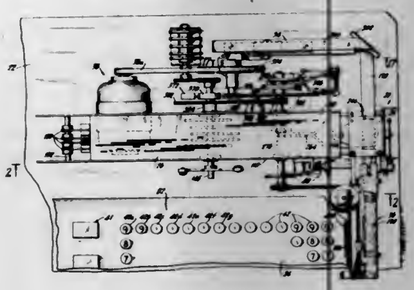
(d) a mandrel secured non-rotatably to said tube-like member intermediate the ends of said tube-like member near the middle thereof with the other end of said mandrel having means for connecting to a rotary drive member whereby rotary motion is imparted to said mandrel and said elongated tube-like member carried thereby.

3,268,161
AUTOMATIC TYPOGRAPHIC COMPOSING
George J. H. Sausele, New Providence, and Edwin M. Goldberg, Hazlet, N.J., assignors to American Type Founders Co., Inc., Elizabeth, N.J., a corporation of New Jersey
Filed July 31, 1963, Ser. No. 298,905
41 Claims. (Cl. 234—7)



1. In an automatic typographic composing system of the class described, apparatus for automatically preparing centered copy as for headings or columnar texts, said apparatus comprising a recorder which includes a keyboard and a punch for punching both character codes and functional-control codes into a tape in response to the operation of the keyboard; and a reproducer which includes a carriage for carrying a medium to receive the composition, and a double tape-code-reading device for reading both character and functional-control codes; and imprinting means for producing copy in response to the codes read in the tape; means in said recorder for coding into the tape the extent of total blank space representing the difference in extent of the line of text and the total extent of the area across which the text is to be centered; and means in the reading device of the reproducer to divide said total coded space in half, and escape said carriage to this half-distance before imprinting the text of said line.

3,268,162
DATA SOURCE RECORDER
Albert Hohmann, Brooklyn, N.Y., assignor to Taller & Cooper, Inc., Brooklyn, N.Y., a corporation of New York
Filed Dec. 30, 1963, Ser. No. 334,150
8 Claims. (Cl. 234—32)

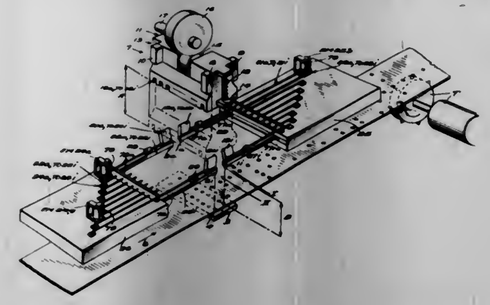


1. A machine for punching a paper tape with codal information comprising a keyboard having plural key banks, each of said key banks having plural manually selectable and depressible keys, a tape punch having plural punch pins, mechanical means interconnecting the keys in said key banks with said tape punch to selectively control the punch pins in direct relation with the selected manually depressed keys, and a modulo nine check mechanism connected to said mechanical interconnecting means to selectively control the tape punch in accordance with the selection accuracy of the depressed keys in said key banks.

3,268,163
PERFORATOR FOR PUNCHING INTO TAPES AND THE LIKE HOLE COMBINATIONS CORRESPONDING TO INFORMATION-BEARING SIGNALS
Kurt Ehrat, Zurich, Switzerland, assignor to Gretag Aktiengesellschaft, Regensdorf, Switzerland
Filed Oct. 5, 1964, Ser. No. 401,446
Claims priority, application Switzerland, Oct. 15, 1963, 12,699/63
8 Claims. (Cl. 234—42)

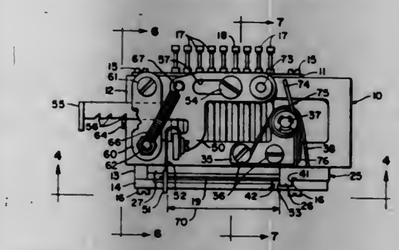
1. A perforator for tapes, punch cards and the like comprising first and second rows of punches, said rows being spaced apart by a predetermined distance and being disposed transversely to the direction of travel of a tape and the like through the perforator, input means for receiving information-bearing signals, selection means for selecting for actuation a combination of the punches in the said first and second rows in response to first and second information-bearing signals respectively received by said input means, said selection means comprising a driver for each of said punches in each of said rows, each driver comprising a generally flat rectangular member having a first lateral edge and a second lateral edge opposed to said first lateral edge, each of said drivers having an operative position in which said lateral edges

lie in a vertical plane and an inoperative position in which said lateral edges lie in a plane making an acute angle to the vertical, means for mounting each of said drivers about a longitudinal axis thereof, means for moving the drivers about said longitudinal axis from said inoperative position to said operative position in response to said information-bearing signals, means for simultaneously actuating the selected punches in both of said rows, said actuating means comprising a common actuator defining a recessed surface, said first lateral edge of said drivers



co-operating when said drivers are in their operative positions with said surface upon actuation of said common actuator and co-operating when said drivers are in their inoperative positions with said recesses, upon actuation of said common actuator, said second lateral edges of said drivers co-operating when said drivers are in their operative positions with said punches to cause a hole to be punched, and means for advancing to said punches a length of tape and the like equal to twice said predetermined distance.

3,268,164
VARIABLE WIDTH TAPE GUIDE
Alfred Z. Purzycki, Mount Prospect, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Dec. 28, 1964, Ser. No. 421,286
10 Claims. (Cl. 234—128)



1. A guide mechanism for a web including:

a frame having at least two edges;

first guide means biased against one of the edges for defining one side of a tape guiding channel;

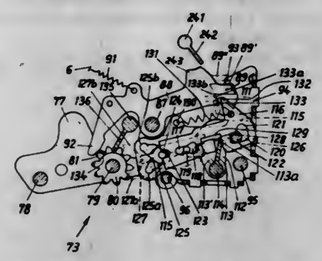
second guide means slidably mounted on said frame for cooperation with the frame and the first guide means to define said channel;

means for fixing the second guide means in at least two positions relative to the frame;

means for urging the first guide means away from said one edge of the frame and against the other edge to arrange the first guide means, the second guide means and the frame to define a second channel of narrower width, and

means mounted on the second guide means and normally disengaged from the urging means for engaging the urging means when the second guide means is moved from one of its positions to another of its positions and for driving the urging means and thereby moving the first guide means out of engagement with said one edge and into engagement with said other edge.

3,268,165
MULTIPLICATION DEVICE FOR A THREE-SPECIES CALCULATING MACHINE
Helmut Gelling, Dietlikon, near Zurich, Switzerland, assignor to Precisa A.G., Zurich, Switzerland
Filed June 10, 1964, Ser. No. 374,082
Claims priority, application Switzerland, June 12, 1963, 7,362/63
14 Claims. (Cl. 235—60)



1. A multiplication device for a three species calculating machine provided with a pin carriage, the combination comprising:

(a) a multiplication key for entering into said pin carriage one after the other two factors to be multiplied,

(b) rack bars which are reciprocated in response to said factors which are entered into said pin carriage,

(c) a multiplier storage operatively connectable with said rack bars,

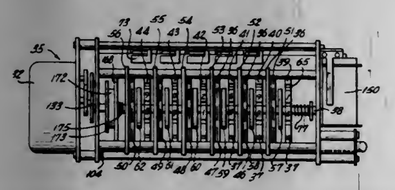
(d) a computer controlled by said multiplier storage for forming therein successively according to the increased decimal points the partial products of the numbers stored in said multiplier storage with the multiplicand and adding the same,

(e) said multiplier storage (**73**) including a single row of storage wheels (**80**) loosely rotatable on a common axle (**79**), each of said storage wheels being provided with uniformly spaced ten teeth covering its entire perimeter, each of said wheels having connected axially adjacent thereto a mutilated gear wheel (**86**), and a longitudinally slidable and transversely swingable bar (**136**), said bar when engaging the teeth on said storage wheels upon return of the first storage wheel (**80**) into its zero position from any one of its storage positions "6 to 9" advances all storage wheels of higher decimal point a distance of one tooth in positive direction, said swingable bar later making the advance so effected retrogressive again for all those storage wheels whose decimal point is higher than those of the next storage wheel which is returned to its zero position from any one of the positions "1 to 5" assumed by it,

(f) scanning levers (**88**) associated with said storage wheels (**80**) for controlling the return of the latter, said scanning levers engaging said mutilated gear (**86**) said mutilated gear having one tooth (86_0) corresponding to the position "0" which is of the same height as the teeth (**81**) on the storage wheels (**80**), and five teeth (86_1 to 86_5) in the positions "1 to 5" of approximately half that height, and a toothless portion (**134**) corresponding to one of the positions

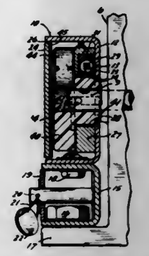
"6 to 9," a swivel plate (116) supported in said machine, said scanning lever (88) being provided with a first shoulder (133) arranged in the path of movement of a projection (132) on said swivel plate (116) when a scanning end (92) of said scanning lever (88) engages a tooth (86_1 to 86_5) of half height, and outside this path of movement when said scanning end engages the toothless portion (134), and an impact member (115) actuated by said swivel plate, a spring for urging said swivel plate ((116) into either the one or the other direction of rotation for controlling the direction of movement of said impact member (115) which rotates the storage wheel (80) either in the one or in the other direction a distance of one tooth toward the zero position.

3,268,166
MECHANICAL DIGITAL STORAGE DEVICE
Karl G. Bechtiger, Wurenlos, Aargau, Switzerland, assignor to Patelhold Patentverwertungs- & Elektro-Holding A.G., Glarus, Switzerland
Filed Oct. 13, 1964, Ser. No. 403,487
Claims priority, application Switzerland, Oct. 15, 1963, 12,622/63
18 Claims. (Cl. 235—61)



1. A digital storage device comprising in combination:
(1) a pulse controlled multi-stage decade counting aggregate comprising a plurality of operably interconnected decade counting wheels representing a numerical digital value to be stored by the relative positions of said wheels,
(2) an aggregate of notched storing wheels similar to said first aggregate, each storing wheel being coordinated to a correspinding decade counting wheel,
(3) a continuously rotating drive shaft freely rotatively supporting both said counting and storing wheels alternately disposed along said shaft,
(4) a plurality of friction coupling disks rigid with said shaft in mutually spaced relation to each other, each of said disks intervening between a pair of coordinated counting and storing wheels of the respective decades,
(5) resilient means to maintain each of said disks in frictional coupling engagement with its coordinated counting and storage wheels, to enable independent rotation of said wheels by said shaft,
(6) first locking means to normally arrest the first decade wheel of said counting aggregate and to intermittently release the same by the incoming pulses to be counted,
(7) further coupling means between each of said storing wheels and its coordinated counting wheel effective in frictionally locking said wheels at a predetermined relative angular position, whereby to maintain said storing wheels in phase synchronism with their respective counting wheels,
(8) a plurality of locking elements each adapted to engage the notches of one of said storing wheels, and
(9) uni-control means to operate said locking elements between a position of disengagement from said storing wheels and a position of engagement with said storing wheels, to temporarily arrest said storing wheels for the storing of an instantaneous numerical value represented thereby, while allowing of continued rotation of and counting by said counting wheels.

3,268,167
ELECTRICAL PULSE GENERATOR AND TRANSMITTING MEANS
William O. Kuhrman, Erie, Pa., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Mar. 6, 1964, Ser. No. 349,851
7 Claims. (Cl. 235—94)



1. A switching apparatus comprising,
a rectangular housing formed of a magnetic material and having opposed side walls and opposed end walls integrally secured to each other and to a base wall and having a removal cover wall releasably secured at opposite ends to the opposed end walls and being spaced from the opposite opposed side walls to allow atmospheric breathing and having an opening centrally of the base wall,
a switch block formed of non-magnetic material adjacent to the base wall, said block being approximately one-half the depth of the housing and conforming to the shape of the housing, said block including a bearing opening centrally of the block aligned with the opening of the housing and a groove in the surface adjacent the base wall extending parallel to and adjacent a side wall,
a glass encapsulated reed switch having contact arms and exposed ends of said contact arms with connecting leads attached to said ends and disposed within the groove,
a pliable potting material disposed within the groove to support the reed switch, and to seal the connection of the leads to the contacts,
a rotating disc having a central hub journaled within the bearing opening, the diameter of said disc being selected to overlie said reed switch,
means to couple a shaft to the hub and form a support for the disc,
a permanent magnet secured within an opening in the disc, said permanent magnet being polarized axially of the disc and establishing a magnetic field cyclically impressed upon the reed switch, and
a spacer secured to the inner surface of the cover.

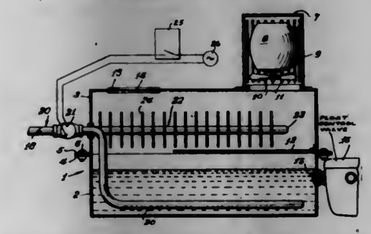
3,268,168
SCORING DEVICE PARTICULARLY FOR GOLF
Karel J. Staller, Rutherford, N.J., and Charles V. Staller, Carshalton Beaches, Surrey, England, assignors to Aidevices, Inc., a corporation of New York
Filed June 10, 1965, Ser. No. 462,878
2 Claims. (Cl. 235—114)

1. A scoring device for games progressing in consecutive individual sections, for example for golf, comprising in combination a base member having at least one side face and a first annular series of indicia numerals thereupon forming a total register; a gearing firmly and coaxially associated with said base member at least on one side thereof; an operative member mounted rotatably relative to said side face of said base member; a pinion rotatably mounted in the operative member in engagement with said gearing; a first clutch component operatively associated with said pinion; a rotatable supporting frame member adjacent to said operative member and coaxially rotatable relative thereto; a plurality of equidistantly spaced annular scoring elements rotatably mounted in said frame member; each scoring element being operatively associated with a second clutch component for selective engagement with the first clutch component to effect rotation of the operative member when the clutch components



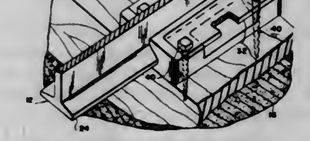
are in engagement; a second series of indicia numerals on each scoring element forming a sectional register; the transmission ratio between said gearing and said pinion being equal to the ratio of the amount of indicia numerals of the first and of the second series; means for disengagement of any selectively cooperating clutch components to permit turning of the frame member relative to the operative member for setting succeeding second clutch components into engagement with the first clutch component; spring means holding selectively engaged clutch components in such engagement; and catch means preventing each indicator dial from unintentional turning.

3,268,169
COMBINATION HEATING AND HUMIDIFYING DEVICE
Nelson De Bree, Portage Township, Kalamazoo County, Mich., assignor to Portage Engineering Company, Kalamazoo, Mich., a partnership
Filed June 9, 1964, Ser. No. 373,805
3 Claims. (Cl. 237—78)



1. A combination heating and humidifying apparatus adapted to be utilized in conjunction with a hot water heating system including a humidity sensitive device, said apparatus comprising a housing having a water reservoir at its lower portion and defining an air chamber above said reservoir, a fan mounted at one end of said air chamber for introducing air therein and vent means at the other end of said air chamber for discharging air therefrom, a hot water heating and humidifying assembly mounted in said housing and comprising an inlet and outlet, an air heating conduit connected to said inlet and outlet and arranged in said air chamber for heating the air therein, a water heating conduit connected to said inlet and outlet and arranged to be immersed in and to heat water contained in said water reservoir, a flow control valve connected in series with said water heating conduit and adapted to be electrically connected to said humidity sensitive device, and baffle means mounted below said fan and above said reservoir for deflecting the air current therefrom away from direct impingement upon the surface of water contained within said reservoir, whereby hot water flowing through said air heating conduit causes the air within said air chamber to be heated, whereby said baffle prevents the air from said fan from causing an undue amount of water from said reservoir to be evaporated, whereby when increased humidity is demanded by said humidity sensitive device said valve is opened and hot water permited to flow through said water heating conduit to heat and evaporate water contained within said reservoir, and whereby air so heated and humidified is caused to be discharged from said vent.

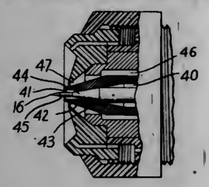
3,268,170
INSULATING RUBBER RAIL SEAT
Nelson K. Moses, Ashtabula, Ohio, assignor to Railroad Rubber Products, Inc., Ashtabula, Ohio, a corporation of Florida
Filed June 19, 1964, Ser. No. 377,462
21 Claims. (Cl. 238—283)



1. A rail seat for supporting a traction rail on a supporting structure comprising a preformed resilient pad formed of an elastomeric material having a primary ingredient of natural rubber, said paid having in its top face a longitudinally extending groove with undercut edges defining a rail base flange receiving cavity and an outer longitudinal marginal edge portion on each of said longitudinally extending groove, said rail base flange receiving cavity having a transverse cross-sectional shape complementary to the rail base flange and a vertical height at any point as great as the thickness of the rail flange at that point whereby the portion of the pad adjacent the undercut edges of the groove of said pad is in a completely relaxed position when the rail flange is received in the cavity, said paid having a pair of longitudinally spaced prepunched holes through each of the outer longitudinal marginal edge portions thereof spaced outwardly from the longitudinal edges of the rail base flange receiving cavity in its region of greatest width by at least 3/8 of an inch, and said pad having an elongated recess on the upper face of each of the longitudinal marginal edge portions thereof spaced from the longitudinal edge of the groove in the upper face of the pad, each of said recesses on the upper face of each marginal edge portion of said pad extending over the pair of holes in the marginal edge portion, and over the inner longitudinally extending undercut edge of said flange-receiving cavity and each recess having an inner longitudinally extending edge parallel to the adjacent innermost longi-

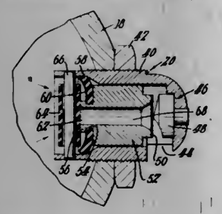
tudinal edge of said groove, said recesses providing an elongated bearing surface of a bearing plate received therein.

3,268,171
ELECTROSTATIC COATING SYSTEM
Arvid C. Walberg, Lombard, Ill., assignor to H. G. Fischer & Company, a corporation of Illinois
Original application July 19, 1962, Ser. No. 211,006. Divided and this application Mar. 25, 1966, Ser. No. 537,447
6 Claims. (Cl. 239—15)



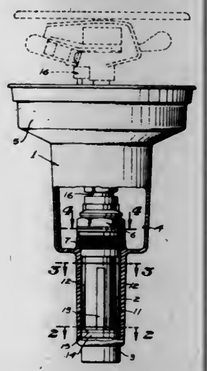
5. An electrostatic gun for spraying coating material comprising:
a body having a forward end provided with a first passage therein having an intake for connection to a source of coating material and an outlet through which coating material is ejected into the atmosphere from the forward end of the body and with a second passage therein having an intake for connection to a source of air under pressure and an outlet that surrounds and converges toward said outlet of said first passage to eject a flow of air into the atmosphere that converges with coating material ejected by the outlet of said first passage,
means comprising a nozzle for atomizing said coating material on ejection from said outlet of said first passage,
means applying an electrostatic field to the material passing from the nozzle including an electrical conducting element extending through said nozzle, and
means for charging said electrical conducting element to a high potential with respect to work to be coated.

3,268,172
SHOWER DEVICE WITH SHUT-OFF MEANS
Francis H. Goyette, Auburn, Mass., assignor to Lodding Engineering Corporation, Auburn, Mass., a corporation of Massachusetts
Original application Jan. 27, 1964, Ser. No. 340,180. Divided and this application Oct. 8, 1965, Ser. No. 494,015
1 Claim. (Cl. 239—109)



A spray nozzle for a pipe comprising a generally cylindrical body with a central bore therein and therethrough, a counterbore at one end and a spray button adjacent the other end of said central bore, the counterbored end of the body being attached to the pipe and open thereto,
a tubular cylindrical piston loosely fitted and axially movable within the bore and adapted to engage said button at one end to form a spray vent, said tubular piston having a portion of reduced diameter at the other end thereof, a head formed by said reduced diameter, said head being generally in the area of the counterbore,
a generally flexible washer surrounding the reduced portion and engaging the head, the washer being held in the cylindrical body of the counterbore, said washer being resilient and normally holding said piston in one position but yielding under pressure allowing motion thereof,
a fixed valve seat arranged at the counterbored end of the shower nozzle body, the washer normally holding the piston to the valve seat in said one position so that the nozzle is normally closed, the valve seat occupying only a portion of the open end of the spray nozzle body,
said washer thereby being accessible to fluid in the pipe at all times but displaceable only under conditions of fluid pressure imposed at the open end of said shower nozzle body causing the piston to move away from the valve seat, allowing fluid to flow past the seat and through the piston to the spray vent, and at the same time causing the piston to engage the button.

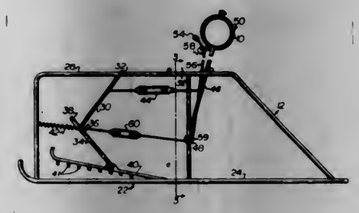
3,268,173
POP-UP SPRINKLER WITH SLIDE CONNECTION
Robert B. Costa, Covina, Calif., assignor to Rain Bird Sprinkler Mfg. Corp., Glendora, Calif., a corporation of California
Filed June 30, 1964, Ser. No. 379,132
4 Claims. (Cl. 239—206)



2. A pop-up sprinkler having an axially slidable connection and comprising:
(a) a sprinkler housing including a sleeve having means at its lower end for connection to a water supply;
(b) a collar secured to the upper end of said sleeve and having an elongated downwardly diverging bore, an axially extending key slot in said bore, and a seat at its lower end;
(c) a flow tube extending downwardly through said collar and into said sleeve for axial movement between a retracted and an extended position;
(d) a longitudinal key rib on said flow tube fitting said key slot to restrain said flow tube against rotation;
(e) a rotatable sprinkler head mounted on said flow tube;
(f) sealing means at the lower end of said flow tube engageable with said seat when said flow tube is extended;
(g) and tapered guide ribs on said flow tube extending axially from said sealing means for mating engagement with the tapered bore of said collar, when said flow tube is extended, for holding said flow tube in coaxial relation with said collar;

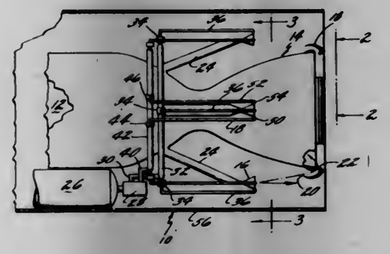
(h) said collar and flow tube forming a flushing passage between and around said guide ribs therebetween, when said flow tube is retracted.

3,268,174
IRRIGATION SYSTEM
Ralph D. Boone, 2920 Axtell, Clovis, N. Mex.
Filed Sept. 27, 1963, Ser. No. 312,109
15 Claims. (Cl. 239—212)



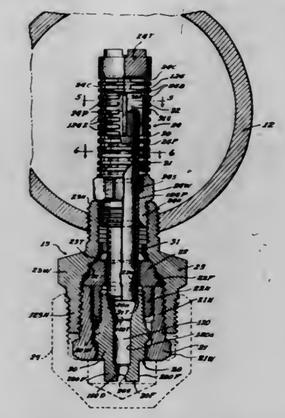
10. In an irrigation system having
(a) a plurality of vehicles spaced along a sprinkler pipe supporting same; and
(b) each vehicle having a ground engaging runner:
the improved method of moving each vehicle comprising: repeatedly
(c) lifting the forward end of the runner,
(d) moving the forward end forward and
(e) setting the forward end down, while
(f) dragging the trailing end of the runner at all times.

3,268,175
HOT GAS BLEED THRUST VECTOR CONTROL SYSTEM
George F. Hausmann, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Sept. 27, 1963, Ser. No. 312,212
18 Claims. (Cl. 239—265.23)



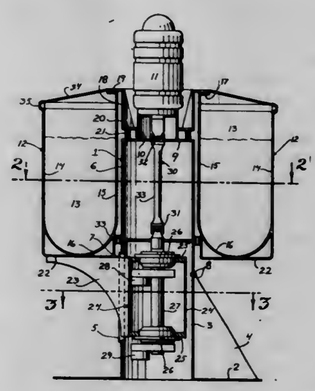
1. In a directional control system for a propulsive vehicle having a combustion chamber and a convergent-divergent exhaust nozzle for receiving gases from said combustion chamber and discharging said gases in a stream at supersonic velocity, means for generating an auxiliary supersonic gas stream discharging to atmosphere with at least a component of flow in the direction of the discharge from said exhaust nozzle, means for receiving said auxiliary gas stream and deflecting said auxiliary gas stream into said exhaust nozzle for directional control of said vehicle, said receiving and deflecting means normally not receiving said auxiliary stream, and means for selectively coupling said auxiliary stream with said receiving and deflecting means to deflect said auxiliary stream into said exhaust nozzle.

3,268,176
SPRAY NOZZLE HAVING STABILIZING TUBE AND VANE UNIT
Edward J. O'Brien, Glen Ellyn, and Robert P. Williams, Naperville, Ill., assignors to Spraying Systems Co., a corporation of Illinois
Filed Aug. 7, 1964, Ser. No. 388,136
18 Claims. (Cl. 239—553.5)



1. In a flow control assembly for association with a spray tip-strainer installation, an elongated tube having an annular tapered edge at one end and an elongated vane unit mounted at the other end of the tube and providing flat plate-like arms, the flat faces of which extend longitudinally of the tube with portions of the arms located within said other end of said tube.

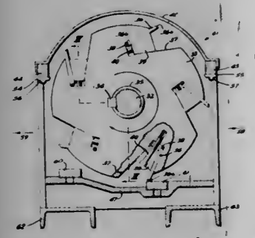
3,268,177
VIBRO-ENERGY MILL
Richard K. McKibben, La Canada, Calif., assignor to Southwestern Engineering Company, Los Angeles, Calif., a corporation of California
Filed Aug. 27, 1963, Ser. No. 304,832
6 Claims. (Cl. 241—175)



1. A vibro-energy mill, comprising:
(a) a tubular pylon structure having clearance slots in the lower portions of its side walls;

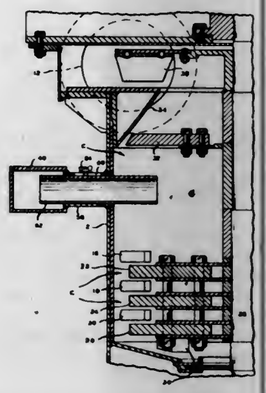
(b) a ring of supporting springs at the upper end of said pylon structure;
(c) an annular mill chamber structure surrounding the upper portion of said pylon structure and supported by said ring of springs;
(d) a vibrator unit disposed in the lower portion of said pylon structure;
(e) gussets extending from said vibrator unit to said mill chamber structure through said clearance slots, for rigidly connecting said mill chamber structure and said vibrator unit;
(f) and a motor for driving said vibrator unit mounted on said pylon.

3,268,178
MACHINE
Karl P. Schoeppner, P.O. Box 671, Bay City, Mich.
Filed Jan. 22, 1964, Ser. No. 339,413
9 Claims. (Cl. 241—189)



1. In a machine, for reducing solid materials to chips and shavings, the combination which comprises:
(a) cutter means having a longitudinal axis and a cylindrical surface parallel to the longitudinal axis;
(b) a plurality of blade means each having a cutting edge and mounted on the cutter means so that the cutting edges project from the cylindrical surface of the cutter means an equal distance and positioned in space relation around and extending across the surface of the cutter means;
(c) housing means surrounding and mounting the cutter means for rotation on its longitudinal axis, the housing means having two opposing solid material inlet and chip and shaving outlet openings whose planes are parallel to the longitudial axis of the cutter means;
(d) cutting bar means positioned within and on the housing means between the openings in the housing means, which is in closely spaced and cutting relation to a circle the radius of which is defined by the longitudinal axis of the cutter means and the cutting edge of any one of the blade means;
(e) a sealing element positioned inside and on the housing means opposite the cutting bar means and between the openings in the housing means, in closely spaced relation to the circle the radius of which is defined by the longitudinal axis of the cutter means and the cutting edge of any one of the blade means; and
(f) a chute provided on the outlet opening for removal of the chips and shavings, the sealing element acting in operation to reduce the return ofthe chips and shavings to the inlet opening and the combination of the cutter means and the blade means with the sealing element and the chute acting in operation as a blower to markedly increase the distance the chips and shavings are thrown from the chute over the distance obtained without the sealing element.

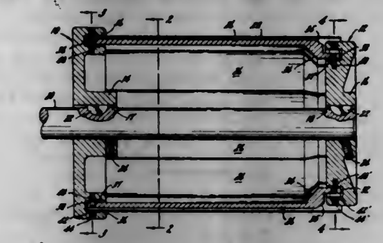
3,268,179
ROTARY PULVERIZER MILL WITH ASPIRATOR MEANS
Alfred T. Glynn, North Quincy, Henry J. Lbowski, Dorchester, and Ronald R. Saverse, Jamaica Plain, Mass., assignors to Sturtevant Mill Company, Boston, Mass., a corporation of Massachusetts
Filed Sept. 9, 1963, Ser. No. 307,410
10 Claims. (Cl. 241—19)



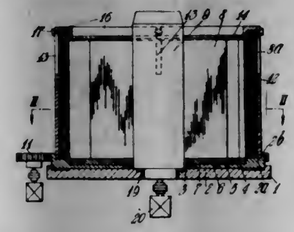
6. In a method of air classifying particles of material, the steps which include introducing particles into a confined space, grinding the particles in a lower section of the confined space to form a relatively coarse particle fraction and a relatively fine particle fraction, lifting the particles in an upwardly spiralling path of flow through an intermediate portion of the confined space in which the coarse particle fraction becomes displaced radially outwardly to a greater extent than the relatively fine particle fraction, subjecting the fractions to a particle rejecting treatment during which the relatively fine particle fraction is removed from the confined space and the relatively coarse particle fraction is returned to the said intermediate portion of the confined space to form a relatively concentrated whirling mass of the relatively coarse particles, continuously producing a high velocity flow of air externally of the confined space and subjecting the concentrated mass of relatively coarse particles to suction force which is localized in the spiralling path of flow to remove small quantities of the coarse particles from the said intermediate portion of the confined space thereby to control the concentration of rejected coarse particles accumulating in the intermediate zone.

3,268,180
COLLET
Glenn S. Berkebile, Evansville, Ind., assignor, by mesne assignments, to Fiberfil, Inc., Evansville, Ind., a corporation of Indiana
Filed May 11, 1964, Ser. No. 366,565
4 Claims. (Cl. 242—46.5)

1. A collet, comprising a pair of opposed heads having aligned axially extending openings formed therein for mounting them on a drive shaft along the collet axis, an annular groove formed in the axially inwardly presented face of each head, a plurality of arcuate, axially extending segments having their opposed ends received in said grooves and defining a substantially continuous drum extending between said pair of heads, the ends of said segments having thicknesses less than the widths of said grooves whereby said segments are radially movable with respect to said axis, pluralities of pins projecting radially outwardly from the inner circumferential walls of said grooves, and slots formed in the ends of said segments for the reception of said pins whereby said pins and slots circumferentially position the segments on the heads and guide the radial movements of said segments.



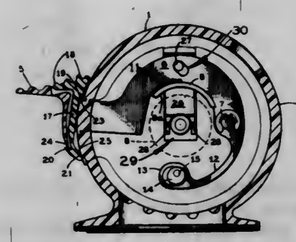
3,268,181
COIL EXPANDER
Richard Rahn, Dusseldorf, Germany, assignor to Schloemann Aktiengesellschaft, Dusseldorf, Germany, a company of Germany
Original application June 28, 1962, Ser. No. 205,975, now Patent No. 3,216,671, dated Nov. 9, 1965. Divided and this application May 18, 1965, Ser. No. 456,777
Claims priority, application Germany, July 25, 1961, Sch 30,037
5 Claims. (Cl. 242—78.1)



1. Apparatus for re-shaping a tightly coiled bunch of strip material into an opened bunch with spaced turns, comprising: a base-plate, a plane bearing surface for the endwise mounting of the tightly coiled bunch of strip, the bearing surface cosnisting of a number of concentric rings resting on the base-plate and slidingly rotatable independently of the base-plate and independently of one another, a central mandrel extending upwards through the said bearing surface, a cylindrical outer casing surrounding the bearing surface, a clamping device for securing the outer end of the strip to the outer casing, and a cover plate adapted to rest in a substantially airtight manner on the top end of a coil of strip located within the cylindrical outer casing, so that by rotating the outer casing relatively to the mandrel, turn after turn of the strip is lifted away from the tightly coiled bunch and moved outwards towards the outer casing.

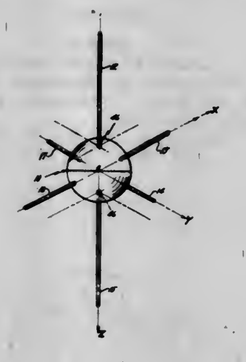
3,268,182
SPOOL RETARDING AND LOCKING MEANS FOR FISHING REEL
Joseph C. Clark, Orlando, Fla., assignor to L & S Bait Company of Florida, Inc., Clearwater, Fla., a corporation of Florida
Filed Apr. 21, 1964, Ser. No. 361,419
7 Claims. (Cl. 242—84.44)

2. In a fishing reel of the character described, a means forming a housing,
a spool journalled for rotation in said housing for casting a line therefrom and winding said line therein when rotated in one direction,
a crank-transmission means constructed and adapted to rotate said spool in said one direction and prevent same from rotating in a counter direction when engaged with said transmission,
a clutch means in said housing for engaging said spool with said crank-transmission means when operated,
a lever means in said housing including a thumb portion projecting therefrom for operating said clutch means when moved from a neutral to a winding position,



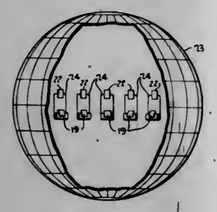
a thumb latch pivotally retained in said thumb portion constructed and adapted for manual movement from a latch to an unlatched position,
said latch including a pawl means for engagement with a land on said housing when said lever is in winding position whereby said line will be wound on said spool when said transmission is operated and whereby said line will be restrained from rotating said spool when said thumb lever is moved from said neutral into said winding position.

3,268,183
PASSIVE STABILIZATION OF AN EARTH'S SATELLITE
Bernard Etkin, Toronto, Ontario, Canada, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Dec. 12, 1963, Ser. No. 330,213
11 Claims. (Cl. 244—1)



1. A passive stabilization system for a gravity-gradient satellite comprising a geometrically symmetrical satellite body, and a rod extending from said body at the intersection of the vertical axis of said body with the outer periphery thereof, the connection of said rod to said body allowing for universal motion of said rod with respect to said body.

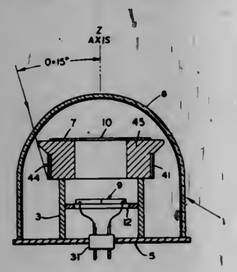
3,268,184
TEMPERATURE ACTUATED INFLATION DEVICE
Allan M. Biggar, Alexandria, Va., and Karl F. Plitt, Kensington, and John M. Thole, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed May 6, 1964, Ser. No. 365,539
5 Claims. (Cl. 244—1)



1. A temperature activated inflation device comprising:
(a) a thin, pliable plastic bag,
(b) a sublimating pressurizing agent within said bag,
(c) said bag being sealed by the open end of said bag being folded over upon itself, and
(d) temperaure sensitive adhesive tape means for securing said fold to said bag,
(e) whereby when said tape means is heated to a predetermined temperature, said tape loses its adhesiveness and said fold is released allowing said agent to escape.

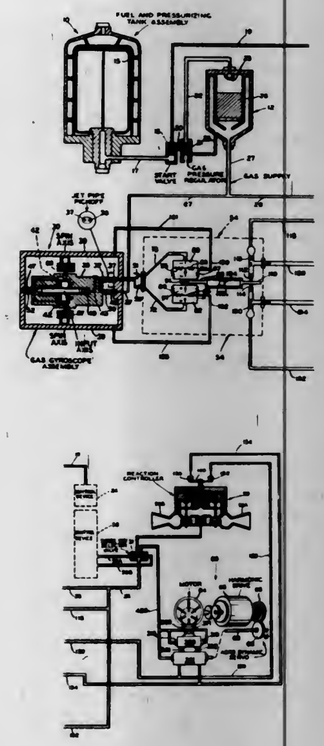
3. A system for controllably inflating a self-supporting space vehicle comprising:
(a) a plurality of containers affixed to the inner surface of the skin of said vehicle,
(b) means in said containers for producing a pressurizing gas for inflating said vehicle in space,
(c) means for controlling the release of said gas from said containers including a temperature sensitive adhesive for sealing said containers,
(d) said adhesive losing its adhesiveness as the interior of said vehicle becomes heated due to the energy from the sun being absorbed by said skin when said vehicle is in space, whereby
(e) the pressure of said gas within said containers is allowed to open said containers and inflate said vehicle.

3,268,185
LIGHT SENSING DEVICE
Alfred E. Eckermann, Jr., Hasbrouck Heights, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Apr. 2, 1962, Ser. No. 184,429
20 Claims. (Cl. 244—77)



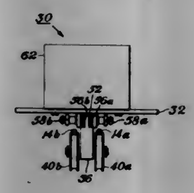
17. Means for controlling the attitude of one axis of a space vehicle relative to the sun, comprising a light sensing device including a plurality of light sensitive elements arranged to receive light rays over a substantial solid angle and being connected to provide electrical signals corresponding to the attitude of the axis relative to the sun when the light sensitive elements are unequally illuminated by light rays from the sun, means for providing a bucking signal opposing the signal from the light sensing device, and means responsive to the sum of the signals for orienting the vehicle so that the axis is in an attitude relative to the sun corresponding to the bucking signal, and means responsive to the light sensing device for detecting rotation of the vehicle about the axis.

3,268,186
HOT GAS PROPORTIONAL CONTROL VALVE SYSTEM
Robert H. Bosworth, Morristown, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Original application Mar. 12, 1964, Ser. No. 351,367, now Patent No. 3,223,364, dated Dec. 14, 1965. Divided and this application Feb. 15, 1965, Ser. No. 432,800
2 Claims. (Cl. 244—78)



1. In a fluid pressure operated network signal amplification system having a source of fluid pressure supply and a fluid pressure controlling signal, comprising means for controlling an attitude of the vehicle, a rate gyroscope carried by said vehicle and operable by said fluid pressure supply, means operatively connecting the rate gyroscope to the attitude control means for symmetrically supplying pressure to said attitude control means, said attitude control means further comprising a valve housing having a first opening means for symmetrically receiving the supply pressure, a second opening means for receiving differential signal pressures from the network, floating means symmetrical to and longitudinally movable within said housing operable for longitudinal movement depending on the differential pressure received for directing the supply pressure through the housing, bellows connecting said housing to said floating means operably permitting longitudinal movement of said floating means and whereby said supply pressure is compensated by said signal pressure for reducing the strain on said bellows.

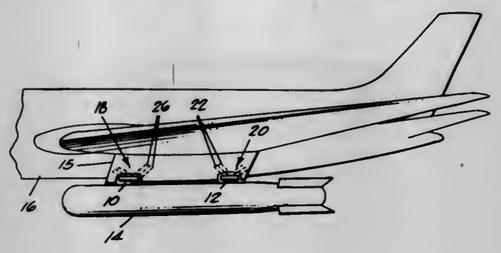
3,268,187
AUTOMATIC TRIM SYSTEM FOR AIRCRAFT
James R. Younkin, Don H. Mitchell, and Daniel M. Thurman, all of Mineral Wells, Tex., assignors to Mitchell Industries, Inc., Mineral Wells, Tex., a corporation of Texas
Filed Apr. 17, 1964, Ser. No. 360,497
9 Claims. (Cl. 244—83)



1. An automatic trim system for an aircraft or the like having a control element actuated in opposite directions by first and second forces and trim means associated with the control element for changing the effect of the control element in such a manner as to balance the forces required to maintain a desired flight attitude, comprising:
first and second electrical switch means,
means for comparing and detecting an imbalance between the first and second forces and for closing the first switch means when the first force exceeds the second force and for closing the second switch means when the second force exceeds the first force,
electric servo means for actuating the trim system,
first circuit means for energizing the servo means in response to closing of the first switch means to actuate the trim system in a manner to reduce the first force to the level of the second force, the first circuit means having a relatively slow time-constant when changing from "off" to "on" and a relatively fast time-constant when changing from "on" to "off," and
second circuit means for energizing the servo means in response to closing of the second switch means to actuate the trim system in a manner to reduce the second force to the level of the first force, the second circuit means having a relatively slow time-constant when changing from "off" to "on" and a relatively fast time-constant when changing from "on" to "off,"
whereby the system will have a high sensitivity and yet the servo means will not be energized by rapid opening and closing of the switches.

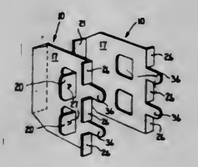
3,268,188
STORE CARRIER WITH SWAY BRACED LUG
Emmett T. La Roe, Los Angeles, Guy B. Righter, Manhattan Beach, and Edward A. Strate, Los Angeles, Calif., assignors to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed July 1, 1964, Ser. No. 379,623
14 Claims. (Cl. 244—118)

10. In a store carrier mechanism for holding elongated stores on an aircraft by means of laterally spaced lugs, a sway bracing mechanism comprising:
an aircraft having a streamlined surface; and at least two laterally spaced wedge means disposed within said streamlined surface of said aircraft and against at least one of said lugs, said wedge means



movable against at least one of said lugs and lockable thereagainst to prevent lateral swaying of said stores.

3,268,189
MOUNTING DEVICE
Jerome W. Ducharme, Rte. 1, Plainville, Ind.
Filed Oct. 27, 1964, Ser. No. 406,701
7 Claims. (Cl. 248—27)

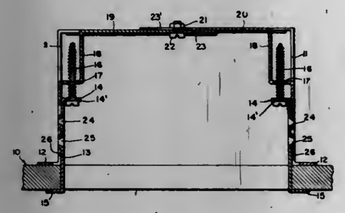


1. A sheet material receptacle mounting, comprising a channel shape adapted to grip an edge of a wall aperture, said channel shape including a flat web and flat legs extending perpendicularly from said web, a bendable member secured to and extending forwardly from the channel shape, and a receptacle support element aligned with said web and projecting from said channel shape rearwardly and then perpendicularly away from the legs of said channel shape and providing a flat flange adapted to support the outside of the rearward portion of a receptacle, said bendable member being bendable into said receptacle to mount the receptacle, said channel shape being sufficiently short to be projected through the wall aperture from the forward side thereof for securing the channel shape to the edge of the wall.

3,268,190
MOUNTING BRACKET
Arthur H. Hansen, San Marino, Calif., assignor to Hall-Mack Company, a Division of Textron, Inc., Los Angeles, Calif., a corporation of Rhode Island
Filed Jan. 22, 1965, Ser. No. 427,228
9 Claims. (Cl. 248—27)

1. A mounting bracket for mounting a fixture in a recess comprising: a rear wall, from the opposite ends of which extend side walls, each of said side walls terminating in an outwardly extending flange and having a fastener-receiving means affixed to its inner side, on each said side wall, a slidable inner wall, the inner extremity

of which terminates in an inwardly extending flange having an aperture therein adapted to permit the passage of a fastening means, and the outer extremity of said inner wall extending beyond the said flange of the side wall and terminating in an outwardly extending flange, the slidable inner walls being adjustably connected to said side walls



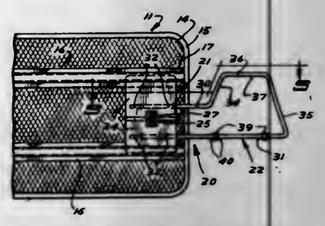
by fastener means passing through the aperture in said inwardly extending flange and being received in said fastener-receiving means, whereby the distance between the outwardly extending flanges on said side and inner walls may be adjusted to grasp a structural wall of any thickness.

3,268,191
CLAMP MOUNTING STRUCTURE FOR CROSSARMS
Ronald P. Bridges, Downers Grove, and John L. Renner, Oak Lawn, Ill., assignors to A. B. Chance Company, Centralia, Mo., a corporation of Missouri
Filed Sept. 20, 1965, Ser. No. 488,588
6 Claims. (Cl. 248—72)

1. Structure for securing an electrical device to a pair of spaced crossarms comprising:
an elongated mounting base for said device having a longitudinally extending edge;
means for attaching said base to one of said crossarms in spanning relationship to the crossarms;
a clamp element engageable with said edge at any one of a number of dispositions therealong spaced from said attaching means, whereby said element may be positioned in alignment with the other of said crossarms regardless of the spacing between the crossarms; and
a drawbolt coupled with said element for clamping the base between the element and said other crossarm.

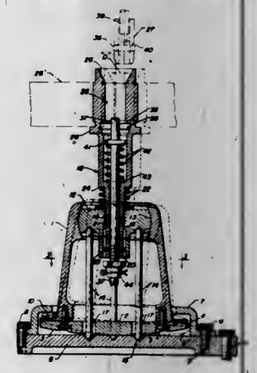
3,268,192
TABLE MOUNTABLE IRON REST
Donald J. Munson, Minneapolis, Minn., assignor to The J. R. Clark Company, Spring Park, Minn., a corporation of Minnesota
Filed July 2, 1964, Ser. No. 379,787
5 Claims. (Cl. 248—117.1)

1. An iron rest for mounting on an ironing table top having a pair of ribs extending longitudinally along the underside thereof, a bracket having a pair of mounting plates lockingly engageable one with each rib, spring means acting between the plates to urge them into locking engagement but yieldable to release the plates from such engagement with the ribs, an iron support member



mounted on the bracket and extending therefrom in a direction parallel to the ribs beyond one end of the top for supporting an iron adjacent that end of the top.

3,268,193
MOVABLE DISCONNECT SUPPORT
John V. Oliveau, Greenwich, Conn., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Oct. 23, 1964, Ser. No. 405,975
4 Claims. (Cl. 248—158)



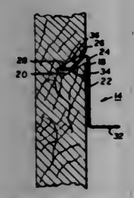
1. A translatable disconnect support unit for aircraft usage and for attachment with the lower block portion of a disconnect for aircraft personnel, said support unit comprising in combination, a rounded bottom rockable support frame having a substantially hollow interior and a plurality of spaced apart passageways through the lower section thereof, a flat-topped base plate having means adapted for attachment of the support unit to the aircraft and removably holding said support frame in a rocking position thereon, a movable ball support member in an upper socket portion of said support frame, a plurality of spaced apart spacer-guide pins having rounded ends held by and extending between socket means in the lower face of said ball support member and in the top of said base plate, said pins extending through said passageways in said rounded bottom lower section of the support frame whereby the ball support member is held in parallel positioning with respect to the flat top portion of said base plate as said support frame has its top portion translate with respect to said base plate, a tubular form of disconnect support stem held by and extending axially through the center portion of said ball support member, and a wide-mouthed tapered inlet opening within the upper portion of said support stem whereby to provide for the guiding of a removable upper disconnect portion into alignment with a lower disconnect portion that is held by said support stem.

3,268,194
SURFACE CONFORMING FOOT FOR IRONING TABLES
Otto S. Nielsen, Minneapolis, Minn., assignor to The J. R. Clark Company, Spring Park, Minn., a corporation of Minnesota
Filed Jan. 4, 1965, Ser. No. 422,926
8 Claims. (Cl. 248—188.2)



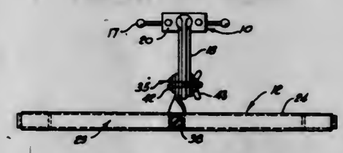
1. In an ironing table leg structure having a downwardly extending leg, a cross foot pivoted to the lower end portion of the leg to conform to a floor surface against which it is placed, a latch means on the foot below the pivot, a movable locking element on the cross foot positioned to slidably engage the latch means during pivotal movement of the foor, and a control on the locking element for moving said element into locking engagement with the latch means at any position of the foot about the pivot to prohibit any further movement of the foot about the pivot.

3,268,195
SUPPORT PANEL AND CLIP
Le Roy G. Hoffman, Upper Montclair, N.J. (R.R. 2, P.O. Box 109, Eureka, S. Dak.)
Filed Dec. 7, 1965, Ser. No. 512,063
11 Claims. (Cl. 248—225)



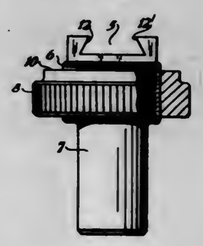
1. A panel having selectively spaced slots so formed that when the panel is mounted in a vertical manner the slots are disposed to extend in a generally horizontal manner and at least one clip adapted to be removably mountable in the slot, the combination of panel and clip comprising (1) a panel having a plurality of slots disposed in precise relationship to each other, the slots formed in one wall and each having a predetermined cross-section at least at those locations where a clip is to be mounted and when the panel is mounted for use, said slots at the predetermined cross-section having a bottom slope surface extending inwardly and downwardly to provide a lip included angle of greater than fifty degrees, the slot at its inner end having a top surface disposed at a selected distance from the bottom slope surface, and (2) a clip member formed of a material having a residual bias and having a straight portion adapted to lie adjacent a face of the panel, the straight portion having means for engaging and supporting a load, a second straight portion of the clip attached to the straight portion and extending at an angle to the first straight portion, the angle being more acute than the included lip angle of the bottom surface of the slot and panel face, and a third portion of the clip attached to the slot receiving end of the second portion and having an engaging surface at a predetermined distance above the plane of the lower surface of the second straight portion so that when a load is applied to the clip the bias of the clip at the angle between the first and second portions will be overcome and the second straight portion will be urged into contact with the bottom slope of the slot and the third portion will be lifted by the moved second portion so that the engaging surface of the third portion will be urged against the top surface of the groove.

3,268,196
SAFETY LOCK FOR LADDERS
John Anton, Sr., 555 Oregon Ave., Cliffside, N.J.
Filed Dec. 22, 1964, Ser. No. 420,329
3 Claims. (Cl. 248—229)



1. A lock for ladders, comprising in combination, a clamp for engaging a roof gutter, a clamp for engaging from both sides the top of a ladder, the second-mentioned clamp comprising an elongated bracket with projecting edges, two clamping brackets embraced by said edges and slidable relatively to the first-mentioned bracket, each of said two clamping brackets having a separate angular end portion extending outside of the first-mentioned bracket, the angular end portions of the two clamping brackets extending toward each other, whereby said angular end portions may clamp the top of a ladder from opposite sides, said two clamping brackets having elongated slots, a screw extending through an opening in the first-mentioned bracket and through said slots, a connecting member having a lower plate portion through which said screw extends, a nut carried by said screw and adapted to press said plate portion against said two clamping brackets and said two clamping brackets against the first-mentioned bracket, said connecting member also having an upper portion; and means swingably connecting the first-mentioned clamp with the upper portion of said connecting member.

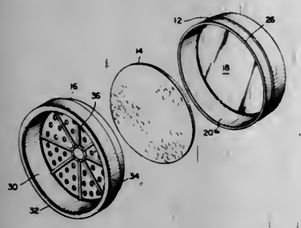
3,268,197
CLAMPING DEVICE FOR MEASURING INSTRUMENTS
Carl Mahr, Plochinger Str. 23, Esslingen (Neckar), Germany
Filed Apr. 15, 1964, Ser. No. 360,024
Claims priority, application Germany, Sept. 27, 1963, M 58,351
4 Claims. (Cl. 248—316)



1. A clamping device for a measuring instrument of the detecting lever type, said instrument having a dovetail-section slide bar with the sloped surfaces forming said dovetail-section parallel to the longitudinal axis of said bar, which comprises a post having a dovetail groove at one end to accommodate said slide bar and external threads adjacent said end, the sloped faces forming said dovetail groove being parallel to the longitudinal

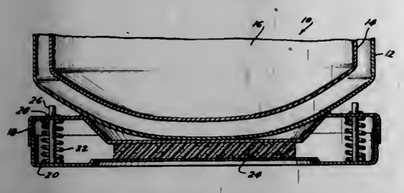
axis thereof and rigidly secured to said post and a set collar having a bearing surface facing said groove end screwed onto said threads so that said bearing surface engages firmly a slide bar accommodated in said groove at substantially any lateral position with respect thereto to interlock said bar and said groove.

3,268,198
COASTER
James B. Swett, Barrington, R.I., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware
Filed Apr. 27, 1964, Ser. No. 362,793
1 Claim. (Cl. 248—346.1)



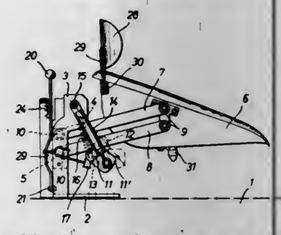
A coaster for tumblers and the like comprising a top tumbler receiving member, a bottom member and a moisture receiving member; said bottom member having an imperforate bottom wall and an upwardly extending annular side wall, the outer surface of said bottom member side wall provided with an annular recess downwardly extending from the upper terminus thereof, said recess terminating in an outwardly directed side wall shoulder, said top tumbler receiving member having a perforate bottom wall and an upwardly extending annular side wall terminating in a downwardly opening U-shaped lip for receipt of the upper terminus of said bottom member side wall wherein the lower terminus of said U-shaped lip abuts said side wall shoulder and in part extends laterally outwardly of said shoulder for ease in fingernail engagement thereof and so as to space said bottom walls apart thus forming an intermediate chamber for receipt of said moisture receiving member whereby moisture from the tumbler is collected by said top member and passes through said openings to said moisture receiving member and wherein the bottom wall of said top member is provided with a raised annular centrally disposed boss and raised ribs radiating therefrom for contacting receipt of a tumbler bottom, said rib serving to divide said bottom wall into segments each of which being provided with openings therethrough.

3,268,199
SHOCK ABSORBENT SUPPORT STRUCTURE
Eugene S. Kordyban, Buffalo, and Ladislas C. Matsch, Eggertsville, N.Y., assignors to Union Carbide Corporation, a corporation of New York
Filed May 8, 1964, Ser. No. 366,689
5 Claims. (Cl. 248—350)



1. A shock-absorbing support structure for a storage container comprising in combination a base member having a vertically upwardly extending skirt and a container supporting member having a vertically depending skirt laterally displaced from the base member skirt sufficiently to permit relative vertical movement between the two members but only slight relative lateral movement therebetween; resilient means comprising at least three helical springs interposed between the two members for supporting the static weight of said storage container and said upper member and characterized by having low energy dissipation and a low spring constant; foamed plastic energy absorbing material contiguously interposed between the two members and characterized by having high energy dissipation and a return rate less than that of said resilient means such that the substantial majority of the dynamic energy imparted to said shock-absorbing support structure by an impact thereon will be absorbed by said foamed plastic energy absorbing material; guide rods interposed between the two members axially of said resilient means and connected to said base member at one end and adapted to slide in guide holes in said upper member; and means on the other end of said guide rods for limiting the amount of vertical separation between the two members.

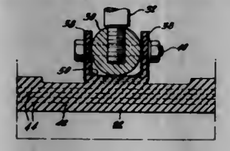
3,268,200
SEATS FOR VEHICLES
Josef Eicher, 8011 Forstern, Kreis Erding, Germany
Filed Aug. 20, 1964, Ser. No. 390,961
Claims priority, application Germany, Aug. 24, 1963, E 25,408
9 Claims. (Cl. 248—399)



1. In a resilient suspension system for a vehicle seat, the combination with a fixed support, and pairs of links on opposite sides of the seat having first and second pivot connections with said support and seat, respectively, and forming therewith parallelograms swingable about said first pivot connections, of arm means having a follower and being pivotally mounted on said parallelograms intermediate said pivot connections about an axis parallel to the latter; a wedge adjacent and cooperating with said follower; spring means between and anchored to said support and arm means, with the spring anchorage on said arm means being remote from the pivot axis of the latter so that said spring means will back said arm means with its follower against said wedge with operational seat balancing forces varying with the seat load, said wedge being mounted for movement transversely of said parallelograms for swing response of varying amplitude of said arm means about its pivot axis to a static seat load and according variation of said operational spring forces; and means for adjusting said wedge in different transverse positions.

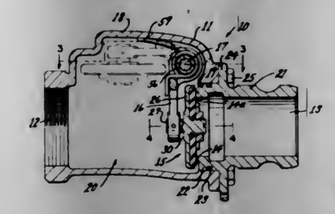
3,268,201
POSITIVE OPENING PINCH VALVE
Robert K. Little, Burlington County, N.J., assignor to RKL Controls, Inc., Hainesport, N.J., a corporation of New Jersey
Filed Nov. 16, 1962, Ser. No. 238,185
5 Claims. (Cl. 251—8)

1. A positive opening unitary elastomeric pinch valve body comprising a substantially cylindrical elastomeric body portion, rubber-coated fabric layers reinforcing said body portion, a rubber-coated fabric tab element, a rubber-coated fabric belly band, said belly band overlying a portion of said tab element exposing at least one tab,



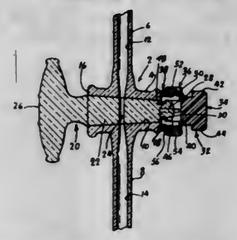
the exposed tab extending in flexible disposition from the body, fabric of the tab element passing between the fabric of the belly band and body portion.

3,268,202
VALVE CONSTRUCTION OR THE LIKE
Robert L. Murray, Dayton, Ky., and Chester W. Wood, Cincinnati, Ohio, assignors to Dover Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed May 27, 1963, Ser. No. 283,323
1 Claim. (Cl. 251—86)



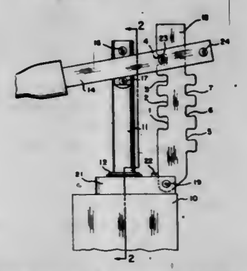
In a valve structure, a housing comprising a first part and a second part, said first part having an inlet opening, said first part further having a bore opening thereinto and axially aligned with said inlet opening, said housing second part being tubular and having an open end telescopically received in said bore and forming an outlet from the housing, said open end of said second housing part being defined by a valve seat, means removably securing said housing second part to said first part, a rotatable shaft carried by the housing first part adjacent to said open end of said second part, an arm carried by said shaft for swinging movement relative to said valve seat, said arm terminating in a cylindrical body having an axial bore of a certain diameter and having a width in the axial direction materially greater than the thickness of the arm, the arm being radial to the cylindrical body, said cylindrical body having a radial bore perpendicular to the longitudinal axis of the arm, a valve member comprising a plate having a stud projecting from the center of one face thereof and having a carrier pin projecting from the center of the opposite face, said pin extending through said axial bore of said body and having a diameter materially less than the axial bore, said pin having a radial bore aligned with and of a diameter materially greater than said body radial bore, a coupling pin materially smaller in diameter than and extending through the radial bore of the first mentioned pin and having its ends fixed in the body radial bore, a resilient member positioned against said one face of said plate for seating engagement with said valve seat, said resilient member having a diameter less than the diameter of said bore of the first housing part, means removably securing the resilient member to said plate, said valve member being substantially universally freely movable relative to said arm whereby full 360° seating engagement of said resilient member with said valve seat is assured, means for turning said shaft, and said resilient member being removable from said plate through said bore of said housing second part following withdrawal of said open end of said housing second part from the last said bore.

3,268,203
PRESSURE STOPCOCK
Roger Gilmont, Douglaston, N.Y., and William R. Linton, Newfield, N.J., assignors to Kontes Glass Company, Vineland, N.J.
Filed June 18, 1964, Ser. No. 376,045
3 Claims. (Cl. 251—181)



1. In combination with a stopcock comprising a shell having a bore and a plug rotatably received in said bore with an end of said plug extending out beyond said shell and having a circumferential groove therein, a member having a body and arms extending axially therefrom, means active on said arms and resiliently resisting spreading thereof, said plug end being received between said arms and said arms having parts snap engaging in said plug groove, said member being externally threaded at least along said arms and having a laterally enlarged portion at its end opposite to said arms, a nut threadedly rotatably received on said member and movable between a first position over said arms adjacent said groove-engaging parts and a second position remote from said first position, thereby respectively preventing or permitting said arms to spread and become disengaged from said plug groove, said nut being passable over the arms-end of said member but being blocked from passage over the body-end of said member by said laterally enlarged portion, and means operative between said shell and said nut for urging said plug axially into said bore.

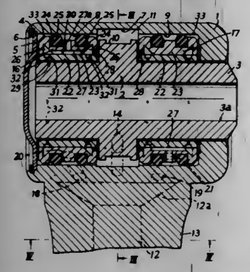
3,268,204
VALVE OPERATOR
Marvin H. Grove, 340 Hillside Ave., Piedmont, Calif.
Filed Aug. 29, 1962, Ser. No. 220,207
5 Claims. (Cl. 251—234)



1. In combination with a valve having a body and an operating rod extending from the body and movable in opposite directions between full open and closed positions, means for operating said rod comprising a lever connected to the rod, said connection permitting both rocking of the lever relative to the rod and movement of the lever in the direction of its length relative to the rod, notched members on opposite sides of the operating rod

and extending in a direction substantially parallel to the rod, and pin means carried by the lever means and selectively engageable in said notched members, the notches in said members being open to selectively receive said pin means.

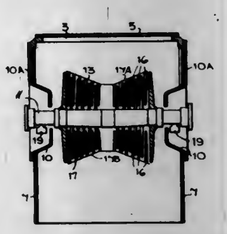
3,268,205
HIGH SPEED DENTAL TURBINES
Higel Stafford David Allen, Poole, Dorset, and Ronald George Henocq, Lytchett Matravers, Dorset, England, assignors to Micro Turbines Limited, Dorset, England, a body corporate of Great Britain
Filed Mar. 9, 1964, Ser. No. 350,411
Claims priority, application Great Britain, Mar. 12, 1963, 9,731/63
4 Claims. (Cl. 253—2)



1. A high speed air turbine and bearings therefor comprising: a housing having an annular air driving chamber therein and a peripherally bladed rotor mounted eccentrically in said chamber; means in said housing to supply compressed air to said turbine and bearings; said bladed rotor having opposed end walls substantially normal to the axis of said rotor; a cylindrical journal extending from each end wall; a support structure for each of said journals, each support structure comprising a bearing having an axially extending annular support surface opposite to one of said cylindrical journals and a radial support surface opposite one of said end walls of said rotor; a plurality of apertures in said annular support surfaces and said radial support surfaces whereby compressed air is supplied thereto to support said rotor against both radial and axial movement; and an annular ring of rubber-like material about each support structure, having a Shore hardness of about 45°, separating the support structures completely from said housing for damping unbalanced forces arising from the whirl of the rotor.

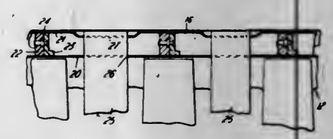
3,268,206
STEAM TURBINES
Frank Swinglehurst, Cheadle Hulme, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Oct. 14, 1963, Ser. No. 315,842
Claims priority, application Great Britain, Oct. 19, 1962, 39,706/62
13 Claims. (Cl. 253—39)

1. A turbine comprising:
(a) a box-like casing;
(b) a rotor provided with sets of rotor blades and arranged to extend with its axis horizontal through the casing;
(c) bearings disposed at a level intermediate the top and the bottom of the casing, and on which the rotor is supported;
(d) diaphragm half sections provided with sets of guide blades and disposed below the rotor respectively between pairs of sets of rotor blades;
(e) two end walls to the box-like casing, formed with apertures through which end parts of the rotor extend;
(f) two removable covers, each arranged when in place to close an opening which extends vertically upwards in one of the end walls from the aperture, which opening terminates short of the top of the end wall and is of such height that the rotor can be raised vertically until all parts of the rotor are clear of the diaphragm half sections; and



(g) a removable lid arranged when in place to close an opening in the top of the turbine casing; whereby with the lid and two removable covers removed, the rotor can be moved axially and tilted so that its axis is inclined to the horizontal and withdrawn upwardly through the opening in the top of the turbine casing.

3,268,207
BLADED STRUCTURE
Arthur Bill, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Mar. 22, 1965, Ser. No. 441,587
Claims priority, application Great Britain, May 7, 1964, 19,119/64
3 Claims. (Cl. 253—78)

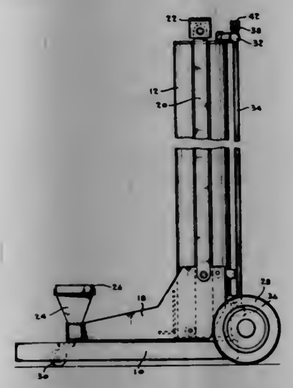


1. A bladed structure comprising concentric inner and outer casings, annular spacers by means of which the two casings are spaced from each other, the two casings having holes for the reception of aerofoil-shaped blades and the outer casing having grooved portions in which the said holes are disposed, a plurality of angularly spaced apart aerofoil-shaped blades which are closely mounted in the said holes in the two casings, each blade being bonded to the said outer casing, and an external casing within which the outer casing is closely mounted and against which abut the outer ends of the blades, the inner and outer casings, the external casing, the spacers and the blades being all formed of synthetic resin material and being cemented to each other.

3,268,208
AIR JACK WITH LUBRICATING MEANS
Harvey O. Feilbach, Milwaukee, and Douglas E. Stuart, Okauchee, Wis., assignors to Hein-Werner Corporation, Waukesha, Wis., a corporation of Wisconsin
Filed Nov. 14, 1963, Ser. No. 323,626
3 Claims. (Cl. 254—2)

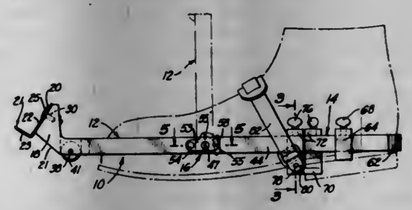
1. An air jack comprising:
an air cylinder;
a lift piston assembly slidably mounted in said cylinder, said piston assembly including a piston head member and a piston rod fastened thereto and

extending upwardly from the head member and out through the top of the cylinder, said assembly further including an inverted sealing cup member having a downwardly extending annular flange portion, said cup member mounted on the underside of said head member and a lubricating washer mounted on the underside of said sealing cup member with its peripheral edge overlying said annular flange portion on said cup member, said lubricating washer being concave with respect to the bottom of said air cylinder;



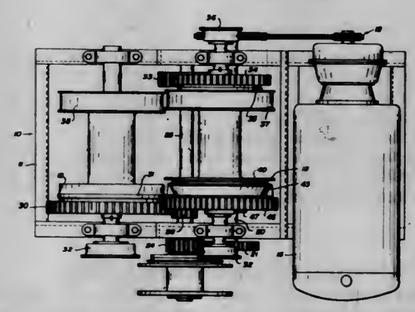
a load engaging assembly mounted exteriorly of said cylinder and operatively connected to said piston rod;
a supply of lubricating oil in the bottom of said cylinder; and
air supply means for supplying air under pressure into said cylinder at a point below said lubricating washer when said piston assembly is in its deenergized position, said air supply means adapted to direct air into said cylinder so that the rush of air into the cylinder will agitate the oil and cause some of it to be carried upwardly for deposit on said lubricating washer.

3,268,209
ROLLER LIFT FOR HANDLING DRY-WALL PANELS
Earl J. Humbyrd, Riverside, Calif., assignor of one-half to James K. McAlpin, Riverside, Calif.
Filed June 15, 1964, Ser. No. 374,963
6 Claims. (Cl. 254—120)



1. A roller lift for handling dry wall panels, comprising:
a frame adapted to be mounted on one foot of a worker, said frame having a front end portion projecting forwardly beyond the toe of the worker's shoe;
means for securing said frame to said one foot of the worker, whereby said frame becomes an attachment to the worker's shoe;
means on the rearward portion of said frame for transferring the weight of the worker to the frame when the worker stands on said one foot;
a roller journaled on the forwardly projecting front end of said frame ahead of the toe of the worker's shoe, said roller projecting below the bottom of said frame and being adapted to roll on the floor; and
means projecting forwardly from said front end portion of said frame and engageable with the bottom edge of a dry wall panel to lift the same when the worker bears downwardly on the rearward portion of said frame, said frame pivoting about said roller as a fulcrum.

3,268,210
REGENERATIVE BRAKE FOR WINCH APPARATUS
John R. Wilson, Vancouver, British Columbia, Canada, assignor to Tyee Machinery Company, Limited, Vancouver, British Columbia, Canada, a corporation of British Columbia
Filed Mar. 8, 1965, Ser. No. 438,008
20 Claims. (Cl. 254—185)



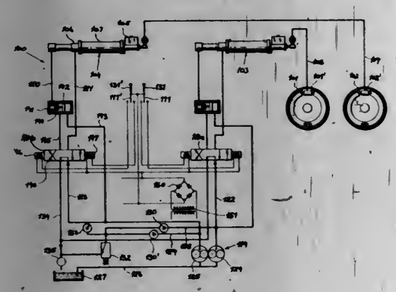
1. Winch apparatus comprising first and second rotatably mounted substantially parallel drums adapted to have a line extending from the first drum out to do a job and back to the second drum, said line being drawn from the first drum as it is wound on the second drum and vice versa, a first gear train at adjacent ends of the drums for rotating the first drum through a clutch, a second gear train at opposite ends of the drums operated by said first gear train to rotate the second drum through a clutch, a regenerative brake including first and second engageable braking elements, said first braking elements being mounted on said adjacent end of the second drum, said brake when the braking elements thereof are engaged being adapted to rotate with the second drum, gearing connected to the second braking element and to the first gear train for applying power to said first train when said brake rotates with the second drum, and means for engaging the first and second braking elements of said regenerative brake to cause the latter to rotate with the second drum when the line is being wound on to the first drum to retard rotation of said second drum by assisting the rotation of the first drum through the brake and said gearing.

3,268,211
CONTROL SYSTEM FOR WINCHES AND THE LIKE
Alfred Schlechter and Hanns Trübenbach, Essen-Heisingen, Kettwig (Ruhr), Germany, assignors to Emil Wolff Maschinenfabrik und Eisengiesserei G.m.b.H., Essen, Germany, a corporation of Germany
Filed Oct. 22, 1965, Ser. No. 502,674
7 Claims. (Cl. 254—185)

1. A control system for a winch assembly having a driven shaft, at least one cable reel journaled for rotation jointly with said shaft and relatively thereto, and

an automotive-type brake mechanism for coupling said reel with said shaft and having a piston-and-cylinder arrangement forming a hydraulic motor for operating said mechanism, said system comprising:

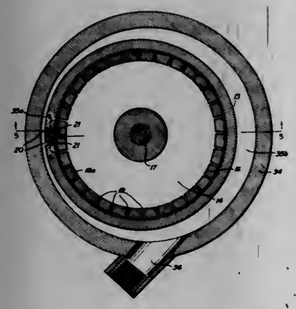
hydraulic control means remote from and communicating with said hydraulic motor for selectively actuating said motor to regulate the coupling of said shaft with said reel, said hydraulic control means including a



hydraulic-fluid-operated force-transmitting portion, a force-receiving portion connected with said hydraulic motor for supplying hydraulic fluid thereto, and a resilient portion interconnecting said force-transmitting and force-receiving portions; and

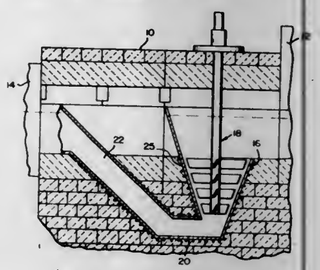
electromagnetically operable valve means connected with said control means for actuating said force-transmitting portion.

3,268,212
FOAM GENERATING MACHINE
Albert E. Ziselberger, Cody, Wyo., assignor, by direct and mesne assignments, to Manufacturing Patents Associates, a co-partnership of Utah
Filed Nov. 8, 1963, Ser. No. 322,314
5 Claims. (Cl. 259—7)



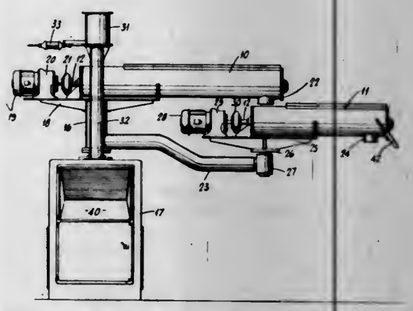
1. A foam generating machine, comprising a housing having walls defining a closed, circular chamber having closed top and bottom and a substantially imperforate annular wall; an annular rotor fitted into said chamber with close tolerance, said rotor having a circumferential series of mutually spaced, restrictive passages extending therethrough; restrictive passage means within and extending through a localized area of the said annular wall from communication with said series of passages, as the rotor rotates, to the outside of said chamber; means for introducing within the rotor as it rotates, a foam-forming solution having a gas entrained therein; and means for rotating the rotor.

3,268,213
APPARATUS FOR HOMOGENIZING GLASS
Charles F. Cala, 144 Hoover Road, Rochester, N.Y.
Filed June 8, 1964, Ser. No. 373,300
10 Claims. (Cl. 259—7)



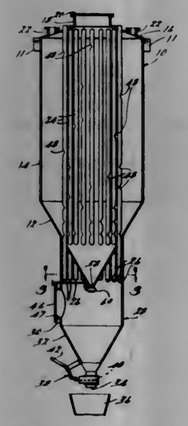
6. A stirring device for homogenizing molten glass during its travel from a source to a discharge orifice device comprising a downwardly tapered vessel, flow directing means for receiving molten glass from a source thereof and causing the glass to flow downwardly through said vessel, means for stirring glass in said vessel, and means for stopping rotation of the glass after it leaves said vessel and before it reaches the orifice of the discharge device.

3,268,214
COMBINED MIXER AND CONVEYOR UNITS
Harold Higgs, Oaken, near Wolverhampton, England, assignor to Fordath Engineering Company Limited, Stafford, England, a British company
Filed Dec. 13, 1963, Ser. No. 330,459
2 Claims. (Cl. 259—10)



1. A combined mixer and conveyor unit which includes a supporting unit, a horizontally extending primary conveyor unit, means for feeding materials to one end of the primary conveyor unit, a discharge nozzle at the other end of the primary conveyor unit, drive means for the primary conveyor unit, a horizontally extending secondary conveyor unit having an opening at its one end in communication with the discharge nozzle of the primary conveyor unit, a discharge nozzle at the other end of the secondary conveyor unit and drive means for the secondary conveyor unit, the primary conveyor unit being adapted to be pivoted with respect to the supporting unit and the secondary conveyor unit being adapted to be pivoted with respect to the primary conveyor unit, each conveyor unit including a longitudinally extending shaft having mounted thereon a plurality of helically disposed blades and there being interposed between some of the helically disposed blades radially extending blades some of which have their faces disposed in a plane normal to the axis of the shaft while others are disposed so that their faces are in a plane parallel to the axis of the shaft.

3,268,215
BLENDING APPARATUS
Thomas A. Burton, Minneapolis, Minn., assignor, by mesne assignments, to Acheson Industries, Inc., Port Huron, Mich., a corporation of Michigan
Filed July 31, 1964, Ser. No. 386,639
2 Claims. (Cl. 259—180)



1. A blending apparatus for uniformly mixing solid granulated materials comprising a tank, a receiver disposed below said tank, a plurality of conduits extending upwardly of said tank and formed with a series of apertures at vertically spaced intervals therealong disposed in communication with the interior of said tank for uniformly sampling and withdrawing material from said tank, said conduits and apertures being so spaced that substantially geometrically similar sections of the materials in the hopper are disposed in communication with the uppermost covered apertures of each of the conduits regardless of the level of material in the hopper, said conduits having outlet ends for discharging the material into said receiver, and means for maintaining a substantially equal flow rate of material downwardly through said conduits and in an amount such that the materials passing downwardly through said conduits is less than the free-fall rate of the materials and such that only the uppermost of the apertures in each said conduit disposed below the level of the materials in said tank is operative to withdraw materials from said tank.

3,268,216
CHARGE FORMING DEVICE FOR INTERNAL COMBUSTION ENGINES
Bernard C. Phillips, Toledo, Ohio, assignor to The Tillotson Manufacturing Company, Toledo, Ohio, a corporation of Ohio
Continuation of application Ser. No. 218,082, Aug. 20, 1962. This application May 18, 1965, Ser. No. 456,652
3 Claims. (Cl. 261—69)

1. Charge forming apparatus, including, in combination:

(a) a body member formed with a mixing passage;

(b) a fuel chamber formed in the body below the mixing passage;

(c) a flexible diaphragm and having a central upstanding member;

(d) fuel delivery orifice means opening into the mixing passage;

(e) passage means connecting the orifice means with the fuel chamber;

(f) a fuel inlet duct formed in the body adapted to receive liquid fuel from a source of supply;

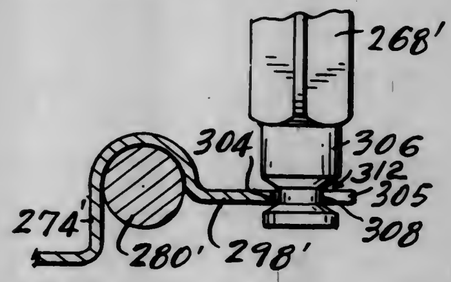
(g) an elongated movable inlet valve member disposed within said duct and having an upper tip which cooperates with said fuel delivery orifice and also has a shouldered lower end portion;

(h) said lower end portion of said movable inlet valve member extending downwardly into said fuel chamber and disposed a substantial distance away from said central upstanding member on said diaphragm;

(i) a fulcrum pin in said fuel chamber above said diaphragm which has a circular section adjacent said lower end of said movable inlet valve member;

(j) a lever member in said fuel chamber extending over said fulcrum pin and extending between and engaging said upstanding diaphragm member and said lower end of said movable inlet valve member;

(k) said lever member having an intermediate semi-circular up-standing section straddling the top portion of said circular section of said fulcrum pin in pivotable relation;



(l) the length of said lever between said fulcrum pin and said movable inlet valve member being directly connected to one end of said semi-circular section and extending radially outward therefrom;

(m) the other end of said semi-circular section having a planar tangentially extending portion;

(n) the length of said lever between said fulcrum pin and said central upstanding member being connected to the other end of said tangentially extending portion;

(o) a spring which engages the top surface of said lever immediately adjacent the fulcrum pin on the portion thereof which engages said upstanding movable member, so that the lever is held in engagement with said fulcrum pin; and

(p) the end of said lever adjacent said shouldered end portion of said inlet valve member having a forked configuration which engages said shouldered portion.

3,268,217
COOLING TOWER LIQUID INTERCHANGE DECK
Ernest E. Goltein, Belmont, Calif., assignor, by mesne assignments, to Fluor Products Company, Santa Rosa, Calif., a corporation of California
Filed Oct. 31, 1963, Ser. No. 320,380
7 Claims. (Cl. 261—110)

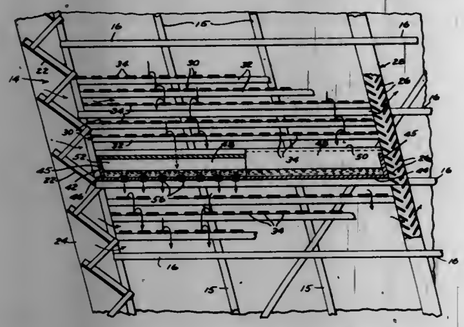
1. A cross flow cooling tower comprising

a upper reach and a lower reach, a housing having means for flowing air approximately horizontally thorugh the housing defining an air inlet side and an air exhaust side for the housing,

means for flowing a liquid downwardly through the housing by gravity in cross flow relationship relative to the flow of air,

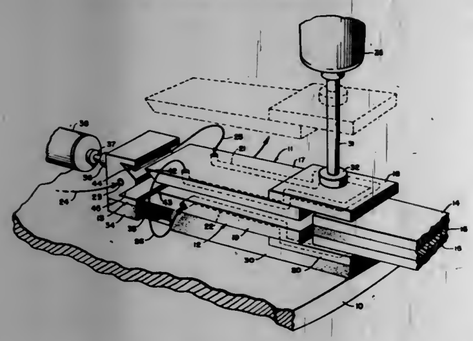
a fill within said housing upper and lower reaches providing a wetted surface for direct contact of air and the liquid,

a horizontal interchange deck between said upper and lower reaches, said interchange deck comprising a plurality of alternating channels having slanted roofs and troughs on the air inlet side and on the air exhaust side for collecting the liquid flowing downwardly from said upper reach, means comprising



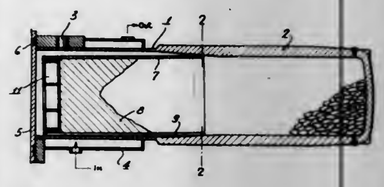
said channels and troughs in abutting staggered relation for conveying the collected liquid in separated streams from the air inlet side to the air exhaust side and vice versa,
and means for distributing the liquid streams so conveyed to said housing lower reach.

3,268,218
HEAT TREATING INDUCTION COIL
Thomas G. Eannarino, Park Ridge, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Sept. 10, 1963, Ser. No. 308,027
10 Claims. (Cl. 266—5)



1. In a heat treating apparatus,
(a) a pair of bus bars spaced one from the other for supplying high frequency current to the apparatus,
(b) a first induction coil component of conducting material engageable with one of said bus bars,
(c) a second induction coil component of conducting material engageable with the other of said bus bars,
(d) a shunt member of conducting material engageable with said first and second induction coil components to form a single turn induction coil,
(e) means for supplying coolant to the interior of said induction coil components and shunt member,
(f) means resiliently mounted on said first induction coil component for supporting a part to be heat treated in spaced relation to said first and second induction coil components when they are in engagement with the bus bars and with said shunt member,
(g) means for moving said first and second induction coil components into and out of a communicating position with respect to said pair of bus bars, and
(h) means for actuating said induction coil components when they are out of said communicating position with respect to said pair of bus bars to compress said resiliently mounted supporting means, thereby causing intimate clamping engagement of said first and said second induction coil components with said part to chill it by conduction.

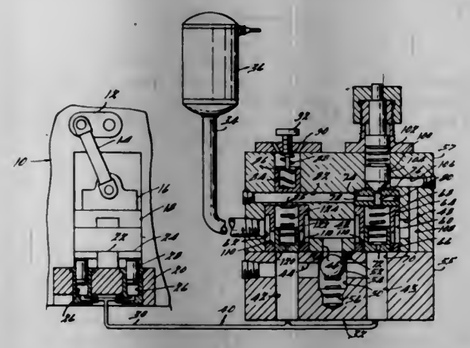
3,268,219
CONDENSER FOR SOLIDIFYING METAL VAPOURS
Desmond M. Peplinski, Haley, Ontario, Canada, assignor to Dominion Magnesium Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed Jan. 8, 1962, Ser. No. 164,651
4 Claims. (Cl. 266—19)



1. Apparatus for solidifying metal vapour distilled from ore by thermal reduction which comprises an ore reduction furnace, a cylindrical condenser exteriorly of said furnace and having a closed end and an open end communicating with said furnace, a metal sleeve removably seated in said condenser and having an open end portion projection into said furnace through said open end of said condenser, said sleeve having its other end portion disposed in proximity to said closed end of said condenser, said sleeve also having a longitudinally extending slot therein extending from said open end throughout the major longitudinal extent of said sleeve, said slot having a minimum width of one-eighth inch, and a metal vapour retaining baffle in said other end of said sleeve.

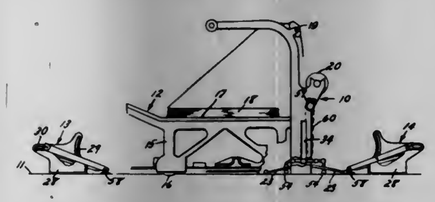
3,268,220
HYDRAULIC CUSHION FOR DIES
Floyd M. Williamson, Detroit, Mich., assignor to Di-Dro Engineering Company, Detroit, Mich., a corporation of Michigan
Filed Jan. 6, 1964, Ser. No. 335,730
8 Claims. (Cl. 267—1)

1. In a press having a ram, a die, a hydraulic cushion for said die including at least one hydraulic cylinder provided with a reciprocating piston therein arranged to react on said die so as to bias it to its extended position; a tank of hydraulic fluid under regulated relatively low pressure, a hydraulic fluid connection between said tank and said cylinder whereby hydraulic fluid under tank pressure is supplied from said tank to said cylinder and piston for biasing said die to its extended position but return flow through such connection is prevented, a second hydraulic fluid connection between said tank and cylinder having normally closed pressure relief valve means therein including a pilot valve and other valve means adapted to provide a bypass in the second fluid connection around the pilot valve on opening of the other valve means whereby a predetermined resistance to displacement of hydraulic fluid from the cylinder is provided so as to form a hydraulic cushion for said die upon closing of the press ram, and means to reduce the back pressure in said second fluid connection on the cylinder side of said pressure relief valve means due to resistance to opening movement of said pressure relief valve means prior to the opening of said pressure relief valve means including an accumulator chamber cylinder having a portion at one end in communication with said pressure relief valve means of sub-



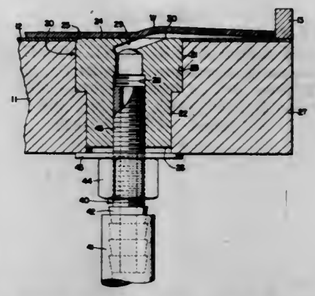
stantially the same volume as the volume displaced by said other valve means before opening thereof, a piston in the accumulator chamber and resilient means engaged with the accumulator piston urging the piston in a direction to reduce the portion of the accumulator chamber in communication with the pressure relief valve means.

3,268,221
AIR REMOVAL ROLLER FOR CLOTH LAYING MACHINES
Werner Rosenbach, New York, N.Y., assignor to Cutting Room Appliances Corp., New York, N.Y., a corporation of New York
Filed Nov. 27, 1964, Ser. No. 414,175
2 Claims. (Cl. 270—31)



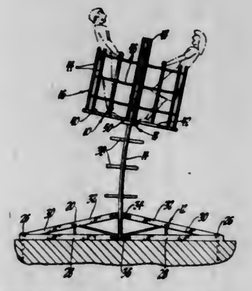
1. In a cloth laying machine, including a cloth laying table having an upwardly disposed surface, and a carriage element slideably carried by said table and having means dispensing a continuous web of material upon said table, the improvement comprising: means for squeezing air entrapped between adjacent layers of material as the same are laid upon the surface, said means including a roller of a length at least equal to the width of said cloth web of material, and pivotally mounted link means yieldably supporting said roller transversely to the axis of movement of said carriage upon said table, at the level of the highest layer of material disposed upon said surface; said last mentioned means including first and second brackets mounted upon said means for dispensing said web, each of said brackets having a first link pivotally mounted for movement upwardly only from a horizontal disposition, and a second link pivotally mounted for free rotation on said first link, said roller being carried by said second link.

3,268,222
WORK FABRIC TRANSPORTING DEVICES
Joseph W. A. Off, Succasunna, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed May 7, 1964, Ser. No. 365,575
2 Claims. (Cl. 271—74)



1. In a fabric guiding device including a supporting base having an under surface and a fabric guiding upper surface associated therewith and fabric edge guiding means extending from said upper surface, a fabric transporting means comprising an air nozzle having a cylindrical body including an upper portion with a top surface substantially normal to said cylindrical body and a lower portion of reduced diameter having a bottom surface, said cylindrical body formed with a blind axial threaded bore entering said bottom surface, and a cylindrical conduit having an axis inclined to the top surface of said upper portion, said conduit defining an elliptical orifice completely within the confines of said top surface and intersecting said blind bore, said base being formed with a counterbored aperture accommodating said air nozzle body with said top surface of said body portion flush with said fabric guiding upper surface of said base and said bottom surface of said body portion slightly above the under surface of said base, a hollow threaded stud threadedly engaging said axial bore in said air nozzle body, a clamp nut threadedly engaging said stud and bearing against the under surface of said base to lock said air nozzle in selected angular position in said counterbore.

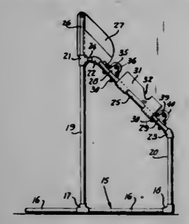
3,268,223
ROTATABLE PLAYGROUND DEVICE
Harold C. Woodsum, Jr., 18220 Dunblaine, Birmingham, Mich.
Filed Mar. 18, 1964, Ser. No. 352,767
3 Claims. (Cl. 272—33)



1. A playground device, comprising:
a vertically disposed member having means of fixed support provided at the lower end thereof,
a turntable including means for leaning support for persons standing thereon,

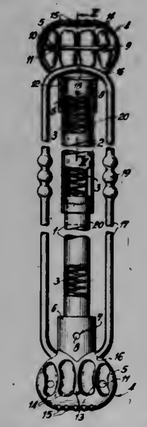
means rotatably mounting said turntable on the upper end of said member,
and said member having a length-to-radius ratio permissive of oscillating movement under the control and influence of persons supported on said turntable and in the course of shifting their weight.

3,268,224
SUPPORTING FRAME FOR BAR BELLS AND HAND OPERATED EXERCISING DEVICES
George W. Freshour, Carmichael, Calif.
(5543 San Juan Ave., Citrus Heights, Calif. 95610)
Filed Oct. 16, 1963, Ser. No. 316,578
9 Claims. (Cl. 272—81)



1. A universal exercising machine comprising a self supporting frame means including a horizontal base means, a plurality of upright standard means fixedly secured to said base means, at least two of said standard means being secured together at their top portions by a substantially horizontal bar means, two of said standard means connected to each side or said base means being fixedly secured together at their top portions by an angularly disposed bar means, said angular bar means being interconnected by a plurality of shaft means carried by suitable bearing means supported by said angular bar means, pulley means mounted on the intermediate portion of each of said shaft means, and padding means secured to and supported by said horizontal bar means.

3,268,225
SPRING TYPE PHYSICAL EXERCISER
Gert F. Kölbel, Hamburger Allee 36/37,
Hannover, Germany
Filed July 22, 1963, Ser. No. 296,834
Claims priority, application Germany, Oct. 25, 1962, K 48,057
9 Claims. (Cl. 272—83)



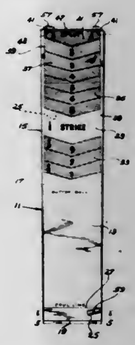
8. A physical exerciser comprising tubes arranged as a telescopic system, a compression spring means housed therein and biasing said tubes apart, handles mounted on opposite ends of said system, each handle consisting of two bowl-shaped pieces symmetrically secured to opposite ends of said tubes, recesses in said bowl-shaped pieces, an endless rope having at least one track with a first bight at one end and a second bight at the other end, said first bight passing through the recess of one handle and said second bight passing through the recess of the other handle.

3,268,226
PRACTICE BASEBALL BAT
Joseph Martino, 20 La Guardia Ave., Staten Island, N.Y.
Continuation of application Ser. No. 199,410, June 1, 1962. This application Nov. 24, 1964, Ser. No. 415,852
2 Claims. (Cl. 273—26)



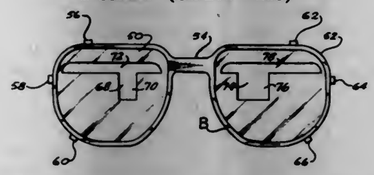
1. A practice baseball bat having a round tapered handle, a substantially cylindrical body including an end length, said end length having a strike zone, said cylindrical body having a diameter greater than said handle, a lateral opening passing through said body along the strike zone of said bat and extending part way from the end length to the handle, the location of said strike zone defining the desired hitting area of said bat, the width and length of said lateral opening being adapted to permit the passage of a ball, an open-work bag means, said bag means attached to said lateral opening, said bag means being tapered and open at the free end.

3,268,227
SIMULATED BOWLING GAME WITH INCLINED BOARD, CYLINDRICAL PROJECTILE AND INDICIA TARGET ZONES
Samuel A. Thatcher, Jr., 75—11 Myrtle Ave.,
Glendale 27, N.Y.
Filed May 3, 1961, Ser. No. 107,521
6 Claims. (Cl. 273—108)



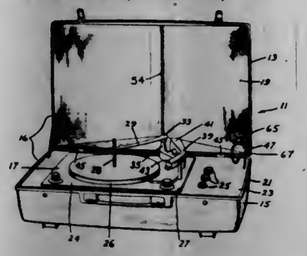
5. A simulated bowling game comprising a flat gameboard integral with end and side walls, elevated at one end and extending downwardly and away from a player toward the walled end, which gameboard is made of a printed sheet material, folded to form an end and sides, with the sides tapering downwardly and inwardly for substantially all their lengths, a cylindrical rolling member which will roll down the inclined board and have downward movement arrested by contact with a side wall and zones on the gameboard adjacent to the sides and marked for various bowling pinfalls.

3,268,228
HEAD MOVEMENT CONTROL DEVICE FOR GOLFERS
Hyman Novack, University City, Mo.
(8308 Amherst, St. Louis 32, Mo.)
Filed Sept. 6, 1963, Ser. No. 307,056
1 Claim. (Cl. 273—183)



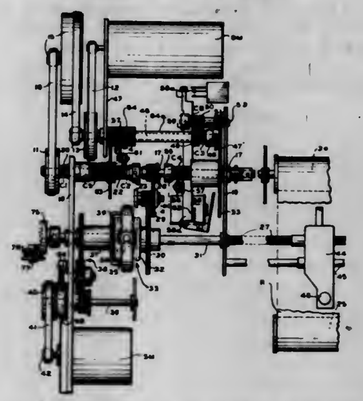
A golfing aid comprising a frame, first and second opaque eyepieces secured to said frame, said first eyepiece including a first aperture having a first rectangularly shaped lower portion and a first laterally extending upper portion, said second eyepiece including a second aperture having a second rectangularly shaped lower portion and a laterally extending upper portion, the upper portions of each of said apertures being substantially wider than the respective lower portions and the first lower portion being substantially wider than said second lower portion, and means for holding said frame in fixed position with respect to a human, said first and second lower portions being located in adjacent upper quadrants of the respective eyepieces, each of said apertures being substantially smaller than said eyepieces, and being surrounded on all sides by the opaque material comprising said eyepieces.

3,268,229
PORTABLE PHONOGRAPH
Roger L. Funk, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 4, 1963, Ser. No. 321,052
2 Claims. (Cl. 274—1)



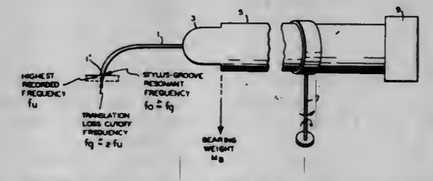
1. In a device for reproducing sound, an automatic record player mechanism including an elongated spindle and a tone arm positioned on a turntable, housing means including a first portion upon which said record player mechanism is supported and a second portion in pivoted cooperable relationship with said first portion, said turntable being located at the top of said first portion with said spindle and tone arm projecting upwardly and outwardly from said top, said second portion being movable between open and closed positions thereby to open and close said housing means for enabling selective access to said record player mechanism and protection thereof, said second portion having a recess therein facing and overlying said record player when said second portion is in its closed position, and a single speaker enclosure ensconced within said recess, said speaker enclosure comprising a single sheet of substantially rigid material disposed in a V-shaped configuration in said recess to provide a uniform and continuous V-shaped cavity overlying said automatic record player when the second portion of the housing means is in its closed position, said cavity of the second housing portion being arranged with respect to the top of said first housing portion to receive said spindle and said tone arm when said second housing portion is in its closed position, whereby the cooperation of said spindle and tone arm with the cavity of said speaker enclosure provides an overall device which is efficient in operation and compact in construction.

3,268,230
DICTATING MACHINE
Richard K. Walker, Convent, N.J., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Sept. 23, 1965, Ser. No. 489,603
18 Claims. (Cl. 274—17)



1. A drive mechanism for a phonographic machine adapted for recording and reproducing dictation comprising a rotatable record supporting device, a shaft coupled to said record supporting device and adapted to be driven selectively at normal and at above-normal speeds, a drive motor, a drive wheel journaled on said shaft, a sleeve journaled on said shaft, a first drive gear journaled on said sleeve, means for rotating said drive wheel by said motor in a forward direction at a normal speed, selectively operable means for causing said first gear to be driven by said motor in a forward direction at above-normal speed, a first one-way clutch for coupling said drive wheel to said sleeve, a second one-way clutch for coupling said first gear to said sleeve, and a third one-way clutch for coupling said sleeve to said shaft whereby when said first and third clutches are engaged said shaft is driven forwardly at normal speed and when said second and third clutches are engaged said shaft is driven in a forward direction at above-normal speed.

3,268,231
METHOD OF AND APPARATUS FOR REPRODUCTION OF PHONOGRAPH RECORDS AND THE LIKE
Frederick V. Hunt, 44 Beatrice Circle, Belmont, Mass.
Filed Sept. 24, 1963, Ser. No. 311,096
13 Claims. (Cl. 274—23)



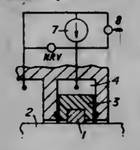
1. A low-noise ultra-lightweight pickup comprising an arm-supported stylus for engaging the grooves of phonograph records of elastic modulus E_v, groove velocity V

and an uppermost recorded frequency f_u, the stylus having an equivalent mass of value only sufficient to resonate with the elasticity of the walls of the record grooves at a frequency f_o above both f_u and the cut-off translation-loss frequency f_t determined substantially by the relationship

$$f_t = 0.0485V(E_v/rM_B)^{1/3}$$

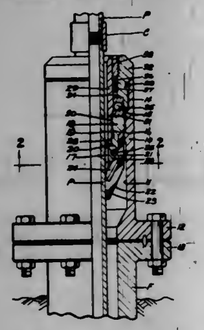
where r is the radius of the said stylus and M_B is the pickup bearing weight.

3,268,232
SHAFT SEAL ASSEMBLIES
Michael Richards, Chalfont St. Giles, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain
Filed Apr. 25, 1963, Ser. No. 275,768
Claims priority, application Great Britain, Apr. 25, 1962, 15,700/62
4 Claims. (Cl. 277—27)



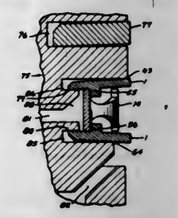
1. A shaft seal assembly comprising: a stationary shaft housing; a rotatable shaft passing through said housing; a rotationally stationary member of soft packing material arranged around said shaft and sealingly contacting the peripheral surface thereof; a jacket of material having a low modulus of elasticity embracing the sides and the outer surface of said member, said jacket being disposed in said housing for radial movement relative to said shaft and being stationary relative to the rotation of said shaft; at least one sealing member between said jacket and said housing; and means for supplying fluid pressure to the outer peripheral surface of said jacket to urge said member sealingly against said shaft.

3,268,233
ROTARY STRIPPER FOR WELL PIPE STRINGS
Cicero C. Brown, Houston, Tex., assignor to Brown Oil Tools, Inc., Houston, Tex., a corporation of Texas
Filed Oct. 7, 1963, Ser. No. 314,154
5 Claims. (Cl. 277—31)



1. A rotary stripper for well pipe strings, comprising a tubular body attachable to a wellhead fitting through which a pipe string is moved, internal shoulder means in the bore of the body, a stripper assembly mounted in the bore of said body, means rotatably supporting said assembly on said shoulder, said stripper assembly including a hanger ring, a flexible resilient stripper element pendent from said hanger ring, the exterior of said stripper element being of downwardly tapering frusto-conical shape and having an axial bore dimensioned to constrictively seal about a pipe string extending therethrough, a metallic reinforcing collar comprising a plurality of complementary segments molded into the bore wall of said stripper element spaced from its lower end, said segments being hingedly secured to said hanger ring for radial movement with the expansion and contraction of said stripper element, an upwardly extending tubular sleeve secured to the hanger ring in concentric spaced relation to said body to define an annular space therebetween, a tubular bushing extending into said annular space and threadedly secured to said body, said rotatable supporting means including antifriction bearing means positioned in said annular space between said bushing and said stripper assembly, and means sealing between said sleeve and said bushing.

3,268,234
MULTI-PURPOSE PISTON RING ASSEMBLY
Walter C. Knoebel, St. Louis County, Mo., assignor to McQuay-Norris Manufacturing Company, St. Louis, Mo., a corporation of Delaware
Filed May 10, 1963, Ser. No. 279,413
3 Claims. (Cl. 277—139)



1. In a piston ring assembly for a cylinder and piston combination, said piston having a peripherally extending groove with upper and lower lands, said ring assembly including a pair of substantially identical cylinder-engaging rings, and a circumferentially expansible and contractible non-bottoming expander spring disposed axially between said rings and in radially-outward biasing relation therewith, the improvement which comprises: each cylinder-engaging ring having:

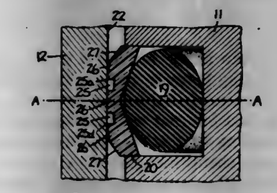
(1) an outer peripheral face for engaging the cylinder, and an inner peripheral face radially remote from said outer peripheral face,

(2) a side face for engaging one of said lands; said side face extending between said inner and said outer peripheral faces, and, at any cross-section taken along a radius, being substantially flat but out of normal to the axis of said ring in the sense that said side faces of the respective cylinder-engaging rings converge toward said axis;

(3) an opposite side face having a circumferentially extending, axially projecting rib intermediate said peripheral faces, said rib providing an expander-thrust-receiving-surface which makes an angle of not more than 90° with said opposite side face and which surface is located closer to said inner peripheral face than to said outer peripheral face;

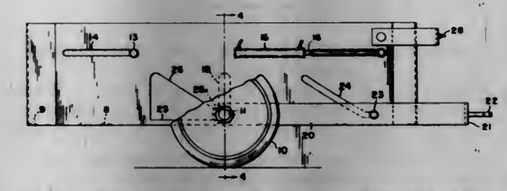
said groove having a sub-groove embracing the inner periphery of the uppermost one of said cylinder-engaging rings and engaging the opposite side (3) thereof adjacent its inner periphery; said rings being disposed with their respective ribs addressed toward each other and the expander-thrust-receiving-surface of each rib being so engaged with said expander spring that the radially outward biasing action of the expander is delivered to said ribs substantially free of components which tend to decrease the converging relationship between the first-mentioned side faces of the respective cylinder-engaging rings.

3,268,235
PISTON ACCUMULATOR SEAL
Alphonse A. Jacobellis, 7 New Dorp Place, Huntington Station, N.Y.
Filed Mar. 29, 1965, Ser. No. 444,945
2 Claims. (Cl. 277—165)



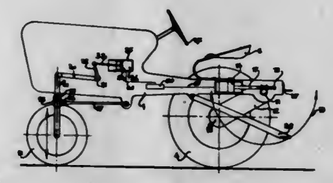
1. A sealing assembly comprising:
a cylinder having an inner surface therein,
a piston having a side wall disposed within said cylinder to reciprocate longitudinally therein, side piston having an annular recess in said side wall facing said inner surface of said cylinder,
an O-ring disposed in said recess and
a Teflon sealing ring partially disposed in said recess between said O-ring and said inner surface of said cylinder, said sealing ring having a shallow V-shaped inner surface in pressure contact with said O-ring and an outer riding surface in sealing contact with said inner wall of said cylinder, said riding surface having a pair of annular grooves disposed therein, said grooves being spaced on either side of the plane of symmetry of said sealing ring, said O-ring being squeezed between said V-shaped surface of said sealing ring and the inner wall of said recess in said piston causing said sealing ring to bow solely around said O-ring whereby the outer corner of each of said grooves in said riding surface is forced into intimate contact with said inner surface of said cylinder.

3,268,236
TRAILER
Edgar L. Stevens, 836 17th Ave., Vero Beach, Fla.
Filed Mar. 5, 1964, Ser. No. 349,711
5 Claims. (Cl. 280—43.23)



1. A trailer having a body provided with side walls, a plate disposed against and facially overlying each of the side walls, an axle extending across the body, wheels carried on the axle, the side walls each having a slot opening through which the axle extends and which permits the body to have a raising or lowering movement with respect to said axle, each of the plates having a cam-shaped opening through which the axle extends, said cam-shaped openings causing the body to be raised or lowered upon longitudinal movement of the body relatively to the plates, each of the plates having an inclined guide slot, a pin on each of the side walls of the body entering through the inclined guide slots, the plates having longitudinal guide slots, pins on the side walls of the body extending through the longitudinal guide slots, and hydraulic means operable on at least some of the latter pins to cause longitudinal shift of the body relatively to the plates while also causing raising of the body and the plates therewith.

3,268,237
VEHICLE HAVING A FRAME SUPPORTED BY GROUND WHEELS
Cornelis van der Lely, 7 Bruschenrain, Zug, Switzerland, and Ary van der Lely, 10 Weverskade, Maasland, Netherlands
Filed May 27, 1964, Ser. No. 371,878
Claims priority, application Netherlands, Oct. 14, 1954, 191,527
10 Claims. (Cl. 280—124)



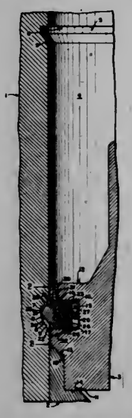
1. A vehicle comprising a frame, wheels adapted for supporting said frame, arms, shafts pivotably connecting said arms to the frame, said wheels being rotatably attached to said arms, adjusting means operatively associated with each of said shafts to adjust the height of said wheels individually relative to the frame, said adjusting means each comprising a cylinder and a piston in said cylinder, each said piston and cylinder being substantially horizontal, each said piston being operatively coupled to one of said shafts, means for supplying a pressure fluid to each said cylinder for moving each piston in the associated cylinder and for maintaining the fluid in each said cylinder to maintain the positions of the pistons, the cylinders and arms being located on the same side of a vertical plane containing the axis of the associated shaft, said cylinders being between said wheels and a gas-filled enclosure means operatively connected to each of said cylinders for permitting limited movement of the respective said piston in each said cylinder in opposite directions for providing individual resilient movement of each of the wheels with respect to the frame in opposite directions.

3,268,238
PUBLICATIONS
Richard Finkel, 127 Elgin St., Newton, Mass.
Filed June 3, 1964, Ser. No. 372,330
3 Claims. (Cl. 283—63)



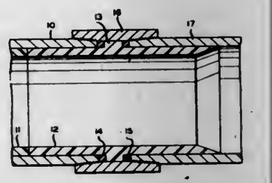
3. A publication comprising, in combination,
a plurality of pages affixed to one another along a common margin;
a text impressed upon at least one of said pages and including an expression of an act of a reversible periodicity; and
a parallax panoramagram laminated on one of said pages and comprising interlineated lineform dissections of at least three pictures having common subject matter, the representations of which differ primarily in the positioning of those parts of said subject matter illustrative of changes occurring in the performance of said act.

3,268,239
UNDERWATER WELLHEAD ASSEMBLIES
Edward E. Castor and Michael A. Walker, Houston, Tex., assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Aug. 19, 1963, Ser. No. 302,973
1 Claim. (Cl. 285—3)



In an underwater wellhead assembly, the combination of
a wellhead member having an upright passage therethrough,
said member having a transverse annular internal groove,
the wellhead assembly including means presenting a transverse upwardly directed shoulder in said passage below said groove;
an internal wellhead member dimensioned for downward insertion into said passage and having
downwardly directed shoulder means disposed to engage said upwardly directed shoulder to support said internal wellhead member in said passage, and
an outwardly opening cylindrical recess spaced axially from said downwardly directed shoulder means by a distance such that said recess opens toward said groove when said shoulder means engages said shoulder, said recess being threaded;
an exteriorly threaded ring disposed in the outer end portion of said recess and extending thereacross, the threads of said ring being engaged with the threads of said recess;
a shear member comprising a body portion and a tip portion,
said tip portion having a cam face slanting from said body portion longitudinally and toward the central axis of said shear member,
said shear member having a longitudinally extending flat surface;
said ring slidably embracing said shear member and lying in a plane transverse thereto,
the inner periphery of said ring including a flat portion engaging said flat surface of said shear member to prevent rotation of said shear member relative to said ring,
said ring being so oriented relative to said internal wellhead member that said cam face is directed downwardly;
resilient means engaged between said shear member and the inner end of said recess and biasing said shear member outwardly; and
laterally projecting stop means fixed to said shear member at a point on the side of said ring which is inwardly of said recess,
the biasing action of said resilient means causing said stop means to engage said ring and so position said shear member that said tip portion projects outwardly beyond the mouth of said recess for latching engagement in said groove,
said shear member being provided with a longitudinal bore communicating between the exterior of said tip portion and the interior of said recess inwardly of said ring whereby, when said internal wellhead member is lowered through surrounding liquid, the liquid can enter said recess behind said shear member to eliminate any fluid pressure differential across said shear member which would tend to oppose the biasing action of said resilient means.

3,268,240
PLASTIC-LINED CONDUIT
Robert V. Gerner, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 14, 1963, Ser. No. 316,016
1 Claim. (Cl. 285—55)

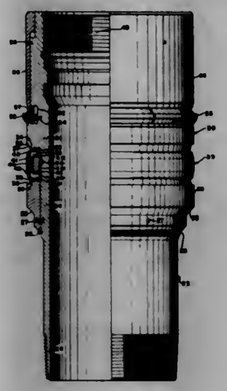


Apparatus comprising first and second metal pipes having threaded terminal ends, a threaded coupling joining said metal pipes, a plastic liner extending through said pipes and having an integral peripheral shoulder disposed within said coupling and between said terminal ends of said first and second pipes, and resilient seal rings between said shoulder and the radial faces of each of said terminal ends to effect a seal between said plastic liner and said metal pipes and to anchor the end of said plastic liner.

3,268,241
SEAL DEVICES AND WELLHEAD MEMBERS EMBODYING THE SAME
Edward E. Castor, Claude R. Nellon, Michael A. Walker, and William W. Word, Jr., Houston, Tex., assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Aug. 19, 1963, Ser. No. 302,994
15 Claims. (Cl. 285—139)

1. In a seal device for establishing a fluid-tight seal between two telescopically related well members, the combination of
a first metal member having an upper portion having a cylindrical outer surface and a dependent lower portion of smaller transverse dimension than said upper portion, said first member also including
a downwardly and inwardly slanting frusto-conical seal-supporting surface, and
a transverse downwardly facing stop surface;
a second metal member of annular form surrounding said lower portion of said first member and having
an upwardly and inwardly slanting frusto-conical seal-supporting surface,
a transverse upwardly facing stop surface, and
downwardly directed shoulder means disposed for engagement with a supporting shoulder on the outer one of the two well members;

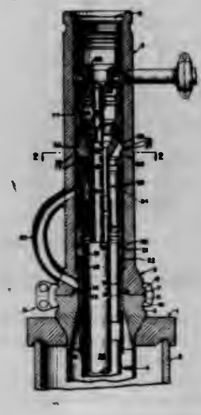
releasable means engaged between said lower portion of said first member and said second member and retaining said second member initially in a position in which said seal-supporting surfaces and said stop surfaces are spaced axially apart;
a seal ring comprising
an annular metal support embracing said lower portion of said first member and disposed between said stop surfaces, and
a resiliently flexible sealing element carried by said support and having an upper annular sealing lip projecting from said support toward said downwardly and inwardly slanting surface and a lower annular sealing lip projecting from said support toward said upwardly and inwardly slanting surface; and
releasable means engaged between said support and said lower portion of said first member and retaining said seal ring initially in a position between said upper portion of said first member and said second member,



the configuration of said resiliently flexible sealing element when the same is relaxed being such that said upper and lower sealing lips each slant inwardly so as to be protected from engagement with surrounding members during the downward movement required for installation of the seal device,
downward movement of said first member relative to said second member after engagement of said second member with a support shoulder being effective first to release said first-mentioned releasable means to allow said support to engage said upwardly facing stop surface, and then to release said second releasable means to allow said support to engage said downwardly facing stop surface,
said lips being deformed outwardly into operative sealing positions by the respective ones of said seal-supporting surfaces when said support engages both of said stop surfaces.

3,268,242
WELLHEAD ASSEMBLIES
Robert Bishop and William W. Word, Jr., Houston, Tex., assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Aug. 19, 1963, Ser. No. 302,937
3 Claims. (Cl. 285—142)

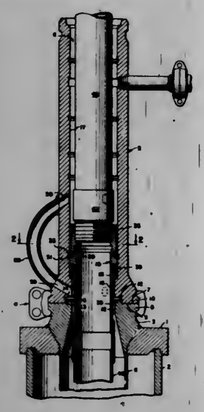
1. In an underwater wellhead assembly, the combination of
a wellhead member having
an upright passage,
upwardly facing shoulder means within said passage, and
a transverse annular groove opening inwardly into said passage;
a hanger disposed in said passage and comprising
downwardly directed shoulder means opposed to said upwardly facing shoulder means, said hanger being rigidly supported by said upwardly facing shoulder means,
means for attaching a dependent string of well pipe to said hanger,
a body portion filling said passage, and
an upwardly projecting portion spaced radially inwardly from the surrounding wall of said passage above said body portion, said body portion being formed with at least one flow opening for communication between the space surrounding said well pipe and the space between said upwardly projecting portion and the wall of said passage;
an annular seal device disposed between said upwardly projecting portion of said hanger and the wall of said passage, said seal device comprising



an upper annular metal body having an outwardly opening recess opening toward the wall of said passage, a latch element disposed in said recess, and means biasing said latch element outwardly,
an intermediate metal ring, and
a lower annular metal body,
said upper annular metal body and said intermediate ring having cooperating generally axially directed abutment surfaces,
said lower annular metal body and said intermediate ring having cooperating generally axially directed abutment surfaces,
said lower annular metal body being seated on said body portion of said hanger; said abutment surfaces of said upper annular body, said intermediate ring, and said lower annular body being in series metal-to-metal axial engagement; said recess in said upper annular body opening toward said inwardly opening groove in said wellhead member, and said biasing means urging said latching element outwardly into latching engagement in said groove to restrain said seal device against upward movement relative to said wellhead member,
said seal device further comprising
an inner flexible sealing ring carried by said intermediate metal ring, and
an outer flexible sealing ring carried by said intermediate metal ring,

said inner sealing ring and said outer sealing ring being urged respectively into sealing engagement with said upwardly projecting portion of said hanger and the wall of said passage below said inwardly opening groove by engagement with said upper and lower annular metal bodies.

3,268,243
WELLHEAD ASSEMBLIES
William W. Word, Jr., Houston, Tex., assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Aug. 19, 1963, Ser. No. 302,974
9 Claims. (Cl. 285—142)



1. In an underwater wellhead assembly, the combination of

wellhead body means adapted for upright installation on a suitable base structure and having

an upright passage, and

transverse upwardly directed shoulder means;

casing hanger means disposed in said passage and supported by said shoulder means,

said hanger means filling said passage above said shoulder means,

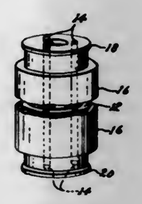
said hanger means and said body means cooperating to effect a seal against upward flow of fluid around said hanger means;

means carried by said body means and defining at least one by-pass flow duct exterior to said passage and communicating between a point in said passage below said hanger means and a point in said passage above said hanger means; and

a load-bearing tubular internal wellhead member supported in said passage above said hanger means and sealed to said body means to prevent fluid flow through said by-pass flow duct.

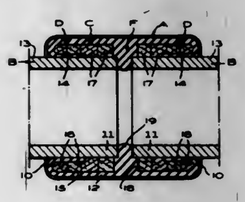
3,268,244
UNIVERSAL COUPLER
John Christopher Kotelly, 176 Marine Road, South Boston, Mass., and Anthony Sciola, 509 Ferry St., Everett, Mass.
Filed Sept. 4, 1963, Ser. No. 306,667
5 Claims. (Cl. 285—235)

1. A coupling for releasable connection to a pipe comprising: a frame comprised of a base having a substantially rigid, annular end face and a plurality of upstanding rod-like members secured generally equiangularly about said face, said members being composed of a material and having a ratio of length to thickness to provide said members with a resilient characteristic such that, within their elastic limit they will twist and deform radially inwardly with respect to said annular end face upon the application of a torque force to said members; pliable means immovably secured to said members to form at least one section of a peripherally continuous conduit that extends from said annular end face to the



end of said members remote from said face; and means on the exterior of said pliable means for releasably attaching said coupling with said pipe upon a reduction in diameter of said pliable means by the application of a twisting force between said base and the ends of said members remote from said base.

3,268,245
PIPE COUPLING
Marvin Wood, Tiburon, Calif.
(79 Post St., San Francisco, Calif.)
Filed July 23, 1964, Ser. No. 384,720
3 Claims. (Cl. 285—236)



1. A pipe coupling comprising:

(a) a cylindrical outer shell having opposite ends provided with openings into which pipe sections may be inserted;

(b) a sleeve gasket disposed within the shell and having sufficient length to bridge across adjacent ends of the pipe sections;

(c) this gasket defining a cylindrical base contacting with an interior surface of the shell, this base being spaced from the exterior surfaces of the pipe sections;

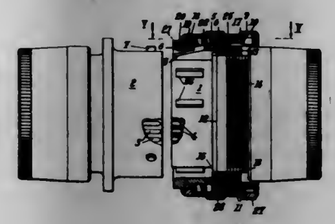
(d) the gasket further being formed with a pair of annular flaps, one being connected to each of the opposite ends of the base, these flaps projecting toward one another and being located to surround and bear against the exterior surfaces of the pipe sections;

(e) the flaps being spaced inwardly from the interior surface of the base to form circumferential recesses encircling the pipe sections;

(f) gasket rings mounted in the recesses to surround and bear directly against the annular flaps, and being made from a material that will expand when subjected to water reaching them from between adjacent ends of the pipe sections, thereby forcing the annular flaps into fluid-tight relation with the exterior surfaces of the pipe sections;

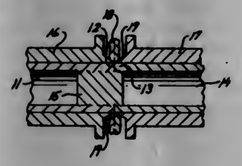
(g) and means operable to contract the shell against the sleeve gasket to compress the latter and the gasket rings against the pipe sections.

3,268,246
CONNECTORS, IN PARTICULAR FOR ELECTRIC CIRCUITS
Albert Obeissart, Boulogne-sur-Seine, France, assignor to Société Souriau & Cie, Gallieni, France, a society of France
Filed Mar. 25, 1964, Ser. No. 354,617
Claims priority, application France, Mar. 26, 1963, 929,328
4 Claims. (Cl. 285—277)



1. A connector which comprises, in combination, two parts, a male one and a female one, adapted to engage coaxially, two rings, one surrounding the other and movably carried by one of said parts coaxially therewith, means for guiding the outer of said rings for axial movement only with respect to said one part, means for limiting the movement of the inner of said rings with respect to said outer ring both axially and angularly, a lug carried by the other of said parts, said inner ring being provided with an oblique groove adapted to cooperate with said lug so as to cause said inner ring to rotate with respect to said outer ring when said parts are moved axially toward each other, said inner ring being provided with a transverse surface, a second lug carried by said outer ring adapted to move along said surface, said inner ring being provided with a longitudinal recess opening into said transverse surface and adapted to receive said second lug when the inner ring has been rotated by the full engagement of said first lug in said groove, whereby said rings are locked against relative rotation and a rearward pull on the outer ring is sufficient to separate said parts.

3,268,247
PIPE JOINT CONSTRUCTIONS AND METHODS OF MAKING THE SAME OR THE LIKE
Kenneth E. Murphree, Florence, Ala., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Dec. 17, 1962, Ser. No. 245,292
4 Claims. (Cl. 285—286)



4. In combination, a first length of pipe having an end, a second length of pipe having an end, flash weld means joining said end of said second pipe to said end of said first pipe, an insert disposed in said pipes, and flash weld means joining said insert to said ends of said pipes.

3,268,248
INTER-LOCKING WELDED JOINT
James W. Chambers, Rolling Hills Estates, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed Nov. 8, 1963, Ser. No. 322,423
1 Claim. (Cl. 285—286)



An inter-locking weld-joint for maintaining dimensional integrity between annular abutting edges of cylindrical workpiece segments while they are being welded together, comprising:

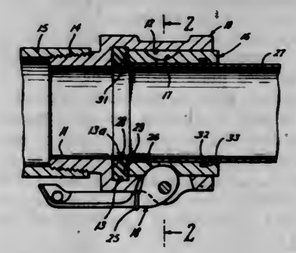
an annular groove provided on one of said abutting edges;

an annular ridge provided on the other of said edges, said groove and said ridge being located on said edges in predetermined positions, and having rounded coacting surfaces whereby said segments are properly aligned with each other upon engagement of said groove and said ridge when said abutting edges are brought together; and

recesses extending inwardly from peripheral wall surfaces on said edges adjacent said ridge and said groove for reception of filling material during welding of said segments together, said ridge and said groove having an annular shoulder adjacent each side thereof, the faces of said shoulders being perpendicular to the axis of said segment,

said recesses each including a flat face extending angularly to a peripheral wall of an associated segment, said recesses having an undercut radius joining an associated shoulder to said flat face.

3,268,249
COUPLING
Robert L. Owens, Houston, Tex., assignor to White Manufacturing Co., Houston, Tex., a corporation of Texas
Filed Aug. 26, 1964, Ser. No. 392,108
4 Claims. (Cl. 285—312)



1. A coupling assembly for connecting two thin wall pipes comprising:

a male and female coupling member adapted to interfit with each other,

said male member having a bore therethrough,

said female member having a bore in one end thereof and a counterbore extending from said bore to the other end of the member for receiving the male member,

at least one of said members being loosely mounted on one of said pipes for relative axial movement thereon,

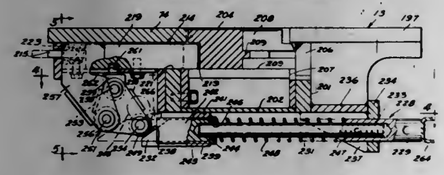
said one pipe having one end flared outwardly to a plane substantially normal to the axis of the pipe,

resilient means including at least one resilient means to seal said coupling against the passage of fluid out of said joint between said pipes and disposed between said one pipe and said one member to retain the flared end of the pipe in contact with a radially extending surface on said one member when the members are uncoupled,

an external annular groove in said male member,

and cam latch means carried by said female member and cooperative with said groove to couple said members together.

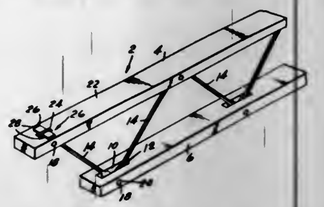
3,268,250
FIFTH WHEEL PLATE ASSEMBLY
Ray Lavern Ferris, Thornton, Ill., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Original application July 22, 1963, Ser. No. 296,692, now Patent No. 3,190,595. Divided and this application Oct. 15, 1964, Ser. No. 415,216
3 Claims. (Cl. 287—20)



1. A fifth wheel plate assembly for supporting and hitching a trailer having a kingpin depending from the underside thereof, said fifth wheel plate assembly comprising a plate, a substantially circular opening in said plate, an entry slot communicating with said circular opening, a coupler jaw supported for turning movement within said circular opening, said coupler jaw including a U-shaped jaw opening which is normally disposed to be engaged by the kingpin entering said circular opening through said entry slot in a manner causing said coupler jaw to be turned to close off communication between said circular opening and said entry slot and retain the kingpin captured within said opening, a locking notch formed on the periphery of said coupler jaw, a locking plunger mounted on said plate for lengthwise movement into and out of seating engagement with said locking notch when the latter is aligned therewith, resilient means biasing said locking plunger into seating engagement with said locking notch, means for retracting said locking plunger from seating engagement within said locking notch, said releasing means comprising a horizontal member movable lengthwise of said plate and having one end projecting outwardly of said plate, a camming member fixed to the other end of said horizontal movable member, a cam follower assembly means, means rockably mounting said cam follower assembly on said plate, said cam follower assembly including means fixed to said locking plunger and means slidably contacting said camming member, and being operative upon inward lengthwise actuation of said movably mounted member to be rocked so that said locking plunger is withdrawn from said locking notch.

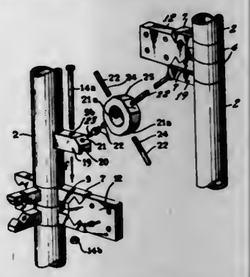
3,268,251
COMPOSITE TRUSSJOIST WITH END BEARING CLIPS
Arthur L. Trontner, Skyline Drive, Boise, Idaho
Filed May 23, 1963, Ser. No. 282,806
8 Claims. (Cl. 287—20.92)

7. In a truss, including a lower chord and a wooden upper chord having a free end portion having opposed sides and opposed lower and upper faces, said free end portion being adapted to be supported by a plate, a slot in said free end portion disposed between said sides and extending at least partly through said free end from said lower face towards said upper face, a cross bore extending from side to side through said free end portion and intersecting said slot, a cross pin comprising an elongate cylindrical shank engaging in said cross bore and bridging across said slot, at least one end of the pin being of the same diameter as the shank, a link having an upper end anchored to said cross pin, said link extending downwardly and away from said free end portion to said lower



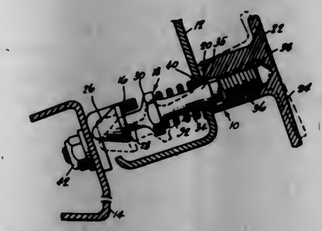
chord, and metal clips having leg portions extending into said slot and connecting with said cross pin, said clips having base portions at right angles to said leg portions respectively and disposed beneath the lower face of said free end portion and having outer end portions projecting outwardly beyond the sides of the free end portion, the outer end portions of the base portions of said clips having apertures therethrough for receiving fasteners whereby the clips may be anchored to said plate.

3,268,252
FRAME STRUCTURE HAVING IMPROVED JOINT MEANS
Robert C. Rolland, 7 Place Stanislas, Cannes, France
Filed Jan. 21, 1964, Ser. No. 339,199
Claims priority, application Great Britain, Jan. 23, 1963, 2,813/63
10 Claims. (Cl. 287—56)



1. A frame structure for a building which comprises at least one column including axially alignable column members having tubular end sections, a cylindrical centering insert member having end parts insertable into adjacent tubular end sections of a pair of aligned column members, a pair of ring members engageable around an intermediate part of said insert member between the end surfaces of said adjacent tubular end sections of the column members, said ring members having radially projecting extensions formed with confronting jaw-like surfaces, at least one beam having a tenon-like projecting end part mating with said jaw-like surfaces of the extensions and adapted to be gripped therebetween, and cooperating interengageable means at each of said end parts of the insert member and in the tubular end section of each column member operable to axially draw towards each other the tubular end sections of both aligned column members against said pair of ring members therebetween while simultaneously tensioning said insert member, thereby to clamp said extensions of the ring members against said end part of the beam therebetween.

3,268,253
TILTING LATCH
Walter T. Appleberry, Long Beach, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed Jan. 31, 1964, Ser. No. 341,665
2 Claims. (Cl. 292—128)



1. A tiltable latch comprising:

a catch assembly;

a cone-shaped catch formed at one end of said catch assembly;

a keeper receiver portion of smaller cross sectional width than the widest part of siad cone-shaped catch, formed on said catch assembly and extending from the wide end of said cone-shaped catch;

a washer-like protuberance formed on said catch assembly at an end of said keeper receiver portion opposite said cone-shaped catch;

a spring holding shaft portion having a cross section smaller than said washer-like protuberance formed on said catch assembly and extending from said washer-like protuberance;

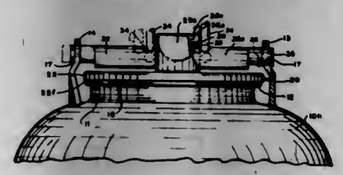
a tapered shaft portion formed on said spring holding shaft portion at an end thereof opposite said washer-like protuberance;

fastening means formed on said latch assembly on a portion thereof adjacent said tapered shaft portion for enabling the fastening of said catch assembly to a handle;

a handle fastened to said fastening means of said catch assembly; and

a coil spring adapted for disposition about said spring holding shaft portion so that one end of said spring abuts said washer-like protuberance.

3,268,254
SYRUP TANK AND COVER THEREFOR
Robert W. Vantroba, Glen Ellyn, and Evans R. Billington and Robert E. Poethig, Glenview, Ill., assignors to The Bastian-Blessing Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 30, 1965, Ser. No. 495,023
20 Claims. (Cl. 292—259)



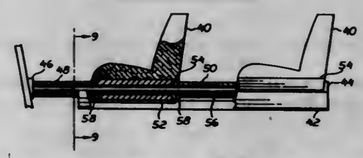
5. A closure member adapted to sealingly close an opening provided in a tank structure, comprising a cover member adapted to marginally engage said opening in pressure-tight relationship, a support member rigidly secured to said cover member and having a transversely extending bore therethrough, a sleeve member having a second bore eccentric to the first said bore, cooperating means between said sleeve and said bore for limiting movement of said sleeve therein, a bar having cam ends thereon slidably and pivotally mounted within said second bore and being equipped with a bail, said bail having spaced-apart end portions on each side of said support member in normally proximate relation thereto, and means to prevent lateral shifting of said bar when said bail is in an upstanding carrying position.

3,268,255
WEEDING AND CULTIVATING IMPLEMENT
Catherine J. Bennett, 1101 E. Orange Grove Ave., Burbank, Calif.
Filed Feb. 9, 1965, Ser. No. 431,381
5 Claims. (Cl. 294—50.9)



1. A weeding and cultivating implement comprising an elongated blade component formed of thin metal and including a ground penetrating distal end portion of concavo-convex transverse configuration, an elongated clamp member disposed at and extending generally parallel to the concave side of said blade component, means pivotally interconnecting said blade component and said clamp member disposed at a point remote from the distal ends thereof and arranged to permit relative movement of said distal ends toward and away from each other, spring means reacting between said blade component and said clamp member constantly operating to move said distal ends apart, a handle means carried by said blade component at the end thereof opposite said distal end and adapted to so position said implement in the hand of a user that the thumb of that hand may engage said clamp member in opposition to the bias of said spring means for moving said clamp member into juxtaposition with said blade for clamping a weed or the like therebetween.

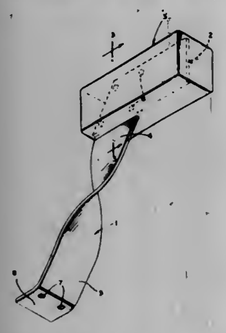
3,268,256
SAFETY SHOCK ABSORBER SYSTEMS
Stewart M. Blank, 4634 Manhattan Beach Blvd., Lawndale, Calif.
Filed Feb. 15, 1965, Ser. No. 432,736
8 Claims. (Cl. 297—216)



1. In combination with a vehicle seat, installed in a vehicle, a shock absorber system which comprises: a seat frame, said seat frame adapted to retain a vehicle seat, said seat frame including a front member and a rear member, a multiplicity of rod members, said rod members having a first end and a second end, said rod members adapted to be installed through said seat frame through said front and rear members, said second ends of said rod members adapted to restrain said seat frame from rearward motion, said first ends of said rod members adapted to be fixed to the frame of a vehicle; a pair of rails, said rails adapted to be mounted in a vehicle, said rails adapted to limit said seat frame to linear motion toward the front and rear of a vehicle; a multiplicity of deformation tubes, said deformation tubes installed over

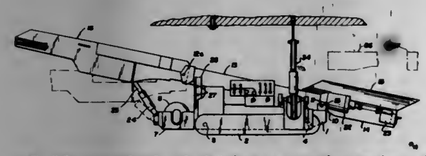
said rod members in a concentric relationship, said deformation tubes adapted to be installed between said front member of said seat frame and a vehicle frame and said tubular members adapted to fail in compression to absorb shock energy due to forward inertial motion of a vehicle seat during a collision.

3,268,257
KNEE REST FOR DRIVER OF AUTOMOBILE
William Earl Delaney, 12253 8th NW., Seattle, Wash.
Filed July 1, 1964, Ser. No. 379,490
1 Claim. (Cl. 297—427)



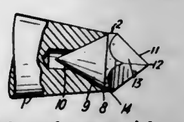
In combination with a machine operator's seat, a knee rest comprising; an elongated flat metal bracket arm having one end thereof bolted to the underside of said seat with the arm being inclined upwardly away from the seat, said bracket arm being twisted along its length with the upper end thereof in a vertical plane parallel to the general plane of the user's leg and at substantially 90° to the plane of the lower end thereof, a flat metal mounting arm fixed to the upper end of said bracket arm and extending in a vertical plane in a generally horizontal direction away from the seat and parallel with the plane of the upper end of said bracket arm, first and second cushioned elements mounted on opposite sides of said mounting arm, said cushioned elements covering both sides of said mounting arm and the connection between said mounting arm and said bracket arm, and a flexible cover surrounding said cushion elements, whereby said rest provides a fixed support for the user's knee and leg with said bracket arm including the twisted portion thereof being maintained away from the user's leg.

3,268,258
CONVEYING AND ROOF BOLTING METHOD AND APPARATUS
William G. Kegel, Brownsville, Pa., assignor to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 21, 1962, Ser. No. 225,281
5 Claims. (Cl. 299—18)



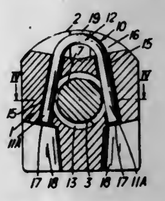
5. The method of driving a continuously advancing mine face and intermittently providing roof support immediately behind the face comprising cutting and discharging material from the mine face in a continuously advancing operation, transferring the mined material to a continuously advancing first conveyor, continuously discharging the mined material from the first conveyor onto a second movable conveyor, halting the second conveyor and performing a roof drilling and bolting operation therefrom without interrupting the discharge of material thereon from the first conveyor, and then advancing the second conveyor toward the mine face.

3,268,259
COAL-CUTTER PICKS
Arthur Snipe, Doncaster, England, assignor to Mining Supplies Limited
Filed Mar. 7, 1963, Ser. No. 263,487
Claims priority, application Great Britain, Apr. 27, 1962, 16,105/62
2 Claims. (Cl. 299—91)



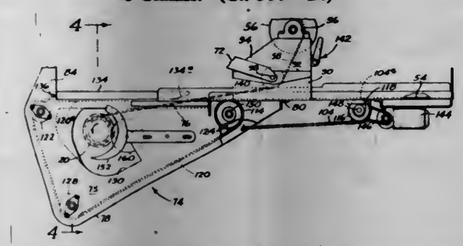
1. A point-attack coal-cutter pick comprising a shank and integrally therewith a lengthwise extending body formed at its end remote from the shank with a co-axial conical socket having an included angle in the range of substantially 60° to 110°, and a hard tip having a conical base of corresponding included angle for transmission of the working thrust between said socket and said tip, said tip being brazed co-axially in the socket and having a forwardly protruding point co-axial with the pick body, said tip occupying the entire frontal area of the forward end of the body.

3,268,260
MOUNTING BOXES AND PICKS FOR COAL-CUTTING MACHINES
Arthur Snipe, Doncaster, England, assignor to Mining Supplies Limited
Filed Mar. 7, 1963, Ser. No. 263,488
Claims priority application Great Britain, Mar. 24, 1962, 11,331/62
2 Claims. (Cl. 299—91)



1. The combination of a point-attack mining machine pick having a cylindrical shank with a circumferential groove intermediately of its length and a tipped body larger in diameter than the shank and joined to the shank by a shoulder portion of progressively increasing diameter and a mounting box which comprises a block in which is formed a longitudinal bore for the reception of the pick shank, one end of said bore being formed with a flared portion to fit the shoulder portion of the pick to effect transmission of the working thrust between the block and the pick, said block having a pair of transversely extending holes, each of said holes extending in said block on both sides of said bore, said holes being continuously divergent from each other and positioned so as to intersect said bore on opposite sides thereof, and a generally U-shaped stiff wire locking member having limbs adapted to be received by said transverse holes so as to assume a divergent position for self locking in said block, an intermediate portion of each of said limbs serving to engage the rear edge of said groove in said shank to insure that said shoulder portion is drawn to and securely held against said flared portion.

3,268,261
BROOM WINDING APPARATUS
Benjamin Koback, Portland, Oreg., assignor to Ben-Ko-Matic, Inc., Portland, Oreg., a corporation of Oregon
Filed Apr. 27, 1964, Ser. No. 362,758
6 Claims. (Cl. 300—14)



1. In apparatus for winding bristles on a broom, where said bristles are secured to a core by a line passed over the bristles with the bristles bent around the line,
means for holding a supply of loose bristles,
a pair of laterally spaced continuous feed belts for transporting bristles, mounted with upper runs in a common plane, and with said runs extending forwardly from said means for holding a supply of bristles,
a pair of laterally spaced continuous bristle-bending belts, mounted with upper runs in said common plane, and with said runs extending forwardly from the upper runs of said feed belts in said common plane,
said upper runs of said bristle-bending belts having rear ends overlapped with forward ends of said upper runs of said feed belts,
said bristle-bending belts being spaced laterally from each other and in a lateral direction being disposed intermediate said feed belts,
means defining a slot between said bristle-bending belts through which a line may pass and, together with such line, bent bristles carried by the line, and
means for feeding a line through said slot with the line intersecting the plane defined by the upper runs of the bristle-bending belts adjacent where said bristle-bending belts are overlapped with said feed belts.

3,268,262
WHEEL COVER
Albert J. Gonas, Grosse Pointe, and George A. Schmidt, Southfield, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 7, 1964, Ser. No. 388,167
7 Claims. (Cl. 301—37)

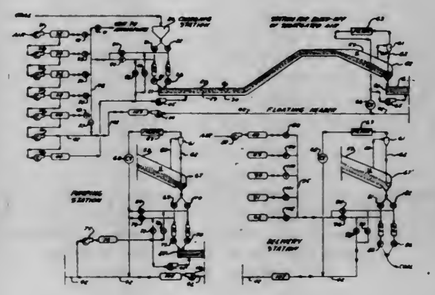


1. The combination comprising, a vehicle wheel, a pair of annular wheel cover members, means mounting one of said members on a portion of said wheel, a plurality of axially spaced rows of spokes secured to said one cover member, said rows being formed from a continuous length of wire and extending radially of said one cover member, and means securing said other cover member to said spokes in radially spaced relationship to said one cover member.

3,268,263
INHIBITING SETTLING OF SOLID PARTICLES THROUGH A LIQUID
Hendrik Van Olphen, Bellaire, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 18, 1963, Ser. No. 324,258
14 Claims. (Cl. 302—14)

1. Method of transporting solid particles dispersed in a liquid having a density different from that of the particles while inhibiting vertical migration of said particles through the liquid, which comprises the steps of:
(a) forming in said liquid a coherent, interlaced, pumpable matrix of a multitude of pieces of thin, solid material which is substantially insoluble in said liquid having thickness under 0.01 mm. and lengths under 10 cm., by introducing into said liquid a sufficient quantity of said pieces to form a coherent mass which has over 90% by volume of spaces, said spaces being filled with said liquid, and distributing said solid particles within said matrix, and
(b) flowing the resulting dispersion of solid particles, matrix and liquid through a pipe line.

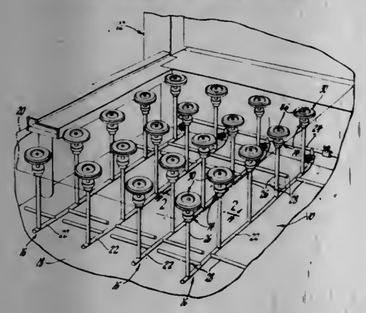
3,268,264
APPARATUS AND METHOD FOR CONVEYING DRY PULVERULENT SOLID IN LIQUID-LIKE STATE
Arthur M. Squires, 245 W. 104th St., New York, N.Y.
Filed Aug. 13, 1964, Ser. No. 389,350
18 Claims. (Cl. 302—29)



1. Apparatus for the conveying of a pulverulent solid in a generally horizontal direction by action of a gasiform fluid, comprising: an enclosed duct substantially free of transverse obstructions and having a bottom a fractional portion of which is porous, means for admitting said fluid through said porous portion at a vertically upward velocity higher than the minimum buoyancy velocity of said solid, said porous portion forming a proportion to said bottom to create a pressure gradient at substantially every given part of said duct which is substantially the same as the pressure gradient of a hypothetical two-phase mixture of said gasiform fluid with a liquiform fluid having a density equal to the loosest settled density of said solid and having a viscosity in the order of 1 centipoise, said hypothetical mixture flowing through a duct of non-porous walls congruent with said duct at the same mass rate as the true mixture of solid and gasiform fluid at said given part of said duct, said hypothetical two-phase mixture containing said liquiform and gasiform fluids in relative

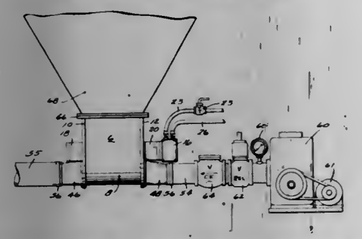
weight proportions determined from the true flowing mixture of said solid and said gasiform fluid, the determination of said relative weight proportions taking said solid at said density and counting only the non-interstitial fraction of said gasiform fluid, and means for charging said solid into said duct at an inlet end and withdrawing same from an outlet end at a rate such that the flow of said hypothetical two-phase mixture in said congruent duct is characterized by a Reynolds Number greater than 2000 and hence is in the turbulent regime.

3,268,265
MATERIAL HANDLING SYSTEM
Douglas W. Willott, La Grange, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 29, 1964, Ser. No. 400,170
14 Claims. (Cl. 302—29)



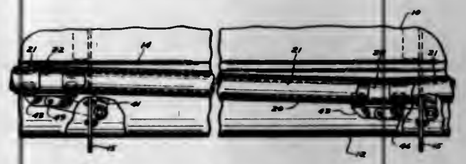
1. A material handling device for supporting articles and facilitating the conveyance thereof comprising, a plurality of spaced upstanding support members, each of said support members terminating with an air jet assembly having a substantially flat support surface, means universally pivotally connecting each air jet to its associated support member, said air jet assembly including a spring-biased check valve having a portion thereof extending above the plane of said support surface so that depression of said check valve by said article results in pressurized air being emitted from said jet assembly.

3,268,266
PNEUMATIC CONVEYOR SYSTEM AND METHOD
Elmer E. Brown, Milwaukee, Wis., assignor to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Mar. 26, 1964, Ser. No. 354,927
10 Claims. (Cl. 302—49)



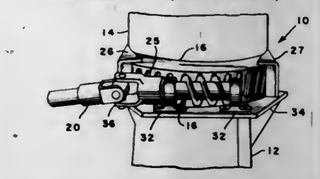
1. In a rotary feeder for a pneumatic conveyor system of the type using a rotary feeder in a chamber having a generally cylindrical bottom wall portion and opposed inlet and outlet ports at its ends for convection air, the improvement which comprises the combination with such a chamber with directly opposed ports of segmental form of substantially radial side margins, and convection air inlet and outlet ducts comunicating with said ports, of means communicating with the inlet duct for supplying air under pressure, a rotor having vanes fitted to the cylindrical bottom wall and ends of said chamber and having vanes angularly spaced for substantially precise registration with said side margins and intervane spaces successively registering with said ports in the course of rotor rotation, said spaces corresponding closely in cross section and outline with the respective ports with which they register, and means for rotating the rotor.

3,268,267
DRIER TANK DUMPING AND CONVEYING APPARATUS
Herbert E. Nelson, % Mora Industries, Inc., Mora, Minn.
Filed Apr. 19, 1965, Ser. No. 449,112
5 Claims. (Cl. 302—52)



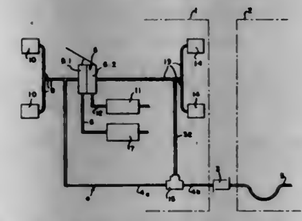
1. In a drier tank for collecting dry granular material and having an elongated open area extending along the bottom thereof for discharging the material from the tank, a suction tube extending along the underside of the tank and having open connection with the interior of the tank through said open area, a flexible member extending through the tube and disposed in normal sealing relation against the underside of the tank to close said open area, means for flexing said flexible member downwardly to allow the discharge of granular material from the tank and through said open area into the tube, means connected to said suction tube creating a flow of air through the tube, and said flexible member comprising a tubular hose of resilient material, and said flexing means including a section of stiff material disposed within the hose and means for momentray movement of the said section downwardly away from the tank to carry the surrounding portion of the hose therewith.

3,268,268
FORAGE HARVESTER
Bruce D. Schwalm, Leola, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Aug. 10, 1965, Ser. No. 478,549
4 Claims. (Cl. 302—61)



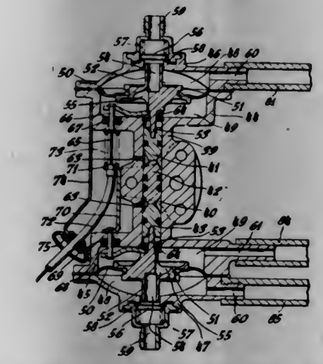
1. In a harvesting machine, a vertical support through which forage is discharged, a spout carried on said support for pivotal adjustment about a vertical axis, a collar surrounding said spout and fixed thereto for pivotal adjustment therewith, said collar having a plurality of slots extending in a generally vertical direction and equiangularly spaced relative to each other around the collar, a worm extending tangentially relative to said collar and in operative relation thereto, means supporting said worm at axially spaced locations thereon, said worm comprising a shaft having a helical groove on its outer surface, a helical spring in said groove, said spring being in tension on said shaft to tightly hold said spring in said groove, the ends only of said spring being welded to said shaft, and means for rotating said worm gear to turn said spout and change the direction of its discharge.

3,268,269
FLUID PRESSURE BRAKING SYSTEMS
Jean Treillet, Champigny, France, assignor to Compagnie des Freins et Signaux Westinghouse, Paris, France, a limited-liability company of France
Filed Sept. 17, 1965, Ser. No. 488,056
6 Claims. (Cl. 303—7)



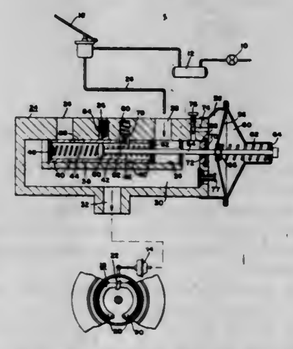
1. In a vehicle fluid pressure braking system having a first circuit governing a first and a second braking location, and a second circuit governing a third braking location, an isolation valve for isolating the one portion of the first circuit associated with the first braking location from the other portion thereof associated with the second braking location in case of a breakdown in either portion comprising, a valve body having an upstream chamber communicating with said one portion of the first circuit and a downstream chamber communicating with said other portion thereof, said chambers communicating with each other by way of an opening, a valve member for closing said opening, resilient means biassing said valve member away from said opening, and means for detecting the pressures in said first and second braking circuits and for closing said valve member onto said opening against the action of the resilient means when a pressure unbalance due to a breakdown in the first circuit is detected.

3,268,270
VALVE DEVICES FOR CONTROLLING SERVO-DEVICES OF THE DIFFERENTIAL AIR PRESSURE OR VACUUM TYPE
Walter W. Bailey, Leamington Spa, England, assignor to Automotive Products Company Limited, Leamington Spa, England
Filed May 22, 1964, Ser. No. 369,430
Claims priority, application Great Britain, May 23, 1963, 20,582/63
14 Claims. (Cl. 303—13)



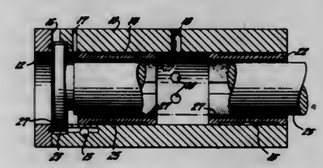
1. A valve device for controlling the operation of servo-devices of the differential air pressure or vacuum type wherein valve are arranged one at either end of a valve body having a through bore which contains two valve actuating pistons disposed one on either side of an intermediate or floating piston, both said actuating pistons being operable to actuate the valve associated therewith by the admission of pressure fluid to the valve body bore between the floating piston and both said actuating pistons or between said floating piston and one of said actuating pistons.

3,268,271
CYCLIC AIR VALVE FOR PREVENTING WHEEL SKID
Siegfried L. Yackle, Milwaukee, Wis., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 1, 1964, Ser. No. 371,543
7 Claims. (Cl. 303—82)



1. An anti-skid device for an air-operated braking system, said device comprising: a chamber; inlet means from a pressure source into said chamber; outlet means from said chamber to a fluid operable device; exhaust means from said chamber to the atmosphere; force responsive means reacting to force differentials placed thereon to move translationally; and valve means mounted independent of said force responsive means and operable by said pressure responsive means through a lost motion connection between said force responsive means and said valve means when said force responsive means moves a predetermined distance to selectively route pressure from said inlet means to said outlet means and from said outlet means to said exhaust means thereby preventing the air-operated braking system from being constantly responsive to pressure from said pressure source.

3,268,272
BEARING
William P. Shulhof, Flushing, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 23, 1963, Ser. No. 332,698
12 Claims. (Cl. 308—1)



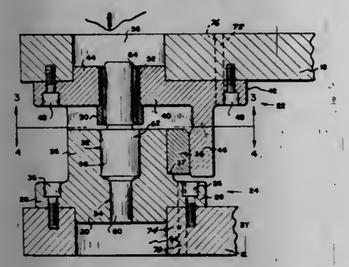
1. A bearing comprising a pair of elements in moving surface contact with each other, the contacting surfaces of at least one of said elements being formed of a fluoride of

at least one of the lanthanide series of rare earth metals, said rare earth metal fluoride having a graphite-like crystal structure.

3,268,273
DIE HEEL ASSEMBLY AND METHOD OF UTILIZING

George D. Robb, Southfield, Mich., assignor to Federal Engineering Company, Detroit, Mich., a corporation of Michigan

Filed Oct. 8, 1963, Ser. No. 314,792
2 Claims. (Cl. 308—3)



2. A heel assembly for attachment to the die shoe and punch holder of a die set, comprising:

a male member having a block, a flange portion bolted to said die shoe, a central opening in said block, and a plug press-fitted in a corresponding opening in said die shoe;

L-shaped wear plates attached to said male member;

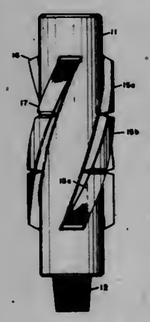
a female member having a base, a flange portion bolted to said punch holder, a central opening in said base in axial alignment with said opening in said block, L-shaped walls corresponding to said wear plates and abutting thereagainst, and a plug press-fitted in a corresponding opening in said punch holder;

and a guide pin fitted within said first and second central openings.

3,268,274
SPIRAL BLADE STABILIZER

John E. Ortloff and William D. Smiley, Tulsa, Okla., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware

Filed May 25, 1964, Ser. No. 369,735
7 Claims. (Cl. 308—4)



1. A drill string stabilizer which comprises:

(a) a tubular body member provided with means near the upper and lower ends thereof for connecting said body member at an intermediate position in a rotary drill string;

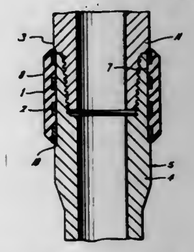
(b) a plurality of spiral ribs extending outwardly beyond said body member at spaced intervals about the periphery thereof, said ribs being made up of longitudinal segments arranged in spaced end-to-end relationship; and,

(c) a hardfacing material bonded to said rib segments to form smooth outer surfaces, said hardfacing material comprising refractory hardmetal carbide powder granules between about 100 and about 400 mesh on the Tyler screen scale bonded together with a metallic binder having a melting point between about 1500° F. and about 2500° F. and in the molten state having the ability to wet said powder granules.

3,268,275
DRILL STRING PROTECTOR AND SYSTEM

William N. Laughlin, 102 Buckingham Drive, Lafayette, La.

Filed May 11, 1965, Ser. No. 458,821
6 Claims. (Cl. 308—4)



1. A drill string protector system comprising:

a tubular drill string comprised of a plurality of engageable sections, each said section having an outside diameter suitable for insertion of the string into a borehole;

said drill string having areas of enlarged diameter at the points where said sections are joined to each other;

an annular recess in the outer surface of at least one of said areas of enlarged diameter;

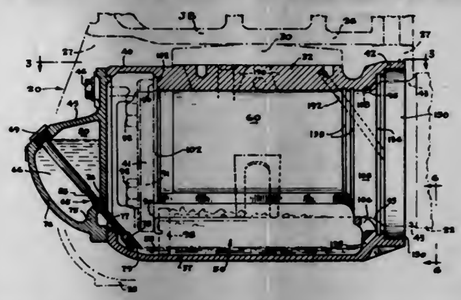
a resilient sleeve defining an inner surface and an outer surface inserted into said recess and engaging said area of enlarged diameter over the entire length of the inner surface of said sleeve, wherein a plurality of spaced metal rings are imbedded in said sleeve adjacent said inner surface so as to be in contact with said area of enlarged diameter of said drill string.

3,268,276
BEARING

John A. Zupez, Ridgewood, and Llewellyn E. Hoyer, Wayne, N.J., assignors to American Brake Shoe Company, New York, N.Y., a corporation of Delaware

Filed Dec. 26, 1963, Ser. No. 333,315
9 Claims. (Cl. 308—87)

1. In a bearing for a journal with a dust guard seat and a thrust surface, an integral body member in the form of a one-piece sleeve affording an internal bore in which said journal may be disposed for rotation, said body member having an inner, rounded wall lined with a bearing material and providing the main bearing surface for said journal, said inner and rounded wall terminating to form an opening in a lower portion thereof, integral walls on said body member forming a reservoir below said opening for exposing said journal for lubrication, an integral annular collar formed on said body member at one end thereof for encircling about the dust guard seat of the journal, a thrust flange having a thrust surface separating said collar from said inner, rounded wall, a passageway in said thrust flange to said reservoir to conduct lubricant to said thrust surface, circumferentially extending groove

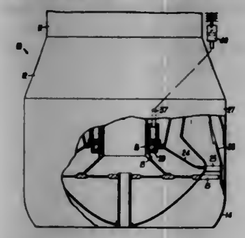


means in said inner, rounded wall adjacent said thrust flange for diverting lubricant moving toward said thrust flange and collar to return the lubricant to said reservoir.

3,268,277
BEARING ASSEMBLY

Leslie James Pratt, Ronald Brien and James Robert Cross, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain

Filed Feb. 6, 1964, Ser. No. 342,896
Claims priority, application Great Britain, Sept. 2, 1963, 34,650/63
10 Claims. (Cl. 308—121)



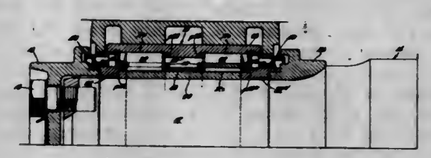
1. A bearing assembly comprising a bearing, a lubricant chamber having a plurality of compartments therein at least two of which have at least one aperture therein through which lubricant may pass from the compartment to the bearing, a lubricant inlet duct through which a single shot of lubricant may be supplied to one only of said compartments, and means affording restricted communication between the said one compartment and any other compartments, said means ensuring that the bearing is first supplied with lubricant from the said one compartment only and is thereafter supplied with lubricant which has passed from the said one compartment to the said any other compartments.

3,268,278
ROLLING BEARINGS

Glenn T. Purdy, Wayne, Pa., assignor to SKF Industries, Inc., King of Prussia, Pa., a corporation of Delaware

Filed June 17, 1964, Ser. No. 375,788
4 Claims. (Cl. 308—187)

1. A cylindrical roller bearing assembly comprising inner and outer rings which are spaced apart to define therebetween an annular space, at least a portion of the confronting surfaces of said rings defining inner and outer raceways, at least one row of rollers in said annular space, means defining an annular load-bearing surface on opposite sides of said row of rollers projecting radially relative to said raceways and against which the axial end faces of the rollers are adapted to abut, each said load-bearing surface being disposed at an angle θ relative to a plane transverse to the rotational axis of the rollers approximately equal to the product of $1.73L^{-.778}Z^{-0.25}D^{-0.53}$, where L is the roller length, Z is the number of rollers and D is the diameter of a roller, the axial end face of each of said rollers confronting the load-bearing surfaces being sphered, the radius of curvature of which is approxi-

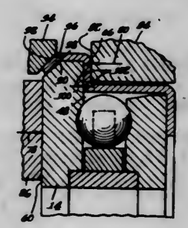


mately equal to the ratio of 0.417D to the sin θ, whereby the sphered roller end faces are adapted to engage the angled load bearing surfaces between the midpoint thereof and a projected surface of revolution of the raceway and wherein the conformity of the roller end faces and the load bearing surfaces at the contact zones is such to promote a hydrodynamic action of a lubricant in these zones.

3,268,279
SEALED THRUST BEARING

Daniel Frank Greby, Maywood, Ill., assignor to Textron Inc., Providence, R.I., a corporation of Rhode Island

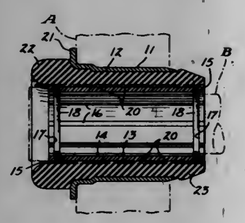
Filed Oct. 21, 1965, Ser. No. 499,281
5 Claims. (Cl. 308—233)



1. A sealed thrust bearing comprising first and second mutually concentric and axially spaced thrust rings rotatable relative to each other about a common axis, said rings defining mutually confronting annular races, an annular series of rotatable support elements intervening between said thrust rings in rolling engagement with both races to transmit thrust loads between said thrust rings, an inner annular bearing shell member spanning said thrust rings inwardly of said support elements, said inner bearing shell member having a static annular connection to one of said thrust rings and having a rotatable sealed connection with the other of said rings, an outer annular bearing shell member spanning said thrust rings outwardly of said rotatable support elements, said first thrust ring having a circular outer periphery and having a flat annular surface extending inwardly from said outer periphery on the inner side of said first thrust ring, said outer shell member having a medial portion which is circular in shape and substantially smaller in diameter than said outer periphery of said first thrust ring, said outer shell member having an annular spring flange integral with the first thrust ring end of said medial portion of said outer shell member and extending radially outward in adjacent relation to said inner flat annular surface on said first thrust ring, said outer shell member being shaped in its unstressed condition so that when the outer

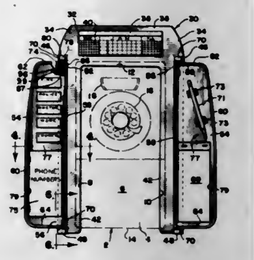
shell member is free of externally applied stress said annular spring flange has a truncated conical shape diverging away from said inner flat annular surface on said first thrust ring in a radially outward direction, said outer shell member having a peripheral mounting lip integral with said spring flange at the outer periphery of the latter and encircling said outer periphery of said first thrust ring, said annular spring flange being forceably flattened against said inner flat annular surface on said first thrust ring, said outer periphery of said first thrust ring defining thereon a sharp and substantially right angled annular corner spaced axially from said inner flat annular surface, the marginal edge of said mounting lip remote from said spring flange being turned sharply inward around said sharp corner on the outer periphery of said first thrust ring to form an anchoring flange holding said flattened spring flange flat against said inner flat annular surface on said first thrust ring to maintain the flattened spring flange in a permanent condition of residual stress which continuously urges the inner periphery of the spring flange hard against said inner flat annular surface and which continuously urges said anchoring flange hard against said sharp corner to form two narrow bands of high intensity sealing pressure between said outer shell member and said first thrust member, said second thrust ring defining a generally flat and radially extending end surface on the side thereof opposite from said rotatable support elements, and said outer shell member defining a sealing flange integral with said medial portion of the outer shell and extending radially inward into close fitting radially overlapping relation with said outer end surface on said second thrust ring to form therewith a capillary seal and allow relative rotation of said outer shell member and said second thrust ring.

3,268,280
CUSHIONED BEARING ASSEMBLY
Harvey E. Miller, Logansport, Ind., assignor to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Original application Jan. 4, 1962, Ser. No. 164,361, now Patent No. 3,188,152, dated June 8, 1965. Divided and this application Apr. 27, 1965, Ser. No. 451,176
8 Claims. (Cl. 308—36.1)



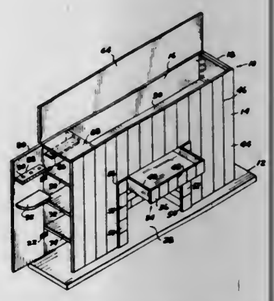
2. A cushioned bearing assembly comprising an inner sleeve, a concentric outer rigid sleeve and a tubular insert of elastic rubber retained under radial compression between said sleeves, said inner sleeve comprising a continuous inner cylindrical bearing part composed of a low friction material and adapted to bear against a shaft, said inner bearing part being provided with a series of longitudinally extending lubricant-receiving grooves, sealing means intermediate the ends of said bearing part comprising circumferential groove means adjacent said ends for retarding the escape of lubricant from said assembly, and an outer cylindrical member interposed between said tubular insert and said inner part, said outer member being provided with perforations into which portions of said tubular insert may expand to provide a slip-preventing interlock.

3,268,281
WALL TELEPHONE DIRECTORY AND NOTATION HOLDER
Stanley J. Szerszen, 4344 N. Nordica Ave., Norridge, Ill.
Filed Dec. 14, 1964, Ser. No. 418,069
10 Claims. (Cl. 312—198)



4. In an accessory container for a wall telephone, a U-shaped support saddle having an upper bight and depending legs defining a wall-box accommodating space therebetween, and hollow doors pivotally mounted from said legs for swinging movement between closed and open positions at opposite sides of an associate wall box.

3,268,282
PORTABLE IMITATION FIREPLACE AND STORAGE ARTICLE
Louis Adam Harvey, 12977 Riopelle Ave., Detroit, Mich. 48203
Filed May 4, 1965, Ser. No. 452,973
9 Claims. (Cl. 312—204)



1. A portable imitation fireplace and storage article, comprising

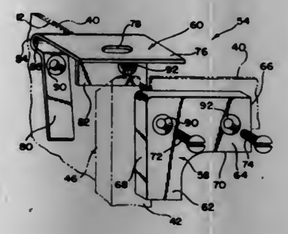
a hollow upright walled structure having spaced front and rear outer walls and opposite end openings and a top opening;

and end and top closure members movably secured to one of said outer walls and movable relatively thereto between open and closed positions relatively to their respective end and top openings,

said front wall having an imitation fireplace opening in the lower portion thereof and inner vertical side and rear walls and an inner upper horizontal wall defining with said opening an imitation fireplace compartment,

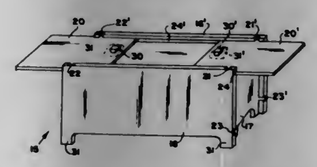
said inner side walls defining with said end closure members two laterally-spaced end compartments and said upper horizontal wall defining with said top closure member a top storage compartment adjacent to but separated from said fireplace compartment.

3,268,283
GUSSET FOR DISHWASHER CABINET
Myron E. Ullman, Jr., Mahoning, and Jerry M. Harroff, Columbiana, Ohio, assignors to Mullins Manufacturing Corporation, Salem, Ohio, a corporation of Ohio
Filed Dec. 10, 1963, Ser. No. 329,578
7 Claims. (Cl. 312—263)



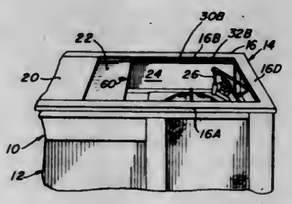
1. In a cabinet having a rear side, left side, right side and top walls constructed of sheet metal, said cabinet walls being formed with the sides facing inwardly, each said cabinet wall having a flange along one edge thereof, a pair of securing means for respectively securing the flange of the left side wall and the flange of the right side wall to the flange of the top wall to obtain a relatively rigid structure, each said securing means including a substantially L-shaped gusset plate with each leg portion thereof having a channel formed therein on the same side of the gusset plate of sufficient width and depth for receiving a portion of the flange of one of said side walls in the channel in one leg portion and a portion of the flange of said top wall in the channel in said other leg portion, and a gusset backing plate of greater thickness and rigidity than said gusset plate and having a pair of backing plate leg portions each adapted to be received in the channel of one of the leg portions of said gusset plate outwardly of and adjacent to a portion of the flange of one of said walls.

3,268,284
KNOCK-DOWN CHESTS AND THE LIKE
Joseph Z. Branciforte, 220 Henley Road, Woodmere, N.Y.
Filed Nov. 23, 1964, Ser. No. 413,074
4 Claims. (Cl. 312—263)



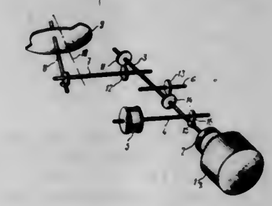
1. In a chest of the character described, two pairs of opposite panels positioned to constitute the front, side and rear walls thereof; one wall of each pair of adjacent walls having a heightwise dove-tail groove on its inner surface and the other wall having a dove-tail tongue on and along its side edge, slidably engaged in the groove; one pair of opposite walls having opposite horizontal dove-tail grooves on the inner surfaces thereof, at least two slats; said slats having parallel dove-tail tongues on and along the ends thereof respectively; said tongues on the slats being slidably engaged in said horizontal dove-tail grooves and a bottom wall resting on said slats; the other pair of opposite walls having opposite horizontal grooves on the inner surface thereof, into which opposite ends of the bottom wall extend respectively; said slats being respectively force-fitted into the said last-mentioned grooves having one of the ends of the bottom wall therein; the width of each of the grooves into which a locking slat is forced, being just sufficient to tightly hold a slat and an end of the bottom wall therein whereby said bottom wall and all the other walls are locked in assembly and upon removal of said locking slats from the grooves they are forced into, all the walls are separable.

3,268,285
SLIDING PANEL ASSEMBLY
Jerome S. Greenberg, Chicago, Ill., assignor to Wells-Gardner Electronics Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 7, 1964, Ser. No. 402,186
11 Claims. (Cl. 312—295)



1. A sliding panel assembly including a frame structure and a pair of panels that are substantially coplanar so as to abut in a first position and at least one of which is movable from its first coplanar position to a second position generally to one side of the second panel, said structure including opposed grooves for receiving opposed edges of said one panel in said second position, and means slidably mounting said one panel for movement between its two positions including opposed flexible tracks receiving the said edges of said one panel in its first position and during movement between its two positions.

3,268,286
LOW-NOISE MOTION PICTURE CAMERA
Sergei Innokentjevich Nikitin, Georgy-Viktor Vilgelmovich Mering, Falk Solomonovich Novik, and Nicolai Stepanovich Popov, Moscow, and Lazar Abramovich Slutsky, Station Tomilino, Moscowsky Region, all of U.S.S.R., assignors to Moskowskoje Konstruktorskoje Bureau Kinoapparatury
Filed Aug. 27, 1963, Ser. No. 304,792
2 Claims. (Cl. 352—166)



1. A low-noise drive mechanism for a motion picture camera having a mirror reflex shutter disposed below the optical axis of the camera with the axis of said shutter disposed at an angle to said optical axis, said mechanism comprising a drive motor, a main drive shaft coupled to said motor, said drive shaft being disposed at an angle to said optical axis, a gear transmission connecting said drive shaft and said shutter, and other gear

transmissions connecting said drive shaft and claw and film sprocket, the angular disposition of said drive shaft being such that gear diameters in said transmission are reduced to a minimum thereby resulting in minimum noise output and with peak noise level confined to the low frequency spectrum.

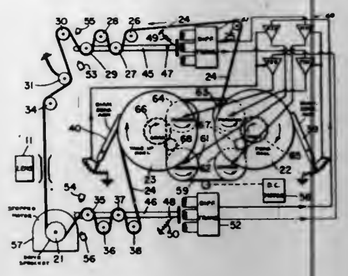
3,268,287

PULSE OPERATED PHOTOGRAPHIC APPARATUS

Otto R. Nemeth, 11907 San Vicente Blvd., Los Angeles, Calif. 90049

Filed Oct. 23, 1965, Ser. No. 507,988
8 Claims. (Cl. 352—187)

1. A photographic apparatus comprising, in combination: a casing including an aperture and sprocket means for positioning successive portions of film in registration with said aperture, said sprocket means comprising a sprocket wheel having sprocket teeth for engaging the sprocket holes in said film over an arcuate extent of at least sixty degrees so that pulling forces on said sprocket holes are distributed among said sprocket holes; pulsed motor means actuated in response to given electrical pulses to effect discrete motion steps, said pulsed motor means being connected to said sprocket means whereby intermittent movement of said film is effected upon actuation of said pulsed motor means; a shutter means adjacent said aperture responsive to external electrical pulses to open and close said shutter means including control means for passing said given electrical pulses to said pulsed motor means to actuate said sprocket wheel only when said shutter means is closed; film feed and take-up reels and film length sensing means for feeding film to said sprocket wheel and taking up film passed from said



sprocket wheel; and reel feed and take-up drive control means responsive to said film length sensing means to cause said film feed and take-up reels to rotate at a speed to maintain substantially constant the lengths of film between said feed reel and sprocket wheel and between said sprocket wheel and take-up reel.

CHEMICAL

3,268,288

PROCESS FOR SOLUBILIZING URANIUM VALUES

Mayer B. Goren, Golden, Colo., assignor to Kerr-McGee Oil Industries, Inc., a corporation of Delaware

No Drawing. Filed July 19, 1963, Ser. No. 296,383
11 Claims. (Cl. 23—321)

1. A process for solubilizing uranium values comprising

intimately contacting solid uranium-bearing material with aqueous sulfuric acid containing dissolved iron values present in solution as ferric ion,

at least a portion of the uranium values being solubilized and ferric ion being reduced to ferrous ion while contacting the uranium-bearing material with the aqueous sulfuric acid to thereby produce an aqueous solution containing dissolved uranium values and ferrous ion,

contacting at least a portion of the said aqueous solution containing the dissolved uranium values and ferrous ion with an effective quantity of live non-spore forming, rod-shaped, motile, autotrophic oxidizing bacteria to oxidize ferrous ion to ferric ion and produce an aqueous solution containing dissolved uranium values and ferric ion, the aqueous solution having a pH value of about 0.8 to 3.0 and a temperature of about 0° C. to 50° C. when contacted with the bacteria,

the bacteria being tolerant to the said aqueous solution containing the dissolved uranium values and ferrous ion when contacted therewith and capable of oxidizing the ferrous ion to ferric ion,

adding sulfuric acid to the said aqueous solution of dissolved uranium values and ferric ion to lower the pH value and produce an aqueous sulfuric acid solution containing dissolved ferric ion produced by the bacterial oxidation of the ferrous ion, and

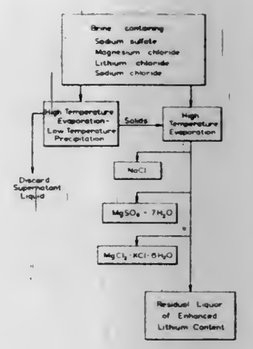
contacting solid uranium-bearing material with the said aqueous sulfuric acid solution having present therein dissolved ferric ion produced by the bacterial oxidation of the ferrous ion to thereby solubilize additional uranium values.

3,268,289

RECOVERY OF LITHIUM FROM BRINES

James G. Macey, Salt Lake City, Utah, assignor to Signal Oil and Gas Company, Los Angeles, Calif., a corporation of Delaware

Filed Dec. 11, 1962, Ser. No. 243,816
5 Claims. (Cl. 23—89)



1. In the processing of a natural brine by evaporation, said brine containing sodium sulfate, magnesium chloride and lithium chloride, the process comprising dividing said brine into first and second portions and evaporating the first portion and cooling the thus concentrated first portion whereby there is precipitated sodium sulfate therefrom, discarding the supernatant liquid from the first portion, adding the second portion to the thus precipitated sodium sulfate whereby the sodium sulfate content of the second portion is increased, and evaporating said brine whereby magnesium sulfate is precipitated from the brine, leaving a residual liquor of enhanced lithium chloride content.

3,268,290

RECOVERY OF LITHIUM CHLORIDE FROM MIXTURES OF OTHER SALTS AND METALS

Remigius A. Gaska and Robert D. Goodenough, Midland, and Lance D. Simpson, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 4, 1963, Ser. No. 321,320
6 Claims. (Cl. 23—89)

1. A method for recovering lithium chloride present as the principal member in admixture with magnesium metal, magnesium oxide, alkaline earth metal salts and alkali metal salts which comprises:

(a) adding methanol in an amount to provide a methanol/lithium chloride weight proportion of at least 5.77, to the mixture to provide a slurry;

(b) mixing and maintaining said slurry at a temperature within the range of from about 30° to about 70° C. so as to precipitate magnesium oxide and potassium chloride therefrom;

(c) separating the precipitated magnesium oxide and potassium chloride from the alcohol solution;

(d) adding hydrogen chloride to said alcohol solution thus lowering the pH of said solution to a value of from about 1 to about 5.5 thereby converting all magnesium metal and magnesium dimethoxide, which is formed by reaction of magnesium with methanol, to magnesium chloride and methanol; and

(e) heating the solution to a temperature within the range of from about 150° to about 615° C. to drive off the remaining alcohol and produce a dry residue consisting primarily of lithium chloride.

3,268,291

PROCESS FOR THE PRODUCTION OF PERMANENT CREASES IN CELLULOSIC TEXTILES UTILIZING INORGANIC SALT SOLUTIONS

Charles H. Mack and Clinton P. Wade, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Sept. 14, 1962, Ser. No. 223,853
10 Claims. (Cl. 8—116)

1. A process for installing a permanent crease in a cellulosic textile comprising wetting the cellulosic textile in the area to be creased with an aqueous solution containing at least about 7% by weight of an inorganic salt capable of swelling cellulose and selected from the group consisting of calcium thiocyanate, lithium bromide, lithium chloride, and calcium iodide, and creasing the thus-wetted area of the textile with pressure and heating until the textile contains not more than about 15% moisture in the area of the crease.

3,268,292

PROCESS OF TREATING CELLULOSIC TEXTILES WITH N-METHYLOL DERIVATIVES OF TRIS(2-CARBAMOYLETHYL)PHOSPHINE OXIDE AND PRODUCTS THEREOF

Leon H. Chance, New Orleans, and Wilson A. Reeves and George L. Drake, Jr., Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application Feb. 8, 1963, Ser. No. 257,343. Divided and this application Feb. 24, 1964, Ser. No. 355,138
4 Claims. (Cl. 8—116.3)

1. A process for treating a cellulosic textile material and inducing therein as a result of said treatment dimension stability, flame-, crease-, and rot-resistance, which process comprises wetting the cellulosic textile material with an aqueous solution containing (a) an N-methylol derivative of tris(2-carbamoylethyl)phosphine oxide prepared by reacting tris(2-carbamoylethyl)phosphine oxide with formaldehyde within a range of mole ratios of from 1:1 to 1:6 in an aqueous alkaline solution at room temperature for a time sufficient to form said N-methylol derivative, and (b) an acid type catalyst, and heat curing the so-wetted cellulosic textile material to the dried state.

3,268,293

IMPARTING CREASE RECOVERY PROPERTIES TO CELLULOSE WITH PRECURSORS OF BUTADIENE DIEPOXIDE

John B. McKelvey, Ralph J. Berni, and Ruth R. Benerito, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Jan. 7, 1963, Ser. No. 249,959
6 Claims. (Cl. 8—120)

1. A process for imparting wash-wear characteristics to cotton cellulosic textile materials, which comprises treating said cotton cellulosic textile materials at room temperature with an aqueous solution of a reagent selected from the group consisting of d,l-1,4 dihydroxy-2,3 dibromo butane; d,l-1,4 dihydroxy-2,3 dichloro butane; meso-2,3 dihydroxy-1,4 dichloro butane; and meso-2,3 dichloro-1,4 dihydroxy butane; and subsequently drying, adding alcohol solution of alkaline catalyst, curing, and washing the fabric.

ERRATA

For Class 23—89 see:
Patent No. 3,268,289
Patent No. 3,268,290

3,268,294

PROCESS FOR PRODUCING SELENIUM DIOXIDE

Edward S. Roberts, 874 Woodward Ave., Ridgewood, N.Y., and Ludwig J. Christmann, 9 Center Knolls, Bronxville, N.Y.

No Drawing. Application May 11, 1962, Ser. No. 194,200, which is a continuation of applications Ser. No. 4,211, Jan 25, 1960, Ser. No. 5,360, Jan. 29, 1960, Ser. No. 15,049, Mar. 15, 1960, Ser. No. 19,460, Apr. 4, 1960, and Ser. No. 176,101, Feb. 27, 1962. Divided and this application June 10, 1965, Ser. No. 473,268
7 Claims. (Cl. 23—139)

1. A method of producing SeO_2 which comprises: dissolving elemental Se in an organic solvent inert to NO_2 and SeO_2 at elevated temperature, said solvent being selected from the group consisting of halogenated aromatics and nitrobenzene maintaining a temperature above about 130° C. and below the vaporization temperature of the solvent, and introducing NO_2 into said solvent containing dissolved Se, whereby SeO_2 is formed by oxidation of Se with NO_2 and is precipitated as a slurry.

5. A method according to claim 1 characterized in that an organic compound oxidizable by SeO_2 is present during said oxidation said organic compound being selected from the group consisting of ethylene, acetaldehyde, benzyl alcohol, camphor, diphenylmethane and fluorene.

3,268,295

ALUMINA HYDRATE AND ITS METHOD OF PREPARATION

Bernard F. Armbrust, Jr., Benton, Val G. Carithers and Kizhakke G. Hrishikesan, Little Rock, and Harold L. Drown, Benton, Ark., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

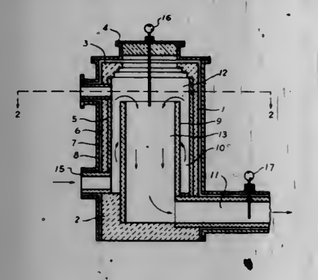
No Drawing. Filed Oct. 6, 1961, Ser. No. 143,305
7 Claims. (Cl. 23—141)

1. Alumina hydrate having from 1.4 to 1.6 mols of water per mol of Al_2O_3, specific surface area of about 300 to 600 square meters per gram, average crystallite size in the range from 20 to about 40 angstrom units, and an X-ray diffraction pattern wherein the area under the 28.1°, 2θ diffraction peak is from 40 to 90% of the corresponding area for standard boehmite, said hydrate

being further characterized by capacity to adsorb water vapor even at low relative humidity and by the ease with which adsorbed water may be desorbed simply by drying at a temperature of 200–220° F.

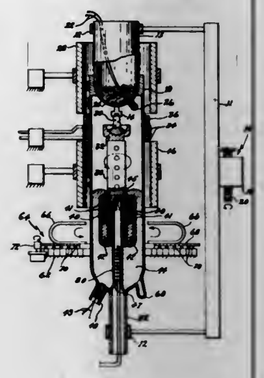
3. The method of producing alumina hydrate having from 1.4 to 1.6 mols of water per mol of Al_2O_3, an average crystallite size in the range from 20 to about 40 angstrom units, and exhibiting an X-ray diffraction pattern wherein the area under the 28.1°, 2θ diffraction peak is from 40% to 90% of the corresponding area for boehmite, which comprises the steps of (a) precipitating amorphous aluminum hydroxide substantially free of crystalline alumina hydrate by reacting alkali metal aluminate solution having a total alkali content below about 200 g.p.l. alkali metal carbonate with at least an approximately stoichiometric amount of a mineral acid, at a rate such that the precipitation of aluminum hydroxide is substantially completed by neutralization instead of by hydrolysis of the alkali metal aluminate at pH between about 10 and 11 within a period of about 2–20 minutes, while maintaining the reaction temperature between about 25° and about 60° C.; (b) separating the precipitate from the mother liquor, washing and reslurrying the precipitate in an aqueous medium so that the precipitate is fully dispersed, while maintaining the amorphous condition thereof; and (c) aging the slurried precipitate at a pH between about 8 and about 9 at a temperature below about 100° C. for a period between about 5 and about 90 minutes to convert the amorphous aluminum hydroxide into crystalline alumina hydrate having the aforementioned characteristics.

3,268,296
PROCESS AND APPARATUS FOR TREATING GAS STREAMS
Myron C. Hall, Buffalo, and Richard G. Woodland, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Filed Apr. 8, 1963, Ser. No. 271,375
11 Claims. (Cl. 23—154)



1. A process for treating a gas containing solid particles of a size not substantially in excess of about 5 microns which comprises forming the solid particles in the gas into a liquid-solid aerosol, having particles of a size in excess of about 5 microns, passing the gas containing the thus-formed aerosol through a foraminous material, the foramina of which are of a size in excess of about 5 microns, but not in excess of 100 microns, effecting separation of the liquid-solid aerosol from the gas as it passes through the foraminous material, contacting the surface of the foraminous material with which the gas first comes in contact with a flowing liquid medium, and contacting the surface of the foraminous material from which the gas exits after passing through the material with a second flowing liquid medium, said second contact being countercurrent to the flow of the gas.

3,268,297
CRYSTAL PULLING APPARATUS
Albrecht G. Fischer, Trenton, N.J., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 10, 1963, Ser. No. 315,415
6 Claims. (Cl. 23—273)

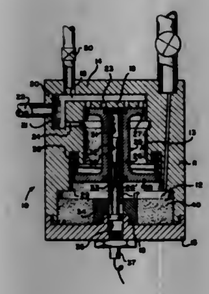


1. An apparatus for pulling crystals from a melt of a material in a gaseous atmosphere requiring temperatures above the Curie point of magnetizable materials comprising, a closed ampoule, a seed holder fixedly secured to the interior of one end of said ampoule, means secured to said ampoule for causing vertical movement of it and said seed holder, a rotor located within said ampoule and below said seed holder, a crucible secured to said rotor and extending above said rotor to a position adjacent said seed holder, magnetizable means at the lower end of said rotor, a melt of material in the lower portion of the ampoule surrounding the magnetizable means to provide the said gaseous atmosphere, and rotating magnet means proximate to said magnetizable means and mounted externally around said ampoule for rotation to cause spinning of said rotor and crucible while maintaining them in a horizontal plane.

3,268,298
LOW-TO-HIGH PRESSURE ADMISSION VALVE FOR GAS GENERATOR
Nicholas J. La Costa, Phoenix, and Theodore G. Stastny, Towson, Md., assignors to Aircraft Armaments, Inc., Cockeysville, Md., a corporation of Maryland
Continuation of application Ser. No. 127,742, July 28, 1961. This application Mar. 23, 1965, Ser. No. 444,930
6 Claims. (Cl. 23—282)

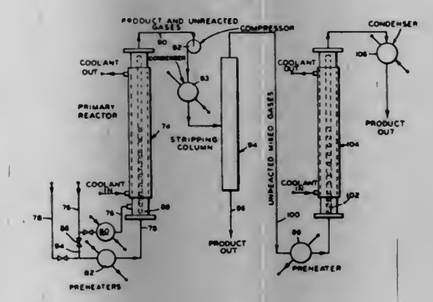
1. A gas generator comprising:
a housing having a source liquid inlet opening and spaced therefrom a reaction chamber with a liquid inlet opening, said reaction chamber being adapted to contain a substance that reacts chemically with a liquid to produce a gas,
gas exit means connected with said reaction chamber for egress of gases generated therein,
a differential pressure movable piston slidably mounted in said housing,
said piston having longitudinally spaced faces, and a longitudinally intermediate lateral recess formed in the body of said piston between said faces,
an intermediate liquid transfer chamber formed intermediate said spaced piston faces by said lateral recess and connectible only separately but not simultaneously to said reaction chamber liquid inlet opening and to said source liquid inlet opening,

said intermediate liquid transfer chamber recess in said piston having an effective longitudinal length no longer than the distance between said source liquid inlet opening and said reaction chamber liquid inlet opening at the respective points of said source liquid inlet opening and reaction chamber liquid inlet opening therewith, whereby said intermediate liquid transfer chamber can be in liquid flow connection at



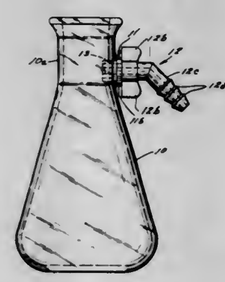
any one time with only one of said source liquid inlet opening and said reaction chamber liquid inlet opening,
one of said faces being disposed in continuous gas pressure connected relation to said reaction chamber, and
spring means urging said piston toward said reaction chamber and against the action of gas pressure in said reaction chamber on said one piston face.

3,268,299
APPARATUS FOR EFFECTING CHEMICAL REACTIONS
Samuel T. Russell, Rye, N.Y., assignor to Crawford & Russell, Incorporated, Stamford, Conn.
Original application Dec. 27, 1961, Ser. No. 163,015. Divided and this application Jan. 30, 1964, Ser. No. 341,186
3 Claims. (Cl. 23—288)



1. Fixed-bed catalyst-tube reactor apparatus comprising, in combination
(A) walls defining at least one substantially vertical catalyst bed-confining tube having outlet means at its upper end,
(B) catalyst bed-supporting means spanning the lower end of the tube,
(C) tube-supporting means positioning the upper end of the tube and the lower end of the tube and the bed-supporting means, and enclosing a cooling zone surrounding the walls of the tube,
(D) and a tubular gas distributor extending upwardly through the bed-supporting means into the tube, with the distributor being perforated over a major portion of the vertical length of the tube,
(E) with a first reactant gas inlet conduit opening into the distributor beneath the bed-supporting means, a second reactant gas inlet conduit opening into the catalyst bed-confining tube, and a cross-bleed conduit with an adjustable valve therein joining said first and second inlet conduits,
whereby reactant gas passing through the first conduit may be continuously diluted by a predetermined percentage of reactant gas bled from the second conduit, providing immediate reaction when the premixed reactants are introduced into the catalyst bed, and producing spreading and dissipation of any heat produced by the exothermic reaction of the reactant gases in the catalyst bed.

3,268,300
FILTER FLASK ASSEMBLY
James J. Moran, Vineland, N.J., assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed May 15, 1963, Ser. No. 280,698
1 Claim. (Cl. 23—292)



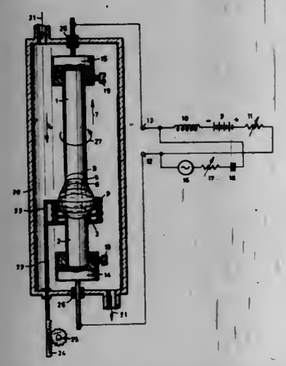
In a filter flask assembly, the combination of an Erlenmeyer flask comprised of chemically-resistant material having a generally frusto-conical shaped body portion and a relatively large-diameter cylindrical-shaped neck portion, a circular aperture formed in a localized sidewall region of said neck portion, a sleeve member comprised of heat and chemically-resistant elastomeric material disposed within and having a diameter complemental to said aperture and an enlarged exteriorly-disposed cylindrical flange portion having a diameter greater than said aperture, and a tubular arm member comprised of chemically-resistant synthetic plastic material having lineal portions forming an obtuse angle with one end portion supported coaxially within said sleeve member and said aperture, said tubular arm member having a continuous passage with greater internal diameter in its supported end portion than in its cantilevered end portion, said arm member having a pair of juxtaposed exteriorly-projecting lug elements disposed adjacent its supported end portion to facilitate rotation of said arm member with respect to said aperture for multiangular positioning of said cantilevered portion, the terminating end portion of said cantilevered portion having a generally frusto-conical shape with a series of exteriorly-projecting transverse ribs adjacent thereto.

3,268,301
METHOD OF PULLING A SEMICONDUCTOR CRYSTAL FROM A MELT

Theodor Rummel, Munich, and Jörg Dorner, Dachau, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin, Germany, a corporation of Germany

Filed Dec. 2, 1963, Ser. No. 327,556
Claims priority, application Germany, Dec. 3, 1962, S 82,693
6 Claims. (Cl. 23—301)

1. The method of pulling a semiconductor crystal from a melt of the semiconductor material with the aid of a crystal seed, which comprises pulling a seed crystal from a crucible-free melt zone passing during the entire pulling operation an electric direct current serially through the crystal being pulled and then the melt in a direction op-

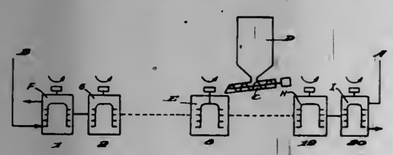


posite to the direction of pull thereby developing a freezing region at the solid-liquid interface of the seed crystal and melt due to a Peltier effect whereby lattice faults in the pulled crystal are reduced due to said effect.

3,268,302
SEPARATION OF ZIRCONIUM, HAFNIUM, NIOBIUM AND TANTALUM, BY INTRODUCING AS A DRY SOLID INTO THE CENTRAL STEP OF A LIQUID-LIQUID PARTITION SYSTEM

Hermann Renner, Konstanz, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt, Germany

Filed Sept. 14, 1961, Ser. No. 138,164
Claims priority, application Germany, Sept. 16, 1960, D 34,267
3 Claims. (Cl. 23—312)



1. In a process for the separation of the components of a mixture selected from the group consisting of a mixture of zirconium and hafnium compounds and a mixture of niobium and tantalum compounds, in a continuous, multistep liquid-liquid partition system through which an aqueous phase and a water immiscible organic solvent phase are passed countercurrently and in which the organic solvent phase is enriched with one of said compounds to be separated in dissolved state and the aqueous phase is enriched with another of said compounds to be separated in dissolved state, and in which the immiscible liquid phases of the partition system are intimately stirred in each step, the step which comprises supplying the mixture to be separated in solid dry state, into the stirred liquid phases in a centrally located step in said partition system.

ERRATUM

For Class 23—321 see:
Patent No. 3,268,288

3,268,303
REMOVAL OF STAINLESS-STEEL CLADDINGS FROM NUCLEAR FUEL ELEMENTS

Devabhaktuni Ramaswami, Westmont, Norman M. Levitz, Bellwood, and Albert A. Jonke, Elmhurst, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Mar. 17, 1964, Ser. No. 352,702
5 Claims. (Cl. 23—324)

1. A process of dissolving stainless-steel claddings from fuel elements comprising said claddings and uranium-oxide-base nuclear fuel cores, said process comprising contacting said fuel elements while in an oxygen-containing gas-fluidized bed and at between 25 and 100° C. with liquid atomized aqueous hydrochloric acid whereby the cladding is dissolved, but the core remains unattacked.

3,268,304
CELLULAR METAL AND METHOD OF MAKING

Leonard M. Vaught, Lake Jackson, and James H. Enos, Angleton, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 30, 1963, Ser. No. 334,564
6 Claims. (Cl. 29—183)

6. An article of manufacture comprising a cellular metal structure composed of cells of aluminum nitride-coated aluminum.

3,268,305
COMPOSITE WIRE

Marold W. Hagadorn and Samuel J. Montgomery, Emporium, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Aug. 17, 1964, Ser. No. 389,992
11 Claims. (Cl. 29—183.5)



2. A composite wire structure having ductility after operation above the recrystallization temperature thereof and comprising a base and an outer surrounding layer attached to the base, said base being selected from metals and alloys of the metals of the group consisting of tungsten, molybdenum, chromium, vanadium, titanium, zirconium, tantalum, columbium, rhodium, ruthenium, and palladium, and said layer being rhenium in the range of about 0.1 to 3.0% by weight of said base.

3,268,306
TITANIUM PRETREATMENT FOR PROTECTIVE COATING OF REFRACTORY ALLOYS

Richard Alexander Jefferys, Euclid, Ohio, assignor to TRW Inc., a corporation of Ohio

No Drawing. Filed Mar. 28, 1962, Ser. No. 183,062
4 Claims. (Cl. 29—194)

1. An oxidation resistant refractory article consisting essentially of a columbium base metal, a first diffusion zone consisting essentially of a titanium-columbium alloy bonded to said base metal, a second diffusion zone of chromium and said columbium base metal bonded to said first diffusion zone, and a layer of a cromium and titanium alloy overlying said second diffusion zone.

3,268,307
PROCESS OF ELECTRODEPOSITING A CORROSION RESISTANT NICKEL - CHROMIUM COATING AND PRODUCTS THEREOF

Thaddeus W. Tomaszewski, Dearborn, and Henry Brown, Huntington Woods, Mich., assignors, by mesne assignments, to The Udylite Corporation, Warren, Mich., a corporation of Delaware

No Drawing. Filed Mar. 1, 1963, Ser. No. 262,191
15 Claims. (Cl. 29—194)

12. A composite electroplate on a metal susceptible to atmospheric corrosion which comprises a nickel plate with a chromium overplate, said nickel plate having been electrodeposited from an acidic nickel plating bath containing dissolved therein at least one organic nickel brightener capable of producing semi-bright to fully bright nickel plate, and having dispersed in said bath in a concentration of about 0.1 to about 250 grams/liter of at least one type of bath insoluble particles of average ultimate particle size less than about 5 microns, an electrodeposited chromium overlay plate on said nickel plate of less than about 5 microns thickness, said particles in said nickel bath being selected from the group consisting of boron and silicon, and the borides of calcium, magnesium, tantalum, chromium, titanium, zirconium and vanadium, the carbides of chromium, vanadium, tungsten, and zirconium, the nitrides of silicon, titanium and zirconium, the silicides of titanium, zirconium, nickel, and cobalt, the phosphides of chromium, tungsten, molybdenum, manganese, nickel, cobalt, iron, titanium, zirconium and vanadium, and the oxides of stannic tin.

3,268,308
ELECTRODEPOSITION OF A CORROSION RESISTANT DECORATIVE NICKEL-CHROMIUM COATING AND PRODUCTS THEREOF

Thaddeus W. Tomaszewski, Dearborn, and Henry Brown, Huntington Woods, Mich., assignors, by mesne assignments, to The Udylite Corporation, Warren, Mich., a corporation of Delaware

No Drawing. Filed Mar. 1, 1963, Ser. No. 262,199
17 Claims. (Cl. 29—194)

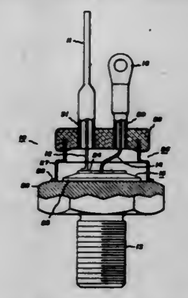
14. A composite electroplate on a metal surface susceptible to atmospheric corrosion which comprises a nickel plate with chromium overplate, said nickel plate having been electrodeposited from an acidic nickel plating bath containing dissolved therein at least one organic nickel brightener capable of producing semi-bright to fully bright nickel plate, and having dispersed in said bath at least 0.1 gram/liter of at least one water-insoluble powder material selected from the class consisting of the water-insoluble oxygen-containing titanium and zirconium compounds containing a total of at least three different elements, said powder material having particles of average ultimate particle size less than about 5 microns, and an electrodeposited chromium overlay plate on said nickel plate of less than about 5 microns thickness.

3,268,309
SEMICONDUCTOR CONTACT MEANS

John N. Frank, Auburn, N.Y., and Ronald A. Stott, Tucson, Ariz., assignors to General Electric Company, a corporation of New York

Filed Mar. 30, 1964, Ser. No. 355,539
3 Claims. (Cl. 29—195)

1. A semiconductor device of the rectifying junction type requiring external electrical connection thereto including a body of semiconductor material, and contact means secured to said body of semiconductor material, said contact means including a layer of nickel bonded



directly to said body of semiconductor material, a layer of copper bonded directly to said layer of nickel, and a layer of gold bonded directly to said layer of copper.

3,268,310
2-DIOXANONE-TREATED CHARCOAL

Joseph M. Baggett, Freeport, Sammy D. Tatum, Clute, and Elmer L. Pendleton, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 26, 1963, Ser. No. 326,263
3 Claims. (Cl. 44—6)

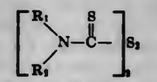
3. A charcoal briquette containing poly-2-p-dioxanone in an amount sufficient to substantially reduce the normal dustiness and improve the ease of ignition of the briquette, said amount not exceeding 50% by weight, based on the charcoal.

3,268,311
STABILIZED DISTILLATE HYDROCARBON FUEL OIL COMPOSITIONS

Roy L. Allen, Gresford, Wrexham, North Wales, and James H. T. Brook, Rockferry, Birkenhead, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 3, 1962, Ser. No. 241,516
Claims priority, application Great Britain, Jan. 25, 1962, 2,850/62
4 Claims. (Cl. 44—72)

1. A liquid hydrocarbon distillate fuel oil composition containing at least 10% by volume of normally liquid hydrocarbons produced from the cracking of petroleum hydrocarbons and from 0.1 to 10 millimoles per liter of said composition of a thiuram disulfide corresponding to the structural formula



wherein R_1 is an alkyl radical having from 5 to 18 carbon atoms per molecule and R_2 is selected from the group consisting of hydrogen and alkyl radicals having from 1 to 18 carbon atoms per molecule.

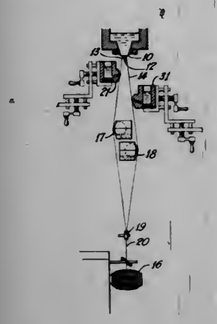
3,268,312
METHOD OF MAKING COATED GLASS FIBER COMBINATIONS

John A. Grant, deceased, late of Granville, Ohio, by Alberta B. Grant, executrix, Granville, Ohio, assignor to Owens-Corning Fiberglas Corporation, Toledo, Ohio, a corporation of Delaware

Continuation of application Ser. No. 260,349, Feb. 20, 1963. This application June 17, 1965, Ser. No. 467,817
12 Claims. (Cl. 65—3)

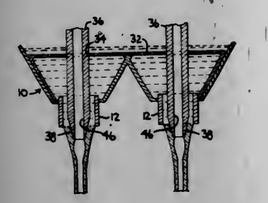
12. The method of making flexible coated glass-fiber strands of glass fibers coated with dissimilar materials

comprising flowing streams of glass from a source of molten glass, attenuating said streams into fibers while in a state of plasticity, separating the streams into groups corresponding in number to at least the number of coating



materials to be provided for the fibers in the strand, applying the respective coating materials on the separated groups of fibers, and then drawing the fibers together into a composite strand of the dissimilarly coated fibers.

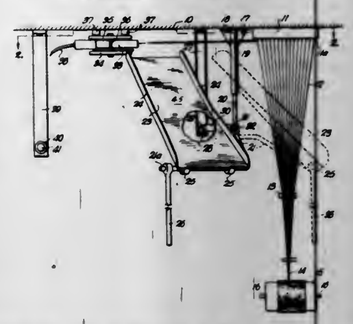
3,268,313
METHOD AND APPARATUS FOR FORMING HOLLOW GLASS FIBERS
Jerome A. Burgman, Pittsburgh, and Lester L. Margason, Oakmont, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Original application Oct. 1, 1962, Ser. No. 227,420. Divided and this application June 9, 1965, Ser. No. 462,580
10 Claims. (Cl. 65—5)



1. A method for producing a hollow fiber of heat softenable material, such as glass, from a source of such molten material which includes the steps of feeding a stream of said material from said source through a terminus of said source, flowing a gas into the central area of said stream at a distance of more than 0.030 inch and less than 0.066 inch beyond said terminus of said source and attenuating and cooling said stream to produce a hollow fiber.

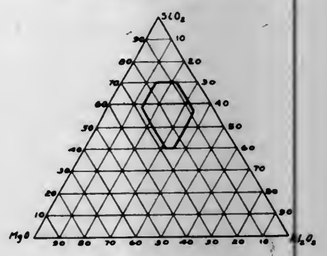
5. Apparatus for producing hollow fibers comprising a source of molten glass, a bushing having a plurality of orifices approximately 0.130 inch in diameter therethrough for the passage of streams of glass from said source, a plurality of hollow tubes each extending into an orifice and being arranged substantially concentrically with its respective orifice, each tube extending beyond the terminus of its respective orifice a distance of 0.030 inch to 0.066 inch and restricting its respective orifice to an annulus, a source of gas, means connecting each hollow tube to said gas source for discharge through each tube and into a central area of a glass stream so as to form hollow glass streams and means to attenuate said hollow streams of glass into hollow fibers.

3,268,314
APPARATUS FOR DETECTING BREAKS DURING MOLTEN FIBER FORMATION
Frederick N. Stephens, Leawood, Kans., and Joseph R. McBride, West Peabody, Mass., assignors to Gustin-Bacon Manufacturing Company, Kansas City, Mo., a corporation of Delaware
Filed Aug. 30, 1963, Ser. No. 305,665
2 Claims. (Cl. 65—11)



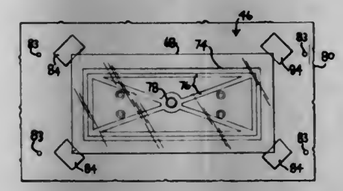
1. Apparatus for protecting a fiber winding operation wherein a multiplicity of fibers of molten material are drawn from a multi-orificed bushing and wound on a revolving drum comprising a photoelectric receiver located at such point as to sense the light intensity at the bushing, and signal when one or more incandescent beads are formed at the bushing when one or more fibers drawn therefrom are broken, a fiber deflecting device positioned near and below said bushing, and means for removing said fiber deflecting device between the bushing and the winding drum on said signal from said photoelectric receiver.

3,268,315
METHOD OF FORMING A DEVITRIFIED GLASS SEAL WITH TUNGSTEN OR MOLYBDENUM
Stanley D. Stookey, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Mar. 26, 1962, Ser. No. 182,590
1 Claim. (Cl. 65—33)



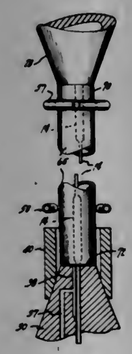
In the method of forming a seal between a metal selected from the group consisting of tungsten and molybdenum and a semicrystalline ceramic body having coefficient of thermal expansion compatible with that of tungsten and molybdenum metals, the improvement which consists of contacting said metal with a glass consisting essentially, by weight on the oxide basis, of 40–70% SiO_2, 8–27% MgO, 14–34% Al_2O_3, and 0.4–2.5% Cr_2O_3, the total of said SiO_2, MgO, Al_2O_3, and Cr_2O_3 constituting at least about 95% by weight of said glass, fusing said glass to said metal, and then causing said glass to crystallize in situ by heating to a temperature between about 800°–1350° C. for a time sufficient to obtain crystallization consisting essentially of at least one crystal phase selected from the group consisting of magnesium metasilicate and spinel.

3,268,316
METHOD OF PRODUCING WELDED DOUBLE GLAZING UNITS
Edwin C. Snyder, Lincoln, Ill., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 14, 1963, Ser. No. 315,989
6 Claims. (Cl. 65—54)



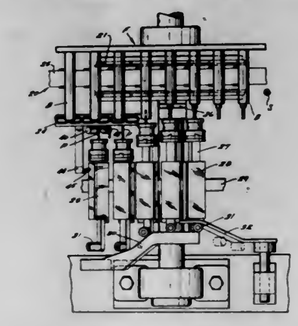
1. In a method of forming an all-glass, electrically fused, double glazing unit, wherein a larger of two flat glass sheets is superposed above a smaller of the two sheets in spaced relation and extends a substantially equal amount beyond the vertical planes of each marginal edge of the lower sheet and wherein the larger sheet has connecting longitudinal stripes of electrically conductive material adjacent each margin thereof, the improvement comprising supporting a central portion of the lower sheet in a predetermined plane and supporting marginal portions of the lower sheet in said predetermined plane only at locations spaced from each other about the margin of the lower sheet, said lower sheet being unsupported along substantial marginal portions thereof disposed within the area of fusion, and cycling electric current through the stripes at a rate sufficiently rapid to heat soften and fuse the edges of the upper and lower sheets together before unsupported portions of the margin of the lower sheet become sufficiently softened to distort under the weight of the unit, whereby the unsupported marginal edges become rounded and fire-polished.

3,268,317
APPARATUS FOR MANUFACTURING REED SWITCHES
Henry L. Blust, Lyndhurst, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 26, 1962, Ser. No. 247,008
5 Claims. (Cl. 65—138)



1. Apparatus for manufacturing reed switches which include a pair of reeds sealed through opposite ends of a glass envelope, said apparatus comprising means for holding a length of glass tubing having open ends and in vertical orientation, means adapted to hold each reed in a position extending through an end of said tubing and in spaced relation with the other of said reeds, annular baffle means for directing a purging gas through the lower end of said tubing, means for directing said purging gas to flow upwardly and along the outside of said lower end of said tubing, and gas burner means for sealing the ends of said tubing onto said reeds, said upward flow of said purging gas along the outside of said tubing preventing the products of combustion from said gas burner means from entering the lower end of said tubing.

3,268,318
APPARATUS FOR INSPECTING HOLLOW SYRINGE CARTRIDGES AND THE LIKE
Ellsworth M. Murley, Jr., Toledo, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio
Filed July 11, 1963, Ser. No. 294,401
7 Claims. (Cl. 65—158)



1. In an apparatus for manufacturing hollow syringe cartridges and the like having restricted end openings therein which comprise means for conveying a plurality of blanks to a forming station, a plurality of forming pins, a plurality of pin holders, means for moving said pin holders successively into position at the forming station, means at the forming station for deforming the end of each blank over the end of a pin, the combination comprising

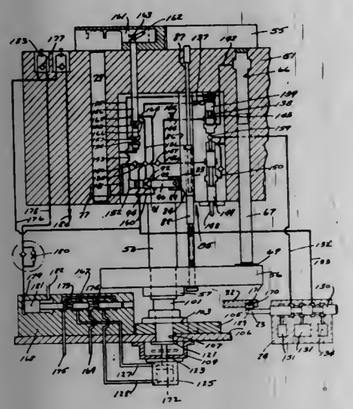
means at an inspection station for inspecting said pins as they move away from the forming station and back to the forming station to determine the presence of a pin,

and means for creating a reject signal when a pin is not present.

3,268,319
GLASSWARE PRESSING APPARATUS WITH HYDRAULIC CONTROL
John J. Kawecka, Toledo, Ohio, and Eustace H. Mumford, Ottawa Lake, Mich., assignors to Owens-Illinois Glass Company, a corporation of Ohio
Original application Nov. 14, 1960, Ser. No. 68,919, now Patent No. 3,178,276, dated Apr. 13, 1965. Divided and this application Dec. 21, 1964, Ser. No. 434,155
4 Claims. (Cl. 65—160)

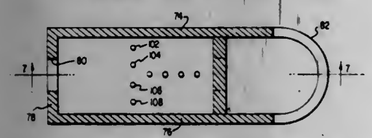
1. Apparatus for elevating and retracting a dual parison mold carrying crosshead; comprising an upper horizontal crosshead adapted to support a pair of parison molds on the upper surface thereof, a main support structure, said support having a plurality of cylindrical passages extending vertically therethrough, means closing the lower end of a first two passages, a first pair of pistons slidably received in said two passages and having their outer ends extending above the support structure, means closing the upper end of a second two passages, a second pair of pistons slidably received in said second passages and having their outer ends extending below the support structure, a lower crosshead below said support structure,

means connecting said two crossheads together, a source of hydraulic fluid under pressure, first conduit means connecting said source to the closed ends of said first passages for moving said first pistons vertically upward to raise said crossheads, second conduit means connecting said source to the closed ends of said second passages, said first and second conduit means being alternately connected to said source in timed sequence, third conduit means connecting said second passages to said first passages when said first conduit means is connected to said source, the effective area of said first pistons being greater than said second pistons, throttling means interposed in



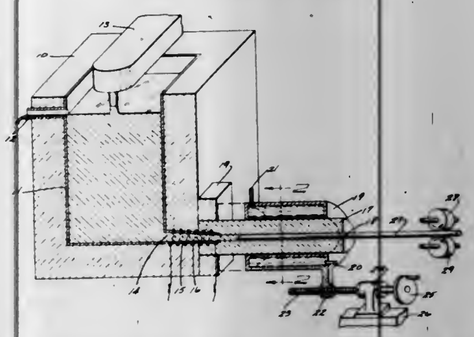
said third conduit means for regulating the rate of flow of hydraulic fluid from said second passages to said first passages, valve means controlling communication between said first and said third conduit means, means responsive to a predetermined vertical movement of said crossheads for moving said valve means to establish communication between said first and third conduit means, and means for exhausting said first passages when said source is connected to said second passages, whereby the volume of fluid used in raising said crossheads is the difference in piston-swept volumes between said first passages and said second passages requiring but a relatively small volume pump to effect operation.

3,268,320
GLASS FURNACE WITH MEANS TO AGITATE THE MOLTEN GLASS
Harvey L. Penberthy, 5624 SW. Admiral Way, Seattle, Wash.
Filed June 28, 1965, Ser. No. 467,601
7 Claims. (Cl. 65—178)



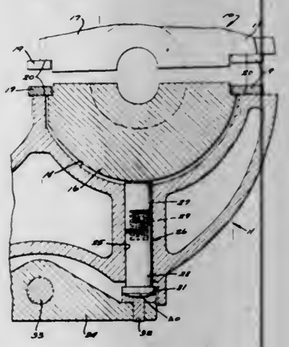
1. In a glass furnace of the continuous type having side walls and a melting zone, a fining zone and a working zone, and a glass-submerged throat between said fining and working zones, the improvement comprising: adjustable, spaced glass-immersed bubblers projecting into said furnace from subsurface points of entry and arranged substantially in a line coincident with a line extending longitudinally through said furnace and through said throat, the bubbler at the downstream end of said line being positioned substantially immediately upstream of said throat for forming two substantially convoluted convection currents in the glass in said furnace progressing in the direction of the longitudinal axis of said furnace, said current-forming means being located substantially downstream of said melting zone.

3,268,321
APPARATUS FOR FORMING SOLID GLASSWARE IN A CARBON DIE
George C. Chapman, Toledo, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio
Filed Feb. 25, 1963, Ser. No. 260,684
5 Claims. (Cl. 65—183)



1. Apparatus for precision forming of glass articles comprising an elongated carbon die having a precision cut opening therethrough, means for forcing molten glass into one end of said die opening with a predetermined pressure and means mounted in thermal transfer relationship with said die for cooling said die an amount sufficient to make the glass contained therein rigid prior to emergence from said die.

3,268,322
GLASS FORMING APPARATUS
Robert R. Denman, Toledo, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio
Filed Apr. 13, 1961, Ser. No. 102,680
6 Claims. (Cl. 65—323)

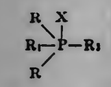


1. Blow mold apparatus comprising a pair of mold arms mounted for pivotal movement about a common vertical axis toward and away from each other, a semi-cylindrical recess formed in each mold arm in opposing relationship, semi-cylindrical blow mold halves loosely mounted in each recess, means for retaining said mold halves in said recesses but permitting slight horizontal movement thereof relative to said arms, a horizontal pin extending through each mold arm and having

its inner end in contact with the mold half retained in the arm, the outer ends of said pins being held against axial movement in each said arm, said pin comprising two loosely interlocked members in axial alignment, and spring means interposed between said members for biasing said members away from each other, whereby said spring will bias said members apart when said mold arms are opened, and said members are in contact when said mold arms are closed.

3,268,323
METHOD FOR REGULATING PLANT GROWTH
Lewis Edward Goyette, Richmond, Va., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Feb. 24, 1961, Ser. No. 91,324
4 Claims. (Cl. 71—2.3)

1. The method of defoliating a plant which comprises applying thereto a defoliating amount of the compound having the formula

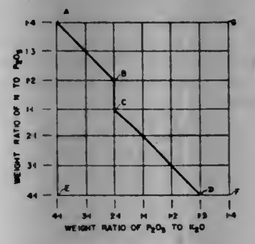


wherein R, R_1, R_2, and R_3 are members selected from the group consisting of alkyl having from 1 to 16 C atoms, allyl, 2-methylallyl, benzyl, alkyl-substituted benzyl, chlorine-substituted benzyl, iodo-substituted benzyl, bromine-substituted benzyl, phenethyl, 2,2-diphenyl ethyl, vinyl, and CH_3COCH_2-radicals, and X is a member selected from the group consisting of Br, Cl, I, NO_3, PO_4 and SO_4.

3,268,324
HERBICIDAL COMPOSITION AND METHOD EMPLOYING OXA ALIPHATIC ACETAMIDE
Philip C. Hamm, Webster Groves, and Angelo John Speziale, Creve Coeur, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Oct. 11, 1965, Ser. No. 494,929
12 Claims. (Cl. 71—2.3)

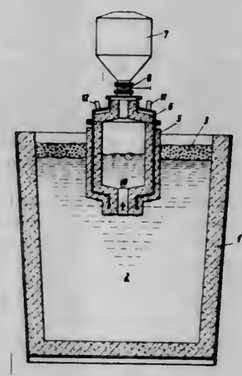
1. The method of inhibiting pre-emergent growth of unwanted vegetation which comprises treating the growing medium with a phytotoxic amount of N-ethyl-N-isopropoxypropyl alpha-chloroacetamide.

3,268,325
METHOD OF PREPARING SOLID HOMOGENEOUS FERTILIZER MIXTURE OF NITROGEN, PHOSPHORUS AND POTASSIUM VALUES
John E. Lyon, Florissant, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Oct. 30, 1961, Ser. No. 148,329
6 Claims. (Cl. 71—39)



2. A method of preparing a free flowing permanently homogeneous fertilizer mixture of nitrogen, phosphorus and potassium values in the form of a plurality of substantially spherical pellets having a substantially uniform composition which comprises mixing an aqueous potassium hydroxide solution, substantially anhydrous ammonia, nitric acid and phosphoric acid, the resultant mixture having a composition represented within area ABCDE of the drawing, all of the components of the mixture being in the liquid state, reducing the water content of the mixture, while molten, to less than about 5%, passing the molten mixture through orifices to form a plurality of droplets, allowing said droplets to fall freely through an inert gaseous cooling medium until they are solidified, and collecting the resulting solidified droplets.

3,268,326
TREATMENT OF METAL MELTS
Fritz Harders, Burenbruch, Germany, assignor to Dortmund-Horder Huttenunion Aktiengesellschaft, Dortmund, Germany
Filed Nov. 15, 1963, Ser. No. 323,936
Claims priority, application Germany, Nov. 29, 1962, D 40,384
2 Claims. (Cl. 75—58)



1. Method of treating a metal melt with treating agents for purifying and alloying with the metal of the melt, which comprises conveying a portable receptacle to a position above a melt, lowering an open end of the receptacle into the melt, simultaneously discharging from the receptacle part of the air therein and replacing it with a portion of the melt introduced through the open end of the receptacle, feeding a quantity of treating agent to the portion of the melt in the receptacle so that the treating agent forms an alloy with the metal melt portion, and pressurizing the receptacle to discharge the alloy formed therein into the surrounding melt.

3,268,327
ALLOYS WITH HIGH RESISTANCE TO SEA WATER CORROSION
William O. Binder, Niagara Falls, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Nov. 14, 1963, Ser. No. 323,550
9 Claims. (Cl. 75—134)

1. An alloy consisting essentially of 30 to 40 weight percent cobalt; 19 to 21 weight percent chromium; 4 to 6 weight percent molybdenum; wherein the sum of chromium and molybdenum is 25 weight percent; 2 to 8 weight percent nickel; up to 7 weight percent tungsten; up to 2 weight percent manganese; up to 1 weight percent silicon; up to 0.15 weight percent carbon; and the remainder iron and impurities with iron being at least 20 percent of the composition of the alloy.

3,268,328
METALLURGY
Maurice L. Torti, Jr., Boston, Mass., assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
No Drawing. Filed Nov. 3, 1964, Ser. No. 408,684
9 Claims. (Cl. 75—174)

1. A cold worked tantalum alloy having a fine grain structure and being resistant to grain coarsening upon annealing, said alloy having an ASTM number greater than 3 upon heating to 3700° F. for one hour and having increased tensile strength and creep properties as compared to pure tantalum at elevated temperatures, said alloy consisting essentially of a rare earth additive selected from the group consisting of elements having atomic numbers 39 and 57 through 71, mixtures of such elements and oxides thereof, said additive being greater than 10 p.p.m. and less than 0.1 weight percent of said alloy, the balance consisting essentially of tantalum metal and tantalum-base alloys containing at least 60 weight percent tantalum, the balance of said tantalum base alloy consisting predominantly of at least one metal selected from the group IV, V and VI metals and being essentially free of additional elements having adverse effects on the high temperature properties of tantalum alloys.

3,268,329
TITANIUM BASE ALLOY
Harry W. Rosenberg, Henderson, Nev., assignor to Titanium Metals Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 29, 1963, Ser. No. 305,511
4 Claims. (Cl. 75—175.5)

1. An alloy consisting essentially of by weight from 5.5 to 7.5% aluminum, from 1.5 to 2.5% tin, from 0.7 to 1.3% molybdenum, and from 0.7 to 2.3% vanadium, up to 0.5% of carbon, oxygen and nitrogen, but not to exceed 0.2% oxygen and 0.15% nitrogen with the balance titanium and incidental impurities, characterized by an ultimate tensile strength of over 120,000 p.s.i., by a toughness of over 25 foot pounds measured at −80° F. by the Charpy impact test, and by a substantially all-alpha microstructure.

3,268,330
METHOD FOR PRODUCING LEAD TELLURIDE THERMOELECTRIC ELEMENTS BY VACUUM HOT-PRESSING
Louis F. Kendall, Jr., Scotia, and James H. Bredt, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
No Drawing. Filed June 26, 1964, Ser. No. 378,415
3 Claims. (Cl. 75—226)

1. A method for manufacturing fine grain polycrystalline semiconductive lead telluride thermoelectric elements having an ultimate compressive strength of about 25,000 pounds per square inch and a density approximately 99.5 percent of theoretical density comprising the steps of

placing a desired amount of said lead telluride powder in the die receptacle of a punch and die forming set composed of a material which is nonreactive with said powder at any temperature up to the melting point of said powder and from which punch and die set contaminating reactive atmospheric gases have previously been removed while substantially excluding reactive atmospheric gases from said punch and die set and said powder,

assembling said punch and die forming set containing said powder while substantially excluding reactive atmospheric gases from said punch and die and said powder,

degassing said assembly and contained powder by maintaining said assembly and contained powder within a vacuum environment for a period of time sufficient to substantially remove any occluded gases,

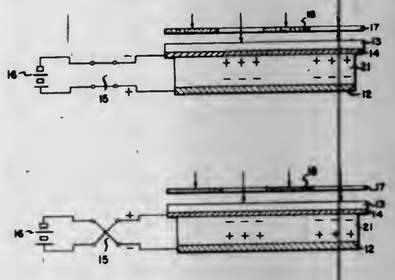
heating said assembly to a temperature of from about 400° to about 500° C. while substantially excluding reactive atmospheric gases from said assembly and contents,

applying a pressure of at least about 1000 p.s.i. on said punch of said assembly to compress the powder contained within said die receptacle while simultaneously increasing the temperature of said powder to a temperature in the range between about 500° C. to about 850° C. while maintaining said assembly and contents at subatmospheric pressure and substantially excluding reactive atmospheric gases therefrom,

maintaining said pressure and temperature to said powder for a time sufficient to achieve a compact density of about 99.5 percent of the theoretical density,

cooling said compact to a temperature of about 50° C. to 150° C. and removing the compacted thermoelectric element from said punch and die set.

3,268,331
PERSISTENT INTERNAL POLARIZATION SYSTEMS
Richard K. Harper, Boston, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed May 24, 1962, Ser. No. 197,365
1 Claim. (Cl. 96—1)



The method which comprises polarizing at least a portion of a persistently polarizable body in a first polarization direction by exposing said body to an image pattern of radiation with a first polarizing voltage applied to said body, next exposing said body to said image pattern of radiation with a second polarizing voltage applied to said body, the direction of the field of said second polarizing voltage being opposite that of said first polarizing voltage, whereby a polarization pattern corresponding with said image pattern of radiation is formed in said persistently polarizable body, and then detecting said polarization pattern.

3,268,332
ELECTROPHOTOGRAPHIC ELEMENT
Paul J. Caruso, West Newton, Richard P. Flynn, Somerville, Gerald L. McLeod, Lexington, David S. Most, Peabody, and Herbert N. Schlein, Framingham, Mass., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware
No Drawing. Filed May 25, 1962, Ser. No. 197,596
2 Claims. (Cl. 96—1)

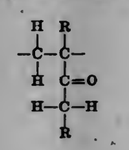
1. In a radiation responsive image forming medium comprising a substrate having thereon a photoconductive insulating coating comprising photoconductive particles in an electrically insulating binder matrix therefor, the improvement in which said binder comprises, in combination, (A) at least about 50 percent by weight of a member of the group consisting of a homopolymer of styrene, a binary copolymer of styrene and a diolefinic comonomer, and a ternary copolymer of styrene, a diolefinic comonomer, and acrylonitrile, (B) at least about 25 percent of a member of the group consisting of a homopolymer of vinylidene chloride and a copolymer of vinylidene chloride with acrylonitrile, and (C) at least ½ percent of an alkyd resin.

3,268,333
HIGH GAIN DRY PHOTOGRAPHIC SYSTEM
Charles E. Allman and Alfred H. Sporer, San Jose, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 30, 1963, Ser. No. 334,547
18 Claims. (Cl. 96—27)

1. A process comprising the sequential steps of:

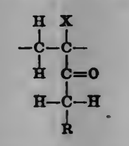
(1) selectively exposing to light a photographic material selected from the group consisting of:

(a) a mixture of (1) at least one hydrogen halide precursor which decomposes on exposure to light to cause the formation of hydrogen halide, and (2) a linear polyketone having the repeating unit



wherein R is selected from the group consisting of hydrogen and lower alkyl, and

(b) a linear polyketone having the repeating unit



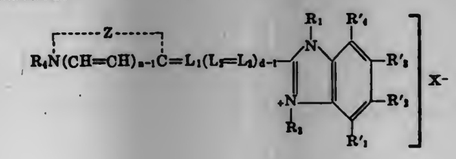
wherein X is halogen and R has the same meaning as above, and which decomposes on exposure to light to form hydrogen halide,

said exposure of the photographic material being of sufficient time and intensity to cause the formation of hydrogen halide from the decomposition of said hydrogen halide precursor (a) (1) and from linear polyketone (b); and

(2) heating said photographic material in the presence of said generated hydrogen halide at temperatures greater than ambient room temperature to cause aldol condensation of said polyketone in said exposed areas.

3,268,334
POLYMETHINE DYES
Henri Depoorter, Marcel Jan Libeer, Gerrit Godfried van Mierlo, and Jean Marie Nys, all of Mortsel-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a Belgian company
No Drawing. Continuation of application Ser. No. 62,108, Oct. 12, 1960. This application Jan. 30, 1964, Ser. No. 341,446
Claims priority, application Great Britain, Oct. 13, 1959, 34,641/59
11 Claims. (Cl. 96—106)

1. A light sensitive silver halide photographic emulsion containing as sensitizing dye a cyanine dye salt having the formula:



wherein R'_1, R'_2, R'_3 and R'_4 each represents a member selected from the group consisting of a hydrogen atom, a carbethoxy group, at least one of R'_1, R'_2, R'_3 and R'_4 being a carbethoxy group;

R_1, R_3 and R_4 each represents a member of the group consisting of alkyl, phenyl, carboxyphenyl and cyclohexyl;

L_1, L_2 and L_3 each represents a methine group; n represents a positive integer from 1 to 2; d represents a positive integer from 1 to 4; Z represents the atoms necessary to complete a heterocyclic nitrogen nucleus of the type contained in cyanine dyes and selected from the group consisting of a thiazoline nucleus, a selenazoline nucleus and a benzimidazole nucleus, and X represents an acid radical of the type used in cyanine dyes.

3,268,335
SOY PROTEIN AND SOY LECITHIN COMPOSITION
Sidney J. Circle and Edwin W. Meyer, Chicago, Ill., assignors to Central Soya Company, Inc., Fort Wayne, Ind., a corporation of Indiana
Filed Jan. 16, 1962, Ser. No. 166,657
2 Claims. (Cl. 99—15)

1. A new composition of matter, consisting essentially of a substantially fiber-free soy protein and soy lecithin, said composition when dispersed in water having a pH of about 7, said protein and lecithin being intimately mixed to provide free-flowing powder particles, said protein constituting from about 20% to about 80% of the weight of said composition, said particles being hollow, with the protein and lecithin being dispersed in the structure of each particle.

3,268,336
METHOD FOR PRODUCING A FOOD PRODUCT
Douglas Hale, Creve Coeur, George S. Vasilakes, St. Louis County, and Ronald J. Flier, St. Louis, Mo., assignors to Ralston Purina Company, St. Louis, Mo., a corporation of Missouri
Original application June 19, 1962, Ser. No. 203,640, now Patent No. 3,202,084, dated Aug. 24, 1965. Divided and this application July 18, 1963, Ser. No. 295,881
5 Claims. (Cl. 99—80)

1. The method of making sterile food pellets and packaging said pellets in sterile condition comprising extruding meal into a tank in which a vacuum is maintained to provide a sterile environment, heating said meal during extrusion to a temperature sufficient to sterilize the meal, pelletizing the extruded meal in the tank, discharging the resultant sterile pellets from the tank into packages, and sealing the packages in a sterile environment.

3,268,337
GRANULAR STARCH LAYER CAKE BATTER SYSTEM AND PROCESS FOR PRODUCING SAME
Norman B. Howard, Hamilton, and Donald H. Hughes and Rudolf G. K. Strobel, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Nov. 5, 1963, Ser. No. 321,410
21 Claims. (Cl. 99—92)

1. A process for improving a layer cake batter system consisting essentially of granular starch, water, shortening and sugar, which comprises incorporating in the batter emulsion from about 0.5% to about 16%, by weight of the shortening, of an alpha-phase crystal-tending emulsifier which is lipophilic and hydrophilic and contains at least one higher fatty acid radical having from about 12 to about 22 carbon atoms and at least one free and unesterified hydroxyl group, from about 0.1% to about 8%, by weight of the shortening, of a high temperature batter stabilizer, from about 0.001% to about

1.0%, by weight of the batter emulsion, of a non-toxic, water-soluble polyvalent metal ion salt, and from about 0.5% to about 8.0%, by weight of the batter emulsion, of a soluble foamable protein.

3,268,338

STABILIZED CAKE BATTER SYSTEM AND PROCESS FOR PRODUCING SAME

Rudolf G. K. Strobel, Colerain Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 5, 1963, Ser. No. 321,436
15 Claims. (Cl. 99—92)

1. A process for improving a cake batter system comprising shortening, flour, water and sugar, which comprises incorporating in the batter emulsion from about 0.5% to about 16%, by weight of the shortening, of an alpha-phase crystal-tending emulsifier which is lipophilic and hydrophilic and contains at least one higher fatty acid radical having from about 12 to about 22 carbon atoms and at least one free and unesterified hydroxyl group, from about 0.1% to about 8%, by weight of the shortening, of a high temperature batter stabilizer, and from about 0.001% to about 1.0%, by weight of the batter emulsion, of a non-toxic, water-soluble polyvalent metal ion salt.

3,268,339

METHOD OF PREPARING A COMMINUTED FOOD PRODUCT

David Torr, Ripley Lane, Oyster Bay, N.Y.

No Drawing. Filed Feb. 23, 1965, Ser. No. 434,657
4 Claims. (Cl. 99—108)

1. The method of preparing a food product comprising the steps of comminuting raw edible poultry by-products to fibriform consistency to form a fibrous binder matrix, adding 1–5% of sodium chloride by weight to the by-products being comminuted, cooling the by-products during comminution, mixing pieces of meat with said matrix to form an amorphous mixture, pressing said amorphous mixture together, cooking the pressed mixture to form an integral cohesively held together food unit, cooling said food unit to form a product which retains its integrity at normal and cooking temperatures and which is capable of being sliced into integral slices at normal and heated temperatures.

3,268,340

MARGARINE OIL AND MARGARINE MADE THEREFROM

Vigen K. Babayan, Indianapolis, Ind., and Henry Lehman, Cedar Grove, N.J., assignors to Drew Chemical Corp., New York, N.Y.

No Drawing. Filed Aug. 30, 1965, Ser. No. 483,836
12 Claims. (Cl. 99—118)

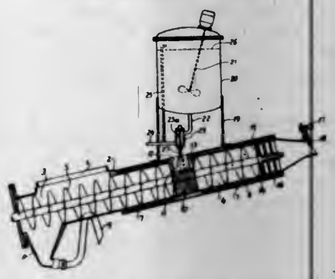
1. A margarine oil composition having a major portion and a minor portion, said major portion consisting essentially of a rearranged mixture of about 1 to 10 parts by weight of at least one lauric acid oil and 1 part by weight of at least one non-lauric acid vegetable oil, taken from the class consisting of corn, safflower, sesame, peanut, soya and cottonseend, having a Wiley melting point of 73° to 80° F., said minor portion consisting of about 4 to 20% by weight of said composition of at least one hydrogenated lauric acid oil and from about 3 to 6% by weight of said composition of at least one additive taken from the class consisting of stearines and triglycerides of higher fatty acids having 16 or more carbon atoms and resembling tristearine in solid fat content, said margarine oil composition having a Wiley melting point of about 84° to 102° F.

3,268,341

METHOD OF SALTING BUTTER

Claes Bertil Sjöholm, Malmo, Karl J. G. Mårtensson, Lund, and Malte Kurt Holmgren, Malmo, Sweden, assignors to Aktiebolaget Separator, Stockholm, Sweden, a corporation of Sweden

Filed Oct. 15, 1964, Ser. No. 405,025
7 Claims. (Cl. 99—119)



1. A method for salting butter and margarine products, which comprises supplying to the product a mixture of water and undissolved salt grains having a maximum grain size of 0.05 mm., said mixture containing from 35 to 95% of salt by weight and containing the water in an amount which is at least 5% of the salt by weight, and working said mixture into the butter.

3,268,342

MOBILE MILK PROCESSING AND DISTRIBUTION

Ray A. Yatuni, 7125 Cully St., Whittier, Calif.

Continuation of application Ser. No. 116,029, June 9, 1961. This application July 6, 1964, Ser. No. 381,943
5 Claims. (Cl. 99—171)

1. The method of handling raw milk, comprising the steps of placing a milk processing and packaging plant for processing raw milk on a mobile unit, delivering raw milk in tankers from the source of supply to various distribution stations located remotely from the source of supply of raw milk, moving the mobile unit from one to the other of said distribution stations, delivering raw milk from a tanker to the mobile unit at a distribution station and discharging processed milk in containers from the mobile unit at the distribution station.

3,268,343

METHOD OF PREPARING AND PACKAGING A POULTRY MEAT ROLL

Werner Stock, Park Forest, Ill., assignor to Union Carbide Corporation, a corporation of New York

Filed Dec. 14, 1962, Ser. No. 244,719
1 Claim. (Cl. 99—174)

A method of preparing and packaging a poultry meat roll comprising the steps of:

(a) removing the neck, wings, legs and frame bones of a dressed, eviscerated fowl;

(b) shaping into a generally cylindrical meat roll at least a portion of the white meat, dark meat and skin of the fowl, a portion of said skin having attached thereto pieces of said white meat and said dark meat, and overwrapping the meat with the skin outermost, supporting the cylindrical meat roll in its shaped form in a longitudinal supporting zone, said supporting zone being substantially equal in length to the longitudinal axis of said cylindrical meat roll and comprising two separate, equal sections which are spaced apart to provide a longitudinal area corresponding to a longitudinal area of said cylindrical meat roll such that the longitudinal area of said cylindrical meat roll is left exposed and unsupported while said cylindrical meat roll is in said supporting zone;

(c) circumscribing said cylindrical meat roll with twine along its exposed and unsupported longitudinal area thusly tying said meat roll along its longitudinal axis;

(d) supporting the thusly tied meat roll on a support surface which contacts only a longitudinally extending zone on said meat roll;

(e) circumscribing and tie-combining said meat roll and said support surface with a plurality of longitudinally spaced transverse twine ties;

(f) inserting the transversely tied meat roll together with said support surface into a flexible film bag;

(g) removing said support surface from said flexible bag while retaining said meat roll encased in said flexible bag; and

(h) closing said flexible bag about the encased meat roll.

3,268,344

CONTAINER AND PACKAGE UTILIZING THE SAME

Gilbert George Kamm, Barrington, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Jan. 19, 1965, Ser. No. 429,199
7 Claims. (Cl. 99—181)

1. A container for packaging a relatively corrosive comestible which directly attacks both tin and steel comprising:

a tubular tinplate metal body closed at one end and open at its opposite end;

said body having a longitudinally extending side seam substantially filled and hermetically sealed with substantially pure tin solder;

said solder extending inwardly of said side seam to form a fillet having a transverse width of at least about 0.3 mm. and a depth of at least about 0.3 mm. along said side seam on the interior of the body at the juncture of said side seam and the side wall of said body;

the entire interior surface of said body and end closure, except for said fillet, being covered with a resin coating;

said fillet having a substantially larger ratio of thickness to exposed surface area than the interior tinplating on said body prior to the coating thereof with said resin whereby cathodic protection of the substrate steel is provided by said fillet and direct attack on the tin and steel of said container by said comestible is confined essentially to said fillet.

3,268,345

TELL-TALE DEVICES CONTAINING PASTY FERMENTABLE BODY FOR REFRIGERATED PACKAGE GOODS

Merritt T. Kennedy, Jr., 16 Winthrop Road, Port Washington, N.Y.

Filed Mar. 30, 1962, Ser. No. 183,908
9 Claims. (Cl. 99—192)



1. A tell-tale device for combination with a refrigerated package for indicating undesirable interruptions in the refrigerated status of said package irrespective of any subsequent resumption of said status, said tell-tale device comprising a container having on the inside a ledge, a cover for said container having an opaque portion and a transparent portion, and a pasty fermentable body containing a fermenting agent and enclosed in said container and cover, said ledge being visible through the transparent portion of said cover, and said pasty fermentable body being concealed from view by the opaque portion of said cover under normal refrigerated temperature of the package, whereby at temperatures above said normal refrigerated temperature of the package, the fermenting agent creates gas, thereby causing the pasty fermentable body to expand beyond the opaque portion of the cover and flow over the inside ledge of the container to afford tell-tale indications through the transparent portion of the cover that the refrigerated status of the package has been interrupted to an unsuitable extent.

3,268,346

PREPARATION OF DRIED EGG

Arnold Spicer and William Herbert Sly, both of Edric House, Castle St., High Wycombe, England

No Drawing. Filed Dec. 9, 1963, Ser. No. 329,275
Claims priority, application Great Britain, Jan. 22, 1963, 2,690/63
8 Claims. (Cl. 99—210)

1. A process for the preparation of dried egg by freeze-drying liquid egg emulsion which consists in

(1) mixing liquid whole eggs until the yolks and whites are completely mixed;

(2) adding to said mixture, an emulsifying agent consisting of a mixture of at least one mainly hydrophilic emulsifier and at least one mainly lipophilic emulsifier, the said hydrophilic and lipophilic emulsifiers being in aqueous emulsion, said hydrophilic emulsifier being a mixture of monoglyceryl ester with a polyhydric alcohol and said lipophilic emulsifier being a diester selected from the group consisting of glyceryl diester and sorbitan diesters;

(3) freeze-drying the resulting liquid egg emulsion; and

(4) recovering the dried egg so produced.

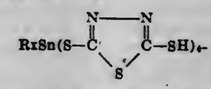
3,268,347

PROTECTIVE COATING MATERIALS FOR SHIP BOTTOM

Masao Nagasawa, Shimizu, Japan, assignor to Ihara Noyaku Kabushiki Kaisha, Shimizu, Japan, a corporation of Japan

No Drawing. Filed Jan. 14, 1963, Ser. No. 251,050
1 Claim. (Cl. 106—15)

A nonaqueous organic base anti-microorganismic paint and anti-fouling paint, more particularly paints for protecting ship bottoms which comprises as an anti-microorganismic and anti-fouling ingredient a minor proportion of organic tin salts of 2,5-dimercapto-1,3,4-thiadiazole having the general formula



wherein x is 1 and 2; R represents a hydrocarbon group selected from the group consisting of an alkyl, alkenyl, aryl and aralkyl group.

3,268,348

DENTAL IMPRESSION MATERIALS

Jacque C. Morrell, 8 Oxford St., Chevy Chase, Md.

No Drawing. Filed Sept. 23, 1965, Ser. No. 489,758
23 Claims. (Cl. 106—38.5)

6. A dental impression composition consisting essentially of a mixture of an alkali metal alginate, calcium sulphate dihydrate, a metal fluoride and an inert filler comprising diatomaceous earth, a retarder consisting of sodium pyrophosphate, a neutralizer consisting of magnesium oxide, the said fluoride consisting of barium fluoride and being present in an amount of from about 1% to about 10%, said fluoride being adapted to eliminate fixing of said composition while maintaining controlled set-

ting time and minimizing deterioration with age, and to provide smooth and accurate impressions and casts.

17. A dental impression composition consisting essentially of a mixture of an alkali metal alginate, hydrated calcium sulphate, a metal fluoride and an inert filler and a metal oxide neutralizer, the said fluoride consisting of barium fluoride combined with another fluoride selected from the group consisting of potassium fluoride, sodium fluoride, lithium fluoride, magnesium fluoride, aluminum fluoride and zinc fluoride and being present in a total amount of from about 1% to about 10% said fluoride being adapted to eliminating fixing of said composition while maintaining controlled setting time and minimizing deterioration with age, and to provide smooth and accurate impressions and casts.

3,268,349

STABILIZED ZIRCONIA COMPOSITION

Lothar H. Brixner, Brandywine Hills, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 20, 1964, Ser. No. 405,257
5 Claims. (Cl. 106—39)

1. A solid solution composition of generic formula $Ln_xNb_xZr_{1-2x}O_2$ in which Ln represents a metal selected from the group consisting of rare earth elements having atomic numbers 64 through 71 inclusive and yttrium, and x has a value of 0.015 to 0.15 inclusive.

3,268,350

FOAMABLE SILICATE COMPOSITION

John J. Grebe, John F. Miller, Wayne L. Rhinehart, and Thomas R. Wayt, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 13, 1962, Ser. No. 202,057
2 Claims. (Cl. 106—75)

1. A foamable silicate composition which comprises; sodium oxide and silicon dioxide having a Na_2O/SiO_2 molar proportion of about 1/1.3 and contains on the total composition weight about 21.5 weight percent Al_2O_3, about 2.5 weight percent MnO_2, about 0.8 weight percent CaO, about 0.7 weight percent MgO, about 0.9 weight percent TiO_2 and about 0.2 weight percent Fe_2O_3.

3,268,351

XEROGRAPHING FIXING METHOD AND APPARATUS

Warren G. Van Dorn, Columbus, Ohio, assignor, by mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York

Continuation of application Ser. No. 120,755, June 29, 1961. This application Feb. 17, 1964, Ser. No. 346,585
5 Claims. (Cl. 117—21)

4. The method of fixing a resin base powder image onto a support material to which the powder image is loosely adhering, comprising the steps of

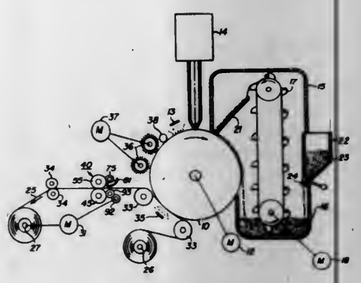
heating an offset preventing surface comprising tetrafluoroethylene polymer to a temperature sufficient to tackify the resin of the resin base powder image,

applying a coating of an offset preventing liquid comprising a silicone oil to the offset preventing surface,

advancing the support material into contact with the offset preventing surface in a manner to place the surface of the support material bearing the powder image in contact with the offset preventing surface,

forcing the support material and the offset preventing surface into intimate surface contact with sufficient pressure to insure good thermal contact between these surfaces without causing degradation of the powder image on the support material and thereby heating the powder image to a temperature sufficient to tackify the powder image,

and removing the support material from contact with the offset preventing surface to expose the tackified



powder image to ambient air, thereby to permit the tackified powder image to harden and leave a fixed resin base image on the support material.

3,268,352

BLOOMING OF OPTICAL COMPONENTS WITH A COMPLEX ALUMINO-SILICATE COMPOUND

John Rupert Davy, Bearsden, Dunbartonshire, Great Britain, and John Stewart Orr, Glasgow, Scotland, assignors to Barr & Stroud Limited, Glasgow, Great Britain, a British company

Filed Sept. 15, 1958, Ser. No. 761,256
8 Claims. (Cl. 117—33.3)

1. A process for coating optical components, including the step of depositing the coating by heating a mixture of aluminum oxide with silicon monoxide under vacuum conditions and evaporating same, the resultant coating being a complex compound comprising at least one alumino-silicate.

3,268,353

ELECTROLESS DEPOSITION AND METHOD OF PRODUCING SUCH ELECTROLESS DEPOSITION

Manlio B. Melillo, Inglewood, Calif., assignor to The Electrada Corporation, Culver City, Calif., a corporation of Delaware

Filed Nov. 18, 1960, Ser. No. 70,307
16 Claims. (Cl. 117—47)

1. In a method of electrolessly depositing magnetic materials on a surface, the steps of:

cleaning the surface;

subjecting the surface to a solution containing ions of palladium to obtain a deposit of the palladium on the surface;

disposing the surface in a first bath including ferrous ions and including ions of an additional element from a group consisting of cobalt and nickel where the additional element has magnetic properties when deposited with iron, and including urea, sodium hypophosphite and a complexing agent from a group consisting of citrates and tartrates for a sufficient period of time to obtain a uniform deposition of a first thin layer of a first magnetic material on the surface; and

disposing the surface containing the first magnetic layer in a second bath including ions of at least one magnetic element from the group consisting of nickel

Material	Grams per Liter (approximately) Parts by Weight
Nickel Acetate $Ni(C_2H_3O_2)_2 \cdot 4H_2O$	20
Urea $CO(NH_2)_2$	10
Sodium Hypophosphite $NaH_2PO_2 \cdot H_2O$	10
Sod Potassium Tart $NaKC_4H_4O_6 \cdot 4H_2O$	40
Ferrous Sulfate $FeSO_4 \cdot 7H_2O$	15
Ammonium Hydroxide NH_4OH as req'd for pH 8 to 10	
Sodium Citrate $Na_3C_6H_5O_7 \cdot 2H_2O$	80

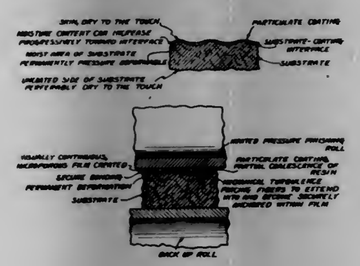
and cobalt, sodium hypophosphite and a complexing agent from the group consisting of citrates and tartrates for a sufficient period of time to obtain a deposition of a second magnetic material different from the first magnetic material in a second layer on the first layer and to obtain the deposition of the second layer with a considerably greater thickness than the first layer, the second magnetic layer having a different chemical composition than the first magnetic layer.

3,268,354

COATING PROCESS AND PRODUCT

Paul O. Hain, Hamilton, Ohio, assignor to Champion Papers Inc., Hamilton, Ohio, a corporation of Ohio

Filed Mar. 23, 1962, Ser. No. 182,024
10 Claims. (Cl. 117—64)



6. A method for the continuous production of coated paper having a finished print-receptive surface comprising providing a dry fibrous cellulosic paper substrate having on one surface thereof, a wet layer of a major weight proportion of finely divided solid mineral filler in intimate admixture with a minor weight proportion of non-water absorptive, film-forming, heat softenable resin particles, applying heat to said paper substrate from the side of said substrate surfaced with said wet layer to dry said layer and cause the surface of said substrate adjacent said layer to become sufficiently wet with water to be permanently pressure deformed with the exposed surface of said layer being dry to the touch, and passing said paper substrate through the nip between a pair of turning rolls, at least one of which has a heated finishing surface, with said layer in contact with said finishing surface, said turning rolls applying sufficient heat and pressure to cause said resin particles to at least partially coalesce and to apply shearing forces to said layer to provide a visually continuous print-receptive surface coating which is securely bonded to the said substrate.

3,268,355

METHOD OF PRODUCING VINYL COATED FABRIC GLOVE

Edouard A. Brodeur, Jr., Summerville, Ga., assignor to The Best Manufacturing Corporation, Menlo, Ga., a corporation of Georgia

Filed June 7, 1962, Ser. No. 200,696
1 Claim. (Cl. 117—76)



The method of producing a vinyl coated fabric glove comprising the steps of:

mounting a fabric shell on a glove form for successive dips in a plurality of vinyl plastisols;

dipping the shell in a first plastisol to produce a saturation of the surface fibers of the shell and to provide mechanical blocking of the shell interstices, the first plastisol being formulated to produce a relatively soft and flexible composition when cured;

removing the shell from the first plastisol;

draining any excess first plastisol from the shell;

partially fusing the first plastisol to the gelled state at a temperature of about 500 to 600° F. for a time sufficiently short to produce a nonflowing gel without curing;

cooling the shell;

dipping the shell into a second vinyl plastisol formulated to produce, when cured, a composition which is relatively hard and abrasion resistant compared to the composition formed from the first plastisol;

removing the shell from the second plastisol;

draining any excess second plastisol from the shell;

fusing the first and second plastisols at a temperature substantially lower than the temperature to which the first plastisol is subjected in the gelling step, sufficient to obtain a uniform curing of the first and second plastisols with a minimum of plasticizer migration from the flexible first plastisol into the harder second plastisol;

cooling the shell; and

removing the vinyl coated fabric from the positioning form.

3,268,356

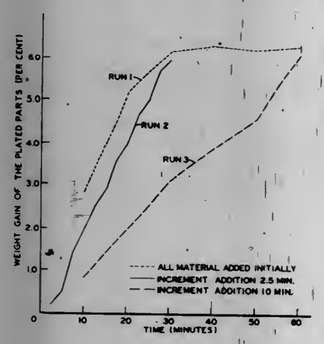
METAL PLATING BY SUCCESSIVE ADDITION OF PLATING INGREDIENTS

John G. Simon, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Original application Jan. 28, 1959, Ser. No. 789,544. Divided and this application Apr. 20, 1964, Ser. No. 366,680
6 Claims. (Cl. 117—109)

1. The process of mechanically plating parts with a plating metal which comprises placing in a plating barrel said parts, liquid, plating metal particles, and chemical plating promoter, at least one of the last two named ingredients being initially available in insufficient amount to achieve the

desired metal plating, agitating the contents of said barrel throughout a plating cycle, and adding over a substantial



portion of said plating cycle the remainder of each initially insufficient ingredient.

3,268,357
ARTICLE COATED WITH ALKYL ACRYLATE-VINYL ESTER INTERPOLYMER CONTAINING ADHESIVE

Donald P. Hart, Allison Park, and Joseph E. Plasynski, New Kensington, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Original application Feb. 27, 1962, Ser. No. 176,094. Divided and this application Dec. 17, 1964, Ser. No. 419,198
10 Claims. (Cl. 117—122)

1. A normally tacky and pressure-sensitive adhesive-coated article comprising a non-fibrous backing member having superimposed thereon a dried film consisting of a solution-polymerized interpolymer of monomers consiting esesntially of

(1) from about 40 percent to about 85 percent of at least one compound of the formula

$$CH_2{=}CHCOR$$

where R is an alkyl radical having from 4 to 18 carbon atoms and

(2) from about 60 percent to about 15 percent of a compound of the formula

$$R_1COCH{=}CH_2$$

where R_1 is an alkyl radical having from 1 to 5 carbon atoms,

said interpolymer having a viscosity of at least 3000 centipoises as a 50 percent solution in isopropyl acetate and a Williams plasticity between about 1.4 and about 3.

3,268,358
DIFFUSION CLADDING

Marvin R. Bothwell, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 20, 1962, Ser. No. 218,128
2 Claims. (Cl. 117—131)

1. A method of producing non-laminar preferentially sacrificial surface metal on aluminous base articles, which comprises applying a superficial coating of zinc in amount of about 0.8 mg./cm.^{2} on the aluminous base surface to be protected, and heat treating the so-coated article at about 970° F. for about 5 hours to effect diffusion of the zinc into the aluminous base, establishing a gradient in zinc concentration from the surface into the aluminous base.

3,268,359
ABLATIVE COATINGS

Gerald C. Boyd, Midland, and Milton C. Murray, Bay City, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Oct. 1, 1962, Ser. No. 227,591
6 Claims. (Cl. 117—132)

1. A method of protecting the surfaces of an aerospace vehicle from the eroding effect of gases at temperatures about 3,000° F. which comprises coating said surfaces with a composition consisting essentially of a methylphenylpolysiloxane elastomer in which the ratio of phenyl radicals to silicon atoms ranges from .25:1 to 1.25:1 inclusive and in which the total number of phenyl and methyl radicals per silicon is about 2 and thereafter curing the composition.

3,268,360
COMPOSITION COMPRISING DIISOCYANATE-METHYLOL-PHOSPHORUS POLYMER AND ORGANIC TEXTILE FLAME-PROOFED THEREWITH

John V. Beninate, George L. Drake, Jr., and Wilson A. Reeves, Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed May 10, 1963, Ser. No. 279,648
10 Claims. (Cl. 117—136)

1. The polymers produced by mixing toluenediisocyanate and tetrakis(hydroxymethyl)phosphonium chloride in solution with dimethylformamide in mole ratios of from about 1:3 to about 3:1, and polymerizing at temperatures from about 28° C. to about 150° C. for periods of time ranging from about 24 hours to about 4 minutes, the longer periods of time being used in conjunction with the lower temperatures, and the shorter periods of time with the higher temperatures.

3,268,361
THERMOPLASTIC RECORDING MEMBER

Joseph Gaynor, Schenectady, N.Y., assignor to General Electric Corporation, a corporation of New York

Filed Nov. 20, 1962, Ser. No. 238,964
8 Claims. (Cl. 117—201)



1. An information storage member for recording information in the form of light-modifying deformations on the surface of the member which comprises a supported layer of thermoplastic material containing up to about 5 percent of a secondary electron emitter having a higher cross-over voltage than the thermoplastic material, said layer of thermoplastic material being adherently bonded to said support and having a softening point significantly lower than said support.

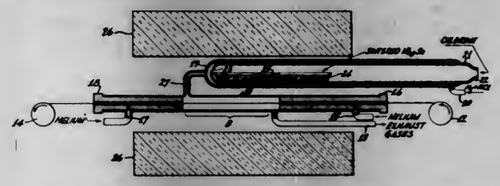
3,268,362
DEPOSITION OF CRYSTALLINE NIOBIUM STANNIDE

Joseph John Hanak, Princeton, and John Leslie Cooper, West Keansburg, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed May 26, 1961, Ser. No. 112,853
9 Claims. (Cl. 117—227)

1. The method of depositing a coating of crystalline niobium tin on a flexible substrate, comprising the steps

of continuously passing said flexible substrate through a mixture of a reducing gas and the mixed vapors of niobium chloride and tin chloride, and heating only said metal substrate and the portion of said vapors in the

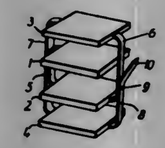


immediate vicinity of said substrate to a temperature such that at least a portion of said chlorides are reduced and the metal portions of said reduced chlorides are deposited on said substrate as a flexible coating of crystalline high density niobium tin.

3,268,363
ELECTRIC CELL, PARTICULARLY AN ELECTRIC STORAGE BATTERY

Karl Steffens, Hagen-Vorhalle, Germany, assignor to Varta Aktiengesellschaft, Hagen, Westphalia, Germany

Filed July 24, 1963, Ser. No. 297,437
Claims priority, application Germany, July 28, 1962, V 22,849
5 Claims. (Cl. 136—6)



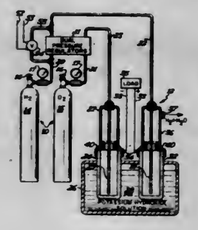
1. An electric cell, particularly an electric storage battery cell having positive and negative electrode plates arranged in groups of which the plates of at least one group are so arranged that the surfaces of plates of the same polarity are placed parallel one to another and are connected by bars, each of said bars being bent at an angle of 180 degrees, characterized by the fact that the length of the bars connecting a row of plates of the same polarity varies in that each succeeding bar is substantially greater in length than the preceding one, the bars being wrapped around the plates of the group and being secured together at opposite sides of the spaced parallel plates whereby the bars confine the plates against springing apart.

3,268,364
FUEL CELL CONTROL SYSTEM

George I. Cade, St. Louis Park, and William A. Suldarich, Gilbert, Minn., assignors to Honeywell Inc., a corporation of Delaware

Filed Jan. 29, 1962, Ser. No. 169,576
5 Claims. (Cl. 136—86)

1. A control system operating in conjunction with fuel cell means wherein a fuel and an oxidant chemically react with an electrolytic material to liberate electrical energy thereby generating an output voltage which can be applied to an external electric circuit, comprising; fuel cell means including electrode means capable of providing reaction area means wherein a fuel and an oxidant react with an electrolytic material to yield electric energy and at least one reaction product; said reaction product being released in said electrolytic material thereby affecting the output voltage of said fuel cell means; voltage reference means in circuit with voltage sensing means and including connection means connected to said output voltage to sense any variation in said fuel cell output voltage; means to simultaneously control the relative quantities of said fuel and said oxidant to said fuel cell; and additional means to change the relaitve quan-

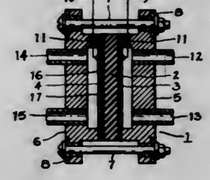


tities of said fuel and said oxidant with said additional means being controlled by said voltage sensing means to admit an excess of one of said fuel cell inputs to carry off said reaction product to in turn maintain maximum output voltage from said fuel cell means.

3,268,365
ALKALI CARBONATE FUEL CELL

James M. McQuade, Fort Wayne, Ind., and Robert P. Hamlen, Scotia, and Ronald R. Nilson, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed Jan. 27, 1965, Ser. No. 428,337
14 Claims. (Cl. 136—86)



1. An alkali carbonate fuel cell comprising in its initial state of assembly

an anode and a porous cathode in spaced relationship,

means separately supplying fuel to said anode and oxidant to said cathode,

a refractory matrix contacting said anode forming a first interface therewith and contacting said cathode forming a second interface therewith, and

an alkali carbonate electrolyte with said matrix providing ionic continuity between said anode and said cathode forming an interface with the fuel at the first interface and said electrolyte also initially extending into said cathode forming an interface with the oxidant within said cathode entirely spaced from said second interface.

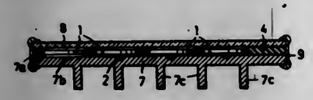
3,268,366
PHOTO-ELECTRIC CELL

Paul Guyot, Caen, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 31, 1962, Ser. No. 220,596
5 Claims. (Cl. 136—89)

1. A photoelectric panel device comprising plural, individual photoelectric cells each containing a pair of electrodes and having one side adapted to receive radiation, means for holding and supporting said cells comprising a metal base member of extended surface area and on said base a generally planar insulative member containing plu-

ral apertures passing completely therethrough, each of said cells being disposed in one of said apertures with the radiation-receiving sides all facing in a direction opposite to the base, means interconnecting each electrode of each pair associated with each cell to at least one other elec-



trode of an adjacent cell, whereby all the cells are connected in one of series, parallel, and series-parallel arrangement, and a radiation-transparent window member mounted over the apertured member and holding the cells in position within the apertures.

3,268,367

CORROSION RESISTANT PHOSPHATE COATING AND METHOD FOR PRODUCING SAME

Henry J. Nelson, Grosse Pointe Woods, Mich., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Nov. 13, 1962, Ser. No. 237,340
10 Claims. (Cl. 148—6.15)

1. A method for forming zinc phosphate coatings on ferrous surfaces which comprises the steps of immersing the surface in a solution consisting essentially of 0.1%–2% zinc, 0.8%–4% PO_4, 0.1%–1% iron, and from about 0.125% to about 2% of at least one saturated, aliphatic polycarboxylic acid having 2–6 carbon atoms, the carbon atom adjacent to at least one carboxy group therein being substituted with a radical selected from the group consisting of hydroxy, amino and carboxy radicals, and maintaining said surface in said solution until a corrosion resistant coating is formed on said surface.

3,268,368

PROCESS FOR THE PRODUCTION OF WROUGHT NICKEL STRIP AND SHEET OF LOW HARDNESS

Vladimir Nicolaus Mackiw and Naoyuki Yoshida, Fort Saskatchewan, Alberta, Tibor Krantz, Vancouver, British Columbia, and Robert W. Fraser, Fort Saskatchewan, Alberta, Canada, assignors to Sherritt Gordon Mines Limited, Toronto, Ontario, Canada, a company of Ontario

No Drawing. Filed Oct. 21, 1963, Ser. No. 317,780
4 Claims. (Cl. 148—11.5)

1. The process of producing nickel sheet and strip having a density of about 100% of the theoretical density and a hardness below about 35 Rockwell 30T hardness scale which comprises the steps of:

(a) roll compacting nickel particles of random sizes smaller than about 300 microns to produce a green strip or sheet having a density less than 100% of the theoretical density;

(b) sintering said strip in a flowing wet hydrogen atmosphere at a temperature within the range of from about 1500° F. to about 2100° F. to lower the sulphur content of said strip to below about 0.003% by weight and the carbon content of said strip to below about 0.005% by weight;

(c) hot rolling said sintered strip or sheet to increase the density thereof to about 100% of the theoretical density;

(d) cooling said strip or sheet under a protective atmosphere to about normal room temperature;

(e) cold working said strip or sheet; and

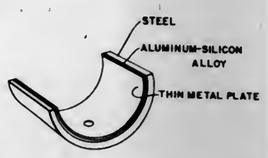
(f) thereafter heating said strip or sheet at a temperature within the range of from about 1200° F. to about 1800° F. for a period of time sufficient to reduce the hardness thereof to a selected value below 35 Rockwell 30T hardness.

3,268,369

PROCESS FOR HARDENING THE ALUMINUM ALLOY PORTION OF AN ALUMINUM ALLOY-STEEL BEARING

Derrolle E. Haugen, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application Apr. 10, 1961, Ser. No. 102,005. Divided and this application Sept. 8, 1964, Ser. No. 394,936
4 Claims. (Cl. 148—12.7)



1. A process for improving the fatigue resistance and hardness of the aluminum alloy portion of an aluminum alloy-steel bearing comprising the steps of:

(a) coextensively metallurgically bonding an aluminum alloy which includes silicon in quantities of from about 2.5% to 11.6% by weight to a steel support,

(b) forming the resulting bearing to the desired shape,

(c) machining the aluminum alloy surface of the bearing to the desired thickness,

(d) heating the bearing to a temperature of at least 750° F. but not in excess of about 10° F. below the eutectic melting point of the aluminum alloy,

(e) maintaining the bearing at said temperature for a period of at least five minutes to cause at least a portion of the silicon in the aluminum alloy to go into solution, the length of said period being insufficient to cause the formation of any substantial quantity of brittle iron-aluminum alloy at the interface between the aluminum alloy and the steel, and

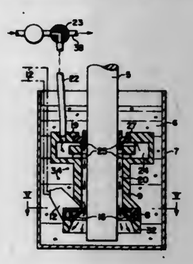
(f) before the temperature of the bearing has cooled in excess of about 15° F., quenching the bearing in a fluid maintained at about room temperature for causing the silicon in the aluminum alloy to precipitate in the form of sub-microscopic particles dispersed uniformly within said aluminum alloy, whereby the fatigue resistance and hardness of the bearing is substantially increased.

3,268,370

METHOD AND APPARATUS FOR HEAT TREATING

Laurence B. Kimbrough, Baltimore, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 30, 1963, Ser. No. 334,260
9 Claims. (Cl. 148—16)



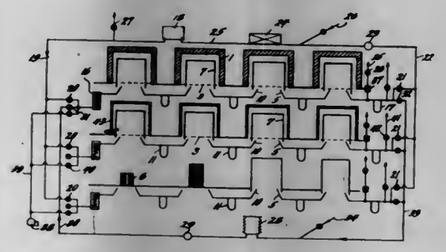
1. A method of heat treating a workpiece involving heating of a surface of such workpiece by induction heating coil means proximate thereto while such surface is exposed to a select gas environment, comprising the establishing of a liquid pool environment in surround of the induction heating coil means and of the portion of the workpiece having the surface to be heated, and causing such select gas to displace the liquid away from said workpiece surface while heating same by energization of said heating coil means.

3,268,371

PROCESS AND APPARATUS FOR ANNEALING METAL PLATES

Jean Daubersy, Ave. A. Mahiels 2, Liege, Belgium

Filed Mar. 11, 1965, Ser. No. 444,894
Claims priority, application Belgium, Mar. 7, 1961, 38,977, Patent 601,043
3 Claims. (Cl. 148—16)



1. Process for the decarburization and denitrification of steel sheets annealed in expanded coils under a bell by moist hydrogen, comprising introducing the expanded coils into a plurality of bell-shaped furnaces, subjecting simultaneously all the coils to the successive operation of heating at 680°–750° C. under a protective atmosphere of pure nitrogen with an addition of 5 to 10% hydrogen, soaking in moist atmosphere of hydrogen at a maximum of 35% water vapor and cooling under the protective atmosphere, the treating gases of said atmospheres effecting a single travel through each furnace and its charge from one to the other with no forced internal circulation, the respective heating and soaking steps being carried out with the gases leaving one furnace being directed into a succeeding furnace for recovering and using again their sensible heat and their residual properties as protective agent and as denitrification and decarburization agent, whereas during the cooling step the gases in one furnace being cooled and again used as cooling agent in a following furnace of the series, the flow of the moist hydrogen during the soaking period being in the order of 2,000 m.³/h., and the flow of protective atmosphere being between 3,000 and 7,000 m.³/h. during cooling.

3,268,372

SURFACE HARDENING OF TITANIUM

Peter Albert John Brotherton and Cyril Dawes, Wednesbury, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England

No Drawing. Filed Sept. 9, 1963, Ser. No. 307,350
Claims priority, application Great Britain, Sept. 12, 1962, 34,801/62
4 Claims. (Cl. 148—20)

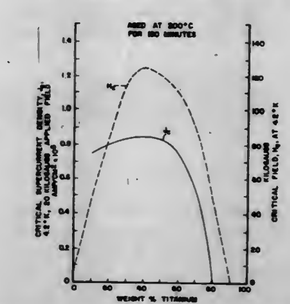
1. A method of hardening the surface of titanium, comprising heating the titanium in a fused salt mixture of potassium and/or sodium cyanide and cyanate at a temperature in the range of 550° C. to 800° C. so as to form a surface layer of titanium combined with nitrogen and oxygen, and maintaining the temperature within said range for sufficient time to form a surface layer of the required depth.

3,268,373

SUPERCONDUCTIVE ALLOYS

William T. Reynolds, Peters Township, Washington County, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 21, 1963, Ser. No. 282,035
13 Claims. (Cl. 148—32.5)



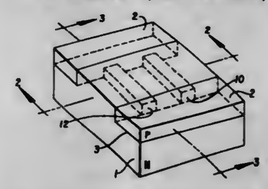
1. A superconductive alloy conductor which has been subjected to a cold reduction of at least 96%, said conductor exhibiting under superconductive conditions a relatively high critical field and improved critical supercurrent density in a strong applied magnetic field, said alloy conductor composed of from about 10% to 75% by weight of titanium and the balance niobium except for trace amounts of impurities, the alloy conductor having been heat treated for at least 0.1 hour at temperatures in the range of 100° C. to 600° C.

3,268,374

METHOD OF PRODUCING A FIELD-EFFECT TRANSISTOR

Robert E. Anderson, Kingsville, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Apr. 24, 1963, Ser. No. 275,308
9 Claims. (Cl. 148—175)



1. A semiconductor device comprising an N-type substrate, an epitaxially grown P-type layer on said substrate, and N-type stripes in said P-type layer separated by P-stripes, said P-stripes connecting two distinct regions of said epitaxial P-type layer.

3,268,375

ALLOY-DIFFUSION PROCESS FOR FABRICATING GERMANIUM TRANSISTORS

Gordon J. Ratcliff, 537 Ridgedale, Richardson, Tex., and Melvin Belasco, Apt. 247, 6836 Twin Hills, Dallas, Tex.

Original application May 22, 1962, Ser. No. 196,695. Divided and this application Mar. 29, 1965, Ser. No. 443,259
11 Claims. (Cl. 148—178)

11. In a process for fabricating a germanium transistor, the steps comprising:

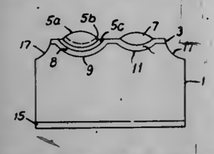
forming a shallow N-type region on P-type germanium region,

applying to a first portion of a surface of said N-type region a first composition adapted to form an emitter and which includes aluminum as a major constituent, another P-type impurity, and an N-type impurity hav-

ing the property of diffusing into germanium faster than said P-type impurity,

applying to a second portion of said surface of the N-type region, closely adjacent but spaced away from said first portion, a second composition adapted to form a base contact and which includes a metal and an N-type impurity, and

heating said regions and applied compositions to a temperature above the melting point of said impurities



and said aluminum but below the melting point of germanium to fuse the said compositions to said germanium and whereby said N-type impurity in said first composition forms an N-type diffusion front which penetrates into said P-type region and constitutes an internal base layer and a P-type region is formed in contact with and superposed on said base layer and comprises an emitter, and whereby said second composition concurrently diffuses into said wafer to form an N-type region which penetrates into said P-type region with a base contact superposed thereon.

3,268,376

ROCKET PROPELLANTS CONTAINING POLYETHYLENEHYDRAZINE AND BORON COMPOUNDS

Robert George Haldeman, South Norwalk, and Robert Charles Bell, Norwalk, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Oct. 23, 1962, Ser. No. 234,276
15 Claims. (Cl. 149—19)

1. A rocket propellant comprising the product of mixing polyethylenehydrazine with a compound selected from the group consisting of dihydrazinium perhydrodecaborate monohydrazinate, dihydrazinium perhydrodecaborate dihydrazinate, and triaminoguanidinium nonaborohydride-14.

3,268,377

EXTRUDABLE HEAT-RESISTANT PROPELLANTS CONTAINING POLYBUTADIENE-ACRYLONITRILE WITH TRIALLYL CYANURATE

Martin Visnov, Philadelphia, Pa., and James H. Godsey, Wilmington, Del., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Jan. 13, 1965, Ser. No. 425,359
6 Claims. (Cl. 149—19)

1. A propellant composition capable of resisting elevated temperatures for extended periods consisting essentially of

about 72 to 87.5 weight percent of an oxidizer,

the balance comprising a binder of 49–75 weight percent of a copolymer of about 60% butadiene and 40% acrylonitrile, 24–49 weight percent of triallyl cyanurate and 1.25–2.5 weight percent of a catalyst comprising benzoyl peroxide and tricresyl phosphate.

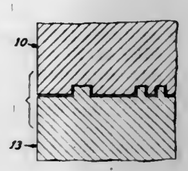
3.268,378

METHOD OF PREPARING MATED EMBOSSING ROLLS

Frank W. Broderick, P.O. Box 2, Stirling, N.J.

Filed Dec. 16, 1964, Ser. No. 418,732
4 Claims. (Cl. 156—14)

1. The process of preparing mated steel embossing rolls to produce embossed aluminum sheet or foil with protuberances having top rough wearing patterned surfaces comprising preparing a matched set of male and female metal embossing rolls by conventional masking and etching procedure; coating the top male protuberances with acid resist; acid etching said coated protuberances to increase the height of said protuberances; removing said acid resist from said protuberances; roughening the top surfaces of said protuberances of said male roll with a



desired pattern and transferring said rough pattern surfaces from said top of said male protuberances to the bottoms of the corresponding female cavities of said female roll by acid resist masking and acid etching whereby the pattern of the top protuberant surfaces of the male roll is transferred to the bottom of the corresponding female cavities.

3,268,379

METHOD FOR PRODUCING A TRANSPARENT MOSAIC

John L. Baker, R.D. 1, Box 263, Imperial, Pa.

No Drawing. Filed Apr. 19, 1963, Ser. No. 274,353
1 Claim. (Cl. 156—63)

Method for producing a reversibly viewable mosaic which presents substantially the same pictorial representation in uses involving light transmission alone, light reflection alone, and combinations of light transmission and reflection comprising the steps of outlining a picture on a rigid transparent base sheet, adhesively applying a plurality of pliable, paper-thin, transparent colored cellulosic layers of contrasting colors to the rigid transparent base sheet, the cellulosic layers being positioned in overlying relationship on the transparent base sheet by adhering a first colored cellulosic layer on the base sheet, cutting out selected areas of the first cellulosic layer, adhering a second colored cellulosic layer over the first layer and cutting out selected areas, and using such order of successively applying a predetermined number of colored cellulosic layers and cutting out selected areas to produce a pictorial representation as outlined, painting other selected areas of the cellulosic layers with suitably colored pigment to accentuate parts of the pictorial representation producing a composite image, and then laminating a second rigid transparent sheet to the rigid transparent base sheet in overlaying relationship to the composite image formed by the transparent cellulosic layers.

3,268,380

VARIABLE SPEED RIBBON WINDING MACHINE

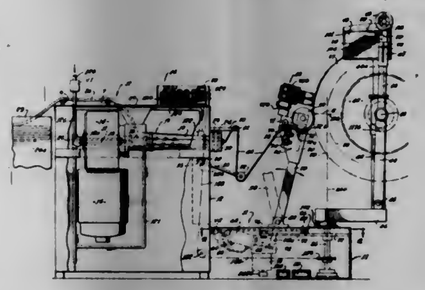
Lloyd J. Guichon and Nicholas T. Volsk, Costa Mesa, Calif., assignors to W. J. Volt Rubber Corp., a corporation of California

Filed Jan. 30, 1963, Ser. No. 254,958
18 Claims. (Cl. 156—130)

1. A method of depositing a variable thickness elastomeric layer along an outer periphery of a tire casing during a single operating cycle, said method including the steps of locally extruding a flat elastomeric ribbon having a width greater than the maximum thickness of said layer, applying the free end of said ribbon to a point along one edge of said layer, thereafter spinning said casing around its spin axis and simultaneously moving at a variable rate said casing in the direction of said

spin axis to make said ribbon follow a path of a variable pitch spiral, generating a variable magnitude signal during said cycle, varying one of the parameters of said signal in synchronism with and to the extent so as to make said signal represent the desired thickness of said layer at any given instant of said cycle, and controlling said rate of transverse movement with the aid of said signal to make said ribbon follow said variable pitch signal.

8. An automatic control system for a ribbon-winding machine for depositing a variable thickness elastomeric layer by winding an elastomeric ribbon along an outer surface of a pneumatic tire casing, said system including a source of said elastomeric ribbon, first means for spinning said casing around its spin axis, first control means



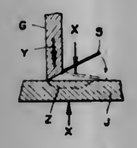
to control said first means for continuously making the peripheral speed of said casing at the point of application of said ribbon to said casing equal to the rate of supplying said ribbon by said source, second means for obtaining a continuous, transverse, controlled relative movement between said casing and said source, and third means continuously to control said second means, said third means having fourth means for increasing, decreasing or maintaining constant the rate of said continuous transverse relative movement in synchronism with the predetermined transverse positions of said ribbon and said casing at the instant of stitching of said ribbon to said casing.

3,268,381

METHOD OF CONSTRUCTING A PLASTIC CONTAINER

Kazuo Ishikawa, 448 Shishibone-machi, Edogawa-ku, Tokyo, Japan

Filed Oct. 24, 1963, Ser. No. 318,734
1 Claim. (Cl. 156—251)



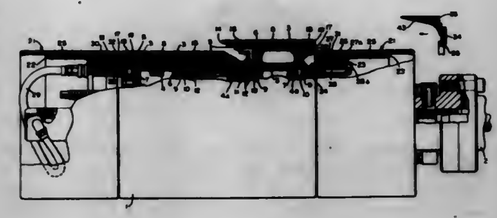
A method of constructing a thermoplastic container comprising the steps of overlapping a tape of thermoplastic material along at least a portion of the side edge of one sheet of thermoplastic material to be bonded together, heat sealing said tape to said side edge while simultaneously cutting the marginal portion thereof by means of a heated knife edge thereby causing the non-welded side of said tape to separate from said one sheet and heat sealing said non-welded side of said tape to another sheet.

3,268,382

APPARATUS FOR BUILDING TIRES

John P. Urban, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Feb. 28, 1962, Ser. No. 176,312
6 Claims. (Cl. 156—401)
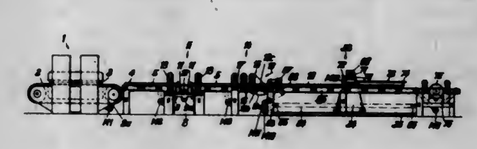


1. In combination in a tire building machine a rotatable tire building drum axially mounted on a shaft, said drum having a resilient, expansible, flexible, elastomeric surface of an elastomeric material which has an extreme polarity, a solubility parameter the slope of which is at least 8.7, a drum expanding means to expand the drum and a ply turn-up mechanism mounted on a support at each end of the drum and axially aligned with said drum to turn up ply endings, said ply turn up mechaism having its ply contacting surface made of an elastomeric material which has a solubility parameter the slope of which is from 8.2 to 8.6.

3,268,383

APPARATUS FOR PRODUCING CONTINUOUS CHIPBOARD SHEETS OR PANELS

Kurt Fischer, Bad Munder, Germany, assignor to Firma Bahre Metallwerk K.G., a corporation of Germany

Filed Oct. 9, 1964, Ser. No. 402,784
Claims priority, application Germany, Oct. 10, 1963, M 46,150; July 26, 1964, B 77,418
4 Claims. (Cl. 156—558)

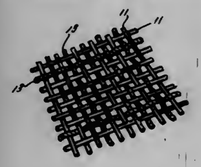


1. Apparatus for producing continuous chipboard sheets and panels, said apparatus comprising, in combination, an intermittently operable press for pressing boards, means driving said press, a pair of cutting tools located at a distance from said press which is at least equal to the length of the press, a gluing device for applying glue to edges of boards, a second intermittently operable heating press, means moving boards pressed by the first-mentioned press to said tools and said gluing device with edges of two boards being located opposite each other and adjacent said tools and said gluing device, means moving said tools and said gluing device transversely to the direction of movement of said boards for cutting said opposed edges and applying glue thereto, means moving the boards to the second-mentioned press while bringing the cut and glued opposed edges of the boards in engagement with each other, and means operable in synchronism with the first-mentioned means and the third-mentioned means for driving the second-mentioned press to firmly interconnect the cut and glued inter-engaging edges of the boards.

3,268,384
NOVELTY GLASS FABRIC

Oscar Frick, Westport, Conn., and Henry E. Dietrich, River Edge, N.J., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 23, 1964, Ser. No. 354,124
3 Claims. (Cl. 161—73)

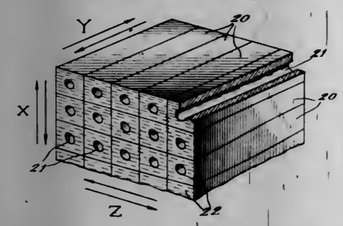


1. A novelty fabric comprising a warp and filling containing fiber glass yarns, the filling yarns being set in a contracted state and said fabric having a patterned surface containing randomly distributed striated and crinkled areas.

3,268,385
CARBON ELECTRODES OR NEUTRONIC REACTOR CORE BARS

Leslie H. Juel and Bruce L. Bailey, Lewiston, N.Y., assignors to Great Lakes Carbon Corporation, a corporation of Delaware

Filed Feb. 9, 1961, Ser. No. 88,064
4 Claims. (Cl. 161—177)



1. An extruded green, rectangular cross-sectioned carbon body formed from a mixture of binder and carbonaceous particles in substantially platelet form, wherein said platelets in their extruded condition comprise lamellae disposed in a plurality of superimposed planes, a high percentage of which said planes being substantially mutually parallel, and wherein said green carbon body, when baked and graphitized, is characterized by having a coefficient of thermal expansion in the plane perpendicular to the planes of the crystallites or the X direction, at least twice as great as it is in each of the planes mutually perpendicular to the X plane and to each other, or in the Y and Z directions.

3,268,386
BONDING TEXTILE MATERIALS TO MONO-OLEFINE RUBBERS

Alan Paul Osborne, Wood End, near Atherstone, England, assignor to Dunlop Rubber Company Limited, London, England, a British company

No Drawing. Filed Apr. 10, 1964, Ser. No. 358,935
Claims priority, application Great Britain, Apr. 23, 1963, 15,874/63
The portion of the term of the patent subsequent to Jan. 11, 1983, has been disclaimed
21 Claims. (Cl. 161—248)

1. A method of bonding a textile material to a curable mono-olefine rubber composition which comprises contacting the textile material with an admixture in aqueous dispersion of an incompletely condensed phenolic resin and a copolymer of a conjugated diene monomer and an unsaturated ketone, the said copolymer containing from 0.2 percent to 10 percent by weight of the unsaturated ketone, drying the treated textile material, coating the said textile with the curable mono-olefine rubber composition, and heating the assembly to cure the rubber composition.

21. An article comprising textile material bonded to a cured mono-olefine rubber composition, obtained by the method of claim 1.

3,268,387
MANUFACTURE OF CALCIUM CARBONATE

Ferri Casciani, York, Harry D. Bauman, Glen Rock, and Roger S. Williams, York, Pa., assignors to P. H. Glatfelter Company, Spring Grove, Pa., a corporation of Pennsylvania

Filed Aug. 20, 1963, Ser. No. 303,272
13 Claims. (Cl. 162—30)

1. A continuous process for preparing calcium carbonate comprising the steps of (1) pretreating a slurry of calcium hydroxide in water with a carbon dioxide-containing gas to react said carbon dioxide with a portion of said calcium hydroxide to initiate a conversion of said calcium hydroxide to calcium carbonate, (2) separating fluid from the resulting pretreated slurry to form a filter cake, (3) contacting said cake with an aqueous solution containing an alkali metal carbonate to substantially complete the conversion of said calcium hydroxide to $CaCO_3$ and form alkali metal hydroxide, and (4) removing alkali metal hydroxide from said cake during said contacting step.

9. A continuous process for producing calcium carbonate comprising the steps of (1) continuously moving a slurry of calcium hydroxide through a reaction zone, (2) continuously feeding a carbon dioxide-containing gas to said reaction zone to react said carbon dioxide with a portion of calcium hydroxide to convert not more than 85 percent of said calcium hydroxide to calcium carbonate, (3) continuously separating fluid from the resulting pretreated slurry to form a filter cake, (4) continuously contacting said cake as it is formed with an aqueous solution containing an alkali metal carbonate to substantially complete the conversion of said calcium hydroxide to calcium carbonate and form alkali metal hydroxide, and removing alkali metal hydroxide from said cake during said contacting step.

3,268,388
MANUFACTURE OF CALCIUM CARBONATE

Harry D. Bauman, Glen Rock, and Roger S. Williams, York, Pa., assignors to P. H. Glatfelter Company, Spring Grove, Pa., a corporation of Pennsylvania

Filed Aug. 20, 1963, Ser. No. 303,275
20 Claims. (Cl. 162—30)

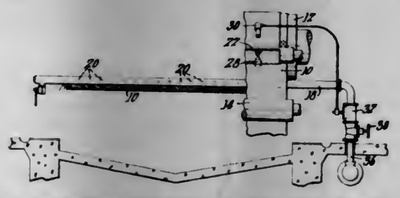
1. A continuous process for producing calcium carbonate comprising the steps of (1) continuously moving a mixture of calcium hydroxide and a first aqueous solution containing an alkali metal carbonate through a reaction zone to react said calcium hydroxide with not more than 80 weight percent of said alkali metal carbonate to form calcium carbonate, (2) continuously separating fluid from the mixture exiting from said reaction zone to form a filter cake, (3) contacting said filter cake with a second aqueous solution containing alkali metal carbonate to complete the conversion of calcium hydroxide to calcium carbonate and form alkali metal hydroxide, and removing alkali metal hydroxide from said cake during said contacting step, and (4) washing the resulting calcium carbonate with water.

8. In the system of puling ligneous cellulosic materials with alkali metal base cooking liquors, recovering spent cooking liquors to form green liquor containing alkali metal carbonate in aqueous solution, and causticizing said green liquor to convert same to white liquor for recycle to the pulping step, that improvement comprising, mixing a portion of said green liquor with calcium hydroxide, continuously moving the resulting mixture through a reaction zone to react said calcium hydroxide with not more than 80 weight percent of said alkali metal carbonate contained by said green liquor to form calcium carbonate, continuously separating fluid from the mixture exiting from said reaction zone to form a filter cake, and passing another portion of said green liquor through said filter cake to substantially completely convert the calcium hydroxide in said cake to $CaCO_3$ and form alkali metal hydroxide, and removing alkali metal hydroxide from said cake while passing said portion of green liquor through said cake.

3,268,389
SHOWER DEVICE WITH SHUTOFF MEANS

Francis Henry Goyette, Auburn, Mass., assignor to Lodding Engineering Corporation, Auburn, Mass., a corporation of Massachusetts

Filed Jan. 27, 1964, Ser. No. 340,180
1 Claim. (Cl. 162—255)



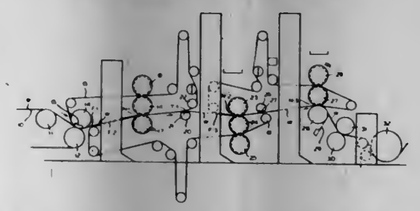
In a paper making machine, an elongated shower pipe normally substantially full of fluid, said pipe extending in general across the machine, sensing means for a sheet passing through the machine to determine a break in the sheet, a remote normally closed main valve connecting the pipe to a source of fluid under pressure, the fluid in the pipe being normally under less pressure than the pressure on the fluid source, automatic means to open the valve upon the presence of a break in the sheet at the sensing means, and a series of shower nozzles mounted in the pipe in mutually spaced relation along the pipe,

an independent normally closed valve in each shower nozzle, each valve communicating directly with the fluid in the pipe, pressure-responsive means in each of the shower nozzle valves to open it upon pressure being applied to the fluid in the pipe due to opening of the main valve applying the pressure of the fluid source to the fluid in the pipe.

3,268,390
GROOVED ROLL DOUBLE-FELTED PRESS FOR PAPERMAKING

Donald E. Ely, Sr., Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin

Filed Oct. 28, 1965, Ser. No. 505,574
6 Claims. (Cl. 162—306)



3. In a press section of a papermaking machine, in combination,

a first felt for carrying a web on the surface thereof,

a first press roll couple receiving the felt in the nip therebetween and having a grooved roll engaging the felt,

a second felt in web transfer relation with the first felt,

transfer means at a position following the first press nip transferring the web from the first to the second felt,

a second press roll couple receiving the second felt in the nip therebetween and having a grooved roll engaging the second felt,

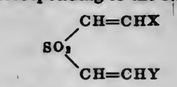
and means for removing the web from the second felt.

3,268,391
2,2'-DIHALODIVINYL SULFONE MICROBIOCIDE

Don R. Baker, Pinole, Calif., Silvio L. Giolito, Whitestone, N.Y., and Duane R. Arneklev, Sunnyvale, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 3, 1964, Ser. No. 394,349
2 Claims. (Cl. 167—22)

1. A method of inhibiting the growth of bacteria and fungi, comprising applying thereto an effective amount of a compound corresponding to the structure



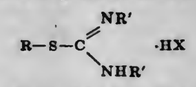
wherein X and Y are halogen.

3,268,392
ISOTHIOURONIUM HALIDE NEMATOCIDE

Everett E. Gilbert, Morris Township, Morris County, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 6, 1965, Ser. No. 423,858
10 Claims. (Cl. 167—22)

1. A process for controlling nematodes which comprises treating nematode-infested soil with a toxic quantity of a compound having the structural formula



wherein R is an aliphatic hydrocarbon group having from 8 to 18 carbon atoms, R' is a member selected from the group consisting of hydrogen and lower alkyl and X is a member selected from the group consisting of chlorine and bromine.

3,268,393
METHOD OF KILLING INSECTS WITH PHOSPHORODITHIOITES AND PHOSPHORODITHIOATES

John H. Wilson, Jr., Richmond, Va., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed May 17, 1965, Ser. No. 456,474
17 Claims. (Cl. 167—22)

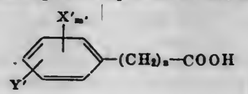
1. A method of controlling insects, mites, and symphylans which comprises applying thereto a toxic quantity of the compound of the formula $(C_3H_7S)_3POCH_3$.

3,268,394
METHODS FOR CONTROL OF VASCULAR FUNGUS DISEASE OF TREES

Edward D. Weil, Lewiston, Edwin Dorfman, Grand Island, and Jerome Linder, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Oct. 17, 1962, Ser. No. 231,296
41 Claims. (Cl. 167—30)

29. A method for the control of vascular tree diseases caused by fungi which comprises applying to a tree a chemotherapeutic amount of a compound selected from the group consisting of compounds of the formula



where *n* is an integer from zero to 1, X' is chosen from the group consisting of bromine and chlorine, *m'* is a number from 2 to 4, Y' is chosen from the group consisting of nitro and amino, the salts of said acids, the hydrolyzable esters of said acids, and mixtures thereof.

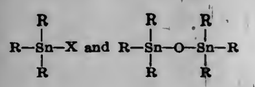
3,268,395

METHOD OF COMBATTING ACARIDS

James L. Taylor, Gainesville, Fla., assignor to Thompson-Hayward Chemical Company, Kansas City, Kans., a corporation of Delaware

No Drawing. Filed Feb. 12, 1965, Ser. No. 436,988
9 Claims. (Cl. 167—30)

1. A method of combatting acarids which comprises applying to acarids of the family Eriophyidae a small but effective amount of a member selected from the group consisting of compounds of the formulae:



wherein X is selected from the group consisting of hydroxy, acyloxy and halo; and each R is selected from the group consisting of phenyl, chlorophenyl and alkoxyphenyl.

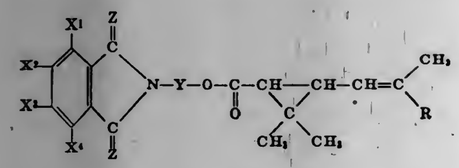
3,268,396

INSECTICIDAL COMPOSITIONS CONTAINING CYCLOPROPANE CARBOXYLIC ACID ESTERS

Saichiro Kuramoto, Toyonaka-shi, Takeaki Kato, Kenzo Ueda, and Yositosi Okuno, Nishinomiya-shi, and Keimei Fujimoto, Minoo-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Higashi-ku, Osaka, Japan, a corporation of Japan

No Drawing. Filed July 30, 1963, Ser. No. 298,589
Claims priority, application Japan, Aug. 6, 1962, 37/33,598, 37/33,599; Oct. 8, 1962, 37/44,473, 37/44,474
6 Claims. (Cl. 167—33)

6. A method of killing insects which comprises contacting the insects with an insecticidal quantity of a cyclopropanecarboxylic acid ester having the formula,



wherein X_1, X_2, X_3, and X_4 each means a member selected from the group consisting of hydrogen and halogen, methyl, nitro, methoxy, and cyano; Z is a member selected from the group consisting of oxygen and sulfur; Y is a member selected from the group consisting of a direct linkage and alkylene having carbon numbers of 1 to 3; and R is a member selected from the group consisting of methyl and methoxycarbonyl.

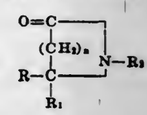
3,268,397

METHOD OF CONTROLLING NEMATODES WITH N-(BRANCHED-CHAINED-ALKYL) LACTAMS

Earl P. Williams, Pen Argyl, Pa., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 4, 1963, Ser. No. 313,733
6 Claims. (Cl. 167—33)

1. The method of protecting chlorophyllaceous plants against nematodes which comprises applying to nematodes a nematocidal amount of a N-(branched-chained-alkyl) lactam having the following formula:



wherein R represents a member selected from the class consisting of hydrogen, methyl and ethyl, R_1 represents a member selected from the class consisting of hydrogen and methyl, R_2 represents an alkyl group of from 6 to 18 carbon atoms containing at least one branched-chained-alkyl substituent of from 1 to 3 carbon atoms and *n* represents a positive integer of from 2 to 4.

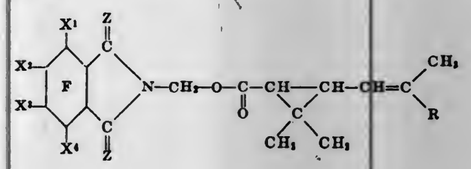
3,268,398

CYCLOHEXENE - 1,2 - DICARBOXIMIDO METHYL ESTERS OF CYCLOPROPANE CARBOXYLIC ACID ESTERS AND INSECTICIDAL COMPOSITIONS THEREOF

Takeaki Kato and Kenzo Ueda, Nishinomiya-shi, Sadao Horie, Fuse-shi, Toshio Mizutani, Amagasaki-shi, Keimei Fujimoto, Minoo-shi, and Yositosi Okuno, Nishinomiya-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan

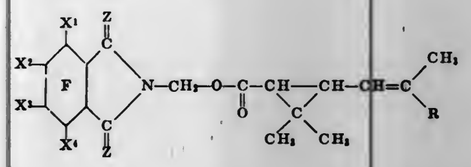
No Drawing. Filed Apr. 6, 1964, Ser. No. 357,756
Claims priority, application Japan, Apr. 11, 1963, 38/19,155, 38/19,156; Aug. 13, 1963, 38/42,808; Aug. 29, 1963, 38/46,050; Dec. 17, 1963, 38/68,215; Dec. 19, 1963, 38/68,673
11 Claims. (Cl. 167—33)

1. A cyclopropanecarboxylic acid ester of the general formula,



wherein X^1, X^2, X^3, and X^4 each means a member selected from the group consisting of hydrogen, chloro, bromo, methyl and acetoxy; Z is a member selected from the group consisting of oxygen and sulfur atoms; F means a double bond at any position of the cyclohexane nucleus, and R is a member selected from the group consisting of methyl and methoxycarbonyl.

8. A composition comprising a carrier and as the essential ingredient an insecticidal amount of a cyclopropanecarboxylic acid ester having the formula



wherein X^1, X^2, X^3, and X^4 each means a member selected from the group consisting of hydrogen, chloro, bromo, methyl and acetoxy; Z is a member selected from the group consisting of oxygen and sulfur atoms; F means a double bond at any position of the cyclohexane nucleus, and R is a member selected from the group consisting of methyl and methoxycarbonyl.

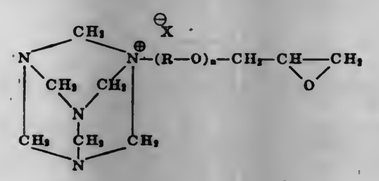
3,268,399

PESTICIDAL QUATERNARY HEXAMETHYLENETETRAMINE EPOXIDE SALTS

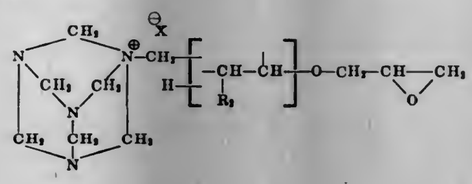
Ralph R. Langner, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 8, 1964, Ser. No. 373,511
13 Claims. (Cl. 167—33)

6. The method which comprises treating plants, plant parts and their habitats with a parasiticidal amount of an active agent selected from the group consisting of hexamethylenetetramine salts having the formulae



and



wherein X represents halogen, R represents a member of the group consisting of ethylene, trimethylene and propylene, R_2 represents a member of the group consisting of allyloxy, allyloxyethoxy and allyloxypropoxy, and *n* represents one of the integers 0 and 1.

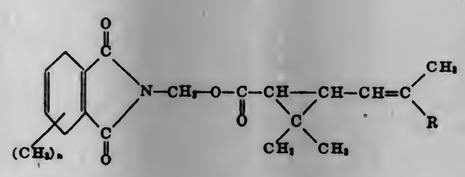
3,268,400

DIHYDROPHTHALIMIDOMETHYL ESTERS OF CYCLOPROPANE CARBOXYLIC ACID ESTERS AND INSECTICIDAL COMPOSITIONS THEREOF

Takeaki Kato and Kenzo Ueda, Nishinomiya-shi, Sadao Horie, Fuse-shi, Toshio Mizutani, Amagasaki-shi, Keimei Fujimoto, Minoo-shi, and Yositosi Okuno, Nishinomiya-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Higashi-ku, Osaka, Japan, a corporation of Japan

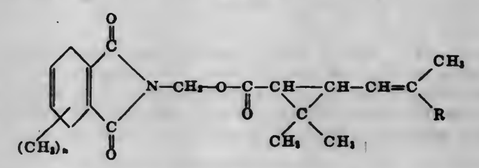
No Drawing. Filed July 10, 1964, Ser. No. 381,907
Claims priority, application Japan, Aug. 15, 1963, 38/43,227; Aug. 30, 1963, 38/46,168; Dec. 17, 1963, 38/68,215; Dec. 19, 1963, 38/68,673
10 Claims. (Cl. 167—33)

1. A cyclopropanecarboxylic acid ester having the formula,



wherein R is a member selected from the group consisting of methyl and methoxycarbonyl, and *n* is an integer of 0 to 2.

7. A composition comprising a carrier and as the essential ingredient an insecticidal amount of a cyclopropanecarboxylic acid ester having the formula



wherein R is a member selected from the group consisting of methyl and methoxycarbonyl, and *n* is an integer of 0 to 2.

3,268,401

TRIARYLBORANE COMPLEX COMPOSITION AND METHOD FOR SEED PROTECTION

Herman A. Birnbaum, Mendota Heights, and Harvey L. Anderson, Dellwood, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed June 15, 1964, Ser. No. 375,318
16 Claims. (Cl. 167—38)

1. The method of protecting seeds from soil dwelling organisms which comprises applying to said seeds before planting a composition comprising a complex of a triarylborane selected from the class consisting of triphenylborane, alkyl-substituted triphenylborane, halogen-substituted triphenylborane, alkoxy-substituted triphenylborane, trinaphthyl borane, tri-(p-biphenyl) borane, tri-(4-phenoxyphenyl) borane and tri-(4-phenylthiophenyl) borane with a Lewis base having a pK_b less than about 10 intimately intermixed with a finely divided solid compound which buffers to pH above about 6 in its saturated aqueous solution.

3,268,402

BLOOD ANTICOAGULANT AND VITAMIN C ANTAGONIST RODENTICIDES

William M. Dillard, Ashland, Ohio, assignor to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 21, 1963, Ser. No. 252,584
10 Claims. (Cl. 167—46)

8. A method of controlling rodent population which comprises making available to rodents in areas inhabited by rodents a composition of matter comprising an edible material containing at least 0.0005 percent by weight of an anticoagulant and 0.1 percent by weight of a vitamin C antagonist.

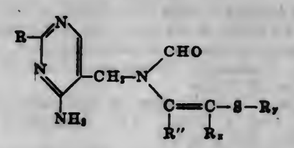
3,268,403

ANTICOCCIDIAL COMPOSITIONS

Edward F. Rogers, Middletown, and Robert L. Clark, Woodbridge, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed May 15, 1963, Ser. No. 280,703
4 Claims. (Cl. 167—53.1)

1. A composition useful against coccidiosis comprising a solid edible carrier having dispersed therein from about 1–40% by weight of a substance selected from the group consisting of compounds having the formula:



and acid salts thereof, wherein R is lower alkyl; R'' is selected from the group consisting of hydrogen and

lower alkyl; R_x is selected from the group consisting of hydrogen and lower alkyl; R_y is selected from the group consisting of

$$R_a-CO$$

and $-SR_z$; with R_z being selected from the group consisting of alkyl and alkenyl having a maximum of 12 carbon atoms; and R_a being a hydrocarbon radical selected from the group consisting of alkyl, phenyl, alkylphenyl, and phenylalkyl having a maximum of 15 carbon atoms.

3,268,404

COMPOSITIONS FOR TREATING AVIAN RESPIRATORY DISEASES AND METHODS OF USING SAME

John A. Banford, Lake Bluff, Ill., and Gerald L. Reuter, Ashland, Ohio, assignors to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 4, 1965, Ser. No. 492,858
11 Claims. (Cl. 167—53.1)

1. A method of treating infections involving the respiratory tract of poultry which comprises suspending in the air above the poultry to be treated a dust comprising an effective amount of a finely-divided therapeutic agent, the particles of which are coated with a microfine silicon dioxide, the ultimate particles of which have a diameter of 5 to 20 millimicrons.

3,268,405

4-AMINOMETHYL - CYCLOHEXANE - 1 - CARBOXYLIC ACID FOR INHIBITING THE ACTIVATION OF PLASMIN

Fujio Nagasawa, Shosuke Okamoto, Eiichi Takagi, Mikio Yokoi, and Mitsuo Mangyo, all of Tokyo, Japan, assignors to Mitsubishi Chemical Industries Limited, Tokyo, Japan, a corporation of Japan

No Drawing. Filed May 8, 1961, Ser. No. 108,245
8 Claims. (Cl. 167—65)

1. A method for inhibiting the activation and suppressing the activity of plasmin in vivo, comprising introducing into the living body 4-(aminomethyl)-cyclohexane-1-carboxylic acid and a pharmaceutical carrier.

3,268,406

COMPOSITIONS AND METHOD OF USING (3-AMINO-PYRAZINOYL) GUANIDINES

Edward J. Cragoe, Jr., Lansdale, and Philip L. Southwick, Pittsburgh, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed May 24, 1963, Ser. No. 282,861
7 Claims. (Cl. 167—65)

1. A method of modifying the excretion pattern of electrolytes of an animal organism comprising administering to said animal a compound selected from the group consisting of a nuclearly halogenated (3-amino-pyrazinoyl)guanidine wherein the halogen substituent is attached to only one of the positions 5 and 6 and a nontoxic pharmaceutically acceptable salt thereof at a dosage of between about 25 mg./day and about 250 mg./day expressed as the equivalent of base.

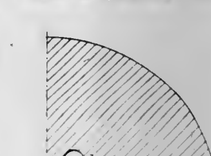
3,268,407

TRANQUILIZING COMPOSITIONS AND METHOD OF INDUCING A STATE OF TRANQUILITY

Corris Mabelle Hofmann, Ho-Ho-Kus, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation of application Ser. No. 60,544, Oct. 5, 1960. This application Oct. 4, 1963, Ser. No. 313,764
20 Claims. (Cl. 167—65)

11. A method for inducing a state of tranquility in mammals which comprises administering to a mammal from about 50 mg. to about 500 mg. of a compound of the formula:



wherein Z is selected from the group consisting of anilino, N - methylcyclohexylamino, 2,6 - dimethylmorpholino, N - methylanilino, 3 - methoxypropylamino, piperidino, 1,2,5,6 - tetrahydropyridino, allylamino and 2-methoxyethylamino.

3,268,408

METHODS AND COMPOSITIONS EMPLOYING CINNAMOYL AMIDE

Takayuki Naito, Tokyo, Japan, assignor to Bristol-Banyu Research Institute, Ltd., Tokyo, Japan

No Drawing. Filed Mar. 3, 1964, Ser. No. 349,138
4 Claims. (Cl. 167—65)

3. A method of depressing nerve impulses at the spinal cord in a living animal which comprises orally or parenterally administering cinnamoyl amide to said animal.

3,268,409

TREATMENT OF HEPATIC DEGENERATION

Gerard Nomine, Noisy-le-Sec, Lucien Penasse, Paris, and Pierre Barthelemy, Clichy-sous-Bois, France, assignors to Roussel-UCLAF, S.A., Paris, France, a corporation of France

No Drawing. Filed Apr. 2, 1963, Ser. No. 269,870
Claims priority, application France, Apr. 10, 1962, 893,974
3 Claims. (Cl. 167—73)

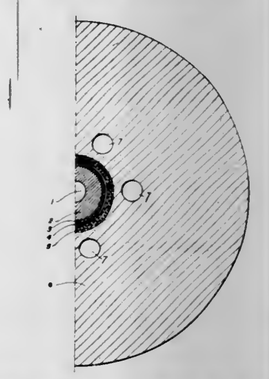
1. A method of treating hepatic degeneration which comprises administering transcutaneously daily to animals an effective amount of a compound selected from the group consisting of dimethyl benzimidazol cobamide adenosine coenzyme and its pharmaceutically acceptable acid addition salts.

3,268,410

RADIATION REACTOR

L. D. Percival King, Santa Fe, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 16, 1963, Ser. No. 316,785
9 Claims. (Cl. 176—17)



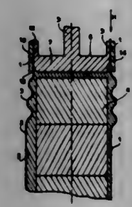
1. A nuclear reactor operating at a temperature in excess of 2000° C. to permit energy extraction by radiation, comprising a cylindrical core portion, said core being a dense graphite cylinder whose outer rim contains fissile material to a depth of about 1.5 cm. and in the concentration of 0.156 gm. of fissile material per cubic centimeter of graphite, said fissile material being selected from the class consisting of the carbides and oxides of uranium and plutonium, a cylindrical reflector portion surrounding the said core portion and consisting of a high temperature material and containing both heat exchanger and research cavities, and said reflector being spaced from the said core portion.

3,268,411

CLOSURE METHOD AND MEANS FOR THE ENDS OF NUCLEAR FUEL RODS HAVING A VERY THIN SHEATH

Lucien Alfille, Paris, Jean-Pierre Bocquet, Chevilly-Larue, Roger Chaignon, Athis-Mons, and Aime Pramaggiore and Georges Valentin, Villejuif-Seine, France, assignors to European Atomic Energy Community-Euratom, Brussels, Belgium

Filed Feb. 15, 1965, Ser. No. 433,545
Claims priority, application Belgium, Feb. 13, 1964, 516,549
13 Claims. (Cl. 176—79)



1. A method of closing an end of a nuclear rod having an outer thin flexible sheath into which nuclear fuel is inserted, comprising the steps of:

(a) inserting the fuel in the sheath so that one end of the sheath extends beyond one end of the fuel;

(b) inserting in said end of the sheath and over said fuel a metal plug having a peripheral outwardly raised edge until said sheath projects from the edge of said plug;

(c) mounting a ferrule around said end of said sheath in correspondence with said edge of said plug whereby said sheath extends beyond both said plug edge and ferrule, and

(d) heating said extending end of said sheath and the adjoining parts of said ferrule and edge to weld said sheath, ferrule and plug together;

(e) the thickness of said edge and ferrule being substantially greater than that of said sheath whereby a portion of the welding heat may be dissipated in the ferrule and edge which is sufficient to prevent break-down of the sheath.

3. Closing means for an end of a nuclear fuel rod having a thin sheath, generally thinner than 0.1 mm., and a plug in one end of said sheath for closing said end, said plug formed peripherally thereof with an outwardly turned raised edge for overlap welding with said sheath, said edge of a thickness essentially greater than the thickness of said sheath, characterized by

a securing ferrule mounted outwardly of said one end of said sheath and having an extremity of a thickness at least as great as that of the corresponding extremity of the raised edge; the extremities of the ferrule, sheath and raised edge being welded together.

3,268,412

PROCESS FOR RUPTURING MICRO-ORGANISM CELLS GROWN ON HYDROCARBON FEEDSTOCK

Alfred Champagnat, Paris, and Bernard Maurice Laine, Lavera, France, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed Dec. 16, 1963, Ser. No. 330,521
Claims priority, application France, Feb. 8, 1963, 924,254; Great Britain, May 24, 1963, 20,803/63, 20,804/63
25 Claims. (Cl. 195—3)

1. A process which comprises cultivating a straight chain hydrocarbon consuming micro-organism selected from the group consisting of yeasts, bacteria of the orders Pseudomonadales, Eubacteriales and Actinomycetales; and *Penicillium expansum* in the presence of a feedstock consisting at least in part of straight chain hydrocarbons, thereafter subjecting the fraction comprising the micro-organisms and residual feedstock to cell-wall rupture and thereafter separating a fraction containing at least one nitrogen-containing compound selected from the group consisting of proteins, polyproteins, polypeptides and amino acids from a fraction containing cell-wall material which said cell-wall material having associated therewith at least part of the residual feedstock, and subjecting the cell wall material to solvent extraction so that the proportion of residual feedstock in the cell wall material is reduced.

3,268,413

CULTIVATION OF MICRO-ORGANISMS ON A HYDROCARBON FEEDSTOCK IN THE FORM OF SMALL PARTICLES DISPERSED INTO A FLUID PHASE UNDER THE ACTION OF ULTRA-SONIC WAVES

Bernard Maurice Laine and Charles Vernet, Lavera, France, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed Dec. 16, 1963, Ser. No. 330,528
Claims priority, application Great Britain, Dec. 31, 1962, 49,061/62, 49,062/62; Feb. 26, 1963, 7,623/63
14 Claims. (Cl. 195—3)

1. A process for the cultivation of a combined carbon-containing feedstock micro-organism selected from the group consisting of yeasts, bacteria of the orders Pseudomonadales, Eubacteriales and Actinomycetales; and *Pencillium expansum* in which a micro-organism is cultivated in a fermenter in the presence of a combined carbon-containing liquid feedstock; in the presence of an aqueous nutrient medium; and in the presence of a gas containing free oxygen; wherein the liquid feedstock is present in the fermenter in the form of small particles dispersed into a fluid phase under the action of ultra-sonic waves.

3,268,414

PROCESS FOR CULTIVATING MICRO-ORGANISMS ON HEAVY DISTILLATE FRACTION CONTAINING STRAIGHT-CHAIN HYDROCARBONS

Bernard Maurice Laine, Lavera, France, assignor to The British Petroleum Company Limited, London, England, a company of England

No Drawing. Filed Nov. 3, 1964, Ser. No. 408,674
Claims priority, application Great Britain, Nov. 14, 1963, 45,004/63
12 Claims. (Cl. 195—3)

1. A process which comprises distilling a petroleum fraction to obtain at least two distillate fractions comprising a heavy distillate fraction containing straight-chain hydrocarbons and a light distillate fraction containing straight-chain hydrocarbons of a lighter nature than those contained in the heavy distillate fraction, thereafter treating the said heavy distillate fraction with a micro-organism in the presence of an aqueous nutrient medium and in the presence of a gas containing free oxygen whereby

said micro-organism grows using as feedstock, straight-chain hydrocarbons contained in said heavy distillate fraction, thereafter separating the treated heavy distillate fraction, and blending the treated heavy distillate fraction with the untreated light distillate fraction.

3,268,415

PROCESS FOR THE MANUFACTURE OF 5'-PURINE NUCLEOTIDE BY THE FERMENTATION METHOD

Shukuo Kinoshita and Takashi Nara, Tokyo, and Masanaru Misawa, Kawasaki-shi, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Mar. 23, 1964, Ser. No. 354,095
Claims priority, application Japan, Apr. 10, 1963, 38/17,615; Sept. 10, 1963, 38/47,841
10 Claims. (Cl. 195—28)

1. A process for the manufacture of 5'-purine nucleotide selected from the group consisting of 5'-inosinic acid, 5'-guanylic acid, 5'-adenylic acid and 5'-xanthylic acid, wherein one of the microorganisms *Brevibacterium ammoniagenes* ATCC No. 6871, *Brevibacterium ammoniagenes* ATCC No. 6872 and mutants thereof, is cultivated in a culture medium containing (1) from about 0.5 to about 50 micrograms per milliliter of a member selected from the group consisting of pantothenic acid, pantothenic acid-yielding substance, β-alanine, pantethene and coenzyme A and (2) from about 0.1 to about 10 micrograms per milliliter of a member selected from the group consisting of thiamine, thiamine hydrohalide and thiamine-yielding substance, said culture medium also containing biotin and a purine base or a nucleoside thereof, until essentially maximum accumulation of objective 5'-nucleotide has been achieved, and then recovering the thus-accumulated 5-nucleotide from the culture medium.

3,268,416

PROCESS FOR THE PREPARATION OF 3'-PHOSPHOADENOSINE - 5' - PHOSPHOSULFATE AND ADENOSINE - 5' - PHOSPHOSULFATE

Seizi Igarasi, Ashiya, Yuichi Takeuchi, Akashi, Akira Imada, Nishinomiya, and Ikuo Nogami, Suita, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Filed July 6, 1964, Ser. No. 380,633
10 Claims. (Cl. 195—28)

1. A process for preparing, as objective substance, a member selected from the group consisting of 3'-phosphoadenosine - 5' - phosphosulfate, adenosine - 5' - phosphosulfate and a mixture thereof, which comprises inoculating a microorganism belonging to the genus Streptomyces into an aqueous nutrient-containing medium, incubating the so-inoculated medium, and recovering said objective substance accumulated in the culture broth.

3,268,417

TREATMENT AND USE OF ENZYMES FOR THE HYDROLYSIS OF STARCH

John T. Garbutt and Austin M. Hanson, Muscatine, Iowa, assignors to Grain Processing Corporation, Muscatine, Iowa, a corporation of Iowa

No Drawing. Filed Apr. 8, 1964, Ser. No. 358,407
14 Claims. (Cl. 195—31)

1. A process of treating a transglucosidase and glucamylase-containing fungal enzyme preparation which comprises treating said preparation with a protease under conditions favorable to protease activity for a time sufficient to achieve substantial inactivation of transglucosidase.

3,268,418

PROCESS FOR PRODUCING ANTIBIOTIC PA-180

Walter D. Celmer, New London, Conn., and Louis G. Nickell, Honolulu, Hawaii, assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 11, 1962, Ser. No. 165,673
3 Claims. (Cl. 195—80)

1. A process for producing antibiotic PA-180 which comprises cultivating *Streptomyces fradiae* ATCC 14443 in an aqueous nutrient medium under submerged aerobic conditions until substantial activity is imparted to said medium.

3,268,419

CULTIVATION OF MICRO-ORGANISMS ON A FEEDSTOCK CONSISTING AT LEAST IN PART OF A STRAIGHT CHAIN HYDROCARBON

Alfred Champagnat and Bernard Laine, Paris, France, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed July 24, 1963, Ser. No. 297,213
Claims priority, application France, Aug. 3, 1962, 906,076
18 Claims. (Cl. 195—82)

1. A process which comprises cultivating a straight chain hydrocarbon-consuming micro-organism selected from the group consisting of yeasts, bacteria of the orders Pseudomonadales, Eubacteriales and Actinomycetales; and *Penicillium expansum* in the presence of a feedstock consisting at least in part of a straight chain hydrocarbon, separating from the treated feedstock a fraction comprising the micro-organism and aqueous medium, reducing the proportion of water in said fraction by solvent extraction using a polar solvent and thereafter subjecting the raffinate, containing the micro-organism and a reduced proportion of aqueous medium so obtained to solvent extraction with a solvent containing in major amount a hydrocarbon the aforementioned solvent extraction treatment of the raffinate being a purification step to reduce undesirable contaminants present therein.

ERRATUM

For Class 202—90.2 see:
Patent No. 3,268,792

3,268,420

PROCESS FOR CONTROLLING THE LOADING AND HEAT INPUT OF FRACTIONATING COLUMNS

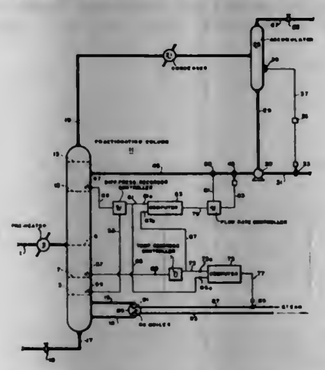
William O. Webber and Robert L. Martin, Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

Filed Dec. 27, 1961, Ser. No. 162,403
5 Claims. (Cl. 203—2)

1. In the operation of a fractionating column wherein a feedstock to be fractionated is delivered to the column at an intermediate point therein, wherein an overhead fraction is taken from the top of the column, wherein a bottoms fraction is taken from the bottom of the column, and wherein a portion of the overhead fraction is condensed and the condensate is returned to the column as reflux, the improvement comprising:

regulating heat input to the column responsive to change in temperature at a point in the column intermediate the withdrawal points and responsive to changes in the pressure differential between spaced-apart points in the column; exponentially reducing the regulation of the heat input effected as the result of any given change in said pressure differential as a function of time from the time of said given change;

regulating the loading of the column responsive to changes in said pressure differential and responsive to changes in said temperature; and exponentially reducing the regulation of the loading of the column



effected in accordance with a given change in said temperature as a function of time from said given temperature variation.

3,268,421

ELECTRODEPOSITION OF METALS FROM A FUSED BATH OF ALUMINUM HALOHYDRIDE ORGANIC COMPLEX AND COMPOSITION THEREFOR

Leslie D. McGraw, Columbus, Ohio, assignor, by mesne assignments, to National Steel Corporation, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Dec. 4, 1961, Ser. No. 156,966
25 Claims. (Cl. 204—39)

1. A process for electrodepositing a metallic material on an electrically conductive substrate comprising subjecting at least a portion of the substrate as a cathode to the action of an electrolyzing electric current while immersed in a bath consisting essentially of an organic complex of an aluminum halohydride, the bath being noncombustible at the operating temperature and substantially free of an uncombined solvent for the organic complex of the aluminum halohydride.

18. A bath for electrodepositing a metallic material consisting essentially of an organic complex of an aluminum halohydride, the bath being noncombustible at the operating temperature and having dissolved therein at least one soluble ionizable compound selected from the group consisting of quaternary ammonium compounds, amine salts, and nonoxygen-containing mineral acids and salts thereof.

3,268,422

ELECTROPLATING BATH CONTAINING ALUMINUM AND MANGANESE-BEARING MATERIALS AND METHOD OF FORMING ALUMINUM-MANGANESE ALLOY COATINGS ON METALLIC BASES

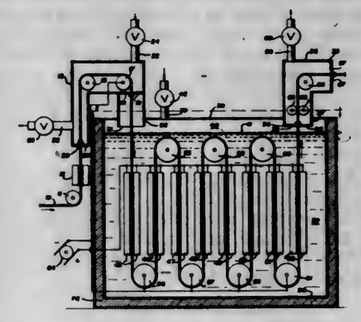
Edwin J. Smith, Steubenville, Ohio, and Michael G. Vucich and Lowell W. Austin, Weirton, W. Va., assignors to National Steel Corporation, a corporation of Delaware

Original application June 9, 1960, Ser. No. 34,923. Divided and this application Mar. 25, 1964, Ser. No. 360,793
26 Claims. (Cl. 204—39)

4. A method of forming a composite article comprising applying and tightly adhering to at least a portion of the surface area of a metallic base material an integral, continuous and substantially nonporous coating of an alloy of aluminum and manganese consisting essentially of about 10–70% manganese and the remainder aluminum, whereby the metallic base material is protected from corrosion.

8. An electroplating bath consisting essentially of aluminum halide, a complexing agent for the aluminum halide, and a soluble manganese-bearing material, the electroplating bath containing free aluminum halide, and the manganese-bearing material being present in the electroplating bath in an amount to provide about 0.2–5% by weight of dissolved manganese and to produce therefrom a bright electrodeposited alloy consisting essentially of about 10–70% manganese and the remainder aluminum.

19. A fused salt electroplating bath consisting essentially of aluminum chloride, at least one alkali metal



chloride selected from the group consisting of sodium chloride and potassium chloride, and a soluble manganese-bearing material, the aluminum chloride being present in the bath in an amount providing free aluminum chloride, the bath containing the manganese-bearing material dissolved therein in an amount to provide about 10–70 parts by weight of dissolved manganese in the manganese-bearing material for each 90–30 parts by weight of aluminum in the free aluminum chloride whereby a bright electrodeposited alloy consisting essentially of about 10–70% manganese and the remainder aluminum is produced therefrom.

3,268,423

PROCESS OF ELECTRODEPOSITING A CORROSION RESISTANT NICKEL-CHROMIUM COATING

Thaddeus W. Tomaszewski, Dearborn, and Henry Brown, Huntington Woods, Mich., assignors, by mesne assignments, to The Udylite Corporation, Warren, Mich., a corporation of Delaware

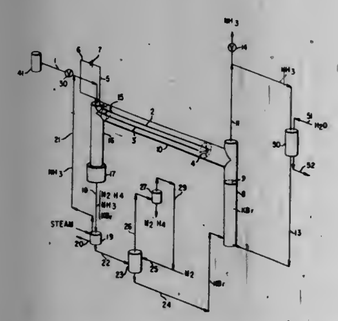
No Drawing. Filed Mar. 1, 1963, Ser. No. 262,200
7 Claims. (Cl. 204—40)

1. A method for electrodepositing a decorative nickel plate which comprises the step of electrolyzing an aqueous acidic solution of at least one nickel salt selected from the group consisting of nickel sulfate, nickel chloride, nickel fluoborate and nickel sulfamate and at least one soluble organic addition agent capable of producing semi-bright to fully bright nickel plate, said solution containing dispersed therein about 0.1 to about 50 grams/liter of at least one water-insoluble material selected from the group consisting of the phosphates of lead, about 0.1 to 20 grams/liter of lead chromate, and lead oxalate, 0.1 to about 5 grams/liter of barium chromate, 1 to about 50 grams/liter of the oxides and hydroxides of cobalt and nickel, and 0.1 to about 20 grams/liter of the stannates of calcium, strontium, barium, magnesium, lead, nickel, cobalt, iron, antimony and bismuth, said material being in the form of a particulate dispersion the particles of which having an ultimate particle size of less than about 5 microns average diameter, and thereafter plating on said electro-deposited layer an overlayer of a metal selected from the group consisting of chromium, rhodium, silver, tin, brass, bronze, copper, gold and an alloy consisting of 65 tin and 35 nickel, said overlayer having a thickness less than about 5 microns.

3,268,424
METHOD OF DEPOSITING A CORROSION RESISTANT COMPOSITE NICKEL ELECTROPLATE
Henry Brown, Huntington Woods, and Thaddeus W. Tomaszewski, Dearborn, Mich., assignors, by mesne assignments, to The Udylite Corporation, Warren, Mich., a corporation of Delaware
No Drawing. Filed Aug. 16, 1963, Ser. No. 302,739
13 Claims. (Cl. 204—41)

1. A method for obtaining improved corrosion resistant composite decorative nickel-chromium plate which comprises the step of electrolyzing and aqueous acidic nickel electroplating bath containing at least one organic nickel brightener capable of producing fine-grained semi-bright to fully bright nickel plate and having dispersed therein about 0.5 to about 300 grams/liter of at least one bath insoluble compound of a metal having an incomplete inner electron shell to thereby form a fine-grained nickel plate, said material in said bath being in the form of a fine dispersion, the major portion of which has an average particle size which is less than about 5 microns and thereafter electroplating on said nickel plate containing said bath-insoluble particles an overlayer of a metal selected from the group consisting of chromium, rhodium, silver, tin, brass, bronze, copper, gold and an alloy consisting of 65 tin and 35 nickel, said overlayer having a thickness less than about 0.2 mil.

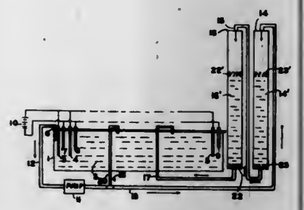
3,268,425
PROCESS FOR PREPARING HYDRAZINE
John A. Pursley, Lock Haven, Pa. (Box 502-C, Yerba Buena Road, R.D. 2, Malibu, Calif. 90265)
Filed May 10, 1962, Ser. No. 193,844
17 Claims. (Cl. 204—59)



1. The process for preparing hydrazine comprising the steps of:
(a) preparing a non-aqueous electrolyte comprising ammonia and a halide of a metal selected from the the group consisting of Group IA metals and Group IIA metals;
(b) subjecting said electrolyte to direct current electrolysis with inert electrodes; and
(c) recovering hydrazine formed during said electrolysis from said electrolyte.

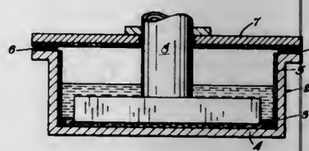
3,268,426
ELECTROLYTIC PROCESS FOR REFINING INDIUM
Alexander Lavitt, Brooklyn, N.Y., assignor to Alloys Unlimited Inc., Long Island City, N.Y.
Filed Jan. 9, 1962, Ser. No. 165,153
4 Claims. (Cl. 204—105)

1. The process of refining indium comprising the steps of;
passing an electric current through an anode of crude indium to a cathode of graphite in an electrolytic solution of sodium chloride with a pH of .5–1.0, continuously passing said electrolytic solution through a bed of quaternary strong base resin, periodically



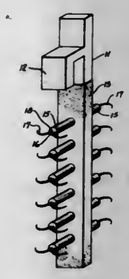
passing sulfuric acid through said bed and scraping pure indium from said cathode.

3,268,427
ELECTROLYSIS OF ALKALINE CHLORIDE SOLUTIONS
Josef Schücker, Dortmund, Germany, assignor to Friedrich Uhde G.m.b.H., Dortmund, Germany, a company of Germany.
Filed Aug. 30, 1962, Ser. No. 220,571
6 Claims. (Cl. 204—125)



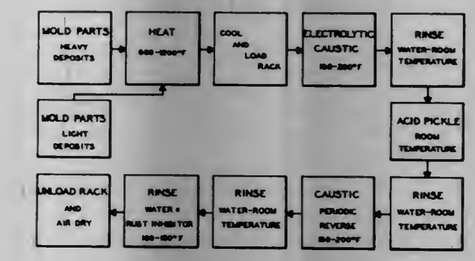
1. A process for the electrolysis of alkaline chloride solutions in electrolysis cells with adjustable anodes and a liquid cathode comprising immersing the anodes into an alkali electrolyte and the liquid cathode, and applying current densities of more the 7,000 amps./m.^{2} cathode surface.

3,268,428
METHOD OF SHARPENING SURGICAL NEEDLES USING A MAGNETIC NEEDLE RACK
Gaetano Salvatore Buccino, Bethel, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Jan. 3, 1962, Ser. No. 163,977
1 Claim. (Cl. 204—142)



A method of securing steel surgical needles, having a flat butt at right angles to the needle, in an anodic etching bath and anodically etching the needles comprising: placing steel surgical needles having a flat butt at right angles to the needle axis on the bare flat planar polar surface of an etchable permanent magnet, thereby mechanically supporting the needles at right angles to the magnet and making electrical contact with said needles, immersing the magnet-supported needles in an anodic polishing bath, passing an anodic current through the magnet and needles until the needles are both sharp and polished, removing the magnet and needles from said bath, rinsing the needles until electrolyte free, removing the needles from said magnet, during which etching of the needles, the needle contacting surfaces of the magnet are also etched, and periodically regrinding the contact surfaces of said magnet to a plane surface, whereby the surface continues to support subsequent batches of needles in ordered array and without tipping.

3,268,429
METHOD OF CLEANING MOLD EQUIPMENT
Tom Jay Farrow, Toledo, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio
Filed June 17, 1963, Ser. No. 288,329
19 Claims. (Cl. 204—145)



1. The method of cleaning ferrous metal mold equipment contaminated by a mold dope residue comprising graphite, hydrocarbon and organic material comprising the sequence of steps of heating the equipment to a temperature in the range of 600° F. to 1200° F., subjecting the equipment to electrolysis in a conductive medium having a high concentration of an alkali metal hydroxide with the equipment connected anodically, contacting the equipment with an acid, subjecting the acid treated equipment to electrolysis in a conductive medium having a high concentration of an alkali metal hydroxide and rinsing the equipment.

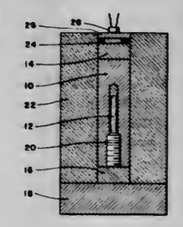
3,268,430
PROCESS FOR PREPARING ANHYDROUS CHLOROOXIRANE AND CHLOROACETALDEHYDE
Stanley J. Brois, East Brunswick, and Eugene L. Stogryn, Fords, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed June 17, 1963, Ser. No. 288,506
1 Claim. (Cl. 204—158)

The process for preparing anhydrous chloroxirane and recovering said chlorooxirane as a high-purity product, which comprises reacting ethylene oxide in liquid phase with chlorine photocatalytically at a temperature in the range of −15° to −60° C. in the presence of an inert gaseous atmosphere of nitrogen to form an anhydrous mixture of unreacted ethylene oxide, 2-chloroethanol and chloroxirane having the formula C_2H_3ClO, said mixture being free of other organic compounds, separating the chlorooxirane with the unreacted ethylene oxide as a distillate product by vacuum distillation at about −20° C. to 0° C. from the 2-chloroethanol in said mixture, and evaporating the ethylene oxide with the aid of nitrogen as inert gas from the chlorooxirane in said distillate product at a temperature in the range of −30° C. to 0° C. to recover the chloroxirane as a high-purity product.

3,268,431
METHOD OF OBTAINING IN ONE OPERATION A SOLUTION OF PERACETIC ACID AND OTHER ORGANIC PERACIDS
Tadeusz Urbanski, 22 Nowowiejska St.; Juliusz Hackel, 23 Zwycięstwa St., Rembertow; Rudolf Kuboszek, 14 Londyska St., Saska Kepa; and Wieslaw Kutkiewicz, 72 Przyjazn St., Jelonki, all of Warsaw, Poland
No Drawing. Filed Oct. 18, 1965, Ser. No. 497,545
Claims priority, application Poland, July 29, 1961, 97,055
9 Claims. (Cl. 204—158)

2. In the process of preparing organic peracids of 2 to 4 carbon atoms by oxidizing the corresponding aldehyde, the improvement of carrying out the preparation in a one-step process by oxidizing a dilute solution of the aldehyde in an inert organic solvent with an excess of an oxidizing agent selected from the class consisting of oxygen and air, the reaction mass being subjected to intense ultraviolet irradiation, as oxidation promoting agent, and being maintained in turbulent motion and at a temperature of from about −30° C. to about 20° C. during the oxidation.

3,268,432
TREATMENT OF HYDROCARBONS WITH SHOCK WAVES
Olen A. Nance, Woodland Hills, Calif., assignor to Richfield Oil Corporation, Los Angeles, Calif., a corporation of Delaware
Filed Oct. 31, 1960, Ser. No. 66,345
2 Claims. (Cl. 204—162)



1. A process for cracking hydrocarbon materials in the condensed phase consisting essentially of subjecting said materials to a shock wave whereby said cracking results from an increase in vibrational energy transmitted to said condensed hydrocarbon by said shock wave having an intensity of from about 10 to 250 kilobars.

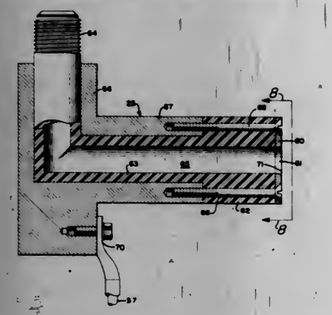
3,268,433
ELECTRODEPOSITION PROCESS USING AN AQUEOUS EMULSION CONTAINING A PREPOLYMER AND A POLYALKYLENIMINE
Joseph F. Abere, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Original application Nov. 18, 1960, Ser. No. 70,115. Divided and this application Jan. 18, 1965, Ser. No. 426,406
3 Claims. (Cl. 204—181)

1. An electrodeposition process which comprises passing an electrical current between an anode and a cathode in an aqueous emulsion containing a carboxyl containing prepolymer and a polyalkylenimine and recovering said anode having a coating comprising said prepolymer and polyalkylenimine.

3,268,434
APPARATUS FOR ELECTROLYTIC MACHINING

Carl J. Weingartner, Phoenix, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed May 11, 1962, Ser. No. 194,085
4 Claims. (Cl. 204—224)



4. In a device for use in electrolytic machining of cuts of a predetermined shape in a metal workpiece, the device including means for holding the workpiece, an electrode tool for machining cuts in the workpiece, means for causing converging relative movement between said electrode tool and the workpiece and for maintaining a gap therebetween thereby defining a working space, means for circulating an electrolyte through said working space, and a source of direct current electrically connected to the workpiece and said electrode tool whereby the workpiece and said electrode tool function as an anode and a cathode, respectively; the improvement wherein said electrode tool includes a base, a supporting member mounted on said base, a relatively thin metallic element supported on said supporting member, said metallic element having a working face substantially coextensive with, and of the same contour as, the predetermined shaped of the cuts to be made in the workpiece, a rigid body of electrically insulating material mounted between and holding said metallic element spaced and electrically insulated from said supporting member, said body of insulating material being substantially coextensive in cross section with the contour of said metallic element and the predetermined shape of a cut to be made in the workpiece, means forming inlet and outlet passages communicating with said electrolyte circulating means and leading, respectively, to and from spaced portions of said metallic member whereby electrolyte fluid may be directed through said working space over said working face of the metallic member, and means for conducting current to said metallic member.

3,268,435
PROCESS AND APPARATUS FOR ADMISSION TO TUBES IN TUBE HEATERS

Jan Sellin, Ave. de l'Europe 74, Monthey, Switzerland

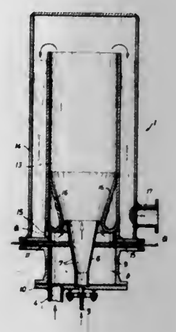
Filed Sept. 30, 1963, Ser. No. 312,415
7 Claims. (Cl. 208—48)

5. A process for the uniform introduction and intimate mixing of at least two fluids in a pluarity of reaction tube heaters having an inlet and outlet comprising the steps of:

(a) providing two independent sources of fluid at a pressure of at least 1.1 times greater than the normal operating pressure within reaction tube heater;
one of said fluids comprising a superheated steam and the other fluid comprising a volatile material;

(b) connecting said plural tubes independently to said independent sources of fluid whereby the pressure at each tube is substantially the same;

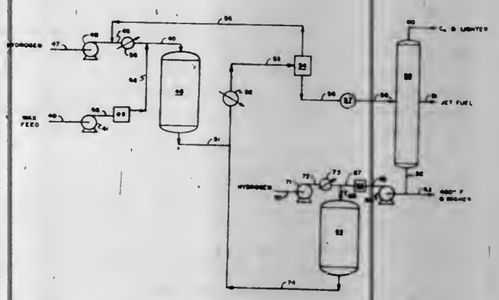
(c) separately introducing said fluids into the inlet of each of said tubes simultaneously, with the superheated steam surrounding said other fluid and mixing axialy therewith and expanding at said inlet to substantially the operating pressure to be maintained in said reaction heater tubes and substantially heating said other fluid prior to volatilization of said other fluid in said reaction heater tubes whereby uniform control of the reaction process is maintained and minimum heating tube sizes can be utilized with a minimum of heat being applied to said reaction heater tubes.



3,268,436
PARAFFINIC JET FUEL BY HYDROCRACKING WAX

William Floyd Arey, Jr., and Glen Porter Hamner, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Feb. 25, 1964, Ser. No. 347,194
9 Claims. (Cl. 208—59)

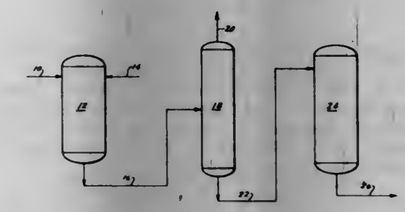


1. A process for the production of a fuel of improved burning qualities when burned in a jet combustion device, which comprises contacting a charge stock consisting essentially of paraffinic wax having an initial boiling point greater than about 650° F. with a hydrocracking catalyst at a temperature within the range from about 300 to 900° F., a pressure within the range from about 500 to 3000 p.s.i.g., and at an hourly space velocity within the range from about 0.1 to 10 v./v./hr., while in admixture with hydrogen fed in amounts within the range from 2000 to 20,000 s.c.f. H_2/bbl. of said paraffinic wax.

3,268,437
HYDROCRACKING OF NITROGEN CONTAINING HYDROCARBON OILS FOR THE PREPARATION OF MIDDLE OILS

Harold Beuther, Gibsonia, and Bruce K. Schmid, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Aug. 29, 1963, Ser. No. 305,543
10 Claims. (Cl. 208—61)

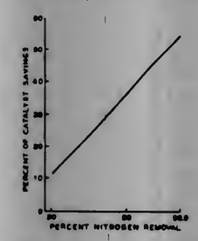


2. The hydrocracking process for preparing a middle oil without substantially deactivating the catalyst which comprises subjecting a feed stock having less than 5 percent by volume of components boiling below about 675° F., containing at least about 100 p.p.m. of nitrogenous compounds to treatment with hydrogen in an amount of at least 5000 s.c.f. of hydrogen per barrel of feed stock at a hydrogen partial pressure between about 400 and 1200 p.s.i., at a temperature between about 800° and 900° F. and at a liquid hourly space velocity from about 2.0 to about 8.0 in the presence of a sulfided nickel-tungsten-halogen catalyst composited with a siliceous cracking base, which base has a cracking activity index above about 45, maintaining conversion (net make of gasoline plus middle oil B.P. 100°–675° F.) between about 20 and 50 percent with a ratio of middle oil (400°–675° F.) to gasoline (C_5–400° F.) in the converted product of at least 2:1, continuing said treatment for a throughput of at least 1200 volumes of feed per volume of catalyst, subjecting the product to distillation to separate a fraction boiling below about 675° F. and above about 675° F. and subjecting this last mentioned fraction to catalytic cracking.

3,268,438
HYDRODENITRIFICATION OF OIL WITH COUNTERCURRENT HYDROGEN

John W. Scott, Jr., Ross, and Robert L. Jacobson, Pinole, Calif., assignors to Chevron Research Company, a corporation of Delaware

Filed Apr. 29, 1965, Ser. No. 451,845
4 Claims. (Cl. 208—89)



1. In a process comprising passing a high boiling hydrocarbon oil containing organic nitrogen compounds downflow through at least one bed of sulfactive hydrogenation catalyst particles comprising a reaction zone and passing at least 1,000 standard cubic feet of hydrogen-rich gas per barrel of oil upflow through at least the same reaction zone, at reaction conditions of temperature and pressure for converting organic nitrogen compounds to ammonia, wherein downflowing purified hydrocarbon oil effluent is withdrawn from the bottom of said reaction zone, wherein upflowing vapors containing essentially all the ammonia produced are withdrawn from the reaction zone and cooled to condense and separate normally liquid hydrocarbon oil contained therein from hydrogen-rich gas which is recycled to the reaction zone, and wherein the net amount of ammonia produced is removed from the system but the hydrogen-rich gas available for recycling contains a small equilibrium concentration of ammonia of from above 0.02% to about 1% by volume having a negligible effect on the hydrogen partial pressure, the improved method of operation which comprises controlling the reaction conditions in said reaction zone to convert more than 90% of the organic nitrogen originally contained in the oil to ammonia, and removing ammonia from the hydrogen-rich gas to maintain the concentration of ammonia in the gas introduced into the reaction zone below the catalyst for passage upwards therethrough below 0.02% by volume and less than the equivalent of 2.5% of the initial nitrogen content of the oil.

3,268,439
CONVERSION OF WAXY HYDROCARBONS

Kenneth Tupman and Anthony George Goble, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed Jan. 15, 1963, Ser. No. 251,473
Claims priority, application Great Britain, Jan. 26, 1962, 3,017/62
2 Claims. (Cl. 208—112)

1. A process for the conversion of waxy hydrocarbons comprising contacting a petroleum feedstock containing at least 50% by weight of waxy hydrocarbons at a temperature of from 650 to 800° F., a pressure of from 500 to 2500 p.s.i.g., a space velocity of from 0.1 to 5 v./v./hr. and in the presence of from 1000 to 15000 s.c.f. of hydrogen/B with a catalyst consisting essentially of from 0.1 to 5% wt. of a platinum group metal, alumina, and from 6 to 15% wt. of fluorine, said catalyst having been prepared by contacting the support at a temperature of from 300 to 500° C. under non-reducing conditions with the vapor of a fluorine compound of general formula



where X is selected from the class consisting of carbon and sulfur and Y is selected from the class consisting of fluorine and hydrogen to give said catalyst containing at least 6% wt. of fluorine, the catalyst containing from 1.2×10^{-4} to 3.4×10^{-4} fluorine/sq. meter of original alumina surface area.

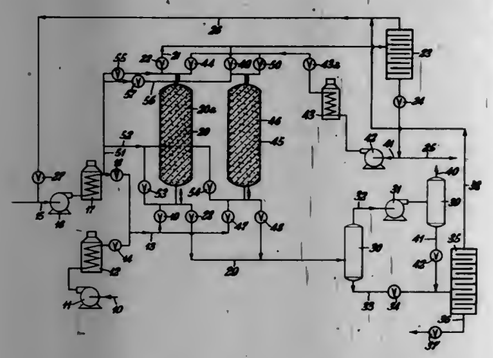
3,268,440
PRESSURE CYCLE FOR MOLECULAR SIEVE SEPARATION OF NORMAL PARAFFINS FROM HYDROCARBON MIXTURES

Gerard J. Griesmer, Kenmore, N.Y., and Kazuo Kiyonaga, Newark, N.J., assignors to Union Carbide Corporation, a corporation of New York

Filed Mar. 4, 1963, Ser. No. 262,656
12 Claims. (Cl. 208—310)

1. In a cyclic process for separating a hydrocarbon feed vapor mixture of normal paraffins and non-straight chain hydrocarbons by contact with a bed of zeolitic molecular sieve having pore size of about 5 angstroms at temperature below 900° F. and a first higher pressure for adsorption of a key normal paraffin, and thereafter desorption of said key normal paraffin at substantially the ad-

sorption temperature and lower second pressure, the improvement comprising the steps of: providing a vapor mixture of said hydrocarbon feed and a normal paraffin purge component for contact with the molecular sieve bed during the adsorption step, said purge component being less strongly adsorbable than the key normal paraffin by the molecular sieve but having at least four carbon atoms per molecule, and in quantity sufficient to provide a molar ratio of between 10:1 and 1:4 relative to the quantity of normal paraffin in the hydrocarbon feed; introducing said vapor mixture into a first end of said molecular sieve

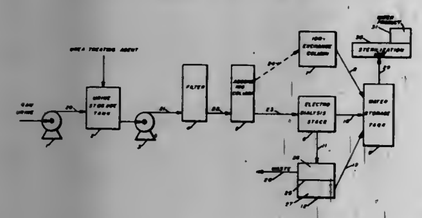


bed at the first higher pressure for contact with the bed thereby adsorbing said key normal paraffin and said normal paraffin purge component, and discharging a vapor stream substantially depleted of the key normal paraffin from a second end of said bed; continuing the vapor mixture flow at least until the normal paraffin purge component appears and before said key normal paraffin from the feed vapor appears in the normal paraffin-depleted vapor stream discharged from the bed second end; desorbing the normal paraffins from the bed and removing the desorbate through the bed first end; and thereafter repeating said adsorption and desorption steps.

3,268,441
WATER RECOVERY BY ELECTRODIALYSIS

Robert W. Lindstrom, Everett, Mass., assignor to Ionics, Incorporated, Cambridge, Mass., a corporation of Massachusetts

Filed May 21, 1963, Ser. No. 281,871
11 Claims. (Cl. 210—22)



6. A process of recovering potable water from raw urine comprising the steps of:

(a) reacting at least a portion of the dissolved urea of said raw urine by the addition of oxalic acid to form a precipitate of urea oxalate,

(b) filtering the resulting mixture to remove the urea oxalate and other suspended material,

(c) treating the resulting liquid with activated charcoal to substantially remove remaining organic components therefrom,

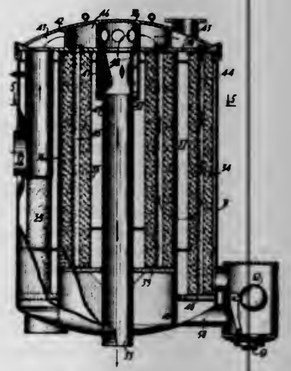
(d) passing at least a portion of the resulting organic-free liquid through the desalting chambers of an ion-exchange electrodialysis unit to remove dissolved salts therefrom, and

(e) treating the salt waste stream from the concentrating chambers of said electrodialysis unit by a membrane permeation process to obtain additional salt-free water therefrom.

3,268,442
PROCESS FOR SEPARATING IMMISCIBLE LIQUIDS AND APPARATUS

David B. Pall, Roslyn Estates, N.Y., Sidney Krakauer, Mountaintop, Pa., and Chesterfield Franklin Seibert and Marcel G. Verrando, Cortland, and Cyril A. Keedwell, Jericho, N.Y., assignors to Pall Corporation, Glen Cove, N.Y., a corporation of New York

Filed May 8, 1964, Ser. No. 369,051
9 Claims. (Cl. 210—23)



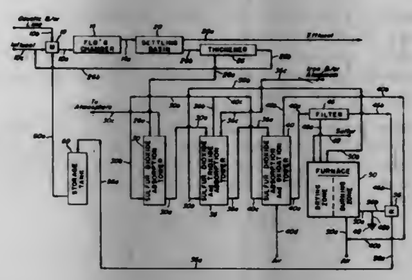
1. A process for coalescing small droplets of immiscible liquid in a suspending liquid medium, comprising forcing the droplets through the passages of a compacted coalescer element formed of compacted layers of fibers having diameters within the range from about 0.25 to about 5 microns, and defining therebetween passages having diameters within the range from about 0.01 to about 5 microns, and less than that of the droplets.

3,268,443
PROCESS FOR THE TREATMENT OF WASTE LIQUORS WITH FLOCCULATING AGENT RECOVERY

Everett D. Cann, 847 W. Jefferson Drive, Freeport, Ill.

Filed May 5, 1965, Ser. No. 453,351
8 Claims. (Cl. 210—47)

1. In a process for the treatment of industrial and domestic waste liquors containing suspended solids wherein said solids are separated from said waste liquors by introducing into a waste liquor a flocculating agent selected from the group consisting of sulfates of iron and aluminum under alkaline to neutral conditions effective to convert the flocculating agent to its hydroxide and thereby form a flocculant concentrate containing the hydroxide of said flocculating agent and the originally suspended solids, the improved method of recovering and recycling said flocculating agent and of disposing of said suspended solids which comprises: contacting said concentrate with at least one sulfur oxide gas in an amount sufficient to convert the hydroxide of said flocculating agent to a member of the group consisting of sulfates, sulfites, and bisulfites and with oxygen in an amount sufficient to convert said sulfites and bisulfites to sulfates to thereby redissolve said flocculating agent; separating the resulting soluble flocculating agent from the suspended waste solids in said



flocculant concentrate; cycling said flocculating agent to said waste liquor treatment process and disposing of said waste solids.

3,268,444
METHOD OF DISINFECTING POTABLE WATERS

Charles E. Renn, Baltimore, Md., assignor to Commercial Filters Corporation, Melrose, Mass.

No Drawing. Filed June 5, 1963, Ser. No. 285,609
5 Claims. (Cl. 210—64)

1. A method of disinfecting potable waters consisting essentially of the steps of forming a film of sponge silver upon a finely divided inert carrier material, collecting and fixing said sponge silver film inert carrier material on and within a coarse, porous framework to form a fixed bed finer porous member having pores whose diameter is sufficient to permit the passage of bacteria but less than about 80 microns and passing water containing bacteria to be disinfected through the porous member to cause an exchange reaction between the silver sponge and the sulfhydryl groups of bacterial cells in the water.

3,268,445
LUBRICATING COMPOSITION HAVING IMPROVED THERMAL STABILITY

Henry A. Ambrose, Penn Township, Allegheny County, and Paul R. McCarthy, Allison Park, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Dec. 14, 1962, Ser. No. 244,602
3 Claims. (Cl. 252—25)

1. A lubricating composition capable of functioning at temperatures up to about 600° F. consisting essentially of a dispersion in a liquid polyphenyl ether of a small amount, sufficient to improve the thermal stability of said ether, of an alkaline earth metal hydroxide.

3,268,446
GREASE COMPOSITION

Chester S. Tempalski, McKees Rocks, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Nov. 26, 1963, Ser. No. 326,191
9 Claims. (Cl. 252—28)

3. A lubricating composition comprising a dispersion in a major amount of a liquid polyorgano siloxane having diphenylmethylsilyl end groups of about 10 to about 40 percent by weight of the pyrolysis product of a 1,3,5-triazine compound selected from the group consisting of 2,4-diamino-1,3,5-triazine, 2,4-diamino-6-hydroxy-1,3,5-triazine, 2,4-dihydroxy-6-amino-1,3,5-triazine and 2,4-dihydroxy-6-pyridyl-1,3,5-triazine and about 0.5 to about 3 percent by weight of finely-divided silica.

3,268,447
FIRE RESISTANT FLUIDS FOR FABRICATING MAGNESIUM AND OTHER METALS

James R. Dickey, Elizabeth, and Donald A. Pattison, Roselle, N.J., and Beverly A. Pawson, Cambridge, Mass., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed June 14, 1963, Ser. No. 287,791
16 Claims. (Cl. 252—33.4)

8. A water-in-oil emulsion composition suitable for use in fabricating magnesium and other metals which are highly reactive with water which consists essentially of:

(a) a mineral oil having a viscosity at 100° F. of 25–58 SUS.

(b) from 30–55 parts of water.

(c) from 1.2–3.5 parts of an anionic emulsifier, said anionic emulsifier being an organo-metal sulfonate having a molecular weight of from 300–1500 and prepared from a member selected from the group consisting of alkylated and cycloalkylated benzenes and naphthalenes, and

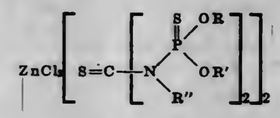
(d) from 0.5 to 5.0 parts of a mixture of nonionic emulsifiers, said mixture of nonionic emulsifiers consisting of ethoxylated alcohol formed by reacting up to 5 moles of ethylene oxide with 1 mole of C_{16}–C_{22} alcohol and a member selected from the group consisting of C_1–C_6 alcohols, C_2–C_6 glycols and C_2–C_{12} alkyl ethers, all of said parts being parts by weight and the sum of said parts approximating 100.

3,268,448
ZINC CHLORIDE PHOSPHOTHIOUREA COMPOUNDS

Paul M. Kerschner, Trenton, and Jack Ryer, East Brunswick, N.J., assignors to Cities Service Oil Company, Bartlesville, Okla., a corporation of Delaware

No Drawing. Original application Feb. 28, 1963, Ser. No. 261,811, now Patent No. 3,218,342, dated Nov. 16, 1965. Divided and this application Apr. 30, 1965, Ser. No. 462,463
7 Claims. (Cl. 252—46.4)

1. A lubricating composition comprising a major amount of lubricating oil and a quantity of an additive sufficient in amount to provide the composition with extreme pressure properties, said additive having the formula:



wherein each of R, R', and R'' is a hydrocarbon radical selected from the group consisting of alkyl, saturated alicyclic, aryl, aralkyl and has from 2 to about 22 carbon atoms.

3,268,449
LUBRICATING COMPOSITIONS CONTAINING RESINOUS POLYSULFIDES

Louis Colas and Bernard Demoures, Lyon, and Yolande Bourgau, Neuville-sur-Saone, France, assignors to Society, Progil, Paris, France

Filed May 13, 1963, Ser. No. 280,005
Claims priority, application France, May 15, 1962, 897,599
2 Claims. (Cl. 252—48.8)

1. Lubricating composition which consists of a cutting oil having dissolved therein an amount in the range from 0.2% to 20% by weight of at least one resinous polysulfide prepared by heating a crystallizable chlorinated poly-

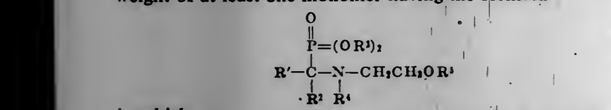
phenyl polysulfide at a temperature in the range from 80° C. to 250° C. until it ceases to be substantially crystallizable.

3,268,450
COMPOSITIONS CONTAINING AMINOMETHANE PHOSPHONATE COPOLYMERS

Homer J. Sims, Horsham, La Verne N. Bauer, Cheltenham, and Albert F. Preuss, Jr., Willow Grove, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed June 1, 1965, Ser. No. 460,572
18 Claims. (Cl. 252—49.9)

1. A composition selected from the class consisting of a lubricating oil and a liquid hydrocarbon fuel having incorporated therein a minor amount sufficient to impart detergency of a soluble copolymer, having a molecular weight of at least about 20,000 and up to about 2,000,000, consisting essentially of the monomers (a) and (b) which must be limited to those said monomers which impart oil solubility to the resulting said copolymer, where said (a) is between about 90 and 99.5% by weight principally of at least one monoethylenically unsaturated polymerizable monomer selected from the class consisting of alkyl (C_1–C_{18}) methacrylate, alkyl (C_1–C_{18}) acrylate, dialkyl (C_1–C_{18}) fumarate, dialkyl (C_1–C_{18}) maleate, dialkyl (C_1–C_{18}) itaconate and vinyl esters of monocarboxylic acids, and said (b) is between about 10 and 0.5% by weight of at least one monomer having the formula



in which

R^1 and R^2 are members of the class consisting of hydrogen and alkyl of 1 to 8 carbon atoms,

R^3 is a member of the class consisting of alkyl of 1 to 8 carbon atoms, chloroalkyl of 1 to 8 carbon atoms, phenyl, chlorophenyl, benzyl and chlorobenzyl,

R^4 is a member of the class consisting of hydrogen and a tert-alkyl group of 4 to 24 carbon atoms and

R^5 is a member of the class consisting of vinyl, acryloyl and methacryloyl.

3,268,451
ALKALI METAL DOPED COBALT AND MANGANESE FLUORIDE PARAMAGNETIC MATERIALS FOR WAVE ENERGY AMPLIFICATION

Joseph V. Fisher, Ridge Road, R.D. 1, Valencia, Pa.

No Drawing. Filed June 20, 1962, Ser. No. 203,714
2 Claims. (Cl. 252—62.5)

1. A material in single crystal form capable of amplifying wave energy by stimulated emission of radiation consisting essentially of cobalt fluoride doped with about 0.005 to 5 percent by weight of potassium.

2. A material in single crystal form capable of amplifying wave energy by stimulated emission of radiation consisting essentially of manganese fluoride doped with about 0.005 to 5 percent by weight of lithium.

3,268,452
VANADIUM-CONTAINING GARNETS

Seymour Geller, Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed July 10, 1963, Ser. No. 293,962
2 Claims. (Cl. 252—62.5)

1. Composition of matter of the garnet structure represented by the formula

$$\{M_{3-2x}Ca_{2x}\}[Fe_2](Fe_{3-x}V_x)O_{12}$$

where M is at least one element selected from the group consisting of yttrium, the rare earths, and bismuth; where x is from 1.01 to 1.5 when M is an element selected from the group consisting of yttrium and the rare earths; and where x is from 0.8 to 1.5 when M is bismuth.

3,268,453
PIEZOELECTRIC CERAMIC COMPOSITIONS

Hiromu Ouchi, Toyonaka-shi, and Katsuo Nagano and Kenichi Iwamoto, Kadoma-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

Filed Apr. 26, 1965, Ser. No. 450,738
Claims priority, application Japan, Apr. 28, 1964, 39/24,673, 39/24,674; May 27, 1964, 39/30,161; June 18, 1964, 39/34,911; July 8, 1964, 39/39,566; Sept. 10, 1964, 39/52,112; Sept. 24, 1964, 39/55,421
10 Claims. (Cl. 252—62.9)

1. A ferroelectric composition consisting essentially of the ternary solid solution expressed by the general formula $Pb(Mg_{1/3}Nb_{2/3})_xTi_yZr_zO_3$, where $x+y+z=1$, and having a composition within a polygonal region ABCDEF in the triangular composition diagram of FIGURE 1. The molar ratio of the three components of each vertices are as follows:

	$Pb(Mg_{1/3}Nb_{2/3})O_3$	$PbTiO_3$	$PbZrO_3$
A	0.875	0.125	0.000
B	0.875	0.000	0.125
C	0.050	0.000	0.950
D	0.010	0.040	0.950
E	0.010	0.813	0.177
F	0.187	0.813	0.000

3,268,454
GERMICIDAL DETERGENT COMPOSITIONS CONTAINING N-HYDROXYCARBANILIDES

Peggy Pamela Hoffman, Somerville, and William Baptist Hardy, Bound Brook, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Original application Aug. 8, 1961, Ser. No. 129,999, now Patent No. 3,189,645, dated June 15, 1965. Divided and this application Sept. 4, 1963, Ser. No. 306,592
2 Claims. (Cl. 252—106)

1. A germicidal composition comprising a detergent selected from the group consisting of anionic and nonionic detergents and from 0.01 to 5.0% based on the weight of the detergent, of an N-hydroxycarbanilide wherein the non-hydroxylated nitrogen atom is unsubstituted and the phenyl moieties of the carbanilide are substituted by "m" halo and "n" trihalomethyl groups wherein "m" is an integer less than eleven and "n" is an integer less than five, the total of "n" and "m" being greater than one and less than eleven; the halo groups have an atomic number less than 54; and the remaining valences of the phenyl moieties are satisfied by members selected from the group consisting of hydrogen, nitro, lower alkyl and lower alkoxy.

3,268,455
ACIDIC DENTURE CLEANING COMPOSITION

Douglas Maxwell Bryce and Ann Sodbury, Nottingham, England, assignors to Boots Pure Drug Company Limited, Nottingham, England, a British company

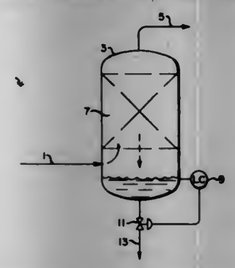
No Drawing. Filed Aug. 20, 1962, Ser. No. 218,139
Claims priority, application Great Britain, Aug. 3, 1961, 30,422/61
5 Claims. (Cl. 252—142)

1. An acid denture cleansing paste consisting essentially of 2.5–80% by weight of a compound selected from the group consisting of betaine hydrochloride and sulphamic acid, as the active acid denture cleaning agent, and an anhydrous diluent selected from the group consisting of glycerol and a mixture of polyethylene glycol 1500 and 400 compatible with said acid cleansing agent as the paste base.

3,268,456
SEPARATION PROCESS

Loraine C. Fruth, Edwardsville, Ill., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Apr. 12, 1963, Ser. No. 272,560
8 Claims. (Cl. 252—330)



1. A process for coalescing and agglomerating a suspension of water in a liquid hydrocarbon comprising contacting the suspension, for a residence time of 0.1 second up to about 60 seconds, with particles of two finely divided solids, one comprising iron and one comprising carbon, each of said particles being formed by impregnating one solid with the other solid, to produce two substantially separate phases.

3,268,457
METHOD OF CREATING ELECTRICALLY SEMICONDUCTING DIAMOND

Armando A. Giardini, New Shrewsbury, and John E. Tydings, Keyport, N.J., assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Apr. 5, 1962, Ser. No. 185,484
4 Claims. (Cl. 252—506)

1. The method of producing semiconducting diamond comprising: packing synthetic diamond of high chemical purity into an environment of substantially pure graphite in a pressure vessel, said graphite being mixed with a carrier impurity source substance from the group consisting of ammonium chloride, ammonium hydrogen phosphate, phosphorus, and lithium nitride; subjecting the contents of said pressure vessel to a pressure of about 50,000 atmospheres; heating said diamond with its environment mixture to about 1500° C.; cooling the contents of said pressure vessel to room temperature; then lowering the pressure to normal.

3,268,458
METHOD OF MAKING MICROPOROUS RUBBER SHEET MATERIAL

Howard J. Strauss, Rockford, Ill., and Ernest Weiss, Mercer County, N.J., assignors to ESB-Reeves Corporation, a corporation of Delaware

No Drawing. Filed Feb. 4, 1963, Ser. No. 256,135
2 Claims. (Cl. 260—2.5)

1. The method of making microporous rubber sheet material which comprises dispersing a vegetable starch in water, adding the resulting starch dispersion to a rubber latex, mixing the latex and starch dispersion with an aqueous dispersion from the group of sodium silicofluoride and potassium silicofluoride while minimizing foaming of the mixture, spreading the mixture on a surface and permitting the mixture to gel irreversibly to form a sheet having a skeleton of rubber, drying the sheet at a temperature below that at which the starch is gelatinized to avoid cracking of the skeleton of rubber gel, thereafter curing the rubber in the sheet, subjecting the rubber sheet to mechanical rolling to improve communication of the starch particles, boiling the rubber sheet in water, removing the starch from the rubber sheet, and drying the rubber sheet at a temperature and rate which permits the vapor from the inside of the sheet to escape slowly in avoidance of surface cracking of the resulting microporous rubber sheet.

3,268,459
COPOLYMER SOLUTION OF ACRYLAMIDE-ETHYLENICALLY UNSATURATED MONOMER, AND WATER SOLUBLE CELLULOSE ETHER

Herbert O. Luck, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 10, 1962, Ser. No. 243,600
9 Claims. (Cl. 260—17)

1. A composition of matter comprising an aqueous solution containing from about 0.2 to about 20 percent by weight of a sizing composition consisting of 1 part by weight of a water-soluble acrylamide polymer obtained by polymerizing monoethylenically unsaturated monomers of which at least about 50 mole percent have a carboxamide substituent, said polymer having a molecular weight of at least 10,000 and from about 0.1 to about 10 parts by weight of a nonionic, water-soluble cellulose ether.

6. Sized glass fiber having an adherent organic size comprising 1 part by weight of a copolymer of 70 to 99 mole percent acrylamide and 30 to 1 mole percent acrylic acid and from about 0.1 to about 10 parts by weight of a water-soluble methyl cellulose ether.

3,268,460
ADHESIVE AND METHOD OF MAKING THE SAME

John F. Miller and Jack R. McClary, Tacoma, Wash., assignors, by mesne assignments, to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 28, 1961, Ser. No. 162,947
8 Claims. (Cl. 260—17.2)

1. The method of making adhesive which comprises heating and thereby partially condensing phenol and aldehyde in the proportion of 1.85 to 2.2 moles of aldehyde to one mole of phenol in the presence of alkali, mixing the partially condensed phenol and aldehyde with flour extender having an affinity for such partially condensed phenol-aldehyde resin selected from the group consisting of bark and peanut shells, and heating such extender and phenol-aldehyde resin to a temperature of at least 150° F. to effect further condensation.

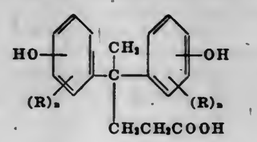
5. The adhesive obtained by the method defined in claim 1.

3,268,461
PRINTING INK VEHICLES

Norman A. Jacobson, Racine, Wis., assignor to S. C. Johnson & Son, Inc., Racine, Wis.

No Drawing. Filed Mar. 12, 1962, Ser. No. 179,255
3 Claims. (Cl. 260—18)

1. In a printing ink formulation comprising, in combination, coloring matter and a resinous vehicle compatible with said coloring matter, the improvement wherein the resinous vehicle comprises an alcohol soluble 4,4-bis(hydroxyaryl)pentanoic acid terminated polyamide, said polyamide being the reaction product obtained by heating a polyamine having at least two amino groups each having at least one amino hydrogen with said amino groups being the sole amide forming groups, a carboxylic acid containing two and only two carboxyl groups, said carboxyl groups being the sole amide forming groups and a 4,4-bis(hydroxyaryl)pentanoic acid having the general structure:



wherein R is a member of the group consisting of chloro, bromo and lower alkyl radicals and *n* is a number selected from the group consisting of 0, 1 and 2, the hydroxyl groups being attached to the 4 position of the ring structure when *n* is 0.

3,268,462
ONE STEP PROCESS FOR PREPARING HIGH IMPACT ALKYD RESINS

Pieter Bruin and Hendricus A. Oosterhof, both of Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 14, 1961, Ser. No. 124,000
Claims priority, application Netherlands, July 25, 1960, 254,156
4 Claims. (Cl. 260—22)

1. A one-step process for preparing high impact alkyd resins which comprises reacting at a temperature between about 140° and 270° C., (1) epoxy alkyl esters of alpha-alkyl saturated monocarboxylic acids prepared from aliphatic monocarboxylic acids having at least 4 carbon atoms in the molecule, said acids being obtained by reacting olefins with carbon monoxide and water under the influence of acid catalysts, (2) at least one polyol having at least three hydroxyl groups, (3) a member of the class consisting of polybasic carboxylic acids and polybasic carboxylic acid anhydrides and (4) a hydroxystearic acid, said components being employed in the ratio so that the equivalent weight of the hydroxyl components range from about 1 to about 1.3 times the equivalent weight of the carboxylic acid components.

3,268,463
STRIPPABLE COATINGS COMPRISING ETHYLENE-VINYL ACETATE COPOLYMER, ASPHALT AND RELEASE AGENT

Homer C. McAninch and Richard F. Lippoldt, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma

No Drawing. Filed July 31, 1963, Ser. No. 299,092
15 Claims. (Cl. 260—23)

1. A composition of matter comprising a mixture of 100 parts by weight petroleum asphalt, 1 to 50 parts by weight ethylene-vinyl acetate copolymer having an ethylene-to-vinyl acetate ratio between about 60:40 and about 90:10, and a melt index of 3 to 300, and 2 to 10 parts by weight of a fatty acid partial ester of a polyhydric alcohol.

3,268,464
COMPOSITIONS OF OLEFIN OXIDE POLYMERS AND ROSINOUS MATERIALS

John F. Suter, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 7, 1961, Ser. No. 122,400
7 Claims. (Cl. 260—24)

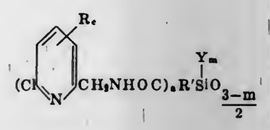
6. A composition comprising (1) an olefin oxide polymer selected from the group consisting of solid poly (ethylene oxide) and a solid copolymer comprised of at least 50 weight percent of ethylene oxide in copolymerized form with up to 50 weight percent of a lower olefin oxide which is selected from the group consisting of propylene oxide and butylene oxide, said olefin oxide polymer having a reduced viscosity value of at least 1.0 as measured at a concentration of 0.2 gram of said polymer in 100 milliliters of acetonitrile at 30° C.; and (2) from about 1 to about 40 weight percent, based on the weight of said polymer, of a rosinous material which is selected from the groups consisting of wood rosin, polymerized wood rosin, hydrogenated wood rosin, and dehydrogenated rosin.

3,268,465
COMPOSITION AND METHOD OF TREATING FABRICS

John W. Gilkey and Richard W. Alsgaard, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed May 15, 1961, Ser. No. 109,868
11 Claims. (Cl. 260—29.1)

1. A method which comprises applying to an organic fabric a dispersion in a liquid carrier of (1) a siloxane of the formula

(A) 

in which R is an aliphatic hydrocarbon radical of less than 4 carbon atoms, *c* has a value from 0 to 3 inclusive, R′ is selected from the group consisting of divalent and trivalent saturated aliphatic radicals of from 2 to 18 inclusive carbon atoms and divalent and trivalent saturated cycloaliphatic hydrocarbon radicals of no more than 18 carbon atoms, *a* has a value from 1 to 2 inclusive, Y contains from 1 to 18 inclusive carbon atoms and is selected from the group consisting of monovalent hydrocarbon radicals and fluorinated monovalent hydrocarbon radicals and *m* has an average value from 0 to 2 inclusive in which (A) contains up to 90 mol percent copolymerized siloxane of the formula

(B) $Z_bSiO_{4-b/2}$

in which Z contains from 1 to 18 inclusive carbon atoms and is selected from the group consisting of monovalent hydrocarbon radicals and fluorinated monovalent hydrocarbon radicals and *b* has an average value from 1 to 3 inclusive and a dispersion in a liquid carrier of (2) an organosiloxane having an average of from 1 to 3 inclusive substituents per silicon atom, said substituents being selected from the group consisting of hydrogen atoms, monovalent hydrocarbon radicals of from 1 to 18 inclusive carbon atoms and halogenated monovalent hydrocarbon radicals of from 1 to 18 inclusive carbon atoms and there being an average of at least one of said organic radicals per silicon, in such a manner that the weight ratios of the siloxane shall range from 1 to 40 percent by weight of (1) and from 60 to 99 percent by weight of (2), and said siloxanes being in such proportion that at least .7 percent by weight of the total of siloxanes (1) and (2) on the fabric is (A) and heat curing the siloxanes.

3,268,466
COLD-HARDENING FOUNDRY MIXTURE COMPRISING AN EPOXY RESIN AND FURFURYL ALCOHOL AS A CATALYST

Wolfgang Simm, Lausanne, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company

No Drawing. Filed Mar. 26, 1963, Ser. No. 267,918
Claims priority, application Switzerland, Mar. 30, 1962, 3,852/62, 3,853/62
5 Claims. (Cl. 260—29.2)

1. A method for preparing a cold-hardening foundry mold which comprises mixing a filler and a resinous binder to form a molding mixture, said binder comprising 60% to 80% by weight of an epoxy resin having an epoxy equivalent more than about 170, 10% to 20% by weight of an organic amine having the linkage $=N-CH_2CH_2$, whose CH_2 end positions are occupied by the amine group, and 10% to 20% by weight of an accelerator selected from the group consisting of furfuryl alcohol and its liquid polymer, the amount of said binder

in the mixture being in the range between 1% and 2% by weight of said filler, forming a mold from said mixture and curing it.

3,268,467
ADHESIVE COMPOSITION COMPRISING THE REACTION PRODUCT OF POLYISOCYANATE AND A FORMALDEHYDE CONDENSATE

Grover W. Rye and Walter D. Havens, Cuyahoga Falls, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 3, 1961, Ser. No. 149,880
8 Claims. (Cl. 260—29.3)

1. An aqueous adhesive composition comprising a substantially water-soluble addition product of a polyisocyanate and a water-soluble and thermoplastic resin wherein said resin is present in more than an equal amount by weight of said polyisocyanate, the resin resulting from the reaction of formaldehyde with a monomeric organic compound reactive therewith and selected from the group consisting of a phenol, urea and melamine to form said resin having an active hydrogen reactive with polyisocyanate, the mole ratio of said monomeric organic compound to said formaldehyde in said reaction being 1/.25 to 1/1, and a reaction product of a phenol, formaldehyde and a rubber latex.

3,268,468
EPOXIDE COMPOSITIONS COMPRISING AN EPOXIDE RESIN, A CURING AGENT FOR SAID RESIN AND A NEUTRAL ESTER OF TRIVALENT PHOSPHORUS ACID HAVING AT LEAST ONE CARBON TO PHOSPHORUS BOND

Henry D. Barnstorff, Glendale, and David H. Chadwick, Webster Groves, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Feb. 12, 1959, Ser. No. 792,715
20 Claims. (Cl. 260—30.6)

1. An improved epoxide composition suitable for use in forming cured resinous products comprising an epoxide resin containing at least one 1,2-epoxy group, a curing agent for said epoxide resin and from about 2 to about 200 parts by weight per 100 parts by weight of resin of a phosphorus acid ester having the structure:

$$(R)_n—P—(X—R')_{3-n}$$

wherein *n* is an integer of from 1 to 2, X is a divalent chalkogen atom having an atomic weight of less than 35, and R and R′ are selected from the group consisting of aromatic, aliphatic and cycloaliphatic hydrocarbon radicals and the halogenated, alkoxy and hydroxy substituted derivatives of such aromatic, aliphatic and cycloaliphatic hydrocarbon radicals, provided that when $n=1$ then one R′ radical may be a hydrogen atom.

3,268,469
TERPOLYMER DISPERSIONS FOR TEXTILE COATING

Rudolf Muller and Erwin Heinrich, Marl, Kreis Recklinghausen, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Kreis Recklinghausen, Germany, a corporation of Germany

No Drawing. Filed Oct. 19, 1962, Ser. No. 231,863
Claims priority, application Germany, Feb. 16, 1962, C 26,251
6 Claims. (Cl. 260—29.6)

4. A highly concentrated, stable dispersion suitable for textile coating, said dispersion consisting essentially of an aqueous liquid and a terpolymer of 25 parts by weight of tert.-butylacrylamide, 73 parts by weight of vinylpropionate and 2 parts by weight of divinylbenzene, said dispersion containing about 40% by weight of said terpolymer.

5. A highly concentrated, stable dispersion suitable for textile coating, said dispersion consisting essentially of an aqueous liquid and a terpolymer of 25 parts by weight of tert.-butylacrylamide, 40 parts by weight of vinyl acetate and 35 parts by weight of vinylpropionate, said dispersion containing about 40% by weight of said terpolymer.

3,268,470
CATIONIC SIZING AGENT AND ITS SOLUBILIZATION WITH A CATIONIC QUATERNARY COMPOUND

Edward Helmut Sheers, Flushing, N.Y., and David Randal Sexsmith, Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 2, 1963, Ser. No. 313,197
5 Claims. (Cl. 260—29.6)

1. A dry blend consisting essentially of a normally solid normally cold water-insoluble cationic paper sizing agent containing at least one basic amino or quaternary ammonium group per molecule and a small but effective amount of a water-soluble cationic quaternary ammonium compound containing at least one alkyl substituent of at least 12 carbon atoms as water-solubilizing agent therefor.

3,268,471
PROCESS FOR AGGLOMERATING SOLIDS

Herbert Bartl, Cologne, Wulf von Bonin, Leverkusen, and Wilhelm Göbel, Cologne, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Jan. 28, 1964, Ser. No. 340,781
Claims priority, application Germany, Feb. 1, 1963, F 38,891
6 Claims. (Cl. 260—29.6)

1. A process for solidifying and agglomerating particles of substantially insoluble solids, comprising contacting the particles with an active amount of a reverse emulsion essentially consisting of

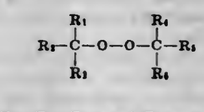
(a) a polymerizable monomer selected from the group consisting of styrene, an acrylic acid ester, methacrylic acid ester and a vinyl ester;
(b) an active amount of a polymerization catalyst;
(c) about .1–30% by weight of emulsifier capable of forming reversed emulsions and
(d) at least 25% by weight of water; and polymerizing the resulting mixture.

3,268,472
CURING POLYTETRAHYDROFURAN WITH SULFUR AND A PEROXIDE

Joginder Lal, Cuyahoga Falls, and Donald E. Heppert, Akron, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed July 14, 1961, Ser. No. 124,015
9 Claims. (Cl. 260—37)

1. A composition comprising (1) a saturated polymer of tetrahydrofuran having an inherent viscosity of at least about 0.8, (2) at least 0.2 percent by weight of sulfur and (3) from 0.5 to 10 percent by weight of the polymer of a ditertiary peroxide of the formula



where R_1, R_3, R_3, R_4, R_5, and R_6 are selected from the radicals consisting of alkyl, alkenyl, cycloalkyl, cycloalkenyl, aryl, aralkyl and substituted aryl.

3,268,473

POLYSILOXANE GUM CREPE AGING PREVENTIVE: HYDROXYLATED SILICON COMPOUND WITH AMMONIUM CARBONATE OR BICARBONATE

Eric D. Brown, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed June 24, 1963, Ser. No. 290,203
12 Claims. (Cl. 260—37)

1. A method comprising

(1) mixing

(A) a diorganopolysiloxane having a viscosity of at least 10,000 cs. at 25° C. in which the organic radicals are selected from the group consisting of monovalent hydrocarbon radicals and halogenated monovalent hydrocarbon radicals and in which up to 50 percent of the silicon atoms in said siloxane can be connected by organic radicals selected from the group consisting of divalent hydrocarbon radicals, halogenated divalent hydrocarbon radicals, divalent hydrocarbon ether radicals and halogenated divalent hydrocarbon ether radicals which are attached to silicon by silicon to carbon linkages,

(B) a reinforcing filler selected from the group consisting of silica and alumina and having a surface area of at least 50 square meters per gram as measured by nitrogen adsorption in the method of ASTM Special Technical Bulletin No. 51, page 95 et seq., 1941,

(C) an amount of organosilicon compound sufficient to prevent hardening of the mixture during hereinafter stated step (2), said compound (C) containing an average per silicon atom of from 0.1 to 2 silicon-bonded hydroxyl radicals and containing an average per silicon atom of from 1 to 3 silicon-bonded organic radicals selected from the group consisting of monovalent hydrocarbon radicals, monovalent halogenated hydrocarbon radicals, divalent hydrocarbon radicals and divalent halogenated hydrocarbon radicals, said divalent radicals being bonded to silicon atoms by silicon-carbon linkages, with any remaining silicon valences being satisfied by siloxane oxygen atoms, and

(D) from 0.005 to 50 parts by weight per hundred parts of (A) of a salt selected from the group consisting of ammonium carbonate and ammonium bicarbonate, and thereafter

(2) heating said mixture at a temperature of at least 60° C. for a sufficient length of time that the mixture may subsequently be vulcanized to a solid coherent elastomer.

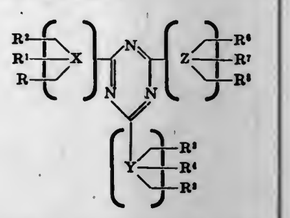
3,268,474

POLYMERS STABILIZED WITH ORTHO-HYDROXYARYL-s-TRIAZINES

William Baptist Hardy, Bound Brook, Jerry Peter Millonis, Franklin Township, Somerset County, and Frank George Pinto, Middlesex, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Original application Mar. 6, 1961, Ser. No. 93,349, now Patent No. 3,118,887, dated Jan. 12, 1964. Divided and this application Aug. 26, 1963, Ser. No. 304,661
11 Claims. (Cl. 260—45.8)

1. A composition of matter comprising a polymeric material and from 0.01 to 10% by weight of an ultraviolet light absorber of the formula:



wherein X, Y and Z are each aromatic carbocyclic radicals of less than three 6-membered rings, X being substituted by an hydroxy group ortho to the point of attachment to the triazine ring; and each of R, R^1, R^2, R^3, R^4, R^5, R^6, F^7, and R^8 is individually selected from the group consisting of hydrogen, hydroxy, alkyl, alkoxy, sulfo, carboxy, halo, haloalkyl, alkanoylamino, aroylamino and aralkanoylamino, any alkyl moieties in said substituents being limited to no more than eighteen carbon atoms.

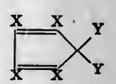
3,268,475

PROCESS FOR THE STABILIZATION OF POLYBUTADIENE - HEXAHALOCYCLOPENTADIENE RESINS

Paul E. Hoch, Youngstown, and George B. Stratton, Lewiston, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Aug. 13, 1962, Ser. No. 216,293
10 Claims. (Cl. 260—45.9)

1. A process for producing a resinous reaction product which comprises reacting an unsaturated, rubbery polymer of butadiene with a polyhalogenated cyclopentadiene having the formula:



wherein X is selected from the group consisting of fluorine, chlorine and bromine, and Y is selected from the group consisting of fluorine, chlorine, bromine and an alkoxy radical; in the presence of about 0.01 to about 5 percent, based on the weight of the rubbery butadiene polymer, of a stabilizer compound that controls the molecular weight of the polymer product, and which is selected from the group consisting of nitro-substituted aromatic hydrocarbons, phenols, and alkyl-substituted phenols.

3,268,476

DYE RECEPTIVE AND LIGHT STABLE POLYOLEFINS CONTAINING CHROMIUM COMPLEXES

Albert S. Matlack, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 1, 1963, Ser. No. 269,750
11 Claims. (Cl. 260—45.75)

1. A stereoregular polymer of a mono-α-olefin having at least 2 carbons contains containing, based on the weight of the polymer, about 0.1 to about 5% of a complex salt of chromium having the general formula $Cr(ligand)_mX_n$, wherein the ligand function is selected from the group consisting of (1) cyclic compounds containing a single hetero atom which is a tertiary nitrogen atom and (2) organic compounds containing at least 2 atoms selected from the group consisting of nitrogen and oxygen, at least 1 of said 2 atoms being nitrogen, said atoms being separated from each other by at least 1 carbon atom, X is an anion, m is an integer from 1 to 3, and n is a number $3/v$ where x equals the valence of said anion.

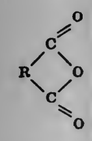
3,268,477

PROCESS FOR CURING POLYEPOXIDES WITH CARBOXYLIC ACIDS AND METALLIC OXIDES

Albert C. Mueller, Berkeley, Calif., assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Dec. 23, 1958, Ser. No. 784,836
13 Claims. (Cl. 260—47)

1. A process for producing a resinified product which consists of mixing and reacting a polyepoxide having more than one vicinal epoxy group with (1) a polycarboxylic acid which is a half ester of a cyclic anhydride of the formula



wherein R is a radical derived from a polycarboxylic acid by removing 2 of the carboxyl groups and a long chain polyhydric alcohol having a molecular weight of at least 400 wherein the OH groups of the said alcohol molecule are esterified with a molecule of the anhydride so as to leave at least 2 of the carboxyl groups formed by this reaction as free carboxyl groups, and (2) from .1% to 10% by weight of the polyepoxide of an oxide of a metal of the group consisting of magnesium, barium, zinc and cadmium.

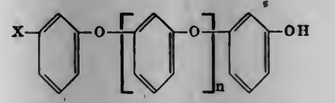
3,268,478

META-POLYPHENOXYLENE POLYMERS

Gordon P. Brown, Schenectady, N.Y., and Roswell J. Blackinton, Whittier, Calif., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Jan. 2, 1962, Ser. No. 163,866
11 Claims. (Cl. 260—47)

1. Unsubstituted linear homopolymers having a minimum molecular weight of 2000 as determined by vapor pressure osmometry and having the structural formula



where X is a halogen atom and n is an integer.

3,268,479

NITROSO AND OXIME CONTAINING POLYMERS

Rock F. Martel, Erie, Pa., assignor to Lord Corporation, a corporation of Pennsylvania

No Drawing. Filed Sept. 6, 1961, Ser. No. 136,169
13 Claims. (Cl. 260—59)

1. A polymer characterized by from 2 to about 16 recurring benzene nuclei linked by a methylene bridge, said benzene nuclei so linked in said polymer having thereon a first substituent selected from the group consisting of =O, —OH, —NO, =NOH and



where M is a cation, the methylene bridge links being located in positions on said benzene nuclei, with respect to said first substituent, selected from the ortho and para positions, and benzene nuclei so linked in said polymer having thereon a second substituent selected from the group consisting of —NO, =NOH and



where M is a cation, in the remaining of said positions selected from the ortho and para positions.

9. A novel method which comprises the steps of mixing a novolak resin, characterized by from 2 to about 16 recurring benzene nuclei linked by a methylene bridge, with at least one-fifth mole of a nitrite per mole of benzene nuclei in the novolak resin to form a nitrosophenol-containing polymer and mixing said nitrosophenol-containing polymer with at least approximately a molar equivalent of hydroxylamine per mole of nitrosophenol unit in the polymer to provide a quinonedioxime-containing polymer; mixing, in a substantially oxygen-free atmosphere, said quinonedioxime-containing polymer with at least about two equivalents of a base per mole of dioxime unit and with at least about two moles of nitric oxide per mole of dioxime unit; and finally mixing the resulting polymer with acid until evolution of oxides of nitrogen substantially ceases.

3,268,480

OIL-SOLUBLE POLYOXIMINO-CONTAINING POLYMERS

Adriaan H. Wagenaar and Maurits Krukziener, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Original application Mar. 24, 1961, Ser. No. 98,008, now Patent No. 3,198,738, dated Aug. 3, 1965. Divided and this application Feb. 3, 1965, Ser. No. 430,198
Claims priority, application Netherlands, July 27, 1960, 254,244
5 Claims. (Cl. 260—63)

1. As a new product an oil-soluble polyoximino-containing copolymer obtained by polymerizing at reflux temperature and in the presence of a free radical initiator, a polymerizable unsaturated carbonyl-containing compound selected from the group consisting of acrolein, methacrolein and methyl isopropenyl ketone and C_{12-18} alkyl methacrylate in the mol ratio of from about 0.1:1 to about 2:0.1, respectively, and reacting said copolymer with hydroxylamine at a pH of 7–10, to effect conversion of the carbonyl groups to oximino groups, said copolymer having a molecular weight of from 50,000 to 1,000,000.

3,268,481

UPGRADING OF HEAVY RESIDUES FROM ISOPRENE MANUFACTURE BY REACTING SAID RESIDUES WITH MALEIC ACID OR MALEIC ANHYDRIDE

Moise Lerer, Paris, France, assignor to Institut Francais du Petrole, des Carburants et Lubrifiants, Rueil Malmaison, France

No Drawing. Filed Nov. 28, 1961, Ser. No. 155,481
Claims priority, application France, Nov. 30, 1960, 845,693
2 Claims. (Cl. 260—75)

1. In a process for the production of resinous maleic esters, 4,4-dimethylmetadioxane and 4-methyl-5,6-dihydro-(2H)-pyran, the step which consists in reacting an esterifying member selected from the group consisting of maleic acid and maleic anhydride with a heavy residue obtained by condensing one mol of isobutene with two mols of formaldehyde at between ambient temperatures and 85° C., under a pressure of at least one atmosphere, and in the presence of acid-acting catalysts, isolating the resulting 4,4-dimetadioxane and leaving a heavy residue boiling above 133° C. at atmospheric pressure.

3,268,482
PREPARATION OF POLYESTERS
Aleksander Plirma, Stow, Maria V. Wiener, Akron, and Warren K. Wilson, Cuyahoga Falls, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Sept. 27, 1962, Ser. No. 226,729
8 Claims. (Cl. 260—75)

1. A method of stabilizing an ester of an acid selected from the group consisting of terephthalic acid and isophthalic acid against hydrolysis which comprises adding to the ester in molten state from 1 to 5 mols per mol of water in said ester of a compound selected from the group consisting of acetals, organic ortho esters, organic carbonate esters and cyclic ethers containing from 3 to 4 atoms in the ring.

3. In a process for preparing a high molecular weight polymeric polyester by subjecting at least one of bis ester of an acid selected from the group consisting of terephthalic acid and isophthalic acid to alcoholysis in the presence of an excess of glycol and thereafter subjecting the glycol esters formed to condensation with the removal of glycol, the improvement which comprises adding an amount sufficient to react with the water in said ester of a compound selected from the group consisting of acetals, organic ortho esters, organic carbonate esters, and cyclic ethers containing from 3 to 4 atoms in the ring to said bis ester and thereafter subjecting the mixture to the alcoholysis and condensation reactions.

3,268,483
TWO-STEP PROCESS FOR PREPARING ALKYD RESINS HAVING IMPROVED PHYSICAL PROPERTIES
Arie Klootwijk and Robert W. F. Kreps, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 15, 1965, Ser. No. 472,298
Claims priority, application Netherlands, July 29, 1960, 254,360
7 Claims. (Cl. 260—75)

1. A two-step process for preparing alkyd resins which comprises a first step of mixing and reacting (1) polycarboxylic compounds of the class consisting of polycarboxylic acids and polycarboxylic acid anhydrides, (2) at least one polyol having from 2 to 4 hydroxyl groups and from 2 to 6 carbon atoms and (3) epoxy-alkyl esters of alpha-alkyl monocarboxylic acids having from 8 to 18 carbon atoms in the acid portion, the mole ratio of (1):(2):(3) being the range of from 1.0:1.0:0 1 to 1.0:1.5:0.5, then in a second step, reacting the first step reaction product with a polycarboxylic compound of (1) and an epoxy alkyl ester of (3) in the range of from about 1.0:0.8 to 1.0:1.2, respectively, said reaction steps being carried out at a temperature from 130° C. to 270° C., and the final alkyd resin having a molar ratio of (1):(2):(3) in the range of 1.0:0.5:0.8 to 1.0:0.2:0.4.

3,268,484
POLYMERS OF ALLYLIC ETHERS CONTAINING HYDROXY GROUPS
John R. Costanza, North Plainfield, Elmer E. Waters, Westfield, and John W. Wyart, Maplewood, N.J., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 12, 1962, Ser. No. 201,774
15 Claims. (Cl. 260—77.5)

1. The process of polymerizing a monomer mass comprising an allyl ether of a polyol containing a pendant hydroxyl group, which process comprises heating said ether together with a polymerization initiator to an elevated temperature of about 100 to 150° C.; admixing an olefinic polymerization catalyst therewith; and heating said mixture to an elevated temperature higher than about 100° C. for a time sufficient to polymerize said monomer mass.

4. A solid copolymer prepared by the polymerization process of claim 1 of an admixture of trimethylol propane monoallyl ether and an unsaturated acid anhydride selected from the group consisting of maleic anhydride, fumaric anhydride and itaconic anhydride; said copolymer containing from about 10 to 20 mole percent of trimethylol propane monoallyl ether.

3,268,485
POLYMERS OF 3-(2-HYDROXYALKYL)OXAZOLIDINONE ACRYLATES AND METHACRYLATES
Richard A. Hickner, Midland, and Robert D. Beckrow, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 1, 1963, Ser. No. 277,128
14 Claims. (Cl. 260—77.5)

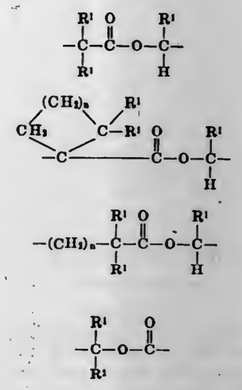
1. A polymer of 3-(2-hydroxyethyl)-5-methyl-2-oxazolidinone acrylate.

3. A polymer of 3 - (2 - hydroxyethyl)-5-methyl-2-oxazolidinone methacrylate.

5. A polymer of 3 - (2 - hydroxypropyl)-5-methyl-2-oxazolidinone methacrylate.

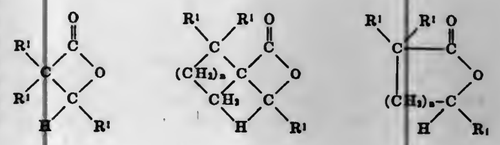
3,268,486
PROCESS FOR PREPARING POLYESTERS
Arie Klootwijk, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 30, 1964, Ser. No. 363,992
Claims priority, application Netherlands, June 28, 1963, 294,714
5 Claims. (Cl. 260—78.3)

1. A process for preparing polyesters having a molecular weight of from 15,000 to 200,000 and which are represented by the repeating unit

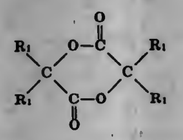


and

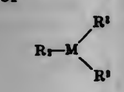
wherein R^1 is selected from the group consisting of hydrogen and alkyl groups having from 1 to 4 carbon atoms and "n" is a integer selected from 1 to 5; which comprises polymerizing at least one cyclic anhydride selected from the group consisting of



and



wherein R^1 and "n" are as previously defined; by contacting said anhydride with at least one catalyst selected from the group consisting of



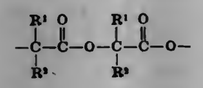
and

$$M(R^3)_4X$$

wherein R^2 is selected from the group consisting of alkyl, haloalkyl, hydroxyalkyl, and phenyl, R^3 is selected from the group consisting of R^2 and hydrogen, M is selected from the group consisting of phosphorus, arsenic and antimony and X is selected from the group consisting of a halogen atom and a hydroxyl group; wherein the catalyst is present in an amount ranging from 0.001% to 10% by weight, based on the total amount of said anhydride present.

3,268,487
PROCESS FOR POLYMERIZATION OF LACTIDES
Arie Klootwijk, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 10, 1964, Ser. No. 388,662
Claims priority, application Netherlands, Dec. 23, 1963, 302,456
8 Claims. (Cl. 260—78.3)

1. A process for preparing polyesters consisting of the repeating unit



wherein R^1 and R^2 are selected from the group consisting of hydrogen atoms, alkyl, cycloalkyl, haloalkyl, alkoxy, phenol, alkaryl, hydroxyphenyl and haloaryl radicals, consisting of polymerizing one or more lactides in the presence of from 0.1% to 10% of at least one catalyst selected from the group consisting of amines and quaternary ammonium compounds.

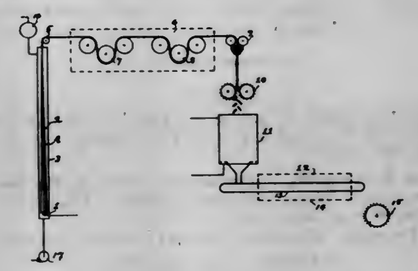
3,268,488
URETHANE PREPOLYMER FROM A MIXTURE OF A POLYETHER GLYCOL AND A POLYHYDRIC ALCOHOL
Herbert L. Heiss, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 314,873, Oct. 9, 1963, which is a continuation of application Ser. No. 817,479, June 2, 1959. This application June 1, 1965, Ser. No. 460,563
8 Claims. (Cl. 260—77.5)

1. A process for preparing a prepolymer containing urethane linkages and having terminal —NCO groups which comprises reacting an excess of an organic diisocyanate with a mixture of a polyalkylene ether glycol having an average molecular weight of at least about 350 and a hydroxyl number of not more than about 320 and a polyhydric alcohol free from tertiary nitrogen atoms and having three to six hydroxyl groups and a molecular weight of not more than about 500, said mixture containing from about 70% to about 99.5% of the said polyalkylene ether glycol and from about 0.5% to about 30% by weight of the said polyhydric alcohol, said reaction taking place under substantially anhydrous conditions.

3,268,489
ANTISTATIC TREATMENT OF RESINS
William R. Dial, Akron, Ohio, assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Feb. 13, 1962, Ser. No. 172,870
4 Claims. (Cl. 260—78.5)

1. A method of imparting antistatic properties to the surface of a copolymer of a mixture of from 1 to about 10 percent by weight of a dibasic acid anhydride having up to 18 carbon atoms and about 90 to 99 percent by weight of substituted ethylene selected from the group consisting of propylene, alkyl acrylates, alkyl methacrylates, styrene, α-methylstyrene, vinyl chloride, vinyl esters, vinyl ethers, 2-chloropropene and vinylnaphthalene, said mixture being polymerized in the presence of a free radical catalyst, which comprises applying to the surface of the copolymer a hot, aqueous medium at a temperature above 80° C., said aqueous medium being selected from a group consisting of water and aqueous solutions consisting of water and a water soluble organic base, said copolymer being insoluble in said hot aqueous media, removing said hot aqueous media from the surface of said copolymer and obtaining a polymeric product having electrically conducting groups on the surface thereof.

3,268,490
METHOD OF PREPARING POLYACRYLONITRILE FIBERS
Olof Sunden, Kyrkvagen 26A, Lidingo 1, Sweden; Sten Erik Arne Lennart Tunefors, Ljungaverk, Sweden; and Sven Hugo Sönnerskog, Parkgatan 40, Bramhult, Sweden
Filed Mar. 7, 1962, Ser. No. 177,957
6 Claims. (Cl. 260—78.5)



1. A fiber-forming composition of matter which is soluble in a polymer solvent selected from the group consisting of dimethylformamide, dimethylacetamide, dimethylsulfoxide, butyrolacetone, ethylene carbonate and dimethyl methoxyacetamide comprising an acrylonitrile copolymer containing at least 85 molar percent of acrylonitrile units and up to about 15 molar percent of a monoethylenically unsaturated monomer selected from the group consisting of vinyl acetate, vinyl chloride, vinylidene chloride, acrylic acid, acrylamide, methacrylonitrile, methacrylamide and an ester of an acid selected from the group consisting of acrylic acid and methacrylic acid, and cross-linked to a degree of from 0.001 to 0.3 molar percent of cross-linking units by a cross-linking agent selected from the group consisting of divinyl benzene, methylenebisacrylamide, diallylphthalate, diallylmaleate, ethylene acrylate, ethylene diacrylate and triacrylylperhydrotriazine.

3,268,491

PRODUCTION OF COPOLYMERS OF VINYL ACETATE AND UNSATURATED DICARBOXYLIC ACIDS

Ken-Ichi Hattori and Yoshiaki Komeda, Wakayama, and Yohsuke Ishikawa, Nakano-ku, Tokyo, Japan, assignors to Kao Soap Company, Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Mar. 26, 1963, Ser. No. 267,965
10 Claims. (Cl. 260—78.5)

1. A process for producing water-soluble copolymers of vinyl acetate and an unsaturated α,β-dicarboxylic acid and a monoalkali half salt thereof, said copolymers having a molecular weight of about 700–6000 and a ratio of vinyl acetate to unsaturated α,β-dicarboxylic acid of about 1:1, which comprises: reacting together in an aqueous solution and in the presence of a redox catalyst (a) vinyl acetate and (b) an unsaturated α,β-dicarboxylic acid at least about 80% of which is present in the form of a monoalkali salt, the mole ratio of the unsaturated α,β-dicarboxylic acid to the vinyl acetate in the reaction solution being from 2:8 to 8:2 and the combined weights of the unsaturated α,β-dicarboxylic acid and the vinyl acetate being from 5–100 parts for each 100 parts of water, the redox catalyst being present in an amount of 3–15% by weight based on the combined weights of the unsaturated α,β-dicarboxylic acid and the vinyl acetate, the aqueous solution being at a pH of 3–6 and the reaction being carried out at a temperature above 30° C.

3,268,492

TERPOLYMER

John R. Costanza, North Plainfield, Elmer E. Waters, Westfield, and Sorrell Roth, Irvington, N.J., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 12, 1962, Ser. No. 201,781
4 Claims. (Cl. 260—78.5)

1. A thermosetting terpolymer of a mono allyl ether of trimethylolpropane 2-ethyl hexyl acrylate and maleic anhydride in the ratio of 1 to1 to 1.

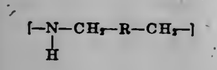
3,268,493

VULCANIZABLE RUBBER COMPOSITIONS COMPRISING POLYMERIC FATTY AMINES AS ACCELERATORS

William B. Reynolds, Excelsior, and Stuart A. Harrison, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Dec. 19, 1961, Ser. No. 160,666
15 Claims. (Cl. 260—79.5)

1. A method for producing vulcanized rubber products having improved physical characteristics from a vulcanizing agent selected from the group consisting of sulfur and sulfur donor compounds and a sulfur vulcanizable material selected from the group consisting of natural and synthetic rubber comprising (1) incorporating in such material about 0.5 to 15% by weight of a polymer having the recurring structural unit,



wherein R is the divalent hydrocarbon radical of a dimerized fat acid derived from a fat acid containing 8 to 24 carbon atoms, the end groups of said polymer being selected from amine groups, nitrile groups and hydrocarbon groups, and (2) vulcanizing the material.

3,268,494

LUBRICATING COMPOSITIONS

Stephen A. Herbert, Jr., Weston, Conn., and Harry F. Richards, Concord, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 28, 1962, Ser. No. 247,881
6 Claims. (Cl. 260—79.7)

1. An oil-soluble copolymer of (1) an ester of an acrylic acid and a C_{8-18} alkanol, and (2) an ester of an acrylic acid and a sulfur-containing alcohol of the formula RXR'OH wherein X is a sulfur atom R is an alkyl radical and R' an alkylene radical, said copolymer having a molecular weight between 5000 and 1,000,000 as determined by the light scattering technique, and said copolymer being prepared by polymerizing monomer defined in (1) above and monomer defined in (2) above in a mol ratio between 1:3 and 5:1.

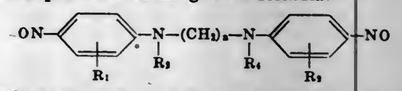
3,268,495

HEAT TREATMENT OF ISOBUTYLENE-ISOPRENE COPOLYMERS

Lucien Convert, Thiais, and Raymond Fabre, Vincennes, France, assignors to Rhone-Poulenc S.A., Paris, France, a corporation of France

No Drawing. Filed Oct. 17, 1962, Ser. No. 231,270
Claims priority, application France, Oct. 19, 1961, 876,450
11 Claims. (Cl. 260—85.3)

1. Process for the heat treatment of copolymers of isobutylene with up to 10% of isoprene, which comprises heating and mechanically working the copolymer with at least one promotor of the general formula:



wherein each of R_1 and R_2 is selected from the group which consists of hydrogen, lower alkyl and cycloalkyl, R_3 and R_4 taken separately are selected from the group which consists of hydrogen, alkyl of 1–8 carbon atoms and cyclohexyl, and, when taken together, are selected from the group consisting of di- and tri-methylene, and n is an integer above 1 and below 4, the temperature and time of the milling and the proportion of promotor being such as to substantially improve the properties of the said copolymer.

3,268,496

CONTINUOUS PROCESS FOR THE POLYMERIZATION OF VINYL ACETATE IN HYDROCARBONS

Leo M. Germain, Shawinigan, Quebec, Canada, assignor to Shawinigan Chemicals Limited, Montreal, Quebec, Canada, a corporation of Canada

No Drawing. Filed Mar. 23, 1964, Ser. No. 354,146
12 Claims. (Cl. 260—85.7)

1. A continuous process for polymerizing vinyl acetate which comprises

(a) maintaining as a liquid in a reaction vessel at a selected reaction temperature within the range 60° C. to 150° C., a saturated hydrocarbon material selected from the group consisting of paraffins and cycloparaffins having at least six carbon atoms, dodecyl benzene and mixtures of any of the foregoing;

(b) substantially continuously adding to said hydrocarbon in said reaction vessel monomeric vinyl acetate and an organic peroxide polymerization catalyst for vinyl acetate, to cause polymerization of said vinyl acetate;

(c) allowing the resultant polyvinyl acetate to settle as a separate viscous liquid layer at the bottom of the reaction vessel; and

(d) while maintaining it as a viscous liquid by heating, withdrawing the polyvinyl acetate as a liquid from the reaction vessel at substantially the same rate that monomeric vinyl acetate is added to the reaction vessel.

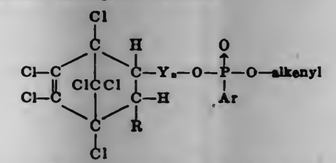
3,268,497

INTERPOLYMERS OF HEXACHLOROBICYCLOHEPTENEALKYL ESTERS OF ARYLPHOSPHONIC ACIDS

Robert J. Rolih, Joliet, Ill., and Emil F. Jason, Jefferson City, Mo., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Original application Aug. 23, 1962, Ser. No. 218,839, now Patent No. 3,142,695. Divided and this application Nov. 21, 1963, Ser. No. 325,447
7 Claims. (Cl. 260—88.1)

1. An interpolymer made by the copolymerization of a mixture of polymerizable monomers comprising (A) a phosphonate having the formula



wherein Ar is an aromatic radical of the group consisting of phenyl, naphthyl, phenanthryl and anthryl radicals and such radicals substituted with alkyl, aryl, chloro, bromo and nitro groups, R is from the group consisting of hydrogen and alkyl, Y is a divalent alkylene radical, and n is an integer from 0 to 1, and (B) a polymerizable monomeric compound containing an ethylenic >C=C< group, said interpolymer being formed in the presence of a catalyst that causes polymerization through the ethylenic groups present in the monomeric components.

3,268,498

USE OF WAX DISPERSANTS IN THE RECOVERY OF α-OLEFIN POLYMERS FROM POLYMERIZATION REACTION PRODUCT

Donald E. Moore, Coleman, Aaron E. Prout, Rosebush, and Frederick A. Miller, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 26, 1964, Ser. No. 392,294
5 Claims. (Cl. 260—88.2)

1. In a process wherein an α-olefin is polymerized in the presence of an organometal catalyst mixture and a liquid diluent solvent, the steps of recovering the particulate polymer from the resulting polymer reaction mixture by mixing therewith a liquid monohydroxy organic compound selected from the class consisting of glycol monoethers and saturated aliphatic monohydroxy alcohols having from 1 to 10 carbon atoms and a wax to form a suspension of the particulate polymer in a solution of the liquid diluent solvent and the liquid monohydroxy organic compound, displacing the liquid diluent solvent and catalyst residues from the suspension by adding additional quantities of the liquid monohydroxy organic compound to the suspension and withdrawing therefrom a mixture of the liquid diluent solvent, the liquid monohydroxy organic compound and the catalyst residues and separating the particulate α-olefin polymer from the resulting suspension of said polymer in the liquid monohydroxy organic compound.

3,268,499

POLYMER CRYSTALLIZATION METHOD

Michael Wales, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 10, 1965, Ser. No. 486,527
The portion of the term of the patent subsequent to Sept. 21, 1982, has been disclaimed
18 Claims. (Cl. 260—93.7)

1. The method of producing low ash polypropylene articles of improved clarity, hardness, Izod impact strength, and tensile strength which comprises

(a) dispersing in

(1) polypropylene having a viscosity average molecular weight of at least 40,000 and a crystallinity of at least 50 percent, as measured by X-ray analysis

(2) lithium salt of benzoic acid in an amount in the range 0.001 to 1 percent by weight, based on the polymer,

(b) melting the resulting mixture,

(c) shaping the melt into a desired shape, and

(d) solidifying the melt by cooling it.

3,268,500

PROCESS FOR PREPARING TRANS-1,4-POLYDIOLEFINS

Grover C. Royston, Baton Rouge, La., assignor to Copolymer Rubber & Chemical Corporation, a corporation of Louisiana

No Drawing. Filed Jan. 29, 1962, Ser. No. 169,642
12 Claims. (Cl. 260—94.3)

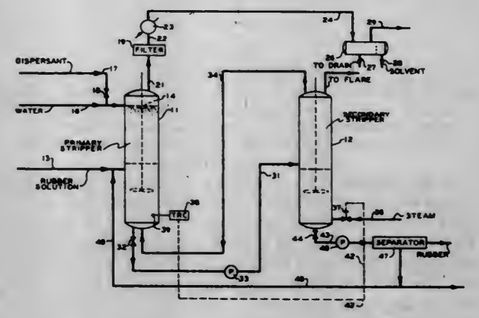
1. In a process for preparing a homopolymer having a high trans-1,4-configuration which comprises homopolymerizing a conjugated diolefin selected from the group consisting of 1,3-butadiene, isoprene, piperylene, 2,3-dimethylbutadiene and 1,3-hexadiene in an organic solvent therefor in the presence of a heterogenous catalyst prepared from an organoaluminum halide and a compound of a catalyst metal selected from the group consisting of vanadium, iron and titanium, the improvement of preparing said homopolymer with at least 92% trans-1,4-addition by homopolymerizing said conjugated diolefin while dissolved in a hydrocarbon solvent in the presence of a soluble catalyst prepared by reacting in a hydrocarbon solvent catalyst forming substances consisting of an alkylaluminum dihalide and a beta-diketone complex of a catalyst metal selected from the group consisting of vanadium, iron and titanium, the alkylaluminum dihalide and the beta-diketone complex of the catalyst metal being present in quantities to provide a gram atomic weight ratio of aluminum to the catalyst metal of at least 6:1.

3,268,501

RECOVERY OF POLYMERS FROM SOLUTION

Willie W. Crouch and James N. Short, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 1, 1960, Ser. No. 73,055
7 Claims. (Cl. 260—94.7)



1. In the process of recovering a rubbery polymer prepared by polymerizing a monomer mixture containing at least a major portion of a conjugated diene of 4 to 8 carbon atoms from a solution of said polymer in a solvent

by steam stripping in the presence of water, the improvement comprising adding to the stripping zone an alkali metal salt of a compound selected from the group consisting of alkyl sulfates containing 8 to 18 carbon atoms and alkylbenzene sulfonates containing an alkyl group of 8 to 18 carbon atoms, the amount of said salt being 0.01 to one pound per 100 pounds of rubber charged to the stripping zone.

3,268,502
UNDECAPEPTIDES

Klaus Lübke, Eberhard Schröder and Reinhard Hempel, Berlin, Germany, assignors to Schering AG., Berlin, Germany

No Drawing. Filed Dec. 23, 1964, Ser. No. 420,788
Claims priority, application Germany, Jan. 9, 1964, Sch 34,444
7 Claims. (Cl. 260—112.5)

1. An undecapeptide of the formula:

L-pyroglutamyl-L-prolyl-L-seryl-L-lysyl-R_1-L-alanyl-L-phenylalanyl-R_2-glycyl-L-leucyl-L-methioninamide

wherein R_2 is selected from the group consisting of L-isoleucyl, L-leucyl and L-valyl, and wherein R_1 is selected from the group consisting of L-glutaminyl, L-glutamyl, L-asparaginyl and glycyl when R_2 is L-isoleucyl, and wherein R_1 is selected from the group consisting of L-glutaminyl, L-glutamyl, L-asparaginyl, glycyl and asparagyl when R_2 is other than L-isoleucyl.

3,268,503
METHOD OF PREPARING EDIBLE SOYBEAN CHARACTERIZED BY GREATLY ENHANCED WATER ABSORPTION

Gus C. Mustakas and Edward L. Griffin, Jr., Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Apr. 23, 1962, Ser. No. 189,646
6 Claims. (Cl. 260—123.5)

1. Method of preparing essentially denatured edible soybean protein capable of absorbing about 3.5 to 4 times its weight of water at 80° C. comprising the steps of slurrying defatted soybean flakes at room temperature in a 50–70 percent aqueous solution of an alcohol selected from the group consisting of methanol, ethanol, and isopropanol, draining the alcohol from the flakes to provide a wet marc containing about 19% to about 36% of moisture and about 17% to about 28% of said alcohol, fluidizing and desolventizing the marc for 7–9 seconds at about 370° F. to 375° F. in an indirectly heated recycle vapor stream containing air, moisture, said alcohol, and diluent carbon dioxide, said stream having a velocity of about 60–75 ft. per second, recovering the fluidized flakes, and cooling them in a stream of air.

3,268,504
AROMATIC SULFIDES

Guy H. Harris, Concord, and Bryant C. Fischback, Walnut Creek, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 12, 1960, Ser. No. 75,102
6 Claims. (Cl. 260—125)

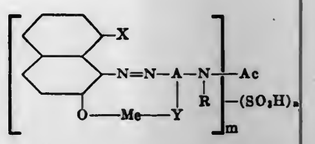
1. A process for producing a polyaromatic sulfide which comprises fusing at a temperature of 225° to 265° C. a reaction mixture consisting essentially of (A) a nuclearly polyhalogenated aromatic hydrocarbon compound having not more than three aromatic rings and containing at least two nuclearly substituted halogen atoms having an atomic number of from 17 to 35, inclusive which are not ortho one to the other, (B) a compound the cation of which is a metal selected from the group consisting of alkali and alkaline earth metals and the anion of which is selected from the group consisting of oxide, borate and carbonate and (C) sulfur, under autogenous pressure and in the presence of an initiator selected from the group consisting of bis (haloaryl) sulfides, and tris (haloaryl) sulfonium chlorides, wherein at least two of the halogens have an atomic number from 17 to 35, inclusive.

3,268,505
METAL-CONTAINING AZO DYESTUFFS

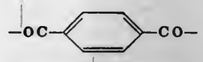
Karl-Heinz Schündehütte, Fritz Suckfüll, and Horst Nickel, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Nov. 23, 1962, Ser. No. 239,761
Claims priority, application Germany, Dec. 14, 1961, F 35,550; Apr. 21, 1962, F 33,619
6 Claims. (Cl. 260—146)

1. An azo dyestuff which in the free acid state corresponds to the formula



wherein A is a member selected from the group consisting of a phenylene and a naphthalene residue bearing Y in o-position to the azo bridge; Y is a complexing member selected from the group consisting of —O— and —OOC—; R is a member selected from the group consisting of hydrogen and lower alkyl; Me is a metal selected from the group consisting of copper and nickel; X is a member selected from the group consisting of —OH, —NHOCCH$_3$, —NHSO$_2$CH$_3$ and —NHSO$_2$C$_6$H$_5$; *n* is an integer of 2–10; and *m* is an integer of 1–2, *m* being defined as 1 when Ac is a member selected from the group consisting of trichloropyrimidyl, dichloropyrimidyl, chloropyrimidyl-sulfonyl, chloropyrimidyl-carbonyl, dichlorotriazinyl, monochloro monophenylamino-triazinyl, monochloro-mono-(sulfophenyl-amino)-triazinyl, monochloro-mono-(hydroxy-carboxy-substituted phenyl-azo-phenyl-amino)-triazinyl, acrylyl, and chloro-substituted acrylyl; and *m* as 2 when Ac is

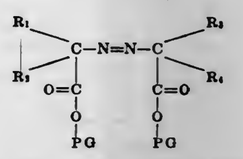


3,268,506
POLYGLYCOL AZO ESTER POLYMERIZATION INITIATORS

Louis de Vries, Richmond, Calif., assignor to Chevron Research Company, a corporation of Delaware

No Drawing. Filed Sept. 9, 1963, Ser. No. 307,305
2 Claims. (Cl. 260—192)

1. A polyglycol azo ester polymerization initiator having the structural formula



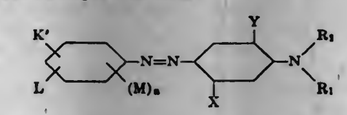
wherein R_1, R_2, R_3 and R_4 represent alkyl radicals having from 1 to about 7 carbon atoms and PG represents a polyalkylene glycol group having from about 40 to about 500 alkylene oxide units and from 2 to 3 carbon atoms in each of said units.

3,268,507
WATER-INSOLUBLE MONOAZO DYESTUFFS

Winfried Kruckenberg, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Aug. 1, 1963, Ser. No. 299,692
Claims priority, application Germany, Aug. 10, 1962, F 37,563; Mar. 28, 1963, F 39,347
14 Claims. (Cl. 260—207)

1. A compound free of sulfonic and carboxylic acid groups and having the formula



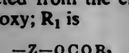
wherein K' is a member selected from the class consisting of cyano, bromo, chloro, nitro, lower alkyl, lower alkoxy, carbo lower alkoxy, trifluoromethyl, phenyl, lower alkyl sulfonyl, phenyl sulfonyl, carbonamide and lower alkyl-substituted carbonamide; L is a member selected from the class consisting of hydrogen, cyano and nitro; M is a member selected from the group consisting of chloro and bromo, *n* being an integer of 0–3 when M is chloro, and 0–1 when M is bromo; X is a member selected from the class consisting of

$CH_3CO—NH—$, $C_2H_5CO—NH—$
$CH_3OCH_2CO—NH—$, $CH_3OOC—NH—$
$NCCH_2CO—NH—$, $ClCH_2CO—NH—$
$OHCH_2CO—NH—$, $CH_3SO_2—NH—$
$C_2H_5SO_2—NH—$, $NH_2CO—NH—$

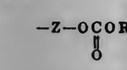
and

$C_6H_5CO—NH—$

Y is a member selected from the class consisting of hydrogen and lower alkoxy; R_1 is



wherein Z is lower alkylene having 2–4 carbon atoms and R_3 is a member selected from the group consisting of lower alkyl and cyano lower alkyl; R_2 is a member selected from the group consisting of lower alkyl, cyano lower alkyl and



3,268,508
PROCESS FOR THE PREPARATION OF KANAMYCIN-N,N'-DIMETHANESULFONIC ACID

Shigehiko Sugazawa, Kyuji Abe, Sadao Onishi, Suginami-ku, Tokyo-to, and Sumio Umezawa, Nerima-ku, Tokyo-to, Japan, assignors to Sumio Umezawa, Tokyo, Japan, and Tanabe Seiyaku Co., Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed Sept. 7, 1960, Ser. No. 54,351
Claims priority, application Japan, Sept. 8, 1959, 34/28,741
11 Claims. (Cl. 260—210)

1. A process for one-phase production of kanamycin-N,N'-dimethanesulfonic acid represented by the formula:

$$KM(NH_3)_2^{++}(NHCH_2SO_3)_2^{--}$$

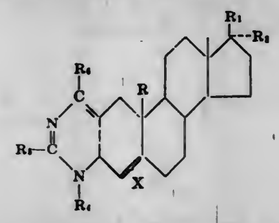
wherein KM represents kanamycin moiety with removal of four amino groups from the molecule, said acid being a substantially neutral inner salt which comprises reacting kanamycin as a dibasic acid-addition salt taken from the class consisting of the mono-sulfate, the mono-oxalate, the monocitrate and the mono-tartrate with an alkaline earth metal salt of hydroxymethanesulfonic acid in aqueous solution whereby said inner salt is formed with splitting off of both said metal and said dibasic acid moieties of the reactants in the form of an insoluble salt thereof.

3,268,509
[3,2-d]-PYRIMIDINE STEROIDS AND THE NUCLEOSIDES THEREOF

Pietro De Ruggieri, Carmelo Gandolfi, and Umberto Guzzi, Milan, Italy, assignors to Ormoneterapia Richter S.p.A., Milan, Italy

No Drawing. Filed July 6, 1964, Ser. No. 380,625
Claims priority, application Italy, July 5, 1963, 14,025/63
14 Claims. (Cl. 260—211.5)

1. A compound of the formula:



wherein R is a member selected from the group consisting of H and CH_3, R_1 is a member selected from the group consisting of C_8H_{17} and OR_2 wherein R_2 is a member selected from the group consisting of hydrogen and acyl derived from an aliphatic acid of from 2 to 10 carbon atoms, R_3 is a member selected from the group consisting of hydrogen and lower alkyl, R_4 is a member selected from the group consisting of alkyl of from 1 to 6 carbon atoms, phenyl, glycosyl, ribosyl, 2'-desoxyribosyl, 2',3',5'-tri-O-benzoyl-ribosyl, and 3',5'-di-O-benzoyl-2'-desoxyribosyl, R_5 is a member selected from the group consisting of hydrogen, NH_2, OH, SH, Cl, S lower alkyl, O lower alkyl, lower alkyl and N (lower alkyl)$_3$, R_6 is a member selected from the group consisting of H, NH_2, SH, OH, Cl, O lower alkyl and N (lower alkyl)$_2$, and X is a member selected from the group consisting of single and double bonds.

3,268,510
PROCESS FOR DISSOLVING INSOLUBILIZED CYANAMIDE REACTED STARCH

Daniel Elmer Nagy, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed May 13, 1963, Ser. No. 280,092
6 Claims. (Cl. 260—233.3)

5. A process of dissolving an originally water-soluble storage-unstable cationic cyanamide-reacted starch which has self-reacted and thereby become water-insoluble, while substantially preserving its normal effectiveness as dry strength agent for paper, which comprises: slurrying said starch in a hot dilute solution of a strong acid which has a pK less than 2 until said starch has substantially all dissolved, and then substantially neutralizing the resulting solution; the amount of said acid being such that said solution has a pH less than 2 when said starch has substantially all dissolved.

3,268,511
5,5-DILOWERALKYL-4-O-LOWER ALKYL-2,3-CYCLOCARBONATO-L-PYRANOSYL HALIDES

Joseph Kiss and Hans Spiegelberg, Basel, and Bruno Peter Vaterlaus, Binningen, Switzerland, and Albert Israel Rachlin, Hackensack, N.J., and Karl Doebel, Ossining, N.Y., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 6, 1961, Ser. No. 150,203
Claims priority, application Switzerland, Nov. 7, 1960, 12,423/60
2 Claims. (Cl. 260—234)

1. 5,5-di-lower alkyl-4-O-lower alkyl-2,3-cyclocarbonato-L-lyxopyranosyl halide wherein the halide is chloride, bromide or iodide.

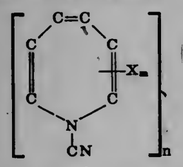
3,268,512
REACTION OF CYANOGEN AZIDE WITH BENZENOID COMPOUNDS AND SELECTED AZEPINES MADE THEREBY

Frank Dennis Marsh, New Castle County, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 17, 1964, Ser. No. 383,486
21 Claims. (Cl. 260—239)

1. The process which comprises reacting cyanogen azide with a benzenoid compound free of nonaromatic unsaturation at a temperature in the range 35–150° C.

11. A compound of the formula



wherein:

X is at least one member of the group consisting of monovalent halogen, cyano, nitro, phenyl, alkyl of 1–18 carbons, cyclohexyl, haloalkyl of 1–8 carbons, alkoxy of 1–18 carbons and alkoxycarbonyl of 2–19 carbons and divalent 1,3-butadienylene;

m is a cardinal number in the range 0–6 with the proviso that it is not greater than 2 when X is butadienylene;

n is a cardinal number in the range 1–2; and

the sum of the valence bonds on the depicted ring filled by X and hydrogen is 6.

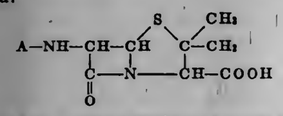
3,268,513
PROCESS FOR PRODUCING 6-(α-AMINO-ACYL-AMINO-ACYLAMINO)-PENICILLANIC ACIDS

Norman H. Grant, Wynnewood, and Harvey E. Alburn, West Chester, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 20, 1964, Ser. No. 353,574
3 Claims. (Cl. 260—239.1)

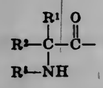
1. The process for producing 6-(α-amino-acylamino-acylamino)-penicillanic acids which comprises reacting, in an aqueous acidic medium at a pH of from about 3.8 to about 7.4 and at a temperature from just above the freezing point of said aqueous acidic medium to about 70° C. the following:

(1) a 6-(α-amino-acylamino)-penicillanic acid of the formula:



wherein A is a radical having a formula of the group consisting of the following:

(a)



wherein

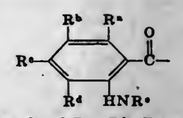
R^1 is of the group consisting of hydrogen and lower alkyl;

R^2 is of the group consisting of hydrogen, lower alkyl, phenyl, (lower)alkylphenyl, nitrophenyl, halophenyl, phenyl(lower)alkyl, (lower)alkoxyphenyl, (lower)cycloalkyl, amido(lower)alkyl, (lower)alkylthio(lower)alkyl, indoly(lower)alkyl, (lower)alkylindolyl(lower)alkyl, (lower)alkoxyindolyl(lower)alkyl;

R^1 and R^2, when joined together, complete a ring which is lower cycloalkyl; and

R^3 is hydrogen, and, when joined with R^2, completes a pyrrolidine ring; and

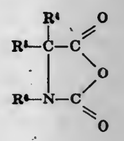
(b)



wherein each of R^a, R^b, R^c, and R^d is selected from the group consisting of hydrogen, lower alkyl, nitro, sulfo, halo and hydroxy; R^e is of the group consisting of hydrogen and lower alkyl; and each of R^a and R^b, R^b and R^c, and R^c and R^d, when respectively joined together complete a fused ring which is naphthalene; with

(2) an N-carboxy-amino acid anhydride having a formula of the group consisting of the following:

(a)



wherein

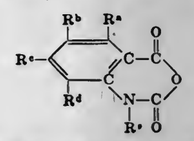
R^4 is of the group consisting of hydrogen and lower alkyl;

R^5 is of the group consisting of hydrogen, lower alkyl, phenyl, (lower)alkylphenyl, nitrophenyl, halophenyl, phenyl(lower)alkyl, (lower)alkoxyphenyl, (lower)cycloalkyl, amino(lower)alkyl, (lower)alkylthio(lower)alkyl, indolyl(lower)alkyl, (lower)alkylindolyl(lower)alkyl, (lower)alkoxyindolyl(lower)alkyl;

R^4 and R^5, when joined together, complete a ring which is lower cycloalkyl; and

R^6 is hydrogen, and, when joined with R^5, completes a pyrrolidine ring; and

(b)



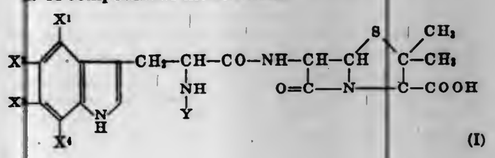
wherein each of R^a, R^b, R^c, and R^d is selected from the group consisting of hydrogen, lower alkyl, nitro, sulfo, halo and hydroxy; R^e is of the group consisting of hydrogen and lower alkyl; and each of R^a and R^b, R^b and R^c, R^c and R^d, when respectively joined together, complete a fused ring which is naphthalene.

3,268,514
AMINO-ACYLAMINO-ACYLAMINO-PENICILLANIC ACIDS

Norman H. Grant, Wynnewood, and Harvey E. Alburn, West Chester, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 7, 1964, Ser. No. 358,049
14 Claims. (Cl. 260—239.1)

1. A compound of the formula:



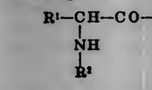
(I)

where

X^1, X^2, X^3, and X^4 are of the group consisting of hydrogen, lower alkyl, and lower alkoxy; and

Y is the group consisting of:

(1)

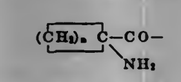


wherein

R^1 is of the group consisting of hydrogen, lower alkyl, phenyl, (lower)alkylphenyl, (lower)alkoxyphenyl, aminophenyl, nitrophenyl, chlorophenyl, indolo(lower)alkyl, (lower)alkylindolo(lower)alkyl, and (lower)alkoxyindolo(lower)alkyl; and

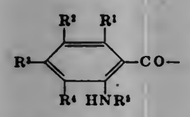
R^2 is of the group consisting of hydrogen, lower alkyl, and phenyl;

(2)



where n=2 to 9;

(3)



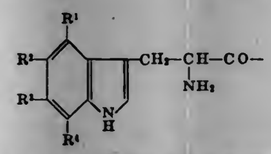
wherein

R^1, R^2, R^3, and R^4 are of the group consisting of hydrogen, alkyl, sulfo, nitro and chloro;

R^1 and R^2 when joined complete a naphthylene ring; and

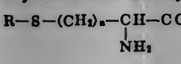
R^5 is of the group consisting of hydrogen and lower alkyl;

(4)



where R^1, R^2, R^3, and R^4 are of the group consisting of hydrogen, lower alkyl and lower alkoxy;

(5)

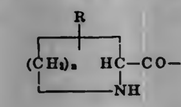


where

n=1 to 5, and

R is the group consisting of hydrogen and lower alkyl;

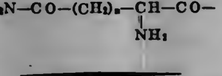
(6)



where

R is of the group consisting of hydroxy and alkyl, n=2 to 7; and

(7)



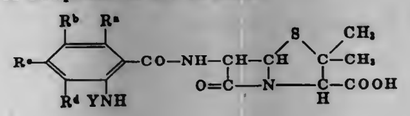
where n=1 to 2.

3,268,515
AMINO-ACYLAMINO-ACYLAMINO-PENICILLANIC ACIDS

Harvey E. Alburn, West Chester, and Norman H. Grant, Wynnewood, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 7, 1964, Ser. No. 358,066
18 Claims. (Cl. 260—239.1)

1. A compound of the formula:



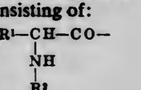
where

R^a, R^b, R^c and R^d are of the group consisting of hydrogen, alkyl, sulfo, nitro, and chloro;

R^a and R^b, when joined complete an aryl ring; and

Y is of the group consisting of:

(1)

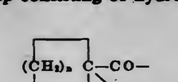


wherein

R^1 is of the group consisting of hydrogen, lower alkyl, phenyl, (lower)alkylphenyl, (lower)alkoxyphenyl, aminophenyl, nitrophenyl, chlorophenyl, indolo(lower)alkyl, (lower)alkylindolo(lower)alkyl, and (lower)alkoxyindolo(lower)alkyl; and

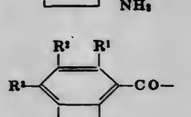
R^2 is of the group consisting of hydrogen, lower alkyl, and phenyl;

(2)



where n=2 to 9;

(3)



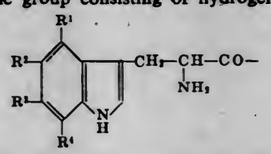
wherein:

R^1, R^2, R^3, and R^4 are of the group consisting of hydrogen, alkyl, sulfo, nitro and chloro;

R^1 and R^2 when joined complete a naphthylene ring; and

R^5 is of the group consisting of hydrogen and alkyl;

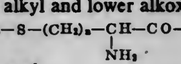
(4)



where

R^1, R^2, R^3, and R^4 are of the group consisting of hydrogen, lower alkyl and lower alkoxy;

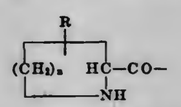
(5)



wherein n=1 to 5, and

R is of he group consisting of hydrogen and lower alkyl;

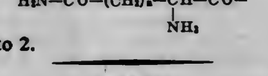
(6)



where

R is of the group consisting of hydroxy and alkyl, n=2 to 7; and

(7)



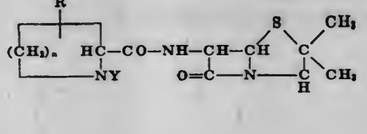
where n=1 to 2.

3,268,516
AMINO-ACYLAMINO-ACYLAMINO-PENICILLANIC ACIDS

Norman H. Grant, Wynnewood, and Harvey E. Alburn, West Chester, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

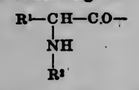
No Drawing. Filed Apr. 7, 1964, Ser. No. 358,082
8 Claims. (Cl. 260—239.1)

1. A compound of the formula:

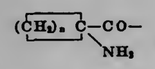


(I)

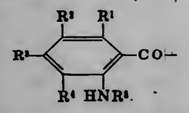
where
R is of the group consisting of hydroxy and alkyl;
n=2 to 7; and
Y is of the group consisting of:

(1) 

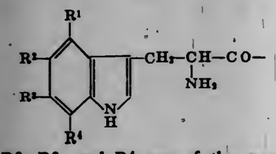
wherein
R^1 is of the group consisting of hydrogen, lower alkyl, phenyl, (lower)alkylphenyl, (lower)alkoxyphenyl, aminophenyl, nitrophenyl, chlorophenyl, indolo(lower)alkyl, (lower)alkylindolo(lower)alkyl, and (lower) alkoxyindolo(lower)alkyl; and
R^2 is of the group consisting of hydrogen, lower alkyl, and phenyl;

(2) 

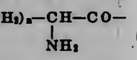
where n=2 to 9;

(3) 

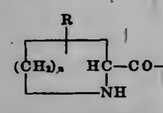
wherein
R^1, R^2, R^3, and R^4 are of the group consisting of hydrogen, alkyl, sulfo, nitro and chloro;
R^1 and R^2 when joined complete a naphthylene ring; and
R^5 is of the group consisting of hydrogen and lower alkyl;

(4) 

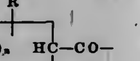
where R^1, R^2, R^3, and R^4 are of the group consisting of hydrogen, lower alkyl and lower alkoxy;

(5) 

where
n=1 to 5, and
R is of the group consisting of hydrogen and lower alkyl;

(6) 

where
R is of the group consisting of hydroxy and alkyl,
n=2 to 7; and

(7) 

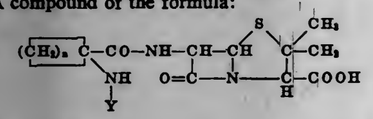
where
n=1 to 2.

3,268,517
AMINO-ACYLAMINO-ACYLAMINO-PENICILLANIC ACIDS

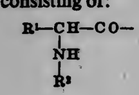
Norman H. Grant, Wynnewood, and Harvey E. Alburn, West Chester, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 7, 1964, Ser. No. 358,089
12 Claims. (Cl. 260—239.1)

1. A compound of the formula:



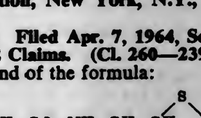
where
n=2 to 9; and
Y is of the group consisting of:

(1) 

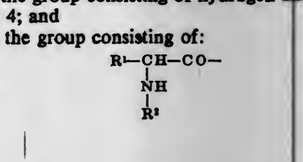
where
R^1 is of the group consisting of hydrogen, lower alkyl, phenyl, (lower)alkylphenyl, (lower)alkoxyphenyl, aminophenyl, nitrophenyl, chlorophenyl, indolo(lower)alkyl, (lower)alkylindolo(lower)alkyl, and (lower)alkoxyindolo(lower)alkyl; and
R^2 is of the group consisting of hydrogen, lower alkyl, a naphthylene

(2) 

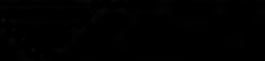
where
n=2 to 9;

(3) 

where
R^1, R^2, R^3, and R^4 are of the group consisting of hydrogen, alkyl, sulfo, nitro and chloro;
R^1 and R^2 when joined complete a naphthylene ring; and
R_5 is of the group consisting of hydrogen and alkyl;

(4) 

where
R^1, R^2, R^3, and R^4 are of the group consisting of hydrogen, lower alkyl and lower alkoxy;

(5) 

where
n=1 to 5, and
R is of the group consisting of hydrogen and lower alkyl;

(6)

where
R is of the group consisting of hydroxy and alkyl,
n=2 to 7; and

(7)

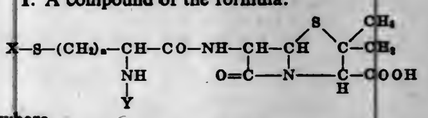
where
n=1 to 2.

3,268,518
AMINO-ACYLAMINO-ACYLAMINO-PENICILLANIC ACIDS

Norman H. Grant, Wynnewood, and Harvey E. Alburn, West Chester, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 7, 1964, Ser. No. 358,090
2 Claims. (Cl. 260—239.1)

1. A compound of the formula:

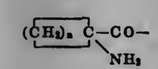


(I)

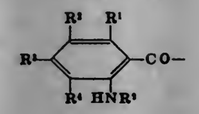
where
X is of the group consisting of hydrogen and alkyl;
n=1 to 4; and
Y is of the group consisting of:

(1)

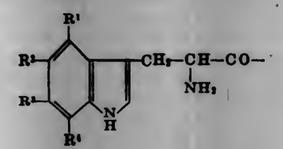
wherein
R^1 is of the group consisting of hydrogen, lower alkyl, phenyl, (lower)alkylphenyl, (lower)alkoxyphenyl, aminophenyl, nitrophenyl, chlorophenyl, indolo(lower)alkyl, (lower)alkylindolo(lower)alkyl, and (lower)alkoxyindolo(lower)alkyl; and
R^2 is of the group consisting of hydrogen, lower alkyl, and phenyl;

(2) 

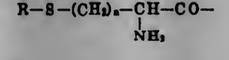
where n=2 to 9;

(3) 

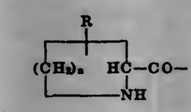
wherein
R^1, R^2, R^3, and R^4 are of the group consisting of hydrogen, alkyl, sulfo, nitro and chloro;
R^1 and R^2 when joined complete a naphthylene ring; and
R^5 is of the group consisting of hydrogen and lower alkyl;

(4) 

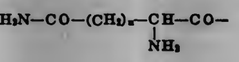
where
R^1, R^2, R^3, and R^4 are of the group consisting of hydrogen, lower alkyl and lower alkoxy;

(5) 

where
n=1 to 5, and
R is of the group consisting of hydrogen and lower alkyl;

(6) 

where
R is of the group consisting of hydroxy and alkyl,
n=2 to 7; and

(7) 

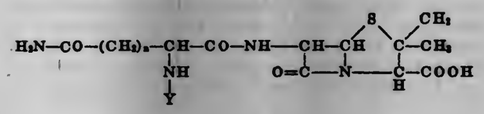
where
n=1 to 2.

3,268,519
AMINO-ACYLAMINO-ACYLAMINO-PENICILLANIC ACIDS

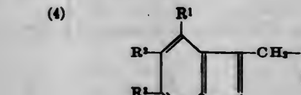
Harvey E. Alburn, West Chester, and Norman H. Grant, Wynnewood, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 7, 1964, Ser. No. 358,096
4 Claims. (Cl. 260—239.1)

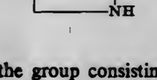
1. A compound of the formula:



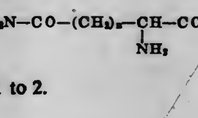
where
n=1 to 4; and
Y is of the group consisting of:

(1) 

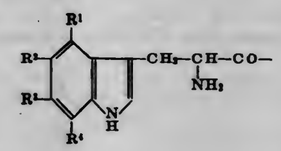
wherein
R^1 is of the group consisting of hydrogen, lower alkyl, phenyl, (lower)alkylphenyl, (lower)alkoxyphenyl, aminophenyl, nitrophenyl, chlorophenyl, indolo(lower)alkyl, (lower)alkylindolo(lower)alkyl, and (lower)alkoxyindolo(lower)alkyl; and
R^2 is of the group consisting of hydrogen, lower alkyl, and phenyl;

(2) 

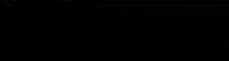
where n=2 to 9;

(3) 

wherein
R^1, R^2, R^3, and R^4 are of the group consisting of hydrogen, alkyl, sulfo, nitro and chloro;
R^1 and R^2 when joined complete a naphthylene ring; and
R^5 is of the group consisting of hydrogen and lower alkyl;

(4) 

where
R^1, R^2, R^3, and R^4 are of the group consisting of hydrogen, lower alkyl and lower alkoxy;

(5) 

where
n=1 to 5, and
R is of the group consisting of hydrogen and lower alkyl;

(6)

where
R is of the group consisting of hydroxy and alkyl,
n=2 to 7; and

(7)

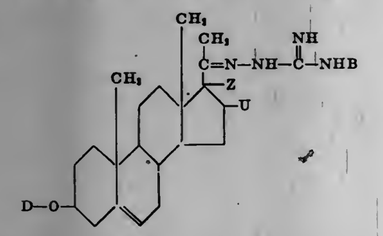
where n=1 to 2.

3,268,520
STEROID GUANYLHYDRAZONES AND PRODUCTION THEREOF

Siegismund Schütz and Karl-Heinz Meyer, Wuppertal-Elberfeld, Kurt Stoepel, Wuppertal-Vohwinkel, and Hans-Gunther Kroneberg, Haan, Rhineland, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

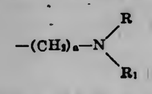
No Drawing. Filed Jan. 15, 1964, Ser. No. 337,739
Claims priority, application Germany, Jan. 23, 1963, F 38,830
11 Claims. (Cl. 260—239.5)

1. A steroid guanylhydrazone of the formula:



in which

B is selected from the group consisting of hydrogen, alkyl of 1 to 6 carbon atoms, nitro and

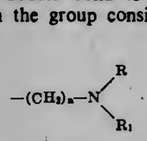


n being 2–4, and R and R_1 each being separately alkyl of 1 to 6 carbon atoms and linked together to form a ring with the N atom,

Z is selected from the group consisting of hydrogen, hydroxyl and a double bond to U,

U is selected from the group consisting of H_2 and H together with a double bond to Z, and

D is selected from the group consisting of hydrogen and



n, R and R_1 being as above defined.

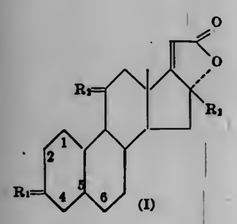
4. The compound 3-(β-pyrrolidino-ethoxy)-5-pregnene-20-guanylhydrazone dihydrochloride.

3,268,521
16α-HYDROXY-21-CARBOXYLIC ACID γ-LACTONES OF THE PREGNANE SERIES AND THE 16β-METHYL DERIVATIVES THEREOF

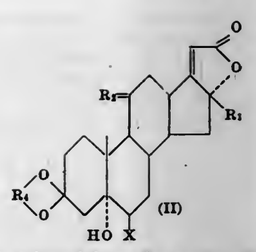
John E. Pike, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Oct. 29, 1964, Ser. No. 407,564
The portion of the term of the patent subsequent to Dec. 22, 1981, has been disclaimed
18 Claims. (Cl. 260—239.57)

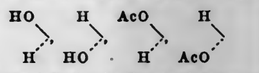
1. A steroid γ-lactone selected from the formulae consisting of:



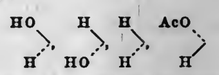
and



wherein R_1 is selected from the group consisting of



and oxygen, in which Ac is the acyl group of a hydrocarbon carboxylic acid containing from one to twelve carbon atoms, inclusive; wherein R_2 is selected from the group consisting of



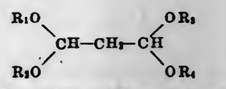
and oxygen in which Ac is defined as hereinabove; wherein R_3 is selected from the group consisting of hydrogen and methyl; wherein R_4 is an alkylene radical containing not more than eight carbon atoms, inclusive, and the attaching oxygen to carbon bonds are separated by a chain of at least two and not more than three carbon atoms; and wherein X is selected from the group consisting of chlorine, fluorine, and methyl; and wherein, in the compounds of Formula I, when R_1 is oxygen, the linkages of the carbon atoms in positions 1,2 and 4,5 are selected from the combinations consisting of one double bond in position 4,5 and a single bond in position 1,2 and double bonds in both positions 1,2 and 4,5 and when R_1 has the value of hydroxy-hydrogen or acyloxy-hydroxy, as defined above, the carbon linkages are selected from the combination consisting of single bond linkages only and the combination of single bond linkages and a 5,6-double bond.

3,268,522
PREPARATION OF DICARBOCYANINE DYESTUFFS

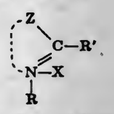
Leslie M. Schenck, Mountainside, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 31, 1962, Ser. No. 170,264
8 Claims. (Cl. 260—240.5)

1. In a process for the preparation of dicarbocyanine dyestuffs involving condensation of a malonaldehyde diacetal of the formula



wherein R_1, R_2, R_3 and R_4 each represent an alkyl group of 1 to 8 carbon atoms with a nitrogenous heterocyclic compound of the general formula



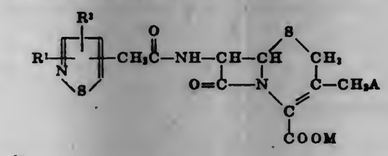
wherein R represents a lower alkyl group, R' represents a lower alkyl group, X represents the anion of a salt-forming acid, and Z represents a heterocyclic nucleus selected from the group consisting of thiazole-, oxazole-, selenazole-, indoline-, oxazoline-, thiazoline-, selenazoline-, pyridine-, lepidine-, imidoazole-, quinoline- and thiodiazole-nuclei, by heating a mixture of said compounds with technical pyridine, the improvement which comprises heating said pyridine with 0.5 to 1% of its weight of a hydrocarbon sulfonyl chloride at a temperature of 75° to 115° C. prior to completion of said condensation, such substituents as are present in said hydrocarbon sulfonyl chloride in addition to the sulfonyl chloride radical being unreactive under said conditions of pyridine treatment as well as of said malonaldehyde diacetal-nitrogenous heterocyclic compound condensation.

3,268,523
DERIVATIVES OF CEPHALOSPORANIC ACID

Rintje Raap, Raymond Urgel Lemieux, and Ronald George Micetich, Edmonton, Alberta, Canada, assignors to R & L Molecular Research Ltd., Edmonton, Alberta, Canada

No Drawing. Filed June 28, 1965, Ser. No. 467,686
20 Claims. (Cl. 260—243)

1. A compound having the formula



wherein

A is a member selected from the group consisting of hydrogen, hydroxyl, (lower)alkanoyloxy, benzoyloxy, a quaternary ammonium radical and when taken together with M, a monovalent carbon-oxygen bond;

M is a member selected from the group consisting of hydrogen, a pharmaceutically acceptable nontoxic cation, an anionic charge when A is a quaternary ammonium radical and when taken together with A, a monovalent carbon-oxygen bond;

R^1 and R^2 each represent a member selected from the group consisting of hydrogen, chloro, bromo, iodo and methyl.

3,268,524
PROCESS FOR THE PREPARATION OF AMINES OF THE ACETYLENIC SERIES

George L. Moore, South Plainfield, and James F. Vitcha, New Providence, N.J., assignors, by mesne assignments, to Cumberland Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 20, 1961, Ser. No. 90,209
7 Claims. (Cl. 260—246)

1. A process which comprises forming an anhydrous mixture of paraformaldehyde, an inert hydrocarbon solvent, and a catalyst selected from the group consisting of salts and acetylides of copper adding an atmosphere of acetylene on said mixture, and gradually adding to said mixture a secondary amine having up to 20 carbon atoms, said amine being selected from the group consisting of alkyl amines, cycloalkyl amines, saturated monocyclic heterocyclic amines, monocyclic aromatic amines, and mixtures of the foregoing, said amine being added to said mixture at a uniform rate and at a temperature and pressure high enough to cause reaction to occur, the rate of addition of said amine being such that substantially no excess of said unreacted amine is present in said reaction mixture, the amount of unreacted amine in the reaction mixture being less than about 25 mole percent based upon the unreacted paraformaldehyde present in said mixture, the rate of addition of the amine per minute per mole of paraformaldehyde in the reaction mixture being between about 0.0005 and 0.15, the temperature being between about 40° and 90° C. and the pressure being between about 2 and 40 atmospheres, and the hydrocarbon solvent being a saturated hydrocarbon having 5 to 19 carbon atoms, and continuing the reaction until substantially no acetylene is taken up by the reaction mixture.

3,268,525
2-AMINO-α-SUBSTITUTED-BENZYLAMINES

Stanley C. Bell and Scott J. Childress, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 20, 1964, Ser. No. 338,598
3 Claims. (Cl. 260—247.5)

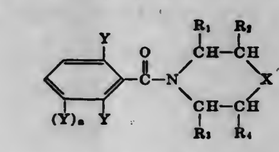
1. N-[2-(2 - amino-5-chloro-α-phenylbenzylamino)ethyl]morpholine.

3,268,526
HETEROCYCLIC POLYHALOBENZAMIDE DERIVATIVES

Peter E. Newallis, Morris Plains, N.J., and John P. Clupp and Joseph W. Baker, Kirkwood, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Sept. 12, 1962, Ser. No. 223,243
10 Claims. (Cl. 260—247.7)

1. A compound of the structure



wherein *n* is an integer of from 0 to 1; X selected is from the group consisting of —CH_2—, —NH—, —O— and —S—; Y is a halogen atom and R_1, R_2, R_3 and R_4 are each selected from the group consisting of hydrogen, halogen, lower alkyl and hydroxy substituted lower alkyl.

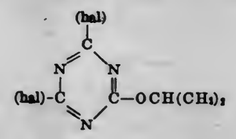
3. 4-(2,3,6-trichlorobenzoyl)-2,6-dimethylmorpholine.

3,268,527
PROCESS FOR 2,4-DIALKYL-6-ISOPROPOXY-s-TRIAZINE

Erwin Richard Ruckel, Westfield, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 28, 1963, Ser. No. 291,264
7 Claims. (Cl. 260—248)

1. In a process for the preparation of a dialkyl-s-triazine which comprises reacting a Grignard reagent of the formula RMgX, where R is lower alkyl and X is selected from the group consisting of chlorine, bromine and iodine, with a 2,4-dihalo-s-triazine; the improvement which consists in carrying out the reaction using an s-triazine of the formula



wherein (hal) is a halogen.

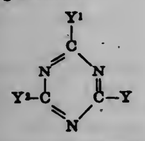
3,268,528
PROCESS FOR DIALKYL-s-TRIAZINES

Henryk Bader, North Plainfield, and Erwin Richard Ruckel, Westfield, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 28, 1963, Ser. No. 291,265
8 Claims. (Cl. 260—248)

1. In a process for preparing alkyl-s-triazines, the improvement which comprises: (1) forming a solution of a Grignard reagent of the formula RMgX in the solvent

in which said reagent is prepared; (2) combining an s-triazine of the following formula



with a compatible, inert, chlorinated a liphatic-hydrocarbon solvent; (3) under agitation, combining the resulting products of steps (1) and (2); (4) continuing said agitation until reaction is substantially completed; and (5) collecting the resultant alkyl-s-triazine product; wherein, in the foregoing formulae the several constituents have the following values:

R is selected from the group consisting of (a) the straight and branched chain alkyls of from 1 to 18 carbon atoms; (b) the cycloalkyls of from 5 to 7 carbon atoms; (c) the monocyclic aralkyls of from 7 to 11 carbon atoms; and (d) the carbocyclic aryls of less than three condensed rings;

X is selected from the group consisting of chlorine, bromine and iodine;

Y is selected from the group consisting of chlorine, bromine and iodine;

Y^1 is selected from the group consisting of chlorine, bromine, iodine and R^2;

Y^2 is selected from the group consstting of chlorine, bromine, iodine and R^2;

each "Y," "Y^1" and "Y^2" being the same or a different member of the defined group; and each "R^2" being the same or a different member of the same group as "R," not more than one of "Y^1" and "Y^2" being "R2."

3,268,529

3-CYANOALKYL SUBSTITUTED 4-(3H)-QUINAZOLINONES

James W. Bolger, Canoga Park, Calif., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed Jan. 17, 1964, Ser. No. 338,303
2 Claims. (Cl. 260—251)

1. 3-(cyano-lower alkyl)-4-(3H)-quinazolinone.

3,268,530

5-ETHYL-5-(6-PURINYL)THIOBARBITURIC ACID

Robert R. Engle and Arthur F. Lewis, Canoga Park, Calif., assignors, by mesne assignments, to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed Apr. 30, 1964, Ser. No. 364,019
1 Claim. (Cl. 260—252)

5-ethyl-5-(6-purinyl)thiobarbituric acid.

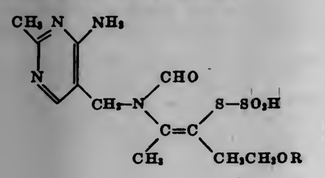
3,268,531

S-SULFOTHIAMINES

Kiyoshi Takiura, Kobe, Masaru Hieda, Osaka, and Shojiro Yurugi, Kyoto, Japan, assignors to Takeda Chemical Industries, Ltd., Higashi-ku, Osaka, Japan

No Drawing. Filed Feb. 17, 1964, Ser. No. 345,127
Claims priority, application Japan, Feb. 22, 1963, 38/9,124
4 Claims. (Cl. 260—256.5)

1. A compound having the formula



wherein R is a member selected from the class consisting of H, alkylcarbonyl with up to 7 carbon atoms, benzoyl, furoyl, ethoxycarbonyl and benzyloxycarbonyl.

3,268,532

PROCESS FOR PRODUCING DYESTUFFS OF THE ANTHRAQUINONEAZINE SERIES

Werner Zerweck and Emil Schwamberger, Frankfurt am Main, Germany, assignors to Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am Main-Fechenheim, Germany, a company of Germany

No Drawing. Filed Nov. 27, 1963, Ser. No. 326,350
Claims priority, application Germany, Dec. 4, 1962, C 28,574; Apr. 10, 1963, C 29,618
17 Claims. (Cl. 260—263)

1. A process for the production of dyestuffs of the anthraquinoneazine and -N,N'-dihydroazine series which comprises contacting at elevated temperatures a primary amine of a compound selected from the group consisting of anthraquinone, substituted anthraquinone, cyclic derivatives of anthraquinone and substiuted cyclic derivatives of anthraquinone with an alkaline condensation agent in the presence of a member selected from the group consisting of low molecular weight hydrocarbyl organic sulfoxides and low molecular weight hydrocarbyl organic sulfones of 2–6 carbon atoms.

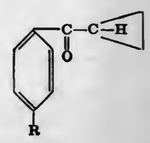
3,268,533

4-AMINOPHENYLCYCLOPROPYL KETONES

Meier E. Freed, Philadelphia, and Elisabeth Hertz, Bryn Mawr, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 11, 1964, Ser. No. 374,281
13 Claims. (Cl. 260—268)

1. A compound of the formula:



wherein R is selected from the group consisting of: (lower)alkylamino, di(lower)alkylamino, piperidino, morpholino, piperazino, methylpiperazino, phenylpiperazino, hydroxyethylpiperazino, and (cyclopropylcarbonyl) phenyl piperazino.

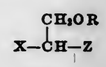
3,268,534

PIPERAZINE DERIVATIVES

Joseph Albert Meschino, North Wales, Pa., assignor to McNeil Laboratories, Incorporated, a corporation of Pennsylvania

No Drawing. Filed July 28, 1964, Ser. No. 385,794
2 Claims. (Cl. 260—268)

1. A compound of the formula



wherein Z is a member of the group consisting of nitrile and carbamoyl; X is a member of the group consisting of 4-benzylpiperazino-loweralkyl, 4-loweralkylbenzylpiperazino-loweralkyl and 4-di-loweralkylbenzylpiperazino-loweralkyl; and R is a member of the group consisting of hydrogen, carbamoyl and N-phenyl carbamoyl.

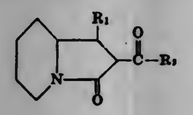
3,268,535

INDOLIZINE DERIVATIVES

Richard J. Mohrbacher, Fort Washington, Pa., assignor to McNeil Laboratories, Incorporated, a corporation of Pennsylvania

No Drawing. Original application Apr. 2, 1963, Ser No. 269,880. Divided and this application June 14, 1965, Ser. No. 463,926
4 Claims. (Cl. 260—268)

1. A member selected from the group consisting of a compound of the formula



wherein R_1 is a member selected from the group consisting of hydrogen and phenyl; and R_2 is a member selected from the group consisting of 4-phenyl-1-piperazinyl and 4-hydroxy-loweralkyl-1-piperazinyl.

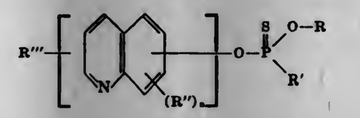
3,268,536

O-(QUINOLYL) O-ALKYL PHOSPHORAMIDOTHIOATES

Raymond H. Rigterink, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 8, 1964, Ser. No. 336,367
7 Claims. (Cl. 260—283)

1. A compound corresponding to the formula



wherein R represents lower alkyl, R' represents a member of the group consisting of amino and lower alkylamino, R'' represents a member of the group consisting of hydrogen, bromine and chlorine, *n* represents an integer of from 1 to 3 and R''' represents a member of the group consisting of hydrogen and methyl.

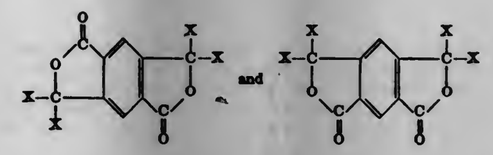
3,268,537

CHROMOGENOUS AMINOPHENYL DERIVATIVES OF BENZODIFURANDIONE

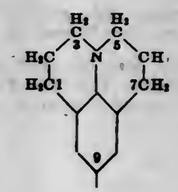
Earl J. Gosnell, Ironclequoit, N.Y., and John F. McCarthy, Jr., Brockton, Plymouth City, Mass., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Aug. 31, 1961, Ser. No. 135,264
9 Claims. (Cl. 260—287)

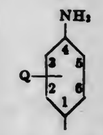
1. A mixture of two isomeric compounds, insoluble in hydrochloric acid and sodium hydroxide and individually of the formulas



and being identical except for the relative directions of attachment of the two —CX_2—O—CO— side ring components in each compound to the central benzene ring, in which each individual X in one of said two isomeric compounds is selected from the group consisting of 9-julolidyl



of 4-aminophenyl



where the substituent Q is selected from the group of Q-substituents consisting of hydrogen, any single one of the methyl, fluoro, chloro, and bromo substituents in the 2-position, any single one of said substituents in the 5-position, and both of said single substituents individually in the 2- and 5-positions; and of N-substituted 4-aminophenyl



where the substituent Q' is selected from said group of Q-substituents, where the R is elected from the group of N-substituents consisting of alkyl of one to four carbon atoms, benzyl, and phenyl, and where the R' is selected from the group consisting of hydrogen and any one of said group of N-substituents.

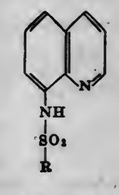
3,268,538

8-SULFONAMIDOQUINOLINES

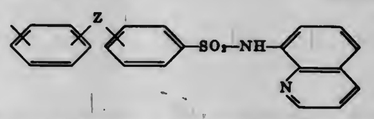
John H. Billman, Bloomington, Ind., and Robert Chernis, Yonkers, N.Y., assignors to Indiana University Foundation, Bloomington, Ind.

No Drawing. Filed Feb. 26, 1963, Ser. No. 261,200
3 Claims. (Cl. 260—288)

3. An 8-(sulfonamido) quinoline of the formula:



wherein R is a member of the group consisting of C_1–C_5 alkyl, C_2–C_5 alkenyl and



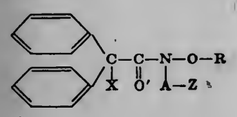
wherein Z is a member of the group consisting of O, S, SO_2 and SO.

3,268,539
TERTIARY-AMINOALKYL DERIVATIVES OF DIARYL SUBSTITUTED ACETOHYDROXAMIC ACID ESTERS

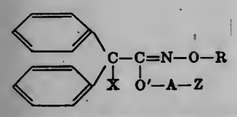
Joseph Levy, Paramus, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed May 20, 1963, Ser. No. 281,771
6 Claims. (Cl. 260—294)

1. A compound having a formula selected from the group consisting of:



and



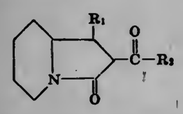
and mineral acid, organic acid and quaternary salts thereof in which X is selected from the group consisting of hydrogen and hydroxyl, R is alkyl of from 1 to about 5 carbon atoms, A is alkylene of from 2 to 5 carbon atoms and Z is a member selected from the group consisting of di-(lower alkyl)amino, piperidino, pyrrolidino, morpholino, piperidyl and pyrrolidyl.

3,268,540
CERTAIN INDOLIZINE DERIVATIVES

Richard J. Mohrbacher, Fort Washington, Pa., assignor to McNeil Laboratories, Inc., a corporation of Pennsylvania

No Drawing. Filed June 14, 1965, Ser. No. 463,909
11 Claims. (Cl. 260—294)

1. A member selected from the group consisting of a compound of the formula



wherein R_1 is a member selected from the group consisting of hydrogen and phenyl; and R_2 is a member selected from the group consisting of —NH—Alk—$N(Alk)_2$,

—NH—Alk—phenyl

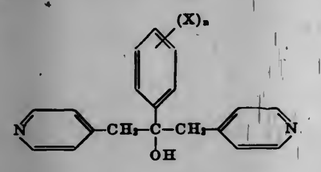
and —NH—Alk—pyridyl, wherein Alk is lower alkyl.

3,268,541
PROCESS FOR PRODUCING 2-PHENYL- (OR SUBSTITUTED 2-PHENYL-) 1,3-DI(4-PYRIDYL)-2-PROPANOLS

Harvey Gurien, Newark, and Albert Israel Rachlin, Hackensack, N.J., assignors to Hoffman-La Roche Inc., Nutley, N.J., a corportion of New Jersey

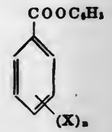
No Drawing. Filed Mar. 5, 1964, Ser. No. 349,745
7 Claims. (Cl. 260—296)

1. A process for the production of compounds having the formula



in which the symbol X represents a member selected from the group consisting of hydrogen, a halogen atom, an alkyl group having from 1 to 6 carbon atoms, a lower alkoxy group and a lower alkylmercapto group; and in which the symbol n represents the integer 1, with the proviso that where X is alkoxy, the symbol n represents also the integer 3

which comprises reacting 4-picolyl lithium with an ester having the formula



in which X is a member selected from the group consisting of hydrogen, a halogen atom, an alkyl group having from 1 to 6 carbon atoms, a lower alkoxy group and a lower alkylmercapto group; and in which n represents the integer 1, with the proviso that where X is alkoxy, n represents also the integer 3

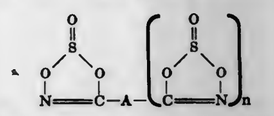
said reaction being carried out in liquid ammonia as the reaction medium at a temperature not higher than reflux temperature of liquid ammonia.

3,268,542
CERTAIN ARYLENEPOLY-1,3,2,4-DIOXATHIAZOLE OXIDE COMPOUNDS

Emmett H. Burk, Jr., Glenwood, Ill., and Donald D. Carlos, Gary, Ind., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 13, 1965, Ser. No. 471,714
6 Claims. (Cl. 260—301)

1. The compound having the structure:



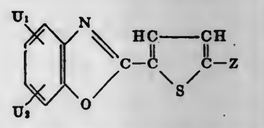
wherein A is aromatic hydrocarbon of 1 to 3 aromatic hydrocarbon rings and n is an integer of 1 to 3.

3,268,543
MONOAZOLYL-THIOPHENE DERIVATIVES

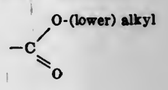
Adolf Emil Siegrist, Basel, Erwin Maeder, Aesch, Basel-Land, Peter Liechti, Binningen, Basel-Land, and Leonardo Guglielmetti, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

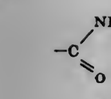
No Drawing. Filed Nov. 27, 1963, Ser. No. 326,361
Claims priority, application Switzerland, Nov. 30, 1962, 14,106/62
15 Claims. (Cl. 260—304)

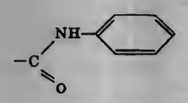
1. A monoazolyl-thiophene compound of the formula

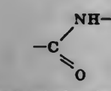


where U_1 is a member selected from the group consisting of hydrogen, halogen, lower alkyl, lower alkoxy, cyclohexyl, phenyl, phenyl(lower) alkyl and carbo (lower) alkoxy, U_2 is a member selected from the group consisting of hydrogen and lower alkyl and Z is a member selected from the group consisting of

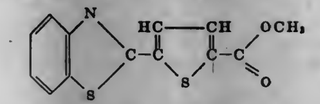
(a) 

(b) 

(c) 

(d) 

2. The compound of the formula

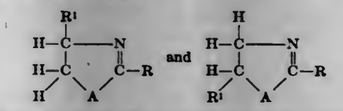


3,268,544
PREPARATION OF 2-OXAZOLINES AND 2-THIAZOLINES

Grant Thompson and Rogers F. Lambert, Brigham City, Utah, assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Nov. 12, 1964, Ser. No. 410,776
6 Claims. (Cl. 260—306.7)

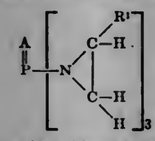
1. A process for preparing 5 membered heterocyclic products of the formula:



comprising the steps of contacting a carboxylic acid of the formula:



with an aziridinyl phosphine reactant of the formula:



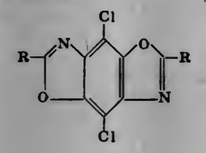
until a carboxylic acid adduct is formed, heating said adduct until the above-described products are formed, and isolating the products contained therein, R being selected from the group consisting of ethyl, propyl, isopropyl and phenyl radicals, R^1 being selected from the group consisting of hydrogen, methyl, cyclohexyl, phenyl and chlorinated phenyl radicals, and A being selected from the group consisting of sulfur and oxygen.

3,268,545
CERTAIN 4,8-DICHLORO-2,6-DISUBSTITUTED BENZO[1-2,4-5]BISOXAZOLE COMPOUNDS

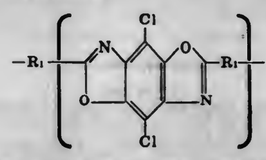
Morton H. Litt and Albert L. Idelson, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 17, 1964, Ser. No. 360,745
7 Claims. (Cl. 260—307)

1. A compound selected from the group consisting of compounds of the formula:



wherein R is a member selected from the class consisting of lower alkyl, halo-substituted lower alkyl, and phenyl-lower alkyl radicals; and of polymers composed of recurring units of the formula:



wherein R_1 is a member selected from the class consisting of lower alkylene, and phenylene radicals.

3,268,546
CERTAIN 2-BENZOXAZOLINONE COMPOUNDS HAVING METHOXY AND HALO SUBSTITUENTS

Cornelius Kennady Cain, Flourtown, and James Nelson Plampin, Roslyn, Pa., assignors to McNeil Laboratories, Incorporated, a corporation of Pennsylvania

No Drawing. Filed May 12, 1964, Ser. No. 366,895
5 Claims. (Cl. 260—307)

1. A member selected from the group consisting of 5-R-6-R_1-2-benzoxazolinone and the alkali metal and alkaline earth metal salts thereof wherein R and R_1 are different and selected from the group consisting of methoxy and halo, said halo being selected from the group consisting of bromo and chloro.

3,268,547
5,6-DIHYDRO-4H-TETRAZOLO[5,1-e]1,6-BENZOTHIAZOCINE

Richard J. Mohrbacher, Fort Washington, Pa., assignor to McNeil Laboratories, Incorporated, a corporation of Pennsylvania

No Drawing. Filed June 8, 1965, Ser. No. 462,404
1 Claim. (Cl. 260—308)

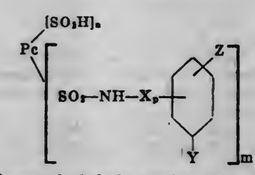
5,6-dihydro-4H-tetrazolo[5,1-e]-1,6-benzothiazocine.

3,268,548
WATER-SOLUBLE PHTHALOCYANINE DYESTUFFS

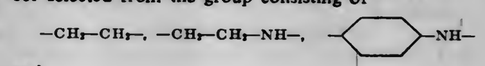
Johannes Heyna, Hartmut Springer, and Erich Schinzel, all of Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Feb. 28, 1961, Ser. No. 92,172
Claims priority, application Germany, Mar. 5, 1960, F 30,688
8 Claims. (Cl. 260—314.5)

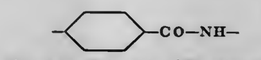
1. A water-soluble phthalocyanine dyestuff of the formula



wherein Pc is metal phthalocyanine, X represents a member selected from the group consisting of



and



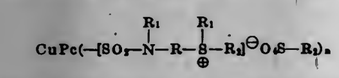
p means an integer of 0 and 1, Y represents a member selected from the group consisting of

$$—SO_2—CH_2—CH_2—OSO_3H$$

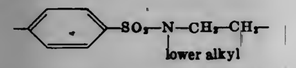
and $—SO_2—CH=CH_2$, X standing in one of the positions meta and para to Y, Z represents a member selected from the group consisting of hydrogen, bromine, methyl, methoxy, nitro, hydroxl, carboxy and sulfo, *n* represents a whole number of 1 to 3 and *m* likewise a whole number of 1 to 3, the sum of *n* and *m* being at most 4.

3,268,549
CATIONIC DYESTUFFS AND A PROCESS FOR PREPARING THEM
Edwin Baier, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Oct. 1, 1963, Ser. No. 312,841
Claims priority, application Germany, Oct. 3, 1962, F 37,956
7 Claims. (Cl. 260—314.5)

1. Water-soluble cationic dyestuffs of the formula



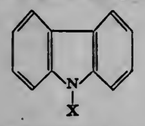
in which CuPc represents copper phthalocyanine, R_1 represents a member of the group consisting of lower alkyl and benzyl, R represents a member of the group consisting of $—CH_2—CH_2—$ and



R_2 represents lower alkyl, and *n* represents a number from 2 to 4.

3,268,550
N-BUTENYL CARBAZOLES
Jorge Heller, Palo Alto, Calif., assignor, by mesne assignments, to International Business Machines Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Aug. 26, 1963, Ser. No. 304,696
2 Claims. (Cl. 260—315)

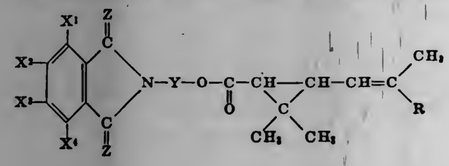
1. A substituted carbazole having the formula:



wherein X is a butenyl substituent.

3,268,551
PHTHALIMIDO ESTERS OF CYCLOPROPANECARBOXYLIC ACID ESTERS
Saichiro Kuramoto, Toyonaka-shi, Takeaki Kato, Kenzo Ueda, and Yositosi Okuno, Nishinomiya-shi, and Keimei Fujimoto, Minoo-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Higashi-ku, Osaka, Japan, a corporation of Japan
No Drawing. Original application July 30, 1963, Ser. No. 298,589. Divided and this application Dec. 18, 1964, Ser. No. 424,875
Claims priority, application Japan, Aug. 6, 1962, 37/33,598, 37/33,599; Oct. 8, 1962, 37/44,473, 37/44,474
13 Claims. (Cl. 260—325)

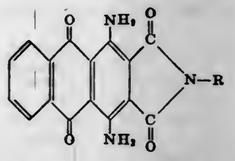
1. A cyclopropanecarboxylic acid ester of the formula,



wherein X^1, X^2, X^3, and X^4 each means a member selected from the group consisting of hydrogen halogen, methyl, nitro, methoxy, and cyano; Z is a member selected from the group consisting of oxygen and sulfur; Y is a member selected from the group consisting of a direct linkage, $—CH_2—$, $—CH_2CH_2—$ and $—CH_2CH_2CH_2—$, and R is a member selected from the group consisting of methyl and methoxycarbonyl.

3,268,552
PREPARATION OF 1,4-DIAMINOANTHRAQUINONE-2,3-DICARBOXIMIDE DYESTUFFS
Takashi Akamatsu, Ashiya-shi, and Eiji Yamada, Takatsuki-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan
No Drawing. Filed July 3, 1964, Ser. No. 380,125
Claims priority, application Japan, July 8, 1963, 38/35,985
10 Claims. (Cl. 260—326)

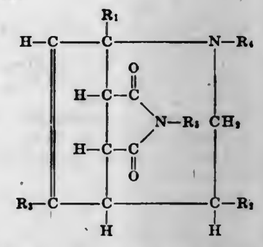
1. A process for producing a 1,4-diaminoanthraquinone-2,3-dicarboximide compound having the formula,



wherein R means a radical selected from the group consisting of aliphatic, cycloaliphatic, aromatic-aliphatic and aromatic radicals, which comprises treating 1,4-diaminoanthraquinone-2,3-dinitrile with fuming sulfuric acid having an SO_3 concentration of 0% to 30% at a temperature of 10° to 50° C. to form at least one member selected from the group consisting of 1-hydroxy-3-imino-4,7-diamino-5,6-phthaloylisoindolenine and its sulfone derivative, heating the product in an aqueous alkaline solution, acidifying the solution to obtain at least one member selected from the group consisting of 1,4-diaminoanthraquinone-2,3-dicarboxylic acid, its acid anhydride and mixtures thereof, and treating the product with an amine having the formula of $R—NH_2$, wherein R has the same meanings as identified above, at a temperature of 50° to 130° C.

3,268,553
2-AZABICYCLO[3.2.2]RON-6-ENE-8,9-DICARBOXIMIDES
Leo A. Paquette, Portage Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed July 24, 1963, Ser. No. 297,217
5 Claims. (Cl. 260—326)

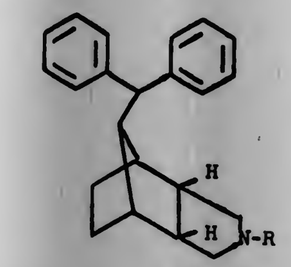
1. A compound selected from the group consisting of the free base form and acid addition salts of a compound of the formula:



wherein R_1 and R_2 are alkyl of 1 to 4 carbon atoms, inclusive, wherein R_3 is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, inclusive, wherein R_4 is selected from the group consisting of hydrogen, lower alkyl, alkenyl of 3 to 6 carbon atoms, inclusive, alkynyl of 3 to 6 carbon atoms, inclusive, cycloalkyl of 5 to 10 carbon atoms, inclusive and aralkyl of 7 to 11 carbon atoms, inclusive, and wherein R_5 is selected from the group consisting of lower alkyl, phenyl, lower-alkylphenyl, and di-lower-alkylphenyl.

3,268,554
SUBSTITUTED ENDO-PERHYDRO-4,7-METHANOISOINDOLES AND INTERMEDIATES THEREIN
James W. Bolger, Canoga Park, Calif., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware
No Drawing. Filed Dec. 17, 1964, Ser. No. 419,210
5 Claims. (Cl. 260—326.1)

1. A compound of the formula



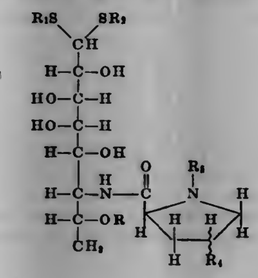
wherein R is an alkyl group of 1 to 12 carbon atoms bearing a member selected from the group consisting of di-lower alkylamino, halo, cyano and lower-acyloxy.

3,268,555
PROCESSES WHICH COMPRISE REACTING PROLINE OR PYRROLIDINE WITH AN OXO GROUP CONTAINING COMPOUND AND PRODUCTS THEREOF
Lazare Wiseblatt, Chicago, Ill., assignor to Research Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Oct. 10, 1962, Ser. No. 229,748
6 Claims. (Cl. 260—326.3)

1. A method of making breadstuff flavoring compositions which consists of heating, at a pH between 4.0–8.5, proline with 1,3-dihydroxyacetone, glyceraldehyde, acetylmethylcarbinol, 1-hydroxy-2-propanone or 1-hydroxy-2-propanone acetate.

3,268,556
NOVEL LINCOMYCIN DERIVATIVES
Herman Hoeksema, Cooper Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Dec. 21, 1964, Ser. No. 420,104
16 Claims. (Cl. 260—326.3)

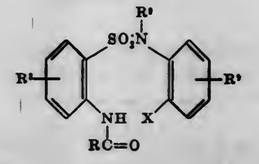
1. A compound of the formula:



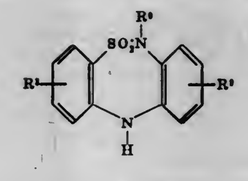
wherein R is selected from the group consisting of hydrogen and methyl, wherein R_1 and R_2 are selected from the group consisting of alkyl radicals having from 1 to 18 carbon atoms, inclusive, and benzyl and thenyl, and wherein R_4 and R_5 are alkyl radicals having from 1 to 12 carbon atoms, inclusive.

3,268,557
5,5-DIOXODIBENZO[1,2,5]-THIADIAZEPINES AND INTERMEDIATES THEREFOR
Abraham Weber, Paris, France, assignor to Mead Johnson & Company, Evansville, Ind., a corporation of Indiana
No Drawing. Filed Dec. 6, 1963, Ser. No. 328,476
7 Claims. (Cl. 260—327)

1. A compound selected from the group consisting of



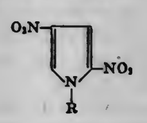
and



wherein:
X is selected from the group consisting of chlorine, bromine, and iodine,
R is selected from the group consisting of H, and alkyl having up to three carbon atoms,
R^3 is from one to two substituents selected from the group consisting of hydrogen, halogen, methyl, trifluoromethyl, alkoxy, alkylthio, and alkylsulfonyl and contains up to four carbon atoms,
R^6 is selected from the group consisting of lower alkyl having one to four carbon atoms, and benzyl, and
R^9 is selected from the group consisting of hydrogen, halogen, methyl, trifluoromethyl, dimethylamino, dimethylsulfamyl, carbalkoxy, alkylthio, alkylsulfonyl, alkoxy, and alkanoyl, and contains up to four carbon atoms.

3,268,558
1-R-2,4-DINITROPYRROLES
George Karmas, Bound Brook, N.J., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey
No Drawing. Filed Nov. 5, 1964, Ser. No. 409,277
3 Claims. (Cl. 260—326.9)

3. A compound of the formula



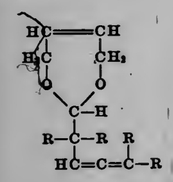
wherein R is selected from the group consisting of n-propyl, n-butyl, iso-butyl, sec-butyl, n-amyl, iso-pentyl, sec-pentyl, n-hexyl and a haloalkyl group selected from the group consisting of γ-bromopropyl and δ-bromobutyl.

3,268,559
SUBSTITUTED DIOXEPINS

Chester E. Pawloski, Bay City, Mich., and George B. Sterling, Mogadore, Ohio, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 11, 1963, Ser. No. 329,886
3 Claims. (Cl. 260—338)

1. Compounds having the formula



wherein each R independently represents the groups consisting of hydrogen and alkyl groups of 1–6 carbons.

3,268,560
METHOD FOR PREPARING A SODIUM DECABORANE TETRAHYDROFURAN ADDUCT

Theodore L. Heying, Tonawanda, N.Y., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Jan. 13, 1959, Ser. No. 786,653
1 Claim. (Cl. 260—346.1)

A method for the preparation of a solid sodium decaborane tetrahydrofuran adduct which comprises reacting sodium metal and decaborane at a temperature of from 40° to 100° C. while the decaborane is dissolved in tetrahydrofuran, and thereafter recovering the solid adduct from the reaction mixture.

3,268,561
GLYCIDYL ETHERS

William J. Peppel and Floyd E. Bentley, Austin, Tex., assignors to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed Dec. 24, 1963, Ser. No. 333,203
6 Claims. (Cl. 260—348)

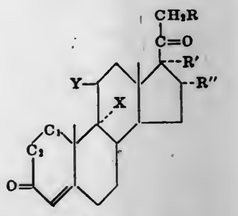
1. A process for preparing a polyoxypropylene monoglycidyl ether having a molecular weight within the range of about 200 to about 800 which comprises the steps of reacting allyl alcohol with from about 3 to about 12 mols of propylene oxide per mol of allyl alcohol under basic conditions to provide an allylpolyoxypropylene glycol intermediate product, treating an aqueous solution of said intermediate allylpolyoxypropylene glycol with molecular chlorine at a temperature of from about −10° C. to about 40° C. to provide a corresponding chlorohydrin derivative, dehydrochlorinating said chlorohydrin derivative under basic conditions at a temperature within the range of 0° to not more than about 40° C. to provide a reaction mixture comprising said polyoxypropylene monoglycidyl ether, neutralizing said reaction mixture and warming said reaction mixture to a temperature within the range of more than 40° C. to about 100° C. whereby phase separation occurs and said reaction mixture separates into an aqueous phase and an organic phase consisting essentially of said polyoxypropylene glycol monoglycidyl ether and recovering said polyoxypropylene glycol monoglycidyl ether.

3,268,562
METHOD OF PHOSPHORYLATING HYDROXY STEROIDS AND PRODUCTS RESULTING THEREFROM

Robert Bruce Brownfield, Nanuet, N.Y., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 16, 1964, Ser. No. 404,509
12 Claims. (Cl. 260—397.4)

1. A steroid of the formula:



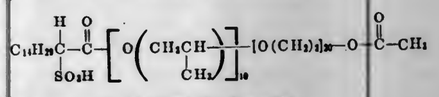
wherein R is selected from the group consisting of hydrogen, hydroxyl, lower alkanoyloxy, methanesulfonyloxy and chloro; R′ is hydroxyl; R″ is $—OPO_3H_2$; X is selected from the group consisting of hydrogen and fluorine; Y is selected from the group consisting of hydrogen and hydroxyl and $C_1—C_2$ is selected from the group consisting of $—CH_2—CH_2—$ and $—CH=CH—$.

3,268,563
ESTERS OF AN α-SULFO CARBOXYLIC ACID AND A GLYCOL

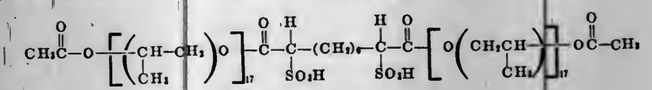
Kwan-Ting Shen and Patrick M. Quinlan, St. Louis, Mo., assignors to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 3, 1962, Ser. No. 192,094
4 Claims. (Cl. 260—400)

1. A compound having the formula



4. A compound having the formula

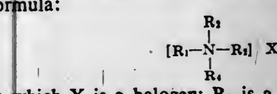


3,268,564
QUATERNARY AMMONIUM PERHALOGENATE SALTS

Takashi Yamamoto, Amagasaki, Japan, assignor to Nippon Oils and Fats Company Limited, Tokyo, Japan, a corporation of Japan

Filed May 24, 1963, Ser. No. 282,945
Claims priority, application Japan, May 31, 1962, 37/22,409; Aug. 15, 1962, 37/35,369; Sept. 27, 1962, 37/42,295, 37/42,296
3 Claims. (Cl. 260—404.5)

1. A quaternary ammonium perhalogenate having the formula:



in which X is a halogen; R_1 is a member selected from the group consisting of alkyl, alkyl carboxamido, and N-lower alkyl substituted alkyl carboxamido radicals in which the alkyl has at least 6 carbon atoms; R_2 and R_4 are members selected from the group consisting of hydrogen and lower alkyl radicals; and R_3 is a lower hydroxyalkyl radical.

3,268,565
PROCESS FOR THE PREPARATION OF ORGANO METALLIC COMPOUNDS AND PRODUCTS RESULTING THEREFROM

Ernst Otto Fischer, Munich-Solln, and Konrad Fichtel, Starmberg, Germany, assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 24, 1962, Ser. No. 168,551
10 Claims. (Cl. 260—429)

1. The process of preparing organo-metallic compounds comprising the step of forming a salt containing an organo-metallic cation by reacting a hydrocarbon mono-olefin with a halogeno-carbonyl selected from the class consisting of the halogeno-carbonyls of a metal of the group consisting of manganese and rhenium and the cyclopentadienyl substituted halogeno-carbonyls of a metal of the group consisting of chromium, molybdenum, tungsten, iron, ruthenium, osmium, and nickel, said reaction being performed using a Friedel-Crafts type catalyst.

7. The process according to claim 1 wherein the reaction product is further hydrolyzed and the resulting organo-metallic cation is precipitated by salt formation with a bulky anion selected from the group consisting of

$B(C_6H_5)_4^-$, PF_6^-, $Co(CO)_4^-$, ClO_4^-, $C_6H_2N_3O_7^-$, $[Cr(SCN)_4(NH_3)_2]^-$

3,268,566
PROCESS FOR THE PRODUCTION OF TETRAMETHYL TITANATE

Robert Holroyd Stanley, Stockton-on-Tees, and Leslie John Lawrence Nunthorpe, Middlesbrough, England, assignors to British Titan Products Company Limited, Durham, England, a corporation of Great Britain

No Drawing. Filed July 26, 1962, Ser. No. 212,740
Claims priority, application Great Britain, Aug. 3, 1961, 28,312/61
11 Claims. (Cl. 260—429.5)

1. A process for the preparation of tetramethyl titanate comprising the steps of:

(a) adding a dry tetraalkyl titanate selected from the group consisting of tetraethyl titanate, tetrapropyl titanates, tetra-n-butyl titanate, tetra-secondary-butyl titanate and tetra-tertiary-butyl titanate to dry methanol whereby said selected tetraalkyl titanate and said methanol react to form a reaction product alkanol and a solid tetramethyl titanate which precipitates from the reaction mixture;

(b) maintaining said methanol throughout said addition in excess of the stoichiometric amount and sufficient to provide enough reaction mixture to permit adequate stirring; and

(c) recovering said solid tetramethyl titanate from the reaction mixture.

11. A process for the production of tetramethyl titanate comprising the steps of:

(a) adding dry tetraisopropyl titanate to at least five times its volume of dry methanol whereby said methanol and said titanate react to form isopropanol and solid tetramethyl titanate which precipitates from the reaction mixture;

(b) maintaining said reaction mixture at a temperature not higher than about 0° C. during said reaction;

(c) maintaining substantially all of said isopropanol in said reaction mixture during said reaction; and

(d) filtering said reaction mixture to recover said solid tetramethyl titanate.

3,268,567
METAL COORDINATION COMPLEX OF O-HYDROXYBENZALAMINODIPHENYLAMINE

Henryk A. Cyba, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Original application Oct. 27, 1961, Ser. No. 148,021, now Patent No. 3,216,969, dated Nov. 9, 1965. Divided and this application Dec. 18, 1964, Ser. No. 419,590
4 Claims. (Cl. 260—429.9)

1. A metal coordination complex of o-hydroxybenzalaminodiphenylamine in which the metal is selected from the group consisting of nickel, copper, cobalt, antimony, cadmium, lead, tin, uranium, vanadium and zinc.

4. Zinc bis-salicylal-p-aminodiphenylamine.

3,268,568
GOLD ARYL MERCAPTIDES

Howard M. Fitch, Summit, N.J., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

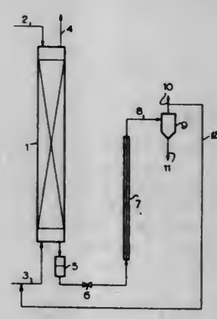
No Drawing. Original application Apr. 9, 1962, Ser. No. 185,819. Divided and this application July 14, 1965, Ser. No. 472,026
4 Claims. (Cl. 260—430)

1. A nuclear-substituted gold aryl mercaptide including at least one alkyl group containing from three to eighteen carbon atoms attached directly to the aryl nucleus.

3,268,569
PROCESS FOR PREPARING ALUMINUM TRIALKYLS

Harm N. Mulder and Jacobus P. Schuhmacher, Sittard, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands

Filed Oct. 11, 1960, Ser. No. 61,858
Claims priority, application Netherlands, Oct. 16, 1959, 244,448
3 Claims. (Cl. 260—448)



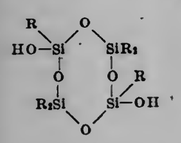
1. Process for preparing aluminum trialkyl, which comprises passing a liquid containing a dialkyl aluminum hydride downwardly through an elongated reactor containing contact devices, introducing a gaseous olefin into the reactor below the level at which said liquid is introduced so that said liquid and said gaseous olefin are in contact, venting a gaseous phase from the upper portion of said reactor, passing the reaction product from the lower portion of the reaction into a separation zone, and separating any gaseous constituents from the liquid phase of the reaction product containing the produced aluminum trialkyl.

3,268,570
PREPARATION OF CYCLIC HYDROXYLATED SILOXANES

Donald R. Weyenberg, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Mar. 29, 1962, Ser. No. 183,421
2 Claims. (Cl. 260—448.2)

2. A process for making a cyclic siloxane of the formula



in which each R is selected from the group consisting of monovalent hydrocarbon and monovalent halohydrocarbon radicals, comprising reacting a diol of the formula $R_2Si(OH)_2$ with a chlorosilane of the formula $RSiCl_3$ in equimolar amounts in a mutual solvent, and in the presence of a hydrogen chloride acceptor, and then hydrolyzing the product so obtained.

3,268,571
DIFLUOROMETHYL ESTERS AND PROCESS FOR THEIR PREPARATION

Ronald A. Mitsch, Falcon Heights, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Apr. 6, 1964, Ser. No. 358,146
15 Claims. (Cl. 260—456)

1. A process for the preparation of a compound of the formula



wherein R is an organic radical which is free of active hydrogen having pK_a greater than 7, Q is an atom in its highest oxidation state selected from the class consisting of carbon and sulfur, and *n* is 1–2 which comprises reacting an acid of the formula



with difluorocarbene.

3,268,572
SEPARATION OF AZEOTROPIC ALCOHOL-ESTER MIXTURES

Fritz Knörr and Hellmuth Spes, Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Germany

No Drawing. Filed Sept. 6, 1962, Ser. No. 221,860
Claims priority, application Germany, Mar. 26, 1960, W 27,540; Sept. 8, 1961, W 30,670
5 Claims. (Cl. 260—462)

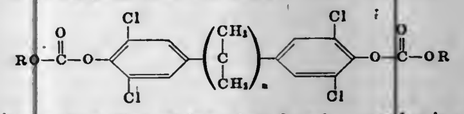
1. In a process for separating mixtures of alcohols of 1–8 carbon atoms with esters which form azeotropic mixtures with such alcohols, the steps which comprise acetalizing the alcohol in such mixtures with an aldehyde of the formula R—CHO in which R is selected from the group consisting of hydrogen and lower alkyl in the presence of an acid acetalizing catalyst at a pressure between 10 and 760 mm. Hg while distillatively separating one of the reaction products of the acetalization selected from the group consisting of the acetal and the water produced and separating the ester from the remaining reaction product of the acetalization.

3,268,573
BIS-(2,6-DICHLOROPHENYL ALKYL CARBONATES)

Henry Charles Godt, Jr., St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Aug. 14, 1963, Ser. No. 301,971
9 Claims. (Cl. 260—463)

1. A compound of the formula,



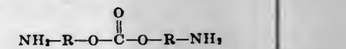
wherein R is alkyl of from 1 to 8 carbons, and *n* is an integer from 0 to 1.

3,268,574
BIS(AMINOHYDROCARBYL)CARBONATES

Thomas K. Brotherton and John W. Lynn, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Original application Dec. 28, 1960, Ser. No. 78,865, now Patent No. 3,162,673, dated Dec. 22, 1964. Divided and this application Dec. 6, 1963, Ser. No. 328,512
4 Claims. (Cl. 260—463)

1. A diamine of the formula



wherein R is of the group consisting of (a) cycloalkylene which has from 4 to 12 carbon atoms, and (b) arylene which has from 6 to 12 carbon atoms.

3,268,575
PURIFICATION OF BIS-BETA-HYDROXYETHYL TEREPHTHALATE

Max H. Keck, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed July 5, 1963, Ser. No. 293,180
6 Claims. (Cl. 260—475)

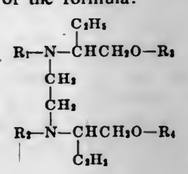
1. The process which comprises dissolving crude bis beta hydroxyethyl terephthalate in a hot solvent selected from alcohols containing from 5 to 12 carbon atoms from the group consisting of aliphatic alcohols and cycloaliphatic alcohols, filtering the solution and then cooling and allowing the bis beta hydroxyethyl terephthalate to crystallize and removing it from the solvent.

3,268,576
DI-ALKANOIC ACID ESTERS OF 2,2'-(ETHYLENEDIIMINO)-DI-1-BUTANOLS

Raymond George Wilkinson, Montvale, and Robert Gordon Shepherd, Ridgewood, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Original application Jan. 23, 1962, Ser. No. 168,241, now Patent No. 3,176,040, dated Mar. 30, 1965. Divided and this application Feb. 12, 1965, Ser. No. 432,401
Claims priority, application Great Britain, Feb. 7, 1961, 4,517/61, Patent 961,317
7 Claims. (Cl. 260—490)

1. A member of the class consisting of symmetrical ethylenediamines of the formula:



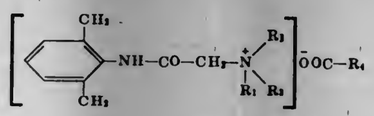
wherein R_1 and R_2 are the same and are selected from the group consisting of methyl and ethyl, and R_3 and R_4 are the same and are lower alkanoyl, and the non-toxic acid-addition salts thereof.

3,268,577
QUATERNARY ORGANIC SALTS OF ω-DIALKYLAMINO-2,6-DIMETHYLACETANILIDES

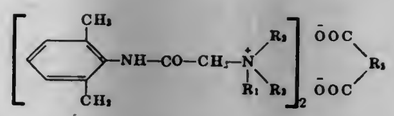
Jessie Evelyn Hay, Edinburgh, Scotland, assignor to Edinburgh Pharmaceutical Industries Limited

No Drawing. Original application Nov. 15, 1960, Ser. No. 69,285, now Patent No. 3,080,327, dated Mar. 5, 1963. Divided and this application Feb. 7, 1963, Ser. No. 264,993
Claims priority, application Great Britain, Nov. 20, 1959, 39,409/59; Feb. 27, 1960, 6,953/60
5 Claims. (Cl. 260—501)

1. A quaternary organic carboxylate selected from the group consisting of



and



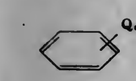
wherein:

R_1 is selected from the group consisting of the benzyl radical and the chlorobenzyl radicals,

R_2 and R_3 each represents an alkyl radical containing from 1 to 4 carbon atoms,

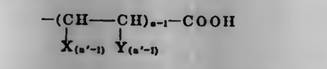
R_4 is selected from the group consisting of

(a) a radical of the formula



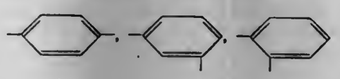
wherein Q is selected from the group consisting of NH_2, Cl, COOH and CH_3 and *n* represents a positive integer of from 1 to 2 and

(b) a radical of the formula

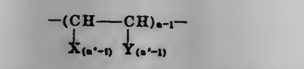


wherein X and Y is each selected from the group consisting of the hydrogen atom and the hydroxyl radical, and *n* and *n'* each represents a positive integer of from 1 to 2, and

R_5 is selected from the group consisting of



and



wherein X and Y are each selected from the group consisting of the hydrogen atom and the hydroxyl radical, and *n* and *n'* each represents a positive integer of from 1 to 2.

3,268,578
PROCESS FOR THE SULPHONATION OF BENZENE

David Harry Kohn, David Wolf and Moshe Fromer, Haifa, and Avraham Farchi, Bat-Yam, Israel, assignors to Technion Research & Development Foundation Ltd., Haifa, Israel, a corporation of Israel

No Drawing. Filed Sept. 5, 1963, Ser. No. 306,679
2 Claims. (Cl. 260—505)

1. Process for the sulphonation of benzene wherein benzene is reacted with SO_3 in the presence of catalytic quantities of a compound chosen from the group consisting of the oxides of mercury and the oxides of vanadium and in the presence of a catalytic quantity of a compound chosen from the group consisting of sulphuric acid and benzene polysulphonic acid.

3,268,579
PREPARATION OF ACRYLIC ACID

Edwin Marvin Smolin, Springdale, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Dec. 29, 1961, Ser. No. 163,038
6 Claims. (Cl. 260—533)

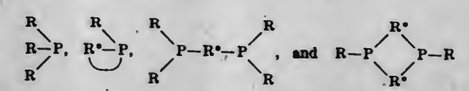
1. In a process for the preparation of acrylic acid by the reaction of acetylene, carbon monoxide and water in a reaction medium comprising said water, a nickel salt-copper salt catalyst combination, the nickel salt of said combination selected from the group consisting of nickel halides and nickel hydrocarbon sulfonates and mixtures thereof, and the copper salt of said combination selected from the group consisting of copper halides and copper hydrocarbon sulfonates and mixtures thereof, at least one of said salts of said combination being a halide and an oxygen-containing organic, water-miscible solvent at sufficiently elevated temperatures and pressures to form acrylic acid, the improvement therein of (1) first introducing a feed of acetylene and carbon monoxide into said reaction medium in an amount sufficient for initiation of reaction to take place, each of said acetylene and carbon monoxide being present in a mixture in an amount sufficient to reduce induction period, (2) terminating said feed of acetylene and carbon monoxide when an elevated pressure has been reached and (3) after initiation of the reaction has taken place, resuming said feed of acetylene and carbon monoxide into said reaction medium and carrying out said reaction at an elevated temperature and an elevated pressure.

3,268,580
DIFLUORO DIALKYL PHOSPHORANES AND METHOD OF PREPARATION OF DIFLUORO HYDROCARBON PHOSPHORANES WITH TETRAFLUOROHYDRAZINE

Murray Garber, Trenton, N.J., and William Charles Firth, Jr., Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 3, 1963, Ser. No. 306,657
10 Claims. (Cl. 260—543)

1. The method of producing compounds containing fluorine bonded directly to phosphorus which comprises treating, under anhydrous conditions, with an oxidative fluorinating agent comprising tetrafluorohydrazine, a P-fluorinatable trivalent phosphorus-containing compound selected from the group consisting of

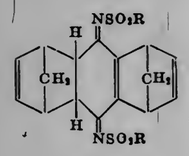


wherein each R represents a member of the group consisting of hydrogen, hydrocarbon radicals, and substituted hydrocarbon radicals and wherein each R* represents a member of the group consisting of hydrocarbon

radicals and substituted hydrocarbon radicals, said substituted hydrocarbon radicals having as a substituent a member selected from the group consisting of halo, cyano, lower alkoxy, phenoxy and R'C(O)O— radicals wherein R' is hydrogen or lower alkyl.

3,268,581
ANTHRAQUINONE DIALKANESULFONIMIDE
Joseph E. Dunbar, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 8, 1964, Ser. No. 366,150
5 Claims. (Cl. 260—556)

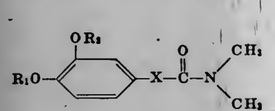
1. The compound corresponding to the formula



wherein R represents alkyl containing from 1 to 4 carbon atoms, inclusive.

3,268,582
PHENYLALKYL-CARBOXYLIC ACID AMIDES
Karl Zeile and Karl Heinz Hauptmann, Ingelheim (Rhine), Germany, assignors to Boehringer Ingelheim Gesellschaft mit beschrankter Haftung, Ingelheim (Rhine), Germany, a corporation of Germany
No Drawing. Filed May 7, 1963, Ser. No. 278,739
Claims priority, application Germany, Aug. 4, 1961, B 63,532
5 Claims. (Cl. 260—559)

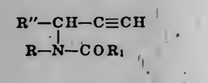
1. A phenylalkyl-carboxylic acid amide of the formula



wherein
R_1 and R_2 are each selected from the group consisting of methyl and ethyl, and
X is alkylene of 1 to 2 carbon atoms.

3,268,583
ACETYLENIC AMIDES
George L. Moore, South Plainfield, and James F. Vitcha, New Providence, N.J., assignors, by mesne assignments, to Cumberland Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Original application Feb. 20, 1961, Ser. No. 90,209. Divided and this application Oct. 30, 1962, Ser. No. 234,254
1 Claim. (Cl. 260—561)

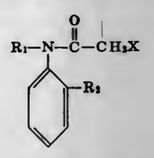
A compound of the formula



wherein R is a cyclic saturated hydrocarbon group of 5 to 8 carbon atoms, R_1 is an alkyl group of at most 10 carbon atoms, and R'' is a member selected from the group consisting of lower alkyl groups of up to 6 carbon atoms and hydrogen.

3,268,584
HERBICIDAL α-HALOACETANILIDES
John F. Olin, Ballwin, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 134,163, Aug. 28, 1961. This application Sept. 22, 1964, Ser. No. 398,400
3 Claims. (Cl. 260—562)

1. An α-haloacetanilide of the formula



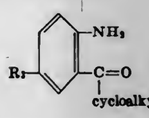
wherein R_1 is alkyl of not more than 6 carbon atoms, R_2 is alkoxy of not more than 4 carbon atoms, and X is a halogen atom selected from the group consisting of chlorine and bromine.

3,268,585
AURAMINE PROCESS USING SULFAMIC ACID
Rill Lewis Grosklos, Marietta, Ohio, assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed July 3, 1963, Ser. No. 292,765
7 Claims. (Cl. 260—566)

1. A process for the preparation of an auramine salt which comprises heating to a temperature between 120° and 200° C., a mixture of : (a) p,p'-(dimethyldiamino)diphenylmethane; (b) 0.25–0.5 part by weight of sulfur, based on the weight of (a); (c) at least 0.3 part by weight of a member selected from the group consisting of sulfamic acid and ammonium sulfamate per part of (a); and (d) at least about one part by weight of urea per part of (a); and recovering the auramine product thus formed.

3,268,586
2-AMINOPHENYL CYCLOALKYL KETONES
Leo Berger, Montclair, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 16, 1961, Ser. No. 131,750
2 Claims. (Cl. 260—578)

1. A compound of the formula



wherein R_3 is selected from the group consisting of hydrogen, halogen and nitro.

3,268,587
PROCESS FOR PREPARING ALKYLENE GLYCOL PRIMARY AMINE
Louis de Vries, Richmond, Calif., assignor to Chevron Research Company, a corporation of Delaware
No Drawing. Filed Mar. 28, 1963, Ser. No. 268,601
2 Claims. (Cl. 260—584)

1. A process for preparing primary polyethylene glycol amines which comprises heating at a temperature of about 130° F. a molar excess of ammonia with the tosylate ester of methoxy polyethylene glycol having a molecular weight between about 220 to about 10,000, cleaving the resulting toluene sulfonic acid amine salt with an alkali metal carbonate and purifying the methoxy polyethylene glycol primary amine by azeotropic distillation.

3,268,588
PROCESS FOR PRODUCING HEXAMETHYLENEDIAMINE FROM 1-6-HEXANEDIOL
Theodore Horlenko and Hopkins W. Tatum, Corpus Christi, Tex., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 16, 1962, Ser. No. 238,293
3 Claims. (Cl. 260—585)

1. Continuous process for producing hexamethylenediamine which comprises continuously introducing 1,6-hexanediol, ammonia and hydrogen into a reaction zone containing a catalyst selected from the group consisting of Raney nickel, Raney cobalt and nickel on kieselguhr in the following ratios: mole ratio of ammonia to hydrogen of about 4 to 1 to 30 to 1 and ratio of ammonia molecules to carbon atoms of about ⅓ to 1 to 5 to 1; maintaining said reaction zone at about 180 to 220° C. at about 1500 to 4000 p.s.i.g.; producing by reaction of the contents of said reaction zone under the conditions expressed above at least hexamethylenediamine; removing and recycling hexamethylenimine from said hexamethylenediamine product; recovering hexamethylenediamine as an overhead stream; and recycling the base stream product to the ammonolysis reactor.

3,268,589
PROCESS FOR PREPARING 4-(2-BUTENYLIDENE)-3,5,5-TRIMETHYL-2-CYCLOHEXENE-1-ONE
Ralph Lawrence Rowland, Winston-Salem, N.C., assignor to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey
No Drawing. Original application May 29, 1963, Ser. No. 283,970, now Patent No. 3,211,157, dated Oct. 12, 1965. Divided and this application Dec. 8, 1964, Ser. No. 416,909
3 Claims. (Cl. 260—586)

1. A process of preparing the compound 4-(2-butenylidene)-3,5,5-trimethyl-2-cyclohexen-1-one which comprises contacting dehydroionone under reducing conditions with a reducing agent selected from the group consisting of lithium aluminum hydride and sodium borohydride to form dehydroionol, contacting the so-formed dehydroionol with a dilute mineral acid to convert the dehydroionol to 4-(2-butenylidene)-3,5,5-trimethyl-2-cyclohexen-1-ol and then contacting the said 4-(2-butenylidene)-3,5,5-trimethyl-2-cyclohexen-1-ol with an oxidizing agent selected from the group consisting of chromic oxide in pyridine and manganese dioxide to form 4-(2-butenylidene)-3,5,5-trimethyl-2-cyclohexen-1-one.

3,268,590
PROCESS FOR PREPARING ALDEHYDES AND KETONES
Ulrich Schwenk and Günter Mau, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed May 3, 1962, Ser. No. 192,096
Claims priority, application Germany, May 6, 1961, F 33,869
10 Claims. (Cl. 260—597)

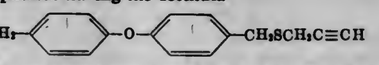
1. In a process for the preparation of carbonyl compounds selected from the group consisting of aldehydes and ketones by contacting, in a reaction zone, an olefin, oxygen, and an aqueous liquid catalyst of a salt of a noble metal of Group VIII of the Periodic Table and, as a redox system, a salt of a metal capable of forming several valence states under the reaction conditions applied, at least a portion of said metal salts being selected from the group consisting of metal chlorides and metal bromides, whereby an aqueous reaction product is formed comprising said carbonyl compounds together with volatile and involatile halogen-containing by-products containing halogen selected from the group consisting of chlorine and bromine derived from said metal chlorides and bromides, and then distilling said aqueous reaction product to separate said carbonyl compounds therefrom together with said volatile halogen-containing by-products to leave an aqueous phase comprising said involatile halogen-containing by-products, the improvement which comprises combining at least a portion of said aqueous phase containing said involatile halogen-containing by-products, after removal of said carbonyl compounds and volatile halogen-containing by-products therefrom, with at least a portion of said liquid aqueous catalyst from said reaction zone, heating the combination under pressure in a regeneration zone in the presence of air at a temperature between 160° C.–250° C. until said involatile halogen-containing by-products are converted to carbon dioxide, water, and hydrogen halides selected from the group consisting of hydrogen chloride and hydrogen bromide, whereby halide ions are resupplied to said catalyst, and until metal ions of said redox system present in said catalyst in lower valence states are completely oxidized to higher valence states, and returning the catalyst to said reaction zone, additional halide ion being added to said catalyst in the form of a member of the group consisting of hydrogen chloride and hydrogen bromide in an amount equivalent to the halide ion removed in the form of said volatile halogen-containing by-products.

3,268,591
PRODUCTION OF MONOMERIC FORMALDEHYDE
Kenneth T. Sloan, Garfield, and Richard E. Reynolds, Midland Park, N.J., assignors, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware
No Drawing. Filed Apr. 1, 1963, Ser. No. 269,746
8 Claims. (Cl. 260—606)

5. The process for producing substantially anhydrous, gaseous, monomeric formaldehyde suitable for polymerization to a high molecular weight polymer which comprises (i) depolymerizing a low molecular weight polymer of formaldehyde by heating it in the presence of methylene diacetate containing a catalytic amount of a Lewis acid having an ionization constant in excess of about 1×10^{-5}, at a temperature in the range between 130° C. and 160° C., and (ii) recovering substantially anhydrous, gaseous, monomeric formaldehyde having a purity of at least 99.9 percent by weight from the depolymerization medium.

3,268,592
PHENYL DERIVATIVES OF 4,4'-BIS(MERCAPTOMETHYL)DIPHENYL OXIDE
George B. Sterling, Mogadore, Ohio, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Dec. 26, 1963, Ser. No. 333,740
3 Claims. (Cl. 260—609)

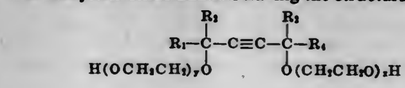
1. Compounds having the formula



wherein R represents a member of the group consisting of hydrogen and 2-propynyl.

3,268,593
ETHYLENE OXIDE ADDUCTS OF TERTIARY ACETYLENIC ALCOHOLS
Gilbert B. Carpenter, The Hague, Netherlands, and Morton W. Leeds, Murray Hill, and Robert J. Tedeschi, Whitehouse Station, N.J., assignors, by mesne assignments, to Cumberland Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 26, 1961, Ser. No. 119,301
5 Claims. (Cl. 260—615)

1. Ethylene oxide adducts having the structural formula

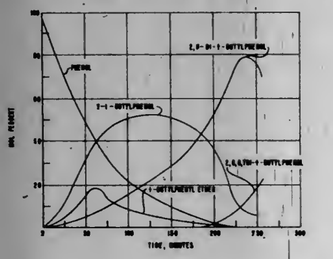


in which R_1 and R_4 are alkyl radicals containing from 3 to 6 carbon atoms, R_2 and R_3 are selected from the group consisting of methyl and ethyl, x and y have a sum in the range of 3 to 20, inclusive.

3,268,594
DIMETHYL ACETALS OF ALPHA,BETA ACETYLENIC ALDEHYDES
Paul Bedoukian, 40 Ashley Road, Hastings on Hudson, N.Y.
No Drawing. Filed Nov. 1, 1962, Ser. No. 234,848
4 Claims. (Cl. 260—615)

1. The dimethyl acetals represented by the formula $CH_3 \cdot (CH_2)_n \cdot C{:}C \cdot CH(OCH_3)_2$ where n is an integer from 3 to 7 inclusive.

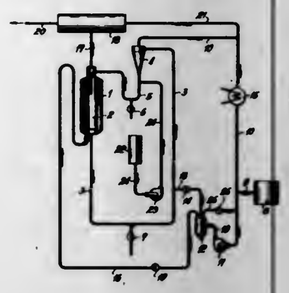
3,268,595
ALKYLATION PROCESS
Klaus L. Mai, Concord, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Mar. 15, 1962, Ser. No. 179,842
7 Claims. (Cl. 260—624)



1. The process for the ortho-alkylation of a phenol which comprises mixing a mononuclear, monohydroxy carbocyclic phenol having a replaceable hydrogen atom on at least one of the ring carbon atoms ortho to the hydroxyl group, a mono-olefin having up to 5 carbon atoms, and from about 0.001 mole to about 0.5 mole per mole of phenol of an alkyl aluminum halide wherein said alkyl has from 1 to 4 carbon atoms; reacting the resulting substantially homogeneous mixture at a temperature from about 100° C. to about 200° C. and a pressure from about 100 p.s.i.g. to about 5000 p.s.i.g., and separating the resulting ortho-alkylated phenol from the reaction mixture.

3,268,596
PROCESS FOR THE CONTINUOUS MANUFACTURE OF MONOVINYLACETYLENE
Kurt Sennewald and Wilhelm Vogt, Knapsack, near Cologne, Hans Welden, Rodenkirchen, near Cologne, and Peter Komischke, Efferen, near Cologne, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany
Filed Aug. 29, 1963, Ser. No. 305,488
Claims priority, application Germany, Sept. 22, 1962, K 47,786
18 Claims. (Cl. 260—678)

1. A process for the continuous manufacture of monovinylacetylene by catalytical dimerization of acetylene at an elevated temperature in an aqueous-acid cuprous chloride solution serving as the catalyst, wherein, in a first reaction stage, acetylene is introduced under pressure into the ascending portion of a catalyst solution cycle having a gas separating stage and a heated gas wash stage inserted therein, and partially dimerized into monovinylacetylene, the catalyst solution flowing in the catalyst solution cycle being kept in motion concurrently therewith by the acetylene gas introduced thereinto; gaseous constituents of the resulting reaction product and unreacted acetylene are substantially separated from the catalyst solution in the gas separating stage; a portion of an acetylene-containing gas mixture obtained in that gas separating stage is returned together with fresh acetylene into the ascending portion of the catalyst solution cycle, whereas the remaining portion of the said acetylene-containing gas mixture is caused to flow into the lower portion of the gas wash stage serving as a second reaction stage thereby expelling dissolved constituents of reaction product from the catalyst solution, which is withdrawn from the gas separating stage and introduced into the top portion of the gas wash stage, residual acetylene being substantial dimerized concurrently therewith into monovinylacetylene; and gas mixture coming from the gas wash stage is conveyed to a separating stage and separated therein by distillation into monovinylacetylene, unreacted acetylene and small amounts of by-products.



3,268,597
CONTINUOUS PREPARATION OF 2,3-DIBROMO-PROPANOL-1 COMPOUND
Carl W. Clemons and Donald E. Overbeek, St. Louis, Mich., assignors to Michigan Chemical Corporation, St. Louis, Mich., a corporation of Michigan
No Drawing. Filed Aug. 3, 1962, Ser. No. 214,493
2 Claims. (Cl. 260—633)

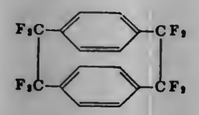
1. The process for continuously preparing 2,3-dibromo-1-propanol which consists of:
(a) the continuous, simultaneous addition of liquid allyl alcohol and bromine to a reaction chamber containing liquid 2,3-dibromo-1-propanol while maintaining the bromine to allyl alcohol weight ratio between about 2.4 and about 2.8, while maintaining a temperature in the reaction chamber at less than about 60° C. and while maintaining the weight ratio of allyl alcohol in the reaction chamber at any one time at less than fifty percent of the combined weight of allyl alcohol and 2,3-dibromo-1-propanol, the said bromine being introduced below the liquid surface of the 2,3-dibromo-1-propanol in the reaction chamber; and
(b) the continuous removal of the liquid reaction product containing substantially 2,3-dibromo-1-propanol from the reaction chamber.

3,268,598
NOVEL COMPOUND (1,6-DIHYDROXY-2,3,4,5-TETRAIODO-2,4-HEXADIENE)
Hyman Iserson, Philadelphia, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Philadelphia
No Drawing. Filed Aug. 21, 1963, Ser. No. 303,684
1 Claim. (Cl. 260—633)

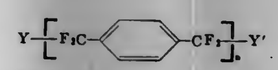
1,6-dihydroxy-2,3,4,5-tetraiodo-2,4-hexadiene.

3,268,599
PROCESS FOR THE PREPARATION OF CYCLO (α-PERFLUORO-DI-p-XYLYLENES)
Sui-Wu Chow, Bridgewater Township, Somerset County, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed July 9, 1964, Ser. No. 381,566
11 Claims. (Cl. 260—649)

1. A process for the preparation of cyclic α-perfluoro-di-p-xylylene having the structure



which comprises, pyrolyzing at temperatures of between about 700° C. to 1000° C., and at a partial pressure of between about 0.001 mm. Hg and 50 mm. Hg a compound in the vaporous state, said compound having the general formula



wherein Y is a halogen having a lower bond strength than that of fluorine, Y' is a member selected from the group consisting of hydrogen and halogens having a lower bond strength than that of fluorine, and n is an integer from 1 to 2 inclusive, cooling and bringing the thusly pyrolyzed vapor in intimate admixture with an inert orgainc solvent maintained at a temperature of from about 50° C. to about 250° C. and recovering said cylic α-perfluoro-di-p-xylylene from said solvent.

3,268,600
DEHALOGENATION OF ORGANIC COMPOUNDS
Richard Jekyll Kingdom, Royston Henry Bennett, and Stamford William Green, Bristol, England, assignors to The National Smelting Company Limited, London, England
No Drawing. Filed May 14, 1963, Ser. No. 280,412
Claims priority, application Great Britain, May 14, 1962, 18,471/62, 18,472/62
8 Claims. (Cl. 260—650)

1. A process for the preparation of a highly fluorinated organic compound containing carbon to carbon double bonds, comprising the essential step of contacting an organic compound chosen from the group consisting of (a) perfluorinated cyclic alkanes, cyclic alkenes and cyclic alkadienes containing rings of six and ten carbon atoms, and (b) perfluorinated cyclic alkanes, cyclic alkenes and cyclic alkadienes containing rings of six and ten carbon atoms to which are attached at least one or more perfluoroalkyl groups selected from the group consisting of perfluoromethyl and perfluoroethyl, with an oxide of at least one metal selected from the group consisting of tin, manganese, iron, chromium, copper, vanadium, molybdenum, tungsten, titanium, cobalt, lead, cerium, antimony, zinc and magnesium, at a temperature between 200° C. and 600° C., to remove halogen atoms from the compound.

5. A process for the preparation of a highly fluorinated aromatic compound, comprising the essential step of contacting a compound from the group consisting of per (chlorofluoro) cyclic alkanes and per (chlorofluoro) cyclic alkenes containing rings of six and ten carbon atoms with an oxide of a metal of variable valence chosen from the group consisting of manganese, iron, chromium, copper, vanadium, molybdenum, tungsten, titanium, cobalt, lead, cerium, antimony, zinc and magnesium at a temperature between 200° C. and 600° C., to remove halogen atoms from the compound.

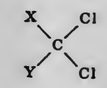
7. A process for the preparation of a fluorinated aromatic compound comprising the essential step of contacting an organic compound chosen from the class consisting of perfluorocyclohexadienes and fluorocyclohexadienes containing at least one hydrogen atom attached to an olefinic-carbon atom, with an oxide of at least one metal chosen from the group consisting of manganese, iron, chromium, copper, vanadium, molybdenum, tungsten, titanium, cobalt, lead, cerium, antimony, zinc and magnesium, at a temperature of between 200° C. and 600° C., to remove fluorine atoms only from the compound.

3,268,601
PYROLYSIS OF p-XYLENE AND HALOGENATED HYDROCARBONS
Louis A. Errede, Roseville, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Sept. 4, 1962, Ser. No. 221,375
2 Claims. (Cl. 260—651)

1. A process for preparing derivatives of p-xylene comprising the step of:
(a) pyrolyzing a p-xylene and a lower aliphatic halogenated hydrocarbon of not more than three carbon atoms while maintaining
(1) a temperature in the range of from about 900 to 1300° C.,
(2) a partial vapor pressure for said aromatic compound of less than about 150 mm. Hg, and
(3) a contact time between the two respective compounds of from about 0.1 to 0.001 second.

3,268,602
PROCESS FOR THE DEHYDROHALOGENATION OF HALOGENATED HYDROCARBONS
Anthony George Goble and John Francis Charles Nicholls, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation
No Drawing. Filed Feb. 26, 1963, Ser. No. 261,225
Claims priority, application Great Britain, Mar. 2, 1962, 8,168/62
6 Claims. (Cl. 260—654)

1. A dehydrochlorination process which comprises passing a chlorinated paraffin having a carbon number in the range 2–20 in vapor phase at a temperature in the range 100°–300° C. over a catalyst obtained by contacting a halogenatable inorganic oxide selected from refractory oxides of elements of Groups III, IV and V of the Periodic Table according to Mendeléeff with an organic chlorine containing compound having the general formula:



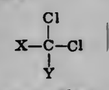
where X and Y when monovalent, are selected from the group consisting of H, Cl, Br and SCl, and X and Y, when together are divalent, are selected from the group consisting of O and S, said organic chlorine containing compound being contacted with said halogenatable inorganic oxide under non-reducing conditions and at a temperature in the range 149°–593° C. such that chlorine is taken up by said oxide without the production of free chloride, said catalyst containing from 2.0×10^{-4} to 3.5×10^{-4} g. of chlorine/sq. meter of surface area.

3,268,603
PRODUCTION OF HALOGENATED ORGANIC COMPOUNDS

Anthony George Goble, Sunbury-on-Thames, England, assignor to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed May 6, 1963, Ser. No. 278,397
Claims priority, application Great Britain, May 15, 1962, 18,631/62
9 Claims. (Cl. 260—658)

1. A process which comprises passing at a temperature in the range of —30°–100° C. a lower alkyl chloride with an olefinically unsaturated compound selected from the group consisting of lower olefinic hydrocarbons and their chloro-substituted derivatives over a halogenated catalyst prepared by contacting a halogenatable oxide selected from the group consisting of refractory oxides having a surface area greater than 250 sq. metres/gram of metals of Groups III to V of the Periodic Table according to Mendeléeff with a chlorine-containing compound of general formula

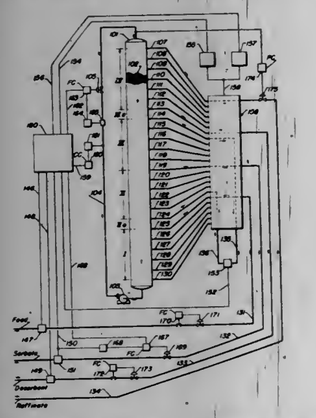


where X and Y when monovalent, are selected from the group consisting of H, Cl, Br and SCl, and X and Y, when together are divalent, are selected from the group consisting of O and S, said chlorine-containing compound being used under non-reducing conditions and at a temperature in the range 149–593° C., such that chlorine is taken up by said oxide without the production of free chloride, said catalyst containing from 2.0×10^{-4} to 3.5×10^{-4} chlorine/sq. metre of surface area.

3,268,604
FLUID FLOW CONTROL SYSTEM FOR SIMULATED MOVING BED PROCESSES

David M. Boyd, Jr., Clarendon Hills, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Nov. 6, 1961, Ser. No. 150,434
20 Claims. (Cl. 260—666)

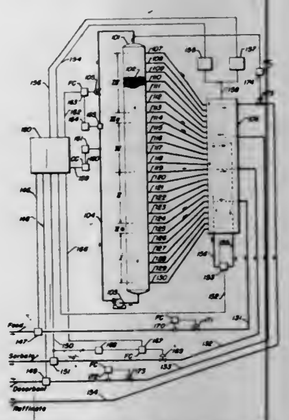


1. In a continuous fluid-solid contacting process for altering the composition of a feed stream to yield a product stream wherein a pumparound fluid is continuously circulated through an elongated contacting zone containing a solid contacting material which effects said alteration of composition, one end of said contacting zone communicating with the other through a flow-regulating means to form a closed flow path therethrough and said contacting zone having a plurality of intermittently flow-conducting transfer points spaced along the length of said flow path, and wherein *r* fluid process streams including said feed and product streams are substantially simultaneously introduced to and withdrawn from said contacting zone through a set of corresponding inlet and outlet points selected from said transfer points, and wherein said process streams are periodically shifted in unison successively from one set of transfer points to the next in a downstream direction with respect to the flow of said pumparound fluid whereby each of said process streams eventually passes through each of said transfer points, the method of controlling the flow rate of said pumparound fluid existing within that portion of said contacting zone which lies between a selected pair of adjacent process streams, irrespective of their instantaneous physical position relative to said flow-regulating means, which method comprises: separately sensing the flow rates of at least *r*—1 process streams and producing a group of flow sensations corresponding thereto; automatically producing from said group of flow sensations a setpoint signal in accordance with the number, direction and flow rates of the process streams passing through those transfer points between said flow-regulating means and the one of said pair of adjacent process streams which is more remote from said flow-regulating means; and adjusting said flow-regulating means in response to said setpoint signal.

3,268,605
SUPERVISORY CONTROL SYSTEM FOR A SIMULATED MOVING BED SEPARATION PROCESS

David M. Boyd, Jr., Clarendon Hills, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Nov. 6, 1961, Ser. No. 150,435
20 Claims. (Cl. 260—666)



1. In a continuous process for separating the components of a mixture of fluid compounds, at least one of which is selectively sorbed by contact with a solid sorbent and at least one other component is relatively less sorbed by the sorbent which is capable of having its sorbency restored by displacing selectively sorbed component therefrom, wherein a pumparound fluid is continuously circulated through an elongated contacting zone containing said solid sorbent, one end of said contacting zone communicating with the other to form a closed flow path therethrough and said contacting zone having a plurality of intermittently flow-conducting transfer points spaced along the length of said flow path, and wherein there are substantially simultaneously introduced to and withdrawn from said contacting zone in alternating relationship a plurality of fluid process streams including, in the following order and proceeding in a downstream direction with

respect to the flow of said pumparound fluid, (a) a feed stream containing said mixture of fluid compounds, (b) a first product stream containing relatively less sorbed component, (c) a desorbent stream capable of displacing the selectively sorbed component from said sorbent, and (d) a second product stream containing a mixture of selectively sorbed component and desorbent, said process streams being passed through a set of corresponding inlet and outlet points selected from said transfer points, and wherein said process streams are periodically shifted in unison successively from one set of transfer points to the next in a downstream direction with respect to the flow of said pumparound fluid whereby each of said process streams eventually passes through each of said transfer points, those transfer points which are presently conducting fluid hereinafter being designated as "active" transfer points, the method of maximizing the separation efficiency of said process which comprises: sensing the composition of said pumparound fluid at a fixed analysis point in said flow path and producing a composition signal responsive to the instantaneous concentration of one of said fluid compounds in said pumparound fluid at said analysis point; and periodically adjusting the flow rate of one of said process streams in response to said composition signal but only upon corresponding periodic attainment of a predetermined orientation of said active transfer points relative to said analysis point.

3,268,606
β-CAROTENE PROCESS

Herbert K. Jaeger, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Sept. 27, 1963, Ser. No. 311,995
8 Claims. (Cl. 260—666)

1. A process for the preparation of crystalline β- carotene which consists of:

(1) submerged aerobic fermentation of an organism of the class Phycomycetes and the order Mucorales in a nutrient medium until a minimum carotenoid titer of 400 mg./liter, of which at least about 70% is β-carotene, is present in the fermentation beer,
(2) separating the mycelial cells from said microbiological fermentation beer,
(3) drying the separated mycelial cells with a water-miscible drying alcohol,
(4) extracting the alcohol-dried mycelial cells with a solvent for β-carotene to give a solvent extract containing β-carotene,
(5) concentrating the solvent extract containing β-carotene, and,
(6) crystallizing β-carotene from the concentrated solvent extract.

3,268,607
PREPARATION OF ALKYLATED AROMATIC COMPOUNDS

George J. Schmitt, Madison, and Daniel E. Nee, Jr., Dover, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 9, 1963, Ser. No. 329,269
9 Claims. (Cl. 260—668)

1. A process for production of 1,3,5-triisopropylbenzene, which comprises contacting 1,2,4,5-tetraisopropylbenzene as one reactant, with, as co-reactant, at least one member selected from the group consisting of benzene, cumene, and the diisopropylbenzenes at a temperature of about 110–170° C. in the presence of an acid-activated clay catalyst whereby to form 1,3,5-triisopropylbenzene by transpropylation and maintaining said contact under said conditions until at least some of said tetraisopropylbenzene and at least some of said co-reactant have been converted into 1,3,5-triisopropylbenzene.

3,268,608
SELECTIVE HYDROGENATION PROCESS

Armand J. De Rosset, Clarendon Hills, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 26, 1963, Ser. No. 333,646
9 Claims. (Cl. 260—668)

1. A process for the selective hydrogenation of the alkenyl group of an alkenyl substituted aromatic compound which comprises treating said compound with hydrogen containing a small amount of hydrogen sulfide in the presence of a sulfided hydrogenation catalyst at a temperature in the range of from about 100° to about 300° C. and at a pressure in the range of from about 2 to about 100 atmospheres, and recovering the desired product.

3,268,609
HYDROCARBON CONVERSION PROCESS

William G. Nixon, Clearwater, Fla., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Aug. 6, 1965, Ser. No. 477,963
16 Claims. (Cl. 260—668)

1. A conversion process which comprises isomerizing an isomerizable unsaturated hydrocarbon at a temperature in the range of from about 0° to about 400° C. and at a pressure in the range of from about atmospheric to about 200 atmospheres in contact with a catalyst consisting essentially of an oxygen-containing sulfur compound selected from the group consisting of sulfuric acid, sulfurous acid, ammonium sulfate, ammonium sulfite, aluminum sulfate and the sulfates and sulfites of Groups VI–B and VIII of the Periodic Table chemically bonded to a substantially anhydrous refractory oxide support comprising a major portion of high surface area alumina selected from the group consisting of gamma-alumina, eta-alumina and theta-alumina.

6. The process of claim 1 further characterized in that said isomerizable unsaturated hydrocarbon is an isomerizable olefinic hydrocarbon.

7. The process of claim 1 further characterized in that said isomerizable hydrocarbon is an isomerizable alkyl aromatic hydrocarbon.

3,268,610
DEALKYLATION OF ALKYLAROMATIC COMPOUNDS

Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Nov. 19, 1964, Ser. No. 412,499
10 Claims. (Cl. 260—672)

1. A process for the dealkylation of an alkylaromatic hydrocarbon containing at least one α-hydrogen atom on the side chain which comprises passing said hydrocarbon to an alkylation zone, condensing said hydrocarbon with an alkylating agent in said zone in the presence of an alkaline catalyst at alkylation conditions, separating t-alkylaromatic hydrocarbon from n- and sec-alkylaromatic hydrocarbons, recycling the latter hydrocarbons to said alkylation zone, passing said t-alkylaromatic hydrocarbon to a dealkylation zone, dealkylating said t-alkylaromatic hydrocarbon in the presence of an acidic catalyst at dealkylation conditions, and recovering the resultant aromatic hydrocarbon and isoolefin.

3,268,611
PROCESS FOR DEHYDROGENATING HYDROCARBONS

Laimonis Bajars, Princeton, N.J., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Filed June 11, 1965, Ser. No. 463,365
2 Claims. (Cl. 260—680)

1. The method for the dehydrogenation of an aliphatic hydrocarbon selected from the group consisting of n-butane, n-butene, and mixtures thereof, to produce an unsaturated hydrocarbon of the same number of carbon atoms which comprises heating in the vapor phase at a temperature of at least 450° C. the aliphatic hydrocarbon with oxygen in a molar ratio of 0.40 to 2 mols of oxygen per mol of the aliphatic hydrocarbon, chlorine in a molar ratio of between 0.01 and 0.35 mol of chlorine per mol of said hydrocarbon, the partial pressure of the said hydrocarbon being equivalent to no greater than 6 inches of mercury at a total pressure of one atmosphere, and a catalyst having nickel oxide as its main active constituent, the ratio of the mols of said oxygen to the mols of said chlorine being greater than three.

3,268,612
HYDROCARBON DEHYDROGENATION PROCESS

Laimonis Bajars, Princeton, N.J., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Filed June 11, 1965, Ser. No. 463,373
6 Claims. (Cl. 260—680)

1. The method for the production of unsaturated aliphatic hydrocarbons of 4 to 6 carbon atoms which comprises heating in the vapor phase at a temperature of at least 450° C. the corresponding aliphatic hydrocarbon of 4 to 6 carbon atoms with oxygen in a molar ratio of about 0.4 to 2 mols of oxygen per mol of said aliphatic hydrocarbons, chlorine in a molar ratio of from greater than about 0.001 mol to 0.2 mol of chlorine per mol of said aliphatic hydrocarbons, the partial pressure of said aliphatic hydrocarbons being equivalent to less than about one-fifth atmosphere at one atmosphere total pressure, with a catalyst consisting essentially of platinum metal, palladium metal, platinum oxide, palladium oxide or mixtures thereof, the ratio of the mols of said oxygen to the mols of said chlorine being at least three.

3,268,613
STABILIZATION OF POLAR SILVER SALT HYDROCARBON EXTRACTING SOLUTIONS

Shigeto Suzuki, San Francisco, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed July 30, 1965, Ser. No. 476,147
3 Claims. (Cl. 260—681.5)

1. Process for the recovery of n-C_4–C_{12} alkadienes present as a minor component in lower normally fluid mono-olefinic hydrocarbons which comprises extractively contacting in a mixing zone said liquid hydrocarbon with a concentrated solution of a soluble silver salt in a polar solvent at a contact temperature below about 30° C., passing the resulting mixture to a phase separation zone, and individually withdrawing therefrom the separated diene reduced hydrocarbon raffinate and the separated silver salt solution extract, passing and said salt solution to a heating zone where it is heated while maintaining said solution substantially saturated with oxygen to a temperature above about 50° C., but below about 150 C., withdrawing the resulting thermally released diolefinic hydrocarbon from said heating zone at a point above said salt solution, and withdrawing said heated oxygen-stabilized silver salt solution from said separation zone.

3,268,614
RECOVERING ALLENE BY SOLID CUPROUS HALIDE

Robert B. Long, Atlantic Highlands, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Aug. 6, 1965, Ser. No. 477,966
10 Claims. (Cl. 260—681.5)

1. A process for recovering allene from hydrocarbon mixtures containing allene in admixture with methyl acetylene and materials forming azeotropes with allene and methyl acetylene which comprises (a) contacting said allene-methyl acetylene containing hydrocarbon mixtures with an active, particulate cuprous halide sorbent having a porosity of above about 10% (of the total volume of a particle) 550 to 10,000 A. pores at temperatures and pressures sufficient to form cuprous halide complexes with allene and methyl acetylene; (b) subjecting said cuprous halide sorbent to temperature and pressure conditions such that the partial pressure of allene and methyl acetylene are below the dissociation pressure of said cuprous halide-allene and cuprous halide-methyl acetylene complexes to form an allene-methyl acetylene concentrate substantially free from azeotropes and (c) recovering allene from said concentrate.

3,268,615
HIGH PRESSURE CRACKING

Walter F. Keenan III, and Roger S. Hovey, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

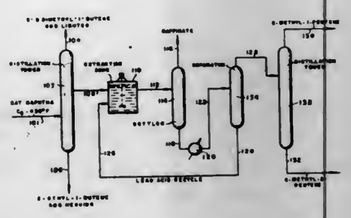
No Drawing. Filed Dec. 28, 1961, Ser. No. 162,921
9 Claims. (Cl. 260—683)

2. The process for thermally cracking the hydrocarbon components which have at least two carbon atoms present in natural gas, said natural gas containing at least 55 volume percent methane and being under a pressure of from 100 p.s.i.g. to 1500 p.s.i.g. at its source, which comprises heating said natural gas, which is maintained substantially at its source pressure, to a temperature of from about 900° C. to about 1200° C. whereby the hydrocarbon components of said natural gas which have two or more carbon atoms are thermally cracked, said process being conducted in the absence of added steam.

3,268,616
PROCESS FOR PRODUCING 2-METHYL-2-PENTENE

William R. Edwards and Robert D. Wesselhoft, Baytown, Tex., and Bert B. Williams, Princeton, N.J., assignors to Humble Oil & Refining Company

Filed Mar. 29, 1963, Ser. No. 269,062
11 Claims. (Cl. 260—683.2)



1. A method of producing high purity 2-methyl-2-pentene from a catalytic naphtha which comprises
fractionating said catalytic naphtha to obtain an isomerization feedstock boiling within the range of about 133° F. to about 146° F., and containing 2-methyl-1-pentene,
contacting said isomerization feedstock with 60% to 75% sulfuric acid at a temperature within the range of 20° F. to 60° F. for a time within the range from 5 minutes to 3 hours
whereby at least a portion of said 2-methyl-1-pentene is selectively isomerized to 2-methyl-2-pentene to produce an isomerized stream, and
recovering 2-methyl-2-pentene from said isomerized stream as a substantially pure product.

3,268,617
ISOMERIZATION OF METHYL-PENTENES USING TUNGSTEN OXIDE CATALYSTS

Henry R. Menapace, Monroe Falls, and Richard R. Smith, Cuyahoga Falls, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed May 2, 1963, Ser. No. 277,450
11 Claims. (Cl. 260—683.2)

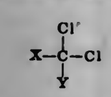
1. A method which comprises contacting a catalyst comprising tungsten oxide on a suitable support with a terminal olefin selected from the group of 2-methyl pentene-1 and 4-methyl pentene-1 at substantially atmospheric pressures and in the substantial absence of water at temperatures varying from about 50° C. to about 400° C. to cause isomerization of said terminal olefin.

3,268,618
POLYMERIZATION PROCESS USING CHLORINATED ALUMINA CATALYST

John Vincent Fletcher and Anthony George Goble, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed May 8, 1963, Ser. No. 279,013
Claims priority, application Great Britain, May 15, 1962, 18,626/62
3 Claims. (Cl. 260—683.15)

1. A polymerization process for polymerizing alpha mono-olefinic hydrocarbons which comprises contacting at a temperature between ambient and 200° C. a feedstock comprising a major proportion of alpha mono-olefinic hydrocarbons having less than about eight carbon atoms with a chlorinated catalyst obtained by contacting alumina with a compound of the general formula



where X and Y are the same or different and are selected from H, Cl, Br, F or SCl, or where X and Y together are O or S, under non-reducing conditions and at a temperature in the range of from 200°–1100° F. such that at least 1% chlorine is taken up by the oxide without the production of free chloride.

3,268,619
FLAME RETARDANT EPOXY RESINS

Richard C. Nametz, St. Louis, Mich., assignor to Michigan Chemical Corporation, St. Louis, Mich., a corporation of Michigan

No Drawing. Filed Oct. 12, 1962, Ser. No. 230,242
The portion of the term of the patent subsequent to Oct. 16, 1979, has been disclaimed
6 Claims. (Cl. 260—831)

1. A hardenable resin composition which comprises a mixture of:
(a) the bromine containing condensation product of a nuclear brominated bisphenol containing at least one, and not more than two, bromine atoms on each phenyl radical, and a halohydrin; and
(b) a novolak epoxy resin.

3,268,620
COATING FOR A METAL SURFACE CONTAINING POLYVINYL CHLORIDE RESINS, EPOXIDIZED POLYBUTADIENE, UREA - FORMALDEHYDE RESIN, AND A METHYLOL PHENOL ETHER

Wesley Albion Tarwid, Barrington, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Filed July 11, 1962, Ser. No. 209,112
14 Claims. (Cl. 260—834)

1. A coating composition for application directly to a metal surface comprising a high molecular weight polyvinyl chloride resin, an epoxidized polybutadiene resin, a urea-formaldehyde resin, an interpolymer of vinyl chloride, vinyl acetate and a member of the group consisting of maleic acid and maleic anhydride, a methylol phenol ether, and an acid catalyst for said ether.

12. A metal can having adhered to a surface thereof a tightly-knit, inert film of the baked coating composition set forth in claim 1.

3,268,621
POLYMERIZABLE POLYESTER COMPOSITIONS

Richard N. Moore, El Dorado, Ark., and Ray V. Lawrence and Walter H. Schuller, Lake City, Fla., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application July 3, 1961, Ser. No. 131,703. Divided and this application Oct. 24, 1962, Ser. No. 239,390
1 Claim. (Cl. 260—861)

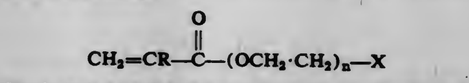
A polymerizable composition consisting essentially of equal parts by weight of an unsaturated polyester resin and monomeric styrene, and a catalytically effective amount of 18-hydroperoxy-6,14-peroxy-$\Delta^{7,8}$-dihydroabietic acid.

3,268,622
COMPOSITIONS COMPRISING GRAFT COPOLYMERS OF CERTAIN MONOMERIC POLYGLYCOL ESTERS OF ACRYLATES AND METHACRYLATES ON POLYESTER SUBSTRATES

George W. Stanton, Walnut Creek, and Teddy G. Traylor, Del Mar, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed June 22, 1962, Ser. No. 206,128
4 Claims. (Cl. 260—873)

1. Dye-receptive graft copolymer composition comprised of (1) a polyester polymer substrate which is a fiber-forming polymer having as an essential ingredient in the polymer chain recurring units of an aromatic nucleus having chemically attached thereto to carbon atoms therein up to about 20 weight percent, based on the weight of the composition, as graft copolymerized substituents thereon, (2) polymerized units of a monomer of the formula:



wherein R is a radical selected from the group consisting of hydrogen and methyl; X is selected from the group consisting of halogen; hydroxyl (1 to 4 carbon atoms) alkoxy, acrylyloxy and methacrylyloxy radicals; and n has an average numerical value of 2 to 200.

3,268,623
RIGID POLYVINYL CHLORIDE COMPOSITIONS HAVING IMPROVED PHYSICAL PROPERTIES

Ludwig A. Beer, Agawam, Mass., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed June 21, 1962, Ser. No. 204,031
7 Claims. (Cl. 260—876)

1. A graft copolymer composition prepared by polymerizing 60 to 98% by weight of vinyl chloride monomer

with 2 to 40% by weight of a chlorinated polyolefin having a chlorine content of 15–49% by weight dissolved therein.

3,268,624
BLOCK COPOLYMERS OF ETHYLENE AND PROPYLENE

James L. Jezl, Swarthmore, and Habet M. Khelghatian, Springfield, Pa., and Louise D. Hague, Wilmington, Del., assignors to Avisun Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Nov. 29, 1962, Ser. No. 241,032
1 Claim. (Cl. 260—878)

A process for the preparation of block copolymers of ethylene and propylene which comprises contacting a first feed selected from the group consisting of propylene and mixtures of propylene and ethylene containing from about 1.5% to 5% ethylene, in an inert solvent with a catalyst system consisting of aluminum ethyl dichloride, titanium trichloride, and an alkoxy silane having the formula

$$R_1R_2R_3R_4Si$$

wherein R_1 is an alkoxy radical and each R_2, R_3, and R_4 is an alkoxy radical or a hydrocarbon radical, the mol ratio of aluminum ethyl dichloride to titanium trichloride being in the range of 0.2 to 1 to 10 to 1, and the atomic ratio aluminum to active silane oxygen being in the range of 5:4 to 6:1, discontinuing the first feed, and contacting the catalyst system with a second feed selected from the group consisting of ethylene and mixtures of ethylene and propylene having a higher ethylene content than the first feed, and recovering a pentane-insoluble product having a lower brittle point and higher tensile impact strength than polypropylene of equivalent flow rate.

3,268,625
BULK INTERPOLYMERIZATION OF MONOMERIC MIXTURE COMPRISING ACRYLONITRILE AND ALPHA-ALKYL STYRENE

Faber B. Jones, Palmer B. Stickney, and Gilbert M. Gynn, Columbus, Ohio, assignors, by mesne assignments, to The Standard Oil Company, Cleveland, Ohio

Filed Dec. 26, 1962, Ser. No. 247,247
14 Claims. (Cl. 260—880)

1. A multistage bulk polymerization process for production of a thermoplastic polymer product containing from about 15 to 48 percent of chemically combined acrylonitrile and at least one other chemically combined interpolymerizable material, which process comprises the steps of:

(a) bulk prepolymerizing a reactant mixture, which comprises, for each 100 parts of the reactant mixture, from about 15 to 48 parts of acrylonitrile monomer, from 1 to 52 parts of an alpha-lower alkyl styrene monomer in at least a minimum amount thereof effective as a reactive polymerization moderator and from 0 to 84 parts of at least one other polymerizable monomer interpolymerized therewith, to a conversion of about 30 to 60 percent polymeric material with the bulk prepolymerizing being conducted with agitation of the reactant mixture at a temperature between 60° and 100° C., with an initial charge of reactant mixture containing all of the acrylonitrile monomer and from 60 to 80 percent of the alpha-lower alkyl styrene monomer and from 60 to 80 percent of said other polymerizable monomer, and with the balance of the alpha-lower alkyl styrene monomer and the balance of said other polymerizable monomer added to the reactant mixture during the bulk prepolymerizing before completion of the bulk prepolymerizing; and

(b) further bulk polymerizing the resulting prepolymer product of step (a) to a conversion in excess of about 90 percent polymeric material in the form of a solid of a thickness between about 2 and 6 inches, with the bulk further polymerizing being conducted without agitation of said prepolymer and with said prepolymer being maintained between 100° C. and 200° C.

3,268,626
POST-CHLORINATED VINYL CHLORIDE POLYMER CONTAINING BUTADIENE-ACRYLONITRILE RUBBER AND STYRENE-ACRYLONITRILE COPOLYMER

Garland B. Jennings, Bath Township, Akron, and George J. Kliner, Avon Lake, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Continuation of application Ser. No. 224,250, Sept. 17, 1962. This application Sept. 3, 1964, Ser. No. 394,345
8 Claims. (Cl. 260—891)

1. A composition comprising an intimate mixture of (a) 100 parts by weight of post-chlorinated polyvinyl chloride resin characterized by having a density of from about 1.53 to 1.59 grams per cc. at 25° C. and a chlorine content of from about 64 to 68% by weight, a heat distortion temperature, according to ASTM test method D648–56, within the range of 95° C. to 125° C., and high heat stability such that it is not degraded if exposed to air at 375 to 400° F. for at least 10 minutes; and (b) from 1 to 15 parts by weight of a resinous copolymer of styrene and acrylonitrile containing from 20 to 35% by weight of polymerized acrylonitrile units and having a dilute solution viscosity, measured in methyl ethyl ketone solvent at 25° C., of from 0.3 to 0.7; and (c) from 3 to 15 parts by weight of a cross-linked rubbery copolymer of butadiene and acrylonitrile containing from 20 to 30% by weight of polymerized acrylonitrile units, containing at least 50% by weight of gel the mixture characterized in that it is extrudable into pipe suitable for conveying water at a temperature within the range of at least 85° C. to about 100° C.

3,268,627
BLENDS OF ISOTACTIC AND SYNDIOTACTIC POLYPROPYLENE

Donald D. Emrick, Maple Heights, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed May 16, 1963, Ser. No. 281,012
10 Claims. (Cl. 260—897)

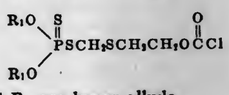
1. The composition comprising an intimate blend of from about 50 to 97% by weight of a crystalline isotactic polymer of an alpha-olefin containing from 3 to 8 carbon atoms and from about 3 to 50% by weight of a crystalline syndiotactic polymer of an alpha-olefin containing from 3 to 8 carbon atoms, said syndiotactic polymer being prepared by the polymerization said alpha-olefin in the presence of an organometallic coordination catalyst composed of lithium alkyl hydride, titanium tetrachloride and a triaryl phosphine.

3,268.628
2-S-(O,O-DIALKYLPHOSPHORODITHIOYL)-METHYLMERCAPTOETHYL CHLOROFORMATES

Arnold D. Gutman, Oakland, Donald G. Stoffey, El Cerrito, and James T. Hallett, Saratoga, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 16, 1963, Ser. No. 251,725
3 Claims. (Cl. 260—948)

1. A compound of the formulae:



wherein R_1 and R_2 are lower alkyls.

3,268,629
MONOESTERS OF PHOSPHONIC ACIDS

Emile Cherbuliez and Joseph Rabinowitz, Geneva, Switzerland, assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Oct. 11, 1962, Ser. No. 230,315
4 Claims. (Cl. 260—956)

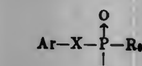
1. The phenylphosphonic monoester of propargyl alcohol.

3,268,630
PREPARATION OF HYDROXYPHENYL ALKANE PHOSPHONATES

John D. Spivack, Spring Valley, N.Y., assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 25, 1963, Ser. No. 260,910
23 Claims. (Cl. 260—968)

1. The process for preparing a compound having the formula



wherein

Ar is an alkyl-substituted hydroxyphenyl radical, at least one alkyl group being tertiary alkyl ortho to the hydroxy group on the phenyl nucleus, said alkyl having up to 18 carbon atoms,

X is an alkylene group having 1 to 6 carbon atoms, and

R_0 and R_1 are each independently selected from the group consisting of alkoxy having 1 to 24 carbon atoms, phenoxy and alkylphenoxy having 7 to 24 carbon atoms,

which process comprises

(a) reacting a compound having the formula

$$Ar—X—OH$$

wherein Ar and X are defined as above, with a compound having the formula



wherein R is a member selected from the group consisting of alkoxy having 1 to 24 carbon atoms, phenoxy and alkylphenoxy having 7 to 24 carbon atoms, and

(b) recovering the product.

3,268,631
PROCESS FOR PRILLING QUATERNARY AMMONIUM SALT-UREA COMPLEXES

William R. Price, Jr., Bourbonnais, and Robert E. Norris, Kankakee, Ill., assignors to General Mills, Inc., a corporation of Delaware

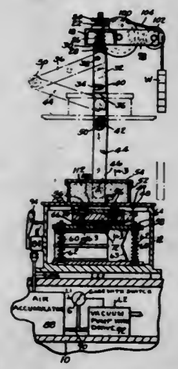
Filed Sept. 11, 1963, Ser. No. 308,144
2 Claims. (Cl. 264—14)

1. A process of preparing a conchiform, hard, dry, noncaking, free-flowing complex of urea and a quaternary ammonium compound having at least one long chain alkyl of from 8 to 22 carbon atoms comprising forming a melt of a complex of said urea and quaternary ammonium compound having a temperature of from 275 to 325° F. and a moisture content not more than 1% by weight into a plurality of particulate molten masses and subjecting said particulate molten masses to free-fall in a countercurrent flow of air at a temperature between 40 to 110° F. to solidify said particulate masses prior to formation of said particulate masses into a spherical shape thereby providing a conchiform particle.

3,268,632
METHOD FOR USE IN THE MANUFACTURE OF GRINDING WHEEL ASSEMBLIES

Robert A. Eves, Holden, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Original application Nov. 10, 1961, Ser. No. 151,521, now Patent No. 3,184,797, dated May 25, 1965. Divided and this application Aug. 20, 1964, Ser. No. 397,059
2 Claims. (Cl. 264—25)



1. A method of making a grinding point assembly of the kind comprising an abrasive point having a blind hole and a metal spindle fixed to the point within the hole by means of a binder, which comprises:

supporting the point with the axis of the hole in a vertical position within an open top chamber;

said point being positioned in the chamber so that most of its surface is exposed to the chamber;

sealing off the top surface of the point surrounding the hole therein and the open top of the chamber from the outside atmosphere;

positioning a reservoir containing binder material and an orifice in registration with the hole;

drawing a vacuum in the chamber and the hole to suck binder into the hole until the hole is sufficiently filled with the binder material forced into the hole by the atmospheric pressure above the reservoir;

venting the vacuum to allow removal of the filled point from the chamber;

transferring the point having its hole filled with binder from the chamber to a spindle mounting station having a holder with a spindle supported therein in axial alignment with the axis of the hole;

inserting one end of said aligned spindle in said holder into the binder;

yieldably forcing said end of the spindle into the binder in the hole; and

heating the spindle sufficiently to first render the binder the binder plastic as the end of the spindle is heated while it is yieldably forced into the binder and then continuing the heating to harden the binder while the end of the spindle is held aligned and seated in the hole.

3,268,633
METHOD OF CONTINUOUSLY FORMING CARBON ARTICLES

Karl Jansen, Cleveland, Ohio, assignor to Kaiser Industries Corporation, Oakland, Calif., a corporation of Nevada

Filed Sept. 21, 1965, Ser. No. 488,935
3 Claims. (Cl. 264—27)

1. The method for producing electrically conductive carbon elements which comprises,

(A) preparing a mixture of electrically conductive carbon particles and a bonding material, said bond-

ing material being thermally convertible to electrically conductive carbon which is capable of bonding said particles,

(B) introducing the mixture into an elongated chamber the terminal portion of which has the same cross section as the desired cross section of the electrically conductive carbon elements,

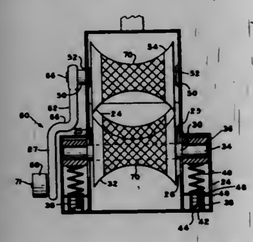
(C) advancing the mixture through the elongated chamber by means capable of exerting pressure on the mixture, said means being insulated from ground,

(D) advancing the mixture while under pressure to a position between two electrodes both of which are positioned to be in electrical contact with the mixture and electrically insulated from each other except for the length of said mixture between them,

(E) passing electric current through the portion of the mixture between said electrodes at a sufficient rate and for a sufficient time to raise the temperature of the mixture to the coking temperature of the binder, and

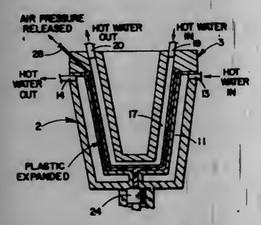
(F) advancing the resultant bonded electrically conductive material out of the elongated chamber.

3,268,634
METHOD FOR REJUVENATING GOLF BALLS
Simon Glaser, 434 Wellesley Road, Philadelphia, Pa. 19119
Original application June 13, 1961, Ser. No. 116,820, now Patent No. 3,216,058, dated Nov. 9, 1965. Divided and this application Feb. 17, 1965, Ser. No. 433,381
5 Claims. (Cl. 264—36)



1. A method of rejuvenating an old golf ball comprising kneading the ball by rotating it under pressure against a roughened surface.

3,268,635
ARRANGEMENT FOR FORMING FOAM PLASTIC ARTICLE
Robert A. Kraus and Edmund J. Kraus, both of 1117 Mayflower, Monrovia, Calif.
Filed Feb. 25, 1963, Ser. No. 260,750
16 Claims. (Cl. 264—41)



1. The method of forming a thin walled unitary foam plastic article comprising the steps of

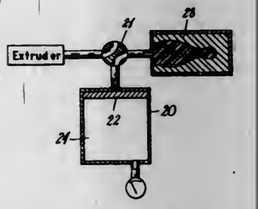
liquifying a foamable plastic material by heating said plastic,

introducing said heated plastic into a confined volume greater than the volume of said heated plastic and capable of being filled by said plastic upon foaming thereof, said confined volume defining the contour of an article to be produced, providing a pressurized fluid in said confined volume so as to contact all parts of the surface of said heated plastic exposed therein, said fluid being at a pressure such that it maintains said heated plastic under fluid pressure sufficient to preclude the foaming thereof while said plastic is so introduced into said confined volume,

then releasing said fluid pressure after said plastic has been introduced into said confined volume and allowing said heated plastic to foam within said confined volume to fill the same,

and then cooling said plastic to solidify the same and result in a foam plastic article having the contour of said confined volume.

3,268,636
METHOD AND APPARATUS FOR INJECTION MOLDING FOAMED PLASTIC ARTICLES
Richard G. Angell, Jr., Highland Park, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed July 1, 1963, Ser. No. 291,898
13 Claims. (Cl. 264—51)



1. Process for molding foamed thermoplastic articles which comprises the steps of

(a) melting a mixture of a blowing agent and a foamable thermoplastic material in an extruder at a temperature above the foaming temperature of said blowing agent and at a pressure above the foaming pressure thereof;

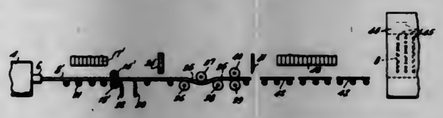
(b) extruding the resulting molten mixture into an expanding accumulation zone while maintaining said mixture therein in the molten state and at a pressure above the foaming pressure thereof;

(c) establishing communication between said accumulation zone and a mold maintained at a pressure no greater than the foaming pressure of said molten mixture;

(d) rapidly forcing said molten mixture from said accumulation zone into said mold whereby the pressure differential between said accumulation zone and said mold causes said mixture to rapidly expand in said mold.

3,268,637
PROCESS FOR THE CONTINUOUS PRODUCTION OF THIN-WALLED CERAMIC TILES
Gottfried Cremer, Frechen, near Cologne, Germany, assignor to Aton G.m.b.H., Frechen, near Cologne, Germany
Filed Aug. 9, 1965, Ser. No. 478,396
18 Claims. (Cl. 264—58)

1. A method for the continuous production of ceramic tiles which comprises extending a flat strip of a plastic ceramic composition, presizing said strip, drying said strip to leather hardness, undercutting one of the faces of said strip, transversely cutting said strip to form individual tiles vertically by supporting the upper ends thereof from



a support, suspending said tiles and then passing said tiles through a kiln to fire the same.

3,268,638
METHOD OF EXTRUDING OIL-IMPREGNATED FIBERS INTO BEARING RESERVOIRS
David Tann, Detroit, Mich., assignor to Permawick Company, Detroit, Mich., a company of Michigan
Filed Feb. 19, 1963, Ser. No. 259,589
1 Claim. (Cl. 264—69)



The method of extruding oil-impregnated fibers into a bearing having a lubricant reservoir therein, which includes the steps of, delivering said oil-impregnated fibers to an extruding device having an outlet orifice, communicating said bearing lubricant reservoir with said outlet orifice, extruding the oil-impregnated fibers in said extruding device through said outlet orifice into said bearing reservoir, and vibrating the oil-impregnated wicking material as it is being extruded.

3,268,639
METHODS FOR MANUFACTURING TRANSFER MATERIALS
Lewis G. Taft, Endwell, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 26, 1963, Ser. No. 333,726
3 Claims. (Cl. 264—78)

1. A method for producing a seli-supporting transfer element comprising:

heating and mixing from about 20 to 75 percent by weight of a thermoplastic polymer, up to about 50 percent by weight of a plasticizer which is incompatible with said polymer at about room temperature and an organic dye which is soluble in said plasticizer to form a homogeneous mixture,

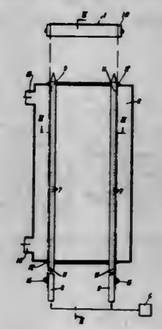
forming said mixture into a flat sheet, and

bringing said sheet to about room temperature to exude a solution of said dye in said plasticizer and thus form a pressure transferable film on the surface of said sheet.

3,268,640
PRODUCTION OF FILM FROM ORGANIC THERMOPLASTIC MATERIAL
Kenneth George Gerber, Southsea, England, assignor to The Metal Box Company Limited, London, England, a British company
Filed Apr. 15, 1963, Ser. No. 272,976
Claims priority, application Great Britain, May 18, 1962, 19,327/62
16 Claims. (Cl. 264—95)

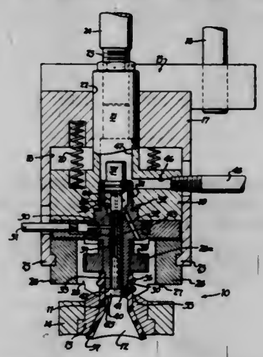
1. The method of removing sag, bagginess, and wrinkles from tubular biaxially oriented organic thermoplastic film, by subjecting the tubular film to a heat treatment while passing the tubular film lengthwise about hollow members disposed in spaced side-by-side relation to extend lengthwise of the tube, and maintaining a cushion of warm air between the tubular film and those portions of the hollow members opposed thereto to retain the tubular film in spaced relation with said members.

5. Apparatus for removing sag, bagginess, and wrinkles from tubular biaxially oriented organic thermoplastic film, comprising hollow members connectable with a source of warm pressurised air and disposed in spaced side-by-side relation, means to move a biaxially oriented



tubular film lengthwise about said hollow members, said members being apertured along the length thereof to permit warm air to issue from said members and form an air cushion between the members and those portions of the tubular film opposed thereto thereby to retain the tube in spaced relation with said members, and means to subject the tube to heat treatment while it is so spaced from said members.

3,268,641
METHOD OF AND APPARATUS FOR MAKING PLASTIC CONTAINERS
Robert W. King, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Mar. 12, 1963, Ser. No. 264,647
8 Claims. (Cl. 264—97)



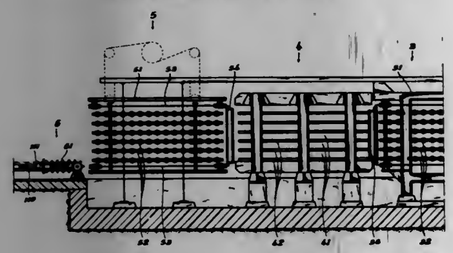
8. In a method of making a blow article having an injection molded portion by positioning an annular injection mold at an annular extrusion orifice, said orifice and said mold being defined by concentric inner and outer elements, respectively, filling the mold from the orifice, and displacing the mold from the orifice to extrude a tube which is subsequently blown to shape, the steps of during filling of the mold abutting in face-to-face relation the inner elements of the mold and the orifice, respectively, any interior flash formed during filling occurring between said elements, and following extrusion of the tube and prior to blowing of the tube, displacing the inner mold element relative to the remainder of said mold and into the interior of said tube to force any such flash against the inner periphery of the tube.

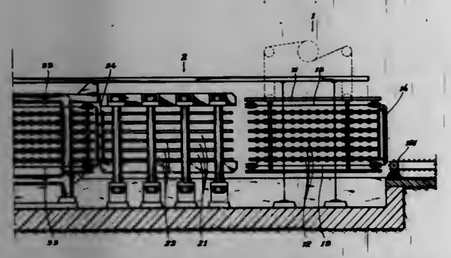
3,268,642

METHOD OF AND DEVICE FOR MAKING PRESSBOARDS AND THE LIKE

Wilhelm Hütter, Krefeld, Germany, assignor to Niederrheinische Maschinenfabrik Becker & van Hüllen, Krefeld, Germany

Filed Apr. 5, 1963, Ser. No. 270,851
Claims priority, application Germany, Apr. 11, 1962, N 21,442
4 Claims. (Cl. 264—120)





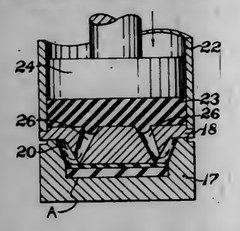
1. In a method of making pressboards, the steps of: placing material to be pressed to a pressboard between a respective bottom plate and a respective top plate in each of two stations, successively pre-pressing each thus obtained assembly, collecting the pre-pressed assemblies in groups, hot pressing, and cooling the thus obtained group of assemblies; successively removing the top plate of each assembly of said group, lifting the obtained pressboard off each respective bottom plate of said group, conveying said bottom plates to respective ones of said two stations for loading the bottom plates with new material to be pressed.

3,268,643

METHOD OF MOLDING PISTON CUPS

Edwin B. Katzenmeyer and Donald E. Richards, Akron, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed May 29, 1963, Ser. No. 284,126
5 Claims. (Cl. 264—259)



1. A method of making piston cups having a hard circular piston-engaging bottom and an annular cylinder-engaging lip which is integral with and significantly softer than said bottom, said method comprising:

(A) forming a bottom portion of the cup in a shape of a disc from a first moldable vulcanizable rubber compound which when uncured is deformable but when cured is significantly harder than the lip portion of the cup;

(B) enclosing said disc while in its unvulcanized state in a multi-part sprue-loading piston cup molding cavity with said disc on the bottom molding surface of said cavity and occupying only a part of the total volume of the cavity;

(C) injecting into the cavity a second moldable vulcanizable rubber compound to form the lip of said piston cup, which second compound when cured is significantly softer than said first compound;

(D) directing said second compound as it is so injected so that it enters said cavity only at a series of arcuately spaced locations close to the periphery of said disc and initially engages only the periphery of the disc to press the disc axially against the bottom of the cavity;

(E) continuing the injection of said second compound at said locations and in said direction until said second compound covers said disc and fills all available space in said cavity not occupied by said disc;

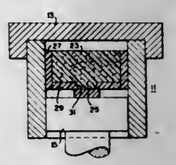
(F) then vulcanizing said compounds in said cavity.

3,268,644

METHOD OF MAKING A SPECIMEN ASSEMBLY

Francis M. Cain, Jr., and Francis M. Cain III, Apollo, Pa., assignors to Nuclear Materials and Equipment Corporation, Apollo, Pa., a corporation of Pennsylvania

Original application July 20, 1961, Ser. No. 125,442. Divided and this application Oct. 12, 1964, Ser. No. 403,273
4 Claims. (Cl. 264—266)



1. The method of producing an assembly for subjecting a specimen to etching and polishing and the like comprising placing a hollow uncured thermosetting insulator means over a portion of the external surface of an uncured premold of thermosetting moldable electrically conducting material, a first portion of said external surface being exposed and having said insulator means adjacent thereto and a second portion of said external surface being also exposed, placing said specimen with one of its faces in engagement with said adjacent insulator means and said first portion of said surface and compressing said premold, insulator means and specimen together, while curing said premold and insulator means, until said specimen is embedded in said premold with the face of said specimen substantially flush with the adjacent surface of said insulator means and with said second portion of said external surface of said premold remaining exposed.

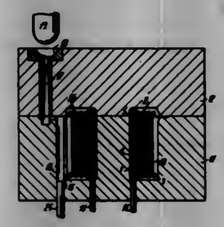
3,268,645

PROCESS FOR EMBEDDING A WINDING IN A MIXTURE OF THERMOPLASTIC SYNTHETIC MATERIAL

Harald Stampfli, Geneva, Switzerland, assignor to Lucifer S.A., Carouge-Geneva, Switzerland, a corporation of Switzerland

Filed Nov. 16, 1962, Ser. No. 238,183
Claims priority, application Switzerland, Nov. 20, 1961, 13,498/61
5 Claims. (Cl. 264—272)

1. In a process for embedding a winding in a mass of thermoplastic synthetic material, the steps of placing the winding in a cavity defined by the walls of a mould such as to leave a passage between said winding and said walls, injecting said thermoplastic synthetic material into said



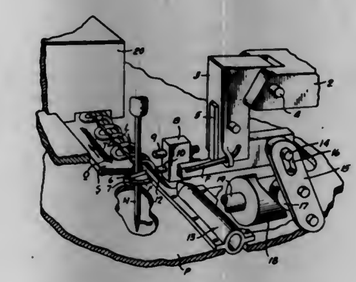
passage in a hot state and under pressure, wherein said passage undergoes an enlargement in the direction of advancement of said injected material.

3,268,646

METHOD OF MANUFACTURING SLIDE FASTENER STRINGERS

Norman W. MacFee, Conneaut Lake, Pa., assignor to Talon, Inc., a corporation of Pennsylvania

Original application July 30, 1962, Ser. No. 213,208, now Patent No. 3,176,637, dated Apr. 6, 1965. Divided and this application Oct. 5, 1964, Ser. No. 401,515
1 Claim. (Cl. 264—285)



In a method of manufacturing slide fastener stringers on a sewing machine having a reciprocating needle arranged therewith, which stringers consist of a continuous filament formed into fastener elements sewn to the edges of a tape, the steps which include:

continuously advancing a flat stringer tape into and through the machine, with the tape lying in a plane located substantially transverse to the axis along which the needle moves in a reciprocal manner,

feeding a substantially straight continuous length of filament into the machine to a point adjacent one edge of said tape and in a direction substantially parallel to the plane of the tape and substantially transverse to both the axis of reciprocal movement of the needle and the edge of the moving tape;

laying the filament in a direction substantially transverse to the direction of the continuously advancing tape which results in the filament overlying the tape at an oblique angle relative to the edge of the tape,

passing the needle, carrying a sewing thread, transversely through the tape at a point adjacent to the edge of the filament and intermediate the filament and the edge of the tape to stitch the overlying portion of the filament to the tape,

reversing the direction of the laying of the filament over the tape while the needle remains passed through the tape so that the filament is wrapped about the needle to form the second leg of a loop which second leg extends toward the given edge of the tape,

moving the filament over the edge of the tape and around a stationary mandrel arranged along the edge of the tape prior to performing another cycle with the filament on the opposite side of said tape,

withdrawing and passing the needle carrying the sewing thread through the tape to simultaneously stitch the second leg of the loop to the tape and also to provide the means for forming the next succeeding loop with each succeeding loops alternately placed on opposite sides of said tape, and

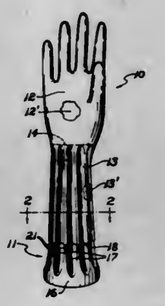
deforming each of the spaced-apart portions of the filament extending outwardly from the edge of the tape substantially simultaneously with the placing of the filament around the edge of said mandrel so as to form an interlocking head portion thereon.

3,268,647

MANUFACTURE OF RUBBER GLOVES

Robert L. Hayes, Mount Holly, and John R. McKinstry, Beverly, N.J., assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Original application Jan. 11, 1963, Ser. No. 250,879. Divided and this application Oct. 22, 1963, Ser. No. 317,987
7 Claims. (Cl. 264—303)



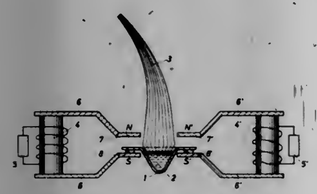
1. A dipping form for manufacturing rubber latex gloves that have a thicker wall adjacent the cuff edge than the wall thickness of the hand and finger portion of the glove which dipping form comprises a hand and finger forming portion and a cuff forming portion, said cuff forming portion having a series of generally parallel longitudinally disposed flutes which flutes begin within said cuff forming portion of the dipping form and extend away from the hand and finger forming portion and toward the base of the dipping form to beyond the zone of the dipping form to which a rubber deposit is applied when said dipping form is dipped fingers first into a rubber latex when utilizing the dipping form.

4. A method for making a rubber glove from latex which comprises depositing a layer of latex coagulant onto the surface of a glove form having a hand and finger forming portion and a cuff forming portion and having a series of generally parallel longitudinally disposed flutes which begin within said cuff forming portion of the glove form and extend away from the hand and finger forming portion toward the base of the glove form to beyond the zone of the glove form to which a rubber deposit is to be applied when said glove form is dipped fingers first into a latex composition in making a rubber

glove, said layer of latex coagulant extending over the entire surface of the glove form to which a rubber deposit is to be applied, applying a deposit of rubber of uniform thickness onto the surface of the hand and finger forming portion of the glove form and onto the surface of the cuff forming portion of the glove form by immersing the coagulant-coated glove form fingers first into a latex composition only to said zone of the glove form to which the deposit of rubber is to be applied and retaining said glove form so immersed in said latex composition for a time sufficient to deposit a layer of rubber of the desired uniform thickness on said glove form, withdrawing said glove form from said latex composition, and heating the deposit of rubber on the glove form to dry and vulcanize the deposit which causes the portion of the rubber deposit disposed in the said flutes to contract and pull free of said flutes and become suspended on the lands separating said flutes which contraction causes a thickening of the wall of that portion of the rubber deposit disposed over the fluted zone of the glove form.

ELECTRICAL

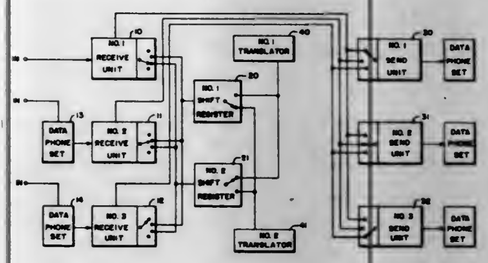
3,268,648
APPARATUS FOR VAPORIZING MATERIALS BY AN ELECTRON BEAM
Walter Dietrich, Hanau (Main), Germany, assignor to W. C. Heraeus G.m.b.H., Hanau (Main), Germany, a corporation of Germany
Filed Aug. 23, 1963, Ser. No. 304,109
Claims priority, application Germany, Sept. 25, 1962, H 46,999
2 Claims. (Cl. 13—31)



1. In an apparatus for vaporizing material by an electron beam, the combination of a crucible containing said material to be vaporized by said electron beam, said crucible having an upper edge portion, a magnetic yoke lens comprising magnetic poles disposed one above the other closely adjacent to said crucible so that said upper edge portion of said crucible is disposed closely adjacent to said magnetic poles of said yoke lens, and means remotely arranged from said crucible for providing a magnetic field between said magnetic poles, said magnetic field influencing said electron beam only on a small length in the vicinity of said upper portion of said crucible, said crucible including means mounting said crucible in such a position that its upper edge portion is disposed between said magnetic poles of said yoke.

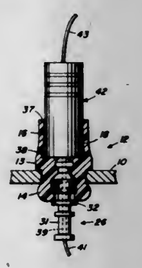
3,268,649
TELEGRAPH MESSAGE PREPARATION AND SWITCHING CENTER
George A. Locke, Glen Head, N.Y., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Sept. 19, 1962, Ser. No. 224,720
12 Claims. (Cl. 178—4.1)

1. In a message switching and preparation center
(a) at least one output means for receiving a message transmitted thereto for subsequent retransmission,
(b) at least one input means for transmitting a message through said center to said output means, said message including at least one address code of a predetermined type therein,
(c) storage means for temporarily storing said address code as said address code is transmitted from said input means, and
(d) means responsive to said address code of said predetermined type stored in said storage means for inserting at least one additional code character into the message received by said output means, said additional code character being determined by the particu-



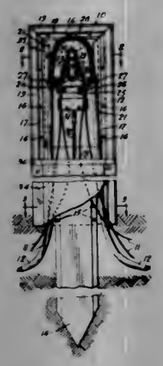
lar address code of said predetermined type stored in said storage means.

3,268,650
VERTICAL COMPONENT MOUNTING MEANS
Cass C. Hepker, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Sept. 14, 1965, Ser. No. 487,218
7 Claims. (Cl. 174—15)



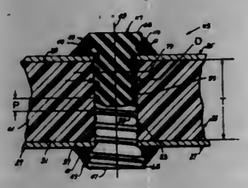
1. Apparatus for mounting a component to a board formed with an opening comprising; an insert formed with an enlarged portion, a flexible member formed with a sleeve and a second smaller portion with an axial opening received in the opening in said board and extending through said board, said insert received in the axial opening of the smaller portion and expanding the smaller portion on the side of the board opposite said sleeve so as to lock the flexible member to the board, the end of the sleeve remote from said board being deformed radially inwardly by the insert to form a sleeve with a larger inside opening near the board than exists at the end remote from the board, said component having a cross section substantially conforming to and smaller than the smaller inside opening of said sleeve and said component being received in and frictionally retained by said sleeve.

3,268,651
MOUNTING FOR SURFACE CONNECTIONS TO UNDERGROUND SERVICES WITH MOVABLY ATTACHED SUPPORTING MEANS
David A. Stevenson, Ottawa, Ontario, Canada, assignor to Northern Electric Company, Limited, Quebec, Quebec, Canada
Filed Dec. 11, 1963, Ser. No. 329,687
8 Claims. (Cl. 174—38)



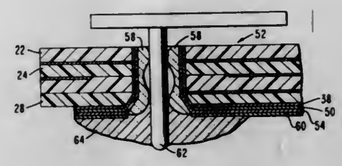
1. A mounting member for making a service connection to an upward extension of an underground service where the ground is subject to frost upheaval which comprises a mounting means, service connecting means attached to said mounting means, and support means in contact with the ground, said mounting means being movably attached to said support means to enable relative vertical movement therebetween whereby the connection is effectively isolated from the lifting effects of frost upheaval on the support means.

3,268,652
ELECTRICAL CIRCUIT ASSEMBLIES
John A. Burns, New Hope, Pa., and George W. Eftang, New Monmouth, N.J.; said Burns assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York, and said Eftang assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 12, 1963, Ser. No. 322,607
18 Claims. (Cl. 174—68.5)



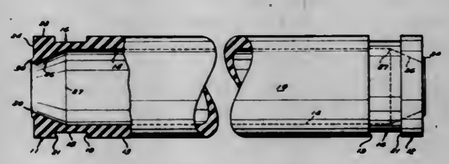
1. An electrical circuit assembly, which comprises:
an insulating support having a pair of spaced surfaces, said support having an aperture extending between and intersecting the pair of spaced surfaces;
circuit elements positioned on the support adjacent to opposite ends of the aperture;
at least one flexible, electrically conductive strand extending through the aperture and into electrical contact with the circuit elements, said strand being greater in length than the spacing between the circuit elements and providing a readily extensible and contractible, electrically conductive path between the circuit elements; and
resilient means received within the aperture in a compression deformed condition urging said strand into engagement with the wall of the aperture.

3,268,653
PRINTED CIRCUIT BOARD WITH SOLDER RESISTANT COATING IN THE THROUGH-HOLE CONNECTORS
Robert D. McNutt, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 29, 1964, Ser. No. 363,492
6 Claims. (Cl. 174—68.5)



1. In a printed circuit board, the combination comprising:
a through-hole connector receiving a male pin connector, the sides of said through-hole being coated with a conductive material which electrically connects to conductive circuit lands; and
a solder resistant insulative coating adherent to the conductive sides of said through-hole, said coating completely covering and insulating said conductive material from said male connector.

3,268,654
INSULATING SLEEVE FOR A CABLE JOINT
Richard E. Morrison, Lyndhurst, and James H. McCulley, Ravenna, Ohio, assignors to The Johnson Rubber Co., Middlefield, Ohio, a corporation of Ohio
Filed Oct. 8, 1963, Ser. No. 314,713
5 Claims. (Cl. 174—138)



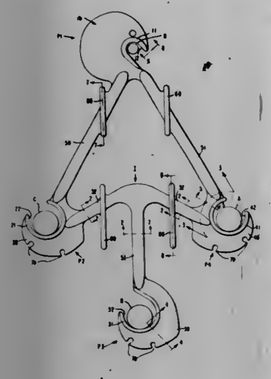
1. An insulating sleeve of elastomeric material adapted to fit over an electric cable and having a tubular center section and a pair of end sections, said center section having an internal diameter substantially greater than that of said cable, each of said end sections having a radially extending end face, each of said end sections having a conical internal surface tapering radially inward and axially outward toward the end face from said center section to provide an opening of reduced diameter at said end face adapted to make resilient sealing engagement with the outer surface of a cable passing through said sleeve, each of said end sections having an annular groove on the outer periphery spaced from said end face, said groove having axially spaced sidewalls, the origin of said conical internal surface being at least outward of the axially innermost groove sidewall, said groove being adapted to receive a clamp to restrict the diameter of said groove and force said sleeve radially inward

whereby the inner periphery of said sleeve underlying said groove is pressed into sealing engagement with said cable a spaced distance inward from said end face.

3,268,655
HIGH VOLTAGE CABLE SPACER-INSULATOR DEVICE

William Francis Haigh, Chester, and Eugene Joseph McMahon, West Chester, Pa., assignors, by mesne assignments, to Fargo Manufacturing Company, Inc., a corporation of New York

Filed Apr. 20, 1965, Ser. No. 449,473
7 Claims. (Cl. 174—146)



1. An improved unitary device for supporting, spacing, and electrically insulating electrical cables with an extremely low current leakage under wet and heavily contaminated conditions, said device comprising an integral molded structure formed of a hydrophobic, non-tracking, high strength, weather resistant, high resistance, high dielectric strength, synthetic organic polymeric composition, said structure comprising a first portion said first portion having its structure constructed and arranged for engaging a messenger cable and supporting said device in an operative position thereon, said structure further comprising second, third, and fourth portions, each of said second, third, and fourth portions having their structures constructed and arranged for receiving, engaging, supporting and positioning an electrical cable in a fixed position relative to said other portions, said portions interconnected by elongated portions of substantially circular transverse cross section, said elongated portions lying substantially in a given vertical plane when in said operative position, a significant length of said elongated portions connecting any two of said first, second, third and fourth portions, in said operative position, maintained at a significant angle relative to the vertical direction to minimize formation of conductive streams of water when said structure is surface contaminated and subjected to wet conditions, said elongated portions cooperating with each other and with said first, second, third, and fourth portions arranged such each of said elongated portions is subjected primarily to forces acting along its elongated dimension when in said operative position, all of said portions of said structure provided with smooth surfaces free of sharp edges or projections, said composition, the elongated dimensions of said elongated portions, and the transverse cross sections of said elongated portions all cooperating to maintain, for a given load requirement, given composition, and given cable spacing; maximum surface and volume resistance between all of said first, second, third, and fourth portions, concurrently with a high strength to weight ratio for said structure.

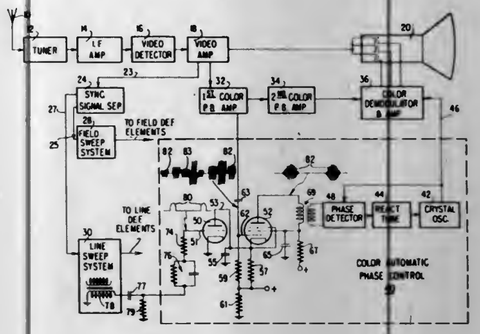
ERRATUM

For Class 178—4.1 see:
Patent No. 3,268,649

3,268,656
COLOR TELEVISION RECEIVER INCLUDING COLOR BURST SEPARATOR SUBSTANTIALLY UNAFFECTED BY THE VARYING WAVEFORM AND TIMING OF KEYING PULSES

Robert B. Hansen, Arlington Heights, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed Mar. 21, 1963, Ser. No. 266,862
6 Claims. (Cl. 178—5.4)



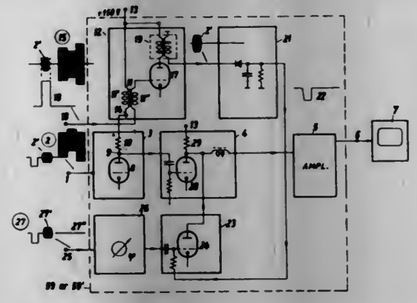
1. In a color television receiver for receiving a composite color television signal which includes a chroma signal having one color subcarrier component and a color burst reference signal component having a predetermined frequency and phase relationship with the subcarrier component, color bursts separator circuit means including in combination, first electron valve means having input, output and common electrodes, second electron valve means having at least input, output and common electrodes, means connecting the common electrode of said first electron valve means to ground reference potential, means providing direct current connection between the common electrode of said second electron valve means and the output electrode of said first electron valve means, means for coupling keying pulses to the input electrode of said first electron valve means, said keying pulses occurring in time coincidence with the blanking interval of said composite color television signal, means for coupling the chroma signal to the input electrode of said second electron valve means, and circuit means coupled with the output electrode of said second electron valve means for deriving amplified color burst reference signals therefrom, with said keying pulses gating said first electron valve means into conduction during the blanking interval of said composite color television signal, whereby amplification of color burst reference signals by said second electron valve means is unaffected by varying waveform and timing of keying pulses applied to said first electron valve means.

3,268,657
SYNCHRONIZING ARRANGEMENT FOR COLOR TELEVISION APPARATUS

Horst Peth, Darmstadt, Germany, assignor to Fernseh G.m.b.H., Darmstadt, Germany

Filed Aug. 26, 1963, Ser. No. 304,323
Claims priority, application Germany, Aug. 29, 1962, F 37,688
12 Claims. (Cl. 178—5.4)

1. Synchronizing arrangement for color television apparatus being synchronized by a main color synchronizing signal comprising, in combination, signal discriminator means having two operating conditions according to the presence and to the absence respectively of a signal applied to its input lead and generating a control signal during the absence of said signal; connection means applying said main color synchronizing signal to said input lead of said signal discriminator means; a gate having two input leads and one output lead connecting conductively its

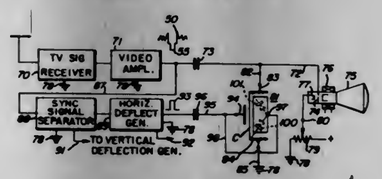


first input lead to its output lead whenever a signal arrives at its second input lead; connection means applying said control signal to said second input lead of said gate; connection means applying an auxiliary color synchronizing signal to said first input lead of said gate; and connection means connecting the output lead of said gate to said color television apparatus.

3,268,658
TRANSISTOR CLAMP CIRCUIT

John O. Schroeder, Hamilton Square, N.J., and James F. Merritt, Cocoa Beach, Fla., assignors to Radio Corporation of America, a corporation of Delaware

Filed Apr. 19, 1963, Ser. No. 274,176
4 Claims. (Cl. 178—7.3)

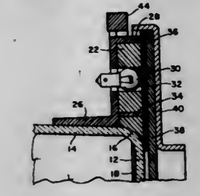


1. In a circuit for correction of a signal supplied from a source and having recurrent control periods, the combination including,
utilization means for said corrected signal,
a first capacitor connected between said source and said utilization means,
an insulated-gate field-effect transistor having source, drain and gate electrodes on a substrate of semiconductor material,
a charging and discharging circuit for said capacitor, said circuit being connected between said utilization means and a point of reference potential for said circuit and including the drain-source path of said transistor, said drain-source path completing a charging circuit for said capacitor when the potential difference between the potential of said utilization means and said reference potential is of one polarity during a control period portion, and said drain-source path completing a discharging circuit for said capacitor when said potential difference is of the opposite polarity to said one polarity during a control period portion,
means providing a source of keying signals coupled through a second capacitor to said gate electrode for rendering said drain-source path conductive during at least a portion of each of said control periods, and
means direct current conductively connecting said gate electrode to said substrate.

3,268,659
APPARATUS FOR EDGE LIGHTING INTERNAL GRATICULE OF CATHODE RAY TUBE

Charles B. Gibson, Jr., Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon

Filed June 13, 1963, Ser. No. 287,616
8 Claims. (Cl. 178—7.84)

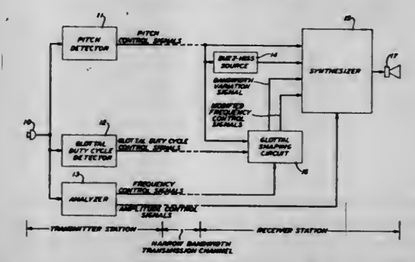


1. Apparatus for transmitting light to a remotely located indicia on an inner surface of an envelope, comprising:
a sealed envelope including a light transparent display portion having a rounded outer edge which tends to prevent light from being transmitted into the display portion through said outer edge;
indicia formed on the inner surface of said display portion;
a light guide member of light transparent material having an index of refraction similar to that of said display portion, said light guide member being supported in intimate contact with the outer edge of said display portion to prevent the existence of an air interface at said outer edge; and
means positioned outside of said envelope remote from said display portion for emitting light rays into said light guide member so that said light rays are transmitted by said light guide member through said outer edge of said display portion into said plate to illuminate said indicia.

3,268,660
SYNTHESIS OF ARTIFICIAL SPEECH

James L. Flanagan, Warren Township, Somerset County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 12, 1963, Ser. No. 257,947
11 Claims. (Cl. 179—1)



1. Apparatus for reconstructing artificial speech which comprises
a source of a first control signal representative of the periodicity of voiced portions of a speech wave,
a source of a second control signal representative of the glottal duty cycle of said speech wave,

means supplied with said first control signal and said second control signal for generating a glottal area wave closely representative of the time-varying area of the glottis during each period of said speech wave,

a plurality of frequency control signals representative of the frequencies of selected resonances of said speech wave,

first function generating means for obtaining from said glottal area wave a bandwidth variation signal indicative of a selected relationship between the bandwidths of said speech resonances and the area of said glottis,

second function generating means for obtaining from said glottal area wave a frequency variation signal indicative of a selected relationship between the frequencies of said speech resonances and the area of said glottis,

a plurality of multiplying means in one-to-one correspondence with said frequency control signals, each of said multiplying means being provided with first and second input terminals and an output terminal,

means for simultaneously applying said frequency variation signal to the first input terminal of each of said multiplying means,

means for applying each of said frequency control signals to the second input terminal of the corresponding multiplying means so that the product signals developed at the output terminals of said multiplying means indicate both the frequencies of selected resonances of said speech wave and variations in said resonance frequencies arising from said selected relationship between said frequencies and the area of said glottis, and

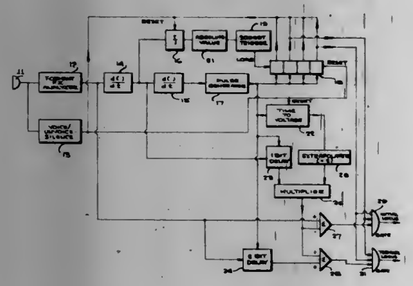
means supplied with said bandwidth variation signal and said product signals for synthesizing a plurality of artificial resonances to form a replica of said speech wave, said artificial resonances closely following in bandwidth and frequency said selected resonances of said speech wave.

3,268,661

SYSTEM FOR DETERMINING CONSONANT FORMANT LOCI

David C. Coulter, Springfield, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware

Filed Apr. 9, 1962, Ser. No. 186,080
14 Claims. (Cl. 179—1)



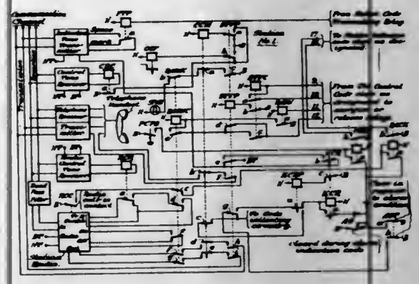
1. In a system for determining the frequency loci of voiced consonants in a speech signal comprising means responsive to said speech signal for deriving a first signal representing in magnitude the frequency of the speech signal, differentiating means responsive to said first signal for deriving a second signal representing the rate of change of the first signal, means responsive to said first signal for deriving third signals representing phoneme time duration, and means for multiplying said second and third signals together.

3,268,662

COORDINATION ARRANGEMENT FOR TELEPHONE AND REMOTE CONTROL COMMUNICATION OVER A COMMON CHANNEL

Arthur P. Jackel, Penn Hills Township, Allegheny County, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Filed May 24, 1962, Ser. No. 197,320
7 Claims. (Cl. 179—2)



1. A coordination arrangement for a remote control system and a telephone network using the same communication channel and transmitting signals having similar characteristics, said remote control system being normally active to transmit control and indication functions between a control office and a plurality of remote stations, each location connected to said channel and further provided with local telephone apparatus, comprising in combination,

(a) a manually actuated means at said office having connections to said remote control system for initiating the transmission of a telephone request control function when operated to a first condition,

(b) a first means at each station controlled by said remote control system for locking out that station indication transmitter when said request control function is received,

(c) a transfer means at said office jointly controlled manually and by said remote control system for locking out the office control transmitter and for connecting the telephone network to said channel at the office when said request control function has been transmitted,

(d) a second means at each station controlled through said channel by said transfer means for completing the station telephone connections to said channel after said office transmitter is locked out,

(e) said manually actuated means further controlling said remote control system for transmitting another control function to unlock the indication transmitters at said stations and to interrupt the station telephone connections to said channel when said manually actuated means is operated to a second condition and said transfer means has operated to unlock said office control transmitter.

3,268,663

DEMULTIPLEXER FOR CARRIER WAVE (E.G., FM STEREO SIGNAL) WHOSE AMPLITUDE AT FIXED INTERVALS IS INFORMATION-REPRESENTATIVE

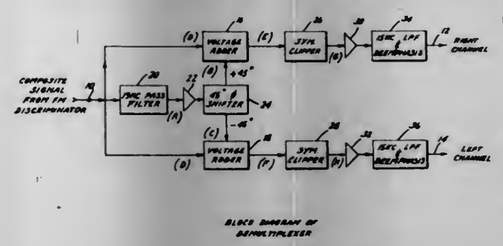
Bruce G. Cramer, Ambler, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware

Filed July 16, 1963, Ser. No. 295,363
5 Claims. (Cl. 179—15)

1. A system for demultiplexing a carrier wave whose amplitude at fixed intervals is information-representative, comprising:

(a) a source of a signal whose phase and frequency are such that its zero intercepts temporally coincide with the information-representative points of said carrier,

(b) means for additively combining said carrier and said signal to form a synthesized waveform,



(c) means for symmetrical clipping said synthesized waveform about its zero axis, and

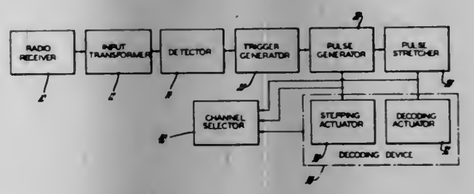
(d) means for substantially removing the signal and higher frequency components from the clipped synthesized waveform.

3,268,664

AUTOMATIC CHANNEL SELECTOR FOR COMMUNICATION SYSTEMS

Robert W. Fleissner, Kokomo, Ind., and Franklin E. Walker, Menomonee Falls, Wis., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 10, 1962, Ser. No. 229,624
10 Claims. (Cl. 179—15)



10. In a communication system having a calling channel and a plurality of message channels, a receiver having a decoder responsive to received signals for producing an acquisition signal followed by a group of pulses corresponding to a selected one of the message channels, a channel selector connected to the decoder and including a selecting switch, means connected to the selecting switch responsive to the acquisition signal for enabling the channel selector, means connected to the decoder output and the selecting switch responsive to the group of pulses for changing the selecting switch to a new state each time one of the group of pulses is received to thereby change the selecting switch to a state corresponding to the selected message channel, and means connected to the selecting switch for effecting tuning of the receiver to the selected message channel.

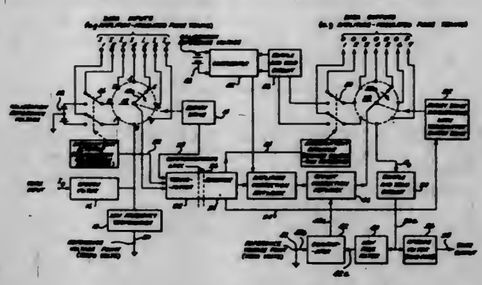
3,268,665

AUTOMATIC CALIBRATION APPARATUS FOR TIME SHARING DATA TRANSMISSION SYSTEMS

Glen E. Miller, Kent, and Vernon A. Jennings, Auburn, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Mar. 4, 1963, Ser. No. 262,777
8 Claims. (Cl. 179—15)

6. In a time sharing multiplexing system having a plurality of data transmission channels a first of which carries A.C. data signals without D.C. data signals and a second of which carries signals including D.C. data signal components, the method of calibrating the data signals in the second channel, after reception, in relation to the D.C. level of such signals before transmission, said method comprising the steps of momentarily transmitting and receiving periodically over the first channel a D.C. reference signal superimposed on the A.C. data signals therein, detecting such D.C. reference signal after reception, comparing the same with a D.C. reference voltage originating at the receiving end of the system to produce an error voltage related to the difference therebetween, and substantially continuously utilizing such error voltage to regulate D.C. level of the data signals after reception.

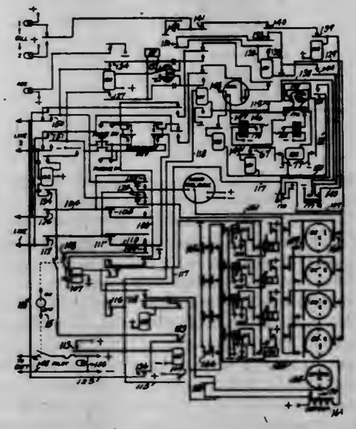


3,268,666

CALL DIVERTOR TRANSLATORS

Martin A. Odom, 302 Oakland Ave., Oakland 2, Calif.

Filed Aug. 6, 1962, Ser. No. 215,245
7 Claims. (Cl. 179—18)



1. In a telephone instrument including a plurality of telephone service lines in comunication with a telephone exchange and including a first subscribers telephone installation normally operable for incoming and outgoing calls, call transfer means comprising

a series of manually adjustable elements each provided with a series of digits and respectively adjustable to the respective digits of a telephone number, and each having a release member adjustable therewith,

a telephone dial,

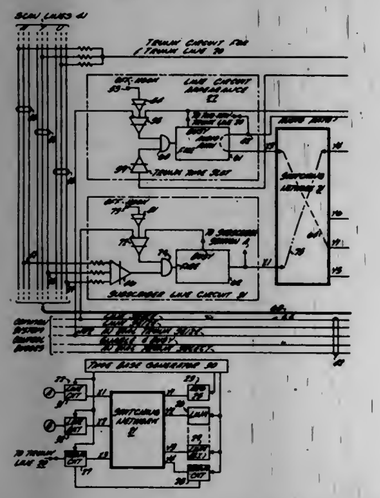
dialing means, and power means sequentially moving said dialing means through a sequence of positions corresponding to the positions of said release members,

said dialing means having a dialing element, and power means for operating said dialing element for winding the dial with winding terminated upon contact of a

moving sensing element with the release member at each of said positions of the dialing means, with the release member releasing the dialing element for return to its initial position to initiate the next sequential movement of the dialing means,

electrically operated and controlled means for initiating operation of said dialing means upon reception of an incoming call on a first of said service lines and for coupling said first service line and said dial to a second of said service lines.

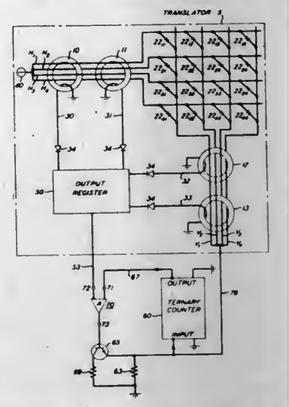
3,268,667
ELECTRONIC SWITCHING TELEPHONE SYSTEM
Roger E. Arseneau, Elk Grove Village, Ill., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland
Filed Apr. 15, 1963, Ser. No. 273,015
7 Claims. (Cl. 179—18)



1. An electronic switching telephone system comprising a plurality of line circuits and a plurality of connection control circuits, a current controlled, self-seeking switching network, said line circuits being connected to one side of said network, said connection control circuits being connected to the other side of said network, a plurality of inter-office trunk lines, means for terminating each trunk line on both of said sides of said network in a line circuit appearance and a link circuit appearance, means comprising a time base generator for identifying each circuit connected to said network, means responsive to control signals from said time base generator for extending incoming trunk calls via the line side appearance of said trunk line through said network to one of said connection control circuits, and means also responsive to control signals from said time base generator for extending outgoing trunk calls from one of said line circuits through said network to said trunk via the link side appearance of said trunk.

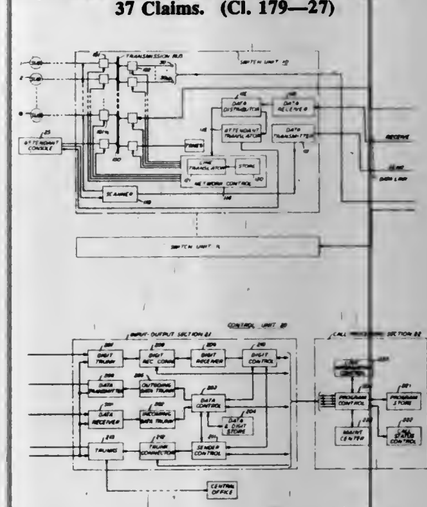
3,268,668
TRANSLATOR SCALING CIRCUIT HAVING FERROMAGNETIC CORE MEANS
John F. Gilmore, Hazlet, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 28, 1963, Ser. No. 305,093
22 Claims. (Cl. 179—18)

1. In combination, a relatively high impedance having two terminals, at least one encoding winding connected to one terminal of said impedance, a transistor including base, emitter and collector terminals, said transistor collector and emitter terminals being connected to the re-



spective terminals of said impedance, and a counting circuit including input and output terminals respectively connected to said one terminal of said impedance and to said transistor base terminal.

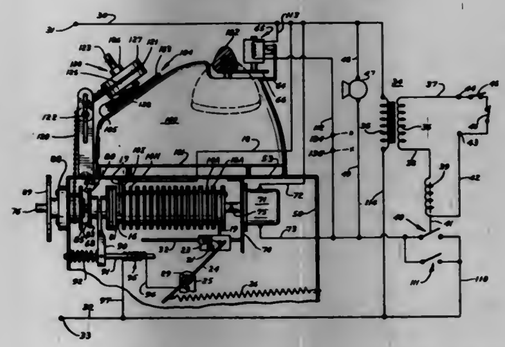
3,268,669
COMMON CONTROL FOR REMOTE TELEPHONE SWITCH UNITS
Frank S. Vigliante, Piscataway Township, Middlesex County, Robert D. Williams, Middletown, and Eldon L. Seley, New Shrewsbury, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 21, 1963, Ser. No. 252,797
37 Claims. (Cl. 179—27)



1. A communication system comprising a plurality of switch units each having means for independently completing connections among a distinct group of lines terminating on the corresponding switch unit and a control unit common to and remote from said plurality of switch units for recording the status of all calls through the system and for directing the interconnection of lines through said switch units, said control unit comprising a call processing section operating in accordance with a stored program to maintain a current record of the status

of all calls through the system and for processing one call at a time, said control unit further comprising an input-output section connected to each of said switch units so as to transfer data between said control unit and all of said switch units concurrently and for storing data received from said switch units until requested by the call processing section.

3,268,670
AUTOMATIC SIGNALING APPARATUS
Richard H. Shadrick, Minneapolis, Minn., assignor to Richard H. Shadrick, Jr., Glen Burnie, Md.
Filed Aug. 12, 1963, Ser. No. 301,446
14 Claims. (Cl. 179—90)



11. Switching apparatus for use in telephone dialing apparatus of the class above described, comprising in combination:

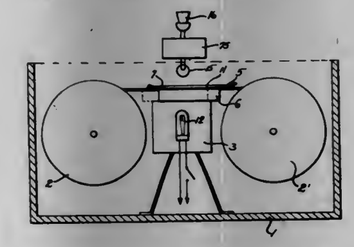
(a) a shaft to be rotated at a predetermined substantially constant speed;

(b) a plurality of conductive and non-conductive disks, each of said disks having a peripheral notch and having substantially the same diameter, said disks being alternately disposed on said shaft;

(c) contact means extending radially inwardly of the peripheries of said disks and being movable axially of said shaft to successively engage said disks; and

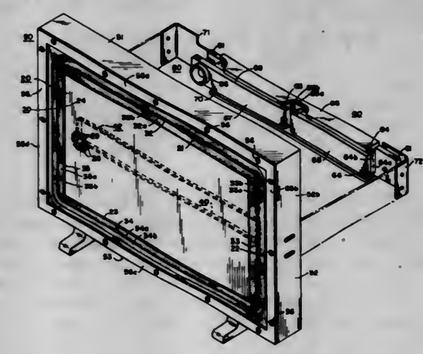
(d) circuit means, including a pair of terminals for connection to an output device, connecting a source of energy intermediate said conductive disks and said contact means.

3,268,671
PORTABLE VARIABLE DENSITY SOUND RECORDER AND REPRODUCER
David Pelton Moore, Marlow, N.H.
(9210 Flower Ave., Silver Spring, Md.)
Filed Aug. 18, 1965, Ser. No. 480,745
4 Claims. (Cl. 179—100.3)



1. In a sound-on-film recorder reproducer, the combination of means for continuously moving an emulsion film, a fixedly mounted slit block through which said film is passed, the slit thereof being to limit the area of light upon the film as the film is moved thereby, a lamp mounted adjacent the slit thereof and through which said slit the light from the lamp impinges on the film to form a variable density sound track on the film, a microphone, an amplifier to be connected to the lamp and to sound modulate the lamp when recording sound on the film, a photoelectric cell disposed upon the side of the slit block opposite to the lamp, an amplifier and sound reproducer connected to the photoelectric cell, and means to energize the lamp and convert it to an exciter lamp whereby the photoelectric cell is influenced by the lamp through the sound track of the film to produce sound in the sound reproducer.

3,268,672
LOUDSPEAKER
John F. Roesel, Jr., De Land, Fla., Richard A. Whisnant, Spartanburg, S.C., and William L. Wright, Monroeville, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 3, 1962, Ser. No. 241,590
7 Claims. (Cl. 179—115.5)

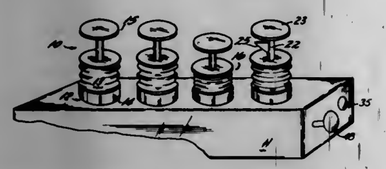


1. A loudspeaker for reproducing audible signals comprising a diaphragm, a first voice coil for driving said diaphragm in response to current being applied thereto, said first voice coil having a linear portion, a magnetic assembly for providing a first voice coil air gap for said first voice coil, including a first magnetic member having a first polarity and a second magnetic member having a different polarity, said first and said second magnetic members being positioned on opposite sides of said first voice coil providing a first linear air gap for receiving said linear portion of said first voice coil, a second voice coil, a third magnetic member magnetically connected to said first magnetic member, a fourth magnetic member magnetically connected to said second magnetic member, said third magnetic member having an aperture therein, said fourth magnetic member and positioned within said aperture so as to provide a second air gap for said second voice coil.

3,268,673
HYDRAULIC PUSHBUTTON ASSEMBLY
Frank Thomas Bilek, Downers Grove, Ill., assignor to International Telephone and Telegraph Corporation
Filed May 9, 1963, Ser. No. 279,123
8 Claims. (Cl. 200—5)

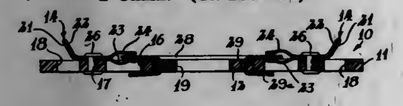
1. An electrical control device comprising a multi-line telephone set, means including an assembly of pushbuttons for selectively connecting said telephone to any one of said telephone lines, said pushbutton assembly means comprising a reservoir holding a non-compressible hydraulic fluid, a plurality of communicating hydraulic cylin-

ders also filled with said fluid, pushbutton actuated piston means for selectively displacing the fluid in any one of said cylinders into said reservoir and other of said cylinders, means responsive to said displacement of said fluid



for restoring any previously actuated one of said piston means, and contact means controlled by each of said pushbuttons for completing said selective connection of said telephone to any one of said telephone lines.

3,268,674
SWITCH SECTION FOR A ROTARY ELECTRIC SWITCH
Bernard J. Golbeck, Crystal Lake, and John H. Williams, Barrington, Ill., assignors to Oak Electro/Netics Corp., a corporation of Delaware
Filed Jan. 29, 1965, Ser. No. 429,016
1 Claim. (Cl. 200—11)



A multi-position rotary switch of the character described, comprising a stator having a rotor opening therein with a plurality of wiper clips thereon, surrounding the rotor opening, and a rotor in the rotor opening with a switch blade thereon for coaction with said wiper clips, said stator and rotor being of a phenolic resin material of the same thickness, the switch being formed by

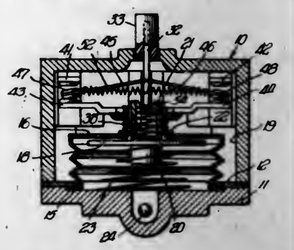
removing a disc from a composite stator-rotor blank, forming the rotor opening, the disc forming the rotor,

scraping one of the peripheral facing surfaces of the stator and rotor to provide clearance and a smooth bearing surface between the stator and rotor, and

mounting plate means on the rotor, said plate means including said switch blade, which extend outwardly from the periphery of the rotor and have outer edge portions on each side of the stator surface surrounding said rotor opening, the outer edge portions of said plate means being spaced apart a distance greater than the thickness of said sheet material to provide running clearance with said stator.

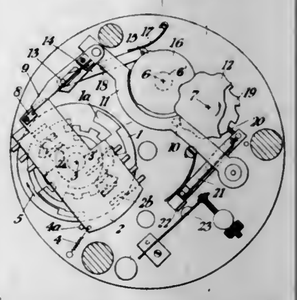
3,268,675
ACTUATOR FOR BELLOWS TYPE TIME DELAY SWITCH
Dale F. Wilcox, Aurora, Ill., assignor to Furnas Electric Company, Batavia, Ill., a corporation of Delaware
Filed Oct. 19, 1964, Ser. No. 404,623
5 Claims. (Cl. 200—34)

3. In actuating mechanism for an electric switch of the toggle type, the combination with an actuator, of a bellows which is deflated when the actuator is depressed, toggle mechanism including a pair of switch blades pivotally carried by the actuator and extending in opposite directions, a terminal member above and below the free end of each switch blade and with which the switch blades coact as the toggle mechanism is actuated, a stud projecting from respective sides of the top wall of the bellows, one stud being located within the bellows and having depending relation with the top wall, the other stud projecting outwardly from the top wall, an overtravel spring carried by the said other stud and being interposed between the same and the actuator, said spring being strong enough to resist compression when the actuator is depressed to collapse the bellows to an extent determined by contact of the depending stud with a stop, and said



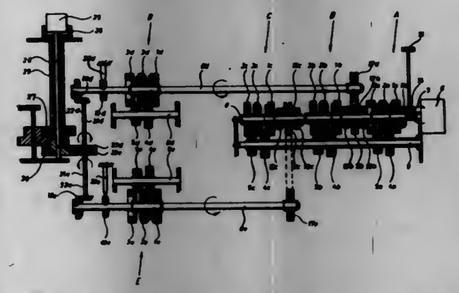
spring being weak enough so that it is compressed upon continued movement of the actuator into contact with the said other stud to cause an actuation of the toggle mechanism, whereby the bellows is collapsed to said predetermined extent each time the toggle mechanism is actuated by the operator in depressing the actuator to deflate the bellows.

3,268,676
SEGMENTED TIMER DEVICE AND WIPER CARRIAGE WITH MEANS TO BOOST THE CARRIAGE WHEN CHANGING SEGMENTS
Robert Andrew Fell, London, England, assignor to A. & M. Fell Limited, London, England
Filed Feb. 10, 1964, Ser. No. 343,566
Claims priority, application Great Britain, Feb. 21, 1963, 7,093/63
7 Claims. (Cl. 200—37)



1. A mechanism for electrically sensing the angular position of a slowly rotatable shaft, said mechanism comprising a member mounted on the slowly rotatable shaft for rotation therewith, said member being divided at least in part into a series of angularly equal sectors, each sector carrying a characteristic set of electrical contacts, sensing means including sensing contacts cooperable successively with the said characteristic sets of electric contact, a second shaft rotating one revolution for each sector of the member mounted on the slowly rotatable shaft, means for causing relative angular movement about the axis of the slowly rotatable shaft between the sensing contacts and the member to advance the sensing contacts relative to the slowly rotatable shaft, and actuating means carried by said second shaft for actuating the relative motion causing means upon the completion of each revolution by the said second shaft whereby, upon completion of a sector of rotation by the slowly rotatable shaft and a complete revolution by the second shaft, the sensing contacts are advanced relative to the slowly rotatable shaft so that the sensing contacts make unambiguously with the characteristic set of contacts in the succeeding sector.

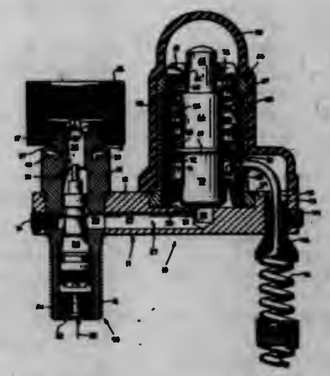
3,268,677
ON-OFF TIMER MECHANISM WITH INDIVIDUAL SETTING COUNTERS
Friedrich Schembera, Bretten, Baden, Germany, assignor to Neff-Werke Carl Neff G.m.b.H., Bretten, Baden, Germany
Filed July 5, 1963, Ser. No. 293,095
Claims priority, application Germany, July 11, 1962, N 21,825
12 Claims. (Cl. 200—38)



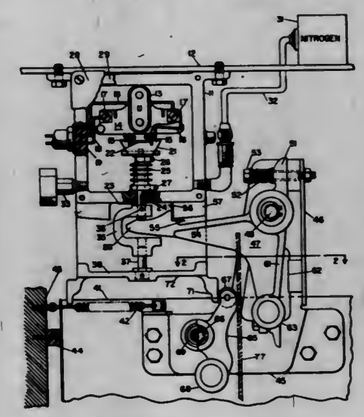
1. An electric switch clock comprising time control driving means, a switch, at least one digital computing counter driven at a speed in a positive relation to the actual time and adapted to effect one switch operation, at least one differential gearing comprising a gear member operatively connected to said driving means and further comprising a further gear member, said differential gearing preceding and being connected to said computing counter for producing a reverse rotation of said counter in proportion to a waiting period intervening between the time at which said counter is set and the time of the desired switch operation, at least one setting counter associated with said digital computing counter, means actuated by said computing counter for effecting the switch operation, said switch clock further comprising a plurality of said computing counters for effecting several switch operations and each of said computing counters being preceded by a separate differential gearing, each said differential gearing comprising a pair of coaxial bevel gears, a spur gear, and a satellite mounted radially within said spur gear and in engagement with said bevel gears, and a time counter directly driven by said driving means for indicating the actual time, a common shaft carrying said computing counters, said differential gears, and said time counter, said driving means comprising a self-starting synchronous motor connected to said shaft and speed reducing means and a slip clutch interposed between said motor and said shaft.

3,268,678
ADJUSTABLE TIRE PRESSURE SENSING SWITCH WHICH IS EASILY TESTED FOR PROPER OPERATION
Gene L. James, Champaign, Ill., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation of Indiana
Filed Nov. 18, 1963, Ser. No. 324,284
6 Claims. (Cl. 200—61.22)

1. An electrical switch responsive to an abnormal pressure and comprising: a body structure having a portion securable to a pressure tap, said body structure defining a further pressure tap and having a first passage between said portion and further pressure tap, a piston mounted on said body structure and having a portion in electrical contact with a second portion of said body structure, a diaphragm acting between said body structure and said piston, said body structure having a second passage in communication with said first passage and opening beneath said diaphragm, a valve in said first passage normally sealing off said further pressure tap but operable to permit flow through said first passage and further pressure tap, said diaphragm being movable under pressure in said first passage to move said piston to break electrical contact between said piston and body structure, said piston projecting out of said body structure, and a flexible nonconductive boot mounted on said body structure and covering said piston.



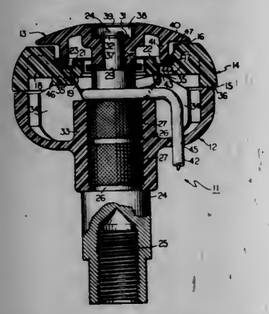
3,268,679
ELEVATOR HOISTWAY DOOR INTERLOCK
Benjamin Whitehead Tucker, Jr., South Orange, N.J., assignor to Otis Elevator Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 17, 1964, Ser. No. 411,833
3 Claims. (Cl. 200—61.64)



1. A hoistway door interlock, comprising,
a pair of stationary contacts,
a bridging contact member,
a rod fastened to said member for moving said member into and out of engagement with said stationary contacts,
an airtight case surrounding said contacts and said bridging member and formed with an aperture through which said rod projects with a sliding fit,
a flexible bellows within said case surrounding said rod having one end sealed to said rod and the other end sealed to said case in the region of said aperture,

whereby the interior of said case is isolated from the surrounding atmosphere,
a generally U shaped bracket including first and second leg portions and a base portion,
the projectign end of said rod being fastened to said first leg portion substantially perpendicular thereto leaving a space between said leg portions,
said second leg portion being formed with an aperture in alignment with said rod,
a pin stationarily mounted in alignment with and projecting into said aperture in said second leg portion with a sliding fit,
whereby said bridging member, said rod and said bracket are moveable as a unit longitudinally of said rod,
a hoistway door,
a latch mounted on said door and projecting into the space between said leg portions when said door is closed,
whereby movement of said latch in a direction substantially parallel to the axis of said rod alternatively either completes or interrupts the circuit between said contacts, and
a stationarily mounted catch cooperating with said latch to lock said door when said latch is moved in a direction to complete said circuit.

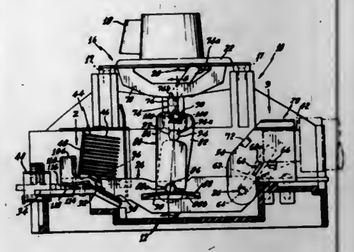
3,268,680
UNITARY KNOB AND SWITCH
William R. Anderson, Perrysburg, Ohio, assignor to Anderson Associates, Inc., Toledo, Ohio, a corporation of Ohio
Filed Nov. 19, 1964, Ser. No. 412,444
7 Claims. (Cl. 200—61.88)



1. In combination, a knob, a pedestal internally supporting said knob, a contact supported on said pedestal in fixed relation thereto, a movable contact having conductive portions distributed around said fixed contact in a plane normal to the longitudinal axis of said pedestal, means resiliently biasing said movable contact to a position spaced from said fixed contact, first and second spaced regions of the surface of said knob being fixed on said pedestal, and a third region of said knob fixedly supporting said movable contact with respect thereto and having a surface intermediate said first and second regions, said third region being movable normal to the longitudinal axis of said pedestal.

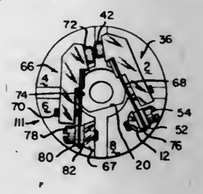
3,268,681
CIRCUIT INTERRUPTERS
Anatole Bachman, Willowdale, Ontario, Canada, assignor to Federal Pacific Electric Company, a corporation of Delaware
Filed Sept. 4, 1964, Ser. No. 394,521
14 Claims. (Cl. 200—68)

1. A circuit interrupter including a base of insulation, a pair of companion butt contacts including a stationary contact mounted on said base and a movable contact, a contact arm, said movable contact being mounted on said contact arm for movement between open circuit and closed circuit positions, shunt contact means electrically connected to said stationary contact and mounted on said base for lateral wiping engagement with said contact arm in said closed circuit position, means mounting said contact arm on said base, said mounting means including a first member secured to said base and a second member coupled with said first member and movable relative thereto, said first and second members receiving said contact arm therebetween and having formed portions



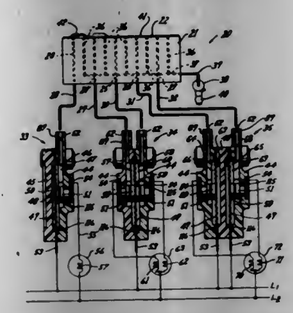
providing pivotal bearing surfaces for said contact arm and other adjacent portions for providing surface-to-surface contact with said arm, means biasing said first and second members together to provide contact pressure with said contact arm, operating means for said contact arm, and means coupling said operating means to said contact thereto, said first and second members receiving said arm, said coupling means including a link pivoted to said link and said contact arm, said resilient means providing contact pressure between said companion contacts in the closed circuit position.

3,268,682
ROTATIONAL SPEED GOVERNOR WITH A PAIR OF RESILIENT FLEXIBLE CONDUCTIVE MEMBERS
Eugene P. Schwartz, Dayton, and Jack C. Hohne, Jr., Tipp City, Ohio, assignors to Globe Industries, Inc., Dayton, Ohio, a corporation of Ohio
Filed Dec. 15, 1961, Ser. No. 160,424
8 Claims. (Cl. 200—80)



1. A rotational speed governor comprising a rotatable body including a pair of electric conductor segments electrically separated one from the other, said segments each being provided with electrically conductive protruding studs both located on the same side of a diametral plane, and a pair of resilient flexible conductive means provided with contact elements located on the opposite side of the aforesaid diametral plane and being mounted one on each of said studs, said means being each further provided with a weight member in addition to the contact elements for increasing the mass of the flexible conductive means, said weight members being each mounted astride and substantially coextensive with the flexible conductive means and extending substantially only slightly beyond said means at one extremity.

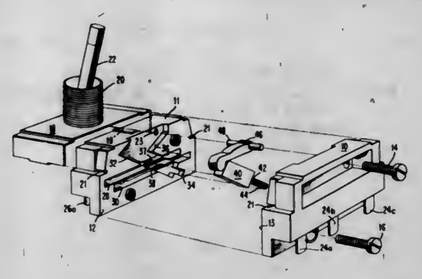
3,268,683
VACUUM OPERATED SWITCH CONSTRUCTION
Reed Albert Palmer, Los Alamitos, Calif., assignor to Robertshaw Controls Company, a corporation of Delaware
Filed May 3, 1962, Ser. No. 192,155
3 Claims. (Cl. 200—83)



1. A vacuum operated switch comprising three electrically insulating rigid casing means arranged in aligned relation and defining a compartment between each pair of adjacent casing means, a pair of flexible diaphragms respectively disposed between each pair of adjacent casing means and dividing said compartments into four chambers, said diaphragms respectively being electrically conductive and carrying switch contacts respectively disposed in two of said chambers, each diaphragm having an outwardly extending peripheral projection, said casing means having passage means respectively leading to said two chambers and being adapted to be interconnected to a vacuum source, said casing means carrying switch contacts respectively disposed in said two chambers, and terminal means electrically and respectively interconnected to said switch contacts and being adapted to be connected to leads exteriorly of said casing means, two of said terminal means being respectively secured to said projections of said diaphragms at points intermediate the inner and outer surfaces of said casing means by overlapping said peripheral portions and having fastening means directly fastening said overlapping portions together.

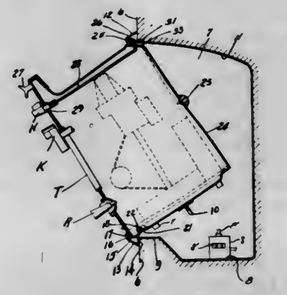
3,268,684
MECHANICALLY OPERABLE MAGNETIC REED SWITCH
Ronald J. Keller and James M. McKeon, Rochester, Minn., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 28, 1964, Ser. No. 363,090
12 Claims. (Cl. 335—154)

5. A double throw switch, comprising:
a first pair of magnetic reed contacts;
a second pair of magnetic reed contacts substantially coplanar with said first pair of contacts;
a bar magnet slidably supported adjacent said reed contacts, said magnet having poles at its ends and being reciprocable along a line joining said poles, said line lying substantially parallel to said plane of said reed contacts; and
means for moving said magnet from an initial position, where said magnet biases said first pair of reed contacts closed, to a final position, where said magnet biases said second pair of reed contacts closed, the gap between said first pair of reed contacts being located, when said magnet is in said initial position, between two parallel planes, each said plane intersecting said magnet perpendicular to said line at a point substantially midway between and end and the middle of said magnet, and the



gap between said second pair of reed contacts being located between said two parallel planes when said magnet is in said final position.

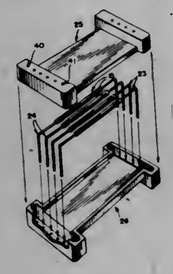
3,268,685
TOASTER CONSTRUCTION
Frank R. Swanson, Corunna, Mich., assignor to Swanson Manufacturing Company, Owosso, Mich., a corporation of Michigan
Filed Sept. 18, 1963, Ser. No. 309,805
4 Claims. (Cl. 200—61.62)



1. An electric toaster or the like mounted in a walled recess and adapted for connection to a source of electrical energy, said toaster comprising a body having a top wall provided with at least one opening therein for the accommodation of a bread slice; separable, cooperable fulcrum means on said body and in said recess and mounting said body for rocking movements in a path from a retracted position in which said body is in an upright position and said opening is located within said recess, to a projected position in which said body is inclined upwardly and outwardly of said recess a distance sufficient to locate said opening outwardly of said recess, and return; stop means located in the path of movement of said body toward said projected position; limit means supported by said body and engageable with said stop means to prevent movement of said body outwardly of said recess beyond said projected position; electrically conductive means for connecting said toaster to said source; and switch means in circuit with said conductive means and supported in said recess in the path of movement of said body toward said retracted position for engagement by said body, engagement of said switch means and said

body disabling electrical connection of said toaster and said source, said cooperable fulcrum means and said stop means and said limiting means being respectively disengageable from one another to enable bodily removal of said body from said recess.

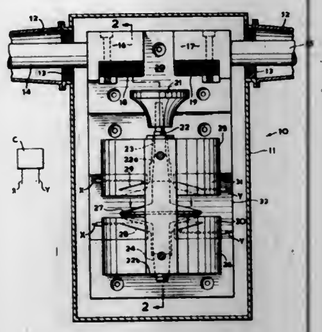
3,268,686
SPLIT BOBBIN REED RELAY
Frederick H. Wauer, Maywood, Ill., assignor to Albert F. Dormeyer, Chicago, Ill.
Filed Nov. 27, 1964, Ser. No. 414,169
8 Claims. (Cl. 335—154)



1. A reed relay comprising, at least one reed switch including tines extending from opposite ends thereof, said tines having first portions extending coaxial with said switch and second portions extending at right angles to said first portions and parallel to each other, a hollow bobbin defined by a pair of halves, each half including a channel-shaped center section and channel-shaped end sections extending normal to the center section, said channel-shaped center section opening into said channel-shaped end sections, holes in the end sections for permitting one of the halves to receive the second portions of the tines and permitting them to project from the bobbin, means for anchoring the tines to the end sections, whereby said bobbin halves enclose said reed switch and a coil winding around the center section.

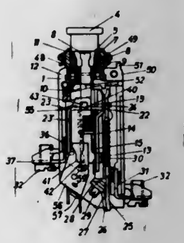
3,268,687
HIGH SPEED DEVICE FOR INTERRUPTING AND COMPLETING HIGH VOLTAGE POWER CIRCUITS
John Henry Waghorne, 5 Mountain Ash Court, Etobicoke, Ontario, Canada, and Harold Armstrong Smith, 1463 Larchview Trail, Port Credit, Ontario, Canada
Filed May 18, 1964, Ser. No. 368,255
Claims priority, application Great Britain, May 20, 1963, 19,951/63
9 Claims. (Cl. 335—71)

1. A device for interrupting a power circuit comprising an evacuated housing, a pair of fixed line conductors having opposed end portions extending into the housing, the fixed line conductors being electrically insulated from each other and the end portions being separated by a gap, a conductor movable from a closed circuit position where it bridges the gap and electrically interconnects the fixed conductors, to an open circuit position, a shaft connected to the movable conductor and movable towards and away from the fixed line conductors, a first motor conductor which is secured to the shaft, and a second motor conductor which is fixed, the motor conductors being adjacent to each other in the closed circuit position, and means for discharging an electric current into the second motor conductor at a predetermined time prior to a current zero whereby the first motor conductor is repelled and the movable conductor is moved from the closed circuit position to the open circuit position with a velocity sufficient to prevent arc re-striking after the



current zero and whereby the circuit is interrupted at or shortly before the current zero.

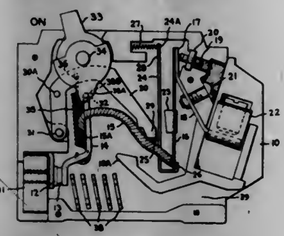
3,268,688
PUSHBUTTON-CONTROLLED OVERLOAD CIRCUIT BREAKER
Jakob Ellenberger, Altdorf, near Nurnberg, Germany, assignor to Ellenberger & Poensgen G.m.b.H., Altdorf, near Nurnberg, Germany, a firm of Germany
Filed Aug. 18, 1964, Ser. No. 390,376
Claims priority, application Germany, Oct. 26, 1963, E 25,774
20 Claims. (Cl. 200—116)



1. A pushbutton-controlled overload circuit breaker having thermally responsive releasing means with a holding detent thereon, and trip-free releasing means, a housing, a pushbutton guided in and projecting from said housing, a control rod rigidly connected to said pushbutton, a contact bridge pivotable and slidable on said control rod within said housing, an inclined surface in said housing, said contact bridge being pressed against said inclined surface when the circuit breaker is switched off, said contact bridge having a projection and said control rod having a shoulder associated with said projection, said contact bridge being taken along by said control rod when the circuit breaker is being switched on by the engagement of said projection with said shoulder until one end of said contact bridge engages behind and is arrested by said holding detent of said thermally responsive releasing means, a lever having an inclined part at one end and pivotably mounted at the other end on said control rod, and means forming an edge in said housing associated with said lever so that, when said pushbutton is pulled out of said housing, said inclined part of said lever slides along said edge, whereby said lever is pivoted toward and

pressed against said thermally responsive releasing means which are thereby bent until said holding detent thereof disengages from and releases said contact bridge.

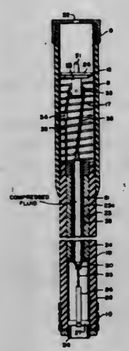
3,268,689
ELECTRIC CIRCUIT BREAKER WITH NOVEL FLEXIBLE BRAID ATTACHMENT
David B. Powell, Bristol, Conn., assignor to General Electric Company, a corporation of New York
Filed Oct. 22, 1964, Ser. No. 405,759
4 Claims. (Cl. 200—116)



1. An electric circuit breaker comprising:
(a) an insulating casing,
(b) a relatively stationary contact mounted in said insulating casing,
(c) a contact arm pivotally supported in said insulating casing on a predetermined pivot support, said contact arm being movable between open and closed circuit positions and having a generally planar contact supporting portion,
(d) a movable contact mounted on one side of said contact supporting portion and movable thereby into and out of engagement with said relatively stationary contact,
(e) a relatively stationary conductive member mounted in said insulating casing at the side of said contact supporting portion of said contact arm opposite said one side,
(f) an elongated flexible conductor having one end thereof fixedly attached to said contact supporting portion of said contact arm and having its other end fixedly connected to said relatively stationary conductive member, said flexible conductor forming a bend between said ends when said contact arm is in said open-circuit position,
(g) said flexible conductor being attached to said contact arm at a predetermined point of attachment on said one side of said contact arm, said contact arm including a shoulder portion spaced away from said point of attachment of said flexible conductor, said shoulder portion being spaced from said movable contact in the direction of said pivot support, said flexible conductor extending around said shoulder portion, said shoulder portion of said contact arm being within the bend formed in said flexible conductor when said contact arm is in said open-circuit position, said shoulder preventing bending of said flexible conductor close to said point of attachment and limiting the sharpness of said bend of said flexible conductor.

3,268,690
FUSE CONSTRUCTIONS INCLUDING A GAS FILLED RESERVOIR
Russell E. Frink, Forest Hills Boro, and Andrew Frey, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 11, 1963, Ser. No. 315,490
7 Claims. (Cl. 200—120)

1. A fuse structure comprising an elongated tubular, movable, conducting fuse terminal constituting a movable reservoir containing a compressed arc-extinguishing fluid, said movable fuse terminal reservoir having an openable end, fuse-link means mechanically and electrically connected to said openable end of the movable fuse terminal reservoir, said tubular fuse terminal forming the only conducting path leading away from the fuse link in one direction, whereby the passage of fault current



through the fuse structure will fuse the fuse-link means so that the heat of fusion will open up the openable end of the movable fuse terminal reservoir to release the compressed arc-extinguishing fluid to assist in arc-extinction and means for separating the fused ends of the fuse link upon fusion of the fuse link and for moving the fuse terminal axially.

3,268,691
PROTECTORS FOR ELECTRIC CIRCUITS
Thomas E. L. FitzGerald, St. Louis County, Mo., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Original application July 22, 1963, Ser. No. 296,611. Divided and this application Feb. 16, 1966, Ser. No. 527,943
6 Claims. (Cl. 200—123)



1. An electric fuse which comprises:
(a) terminals that are connectable into an electric circuit,
(b) a fusible element electrically connected to said terminals to conduct current between said terminals,
(c) said fusible element having a core and having a coating on said core,
(d) said core and said coating being made from materials that do not readily alloy with each other,
(e) each of said core and said coating carrying its proportionate share of current as long as the current flowing through said fusible element does not exceed the rating of said electric fuse,
(f) said core and said coating responding to levels of current in excess of said rating of said electric fuse to increase the heating thereof,
(g) said coating responding to temperatures close to the melting temperature thereof to separate from at least a portion of the length of said core rather than to alloy with said portion of said length of said core,

(h) said separation of said coating from said portion of said length of said core subjecting said portion of said length of said core to substantially all of the current flowing through said fusible element and thus to levels of current in excess of said rating of said electric fuse,

(i) said core being dimensioned so it will promptly fuse whenever it is subjected to levels of current in excess of said rating of said electric fuse,

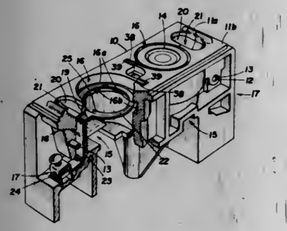
(j) whereby said fusible element will respond to overloads of predetermined magnitude and duration to cause said coating to separate from said portion of said length of said core and thereby subject said portion of said length of said core to substantially all of the current flowing through said fusible element and thus to levels of current in excess of such rating of said electric fuse, with consequent prompt fusing of said core.

3,268,692

FUSE BLOCK FOR EITHER SINGLE-POLE OR DOUBLE-POLE POWER SUPPLY

Robert Alexander Oldham, Willowdale, Ontario, Canada, assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey

Filed Apr. 24, 1964, Ser. No. 362,303
Claims priority, application Canada, Feb. 5, 1964, 894,878
6 Claims. (Cl. 200—133)



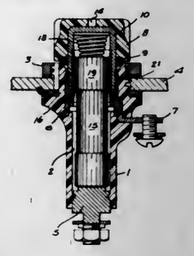
6. A fuse block for use in panel boards having a pair of parallel bus bars for branch circuit supply comprising: two complementary moulded half sections of insulator material secured together longitudinally in complementary relation to provide an elongated insulator housing having a pair of bus bar passageways extending transversely therethrough for mounting of said block crosswise on said panel board bus bars; a pair of spaced aligned fuse receptacles symmetrically located longitudinally of said block and extending downwardly therein for communication with a respective bus bar passageway; a pair of load lead passageways one each communicating a respective fuse receptacle with an adjacent end of said block; a conductive fuse connector ring located in each fuse receptacle for contacting and securing a fuse therein, a conductive fuse ring lead member extending from said ring into said passageway from one end thereof; a load terminal on each end of said block; a terminal lead member secured to said load terminal projecting into said passageway from the other end thereof; a knock-out portion in said block superadjacent each said passageway, said portions being readily fracturable for access to said lead members in said passageways; and conductive probe connector means for each said passageway removably insertable therein to contact said ring and terminal lead members therein and establish a conductive path between same, a yoke member of insulated material shaped to overlay said fuse receptacles and obstruct removal of fuses therefrom, and carrying said conductive probe means therein in spaced apart relation oriented for insertion into said housing as aforesaid.

3,268,693

FUSEHOLDER

William C. Linton, Bethesda, Md., assignor to Fuse Indicator Corporation, Rockville, Md., a corporation of Maryland

Filed June 17, 1964, Ser. No. 375,870
3 Claims. (Cl. 200—133)



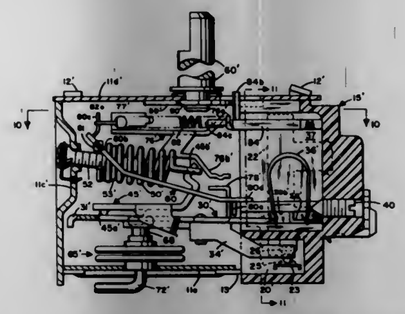
1. A fuseholder comprising in combination a body molded from insulating materials having an open end cavity formed therein for receiving standard cartridge type fuses of the same length, but with contact ferrules of different outside diameters, a bottom terminal contact extending within the cavity of said body for having contact with one ferrule of the fuse when inserted therein, a removable cap for closing the open end of the cavity within said body, a fuse socket carried by said cap and having an open end recess formed therein for receiving the opposite ferrule of said fuse, said fuse socket having detachable electrical connection with said side terminal, an annular shoulder formed with said fuse socket and extending inwardly within the open end of the recess formed therein, a conical coil spring insertable within the recess formed within said fuse socket, the large coil having a preset diameter greater than that of the interior diameter of the open end recess formed within said fuse socket whereby when inserted within said fuse socket will have frictional contact with the latter as to support said coil spring and have its smaller coils suspended therefrom, a fuse clip having one end in a preset unstressed polygonal configuration is cross-section assuming and maintaining substantially the same rectilinear elevational configuration upon flexed engagement with said fuse socket when inserted therein to maintain an electrical contact with the latter, a plurality of arms formed with and extending from said end of said fuse clip having a polygonal configuration in cross-section each arm being preset in an outwardly flared configuration whereby the inner face of the medial portion of each arm will have direct electrical contact with the ferrules of fuses having different outside diameters when a fuse of either diameter is inserted within said fuse socket, the outer free extremities of each arm being bent outwardly in a preset position whereby those extremities will engage the inner wall of said fuse socket and be prevented against withdrawal from the latter when contacting said annular shoulder, said fuse clip having free sliding movement within said fuse socket, said coil spring when compressed will exert pressure upon the fuse for forcing the latter in constant electrical contact with said bottom terminal and when completely expanded will release its pressure upon the fuse permitting said arms of the fuse clip to maintain their grip upon the fuse whereby the latter can be withdrawn from the cavity within said body when removing said cap therefrom, and said coil spring being suspended within said fuse clip and out of direct contact with the latter.

3,268,694

THERMOSTATIC CONTROL SWITCHES

John Liebermann, Thomas I. Syfert, and William H. Croswell, Columbus, and William S. Tufts, Gahanna, Ohio, assignors to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio

Filed Jan. 20, 1964, Ser. No. 338,677
1 Claim. (Cl. 200—140)



A thermostatically operated electric switch comprising a frame, switch contact means supported on said frame, a first lever pivoted to said frame and movable between first and second positions actuating said switch means, spring means constantly urging said member towards said first position with increasing and decreasing forces on said lever as said lever approaches and moves from said first position, respectively, shoulder means on said frame engaged by said lever to limit movement of said lever in said first position, means to load said lever to oppose the force of said spring means thereon and to move said lever to said second position, a thermally responsive expandible means mounted on said frame and applying a force to move said lever towards said first position, said means comprising a second lever pivoted to said frame and disposed adjacent and generally co-extensive with said first lever and engaging a part thereof to urge said first lever towards said second position, spring means urging said second lever into engagement with said first lever and comprising a tension spring disposed generally co-extensive with said levers, a third lever pivoted to said frame and extending generally parallel with said levers and tension spring, said third lever having a central opening receiving said extension spring, spring means biasing said third lever in a direction about its pivot to urge one end towards said first lever and comprising a second tension spring extending generally parallel to said levers, stop means supported by said frame and engageable by said third lever to limit movement of said third lever about its pivot by the last mentioned spring means, a finger extending from said third lever towards said first lever and spaced from said first lever when said first lever is in said second position and said third lever engages said stop means and engaged by said first lever when the latter moves towards said first position, and means to adjust the tension of said second tension spring.

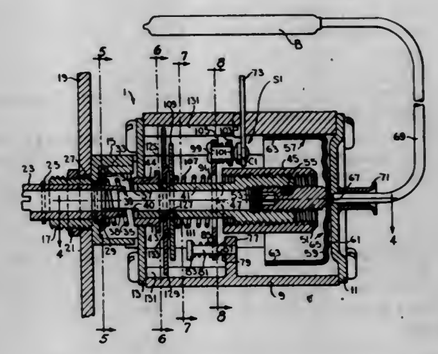
3,268,695

HEAT CONTROL SYSTEM

Bradley C. Douglas, Kirkwood, Mo., assignor, by mesne assignments, to Aurora Corporation of Illinois, Chicago, Ill., a corporation of Illinois

Filed Dec. 30, 1963, Ser. No. 334,379
11 Claims. (Cl. 200—140)

1. A thermostatic control device comprising a hollow housing, first and second switches mounted in said housing, control means mounted for movement in said housing and actuating said switches upon such movement, and thermostatic means operatively connected to said control means, the thermostatic means being responsive to temperature changes in a zone outside said housing to move said control means for actuating said switches, said control means being adjustable for actuating said first switch in response to a selected high temperature, said second switch being actuated by said control means and said thermostatic means at a predetermined low temperature, said second switch comprising a pair of contacts spaced apart from one another and a switch arm, means pivotally mounting said switch arm in said housing, a bridging contact carried by said switch arm interconnecting said contacts upon movement of said switch arm in one direction



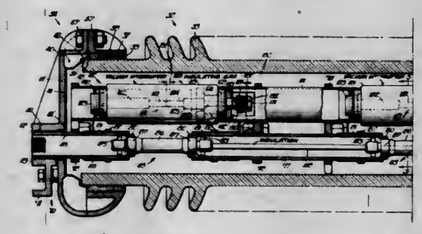
and to disconnect said contacts upon movement of said switch arm in an opposite direction, and a spring biasing said switch arm in said opposite direction, said control means and said thermostatic means preventing sufficient movement of said switch arm in said opposite direction to disconnect said contacts when the temperature outside said housing is below said predetermined low temperature, and said control means and said thermostatic means permitting said spring to move said switch arm in said opposite direction to disconnect said contacts when the temperature outside said housing rises above said predetermined low temperature.

3,268,696

CIRCUIT INTERRUPTER HAVING VACUUM TYPE INTERRUPTER IN INSULATING GAS FILLED HOUSING

Sigurd I. Lindell, Northbrook, Ill., assignor to S & C Electric Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 30, 1963, Ser. No. 320,196
23 Claims. (Cl. 200—144)



1. A circuit interrupter for use in air at atmospheric pressure comprising:

(a) a tubular insulating member having terminals at its ends and members closing its ends to form a

gas-tight non-vented tubular insulating housing for permanently containing and confining a quantity of insulating gas at a pressure substantially above atmospheric pressure and independent of variations in pressure of the ambient air,

(b) a vacuum type interrupter unit in said housing having separable current interrupting contacts in a vacuum housing connected respectively to said terminals,

(c) an insulating gas in said tubular gas tight housing and immersing said vacuum housing characterized by having a pressure substantially above atmospheric pressure and a dielectric strength at such pressure substantially greater than the dielectric strength of air at atmospheric pressure and providing insulation over the surface of said vacuum housing matching the voltage withstandability of the gap between said contacts while they are being separated for arc extinction and in their open position following arc extinction and providing a force biasing said contacts toward their closed position, and

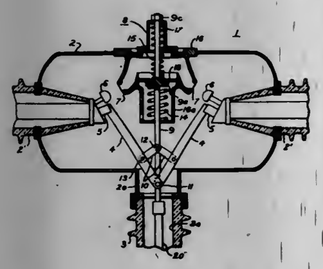
(d) means for overcoming the biasing action of said insulating gas in said insulating housing for opening said current interrupting contacts.

3,268,697

COMPRESSED-GAS CIRCUIT INTERRUPTERS HAVING EXHAUST VALVE STRUCTURES

Shoji Morioka, Hyogo-ken, Japan, assignor to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan, a company of Japan

Filed Oct. 7, 1964, Ser. No. 402,168
Claims priority, application Japan, Oct. 31, 1963, 38/58,802
10 Claims. (Cl. 200—148)



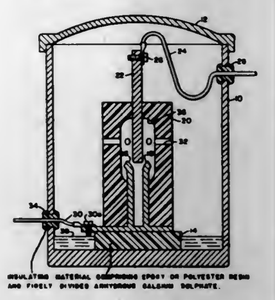
1. In a compressed-gas circuit interrupter of the type having a tank supplied with gas under pressure, at least one terminal bushing extending into the tank and having a stationary contact thereon, and a movable contact in the tank for selectively engaging said stationary contact; the improvement in means for forming an arc-extinguishing flow of fluid within the tank upon separation of the movable contact from the stationary contact, comprising valve-seat means forming an opening in a wall of said tank, an exhaust-valve member movable into and out of engagement with said valve-seat means, apparatus operatively connected to said movable contact for unseating said valve member from said valve seat when the movable contact separates from the stationary contact to thereby exhaust gas from the tank and form said arc-extinguishing flow of fluid, and auxiliary exhaust valve means arranged to close and substantially seal said opening after said exhaust-valve member has opened and the arc is extinguished but before the exhaust valve member is again seated on said seat, whereby the escape of gas from the tank during an interruption operation of the circuit interrupter is minimized.

3,268,698

ELECTRICAL APPARATUS COMPRISING SULFUR HEXAFLUORIDE AND ORGANIC INSULATION WITH ANHYDROUS CALCIUM SULFATE

Edward S. Bober, Churchill, and Herbert A. Burgman, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 12, 1963, Ser. No. 301,505
5 Claims. (Cl. 200—144)



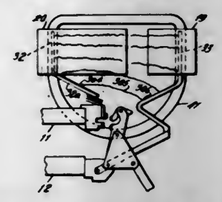
1. Sealed electrical apparatus containing sulfur hexafluoride as a dielectric and including spaced electrically conductive members in contact therewith, between which members an electrical arc normally will result and affect the sulfur hexafluoride to cause decomposition thereof and an organic insulating material adjacent to and providing at least a part of the electrical insulation for the electrically conductive members and being in contact with the sulfur hexafluoride, the organic insulating material comprising a composition consisting of about 9 to 65 weight percent, of the insulating material, of fine particles of anhydrous calcium sulfate as the sole inorganic filler and the balance of the insulating material being at least one resin selected from the group consisting of epoxy and polyester resins, the anhydrous calcium sulfate particles being distributed throughout the resin, whereby the organic insulating material maintains a high surface resistivity in the presence of the arc decomposed sulfur hexafluoride.

3,268,699

MAGNETIC TYPE CIRCUIT BREAKER HAVING AIR GAP IN FACE OF FACE WOUND CORE STRUCTURE FOR PRODUCING NON-UNIFORM MAGNETIC FIELD

William A. Carter, Devon, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 23, 1965, Ser. No. 452,453
7 Claims. (Cl. 200—147)



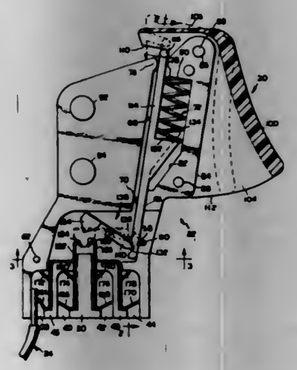
1. A circuit breaker comprising a pair of cooperating contacts, a substantially rectangular arc chute positioned to extinguish an arc drawn between said contacts upon separation thereof, said arc chute having a pair of opposite interior ends and first and second faces joining said opposite interior ends, a pair of arc runners positioned at said opposite interior ends of said arc chute, said pair of cooperating contacts being closer to one of said arc runners than the other of said arc runners, blow-out means including a blow-out coil and an iron core, said blow-out coil being positioned along said first face of said arc chute, said iron core being substantially rectangular in shape and being positioned to surround the outer perimeter of said arc chute, the plane of said iron core being transverse to the plane of said blow-out coil, said iron core having at least one air gap positioned off-center along said first face of said arc chute, said blow-out means generating a non-uniform magnetic field in that portion of said arc chute surrounded by said iron core.

3,268,700

SNAP ACTING TRIGGER SWITCH

George J. Bury, Antioch, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed June 18, 1964, Ser. No. 376,154
7 Claims. (Cl. 200—157)



1. A trigger switch comprising chambered base means and cover means assembled together to define a switch enclosure having first and second openings at different portions thereof, pivot means located adjacent said first opening, manually engageable pivotal trigger means mounted on said pivot means, a plurality of fixed contact means mounted in said switch enclosure having terminal portions adjacent said second opening, at least one of said fixed contact means being electrically isolated from another fixed contact means, movable contact means comprising first and second lever means, said first lever means being connected to said trigger means for reciprocatory movement responsive to pivotal movement of said trigger means, said second lever means carrying spaced contact means on the end thereof and being pivotally mounted on said first lever means, spring means engaged with said second lever means and said base means to provide overcenter snap action movement of said second lever means upon reciprocatory movement of said first lever means, whereby movement of said trigger means causes movement of said first and second lever means and movement of said movable contact means into engagement with said fixed contact means with a snap-like action.

3,268,701

CLAD ELECTRICAL CONTACTS

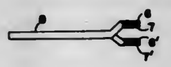
Jerry C. La Plante, Bayside, N.Y., and Gilbert J. Landry, West Caldwell, N.J., assignors to Alloys Unlimited Inc., Long Island City, N.Y., a corporation of New York

Filed Apr. 22, 1964, Ser. No. 361,821
1 Claim. (Cl. 200—166)

An electrical contact comprising,

a base strip composed of the alloy from the group consisting of beryllium-copper, phosphorus-bonze, and nickel-silver,

a strip of contact material inlaid in and bonded to said base adjacent one edge thereof, said edge being split,



said contact surface being raised out of the plane of said base strip in either direction to form multiple contact points.

ERRATUM

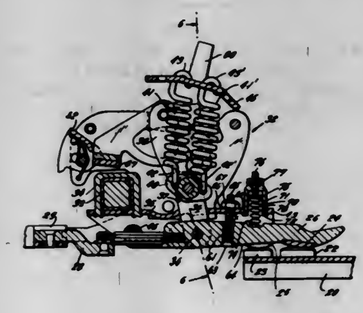
For Class 200—167 see:
Patent No. 3,267,926

3,268,702

LOOSELY MOUNTED INDEPENDENT COUPLING MEANS FOR ADJUSTING CONTACT PRESSURE AND CONTACT ARM POSITION

Carl E. Gryctko, Haddon Heights, N.J., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Feb. 5, 1965, Ser. No. 430,549
10 Claims. (Cl. 200—170)



1. A circuit breaker comprising a pair of cooperating contacts, a contact arm carrying one of said contacts; operating means connected to said contact arm for moving said contact arm between a first and a second position wherein said contacts are disengaged and engaged, respectively; said operating means including a carrier having a pivot means to which said contact arm is mounted; a stud interposed between said carrier and said contact arm; said contact arm including an aperture with said stud extending therethrough; a first end of said stud located at the top surface of said carrier and a second end of said stud located at the bottom surface of said contact arm; said contact arm aperture having a cross-sectional area sufficiently greater than said stud to permit predetermined movement of said stud within said aperture.

3,268,703

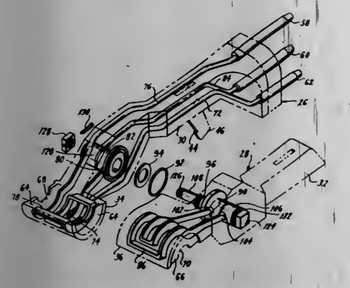
BRAZING TOOL

Robert A. Schoppman, Florissant, Mo., and Anthony R. Konecny, Boulder, Colo., assignors to Aeroquip Corporation, Jackson, Mich.

Continuation of abandoned application Ser. No. 231,984, Oct. 22, 1962. This application Dec. 23, 1965, Ser. No. 520,033
15 Claims. (Cl. 219—9.5)

1. A brazing and debrazing tool comprising a pair of members each having a handle portion formed on one end and a clamp portion formed on an opposite end, said

clamp portions being adapted to mate cooperatively to form a chamber around an object to be brazed, a hinge connection between said members, a heating element positioned in the chamber formed by the clamp portions adjacent to the object being brazed, said heating element including a tubular member of circuitous form, and conduit means connecting said heating element to a source of electricity and to a source of cooling fluid, said conduit means including tubular conductor means in one of said handle portions, and passage forming conductor means through the hinge connection between said members.

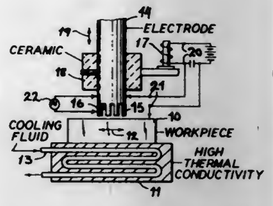


3,268,704
ELECTRIC DEVICES FOR HEAT TREATMENT OF WINDABLE MATERIAL
Lionel B. Cornwell, Deer Park Road, New Canaan, Conn.
Filed June 18, 1963, Ser. No. 288,725
6 Claims. (Cl. 219—10.61)

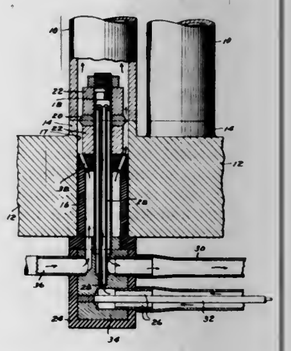
1. An electrical device for heat treatment of windable material, comprising a heater member of electrically conducting metal having the shape of a closed ring, supporting rollers engageable with, and distributed over the inner periphery of said member to journal said member for rotation about its center axis, electric means for heating said member, a rotatable capstan pulley radially spaced from said member and having a capstan axis parallel to said center axis, said capstan pulley defining together with the outer periphery of said annular member a loop-shaped travel path for the material around said capstan pulley and around the outer periphery of said member, whereby the material traveling on said path is heated by contact with said member when the device is in operation.

3,268,705
METHOD OF AND APPARATUS FOR THE COATING AND FINISHING OF METALLIC SURFACES
Kiyoshi Inoue, 182 3-chome, Tamagawayoga-machi, Setagava-ku, Tokyo-to, Japan
Filed Aug. 13, 1963, Ser. No. 301,778
5 Claims. (Cl. 219—76)

1. In a method of coating a metallic workpiece by iteratively effecting an impulsive discharge between said workpiece and an electrode composed of a coating material, thereby at least partially welding said electrode to said workpiece at an interfacial region, and forcibly removing said electrode from said workpiece to leave portions of said material fused to said workpiece, the improvement which comprises the step of maintaining the rate of heat conduction away from said region on the workpiece side thereof in excess of that on the electrode side of said region, the rate of heat conduction away from said region on the workpiece side thereof being maintained in excess of that on the electrode side of said region by using an electrode with a contact face juxtaposed with said workpiece whose surface area in contacting relationship with the workpiece is less than the surface area of the corresponding surface of said workpiece confronting said face and within the outline thereof.

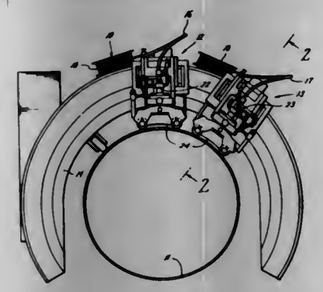


3,268,706
INTERNAL CONE ARC TORCH
Lindon Cyril Laming, Redhill, Surrey, Kenneth Stevens, Richmond, Surrey, and Alan Ernest Stevens, Stoneleigh, Ewell, Surrey, England, assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Nov. 29, 1963, Ser. No. 326,990
4 Claims. (Cl. 219—123)



1. A welding torch for internal welding of tubes to a tube plate comprising
an elongated barrel having a longitudinal axis adapted to be inserted within a hole of the tube plate,
an electrode in the form of a disc,
magnets disposed on opposite sides of the electrode,
means connecting the electrode and magnets to the barrel so that the axis of the electrode is parallel to the axis of the barrel and the electrode is sandwiched axially between the magnets,
means for positioning the barrel within the tube plate so that the electrode is at the level of the junction between the tube and the tube plate,
and means for supplying current to the electrode so that an arc is struck between the electrode and the junction at which the weld is to be made,
the magnets providing a magnetic field by which the arc travels around the electrode at a high speed.

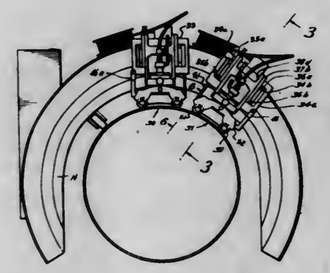
3,268,707
MECHANISM FOR OSCILLATING THE MOVABLE HEAT SOURCE OF A WELDING MACHINE
Robert Thomas, Houston, Tex., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 14, 1963, Ser. No. 315,996
2 Claims. (Cl. 219—125)



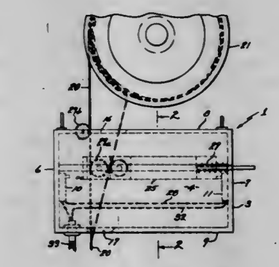
1. In a welding machine adapted to move an electrode parallel to two surfaces being welded together by the electrode and having means for oscillating the electrode from side to side as it travels along the joint being welded to increase the area of base metal exposed to the heat of the electrode, the improvement comprising:
(a) electrode holding means pivotally attached to the welding machine to oscillate the end of the electrode generally in a plane perpendicular to the longitudinal centerline of the weld;
(b) a drive member resiliently connected by a rod to the electrode holding means, said rod extending through an opening in the drive member with stops attached thereto on each side of the member;
(c) resilient means located between the stops and the member to allow the amplitude of the electrode holding means to be shorter than the amplitude of the drive member at the point where the rod is connected;
(d) means mounting the drive member comprising a pivot pin around which the drive member pivots;
(e) means resiliently connecting the drive member, at a point spaced from the pivot pin, to the electrode holding means to oscillate the electrode holding means in response to the oscillation of the drive member;
(f) means for adjusting the space between the pivot pin and the point where the connecting means is attached to the drive member to allow the amplitude of the oscillations of the drive member to be adjusted;
(g) means for causing the drive member to oscillate around the pivot pin to thereby cause the electrode holding means to oscillate; and
(h) means for adjusting the amplitude of the oscillation of the electrode holding means.

3,268,708
APPARATUS FOR MOUNTING A TORCH ON A WELDING MACHINE
Robert Thomas, Houston, Tex., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 14, 1963, Ser. No. 316,007
3 Claims. (Cl. 219—125)

1. In a welding machine wherein a welding torch assembly is moved along a joint to be welded by a torch moving mechanism, the improvement which comprises in combination therewith:
(A) a connecting linkage which includes a first pair of parallel arms pivotally connected at one of their ends to the torch moving mechanism;
(B) a link pivotally connected to the other ends of said first arms to form together with the first arms a first parallelogram linkage;
(C) a second pair of parallel arms pivotally connected at one of their ends to said link and at their other ends to said torch assembly to form a second parallelogram linkage, all of the pivotal axes of the pivotal connections of said first and second arms being parallel to each other and positioned such that a line drawn through the pivotal axes of the first arms connections to said link lies at an angle to a line drawn through the pivotal axes of the second arms connections to said link whereby the torch assembly is provided with two degrees of freedom in a single plane transverse to said pivotal axes;
(D) resilient means urging the torch assembly toward the joint to be welded, said resilient means including:
(a) a torsion rod rotatably mounted on the torch moving mechanism;
(b) a force transmitting connection between the torsion rod and the torch assembly and connecting linkage; and
(c) means for rotating the torsion rod and applying torsion thereto.



3,268,709
ELECTRIC WELDER CONTROLS
Milroy L. Olds, South Euclid, Ohio, assignor to Industrial Welding Equipment Co., Cleveland, Ohio, a corporation of Ohio
Filed Oct. 16, 1964, Ser. No. 404,291
5 Claims. (Cl. 219—130)



1. A control device for use in an electrical control circuit for a welding unit having a source of electrical welding energy and drive means for driving a length of welding wire into welding position, the device comprising a

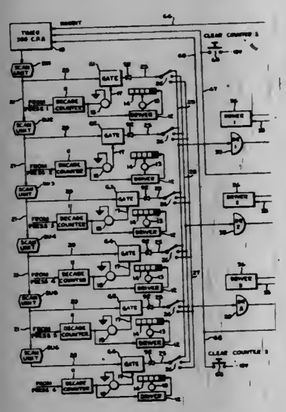
housing, a source of primary electrical power, a pair of normally closed switches in said housing connected in series circuit relation with each other, said source and said drive means being connected across a primary electrical source of power, switch-actuating means movably supported in said housing between said switches, said length of welding wire being threaded through said housing and engaging said switch-actuating means and being effective to position said means in spaced relation to each of said switches, said means being reciprocably mounted for to and fro movement into predetermined engagement with one of the switches upon the passing of the end of the length of the wire through the housing, the movement of the switch actuating means being effective to open said switch and disconnect the welding unit from said power source.

3,268,710

COUNTER TOTALIZER FOR RANDOMLY OCCURRING SIGNALS FROM A PLURALITY OF SOURCES

Louis S. Conover, Jr., North Babylon, and Paul M. Kintner, Huntington Station, N.Y., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed Aug. 27, 1962, Ser. No. 219,530
4 Claims. (Cl. 235—92)



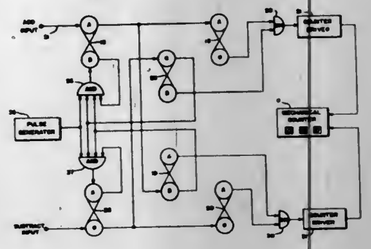
1. A system for totalizing randomly occurring independent events from a plurality of sources comprising, in combination, a plurality of independent event count pulse sources providing like output signals for like but randomly occurring events, a timer pulse unit providing periodic clock pulses, a plurality of scan pulse units corresponding in number to said event count sources and responsive to each clock pulse to provide a series of progressively delayed scan output pulses, a plurality of gate units each of which comprises a count input portion for receiving count pulses from one of said count pulse sources, a scan pulse input source for receiving pulses from one of each scan pulse units, a trigger switch pulse output portion, and a common junction between the input to said trigger switch, and said count and scan input portions, said trigger switch in one bistable condition triggering to another condition when the voltage at the common junction reaches triggering level, said scan pulse input portion including a coupling capacitor and isolating diode for coupling a positive potential to said diode bringing said diode to conduction to bring the voltage at the common junction to said triggering level when a count pulse is applied to said count pulse input portion and a scan pulse is thereafter applied to said scan input pulse portion, and means connected to receive the individual output pulses from said gates and totalize them as received.

3,268,711

MECHANICAL COUNTER COINCIDENCE CIRCUIT

John C. Tirrell, Mount Prospect, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware

Filed Nov. 21, 1962, Ser. No. 239,290
4 Claims. (Cl. 235—92)



1. A coincidence circuit for a reversible counter capable of adding and subtracting input pulses applied thereto, which comprises:

(a) a pair of input conductors over which input pulses are transmitted, one conductor being provided for input pulses to be added and the other conductor being provided for input pulses to be subtracted;

(b) a pair of storage devices, each storage device being associated with one of the input conductors so that input pulses are independently stored therein;

(c) cyclically operable readout means for reading out pulses stored in the two storage devices;

(d) counter operating means responsive to a pulse read out from the storage device wherein pulses to be added are stored for driving the counter in an adding direction and responsive to a pulse read out from the storage device wherein pulses to be subtracted are stored for driving the counter in a subtracting direction, and

(e) control means responsive to a pulse read out from one storage device for preventing operation of the counter operating means in response to a pulse read out from the other storage device for a predetermined period of time so that sufficient time is provided for the counter to be operated and responsive to pulses simultaneously read out from the two storage device for negating the effect of the counter operating means so that input pulses received at substantially the same time are cancelled out.

3,268,712

ELECTRO-MECHANICAL READOUT DEVICE

Harold G. Lee and Howard M. Allen, Portland, Oreg., assignors to Leopold & Stevens Instruments, Inc., Portland, Oreg., a corporation of Oregon

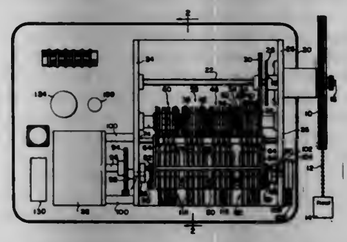
Filed Aug. 27, 1963, Ser. No. 304,780
9 Claims. (Cl. 235—92)

1. A readout device for a mechanical counter, comprising:

interrogation means for sensing the reading of the counter by moving into engagement with at least one encoding element of said counter;

magnetic switch actuating means associated with said interrogation means, at least a portion of which moves with said interrogation means to at least two different readout positions corresponding to different counter readings; and

switch means operated by said actuating means, for transmitting an electrical signal from said readout



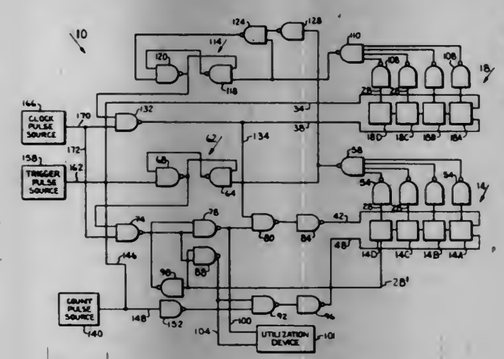
device when said actuating means is moved to said readout positions to change the connection of the contacts of said switch means.

3,268,713

ELECTRONIC COUNTERS

James J. Klinikowski, Somerville, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 25, 1963, Ser. No. 267,410
14 Claims. (Cl. 235—92)



1. An electronic counting and count utilizing system including

a first counter circuit having forward and reverse count input lines,

a second counter circuit having forward and reverse count input lines,

a source of program pulses coupled to the reverse input line of the first counter and to the forward input line of the second counter to apply separate groups of program counts thereto,

a clock pulse source, a first gate, and a second gate,

said clock pulse source being coupled to said first and second gates with said first and second gates being normally closed to said clock pulse source,

said first gate being coupled to said first counter and to a utilization device,

said second gate being coupled to said first counter and to said second counter,

and a trigger means coupled to said first gate to open it and permit the clock pulse source to transmit pulses through it to said first counter and to said utilization device,

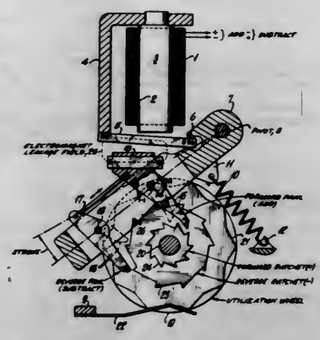
said first counter being coupled to said second gate to open it and permit the clock pulse source to transmit pulses to the second counter to drive it to zero count and to the first counter to drive it to the applied program count.

3,268,714

BIDIRECTIONAL POLARIZED ELECTRO-MAGNETIC COUNTER

Nathaniel B. Wales, Jr., New York, N.Y., assignor to The Metrodynamics Corporation, Red Bank, N.J., a corporation of New Jersey

Filed Aug. 19, 1965, Ser. No. 480,977
2 Claims. (Cl. 235—92)



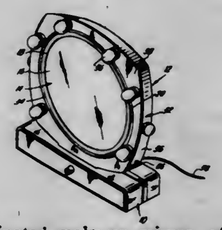
1. A bidirectional counter comprising: an electromagnet; a permanent magnet located in the leakage field of said electromagnet when energized; a register member; means to drive said register member in incremental displacement by energy supplied by said electromagnet; and means responsive to the interaction of said permanent magnetic and said leakage field to select the direction of said register displacement.

3,268,715

ILLUMINATED MAKE-UP MIRROR

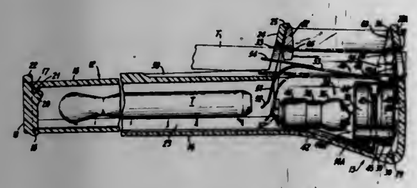
Matthew J. Rothman, Great Neck, N.Y., assignor to Rialto Products Inc., New York, N.Y., a corporation of New York

Filed Aug. 19, 1965, Ser. No. 480,972
14 Claims. (Cl. 240—4.2)



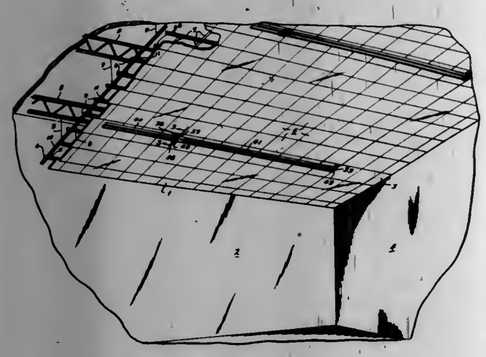
10. An illuminated make-up mirror, of the character described, comprising, in combination, a stand molded from a synthetic plastic material, said stand including a base and a hollow annular frame rising from said base in rearwardly tilted relation thereto, said frame comprising front and rear annular frame members, at least one of said frame members being of channel shape, at least one of said frame members being integrally molded with said base; means securing the other of said frame members to said one frame member; means within said hollow frame for supporting a plurality of sockets connected in spaced relation to one another to an electric conduit wire with their lightbulb-receiving openings facing said front frame member and a plurality of openings formed in said front frame member, each opposite the opening of one of said sockets, wherethrough a lightbulb may be inserted into said socket; a reflector within the opening defined by said frame and means supporting said reflector on said frame for rotation on an axis thereof within said frame opening.

3,268,716
THERMOMETER CASE WITH AUTOMATIC ILLUMINATING AND MAGNIFYING MEANS
William Mack, 222 Town Line Road, Commack, N.Y.
Filed May 5, 1964, Ser. No. 364,996
14 Claims. (Cl. 240—6.4)



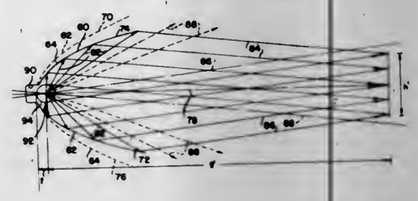
1. A clinical thermometer illuminating device comprising an elongated casing, an illuminating assembly within one end of said casing, said assembly comprising an electric bulb, battery means and circuit closing means in circuit with said bulb and battery means, said casing having at said one end thereof a radially projecting walled portion, a pair of longitudinally aligned openings in said radially projecting walled portion, said aligned openings extending substantially radially of the longitudinal axis of said casing for slidably mounting therein a clinical thermometer in opposed relation to said electric bulb, said radially projecting casing portion having an opening therein extending substantially parallel to the longitudinal axis of said casing for viewing said mounted thermometer, said circuit closing means including a movable spring member in a normally open circuit position and located for engagement by the clinical thermometer in the mounted position thereof to move said spring member to its circuit closing position whereby said bulb is energized by said batteries to illuminate said mounted thermometer.

3,268,717
ILLUMINATION
Eugene F. Gaines, Joplin, Mo., assignor to The Celotex Corporation, Chicago, Ill., a corporation of Delaware
Original application Sept. 12, 1962, Ser. No. 223,023, now Patent No. 3,184,588, dated May 18, 1965. Divided and this application Mar. 24, 1965, Ser. No. 442,261
4 Claims. (Cl. 240—9)



1. A prewired fluorescent lamp receptacle harness for use with drop ceilings by applying the harness above the ceiling with its lamp receptacles extending through holes in the ceiling for the reception of lamp tubes below the ceiling, comprising, a conduit having a length approximating that of the fluorescent lamp tubes, a part terminal box secured to each end of the conduit so that the upper extremity of each part terminal box extends above the adjacent end of the conduit, said part-terminal boxes having an open top and an open side opposite that to which said conduit is secured, at least one lamp receptacle mounted on the bottom of each of said part terminal boxes and projecting downwardly therefrom for a distance sufficient to receive a fluorescent lamp tube below the ceiling when the conduit is above said ceiling, conductors extending through said conduit and connected to the receptacle in at least one of the part terminal boxes, and an additional conductor extending through said conduit and having a free end in each of said part terminal boxes, said free ends being of a length sufficient to reach and splice with a corresponding free-ended conductor in a like but oppositely oriented part-terminal box of another harness.

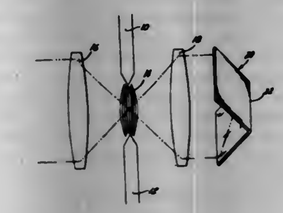
3,268,718
LIGHT REFLECTOR ASSEMBLY
Ralph G. Ostensen, Morton Grove, Ill., assignor to SCM Corporation, New York, N.Y., a corporation of New York
Filed May 9, 1963, Ser. No. 279,276
14 Claims. (Cl. 240—41.35)



1. A light reflector assembly for a photocopy machine comprising:
(a) an elongated housing having a highly reflective inner surface shaped to have the general configuration of a parabola in transverse cross-section and having a straight longitudinal axis and a channel shaped recess containing at least three axially spaced through apertures at the vertex;
(b) a light source including a pair of axially spaced lamps each having a cylindrically shaped envelope wall having a longitudinal axis parallel to the housing axis and located at approximately the focal point of the reflective surface, the envelope wall of each of said lamps extending toward but being spaced from the walls of said recess, the diameter of the cylindrical envelope wall of each of said lamps being substantially equal to the width of the channel shaped recess;
(c) contact terminals on opposite ends of each of said lamps; and
(d) contact means extending through said spaced apertures and being electrically insulated from the walls of said apertures in said housing for mounting said lamps substantially parallel to the longitudinal axis of said housing in axially spaced relationship within said housing.

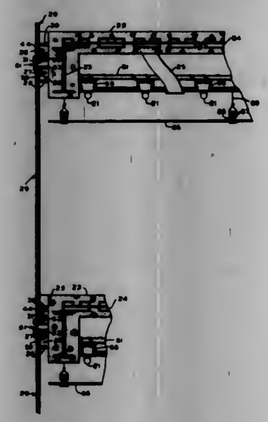
3,268,719
CONDENSER SYSTEM FOR LIGHT SOURCES
Robert B. Tackaberry, Tonawanda, N.Y., assignor to American Optical Company, Southbridge, Mass.
Continuation of abandoned application Ser. No. 89,578, Feb. 15, 1961. This application Aug. 28, 1964, Ser. No. 402,046
5 Claims. (Cl. 240—41.3)

1. An illuminating system comprising
a light source,
a pair of axially aligned lenses having said source located therebetween, the first of said lenses being positioned to image said light source in one direction, the second of said lenses being positioned to image said light source at infinity in the opposite direction, and reflecting means associated with said second lens for reflecting a reoriented image back through said second lens,



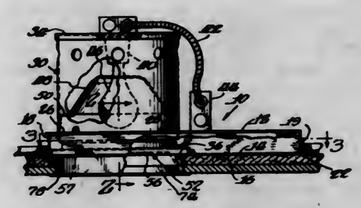
said light source being in the form of a pair of spaced electrodes forming an arc therebetween,
said reflecting means being in the form of a mirror having two reflecting surfaces intersecting at right angles, the apex of said mirror being disposed parallel to a plane containing said electrodes but at an angle of 45° with respect to the path of said arc.

3,268,720
LIGHTING SYSTEM
Gershon Meckler, Atlanta, Ga., assignor to Lithonia Lighting, Inc., Conyers, Ga., a corporation of Georgia
Filed Aug. 2, 1965, Ser. No. 476,236
26 Claims. (Cl. 240—47)



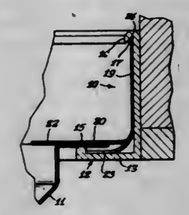
2. An apparaus comprising a fixture for mounting a source of artificial light, a reflector positioned generally adjacent said fixture, a cooling panel, cooling means in thermal contact with said cooling panel, and normally operable to transfer heat from said cooling panel to enable said cooling panel to absorb heat from an air-conditioned space, means in thermal contact with said reflector and effective to transfer heat therefrom to a high temperature heat transfer fluid, and control means operatively associated with said cooling means and effective to control the transfer of heat thereto from said cooling panel in response to temperature changes in the air conditioned space.

3,268,721
LIGHTING FIXTURES
Marvin Dworkin, Highland Park, and Robert S. Fremont, Wilmette, Ill., assignors to Halo Lighting, Inc., Chicago, Ill.
Filed Aug. 2, 1963, Ser. No. 299,541
7 Claims. (Cl. 240—78)



6. A lighting fixture comprising a horizontally positioned first housing positioned on or in the ceiling, said housing having an upper horizontal wall and a lower horizontal wall with an opening in each wall with said openings vertically alined, a second housing secured to said first housing in alinement with said openings and extending vertically upward of said first housing for supporting a light bulb therein, said first housing having means extending horizontally and laterally thereof, a horizontally positioned slidable member supported by said first housing and adapted to be manually slid horizontally from said first housing into said means extending horizontally and laterally thereof.

3,268,722
COVER STRUCTURE FOR LIGHTING FIXTURES
James Nolan, 5939 Falcon Ave., El Paso, Tex.
Filed Sept. 30, 1963, Ser. No. 312,580
5 Claims. (Cl. 240—128)



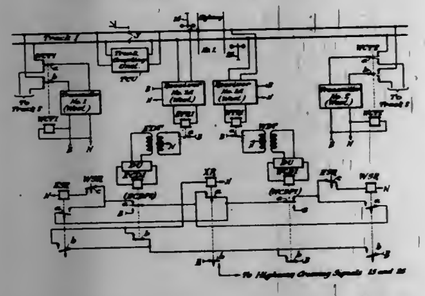
1 A cover structure for lighting fixtures comprising, in combination:
a supporting frame-work of generally L-shaped section having the horizontal component thereof turned inwardly with a raised portion providing a supporting surface at the free end of said horizontal component, and a downwardly opening lip on the inward side of the free end of the vertical component thereof;
a light-passing cover having a supporting edge at the periphery thereof, said cover being supported near its edge by said raised supporting surface; resilient means cooperating with said framework and cover comprising a flat semi-rigid body having a top edge that engages said lip and a lower portion that jointly engages the upper surface of the edge of said cover and said raised portion to thereby resiliently engage and retain said cover in contact with said framework.

3,268,723

HIGHWAY CROSSING PROTECTION SYSTEM

Charles W. Failor, Forest Hills, and Crawford E. Staples, Edgewood, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Filed Feb. 14, 1963, Ser. No. 258,434
9 Claims. (Cl. 246—130)



1. In a highway crossing protection arrangement for a stretch of multiple track railroad having a plurality of highway crossings, each such crossing being provided with a warning device for highway traffic, the combination comprising,

(a) a plurality of sets of parallel overlay track circuits, each set serving from a single transmitter having a frequency different from each other transmitter for detecting the presence of a train in predetermined parallel lengths of said multiple tracks,

(1) said predetermined lengths being so positioned throughout said stretch as to provide continuous detection of a train moving on any of said multiple tracks,

(b) a set of coding contacts for each said overlay circuit set continuously operable in succession between a series of contact points and connected for applying the corresponding transmitter signal successively to each of said multiple tracks to eliminate mutual interference between the parallel lengths of track,

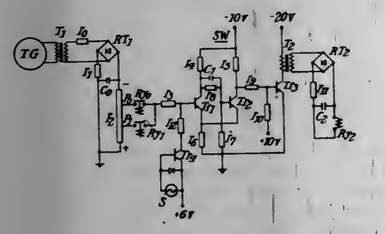
(c) an actuating circuit arrangement for each said warning device controlled by said overlay track circuit sets for operating the associated warning device only upon the approach of train within a preselected distance of the corresponding crossing from either direction on any of said multiple tracks.

3,268,724

SAFETY DEVICE FOR TRAINS

Keiichi Hayashi and Junichi Watanabe, Tokyo-to, Japan, assignors to Tokyo Shibaura Denki Kabushiki Kaisha, Kawasaki-shi, Japan, a joint-stock company of Japan

Filed Dec. 11, 1962, Ser. No. 243,911
4 Claims. (Cl. 246—63)



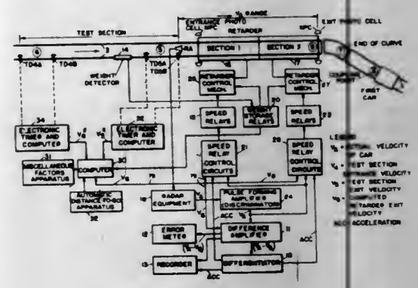
1. A safety device for a train running on a roadbed, comprising means for obtaining a direct current voltage inversely proportional to the speed of the train, a reference voltage source, a comparing circuit adapted to compare said direct current voltage with said reference voltage, a plurality of speed selecting means actuated selectively by speed limiting signals transmitted to said train from ground positions along said roadbed, each of said speed selecting means being adapted to close an electric circuit to compare a selected portion of said direct current voltage with said reference voltage, means including transistor means, rectifying means and an alternating current source for superposing a pulse signal on to said direct current voltage corresponding to the speed of the train so as to convert said direct current voltage into a pulsating voltage, a control device and a switching circuit connected to the output of said speed selecting means and responsive to said pulsating voltage when within selected voltage limits as determined by said reference voltage to supply current to energize said control device.

3,268,725

AUTOMATIC CAR RETARDER CONTROL SYSTEM

John H. Auer, Jr., and Hugh C. Kendall, Rochester, N.Y., assignors to General Signal Corporation, a corporation of New York

Filed Dec. 22, 1958, Ser. No. 782,153
9 Claims. (Cl. 246—182)



1. Control apparatus for classification yards having a stretch of railway track of predetermined length and grade and a car retarder located near the entrance end of said stretch, comprising, means for measuring the rolling characteristics of a car approaching said retarder, computing means controlled by said measuring means for computing a speed at which the car should leave said retarder to travel to a predetermined point in said stretch and arrive at such point at a particular preselected speed, means for measuring the actual speed of a car passing through said retarder, and means jointly controlled by said computing means and said speed measuring means for releasing said retarder when the speed of said car substantially equals said computed speed, error determining means obtaining a difference between the measured actual car speed and the computed leaving speed, and means controlled by the error determining means for modifying said retarder control means in accordance with the rate of change of the speed of said car within said retarder.

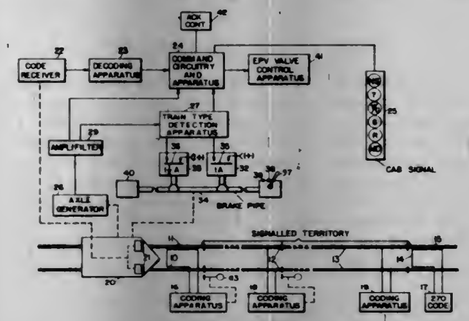
3,268,726

TRAIN CONTROL SYSTEM

William J. Matthews, Rochester, N.Y., assignor to General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed Apr. 4, 1963, Ser. No. 270,752
7 Claims. (Cl. 246—182)

1. In a train control system wherein a plurality of controls are transmitted selectively to vehicle carried apparatus to govern the train at selected rates of speed, one of said controls governing the train at a restrictive rate of speed and another of controls governing the train to travel at authorized speed and having means for causing a penalty brake application in response to the reception by the vehicle carried apparatus of the one control when the train is traveling at a rate of speed in excess of the restrictive speed, comprising a first detecting means on the vehicle to detect the speed of the train in excess of a first predetermined rate while the vehicle is receiving the other control, a second detecting means on the vehicle to detect the speed of the train above a second predetermined rate which speed is faster than the first predetermined rate, a first storing means on the vehicle governed by the first detecting means emergized in response to a detected speed of the vehicle above the first predetermined rate in response to the cessation of the other control, a second storing means on the vehicle deenergized in response to the detected speed of the



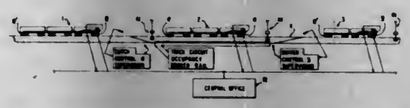
vehicle by the second detecting means to store the detected speed of the train traveling above the second predetermined rate, means on the vehicle for applying selected degrees of braking to slow the train, a first suppression means governed by the first and second storing means in an energized condition to suppress a penalty brake application in response to one selected degree of braking when the train is traveling above the first predetermined rate and below the second predetermined rate upon the reception of the one control, and a second suppression means governed by the first storing means in a deenergized condition and the second storing means in an energized condition to suppress a penalty brake application in response to another selected degree of braking when the train is traveling above the first predetermined rate and below the second predetermined rate upon the reception of the one control.

3,268,727

COMPUTER CONTROL FOR TRANSIT SYSTEM

Jack R. Shepard, Wayne, N.J., assignor to Gibbs & Hill, Inc., New York, N.Y., a corporation of New Jersey

Filed Mar. 25, 1964, Ser. No. 354,562
6 Claims. (Cl. 246—187)



1. An automatic signalling and train control system comprising:

a track,

a series of calibration signalling devices spaced along said track each producing a signal unique to the location thereof;

a train on said track, said train having thereon a calibration signal receiver,

first register means connected to said receiver producing an electrical code signal representing the signal received from the calibration signalling device last passed by said train,

an electrical pulse generator associated with a wheel of said train to produce an output pulse for each increment of rotation of said wheel,

a stepping device connected to the pulse generator to record the number of increments of rotation of said wheel,

an encoder for translating the total of said increments into signals representing binary numbers,

second register means connected to said encoder to produce an electrical code signal representing the total standing in said stepping device,

a signal generator producing an electrical code signal unique to said train,

third register means for producing electrical code signals respectively representing start, stop and running speed controls to be applied to said train,

a report signal transmitter,

a programmer including means to read the electrical code signals from said signal generator and all of said register means into said report signal transmitter in response to loading of said second register means,

said third register means being adapted to operate a train control device for applying start, stop and running speed controls to said train in response to corresponding signals loaded into said third register means,

an instruction signal receiver and means connected to said third register means for loading therein coded instruction signals received by said receiver,

and a central station including

a report signal and instruction signal transceiver, and a computer constituting means to analyze the coded report signals received from said train via said report signal transmitter and transceiver and to transmit said control and predetermined code signals thereto via said transceiver and instruction signal receiver, said control signals varying in accordance with differences between the actual position and a desired position of the train along said track.

3,268,728

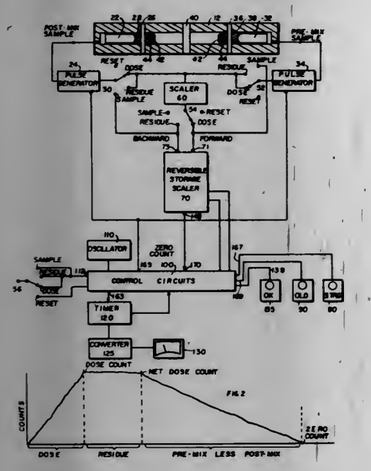
APPARATUS AND METHOD FOR THE DETERMINATION OF FLUID VOLUME BY RADIOACTIVE DILUTION TECHNIQUES

Hugh F. Stoddart, Westport, Conn., James B. Williams, Lexington, Mass., and Robert Hindel, Hamden, Conn., assignors, by mesne assignments, to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

Filed Mar. 3, 1964, Ser. No. 349,095
19 Claims. (Cl. 250—71.5)

1. Apparatus for detecting radiation comprising a radiation-shielding housing having wall means defining a predetermined area in which a radiation source thereat may be viewed from within said housing, a sample receptacle of generally tubular shape, means for positioning said sample receptacle within said housing in a predetermined position with a fixed predetermined volume in said viewing area, and with at least a portion of the interior of said receptacle extending beyond the margin of said viewing area and shielded from view from within said housing, a radioactive sample in said receptacle within said viewing area, scintillator means within said housing adjacent said portion of said receptacle exposed within said viewing area having a surface surrounding the portion of said receptacle containing said predetermined volume exposed within said viewing area, photosensitive

means positioned to view said scintillator means, and output means for transmitting the signal output provided



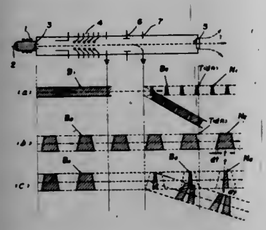
by said photosensitive means to associated pulse-responsive means.

3,268,729

SYSTEM OF GENERATING PULSED NEUTRONS OF NARROW PULSE WIDTH

Takeshi Adachi, Kizuki, Kawasaki-shi, and Ogawa Kazuyuki, Yokosuka-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan

Filed Dec. 3, 1962, Ser. No. 241,909
Claims priority, application Japan, Dec. 5, 1961, 36/43,438
2 Claims. (Cl. 250—84.5)



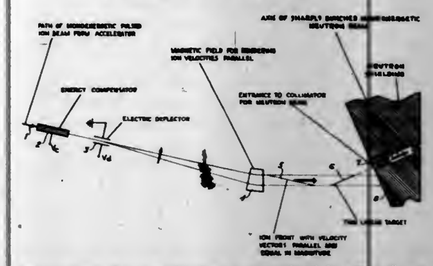
1. A device for generating neutrons by the impinging of ions upon a target, said device including a source of ions, a target which emits neutrons when bombarded by ions, means for accelerating said ions from said source toward said target, a first impulse means for applying electrical ejecting potentials to said ion source in the form of pulses to cause the ejection from said source of groups of ions in the form of ion pulses, a diaphragm in the path of said ions between said ion source and said target, said diaphragm having a perforation therethrough, deflection means adjacent said diaphragm for deflecting ions passing from said ion source to said target, a second impulse means for applying a second pulsing potential to said deflection means to cause ions passing from said ion source to said target to sweep across said diaphragm, and means for correlating said first and second impulse means to apply said second pulsing potential to said deflection means at times such that only a portion of each of said ion pulses passes through said perforation to strike said target.

3,268,730

APPARATUS FOR PRODUCING INTENSE BUNCHED BEAMS OF MONOENERGETIC NEUTRONS

Robert J. Van de Graaff, Lexington, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts

Filed Feb. 28, 1963, Ser. No. 261,608
6 Claims. (Cl. 250—84.5)



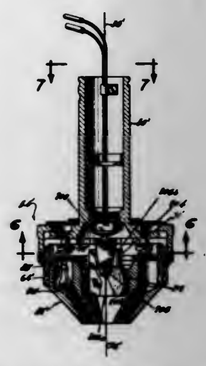
1. Apparatus for producing a bunched beam of monoenergetic neutrons comprising in combination: means for producing an ion beam; means for deflecting said ion beam so that after deflection the beam is divided into a series of ion fronts; means for directing said ion fronts onto a target; said target being so oriented that, as each ion front strikes the target, the point of impact moves along the target with a constant velocity equal to the velocity of the neutrons emitted by the target material in the direction in which said point of impact moves.

3,268,731

PHOTOSENSITIVE CALIBRATED KERF CONTROL

Frans Brouwer, Glencoe, and Frank L. Sobchak, Chicago, Ill., assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Feb. 11, 1964, Ser. No. 344,107
3 Claims. (Cl. 250—202)



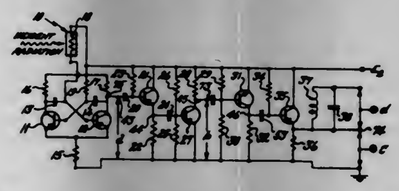
3. A scanner head for a pattern tracer comprising a body member defining a central axis, scanning means within said body having a light sensitive device and means defining a center of scan in approximate alignment with said axis, a circular plate member secured to said body normal to and axially aligned with said central axis, a cylindrical member having an inner cylindrical bearing surface surrounding said plate member and a flange defining an inner circular cam surface, the axis of said cam surface and the axis of said inner bearing surface being non-coextensive with one another and parallel with said central axis, a roller carried by said plate member engageable with said cam surface, a pin carried by said plate member diametrically opposite said roller, a spring constrained between said pin and said cam surface to hold said roller against said cam surface, a lens fixedly attached to said body member with its focal axis coextensive with said central axis, a prism having oppositely facing parallel surfaces mounted on said body member for rotation about an axis parallel to said facing surfaces and perpendicularly intersecting said central axis; an assembly having an outer bearing surface mating with said inner bearing surface means on said assembly defining a pair of radially aligned slots, means in engagement with said support flange member and passing through said slots, and means on said assembly in engagement with said prism for rotating said prism about its axis of rotation responsive to rotation of said cylindrical member.

3,268,732

MULTIVIBRATOR RADIATION SENSOR

William F. Grieder, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed Mar. 4, 1963, Ser. No. 262,806
6 Claims. (Cl. 250—206)



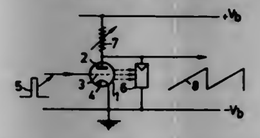
1. An apparatus for generating an error signal for controlling vertical attitude of a space vehicle comprising two radiation detectors located at opposing ends of said space vehicle, an astable multivibrator having said radiation detectors as integral circuit elements and having a frequency dependent upon the radiation upon said radiation detectors, means for processing output of said astable multivibrator into two pulse trains, means for converting said pulse train into two sinusoids, means for comparing phase of said sinusoids.

3,268,733

PHOTOELECTRICALLY CONTROLLED SAW-TOOTH WAVE OSCILLATOR

Gerardus Jacobus Deelman and Hans Bronkhorst, both of Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 4, 1963, Ser. No. 321,236
Claims priority, application Netherlands, Nov. 13, 1962, 285,461
7 Claims. (Cl. 250—217)



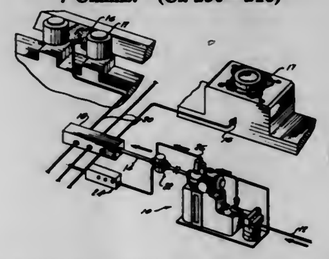
1. A sawtooth wave oscillator comprising impedance means having at least two electrodes, photosensitive means having at least two electrodes and including the characteristic of decreasing impedance with increasing illumination, an electrically operable bistable luminescent switching means having a control electrode, a common electrode and an output electrode, said electrically operable bistable luminescent switching means optically coupled to said photosensitive means, means connecting one of the electrodes of said impedance means and of said photosensitive means to the output electrode of said luminescent switching means, means applying an operating potential, means connecting the other of the electrodes of said impedance means to said means applying an operating potential, means applying a reference potential, means connecting the other electrode of said photosensitive means and the common electrode of said electrically operable bistable luminescent switching means to said means applying a reference potential, means for applying synchronizing pulses, and means connecting said means for applying synchronizing pulses to the control electrode of said electrically operable bistable luminescent switching means whereby a change of state of said electrically operable bistable luminescent switching means is in synchronism with said pulses.

3,268,734

OIL MIST FLUID MONITOR

Thomas E. Bjorn, Northbrook, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Sept. 30, 1963, Ser. No. 312,579
7 Claims. (Cl. 250—218)



1. A unit for monitoring the presence of a dense and contaminating material carried by an air medium, comprising a housing, means in said housing defining a through-passage for carrying the material laden air, photocell and light means in optical cooperation with one another for producing an electric signal responsive to the density of said contaminating material in the air, means including ducts in said housing for maintaining a blanket of clean air immediately adjacent the said photocell and light means, and means for sensing the pressure of said material laden air and for maintaining a substantially constant pressure difference between said clean air and said material laden air.

3,268,735

PHOTOCELL MODULATORS

Roland C. M. Beeh, Walker Valley, N.Y., assignor to Photonetics Corporation, Walker Valley, N.Y., a corporation of New York

Filed May 24, 1962, Ser. No. 197,437
8 Claims. (Cl. 250—233)



5. A photocell modulator for converting D.-C. signals to corresponding pulsating signals which comprises

(a) a source of radiation,

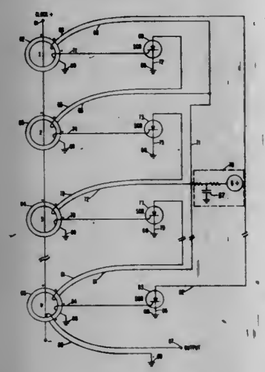
(b) a vane-type radiometer positioned to receive radiation from said source and be rotated thereby,

(c) the radiometer having a plurality of vanes and at least one vane being adapted to pass radiation therethrough periodically as the vanes rotate,

(d) a photocell of the photoconductive type positioned to receive radiation periodically passing through said one vane and responsive thereto,

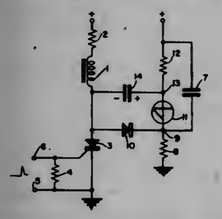
(e) a D.-C. signal source connected with the photocell for modulation of the D.-C. signal thereby,
(f) and means for varying the intensity of the source of radiation to thereby alter the frequency of rotation of the radiometer and the modulation produced thereby.

3,268,736
MAGNETIC CORE SHIFT REGISTER DRIVER
Ira R. Marcus, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 20, 1962, Ser. No. 218,185
1 Claim. (Cl. 307—88)



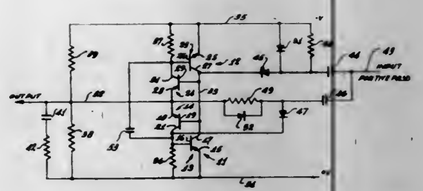
A magnetic core shifting switch comprising:
(a) a first and a second magnetic core,
(b) said first core in a first state of saturation, and said second core in a second state of saturation,
(c) a first and a second silicon control rectifier, each of said rectifiers having an anode, a cathode, and a control electrode,
(d) pulse forming means connected to said anode electrodes,
(e) said control electrode of said first rectifier connected to said first core, and said control electrode of said second rectifier connected to said second core,
(f) said first core also connected to said anode of said second rectifier, and said second core also connected to said anode of said first rectifier,
(g) means to simultaneously drive said first and said second cores to said first state of saturation.

3,268,737
MONOSTABLE MULTIVIBRATOR CIRCUITS
William J. Mahoney, Darien, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Mar. 21, 1962, Ser. No. 181,337
5 Claims. (Cl. 307—88.5)



1. A monostable multivibrator circuit comprising, a load, a source of energy for supplying electrical current to said load, a controlled rectifier having output electrodes and a control electrode, said output electrodes being connected in series circuit relationship with said source of energy and said load and operative to control the current flow therethrough, means connected to said control electrode and operative in response to a signal generated externally of said multivibrator circuit for triggering said controlled rectifier from a nonconductive to a conductive state, and control circuit means for placing said controlled rectifier in a nonconductive state at the end of a predetermined timing period initiated when said controlled rectifier is triggered into a conductive state, said control circuit means comprising a breakdown diode having a pair of output terminals and responsive to a predetermined potential developed across said terminals to change from a high impedance to a low impedance state, a charging capacitor and resistor serially connected across said terminals and to said source of energy to form an RC charging circuit for applying a potential to said terminals having a magnitude which increases with time until said predetermined potential is reached, a commutating capacitor connected between one of said terminals and one of said output electrodes of said controlled rectifier, a coupling diode connected between another of said terminals and said one of said output electrodes, said coupling diode being operative to prevent said charging capacitor from charging until said controlled rectifier is triggered into a conductive state, said control circuit means further including means operative to charge said commutating capacitor to a predetermined voltage when said controlled rectifier is conducting and apply said voltage across said controlled rectifier terminals to turn said controlled rectifier off when said breakdown diode changes to a low impedance state.

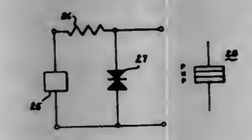
3,268,738
MULTIVIBRATOR USING SEMI-CONDUCTOR PAIRS
Joe E. Deavenport, 2128 Fairfield St., San Diego 10, Calif.
Filed Feb. 18, 1963, Ser. No. 259,286
16 Claims. (Cl. 307—88.5)



1. A multivibrator, including:
a pair of supply points;
an output point;
a pair of active devices electrically disposed to be alternately conducting to alternately connect the output point to each of the pair of supply points, each of said active devices comprising a PNP transistor and a NPN transistor, one transistor of each active device connecting one supply point to the output point;
a biasing resistor connected to each said one transistor;
means connecting each said biasing resistor to the second transistor of the associated active device to supply a forward bias thereto upon the conductivity of the one transistor in the associated active device;
means connecting each second transistor to forward bias the one transistor of their respective device upon the conductivity of the second transistor in the associated active device;

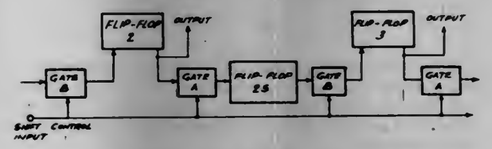
means for oppositely biasing the first transistors of said active devices so that the transistors in one of the devices will alternate in conduction with the transistors of the other device; and
means for reversing the relative bias on the first transistor of one of the devices relative to the bias on the first transistor of the other device to change the conducting condition of said devices.

3,268,739
SEMICONDUCTOR VOLTAGE REFERENCE SYSTEM HAVING SUBSTANTIALLY ZERO TEMPERATURE COEFFICIENT
Donald C. Dickson, Jr., Scottsdale, Ariz., assignor to Dickson Electronics Corporation, Scottsdale, Ariz., a corporation of Delaware
Filed June 20, 1963, Ser. No. 289,352
3 Claims. (Cl. 307—88.5)



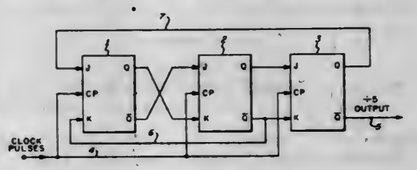
1. A voltage reference system comprising, a first semiconducting element of a given conductivity type, a second semi-conducting element of said given conductivity type, a third semi-conducting element of the opposite conductivity type joined to said first and second elements to form a first and second barrier, said barriers spaced within a minority carrier diffusion length of each other at the operating temperature of the system, to provide minority carrier injection into the region of breakdown when one of said barriers is reverse biased to breakdown, a current source having first and second terminals, means connecting said first terminal to said first semi-conductor element and said second terminal to said second semiconductor element for reverse biasing one of said barriers to breakdown said third semi-conducting element being connected with said current source only through said first and second semi-conducting elements.

3,268,740
SHIFT REGISTER WITH ADDITIONAL STORAGE MEANS CONNECTED BETWEEN REGISTER STAGES FOR ESTABLISHING TEMPORARY MASTER-SLAVE RELATIONSHIP
John Rywak, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Nov. 6, 1963, Ser. No. 321,883
8 Claims. (Cl. 307—88.5)



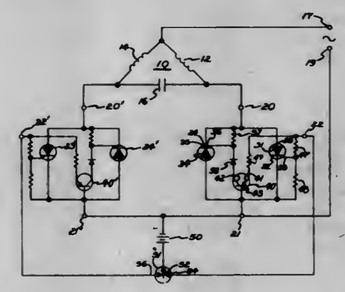
1. A shift register having first and second bistable register elements, a bistable storage element, first gate means for initially transferring the state of the first register element to the storage element, and second gate means for subsequently transferring the state of the storage element to the second register element; said second gate means including means for maintaining a master-slave relationship between the storage element and the second register element after said subsequent transfer and until the next transfer from the first register element to the storage element.

3,268,741
DIVIDER CIRCUIT USING J-K MICROELECTRONIC CIRCUIT FLIP FLOPS
John R. Shea, Huntington Station, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed June 8, 1964, Ser. No. 373,267
4 Claims. (Cl. 307—88.5)



1. Apparatus comprising
a plurality of J–K flip flop circuit components, each component having first and second input steering terminals and a third input terminal and providing two output signals at two respective output terminals associated with said steering terminals representing the binary state of the component, and
a source of input pulses coupled to said third input terminal of each of said components,
all output terminals excepting one of the output terminals of one of the components being connected to the steering terminals of succeeding components so as to form a ring configuration,
the steering terminal associated in the same component with said one output terminal being connected to a steering terminal of the component next following said same component in said ring configuration,
the connections between two successive components being reversed relative to the connections between all other components.

3,268,742
ELECTRONIC SWITCH, HAVING ONE CONTROL INPUT, PROVIDING BIDIRECTIONAL CURRENT CONTROL
Balthasar H. Pinckaers, Edina, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Sept. 11, 1964, Ser. No. 395,724
7 Claims. (Cl. 307—88.5)



1. A bidirectional switch comprising:
a pair of controlled, unidirectional current carrying devices connected in parallel-inverse relation;
first and second terminals adapted to be connected to a source of bidirectional energy;
a load;
means connecting said load and said pair of parallel-inverse connected current carrying devices serially between said first and second terminals;
a control terminal;
control energy means connected intermediate said first terminal and said control terminal;

means connecting said control terminal to a control electrode on one of said pair of current carrying devices;

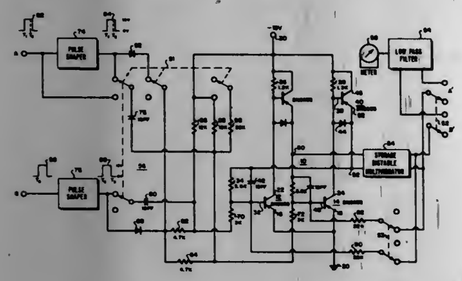
and further means connecting said control terminal to a control electrode on the other of said pair of current carrying devices, said further means including a transistor having a base electrode connected to said first terminal.

3,268,743

PULSE TIME-RELATIONSHIP DETECTOR EMPLOYING A MULTI-STATE SWITCHING CIRCUIT

Carl-Ernst G. Nourney, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Sept. 16, 1964, Ser. No. 396,845
12 Claims. (Cl. 307—88.5)



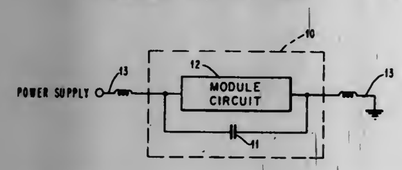
1. In a discriminator providing an output signal indicating the time relationship of the input signals applied during a selected time interval to at least two input terminals, a regenerative device having three discrete operating states, means coupled to said regenerative device to suppress the regeneration thereof during operation in an initial one of said discrete operating states, and means connected between said input terminals and said regenerative device to restore the regeneration thereof in response to one of said input signals, said last-mentioned means setting said regenerative device for operation in one of the remaining two of said discrete operating states depending on the time relationship between said input signals and thereby causing said regenerative device to generate said output signal.

3,268,744

HIGH CAPACITANCE MICROELECTRONIC DECOUPLING DEVICE WITH LOW SHUNT RESISTANCE AT HIGH FREQUENCIES

Harold D. Kaiser, Poughkeepsie, and Donald D. Metzger, La Grange, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Apr. 16, 1964, Ser. No. 360,323
7 Claims. (Cl. 307—93)



1. In an electrical circuit including a power supply and a microelectronic module circuit connected between ground and said power supply, the combination of a high capacitance decoupling device connected in decoupling relationship to said module circuit, said device comprising:

first and second electrodes; and

a layer of a dielectric type material secured between said electrodes, said material including at least 94% zinc oxide and no more than 6% bismuth trioxide.

3. A high capacitance decoupling device for employment in electrical circuits, said device comprising:

first and second electrodes; and

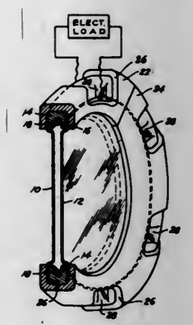
a layer of a dielectric type material secured between said electrodes, said material including at least 94% zinc oxide and no more than 6% bismuth trioxide; said electrodes being of a conductive material including no more than 10% of a semiconductor oxide.

3,268,745

THERMIONIC CONVERTER VENTED TO THE ATMOSPHERE

Willis L. Schalliol, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed June 13, 1963, Ser. No. 287,610
8 Claims. (Cl. 310—4)



1. A thermionic converter for use in space vacuum comprising: an anode, a cathode, an electrical insulator having a central opening disposed between said anode and cathode to define an interelectrode space therebetween, retaining means for maintaining said anode and cathode in contactive engagement with said insulator while permitting relative thermal expansion between said anode and said insulator and said cathode and said insulator, means defining a vent path from said interelectrode space exteriorly to space vacuum, and positive charge particle emitting radioactive material retained adjacent said interelectrode space and operative to continuously emit positively charged particles therein.

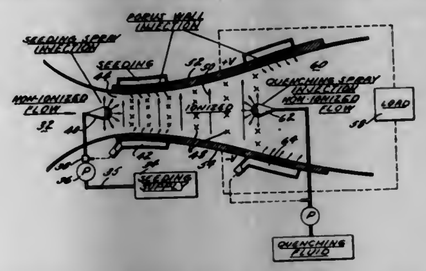
3,268,746

MAGNETOGASDYNAMIC ELECTRIC GENERATOR

John Conrad Crown, West Hartford, Conn., and Edward A. Pinsley, Cambridge, Mass., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Dec. 29, 1960, Ser. No. 79,405
8 Claims. (Cl. 310—11)

1. A magnetogasdynamic electric generator comprising an elongated passage, means for forcing a relatively high-temperature non-ionized fluid through said passage, means defining a generating region in a portion of said passage, said generating region having upstream and downstream ends, means for injecting a second fluid into said passage adjacent said upstream end to ionize the fluid at a point substantially coincident with the upstream end of said region, means for generating a magnetic electrical field passing through said generating region, means adjacent said generating region for collecting electrical current generated by the passage of the ionized working fluid through the generating region and means for injecting a quenching material into the working fluid at a point just prior to the working fluid's exit from said generating region to reduce the conductivity of the working fluid.

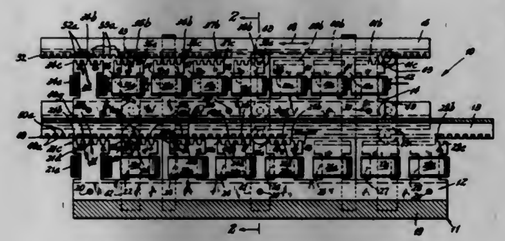


3,268,747

LINEAR ELECTRIC MOTOR

Arthur E. Snowdon, Bristol, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut

Filed Feb. 28, 1964, Ser. No. 348,196
9 Claims. (Cl. 310—13)



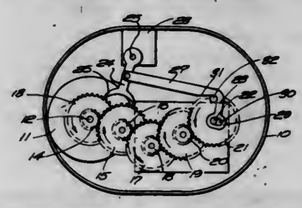
9. A linear electric motor for providing incremental linear movement comprising a frame, first stator means mounted on said frame and including at least two adjacent pole pieces, winding means which upon energization magnetizes said pole pieces, a first plunger mounted on said frame for linear movement relative to said first stator means along a linear path, second stator means mounted on said first plunger for movement therewith and including at least two adjacent second pole pieces, second winding means which upon energization magnetizes said second pole pieces, a second plunger mounted on said frame for linear movement relative to said second stator means along a linear path, said linear paths being parallel, each of said plungers having a surface formed with teeth extending transversely to its path of movement and having a constant tooth pitch with the tooth pitch of the first plunger being different from the second plunger, each of said plungers being elongate and having a permanent magnet polarized transversely with an end member extending along each side of the magnet, said teeth being formed in said end members with the teeth of one end member being longitudinally displaced one half a plunger tooth pitch from the other end member, said pole pieces of each stator means having a surface paralleling said path and having equally spaced teeth formed in said surface, said pole pieces of each stator means being differentiallly disposed along its path a fraction of the tooth pitch of its plunger, and control means for changing the energization of the winding means to produce a linear movement of the second plunger which is a fraction of its tooth pitch and a linear movement of the first plunger which is a fraction of its tooth pitch whereby the algebraic sum of the two movements of the first and second plungers is the output movement of the motor.

3,268,748

REVERSIBLE MOTOR DRIVE MECHANISM

Henry Bucheister, Providence, and Ralph Abrams, Warwick, R.I., assignors to Cable Electric Products, Inc., Providence, R.I., a corporation of Rhode Island

Filed Apr. 9, 1964, Ser. No. 358,553
15 Claims. (Cl. 310—41)



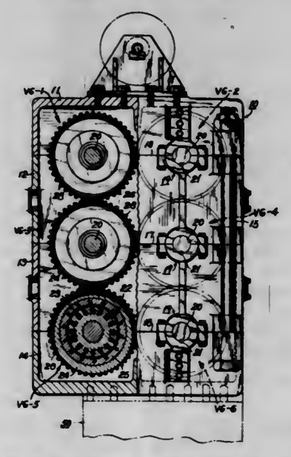
1. A reversible motor mechanism comprising a housing, a reversible motor having an armature shaft mounted in said housing, a gear mounted on said armature shaft, an output shaft extending from said housing, a gear in said housing on said output shaft, a reducing gear train in said housing connecting said armature shaft gear and said output shaft gear, and means in said housing for alternately reversing the rotation of said armature shaft gear to cause a reversal of rotation of said reversible motor.

3,268,749

VIBRATION GENERATING DEVICE EMPLOYING DYNAMICALLY UNBALANCED ELECTRIC MOTORS

Hisashi Matsuo, Kyoto, Japan, assignor to Ohbayashi-Gumi, Ltd., Osaka, Japan, a corporation of Japan

Filed Mar. 16, 1965, Ser. No. 440,242
8 Claims. (Cl. 310—81)



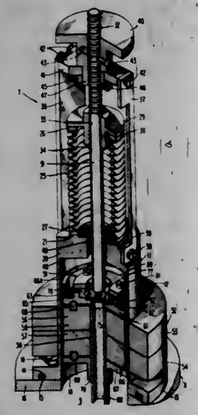
4. A vibration generator comprising, in combination, a housing including a plurality of housing sections congruently superposed at separation planes, there being a pair of end sections and at least one intermediate section; fastening means arranged to disengageably connect said end sections and at least one intermediate section in superposed relation; the adjoining edge surfaces of said housing sections being formed with mating shaft seating surfaces arranged to receive at least one pair of parallel shafts at each separation plane; shafts fixedly

seated in each of said seating surfaces; a plurality of stator cores each fixedly mounted on a respective shaft and each having a stator winding thereon arranged for connection to a source of A.C. electric potential; a plurality of eccentric rotor shells each rotatably mounted on a respective shaft and each having a rotor winding on an inner surface which is concentric with the associated stator, for rotation of said shells upon energization of the associated stator winding; the eccentric masses of the shells of each pair being arranged in dynamically balanced opposition along the plane including the respective shafts; and gearing interconnecting said shells for conjoint synchronous rotation, with the two shells of each pair rotating in opposite directions; the annular positions of the maximum eccentricities of one pair of shells being angularly offset relative to the angular positions of the maximum eccentricities of an adjacent pair of shells to compensate for a change in frequency of the source of electric potential.

3,268,750
DUAL-MOTION FEEDTHROUGH APPARATUS

Johannes F. Gerber, King of Prussia, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed July 26, 1963, Ser. No. 297,823
9 Claims. (Cl. 310—96)



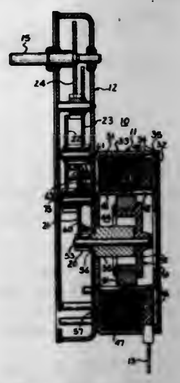
2. In a dual-motion feedthrough apparatus for a high vacuum chamber the combination comprising, an elongated housing of nonmagnetic material having an end portion collapsible along its axis for sealing said high vacuum chamber, inner magnet means connected to said collapsible end portion for movement axially within said housing, outer magnet means magnetically coupled to said inner magnet means and mounted for rotation about and for axial movement along said elongated housing, and means for collapsing the end portion of said elongated housing along its axis.

3,268,751
A.-C. MOTOR DRIVE FOR TIMING DEVICES AND THE LIKE

Alfred M. Nebiolo, Torrington, and Robert S. Lundin, Thomaston, Conn., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware

Original application Sept. 13, 1962, Ser. No. 223,387. Divided and this application Aug. 3, 1965, Ser. No. 476,938.
4 Claims. (Cl. 310—156)

1. An improved self-starting synchronous A.-C. motor having a rotor axis comprising, in combination, a motor frame having parallel side plates of magnetic material, each of said side plates having stator poles struck out of the plate and bent inwardly at 90° with the stator poles on one plate being interspersed between the stator poles on the other plate and with all of the stator poles being equally spaced from one another and said stator poles being at a fixed radial distance from said rotor axis to form a cylindrical locus, an annular winding between said plates and surrounding the stator poles so that adjacent stator poles are of opposite alternating polarity, and a rotor centered within the stator poles, said rotor

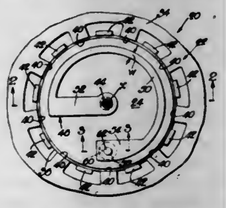


having permanently magnetized rotor poles equally spaced from one another on its periphery, said rotor poles being equal in number to said stator poles, and each of said rotor poles being of greater width than said stator poles so that said rotor occupies a rest position with each of the relatively wide rotor poles centered on a radial line passing midway between adjacent pairs of the stator poles for impulsing the rotor in one direction or the other when supply voltage is applied depending upon the instantaneous polarity of such voltage.

3,268,752
SELF-STARTING SYNCHRONOUS REACTION MOTOR

Walter Kohlhagen, Elgin, Ill., assignor to Amphenol-Borg Electronics Corporation, Broadview, Ill., a corporation of Delaware

Filed Nov. 20, 1963, Ser. No. 325,112
12 Claims. (Cl. 310—164)



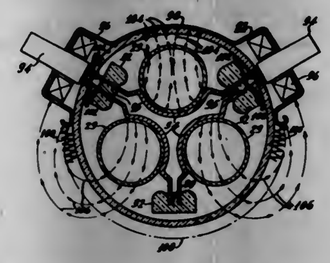
1. In a synchronous motor, the combination with a field having two sets of field poles arranged circularly about an axis and being of opposite instantaneous polarities on excitation of the field, a shaft element turnable about said axis, and a permanent-magnet rotor element loose on said shaft element and having two series of pole faces of opposite polarities cooperating with said field poles, of a spring on one side of and spaced from said rotor element connected at its ends with said elements to act as a resilient coupling between them, with said spring extending about said shaft element so as to act in resilient torsion on the drive of said shaft element by said rotor element; and cam and follower parts of which one part is carried by said spring and the other part is carried by one of said elements, with said parts cooperating to compel

said spring from non-deflected condition into resilient S-like flexure on relative rotation between said elements through a certain angular distance, so that on the drive of said shaft element by said rotor element said spring remains in its S-like flexure.

3,268,753
PLURAL ELECTRON GUN ASSEMBLY AND MAGNETIC CONVERGENCE CAGE

Richard H. Hughes, Lancaster, Pa., assignor to Radio Corporation of America, a corporation of Delaware

Original application July 6, 1962, Ser. No. 208,017. Divided and this application Oct. 23, 1965, Ser. No. 503,725
9 Claims. (Cl. 313—69)

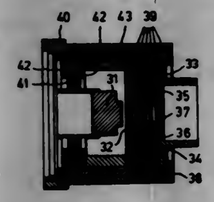


9. In an assembly for generating a plurality of separate electron beams, means including three tubular electrodes disposed in delta array with their axes substantially parallel and mounted on a plurality of insulator support rods, said three tubular electrodes being supported from three straps which are disposed in a generally triangular array with their ends fixed in said insulator support rods, each of said tubular electrodes being disposed generally outside the triangular array of said straps and attached to a different one of said straps between the ends thereof, at least one of said straps being magnetic.

3,268,754
ELECTRON BEAM AMPLIFYING TUBE WITH LOW NOISE ELECTRON GUN

Paul Anton Herman Hart, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 2, 1962, Ser. No. 227,868
Claims priority, application Netherlands, Oct. 4, 1961, 269,926
4 Claims. (Cl. 313—84)

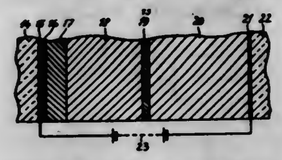


1. An electron gun, having a cathode and a plurality of anodes, for use with an electron beam amplification tube which provides signal amplification by means of a transverse electrical interaction with an electron beam comprising means for establishing a uniform axial magnetic field in said tube for focusing said beam, said cathode supplying electrons, means for establishing in the gun vicinity a magnetic field having a magnitude exceeding the said axial focusing field, and, means for energizing said anodes for expanding the beam by retardation in the gun vicinity where said magnetic field exceeds the magnitude of the focusing field to substantially reduce the noise component of the beam in the entire signal pass band.

3,268,755
CURRENT-ELECTROLUMINESCENCE DEVICE HAVING A HIGH RESISTANCE LAYER

Egbert Reschauer, Delft, Netherlands, assignor to N. V. Optische Industrie "De Oude Delft," Delft, Netherlands

Filed Mar. 23, 1962, Ser. No. 182,067
Claims priority, application Netherlands, Mar. 30, 1961, 263,133
1 Claim. (Cl. 313—108)

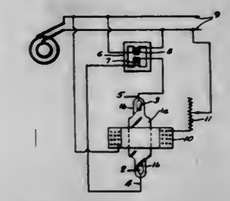


An electroluminescent device comprising a first planar transparent conductive electrode, a stratum consisting of photoconductive material in contact with said first electrode, a stratum consisting of a resistive material in electrical contact with said stratum of photoconductive material, a stratum consisting of phosphor particles in contact with said stratum of resistive material, a stratum consisting of insulating material in contact with said stratum of phosphor particles, a second planar transparent conductive electrode in contact with said stratum of insulating material, means to apply a D.C. voltage between said first and second electrodes so that said second electrode is positive with respect to said first electrode, said stratum of insulating material having a thickness smaller than 10 microns per 100 volts of said D.C. voltage and being of an insulating material having a resistivity of at least 10^{10} ohm cm., the resistance per surface unit in non-operative condition of said stratum of insulating material exceeding the series resistance per surface unit of the remaining strata by a factor of at least 10.

3,268,756
GASEOUS-DISCHARGE DEVICE WITH MAGNETIC FLUX CONTROL

Arthur C. Dauray, 806 S. Pitt St., Alexandria, Va.

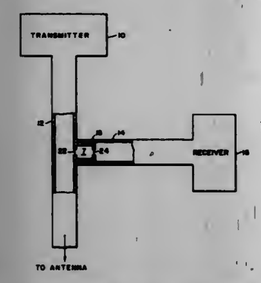
Filed June 5, 1963, Ser. No. 285,842
1 Claim. (Cl. 313—161)



Apparatus for observing the behavior of a gas discharge plasma in a magnetic field and for simulating the electromagnetic conditions for controlling the variability of conditions in a fusion plasma comprising: a hermetically sealed elongated transparent enclosure containing a gaseous conductor and having a pair of ends and a pair of electrodes, one of said electrodes located in one of each of said ends, an alternating current source, means for connecting said electrodes across said alternating current source, means for producing a magnetic field acting upon the gaseous conductor in said enclosure, means for varying the intensity of the magnetic field produced by said means for producing a magnetic field and means for connecting said means for producing a magnetic field and

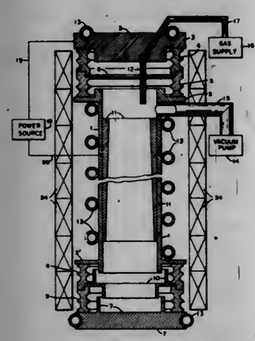
said means for varying the intensity to said alternating current source in a predetermined phase relation to said electrodes whereby said gaseous conductor produces a glow discharge the behavior of which is a function of the variations in said magnetic field and whereby any stage in the formation of a plasma created by fusion can be simulated.

3,268,757
ELECTRICAL DISCHARGE DEVICE
James D. Woermbke, Linthicum, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 7, 1961, Ser. No. 122,456
6 Claims. (Cl. 313—223)



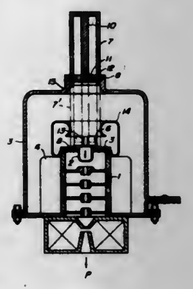
1. A gaseous discharge device comprising an envelope, means defining a discharge gap within said envelope, and a gaseous atmosphere within said envelope comprising an ionizable body gas admixed with chlorine and iodine.

3,268,758
HOLLOW GAS ARC DISCHARGE DEVICE UTILIZING AN OFF-CENTER CATHODE
John W. Flowers, Gainesville, Fla., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed May 13, 1964, Ser. No. 367,266
5 Claims. (Cl. 313—231)



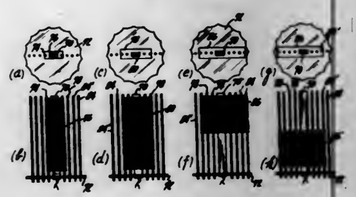
1. Means for establishing a hollow cylindrical arc discharge comprising an elongated evacuated chamber, a hollow cathode mounted in one end of said chamber, a reflector electrode mounted within the other end of said chamber, an elongated, hollow anode positioned within said chamber between said cathode and said reflector electrode to provide a radial electric field component therewithin, said chamber and anode having a common axis, a source of feed gas, means for feeding gas from said source into the interior of said cathode at a controlled rate, means for providing a magnetic field parallel to said common axis, a source of operating potential connected between said anode and cathode, said cathode being mounted a selected distance from said common axis such that the axis of said cathode is spaced from and parallel to said common axis to establish an off-center refluxing arc discharge parallel to said magnetic field and between said cathode and said reflector electrode, said discharge being caused to rotationally drift by said radial component of electric field to thereby form said hollow discharge symmetrical about said common axis and within said hollow anode.

3,268,759
DEVICE FOR EXCHANGING ELECTRON SOURCES IN ELECTRICAL DISCHARGE DEVICES
Yoshihisa Minamikawa and Shinjiro Katagiri, Kodaira-shi, Tokyo, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed June 10, 1963, Ser. No. 286,804
Claims priority, application Japan, June 14, 1962, 37/24,283
5 Claims. (Cl. 313—237)



1. A device for exchanging an article in a high-pressure vessel which comprises a tubular member, said tubular member being adapted to slide through an opening in the wall of said high-pressure vessel so that at the innermost position of said tubular member the end face thereof engages a fixed supporting member within said vessel upon which said article to be exchanged is mounted, said tubular member being in a gas-tight, sealed relationship within said high-pressure vessel, and piston means within said tubular member for effecting the exchange of said article.

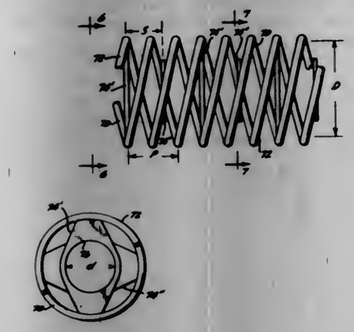
3,268,760
PLURAL ELECTRODE UNIT ELECTRON TUBE
Richard A. Bonnette, New Providence, N.J., and Thomas Edward Deegan, Brewster, N.Y., assignors to Radio Corporation of America, a corporation of Delaware
Filed May 5, 1964, Ser. No. 364,932
8 Claims. (Cl. 313—296)



1. An electron discharge device comprising a pair of spacer plates and a plurality of electrodes, said electrodes including a cathode mounted between said spacer plates,

a pair of grid electrodes each having an electron controlling portion, the electron controlling portion of one of said grids being disposed around one portion only of said cathode, the electron controlling portion of the other of said grids being disposed around another portion only of said cathode, each of said grid electrodes having support means extending past the electron controlling portion of the other of said grid electrodes and mounted between said spacer plates, and a pair of anodes mounted between said spacer plates, each of said anodes having an electron receiving portion adjacent to a different one only of the electron controlling portions of said pair of grids.

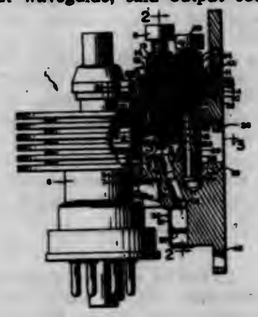
3,268,761
TRAVELING-WAVE TUBE SLOW-WAVE STRUCTURE INCLUDING MULTIPLE HELICES INTERCONNECTED BY SPACED CONDUCTIVE PLATES
Michael M. Mann, Hawthorne, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Apr. 3, 1963, Ser. No. 270,300
21 Claims. (Cl. 315—3.6)



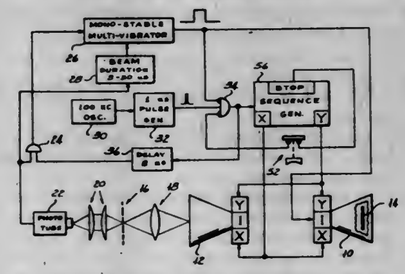
19. A slow-wave structure for a traveling-wave tube comprising: a multifilar helix including a plurality of equally spaced individual helical conductors having the same helical diameter and pitch disposed about a common axis, a plurality of electrically conductive elements spaced along said multifilar helix in planes perpendicular to said axis, each of said elements defining an aperture encompassing said axis and aligned with the respective apertures in the other ones of said elements, each of said elements being electrically connected to each of said helical conductors at at least a point, and each of said points for each of said elements being angularly displaced by an angle other than 180° with respect to each of said points for the next successive one of said elements along said axis.

3,268,762
IMPROVED HIGH FREQUENCY ELECTRON DISCHARGE DEVICES OF THE KLYSTRON TYPE
Curtis E. Ward, Los Altos, Richard K. MacDonald, San Jose, and Lister E. Carroll, Belmont, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Sept. 28, 1962, Ser. No. 226,970
13 Claims. (Cl. 315—5.53)

2. In a reflex klystron of the internal-external cavity resonator type including, an evacuated internal cavity resonator adapted and arranged for interaction with an electron beam, an external cavity resonator coupled to said internal cavity resonator, output waveguide means coupled to said external cavity resonator, and an output coupling adjustment device including low mode suppression means, said output coupling adjustment device being positioned in said output waveguide, said output coupling adjustment device and said low mode suppression means comprising, a dielectric member having a conductive sleeve member mounted thereon.

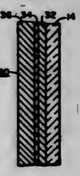


3,268,763
SPACE-TIME SEQUENCE GENERATOR FOR ELECTRON BEAM MACHINING
Charles B. Brahm, Ellington, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 20, 1962, Ser. No. 203,940
24 Claims. (Cl. 315—9)



11. An electron beam machining system including in combination a first electron beam machining tube having a deflection input and an intensity input, a second electron beam tube having a deflection input, a clock source, a gate, means coupling the clock source to the gate, means responsive to the gate for synchronously controlling the deflection input of both tubes, and means responsive to the second tube for controlling the intensity input of the first tube and for disabling the gate.

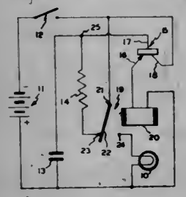
3,268,764
RADIATION SENSITIVE DEVICE
Robert A. Simms, Horseheads, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 9, 1963, Ser. No. 250,268
9 Claims. (Cl. 315—10)



1. A radiation sensitive device comprising a layer of radiation sensitive material, said radiation sensitive film exhibiting the property of change in electrical con-

ductivity in response to radiation, an electrically conductive layer and a film of insulating material sandwiched between said conductive layer and said radiation sensitive layer, an electron beam for scanning the exposed surface of said radiation sensitive material so as to substantially maintain the surface thereof at an equilibrium potential, means for establishing a potential on said electrically conductive layer different from said equilibrium patential to establish a field across said radiation sensitive material and said film of insulating material, said film of insulating material being non-responsive to radiations to which the radiation sensitive device is adapted for use.

3,268,765
LAMP FLASHING CIRCUIT
Gerald C. Randolph, Detroit, Mich., assignor to Essex Wire Corporation, Fort Wayne, Ind., a corporation of Michigan
Filed May 28, 1964, Ser. No. 371,038
1 Claim. (Cl. 315—209)



A lamp flashing circuit for intermittently energizing a signal lamp load from a source of direct voltage at a given cycling rate comprising in combination with said lamp load and said source:

(a) first and second terminals for connection to said source;

(b) a transistor having emitter, base and collector electrodes; said collector electrode being connected to said first terminal;

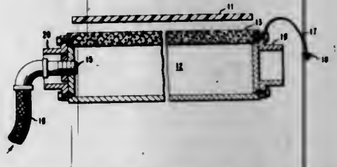
(c) an electromagnetic relay having an operating coil connected between said emitter electrode and said second terminal; said relay including a single pole, double throw switch actuated by said coil and comprising a movable contact element connected to said first terminal and first and second stationary contacts alternately engaged by said contact element; said contact element engaging said first contact when said coil is deenergized and being transferred from said first contact to said second contact when the current flow in said operating coil attains a predetermined pick-up value; said contact element returning from said second contact to said first contact when the current flow through said relay coil diminishes from said pick-up value to a drop-out value of less magnitude;

(d) a capacitor connected between said base electrode and said second terminal; said capacitor when charged affording a bias voltage for said transistor and thereby controlling the emitter current flow through said relay coil;

(e) a resistor connected between said first contact and said base electrode for charging said capacitor from said source when said movable contact is in engagement with said first contact; said capacitor charging at a rate dependent upon the resistance value of said resistor to a particular voltage establishing an emitter current through said coil of said pick-up value whereupon said contact element is transferred from said first contact to said second contact to terminate charging of said capacitor; said capacitor upon separation of said contact element from said first contact discharging through a discharge path comprising the emitter-base junction of said transistor and the relay coil at a rate dependent upon the resistance value of said discharge path to a voltage lower than said particular voltage establishing an emitter current through said relay coil of said drop-out value whereupon said contact element returns from said second contact to said first contact to reinstitute charging of said capacitor through said resistor whereby the capacitor is alternately charged and discharged to alternately vary the emitter current flow through said relay coil between said pick-up and drop-out values;

(f) and circuit means connecting said lamp load between said second contact and said second terminal for cyclically opening and closing a circuit between said source and said lamp at a given rate determined solely by the rates at which said capacitor is charged through said resistor and discharged through said discharge path.

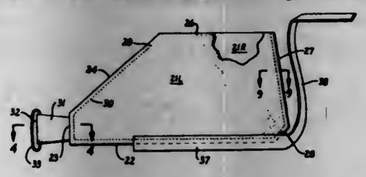
3,268,766
APPARATUS FOR REMOVAL OF ELECTRIC CHARGES FROM DIELECTRIC FILM SURFACES
Stephen Earl Amos, Circleville, Ohio, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 4, 1964, Ser. No. 342,378
5 Claims. (Cl. 317—2)



1. In machinery for the processing of a travelling continuous web of dielectric material susceptible to the accumulation of charges of static electricity, the improvement which comprises a stationary web guide operative to remove accumulated charges of static electricity from the surface of the travelling web comprising a closed tubular member disposed transversely of and below the travelling web, and having an electrically conductive wall pervious to gas in the area thereof immediately adjacent the travelling web, means for continuously feeding gas under pressure to the interior of said tubular member whereby gas is continuously forced thru said pervious area and against said web to maintain a blanket of gas of predetermined thickness between the surface of the tubular member and the web travelling thereover, and a low resistance electrical conductor connecting said electrically conductive wall to an earth ground.

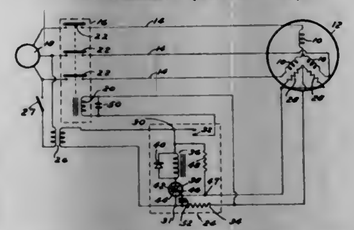
3,268,767
SANITARY AND PROTECTIVE COVERING FOR SHOES
Joseph Saraceni and Harold Zimmon, both of Redwood City, Calif., assignors to Zimmon & Company, Inc., Belmont, Calif.
Filed July 3, 1964, Ser. No. 380,180
21 Claims. (Cl. 317—2)

1. A sanitary and protective covering for a conventional shoe inserted in said covering comprising initially flat right and left halves of flexible material each shaped with sole, back, toe, instep and top edges, said covering having a heel pocket at the juncture of said back and sole edges, said halves open at the top edges for insertion of said shoe and joined at the sole and toe edges and at least parts of said instep and back edges, said halves shaped to fit said shoe with said sole edges under the sole of said shoe, said halves extending up around the back, toe, instep and sides of said shoe to completely enclose said shoe, and means attached adjacent said toe edges and disposed and arranged to engage behind the ankle of the wearer of said shoe to draw said toe edges first forwardly of said shoe to seat the heel in said heel pocket and then



to draw said toe edges and the forward ends of said sole edges upwardly and rearwardly over the instep of said shoe to conform said covering snugly to the length of said shoe, said means further securing said covering in place on said shoe.

3,268,768
TEMPERATURE PROTECTION CIRCUIT
Neal P. Milligan and Paul B. Hover, Columbus, Ohio, assignors to Tecumseh Products Company, Tecumseh, Mich., a corporation of Michigan
Filed June 3, 1963, Ser. No. 284,864
17 Claims. (Cl. 317—13)



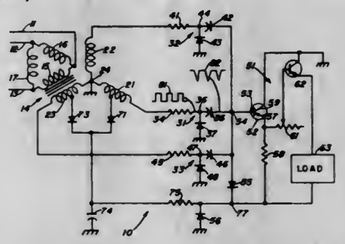
1. A control circuit for use in energizing and deenergizing a load in response to variations of a condition at said load comprising switch means for connecting and disconnecting said load and a source of electrical energy, a relay having an actuator and a pair of contacts, said contacts being connected in circuit with said switch means for energizing said switch means, an electron control device connected in circuit with said actuator for energizing said actuator, bias means for controlling conduction of said device, said bias means comprising means responsive to variations of said condition such that at a first value of said condition said bias means causes said device to energize said actuator and feedback means, said feedback means being coupled between said switch means and said device such that said feedback means is rendered operative by actuation of said contacts when said actuator is energized by said device, said feedback means being adapted upon being so rendered operative to modify the biasing effect of said bias means such that said condition must reach a second value before said bias means is effective to cause said device to deenergize said actuator, said feedback means being rendered inoperative by actuation of said contacts in response to said actuator being deenergized by said device.

3,268,769
SAFETY DEVICE
John W. Erickson, Park Ridge, and Robert W. Wingfield, Niles, Ill., assignors to Erickson Electrical Equipment Co., Chicago, Ill., a corporation of Illinois
Filed July 23, 1963, Ser. No. 297,135
4 Claims. (Cl. 317—46)

1. A safety device for detecting a failure of one or more phases of a plural-phase A.C. power transmission system comprising:

a plurality of sensing circuits, each individually coupled to a respective phase of said transmission system, and each effective to produce a pulse signal having a repetition frequency determined by the frequency of the A.C. signal in the associated phase of the transmission system,

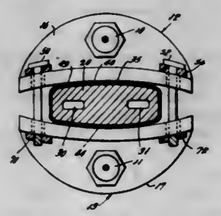
each sensing circuit comprising a unipolar amplitude limiter producing a pulse signal of substantially constant amplitude over a wide range of variations in amplitude of the A.C. signal in said transmission system;



pulse counter means, connected to all of said sensing circuits, for effectively summing up the combined pulse output of said sensing circuits to develop a normally constant control signal, said control signal changing substantially in the absence of pulse signals from any one or more of said sensing circuits;

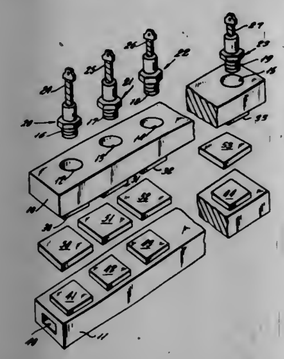
and a control device coupled to said pulse counter means for actuation in response to changes in said control signal.

3,268,770
WATER COOLED SEMICONDUCTOR DEVICE ASSEMBLY
John L. Boyer, El Segundo, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed Apr. 2, 1964, Ser. No. 356,712
9 Claims. (Cl. 317—100)



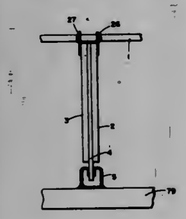
1. A mounting structure for a semiconductor device; said mounting structure comprising a conductive mounting body electrically and thermally connected to said semiconductor device and having a relatively large, first clamping surface, a conductive bus support having a relatively large area second clamping surface positioned adjacent said first clamping surface of said conductive mounting body, a thin insulation sheet interposed between and coextensive with said first and second clamping surfaces, and clamping means for clamping said conductive mounting body to said conductive support; said relatively large first and second clamping surfaces and said relatively thin insulator sheet defining a low thermal impedance to heat flow between said conductive mounting body and said conductive bus support; at least one of said first or second clamping surface being normally convex toward the other of said first or second clamping surface; said clamping means distorting said normally convex clamping surface of said one of said first or second clamping surfaces to conform to the shape of the surface of the other of said first or second clamping surfaces.

3,268,771
ELECTRICALLY INSULATED DIODE HEAT SINK
Isadore K. Dortort, Philadelphia, Pa., assignor to I-T-E-Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 18, 1964, Ser. No. 419,541
5 Claims. (Cl. 317—100)



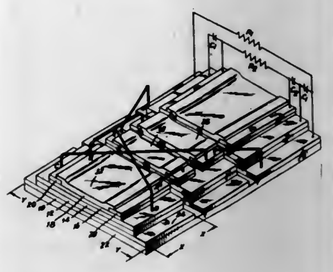
1. A diode support structure comprising an elongated conductive member and an elongated heat sink positioned adjacent said elongated conductive member; the opposing surfaces of said conductive member and heat sink having a plurality of spaced flat bosses opposing one another, and a plurality of flat ceramic wafers interposed between each of said opposing bosses; each of said flat ceramic wafers having metallized top and bottom surfaces; said top surfaces of said wafers being soldered to the surfaces of its respective boss on said elongated conductor; said bottom surfaces of said wafers being soldered to the surface of its respective boss on said heat sink; said elongated conductor further having a plurality of diode receiving means on the surface thereof opposite to said surface having said bosses extending therefrom.

3,268,772
PACKAGED ELECTRONIC EQUIPMENT
Hiroshi Kamei, Downey, Roy J. Hebert, Garden Grove, and Richard L. MacGregor, Bellflower, Calif., assignors to North American Aviation, Inc.
Filed Mar. 26, 1963, Ser. No. 268,015
3 Claims. (Cl. 317—100)



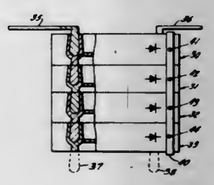
1. A system for reliable packaging of electronic equipment comprising:
cold plate means;
a plurality of boards of electrically insulating material having circuits mounted thereto and also having electrical connectors extending from one edge thereof,
interconnecting board means having holes therethrough mounting with said extending electrical connectors;
thermal conductor means in thermal contact with one side of each of said plurality of boards; and
a plurality of spring clip means attached to said cold plate means holding said thermal conductor means in thermal contact with said cold plate means.

3,268,773
LAMINATE OF ALTERNATE CONDUCTIVE AND DIELECTRIC LAYERS
David J. Valley, Cleveland, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Nov. 21, 1963, Ser. No. 325,427
10 Claims. (Cl. 317—101)



1. A laminate useful for the production of a variety of thin film passive resistor and capacitor electric circuit components which comprises a plurality of alternating conductive and dielectric layers, wherein at least one conductive layer forms a low resistance film component, at least one conductive layer forms a high resistance film component, at least one dielectric layer forms the dielectric of a low unit capacitance film planar capacitor and at least one dielectric layer forms the dielectric of a high unit capacitance film planar capacitor.

3,268,774
ENCAPSULATED DIODE ASSEMBLY
Ernest E. Ortner, Los Angeles, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed May 29, 1964, Ser. No. 371,197
4 Claims. (Cl. 317—101)



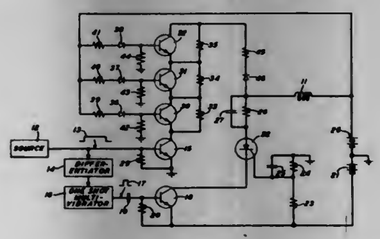
1. A diode module comprising a plurality of series connected diodes arranged in a predetermined manner, first and second connectors connected to the respective ends of said series connection of diodes and an encapsulation medium for encapsulating said first and second connectors and said plurality of series connected diodes; said encapsulation medium having a first and second smooth opposing surfaces; said first and second connectors being elongated in a direction perpendicular to said first and second smooth surfaces; said first and second connectors having respective female sections extending from said first surface; said first connectors having a male section extending from the end of said female section; said male section extending through said second surface for a distance substantially equal to the depth of said female section.

3,268,775
SPACER MEANS IN COMBINATION WITH ELECTRICAL APPARATUS MOUNTED ON PANEL STRUCTURE
Norton W. Brady, Ambler, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Nov. 19, 1964, Ser. No. 412,377
1 Claim. (Cl. 317—101)



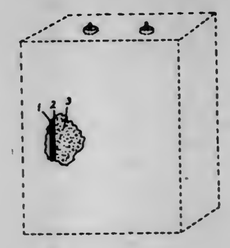
In electrical apparatus, an insulative panel having wiring circuits extending across surface portions thereof and provided with electrical terminal means, said panel further having apertures extending therethrough in the region of said terminal means, an electrical device including a generally planar surface portion disposed in spaced relationship with respect to a surface portion of said panel, said device having a triangular array of substantially unidirectionally presented leads extending through said apertures and into electrical connection with said terminal means, and means for maintaining the recited spaced relationship between said device and said panel without significant spreading of the leads, comprising: an insulative spacer of generally wishbone-like shape, said spacer being of high flexibility and resilience as compared with the flexibility and resilience of the leads and including a bifurcate body portion disposed between and engaging the recited surface portions of said panel and said device and a stabilizing spacer section lying generally in the plane of said bifurcate portion and extending in a direction opposite to the direction of extension of the branches of said bifurcate portion, said stabilizing spacer section also engaging the recited surface portions of said panel and said device, the inner juncture of the bifurcate branches of said spacer being engaged with and pressed against one of said leads, and said branches being so flexed as to be urged outwardly and resiliently pressed against the other leads, whereby to maintain the recited engagement of said inner juncture with said one lead and to resist displacement of said spacer from between said surface portions.

3,268,776
DRIVER FOR PULSING INDUCTIVE LOADS
Robert A. Reed, Hackettstown, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 21, 1962, Ser. No. 239,379
9 Claims. (Cl. 317—148.5)



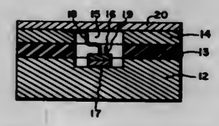
1. A circuit for driving current through an inductive load, said circuit comprising
a first voltage source,
a second voltage source,
a first path serially connecting said inductive load and one of said sources, said first path comprising a first normally disabled gate and means to isolate said first path from said load when the voltage across said load exceeds a predetermined level,
a second path serially connecting said inductive load and said sources in an additive sense, said second path comprising a second normally disabled gate distinct from said first gate, a serially connected impedance means, and means responsive to an input signal to enable said second gate only for an interval to allow said inductive load current to reach substantially the steady state value of the inductive load current produced when only said first path is conductive, and
means to apply an input signal to said first gate in said first path and to said means responsive to an input signal in said second path.

3,268,777
ELECTROLYTIC CONDENSER HAVING SINGLE CRYSTAL ANODE APPROACHING PURITY
William K. Hooper, Brookfield, Conn., assignor to Republic Foil, Inc., Danbury, Conn., a corporation of Delaware
Filed Mar. 9, 1962, Ser. No. 178,618
1 Claim. (Cl. 317—230)



An electrolytic condenser comprising an electrode, a dielectric layer on said electrode, and an electrolyte, the electrode consisting of a single crystal of from 99.999 to 99.9999 percent by weight aluminum.

3,268,778
CONDUCTIVE DEVICES AND METHOD FOR MAKING THE SAME
Daniel A. Worsham, San Jose, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, Long Island, N.Y., a corporation of Delaware
Filed Aug. 17, 1962, Ser. No. 217,692
4 Claims. (Cl. 317—234)



1. A method of making an integral, striated container for an electric circuit element having at least two electrodes, which comprises the steps of:
oxidizing a surface of a body of readily oxidizable electrically conductive material having a strongly adherent, readily reducible oxide to form an insulating oxide layer upon said surface,

reducing a portion of said insulating oxide layer to form a layer of electrically conductive material separated and insulated from said body by said insulating oxide layer, thereby obtaining a striated structure,

forming a cavity in said striated structure, said cavity extending through one of the conductive portions of said structure and through said oxidized layer,

disposing an electric circuit element having at least two electrodes in said cavity, and

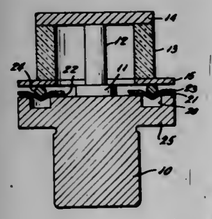
making electrical connection from each of said electrodes to a different one of the conductive layers.

3,268,779

HERMETICALLY SEALED SEMICONDUCTOR DEVICE

Thomas J. Roach, Palos Verdes Estates, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed Nov. 6, 1963, Ser. No. 321,857
5 Claims. (Cl. 317—234)



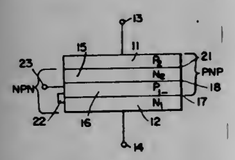
1. An annular brazed seal between a first and second conductive body; said brazed seal including an annular brazing ring interposed between said first and second conductive bodies; at least said first conductive body having an annular groove therein adjacent the radially central portions of said brazing ring; said brazing ring having a V-shaped cross-section trough therein; the bottom of said V-shaped trough entering said groove.

3,268,780

SEMICONDUCTOR DEVICE

David H. Navon, West Peabody, and Amarjit Chopra, Cambridge, Mass., assignors to Transitron Electronic Corporation, Wakefield, Mass., a corporation of Delaware

Filed Mar. 30, 1962, Ser. No. 183,818
6 Claims. (Cl. 317—235)



1. A semiconductor device comprising,

a plurality of contiguous layers of semiconductor material defining at least two rectifying junctions of opposite polarity,

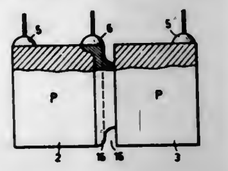
and semiconductor material having a negative temperative coefficient of resistance comprising means for introducing a shunt resistance across a single of said junctions interconnecting and in good thermal contact with the two of said layers defining the latter junction which resistance decreases with increases in temperature of said one junction.

3,268,781

P-N JUNCTION TRANSISTOR WITH INCREASED RESISTANCE IN CURRENT PATH ACROSS BASE SURFACE

Claude Jan Principe Frederic Le Can and Petrus Albertus Maria Hospel, Mollenhutseweg, Nijmegen, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 23, 1962, Ser. No. 218,930
Claims priority, application Netherlands, Aug. 28, 1961, 268,692
5 Claims. (Cl. 317—235)



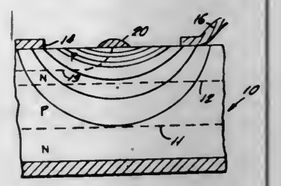
1. A junction transistor comprising a semiconductive body with emitter and collector zones of one type conductivity, a base zone of the opposite conductivity type sandwiched between them and extending to the surface of the semiconductive body, the base zone having a surface portion with a thickness dimension, separating the adjacent emitter and collector zones, that is of approximately the same thickness as that of the interior base zone portions, a portion of the base zone at the surface having a region which is thinner than the adjacent interior portion of the base zone and forming a current path between the emitter and collector zones, along the surface of the base zone, that is substantially longer than the spacing between them, and said thinner region of the base zone being contiguous with one of the emitter and collector zones.

3,268,782

HIGH RATE OF RISE OF CURRENT-FOUR-LAYER DEVICE

Harold Weinstein, Van Nuys, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed Feb. 2, 1965, Ser. No. 429,868
5 Claims. (Cl. 317—235)



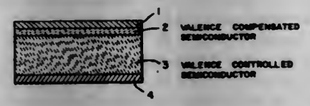
4. A controlled rectifier; said controlled rectifier comprising four adjacent layers of alternately opposite conductivity types defining a first, second and third parallel spaced junctions; said first junction having the edge thereof terminating on one surface of said wafer; a cathode electrode secured to said one surface of said wafer on one side of said edge of said first junction; a gate electrode connected to a discrete localized surface area of said one surface of said wafer on the opposite side of said edge of said junction; and a localized concentration of atoms of material characterized to reduce carrier collection efficiency interposed between said area of connection of said gate electrode and said cathode electrode and extending across said edge of said first junction; said localized concentration of atoms decreasing in number in any direction extending from the said one surface of said wafer into said wafer.

3,268,783

CAPACITOR COMPRISING AN N-TYPE SEMICONDUCTOR METALLIC OXIDE AND A LAYER OF COMPENSATED MATERIAL

Osamu Saburi, Kyoto-fu, Japan, assignor to Murata Manufacturing Co., Ltd., Otokuni-gun, Kyoto-fu, Japan, a corporation of Japan

Filed Oct. 5, 1965, Ser. No. 493,008
5 Claims. (Cl. 317—237)



1. A capacitor, comprising a body of controlled valence n-type metallic oxide semiconductor of the general formula

$$E^{2+}M^{4+}O_3^{2-}$$

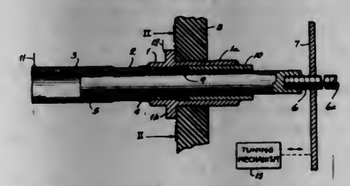
where E is an alkaline earth material taken from the group consisting of barium, magnesium, calcium, strontium and lead, and mixtures thereof, M is a metal material taken from the group consisting of titanium, tin, and zirconium, and mixtures thereof, and O is oxygen, one of the positive valence elements of said semiconductor being a host element and having therein a valence controlling additive material which when the alkaline earth material E is the host element is taken from the group consisting of yttrium, actinium, thorium, antimony and bismuth, the rare earth elements, and mixtures thereof, and which when the metal material M is the host element is taken from the group consisting of vanadium, niobium, antimony, tantalum, bismuth, selenium, tellurium, tungsten, and mixtures thereof, for making said semiconductor semiconductive. said additive material being present in an amount of x atomic percent of the host element, x having a value of from 0.01 to 0.5, at least one surface layer of said body having therein x atomic percent of a compensating material which when the alkaline earth material E is the host element therefor is taken from the group consisting of sodium, potassium, copper, rubidium, silver, cesium, gold, and mixtures thereof, and which when the metal material M is the host element therefor is taken from the group consisting of aluminum, scandium, chromium, molybdenum, manganese, iron, cobalt, nickel, magnesium, and mixtures thereof, which compensating material makes the surface layer highly resistive by compensating the semiconductive effect of said additive material, and an electrode on said one surface layer and a further electrode on a surface layer of said body which is spaced from said one surface layer.

3,268,784

VARIABLE CAPACITOR AND ELECTRICAL CONNECTOR FOR USE THEREWITH

Mark H. Harwood, Syosset, N.Y., assignor to Roanwell Corporation, New York, N.Y., a corporation of New York

Filed Sept. 24, 1963, Ser. No. 311,089
1 Claim. (Cl. 317—249)



An ultra high frequency tuning capacitor comprising:

(a) a stationary, electrically conductive mounting element having a passage therein defined by a cylindrical wall;

(b) a stationary, elongated tubular dielectric element coaxial with said passage and having an end portion extending within said passage;

(c) a cylindrical electrode movable within said dielectric element and coaxial therewith;

(d) a stationary hollow electrode encircling said dielectric element and spaced longitudinally thereof from said mounting element;

(e) spring means of electrically conductive material in the form of a toroid coil having an unstressed outside helix diameter greater than the spacing between the movable electrode and the wall, said spring means encircling the movable electrode adjacent to said end portion of said dielectric element and being compressed between said cylindrical wall and the movable electrode so that the turns of the coil resiliently engage the wall and the movable electrode and form a circumferentially distributed electrical connection therebetween; and

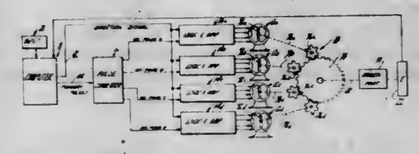
(f) stationary collar means disposed within said passage and longitudinally adjacent to said spring means for holding said spring means against substantial longitudinal movement so as to prevent any change in the reactance of the electrical connection between the wall and the movable electrode caused by movement of the movable electrode.

3,268,785

PLURAL STEPPING MOTOR DRIVE

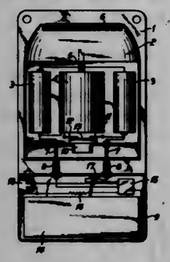
Heinz Joseph Gerber, West Hartford, and John L. Summers, Rockville, Conn., assignors to The Gerber Scientific Instrument Company, Inc., South Windsor, Conn., a corporation of Connecticut

Filed June 12, 1964, Ser. No. 374,607
14 Claims. (Cl. 318—8)



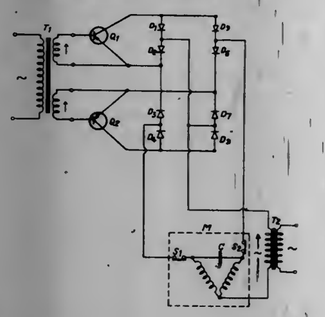
1. A stepping motor drive comprising a plurality of stepping motors each having a stator and a rotor and windings which windings are energizable in a step-by-step sequence to urge the associated rotor to move a given angular distance as the energization of said windings is changed from any one step to the next following step in said sequence, and so that each of said motors is capable of continuously operating independently of the other of said motors in response to its windings being energized in said step-by-step sequence, means for generating a primary train of electrical pulses, means for converting said primary train of pulses into a number of trains of secondary pulses with the number of said secondary trains being equal to the number of said stepping motors and with the pulses of said secondary trains being phase shifted from each other by phase angles substantially equal to 360° divided by the number of said secondary trains, a plurality of logic means each associated with a respective one of said secondary trains of pulses and with a respective one of said motors for energizing the windings of said motor in accordance with said step-by-step sequence and to change the energization from one step to the next step in response to each pulse of its associated secondary train of pulses, an output member, and means drivingly connecting each of said rotors to said output member so that said output member and all of said rotors move in unison.

3,268,786
ELECTRIC RAZOR
Robert Walter Reich, 2 Rotackerstrasse, Freiburg im Breisgau, Germany
Filed Apr. 27, 1961, Ser. No. 106,129
4 Claims. (Cl. 318—128)



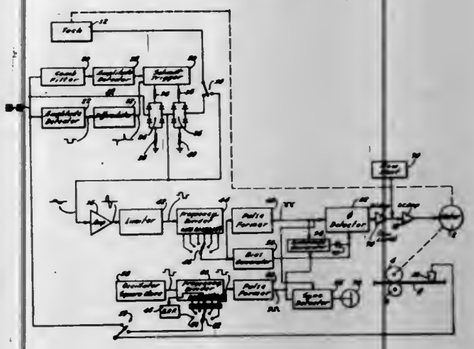
1. An electric razor comprising a first casing having a cutting head, an oscillating armature motor in said first casing drivingly connected to said cutting head and having an iron core, a transistor circuit in said first casing, a tuning winding on said core connected to one of the emitter and collector circuits of the transistor of said circuit, a feed-back winding on said core connected to the base circuit of said transistor, battery means in said first casing for energizing said transistor circuit to drive said oscillating armature motor and normally disconnected from the transistor circuit, a holder for said first casing and comprising a second casing which forms an extension of said first casing when said first casing is positioned on said holder, a rectifier in said second casing for recharging said battery means, resistor means for limiting the current supplied to said battery, during recharging thereof, means operable in response to placing of said first casing on said holder for electrically connecting said recharging rectifier to said battery means in said first casing for recharging the same and switch means in said first casing operable only when said casings are separated for connecting the battery means to said transistor circuit.

3,268,787
FINAL STAGE OF A SERVO AMPLIFIER
Erik Herbert Olofsson, Johanneshov, Sweden, assignor to Regulator A.G., Glarus, Switzerland, a company of Switzerland
Filed Sept. 26, 1963, Ser. No. 311,708
Claims priority, application Sweden, Sept. 28, 1962, 10,502/62
5 Claims. (Cl. 318—207)



1. A final stage of a servo amplifier comprising an input transformer and a supply transformer, the input transformer having at least two separate secondary windings connected to input electrodes of two controlled semiconductive devices in such a manner as to feed said devices in opposition, two main groups of rectifying members connected in parallel between one output electrode of either of said semiconductive devices and each comprising four members in series, each main group being divided into two subgroups consisting each of two rectifying members of the same direction of conductivity and the subgroups of each main group having mutually opposite directions of conductivity, the points of mutual connection of the subgroups of each main group being connected to another output electrode of a separate one of said controlled semiconductive devices and the points of mutual connection of the members of one subgroup of each main group being connected to a separate bipolar load member, the latter also being connected in common via the secondary winding of the supply transformer to the points of mutual connection of the members of the other subgroup of each main group.

3,268,788
PHASE DIFFERENCE SPEED CONTROL SYSTEM
Flavio S. C. Branco, Van Nuys, Calif., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Jan. 9, 1963, Ser. No. 250,274
28 Claims. (Cl. 318—314)



3. In combination in a system for producing a reference signal to control the speed of a motor means to drive a recording medium wherein the recording medium has contained thereon a first reference signal,

first means operatively coupled to the recording medium for detecting the first reference signal recorded on the medium,

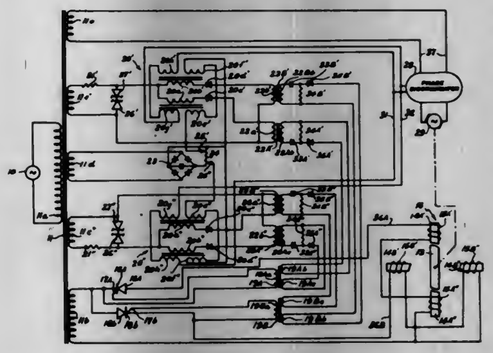
filter means operatively coupled to the first means and having a selected bandpass to pass the first reference signal when the first reference signal has frequency values related to the desired speed of movement of the recording medium and to block the first reference signal when the first reference signal has frequency values unrelated to the desired speed,

second means operatively coupled to the motor means for producing a second reference signal having characteristics in accordance with the speed of the motor means,

switch means operatively coupled to the filter means in the first state of operation of the switch means to pass the first reference signal when the filter means passes the first reference signal and operatively coupled to the second means in the second state of operation of the switch means to pass the second reference signal produced by the second means when the filter means blocks the first reference signal, and

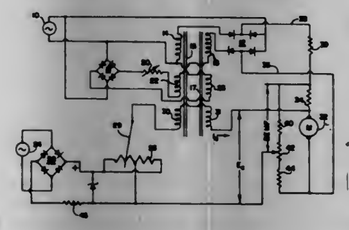
third means operatively coupled to the switch means for detecting the reference signal passed by the switch means.

3,268,789
CONTROL SYSTEM FOR ELECTROMAGNETIC MOTORS
Robert H. Pintell, Bronx, N.Y., assignor to Intron International, Inc., Bronx, N.Y., a corporation of New York
Filed July 5, 1963, Ser. No. 292,883
20 Claims. (Cl. 318—314)



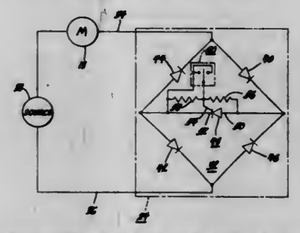
1. A circuit arrangement for imparting controlled periodic motion to a load, comprising electromagnetic coil means for driving said load; an energizing circuit for said coil means; a source of timing pulses of predetermined cadence; a generator of electrical oscillations coupled with said load, said generator having an output subject to angle modulation dependent upon the phasing of said motion with reference to said cadence; discriminator means connected to be energized from said generator; gate means in said energizing circuit adapted to block and unblock the flow of current from said source to said coil means; and control means for said source connected to said discriminator means for altering the timing of said pulses in dependence upon said output, said source being connected to said gate means for periodically triggering same into a blocking condition during successive cycles of said source, the duration of said blocking condition within each cycle of said source being variable in keeping with said angle modulation for compensating departures of said motion from a predetermined phase relationship with said cadence.

3,268,790
BACK E.M.F. RESPONSIVE MOTOR SPEED CONTROL CIRCUIT
Anthony L. Novak, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed June 7, 1963, Ser. No. 286,272
1 Claim. (Cl. 318—331)



A magnetic amplifier motor speed control system comprising a reactor, an output winding on said reactor adapted to increase the degree of saturation of said reactor, a bias winding on said reactor adapted to act in opposition to said output winding to decrease the degree of saturation of said reactor, a control winding on said reactor adapted to act cumulatively with said output winding to increase the degree of saturation of said reactor, means for providing a supply voltage connected in series with said output winding, a motor having an armature, a current limiting resistor in series with said armature, said series connected armature and said limiting resistor connected across the output of said supply voltage means, a predetermined fixed resistance shunting said series connected armature and limiting resistor, means for supplying a preset voltage to said control winding connected in series with said control winding, one end of said series connected control winding and means for supplying a preset voltage being connected to the junction of said armature and said current limiting resistor and the other end thereof being connected to the end of said predetermined fixed resistance which is free of direct connection to said current limiting resistor, the value of said predetermined fixed resistance being selected so the current through the control winding will always be less than the maximum rating of said control winding.

3,268,791
CENTRIFUGAL EXTRACTION MACHINE HAVING SPEED CONTROL MEANS RESPONSIVE TO VIBRATION
Jerry W. Burns, Arcanum, and Edwin H. Halsted, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 26, 1963, Ser. No. 333,446
15 Claims. (Cl. 318—460)



1. In an automatic washing machine the combination of, a rotatable tub, a water container enclosing said tub, means including an electrical motor for driving said rotatable tub within said water container, means including a framework for supporting said water container and rotatable tub, circuit means for electrically connecting said motor means to a source of power, said circuit means including transducer vibration sensing means fixedly secured to said framework out of operative contact with either said water container or said rotatable tub, said vibration sensing means being responsive to a predetermined range of vibrations induced in said framework for conditioning said circuit means to continuously cut back the power input to said motor means an an inverse function of the amplitude of sensed vibrations between a predetermined minimum value and a predetermined maximum value whereby tub acceleration is controlled to prevent framework vibrations in excess of said predetermined maximum value.

3,268,792
BEVERAGE CONTAINER WITH DRINKING STRAW
Samuel Barmberzig, 705 Bradford St., Brooklyn, N.Y.
Filed July 16, 1964, Ser. No. 383,029
6 Claims. (Cl. 220—90.2)

1. In combination, a beverage container having top, bottom, and side walls, said container having an opening therethrough adjacent to said top wall, closure means ex-

terior to said container for controlling the sealing of said opening, and a resilient drinking tube in said container having a lower portion extending upwardly along said side wall from the vicinity of said bottom wall and an upper portion, said tube being secured to said side wall at the junction of said lower portion and said upper portion and said upper portion being free to bend with respect to said lower portion to diverge from said lower



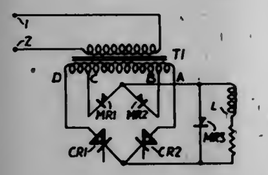
portion resiliently, said upper portion having a terminal portion extending toward said opening and having an end aligned with said opening, said closure means engaging said end when said opening is sealed and urging said upper portion away from said opening, the resiliency of said upper portion moving said end through said opening when said closure is removed, whereby said terminal portion extends exteriorly of said container.

3,268,793

CONTROLLABLE BRIDGE RECTIFIER CIRCUITS

Kenneth G. King and Brian R. Pelly, King's Cross, London, England, assignors to Westinghouse Brake and Signal Company, Limited, London, England

Filed Sept. 27, 1962, Ser. No. 226,523
Claims priority, application Great Britain, Oct. 17, 1961, 37,187/61
6 Claims. (Cl. 321—46)



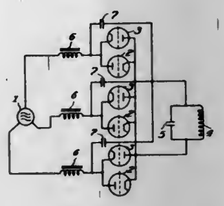
1. In a controllable bridge rectifier circuit, a bridge including two pairs of rectifying arms, means for connecting said bridge to a source of alternating current, an inductive load connected to said bridge, one arm of each pair including controllable rectifier means requiring a trigger signal to be rendered conductive and remaining conductive so long as the current therein exceeds a predetermined value, a unidirectional current path alternative to any path through a said controllable rectifier device in said bridge for current tending to flow due to the inductance of said load, and means for introducing a voltage tending to oppose the continued flow of such last mentioned current in a said controllable rectifier means following cessation of trigger signals thereto, whereby to ensure that said controllable rectifier means become non-conductive before a forward voltage is again applied thereto from a said source.

3,268,794

INTERMEDIATE-FREQUENCY ELECTRIC POWER GENERATING APPARATUS

Yukio Tanaka, Setagaya-ku, Tokyo-to, Japan, assignor to Kokusai Denki Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan

Filed Feb. 2, 1962, Ser. No. 170,565
Claims priority, application Japan, Feb. 6, 1961, 36/3,464
2 Claims. (Cl. 321—66)



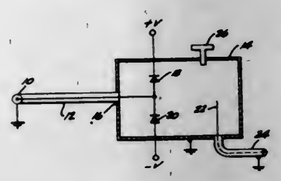
1. An intermediate-frequency electric power generating apparatus comprising, at least one pair of gas-filled discharge tubes reversely connected, a resonant circuit connected in parallel with said tubes, a source of alternating voltage connected to apply said voltage to said tubes simultaneously, means to render said tubes conductive during only a one-half cycle of the alternating voltage applied to said tubes comprising pulse generating means connected to repetitively apply at least one pulse to said tubes only during one-half cycle of said alternating voltage to render said tubes conductive to pass current therethrough alternately to flow an oscillating current through said resonant circuit, each of said tubes having a control grid to which pulses generated by said pulse generating means are applied, a capacitor connected between said resonant circuit and said tubes, and a coil connected between said source of alternating voltage and said tubes to suppress flowing of said oscillation current through said alternating voltage source.

3,268,795

MICROWAVE FREQUENCY DOUBLER

Thomas Hudspeth, Malibu, and Harmon H. Keeling, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Nov. 14, 1962, Ser. No. 237,576
10 Claims. (Cl. 321—69)



1. A microwave frequency doubler comprising: an elongated electrically conductive housing tuned to a first frequency, an electrically conductive strip disposed within and axially aligned with said housing, said strip extending beyond said housing at at least one end thereof, input coupling means for applying input microwave energy at said first frequency to a first portion of said strip, a waveguide resonator tuned to a frequency essentially equal to twice said first frequency and having one of its walls disposed adjacent said one end of said hous-

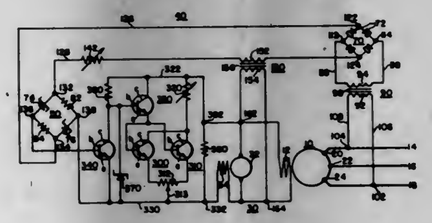
ing, said resonator wall defining an aperture, said strip extending through said aperture and into said waveguide resonator, means disposed about said strip in said aperture for insulating said strip from said resonator wall, first and second varactor diodes mounted in said waveguide resonator with the anode of said first diode and the cathode of said second diode connected together and to a second portion of said strip residing in said waveguide resonator, means for applying a reverse bias potential to each of said first and second varactor diodes, whereby microwave signals in an antisymmetric mode at said second frequency are developed by said diodes and propagated in said waveguide resonator, and output coupling means for extracting microwave energy at said second frequency from said waveguide resonator.

3,268,796

ELECTRICAL CONTROL APPARATUS

Harold A. Steinbruegge, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 26, 1963, Ser. No. 268,100
2 Claims. (Cl. 322—28)



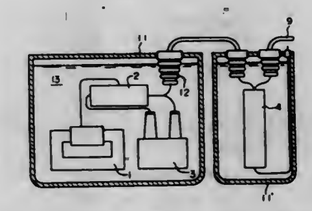
1. A regulating system for a dynamoelectric machine having a field winding and disposed to produce an electrical potential at output terminals, comprising error detecting means connected to receive a measure of the output potential of said dynamoelectric machine; said error detecting means producing an error signal responsive to a deviation of the output potential of said dynamoelectric machine from a predetermined magnitude; a plurality of transistors each having emitter, collector, and base electrodes; at least two of said plurality of transistors being connected in parallel circuit relation, with their emitter electrodes connected together, their base electrodes connected together, and their collector electrodes connected together; impedance means having first and second terminals; the emitter-collector circuit of said parallel connected transistors, said impedance means, and said field winding being connected in series circuit relation, with the second terminal of said impedance means being connected to the collector electrodes of said parallel connected transistors; one of said plurality of transistors supplying base drive current for said parallel connected transistors, with its emitter electrode being connected to the base electrodes of said parallel connected transistors, and its collector electrode being connected to the first terminal of said impedance means; the voltage drop across said impedance means providing collector-emitter voltage for said driving transistor to aid said driving transistor in providing base drive current for said parallel connected transistors; means connecting said driving transistor with said error detecting means, with the base drive current supplied by said driving transistor to said parallel connected transistors being responsive to the error signal from said error detecting means; the impedance of said parallel connected transistors being responsive to the magnitude of the base drive current supplied by said driver transistor to control the magnitude of current flowing through said field winding and maintain the output potential of said dynamoelectric machine at a predetermined magnitude.

3,268,797

DIRECT CURRENT HIGH VOLTAGE POWER SUPPLY

Yoshiharu Utsumi, Kiyoteru Tokuyasu, and Kuniji Yoneta, Katsuta-shi, Ibaragi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Feb. 19, 1963, Ser. No. 259,652
Claims priority, application Japan, Feb. 22, 1962, 37/6,044; Apr. 6, 1962, 37/13,142
12 Claims. (Cl. 323—22)



11. In a direct current high voltage generating system of the feedback type having voltage divider means including a detecting resistance for detecting the magnitude of the output voltage, reference voltage means for producing a differential voltage upon comparison with said detected output voltage and electrically controlled means for controlling the magnitude of the output voltage in response to said differential voltage, the improvement essentially consisting of housing means isolating said voltage divider means from the insulating medium surrounding the remainder of said voltage generating system so as to render said voltage divider means inert to indirect influence from said system,

said housing means being filled with an insulating oil having an extremely high viscosity sufficient to prevent the formation of oil currents,

said insulating oil having a viscosity of at least 200 Redwood-seconds at a temperature of 30° C.

3,268,798

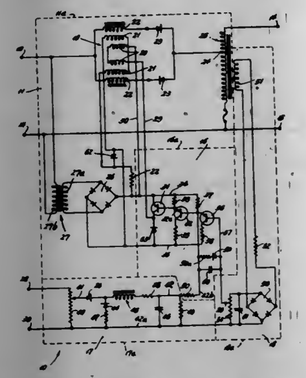
ADJUSTABLE VOLTAGE CONTROL CIRCUIT

Leonard J. G. Burski, Bristol, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut

Filed Apr. 27, 1962, Ser. No. 190,652
5 Claims. (Cl. 323—66)

1. An adjustable voltage control circuit for providing an output voltage to a load circuit that is adjustable in value and maintainable at an adjusted value comprising input terminals adapted to be connected to a source of alternating current, output terminals adapted to be connected to the load circuit, power means positioned between the input and output terminals and responsive to a control signal for controlling the output voltage, an adjustable control means for supplying a unidirectional voltage signal from substantially zero to maximum proportional to the value of output voltage desired, error means operatively associated with the output terminals for producing a unidirectional voltage signal proportional to the value of the output voltage, a transistor having a base, emitter and collector, means for applying the signal voltage of the adjustable control means and the signal voltage of the error means across the emitter-base of the transistor to vary the conductivity in the emitter-

collector thereof, and means for sensing the conductivity of the transistor and supplying a control signal



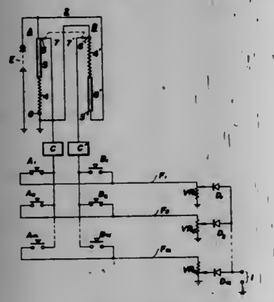
related thereto to the power means to thereby control the voltage at the output terminals.

3,268,799

APPARATUS FOR SLOWLY CONVERTING THE SIGNAL OUTPUT IN A MULTI-STAGE PRESET CIRCUIT

Atsuo Ichikawa, Yokohama-shi, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Sept. 24, 1963, Ser. No. 311,191
3 Claims. (Cl. 323—94)



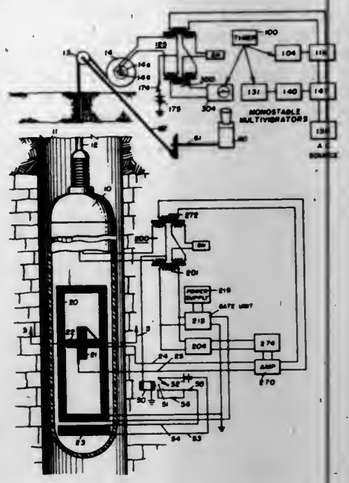
1. A slow signal output conversion apparatus for a multi-stage preset circuit comprising a plurality of series-circuits arranged in parallel relation, each consisting of a variable resistor and a rectifier, and having one end connected to a bus line and the other end connected to a single output terminal, first and second connection units for voltage transformation including in each connection unit, a conductive element with inner and outer ends, connected at its inner end to a variable slide wiper-type resistance means, said units being disposed side by side in parallel but, the variable resistance means in the first unit being alongside the conductive element in the second unit, the variable resistance means in the second unit being alongside the conductive element in the first unit, connecting leads from said conductive element outer ends for connection to a power source, first and second slide wipers, mechanically connected for movement together along said first and second connection units including output ends providing an output from the power source across said connection units, short circuit prevention means in series with said slide wipers output ends and, selection switches for connecting said slide wiper output ends to said bus lines.

3,268,800

NUCLEAR MAGNETIC RESONANCE WELL LOGGING

Gustave L. Hoehn, Jr., Donald E. Woessner, and John R. Zimmerman, Jr., Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York

Continuation of application Ser. No. 12,119, Mar. 1, 1960. This application May 8, 1964, Ser. No. 366,114
12 Claims. (Cl. 324—.5)



1. A nuclear magnetic resonance logging system which comprises:

(a) an exploring unit adapted to be positioned at selected depths in a wellbore,

(b) a field coil in said unit,

(c) means for applying a relatively high current in said field coil to produce a polarizing magnetic field successively at each of said depths in a substantially horizontal direction to and beyond the walls of said wellbore,

(d) means for abruptly changing said high current to a reduced level for maintaining for a predetermined period the magnitude of said polarizing magnetic field at a level of the order of about ten times the earth's magnetic field,

(e) means for exciting said field coil with alternating current to produce an alternating magnetic field beginning at the expiration of an interval following the abrupt decrease of said high current about equal to the transverse relaxation time of water, and

(f) means for measuring the amplitude of the Larmor precession signal from precessing nuclei in the earth's magnetic field beginning a like interval after application of said alternating magnetic field.

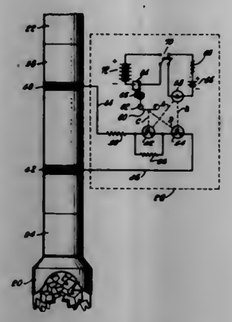
3,268,801

APPARATUS HAVING A PAIR OF SPACED ELECTRODES FOR MEASURING SPONTANEOUS POTENTIALS IN A WELL BORE WHILE DRILLING

Roy J. Clements, Houston, and Roland B. Stelzer, Bellaire, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 30, 1963, Ser. No. 276,901
2 Claims. (Cl. 324—10)

1. Apparatus for making a differential spontaneous potential log of a well bore penetrating earth formations while drilling operations are in progress comprising a rotatable drill string including a drill bit at the bottom end thereof and a tubular instrumentation member located above said drill bit, a sealed housing contained within said tubular member, instrumentation means disposed within said housing for measuring electrical potentials, a layer of insulating material surrounding said tubular member for a substantial portion of the length of said tubular member, and first and second electrodes affixed in spaced relationship in the outer circumference of said insulating material and insulated thereby from said tubular member and from each other, means connected to said first and said second electrodes for recording electrical potentials existing between said electrodes due to self-generating properties of said earth formations while drilling operations are in progress and means for correlating said



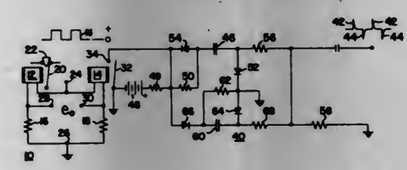
recorded electrical potential as a function of the depth of said tubular member in said well bore, said first electrode being positioned a predetermined distance from one end of said insulating material, said second electrode being positioned a predetermined distance from the opposite end of said insulating material, the distance of said first electrode and said second electrode from the closest uninsulated portion of said tubular member being substantially equal to one-half of the distance between said first and said second electrodes, whereby said first and second electrodes are substantially electrically balanced with respect to said tubular member.

3,268,802

METHOD AND APPARATUS FOR COMPARING THE OPERATING CHARACTERISTICS OF A RELAY TO A STANDARD RELAY USING BRIDGE TECHNIQUES

Andrew W. Vincent, 65 Aberdeen St., Rochester 19, N.Y.

Filed Nov. 24, 1961, Ser. No. 154,610
6 Claims. (Cl. 324—28)



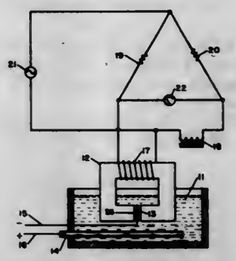
1. Method of testing an electrical relay of the type having an energizable coil and an armature movable in response to energization of the coil to ascertain its operating characteristics, said method comprising simultaneously applying an energizing voltage of predetermined magnitude to the coil of a relay to be tested, and a voltage of the same magnitude to the coil of another relay similar to the relay being tested, and comparing the growths of the current flow through the respective coils produced in response to the applied voltages.

3,268,803

APPARATUS FOR THE INTEGRATION AND STORAGE OF ELECTRICAL SIGNALS

Warren A. Alexander, Tulsa, Okla., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware

Filed Nov. 15, 1962, Ser. No. 237,884
13 Claims. (Cl. 324—29)



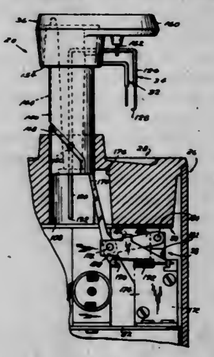
1. An electronic device comprising a solution of a salt of a ferromagnetic element; a ferromagnetic core having an electrically insulated portion thereof immersed in said solution; said immersed portion having a narrow gap therein; a non-magnetic electrode positioned at least partially within said gap; and a ferromagnetic electrode also immersed in said solution.

3,268,804

ELECTRODE CARRIER DELAY RELEASE MECHANISM IN A SYSTEM FOR DETERMINING THE COAGULATION PROPERTIES OF BLOOD

Bruce B. Young, Radnor, Pa., assignor to Becton, Dickinson and Company, Rutherford, N.J., a corporation of New Jersey

Filed Apr. 18, 1962, Ser. No. 188,355
1 Claim. (Cl. 324—30)



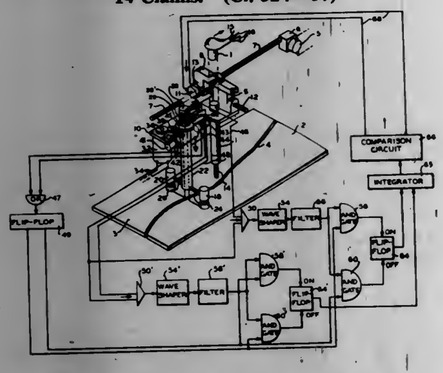
In a system for determining the coagulation properties of blood wherein said system includes an electrode carrier adapted to lower its electrodes into a specimen of said blood to an electrode-immersed position from a raised electrode-elevated position, and an electrode carrier release mechanism coupled with said electrode carrier, said release mechanism adapted to determine the position of the carrier and comprising a solenoid means and a solenoid arm means, said arm means adapted to engage said electrode carrier and maintain it in said electrode-elevated position, said arm means adapted to disengage said carrier to permit its release to said electrode-immersed position upon the energization of said solenoid means, said mechanism also including a spring biasing means for urging said arm means towards the carrier and away from said solenoid means which, upon energization, attracts said arm means thereto and away from said carrier, and stop means for limiting the movement of said arm means un-

der the influence of said spring biasing means towards said carrier, and said mechanism further including time delay means for delaying the energization of said solenoid means and consequently the lowering of the carrier to the electrode-immersed position until the expiration of a predetermined period of time following the initiation of operation of the system.

3,268,805
SEAM TRACKING AND FLAW DETECTION

Neil J. Normando, Livingston, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 16, 1962, Ser. No. 238,187
14 Claims. (Cl. 324—37)



1. In a seam tracking device, in combination, seam sensing means, scanning means operative to cause said seam sensing means to pass periodically over the seam to be tracked alternately in opposite directions relatively to the seam, whereby said seam sensing means generates a pulse at each passage over the seam, means to distinguish a pulse generated during a passage of the sensing means over the seam in one direction from a pulse generated during a passage of the sensing means over the seam in the other direction, means controlled by pulses generated during passages of the sensing means over the seam solely in one given direction to initiate time measuring pulses, means controlled by pulses generated during passages of the sensing means over the seam solely in the other direction to terminate said time measuring pulses, and means responsive to the length of the said measuring pulses to move said seam sensing means in a direction transverse to the seam.

3,268,806
APPARATUS FOR TESTING THE FREQUENCY RESPONSE OF A DEVICE BOTH AT A SPECIFIED FREQUENCY AND AT DIFFERENT FREQUENCIES WITHIN A PREDETERMINED RANGE AND CORRELATING THE RESPONSES

John P. Avery, Indianapolis, Ind., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 19, 1963, Ser. No. 324,694
7 Claims. (Cl. 324—57)

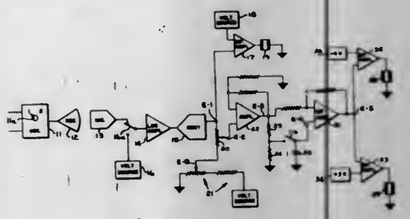
4. Apparatus for testing the frequency response of a translating device comprising:

an A.C. signal source for supplying signals of specified and variable frequencies selectively to a translating device under test;

first circuit means electrically coupled to the translating device under test for producing a first D.C. signal, the voltage magnitude of which varies as a function of the frequency response of the device only during a period in which said device operatively receives an A.C. signal of specified frequency;

a D.C. reference signal source producing a D.C. voltage, the magnitude of which corresponds to a prescribed minimum voltage of the first D.C. signal;

second circuit means connected to said first circuit means and to said D.C. reference signal source for comparing the magnitudes of the voltages respectively produced thereby, and for producing a second D.C. signal, the voltage magnitude of which corresponds to the voltage difference between said first D.C. reference signal voltage and said first D.C. signal voltage only during a period in which said device operatively receives an A.C. signal of said specified frequency;



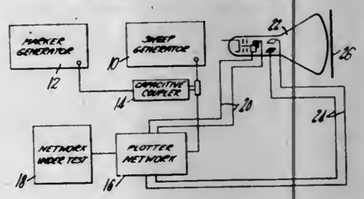
third circuit means selectively connectible to said second circuit means for storing a voltage corresponding in magnitude to that of the second D.C. signal; and

fourth circuit means connected to said second circuit means and selectively connectible to said third circuit means for comparing the magnitude of the stored voltage with the magnitude of the voltage of a third D.C. signal produced by said second circuit means only during a period in which said device operatively receives A.C. signals of varying frequencies, and for producing a fourth D.C. signal, the voltage magnitude of which is representative of the voltage difference between said third D.C. signal and said stored voltage.

3,268,807
INSTRUMENTATION FOR DISPLAYING CHARACTERISTICS OF ELECTROMAGNETIC WAVE DEVICES

Edward H. Shively, Raymond, Maine, assignor to Dielectric Products Engineering Co., Inc., Raymond, Maine, a corporation of Maine

Filed Mar. 20, 1961, Ser. No. 96,902
26 Claims. (Cl. 324—58)

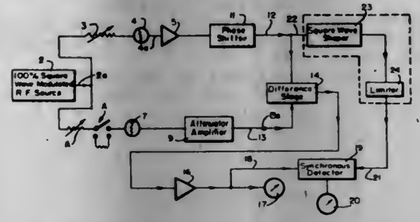


1. Apparatus for measuring the reflection coefficient of an electromagnetic wave load comprising in combination means for terminating said load in a characteristic impedance, means for applying to said load and said characteristic impedance an RF signal of constant amplitude so that a zero reflection voltage reference point and a reflected signal from said load are provided, phase shift means to establish four reference points which define two voltage reference planes in quadrature of one another which intersect at said zero reflection reference point, and means to derive signal voltages referenced to said voltage reference planes which are indicative of the phase and magnitude of the reflection coefficient of said electromagnetic wave load.

3,268,808
SYNCHRONOUS DIFFERENTIAL NULL DETECTOR FOR MICROWAVE MEASUREMENTS

Bruno O. Weinschel, Bethesda, Md., assignor to Weinschel Engineering Co., Inc., Gaithersburg, Md., a corporation of Delaware

Filed Mar. 21, 1963, Ser. No. 266,955
13 Claims. (Cl. 324—58)



1. A microwave measuring system comprising

(a) a stable source of R.-F. voltage in the microwave range modulated at an audio frequency;

(b) a dual-channel null circuit having two arms fed by said source;

(c) a detector in each arm for demodulating the R.-F. voltage supplied by said source;

(d) a differential stage device having two inputs, one from each of said arms, said stage being arranged to mutually oppose said inputs and produce a differential output which is the difference of said two inputs;

(e) means for balancing said two arms of the null circuit to produce a minimum differential output from said differential stage;

(f) means for inserting a device to be measured into one of said arms to unbalance said null circuit;

(g) variable attenuation means in one of said arms for rebalancing said null circuit to again produce a minimum differential output;

(h) relatively low-sensitive meter means connected to the output of said differential stage for measuring the differential output;

(i) adjustable phase-shifter means in one of said arms capable of varying the phase of the voltage in said arm without changing its amplitude;

(j) synchronous detector means having a gating input and a measuring input, said measuring input being also supplied by the output of said differential stage, said gating input being supplied by a signal coherent with one input of said differential stage;

(k) and means in said gating input circuit for shaping and limiting the low-frequency impulses from said phase shifter to provide constant gating pulses at a phase relationship determined by the output of said phase shifter.

3,268,809
APPARATUS FOR TESTING CAPACITORS FOR LEAKAGE CURRENT AND SIMULTANEOUSLY FOR INDICATING WHETHER RELIABLE ELECTRICAL CONTACT IS MADE THERETO

Robert K. Meyer and Philipp Weinhardt, Indianapolis, Ind., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

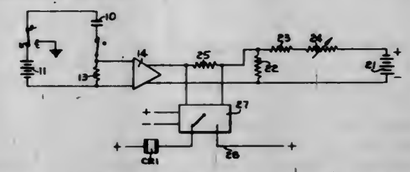
Filed May 20, 1964, Ser. No. 368,786
7 Claims. (Cl. 324—60)

1. Apparatus for testing capacitors comprising:

a voltage source for applying a D.C. voltage to a capacitor under test;

translating means, including a voltage comparison circuit, responsive to current flow through a capacitor under test, said translating means attaining a first operable condition when the capacitor current is in excess of a prescribed value, and attaining a second operable condition when the capacitor current is less than the prescribed value;

first indicator means, responsive to a change in condition of said translating means, for indicating the attainment of said first operable condition by said translating means;



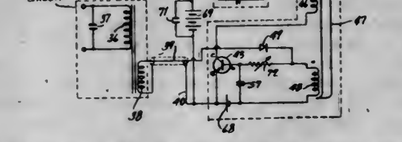
means for retaining the indication of said first indicator means in response to said translating means again attaining its second operable condition; and

second indicator means, responsive to a change in condition of said translating means, for indicating the attainment of said second operable condition by said translating means.

3,268,810
ELECTRONIC TACHOMETER UTILIZING TUNED SIGNAL TRANSDUCER

Robert L. Reiner, West Caldwell, N.J.
(Glenwood Court, Bethany, Conn.)

Filed Nov. 22, 1960, Ser. No. 70,991
6 Claims. (Cl. 324—70)



5. In an electronic tachometer for an engine having an ignition circuit fired by a spark plug, a tuned transducer serially connected to said spark plug in a high voltage circuit of said ignition circuit, said transducer including a capacitor and a sensing winding connected in parallel, said capacitor providing a low impedance path for current discharge of said spark plug and providing a time integral of said current discharge, whereby the current discharge is transformed into a constant peak amplitude signal voltage, said capacitor also providing a shunt by-pass for electrostatically coupled noise currents from adjacent spark plug conductors of the ignition circuit, said transducer also including a signaling coil for isolating effects of said noise currents and for transforming said constant peak amplitude signal voltage, said sensing and signaling coils being solely electromagnetically coupled, a tuned counter circuit responsive to said transformed signal voltage, and an indicating circuit responsive to said tuned counter circuit.

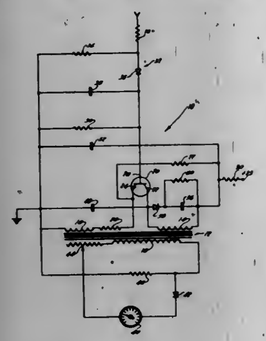
3,268,811
TACHOMETER EMPLOYING A BLOCKING OSCILLATOR INCLUDING A SATURABLE CORE

Walter R. Jefferson, Jr., Mount Prospect, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Continuation of abandoned application Ser. No. 169,827, Jan. 30, 1962. This application June 28, 1965, Ser. No. 467,655
5 Claims. (Cl. 324—70)

1. A pulse rate indicating device comprising a saturable transformer having a primary winding, a secondary

winding and an auxiliary winding, a transistor having its output connected to said primary winding, said auxiliary winding connected to the input of said transistor in positive feedback relationship therewith, means including said auxiliary winding for normally biasing said transitor to cutoff and normally maintaining said transformer in a saturated condition, means for applying each pulse to the

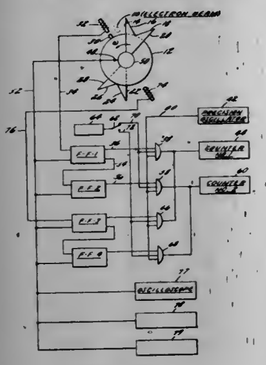


input of said transistor to overcome said cutoff bias whereby said transistor drives said transformer to an oppositely saturated condition and said auxiliary winding drives said transformer back to said normally saturated condition, and means responsive to the signal generated in said secondary winding for indicating the rate of receipt of said pulses.

3,268,812
TIME INTERVAL MEASURING APPARATUS INCLUDING A BEAM INTERSECTING SCANNING MEANS FOR DETERMINING THE PARAMETERS OF A BEAM OF CHARGED PARTICLES

Richard C. Meyer, Thompsonville, and James A. White, Granby, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Mar. 12, 1962, Ser. No. 179,176
16 Claims. (Cl. 324—71)



3. A device for measuring the parameters of a beam of charged particles comprising:

means for generating a beam of charged particles,

a plurality of sensing elements,

means for imparting motion in planes perpendicular to the axis of the beam to said sensing elements thereby causing said plurality of sensing elements to intersect said beam at two positions along the beam axis,

means responsive to the intersection of said sensing elements and said beam for producing control signals,

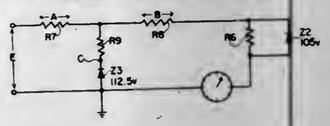
means for producing timing signals, and

means responsive to said control and timing signals for producing indications of the size, shape and energy content of said beam.

3,268,813
METER CIRCUITS WITH MULTIPLE INCREMENTS OF DIFFERENT SLOPES

David W. Pendleton, Alexandria, Va., assignor to American Machine & Foundry Company, a corporation of New York

Filed Mar. 22, 1962, Ser. No. 181,730
5 Claims. (Cl. 324—132)

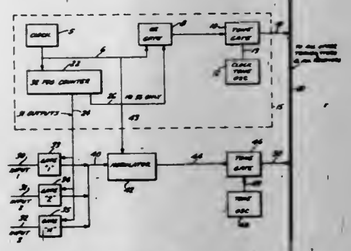


1. A meter circuit having a response curve of meter displacement versus potential applied to the input terminals of the circuit which curve includes three linear increments having different slopes in adjacent increments which mutually intersect at sharply defined knees, comprising a D.C. meter connected in a series circuit between the terminals; a first multiplying resistance connected in said series circuit between the meter and a terminal and partially determining the slope of its response curve in one of said increments; a voltage sensitive circuit connected in shunt with said first multiplying resistance and comprising a first Zener voltage regulating element which becomes conductive substantially at the crossover voltage of the first knee of the curve; a second multiplying resistance including a resistor connected in said series circuit between one input terminal and the meter; and a second Zener voltage regulating element connected from the end of the said resistor nearest the meter to the input terminal on the other side of the meter and having a Zener breakdown voltage different from the voltage of the first Zener element.

3,268,814
PLURAL CARRIER FREQUENCY TELEMETRY AND CONTROL SYSTEM USING PULSE WIDTH MODULATION

Charles L. Du Vivier, Darien, Conn., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed June 3, 1963, Ser. No. 284,995
12 Claims. (Cl. 325—58)



1. A telemetry system for reproducing at one or more receiving stations remote form at least two spaced transmitting stations all coupled by a single transmission channel, electrical signals of variable level representing data or control functions at the respective transmitting stations, said system including

means for generating electrical signals of two distinct carrier frequencies for transmission over said channel,

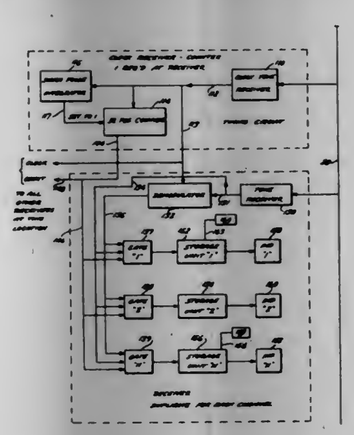
means for generating periodic timing pulses,

means coupled to said pulse generator and to said carrier generator for employing the pulse output of said timing pulse generator to apply pulses of a first said carrier frequency to said transmission channel for transmission as timing pulse signals over said channel to all said stations, said timing pulse signals corresponding to each of said periodic timing pulses,

a counter for each said transmitting station and coupled to said timing pulse generator to be controlled by said timing pulses to be advanced through a cycle of counting steps,

means for coupling the counter associated with at least one of said transmitting stations to said transmission channel to be so advanced through its cycle in response to said timing pulse signals on said channel in synchronism with the counter or counters of the one or more other transmitting stations,

means including at least one input gate at each transmitting station to receive said variable level signal as an input and convert it into a variable length pulse signal having time length variable substanially proportionately at least in part to the level of said input signal, said input gate being coupled to said counter to be controlled thereby at a particular step in said cycle,



means at each such transmitting station for coupling said signal converting means to be controlled by said input gate and by said timing pulses for operating the associated signal converting means for modulating a second of said carrier frequencies at said particular step in said cycle in association with the timing pulses to provide variable length signal pulses of said second frequency for transmission on said channel, said particular step for one said input gate differing from that for any other said input gate, said last named coupling means at certain of said transmitting stations coupling said converting means to said transmission channel to be controlled by timing pulses derived from and corresponding to said timing pulse signals on said channel,

and means including a counter at said receiving station coupled to said transmission channel to receive said timing pulse signals to be controlled thereby to be advanced through a corresponding cycle of counting steps in synchronism with the first said counter,

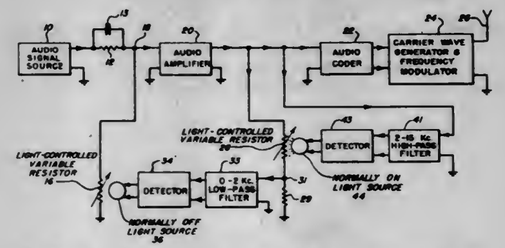
and means coupled to said transmission channel at said receiving station to receive said variable length signal pulses to convert the same into electrical output signals of variable level, said level varying substantially proportionately at least in part to the time length of said variable length signal pulses, said last named converting means being coupled also to receive said timing pulse signals to be controlled thereby to provide said variable level output signals in response to said timing pulse signals,

and means including at least two output gates and associated output circuits at said receiving station, said output gates being coupled to the counter at the associated receiving station to be controlled thereby to couple said last named converter means to said output circuits in sequence to pass the variable level output signal to said output circuits at respective particular steps in the counting cycle at the receiving station corresponding to the respective particular steps at the transmitting stations.

3,268,815
MODULATION SIGNAL DISTORTION COMPENSATING SECRECY COMMUNICATION TRANSMITTER

Frank G. Banach, Chicago, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware

Filed May 31, 1963, Ser. No. 284,502
9 Claims. (Cl. 325—122)



1. A secrecy communication transmitter comprising:

an audio signal source for producing an audio signal;

attenuating means for attenuating applied low-frequency components;

means for applying at least the low-frequency components of said audio signal to said attenuating means to effect attenuation thereof;

frequency-selective control means, the output of which is coupled to said attenuating means, responsive to applied high-frequency components for varying the effectiveness of said attenuating means to change the amount of low frequency attenuation inversely with the amplitude of the applied high-frequency components;

means for applying at least the high-frequency components of said audio signal to said frequency-selective control means to vary the effectiveness of said attenuating means;

audio coding apparatus;

and means for applying the audio signal, as modified by said attenuating means, to said coding apparatus to achieve coding.

3,268,816
ADAPTIVE COMMUNICATIONS SYSTEM INCORPORATING RECEIVER SELECTION OF COMMUNICATIONS CHANNEL

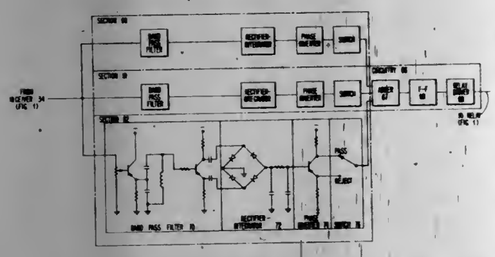
John R. Featherston, Tucson, Ariz., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 22, 1963, Ser. No. 325,644
8 Claims. (Cl. 325—302)

1. In the receiving station of a communications system capable of responding to a plurality of carrier signals of different frequencies and having a plurality of receivers,

one tuned to each carrier, means for each receiver to determine modulation on its carrier, comprising:

a plurality of filters tuned to sections of the frequency spectrum of the modulated carrier;

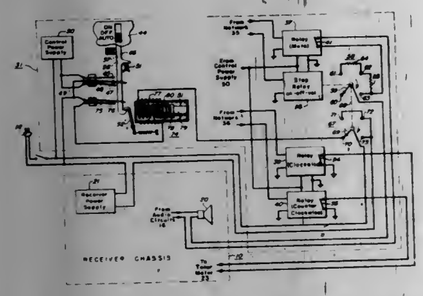


an integrator responsive to the output of each said filter;

an adder to sum the outputs of said integrators; and,

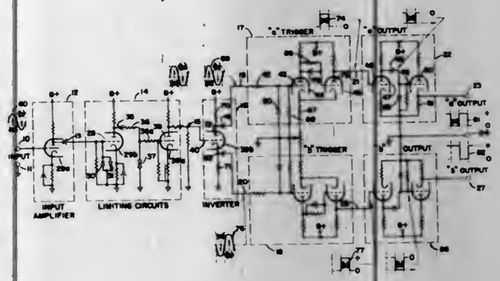
a circuit triggerable by the sum signal generated by said adder.

3,268,817
REMOTE CONTROL SYSTEM HAVING TIME DELAY MEANS
William C. Hagey, La Grange, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware
Filed June 13, 1960, Ser. No. 35,577
2 Claims. (Cl. 325—391)



1. A wave-signal receiver comprising: a receiver chassis including wave-signal receiving circuits; remote control means including an auxiliary chassis responsive to sequentially received remote-control signals and a stepping switch, operative from said auxiliary chassis, having an operating cycle of a predetermined number of positions, in one of which positions said receiver chassis is de-energized and in response to actuation between the remainder of which positions a predetermined operating characteristic of said receiver chassis is varied while maintaining said receiver chassis in an energized condition; control-signal responsive means for de-energizing said auxiliary chassis; bistable switch means, coupled to said auxiliary-chassis-de-energizing means, operable between a first stable position in which said auxiliary chassis de-energizing means are conditioned for concomitant operation with said de-energization of said receiver chassis, and a second stable position in which said auxiliary-chassis-de-energizing means are effectively disabled; and delay means, included within said auxiliary chassis de-energizing means and coupled to said stepping relay, for permitting said auxiliary-chassis-de-energizing means to de-energize said auxiliary chassis, when said bistable switch is in said first stable position, only upon sustained de-energization of said receiver chassis by said remote-control means for a predetermined time interval and for permitting cycling through said one position of said stepping relay without de-energizing said auxiliary chassis, by remote control at the option of the user.

3,268,818
SINE WAVE-SQUARE WAVE CONVERTER
Jimmy R. Cole, Roy E. Garten, Jr., and Joe W. Walton, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma
Continuation of application Ser. No. 46,268, July 29, 1960. This application Jan. 14, 1965, Ser. No. 428,014
5 Claims. (Cl. 328—13)



1. Apparatus for applying current from a power supply in one direction, and, alternately, in an opposite direction through a load in synchronism with the positive and negative portions, respectively, of a sine wave control signal, comprising:

clipping means having an input connected to receive the sine wave control signal and produce a clipped version of the control signal at the output thereof;

signal inverter means having its input connected to the output of the clipping means and having first and second outputs, said inverter means being responsive to the output of the clipping means for providing an output signal at said first output in phase with the control signal and an output signal at said second output 180° out of phase with the control signal;

first and second Schmitt trigger means, each of said trigger means having an input and an output;

means connecting the input of the first trigger means to the first ouput of the inverter means for producing square wave pulses at the output of the respective trigger means synchronized with the positive portions of the control signal;

means connecting the input of the second trigger means to the second output of the inverter means for producing square wave pulses at the output of the respective trigger means synchronized with the negative portions of the control signal;

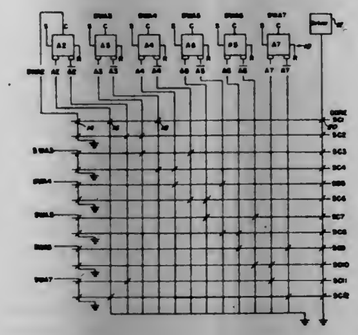
a transistor bridge circuit connecting the power supply to the load and having two inputs, said bridge circuit being responsive to a pulse type signal applied to one of the inputs thereof for directing current from the power supply through the load in one direction and being responsive to a pulse type signal applied to the other input thereof for directing current from the power supply through the load in the opposite direction;

means including direct current restoring means connecting the output of the first trigger means to one input of the transistor bridge circuit; and

means including direct current restoring means connecting the output of the second trigger means to the other input of the transistor bridge circuit,

whereby current from the power supply is directed through the load in one direction in synchronism with the positive portions of the control signal and through the load in the opposite direction in synchronism with the negative portions of the control signal.

3,268,819
ELECTRICAL APPARATUS FOR THE SHIFTING OF DIGITAL DATA
Joseph J. Eachus, Cambridge, Mass., assignor to Honeywell Inc., a corporation of Delaware
Filed May 22, 1962, Ser. No. 196,722
9 Claims. (Cl. 328—37)



1. A digital data shift register ccomprising a plurality of bistable circuits each of said bistable circuits having an input connected thereto which input when activated is effective in reversing the bistable state thereof and each of the inputs to said bistable circuits being further adapted to be activated in accordance with the bistable state of its associated bistable circuit, each of said bistable circuits having at least two outputs, a plurality of saturable magnetic core elements, a separate sense winding means coupled to each input of each bistable circuit and to two magnetic core elements, means coupling one output of each of said bistable circuits to one of said two magnetic core elements associated therewith, means coupling the other output of each of said bistable circuits to the other of said two magnetic core elements associated therewith, means coupling an output of the next adjacent bistable circuit to one of said two magnetic core elements, means coupling the other output of said next adjacent bistable circuit to the other of said two magnetic core elements, each of said outputs when active being adapted to saturate any core element coupled thereto, and drive means coupled to all of said core elements to switch any core element which is not saturated.

3,268,820
TIMING PULSE GENERATOR HAVING SELECTIVE PULSE SPACING
Erwin L. Newman, Philadelphia, Pa., and Fuh-lin Wang, Levittown, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Dec. 4, 1963, Ser. No. 327,953
7 Claims. (Cl. 328—62)

1. A pulse generator comprising a counter having a plurality of ordered stages,

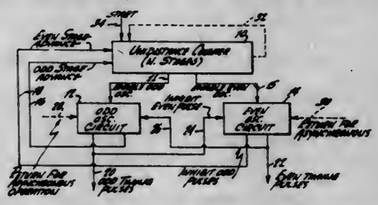
a first oscillator having inputs connected to odd numbered ones of said counter stages,

a second oscillator having inputs connected to even numbered ones of said counter stages,

said oscillators each providing timed outputs,

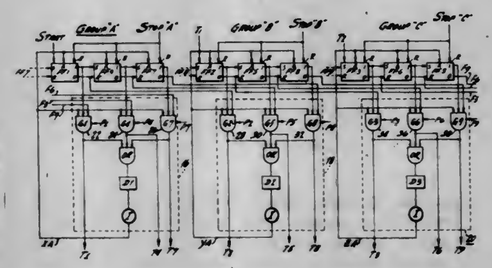
said timed outputs of said first oscillator being connected as inhibiting inputs to said second oscillator,

said second oscillator timed outputs being connected as inhibiting inputs to said first oscillator, and



said first and second oscillator outputs being connected to said counter to alternately advance the count in said counter.

3,268,821
TIMING OR CLOCK PULSE GENERATOR EMPLOYING PLURAL COUNTERS CAPABLE OF BEING SELECTIVELY GATED
Fuh-lin Wang, Levittown, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 4, 1963, Ser. No. 328,094
9 Claims. (Cl. 328—62)



1. A pulse generator comprising a counter having N flip-flop stages, each stage having "1" and "0" outputs,

at least two oscillator circuits, each of said circuits having a set of input gates, separate inputs of each of said gates of a first said circuit being connected, respectively, to the "1" outputs of a first group of said flip-flops and to the "0" outputs of a second group of said flip-flops, separate inputs of each of said input gates of a second of said circuits being connected, respectively, to the "1" outputs of said second group of flip-flops and to the "0" outputs of said first group of flip-flops,

said first and second oscillator circuits each having an output coupled to advance a count in said counter, and

said input gates of said first and second oscillators alternately generating output pulses.

3,268,822
HIGH REPETITION RATE PULSE GENERATOR
John J. Hickey, Hawthorne, Calif., assignor to TRW Inc., a corporation of Ohio
Filed Sept. 4, 1964, Ser. No. 394,584
6 Claims. (Cl. 328—67)

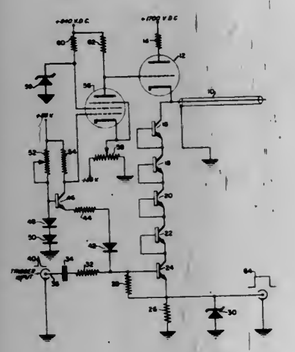
1. A pulse generating circuit, comprising:

an energy storage device adapted to be charged to a predetermined voltage;

a first path in circuit with said energy storage device and including means for charging said energy storage device to said predetermined voltage, said means including continuously variable conductance means for controlling current to said energy storage device;

a second path in circuit with said energy storage device, said path including initially open switch means, load impedance means and a current sensing means in series circuit with each other; said switch means being energizable by an input pulse to discharge current from said energy storage device through said series circuit;

and a feedback path coupling said current sensing means to said continuously variable conductance means, and provided with means (a) for increasing the conductance of said continuously variable conductance means to a high value when no current is sensed by said current sensing means, thereby to rapidly charge said energy storage device, (b) for decreasing the conductance of said continuously variable conductance means to an intermediate value when low current is



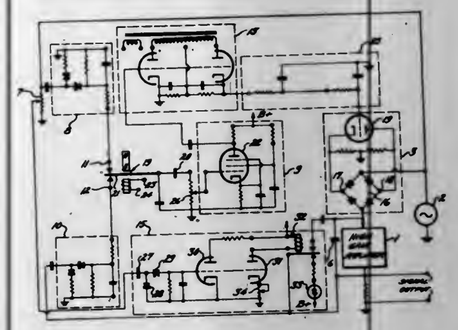
sensed by said current sensing means, thereby to establish a steady state bias current through said switch means, and (c) for decreasing the conductance of said continuously variable conductance means to a lowest value when high current is sensed by said current sensing means;

and means for applying an input trigger pulse to said switch means to cause said energy storage device to discharge current therethrough and to develop an output pulse across said current sensing means and load impedance means;

whereupon said output pulse is coupled through said feedback path to disable said continuously variable conductive means for a period of time sufficient to allow said switch means to recover to its initially open state.

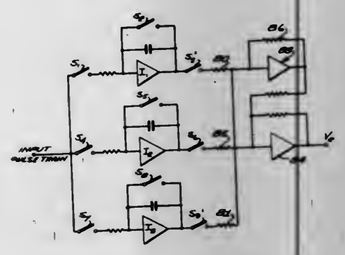
3,268,823
COMPARISON CIRCUIT
Raymond A. MacMillan, Greenwood, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Original application May 5, 1959, Ser. No. 811,238, now Patent No. 3,130,362, dated Apr. 21, 1964. Divided and this application Nov. 5, 1963, Ser. No. 321,653
2 Claims. (Cl. 328—155)

1. A comparison circuit for first and second alternating current signals operating to provide a resultant signal only when a difference in potential exists therebetween, said resultant signal being utilized in direct current form to retain the gain of a ninety degree amplifier at unity, comprising an alternating current signal source for said first alternating current signal, said source having a varying frequency, a ninety degree amplifier including a variable input resistor whose magnitude is varied in accordance with an applied direct current signal, said amplifier receiving said first alternating current signal by way of said variable input resistor, first means to rectify and filter said first alternating current signal to provide a first direct current signal, second means to rectify and filter the output signal from said amplifier to provide a second direct current signal, vibrator means having two input terminals and an arm vibrating therebetween, one of said terminals receiving said first direct current signal and the other, said second direct current signal, a capacitor circuit interconnecting said vibrator arm and alternating



signal amplifying means, said capacitor circuit only charging with a difference in potential existing between said two input terminals, said difference in potential being chopped to provide an amplified alternating current signal, the amplitude thereof being proportional to said difference existing between said two input terminals, and third means to phase rectify said chopped, amplified alternating current signal to provide a third direct current signal for application to said variable input resistor.

3,268,824
PULSE CODE MODULATION RECEPTION SYSTEM
Karl Hinrichs, Fullerton, Richard Allen Davis, Brea, Harry Clifford Bertuccelli, Anaheim, and John Richard Kolden, Riverside, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Apr. 15, 1963, Ser. No. 273,007
32 Claims. (Cl. 328—165)

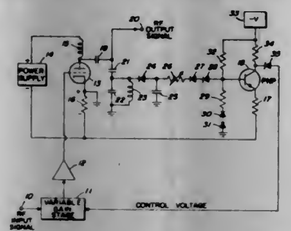


3. In a system for regenerating an accurately reproduced signal and a synchronized clock signal from a noisy pulse code modulated input signal,

a transition detector comprising means for integrating said noisy input signal before and after a transition thereof, and means for taking the difference of the integrals before and after said transition, and

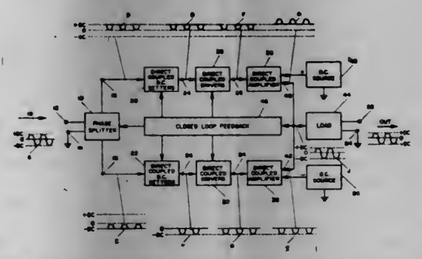
means responsive to said transition detector for regenerating said clean pulse code modulated signal.

3,268,825
ANODE DISSIPATION LIMITER
Philip H. Mathes, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed July 12, 1963, Ser. No. 294,560
9 Claims. (Cl. 330—3)



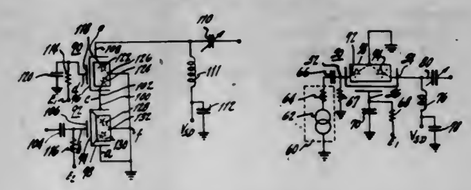
1. In an anode dissipation limiter for a power amplifier tube stage of an RF power amplifier including RF signal varying means subject to control by a control voltage: a multi-element amplifying device; voltage biasing means connected to elements of said multi-element amplifying device; means for taking an RF plate voltage sample and developing a D.C. bias representing the plate RF voltage of the power amplifier tube stage at an element of said multi-element amplifying device; means for taking a plate current sample and developing a D.C. bias representing the D.C. plate current sample of the power amplifier tube stage at another element of said multi-element amplifying device; said amplifying device having an output element connected to the RF signal varying means for application of control output voltage developed at the output element to the RF signal varying means; wherein said means for taking an RF plate voltage sample and developing a D.C. bias representing the RF plate voltage of the power amplifier stage at an element of said multi-element amplifying device includes: a first voltage divider; a detector; and a second voltage divider; with said first voltage divider an RF capacitive voltage divider connected between the plate of the power amplifier tube stage and said detector; with the detector connecting the RF voltage divider and the second voltage divider; and with the second voltage divider being a D.C. voltage bias resistance divider having a connection to an element of said multi-element amplifying device.

3,268,826
HIGH CURRENT GAIN AND UNITY VOLTAGE GAIN POWER AMPLIFIER
William Albert Harrison, Orlando, and Richard W. Bradmiller, Winter Park, Fla., assignors to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland
Filed Sept. 24, 1962, Ser. No. 225,812
19 Claims. (Cl. 330—13)



1. A high current gain, unity voltage gain power amplifier, the combination comprising a phase-splitter having two output circuits, input circuit means for simultaneously delivering signals to said phase-splitter, first and second signal channels for current amplifying and voltage and phase stabilizing of at least a portion of said signals, with each channel having input and output circuits, said output circuits of said phase-splitter being respectively connected to said input circuits of said first and second channels, means providing substantially 100% negative current feedback from said output circuits of said first and second channels to said phase splitter, load impedance means connected in common to said output circuits of said first and second channels, said first channel coupling a first portion of the input signal to said load for developing a first portion of the output signal and said second channel coupling a second portion of the input signal to said load for developing a second portion of the output signal, and D.C. means for providing operating potentials for said power amplifier.

3,268,827
INSULATED-GATE FIELD-EFFECT TRANSISTOR AMPLIFIER HAVING MEANS TO REDUCE HIGH FREQUENCY INSTABILITY
David J. Carlson, Princeton, and Gerald E. Theriault, Hopewell, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 1, 1963, Ser. No. 269,525
12 Claims. (Cl. 330—18)



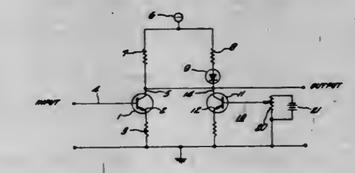
1. A high frequency signal translating circuit comprising:

a field effect transistor having a source electrode, a drain electrode, and a gate electrode formed on a substrate of semiconductor material, with said gate electrode being insulated from said substrate;

electrical circuit means coupled to said source, drain, and gate electrodes for connecting said transistor in a common gate amplifier configuration; and

means coupled to the substrate of said transistor for reverse biasing said substrate relative to said source and drain electrodes and for maintaining said substrate at a fixed reference potential for signal frequencies, to reduce undesired signal feedback within said field effect transistor.

3,268,828
AMPLIFIER WITH CONSTANT AMPLITUDE OUTPUT
Thomas Mollinga, Sierra Madre, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 2, 1962, Ser. No. 234,970
4 Claims. (Cl. 330—24)



1. An amplifier with direct-current controlled gain comprising:

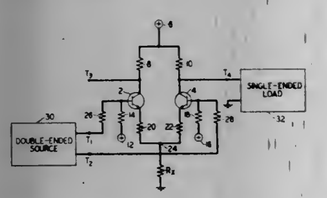
(a) a source of direct-current bias voltage;

(b) a source of alternating-current voltage to be amplified;
(c) a stage of amplification having input terminals and output terminals, the stage being biased by the source of bias voltage so as to operate class A;
(d) means connecting the source of alternating-current voltage to the input terminals of the stage of amplification;
(e) a series circuit connected across the source of bias voltage, the series circuit including;
(1) an impedance element, the impedance of which varies inversely as a function of the direct-current passing therethrough;
(2) and a constant current source, the constant current source being responsive to a direct-current control voltage so as to change the direct-current passing through the impedance element.
(f) and means directly connecting one of the output terminals of the stage of amplification to a point in the series circuit between the impedance element and the constant current source, the impedance of the impedance element influencing the output impedance of the stage of amplification.

3,268,829
COMMON-EMITTER TRANSISTOR DIFFERENTIAL AMPLIFIER

Robert V. Quinlan, Fort Wayne, Ind., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 30, 1963, Ser. No. 305,758
7 Claims. (Cl. 330—30)



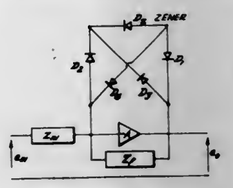
2. A differential amplifier comprising first and second transistors, each of said transistors being arranged in the common-emitter configuration and having substantially matched characteristics, means for optimizing common mode rejection including a circuit element forming part of the emitter circuit of both of said transistors, said element having a dynamic resistance substantially equal to $ar_c/2$ where a is the equivalent-T common-base current-amplification factor and r_c is the equivalent-T collector resistance of each of said transistors, and means for providing substantially equal current to each of said transistors.

3,268,830
OPERATIONAL AMPLIFIER GAIN CONTROL CIRCUIT UTILIZING NON-LINEAR DEVICES

Sam P. Ragsdale, 1125 Potter Blvd., Tullahoma, Tenn.

Filed Aug. 13, 1963, Ser. No. 301,923
1 Claim. (Cl. 330—110)

In an operational amplifier an inverse feedback circuit comprising:
(a) a feedback impedance connected between the output and input of said amplifier,
(b) first, second, third and fourth unidirectional conducting devices,
(c) a Zener diode having a predetermined Zener voltage,
(d) means for connecting the cathode of said first unidirectional conducting device and the anode of said second unidirectional conducting device, respectively, to one end and the other end of said feedback impedance,
(e) means for connecting the anode and cathode of said Zener diode, respectively, to the anode and cathode of said first and second unidirectional conducting devices,
(f) means for connecting the anode and cathode of said third unidirectional conducting device, respectively, to said one end of said feedback impedance and to the connection between said Zener diode and said second unidirectional conducting device,

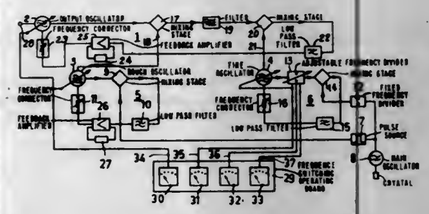


(g) and means for connecting the cathode and anode of said fourth unidirectional conducting device, respectively, to said other end of said feedback impedance and to the connection between said Zener diode and said first unidirectional conducting device,
(h) whereby the network formed by said unidirectional conducting devices and said Zener diode makes the total feedback impedance of said inverse feedback circuit very small whenever a positive or negative voltage at the output of said amplifier reaches said predetermined Zener voltage.

3,268,831
AUTOMATIC FREQUENCY CONTROLLED MULTI-CHANNEL GENERATOR

Johannes Noordanus and Gerardus Rosier, both of Hilversum, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 12, 1963, Ser. No. 322,637
Claims priority, application Netherlands, Nov. 30, 1962, 286,207
10 Claims. (Cl. 331—2)

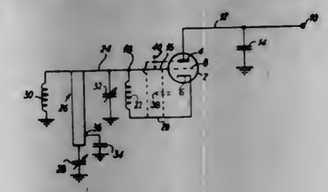


1. A multichannel generator for producing a stabilized oscillation adjustable in rough and fine frequency steps comprising an output oscillator having an output signal of a frequency variable in accordance with variations of a first intermediate signal applied thereto, a main automatic frequency control loop for providing said oscillator with said first intermediate signal and including a first mixing stage having an input coupled to the output of said oscillator, a second mixing stage having an input coupled to the output of said first mixing stage and means for applying the output of said second mixing stage to said oscillator, a rough step oscillator having an output signal variable in frequency in accordance with variations of a second intermediate signal applied thereto, an automatic frequency control loop for providing said rough step oscillator with said second intermediate signal and including a rough step mixer having an input coupled to the output of said rough step oscillator and means coupling the output of said rough step mixer to said rough step oscillator, a fine-step oscillator having an output signal variable in frequency in accordance with variations of a third intermediate signal applied thereto, an automatic frequency control loop for providing said fine step oscillator with said third intermediate signal and including an adjustable frequency divider having an input coupled to the output of said fine step oscillator, a fine step mixer having an input coupled to the output of said adjustable frequency divider and means coupling the output of said fine step mixer to said fine step oscillator, a control frequency signal source, first means coupling said source to another input of said rough step mixer, second means coupling said source to another input of said fine step mixer, means coupling the output frequency signal of said rough step oscillator to another input of said first mixing stage, and means coupling the output frequency signal of said fine step oscillator to another input of said second mixing stage.

3,268,832
HIGH FREQUENCY OSCILLATOR WITH ZERO GRID BIAS

Vincent S. Forni, Feeding Hills, and Fred J. Kitty, Springfield, Mass., assignors to General Instrument Corporation, Newark, N.J., a corporation of New Jersey

Filed June 22, 1962, Ser. No. 204,387
20 Claims. (Cl. 331—96)

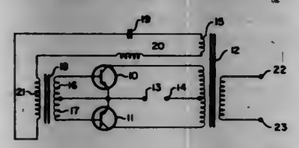


1. A zero grid bias oscillator circuit operable in the high frequency range above about 10 megacycles, comprising a high frequency tube comprising a cathode, plate and grid with said plate and said cathode inherently feedback-coupled, a connection between said grid and said cathode comprising an inductance, means for applying an operating potential between said plate and ground, said grid being free of any biasing potential, a tuned circuit, means connecting said grid to said tuned circuit, and RF choke means connected between said grid and ground.

3,268,833
INVERTER WITH TUNED CIRCUIT FREQUENCY CONTROL

Edward J. Miller and James H. Syhre, Littleton, Colo., assignors to Martin-Marietta Corporation, a corporation of Maryland

Filed Aug. 15, 1961, Ser. No. 131,511
8 Claims. (Cl. 331—113)

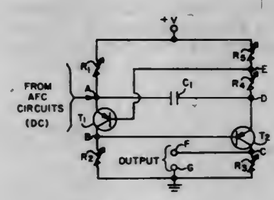


8. A static inverter circuit comprising: at least one pair of substantially unidirectional current conducting devices each having at least one element for controlling the magnitude of the current flow through it; an output transformer having primary and secondary windings; circuit means for alternately energizing said primary winding of said output transformer with current in a first direction from one of said devices and with current in the opposite direction from the other of said devices; load means connected to said secondary winding of said output transformer; a resonant circuit; means for electromagnetically coupling excitation current from said primary winding of said output transformer into said resonant circuit, said coupling means comprising at least one winding on said output transformer, with the number of turns on both said coupling means winding and the secondary winding of said output transformer providing a voltage step-down for preventing the reflection of load variations into said resonant circuit; and means for coupling the signals generated by said resonant circuit to said control elements of said devices for alternately controlling the current conduction and nonconduction of said devices whereby the voltage appearing at said load means will recur at the same frequency as the resonant frequency of said resonant circuit.

3,268,834
OSCILLATOR WITH NEGATIVE FEEDBACK LOOP

Richard W. Bradmiller and Harold P. Bruce, Orange County, Fla., assignors to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland

Filed June 10, 1964, Ser. No. 374,020
9 Claims. (Cl. 331—113)



1. An oscillator for generating a stable, low frequency, substantially rectangular wave comprising, in combination:
(a) first and second active means, each including electron emitting, collecting and control means;
(b) means for coupling the collecting means of said first active means to the control means of said second active means in a forward loop manner;
(c) means for coupling the emitting means of said second active means to the control means of said first active means in a degenerative manner; and
(d) reactive means for coupling together said emitting means of said first and second active means in a regenerative manner, whereby said reactive means establishes the repetition rate of said oscillator.

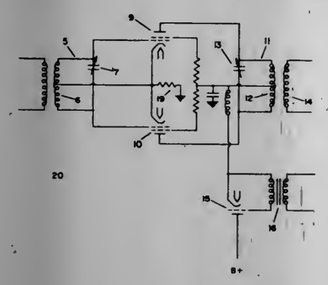
3,268,835
PUSH-PULL PLATE MODULATOR

James W. Bryan, 828 Marilyn Road, Fairdale, Ky.

Filed Dec. 23, 1964, Ser. No. 420,760
7 Claims. (Cl. 332—43)

1. A modulator comprising a first and second resonant circuit each including an inductor and capacitor, means for applying a carrier frequency source to said first resonant circuit, said resonant circuits being tuned to the carrier frequency, an amplifier means having a negativve return connected between said resonant circuits, a source of direct current voltage having a positive and a reference terminal; said reference terminal being connected to the negative return of said amplifier means and said first

resonant circuit, a control means connected between said positive terminal and said second resonant circuit to vary the direct current voltage under control of a modulating



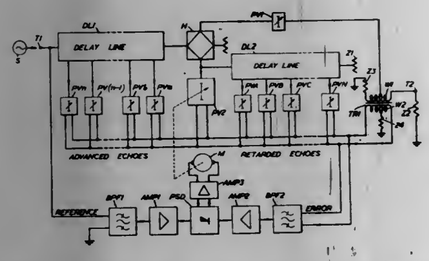
signal whereby the amplitude of the carrier current in the amplifier means is determined by the modulating rate of the direct current voltage through said control means.

3,268,836

TRANSVERSAL FILTER FOR CORRECTING OR SYNTHESIZING ECHOES ACCOMPANYING UNIDIRECTIONAL PRINCIPAL PULSE, INCLUDING AUTOMATIC MEANS PREVENTING UNIDIRECTIONAL BIAS OF OUTPUT TRANSFORMER CORE

Josef Maria Linke, Bushey Heath, England, assignor to Her Majesty's Postmaster General, London, England

Filed Sept. 23, 1963, Ser. No. 310,616
11 Claims. (Cl. 333—20)



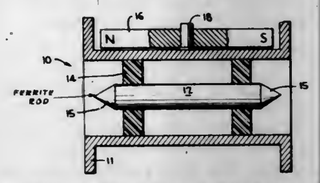
1. Electrical echo waveform corrector or synthesizer apparatus including transmission delay means, a signal input terminal for the transmission delay means, an output terminal, first means for deriving a main signal output from the signal input terminal and connected to apply the main signal output to the output terminal, second means for deriving from the transmission delay means desired amplitude replicas of the signal input non-coincident in time with the main signal output, a cored transformer connected to the output terminal, means for applying the said replicas to the transformer for combination with the main signal output, and third means for applying to the transformer a desired amplitude replica of the signal input coincident in time with the main signal output, the second means being adjustable to cause additive or subtractive combination at the output terminal of individual replicas with the main signal output, and the third means being adjustable to so vary the sense and amplitude of the replica coincident in time with the main signal output that the replica signals applied to the transformer by both the second and third means together produce zero direct current magnetisation of the transformer core.

3,268,837

RECIPROCAL FERRITE WAVEGUIDE PHASE SHIFTER HAVING MEANS TO ROTATE THE MAGNETIC FIELD ABOUT AN AXIS TRANSVERSE TO THE LONGITUDINAL AXIS OF THE FERRITE ROD

Frank Reggia, Bethesda, Md., and Howard S. Jones, Jr., Washington, D.C., assignors to the United States of America as represented by the Secretary of the Army

Filed Nov. 6, 1963, Ser. No. 321,981
6 Claims. (Cl. 333—31)



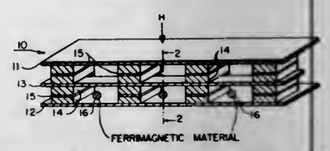
1. A mechanical waveguide phase shifter comprising:
(a) a rectangular asymmetrical waveguide section with a ferrite rod coaxially disposed therein,
(b) means outside said waveguide section to produce a magnetic field in said ferrite element, and
(c) means to change the direction of said magnetic field about an axis transverse to the longitudinal axis of said ferrite rod.

3,268,838

MAGNETICALLY TUNABLE BAND-STOP AND BAND-PASS FILTERS

George L. Matthaei, Menlo Park, Calif., assignor to the United States of America as represented by the Secretary of the Army

Filed May 20, 1964, Ser. No. 369,026
8 Claims. (Cl. 333—73)



1. A magnetically tunable band-stop filter comprising a transmission line for transmitting electromagnetic energy having at least first and second conductors, a plurality of capacitors mounted between said conductors and spaced along said transmission line, a plurality of ferrimagnetic resonators mounted between said conductors and spaced along said transmission line with one of said resonators being located between each of said capacitors, and magnetic means mounted adjacent said transmission line for tuning said resonators.

ERRATUM

For Class 335—71 see:
Patent No. 3,268,687

3,268,839

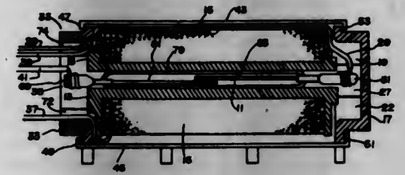
MAGNETIC REED RELAY

George L. McFarland, Salem, Va., assignor to General Electric Company, a corporation of New York

Filed Mar. 5, 1965, Ser. No. 437,531
1 Claim. (Cl. 335—151)

A magnetic reed relay comprising, a reed switch having two reeds of a magnetic material normally positioned so that they do not touch each other, leads connected to both ends of said reed relay, a bobbin of a plastic material positioned around said reed switch, a magnetic coil wound on said bobbin to close said two reed switches when the coil is energized, a closed end cap supporting

one end of said bobbin adapted to engage one end of said reed relay, said closed end cap having a plurality of radial slots adapted to pass the lead connected to that end of said reed relay, an open end cap supporting one end of said bobbin adapted to engage one end of said reed



relay, said open end cap having a plurality of radial slots adapted to pass the leads of said reed relay, and an enclosure of a magnetic material enclosing said end caps and said bobbin to provide a return path for the magnetic flux of said magnetic coil.

ERRATA

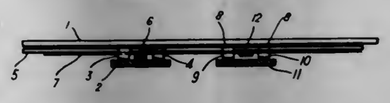
For Class 335—154 see:
Patent No. 3,268,684
Patent No. 3,268,686

3,268,840

MAGNETIC SWITCH CONTACT ASSEMBLY

Svante Lennart Hjertstrand, Hagersten, Sweden, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed July 12, 1963, Ser. No. 294,516
Claims priority, application Sweden, July 20, 1962, 8,082/62
5 Claims. (Cl. 335—196)



1. A contact assembly comprising first and second contact strips lying a selected distance apart in separate parallel planes with the contact strip in one plane positioned normal to the contact strip in the other said plane, contact means positioned between the contact strips of said planes at the crossover point of the first and second contact strips, said contact means being made of conductive material and formed to have a length insufficient in a normal position to bridge the selected distance between the first and second contact strips, a selectively energizable operating conductor extending longitudinally of each of said contact strips for generating a magnetic field therealong, the simultaneous generation of a magnetic field in both of said operating conductors imparting rotational movement to said contact means to turn it from its normal position to enable it to bridge the selected distance and to establish electrical contact between the contact strips at the said crossover point.

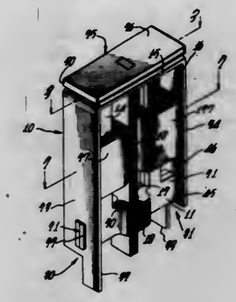
3,268,841

ELECTROMAGNET DEVICE HAVING A MULTI-MEMBER CORE ASSEMBLY

Harold Wakshull, West Covina, and Richard S. Mark, Arcadia, Calif., assignors to Clary Corporation, San Gabriel, Calif., a corporation of California

Filed July 27, 1964, Ser. No. 385,166
5 Claims. (Cl. 335—266)

1. An electromagnet comprising a pair of core pieces of magnetic material arranged in side-by-side relation,
said core pieces each having two spaced parallel pole legs and a web extending between said legs adjacent the bottoms of said legs;
portions of said webs intermediate said legs extending outwardly to conjointly form a first bearing,
said webs having portions extending beyond said legs,
a frame of non-magnetic material,
said frame having a first pair of openings fitted over the tops of said legs,
said frame having a second pair of openings fitted over said portions of said webs whereby to retain said core pieces in side-by-side relation,



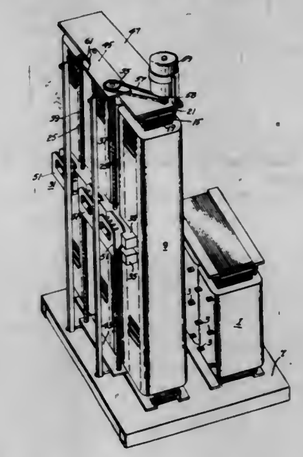
said frame having an additional opening forming a second bearing aligned with said first bearing,
an armature comprising a stem slideable longitudinally in said bearings and a head of magnetic material at one end of said stem and cooperable with said pole legs;
and a pair of electromagnetic coils surrounding said pole legs intermediate said webs and the cross web of said frame whereby to induce a magnetic flux into said core pieces.

3,268,842

CONTINUOUSLY VARIABLE VOLTAGE LOW IMPEDANCE TRANSFORMER ASSEMBLY

William W. Gibson, Alameda, and Hans Tilse, Oakland, Calif., assignors to Glenn Pacific Corporation, a corporation of California

Filed Oct. 5, 1964, Ser. No. 401,532
6 Claims. (Cl. 336—147)



1. A continuously variable low impedance transformer assembly comprising in combination,
a transformer having means providing low leakage reactance from no load to full load, to provide good voltage regulation,

a separate winding,

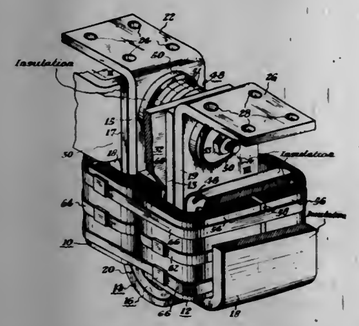
electrical connections from electrically spaced voltage points on the secondary winding of said transformer to corresponding physically spaced points along said separate winding to form parallel connections between said secondary winding and said separate winding, and means for obtaining a continuously variable voltage from said separate winding.

3,268,843

ELECTRIC INDUCTION APPARATUS FOR USE IN RAILWAY SIGNAL SYSTEMS

Ralph Popp, Millvale, Pa., assignor to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania

Filed July 14, 1964, Ser. No. 382,551
10 Claims. (Cl. 336—223)



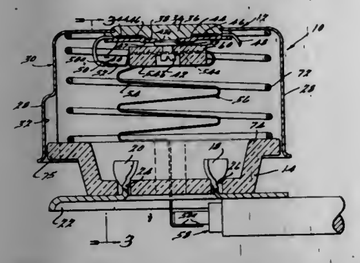
1. Electric induction apparatus comprising, a first generally U-shaped strap conductor, a second generally U-shaped strap conductor positioned in adjoining relationship within and being insulated from said first strap conductor, terminal means on one end of each of said first and said second strap conductors for connecting them together to form a two-turn winding, terminal means on the other end of each of said strap conductors for connection to an external circuit, generally three-legged magnetic core means having two windows therein, an adjoined pair of legs of said strap conductors extending through each of said windows, and other winding means on the outer legs of said core means.

3,268,844

TEMPERATURE SENSER

Rudolph Bergsma, Ann Arbor, Mich., assignor to King-Seeley Thermos Co., Ann Arbor, Mich., a corporation of Michigan

Filed Oct. 19, 1961, Ser. No. 146,176
32 Claims. (Cl. 338—28)



14. A temperature sensing device for use with a surface heater of a stove or the like to sense temperature of a cooking utensil or the like supported on and heated by said surface heater by surface engagement with the utensil comprising: a temperature sensing pellet having an enclosed sensing wire with a pair of outwardly extending wire ends and an upper surface through which heat is transferred from a cooking utensil to said sensing wire, said upper surface providing the primary heat transfer source for said sensing wire; terminal support means mounted beneath said pellet and being supportingly connected thereto; a pair of ribbon-like rectangular electrical conductor means mounted on said support means and being electrically connected to said wire ends and extending downwardly therefrom for connection to a remotely located control device; electrical connecting means connecting said sensing wire to said electrical conductor means; movable housing means surrounding said pellet, except for said upper surface, and surrounding said electrical conductor means and surrounding said electrical connecting means; holding means fixedly mounting said pellet relative to said housing means with said upper surface permanently located in a plane above the uppermost surface of said housing means and forming a continuous closed connection between said pellet and said housing means; base means movably supporting said housing means; and spring means mounted between said base means and said housing means and exerting a force on said housing means tending to move said pellet relative to a surface heater into surface engagement with the utensil.

3,268,845

RESPIRATION AND MOVEMENT TRANSDUCER

Henry B. Whitmore, Rte. 5, Box 369, San Antonio, Tex.

Filed Sept. 21, 1965, Ser. No. 489,015
1 Claim. (Cl. 338—47)



A variable resistive respiration and subjective movement transducer comprising: an elastic tube having a length-to-internal diameter ratio of at least 20 to 1; a tapered electrode means positioned in a sealing relationship with the said tube at each end of the said tube; a restrictor of electrical insulation material, positioned in movable relationship within the said tube between the said electrodes, the said restrictor being smaller in diameter than the inside diameter of the tube and shorter than the space between the said electrodes; a saline solution conductive fluid contacting the said electrodes, essentially surrounding the said restrictor, completely filling the remaining volume of the said tube; connecting means for making electrical connection to the said electrodes; and means for positioning the said tube in relation to the subject whereby the tube extends and contracts with the movement of the subject.

3,268,846

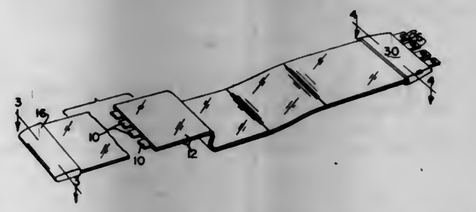
HEATING TAPE

Glen H. Morey, Terre Haute, Ind., assignor to Templeton Coal Company, Terre Haute, Ind., a corporation of Indiana

Filed Aug. 26, 1963, Ser. No. 304,412
6 Claims. (Cl. 338—212)

1. A flexible electrical heating tape comprising; two pairs of ribbon-like electrical resistance heating elements arranged in laterally spaced parallel relationship to each other, a body of fluid impervious flexible plastic insulating material surrounding said elements and adhered thereto to form an enclosure thereabout while exposing the extreme ends of said heating elements, each said pair of

elements having their one adjacent ends electrically interconnected and having individual electric terminals connected with the other ends, and insulating caps for each end of said pairs of elements tape sealingly engaging said



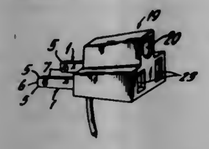
body of insulating material and enclosing the ends of said heating elements, said individual electric terminals having portions extending out of the pertaining one of said insulating caps for connection to an electrical power source.

3,268,847

MALE-FEMALE ELECTRIC CONTACT BLADE AND PLUG

Ferdinand Klumpp, Jr., Union, N.J., assignor to Heyman Manufacturing Company, Kenilworth, N.J., a corporation of New Jersey

Filed Apr. 14, 1964, Ser. No. 360,485
4 Claims. (Cl. 339—14)



1. A male-female electric contact blade comprising, a first blade section, a second blade section, said first and second blade sections joined by a center fold, a central rigid crimp extending from one blade section through said other blade section, an integral leg portion extending from each said blade section at a point near but beyond said crimp, said leg portions resiliently meeting at a line along their width and of a narrower width than said blade sections, said narrower leg portions adapted to provide for the use of a thick flanged die when said contact blade is molded into a plug and said leg portions adapted to receive an electric contact blade.

3,268,848

BUS BAR TYPE ELECTRIC POWER DISTRIBUTION SYSTEM WITH FORMED INSULATING SHEET HOUSING

Albert H. Adams, Simsbury, and William F. Olashaw, New Britain, Conn., assignors to General Electric Company, a corporation of New York

Original application Sept. 5, 1961, Ser. No. 135,880, now Patent No. 3,170,092, dated Feb. 16, 1965. Divided and this application Nov. 21, 1963, Ser. No. 325,235
2 Claims. (Cl. 339—22)

1. An electric bus bar type power distribution system comprising:

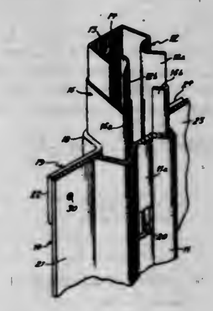
(a) an elongated generally planar sheet of rigid insulating material having a plurality of parallel longitudinally extending channels formed therein between substantially co-planar flange portions;

(b) said channels having bed portions intermediate the side wall portions thereof, said bed portions having a plurality of longitudinally spaced apertures therein;

(c) an electric bus bar conductor positioned in each of said channels with a first side of said conductor adjacent said bed portion of said channel;

(d) an insulating jacket covering a second side of said conductor opposite said first side;

(e) bus bar retaining means extending transversely across said insulating sheet and bridging said channels, said retaining means being in contact with said insulating jackets of each of said bus bars, and means



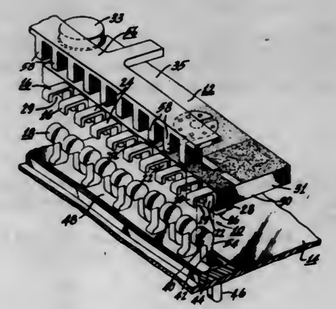
rigidly connecting said bus bar retaining means to said co-planar flange portions of said insulating sheet, whereby said bus bar conductors are supported against movement toward and away from each other, and are completely insulated and whereby said apertures provide access to said bus bar conductor by contact probes inserted through said apertures.

3,268,849

ELECTRICAL CONNECTORS

Morton Silverberg, Riverton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

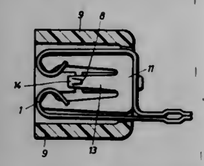
Filed July 26, 1963, Ser. No. 297,872
5 Claims. (Cl. 339—182)



3. An electrical connector connecting first and second parts, said connector comprising a plurality of rigid cam contacts and a plurality of resilient contacts, each resilient contact being adapted to mate with a separate one of said cam contacts, each of said resilient contacts having a pair of opposed resilient members, each of said cam contacts being defined by two parallel planar surfaces, and edges, with said cam contacts being aligned on said first part and said resilient contacts being aligned on said second part in alignment with said cam contacts on said first part; said pair of members in each of said resilient contacts defining a passageway therebetween for easily receiving a separate one of said cam contacts therein when each of said cam contacts is disposed in a first position with respect to a mating one of said resilient contacts, portions of said edges of each of said cam contacts being formed to cam apart said pair of members in its mating

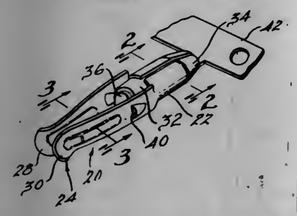
resilient contact by rotation of the cam contact to a second position within said passageway of said mating resilient contact and to releasably and securably engage said members to hold said cam contacts in said second position.

3,268,850
ELECTRICAL CONNECTORS EMPLOYING A PLUG-IN CONTACT SPRING
Johannes Bernutz, Ludwigsburg-Hoheneck, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 6, 1964, Ser. No. 409,520
Claims priority, application Germany, Nov. 14, 1963, St 21,326
7 Claims. (Cl. 339—217)



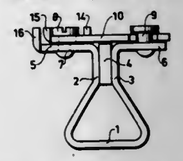
1. An electrical connector, comprising:
a housing;
receptacles in said housing for receiving studs;
a plug-in contact spring to be inserted into said housing;
said spring including a contact-making part, slotted ends, and a terminal lug;
a flat tie to control contact pressure, shaped to fit within said spring and to lock into said slotted ends;
means on said terminal lug for receiving a suitable conductor;
said tie including an elastic stud to mate with said receptacles in said housing to hold the plug-in contact spring and tie in said housing;
said combination of housing, spring and tie forming a durable electrical connector to receive suitable contact knife blades and to disengage from such blades; and
said combination remaining easy to disassemble by disengaging said stud and moving the contact spring in the direction of the terminal lug.

3,268,851
SWITCH CONTACT
Lloyd Mancini, Hershey, Pa., assignor to Berg Electronics, Inc., New Cumberland, Pa., a corporation of Pennsylvania
Filed Mar. 5, 1964, Ser. No. 349,673
4 Claims. (Cl. 339—258)



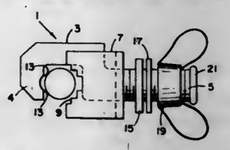
3. A switch contact terminal adapted to be mounted in a hole in a circuit board, said terminal including a tubular supporting plug on one end for insertion in such hole and an integral contact at the other end, said plug comprising a rolled up sheet metal blank forming a tubular portion, said plug when positioned in the circuit board hole being adapted to form a part of a solder system which includes a circuit element on said board, and a core of heat resistant material tightly fitted in said hollow tubular portion so as to prevent wicking of the solder through said tubular portion when it and the board are solder-dipped, said hollow tubular portion terminating at its lead end in a frusto-conical portion and having an inwardly extending tab at its other end, said core being confined within said plug between said frusto-conical portion and said tab.

3,268,852
ELECTRICAL CLIP CONTACT DEVICE
Bo Wennersten, Medsolbacken 15, Vallingby, Sweden
Filed Mar. 11, 1965, Ser. No. 438,901
Claims priority, application Sweden, Mar. 16, 1964, 3,236/64
6 Claims. (Cl. 339—258)



1. An electrical clip-type contact device, comprising: a contact member having two parallel legs which are adapted to clamp a contact blade between them; a hook-like element pivotally attached to one of said legs, a stud-like member carried by the other leg, said hook-like element being movable between a first position in which the opening between the two extreme ends of said legs is unobstructed, and a second position in which said hook-like element is cooperating with said stud-like member in order both to obstruct said opening, thereby preventing said contact blade from moving out through the same, and to augment the contact pressure between the blade and each of the clip legs, a rotatable pin serving as a pivot pin for said hook-like element; and an eccentric carried by said rotatable pin, said eccentric being adapted to cooperate with a pressure surface of said hook-like element for displacing said hook-like element into its obstructing position.

3,268,853
QUICK CONNECT ELECTRICAL GROUNDING ROD CLAMP
Alvin J. Noker, Bountiful, and Corydon S. Bagley, Salt Lake City, Utah, assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed May 20, 1964, Ser. No. 369,027
1 Claim. (Cl. 339—264)



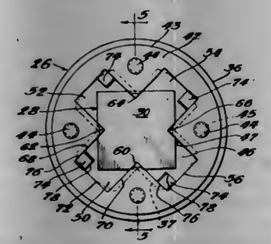
An electrical ground clamp including: a hook jaw element, said hook jaw element being defined by a U-shaped member and a threaded stem connected to one side of the U-shaped member, the other side of said U-shaped member having a cut-out portion in the jaw thereof defining sharp edges; a U-shaped bracket mounted on said threaded stem, said U-shaped bracket including stepped jaw means; an electrical terminal connector mounted on said threaded stem; a wing nut threaded onto said threaded stem; and said threaded stem including means to prevent removal of the wing nut, whereby when said wing nut is tightened to clamp said U-shaped bracket relative to said hook-jaw element, said electrical terminal connector will be clamped between said U-shaped bracket and said wing nut and said stepped jaw means and said sharp edges will be forced into a ground rod when therebetween to make a good grounding connection between the ground rod and said electrical terminal connector.

3,268,854
SUBMARINE COMMUNICATION SYSTEM
Masayoshi Sato, 1828 2-chome, Yahara-machi, Nerima-ku, Tokyo-to, Japan
Filed Feb. 7, 1964, Ser. No. 343,312
Claims priority, application Japan, Feb. 11, 1963, 38/5,650; Mar. 30, 1963 (utility model), 38/20,719; Sept. 30, 1963, 38/52,919
1 Claim. (Cl. 340—4)



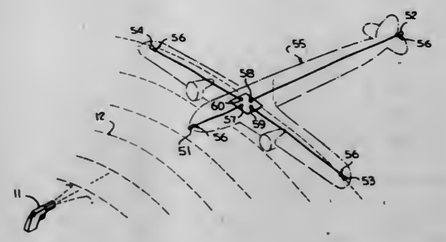
In a diver's apparatus having a belt, head covering portion having a face mask forming a part thereof, and an ankle band for one of the diver's ankles, the combination of an electronic receiving and transmitting system including amplifying circuitry contained within a case mounted on said belt, a battery power supply on said belt and connected to said amplifying circuitry, a first electrode for transmitting and receiving electronic currents to and from the water mounted on said ankle band and facing exteriorly thereof for contact with the water, said first electrode being connected to said amplifying circuitry, a second electrode for transmitting and receiving electronic currents to and from the water mounted on said head covering portion and facing exteriorly thereof for contact with the water, said second electrode being connected to said amplifying circuitry, an earphone mounted within said head covering portion adjacent the diver's ear and being connected to said circuitry, and a microphone connected to said circuitry, said face mask having a partition plate adjacent to the nose part of the mask, a spring clip depending from the lower surface of said partition plate, and said microphone being held in said spring clip.

3,268,855
ULTRASONIC MICROPHONE
Lee P. Hagey, Buchanan, Mich., assignor to Electro-Voice Incorporated, Buchanan, Mich., a corporation of Indiana
Filed Mar. 19, 1963, Ser. No. 266,435
9 Claims. (Cl. 340—15)



3. An ultrasonic microphone comprising a quadrangular piezoelectric plate having a pair of opposed square faces provided with electrodes thereon, a mounting structure for said plate including a first member of electrically insulating material having a flat portion and an opening located centrally of the flat portion, the piezoelectric plate being disposed within said opening and lying in the plane of the flat portion of said first member, said first member being provided with a flange wall extending from the perimeter of the flat portion of the member, said mounting structure having a second member of electrically conducting material mounted on one side of the flat portion of the first member and having four spaced tips extending therefrom, each tip terminating in engagement with the same electrode of the piezoelectric plate adjacent to the perimeter of said piezoelectric plate and centrally of one of the edges thereof, said mounting structure having a second member of electrically conducting material mounted on the other side of the flat portion of the insulating member and having four spaced tips extending therefrom, each tip engaging the same electrode of the piezoelectric plate on the side of said plate opposite the points of contact of the tips of the second member, whereby the piezoelectric plate is mounted in fixed position relative to the mounting structure along four axes normal to the electrodes thereof and disposed centrally of the four edges thereof, said second contact member having a plurality of protruding tabs extending therefrom, a disc disposed within the flange wall of the first member of the mounting structure in abutment with the tabs of the second member, said disc being of electrically conducting material and forming with the piezoelectric plate and mounting structure a cavity having a resonant frequency within the responsive range of frequencies of the microphone, a housing disposed about the mounting structure having an opening confronting the second member of the mounting structure and the piezoelectric plate, and electrical terminal means mounted on the housing having a first terminal electrically connected to the second member of the mounting structure and a second terminal electrically connected to the third member of the mounting structure.

3,268,856
GUN BLAST DETECTOR
James Wallen, Jr., Falls Church, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Oct. 23, 1963, Ser. No. 318,224
6 Claims. (Cl. 340—15)



3. Apparatus for indicating the occurrence of a gun blast in the presence of ambient acoustical noise, comprising means for converting ultrasonic energy into an electrical signal of corresponding frequency, means responsive to ultrasonic energy in the shock wave of said blast for supplying said energy to said converting means, indicating means, and means responsive to said electrical signal from said converting means for energizing said indicating means, said means for energizing including means responsive to electrical signal of predetermined amplitude for maintaining said indicating means energized

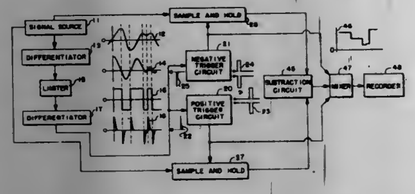
despite subsequent reduction in signal amplitude from said predetermined amplitude.

3,268,857

METHOD AND APPARATUS FOR DETECTING AND DISPLAYING THE DIFFERENCE BETWEEN SUCCESSIVE PEAK VALUES OF A SEISMIC SIGNAL

Donald J. Robinson, Tulsa, Okla., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware

Filed Aug. 17, 1962, Ser. No. 217,714
9 Claims. (Cl. 340—15.5)



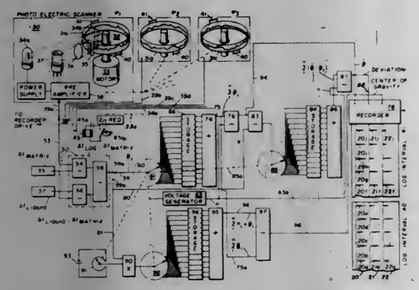
1. Apparatus for facilitating the detection of changes in amplitude in an electrical signal which comprises a signal source, means connected to said source for generating control pulses at points coinciding with peaks in amplitude in a signal from said source, means connected to said source and responsive to said pulses for generating a first rectangular waveform having amplitude values proportional to the amplitudes of successive positive peaks in amplitude in said signal, means for generating a second rectangular waveform having amplitude values proportional to the amplitudes of successive negative peaks in amplitude in said signal, and means for recording the difference between said first and second rectangular waveforms.

3,268,858

FORMATION POROSITY EXPLORATION

Jan A. Winter, Tulsa, Okla., assignor to Century Geophysical Corporation, Tulsa, Okla., a corporation of Delaware

Filed Feb. 4, 1963, Ser. No. 255,760
16 Claims. (Cl. 340—15.5)



1. The method of determining the time-depositional changes during formation of a subterranean earth unit with respect to which variations in porosity as a function of depth within said unit are known for at least two spaced vertical lines extending through said unit, which comprises:

(a) generating a first pair of functions representative of said variations in porosity along said lines,

(b) generating a second pair of functions representative of the numerical value of the deviation from an average of said porosity functions along said lines, and

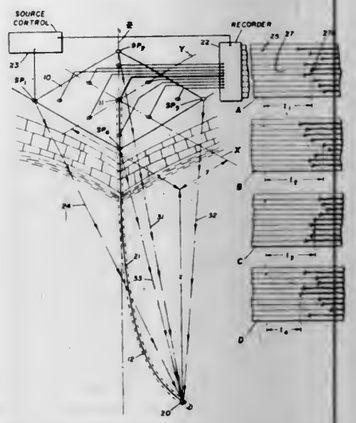
(c) registering each of said second pair of functions in correlation with the locations of said lines.

3,268,859

BOTTOMHOLE SURVEYING

Euclid V. Watts, Houston, Tex., assignor to Mobil Oil Corporation, a corporation of New York

Filed July 9, 1962, Ser. No. 208,420
1 Claim. (Cl. 340—15.5)



The method of determining the coordinates of the location of a subsurface point in a drill hole with respect to the surface opening of said drill hole which comprises:

successively generating a seismic impulse at each of at least four points substantially spaced one from the other in the region of the surface opening of said hole,

sensing the arrival of each said impulse at said subsurface point in said hole,

recording as functions of time relative to the instants of generation of each said impulse a signal representative of the time between the instant of generation of an impulse at each of said four points and the detecting of said impulse at said point in said drill hole, and

combining said signals to produce functions representative of the coordinates of said subsurface point in said borehole in accordance with the following equations:

$$t_1^2V_a^2=(x_1-x)^2+(y_1-y)^2+(z_1-z)^2$$
$$t_1^2V_a^2=(x_2-x)^2+(y_2-y)^2+(z_2-z)^2$$
$$t_3^2V_a^2=(x_3-x)^2+(y_3-y)^2+(z_3-z)^2$$
$$t_4^2V_a^2=(x_4-x)^2+(y_4-y)^2+(z_4-z)^2$$

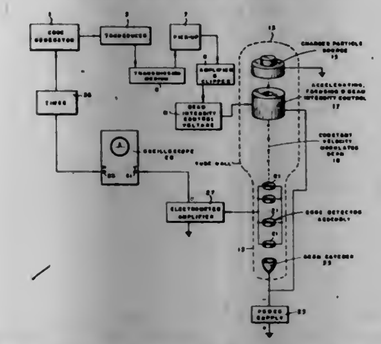
wherein t_1 represents the time between the generation of an impulse at a first of said four points and the detecting of said impulse at said subsurface point in said borehole; t_2 represents the time between the generation of an impulse at a second of said four points and the detecting of said impulse at said subsurface point in said borehole; t_3 represents the time between the generation of an impulse at a third of said four points and the detecting of said impulse at said subsurface point in said borehole; and t_4 represents the time between the generation of an impulse at a fourth of said four points and the detecting of said impulse at said subsurface point in said borehole; V_a represents the unknown velocity of acoustic impulses in said formations; where x_1, y_1, z_1; x_2, y_2, z_2; x_3, y_3, z_3; and x_4, y_4, z_4 can be positive or negative and respectively represent the known coordinates of said four points, and x, y and z represent the unknown coordinates of said point in said borehole.

3,268,860

CORRELATION APPARATUS

Carl R. Wischmeyer, Houston, Tex., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware

Filed Feb. 20, 1964, Ser. No. 346,146
5 Claims. (Cl. 340—15.5)



5. Apparatus for producing an electrical signal indicative of the time position of a shift register binary code signal of maximal length in an input data signal comprising the shift register binary code signal of maximal length in an extraneous signal having a longer time duration than said shift register binary code signal of maximal length, said input data signal being of finite time duration, comprising:

charged electrical particle gun means for directing a beam of charged electrical particles between two locations therein, and including beam intensity control means for controlling the intensity of the beam in accordance with control electrical signals coupled thereto;

a plurality of annular conductive rings positioned along the beam path and individually encircling the beam path;

the relative positions of and the spacings between said conductive rings being according to a binary code of maximal length;

means connected to said beam intensity control means for receiving said input data signal and rectifying and converting said data signal to square waveform to control said beam intensity control means; and

means connected to said rings for summing electrical signals induced in said rings for measuring elapsed time from the beginning of said data signal to maximum signal events in the summed signal.

3,268,861

METHOD FOR RECORDING SEISMIC SIGNALS

Emmet D. Riggs and Clifford D. Dransfield, Dallas, Tex., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

Original application Oct. 12, 1962, Ser. No. 230,066. Divided and this application Apr. 6, 1965, Ser. No. 445,943

3 Claims. (Cl. 340—15.5)

1. An automatic process for recording and processing in the field seismic signals obtained by weight dropping techniques, comprising,

(a) simultaneously positioning a transducer of a first group of transducers in recording relation to a first recording drum and triggering the release of a weight to strike a selected location producing a seismic signal,

(b) detecting the seismic signal produced by the weight drop and received at a selected seismometer station,

(c) converting said detected seismic signal into a corresponding electrical signal,

(d) recording said electrical signal with said transducer on said first recording drum as a magnetic trace,

(e) raising said transducer off said first recording drum,

(f) simultaneously positioning a different transducer of said first group of transducers in recording relation to said first recording drum and triggering the release of said weight to strike said same location,

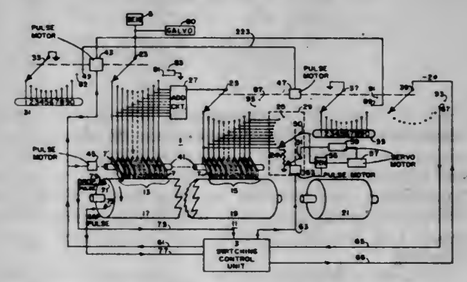
(g) detecting the seismic signal produced by the new weight drop and received at said same seismometer station,

(h) converting said detected seismic signal into a corresponding electrical signal,

(i) recording said electrical signal with said transducer on said first recording drum as a separate magnetic trace,

(j) raising said transducer off said first recording drum,

(k) performing the sequence of steps set forth in (f), (g), (h), (i), and (j) such that a magnetic trace, representing the seismic signal produced by each additional weight drop at said same location and received at said same seismometer station, is recorded by a different transducer of said first group of transducers on said first recording drum,



(l) positioning all transducers used for recording the magnetic traces on said first recording drum in recording relation to said first recording drum,

(m) positioning a transducer of a second group of transducers in recording relation to a second recording drum,

(n) collectively playing back all the magnetic traces recorded on said first drum with the same transducers with which they were originally recorded to produce corresponding electrical signals,

(o) adding said electrical signals to give an integrated signal,

(p) recording said integrated signal with said transducer of said second group of transducers on said second recording drum as a magnetic trace,

(q) raising all said first group of transducers off said first recording drum,

(r) raising said transducer of said second group of transducers off said second recording drum,

(s) repeating steps (a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m), (n), (o), (p), (q), and (r) for as many different weight drop locations as desired such that a separate integrated magnetic trace is recorded on said second drum in each instance,

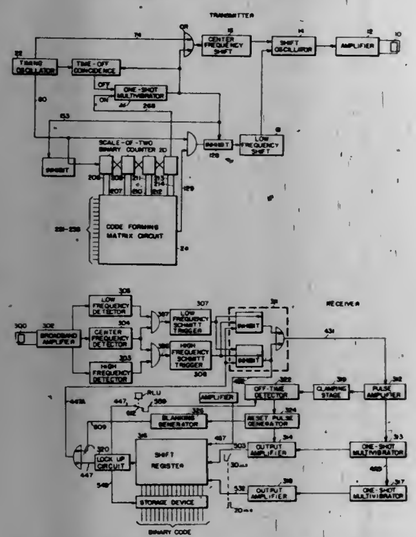
(t) sequentially playing back each magnetic trace on said second drum with the same transducer with which the trace was recorded, and

(u) recording each of the traces played back in step (t) as a separate visual trace on a third recording drum.

3,268,862
CODE COMMUNICATION SYSTEM

Walter G. Pettitt, Rochester, N.Y., assignor to General Signal Corporation, a corporation of New York

Filed Oct. 2, 1961, Ser. No. 142,372
15 Claims. (Cl. 340—22)



13. A system for communicating intelligence between transmitting and receiving stations one of which is on a vehicle and the other of which is at a wayside location, said transmitting and receiving stations having respective transmitting and receiving antenna means which pass through an operative coupling relationship as said vehicle passes said wayside location, said transmitting station including

(a) code generating means for repeatedly energizing said transmitting antenna means according to a distinctive code of discrete serially-occurring pulses of a predetermined number forming a complete message and having a distinctive end-of-message signal in the interval between successive of said messages,

(b) said code generating means energizing said transmitting antenna means according to said code at a sufficiently high rate to ensure that at least one complete message is transmitted from beginning to end throughout the time that said transmitting and receiving antenna means are in said operative coupling relationship even for the maximum expected speed of said vehicle past said wayside location, said receiving station including

(1) a storage register for storing the code pulses induced in said receiving antenna means,

(2) first means responsive to the storage in said register of a complete message comprising all of said predetermined number of pulses,

(3) second means responsive to said first means for removing the code then stored in said register upon the occurrence of said distinctive end-of-message signal unless concurrently a complete message is stored in said register,

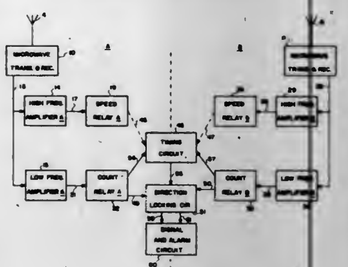
(4) means controlled by said first means for operatively disconnecting said register from said receiving antenna means when said register stores a complete message,

(5) and utilization means coupled to said register and controlled according to a complete message stored therein.

3,268,863
DIRECTIONAL RADAR DETECTOR CONTROL

John R. Odion, Wilton, and Charles L. Du Vivier, Darien, Conn., assignors to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed May 1, 1964, Ser. No. 364,186
15 Claims. (Cl. 340—39)



6. Traffic control apparatus for detecting and controlling direction of traffic flow in a detection zone in a traffic lane adapted for predetermined flow direction in either of two opposite directions, including a pair of beam detectors, one for each end of said detection zone, each of said beam detectors producing a high frequency and a low frequency Doppler output in response to speed of vehicle movement relative to said detectors, a low frequency input circuit for each direction operated by its respective said low frequency output, a high frequency input circuit for each direction operated by its respective said high frequency output, a warning circuit for warning of traffic flow in a direction opposite to said predetermined direction, a direction locking circuit for each direction actuated by its respective low frequency input circuit for actuating said warning circuit and maintaining it in actuated condition, each said locking circuit upon actuation disabling the said locking circuit for the other direction, and said high frequency input circuit releasing said locking circuits in response to receipt of a signal from said high frequency output.

3,268,864
APPARATUS FOR FEATURE RECOGNITION OF SYMBOLS

Moritada Kubo and Sadakazu Watanabe, Tokyo, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Oct. 14, 1963, Ser. No. 315,994
Claims priority, application Japan, Mar. 18, 1963, 38/12,673
2 Claims. (Cl. 340—146.3)

1. A system for recognition of symbols of communication, said symbols consisting of line elements, by detecting as first, second and third factors, the initiation and termination, concavity and convexity, and the diversion and conversion of said line elements, while detecting as fourth, fifth and sixth factors, relative magnitude of said first three factors, inclination of line elements and relative distribution of length, boldface and position of line elements, comparing said six factors with stored information and identifying the symbols therefrom, said system comprising in combination,

scanning means for sequentially scanning a field of view in which the symbols are located;

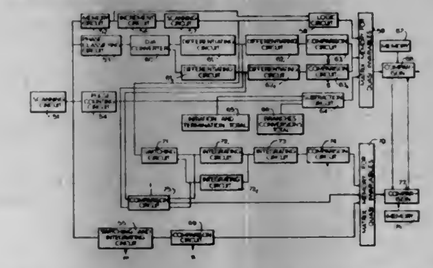
a first factor determination circuit including, increment determination means, a scanner connected to the increment determination means, logic means receiving inputs from a memory and scanner detecting initiation and termination, and, first totalizing means to obtain the total thereof;

a second factor determination circuit, including, differentiating means, and first comparison means connected to the differentiating means comparing the output thereof with preset values to determine the presence and absence of concavity and convexity and distinguishing between them;

a third factor determination circuit including pulse giving means connected to the scanning means, second totalizing means totalizing diversions and conversions, subtracting means connected to the pulse giving means and receiving inputs from said first and second totalizing means;

a first matrix memory connected to the logic means, first comparison means and subtracting means of said first, second and third factor determination circuits;

a fourth factor determination circuit including first switching and first integrating means connected to said scanning means, and second comparison means with a preset value therein connected to said first switching and first integrating means;



a fifth factor determination circuit including third comparison means with a preset value therein connected to the differentiating means of said second factor determination circuit;

a sixth factor determination circuit including second switching means connected to the scanner of the first factor determination means, fourth comparison means connected to the differentiating means of said second factor determination means and to the second switching means, acting each time a first, second and third factor occurs, a plurality of second integrating means connected to said fourth comparison means and said second switching means and fifth comparison means connected to the second integrating means;

a second matrix memory connected to said second, third and fifth comparison means;

coupled comparison means connected to the outputs of the first and second matrix memories, stored memories connected to each of said coupled comparison means to identify the outputs in each matrix memory with prestored information and an output from said coupled comparison means.

3,268,865
CHARACTER RECOGNITION SYSTEM EMPLOYING RECOGNITION CIRCUIT DEACTIVATION

George M. Berkin, Muiderberg, Netherlands, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 18, 1963, Ser. No. 331,563
10 Claims. (Cl. 340—146.3)

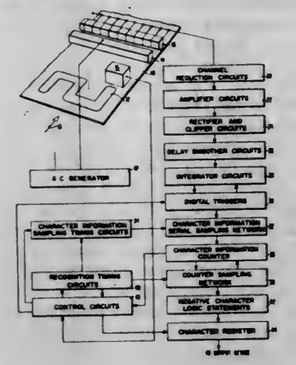
1. Character recognition apparatus comprising,

(a) a multichannel means including sensing means for scanning a character and storage means connected for producing signal data representative of black portions of scanned character increments,

(b) means connected to the storage means for counting black scanned character increment portions,

(c) timing means connected for advancing signal data from the storage means to operate the counting means at each of a plurality of predetermined timed intervals during the scan of each character,

(d) a plurality of character recognition circuits each individual to a character,



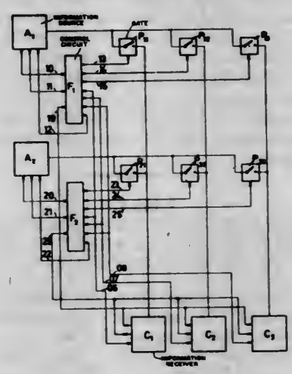
(e) means for activating said circuits, and

(f) a plurality of truth statement logic circuits coupled to the counting means and the recognition circuits for selectively deactivating predetermined ones of said circuits in successive ones of each of said timed intervals during the scan of a single character in accordance with the black portion character increments counted in each interval.

3,268,866
CIRCUIT ARRANGEMENT FOR CONTROLLING SWITCHING MATRICES

Antonie Wijbe van 't Slot and Willem Smit, Hilversum, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 22, 1961, Ser. No. 97,497
Claims priority, application Netherlands, Apr. 22, 1960, 250,800
8 Claims. (Cl. 340—147)



1. A signal transmission system comprising a plurality of sources of information signals, a plurality of information receivers, and means for selectively connecting each of said sources to each of said receivers, each of said sources of information signals comprising means providing a first output control signal responsive to the presence of information signals in the respective source, means providing a second output control signal respon-

sive to the completion of transmission of information signals from the respective source, an information signal output terminal, and means responsive to an input control signal for initiating the transfer of information signals in the respective source to the respective information signal output terminal, each of said information receivers comprising N output terminal means, where N is the number of said sources, control signal input means, and information signal input means, said information receivers comprising means for applying pulse trains to the respective output terminals, the pulses of the pulse trains of the different information receivers occurring at different instants, and means responsive to control signals applied to the respective control signal input means for stopping the pulse train of the respective information receiver, said means for selectively connecting said sources to said receivers comprising a switching matrix having a plurality of switching devices each having a matrix input terminal, a matrix output terminal, and a matrix control terminal responsive to signals applied thereto for providing a signal conducting path between the respective matrix input terminal and matrix output terminal, means connecting said matrix input terminals to separate information signal output terminals, means connecting said matrix output terminals to separate information signal input means, a control circuit for each of said sources, each of said control circuits comprising first, second and third control circuit input terminals, means applying said first and second output control signals to said first and second terminals respectively of the respective source, means connecting a separate output terminal of each of said information receivers to the third control circuit input of each of said control circuits, separate matrix control output terminal means connected to each of the matrix control terminals of the switching devices to which the respective source is connected, separate information receiver control output terminals connected to the control signal input terminal means of each information receiver, means for providing an input connected signal, and means for applying said input control signal to the respective source, each of said control circuits comprising means responsive to said first output control signal for rendering the respective control circuit sensitive to pulse trains received from said information receivers, means for applying a signal to the matrix control output terminal means corresponding to the information receiver from which the first pulse is received, means for applying a signal to the information receiver control output terminal means for stopping the pulse train output of the information receiver from which the first pulse is received, and means for applying said input control signal to the respective source, said control circuits comprising means responsive to said second output control signal for stopping said signal applied to the matrix control output terminal means.

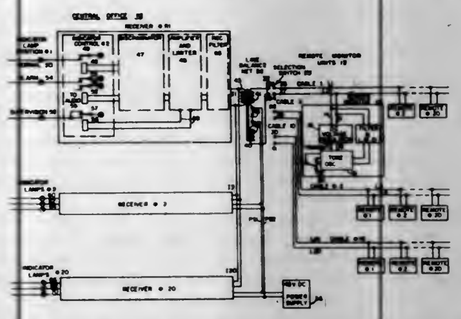
3,268,867

PRESSURIZED CABLE MONITORING SYSTEM HAVING DIRECT CURRENT INTERROGATION OF REMOTE MONITORING APPARATUS

Robert E. Pickett, Galion, Ohio, and Edward E. Bauman, Point Pleasant, N.J., assignors to North Electric Company, Galion, Ohio, a corporation of Ohio

Filed July 16, 1962, Ser. No. 210,005
11 Claims. (Cl. 340—152)

1. In a monitoring system including a central office having a direct-current power source common to the system, a plurality of cables, each of which cables has a separate group of remote monitor means connected thereto, each of said remote monitor means including a tone generator means operative to transmit a signal over its associated cable to indicate at least one predetermined condition at the point monitored thereby, selector means at said central station for selectively connecting said direct-current power source to each cable independent of the other cables to energize the tone generator means connected thereto, indicator means at said central office connected to provide indications of said predetermined condition at each of the different remote monitor units



for a selected cable as indicated by the received signals, and receiver means controlled by the signals received over the selected cable to energize said indicator means in the provision of a display of the information indicated by said received signals.

3,268,868

KNOB OPERATED PAGE SELECTION APPARATUS FOR AUTOMATIC PHONOGRAPH CONTROL BOX

Donald C. Rockola, Chicago, Ill., assignor to Rock-Ola Manufacturing Corporation, Chicago, Ill., a corporation of Delaware

Filed Nov. 13, 1962, Ser. No. 236,821
12 Claims. (Cl. 340—162)



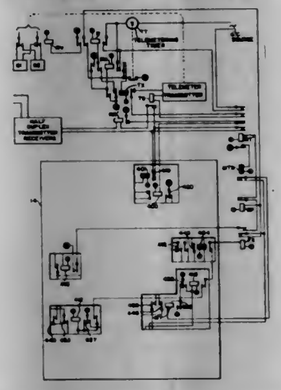
1. A control device of the character disclosed, comprising in combination an enclosure, electrical control means therein including a plurality of switches, a plurality of pages mounted in the enclosure for swinging movement to each of opposite limit positions, the pages being operable for actuating corresponding ones of said switches in movement to at least one of their limit positions, the pages having actuating fingers extending into a common zone, an actuator movable in said zone in each of opposite directions corresponding to respective directions of swinging movement of the pages, and operable for engaging the actuating fingers and swinging the pages, the actuator having a leading edge effective in each direction of movement of the actuator, and the actuator having a portion relative to each leading edge for positively engaging those pages that have been moved by the corresponding leading edge and operative for retaining those pages against movement in the opposite direction until so moved by the opposite leading edge, and means for moving said actuator, including a manually manipulable knob on the exterior of the enclosure adapted for grasping by the hand.

3,268,869

SUPERVISORY CONTROL AND TELEMETERING SYSTEM

William E. Furniss, Penn Hills, and Weldon L. Metz, Churchill, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 21, 1963, Ser. No. 252,796
5 Claims. (Cl. 340—163)



1. The combination with a supervisory control system having sending and receiving equipment at a control station and a remote station connected by a carrier channel capable of transmitting signals in only one direction at a time, of telemetering means at the control station and the remote station, relay means at each of said stations responsive to a signal originating at the control station and connected in circuit relation with the supervisory control equipment and telemetering means at each of the respective stations for transferring the channel from the supervisory control equipment to the telemetering means for operation of the telemetering means, timing means connected in circuit relation with the telemetering means only at the remote station for permitting operation of the telemetering means for a predetermined time interval, additional relay means connected in circuit relation with the supervisory control equipment and telemetering means at the remote station and cooperating with the timing means to return the channel to the supervisory control equipment at the expiration of said time interval, and relay means connected in circuit relation with the telemetering means at the control station responsive to the loss of telemetering signals from the remote station at the end of the time interval for resetting the telemetering equipment at the control station.

3,268,870

SYSTEM AND APPARATUS FOR AUTOMATIC DATA COLLECTION

Oliver H. Chalker, Jr., and George J. Yagusic, Litchfield, and William E. O'Connor, Northfield, Conn., assignors, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed June 27, 1962, Ser. No. 205,659
19 Claims. (Cl. 340—172.5)

1. A pulse filter and pulse error detector for filtering and detecting errors in pulses occuring at a data terminal of a data receiver comprising, in combination:

(A) filter means

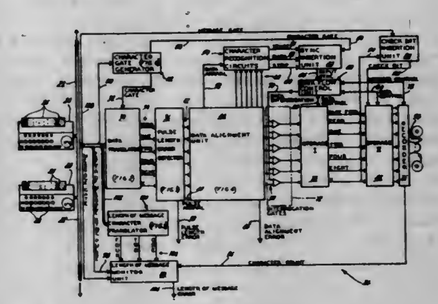
(1) connected to the data terminal, and

(2) said filter means producing at at least one output terminal thereof a substantially square pulse initiated after a pulse at said data terminal has attained a predetermined potential for a predetermined time

(a) said square pulse having a duration proportional to the duration of the pulse at said data terminal;

(B) an integrator circuit

(1) connected to an output terminal of said filter means, and



(2) said integrator circuit producing at an output terminal thereof a signal of increasing potential for the duration of each signal occurring on the output terminal of said filter means; and,

(C) detector means

(1) connected to the output terminal of said integrator circuit, and

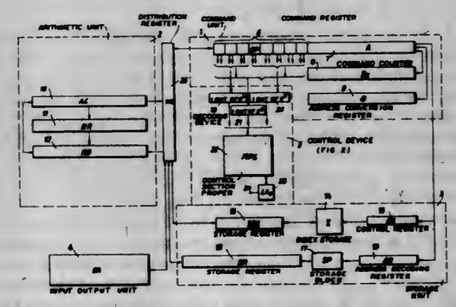
(2) said detector means producing at an output terminal thereof a long pulse error signal when the potential at the output terminal of said integrator circuit reaches a predetermined potential.

3,268,871

COMPUTER CONTROL DEVICE

Wolfgang Händler, Volklingen-Geislautern, Roland Maier, Frankfurt, Johannes Martin, Essen (Ruhr), Otto Müller, Konstanz, and Heinz Voigt and Karl Voltel, Backnang, Germany, assignors to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany

Filed Aug. 23, 1962, Ser. No. 218,873
Claims priority, application Germany, Aug. 25, 1961, T 20,653
23 Claims. (Cl. 340—172.5)



1. In a microprogram control device of a program controlled digital computer with bistable operation elements, which when activated initiate corresponding elemental op-

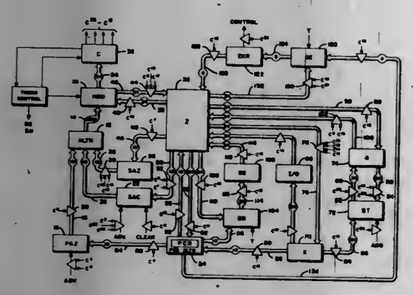
erations, and with a command register in a command unit of the computer, in which an N-digit command to be carried out is stored, and, if desired, one or more information addresses are stored in the form of binary command signals, the command register being arranged so that generally one command controls, via a decoding device, the activation of a whole microprogram, wherein a microprogram comprises a number of selected operation elements activated in a number of sequential steps which immediately follow one another, the decoding device comprising several switching chains made up of bistable chain elements which in turn activate the selected operation elements, each switching chain having a first chain element activated by decoding a first group of n command signals, and having further chain elements each being activated when the preceding chain element is deactivated, the improvement that the decoding device includes 2^n switching chains each being connected to activate a group of 2^{N-n} microprograms, and 2^{N-n} bistable conditional elements arranged such that each conditional element is correlated with one microprogram of each of the groups so that one of 2^N microprograms is selected by selecting the first member of one of the 2^n switching chains in dependence upon a first partial group of n command signals and by selecting at least one of 2^{N-n} conditional elements which is activated in dependence upon the second partial group of $N-n$ command signals and remains activated during the performance of the command.

3,268,872

STORED PROGRAM DATA PROCESSING SYSTEM

Joseph A. Kimlinger, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 1, 1962, Ser. No. 227,480
12 Claims. (Cl. 340—172.5)



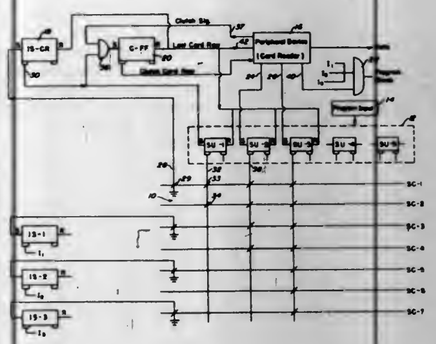
1. In a stored program digital computer: memory means for storing sets of instruction word signals, control word signals and operand signals; first and second register means; means for extracting from said memory means a predetermined set of control word signals for insertion into said first register; means responsive to the presence of said control words in said first register for developing gating signals; means responsive to certain of said gating signals for extracting from said memory means a selected set of said instruction word signals for insertion into said second register means; instruction word translating means connected to said first and second register means for decoding the instruction word signals; and means responsive to the output from said translating means for selecting a predetermined sequence of said control words from said memory means for performing a function specified by said selected set of said instruction word signals on said operand signals.

3,268,873

INFORMATION HANDLING APPARATUS INCLUDING INSTRUCTION SUPPRESSION MEANS

Bernard K. Betz, Hopkins, Minn., assignor to Honeywell Inc., a corporation of Delaware

Filed Nov. 7, 1962, Ser. No. 235,995
11 Claims. (Cl. 340—172.5)



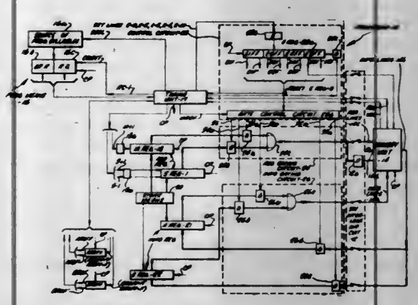
1. Control apparatus for a programmed data processor comprising a peripheral device requiring a finite time to become operative and having a control signal input, a peripheral device control order sensing and storage means, means including said storage means connected to said control signal input of said peripheral device and thereby activate said device to effect a predetermined operation thereof, a control order selecting means, and means including said peripheral device connected to said control order selecting means to suppress the further selection of predetermined orders by said control order selecting means while permitting the selection of other orders during the period said peripheral device is being readied for operation.

3,268,874

COMPUTER MULTI-REGISTER LINKAGE WITH A MEMORY UNIT

Robert V. Bock, Sierra Madre, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Dec. 3, 1962, Ser. No. 242,002
11 Claims. (Cl. 340—172.5)



1. In a digital computer system, comprising:
(a) addressable memory means;
(b) a plurality of registers for storing addresses;
(c) a plurality of registers for storing words for processing;
(d) means for providing program signals defining computing operations;

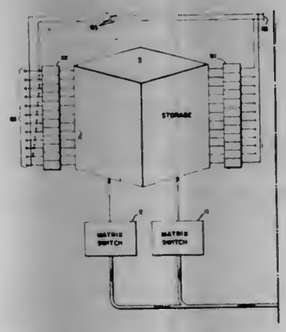
(e) sequence and control means responsive to the program signals for providing signals designating one of the word registers and any one of the address registers for use with the designated word register for communicating with the memory means in accordance with the defined computing operations;
(f) means for coupling the content of any one of the address registers designated by the sequence and control means to the memory means for addressing same; and
(g) means for coupling words between the memory means and the word register designated by the sequence and control means for causing the words to be read and written in the memory means.

3,268,875

TRANSLATION OPERATION

Walter S. Schaffer, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 20, 1963, Ser. No. 332,039
2 Claims. (Cl. 340—172.5)



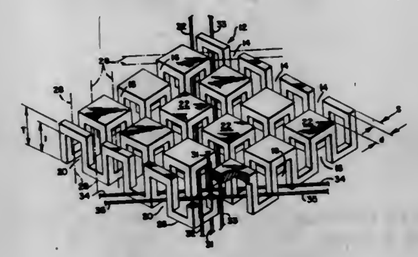
1. In an apparatus for translating a data character,
(a) a data storage device containing a plurality of addressable locations wherein each location contains means for storing a data character as a combination of bit manifestations and being responsive to the selection of said address for transferring therefrom any data character therein,
(b) an address register for manifesting address data of the addressable locations within said storage device,
(c) a plurality of digit positions within said address register wherein each digit position contains means for storing address data in a first coded notation,
(d) means for connecting said address register to said storage device to select an address location within said storage device,
(e) means for transferring a data character manifested in a second coded notation to said address register to set said address register wherein said address register will contain data manifested in a second coded notation stored as some arbitrary character as manifested in a first notation,
(f) further means for transferring to a high order position of said address register other than the positions which received a character to be translated a further control data character indicative in said first coded notation of the second coded notation,
(g) wherein a data character, explicitly related to said data character (e) to be translated, in a third coded notation stored at said address indicated by said arbitrary character (e) will be transferred from said storage device as a translation of said character in a second notation.

3,268,876

MULTI-APERTURED MAGNETIC MEMORY SYSTEM AND DEVICE

Bevitt J. Norris and Joseph W. Crownover, La Jolla, Calif., assignors, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Oct. 15, 1962, Ser. No. 230,606
19 Claims. (Cl. 340—174)



1. A multi-apertured magnetic structure in which the magnetic material surrounding each aperture is capable of being selectively magnetized to either of two different senses of remanent magnetization to represent digital information comprising:
a slab of magnetic material which has a substantially constant thickness T, exhibits a substantially rectangular magnetic hysteresis characteristic, and has substantially parallel first and second planar surfaces defining the thickness dimension T;
said slab having first and second sets of grooves in said first surface of said slab;
said slab having third and fourth sets of grooves in said second surface of said slab;
each of the grooves of said first and third sets being substantially parallel in a first direction and alternately positioned on their respective surfaces;
each of the grooves of said second and fourth sets being substantially parallel in a second direction different from said first direction and alternately positioned on their respective surfaces;
each of said grooves having a depth substantially equal to or greater than half the thickness T of said slab as measured perpendicularly to said parallel surfaces, thereby to form apertures in said slab at the intersections of those grooves in opposite surfaces of said slab;
said apertures being characterized in that the magnetic material forming each aperture is substantially magnetically isolated from the magnetic material forming every other aperture.

3,268,877

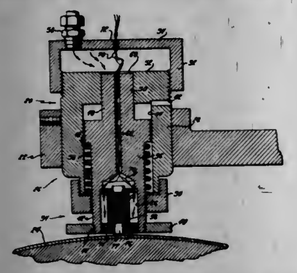
FLOATING MAGNETIC TRANSDUCING HEAD

Glenn E. Hagen, Manhattan Beach, Calif., assignor, by direct and mesne assignments, to Alwac International Incorporated, a corporation of Panama

Filed May 26, 1954, Ser. No. 432,534
27 Claims. (Cl. 340—174.1)

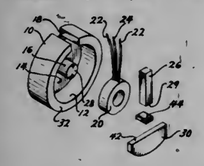
1. In the combination of a transducer unit with an intelligence storage unit having a moving surface wherein the efficiency of intelligence transfer is dependent upon the spacing therebetween, means for providing a constant spacing between said units comprising; a support, one of said units being reciprocably mounted on said support, a first means responsive to fluid pressure connected to said one unit for urging said units together when fluid pressure is applied, a second means responsive to fluid

pressure carried by said transducer unit for urging said units apart when fluid pressure is applied, and means



operative to separate said units when fluid pressure is not applied.

3,268,878
ELECTROMAGNETIC TRANSDUCER HEADS
Frank J. Lohan, Detroit, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich.
Filed Oct. 10, 1962, Ser. No. 229,687
25 Claims. (Cl. 340—174.1)



1. An electromagnetic transducer comprising: a first magnetic cup-shaped core section provided with an integral annular flange portion disposed substantially coaxially around an integral post portion; a magnetizing coil disposed around said post portion in the space between said post portion and said annular flange portion; a second magnetic core section extending radially from said post portion, a side surface proximate one end of said second magnetic core section being in intimate contact with the end face of said post portion and another end of said second magnetic core section forming a first pole piece; a third core section in intimate contact with the face of the annular flange portion of said first magnetic core section, said third core section presenting a face forming a second pole piece opposite said first pole piece; a sliver of flux deflecting material disposed between said first and second pole pieces; and a potting and bonding material maintaining said core sections and coil together and filling all the voids and cavities therebetween, said pole pieces being substantially flush with the surface of said plotting and bonding material.

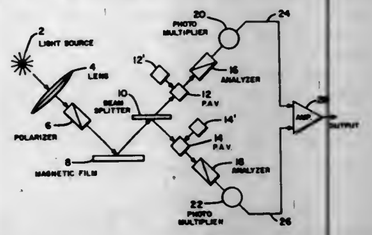
3,268,879
MAGNETO-OPTIC READOUT SYSTEM
Stanley J. Lins, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 1, 1965, Ser. No. 505,933
10 Claims. (Cl. 340—174.1)

1. A Kerr magneto-optic system for quantitatively determining the magnetic state of a magnetic device capable of assuming first and second stable magnetic states and which has intermediate magnetic states which have both first and second magnetic domains, said system comprising:

(a) means for reflecting polarized light from a magnetic device, said reflected light being rotated in clockwise and counterclockwise directions because of the Kerr magneto-optic effect of said first and second magnetic domains;

(b) a first light utilization channel for receiving said reflected light from said first magnetic domains and producing a first signal proportional to the area of the first magnetic domains present in said device;

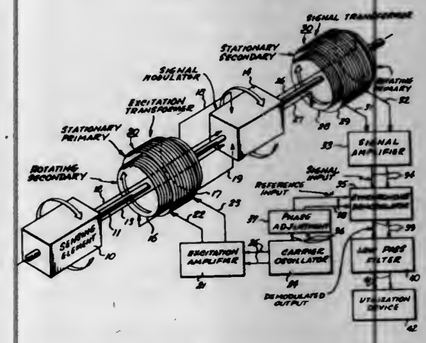
(c) a second light utilization channel for receiving said reflected light from said second magnetic domains



and producing a second signal proportional to the area of the second magnetic domains present in said device; and,

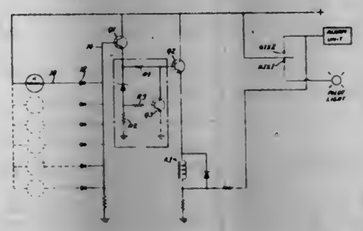
(d) means coupled to said first and second channels for producing a signal representative of the difference between said first and second signals to indicate quantitatively the magnetic state of said device.

3,268,880
TELEMETRY SYSTEM
Glen E. Miller, Redondo Beach, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Mar. 23, 1964, Ser. No. 354,042
12 Claims. (Cl. 340—207)



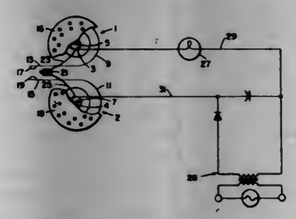
1. A system for obtaining information from a rotating member comprising in combination: sensing means adapted to provide information signals; an excitation transformer including a primary winding and a secondary winding; a signal transformer including a primary winding and a secondary winding; signal translating means coupled with said sensing means, said secondary winding of said excitation transformer, and said primary winding of said signal transformer; support means supporting said sensing means, said signal translating means, said secondary winding of said excitation transformer, and said primary winding of said signal transformer for simultaneous rotation; carrier signal excitation means coupled with said primary winding of said excitation transformer; and signal output means connected to said secondary winding of said signal transformer adapted to provide output signals representative of said information signals, said output means including signal demodulator means connected to and controlled by said excitation means and also connected to said secondary winding of said signal transformer.

3,268,881
DETECTION DEVICE
Alfred W. Vasel, Abington, Mass.
Filed Aug. 1, 1963, Ser. No. 299,327
2 Claims. (Cl. 340—213)



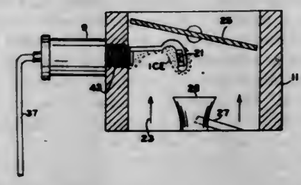
1. A detection system, comprising a photo-responsive detection device, an alarm actuating relay, first transistor responsive to an increase in base voltage to a predetermined value to energize said relay, a second transistor responsive to an increase in base voltage resulting from a decrease in resistance of the photo-responsive detection device to effect said increase in base voltage of the first transistor, a third transistor responsive to an increase in base voltage to prevent an increase in base voltage of the first transistor to said predetermined value, and a Zener diode responsive to an excessive increase in voltage at the second transistor to increase the base voltage of the third transistor.

3,268,882
ELECTROMAGNETIC THERMAL SENSING SYSTEM
Gordon W. Hoel, Mendota Heights, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Apr. 27, 1964, Ser. No. 365,557
4 Claims. (Cl. 340—227)



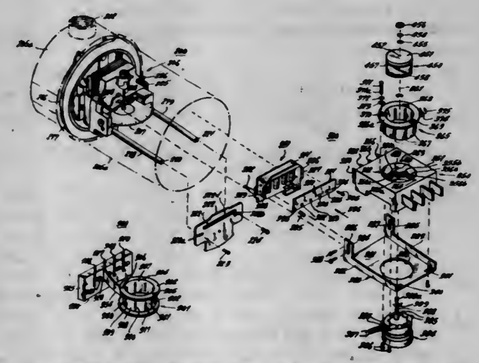
1. A thermally responsive signal system comprising: a a pair of opposed temperature responsive elements, each of said elements having one end thereof fixed and the other end free, the free end of each of said elements having a contact facing the opposite element, said contacts extending in a common plane toward each other, directly opposite and spaced a predetermined distance from each other so as to simultaneously move toward or away from each other in said plane in response to operation of said temperature responsive elements, electromagnetic coil means positioned intermediate said element near the free end portions thereof for directly magnetically attracting said free end portions so as to bring the contacts together when said free ends come within a predetermined distance of the electromagnet during operation thereof, power supply means connected to said temperature responsive elements, conductor means connecting said elements to said electromagnet, and a signal lamp connected in series between said elements and said power supply means.

3,268,883
ICE DETECTOR MEANS
Alfred R. Puccinelli, 36 Bay Drive E., Huntington, L.I., N.Y.
Filed Mar. 4, 1964, Ser. No. 349,373
8 Claims. (Cl. 340—234)



1. Carburetor ice detecting means comprising,
a unitary assembly adapted to be mounted from the outsid through a tapped hole in a wall of said carburetor.
said unitary assembly comprising,
a body member having external threads,
a radiation source mounted in said body member,
a radiation detector adapted to be mounted on the radiation axis of said source,
said assembly including extension member means fixedly connected to the body member,
said extension member extending generally parallel to the radiation axis between said source and said detector,
said detector being mounted on said extension member and along said radiation axis,
said detector being mounted in predetermined space relation to said radiation source with said detector in the airstream of said carburetor whereby the space relationship of said assembly may be preset and said assembly installed as a unit and whereby formation of ice on said detector reduces radiation to said detector and causes said detector to activate warning means.

3,268,884
SHAFT ENCODER ASSEMBLY
Conrad Yanis, Glen Rock, George A. Harris, Jr., Passaic, and Nathaniel L. Kahn, Glen Rock, N.J., and Melvin Schrier, Bronx, N.Y., assignors to Transitel International Corporation, Paramus, N.J., a corporation of New Jersey
Filed Oct. 2, 1962, Ser. No. 227,806
19 Claims. (Cl. 340—345)



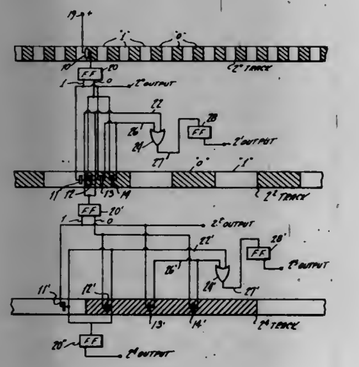
7. Means for transmitting data representative of a metered quantity to a remote location comprising encoding means for digitizing analog input data; transmitting means for generating signals transmitted to said remote location in accordance with said digitized data; and pro-

gramming means for sequentially impressing said digitized data upon the input of said transmitting means; said programming means comprising a movable endless contact surface; brush means making wiping contact with said programming means for electrically connecting said transmitting means and said encoder means, said movable endless surface being a rotatable drum; said brush means comprising a plurality of multi-conductor tape members each comprising a plurality of spaced parallel conductors imbedded in a substantially flat tape insulating material, said tape members being positioned around the periphery of said drum; the surface of said drum having a conductive configuration for sequentially engaging the conductors of only one of said tape members at any given instant, said programming means housing having a plurality of elongated slots each being adapted to receive one of said tape members; said housing having an annular opening for receiving said program drum; annular adjusting means positioned in said opening adjacent said drum for adjusting the contact pressure between the conductors of said tape members and the surface of the drum.

3,268,885
ANALOG-TO-DIGITAL CONVERTER

Daniel J. Coyle and Earl D. Grim, Jr., Cherry Hill, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Mar. 18, 1963, Ser. No. 265,697
3 Claims. (Cl. 340—347)



3. An analog-to-digital converter, comprising

a 2^0 track having equal and alternating clear and opaque segments,

a 2^2 track having equal and alternating clear and opaque segments, each of said 2^2 segments being angularly coextensive with four contiguous segments of said 2^0 track,

a 2^0 photoresistor sensor associated with said 2^0 track and located on a radial reference line,

first, second, third and fourth 2^2 photoresistor sensors associated with said 2^2 track, each of said four photoresistor sensors being located with reference to said radial reference line or a radial reference line displaced an even multiple of 2^2 track segments therefrom, said first 2^2 sensor being located one-eighth of a 2^2 track segment width on one side of a radial reference line, said second, third and fourth 2^2 sensors being located respectively at one-eighth, three-eighths and five-eights of a 2^2 track segment width on the other sides of radial reference lines,

light source means positioned to direct light through said tracks to said sensors,

means to electrically energize said 2^0 sensor,

a flip-flop responsive to said 2^0 sensor and having a 2^0 output also connected to electrically energize said first and third 2^2 sensors and having a complement output connected to electrically energize said second and fourth 2^2 sensors,

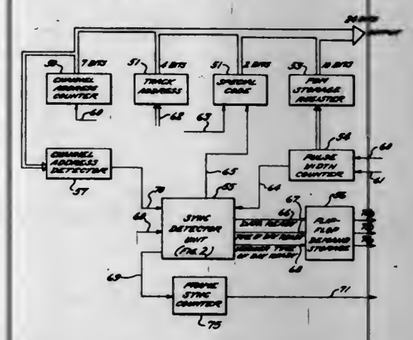
an exclusive "or" gate having an input responsive to said first and second sensors, having another input responsive to said third and fourth sensors and having a 2^1 output, and

means responsive to either one of said first and second sensors to provide a 2^2 output.

3,268,886
PULSE DURATION MODULATION TO DIGITAL CONVERTER

Fred B. Cox, Jr., Fullerton, Calif., assignor to the United States of America as represented by the Secretary of the Air Force

Filed May 10, 1963, Ser. No. 279,644
4 Claims. (Cl. 340-



4. An apparatus for the concurrent processing of pulse duration modulated signals from a plurality of sources, converting the signals into digital form, and merging said digital data into a standard output format, said apparatus comprising means for deriving a leading edge pulse and a trailing edge pulse from each data pulse, a pulse width counter set to an initial zero condition by said leading edge pulse, storage means for the storage of the digital information transferred from said pulse width counter upon application of said trailing edge pulse, means for the identification of the address of each signal channel and counting said address responsive to said leading edge pulse, means responsive to said identification means to prevent loss of input data and maintain synchronization with the input data, and means for merging said digital data with said channel address into a standard output digital format.

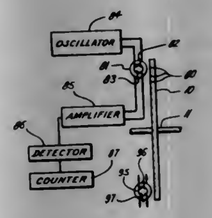
3,268,887
POSITION SENSING APPARATUS

Warren Walter Sullivan, Los Angeles, Calif., assignor to Electro-Mechanical Research, Inc., Sarasota, Fla., a corporation of Connecticut

Original application Nov. 12, 1959, Ser. No. 852,542, now Patent No. 3,113,300, dated Dec. 3, 1963. Divided and this application Aug. 22, 1963, Ser. No. 303,888
2 Claims. (Cl. 340—347)

1. In a position sensing apparatus, a first member having a plurality of substantially equally spaced magnetic flux emanating areas, each of said areas defining a concentration of flux of a predetermined polarity, at least one core member mounted opposite said first member, said core member comprising a closed loop magnetic circuit and being composed at least in part of magnetic material having at least two remanent states, at least a portion of said core member being susceptible of becoming

substantially saturated by each of said flux emanating areas dependent upon the relative positions of said core member and said flux emanating areas; said first member and said core member being susceptible of relative displacements; flux inducing means coupled with said core

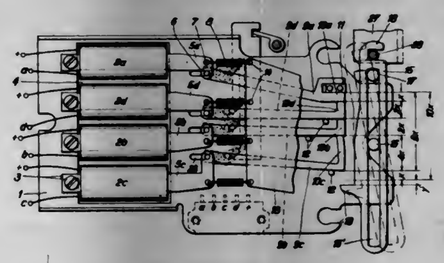


member for switching the magnetic material in said core member between said remanent states dependent upon the relative positions of said core member and said first member; and output means responsive to the flux in said core member for providing signals representative of said predetermined positions.

3,268,888
ELECTROMECHANICAL APPARATUS FOR CONVERTING CODED INTO DECODED DIGITAL VALUES

Horst Priebs, Bielefeld, Germany, assignor to Anker-Werke Aktiengesellschaft, Bielefeld, Germany, a corporation of Germany

Filed Jan. 28, 1964, Ser. No. 341,168
Claims priority, application Germany, Mar. 22, 1963, A 42,692
14 Claims. (Cl. 340—347)

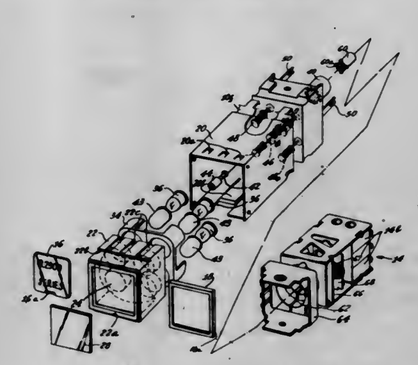


1. Electromechanical apparatus for converting coded digital values to decoded values, comprising for each individual digit position of the decoded value an assembly of as many control members as the coded value has code bits jointly indicative of the decoded digit value, said control members having respective control portions which, when all of said members are in a given position, are serially adjacent to each other and jointly define a given maximal active length of said assembly, said control members being individually displaceable from said position so that the active assembly length defined by said control portions is dependent upon which of said members are in said given position at a time; individually actuable electromagnet means connected to said respective control members for positionally controlling them selectively; and a read-out structure for each individual decoded digit position, said structure being displaceable in proportion to the decoded digit value and engageable with said control member assembly for limiting the displacement of said read-out structure in dependence upon said active length.

3,268,889
INDICATOR UNIT AND SWITCH

Herbert H. Ast, Pacific Palisades, Calif., assignor to Radar Relay, Inc., Santa Monica, Calif., a corporation of California

Filed Apr. 20, 1964, Ser. No. 361,054
8 Claims. (Cl. 340—378)



1. An indicator/switching assembly including: a housing having a shoulder formed on the external surface thereof; a bracket mounted on said housing and extending across the rear end thereof, said bracket having a plurality of lamp-receiving apertures therein; a casing for receiving said housing in sliding telescopic relationship therewith and including inwardly extending lance means; means including a spring-loaded switch-actuator pin mounted in said casing in position to engage said housing and to bias said housing towards the forward end of said casing and said shoulder against said lance means, said switch-actuator pin being moved along said casing toward the rear end thereof by said housing when said housing is moved into said casing; and a plurality of spring-loaded resilient electrical contacts mounted in said casing in axial alignment with respective ones of the apertures in said bracket to make selective contact with electric lamps supported in said bracket and to be moved back along said casing by such lamps when said housing is moved into said casing.

3,268,890
SCANNING AND ELIMINATING MULTIPLE RESPONSES IN A GRATING LOBE ANTENNA ARRAY

Warren A. Birge, Winter Park, Fla., assignor to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland

Filed May 1, 1963, Ser. No. 277,165
23 Claims. (Cl. 343—5)

1. An antenna scanning arrangement for use with transmit and receive antenna arrays:

(a) said arrays each having antenna elements thereon;

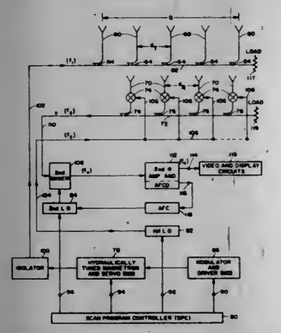
(b) said elements on each array being predeterminedly positioned so as to respectively create transmit and receive patterns each having a plurality of spaced grating lobes;

(c) one of said patterns having a lobe spacing which is incommensurate with the lobe spacing of the other pattern;

(d) means for selectively aligning a lobe of said one pattern with a lobe of said other pattern so as to produce an unambiguous product grating lobe pattern having a single reinforced grating lobe;

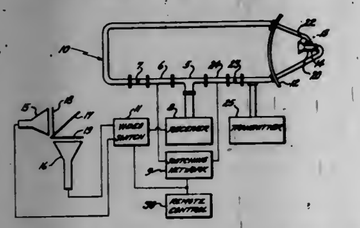
(e) means for steering said reinforced lobe over an angular sector which is substantially smaller than the total area to be scanned; and

(f) said aligning means including second steering means causing said product pattern to be reinforced



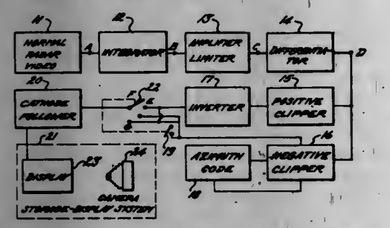
at any predetermined pointing angle within said total area so that any angular sector within said total area may be scanned.

3,268,891
STORM POLARIZATION ANALYSIS AND RADAR-CONTROLLED AIRCRAFT GUIDANCE
David Atlas, Waban, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed June 15, 1964, Ser. No. 375,403
15 Claims. (Cl. 343—5)



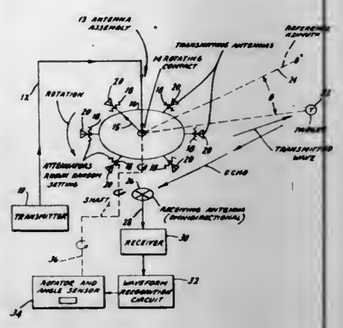
1. The method of guiding aircraft through storms which method includes the steps of radiating polarized energy into the atmosphere, receiving alternately samples of return echoes that are oppositely polarized, processing said samples of oppositely polarized return echoes separately, storing one of said samples of oppositely polarized return echoes, subtracting the alternate samples of polarized return echoes from said stored samples and displaying the difference of said subtraction.

3,268,892
WEATHER RADAR STORM COURSE DISPLAY
David Atlas, 828 Chestnut St., Newton, Mass. 02168
Filed July 14, 1964, Ser. No. 382,676
10 Claims. (Cl. 343—5)



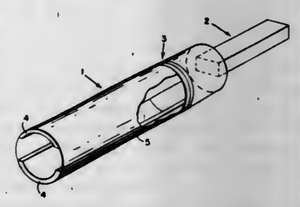
1. The system of mapping the boundary of a radar storm echo comprising means of obtaining signals corresponding to its near edge, means of obtaining signals corresponding to its distant edge, and means of displaying alternatively the near-edge signals, the far-edge signals, or both.

3,268,893
ANGLE MEASURING RADAR UTILIZING BROAD BEAM SIGNAL OF KNOWN FORM AND WAVE-FORM RECOGNITION CIRCUITRY
Charles A. Hauer, Plymouth Meeting, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Oct. 8, 1963, Ser. No. 315,122
11 Claims. (Cl. 343—16)



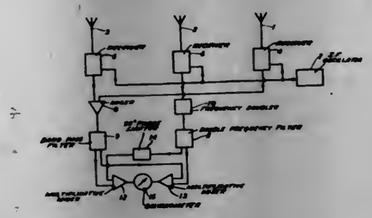
2. A radar system comprising:
(a) a source of a radar frequency signal,
(b) antenna means arranged to broadly radiate said signal in at least a given volume such that at any instant the spatial-intensity pattern of said signal measured along a circular arc all points on which are equidistant from said antenna will have at least a plurality of peaks and one valley,
(c) means for causing said radiated signal pattern to sweep through a given angle about said antenna as a center, and
(d) means for providing an indication only in response to each object-reflected echo of said signal whose time-intensity variations correspond to said spatial-intensity pattern of said radiated signal along said arc.

3,268,894
POLARIMETER
Edwin S. Lewis, Cherry Hill, N.J., Donald C. Venters, Overland, Mo., and Robert M. Smith, Moorestown, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Mar. 9, 1964, Ser. No. 350,627
5 Claims. (Cl. 343—100)



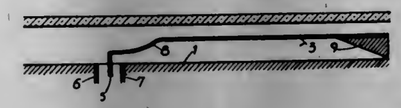
1. A polarimeter comprising in combination a rotating joint having a rotating end and a stationary end, a rotating wave guide connected to the rotating end of said joint, means to rotate said wave guide, a polarized pickup connected to said stationary end of said joint, and wherein said wave guide is in the form of a cylinder cut axially by parallel planes whereby a polarized signal entering said wave guide will be divided into two components and rotated in synchronization with the wave guide.

3,268,895
RADIO RANGE FINDERS
Christopher Dering Colchester, Essex, England, assignor to The Marconi Company Limited, London, England, a British company
Filed July 12, 1956, Ser. No. 597,375
Claims priority, application Great Britain, July 13, 1955, 20,285/55
5 Claims. (Cl. 343—112)



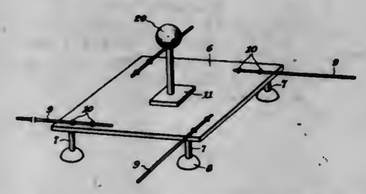
1. A radio range finder comprising an inner aerial and two outer aerials which are spaced apart; a mixer connected to combine signals derived from the two outer aerials to produce a signal of twice the frequency of that derived from said outer aerials; a frequency doubler connected and arranged to double the frequency of a similar frequency signal derived from the inner aerial; a multiplicative mixer or co-relation detector fed in phase with the doubled frequencies from said first mentioned mixer and from said frequency doubler; a further multiplicative mixer or co-relation detector fed with the doubled frequencies from said first mentioned mixer and from said frequency doubler in phase quadrature; and range indicating means responsive differentially to the outputs from the two multiplicative mixers or detectors.

3,268,896
FLUSH MOUNTED DISTRIBUTED-EXCITATION ANTENNA
Erich Spitz, Paris, France, assignor to C.S.F.-Compagnie generale de Telegraphie Sans Fil, a corporation of France
Filed Dec. 29, 1961, Ser. No. 163,178
Claims priority, application France, Jan. 23, 1961, 850,436
7 Claims. (Cl. 343—708)



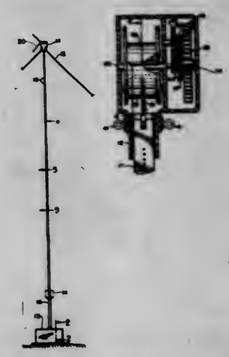
1. A distributed-excitation antenna for radiating ultra-high frequency energy, comprising in combination: at least one first excitation line and at least one second radiating line, extending in parallel relationship; said lines having substantially the same propagation constant: said excitation line comprising at least one conductive element and a second element; said radiating line comprising said one conductive element and a further radiating homogeneous dielectric structure, said second element being disposed between said one conductive element and said radiating structure.

3,268,897
CITIZEN'S BAND RADIO ANTENNA
Ralph R. Link, 2113 W. 23rd St., Little Rock, Ark.
Filed Sept. 16, 1964, Ser. No. 396,907
4 Claims. (Cl. 343—713)



1. A radio antenna for mounting on the top of a vehicle, and comprising, a rectangular plate, tubular insulators secured to the underside of the plate, suction cups mounted on the end of the tubular insulators for securing the plate to the top of a vehicle, a flat insulator mounted centrally on top of the plate, a copper cap having a stud projecting downwardly through a hole formed through the flat insulator and the plate, a plastic loading coil tube upstanding from the copper cap, a second copper cap secured to the other end of the loading coil tube, a loading coil wound around the loading coil tube and connected at its ends to the caps, a copper sphere mounted on the top of the second copper cap, a weather sleeve extending between and over both caps to protect the loading coil, an antenna cable removably connected to the stud, and four antenna radials mounted to the top of the plate to project normally from each side thereof.

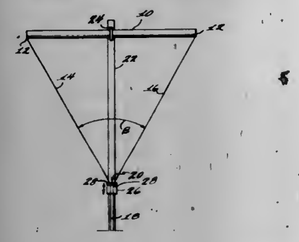
3,268,898
DEMOUNTABLE VARIABLE LENGTH ANTENNA
Charles G. Colony, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Dec. 12, 1962, Ser. No. 244,039
6 Claims. (Cl. 343—723)



4. An antenna with radiator of adjustable effective length comprising a plurality of elongated hollow dielectric mast sections adapted to nest one within another in a demounted position and to engage end-to-end in an operative position, means for supporting said mast sections in an upright position engaged end to end, and a radiator element of adjustable effective length supportable in an upright position by said end-to-end engaged mast sections, said element comprising an elongated flexible conductive element, elongated flexible nonconductive support means secured to said conductive element for controllably positioning said conductive element longitudinally of said end-to-end engaged mast sections means including an idler pulley for drawing in and for extending said sup-

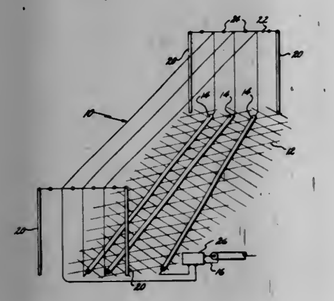
port means and means including a spool on which the idler pulley is mounted for storing the unextended portions of said support means and said conductive element.

3,268,899
CYLINDRICAL TUBE ANTENNA WITH MATCHING TRANSMISSION LINE
James D. Walden, 714 Woodrow, Apt. 15, Houston, Tex.
Filed Apr. 23, 1964, Ser. No. 361,948
2 Claims. (Cl. 343—741)



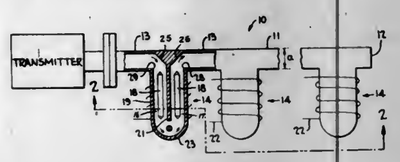
1. An antenna comprising a cylindrical metallic tube having two outer ends and a length equal to approximately one-half of the wave length of the near middle frequency of a desired band of frequencies and a diameter equal to approximately one inch, a two-wire transmission line having diverging end sections that are approximately equal in length to one-half of the wave length of the near middle frequency of the desired band of frequencies, each of the end sections of the transmission line being connected at one end respectively to one of the outer ends of the cylindrical metallic tube.

3,268,900
IMAGE LOOP ANTENNA
Langine R. Waszkiewicz, Rome, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Aug. 31, 1964, Ser. No. 393,460
2 Claims. (Cl. 343—742)



1. A multiple turn image loop antenna capable of use at low frequencies with long wavelengths comprising a series of turns of wire forming a rectangular shaped loop, the length of said loop being small with respect to a half-wavesength, a ground plane, outer coaxial conductors bonded to said ground plane, each of said outer coaxial conductors being disposed around and along a separate one of the longer legs of each rectangular turn, insulating means insulating said legs of each rectangular turn within said outer coaxial conductor from said conductor, and means for supporting said loop such that the shorter legs of said turns are perpendicularly disposed with respect to said ground plane.

3,268,901
ELECTRONICALLY SCANNED MICROWAVE ANTENNAS
Frank Reggia, Bethesda, Md., Howard S. Jones, Jr., Washington, D.C., and Helmut Sommer, Bethesda, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed Feb. 25, 1963, Ser. No. 260,927
8 Claims. (Cl. 343—768)

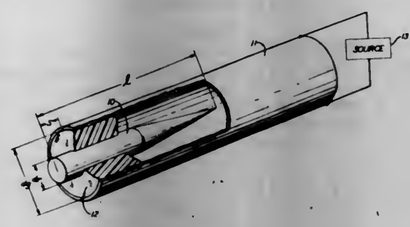


1. A compact, efficient beam scanning microwave antenna comprising, in combination,
(a) A hollow rectangular waveguide section for propagating transverse electric waves, said waveguide section having a pair of broad walls and a pair of narrow walls with the electric vector of an applied transverse electric wave extending substantially parallel to said narrow walls,
(b) A plurality of radiating elements in said rectangular waveguide and spaced along a longitudinal axis of the antenna so that radiated energy will form a directive beam,
(c) Ferrite phase shifters located between said radiating elements, said ferrite phase shifters including a longitudinally magnetized ferrite rod centrally disposed in an asymmetrical waveguide section, so that energy propagated in said phase shifter is substantially concentrated in said ferrite rod,
(d) Said ferrite phase shifters mounted on one of said broad walls with the longitudinal axis of said antenna and the longitudinal axis of said asymmetrical waveguide section being essentially perpendicular, said rectangular waveguide sections and said asymmetrical waveguide sections being conductively joined together forming E plane corners with means in said rectangular waveguide to direct the microwave energy into and out of said phase shifters whereby energy may be substantially fully coupled from one of said waveguide sections to the other waveguide section and thereby allow a large phase shift of the propagated energy between radiating elements in a short distance along the longitudinal axis of the antenna,
(e) And means to vary the longitudinal magnetization applied to said ferrite rods whereby the relative phase between radiating elements may be varied causing the radiated beam to scan.

3,268,902
DUAL FREQUENCY MICROWAVE APERTURE-TYPE ANTENNA PROVIDING SIMILAR RADIATION PATTERN ON BOTH FREQUENCIES
Richard H. Turrin, Colts Neck, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 5, 1963, Ser. No. 328,401
7 Claims. (Cl. 343—772)

1. An aperture-type antenna comprising, in combination, a hollow conductively bounded waveguide of circular cross section having an input end and an output end, means for applying electromagnetic wave energy of at least two separate frequencies to said input end of said guide in the TE_{11} wave mode, means for radiating wave energy from said output end of said guide at both said frequencies with substantially the same radiation pattern,

said latter means comprising a dielectric rod coaxially aligned with said guide and extending from a point within said guide to beyond the output end of said guide, said rod having a dielectric constant and a diameter such that said guide, over the interval coextensive with said rod,



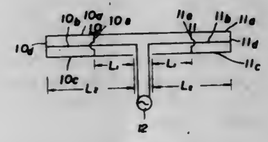
is supportive of wave energy at the lower of said frequencies exclusively in the TE_{11} mode of wave propagation and, simultaneously, is supportive of wave energy at the higher of said frequencies in both the TE_{11} and the TM_{11} modes of wave propagation.

3,268,903
EXTENDIBLE DIPOLE ANTENNA
John A. Kuecken and Charles Gordon Colony, Cincinnati, Ohio, assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Dec. 12, 1962, Ser. No. 244,184
3 Claims. (Cl. 343—791)



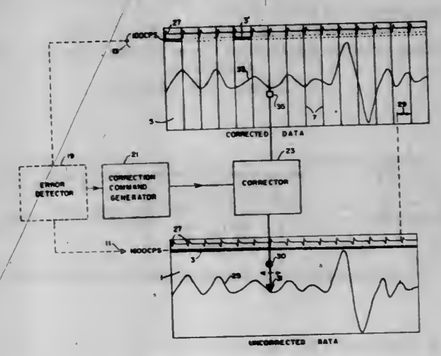
1. An extendible dipole antenna comprising an extendible section of coaxial radio frequency transmission line having an outer conductor and a center conductor, an elongated conductor coupled electrically to the center conductor of said transmission line, said elongated conductor being extendible with respect to said transmission line, means for supporting said transmission line and said elongated conductor to form a dipole antenna fed at the junction of said elongated conductor and said transmission line, means for simultaneously extending said transmission line and extending said elongated conductor with respect to said transmission line while maintaining their extended lengths in a predetermined ratio, a radio frequency input to said antenna electrically coupled to said transmission line, and a storage reel having an axis extending in a direction normal to said dipole antenna, said coaxial line being at least in part wound around said reel so that the turns on said central conductor provide a radio frequency choke isolating the radiation signal propagated on the outer conductor of said radio frequency transmission line from said radio frequency input.

3,268,904
MULTICONDUCTOR TYPE BROAD BAND ANTENNA
Taiichiro Noguchi and Kunihiko Iki, Tokyo, and Risaburo Sato, Sendai-shi, Japan, assignors to Yagi Antenna Co., Ltd., Kanda, Chiyodaku, Tokyo, Japan, a corporation of Japan
Filed Apr. 3, 1964, Ser. No. 357,036
1 Claim. (Cl. 343—794)



A multiconductor type broad band antenna comprising a pair of symmetrically disposed component sections, each including three parallel conductors, means to interconnect the outer ends of said conductors of each of said component sections, means to interconnect the inner ends of the first conductors of each of said component sections, means to feed an electric energy across inner ends of the second conductors of each of said component sections and means to short circuit the first and the third conductors of each of said component sections at a point intermediate the opposite ends thereof, the length of each of said component sections being selected to be equal to ¼ of the wave length at a frequency in a lower frequency band and the length of the conductor between said short circuiting means and said feeding means of each of said component sections being selected to be equal to ¼ of the wave length at a frequency in a higher frequency band.

3,268,905
COORDINATE ADJUSTMENT OF FUNCTIONS
John P. Woods and Edwin B. Neitzel, Dallas, and Tom Prickett, Jr., Richardson, Tex., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed June 30, 1960, Ser. No. 39,876
14 Claims. (Cl. 346—1)



1. A method of fitting a function, prerecorded on X and Y axes having amplitude represented on the Y axis and original indicia spaced along the X axis indicating

locations of significant features of said function to corresponding indicia preprinted on the X axis of a visual presentation medium wherein at least two of the visual presentation indicia occupy different relative spacial positions along the X axis than the corresponding original indicia, comprising:

(a) scanning the indicia on both the prerecorded and visual mediums,

(b) determining the difference in distance between the totals of said indicia on said prerecorded medium and said indicia on said visual medium,

(c) linearly adjusting the length of the function along the X axis to compensate for said difference, and

(d) automatically recording the adjusted function on said visual presentation medium whereby the location of said adjusted function's significant features are located on said visual medium at the same relative positions with respect to said visual presentation indicia as said prerecorded function's significant features are located with respect to the corresponding original indicia.

3,268,906

METHOD OF RECORDING ELECTRICAL SIGNALS

Fred Mast, Zurich, Switzerland, assignor to Gretag Aktiengesellschaft, Zurich, Switzerland

No Drawing. Filed Dec. 26, 1961, Ser. No. 162,252
Claims priority, application Switzerland, Dec. 27, 1960, 14,435/60
4 Claims. (Cl. 346—1)

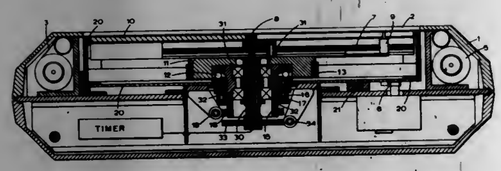
1. A method of recording continuously changing electrical signals on a moving tape which comprises the steps of providing an electron beam, modulating the intensity of the current of said electron beam in dependence upon a signal to be recorded, subjecting to the action of said beam a moving tape having at least a surface film which polymerizes when irradiated by said current modulated electron beam thereby to effect a degree of polymerization of said surface film which varies as a function of the intensity of said beam current and thereby producing in said surface film a latent image with intermediate tone values, and thereafter subjecting said polymerized surface film to the action of a swelling agent thus producing a film thickness inversely proportional to the changes in said signals.

3,268,907

POSITION PLOTTING APPARATUS FOR USE IN CONJUNCTION WITH RADAR

Joseph R. Parrish, Richmond, England, assignor, by mesne assignments, to Autoplot Limited, Richmond, England, a company of Great Britain

Filed Dec. 16, 1963, Ser. No. 330,682
Claims priority, application Great Britain, Dec. 21, 1962, 48,355/62
9 Claims. (Cl. 346—8)



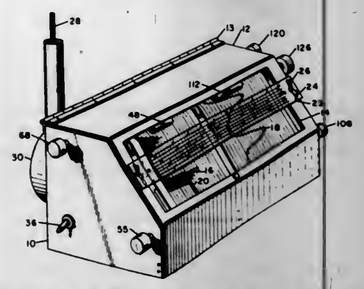
1. Apparatus for recording and displaying positional information derived from radar apparatus comprising a first marking means, two superposed plotting sheets with one of said sheets being fixed in relation to said first marking means, means for effecting relative movement between said sheets at a rate and in a direction proportional to the movement of the observing radar apparatus and a second means in addition to said first marking means for simultaneously marking on said superposed sheets the co-ordinates, relative to the observing radar apparatus of selected targets observed by the radar apparatus.

3,268,908

DRILLING LOG COMPARATOR

Thomas E. Allen, Tulsa, Okla., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware

Filed Mar. 11, 1964, Ser. No. 351,040
2 Claims. (Cl. 346—17)



1. An apparatus for comparing a current log being obtained on a well while drilling with a prior log obtained from an adjacent well drilled earlier, the combination which comprises:

first means for forming a current log of the well as it is being drilled;

second means for supporting said prior log laterally adjacent said current log being formed;

driving means to move said current log and said prior log longitudinally as a unit;

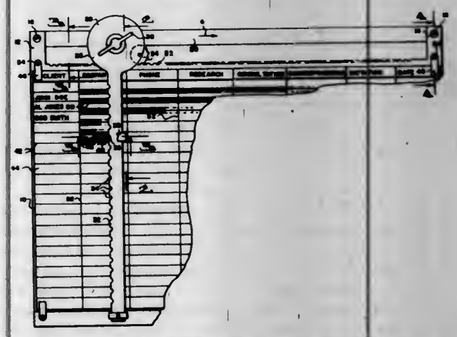
said driving means including means to move said prior log longitudinally independent to said current log; and transparent viewing means arranged to overlay said current log and said prior log, said transparent viewing means including at least one laterally disposed linear index whereby the longitudinal alignment of points along said current log and said prior log may be compared.

3,268,909

TIME RECORDING DEVICE

James H. Green, Jr., 8501 N. 49th St., Phoenix, Ariz.

Filed Feb. 3, 1964, Ser. No. 342,041
8 Claims. (Cl. 346—111)



1. In a time recording device the combination of: a substantially flat plate; a time clock mechanism carried by said plate; a rectilinear means carried by said plate; an elongated bar operable by said time clock mechanism along said rectilinear means and relative to said plate, said bar being longitudinally disposed at substantially right angles to said rectilinear means; a writing point means adjustably movable longitudinally along said bar and carried thereby.

3,268,910

TRANSDUCER INDEXING SYSTEM FOR PLAYING BACK VARIOUS GEOPHYSICAL RECORDINGS

John P. Woods, Dallas, Tom Prickett, Jr., Richardson, William M. Mullings, Garland, and James K. Lyons, Dallas, Tex., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

Original application Feb. 25, 1964, Ser. No. 348,322, now Patent No. 3,210,770, dated Oct. 5, 1965. Divided and this application Nov. 17, 1964, Ser. No. 417,531
4 Claims. (Cl. 346—139)

1. A multi-pen indexing device comprising

(a) a frame member with opposing ends,

(b) supporting means crossing said frame member from end to end,

(c) at least two pen housings movably mounted on said supporting means,

(d) at least one pen carried by each of said pen housings,

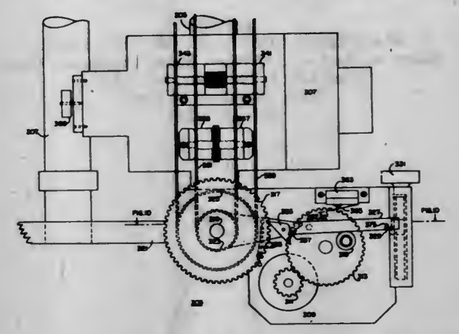
(e) corresponding sprocket arrangements mounted on spindles at each end of said frame member,

member on said sprocket arrangements for each of said pen housings,

(g) gripper means attached to each of said pen housings for engaging the continuous chain associated with said housing,

(h) a driven gear mounted on one of said spindles,

(f) one continuous chain mounted across said frame



(i) an actuating arm rotatably mounted on the spindle to which said driven gear is attached,

(j) a ratchet pawl mounted on said actuating arm for engaging said driven gear,

(k) a driving gear means including an off-center roller which acts to displace said actuating arm, and

(l) a motor for operating said driving gear means.

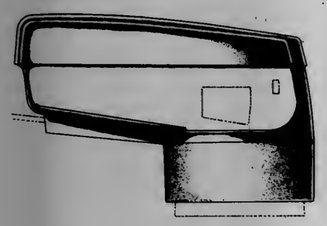
DESIGNS

AUGUST 23, 1966

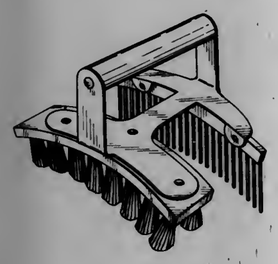
205,583
WAITRESS' COSTUME OR THE LIKE
Harry A. Backus, 370 Neeb Road, Cincinnati, Ohio
Filed July 1, 1965, Ser. No. 85,991
Term of patent 14 years
(Cl. D3—26)



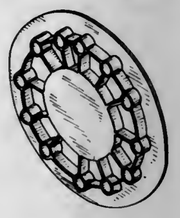
205,584
POWER DRIVEN SURFACE TREATING TOOL
Carroll M. Gantz, North Canton, Ohio, and Robert H. Hose, Mountainside, N.J., assignors to The Hoover Company, North Canton, Ohio, a corporation of Ohio
Filed Dec. 28, 1964, Ser. No. 83,177
Term of patent 14 years
(Cl. D9—2)



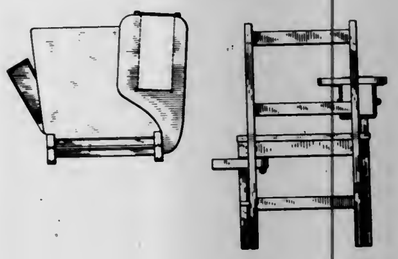
205,585
DEVICE FOR GROOMING DOGS AND CATS
Ada Evelina Danielson, 1315 E. Main, Riverton, Wyo.
Filed May 20, 1965, Ser. No. 85,487
Term of patent 14 years
(Cl. D12—2)



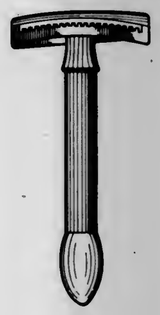
205,586
WHEEL PLATE
Louis Parr, 19491 Mendota, Detroit, and Jack W. Parr, 15639 Addison, Southfield, Mich.
Filed Jan. 27, 1965, Ser. No. 83,593
Term of patent 14 years
(Cl. D14—30)



205,587
CHAIR
Morris A. Bell, Rt. 1, Box 54, Paola, Kans.
Filed June 11, 1965, Ser. No. 85,691
Term of patent 14 years
(Cl. D15—1)



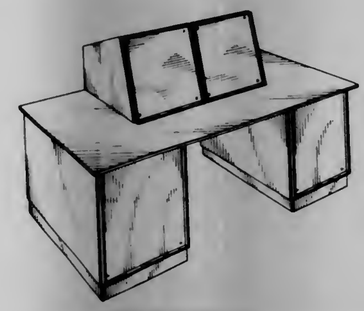
205,588
RAZOR OR THE LIKE
William R. Pomper, Highland Park, Ill. (140 S. Dearborn St., Chicago, Ill.)
Filed Sept. 13, 1965, Ser. No. 86,969
Term of patent 14 years
(Cl. D22—3)



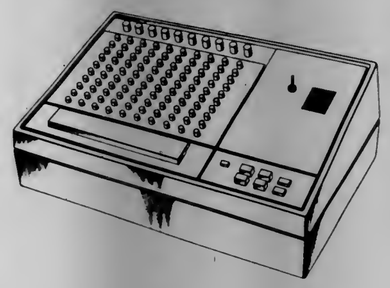
205,589
SCISSORS OR THE LIKE
Clayton A. Laughlin, Minneapolis, Minn., assignor to Arthur Salm Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 20, 1964, Ser. No. 81,370
Term of patent 14 years
Claims priority, application Germany Apr. 18, 1964
(Cl. D22—5)



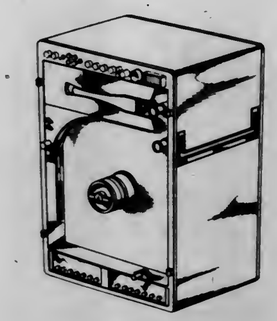
205,590
ELECTRONIC CABINET
James G. Balmer, Birmingham, Mich., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Original design application Dec. 6, 1962, Ser. No. 72,754. Divided and this application Nov. 26, 1963, Ser. No. 78,320
Term of patent 14 years
(Cl. D26—5)



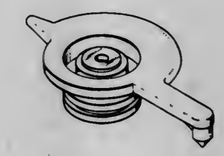
205,591
MANUAL DATA ENTRY KEYBOARD CONSOLE
Edward J. Sabella, Vestal, and Rae F. Tankard, Owego, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 16, 1964, Ser. No. 80,895
Term of patent 14 years
(Cl. D26—5)



205,592
MAGNETIC TAPE TRANSPORT
Albert W. Martin, Belmont, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed July 22, 1965, Ser. No. 86,251
Term of patent 14 years
(Cl. D26—5)



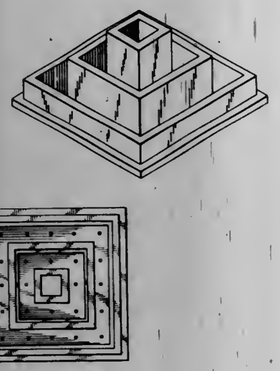
205,593
TIMER INDICATOR AND CONTROL DEVICE FOR GRENADE
Irwin R. Barr, 110 Martingale Road, Lutherville, Md., and Robert W. Schnepfe, Jr., 111 Cinder Road, Timonium, Md.
Filed Sept. 8, 1965, Ser. No. 86,911
Term of patent 14 years
(Cl. D30—1)



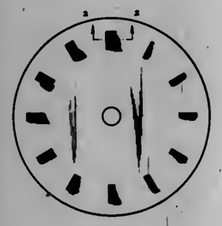
205,594
ANKLE WEIGHT FOR EXERCISING PURPOSES
Doris M. McCrory and James G. McCrory, both of 1123 W. Clark, Berne, Ind.
Filed Aug. 5, 1965, Ser. No. 86,466
Term of patent 14 years
(Cl. D34—5)



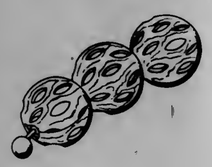
205,595
TIERED PLANTER
Rean Otis Titus, 4436 Mt. Elliott Ave., Detroit, Mich.
Filed Jan. 4, 1965, Ser. No. 83,263
Term of patent 14 years
(Cl. D35—3)



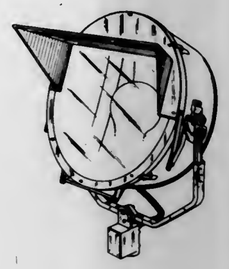
205,596
TIMEPIECE DIAL
Frederic Marti and Georges Braunschweig, both of 165 Rue Numa Droz, La Chaux de Fonds, Switzerland
Filed Sept. 13, 1957, Ser. No. 47,727
Term of patent 14 years
(Cl. D42—1)



205,597
BEAD CHAIN
Valentine J. Taubner, 741 S. Fulton Ave., Mount Vernon, N.Y.
Filed Feb. 17, 1964, Ser. No. 78,644
Term of patent 14 years
(Cl. D45—16)



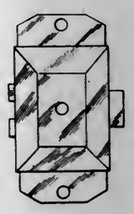
205,598
FLOOD LIGHT OR SIMILAR ARTICLE
Henry R. Hahn, Portland, Conn., assignor to Infranor of North America, Inc., Berlin, Conn., a corporation of Connecticut
Filed Sept. 17, 1964, Ser. No. 81,758
Term of patent 14 years
(Cl. D48—20)



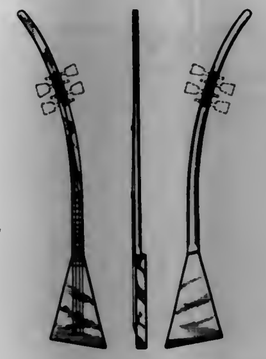
205,599
CIGARETTE LIGHTER
Beauford E. Steely, 11305 Wyatt, Dallas, Tex.
Filed Apr. 6, 1965, Ser. No. 84,638
Term of patent 14 years
(Cl. D48—27)



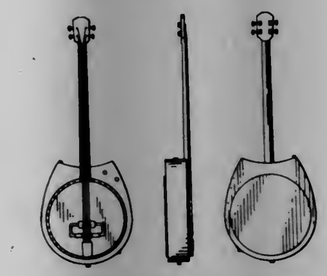
205,600
DOOR LOCK
Leslie Gordon Hudson, % Hudson Patents Limited, 26 Old Bailey, London E.C. 4, England
Filed Jan. 28, 1965, Ser. No. 83,608
Term of patent 14 years
(Cl. D50—5)



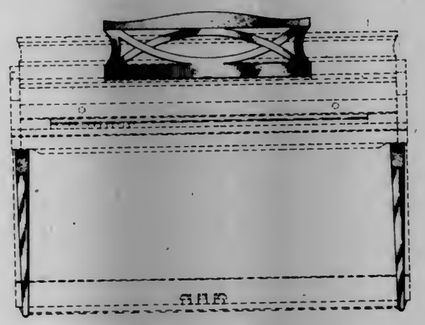
205,601
UKULELE
Ancil A. Swagerty, 148 Los Molinos, San Clemente, Calif.
Filed May 24, 1965, Ser. No. 85,417
Term of patent 14 years
(Cl. D56—1)



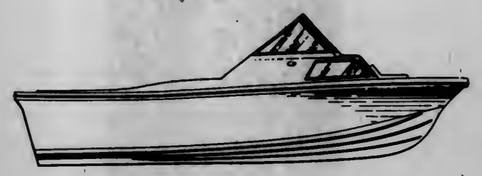
205,602
GUITAR
Vincent J. Rizzutti, 17 Boyer Ave., Walla Walla, Wash.
Filed June 28, 1965, Ser. No. 85,930
Term of patent 14 years
(Cl. D56—1)



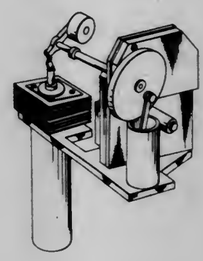
205,603
PIANO CASE
Winsor D. White, Jr., Blowing Rock, N.C., assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 16, 1964, Ser. No. 82,622
Term of patent 14 years
(Cl. D56—9)



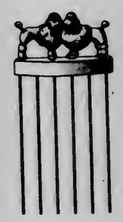
205,604
V-BOTTOM BOAT
Peter G. Stamas, Tarpon Springs, Fla., assignor to Stamas Boats, Inc., Tarpon Springs, Fla., a corporation of Florida
Filed Aug. 6, 1965, Ser. No. 86,483
Term of patent 14 years
(Cl. D71—1)



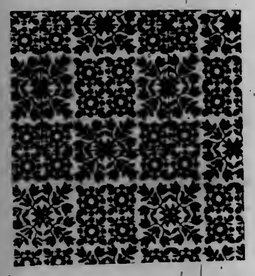
205,605
ROTISSERIE HOT AIR ENGINE
Orville Z. Frazier, 732 Sherman SE., Grand Rapids, Mich.
Filed June 23, 1965, Ser. No. 85,864
Term of patent 14 years
(Cl. D77—1)



205,606
HAIR COMB
Kurt L. Wallach, 5313 Collins Ave., Miami Beach, Fla.
Filed Nov. 15, 1965, Ser. No. 88,086
Term of patent 14 years
(Cl. D86—8)



205,607
PLASTIC COATED SHEET MATERIAL
Richard A. Mazur, McFarland, Wis., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 5, 1965, Ser. No. 88,005
Term of patent 14 years
(Cl. D87—3)



205,608
MARQUISETTE WOVEN TEXTILE FABRIC
Otto Echinger, 1 Gottfried Fessmann Strasse, Zell im Wiesental, Germany
Filed Sept 28, 1965, Ser. No. 87,211
Term of patent 7 years
(Cl. D92—1)



LIST OF PLANT PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 23RD DAY OF AUGUST, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Cole, David B., to The Cole Nursery Co. Pin oak. 2,662, 8–23–66, Cl. 51.
Cole Nursery Co., The: *See*—
Cole, David B. 2,662.
Palmer, Corwin. Peach tree. 2,665, 8–23–66, Cl. 42.
Von Abrams, Gordon J. Rose plant. 2,664, 8–23–66, Cl. 12.
Zaiger, Chris Floyd. Peach tree. 2,663, 8–23–66, Cl. 43.

LIST OF DESIGN PATENTEES

Ampex Corp.: *See*—
Martin, Albert W. 205,592.
Backus, Harry A. Waitress' costume, or the like. 205,583, 8–23–66, Cl. D3—26.
Baldwin, D. H., Co.: *See*—
White, Winsor D., Jr. 205,603.
Balmer, James G., to Borg-Warner Corp. Electronic cabinet. 205,590, 8–23–66, Cl. D26—5.
Bell, Morris A. Chair. 205,587, 8–23–66, Cl. D15—1.
Barr, Irwin R., and R. W. Schnepfe, Jr. Timer indicator and control device for grenade. 205,593, 8–23–66, Cl. D30—1.
Borg-Warner Corp.: *See*—
Balmer, James G. 205,590.
Braunschweig, Georges: *See*—
Marti, Frederic, and Braunschweig. 205,596.
Danielson, Ada E. Device for grooming dogs and cats. 205,585, 8–23–66, Cl. D12—2.
Echinger, Otto. Marquisette woven textile fabric. 205,608, 8–23–66, Cl. D92—1.
Frazier, Orville Z. Rotisserie hot air engine. 205,605, 8–23–66, Cl. D77—1.
Gantz, Carroll M., and R. H. Hose, to The Hoover Co. Power driven surface treating tool. 205,584, 8–23–66, Cl. D9—2.
Hahn, Henry R., to Infranor of North America, Inc. Flood light or similar article. 205,598, 8–23–66, Cl. D48—20.
Hoover, Co., The: *See*—
Gantz, Carroll M., and Hose. 205,584.
Hose, Robert H.: *See*—
Gantz, Carroll M., and Hose. 205,584.
Hudson, Leslie G. Door lock. 205,600, 8–23–66, Cl. D50—5.
Infranor of North America, Inc.: *See*—
Hahn, Henry R. 205,598.
International Business Machines Corp.: *See*—
Sabella, Edward J., and Tankard. 205,591.
Marti, Frederic, and G. Braunschweig. Timepiece dial. 205,596, 8–23–66, Cl. D42—1.
Martin, Albert W., to Ampex Corp. Magnetic tape transport. 205,592, 8–23–66, Cl. D26—5.
McCrory, Doris M. and J. G. Ankle weight for exercising purposes. 205,594, 8–23–66, Cl. D34—5.
McCrory, James G.: *See*—
McCrory, Doris M. and J. G. 205,594.
Mazur, Richard A., to United States Rubber Co. Plastic coated sheet material. 205,607, 8–23–66, Cl. D87—3.
Laughlin, Clayton A., to Arthur Salm, Inc. Scissors or the like. 205,589, 8–23–66, Cl. D22—5.
Parr, Jack W.: *See*—
Parr, Louis and J. W. 205,586.
Parr, Louis and J. W. Wheel plate. 205,586, 8–23–66, Cl. D14—30.
Pomper, William R. Razor or the like. 205,588, 8–23–66, Cl. D22—3.
Rizzutti, Vincent J. Guitar. 205,602, 8–23–66, Cl. D56—1.
Sabella, Edward J., and R. F. Tankard, to International Business Machines Corp. Manual data entry keyboard console. 205,591, 8–23–66, Cl. D26—5.
Salm, Arthur, Inc.: *See*—
Laughlin, Clayton A. 205,589.
Schnepfe, Robert W., Jr.: *See*—
Barr, Irwin R., and Schnepfe. 205,593.
Stamas Boats, Inc.: *See*—
Stamas, Peter G. 205,604.
Stamas, Peter G., to Stamas Boats, Inc. V-bottom boat. 205,604, 8–23–66, Cl. D71—1.
Steely, Beauford E. Cigarette lighter. 205,599, 8–23–66, Cl. D48—27.
Swagerty, Ancil A. Ukulele. 205,601, 8–23–66, Cl. D56—1.
Tankard, Rae F.: *See*—
Sabella, Edward J., and Tankard. 205,591.
Taubner, Valentine J. Bead chain. 205,597, 8–23–66, Cl. D45—16.
Titus, Rean O. Tiered planter. 205,595, 8–23–66, Cl. D35—3.
United States Rubber Co.: *See*—
Mazur, Richard A. 205,607.
Wallach, Kurt L. Hair comb. 205,606, 8–23–66, Cl. D86—8.
White, Winsor D., Jr., to D. H. Baldwin Co. Piano case. 205,603, 8–23–66, Cl. D56—9.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 23RD DAY OF AUGUST, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Abbott, Elbert V. Strong box. 3,268,158, 8-23-66, Cl. 232—1.

Abbott, Tirey C., Jr., and W. H. Lawrence, to The National Cash Register Co. Micro-image viewer. 3,267,801, 8-23-66, Cl. 88—24.

Abe, Kyukji: *See*—
Sugazawa, Shigehiko, Abe, and Onishi. 3,268,508.

Abere, Joseph F., to Minnesota Mining and Mfg. Co. Electrode position process using an aqueous emulsion containing a prepolymer and a polyalkylenimine. 3,268,433, 8-23-66, Cl. 204—181.

Abex Corp.: *See*—
Ratkowski, Thomas A. 3,268,012.

Abrams, Raiph: *See*—
Bucheister, Henry, and Abrams. 3,268,748.

Ace Tank and Heater Co.: *See*—
McClanahan, Bernard E. 3,267,909.

Acheson Industries, Inc.: *See*—
Burton, Thomas A. 3,268,215.

Ackerman, George H., to Missouri Rolling Mill Corp. Light reflectors for elongated post-like members. 3,267,805, 8-23-66, Cl. 88—82.

Acme Machine Works, Inc.: *See*—
Harper, Jay A. 3,267,753.

Adachi, Takeshi, and O. Kazuyuki, to Tokyo Shibaura Electric Co., Ltd. System of generating pulsed neutrons of narrow pulse width. 3,268,729, 8-23-66, Cl. 250—84.5.

Adams, Leon, to Sargent & Greenleaf, Inc. Cylinder key lock. 3,267,707, 8-23-66, Cl. 70—419.

Adams, Albert H., and W. F. Olashaw, to General Electric Co. Bus bar-type electric power distribution system with formed insulating sheet housing. 3,268,848, 8-23-66, Cl. 339—22.

Adams, Robert B., and C. B. Moore, to Moore Products Co. Flow control apparatus. 3,267,946, 8-23-66, Cl. 137—81.5.

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Adams, Rudolph R., to Graham Engineering Co. Inc. Fluid rotary actuator. 3,267,817, 8-23-66, Cl. 91—186.

Admiral Corp.: *See*—
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Ador Corp.: *See*—
Riegelman, Harry M. 3,267,632.

Aero-Chatillon Corp.: *See*—
Matarese, Joseph F., and Walvers. 3,267,997.

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Agfa Aktiengesellschaft: *See*—
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Aguilar, Cristobal M.. Apparel display device and method for the making thereof. 3,268,127, 8-23-66, Cl. 223—68.

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Aircraft Armaments, Inc.: *See*—
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Akamatsu, Takashi, and E. Yamada, to Sumitomo Chemical Co., Ltd. Preparation of 1,4-diamino anthra-quinone-2,3-dicarboximide dyestuffs. 3,268,552, 8-23-66, Cl. 260—326.

Akerley, Robert G., and J. R. Ioannilli, to United Shoe Machinery Corp. Driving and stopping mechanisms for sewing machines. 3,267,895, 8-23-66, Cl. 112—219.

Aktiebolaget Separator: *See*—
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Albert, Richard J., to E. I. du Pont de Nemours and Co. Differential lock nut adjuster. 3,267,519, 8-23-66, Cl. 18—12.

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Alexander, Warren A., to Esso Production Research Co. Apparatus for the integration and storage of electrical signals. 3,268,803, 8-23-66, Cl. 324—29.

Alfilie, Lucien, J.-P. Bocquet, R. Chaignon, A. Pramaggiore, and G. Valentin, to European Atomic Energy Community-Euratom. Closure method and means for the ends of nuclear fuel rods having a very thin sheath. 3,268,411, 8-23-66, Cl. 176—79.

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Allen, Gifford H. Animated-wheeled pull toys. 3,267,605, 8-23-66, Cl. 46—99.

Allen, Higel S. D., and R. G. Henoeq, to Micro Turbines Ltd. High-speed dental turbines. 3,268,205, 8-23-66, Cl. 253—2.

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Allman, Charles E., and A. H. Sporer, to International Business Machines Corp. High-gain dry-photographic system. 3,268,333, 8-23-66, Cl. 96—27.

Allman, William T., Jr., C. W. Joseph, and R. G. Higgins, Jr., Celanese Corp. of America. Bulked non-wovens. 3,268,084, 8-23-66, Cl. 210—503.

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Ambrisio, Biagio F. d.b.a., B.f.a. Products Co.: *See*—
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Alburn, Harvey E., and Grant. 3,268,519.
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American Optical Co.: *See*—
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Amos, Stephen E., to E. I. du Pont de Nemours and Co. Apparatus for removal of electric charges from dielectric film surfaces. 3,268,766, 8-23-66, Cl. 317—2.

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Anderson Associates, Inc.: *See*—
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Anderson, Robert E., to Texas Instruments Inc. Method of producing a field-effect transistor. 3,268,374, 8-23-66, Cl. 148—175.

Anderson, Thomas P., and R. Beispel, to Microseal Corp. Film record card. 3,267,599, 8-23-66, Cl. 40—158.

Anderson, V. E. Mfg. Co.: *See*—
Anderson, Richard N. 3,267,711.

Anderson, William R., to Anderson Associates, Inc. Unitary knob and switch. 3,268,680, 8-25-66, Cl. 200—61.88.

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Angell, Richard G., Jr., to Union Carbide Corp. Method and apparatus for injection molding foamed plastic articles. 3,268,636, 8-23-66, Cl. 264—51.

Anglo-Transvaal Consolidated Investment Co. Ltd.: *See*—
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Anton, John, Sr. Safety lock for ladders. 3,268,196, 8-23-66, Cl. 248—229.

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Aranyi, Gyula. Ocean-powered compressor. 3,268,154, 8-23-66, Cl. 230—67.

Arey, William F., Jr., and G. P. Hamner, to Esso Research and Engineering Co. Paraffinic jet fuel by hydrocracking wax. 3,268,436, 8-23-66, Cl. 208—59.

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Asbury, Edward M. Roadway signal device retriever. 3,268,052, 8-23-66, Cl. 198—7.

Associated Electrical Industries Ltd.: *See*—
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Ast, Herbert H., to Radar Relay, Inc. Indicator unit and switch. 3,268,889, 8-23-66, Cl. 340—378.

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Woods, John P., Prickett, Mullings, and Lyons. 3,268,910.

Atlantic Research Corp.: *See*—
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Atlas, David, to United States of America, Air Force. Storm polarization analysis and radar-controlled aircraft guidance. 3,268,801, 8-23-66, Cl. 343—5.

Atlas, David. Weather radar storm course display. 3,268,892, 8-23-66, Cl. 343—5.

Aton G.m.b.H.: *See*—
Cremer, Gottfried. 3,268,637.

Auer, John H., Jr., and H. C. Kendall, to General Signal Corp. Automatic car retarder control system. 3,268,725, 8-23-66, Cl. 246—182.

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Automotive Products Co. Ltd.: *See*—
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Eberly, David H., Jr. 3,268,080.
Kuecken, John A., and Colony. 3,268,903.

Avery, John P., to Western Electric Co., Inc. Apparatus for testing the frequency response of a device both at a specified frequency and at different frequencies within a predetermined range and correlating the responses. 3,268,806, 8-23-66, Cl. 324—57.

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Ayres, Harry V., to Eaton Mfg. Co. Fluid metering valve structure. 3,267,918, 8-23-66, Cl. 123—90.

Azegami, Keij. Mirror having a magnifying portion. 3,267,806, 8-23-66, Cl. 88—84.

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Babcock & Wilcox Ltd.: *See*—
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Babcock & Wilcox Co., The: *See*—
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Schott, Donald E. 3,267,988.

Bach, Frederick O., to A. B. Dick Co. Offset master and method of imaging. 3,267,848, 8-23-66, Cl. 101—149.2.

Bachman, Anatole, to Federal Pacific Electric Co. Circuit interrupters. 3,268,681, 8-23-66, Cl. 200—68.

Bader, Henryk, and E. R. Ruckel, to American Cyanamid Co. Process for dialkyl-s-triazines. 3,268,528, 8-23-66, Cl. 260—248.

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Baier, Edwin, to Farbwerke Hoechst Aktiengesellschaft Vormals Meister Lucius & Bruning. Cationic dyestuffs and a process for preparing them. 3,268,549, 8-23-66, Cl. 260—314.5.

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Baillod, Philippe C. V., to The Centre d'Etudes et de Recherches Pour La Documentation Automatique (C.E.R.D.A.). Apparatus for the selection and reproduction of documents. 3,267,800, 8-23-66, Cl. 88—24.

Bajars, Laimonis, to Petro-Tex Chemical Corp. Process for dehydrogenating hydrocarbons. 3,268,611, 8-23-66, Cl. 260—680.

Bajars, Laimonis, to Petro-Tex Chemical Corp. Hydrocarbon dehydrogenation process. 3,268,612, 8-23-66, Cl. 260—680.

Baker, Don R., S. L. Giolito, and D. R. Arneklev, to Stauffer Chemical Co. 2,2'-dihalodivinyl sulfone microbiocide. 3,268,391, 8-23-66, Cl. 167—22.

Baker, John L. Method for producing a transparent mosaic. 3,268,379, 8-23-66, Cl. 156—63.

Baker, Thomas R., to Klikiok Corp. Method of closing, squaring and sealing folding boxes comprising cover flaps. 3,267,637, 8-23-66, Cl. 53—38.

Baldwin, Rolland G., G. J. Erickson, and L. H. Rood, to Honeywell Inc. Control apparatus. 3,267,744, 8-23-66, Cl. 74—5.

Ball, Jeremy T., to Chrysler Corp. Dual element, dual valve filter. 3,268,077, 8-23-66, Cl. 210—131.

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Banford, John A., and G. L. Reuter, to Richardson-Merrell Inc. Compositions for treating avian respiratory diseases and methods of using same. 3,268,404, 8-23-66, Cl. 167—531.

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Bargero, Camillo. Opposed cylinder variable piston stroke internal combustion engine. 3,267,917, 8-23-66, Cl. 123—56.

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Barmherzig, Samuel. Beverage container with drinking straw. 3,268,792, 8-23-66, Cl. 220—90.2.

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Bartl, Herbert, W. Von Bonin, and W. Gobel, to Farbenfabriken Bayer Aktiengesellschaft. Process for agglomerating solids. 3,268,471, 8-23-66, Cl. 260—29.6.

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Bauman, Robert H., to General Motors Corp. Differential area wheel cylinder for anti-skid. 3,268,038, 8–23–66, Cl. 188—152.

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Bedol, Alan, to Marshallan Mfg. Co. Collapsible table. 3,267,889, 8–23–66, Cl. 108—157.

Bedoukian, Paul. Dimethyl acetals of alpha, beta acetylenic aldehydes. 3,268,594, 8–23–66, Cl. 260—615.

Bee, Geoffrey W.: *See*—
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Beer, Ludwig A., to Monsanto Co. Rigid polyvinyl chloride compositions having improved physical properties. 3,268,623, 8–23–66, Cl. 260—876.

Begg, Ian C.: *See*—
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Beispel, Robert: *See*—
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Gilmore, John F. 3,268,668.
Flanagan, James L. 3,268,660.
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MacDuff, Stanley I., and Suttle. 3,268,026.
McCombs, Howard L., Jr. 3,267,670.
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McKelvey, John B., Berni, and Benerito. 3,268,293.

Beninate, John V., G. L. Drake, Jr., and W. A. Reeves, to United States of America, Agriculture. Composition comprising diisocyanate methyloiphosphorus polymer and organic textile flame-proofed therewith. 3,268,360, 8–23–66, Cl. 117—136.

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Bennett, Catherine J. Weeding and cultivating implement. 3,268,255, 8–23–66. Cl. 294—50.9.

Bennett, Royston H.: *See*—
Kingdom, Richard J., Bennett, and Green. 3,268,600.

Bennies, Franz W., to Fritz Hesselbein Chemische Fabrik. Repair patch for damaged pneumatic tires of automotive vehicles. 3,267,981, 8–23–66, Cl. 152—367.

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Ajero, Fortunato S., and Benson. 3,268,099.

Bentley, Floyd E.: *See*—
Peppel, William J., and Bentley. 3,268,561.

Benton, Raymond L., to Kayline Mfg., Inc. Mounting device for doors of jeep-type vehicles. 3,268,131, 8–23–66, Cl. 224—29.

Benz, Willi, to Schloemann Aktiengesellschaft. Means cooperable with a shear or saw assembly for assuring a proper length cut of rolled stock. 3,267,787, 8–23–66, Cl. 83—419.

Benzing, James A., to Champion Papers Inc. Apparatus for severing and conveying sheets. 3,267,782, 8–23–66, Cl. 83—94.

Benzinger, Theodor H. Thermopile and radiometer including same and method of producing thermopile. 3,267,727, 8–23–66, Cl. 73—190.

Berg Electronics, Inc.: *See*—
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Berger, James A., and M. G. Blankenship, to Corning Glass Works. Image recording. 3,267,555, 8–23–66, Cl. 29—155.5.

Berger, Leo, and L. H. Sternbach, to Hoffmann-La Roche Inc. 2-aminophenyl cycloalkyl ketones. 3,268,586, 8–23–66, Cl. 260—578.

Bergey, George E.: *See*—
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Bergsma, Rudolph, to King-Seeley Thermos Co. Temperature sensor. 3,268,844. 8–23–66. Cl. 338—28.

Berkebile, Glenn S., to Fiberfil, Inc. Collet. 3,268,180, 8–23–66, Cl. 242—46.5.

Berkin, George M., to International Business Machines Corp. Character recognition system employing recognition circuit deactivation. 3,268,865, 8–23–66, Cl. 340—146.3.

Berman, Myron S. Pump with dual, fluid pressure actuated pistons and movable pick-up tube. 3,268,122, 8–23–66, Cl. 222—246.

Berman, Nelson. Improved torque element. 3,267,764, 8–23–66, Cl. 74—441.

Berni, Ralph J.: *See*—
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Bernutz, Johannes, to International Standard Electric Corp. Electrical connectors employing a plug-in contact spring. 3,268,850, 8–23–66, Cl. 339—217.

Berry, Donald S., to Sun Printers Ltd. Intaglio printing machine with cover assemblies and removable ink trough. 3,267,849, 8–23–66, Cl. 101—157.

Bertuccelli, Harry C.: *See*—
Hinrichs, Karl, Davis, Bertuccelli, and Kolden. 3,268,824.

Bertuzzi, Alberto. Machine for extracting juices from citrus fruits. 3,267,838. 8–23–66, Cl. 100—97.

Best Mfg. Corp., The: *See*—
Brodeur, Edouard A., Jr. 3,268,355.

Betz, Bernard K., to Honeywell Inc. Information handling apparatus including instruction suppression means. 3,268,873, 8–23–66, Cl. 340—172.5.

Beuther, Harold, and B. K. Schmid, to Gulf Research & Development Co. Hydrocracking of nitrogen containing hydrocarbon oils for the preparation of middle oils. 3,268,437, 8–23–66, Cl. 208—61.

Biebighauser, Karl A., to Minneapolis-Saint Paul Sanitary District. Sampling apparatus. 3,267,737, 8–23–66, Cl. 73—423.

Biehl, Heinrich. Animal excluding trough means. 3,267,904, 8–23–66, Cl. 119—63.

Biggar, Allan M., K. F. Pitt, and J. M. Thole, to United States of America, Army. Temperature actuated inflation device. 3,268,184, 8–23–66. Cl. 244—1.

Bilco, Arthur, and W. J. Kupfrian, to Robinson Technical Products Inc. Coaxial cable stripper. 3,267,774, 8–23–66. Cl. 81—9.51.

Blek, Frank T., to International Telephone and Telegraph Corp. Hydraulic pushbutton assembly. 3,268,673, 8–23–66, Cl. 200—5.

Bli, Arthur, to Rolls-Royce Ltd. Bladed structure. 3,268,207, 8–23–66, Cl. 253—78.

Billig, Lewis S.: *See*—
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Billington, Evans R.: *See*—
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Billman, John H., and R. Chernin, to Indiana University Foundation. 8-sulfonamido-quinolines. 3,268,538, 8–23–66, Cl. 260—288.

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Birge, Warren A., to Martin-Marietta Corp. Scanning and eliminating multiple responses in a grating lobe antenna array. 3,268,890, 8–23–66, Cl. 343—5.

Birnbaum, Herman A., and H. L. Anderson, to Minnesota Mining and Mfg. Co. Triarylborane complex composition and method for seed protection. 3,268,401, 8–23–66, Cl. 167—38.

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Bloch, Herman S., to Universal Oil Products Co. Dealkylation of alkylaromatic compounds. 3,268,610, 8–23–66, Cl. 260—672.

Block, Aleck, to Merit Products, Inc. Abrasive article. 3,267,623, 8–23–66, Cl. 51—406.

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Blomgren, Oscar C., Sr., and O. C. Blomgren, Jr., to Diamond Alkali Co. Combined centrifugal pump and distributor. 3,267,870, 8–23–66, Cl. 103—115.

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Bock, Robert V., to Burroughs Corp. Computer multi-register linkage with a memory unit. 3,268,874, 8–23–66, Cl. 340—172.5.

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Bolcato, John B., to Continental Can Co., Inc. Paper cup with outside caulking on bottom. 3,268,143, 8–23–66, Cl. 229—1.5.

Bolger, James W., to Rexall Drug and Chemical Co. 3-cyanoalkyl substituted 4-(3h)-quinazolinones. 3,268,529, 8–23–66, Cl. 260—251.

Bolger, James W., to Rexall Drug and Chemical Co. Substituted endo-perhydro-4,7-methanoisoindoles and intermediates therein. 3,268,554. 8–23–66, Cl. 260—319.

Bollar, Leo C. Impact forming machine. 3,267,677, 8–23–66, Cl. 60—54.5.

Bonnette, Richard A., and T. E. Deegan, to Radio Corp. of America. Plural electrode unit electron tube. 3,268,760, 8–23–66, Cl. 313—290.

Boone, Ralph D. Irrigation system. 3,268,174, 8–23–66, Cl. 239—212.

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Bothwell, Marvin R., to The Dow Chemical Co. Diffusion cladding. 3,268,358, 8–23–66, Cl. 117—131.

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Bouchez, Jean. Progressively advancing mechanism. 3,267,754. 8–23–66, Cl. 74—117.

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Boyd, David M., Jr., to Universal Oil Products Co. Supervisory control system for a simulated moving bed separation process. 3,268,605, 8–23–66, Cl. 260—666.

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Boyd, Holmes E. Apparatus for cleaning septic tanks. 3,267,509, 8–23–66, Cl. 15—314.

Boyd, Robert G. Service tray. 3,267,887, 8–23–66, Cl. 108—152.

Boyer, John L., to International Rectifier Corp. Water-cooled semiconductor device assembly. 3,268,770, 8–23–66, Cl. 317—100.

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Brahm, Charles B., to United Aircraft Corp. Space-time sequence generator for electron beam machining. 3,268,763, 8–23–66, Cl. 315—9.

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Laine, Bernard M., and Vernet. 3,268,413.

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Broadbent, Arthur D., to The Forgrove Machinery Co. Ltd. Wrapping machines. 3,267,642, 8–23–66, Cl. 53—228.

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Brown, Cicero C., to Brown Oil Tools, Inc. Rotary stripper for well pipe strings. 3,268,233, 8–23–66, Cl. 277—31.

Brown, Elmer E., to Rex Chainbelt Inc. Pneumatic conveyor system and method. 3,268,266, 8–23–66, Cl. 302—49.

Brown, Eric D., to Dow Corning Corp. Polysiloxane gum crepe aging preventive hydroxylated silicon compound with ammonium carbonate or bicarbonate. 3,268,473, 8–23–66, Cl. 260—37.

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Tomaszewski, Thaddeus W., and Brown. 3,268,308.
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Brown, Henry, and T. W. Tomaszewski, to The Udylite Corp. Method of depositing a corrosion resistant composite nickel electroplate. 3,268,424, 8–23–66, Cl. 204—41.

Brown, Marvin D., and C. A. Towbin, to B and R Associates. Combined clip and implement holder. 3,267,536, 8–23–66, Cl. 24—49.

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Brown, Thomas T., to Martin M. Decker. Electrohydrodynamic fluid pump. 3,267,860, 8–23–66, Cl. 103—1.

Brownfield, Robert B., to American Cyanamid Co. Method of phosphorylating hydroxy steroids and products resulting therefrom. 3,268,562, 8–23–66, Cl. 260—397.4.

Browning, Carolynn P. Educational game apparatus. 3,267,590, 8–23–66, Cl. 35—31.

Browning, Iben. Photographic recording and reproduction method and apparatus. 3,267,826, 8–23–66, Cl. 95—18.

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Bruin, Pieter, and H. A. Oosterhof, to Shell Oil Co. One-step process for preparing high impact alkyd resins. 3,268,462, 8–23–66, Cl. 260—22.

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Buccino, Gaetano S., to American Cyanamid Co. Method of sharpening surgical needles using a magnetic needle rack. 3,268,428, 8–23–66, Cl. 204—142.

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Bucher-Guyer A.-G. Maschinenfabrik: *See*—
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Burg, Joseph L., to Houdaille Industries, Inc. Quick positioning table. 3,267,772, 8–23–66, Cl. 77—64.

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Burnett, Richard T., to The Bendix Corp. Spot-type disc brake. 3,268,034, 8–23–66, Cl. 188—73.

Burns, Jerry W., and E. H. Halsted, to General Motors Corp. Centrifugal extraction machine having speed control means responsive to vibration. 3,268,791, 8–23–66, Cl. 318—460.

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Gosnell, Earl J., and McCarthy. 3,268,537.
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Burski, Leonard J. G., to The Superior Electric Co. Adjustable voltage control circuit. 3,268,798, 8–23–66, Cl. 323—66.

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Buttkereit, Paul, and W. Wolf, to Wuppermetall G.m.b.H., Firma. Pig casting machine. 3,267,530, 8–23–66, Cl. 22—63.

Buttkereit, Paul, and W. Wolf, to Wuppermetall G.m.b.H., Firma. Pig casing machine. 3,267,531, 8–23–66, Cl. 22—63.

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Cade, George I., and W. A. Snidarich, to Honeywell Inc. Fuel cell control system. 3,268,364, 8–23–66, Cl. 136—86.

Cain, Cornelius K., and J. N. Plampin, to McNeil Laboratories, Inc. Certain 2-benzoxazolinone compounds having methoxy and halo substituents. 3,268,546, 8–23–66, Cl. 260—307.

Cain, Francis M., Jr., and F. M. Cain III, to Nuclear Materials and Equipment Corp. Method of making a specimen assembly. 3,268,644, 8–23–66, Cl. 264—266.

Cain, Francis M., III: *See*—
Cain, Francis M., Jr., and F. M. Cain III. 3,268,644.

Cala, Charles F. Apparatus for homogenizing glass. 3,268,213, 8–23–66, Cl. 259—7.

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Camp, Nat. Vapor-generating device. 3,267,678, 8–23–66, Cl. 60—108.

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Carlson, David J., and G. E. Theriault, to Radio Corp. of America. Insulated-gate field-effect transistor amplifier having means to reduce high-frequency instability. 3,268,327, 8–23–66, Cl. 330—18.

Carlson, Raymond T., ½ to J. J. Foster, Jr. Furniture fasteners. 3,267,888, 8–23–66, Cl. 108—153.

Carpenter, Gilbert B., M. W. Leeds, and R. J. Tedeschi, to Air Reduction Co., Inc. Ethylene oxide adducts of tertiary acetylenic alcohols. 3,268,593, 8–23–66, Cl. 260—615.

Carpigiani, Poerio, to Apaw S.A. Pre-cooling circuit for liquid mixes of ice-cream machines. 3,267,688, 8–23–66, Cl. 62—185.

Carroll, Lister E.: *See*—
Ward, Curtis E., Macdonald, and Carroll. 3,268,762.

Carroll, Willard D., ½ to R. A. Smith. Grade indicator stake. 3,267,901, 8–23–66, Cl. 116—114.

Carter, William A., to I-T-E Circuit Breaker Co. Magnetic type circuit breaker having air gap in face of face wound core structure for producing non-uniform magnetic field. 3,268,699, 8–23–66, Cl. 200—147.

Caruso, Paul J., R. P. Flynn, G. L. McLeod, D. S. Most, and H. N. Schlein, to Itek Corp. Electrophotographic element. 3,268,332, 8–23–66, Cl. 96—1.

Casagrande, Norman: *See*—
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Casciani, Ferri, H. D. Bauman, and R. S. Williams, to P. H. Glatfelter Co. Manufacture of calcium carbonate. 3,268,387, 8–23–66, Cl. 162—30.

Casciani, Richard E., to The Tappan Co. Oven door with panel inserts. 3,267,930, 8–23–66, Cl. 126—200.

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Wenning, Maurice H. 3,267,761.

Caselman, Evelyn M. Gripping and supporting device for paper boxes. 3,268,146, 8–23–66, Cl. 229—6.

Casselin Farbwerke Mainkur Aktiengesellschaft: *See*—
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Castor, Edward E., and M. A. Walker, to Armco Steel Corp. Underwater wellhead assemblies. 3,268,239, 8–23–66, Cl. 285—3.

Castor, Edward E., C. R. Neilon, M. A. Walker, and W. W. Word, Jr., to Armco Steel Corp. Seal devices and wellhead members embodying the same. 3,268,241, 8–23–66, Cl. 285—139.

Caswell, Arthur S., and S. O. Rodeseike, to I-T-E Circuit Breaker Co. Latch means for spring operator. 3,267,743, 8–23–66, Cl. 74—2.

Cavanaugh, Arthur J. Pet food server, chopper, and cover. 3,267,571, 8–23–66, Cl. 30—116.

Cazalis, Jean-Pierre, and J. Vertut, to Commissariat a l'Energie Atomique. Interchangeable sealing device for joining a detachable component to a rigid wall. 3,267,614, 8–23–66, Cl. 49—488.

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Cease, William W., to Cease Central, Inc. Apparatus for dispensing and inverting food packages. 3,268,102, 8–23–66, Cl. 214—314.

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Allman, William T., Jr., Joseph, and Higgins. 3,268,084.
Costanza, John R., Waters, and Wyart. 3,268,484.
Costanza, John R., Waters, and Roth. 3,268,492.
Horlenko, Theodore, and Tatum. 3,268,588.
Shore, Charles. 3,267,885.

Celmer, Walter D., and L. G. Nickell, to Chas. Pfizer & Co., Inc. Process for producing antibiotic PA-180. 3,268,418, 8–23–66, Cl. 195—80.

Celotex Corp., The: *See*—
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Centre d'Etudes et de Recherches Pour La Documentation Automatique (C.E.R.D.A.), The: *See*—
Baillod, Philippe C. V. 3,267,800.

Centrella, Cosmo: *See*—
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Century Geophysical Corp.: *See*—
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Chabassier, Roger, P. Chaffiotte, and J. Megret, to Commissariat a l'Energie Atomique. Device for operating a movable trolley. 3,267,875, 8–23–66, Cl. 104—162.

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Chambers, Henry B., to Lear Siegler, Inc. Hydraulic jack. 3,267,818, 8–23–66, Cl. 92—17.

Chambers, James W., to Douglas Aircraft Co. Inc. Interlocking welded joint. 3,268,248, 8–23–66, Cl. 285—286.

Chambers, John T., to American Radiator & Standard Sanitary Corp. Thermometer. 3,267,733, 8–23–66, Cl. 73—362.

Champagnat, Alfred, and B. M. Laine, to The British Petroleum Co. Ltd. Process for rupturing micro-organism cells grown on hydrocarbon feedstock. 3,268,412, 8–23–66, Cl. 195—3.

Champagnat, Alfred, and B. Laine, to The British Petroleum Co. Ltd. Cultivation of micro-organisms on a feedstock consisting at least in part of a straight chain hydrocarbon. 3,268,419, 8–23–66, Cl. 195—82.

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Hain, Paul O. 3,268,354.

Champion, William T. Heel. 3,267,592, 8–23–66, Cl. 36—35.

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De Vries, Louis. 3,268,587.
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Ciba Ltd.: *See*—
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Clark, Alexander B., Jr. Cloth reel. 3,268,069, 8–23–66, Cl. 206—50.

Clark, Joseph C., to L and S Bait Co. of Florida, Inc. Spool retarding and locking means for fishing reel. 3,268,182, 8–23–66, Cl. 242—84.44.

Clark, J. R., Co., The: *See*—
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Rogers, Edward F., and Clark. 3,268,403.

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Clements, Roy J., and R. B. Stelzer, to Texaco Inc. Apparatus having a pair of spaced electrodes for measuring spontaneous potentials in a well bore while drilling. 3,268,801, 8–23–66, Cl. 324—10.

Clemons, Carl W., and D. E. Overbeek, to Michigan Chemical Corp. Continuous preparation of 2,3-dibromopropanol-1 compound. 3,268,597, 8–23–66, Cl. 260—633.

Clifton, William L., to Bryce Berger Ltd. Liquid fuel injection pumps. 3,267,863, 8–23–66, Cl. 103—41.

Colas, Louis, B. Demoures, and Y. Bourgau, to Society Progil. Lubricating compositions containing resinous polysulfides. 3,268,449, 8–23–66, Cl. 252—48.8.

Colchester, Christopher D., to The Marconi Co. Ltd. Radio range finders. 3,268,895, 8–23–66, Cl. 343—112.

Cole, Jimmy R., R. E. Garten, Jr., and J. W. Walton, to Continental Oil Co. Sine wave-square wave converter. 3,268,818, 8–23–66, Cl. 328—13.

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Holzschuh, Donald L., Van Horne, and Seymour. 3,267,625.
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Collman, John S., E. E. Flanigan, J. M. Ricketts, W. A. Turunen, and P. T. Vickers, to General Motors Corp. Regenerative gas turbine. 3,267,674, 8–23–66, Cl. 60—39.51.

Colony, Charles G., to Avco Corp. Demountable variable length antenna. 3,268,898, 8–23–66, Cl. 343—723.

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Connaught, Phillip M., to Robertshaw Controls Co. Vibration responsive pneumatic switch and system. 3,267,725, 8–23–66, Cl. 73—71.

Connell, John M., to Foster Wheeler Corp. Economizer support. 3,267,914, 8–23–66, Cl. 122—510.

Conover, Louis S., Jr., and P. M. Kintner, to Cutler-Hammer, Inc. Counter totaliser for randomly occurring signals from a plurality of sources. 3,268,710, 8–23–66, Cl. 235—92.

Conrath, Richard L., and C. M. Overturf, to Borg-Warner Corp. Automatic washer. 3,267,703, 8–23–66, Cl. 68—23.

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Convert, Lucien, and R. Fabre, to Rhone-Poulenc S.A. Heat treatment of isobutylene-isoprene copolymers. 3,268,495, 8–23–66, Cl. 260—85.3.

Cook, Robert W., and L. F. McBride, to C. W. Fuelling, Inc. Pipe cleaning apparatus. 3,267,504, 8–23–66, Cl. 15—104.14.

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Coppens, Mattheus J. M., to Inland Steel Co. Shipping container. 3,268,108, 8–23–66, Cl. 220—67.

Coppens, Mattheus J. M., to Inland Steel Co. Shipping container and method of manufacture thereof. 3,268,109, 8–23–66, Cl. 220—72.

Cordier, James R., to Hardinge Brothers, Inc. Attachment for lathes. 3,267,777, 8–23–66, Cl. 82—14.

Cordova, James. Tapering shoe comb. 3,267,572, 8–23–66, Cl. 30—201.

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Cornwell, Lionel B. Electric devices for heat treatment of windable material. 3,268,704, 8–23–66, Cl. 219—10.61.

Costa, Leo, to Malerform Holding S.A. Ship's hull. 3,267,896, 8–23–66, Cl. 114—56.

Costa, Robert B., to Rain Bird Sprinkler Mfg. Corp. Pop-up sprinkler with slide connection. 3,268,173, 8–23–66, Cl. 239—206.

Costanza, John R., E. E. Waters, and S. Roth, to Celanese Corp. of America. Terpolymer. 3,268,492, 8–23–66, Cl. 260—78.5.

Costanza, John R., E. E. Waters, and J. W. Wyart, to Celanese Corp. of America. Polymers of allylic ethers containing hydroxy groups. 3,268,484, 8–23–66, Cl. 260—77.5.

Cote, Amanda B. Portable vacuum cleaner. 3,267,510, 8–23–66, Cl. 15—344.

Coulter, David C., to Melpar, Inc. System for determining consonant formant loci. 3,268,661, 8–23–66, Cl. 179—1.

Cowburn, Benjamin H. Compensating device for gas flowmeters. 3,267,729, 8–23–66, Cl. 73—205.

Cox, Fred B., Jr., to United States of America, Air Force. Pulse duration modulation to digital converter. 3,268,886, 8–23–66, Cl. 340—347.

Cox, Paul E. Conductor wire cleaning device. 3,267,507, 8–23–66, Cl. 15—160.

Coyle, Daniel J., and E. D. Grim, to Radio Corp. of America. Analog-to-digital converter. 3,268,885, 8–23–66, Cl. 340—347.

Cragoe, Edward J., Jr., and P. L. Southwick. Compositions and method of using (3-amino-pyrazinoyl guanidines). 3,268,406, 8–23–66, Cl. 167—65.

Craig, James R., and D. J. Sasmor, to United States of America, Atomic Energy Commission. Gas generating device with initiator insulating. 3,267,672, 8–23–66, Cl. 60—39.47.

Cramer, Bruce G., to Philco Corp. Demultiplexer for carrier wave (e.g., F.M. stereo signal) whose amplitude at fixed intervals is information-representative. 3,268,663, 8–23–66, Cl. 179—15.

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Thomas, Paul M., Wright, Burge, and Crile. 3,268,098.

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Crouch, Willie W., and J. N. Short, to Phillips Petroleum Co. Recovery of polymers from solution. 3,268,501, 8–23–66, Cl. 260—94.7.

Crown, John C., and E. A. Pinsley, to United Aircraft Corp. Magnetogasdynamic electric generator. 3,268,746, 8–23–66, Cl. 310—11.

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Moore, George L., and Vitcha. 3,268,583.

Cunningham, Ernest R., to Illinois Tool Works, Inc. Container package. 3,268,070, 8–23–66, Cl. 206—65.

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Curtiss-Wright Corp.: *See*—
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Cyba, Henryk A., to Universal Oil Products Co. Metal coordination complex of O-hydroxybenzalaminodiphenylamine. 3,268,567, 8–23–66, Cl. 260—429.9.

Czekalla, Roland, W. Baasner, and H.-A. Brandt, to Agfa Aktiengesellschaft. Filter assembly for photographic apparatus having two sets of pivoted filters. 3,267,808, 8–23–66, Cl. 88—113.

DHJ Industries Inc.: *See*—
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Dahlgren, Douglas E., and M. L. Nafziger, to Lilliston Implement Co. Rotary cutter. 3,267,652, 8–23–66, Cl. 56—6.

Daly, Edwin A., to Walcon Corp. Composite panel with insulating insert. 3,267,626, 8–23–66, Cl. 52—145.

Damon, Ralph S., to Hunter Mfg. Co. Heating apparatus. 3,267,929, 8–23–66, Cl. 126—110.

Dannels, Avon, to Stewart-Warner Corp. Means for and method of lubricating flexible cable assemblies. 3,268,032, 8–23–66, Cl. 184—1.

Dansereau, Raymond R., to Beatrix Jewelry Co. Combination tie clasp and key holder. 3,267,534, 8–23–66, Cl. 24—3.

Dardaine, Edgar J. M., to E. P. Remy & Cie Gripping heads for bottles or the like. 3,267,643, 8–23–66, Cl. 53—246.

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Davies, Alfred V., to Aero Zipp Fasteners Ltd. Sliding clasp fasteners. 3,267,544, 8–23–66, Cl. 24—205.14.

Davis, Alva R., Jr., to Robertshaw Controls Co. Electromagnetic device and method. 3,267,867, 8–23–66, Cl. 103—53.

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Davy, John R., and J. S. Orr, to Barr & Stroud Ltd. Blooming of optical components with a complex alumino-silicate compound. 3,268,352, 8–23–66, Cl. 117—33.3.

Dawalt, Winfield, and P. M. Wright, to Roper-Wright Mfg. Co., Inc. Header control for cotton picker. 3,267,653, 8–23–66, Cl. 56—11.

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Day, Paul T., Jr., to American Metalcore Systems, Inc. Heating, cooling and ventilating system. 3,267,831, 8–23–66, Cl. 98—33.

Dayton, Edwin R. Vibratory polisher. 3,267,620, 8–23–66, Cl. 51—163.

Deavenport, Joe E. Multivibrator using semi-conductor pairs. 3,268,738, 8–23–66, Cl. 307—88.5.

De Bree, Nelson, to Portage Engineering Co. Combination heating and humidifying device. 3,268,169, 8–23–66, Cl. 237—78.

De Brie Perry, Forbes G., and T. G. Fellows, to National Research Development Corp. Continuously variable transmission. 3,267,756, 8–23–66, Cl. 74—200.

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De Claire, James H., and A. Tanaka, to General Motors Corp. Buckle for luggage straps and the like. 3,267,537, 8–23–66, Cl. 24—75.

Deeds, Woodson C. Weighing scale. 3,268,019, 8–23–66, Cl. 177—136.

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Bonnette, Richard A., and Deegan. 3,268,760.

Deelman, Gerardus J., and H. Bronkhorst, to North American Philips Co. Inc. Photoelectrically controlled sawtooth wave oscillator. 3,268,733, 8–23–66, Cl. 250—217.

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De Ghetto, Kenneth A., W. P. Long, G. Kratsios, and S.-Y. Yeh, to Foster Wheeler Corp. Fired heater. 3,267,915, 8–23–66, Cl. 122—510.

De Good, Maynard J., and C. L. Bowman, to The Rapids-Standard Co., Inc. Continuous and reversible vertical conveyor. 3,268,061, 8–23–66, Cl. 198—153.

Deighton, Thomas, to Babcock & Wilcox Ltd. Compact heat source and heat exchanger. 3,267,906, 8–23–66, Cl. 122—32.

Dethinger, Wolfgange, to Robert Bosch G.m.b.H. Fuel injection pump. 3,267,865, 8–23–66, Cl. 103—42.

De John, Charles R., and J. Vanarelli. Device for producing vibrato in musical instruments. 3,267,790, 8–23–66, Cl. 84—313.

Delaney, William E. Knee rest for driver of automobile. 3,268,257, 8–23–66, Cl. 297—427.

Del Mar Engineering Laboratories: *See*—
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De Mestral, George. Self-supporting fabric hair curler. 3,267,942, 8–23–66, Cl. 132—40.

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De Rosset, Armand J., to Universal Oil Products Co. Selective hydrogenation process. 3,268,608, 8–23–66, Cl. 260—668.

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Deutsche Libbey-Owens Gesellschaft fur Maschinelle Glasberstellung A.G.: *See*—
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Devine, James H. and E. Y. Self-contained blind bolt. 3,267,793, 8–23–66, Cl. 85—75.

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De Vries, Louis, to Chevron Research Co. Process for preparing alkylene glycol primary amine. 3,268,587, 8–23–66, Cl. 260—584.

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Diliard, William M., to Richardson-Merrell Inc. Blood anticoagulant and vitamin C antagonist rodenticides. 3,268,402, 8–23–66, Cl. 167—46.

Dillon, Joseph F., Jr., to Bell Telephone Laboratories, Inc. Optical circulator. 3,267,804, 8–23–66, Cl. 80—61.

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Elson, Donald E., to The Black and Decker Mfg. Co. Saw dust blower for portable power-driven saw. 3,267,974, 8–23–66, Cl. 143—43.

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Erwin, John R., to General Electric Co. Convertible radial flow fan. 3,267,668, 8–23–66, Cl. 60—35.54.

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Forbis, Fred R., and J. W. D. Robbins. Imitation bicycle motor. 3,267,606, 8–23–66, Cl. 46—175.

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Frostad, Lars, to Rockwell Mfg. Co. Abrasive pad structure for portable sanding machine. 3,267,622, 8–23–66, Cl. 51—384.

Fruth, Loraine C., to Shell Oil Co. Separation process. 3,268,456, 8–23–66, Cl. 252—330.

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Grant, Norman H., and H. E. Alburn, to American Home Products Corp. Amino-acylamino-acylamino-penicillanic acids. 3,268,516, 8–23–66, Cl. 260—239.1.

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La Plante, Jerry C., and G. J. Landry, to Alloys Unlimited Inc. Clad electrical contacts. 3,268,701, 8–23–66, Cl. 200—166.

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Lansing Bagnall Ltd.: *See*— Goodacre, Cecil. 3,268,033.

Laubli, Fritz, to Sulzer Bros. Ltd. Method of and apparatus for influencing the rate of feedwater supply to forced flow steam generators. 3,267,912, 8–23–66, Cl. 122—451.

Laughlin, William N. Drill string protector and system. 3,268,275, 8–23–66, Cl. 308—4.

Laux, Leon E., to Martin-Marietta Corp. Multi-contoured structures and process. 3,267,559, 8–23–66, Cl. 29—157.

Lavitt, Alexander, to Alloys Unlimited Inc. Electrolytic process for refining indium. 3,268,426, 8–23–66, Cl. 204—105.

Lawhorn, Carl O. Necktie holder. 3,268,088, 8–23–66, Cl. 211—113.

Lawrence, Joseph L.: *See*— Puharich, Henry K., and Lawrence. 3,267,931.

Lawrence, Leslie J.: *See*— Stanley, Robert H., and Lawrence. 3,268,566.

Lawrence, Ray V.: *See*— Moore, Richard N., Lawrence, and Schuller. 3,268,621.

Lawrence, William H.: *See*— Abbott, Tirey C., Jr., and Lawrence. 3,267,801.

Lear Siegler, Inc.: *See*— Chambers, Henry B. 3,267,818.

Le Can, Claude J. P. F., and P. A. M. Hospel, to North American Philips Co., Inc. P-N junction transistor with increased resistance in current path across base surface. 3,268,781, 8–23–66, Cl. 317—235.

Lectron Tool & Die Corp.: *See*— Ficocelli, Louis S. 3,267,694.

Led Ballast, Inc.: *See*— Irwin, Charles D., and Schultz. 3,267,773.

Lee, Dennis E., and K. P. Palmer, to Joseph Lucas (Industries) Ltd. Hydraulic apparatus. 3,267,871, 8–23–66, Cl. 103—162.

Lee, Harold G., and H. M. Allen, to Leupold and Stevens Instruments, Inc. Electro-mechanical readout device. 3,268,-712, 8–23–66, Cl. 235—92.

Leeds, Morton W.: *See*— Carpenter, Gilbert B., Leeds, and Tedeschi. 3,268,593.

Leeds and Northrup Co.: *See*— Hance, Richard J. 3,267,732.

Le Grand, Joseph A. Contact lens apparatus. 3,268,068, 8–23–66, Cl. 206—5.

Lehde, Henry C., and J. J. Dickerman. Separating apparatus. 3,268,073, 8–23–66, Cl. 209—73.

Lehman, Henry: *See*— Babayan, Vigen K., and Lehman. 3,268,340.

Leichsenring, Max. Automotive vehicle speed indicating means. 3,268,027, 8–23–66, Cl. 180—82.1.

Lemelson, Jerome H. Document producing means. 3,267,-843, 8–23–66, Cl. 101—59.

Lemieux, Raymond U.: *See*— Raap, Rintje, Lemieux, and Micetich. 3,268,523.

Lengor Inc.: *See*— Gordon, Myron S. 3,267,722.

Lenkey, Andr w and R. J. Ehret, to Beckman Instruments, Inc. Dispensing head. 3,268,117, 8–23–66, Cl. 222—14.

Leslie Welding Co., Inc.: *See*— Hayman, George C. 3,267,611.

Lessheim, Arno. "Octopus" pallet. 3,267,884, 8–23–66, Cl. 108—54.

Leupold and Stevens Instruments, Inc.: *See*— Lee, Harold G., and Allen. 3,268,712.

Lever Bros. Co.: *See*— Durst, Stephan F. 3,268,120. Murphy, John E., Jr., and Johnson. 3,268,054.

Levitz, Norman M: *See*— Ramaswami, Devabhaktuni, Levitz, and Jonke. 3,268,-303.

Levy, Maurice M., and D. S. Hay; said Hay assor. to said Levy. Display unit. 3,267,595, 8–23–66, Cl. 40—28.

Levy, Joseph, to Universal Oil Products Co. Tertiary-aminoalkyl derivatives of diaryl substituted acetohydroxamic acid esters. 3,268,539, 8–23–66, Cl. 260—294.

Lewis, Arthur F.: *See*— Engle, Robert R., and Lewis. 3,268,530.

Lewis, Edwin S., D. C. Venters, and R. M. Smith, to United States of America, Army. Polarimeter. 3,268,894, 8–23–66, Cl. 343—100.

Libeer, Marcel J.: *See*— Depoorter, Henri, Libeer, Van Mierlo, and Nys. 3,268,-334.

Liebermann, John, T. I. Syfert, W. H. Croswell, and W. S. Tufts, to Ranco Inc. Thermostatic control switches. 3,268,-694, 8–23–66, Cl. 200—140.

Liebert, Ralph C. High and low temperature refrigeration systems with common defrosting means. 3,267,689, 8–23–66, Cl. 62—277.

Lilliston Implement Co.: *See*— Dahlgren, Douglas E., and Nafziger. 3,267,652.

Lindberg, John E., Jr. Nose-cone cooling of space vehicles. 3,267,856, 8–23–66, Cl. 102—92.5.

Lindberg, John E., Jr. Nose-cone cooling of space vehicles. 3,267,857, 8–23–66, Cl. 102—92.5.

Linder, Jerome: *See*— Weil, Edward D., Dorfman, and Linder. 3,268,394.

Lindner, Herbert, G.m.b.H. & Co., Firma: *See*— Stade, Gerhard, and Stahn. 3,267,616.

Lindstrom, Robert W., to Ionics, Inc. Water recovery by electrodialysis. 3,268,441, 8–23–66, Cl. 210—22.

Link, Manfred: *See*— Krauss, Otto, Link, and Kraus. 3,268,051.

Link, Ralph R. Citizen's band radio antenna. 3,268,897, 8–23–66, Cl. 343—713.

Linn, Stanley J., to Sperry Rand Corp. Magneto-optic readout system. 3,268,879, 8–23–66, Cl. 340—174.1.

Linton, William C., to Fuse Indicator Corp. Fuseholder. 3,268,693, 8–23–66, Cl. 200—133.

Linton, William R.: *See*— Gilmont, Roger, and Linton. 3,268,203.

Lippman, Myron E., to General Scientific Corp. Coupling device. 3,268,044, 8–23–66, Cl. 192—84.

Lippoldt, Richard F.: *See*— McAninch, Homer C., and Lippoldt. 3,268,463.

Lisowski, Henry J.: *See*— Glynn, Alfred T., Lisowski, and Saverse. 3,268,179.

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Litt, Morton H., and A. L. Idelson, to Allied Chemical Corp. Certain 4,8-dichloro-2,6-disubstituted benzo-1,2,4,5-bisoxazole compounds. 3,268,545, 8–23–66, Cl. 260—307.

Little, Arthur D., Inc.: *See*— Zinn, Robert E., and Lamb. 3,267,890.

Little, Robert K., to RKL Controls, Inc. Positive opening pinch valve. 3,268,201, 8–23–66, Cl. 251—8.

Litton System, Inc.: *See*— Smead, Harold J., and Busch. 3,267,745.

Llewellyn, Leopold W. Material handling apparatus. 3,268,-053, 8–23–66, Cl. 198—9.

Lloyd, Wallis A.: *See*— Manning, Robert E., and Lloyd. 3,267,687.

Lobaugh, Bud D.: *See*— Horvat, Walter, and Lobaugh. 3,267,612.

Locke, George A., to Teletype Corp. Telegraph message preparation and switching center. 3,268,649, 8–23–66, Cl. 178—4.1.

Locke, William N., L. S. Billig, and A. Bisberg, to General Electronic Laboratories, Inc. Audio teaching aid. 3,267,-591, 8–23–66, Cl. 35—35.

Lockhart, Charles E., Jr.: *See*— Logan, Hugh H., Doty, Nelson, Alfultis, Lockhart, and White. 3,267,955.

Lodding Engineering Corp.: *See*— Goyette, Francis H. 3,268,172. Goyette, Francis H. 3,268,389.

Logan Hospital Equipment Co.: *See*— Logan, Hugh H., Doty, Nelson, Alfultis, Lockhart, and White. 3,267,955.

Logan, Hugh H., G. I. Doty, J. F. Nelson, F. K. Alfultis, C. E. Lockhart, Jr., and H. M. White, to Logan Hospital Equipment Co. Hospital recovery room facility. 3,267,955, 8–23–66, Cl. 137—357.

Logic Systems, Inc.: *See*— Sterns, Robert B., and McGuire. 3,267,781.

Lohan, Frank J., to Ex-Cell-O Corp. Electromagnetic transducer heads. 3,268,878, 8–23–66, Cl. 340—174.1.

Long, John B., to Marmon-Herrington Co., Inc. Belt conveyor system. 3,268,060, 8–23–66, Cl. 198—139.

Long, Robert B., to Esso Research and Engineering Co. Recovering allene by solid cuprous halide. 3,268,614, 8–23–66, Cl. 260—681.5.

Long, William P.: *See*— De Ghetto, Kenneth A., Long, Kratsios, and Yeh. 3,267,-915.

Lord Corp.: *See*— Martel, Rock F. 3,268,479.

Lowers, Alfred H.: *See*— Bangert, Ernest C. 3,268,138.

Lubke, Klaus, E. Schroder, and R. Hempel, to Schering AG. Undecapeptides. 3,268,502, 8–23–66, Cl. 260—112.5.

Lucas, Joseph (Industries) Ltd: *See*— Bottoms, Harry S. 3,267,945. Brotherton, Peter A. J., and Dawes. 3,268,372. Lee, Dennis E., and Palmer. 3,267,871.

Lucifer S.A.: *See*— Stampfli, Harald. 3,268,645.

Ludwig, Herbert. Apparatus for injecting plastic or rubber soles to shoe uppers. 3,267,520, 8–23–66, Cl. 18—17.

Lummus Co., The: *See*— Guerrieri, Salvatore A. 3,267,910.

Lundin, Philip A. Vacuum cleaner trap. 3,267,650, 8–23–66, Cl. 55—433.

Lundin, Robert S.: *See*— Nebiolo, Alfred M., and Lundin. 3,268,038. Nebiolo, Alfred M., and Lundin. 3,268,751.

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Macdonald, Richard K.: *See*— Ward, Curtis E., Macdonald, and Carroll. 3,268,762.

MacDonald, Robert N.: *See*— Jones, Robert D., MacDonald, and Morse. 3,267,664.

MacDuff, Stanley I., and W. C. Suttle, to The Bendix Corp. Automotive cruise control. 3,268,026, 8–23–66, Cl. 180—82.1.

Macey, James G., to Signal Oil Gas Co. Recovery of lithium from brines. 3,268,289, 8–23–66, Cl. 23—89.

MacFee, Norman W., to Talon, Inc. Method of manufacturing slide fastener stringers. 3,268,646, 8–23–66, Cl. 264—285.

MacFelgan, David L., and J. E. Campisi, to Royal Typewriter Co., Inc. Torque limiter. 3,268,050, 8–23–66, Cl. 197—65.

MacGregor, Richard L.: *See*— Kamei, Hiroshi, Hebert, and MacGregor. 3,268,772.

Macher, Karl, and G. Klemt, to Jos. Schneider & Co. Four-component varifocal attachment with movable negative lens members. 3,267,803, 8–23–66, Cl. 88—57.

Mack, William. Thermometer case with automatic illuminating and magnifying means. 3,268,716, 8–23–66, Cl. 240—6.4.

Mackiw, Vladimir N., N. Yoshida, T. Krantz, and B. W. Fraser, to Sherritt Gordon Mines Ltd. Process for the production of wrought nickel strip and sheet of low hardness. 3,268,368, 8–23–66, Cl. 148—11.5.

MacMillan, Raymond A., to United States of America, Air Force. Comparison circuit. 3,268,823, 8–23–66, Cl. 328—155.

Macomson, Wistar W. Web tensioner and spreader. 3,268,-142, 8–23–66, Cl. 226—195.

MacRae, John R. Stepping stones. 3,267,823, 8–23–66, Cl. 94—13.

Madnick, Herman, to United States of America, Army. Insulated gloves. 3,267,486, 8–23–66, Cl. 2—164.

Maeder, Erwin: *See*— Siegrist, Adolf E., Maeder, Liechti, and Guglielmetti. 3,268,543.

Magnavox Co., The: *See*— James, Gene L. 3,268,678.

Magner, John E.: *See*— Gustafson, Wayne A. 3,268,022.

Magnus, Finn H. Acoustic system. 3,266,030, 8–23–66, Cl. 181—31.

Magson, Arthur: *See*— Maguire, Philip F., Jr., Magson, and Sousa. 3,267,970.

Maguire, Philip F., Jr., A. Magson, and L. A. J. Sousa, to Grinnell Corp. Textile machinery cleaning apparatus. 3,267,970, 8–23–66, Cl. 139—1.

Mahoney, William J., to American Machine & Foundry Co. Monostable multivibrator circuits. 3,268,737, 8–23–66, Cl. 307—88.5.

Mahr, Carl. Clamping device for measuring instruments. 3,268,197, 8–23–66, Cl. 248—316.

Mai, Klaus L., to Shell Oil Co. Alkylation process. 3,268,-595, 8–23–66, Cl. 260—624.

Maier, Roland: *See*— Handler, Wolfgang, Maier, Martin, Muller, Voigt, and Voitel. 3,268,871.

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Mallard, James B. Reenforced weighted pipe. 3,267,969, 8–23–66, Cl. 138—178.

Maloney, James E. Method of constructing insulated conduit. 3,267,681 8–23–66, Cl. 61—72.1.

Mancini, Lloyd, to Berg Electronics, Inc. Switch contact. 3,268,851, 8–23–66, Cl. 339—258.

Mandarino, Vincent C., to Whirlpool Corp. Fabric conditioner for clothes dryer. 3,267,701, 8–23–66, Cl. 68—12.

Mangyo, Mitsuo: *See*— Nagasawa, Fujio, Okamoto, Takagi, Yokoi, and Mangyo. 3,268,405.

Mann, Michael M., to Hughes Aircraft Co. Traveling-wave tube slow-wave structure including multiple helices interconnected by spaced conductive plates. 3,268,761, 8–23–66, Cl. 315—3.6.

Manning, Robert E., and W. A. Lloyd, to Cannon Instrument Co. Constant temperature device. 3,267,687, 8–23–66, Cl. 62—168.

Mansfield Sanitary, Inc.: *See*— Snyder, Herbert J., Obrecht, and Fulton. 3,267,491.

Manufacturing Patents Associates: *See*— Ziselberger, Albert E. 3,268,212.

Marconi Co. Ltd., The: *See*— Colchester, Christopher D. 3,268,895.

Marcoux, Leo, to Texas Instruments Inc. Valve assembly. 3,267,953, 8–23–66, Cl. 137—329.4.

Marcus, Ira R., to United States of America, Army. Magnetic core shift register driver. 3,268,736, 8–23–66, Cl. 307—88.

Margason, Lester L.: *See*— Burgman, Jerome A., and Margason. 3,268,313.

Mark, Edward R. Cable fitting. 3,267,539, 8–23–66, Cl. 24—122.6.

Mark, Richard S.: *See*— Wakshull, Harold, and Mark. 3,268,841.

Markham, Charles E. Bow sighting device. 3,267,577, 8–23–66, Cl. 33—46.

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Marshallan Mfg. Co.: *See*— Bedol, Alan. 3,267,880. Bedol, Alan. 3,267,889.

Martel, Rock F., to Lord Corp. Nitroso and oxine containing polymers. 3,268,479, 8–23–66, Cl. 260—59.

Martensson, Karl J. G.: *See*— Sjoholm, Claes B., Martensson, and Holmgren. 3,268,341.

Martin, Aaron J.: *See*— Kauss, James M., Peters, and Martin. 3,267,646.

Martin, Hollinshead T., A. I. Ericsson, and I. J. Vilcins, to Signode Corp. Seal. 3,267,535, 8–23–66, Cl. 24—16.

Martin, Johannes: *See*— Handler, Wolfgang, Maier, Martin, Muller, Voigt, and Voitel. 3,268,871.

Martin, John R., to Calumet and Hecla, Inc. Method and apparatus for cutting tubes. 3,268,137, 8–23–66, Cl. 225—2.

Martin-Marietta Corp.: *See*— Birge, Warren A. 3,268,890. Bradmiller, Richard W., and Bruce. 3,268,834. Conklin, Clement L., Jr. 3,267,748. Harrison, William A., and Bradmiller. 3,268,826. Laux, Leon E. 3,267,559. Miller, Edward J., and Syhre. 3,268,833.

Martin, Robert L.: *See*— Webber, William O., and Martin. 3,268,420.

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Maschmann, Hans, R. Dobner, H. Bungert, and E. Albrecht, to G. M. Pfaff, AG. Multiple automatic sewing apparatus. 3,267,892, 8–23–66, Cl. 112—2.

Masson, Robert G.: *See*— Ollier, Jacques G. H., Grosshans, and Masson. 3,267,639.

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Mathes, Philip H., to Collins Radio Co. Anode dissipation limiter. 3,268,825, 8–23–66, Cl. 330—3.

Mathias, Benny B., to Owens-Illinois Glass Co. Inspecting rims of open mouth containers. 3,267,796, 8–23–66, Cl. 88—14.

Matlack, Albert S., to Hercules Powder Co. Dye receptive and light stable polyolefins containing chromium complexes. 3,268,476, 8–23–66, Cl. 260—45.75.

Matsch, Ladislas C.: *See*— Kordyban, Eugene S., and Matsch. 3,268,199.

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Mattel, Inc.: *See*— Ryan, John W. 3,267,600. Ryan, John W. 3,267,607. Ryan, John W. 3,267,608. Ryan, John W., and Kabot. 3,267,850.

Matthews, Richard G., to Swingfast, Inc. Method of securing fasteners in stick form. 3,267,660, 8–23–66, Cl. 59—77.

Matthews, William J., to General Signal Corp. Train control system. 3,268,726, 8–23–66, Cl. 246—182.

Matsuo, Hisashi, to Ohbayashi-Gumi, Ltd. Vibration generating device employing dynamically unbalanced electric motors. 3,268,749, 8–23–66, Cl. 310—81.

Mattson, Charles A., and F. O. Ottosen, deceased, by H. Ottosen, executrix, to Sunbeam Corp. Apparatus for removing snow. 3,267,594, 8–23–66, Cl. 37—43.

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McAninch, Homer C., and R. F. Lippoldt, to Continental Oil Co. Strippable coatings comprising ethylene-vinyl acetate copolymer, asphalt and release agent. 3,268,463, 8–23–66, Cl. 260—23.

McBride, Joseph R.: *See*— Stephens, Frederick N., and McBride. 3,268,314.

McBride, Lee F.: *See*— Cook, Robert W., and McBride. 3,267,504.

McCardell, Willard B., to Michigan Tool Co. Method and apparatus for setting up tools for forming teeth on workpieces. 3,267,582, 8–23–66, Cl. 33—185.

McCarthy, John F., Jr.: *See*— Gosnell, Earl J., and McCarthy. 3,268,537.

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McClanahan, Bernard E., to Ace Tank and Heater Co. Water heating apparatus. 3,267,909, 8–23–66, Cl. 122—250.

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McClellan, Herbert L., to The National Machinery Co. Apparatus for forming hollow articles. 3,267,500, 8–23–66, Cl. 10—76.

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McFarland, George L., to General Electric Co. Magnetic reed relay. 3,268,839, 8–23–66, Cl. 335—151.

McGowan, George P. Combination handpress and curing clamp. 3,267,525, 8–23–66, Cl. 18—33.

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McGuire, Richard: *See*—
Sterns, Robert B., and McGuire. 3,267,781.
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Caruso, Paul J., Flynn, McLeod, Most, and Schlein. 3,268,332.
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McNutt, Robert D., to International Business Machines Corp. Printed circuit board with solder resistant coating in the through-hole connectors. 3,268,653, 8–23–66, Cl. 174—68.5.
McQuade, James M., R. P. Hamlen, and R. R. Nilson, to General Electric Co. Alkali carbonate fuel cell. 3,268,365, 8–23–66, Cl. 136—86.
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Knoebel, Walter C. 3,268,234.
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Meckler, Gershon, to Lithonia Lighting, Inc. Lighting system. 3,268,720, 8–23–66, Cl. 240—47.
Meeker, David A., T. B. Heckman, and G. B. Fox, to The Hobart Mfg. Co. Spray device for dishwashing apparatus. 3,267,944, 8–23–66, Cl. 134—179.
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Wallen, James, Jr. 3,268,856.
Melton, Donald F., to General Mills, Inc. Reaction thrust operated manipulator. 3,268,091, 8–23–66, Cl. 214—1.
Menapace, Henry R., and R. R. Smith, to The Goodyear Tire & Rubber Co. Isomerization of methyl-pentenes using tungsten oxide catalysts. 3,268,617, 8–23–66, Cl. 260—683.2.
Menkee, Lawrence H., and N. Dunkerley; said Menkee, assignor of ⅓ to said Dunkerley. Water skimmer boat. 3,268,081, 8–23–66, Cl. 210—242.
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Nikitin, Sergei I., Mering, Novik, Popov, and Slutsky. 3,268,286.
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Weber, Joachim. 3,268,124.
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Bajars, Laimonis. 3,268,612.
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Reiner, Robert L. Electronic tachometer utilizing tuned signal transducer. 3,268,810, 8–23–66, Cl. 324—70.

Reischer, Walter, to Burndy Corp. Open-side compression tool. 3,267,717, 8–23–66. Cl. 72—416.

Rejeski, William E., to The Wiremold Co. Method for flaring a collapsible tube. 3,267,560, 8–23–66, Cl. 29—157.

Reliance Molded Plastics Inc.: *See*—
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Renn, Charles E., to Commercial Filters Corp. Method of disinfecting potable waters. 3,268,444, 8–23–66, Cl. 210—64.

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Republic Foil, Inc.: *See*—
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Reschauer, Egbert, to Optische Industrie "de Oude Delft," N.V. Current- electroluminescence device having a high resistance layer. 3,268,755, 8–23–66, Cl. 313—108.

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Resnick, Joseph Y., W. A. Jacobs, and H. T. Bracklow, to Questron American, Inc. Decorating. 3,267,842, 8–23–66, Cl. 101—40.

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Bolger, James W. 3,268,554.
Engle, Robert R., and Lewis. 3,268,530.
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Reynolds, William B., and S. A. Harrison, to General Mills, Inc. Vulcanizable rubber compositions comprising polymeric fatty amines as accelerators. 3,268,493, 8–23–66, Cl. 260—79.5.

Reynolds, William T., to Westinghouse Electric Corp. Superconductive alloys. 3,268,373, 8–23–66, Cl. 148—32.5.

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Roberts, Edward S., and L. J. Christmann. Process for producing selenium dioxide. 3,268,294, 8–23–66, Cl. 23—139.

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Davis, Alva R., Jr. 3,267,867.
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Robinson, Donald J., to Esso Production Research Co. Method and apparatus for detecting and displaying the difference between successive peak values of a seismic signal. 3,268,857, 8–23–66, Cl. 340—15.5.

Robinson, Norman F., to Douglas Aircraft Co., Inc. Liquid inspection system and apparatus. 3,267,723, 8–23–66, Cl. 73—61.

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Rockola, Donald C., to Rock-Ola Mfg. Corp. Knob operated page selection apparatus for automatic phonograph control box. 3,268,868, 8–23–66, Cl. 340—162.

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Rogers, Edward F., and R. L. Clark, to Merck & Co., Inc. Anticoccidial compositions. 3,268,403, 8–23–66, Cl. 167—53.1.

Rohm & Haas Co.: *See*—
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Rolland, Robert C. Frame structure having improved joint means. 3,268,252, 8–23–66, Cl. 287—56.

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Bill, Arthur. 3,268,207.
Pratt, Leslie J., Brien, and Cross. 3,268,277.

Roman, Michael H. Milk sediment tester. 3,267,724, 8–23–66, Cl. 73—61.

Romano, Angelo C., and G. E. Bergey. Automatic broiler. 3,267,835, 8–23–66, Cl. 99—334.

Romney, Jack H., and R. G. Campbell, to International Staple & Machine Co. Apparatus for automatically closing and sealing carton flaps. 3,267,640, 8–23–66, Cl. 53—75.

Ronci, John N., to Belrun de Mexico, S.A. Convertible toy firearm. 3,267,923, 8–23–66, Cl. 124—30.

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Rosemount Engineering Co.: *See*—
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Rosin, Edwin A., and U. P. Trudeau, to Owens-Illinois Glass Co. Cam speed adjusting mechanism. 3,267,750, 8–23–66, Cl. 74—69.

Ross, Edward E., J. Cunningham, and F. Hartman, to California Packing Corp. Tapered agricultural product orienting apparatus and method. 3,268,057, 8–23–66, Cl. 198—33.

Roth, Donald J., to Continental Can Co. Electrohydraulic impulse scoring and/or weakening of thin materials. 3,267,780, 8–23–66, Cl. 83—7.

Roth, George W., to Needlecraft Pad Corp. Tomato pin cushion. 3,268,129, 8–23–66, Cl. 223—109.

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Rothlisberger, Kurt, to Teletype Corp. Reversible tape feed mechanism. 3,268,141, 8–23–66, Cl. 226—50.

Rothman, Matthew J., to Rialto Products Inc. Illuminated make-up mirror. 3,268,715, 8–23–66, Cl. 240—4.2.

Rotork Engineering Co. Ltd.: *See*—
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Rouyer, Robert J. A., to Societe Anonyme Heurtey. Apparatus for guiding an advancing strip in such as a strip of continuous sheet-metal. 3,268,140, 8–23–66, Cl. 226—18.

Rowland, Ralph L., to R. J. Reynolds Tobacco Co. Process for preparing 4-(2-butenylidene)-3,5,5-trimethyl-2-cyclohexene-1-one. 3,268,585, 8–23–66, Cl. 260—586.

Rowlands, Tom, to The Molins Organisation. Ltd. Manufacture of mouthpiece for cigarettes. 3,267,821, 8–23–66, Cl. 93—1.

Rowlands, Tom: *See*—
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Rub, Jakob, and E. Baumgartner, to Maschinenfabrik Ad., Schulthess & Co. AG. Programming control apparatus for automatic washing machines. 3,267,702, 8–23–66, Cl. 68—12.

Ruckel, Erwin R., to American Cyanamid Co. Process for 2,4-dialkyl-6-isopropoxy-S-triazine. 3,268,527, 8–23–66, Cl. 260—248.

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Rudd-Melikian, Inc.: *See*—
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Russell, Samuel T., to Crawford & Russell, Inc. Apparatus for effecting chemical reactions. 3,268,299, 8–23–66, Cl. 23—288.

Ryan, Arthur B., to The Gleason Works. Gear planing tool and support therefor. 3,267,554, 8–23–66, Cl. 29—102.

Ryan, John W., to Mattel, Inc. Arrangement disguising a toy cap gun. 3,267,600, 8–23–66, Cl. 42—54.

Ryan, John W., to Mattel, Inc. Walking toy. 3,267,607, 8–23–66, Cl. 46—247.

Ryan, John W., to Mattel, Inc. Walking toy. 3,267,608, 8–23–66, Cl. 46—247.

Ryan, John W., and W. D. Kabot, to Mattel, Inc. Toy printing machine. 3,267,850, 8–23–66, Cl. 101—232.

Rye, Grover W., and W. D. Havens, to The Goodyear Tire & Rubber Co. Adhesive composition comprising the reaction product of polyisocyanate and a formaldehyde condensate. 3,268,467, 8–23–66, Cl. 260—29.3.

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Rywak, John, to Northern Electric Co. Ltd. Shift register with additional storage means connected between register stages for establishing temporary master-slave relationship. 3,268,740, 8–23–66, Cl. 307—88.5.

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Ostensen, Ralph G. 3,268,718.

SKF Industries, Inc.: *See*—
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Saburi, Osamu, to Murata Mfg. Co., Ltd. Capacitor comprising an N-type semiconductor metallic oxide and a layer of compensated material. 3,268,783, 8–23–66, Cl. 317—237.

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Parrish, Joseph R. 3,268,907.

Saraceni, Joseph, and H. Zimmen, to Zimmon & Co., Inc. Sanitary and protective covering for shoes. 3,268,767, 8–23–66, Cl. 317—2.

Sargeant, Walter E., and J. E. Wilson, to General Motors Corp. Temperature sensitive fan drive clutch control. 3,268,042, 8–23–66, Cl. 192—84.

Sargent & Greenleaf, Inc.: *See*—
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Sasmor, Daniel J.: *See*—
Craig, James R., and Sasmor. 3,267,672.

Sato Kiki Co. Ltd.: *See*—
Sato, Yo, and Nagashima. 3,267,837.

Sato, Masayoshi. Submarine communication system. 3,268,854, 8–23–66, Cl. 340—4.

Sato, Risaburo: *See*—
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Sato, Yo, and K. Nagashima, to Sato Kiki Co. Ltd. Package binder. 3,267,837, 8–23–66, Cl. 100—27.

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Satterthwaite, Cameron B., and R. P. Ries, to University of Illinois Foundation. Sensing element for the measurement of liquid level. 3,267,730, 8–23–66, Cl. 73—295.

Satz, William. Resealable container closure. 3,268,106, 8–23–66, Cl. 220—60.

Sausele, George J. H., and E. M. Goldberg, to American Type Founders Co., Inc. Automatic typographic composing. 3,268,161, 8–23–66, Cl. 234—7.

Savage, Harry A., 50% to D. W. Barlow. Anti-fouling anti-syphoning valve. 3,267,959, 8–23–66, Cl. 137—516.11.

Saverse, Ronald R.: *See*—
Glynn, Alfred T., Lisowski, and Saverse. 3,268,179.

Savitsky, Viktor P.: *See*—
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Saylor, Herman E., to General Motors Corp. Brake-shoe-worn lining indicating device. 3,267,900, 8–23–66, Cl. 116—67.

Schaffer, Walter S., to International Business Machines Corp. Translation operation. 3,268,875, 8–23–66, Cl. 340—172.5.

Schalliol, Willis L., to The Bendix Corp. Thermionic converter vented to the atmosphere. 3,268,745, 8–23–66, Cl. 310—4.

Scharf, Herbert D. Wire processing and terminal affixing machine. 3,267,556, 8–23–66, Cl. 29—155.55.

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Schembera, Friedrich, to Neff-Werke Carl Neff G.m.b.H On-off timer mechanism with individual setting counters 3,268,677, 8–23–66, Cl. 200—38.

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Caruso, Paul J., Flynn, McLeod, Most, and Schlein. 3,268,332.

Schlein, Seymour N., to The Fanner Mfg. Co. Method and apparatus for forming splices and dead ends and locking means therefor. 3,267,658, 8–23–66, Cl. 57—145.

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Schmitt, George J., and D. E. Nee, Jr., to Allied Chemical Corp. Preparation of alkylated aromatic compounds. 3,268,607, 8–23–66, Cl. 260—668.

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Schneider, Wilhelm A.: *See*—
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Schott, Donald E., to The Babcock & Wilcox Co. Safety devices for oil burners. 3,267,988, 8–23–66, Cl. 158—73.

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Schroeder, Carl E., to Continental Oil Co. Container for storing liquids at low temperatures. 3,267,685, 8–23–66, Cl. 62—45.

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Schundehutte, Karl-Heinz, F. Suckfull, and H. Nickel, to Farbenfabriken Bayer Aktiengesellschaft. Metal-containing azo dyestuffs. 3,268,505, 8–23–66, Cl. 260—146.

Schuster, Richard L., to Olin Mathieson Chemical Corp. Basket style article carrier having straight side walls. 3,268,113, 8–23–66, Cl. 220—113.

Schutz, Siegismund, K.-H. Meyer, K. Stoepel, and H.-G. Kroneberg, to Farbenfabriken Bayer Aktiengesellschaft. Steroid guanylhydrazones and production thereof. 3,268,520, 8–23–66, Cl. 260—239.5.

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Schwarz, Erwin. Multistep-, especially two step-insertion device. 3,267,784, 8–23–66, Cl. 83—226.

Schwenk, Ulrich, and G. Mau, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for preparing aldehydes and ketones. 3,268,590, 8–23–66, Cl. 260—597.

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Koteily, John C., and Sciola. 3,268,244.

Scott, John W., Jr., and R. L. Jacobson, to Chevron Research Co. Hydrodenitrification of oil with countercurrent hydrogen. 3,268,438, 8–23–66, Cl. 208—89.

Scotto, Dominick P., to American Bosch Arma Corp. Two axis rate gyroscope. 3,267,746, 8–23–66, Cl. 74—5.6.

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Seery, Robert F., to Julius Blum & Co., Inc. Decorative screens and rails. 3,267,628, 8–23–66, Cl. 52—311.

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Pall, David B., Krakauer, Seibert, Verrando, and Keedwell. 3,268,442.

Sellers, John P., Jr., to North American Aviation, Inc. Heat flux probe. 3,267,726, 8–23–66, Cl. 73—190.

Sellin, Jan. Process and apparatus for admission to tubes in tube heaters. 3,268,435, 8–23–66, Cl. 208—48.

Sennewald, Kurt, W. Vogt, H. Weiden, and P. Komischke, to Knapsack-Griesheim Aktiengesellschaft. Process for the continuous manufacture of monovinylacetylene. 3,268,596, 8–23–66, Cl. 260—678.

Seufert, George E. and J. H. Rod-handled tool. 3,267,505, 8–23–66, Cl. 15—144.

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Seufert, George E. and J. H. 3,267,505.

Sexsmith, David R.: *See*—
Sheers, Edward H., and Sexsmith. 3,268,470.

Seymour, James L., Jr.: *See*—
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Shadrick, Richard H., to R. H. Shadrick, Jr. Automatic signaling apparatus. 3,268,670, 8–23–66, Cl. 179—90.

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Shadrick, Richard H. 3,268,670.

Sharan, Harendra N., to Sulzer Brothers, Ltd. Steam generator with flue gas return. 3,267,908, 8–23–66, Cl. 122—235.

Sharrow, Gilfred J., Jr. Water skimmer. 3,268,079, 8–23–66, Cl. 210—169.

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Sheehan, Joseph E., Sr., to M. A. Sheehan. Conveyors. 3,267,873, 8–23–66, Cl. 104—93.

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Sheehan, Joseph E., Sr. 3,267,873.

Seley, Eldon L.: *See*—
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Sheers, Edward H., and D. R. Sexsmith, to American Cyanamid Co. Cationic sizing agent and its solubilization with a cationic quaternary compound. 3,268,470, 8–23–66, Cl. 260—29.6.

Shell Oil Co.: *See*—
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Dumore, Johannes M. 3,268,000.
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Wagner, Harold E. Fluid-operated cone brake. 3,268,035, 8–23–66, Cl. 188—71.
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Waring, James C., and L. A. Fream, to Reynolds Metals Co. Frame construction with panel and yieldable preformed separator therefor. 3,267,629, 8–23–66, Cl. 52—397.
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Watson, Orla E. Wrench for crankcase drain plugs. 3,267,-776, 8–23–66, Cl. 81—57.
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Wei, Tohchung. Combined adjustable valve for liquids in multiple food vessels. 3,268,104, 8–23–66, Cl. 220—4.

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Wiselblatt, Lazare, to Research Corp. Processes which comprise reacting proline or pyrrolidine with an oxo group containing compound and products thereof. 3,268,555, 8–23–66, Cl. 260—326.3.

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Yanis, Conrad, G. A. Harris, Jr., N. L. Kahn, and M. Schrier, to Transitel International Corp. Shaft encoder assembly. 3,268,884, 8–23–66, Cl. 340—345.

Yarbrough, Jack G., to Shell Oil Co. Drilling with two fluids. 3,268,017, 8–23–66, Cl. 175—25.

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Zink, John S.: *See*—
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Ziselberger, Albert E., to Mfg. Patents Associates. Foam generating machine. 3,268,212, 8–23–66, Cl. 259—7.

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CLASSIFICATION OF PATENTS

ISSUED AUGUST 23, 1966

NOTE.—First number, class; second number, subclass; third number, patent number

2– 9	3,267,487	29–157	3,267,559	53–148	3,267,641	72–416	3,267,717	88– 24	3,267,802	105– 73	3,267,876
14	3,267,488		3,267,560	228	3,267,642	422	3,267,718	57	3,267,803	106– 15	3,268,347
153	3,267,489		3,267,561	246	3,267,643	73– 4	3,267,719	61	3,267,804	38.5	3,268,348
164	3,267,486	157.3	3,267,562	55– 33	3,267,644	12	3,267,720	82	3,267,805	39	3,268,349
323	3,267,490		3,267,563	179	3,267,645	35	3,267,721	84	3,267,806	75	3,268,350
4– 58	3,267,491		3,267,564	197	3,267,646	56	3,267,722	112	3,267,807	107– 58	3,267,877
187	3,267,492	183	3,268,304		3,267,647	61	3,267,723	113	3,267,808	108– 2	3,267,878
5– 63	3,267,493	183.5	3,268,305	258	3,267,648		3,267,724	89– 1.816	3,267,810	11	3,267,879
93	3,267,494	194	3,268,306	286	3,267,649	71	3,267,725	1.819	3,267,809	46	3,267,880
263	3,267,495		3,268,307	433	3,267,650	190	3,267,726	90– 1.4	3,267,811	50	3,267,881
339	3,267,496		3,268,308	56– 6	3,267,651		3,267,727	5	3,267,812	51	3,267,882
6– 11	3,267,497	195	3,268,309		3,267,652		3,267,728	13.3	3,267,813	53	3,267,883
8–116	3,268,291	206	3,267,565	11	3,267,653	205	3,267,729	21	3,267,814	54	3,267,884
116.3	3,268,292	208	3,267,566	26	3,267,654	295	3,267,730	91– 26	3,267,815	112	3,267,885
120	3,268,293		3,267,567	364	3,267,655	351	3,267,731	178	3,267,816	127	3,267,886
9– 8	3,267,498	213	3,267,568	370	3,267,656	359	3,267,732	186	3,267,817	152	3,267,887
10– 27	3,267,499	471.5	3,267,569	57– 77.45	3,267,657	362	3,267,733	92– 17	3,267,818	153	3,267,888
76	3,267,500	477.7	3,267,570	145	3,267,658	414	3,267,734	24	3,267,819	157	3,267,889
129	3,267,501	30–116	3,267,571	58– 41	3,267,659	422	3,267,735	93– 1	3,267,820	110– 18	3,267,890
13– 31	3,268,648	201	3,267,572	59– 77	3,267,660		3,267,736		3,267,821	28	3,267,891
15– 3.11	3,267,502	228	3,267,573	60– 10.5	3,267,663	423	3,267,737	82	3,267,822	112– 2	3,267,892
104.04	3,267,503	32– 5	3,267,574	15	3,267,661	432	3,267,738	94– 13	3,267,823	54	3,267,893
104.14	3,267,504	33– 23	3,267,575	35.3	3,267,664	492	3,267,739	46	3,267,824	104	3,267,894
144	3,267,505	24	3,267,576	35.5	3,267,665	497	3,267,740	50	3,267,825	219	3,267,895
160	3,267,507	46	3,267,577	35.54	3,267,666	74– 1	3,267,741	95– 18	3,267,826	114– 56	3,267,896
236	3,267,506	76	3,267,578		3,267,667	1.5	3,267,742	31	3,267,827	66.5	3,267,897
306	3,267,508	174	3,267,579		3,267,668	2	3,267,743	45	3,267,828	67	3,267,898
314	3,267,509	178	3,267,580	35.6	3,267,662	5	3,267,744	63	3,267,829	235	3,267,899
344	3,267,510	179.5	3,267,581	39.28	3,267,669	5.12	3,267,748	96– 1	3,268,331	116– 67	3,267,900
353	3,267,511	185	3,267,582		3,267,670	5.4	3,267,745		3,268,332	114	3,267,901
561	3,267,512	199	3,267,583	39.43	3,267,671	5.6	3,267,746	27	3,268,333	117– 21	3,268,351
16– 67	3,267,513	34– 1	3,267,584	39.47	3,267,672	5.7	3,267,747	106	3,268,334	33.3	3,268,352
18– 1	3,267,514	20	3,267,585	39.51	3,267,673	10.45	3,267,749	98– 1	3,267,830	47	3,268,353
2	3,267,515	57	3,267,586		3,267,674	69	3,267,750	33	3,267,831	64	3,268,354
3.5	3,267,516	99	3,267,587	39.61	3,267,675	89.11	3,267,751	59	3,267,832	76	3,268,355
5	3,267,517	174	3,267,588	39.74	3,267,676	99	3,267,752	72	3,267,833	109	3,268,356
12	3,267,518	35– 28.5	3,267,589	54.5	3,267,677	109	3,267,753	121	3,267,834	122	3,268,357
	3,267,519	31	3,267,590	108	3,267,678	117	3,267,754	99– 15	3,268,335	131	3,268,358
17	3,267,520	35	3,267,591	61– 3	3,267,679	198	3,267,755	80	3,268,336	132	3,268,359
19	3,267,521	36– 35	3,267,592	36	3,267,680	200	3,267,756	92	3,268,337	136	3,268,360
	3,267,522	59	3,267,593	72.1	3,267,681	206	3,267,757		3,268,338	201	3,268,361
	3,267,523	37– 43	3,267,594	72.3	3,267,682	230.17	3,267,759	108	3,268,339	227	3,268,362
30	3,267,524	40– 28	3,267,595	62– 3	3,267,683		3,267,760	118	3,268,340	118–642	3,267,902
33	3,267,525	109	3,267,596	29	3,267,684		3,267,761	119	3,268,341	119– 1	3,267,903
19–245	3,267,526	126	3,267,597	45	3,267,685	230.4	3,267,758	171	3,268,342	63	3,267,904
22– 14	3,267,527	130	3,267,598	58	3,267,686	365	3,267,762	174	3,268,343	109	3,267,905
42	3,267,528	158	3,267,599	168	3,267,687	422	3,267,763	181	3,268,344	122– 32	3,267,906
57.2	3,267,529	42– 54	3,267,600	185	3,267,688	441	3,267,764	192	3,268,345	34	3,267,907
63	3,267,530	73	3,267,601	277	3,267,689	480	3,267,765	210	3,268,346	235	3,267,908
	3,267,531	74	3,267,602	380	3,267,690	493	3,267,766	334	3,267,835	250	3,267,909
68	3,267,532	43– 5	3,267,603	476	3,267,691	568	3,267,767	404	3,267,836	356	3,267,910
85	3,267,533	44– 6	3,268,310	515	3,267,692	572	3,267,768	100– 27	3,267,837	406	3,267,911
23– 89	3,268,289	72	3,268,311	527	3,267,693	751	3,267,770	97	3,267,838	451	3,267,912
	3,268,290	46– 88	3,267,604	63– 14	3,267,694	759	3,267,769	139	3,267,839	510	3,267,913
139	3,268,294	99	3,267,605	64– 1	3,267,695	798	3,267,771	101– 1	3,267,840		3,267,914
141	3,268,295	175	3,267,606	11	3,267,696	75– 58	3,268,326	22	3,267,841		3,267,915
154	3,268,296	247	3,267,607	15	3,267,697	134	3,268,327	40	3,267,842	123– 46	3,267,916
273	3,268,297		3,267,608	65– 3	3,268,312	174	3,268,328	59	3,267,843	56	3,267,917
282	3,268,298	47– 1	3,267,609	.5	3,268,313	175.5	3,268,329	76	3,267,844	90	3,267,918
288	3,268,299	1.7	3,267,610	11	3,268,314	226	3,268,330	93	3,267,845		3,267,919
292	3,268,300	49–251	3,267,611	33	3,268,315	77– 64	3,267,772	96	3,267,846	98	3,267,920
301	3,268,301	316	3,267,612	54	3,268,316	81– 3	3,267,773	128.2	3,267,847	139	3,267,921
312	3,268,302	449	3,267,613	138	3,268,317	9.51	3,267,774	149.2	3,267,848	179	3,267,922
321	3,268,288	488	3,267,614	158	3,268,318	52.4	3,267,775	157	3,267,849	124– 30	3,267,923
324	3,268,303	51– 8	3,267,615	160	3,268,319	57	3,267,776	232	3,267,850	126– 41	3,267,924
24– 3	3,267,534	95	3,267,616	178	3,268,320	82– 14	3,267,777	329	3,267,851		3,267,925
16	3,267,535	105	3,267,617	183	3,268,321		3,267,778	399	3,267,852	91	3,267,927
49	3,267,536	129	3,267,618	323	3,268,322	46	3,267,779	102– 24	3,267,853	110	3,267,928
75	3,267,537	148	3,267,619	66–149	3,267,698	83– 7	3,267,780	49	3,267,854		3,267,929
96	3,267,538	163	3,267,620	67– 87	3,267,699	37	3,267,781	83	3,267,855	200	3,267,930
122.6	3,267,539	312	3,267,621		3,267,700	94	3,267,782	92.5	3,267,856	128– 1	3,267,931
130	3,267,540	384	3,267,622	68– 12	3,267,701	112	3,267,783		3,267,857	2.05	3,267,932
158	3,267,541	406	3,267,623		3,267,702	226	3,267,784	98	3,267,858	2.06	3,267,933
194	3,267,542	52–100	3,267,624	23	3,267,703	310	3,267,785	103– 1	3,267,859		3,267,934
196	3,267,543	111	3,267,625	62	3,267,704	318	3,267,786		3,267,860	29	3,267,935
205.14	3,267,544	145	3,267,626	69– 6.5	3,267,705	419	3,267,787	2	3,267,861	66	3,267,936
206	3,267,545	298	3,267,627	70–363	3,267,706	467	3,267,788	6	3,267,862	360	3,267,937
259	3,267,546	311	3,267,628	419	3,267,707	622	3,267,789	41	3,267,863	129– 18	3,267,938
279	3,267,547	397	3,267,629	71– 2.3	3,268,323	84–313	3,267,790	42	3,267,864	28	3,267,939
26– 15	3,267,548	489	3,267,630		3,268,324	383	3,267,791		3,267,865	38	3,267,940
28– 76	3,267,549	495	3,267,631	39	3,268,325	85– 61	3,267,792	53	3,267,866	131–198	3,267,941
29– 27	3,267,550	656	3,267,632	72– 6	3,267,708	75	3,267,793		3,267,867	132– 40	3,267,942
90	3,267,551	53– 22	3,267,633	13	3,267,709	88– 14	3,267,794	87	3,267,868	134– 72	3,267,943
95.1	3,267,552		3,267,634	56	3,267,710		3,267,795	93	3,267,869	179	3,267,944
96	3,267,553	30	3,267,635	254	3,267,711		3,267,796	115	3,267,870	136– 6	3,268,363
102	3,267,554	35	3,267,636	260	3,267,712	24	3,267,797	162	3,267,871	86	3,268,364
155.5	3,267,555	38	3,267,637	297	3,267,713		3,267,798	179	3,267,872		3,268,365
155.55	3,267,556	48	3,267,638	299	3,267,714		3,267,799	104– 93	3,267,873	89	3,268,366
155.56	3,267,557	51	3,267,639	351	3,267,715		3,267,800	103	3,267,874	137– 19	3,267,945
156.7	3,267,558	75	3,267,640	384	3,267,716		3,267,801	162	3,267,875	81.5	3,267,946

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37	3,267,885	37	3,268,446	37	3,268,750	42	3,267,646	42	3,268,707	45	3,268,856
	3,267,932		3,268,450		3,268,753		3,267,651		3,268,708	46	3,267,618
	3,267,935		3,268,451		3,268,771		3,267,695		3,268,722		3,267,619
	3,267,946		3,268,479		3,268,775		3,267,822		3,268,800		3,267,740
	3,267,949		3,268,513		3,268,796		3,267,901		3,268,801		3,268,090
	3,267,973		3,268,514		3,268,804		3,267,956		3,268,845		3,268,257
	3,268,013		3,268,515		3,268,820		3,267,969		3,268,859		3,268,320
	3,268,052		3,268,516		3,268,843		3,267,999		3,268,860		3,268,460
	3,268,068		3,268,517		3,268,851		3,268,003		3,268,861		3,268,665
	3,268,080		3,268,518		3,268,869		3,268,008		3,268,899		3,268,880
	3,268,125		3,268,519		3,268,893		3,268,016		3,268,905	47	3,267,758
	3,268,133		3,268,525	38	3,267,534		3,268,017		3,268,910		3,268,060
	3,268,154		3,268,533		3,267,541		3,268,028	43	3,267,899		3,268,464
	3,268,155		3,268,534		3,267,574		3,268,128		3,267,948		3,268,488
	3,268,167		3,268,535		3,267,694		3,268,187		3,268,289		3,268,615
	3,268,258		3,268,540		3,267,953		3,268,233		3,268,544	48	3,267,578
	3,268,268		3,268,546		3,267,970		3,268,239		3,268,853		3,267,681
	3,268,278		3,268,547		3,268,198		3,268,241	44	3,267,548		3,267,767
	3,268,305		3,268,598		3,268,748		3,268,242	45	3,267,557		3,267,792
	3,268,313		3,268,624	39	3,267,526		3,268,243		3,267,629		3,267,824
	3,268,349		3,268,634		3,267,832		3,268,249		3,267,662		3,268,022
	3,268,357		3,268,644		3,268,056		3,268,263		3,267,693		3,268,047
	3,268,373		3,268,646		3,268,084		3,268,304		3,267,834		3,268,067
	3,268,377		3,268,652	40	3,267,791		3,268,310		3,268,184		3,268,132
	3,268,379		3,268,655	41	3,267,888		3,268,374		3,268,323		3,268,150
	3,268,387		3,268,662		3,268,088		3,268,375		3,268,393		3,268,208
	3,268,388		3,268,663		3,268,110		3,268,399		3,268,574		3,268,266
	3,268,397		3,268,690		3,268,830		3,268,420		3,268,661		3,268,271
	3,268,406		3,268,698	42	3,267,547		3,268,561		3,268,756		3,268,390
	3,268,425		3,268,699		3,267,575		3,268,588		3,268,813		3,268,461
	3,268,437		3,268,703		3,267,625		3,268,616		3,268,839	49	3,268,212
	3,268,445		3,268,723								

DESIGN PATENTS

4	205,592	9	205,606	19	205,593	21	205,605	32	205,603	46	205,602
	205,601	12	205,588	21	205,586	22	205,589	34	205,583	48	205,607
6	205,598	13	205,594		205,590	31	205,591		205,584	49	205,585
9	205,604	15	205,587		205,595		205,597	42	205,599		

PLANT PATENTS

4	2,663	4	2,664	5	2,665	34	2,662

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

August 23, 1966 Volume 829 Number 4

TRADEMARKS
NOTICES

Extensions of Time

It is ordinarily desirable that notice of the action taken by the Patent Office on requests for extension of time be communicated to the persons making the requests as soon as is reasonably possible. In order to improve Patent Office service to patent and trademark applicants in this regard, the following procedure is being instituted effective immediately. If a request for extension of time is filed in duplicate and accompanied by a stamped return-addressed envelope, the Office will indicate the action taken on the duplicate and return it promptly in the envelope. Utilization of this procedure is optional on the part of applicant.

EDWARD J. BRENNER,
Commissioner of Patents.

Aug. 3, 1966.

Errata

In the OFFICIAL GAZETTE of June 28, 1966, at page TM 11 in the "Index of Registrants": "Cling-Surface Co., Buffalo, N.Y. 53,307, canc. Cl. 6" should be deleted and *Cling-Surface Co., Buffalo, N.Y. 53,307, ren. 6-28-66. Cl. 6* should be inserted; and at page TM iv "Paterson Parchment Paper Co., The, Passaic, N.J., to The Paterson Parchment Paper Co., Bristol, Pa. 217,634, canc. Cl. 37." should be deleted and *Paterson Parchment Paper Co., The, Passaic, N.J. to The Paterson Parchment Paper Co., Bristol, Pa. 217,634, ren. 6-28-66. Cl. 37.* should be inserted.

In the OFFICIAL GAZETTE of July 5, 1966, under "Trademark Registrations Canceled Section 8" the following should be inserted after reference to registration No. 697,847:

697,851. POSTURE GUIDE AND DESIGN. Cl. 39.
697,853. SHAKO AND DESIGN. Cl. 39.
697,854. CABRON. Cl. 39.
697,856. TRULY FINE. Cl. 39.
697,857. LETHRON. Cl. 39.
697,858. THOR. Cl. 39.
697,865. ADD-A-DRAPE. Cl. 42.
697,867. CHEMO. Cl. 48.
697,869. COOK FARMS ETC. AND DESIGN. Cl. 46.
697,872. CHEF ED'S MAGIC FLAVOR AND DESIGN. Cl. 46.

and at page TM ii in "Index of Registrants": *Cook Enterprises, d.b.a. Cook Farms, Clermont, Fla. 697,869, canc. Cl. 46.* should be inserted after "Controls Co. of America."; and at page TM 54 all reference should be deleted to 698,988. GENTRED. Cl. 35 etc.

In the OFFICIAL GAZETTE of July 12, 1966, at page TM iii "Index of Registrants" "Macbeth-Evans Glass Co., Pittsburgh, Pa., to Corning Glass Works, Corning, N.Y. 213,257, canc. Cl. 33." should be deleted and *Macbeth-Evans Glass Co., Pittsburgh, Pa., to Corning Glass Works, Corning, N.Y.*

CONDITION OF TRADEMARK APPLICATIONS AS OF JUNE 30, 1966

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	27,463
Date of oldest new application	February 10, 1965
Date of oldest amended application (filing date)	April 25, 1963

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF (Acting), Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	6-23-65	7-15-63
(II) F. H. WETHERBEE (Acting), Classes 1, 3, 6, 7, 9, 10, 18, 22, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	2-10-65	4-25-63
Renewals (All Classes)	6-30-66	
Sec. 12(c) Publications (All Classes)	6-30-66	

Applications filed during the month of June—2,575

Registrations Issued—490—No. 813,232 to No. 813,721
Renewals Issued— 70

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

213,257, ren. 7–12–66. Cl. 33. should be inserted; and "Macbeth-Evans Glass Co., Pittsburgh, Pa. to Corning Glass Works, Corning, N.Y. 213,594, canc. Cl. 33." should be deleted and *Macbeth-Evans Glass Co., Pittsburgh, Pa. to Corning Glass Works, Corning, N.Y. 213,594, ren. 7–12–66. Cl. 33.* should be inserted; and at page TM 108 under "Trademark Registrations Amended, Disclaimed, Corrected, etc." "419,488." should be deleted and *419,588.* should be inserted.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 354,287 (CHEVRON), Standard Oil Company of California, Cleaning solvents for general, household, professional, and commercial cleaning; **Reg. No. 364,663**, same, Lubricating oils, flushing oils; **Reg. No. 406,343** (CHEVRON DESIGN), same, Polishes for furniture, floors, and automobiles; **Reg. No. 416,133** (CHEVRON), same, Motor fuels for use in internal combustion engines; **Reg. No. 416,135** (CHEVRON AND DESIGN), same; **Reg. No. 431,051**, same, Parasiticides—namely, insecticides, germicides and fungicides, disinfectants, etc.; **Reg. No. 431,637**, same, Cleaning compounds for general, household, professional, and commercial cleaning; **Reg. No. 434,976**, same, Pocket lighter fluids; **Reg. No. 521,798** (CHEVRON), same, Insecticides; **Reg. No. 521,956** (CHEVRON AND DESIGN), same, Chemicals used to prevent the freezing of moisture in storage tanks and the fuel system of heating units and internal combustion engines; **Reg. No. 533,796** (CHEVRON DESIGN), same, Services rendered at applicant's automotive service stations generally, etc.; **Reg. No. 575,406** (CHEVRON AND DESIGN), same, Publications issued and distributed from time to time; **Reg. No. 582,314**, same, Starting fuel for compression-ignited engines containing volatile organic compounds which are readily ignitable by compression at low temperatures; **Reg. No. 630,368**, same, Manually actuated devices for injecting volatile and auto-igniting chemical compounds into internal combustion engines to facilitate the starting of such engines at low temperatures; **Reg. No. 630,745**, same, Kerosene, fuel oil, furnace oil, diesel fuel, distillate useful as a solvent and for heating, and internal combustion engine fuel purposes, etc.; **Reg. No. 635,744**, same, Petroleum base oils used as solvents or diluents for wood preservative and mosquito and other pest-control formulations; **Reg. No. 640,311** (CHEVRON DESIGN), same, Garden hose sprayers for applications of insecticides, fungicides, germicides, etc.; **Reg. No. 640,519**, same, Small boxes for holding invoices, metal containers for chemical compounds of high volatility, and fiberboard cartons; **Reg. No. 640,522**, same, Floor waxes; **Reg. No. 640,575**, same, Asphalt mastic roof surfacing or underlayment compositions; **Reg. No. 640,661**, same, Embossing and printing machines and auxiliary devices for introducing a priming fuel, other than the normal running engine fuel, into internal combustion engines; **Reg. No. 640,883**, same, Chemicals and chemical intermediates for general use in the industrial arts, etc.; **Reg. No. 640,933**, same, Chemical preparation for veterinary use as an antiseptic and germicide; **Reg. No. 641,234**, same, Chemicals used to prevent the freezing of moisture in storage tanks and fuel systems of heating units and internal combustion engines, etc.; **Reg. No. 641,243**, same, Fertilizers, soil conditioners, soil amendments, soil correctives, etc.; **Reg. No. 641,258**, same, Bituminous construction and surfacing composition—namely, asphalt, asphaltic binders, asphaltic emulsions, etc.; **Reg. No. 641,270**, same, Petroleum waxes and petrolatums, Kerosenes, fuel and heating oils, etc.; **Reg. No. 641,295**, same, Waterproofing and protective coatings for concrete, steel, wood, plaster, etc.; **Reg. No. 641,421**, same, Periodic publications distributed from time to time; **Reg. No. 641,536**, same, Cleaning compounds for general, household, professional, industrial, and commercial cleaning; **Reg. No. 642,226**, same, Chemical preparations and compounds used in the manufacture of lubricating oil additives, chemical preparations and compounds for use as additives in burner fuel, gasoline, etc.; **Reg. No. 642,431**, same, Detergents; **Reg. No. 642,817**, same, Rust-preventing and filter coating petroleum compounds applied as films on metal and other surfaces; **Reg. No. 643,520**, same, Veterinary preparation for use in the control of screw worms and fleece worms; **Reg. No. 656,269**, same, Small boxes for holding invoices, metal containers for chemical compounds of high volatility, and fiberboard cartons; **Reg. No. 656,274**, same, Floor waxes; **Reg. No. 656,275**, same, Adhesive binders used in the manufacture of paper and fibreboard products; **Reg. No. 656,296**, same, Chemicals and chemical intermediates for general use in the industrial arts, etc.; **Reg. No. 656,298**, same, Fertilizers, soil conditioners, soil amendments, soil correctives, etc.; **Reg. No. 656,306**, same, Asphalt mastic roof surfacing or underlayment compositions, bituminous construction and surfacing compositions, etc.; **Reg. No. 656,314**, same, Petroleum waxes and petrolatums, kerosenes, fuel and heating oils, etc.; **Reg. No. 656,326**, same, Waterproofing and protective coatings for concrete, steel, wood, plaster, etc.; **Reg. No. 656,357**, same, Veterinary preparation for use in the control of screw worms and fleece worms, chemical preparation for veterinary use as an antiseptic and germicide; **Reg. No. 656,418**, same, Garden hose sprayers for applications of insecticides, fungicides, germicides, etc.; **Reg. No. 656,423**, same, Instrument for measuring odor in gas; **Reg. No. 656,477**, same, Periodic publications distributed from time to time; **Reg. No. 656,502**, same, Cleaning compounds for general, household, professional, industrial, and commercial cleaning and detergents; **Reg. No. 656,650** (CHEVRON), same, Floor waxes; **Reg. No. 658,429**, same, Ink oils for use as carrying agent for pigment and wax used in the manufacture of inks and carbon paper; **Reg. No. 658,620**, same, Cleaning compounds for general, household, professional, industrial and commercial cleaning, flushing oils and detergents; **Reg. No. 658,662**, same, Petroleum waxes, white oils, and petrolatums, motor fuels, lubricating oils and greases, etc.; **Reg. No. 658,689**, same, Insecticides, herbicides, fungicides, sanitisers, wood preservatives, etc.; **Reg. No. 660,016**, same, Rust preventing and filter coating petroleum compounds applied as films on metal and other surfaces, wax for coating containers for dairy products, etc.; **Reg. No. 661,819**, same, Bituminous construction and surfacing composition—namely, asphalt, mastic roof surfacing and underlayment compositions; **Reg. No. 687,775**, same, Asphaltic construction and surfacing compositions; **Reg. No. 695,148**, same, Fertilisers; **Reg. No. 701,175**, same, Chemicals and chemical intermediates for general use in the industrial arts and in agriculture, etc.; **Reg. No. 727,348**, same, Musical programs designed especially for schools rendered through the medium of radio and the providing of brochures explanatory of the musical programs; **Reg. No. 736,207**, same, Synthetic resins; **Reg. No. 766,900**, same, Chemical intermediates for general use in the industrial arts and in agriculture, etc.; **Reg. No. 769,289**, same, Plastic pipe; **Reg. No. 769,290** (CHEVRON DESIGN), same; **Reg. No. 769,891**, same; **Reg. No. 783,859**, same, Lighter fluid; **Reg. No. 784,286** (CHEVRON), same, Thinners and solvents for paints, lacquers, enamels, and varnishes; **Reg. No. 788,996** (CHEVRON DESIGN), same, Lighter fluid; **Reg. No. 802,000** (CHEVRON), same, Patching putty; **Reg. No. 802,701** (CHEVRON DESIGN), same, Fuel filters and replacement cartridges therefor; **Reg. No. 807,520** (CHEVRON), same, Coils and disks for use as attachments to the burners of oil-fired furnaces to increase the combustion properties thereof; **Reg. No. 807,521** (CHEVRON DESIGN), same; **Reg. No. 807,988**, same, Adhesive binders used in the manufacture of paper and fibreboard products; **Reg. No. 808,052** (CHEVRON), same, Hand-held, portable electric drill; **Reg. No. 808,063** (CHEVRON DESIGN), same, Instrument for measuring odor in gas, filed May 25, 1966, D.C., W.D. Ky. (Louisville), Doc. 5382, *Standard Oil Company of California et al. v. Thornton Oil Company of Kentucky, Inc. et al.* Consent order; complaint dismissed without prejudice July 7, 1966.

ADDRESS OF COMMISSIONER EDWARD J. BRENNER

Delivered before the Patent, Trademark and Copyright Section of the American Bar Association, Royal Embassy Hotel, Montreal, Canada, Saturday, August 6, 1966

It is a pleasure to meet with you this noon to review the highlights of Patent Office activities during fiscal year 1966 and to discuss with you the outlook for fiscal year 1967.

The operations of the Patent Examining Corps during fiscal year 1966 involved a transition from working primarily on amended cases to working on a normal proportion of new applications. Disposals for the year amounted to 91,000 as compared with 102,000 last year. It is significant to note that disposals for the two-year period 1965–1966 represent approximately 97 percent of our overall goal of 100,000 disposals per year for this two-year period. Further, production records for the past four months confirm our ability to act on and dispose of at least 100,000 patent applications per year. During fiscal 1966 we received 93,000 patent applications, an all-time record, as compared with 89,000 applications the previous year. Our backlog of pending patent applications at the end of the year stood at 209,000 as compared with 207,000 at the end of the previous year. We also issued an all-time record of nearly 67,000 patents during the past year, as compared with 53,000 the previous fiscal year.

During fiscal 1966 we also initiated a number of significant procedural changes in our patent examining operations. These included supplying, without charge, to patent applicants, copies of references with Office actions. Also, we initiated a new streamlined continuation practice.

During the past year, as you know, the United States Supreme Court decided a number of important patent cases. I believe it is of interest to note that the two cases in which the Patent Office was directly involved were decided by the Court in favor of the Patent Office position. Several other cases which were decided by the Court concerning the standard of patentability were also particularly significant with regard to our operations.

I have emphasized to all of our patent examiners the important responsibility they carry in making sure that the standard of patentability enunciated by the Supreme Court and by the Congress is applied *in each and every case.* In order to further clarify Office policy on this important aspect of patent examination, I have recently instructed the Patent Examining Corps that any application covering an invention of doubtful patentability should not be allowed, unless and until such doubt is removed in the course of examination and prosecution, since otherwise the resultant patent would not justify the statutory presumption of validity, nor would it "strictly adhere" to the requirements laid down by Congress in the 1952 Act as interpreted by the Supreme Court. Our objective, the timely issuance of valid patents, is in the best interest of the inventor, the scientific community, industry, the patent system and the Patent Office.

Our Board of Appeals reduced the number of pending appeals to 5500 by the end of the year, as compared with 10,800 at the end of the previous year. This is the lowest number of pending appeals since 1956. The Board of Patent Interferences reduced the number of pending interferences to about 1300 by the end of the year (including an inventory adjustment), as compared with approximately 1900 at the end of the previous year. This is the lowest number of pending interferences since 1958.

Our Office of Patent Classification reclassified approximately 79,000 original patents in fiscal 1966 as compared with about 72,000 the previous year. Included in our fiscal 1966 activities was Class 52, Static Structures in which there were nearly 35,000 original patents. This class and the total number of patents reclassified were the highest since 1959. During this past year considerable emphasis was placed on "hot spot" reclassification projects. We believe that these "hot spot" reclassification projects, which have a high payout, will provide considerable immediate assistance to the Patent Examining Corps and to the public.

Fiscal 1966 also saw the adoption of a formal Career Development Program for patent professionals. We are continuously reviewing and studying this program to improve it as a result of experience and suggestions received.

There were 188 separations of patent professionals in fiscal 1966, as compared with 196 in the previous year. It is of particular interest to note that the turnover of patent professionals would undoubtedly have been substantially lower, perhaps about 160, in fiscal 1966 had it not been for the unusually high number of retirements resulting from the special retirement law enacted during the past year. This, I believe, is very encouraging. It is also of interest to note that approximately 30 percent of the new patent examiners who joined the Patent Office during the past year had previous technical experience in industry or government.

It is appropriate, I believe, to recognize the fine job done throughout the year by the clerical groups of our Patent Examining Corps and other patent organization units, the Office of Patent Services and the Administrative Services Division in handling the heavy workloads resulting from the high output from our professional patent operation, as well as the high activity generated by the passage of the new fee bill. For example, the workload handled by the Patent Copy Sales Branch and the Document Services Branch was up 10 percent. The number of patents processed through the Issue and Gazette Branch was up 20 percent, and the number of assignments recorded by the Assignment Branch was up more than 50 percent over the previous year.

Our Organization and Systems Analysis Division completed a contract for a new Patent Copy Fulfillment System during the year. This system will result in the future in better service to the public and reduced costs in supplying copies of patents from microform. This system will also provide a basis for the future establishment of classified sets of the United

States patents in microform for use by the Office as well as the public. The Organization and Systems Analysis Division also completed an extensive computer feasibility study which we hope will result in our acquisition of a computer in the near future. This Division also initiated a number of systems studies relating to our patent examination process and the flow of patent applications throughout the Office.

The Office was also quite active in the international patent field during the past year. Official visits were made to a number of foreign patent offices. Also, representatives of the Office attended a number of international meetings, including the International Patent Classification Working Group, the International Design Patent Classification Working Group, ICIREPAT, and meetings of the International Bureau at Geneva, as well as several other international conferences. During the year we also conducted a joint program with the Patent Office of the Federal Republic of Germany, exchanging search results on 1000 cases filed initially in each of the countries and subsequently filed in the other country. The results of this experimental search exchange program are currently being evaluated by the two Offices. It is apparent at this point that a considerable amount of valuable information for the future will be obtained from this experiment and study.

Our Research and Development Division was very active this past year with the patent offices of other countries who are members of the ICIREPAT organization. ICIREPAT has developed plans to bring into shared-use operation over the next five years approximately 25 to 30 mechanized search systems. Technical fields involved would include alloys, glass technology, lasers and masers, steroids, A–D converters and lubricants. It is estimated that at the end of this five-year period approximately 5 percent of our total search files will be mechanized.

During the past year the Patent Office participated actively in the nation-wide program commemorating the 175th Anniversary of the United States Patent System. We were particularly pleased to have been awarded the 1965 Silver Anvil by the Public Relations Society of America for our contributions to this program.

In fiscal 1966 our Trademark Examining Corps disposed of 25,000 applications, as compared with 25,500 during the previous year. An all-time record of 28,400 trademark applications were filed during the year, as compared with 27,000 during the previous year. Trademark registrations during the year amounted to 19,400 as compared with about 20,000 last year. The Trademark Trial and Appeal Board continued to maintain their work on a current basis.

Several procedural changes were made during the year in our trademark examining operations, including the initiation of a new procedure for making trademark applications special and a new streamlined trademark examining program, patterned somewhat after our streamlined patent examining program. Also, during the year, a formal Career Development Program for trademark professionals was adopted. In the international trademark field, representatives of the Office attended several meetings relating to the Madrid Convention, and were active in discussing the possible adherence of the United States to the Madrid Agreement with the patent bar and industry groups.

Total Patent Office expenditures for fiscal year 1966 amounted to $34,400,000, as compared with $31,300,000 for the previous fiscal year. As a result of the enactment of the new fee bill and its effect during a portion of the year, income from patent operations increased from $9,200,000 in fiscal 1965 to $18,200,000 this past year. During the year the Office also initiated a program under which fees may now be charged to deposit accounts.

To summarize our activities for fiscal 1966, I would say that it was definitely an all-around good year. Further, I believe we have laid a solid groundwork for the future. I would like particularly to thank the members of the patent bar whose excellent cooperation has contributed so much to make this past year such a successful year.

For the coming year, fiscal 1967, we estimate that the Patent Examining Corps will dispose of approximately 102,000 patent applications. Receipts of patent applications for this year are estimated at 92,000 so that we expect a reduction in our backlog of pending applications of approximately 10,000 cases, leaving a backlog of approximately 199,000 applications at the end of this fiscal year. We also anticipate that we will issue approximately 75,000 patents during the year, the increase over the previous year being primarily due to the doubling up of final fee payments over a three-month period as a result of the change in the law which now requires payment of final fees within three months of allowance rather than the six months under prior law.

We have initiated a program to fully implement our policy of providing Group Managers with the authority to determine the staffing requirements needed to meet their examining goals, including the determination of optimum staffing of examiners and clerical personnel and optimum utilization of overtime. We also expect during the coming fiscal year to fully implement the new Government-wide Planning, Programming and Budgeting System in the Patent Office, under which we are required to develop in detail our plans, programs and budgets over the next five years. This program will cover all major activities in the Patent Office. In the case of the Patent Examining Corps, the five-year program will be developed in terms of six-month increments corresponding to our six-month running plans of the type we have used during the past year. However, we plan, in the future, to develop our six-month plans from the "grass-roots" level rather than from the Office of Examining Control. More particularly, it is our plan to have each of our Supervisory Primary Examiners develop a five-year plan for their Art Units for attaining a pendency of 18 months on all dockets, which will then be combined into a Group plan, and then into an Operation plan, and ultimately into a Corps plan.

We anticipate very few changes in our patent examining procedures during the year. However, effective September 1, 1966, we have decided to change, on a trial basis, our second action final rejection procedure to provide that a second action on the merits will not be made final where new art or a new ground of rejection is introduced by the examiner and is not necessitated by an amendment or change in the claims or specification by the applicant or his attorney or agent. One of the side effects of this change will be the elimination of final rejections having a four-month response period, so that in the future all actions on the merits will have three-month response periods.

Also, we have decided to incorporate into our Career Development Program for patent professionals, the new career program referred to in my speech of March 30, 1966, which was published in the Official Gazette. Under this program, career patent professionals will be eligible to participate in the Patent Office Academy program, our training programs at local universities covering technical and legal courses, field trips, career development assignments, and the like.

We also expect during the next six months to develop and implement a new quality audit program in which allowed applications will be sampled and reviewed with respect to the application of current patent examining procedures, field of search, and standard of patentability.

Our Trademark Examining Operation has developed a three-year program covering fiscal years 1967–69 under which it is planned that our trademark examining will attain a current status in which new applications will be taken up for examination within three months of filing. We hope to be able to bring our professional trademark examining staff up to full budget strength in the very near future to assist in accomplishing the goal of this three-year program.

We are also currently developing a program for a Speakers' Bureau in the Patent Office covering both patents and trademarks. Members of the Speakers' Bureau will be available to speak on patents or trademarks to local groups.

We also plan to initiate and complete during the year a number of special studies, including development of a long range documentation program for the Office, a cost-benefit analysis of the U.S. patent system and a cost-benefit analysis of an international patent system.

During this coming year we also look forward to continued progress towards international cooperation in the patent and trademark fields on a bi-lateral as well as a multi-lateral basis. We are currently developing possible future cooperative programs with the patent offices of a number of other countries.

With regard to the status of a new Patent Office building, I have nothing new to report. However, continuous efforts are being exerted to improve the working environment for our employees and members of the public who use our facilities. For example, as you probably know, our Public Search Room was recently air-conditioned. Also, additional air-conditioning units have recently been installed in our examining and supporting service areas.

In conclusion, I believe that fiscal 1967 will be a most important year for both our patent and trademark operations. Our performance during the year will undoubtedly have a considerable bearing on the future of the United States patent system, particularly in light of the activities during the year of the Presidential Commission and the Senate Subcommittee on Patents. I am quite sure that I can count on the patent bar for their continued cooperation and best efforts to make fiscal 1967 the most successful year in the history of the United States Patent Office.

Thank you!

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 164,072. Standard Chemical Products, Inc., Hoboken, N.J. Filed Mar. 6, 1963.

SCP

Owner of Reg. No. 402,773.

Class 5—Adhesives

For Cellulose Derivatives and Wallpaper Pastes.

Class 6—Chemicals and Chemical Compositions

For Textile Oils, Textile Sizings, Textile, Leather and Paper Auxiliaries, Textile Softeners, Antistatic Agents and Catalysts, Sulfonated Oils, Wetting Agents, Dye Assistants, Etching Additives, Wallpaper Removers, Fatty Alcohols and Fatty Acids, Alkyl Sulfates, Alkyl Ether Sulfates, Surfactants, and Alkylolamides.

Class 52—Detergents and Soaps

For Scouring, Dispersing, Emulsifying, and Foaming Agents.

First use Feb. 8, 1963.

SN 202,000. Aluminum Specialty Company, Manitowoc, Wis. Filed Sept. 16, 1964.



Class 21—Electrical Apparatus, Machines, and Supplies

For Christmas Tree Stands and Light Projectors.

Class 50—Merchandise Not Otherwise Classified

For Artificial Christmas Trees and Accessories.

First use January 1961.

SN 212,723. Alken-Murray Corporation, New York, N.Y. Filed Feb. 25, 1965.

ALKEN EVEN-FLO

Class 6—Chemicals and Chemical Compositions

For Boiler Compounds, Rust and Corrosion Inhibitors.

Class 15—Oils and Greases

For Fuel Oil Additives.

Class 52—Detergents and Soaps

For Sludge, Rust, Scale, and Corrosion Cleaning and Removing Preparations.

First use no later than June 1938.

SN 212,724. Alken-Murray Corporation, New York, N.Y. Filed Feb. 25, 1965.

ALKEN

Class 6—Chemicals and Chemical Compositions

For Boiler Compounds, Rust and Corrosion Inhibitors.

Class 15—Oils and Greases

For Fuel Oil Additives.

Class 52—Detergents and Soaps

For Sludge, Rust, Scale, and Corrosion Cleaning and Removing Preparations.

First use no later than June 1934.

SN 221,442. Argo Marine Supply Co., Inc., New York, N.Y. Filed June 18, 1965.



Class 101—Advertising and Business

For Distributorship Services in the Field of Marine Supplies.

Class 103—Construction and Repair

For Repair of Marine Equipment.

First use during February 1963.

SN 226,165. Pure Pharmacal Company, Houston, Tex. Filed Aug. 20, 1965.

LADY EARL

The name "Lady Earl" is thought to be primarily fanciful.

Class 51—Cosmetics and Toilet Preparations

For Cosmetics—Namely, Astringent Cleansing Lotions, Hair Sprays, Body Deodorants, Hand and Body Lotions, Skin Creams, Skin Bath Oils, Body Creams, and Silicone Sun Filter Body Lotions.

Class 52—Detergents and Soaps

For Hair Shampoo.

First use at least as early as Feb. 2, 1965.

SN 231,873. Malcolm Hirsh, d.b.a. The Bacova Guild, Bacova, Va. Filed Nov. 1, 1965.

THE BACOVA GUILD ORIGINAL

Class 2—Receptacles

For Ice Buckets, Trays, and Waste Baskets.
First use May 10, 1965.

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Door Knockers, Door Stops, and Foot Scrapers.
First use May 24, 1965.

Class 22—Games, Toys, and Sporting Goods

For Equipment Sold as Units for Playing the Games of Croquet and a Game Played With Golf Clubs, Golf Balls, and Small Wickets.
First use May 13, 1965.

Class 32—Furniture and Upholstery

For Bar Carts, Book Ends, Foot Stools, Serving Bars, and Tables.
First use May 13, 1965.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Andirons and Lamps.
First use May 20, 1965.

Class 50—Merchandise Not Otherwise Classified

For Place Mats.
First use May 15, 1965.

SN 232,439. White Stores, Inc., Wichita Falls, Tex. Filed Nov. 9, 1965.

WHITE

Owner of Reg. Nos. 623,991, 756,430, and others.

Class 15—Oils and Greases

For Motor Oils and Greases.
First use June 7, 1959.

Class 21—Electrical Apparatus, Machines, and Supplies

For Storage Batteries.
First use June 15, 1959.

Class 31—Filters and Refrigerators

For Air Filters and Oil Filters.
First use Mar 2, 1960.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Bicycle Tires and Tubes.
First use Nov. 6, 1953.

SN 237,909. The Veneko Corporation, Dunkirk, N.Y. Filed Feb. 3, 1966.

KOBAH

Class 1—Raw or Partly Prepared Materials

For Solid Materials in the form of Sheets, Bars, Rods, or Other Solid Forms or Designs Composed of Fiberglass and Resins.
First use July 12, 1964.

Class 22—Games, Toys, and Sporting Goods

For Skis, Ski Poles, Archery Bows, and Arrows.
First use Jan. 10, 1961.

SN 242,172. Dynasurf Chemical Corporation, Baltimore, Md. Filed Mar. 30, 1966.

DYNASURF

Class 4—Abrasives and Polishing Materials

For Paste Wax, Floor Cleaner and Polisher, All Purpose Floor Wax, Wax Remover, and Surface Cleaner.

Class 6—Chemicals and Chemical Compositions

For Dustless Sweeping Compound.

Class 16—Protective and Decorative Coatings

For Seal for Marble and Terrazzo Floors, Touch Up Spray Floor Finish.

Class 52—Detergents and Soaps

For Lotion Cream Hand Soap, All Purpose Cleaners for Floors, Walls and Woodworks, and Detergent Concentrate.
First use Feb. 28, 1966.

SN 243,936. Lever Brothers Company, New York, N.Y. Filed Apr. 21, 1966.

GEMINI

Class 4—Abrasives and Polishing Materials

For Floor Wax.
First use Feb. 23, 1966.

Class 52—Detergents and Soaps

For All-Purpose Household Cleaner.
First use Mar. 17, 1966.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 213,414. Compagnie Generale d'Electricite, Paris, France. Filed Mar. 5, 1965.

CEGEMIX

Priority claimed under Sec. 44(d) on French Reg. No. 526,135, dated Dec. 7, 1964 (Seine); Natl. Inst. No. 236,660.
For Synthetic Resins Reinforced With Fiber Glass.

SN 227,200. Pennington Grain & Seed, Inc., Madison, Ga. Filed Aug. 30, 1965.

PENNINGTON GREEN

The drawing is lined for red and green. Owner of Reg. No. 755,241.
For Lawn Seed.
First use on or about Mar. 8, 1958.

SN 229,532. Eli Lilly and Company, Indianapolis, Ind. Filed Oct. 7, 1965.

GREENFIELD

Owner of Reg. Nos. 722,467, 755,307, and 776,433.
For Grass Seed.
First use Jan. 19, 1965.

SN 229,945. Charles River Breeding Laboratories, Inc. North Wilmington, Mass. Filed Oct. 12, 1965.

FROM THE HAND OF THE VETERINARIAN TO RESEARCH

Owner of Reg. No. 678,231.
For Experimental Animals—Namely, Rats for Experimental Purposes.
First use November 1954.

SN 235,921. Marble Products Company of Georgia, d.b.a. Marble Products Company, Atlanta, Ga. Filed Jan. 6, 1966.

MAR-VALS

For Tumbled Marble Pebbles for Decorative Roofing, for Use in the Manufacture of Terrazzo Floors, Decorative Panels, and for Use in Landscaping and for Other Decorative Purposes.
First use July 12, 1962.

SN 235,955. Anthony A. Buford, d.b.a. Buford Polled Hereford Farms, Caledonia, Mo. Filed Jan. 7, 1966.

AAB

For Polled Hereford Cattle.
First use May 23, 1957.

SN 236,279. Moore & Munger, New York, N.Y. Filed Jan. 12, 1966.

COMET

For Clay.
First use on or about January 1963.

SN 236,476. The Dow Chemical Company, Midland, Mich. Filed Jan. 14, 1966.

909

Owner of Reg. No. 632,046.
For Synthetic Resins.
First use at least as early as 1956.

SN 236,706. Archer-Daniels-Midland Company, Minneapolis, Minn. Filed Jan. 18, 1966.

ADMINO

For Melamine and/or Formaldehyde Resins.
First use on or about Nov. 9, 1965.

SN 237,866. National Lead Company, New York, N.Y. Filed Feb. 2, 1966.

BENAQUA

For Modified Clays Useful as Gellants.
First use on or about Dec. 1, 1965.

SN 238,089. Keeter Charcoal Company, Denver, Colo. Filed Feb. 4, 1966.

FIESTA

For Charcoal Briquets.
First use on or about Feb. 1, 1966.

SN 239,143. The General Tire & Rubber Company, Akron, Ohio. Filed Feb. 18, 1966.

NIMBUS

For Polyurethane Foam.
First use Jan. 21, 1966.

SN 239,840. Vantress Farms, Inc., Duluth, Ga. Filed Feb. 28, 1966.

VANTRESS

Owner of Reg. Nos. 550,307 and 701,157.
For Live Chickens and Hatching Eggs.
First use Aug. 27, 1965.

SN 240,602. General Foam Corporation, New York, N.Y. Filed Mar. 10, 1966.

GFC

Owner of Reg. No. 725,180.
For Foam Rubber and Synthetic Foam Material.
First use on or about Oct. 20, 1960.

SN 240,607. Haveg Industries, Inc., Wilmington, Del. Filed Mar. 10, 1966.

MINICEL

For Closed Cell Foamed Plastic Material.
First use Nov. 3, 1965.

Class 2—Receptades

SN 230,165. Kaymar Paper Company, Inc., Bronx, N.Y. Filed Oct. 14, 1965.

Wendy

For Paper Cups, Paper Plates, Paper Board Containers, Paper Board Trays, and Paper Board Cartons for Packaging Various Products.
First use Sept. 28, 1950.

SN 234,300. St. Regis Paper Company, New York, N.Y. Filed Dec. 9, 1965.

ST. REGIS

Owner of Reg. Nos. 377,917, 712,869, and others.
For Paperboard Boxes and Cartons, Parts Thereof, and Blanks Therefor.
First use in or about July 1959.

SN 234,301. St. Regis Paper Company, New York, N.Y. Filed Dec. 9, 1965.

ST REGIS

Owner of Reg. Nos. 377,917, 712,869, and others.
For Shipping Containers Comprising: Corrugated Boxes, Self-Sealing and Wet-Strength Corrugated Boxes, Bulk Boxes, Solid Fiber Boxes, Display Containers, Wirebound Boxes, Folding Boxes and Cartons and Blanks Therefor, Paper Tubing and Bottle and Can Carrier Packs; Bags Comprising: Multiwall Bags, Consumer Bags, Kraft Overwraps, Baler Bags, Bulk Bags, Plastic Bags, Textile Bags, Waterproof Paper-Lined Bags, and Open-Mesh Bags; Also Paper Plates, Cups, Fluted Liners, Paperboard Trays, Egg Cartons, and Food Processing and Storage Tanks.
First use in or about November 1965.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 234,189. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Dec. 8, 1965.

VISTRAM

Priority claimed under Sec. 44(d) on German application filed June 12, 1965; Reg. No. 814,454, dated Jan. 11, 1966.
For Baggage and Saddlery.

Class 4—Abrasives and Polishing Materials

SN 229,056. Bristol-Myers Company, New York, N.Y. Filed Oct. 1, 1965.

BEHOLD

For Furniture Polish.
First use July 23, 1965.

SN 229,057. Bristol-Myers Company, New York, N.Y. Filed Oct. 1, 1965.

DIAMOND BRITE

For Floor Wax.
First use Mar. 16, 1965.

SN 229,483. American-Lincoln Corporation, Toledo, Ohio. Filed Oct. 7, 1965.

AMER-REZ

For Abrasive Paper.
First use Sept. 2, 1965.

Class 5—Adhesives

SN 194,610. Harvest Queen Mill & Elevator Company, Dallas, Tex. Filed June 1, 1964.

HQM

For Industrial Foundry Binder Manufactured From Milo Cereal.
First use Feb. 8, 1962.

SN 225,130. Morris Feldstein & Son, Inc., Brooklyn, N.Y. Filed Aug. 6, 1965.

GOLD EAGLE

For Rubber Cement.
First use January 1933.

SN 225,133. Morris Feldstein & Son, Inc., Brooklyn, N.Y. Filed Aug. 6, 1965.

GOLD EAGLE

For All Purpose Cement.
First use January 1933.

SN 227,785. United Distributors Service, Inc., d.b.a. United Distributors Service, Roanoke, Va. Filed Sept. 14, 1965.

UDS

Owner of Reg. Nos. 768,348 and 772,186.
For Friction Tape.
First use Jan. 3, 1963.

Class 6—Chemicals and Chemical Compositions

SN 207,666. Speed-O-Print Business Machines Corporation, Chicago, Ill. Filed Dec. 7, 1964.

DRI-PAK

For Cartridge Containing Developer Fluid for Use in Photocopy Machines.
First use July 13, 1964.

SN 212,073. The Udylite Corporation, Warren, Mich. Filed Feb. 15, 1965.

TRI-NI

For Chemical Plating Solution and Addition Agents for Use in the Electrodeposition of Metals.
First use Jan. 22, 1965.

SN 219,801. McCall Manufacturing Company, Incorporated, Jasper, Fla. Filed May 26, 1965.

LUCKY-MACK

Owner of Reg. Nos. 738,878 and 780,107.
For Insecticide.
First use on or about Oct. 9, 1959; on or about Nov. 12, 1957 in a different form.

SN 226,340. Com-Pak Chemical Corporation, Shakopee, Minn. Filed Aug. 24, 1965.

CHEM-I-DROP

For Deodorant for Household and Industrial Use.
First use Jan. 4, 1964.

SN 228,237. Aerosol Specialties, Inc., Bridgeport, Conn. Filed Sept. 21, 1965.

GERM-A-SAFE

For Disinfectant Spray.
First use June 7, 1965.

SN 228,311. American Cyanamid Company, Wayne, N.J. Filed Sept. 22, 1965.

CY-DRIL

Owner of Reg. Nos. 587,090, 761,544, and others.
For Drilling Fluid Additive.
First use July 23, 1965.

SN 228,597. American Cyanamid Company, Wayne, N.J. Filed Sept. 27, 1965.

CYANOFOL

Owner of Reg. Nos. 193,386, 681,659, and 704,442.
For Defoliant.
First use Sept. 10, 1965.

SN 232,523. Carb-Rite Company, Chicago Heights, Ill. Filed Nov. 12, 1965.

CARB-RITE

For Carbon Obtained from Processing Coke and Coal or Calcining Petroleum Base Asphalts and Employed to Increase and Control the Carbon Content of Ferrous Metals in the Ladle or Melting Furnace.
First use on or about July 1945.

SN 233,709. Foseco International Limited, Birmingham, England. Filed Dec. 1, 1965.

FERROGEN

For Chemical Products for Use in the Treatment of Metals in Foundry Practice—Namely, Compositions for Deoxidizing and Degassing Cast Irons.
First use Feb. 10, 1960; in commerce Feb. 10, 1960.

SN 234,364. Riedel & Co., Bielefeld, Germany. Filed Dec. 10, 1965.

Cupatier

Owner of German Reg. No. 689,478, dated May 17, 1955.
For Galvano-Chemical Preparations.

SN 234,434. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Dec. 13, 1965.

KA-101

For Active Alumina.
First use at least as early as Nov. 24, 1958.

SN 234,618. Atlas Chemical Industries, Inc., Wilmington, Del. Filed Dec. 15, 1965.

SUTRO

For Polyhydric Alcohols.
First use Nov. 29, 1965.

SN 234,632. Elmat Corporation, Mountain View, Calif. Filed Dec. 15, 1965.

ELMAT

For Purified Silicon.
First use June 21, 1965.

SN 234,713. American Cyanamid Company, Wayne, N.J. Filed Dec. 16, 1965.

CYFLO

Owner of Reg. Nos. 587,090, 761,544, and others.
For Rosin Size.
First use Oct. 18, 1965.

SN 234,877. Cargill, Incorporated, Minneapolis, Minn. Filed Dec. 20, 1965.

CARGUARD

For Corrosion Inhibiting Chemicals as an Ingredient of Road Salt.
First use Mar. 18, 1965.

SN 235,026. Sandoz, Inc., Hanover, N.J. Filed Dec. 20, 1965.

GEMASYN

For Dyes for Dyeing Polypropylene Fibers.
First use Dec. 1, 1965.

SN 235,103. The Heckerman Corporation, Inglewood, Calif. Filed Dec. 22, 1965.

HECK-CHECK

For Leak Detector Fluid for Spraying Over Suspected Leak Areas in Pressurized Gas or Pneumatic Systems.
First use Dec. 13, 1965.

SN 235,104. The Heckerman Corporation, Inglewood, Calif. Filed Dec. 22, 1965.

CHECK-IT

For Leak Detector Fluid for Spraying Over Suspected Leak Areas in Pressurized Gas or Pneumatic Systems.
First use Dec. 15, 1965.

SN 235,258. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed Dec. 27, 1965.

BASOLON

For Chemicals and Chemical Compounds—Namely, Water-Softening Agents.
First use Nov. 12, 1965; in commerce Nov. 12, 1965.

SN 235,259. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed Dec. 27, 1965.

BASOPON

For Chemicals and Chemical Compounds—Namely Wetting and Scouring Agents for the Textile Industry.
First use Feb. 2, 1965; in commerce Feb. 2, 1965.

SN 235,280. Crowley Tar Products Company Incorporated, New York, N.Y. Filed Dec. 27, 1965.

CYCLO-FLO

For Oil-Well Flow Stimulant.
First use July 9, 1954.

SN 235,316. Mallinckrodt Chemical Works, St. Louis, Mo. Filed Dec. 27, 1965.

CALO-GRAN

Owner of Reg. Nos. 230,506, 789,285, and others.
For Turf Fungicide.
First use Nov. 30, 1965.

SN 235,382. Arkansas Company, Inc., Newark, N.J. Filed Dec. 28, 1965.

DYLOPON

For Dyeing Assistants Used in the Wet Processing of Wool and Other Fibers, Such as Nylon, at Low Temperatures.
First use Aug. 9, 1965.

SN 236,858. West Virginia Pulp and Paper Company, New York, N.Y. Filed Jan. 19, 1966.

NOCRYSS

For Tall Oil.
First use May 26, 1953.

SN 239,238. The Denver Chemical Manufacturing Company, d.b.a. Wampole Laboratories, Stamford, Conn. Filed Feb. 21, 1966.

PREGSLIDE

For Diagnostic Reagent for Pregnancy.
First use Feb. 15, 1966.

SN 239,914. Lever Brothers Company, New York, N.Y. Filed Mar. 1, 1966.

ARLANEX

For Blend of Ironing Ease Ingredients Incorporated in a Fabric Rinse Preparation.
First use Feb. 16, 1966.

SN 242,267. National Polychemicals, Inc., Wilmington, Mass. Filed Mar. 30, 1966.

WILTROL

For Retarder Useful With Natural and Synthetic Elastomers.
First use Sept. 26, 1955.

SN 244,449. Diamond Alkali Company, Cleveland, Ohio. Filed Apr. 28, 1966.

DACAGIN

Owner of Reg. Nos. 748,940 and 792,032.
For Herbicidal Adjuvant.
First use Feb. 22, 1966.

SN 245,049. Diamond Alkali Company, Cleveland, Ohio. Filed May 6, 1966.

"SOURCE-TO-SILO"

For Caustic Soda.
First use April 20, 1966.

Class 8—Smokers' Articles, Not Including Tobacco Products

SN 225,873. Japan Gas Lighter Corp., New York, N.Y. Filed Aug. 17, 1965.

J-2

For Gas Lighters for Cigars, Cigarettes, and Pipes.
First use Aug. 5, 1965.

Class 10—Fertilizers

SN 196,809. Ruhr-Stickstoff Aktiengesellschaft, Bochum, Germany. Filed June 30, 1964.

NITROPOTASH RUSTICA

No claim is made to the exclusive right to use the word "Nitropotash" apart from the mark shown in the drawing, but the applicant waives none of its common law rights therein.
For Fertilizers—Namely, Fertilizers Containing Nitrogen and Potassium.
First use May 15, 1960; in commerce May 15, 1963.

SN 227,154. Kellogg Supply Co., Inc., Wilmington, Calif. Filed Sept. 3, 1965.



For Soil Conditioners.
First use April 1965.

SN 233,209. Kellogg Supply Co., Inc., Wilmington, Calif. Filed Nov. 23, 1965.

NITROHUMUS

For Coil Conditioner (Fertilizer).
First use 1940.

Class 11—Inks and Inking Materials

SN 228,849. Sun Chemical Corporation, New York, N.Y. Filed Sept. 28, 1965.

MORR-BRITE

For Printing Inks.
First use July 19, 1965.

SN 230,613.. Columbia Ribbon & Carbon Manufacturing Co., Inc., Glen Cove, N.Y. Filed Oct. 20, 1965.

MILLER

Owner of Reg. No. 191,240.
For Inked Ribbons and Carbon Papers.
First use Aug. 1, 1923.

SN 230,786. Columbia Ribbon & Carbon Manufacturing Co., Inc., Glen Cove, N.Y. Filed Oct. 21, 1965.

DURACOTE

For Typewriter Ribbons and Carbon Paper.
First use Jan. 9, 1962.

Class 12—Construction Materials

SN 172,647. Edward J. Dees and Harry M. Campbell (partnership), d.b.a. Coolcrete Co., Dallas, Tex. Filed July 9, 1963.

COOLCRETE

For Additive Preparation To Be Combined With Cement, Marble Dust, and Water To Form a Heat Resistant Topping for Concrete Walks and Floors and the Like.
First use June 24, 1963.

SN 224,883. Purity Paint Products Corp., Brooklyn, N.Y. Filed Aug. 3, 1965.

TEXURE

For Textured Decorative Spray Finish for Structural Surfaces Such as Concrete, Gypsum, Plaster, Cinder Block, and Other Structural Surfaces.
First use May 29, 1964.

SN 227,786. United Distributors Service, Inc., d.b.a. United Distributors Service, Roanoke, Va. Filed Sept. 14, 1965.

UDS

Owner of Reg. Nos. 768,348 and 772,186.
For Plastic Fillers for the Repair of Automobiles and Similar Types of Repair Work.
First use Sept. 30, 1963.

SN 229,179. Asahi Fancy Plywood Company, Limited, Toyonaka, Osaka, Japan. Filed Oct. 4, 1965.

Apoc·Hitex

For Plywood.
First use June 1965; in commerce June 1965.

SN 229,323. Woodall Industries, Incorporated, Detroit, Mich. Filed Oct. 4, 1965.

CHEM-SEAL

For Decorative Chemically Resistant Plastic Laminate for Use as a Cover Sheet or Facing for Such Products as Shelves, Doors, Drawers, Cabinets, and the Like.
First use on or about June 24, 1965.

SN 234,063. Panelboard Manufacturing Company, Inc., Newark, N.J. Filed Dec. 6, 1965.

PRISMALITE

For Embossed Decorative Synthetic Resin Panels Used in Room Dividers and Making Cabinet Doors.
First use Nov. 30, 1965.

SN 243,030. St. Regis Paper Company, New York, N.Y. Filed Apr. 8, 1966.

ST REGIS

Owner of Reg. Nos. 377,917, 712,869, and others.
For Building Materials and Products Comprising: Lumber; Softwood and Hardwood Plywood; Studs; Siding; Moulding; Flooring; Panel Doors; Timbers; Treated Poles, Posts and Ties; Flashing Materials; and Reinforced Building Papers.
First use on or about Jan. 12, 1965.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 187,219. Wesco Hardware Co., Hawthorne, Calif. Filed Feb. 21, 1964.



The mark consists of the stylized letters "WH."
For Door Knobs, Hinges, Cabinet Knobs, and Plumbing Fixtures—Namely, Faucet Handles.
First use Sept. 5, 1963.

SN 204,949. Apparatus Controls, San Carlos, Calif. Filed Oct. 28, 1964.



Applicant disclaims the representation of the goods apart from the mark as shown.
For Flow Restricting Nozzles for Controlling the Mixture Quality of Liquids Containing Admixed Gases and Solids.
First use Aug. 8, 1964.

SN 212,004. Idealspaten- und Schaufelwalswerk vorm. Eckardt & Co. GmbH, Herdecke/Ruhr, Germany. Filed Feb. 15, 1965.



For Metallic Traction Shoes for Use on Rubber Tires.
First use July 5, 1962; in commerce July 20, 1962.

SN 222,726. Jack R. Martens, d.b.a. Aerofast Company, Wheaton, Ill. Filed July 6, 1965.

AEROFAST

For Quick-Release Fastening Pin for Mechanical Assemblies, Being a Hitch Pin, Hinge Pin, or Lock Pin and the Like, and Is Often Used as a Substitute for a Cotter Pin or Cotter Key Which Is Required or Desired To Be Quickly or Often Removed and Replaced.
First use on or about Apr. 8, 1958.

SN 236,708. Associated Design Group, Limited, Salt Lake City, Utah. Filed Jan. 18, 1966.

ARCHON

For Molded Plastic Products—Namely, Combined Sink Top and Basin.
First use July 22, 1965.

Class 14—Metals and Metal Castings and Forgings

SN 225,870. Howe Sound Company, New York, N.Y. Filed Aug. 17, 1965.

MICROCAST

Owner of Reg. Nos. 423,935 and 549,798.
For Metal Castings Made of Ferrous and Non-Ferrous Metals and Alloys.
First use Nov. 4, 1944.

SN 232,783. Hitchiner Manufacturing Co., Inc., Milford, N.H. Filed Nov. 16, 1965.



The mark consists of the letters "HM."
For Metal Castings.
First use Oct. 20, 1965.

Class 15—Oils and Greases

SN 222,881. Unidyne Industries, Incorporated, Denver, Colo. Filed July 7, 1965.

ENTER THE QUIET ZONE OF Q-PLUS

For Liquid Additives, Cleaners and Conditioners—Namely, Additives for Oils, Greases, Transmission Fluids, Fuels, and Lubricants Used in Vehicles, Diesels, and Gas Turbines, and Marine and Industrial Equipment and the Like, a Transmission Conditioner for Automatic Transmissions, a Carburetor Liquid Cleaning Additive, and a Gasoline Liquid Additive for Cleaning Combustion Engine Valves and Removing Combustion Chamber Deposits.
First use on or about May 17, 1965.

SN 227,787. United Distributors Service, Inc., d.b.a. United Distributors Service, Roanoke, Va. Filed Sept. 14, 1965.

UDS

Owner of Reg. Nos. 768,348 and 772,186.
For Motor Oil and Starting Fluid for Diesel and Gasoline Engines.
First use Aug. 26, 1963.

SN 233,357. Kayo Oil Company, Chattanooga, Tenn. Filed Nov. 26, 1965.

KAYO

Owner of Reg. Nos. 540,063 and 662,459.
For Gasoline, Kerosene, Diesel Oil, Motor Oil, Valve Oil, and Automatic Transmission Fluids.
First use September 1959.

SN 233,358. Kayo Oil Company, Chattanooga, Tenn. Filed Nov. 26, 1965.

KAYO

Owner of Reg. Nos. 540,063 and 662,459.
For Gasoline, Kerosene, Diesel Oil, Motor Oil, Valve Oil, and Automatic Transmission Fluids.
First use 1948.

SN 233,359. Kayo Oil Company, Chattanooga, Tenn. Filed Nov. 26, 1965.



Owner of Reg. Nos. 540,063 and 662,459.
For Gasoline, Kerosene, Diesel Oil, Motor Oil, and Automatic Transmission Fluids.
First use 1961.

SN 233,964. Frank J. Underwood, d.b.a. Dus-All Oil Company, Birmingham, Ala. Filed Dec. 3, 1965.

DUZ-ALL

For Concentrate Additive for Motor Oils.
First use June 8, 1965.

SN 234,186. Everlube Corporation of America, d.b.a. Everlube Corporation, North Hollywood, Calif. Filed Dec. 8, 1965.

ECOALUBE

Owner of Reg. No. 688,899.
For Solid Lubricant Compositions for Use in Coating Metal Surfaces To Provide Dry Film Lubrication Thereon.
First use June 18, 1965.

SN 241,073. Norton Company, Watervliet, N.Y. Filed Mar. 15, 1966.

BEAR

Owner of Reg. Nos. 659,967, 684,598, and others.
For Mineral Oil—Namely, a General-Purpose Lubricating and Sharpening Oil.
First use on or before Dec. 1, 1961.

Class 16—Protective and Decorative Coatings

SN 234,974. United Distributors Service, Inc., d.b.a. United Distributors Service, Roanoke, Va. Filed Dec. 20, 1965.

UDS

For Paint Thinners.
First use Jan. 28, 1964.

SN 235,873. Union Oil Company of Boston, Revere, Mass. Filed Jan. 5, 1966.

UNOCOAT

For Undercoating for Automotive Vehicles.
First use Nov. 9, 1965.

SN 236,111. Marcoa International, Inc., Houston, Tex. Filed Jan. 10, 1966.

STOP LITE

For Colored, Transparent, Coating Compositions for Tinting Glass.
First use Nov. 18, 1965.

SN 236,174. Baltimore Paint and Chemical Corporation, Baltimore, Md. Filed Jan. 11, 1966.

TYLINE

Owner of Reg. Nos. 593,777 and 696,659.
For Traffic Marking Paint.
First use Nov. 22, 1965.

SN 236,726. The Euclid Chemical Company, Cleveland, Ohio. Filed Jan. 18, 1966.

REZ-SEAL

For Protective Coating for Concrete and Terrazzo Floors, Effective To Make Their Surfaces-Highly Resistant to Acids, Salts, Oils, Grease, Alkali, Ink, Water and Dirt, Consisting of a Polymerized Inert Resin Base Material Compounded With Volatile Solvents.
First use on or about Feb. 1, 1952.

SN 236,741. Fish Furniture Shop, Inc., Cleveland, Ohio. Filed Jan. 18, 1966.

WIPETTE

For Varnishes.
First use Sept. 15, 1965.

SN 237,592. Rock Paint & Chemical Co., Fort Atkinson, Wis. Filed Jan. 28, 1966.

ROCSUEDE

For Acrylic Baked or Air-Dried Finish Having a Suede-Like Texture.
First use Dec. 21, 1965.

SN 238,123. Snyder Brothers Company, Toccoa, Ga. Filed Feb. 4, 1966.

STYBAR

For Lacquers Used as a Coating for Plastic.
First use Jan. 31, 1966.

SN 239,092. Vulcan Lacquer and Coatings Co., Inc., Brooklyn, N.Y. Filed Feb. 17, 1966.

PYROLAC

For Industrial Finishes (e.g. Lacquers, Enamels, Varnishes, Stains, Paints, and Coatings).
First use in about 1920.

SN 240,690. Witco Chemical Company, Inc., New York, N.Y. Filed Mar. 10, 1966.

ISO-DEK

For Driers for Use in Paints.
First use Jan. 10, 1966.

SN 241,610. Geo. D. Wetherill & Co., Inc., Philadelphia, Pa. Filed Mar. 22, 1966.

VEL-SATIN

For Low Lustre Enamel.
First use Jan. 18, 1966.

SN 241,774. Ferro Corporation, Cleveland, Ohio. Filed Mar. 24, 1966.

SKINFOIL

For Anti-Skinning Agent for Coating Materials Such as Paints, Lacquers, and Enamels.
First use on or about Dec. 14, 1965.

SN 242,159. Wolverine Shoe and Tanning Corporation, Rockford, Mich. Filed Mar. 29, 1966.

REVIVE

For Protective and Restorative Spray for Leathers.
First use on or about Feb. 11, 1966.

Class 17—Tobacco Products

SN 240,455. P. Lorillard Company, New York, N.Y. Filed Mar. 8, 1966.

HIGH-TIME

For Cigarettes.
First use Feb. 18, 1966.

Class 18—Medicines and Pharmaceutical Preparations

SN 216,107. Stanley Drug Products, Inc., d.b.a. Puritan Chemical Co. Portland, Oreg. Filed Apr. 8, 1965.

PURITAN

Owner of Reg. No. 646,001.
For Pharmaceutical and Medicinal Preparations.
First use May 6, 1948.

SN 219,695. Drug Guild Co-Operative, Inc., Brooklyn, N.Y. Filed May 25, 1965.

KWIK-AID

For Toothache Drops, Preparation for Removing Corns, Anaesthetic Antihistamine Bacterocide, and Preparation for Treating Headaches.
First use at least as early as Jan. 1, 1955.

SN 230,838. Johnson Industries, Inc., Menlo Park, N.J. Filed Oct. 21, 1965.



For Camphorated Skin Lotion of Mineral Oil and Lanolin.
First use Oct. 5, 1965.

SN 232,222. Merck & Co., Inc., Rahway, N.J. Filed Nov. 5, 1965.

DEC-INDOCIN

Owner of Reg. Nos.758,725, 776,064, and 794,354.
For Medicinal Preparation Having Anti-Inflammatory, Analgesic, and Antipyretic Properties.
First use Sept. 20, 1965.

SN 233,134. Savage Laboratories, Inc., Houston, Tex. Filed Nov. 22, 1965.

GPC-EXPECTORANT

Owner of Reg. No. 371,199.
For Expectorant, Antihistamine, and Decongestant Medication.
First use Oct. 26, 1965.

SN 235,703. Orbit Pharmaceutical, Inc., Kansas City, Kans. Filed Jan. 3, 1966.

ORBEDEC

For Appetite Depressant Sedative.
First use Oct. 29, 1965.

SN 235,706. Orbit Pharmaceutical, Inc., Kansas City, Kans. Filed Jan. 3, 1966.

LUNASPAS

For Antispasmodic Sedative Tablets.
First use Oct. 28, 1963.

SN 236,134. Parke, Davis & Company, Detroit, Mich. Filed Jan. 10, 1966.

ONSTAN

Owner of Reg. No. 757,610.
For Analgesic Preparation.
First use Sept. 12, 1962.

SN 236,194. Nephron Company, Tacoma, Wash. Filed Jan. 11, 1966.

ASMAVERT

For Medicine for the Treatment of Bronchial Asthma or Hay Fever.
First use Nov. 19, 1965.

SN 236,314. Burlington Pharmacal, Inc., Burlington, N.C. Filed Jan. 12, 1966.

ULTABS

For Ulcer Remedy.
First use July 1, 1965.

SN 236,415. Purepac Corporation, Elizabeth, N.J. Filed Jan. 13, 1966.

ALCORUB

For Rubbing Alcohol.
First use Feb. 3, 1921.

SN 236,701. American Pharmaceutical Company, New York, N.Y. Filed Jan. 18, 1966.

ASPRI-JEL

For Analgesic Preparations.
First use on or about Dec. 20, 1965.

SN 236,718. Carter-Wallace, Inc., New York, N.Y. Filed Jan. 18, 1966.

SOLAGETIC

Owner of Reg. No. 709,538.
For Pharmaceutical Preparation—Namely, a Tranquilizer and Sedative.
First use Nov. 10, 1965.

SN 237,048. E. R. Squibb & Sons, Inc., New York, N.Y. Filed Jan. 21, 1966.

BANDOL

For Analgesic.
First use Jan. 7, 1966.

SN 237,324. Foods Plus, Inc., New York, N.Y. Filed Jan. 26, 1966.

CHEWPIRIN

For Chewable Aspirin Tablet.
First use Jan. 17, 1966.

SN 237,394. Spray Lin, Inc., Shaker Heights, Ohio. Filed Jan. 26, 1966.



The drawing is lined for red. Applicant disclaims the word "Spray" apart from the mark as shown.
For Liniment Mixture Contained in a Spray Can and Designed for the Local Relief of Human Muscular and Rheumatic Pains of All Muscle Groups.
First use Dec. 11, 1964.

SN 237,654. Bristol-Myers Company, New York, N.Y. Filed Feb. 1, 1966.

ULTRASPAN

Owner of Reg. No. 749,007.
For Medicines and Pharmaceutical Preparations—Namely, an Analgesic.
First use Dec. 21, 1965.

SN 238,141. Bristol-Myers Company, New York, N.Y. Filed Feb. 1, 1966.

COLD WHIP

For Medicines and Pharmaceutical Preparations—Namely, a Cough Preparation.
First use Oct. 25, 1965.

SN 241,340. Hoffmann-La Roche Inc., Nutley, N.J. Filed Mar. 18, 1966.

FANZIL

For Antibacterial Sulfa Agent.
First use Mar. 3, 1966.

SN 241,341. Hoffmann-La Roche Inc., Nutley, N.J. Filed Mar. 18, 1966.

CATROPAM

For Medicated Feed Supplement.
First use Mar. 3, 1966.

SN 241,483. Avelino Maldonado, d.b.a. Lacriolla Food Products Co., Chicago, Ill. Filed Mar. 21, 1966.

SANAMENTOL

For Cough Medicine and Liniment.
First use Nov. 24, 1965.

SN 241,692. Smith Kline & French Laboratories, Philadelphia, Pa. Filed Mar. 23, 1966.

ALAVON

Owner of Reg. No. 795,480.
For Psychopharmaceutical Preparation.
First use Dec. 7, 1965.

SN 241,764. Dermik Pharmacal Co., Inc., Syosset, N.Y. Filed Mar. 24, 1966.

VANOXIDE

Owner of Reg. No. 805,469.
For Pharmaceutical Preparation for Topical Application in Acne.
First use Sept. 10, 1964.

SN 242,140. Merck & Co., Inc., Rahway, N.J. Filed Mar. 29, 1966.

INBEN

For Medicinal Preparation for Use in the Treatment of Arthritic, Rheumatic, and Related Conditions Including Gout and Gonty Arthritis.
First use Mar. 11, 1966.

SN 242,181. American Home Products Corporation, New York, N.Y. Filed Mar. 30, 1966.

DIMENSION

For Analgesic Preparations for Internal Use or Topical Application.
First use Feb. 18, 1966.

SN 242,182. American Home Products Corporation, New York, N.Y. Filed Mar. 30, 1966.

DMISSION

For Analgesic Preparations for Internal Use or Topical Application.
First use Feb. 18, 1966.

SN 242,183. American Home Products Corporation, New York, N.Y. Filed Mar. 30, 1966.

MICRO-SPRIN

For Analgesic Tablets.
First use Feb. 23, 1966.

SN 242,186. American Home Products Corporation, New York, N.Y. Filed Mar. 30, 1966.

HEMOREZE

For Hemorrhoidal Ointment.
First use Feb. 23, 1966.

SN 242,187. American Home Products Corporation, New York, N.Y. Filed Mar. 30, 1966.

BANACALM

For Analgesic Tablets.
First use Feb. 18, 1966.

SN 242,426. Carter-Wallace, Inc., New York, N.Y. Filed Apr. 1, 1966.

C/W

For Pharmaceutical Preparation—Namely, a Non-Narcotic Tranquilizer.
First use Jan. 13, 1966.

SN 243,719. Schering Corporation, Bloomfield, N.J. Filed Apr. 18, 1966.

BETASPAN

For Hormone Preparation for Veterinary Use.
First use Feb. 15, 1966.

SN 243,759. American Home Products Corporation, New York, N.Y. Filed Apr. 19, 1966.

MICRO-PIRIN

For Analgesic Tablets.
First use Mar. 18, 1966.

Class 19—Vehicles

SN 220,098. Interstate Engineering Corporation, Anaheim, Calif. Filed June 1, 1965.

Sherwood

For Tent Camping Trailers.
First use Mar. 8, 1965.

SN 225,623. Westland Aircraft Limited, Yeovil, Somerset, England. Filed Aug. 12, 1965.

WESTLAND

Owner of British Reg. No. 405,452, dated June 23, 1920.
For Airplanes.

SN 226,949. Skandia Manufacturing, Inc., Los Angeles, Calif. Filed Sept. 1, 1965.

TORBILIZER

For Anti-Sway Stabilizer Devices for Vehicles of All Kinds Such as Automobiles, Trucks, Motorcycles, and Trailers.
First use July 30, 1965.

SN 227,784. United Distributors Service, Inc., d.b.a. United Distributors Service, Roanoke, Va. Filed Sept. 14, 1965.

UDS

Owner of Reg. Nos. 768,348 and 772,186.
For Automobile Parts and Accessories—Namely, Floor Mats, Caster and Camber Shims, Wheel Balance Weights, and Splash Guards.
First use Jan. 2, 1963.

SN 245,875. Ideal Safety Products, Inc., New York, N.Y. Filed May 2, 1966.

REPEL

For Bumper Guards.
First use Dec. 31, 1965.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 188,263. Consolidated Electronics Industries Corp., New York, N.Y., assignee, by mesne assignment, of Ohmite Manufacturing Company, Skokie, Ill. Filed Mar. 9, 1964.

OHMICONE

For Electrical Units—Namely, Resistors, Chokes, and Rheostats.
First use 1958.

SN 213,177. Wells Mfg. Corporation, Fond du Lac, Wis. Filed Mar. 2, 1965.

AMPCO

Owner of Reg. Nos. 540,878 and 540,879.
For Automotive Ignition Service Parts, the Major Components Being: Capacitors, Caps, Rotors, Coils, Condensers, Resistors, Points, and Voltage Regulators.
First use in the year 1928.

SN 219,047. Motor Generator Corporation, Troy, Ohio. Filed May 17, 1965.

HOBART

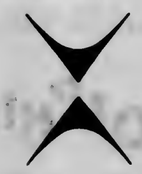
For Self-Propelled, Drawn, and Stationary Ground Power Units and Parts Thereof and Motor Generator Sets and Transformer Rectifier Units for Use in Said Units; Battery Chargers and Parts Thereof and Motor Generator Sets and Transformer Rectifier Units for Use in Said Battery Chargers.
First use at least as early as September 1915.

SN 219,980. General Cable Corporation, New York, N.Y. Filed May 28, 1965.

METEX

Owner of Reg. Nos. 228,603 and 537,193.
For Knitted Wire Mesh for Radio Frequency Shielding.
First use 1944.

SN 220,094. General Time Corporation, New York, N.Y. Filed June 1, 1965.



Owner of Reg. No. 720,279.
For Electrical Controls Pertaining to Clutches, Brakes, and Variable Speed Drives.
First use Feb. 20, 1961.

SN 221,238. Air Reduction Company, Incorporated, New York, N.Y. Filed June 16, 1965.

JXP

For Metal Film Resistors.
First use Apr. 15, 1965.

SN 227,663. Aimpro, Inc., Vassar, Mich. Filed Sept. 13, 1965.

POW-R-EQUIP

For Spark Plugs.
First use Aug. 12, 1965.

SN 227,788. United Distributors Service, Inc., d.b.a. United Distributors Service, Roanoke, Va. Filed Sept. 14, 1965.

UDS

Owner of Reg. Nos. 768,348 and 772,186.
For Electrically Operated Engine Preheaters, Electrically Operated Dipstick Heaters, and Voltage Regulators.
First use Sept. 10, 1964.

SN 227,911. AMP Incorporated, Harrisburg, Pa. Filed Sept. 16, 1965.

CH-AMP

Owner of Reg. Nos. 405,714, 747,195, and others.
For Electrical Connectors.
First use Sept. 3, 1965.

SN 228,407. Russell & Stoll Company, Inc., New York, N.Y. Filed Sept. 22, 1965.

LO-CON

For Floor Outlets.
First use Sept. 7, 1965.

SN 228,850. Tensor Corporation, Brooklyn, N.Y. Filed Sept. 28, 1965.

tensor

Owner of Reg. Nos. 734,840, 760,328, and 793,277.
For Electrical Lamps and Accessories Therefor, Including Bulbs, Extension Cords, Extension Arms, Magnifier Arms, Clamps, Shelf and Wall Brackets, Floor Stands, Carrying Cases, Beam Limiting Tubes, and Spotlights.
First use during January 1961.

Class 22—Games, Toys, and Sporting Goods

SN 214,574. Sportsways, Inc., Paramount, Calif. Filed Mar. 19, 1965.

DOLPHIN

For Children's Underwater Masks, Fins, and Snorkels.
First use Jan. 6, 1965.

SN 217,967. Stowe-Woodward, Inc., Newton Upper Falls, Mass. Filed May 3, 1965.

EXECUTIVE 300 BY EBONITE

For Bowling Balls.
First use January 1964.

SN 230,912. Sky-Way Products, Inc., Brooklyn, N.Y. Filed Oct. 21, 1965.

BEETLE-CLACKER GO-GO-GO

The word "Clacker" is disclaimed when used apart from the mark.
For Toy, Shoe-Borne, Step-Actuated Noise Makers.
First use Oct. 18, 1965.

SN 231,441. Mattel, Inc., Hawthorne, Calif. Filed Oct. 23, 1965.

CALAMITY JIDDLE

For Doll, Doll Clothes, and Doll Accessories.
First use Oct. 12, 1965.

SN 231,445. Mattel, Inc., Hawthorne, Calif. Filed Oct. 23, 1965.

GRETA GRIDDLE

For Doll, Doll Clothes, and Doll Accessories.
First use Oct. 12, 1965.

SN 231,446. Mattel, Inc., Hawthorne, Calif. Filed Oct. 23, 1965.

LIDDLE DIDDLE

For Doll, Doll Clothes, and Doll Accessories.
First use Oct. 12, 1965.

SN 231,448. Mattel, Inc., Hawthorne, Calif. Filed Oct. 23, 1965.
For Doll, Doll Clothes, and Doll Accessories.

LOLA LIDDLE

First use Oct. 12, 1965.

SN 231,449. Mattel, Inc., Hawthorne, Calif. Filed Oct. 23, 1965.

FLORENCE NIDDLE

For Doll, Doll Clothes, and Doll Accessories.
First use Oct. 12, 1965.

SN 232,293. D-P Company, d.b.a. Dental Perfection Company, Glendale, Calif. Filed Nov. 8, 1965.

VANGARD

For Protective Mouthpieces.
First use May 15, 1963.

SN 233,256. Jas. D. Easton, Inc., Van Nuys, Calif. Filed Nov. 24, 1965.

FALCON

For Arrow Shafts.
First use Nov. 1, 1965.

SN 233,826. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company, Los Angeles, Calif. Filed Dec. 2, 1965.

NEMROD BY SEAMLESS

Owner of Reg. No. 716,798.
For Underwater Sports Equipment—Namely, Regulators, Tanks, Goggles, Snorkels, Back Packs, Harnesses, Safety Floats, Weights and Weight Belts, Knives, Guns, and the Like.
First use December 1959.

SN 242,385. Parker Brothers, Inc., Salem, Mass. Filed Mar. 31, 1966.

SPIN OUT

For Equipment for Use in Playing a Board Game.
First use Mar. 25, 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 163,198. Manufacture Belge d'Aiguilles, Eupen, Belgium. Filed Feb. 20, 1963.



For Sewing Machine Needles.
First use about the year 1894; in commerce about the year 1894.

SN 192,764. Star Metal Corporation, Philadelphia, Pa. Filed May 5, 1964.

VITTLE VENDOR

For Food Displaying and Dispensing Equipment.
First use on or about Mar. 27, 1961.

SN 192,921. Jas. H. Matthews & Co., Pittsburgh, Pa. Filed May 7, 1964.

"KEY REGISTERED"

For Printing Dies Keyed to Each Other Secured Upon Mounting Material With Indicator for Attachment to Printing Cylinders to Control Placement of Printing Plates, and Colors Relative to Surfaces To Be Printed.
First use about September 1957.

SN 214,237. Bird Machine Company, South Walpole, Mass. Filed Mar. 16, 1965.

CENTRISORTER

For Pulp Screening Machines.
First use Feb. 17, 1965.

SN 214,355. The Miles Standard Corporation, Saginaw, Mich. Filed Mar. 17, 1965.

DOUBLE ENDER

For Machine Tools, Particularly Machines Capable of Reaming, Drilling, Chamfering, Milling, Plunging, Tapping, Counterboring, Spot Facing, Turning, Recessing, Grooving, and Countersinking.
First use May 10, 1963.

SN 215,654. Raven Mfg. Co., Inc., Chicago Ridge, Ill. Filed Apr. 2, 1965.

RAVEN EXTEND-O-VEYOR

For Truck Mounted Extending and Retracting Shuttle Conveyor.
First use Jan. 14, 1965.

SN 217,608. Robert C. Collins Company, Miami, Fla. Filed Apr. 29, 1965.

WHIRL OFF

The word "Whirl" is disclaimed apart from the mark as shown.
For Rotatably Driven Abrading Tool for Removing Rust, Scale, Paint, and the Like.
First use Dec. 1, 1963.

SN 219,844. Beckett-Harcum Company, Wilmington, Ohio. Filed May 27, 1965.

MAGNA-PRESS

For Air Power Press.
First use September 1964.

SN 221,879. American Chain & Cable Company, Inc., New York, N.Y. Filed June 24, 1965.

AIR-WAY

Owner of Reg. No. 774,929.
For Chain Hoists, Trolleys, and Hand Cranes.
First use Nov. 25, 1964.

SN 225,576. Lanco Products Corporation, New York, N.Y. Filed Aug. 12, 1965.

LANCO LIKWIFIER

Applicant disclaims the exclusive right to the use of the word "Likwifier" apart from the mark as shown.
For Mixing and Blending Machine for Use in Food Processing Plants Such as Dairies, Ice Cream Factories, and Bakeries.
First use on or about May 22, 1958.

SN 227,789. United Distributors Service, Inc., d.b.a. United Distributors Service, Roanoke, Va. Filed Sept. 14, 1965.

UDS

Owner of Reg. Nos. 768,348 and 772,186.
For Exhaust Systems Parts for Motor Vehicles, Motor Mounts and Transmission Mount Parts, Nuts and Bolts for Exhaust Systems.
First use Apr. 30, 1963.

SN 228,743. Oneida Ltd., Oneida, N.Y. Filed Sept. 27, 1965.

Owner of Reg. Nos. 133,012, 790,671, and others.
For Stainless Steel Flatware.
First use June 16, 1965.

SN 229,680. Rollem Corporation of America, Manhasset, N.Y. Filed Oct. 8, 1965.



For Page Perforating Machines. Numbering Machines, and Padding Presses.
First use on or about July 15, 1965.

SN 231,197. NRM Corporation, Akron, Ohio. Filed Oct. 22, 1965.

SPACEMAKER

Owner of Reg. No. 736,740.
For Machines for Processing and Extruding Plastic Materials.
First use June 3, 1965.

SN 233,427. Zephyr American Corporation, Long Island City, N.Y. Filed Nov. 26, 1965.

PUNCHODEX

For Paper Punches.
First use Nov. 10, 1965.

SN 233,506. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed Nov. 29, 1965.

UNCLE HENRY

For Pocket Knives.
First use Oct. 28, 1965.

SN 233,510. Mahaffy & Harder Engineering Company, Totowa, N.J. Filed Nov. 29, 1965.

DIE-VIDER

For Packaging Equipment—Namely, Vacuum Package-Forming Trays for Automatic Meat-Packaging Machines.
First use Sept. 9, 1963.

SN 233,555. Essick Manufacturing Company, Los Angeles, Calif. Filed Nov. 26, 1965.

E-Z TEX

For Machinery for Applying Plaster and Paint Texture to Walls, Ceilings, and Building Exteriors.
First use February 1965.

SN 233,639. Walter E. Selck and Co., Chicago, Ill. Filed Nov. 30, 1965.

VERSI-TROWEL

The word "Trowel" is disclaimed apart from the mark as shown.
For Hand Tools—Namely, Trowels and Parts Thereof.
First use Oct. 1, 1965.

SN 233,725. Merkle-Korff Gear Co., Chicago, Ill. Filed Dec. 1, 1965.

MK

For Automatic Cup Dispensers.
First use June 1963.

SN 233,834. Schimanek Brothers KG, Chicago, Ill. Filed Dec. 2, 1965.

SCHIMANEK

For Paper Cutting Machines.
First use June 23, 1949; in commerce Nov. 20, 1953.

SN 234,692. Westinghouse Air Brake Company, Pittsburgh, Pa. Filed Dec. 15, 1965.

WABCO

Owner of Reg. Nos. 764,162, 777,325, and others.
For Air Compressors, Pumps, Pavement Breakers and Impacters, Rock Drill Carriers, Percussion Drills, Parts of and Attachments for All Such Equipment, and Drill Steel Collars.
First use on or about Mar. 15, 1965.

SN 236,065. Dictaphone Corporation, Bridgeport, Conn. Filed Jan. 10, 1966.

DICTAPHONE

Owner of Reg. No. 66,997 and others.
For Hand Tools—Namely, Screw Drivers, Wrenches, and Special Tools for Adjusting Dictating Machines.
First use Oct. 20, 1965.

SN 239,523. Ladish Co., Cudahy, Wis. Filed Feb. 24, 1966.

TRI-FLO

For Centrifugal Pumps for Liquid Food Products.
First use Jan. 21, 1966.

SN 239,524. Ladish Co., Cudahy, Wis. Filed Feb. 24, 1966.
Owner of Reg. Nos. 524,953 and 524,954.

TRI-FLO

For Centrifugal Pumps for Liquid Food Products.
First use Jan. 21, 1966.

Class 24—Laundry Appliances and Machines

SN 228,566. The Proctor-Silex Corporation, Philadelphia, Pa. Filed Sept. 24, 1965.

...put your reliance on a (K) appliance

For Ironing Tables and Ironing Table Covers.
First use July 1960.

Class 26—Measuring and Scientific Appliances

SN 129,371. VDO Tachometer Werke Adolf Schindling GmbH., Frankfurt am Main, Germany, assignee of Rune Kock, Stockholm, Sweden. Filed Oct. 6, 1961.

SUMLOG

Priority claimed under Sec. 44(d) on German application filed Aug. 24, 1961; Reg. No. 754,606, dated Nov. 2, 1961.
For Indicating and Registering Measuring and Controlling Devices for Watercraft, in Particular, Boat, Speed, and Distance Measuring Instruments.

Class 27—Horological Instruments

SN 220,654. General Time Corporation, New York, N.Y. Filed June 8, 1965.

RELAX-ALARM

For Clocks.
First use Oct. 15, 1964.

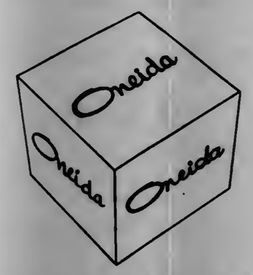
SN 232,898. Bulova Watch Company, Inc., Flushing, N.Y. Filed Nov. 18, 1965.

EXACTRON

For Watches.
First use Oct. 26, 1965.

Class 28—Jewelry and Precious-Metal Ware

SN 228,742. Oneida Ltd., Oneida, N.Y. Filed Sept. 27, 1965.



Owner of Reg. Nos. 133,012, 790,671, and others.
For Silverplated Flatware.
First use Aug. 3, 1965.

SN 232,404. D. Klein & Son, Inc., New York, N.Y. Filed Nov. 9, 1965.

PERSONAL TOUCH

For Jewelry for Personal Wear and Adornment.
First use Nov. 1, 1965.

Class 29—Brooms, Brushes, and Dusters

SN 224,206. Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd., Miyakojima, Osaka, Japan. Filed July 26, 1965.

Kanebo

Owner of U.S. Reg. Nos. 702,650, 777,554, and others.
For Spongy Material of a Fabric Reinforced Polyvinyl Formal Compound for Cleaning, Wiping, and/or Polishing Purposes.
First use Dec. 14, 1962; in commerce May 11, 1965.

SN 231,248. Skid's Brushes Inc., Cochran, Ga. Filed Oct. 22, 1965.

SKID-BRUSH

For Shaving Brush Attachments for Aerosol Shaving Cream Dispensers.
First use Aug. 25, 1965.

SN 231,975. Art & Sign Brush Mfg. Corp., Long Island City, N.Y. Filed Nov. 2, 1965.

POLY-PAINTER

For Artists' Brushes.
First use Oct. 15, 1965.

SN 232,402. Hanlon & Goodman Company, Belleville, N.J. Filed Nov. 9, 1965.

PRIORITY "100"

For Paint Brushes.
First use Sept. 8, 1965.

SN 232,463. Keystone Plastics, Inc., Newark, N.J. Filed Nov. 10, 1965.

COILEX

For Pre-Fabricated Sweeper Broom Bristle-Carrying Refill Units for Mounting on Sweeper Broom Cores.
First use on or about January 1964.

Class 30—Crockery, Earthenware, and Porcelain

SN 190,021. N.V. Koninklijke Sphinx Ceramique V.H. Petrus Regout, d.b.a. Royal Sphinx Ceramique, Maastricht, Netherlands. Filed Mar. 31, 1964.

ROYAL SPHINX P. Regout MAASTRICHT

The word "Maastricht" is disclaimed apart from the mark as shown. Owner of U.S. Reg. No. 272,291.
For Earthenware and Porcelain Dinnerware—Namely, Crocks; Earthenware Vessels; Cooking and Frying Pans; Dinner, Tea, Coffee, Salad, and Breakfast Sets; Creamers; Egg Sets; Cruets; Mustard Sets; Salt Cellars; Jar Sets; Drawer Sets for Pantry Cupboards; Candy, Cake and Fruit Sets; Jugs; Cups; Saucers; Jars; Bowls; Plates; Tumblers; Dishes; Preserve Jars; Coffee Jars; Candy Boxes; Jam Pots; Syrup Jars; Casseroles; Scallop Shells; Egg Poachers; Pie Plates; Pudding Moulds; Trays; Platters; Mugs; Ladles; Ramekins; Compote Dishes; Cake Boxes; Cat's Boxes; Vases; Pitchers; Flower Bowls; Flowerpot Holders; Flower Trays; Tureens; Muffin Plates; Grill Plates; Toilet Sets, Including Ewers, Basins, Chambers, Soap Dishes, Brush Holders, Sponge Dishes, and Pails.
First use May 1960; in commerce May 1960.

SN 230,667. Lenox, Incorporated, Trenton, N.J. Filed Oct. 20, 1965.

LENOX

Owner of Reg. Nos. 692,619, 769,524, and others.
For Ceramic Vases, Pitchers, Urns, Pin Trays, Nut Bowls, Nut Dishes, Jars, Coasters, Tea Pots, Candy Bowls, Candy Dishes, Serving Bowls, Relish Dishes, Ornamental Trays, Bowls, and Dishes for Use as Centerpieces and the Like, Playing Card Boxes, and Boxes and Containers for Small Miscellaneous Items.
First use 1900.

SN 232,598. Royal China, Inc., Sebring, Ohio. Filed Nov. 12, 1965.

MEMORY LANE

For Semi-Vitrified China Dinnerware.
First use on or about Aug. 6, 1965.

Class 31 — Filters and Refrigerators

SN 183,073. Kelly Well Company, Inc., Grand Island, Nebr. Filed Dec. 16, 1963.

WATERITE

For Various Forms of Mechanical Machinery Related to Water Conditioning in Sanitary and Potable Water Fields and Hereinafter Described as Vacuum Diatomaceous Earth Package Filter Units, Pressure Diatomaceous Earth Package Filter Units, Rapid Sand Filters, Induced and Forced Draft Aerators, Filter Body Feeders, Package Water Softeners, Manufactured Mechanical-Hydraulic Products Related to the Movement or Removal of Foreign Matter, Minerals and Bacteria in Public or Private Potable Water Supplies, Public or Private Swimming Water Supplies or Where Any Water of High Quality Is Required.
First use Feb. 15, 1948.

Class 32 — Furniture and Upholstery

SN 215,175. Califoam Corporation of America, Compton, Calif. Filed Mar. 29, 1965.

DAUPHINE

For Cushioning Type Bedding.
First use Aug. 11, 1964.

SN 215,176. Califoam Corporation of America, Compton, Calif. Filed Mar. 29, 1965.



For Cushioning Type Bedding.
First use Feb. 4, 1964.

SN 224,508. Califoam Corporation of America, Compton, Calif. Filed July 29, 1965.

HEART O'FOAM

For Cushioning Type Bedding.
First use Sept. 11, 1964.

SN 234,835. Richard L. Nordstrom, d.b.a. Display-Pak, Evanston, Ill. Filed Dec. 17, 1965.

E-Z-ZIBIT

For Portable Display Racks.
First use Aug. 10, 1965.

SN 234,879. Carr Engineering Corporation, Los Angeles, Calif. Filed Dec. 20, 1965.



For Mirrors.
First use July 22, 1965.

SN 234,929. Palmer Bedding Company, Denver, Colo. Filed Dec. 20, 1965.

TRU-BALANCE

For Mattresses and Box Springs.
First use on or about Apr. 1, 1965.

SN 234,930. Palmer Bedding Company, Denver, Colo. Filed Dec. 20, 1965.

ORTHOBALANCE

For Mattresses and Box Springs.
First use on or about Oct. 11, 1964.

SN 235,067. Hickory Tavern Furniture, Inc., Hickory, N.C. Filed Dec. 20, 1965.

D. D. F.

For Upholstered Furniture.
First use Oct. 15, 1965.

SN 235,114. Mattress Warehouse, Inc., New York, N.Y. Filed Dec. 22, 1965.

GOLDEN CARE

For Mattresses.
First use Oct. 24, 1965.

SN 235,194. Invincible Metal Furniture Company, Manitowoc, Wis. Filed Dec. 23, 1965.

ACCENT

For Office Furniture.
First use Oct. 8, 1965, on display desks.

SN 235,346. Simmons Company, New York, N.Y. Filed Dec. 27, 1965.

CASTILLO

For Chairs, Tables, Dressers, Desks, Luggage Stands, Luggage Benches, TV Stands, and Mirrors.
First use Nov. 24, 1965.

SN 235,994. Korfund Dynamics Corporation, Westbury, N.Y. Filed Jan. 7, 1966.

HUSH-A-BOOTH

For Sound Absorbing Booths Used for Telephonic Communications in Noisy Locations.
First use Sept. 29, 1958.

SN 236,019. Spartan Enterprises, Inc., Spartanburg, S.C. Filed Jan. 7, 1966.

SLEEPERATOR

For Vibrators for Attachment to Spring-Constructed Furniture.
First use Nov. 29, 1965.

SN 243,290. White Furniture Company, Mebane, N.C. Filed Apr. 13, 1966.

WHITE

For Living Room, Bedroom, and Dining Room Furniture.
First use 1881.

SN 243,366. White Furniture Company, Mebane, N.C. Filed Apr. 13, 1966.

White

For Living Room, Bedroom, and Dining Room Furniture.
First use March 1941.

SN 243,367. White Furniture Company, Mebane, N.C. Filed Apr. 13, 1966.



For Living Room, Bedroom, and Dining Room Furniture.
First use March 1941.

SN 245,045. The Valtronic Corporation, Bronx, N.Y. Filed May 6, 1966.

VICON

For Furniture—Namely, File and Storage Cabinets, Systems and Component Parts.
First use November 1965.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 230,791. Contamination Control, Inc., Fort Washington, Pa. Filed Oct. 21, 1965.



For Controlled Atmosphere Equipment—Namely, Ultra-Clean Work Stations, Counters, and Benches; Ultra-Clean Rooms; Dust Hoods; and Air Contamination Control Enclosures and Equipment.
First use on or about Oct. 1, 1965.

SN 231,438. Master Consolidated Inc., Dayton, Ohio. Filed Oct. 23, 1965.

FERTL-AIRE

For Aerial Fertilization Systems for Controlling CO_2 Enrichment in Greenhouses.
First use May 6, 1965.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 221,591. The Fitzgerald Manufacturing Company, Torrington, Conn. Filed June 21, 1965.

FITZGERALD

Owner of Reg. No. 520,880.
For Automotive and Other Gaskets and Seals—Namely, Carburetor to Manifold Gaskets, Cylinder Cover Gaskets, Distributor Gaskets, Exhaust Pipe Gaskets, Fuel Pump Gaskets, Oil Pump Gaskets, Oil Pan Gaskets, Timing Cover Gaskets, Transmission Gaskets, Valve Push Rod Gaskets, Valve Rocker Arm Cover Gaskets, Valve Stem Oil Seal Gaskets, Water Outlet Gaskets, Water Pump Gaskets, Special Gaskets and Seals.
First use 1920.

Class 36 — Musical Instruments and Supplies

SN 222,833. Devon Electronics Corporation, Port Washington, N.Y. Filed July 7, 1965.



Applicant disclaims the musical bars, the notes, and the representation of a phonograph record apart from the mark as shown.
For Phonographs.
First use May 28, 1965.

Class 37 — Paper and Stationery

SN 218,509. Max E. Watson, d.b.a. Watson Associates, Omaha, Nebr. Filed May 10, 1965.

DUPLI-PRINT

For Rolls of Die-Cut Tickets or Labels Forming Material Which Can Be Overprinted To Form a Sales Ticket or Label.
First use Mar. 22, 1965.

SN 227,653. Curwood, Inc., New London, Wis. Filed Sept. 13, 1965.

CURWOOD

For Transparent Flexible Packaging Materials.
First use Aug. 16, 1965.

SN 228,884. Micropoint, Inc., Sunnyvale, Calif. Filed Sept. 22, 1965.

WIK-STIK

For Fiber Tipped Pens.
First use Aug. 11, 1965.

SN 229,151. Valcour Imprinted Papers, Inc., Glens Falls, N.Y. Filed Oct. 1, 1965.

VIP

For Paper Place Mats.
First use Jan. 1, 1961.

SN 229,599. Tension Envelope Corporation, Kansas City, Mo. Filed Oct. 7, 1965.

PULL-OPE

For Envelopes.
First use about June 16, 1964.

SN 229,675. Paramount Packaging Corporation, Chalfont, Pa. Filed Oct. 8, 1965.

T-LAM

For Plastic Film Packaging Material.
First use Oct. 14, 1964.

SN 229,738. Arden-Mayfair, Inc., d.b.a. Mayfair Markets, Los Angeles, Calif. Filed Oct. 11, 1965.

SOFTWINS

For Toilet Tissue.
First use Sept. 10, 1965.

SN 230,041. Faroy, Inc., Houston, Tex. Filed Oct. 13, 1965.

FAROY

For Rolled Paper for Wrapping and Decorating Purposes and Writing Paper.
First use Aug. 12, 1965.

SN 230,136. Creative Packaging, Incorporated, Indianapolis, Ind. Filed Oct. 14, 1965.

MEDILOG

For Cards Used to Contain Prescription Medicaments and Record Their Dispensement in Hospitals and Nursing Homes.
First use Sept. 29, 1965.

SN 230,166. Kaymar Paper Company, Inc., Bronx, N.Y. Filed Oct. 14, 1965.

Wendy

For Wax Papers and Wrapping Papers and Paper Place Mats.
First use Sept. 28, 1960.

SN 234,586. Strauss Stores Corporation, Maspeth, N.Y. Filed Dec. 14, 1965.

strauss stores

Owner of Reg. No. 605,822.
For Cleansing Tissues.
First use May 1964.

Class 38 — Prints and Publications

SN 223,136. John Maher Printing Company, Chicago, Ill. Filed July 12, 1965.

down beat NAMM daily

The word "Daily" is disclaimed apart from the mark as shown. Owner of Reg. No. 529,976.
For Entertainment Field Trade Newspaper.
First use July 13, 1953.

SN 228,632. Cities Service Oil Company, Tulsa, Okla. Filed Sept. 27, 1965.

TRIMARK

For Magazines.
First use May 1965.

SN 233,335. G & S Bindery, Inc., New York, N.Y. Filed Nov. 26, 1965.



For Souvenir Menu Books.
First use Nov. 2, 1965.

SN 236,066. Dictophone Corporation, Bridgeport, Conn. Filed Jan. 10, 1966.

DICTAPHONE

Owner of Reg. No. 66,997 and others.
For Secretarial Instruction Publications—Namely, Legal Secretarial Practice and Form Books Including Instructions for Using Dictating Machine Equipment.
First use October 1965.

Class 39 — Clothing

SN 216,565. CBS Films Inc., New York, N.Y. Filed Apr. 15, 1965.

THE PROFESSOR HENRY HIGGINS OF MY FAIR LADY

For Men's Hats.
First use Mar. 30, 1965.

SN 216,708. Lily of France, Inc., New Haven, Conn. Filed Apr. 16, 1965.

Lily of France

Owner of Reg. No. 85,973.
For Girdles, Panty Girdles, Brassieres, Panties, Corselets, Garter Belts; Ladies' and Girls' Sleepwear and Lingerie Consisting of Slips, Half Slips, Pajamas, Chemises, Negligees, Night Gowns, Kimonos, Bathing Suits, Peignoirs, Blouses, Gloves, Dresses, Skirts, and Ladies' and Girls' Sportswear Consisting of Sweaters and Jackets.
First use Oct. 22, 1897.

SN 222,970. Dynasty of Hong Kong Ltd., New York, N.Y., assignee of Products of Asia Inc., New York, N.Y. Filed July 8, 1965.

SEPARATE LIVES

For Ladies' and Misses' Blouses, Skirts, Evening Skirts, Slacks, Vests, Jackets.
First use June 10, 1965.

SN 225,199. Raleigh Manufacturers, Inc., New York, N.Y. Filed Aug. 6, 1965.

PALM CANYON

For Men's and Boys' Suits and Overcoats.
First use Dec. 2, 1964.

SN 226,999. The Atlas Company, d.b.a. The Atlas Co., Ephrata, Pa. Filed Sept. 2, 1965.

A World of Wear in Every Pair

Owner of Reg. No. 515,813.
For Overalls.
First use 1922.

SN 227,000. The Atlas Company, d.b.a. The Atlas Co., Ephrata, Pa. Filed Sept. 2, 1965.

ATLAS

Owner of Reg. No. 515,813.
For Overalls.
First use 1922.

SN 227,114. The Atlas Company, d.b.a. The Atlas Co., Ephrata, Pa. Filed Sept. 3, 1965.

mighty atlas

Owner of Reg. No. 515,813.
For Jeans.
First use on or about Jan. 1, 1956.

SN 227,472. The Atlas Company, d.b.a. The Atlas Co., Ephrata, Pa. Filed Sept. 9, 1965.

Alice Blue JEANS

Applicant disclaims the word "Jeans" alone and apart from the mark as shown.
For Jeans.
First use on or about Mar. 1, 1964.

SN 227,872. Regal Accessories, Inc., Long Island City, N.Y. Filed Sept. 15, 1965.

REGAL MATES

For Women's Blouses, Shirts, Pants, Shorts, and Combinations Thereof Sold as Sets.
First use Aug. 11, 1965.

SN 228,240. Bobbie Brooks, Incorporated, Cleveland, Ohio. Filed Sept. 21, 1965.

Robbie Rivers

The mark "Robbie Rivers" is fanciful.
For Suits, Skirts, Dresses, Swimwear, Sweaters, Blouses, Shorts, Pants, and Jackets.
First use Aug. 23, 1965.

SN 229,190. Blue Bell, Inc., Greensboro, N.C. Filed Oct. 4, 1965.

LADY MAVERICK

The name "Lady Maverick" is fanciful. Owner of Reg. No. 608,371.
For Ladies' and Girls' Shorts, Slacks, Jumpers, Skirts, Jackets, and Blouses.
First use Sept. 30, 1965.

SN 229,304. Sportville Mens Wear, Inc., New York, N.Y. Filed Oct. 4, 1965.

DRY ICE

For Men's Sportswear—namely, Sport Shirts, Swim Trunks, Walk Shorts, and Sweaters.
First use Sept. 8, 1965.

SN 230,024. S. Augstein & Co., Inc., New York, N.Y. Filed Oct. 13, 1965.

CIELLA

The word has a Latin derivation and, in the Spanish language and in a similar form in other romance languages, means "sky."
For Women's and Children's Dresses and Suits.
First use on or about Oct. 20, 1938.

SN 230,288. Quabaug Rubber Company, North Brookfield, Mass. Filed Oct. 15, 1965.



For Shoe Soles and Heels.
First use Dec. 23, 1916.

SN 230,508. Caressa, Inc., Miami, Fla. Filed Oct. 19, 1965.

CARIOCA!

For Ladies' Shoes.
First use Sept. 15, 1965.

SN 231,935. Oxford Manufacturing Company, Inc., Atlanta, Ga. Filed Nov. 1, 1965.

OXONIAN

For Men's and Boys' Sport and Dress Shirts, Slacks, and Sport Jackets.
First use January 1963.
Subj. to Intf. with SN 217,196.

SN 233,329. Eagle Bros., Inc., New York, N.Y. Filed Nov. 26, 1965.

ION-LESS

For Men's and Boys' Outer Shirts.
First use Sept. 21, 1965.

SN 233,355. Junior West, Inc., Los Angeles, Calif. Filed Nov. 26, 1965.

JUNIOR WEST

For Ladies' Dresses.
First use Nov. 1, 1965.

SN 233,890. Farah Manufacturing Company, Inc., El Paso, Tex. Filed Dec. 3, 1965.

Farah White

For Men's and Boys' Slacks and Shorts and Fabrics Sold Exclusively in the Form of Such Garments.
First use Sept. 13, 1965.

SN 234,450. Melville Shoe Corporation, New York, N.Y. Filed Dec. 13, 1965.

MAGICONTOUR

For Women's and Misses' Shoes.
First use Dec. 10, 1965.

SN 235,958. Blue Bell, Inc., Greensboro, N.C. Filed Jan. 7, 1966.



For Men's Slacks.
First use Dec. 20, 1965.

SN 236,666. Superba Cravats, Inc., Rochester, N.Y. Filed Jan. 17, 1966.

VIVA

For Neckties.
First use Dec. 27, 1965.

SN 236,667. Superba Cravats, Inc., Rochester, N.Y. Filed Jan. 17, 1966.

SKYLARK

For Neckties.
First use Dec. 27, 1965.

SN 236,836. J. R. McMullen Company, Inc., New York, N.Y. Filed Jan. 19, 1966.

MULLENAIRE

Owner of Reg. No. 714,761.
For Ladies' Blouses, Shirts, Sweaters, Skirts, Shorts, and Slacks of Various Lengths.
First use Nov. 15, 1965.

SN 240,099. The Joseph & Feiss Company, Cleveland, Ohio. Filed Mar. 3, 1966.

TEMPO

Owner of Reg. No. 373,318.
For Men's Tailored Clothing—Namely, Suits, Coats, Vests, Trousers, Sport Jackets, Slacks, Topcoats, and Overcoats.
First use Apr. 1, 1939.

Class 40—Fancy Goods, Furnishings, and Notions

SN 221,034. Flower Style Originals, Inc., New York, N.Y. Filed June 14, 1965.

Dolly BOWS by FLOWER STYLE ORIGINALS

"Bows" and "Flower Style Originals" are disclaimed apart from the mark as shown.
For Bows for Hair and Garments.
First use Mar. 1, 1965.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 229,013. Kansas City White Goods Manufacturing Company, St. Louis, Mo. Filed Sept. 30, 1965.

LOOMPRIDE

Owner of Reg. No. 259,793.
For Cotton Sheeting, Sheets, Pillow Cases, Blankets, and Bedspreads.
First use June 1, 1921.

SN 231,254. Société a Responsabilité Limitée dite Textile du Vermandois, Laval (Mayenne), France. Filed Oct. 22, 1965.

Cled

Owner of French Reg. No. 512, dated June 19, 1962 (Laval); Natl. Inst. No. 187,875.
For Textile Fabrics for Covering Walls.

SN 235,133. J. P. Stevens & Co., Inc., New York, N.Y. Filed Dec. 22, 1965.

WOMEN MAKE HISTORY

For Piece Goods of Synthetic Fabrics for Use on Intimate Apparel.
First use Dec. 10, 1965.

SN 235,159. Burlington Industries, Inc., New York, N.Y. Filed Dec. 23, 1965.

NEXUS

For Fabrics in the Piece Suitable for Use in the Manufacture of Men's, Women's, and Children's Suits, Coats, and Slacks, and in Home Furnishings.
First use Dec. 15, 1965.

SN 235,223. The Procter & Gamble Company, Cincinnati, Ohio. Filed Dec. 23, 1965.

DESERT ROSE

For Towels and Face Cloths.
First use Oct. 11, 1965.

SN 235,547. Benrose Fabrics Corporation, New York, N.Y. Filed Dec. 30, 1965.

Frosty Fluff

For Textile Fabrics in the Piece of Synthetic Fibres.
First use Jan. 2, 1962.

Class 43—Thread and Yarn

SN 226,628. Courtaulds Limited, London, England. Filed Aug. 27, 1965.

COURTAULDS

Owner of Reg. Nos. 281,184, 582,480, and others.
For Nylon Textile Yarns.
First use July 21, 1964; in commerce July 21, 1964.

SN 235,229. The Readicut Wool Company Limited, Horbury, England. Filed Dec. 23, 1965.

TERRY

For Yarn for Making Rugs and the Like Goods.
First use June 1956; in commerce Aug. 9, 1956.

SN 235,645. Filatures Prouvost & Cie la Lainiere de Roubaix, Roubaix (Nord), France. Filed Jan. 3, 1966.

ETINCELLE

Owner of French Reg. No. 8,599, dated Nov. 17, 1960 (Roubaix); Natl. Inst. No. 155,221.
For Yarns and Threads Made of Wool, Cotton, Linen, Silk, Rayon, Hemp, Flax, and Synthetic and Artificial Fibers.

SN 235,646. Filatures Prouvost & Cie la Lainiere de Roubaix, Roubaix (Nord), France. Filed Jan. 3, 1966.

FLANERIE

Owner of French Reg. No. 8,631, dated Dec. 21, 1960 (Roubaix); Natl. Inst. No. 156,371.
For Yarns and Threads Made of Wool, Cotton, Linen, Silk, Rayon, Hemp, Flax, and Synthetic and Artificial Fibers.

SN 235,647. Filatures Prouvost & Cie la Lainiere de Roubaix, Roubaix (Nord), France. Filed Jan. 3, 1966.

HERISSE

Owner of French Reg. No. 8,296, dated June 24, 1959 (Roubaix); Natl. Inst. No. 128,796.
For Yarns and Threads Made of Wool, Cotton, Linen, Silk, Rayon, Hemp, Flax, and Synthetic and Artificial Fibers.

SN 235,650. Filatures Prouvost & Cie la Lainiere de Roubaix, Roubaix (Nord), France. Filed Jan. 3, 1966.

CORRIDA

Owner of French Reg. No. 8,714, dated Mar. 11, 1961 (Roubaix); Natl. Inst. No. 162,049.
For Yarns and Threads Made of Wool, Cotton, Linen, Silk, Rayon, Hemp, Flax, and Synthetic and Artificial Fibers.

SN 235,651. Filatures Prouvost & Cie la Lainiere de Roubaix, Roubaix (Nord), France. Filed Jan. 3, 1966.

BANQUISE

Owner of French Reg. No. 9,453, dated Dec. 24, 1963 (Roubaix); Natl. Inst. No. 218,916.
For Yarns and Threads Made of Wool, Cotton, Linen, Silk, Rayon, Hemp, Flax, and Synthetic and Artificial Fibers.

SN 235,653. Filatures Prouvost & Cie la Lainiere de Roubaix, Roubaix (Nord), France. Filed Jan. 3, 1966.

MEPHISTO

Owner of French Reg. No. 8,728, dated Mar. 11, 1961 (Roubaix); Natl. Inst. No. 162,062.
For Yarns and Threads Made of Wool, Cotton, Linen, Silk, Rayon, Hemp, Flax, and Synthetic and Artificial Fibers.

SN 235,655. Filatures Prouvost & Cie la Lainiere de Roubaix, Roubaix (Nord), France. Filed Jan. 3, 1966.

LA HOULE

Owner of French Reg. No. 9,942, dated Apr. 21, 1965 (Roubaix); Natl. Inst. No. 248,780.
For Yarns and Threads Made of Wool, Cotton, Linen, Silk, Rayon, Hemp, Flax, and Synthetic and Artificial Fibers.

SN 235,656. Filatures Prouvost & Cie la Lainiere de Roubaix, Roubaix (Nord), France. Filed Jan. 3, 1966.

RITOURNELLE

Owner of French Reg. No. 8,412, dated Feb. 15, 1960 (Roubaix); Natl. Inst. No. 140,127.
For Yarns and Threads Made of Wool, Cotton, Linen, Silk, Rayon, Hemp, Flax, and Synthetic and Artificial Fibers.

SN 235,658. Filatures Prouvost & Cie la Lainiere de Roubaix, Roubaix (Nord), France. Filed Jan. 3, 1966.

POUDREUSE

Owner of French Reg. No. 9,458, dated Dec. 24, 1963 (Roubaix); Natl. Inst. No. 218,921.
For Yarns and Threads Made of Wool, Cotton, Linen, Silk, Rayon, Hemp, Flax, and Synthetic and Artificial Fibers.

Class 44—Dental, Medical, and Surgical Appliances

SN 231,742. Diana Manufacturing Company, Green Bay, Wis. Filed Oct. 28, 1965.

FLUFF-SEAL

For Hospital Bed Underpads.
First use on or about Oct. 15, 1963.

SN 231,867. Edward Weck & Company, Inc., Long Island City, N.Y. Filed Oct. 29, 1965.

HEMO-CLAMP

Owner of Reg. No. 807,570.
For Forceps for Applying Hemostatic Clips.
First use Oct. 14, 1965.

SN 234,870. Acrodent Limited, London, England. Filed Dec. 20, 1965.

ACROTONE

For Acrylic Denture Teeth.
First use July 7, 1965; in commerce July 7, 1965.

Class 45—Soft Drinks and Carbonated Waters

SN 230,100. Sunline, Inc., St. Louis, Mo. Filed Oct. 18, 1965.

PIXIE

For Flavor Base or Concentrate Used for Flavoring Soft Drinks.
First use 1931.

SN 234,414. The Grapette Company, Incorporated, Camden, Ark. Filed Dec. 13, 1965.

PEPPY

Owner of Reg. No. 211,209.
For Fountain Syrup and Concentrates for Making Soft Drinks.
First use Oct. 1, 1924.

SN 237,470. Morton Foods, Inc., Dallas, Tex. Filed Jan. 27, 1966.

SLAP HAPPY

For Flavored Syrup for Making Soft Drinks.
First use Dec. 21, 1965.

Class 46—Foods and Ingredients of Foods

SN 177,938. Wimpy International, Inc., Chicago, Ill. Filed Sept. 27, 1963.

wimpy

Owner of Reg. Nos. 334,286, 695,432, and others.
For Sandwiches.
First use on or about Sept. 12, 1934.

SN 192,267. Certified Products Company, Evanston, Ill. Filed Apr. 29, 1964.

DHARMA

The word "Dharma" is a Sanskrit word, meaning "teaching," "law" or "duty."
For Specially Formulated High Protein Food Supplement To Be Used in the Making of Beef Broth and Chicken Soup.
First use Feb. 24, 1964.

SN 201,982. Universal Foods Corporation, Milwaukee, Wis. Filed Sept. 15, 1964.

Flavorich

Owner of Reg. No. 643,765.
For Dry Soup Bases and Mixes, Liquid Meat Tenderisers, Powdered Gelatin Desserts, Powdered Pudding Preparations, and Fruit Jellies Sold Only to Institutional Buyers.
First use Jan. 4, 1950.

SN 206,007. John A. Dey, d.b.a. Virgin Island Spices, Miami, Fla. Filed Nov. 12, 1964.

TASTEMAKER

For Spices.
First use May 18, 1964.

SN 207,193. The Broaster Co., Rockton, Ill. Filed Dec. 1, 1964.

BROASTED CHICKEN

The word "Chicken" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 686,699 and 758,933.
For Cooked Poultry.
First use Aug. 1, 1957.

SN 209,840. Anthony Castello, d.b.a. Castello Packing Company, Brooklyn, N.Y. Filed Jan. 13, 1965.

CIELO CELESTE

The English equivalent for "Cielo Celeste" is "blue sky."
For Blended Edible Oils.
First use September 1939.

SN 210,555. General Foods Corporation, White Plains, N.Y. Filed Jan. 25, 1965.

GAINES·PATTIES

The word "Patties" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 342,441, 732,817, and others.
For Cat Food.
First use Aug. 6, 1964.

SN 213,173. Wards Cove Packing Co., Inc., Seattle, Wash. Filed Mar. 2, 1965.

PIRATE

For Canned Fish.
First use at least as early as 1924.

SN 213,175. Wards Cove Packing Co., Inc., Seattle, Wash. Filed Mar. 2, 1965.

RED CROWN

For Canned Fish.
First use at least as early as 1924.

SN 219,182. Chicken Delight, Inc., Rock Island, Ill. Filed May 19, 1965.

FISH 'N CHIPS DELIGHT

The words "Fish 'N Chips" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 578,807, 779,635, and others.
For Packaged Cooked Meal Consisting of Fried Fish and Potatoes.
First use Jan. 19, 1965.

SN 220,719. Winn-Dixie Stores, Inc., Jacksonville, Fla. Filed June 8, 1965.

QUEEN QUALITY

No claim is made to the word "Quality" apart from the mark as shown. Owner of Reg. No. 349,566.
For Oleomargarine.
First use July 1953.

SN 221,296. The Quaker Oats Company, Chicago, Ill. Filed June 16, 1965.

QUISP

For Breakfast Cereal.
First use May 27, 1965.

SN 221,491. Food Plus, Inc., New York, N.Y. Filed June 18, 1965.

FLAVOR PLUS

Without waiving its common law rights, no claim is made to the word "Flavor" apart from the mark as shown.
For Monosodium Glutamate.
First use November 1962.

SN 221,650. Manhattan Coffee Company, St. Louis, Mo., assignee, by mesne assignment, of Star Coffee Company, St. Louis, Mo. Filed June 21, 1965.

STAR PREMIUM

The word "Premium" is disclaimed apart from the mark as shown.
For Coffee.
First use 1935.

SN 222,057. Ore-Ida Foods, Inc., Ontario, Oregon, assignee of Ore-Ida Foods, Inc., Ontario, Oreg. Filed June 25, 1965.

GOLDEN IDAHO

The word "Idaho" is disclaimed apart from the mark as shown.
For Frozen Potatoes.
First use Oct. 2, 1964.

SN 223,260. Rico Liquids, Inc., Aliceville, Ala. Filed July 13, 1965.

PRO-LIX

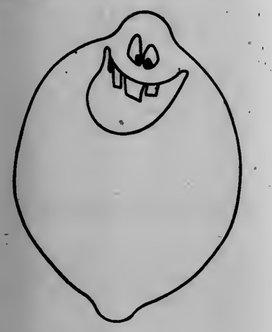
For Liquid Animal Feed Primarily Intended for Feeding Cattle and Other Livestock.
First use December 1963.

SN 230,167. Kaymar Paper Company, Inc., Bronx, N.Y. Filed Oct. 14, 1965.

Wendy

For Filled Sugar Packets, Filled Salt Packets, and Filled Pepper Packets.
First use Sept. 28, 1960.

SN 230,888. The Pillsbury Company, Minneapolis, Minn. Filed Oct. 21, 1965.



Owner of Reg. No. 793,703.
For Gelatin Dessert Mix.
First use May 4, 1965.

SN 231,206. Philadelphia Chewing Gum Corporation, Havertown, Pa. Filed Oct. 22, 1965.

DISCO-TEEN

For Chewing Gum.
First use Oct. 15, 1965.

SN 232,884. Winter Garden Citrus Growers Association, Winter Garden, Fla. Filed Nov. 17, 1965.

BULL FROG

Owner of Reg. No. 183,966.
For Fresh Citrus Fruits—Namely, Oranges, Grapefruit, Tangerines, Limes, and Lemons.
First use 1909.

SN 233,529. Rod's Food Products, Inc., d.b.a. Pen and Quill, Los Angeles, Calif. Filed Nov. 29, 1965.

Pen and Quill

For Salad Dressings—Namely, 1000 Island, Sour Cream, Bleu Cheese, and Roquefort Cheese; Food Dips—Namely, Clam, Onion, Garlic, and Bleu Cheese.
First use in or about 1952.

SN 233,601. Kellogg Company, Battle Creek, Mich. Filed Nov. 30, 1965.

BOWL PAC

Owner of Reg. No. 396,523.
For Cereal Breakfast Foods.
First use June 1, 1965.

SN 233,799. The Grand Union Company, East Paterson, N.J. Filed Dec. 2, 1965.

GRAND WAY

Owner of Reg. Nos. 738,330, 738,331, and 765,629.
For Fresh Eggs.
First use in or about October 1962.

SN 233,869. Blue Ribbon Rice Mills, Inc., Houston, Tex. Filed Dec. 3, 1965.

DANDY

For Rice.
First use Oct. 28, 1965.

SN 233,881. Consolidated Foods Corporation, Chicago, Ill. Filed Dec. 3, 1965.

ROYAL CROWN

For Canned Vegetables.
First use June 14, 1946.

SN 234,136. Mead Johnson & Company, Evansville, Ind. Filed Dec. 7, 1965.

METRECAL

Owner of Reg. Nos. 746,729 and 765,998.
For Cookies.
First use on or prior to Nov. 5, 1965.

SN 234,160. Gangi Bros. Packing Company, d.b.a. Gangi Bros. Packing Co., Santa Clara, Calif. Filed Dec. 7, 1965.

GRANADA

For Canned Vegetables, Tomato Puree, Tomato Catsup, Tomato Sauce, and Pizza Sauce.
First use 1951.

SN 234,161. Gangi Bros. Packing Company, d.b.a. Gangi Bros. Packing Co., Santa Clara, Calif. Filed Dec. 7, 1965.

Serra MISSION

For Canned Vegetables, Tomato Sauce, Tomato Catsup, and Tomato Puree.
First use June 1960.

SN 234,315. Van Brode Milling Co., Inc., Clinton, Mass. Filed Dec. 9, 1965.



Owner of Reg. Nos. 503,726, 688,797, and others.
For Cereal Breakfast Foods.
First use Oct. 21, 1965.

SN 234,451. The Miami Margarine Company, Cincinnati, Ohio. Filed Dec. 13, 1965.

SATIN GOLD

For Margarine.
First use Nov. 5, 1965.

SN 234,458. Piggly Wiggly Operators' Warehouse, Inc., Shreveport, La. Filed Dec. 13, 1965.

Super-Taste

For Sliced Bacon.
First use Nov. 16, 1965.

SN 234,502. Beech-Nut Life Savers, Inc., d.b.a. Martinson's Coffee, New York, N.Y. Filed Dec. 13, 1965.

MARTINSON'S

Owner of Reg. Nos. 581,583, 631,031, and 745,209.
For Hot Chocolate Mix and Candy.
First use at least as early as Dec. 1, 1931.

SN 234,540. Clark Foods Limited, Montreal, Quebec, Canada. Filed Dec. 14, 1965.

OVENCROCK

Owner of Canadian Reg. No. 103,150, dated Apr. 27, 1956.
For Baked Beans.
First use Apr. 20, 1956; in commerce July 5, 1963.

SN 234,934. The Pillsbury Company, Minneapolis, Minn. Filed Dec. 20, 1965.



Owner of Reg. Nos. 793,703, 794,157, and 794,158.
For Refrigerated Dough for Making Cookies.
First use May 6, 1965.

SN 234,953. Takeda Chemical Industries, Ltd., Higashi-ku, Osaka, Japan. Filed Dec. 20, 1965.

RIBOSALT

For Mixture of Salt and Food Seasonings.
First use Aug. 5, 1965; in commerce Aug. 5, 1965.

SN 234,957. Tri-Valley Growers, San Francisco, Calif. Filed Dec. 20, 1965.

Cock o' the Walk

Owner of Reg. Nos. 137,962 and 634,449.
For Canned Fruits, Canned Berries, Canned Vegetables, Canned Fruit Nectars, Canned Vegetable Juices, Canned Fruit Cocktail, Canned Olives, Canned Tomato Sauce, Canned Tomato Catsup, and Canned Tomato Paste.
First use Mar. 1, 1920, on canned fruits and vegetables.

SN 234,963. United Biscuit Company of America, Melrose Park, Ill. Filed Dec. 20, 1965.

TWIN-O

For Candy.
First use Oct. 15, 1965.

SN 234,964. United Biscuit Company of America, Melrose Park, Ill. Filed Dec. 20, 1965.

KEEBS

For Crackers and Cookies.
First use Nov. 9, 1965.

SN 234,966. United Biscuit Company of America, Melrose Park, Ill. Filed Dec. 20, 1965.

SPAN

For Cookies.
First use Oct. 15, 1965.

SN 234,967. United Biscuit Company of America, Melrose Park, Ill. Filed Dec. 20, 1965.

SHAMROCKS

For Cookies.
First use Oct. 15, 1965.

SN 234,968. United Biscuit Company of America, Melrose Park, Ill. Filed Dec. 20, 1965.

PITTER PATTER

For Cookies.
First use Oct. 18, 1965.

SN 234,969. United Biscuit Company of America, Melrose Park, Ill. Filed Dec. 20, 1965.

PEG LEGS

For Cookies.
First use Oct. 18, 1965.

SN 234,970. United Biscuit Company of America, Melrose Park, Ill. Filed Dec. 20, 1965.

HASTY TASTIES

For Cookies.
First use Oct. 19, 1965.

SN 234,971. United Biscuit Company of America, Melrose Park, Ill. Filed Dec. 20, 1965.

HA HA

For Cookies.
First use Oct. 18, 1965.

SN 234,972. United Biscuit Company of America, Melrose Park, Ill. Filed Dec. 20, 1965.

SKIP

For Cookies.
First use Oct. 18, 1965.

SN 234,987. Allied Mills, Inc., Chicago, Ill. Filed Dec. 21, 1965.

KOW KRUNCH

No claim is made to the exclusive use of the word "Kow" alone. Owner of Reg. Nos. 590,391 and 791,097.
For Livestock Feed.
First use May 9, 1952.

SN 240,052. Allied Mills, Inc., Chicago, Ill. Filed Mar. 3, 1966.

TAIL CURLER ROCKETS

Owner of Reg. Nos. 558,055, 563,682, and 710,350.
For Pig Feed.
First use Mar. 1, 1955.

SN 240,946. Pennsylvania Dutch-Megs, Inc., Harrisburg, Pa. Filed Mar. 14, 1966.

CAVALIERE

Owner of Reg. No. 420,192.
For Macaroni, Spaghetti, and Egg Noodles.
First use July 1, 1935.

SN 245,137. R. C. Nicoll, d.b.a. Valerie Jean Date Shop, Thermal, Calif. Filed May 9, 1966.

Valerie Jean

The name "Valerie Jean" is the given name of the daughter of applicant. Owner of Reg. Nos. 379,168, 403,966, and 605,917.
For Fruit Jellies, Preserves, Marmalades, and Conserves; Tomato Preserves; Spiced Whole Oranges; Honey; Barbecue Sauce; Canned Olives; Fruit Flavored Table Syrups; Dates and Date Products—Namely, Brandied Dates, Suffed Dates, Date Cake, Date Candy, Date Syrup, Date Butter, Date Cookies, Dried Date Pieces; Dried Fruits.
First use June 1929.

Class 49—Distilled Alcoholic Liquors

SN 123,404. Blanchard Importing & Distributing Co., Inc., Boston, Mass. Filed July 5, 1961.

CANADIAN CHAMP

No claim of exclusive right is made to "Canadian" as used on Canadian whisky.
For Canadian Whisky.
First use Dec. 15, 1954.

SN 225,013. Distillerie Fratelli Ramazzotti, S.p.A., d.b.a. Distillerie F. Lli Ramazzotti, S.p.A. and Fili Ramazzotti, Milan, Italy. Filed Aug. 5, 1965.

RAMAZZOTTI

For Bitter Liqueurs.
First use Mar. 14, 1893; in commerce Dec. 18, 1927.

Class 50—Merchandise Not Otherwise Classified

SN 223,477. The Valspar Corporation, Rockford, Ill. Filed July 15, 1965.

Vintage

The drawing is lined for the color yellow, but no claim is made to color.
For Antiquing Kits Comprising a Supply of Base Coating Material, Toner, and Liquid Chemical Composition for Dulling the Gloss on Painted, Enameled, or Varnished Surfaces, a Brush, Cheese Cloth, and a Hand Glove of Synthetic Resin Such as Polyethylene.
First use about May 10, 1965.

SN 226,920. International Artware Corporation, Cleveland, Ohio. Filed Sept. 1, 1965.

INARCO

The drawing is lined for gold and grey.
For Decorative Articles—Namely, Plants and Artificial Flowers of Molded Plastic, Ceramic Figures, Plants and Decorative Novelties for the Home and Holiday Use.
First use May, 1961.

SN 234,026. Rena Bell Hardman, d.b.a. R. B. Hardman Co., Los Angeles, Calif. Filed Dec. 6, 1965.

HANDI KOOL

For Insulating Holder for Beverage Pots.
First use Sept. 20, 1965.

SN 234,163. Advertising Mats, Inc., New York, N.Y. Filed Dec. 8, 1965.



The term "Hi-Cushion" is disclaimed apart from the mark as shown.
For Printing Mats.
First use January 1961.

SN 237,794. Anderson Electric Corporation, Leeds, Ala. Filed Feb. 2, 1966.

FUTURA

For Memorial Grave Markers.
First use Nov. 22, 1965.

Class 51—Cosmetics and Toilet Preparations

SN 214,913. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 24, 1965.

PETEY PENGUIN

For Bubble Bath.
First use Sept. 21, 1963.

SN 226,893. John H. Breck, Inc., Springfield, Mass. Filed Sept. 1, 1965.

LADY BRECK

Owner of Reg. Nos. 521,473, 575,376, and others.
For Hair Conditioner.
First use Aug. 12, 1965.

SN 229,830. MCA Inc., Universal City, Calif. Filed Oct. 11, 1965.

For Cosmetics—Namely, Powder, Perfume, Rouge, Cleansing Lotion, Toner, Moisturiser, Lipstick, Eye Liner, Corrective Make-Up, Liquid Make-Up, Men's Cologne, and After Shave Lotion.
First use Aug. 7, 1965.

SN 234,548. Paul B. Elder Company, Bryan, Ohio. Filed Dec. 14, 1965.

RVPellent

Owner of Reg. Nos. 784,573, 784,943, and others.
For Insect Repellent and Sunscreen Topical Preparation.
First use Dec. 1, 1965.

SN 234,936. Roesbery Laboratories, Inc., Melba, Idaho. Filed Dec. 20, 1965.

Thank Heaven
FOR BABIES

The applicant disclaims the words "For Babies" apart from the mark as shown without waiver of any common law rights thereto.
For Skin Cream.
First use at least as early as Mar. 24, 1965.

SN 235,600. U.S.P. Corporation, New York, N.Y. Filed Dec. 30, 1965.

MR. NO GREY

For Hair Dressing.
First use Jan. 11, 1965.

SN 236,722. Dorothy Perkins Cosmetics, Inc., St. Louis, Mo. Filed Jan. 18, 1966.

DRAMATIQUE

For Cosmetics, Particularly, Foundation, Face Powder, Compact Powder, Rouge, and Lipstick.
First use Mar. 20, 1963, on face powder and rouge.

SN 237,172. Target Stores, Inc., Minneapolis, Minn. Filed Jan. 24, 1966.

TARGET

For Toothpaste, Bath Oil, Deodorant Preparations for Personal Use, Cream Rinse, and Aerosol Shaving Cream.
First use on or about Nov. 1, 1962, on deodorants.

SN 237,810. Buty-Wave Products Co. Inc., Los Angeles, Calif. Filed Feb. 2, 1966.

REMEDÉE

For Hair Conditioning Preparation.
First use Jan. 10, 1966.

SN 238,365. Stiefel Laboratories, Inc., Oak Hill, N.Y. Filed Feb. 8, 1966.

OILATUM

Owner of Reg. Nos. 246,744 and 504,015.
For Medicated Preparation Consisting of an Ointment for the Treatment of Dry Skin.
First use Sept. 1, 1954.

SN 238,426. Gravel Cologne, Inc., New York, N.Y. Filed Feb. 9, 1966.

PEBBLES

For Men's and Young Men's Cologne.
First use Nov. 1, 1965.

SN 238,513. General Aerosol Corporation, Brooklyn, N.Y. Filed Feb. 10, 1966.

SKIN MATE

Owner of Reg. No. 692,314.
For Personal Deodorant.
First use Oct. 13, 1965.

SN 238,682. Wembley, Inc., New Orleans, La. Filed Feb. 11, 1966.

Vienna Woods

For Toiletries—Namely, Hair Lotion, Before (Electric) Shave Lotion, Roll Deodorant, Cologne, and After Shave Lotion.
First use Dec. 23, 1965.

SN 238,684. Wembley, Inc., New Orleans, La. Filed Feb. 11, 1966.

Tyrol

For Toiletries—Namely, Hair Lotion, Before (Electric) Shave Lotion, Roll Deodorant, Cologne, and After Shave Lotion.
First use Dec. 23, 1965.

SN 238,709. Hattie Carnegie, Inc., New York, N.Y. Filed Feb. 14, 1966.

CARTE BLANCHE

The word "Blanche" is disclaimed apart from the mark as shown.
For Cream for the Face.
First use Jan. 1, 1943.

SN 238,738. Richard Hudnut, Morris Plains, N.J. Filed Feb. 14, 1966.

GLISSANDO

Owner of Reg. No. 789,455.
For Makeup Foundation, Dust-On Rouge, and Eye Shadow.
First use Apr. 6, 1965, on eye shadow.

SN 244,001. Lever Brothers Company, New York, N.Y. Filed Apr. 21, 1966.

CLOSE-UP

Owner of Reg. No. 620,093.
For Dentifrice.
First use Mar. 14, 1966.

Class 52 — Detergents and Soaps

SN 227,792. United Distributors Service, Inc., Roanoke, Va. Filed Sept. 14, 1965.

UDS

For Chamois Cleaner.
First use May 10, 1964.

SN 232,507. American Cyanamid Company, Wayne, N.J. Filed Nov. 12, 1965.

VIRO-TEC

For Disinfectant-Deodorant Preparation.
First use Oct. 6, 1965.

SN 233,871. Bristol-Myers Company, New York, N.Y. Filed Dec. 3, 1965.

SHINE AND DANDY

Owner of Reg. No. 805,766.
For Hair Shampoo.
First use Oct. 13, 1965.

SN 234,200. Higgins Ink Co., Inc., Brooklyn, N.Y. Filed Dec. 8, 1965.

HIGGINS

Owner of Reg. No. 798,706.
For Ink Eradicators and Pen Cleaners.
First use 1880.

SN 235,048. Barnes-Hind Laboratories, Sunnyvale, Calif. Filed Dec. 17, 1965.

MODERA

For Neutral Non-Medicated Shampoo.
First use Aug. 20, 1965.

SN 238,613. Colgate-Palmolive Company, New York, N.Y. Filed Feb. 11, 1966.

DETAX

For All-Purpose Detergent and Cleaner.
First use Jan. 27, 1966.

SN 239,126. Consolidated Chemical, Inc., St. Louis, Mo. Filed Feb. 18, 1966.

CONSOL

For Body-Wash and Skin Emollient.
First use Feb. 7, 1966.

SN 239,181. Bernard Van Hoose, d.b.a. Van's Chemical Co., Columbus, Ohio. Filed Feb. 18, 1966.

ROLLOFF

For General Purpose, Liquid Cleaner.
First use May 1965.

SN 239,552. Jerome Swimmer, d.b.a. National Biochemical Company, Chicago, Ill. Filed Feb. 24, 1966.

NEOTHENE

For Halogenated Solvents Employed Principally To Remove Contaminants From Solid Surfaces.
First use Dec. 11, 1965.

SN 244,000. Lever Brothers Company, New York, N.Y. Filed Apr. 21, 1966.

POWER BRIGHT

For Detergent for General Washing and Cleansing.
First use Dec. 23, 1965.

SERVICE MARKS

Class 100 — Miscellaneous

SN 225,045. J. Ray McDermott & Co., Inc., New Orleans, La. Filed Aug. 5, 1965.

MC DERMOTT

For Designing and Engineering Offshore Platforms (Including Platforms for the Exploration and Production of Oil and Gas, Lighthouses, and Platforms for Sulfur Production), Mooring Systems, Loading Docks, Power Plants, Industrial Plants, Pipelines, Drainage Systems, Oil and Gas Production Systems, Petroleum Processing Facilities, Instrumentation Systems, Lighting Systems, Wharves, Bulkheads, Piers, Bridges, Roads, Wellheads, and Ships.
First use at least as early as 1925.

Class 101 — Advertising and Business

SN 223,137. Marshall Supply & Equipment Company, Inc., Tulsa Okla. Filed July 12, 1965.

MARSUCO

For Distributorship Services Rendered to Manufacturers in the Metal-Working Industry.
First use Feb. 1, 1942.

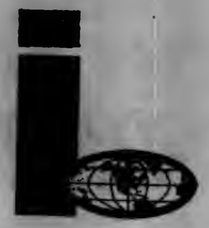
SN 224,078. Creative Marketing, Inc., Kalamazoo, Mich. Filed July 23, 1965.

PLAY MONEY-PLUS

For Promoting the Sale of Goods by Others Through the Insurance and Redemption of Cards for Cash or Prizes.
First use July 7, 1965.

Class 102 — Insurance and Financial

SN 221,602. Intercontinental Leasing, Inc., Wichita, Kans. Filed June 21, 1965.



For Financing the Desired Purchases of Goods for Persons With the Seller and Leasing the Goods to Said Persons—Namely, Goods in the Categories Office Furniture and Fixtures; Office Equipment; Farm Equipment; Oil and Gas Well Supplies; Vending Machines; Laundry and Dry Cleaning Equipment; Irrigation Equipment; Telephone Answering Equipment; Hydroponics Equipment; Restaurant Furniture, Fixtures and Equipment; Hatchery Equipment; Car Washing Equipment; Gasoline Service Station Equipment; Sporting Goods; Mortuary Equipment; Library Books; Tools; Recording Equipment; Advertising Equipment; Trailers; Construction Equipment and Machines; Automotive Equipment; Grocery Store Equipment; Medical Equipment; Printing Equipment; Mailing Equipment; Ice Making Equipment; Construction Machinery; Furniture; Buildings; and Pipe.
First use May 5, 1965.

SN 226,113. American Agricultural Mutual Insurance Company, Chicago, Ill. Filed Aug. 20, 1965.

FARM BUREAU INSURANCE

The word "Insurance" is disclaimed.
For Writing of Insurance.
First use Apr. 26, 1965.

Class 103 — Construction and Repair

SN 203,134. Whirlpool Corporation, Benton Harbor, Mich. Filed Oct. 1, 1964.

TECH-CARE

For Home Product Services.
First use Mar. 15, 1964.

SN 227,227. Associated Coin Amusement Co., Inc., Oakland, Calif. Filed Sept. 7, 1965.



For Installing and Servicing Coin Operated Phonograph Machines, Photographic Devices, Amusement Games and Machines.
First use July 15, 1957.

Class 105 — Transportation and Storage

SN 203,856. Archer Messenger Service, Inc., New York, N.Y. Filed Oct. 13, 1964.

ARCHER

For Providing Messenger Facilities to Pick Up and/or Deliver Any Type of Material, Package, Printed Matter, and the Like.
First use Aug. 15, 1964.

SN 225,048. J. Ray McDermott & Co., Inc., New Orleans, La. Filed Aug. 5, 1965.

MC DERMOTT

For Towing of Vessels by Tug, Operation of Barges and Transportation of Materials Over Waterways; and Hauling of Oil Field Equipment Over Land by Trucks and Trailers.
First use at least as early as 1925.

Class 106 — Material Treatment

SN 221,634. Reeves Brothers, Inc., New York, N.Y. Filed June 21, 1965.

REEVEBOND

Owner of Reg. Nos. 378,597, 727,060, and others.
For Bonding the Fabrics of Others to Polyurethane Foam.
First use May 21, 1965.

SN 227,055. Meisel Photochrome Corporation, Dallas, Tex. Filed Sept. 2, 1965.

AUTO-COLOR

For Processing and Developing of Color Photographs.
First use July 1, 1964.

SN 227,056. Meisel Photochrome Corporation, Dallas, Tex. Filed Sept. 2, 1965.

AUTO-LINE

For Processing and Developing of Color Photographs.
First use July 1, 1964.

Class 107 — Education and Entertainment

SN 211,139. Florence Utt Switchboard Training Systems, Inc., Anaheim, Calif. Filed Jan. 12, 1965.

FLORENCE Utt

For Educational Services, viz, Instruction in the Operation of the Switchboard and Receptionists' Duties.
First use Jan. 2, 1962.

SN 217,799. Larry L. Stewart & Associates, Inc., Coral Gables, Fla. Filed Apr. 30, 1965.

"IT HAPPENED IN AMERICA" THE SECRETS TO SUCCESS

For Radio Programs—Namely, Depiction of the Lives of Famous Americans.
First use Apr. 7, 1964.

SN 224,936. Clarence Nicholas Colleran, Jr., Richmond, Va. Filed Aug. 4, 1965.

The Escorts

For Entertainment Services in the Form of Orchestral Music.
First use September 1961.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 207,721. Hotel and Restaurant Employees and Bartenders International Union, Cincinnati, Ohio. Filed Dec. 8, 1964.

HOTEL AND RESTAURANT EMPLOYEES AND BARTENDERS INTERNATIONAL UNION AFL-CIO
JOINT COUNCIL DINING CAR EMPLOYEES

Owner of Reg. Nos. 410,177, 412,500, and others.
For Indicating Membership in the Applicant Association.
First use 1945.

SN 236,982. Florists' Transworld Delivery Association, Detroit, Mich. Filed Jan. 21, 1966.



The drawing is lined for yellow. Owner of Reg. Nos. 407,189, 773,394, and others.
For Indicating Associate Membership in Applicant Organization.
First use Dec. 31, 1965.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

813,232. FIBERSET. Fiberfil, Inc. SN 195,085. Pub. 6-7-66. Filed 6-8-64.

813,233. SYNVARAC. Synvar Corporation. MULTIPLE CLASS (Classes 1 and 5). SN 201,243. Pub. 6-7-66. Filed 9-3-64.

813,234. FORTREL 7. Fiber Industries, Inc. SN 211,638. Pub. 6-7-66. Filed 2-9-65.

813,235. HALOFLEX. Imperial Chemical Industries Limited. SN 218,007. Pub. 6-7-66. Filed 5-4-65.

813,236. PIROSCHKA. Albert Trostel & Sons Company. SN 219,836. Pub. 6-7-66. Filed 5-26-65.

813,237. KOPLAC. Koppers Company, Inc. SN 220,668. Pub. 6-7-66. Filed 6-8-65.

813,238. CLEVYLINE. Societe Rhovyl. SN 229,556. Pub. 6-7-66. Filed 10-7-65.

813,239. CLEVYLAINE. Societe Rhovyl. SN 229,561. Pub. 6-7-66. Filed 10-7-65.

813,240. CLEVYLCO. Societe Rhovyl. SN 229,566. Pub. 6-7-66. Filed 10-7-65.

813,241. CLEVYLASTIC. Societe Rhovyl. SN 229,571. Pub. 6-7-66. Filed 10-7-65.

813,242. CLEVYLON. Societe Rhovyl. SN 229,576. Pub. 6-7-66. Filed 10-7-65.

813,243. CLEVYLIA. Societe Rhovyl. SN 229,581. Pub. 6-7-66. Filed 10-7-65.

813,244. RAINBOW AND DESIGN. John E. Wilson, d.b.a. Wilson Co. SN 230,334. Pub. 6-7-66. Filed 10-15-65.

813,245. LIT DE JOUR. Bates Manufacturing Company, Incorporated. SN 233,310. Pub. 6-7-66. Filed 11-26-65.

Class 2 — Receptacles

813,246. BOW-TIE AND DESIGN. William Freihofer Baking Co. SN 195,936. Pub. 6-7-66. Filed 6-18-64.

813,247. DESIGN OF WOMAN PUSHING FLOOR APPLIANCE. The Shetland Company, Inc. MULTIPLE CLASS (Classes 2, 4, and 21). SN 200,878. Pub. 6-7-66. Filed 8-28-64.

813,248. SERVE-N-SAVE. Rexall Drug and Chemical Company, d.b.a. Tupperware. SN 203,822. Pub. 6-7-66. Filed 10-12-64.

813,249. DIVISIBLE PACKAGING ENTERPRISES. Brette R. Riley, d.b.a. Divisible Packaging Enterprises. SN 207,153. Pub. 6-7-66. Filed 11-30-64.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

813,250. PLASCOLINE. Louis G. Standard, d.b.a. Plastic Service Company. MULTIPLE CLASS (Classes 3 and 37). SN 214,709. Pub. 6-7-66. Filed 3-22-65.

813,251. SANDRA POST. Sandra Post of Florida, Inc. MULTIPLE CLASS (Classes 3, 28, 39, and 101). SN 221,981. Pub. 6-7-66. Filed 6-25-65.

Class 4 — Abrasives and Polishing Materials

813,247. (See Class 2 for this trademark.)

813,252. WRIGHT'S. J. A. Wright & Co. MULTIPLE CLASS (Classes 4 and 52). SN 205,476. Pub. 6-7-66. Filed 11-3-64.

Class 5 — Adhesives

813,233. (See Class 1 for this trademark.)

813,253. NABOND. National Starch and Chemical Corporation. SN 215,536. Pub. 6-7-66. Filed 4-1-65.

Class 6 — Chemicals and Chemical Compositions

813,254. SUN-KEM. Sun Chemical Corporation. SN 133,100. Pub. 10-9-62. Filed 11-30-61.

813,255. MIX OR MATCH. Slick Industrial Company, d.b.a. Illinois Shade Division of Slick Industrial Company. SN 187,620. Pub. 6-7-66. Filed 2-27-64.

813,256. SOLID SACHET. The Borden Company, assignee of Enos Corporation. SN 195,852. Pub. 6-7-66. Filed 6-17-64.

813,257. BATHROOM BOUQUET. The Borden Company, assignee of Enos Corporation. SN 195,853. Pub. 6-7-66. Filed 6-17-64.

813,258. CALDENT. Stauffer Chemical Company. SN 200,670. Pub. 6-7-66. Filed 8-26-64.

813,259. IMPECCO. Impecco Ltd. MULTIPLE CLASS (Classes 6 and 34). SN 202,084. Pub. 6-7-66. Filed 9-17-64.

813,260. RANEY. W. R. Grace & Co. SN 208,861. Pub. 6-7-66. Filed 12-17-64.

813,261. CHEMACOIL. Commercial Solvents Corporation. SN 208,995. Pub. 6-7-66. Filed 12-29-64.

813,262. LEVAIR ETC. AND DESIGN. Stauffer Chemical Company. SN 209,116. Pub. 6-7-66. Filed 12-30-64.

813,263. POM. Chemische Fabrik Pfersee G.m.b.H. SN 209,761. Pub. 10-12-65. Filed 1-12-65.

813,264. PROLONG. MSL Industries, Inc. SN 211,343. Pub. 6-7-66. Filed 2-4-65.

813,265. 4072. Shell Oil Company. SN 211,583. Pub. 6-7-66. Filed 2-8-65.

813,266. FERMCOLASE. Fermco Laboratories, Inc. SN 211,637. Pub. 6-7-66. Filed 2-9-65.

813,267. DACOTE. Diamond Alkali Company. SN 211,885. Pub. 6-7-66. Filed 2-12-65.

813,268. TANKLYNE. Hy-Test 303 Corp. SN 212,118. Pub. 6-7-66. Filed 2-16-65.

813,269. MISCELLANEOUS DESIGN. Baxter Laboratories, Inc. SN 212,954. Pub. 6-7-66. Filed 3-1-65.

813,270. B-T-F. National Chemicals, Inc. SN 214,682. Pub. 6-7-66. Filed 3-22-65.

813,271. S.O.F. 10. Foresight Corporation. SN 214,987. Pub. 6-7-66. Filed 3-24-65.

813,272. PETRX. Petrx Corporation, by change of name from Kennele Corporation. MULTIPLE CLASS (Classes 6, 18, 44, and 52). SN 215,972. Pub. 6-7-66. Filed 4-7-65.

813,273. PETRX AND DESIGN. Petrx Corporation, by change of name from Kennele Corporation. MULTIPLE CLASS (Classes 6, 18, 44, and 52). SN 215,973. Pub. 6-7-66. Filed 4-7-65.

813,274. K.I.L. 6. Foresight Corporation. SN 216,029. Pub. 6–7–66. Filed 4–7–65.

813,275. SCAT-R-BUG. United States Whip Company, d.b.a. U.S. Line Company. SN 216,456. Pub. 6–7–66. Filed 4–13–65.

813,276. HC. Universal Oil Products Company. SN 216,638. Pub. 6–7–66. Filed 4–15–65.

813,277. SUMBOND. Miles Laboratories, Inc. SN 217,482. Pub. 6–7–66. Filed 4–27–65.

813,278. WARCOFLEX. Sun Chemical Corporation. SN 222,430. Pub. 6–7–66. Filed 6–30–65.

813,279. RESOLVE. Calgon Corporation. SN 224,922. Pub. 6–7–66. Filed 8–4–65.

813,280. DRI-SAN. Emcor, Inc. SN 225,949. Pub. 6–7–66. Filed 8–18–65.

Class 9—Explosives, Firearms, Equipments, and Projectiles

813,281. DEFENSOR. Palmer Chemical and Equipment Company, Inc. SN 199,694. Pub. 6–7–66. Filed 8–11–64.

813,282. SAVAGE. Emhart Corporation. SN 213,860. Pub. 6–7–66. Filed 3–11–65.

813,283. JET-AWAY. Bernard Weiser. SN 215,134. Pub. 6–7–66. Filed 3–26–65.

813,284. BANCRAFT AND DESIGN. Bantam Match Corporation. SN 220,264. Pub. 6–7–66. Filed 6–3–65.

Class 12—Construction Materials

813,285. REPRESENTATION OF A SCOTCHMAN. McRae Bros., Inc. SN 220,864. Pub. 6–7–66. Filed 6–10–65.

813,286. PACE. Precast Architectural Concrete Elements Corporation. SN 221,202. Pub. 6–7–66. Filed 6–15–65.

813,287. SUPRAWALL AND DESIGN. Supradur Manufacturing Corporation. SN 221,760. Pub. 6–7–66. Filed 6–22–65.

813,288. MISSION. Western States Ceramic Corporation. SN 221,771. Pub. 6–7–66. Filed 6–22–65.

813,289. THERMO-TILE. King & Company, Inc. SN 221,834. Pub. 6–7–66. Filed 6–23–65.

813,290. MEXALIT. Productos Mexalit, S.A. SN 226,376. Pub. 6–7–66. Filed 8–24–65.

813,291. UNI-GLAZE. Camp-Blox, Inc. SN 227,003. Pub. 6–7–66. Filed 9–2–65.

813,292. INVIS-A-MITRE. Interoceanic Commodities Corporation. SN 227,501. Pub. 6–7–66. Filed 9–9–65.

813,293. PORTSLIDE. The General Tire & Rubber Company. SN 232,690. Pub. 6–7–66. Filed 11–15–65.

813,294. . . . MADE FOR THE PROFESSIONAL! Permatex Company, Inc. SN 232,716. Pub. 6–7–66. Filed 11–15–65.

813,295. ANACONDA. The Anaconda Company. SN 232,761. Pub. 6–7–66. Filed 11–16–65.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

813,296. FASPIN. Jack R. Martens, d.b.a. Aerofast Company. SN 215,757. Pub. 6–7–66. Filed 4–5–65.

813,297. W.C.M. INC. AND DESIGN. Whaling City Marine Company, Inc. SN 219,091. Pub. 6–7–66. Filed 5–17–65.

813,298. HILLS-McCANNA-SAUNDERS. Hills-McCanna Company. SN 222,377. Pub. 6–7–66. Filed 6–30–65.

813,299. TALON AND DESIGN. Talon, Inc. SN 222,523. Pub. 6–7–66. Filed 7–1–65.

813,300. TRI-TAPER. Ladish Co. SN 227,039. Pub. 6–7–66. Filed 9–2–65.

813,301. TRI-GROOVE. Ladish Co. SN 227,042. Pub. 6–7–66. Filed 9–2–65.

813,302. TAGUS. David Kamenstein Inc. SN 229,660. Pub. 6–7–66. Filed 10–8–65.

813,303. RIDE-AIRE. General Motors Corporation. SN 229,788. Pub. 6–7–66. Filed 10–11–65.

813,304. TREND AND DESIGN. S. A. Hirsh Manufacturing Company. SN 229,977. Pub. 6–7–66. Filed 10–12–65.

813,305. O.E.B.* (*OMNI - ENVIRONMENT - BARRIER). Talon, Inc. SN 230,209. Pub. 6–7–66. Filed 10–14–65.

813,306. O.E.B. Talon, Inc. SN 230,210. Pub. 6–7–66. Filed 10–14–65.

813,307. GOLD BALL. Hydro Fitting Mfg. Corp. SN 230,393. Pub. 6–7–66. Filed 10–18–65.

813,308. TRIPPER. Harvey Eisenberg. SN 230,536. Pub. 6–7–66. Filed 10–19–65.

Class 16—Protective and Decorative Coatings

813,309. GUN GLOVE AND DESIGN. Henry Muller Whetstone, d.b.a. H. M. Whetstone & Co. SN 212,229. Pub. 6–7–66. Filed 2–17–65.

813,310. METACHEM. New York Wire Company. SN 220,873. Pub. 6–7–66. Filed 6–10–65.

813,311. SEYMOUR SPRAY ANTIQUE. Seymour of Sycamore, Inc. SN 222,213. Pub. 6–7–66. Filed 6–28–65.

813,312. VINACRYL. The Thibaut & Walker Co., Inc. SN 226,588. Pub. 6–7–66. Filed 8–26–65.

813,313. JILL. Jil Corporation. SN 227,506. Pub. 6–7–66. Filed 9–9–65.

Class 17—Tobacco Products

813,314. A ETC. AND DESIGN. The American Tobacco Company. SN 204,540. Pub. 6–7–66. Filed 10–22–64.

813,315. BERMUDA. The American Tobacco Company. SN 210,515. Pub. 6–7–66. Filed 1–25–65.

813,316. 100TH ANNIVERSARY MIXTURE. Iwan Ries & Co. SN 211,896. Pub. 6–7–66. Filed 2–12–65.

813,317. RIES' INTERNATIONAL MIXTURE. Iwan Ries & Co. SN 211,897. Pub. 6–7–66. Filed 2–12–65.

813,318. RIES' OLD COLONIAL. Iwan Ries & Co. SN 211,898. Pub. 6–7–66. Filed 2–12–65.

813,319. KRUMBLE KAKE. Smokers' Haven, Inc. SN 219,919. Pub. 6–7–66. Filed 5–27–65.

813,320. ANTON JUSTMAN MINAROS AND DESIGN. Anton Justman (Amsterdam & London) Limited. SN 221,277. Pub. 6–7–66. Filed 6–16–65.

Class 18—Medicines and Pharmaceutical Preparations

813,272. (See Class 6 for this trademark.)

813,273. (See Class 6 for this trademark.)

813,321. BADEDAS. UHU-Werk H. & M. Fischer. MULTIPLE CLASS (Classes 18 and 51). SN 200,299. Pub. 6–7–66. Filed 8–20–64.

813,322. TABBLEND. Chas. Pfizer & Co., Inc. SN 207,226. Pub. 6–7–66. Filed 12–1–64.

813,323. ASPIR-LAX. H & H Company. SN 214,110. Pub. 6–7–66. Filed 3–15–65.

813,324. ANGEL-SWEET. Garrett Laboratories, Inc. SN 217,883. Pub. 12–28–65. Filed 5–3–65.

813,325. B-SHARP. Forest Laboratories, Inc. SN 218,857. Pub. 6–7–66. Filed 5–14–65.

813,326. EFEDRON. Hart Laboratories, Inc. SN 218,991. Pub. 6–7–66. Filed 5–17–65.

813,327. TERPINOL-V. Fife Pharmaceuticals, Inc. SN 219,417. Pub. 6–7–66. Filed 5–21–65.

813,328. DYREX. Farbenfabriken Bayer Aktiengesellschaft. SN 219,780. Pub. 6–7–66. Filed 5–26–65.

813,329. PILOSPAN. Crookes-Barnes Laboratories, Inc. SN 219,860. Pub. 6–7–66. Filed 5–27–65.

813,330. DERMOSYN. Syntex Laboratories, Inc. SN 221,222. Pub. 6–7–66. Filed 6–15–65.

813,331. IROQUOIS AND DESIGN. Majestic Drug Co., Inc. SN 224,953. Pub. 6–7–66. Filed 8–4–65.

813,332. HAEMACCEL. Behringwerke Aktiengesellschaft, SN 226,122. Pub. 6–7–66. Filed 8–20–65.

813,333. CLOSE UP. Lever Brothers Company. SN 226,846. Pub. 6–7–66. Filed 8–31–65.

813,334. SEDAVIC. Janssen Pharmaceutica NV. SN 227,206. Pub. 6–7–66. Filed 8–30–65.

813,335. VESALIUM. Janssen Pharmaceutica NV. SN 227,207. Pub. 6–7–66. Filed 8–30–65.

813,336. PREDNIFLEX. Cilag-Chemie Aktiengesellschaft. SN 227,560. Pub. 6–7–66. Filed 9–10–65.

813,337. PROTOCON. Hydrophane Laboratories Limited. SN 227,943. Pub. 6–7–66. Filed 9–16–65.

813,338. INSADOL. Serdex—Societe d'Etudes de Recherches de Diffusion et d'Exploitation. SN 229,032. Pub. 6–7–66. Filed 9–30–65.

813,339. SCLEREX. Miller Pharmacal Company, d.b.a. The Miller Pharmacal Company. SN 229,109. Pub. 6–7–66. Filed 10–1–65.

813,340. CHENATAL. Miller Pharmacal Company, d.b.a. The Miller Pharmacal Company. SN 229,110. Pub. 6–7–66. Filed 10–1–65.

813,341. WHITE BAND ON PINK CAPSULE AND DESIGN. Parke, Davis & Company. SN 230,557. Pub. 6–7–66. Filed 10–19–65.

813,342. RIGOMIN. Geigy Chemical Corporation. SN 231,751. Pub. 6–7–66. Filed 10–28–65.

813,343. SENAMED. Dr. Peter Fabrney & Sons Co. SN 232,296. Pub. 6–7–66. Filed 11–8–65.

813,344. JOHNSON'S. Johnson & Johnson. SN 232,638. Pub. 6–7–66. Filed 11–15–65.

813,345. PACINOX. McNeil Laboratories, Incorporated. SN 232,708. Pub. 6–7–66. Filed 11–15–65.

813,346. MERCITAN. The Dentists' Supply Company of New York. SN 233,252. Pub. 6–7–66. Filed 11–24–65.

813,347. POTEZAN. American Home Products Corporation. SN 233,302. Pub. 6–7–66. Filed 11–26–65.

813,348. FEOPLEX. Richardson-Merrell Inc. SN 235,854. Pub. 6–7–66. Filed 1–5–66.

Class 19—Vehicles

813,349. TEL-E-LECT AND DESIGN. Tel-E-Lect, Inc. SN 215,024. Pub. 6–7–66. Filed 3–25–65.

813,350. DUOMATIC. Fichtel & Sachs Aktiengesellschaft. SN 215,063. Pub. 6–7–66. Filed 3–26–65.

813,351. GERRY. Ge y Designs, Inc. SN 215,726. Pub. 6–7–66. Filed 4–5–65.

813,352. ALDENS. Aldens, Inc. SN 217,239. Pub. 6–7–66. Filed 4–26–65.

813,353. REST-N-DOWN BY NATIONAL. Artnell Company. SN 226,714. Pub. 6–7–66. Filed 8–30–65.

Class 20—Linoleum and Oiled Cloth

813,354. KEYLOCK. Porta-Floor Company. SN 216,338. Pub. 6–7–66. Filed 4–12–65.

Class 21—Electrical Apparatus, Machines, and Supplies

813,247. (See Class 2 for this trademark.)

813,355. RAYONET. Frank N. Magnano, d.b.a. The Southern New England Ultraviolet Co. SN 190,210. Pub. 6–7–66. Filed 4–2–64.

813,356. MIKROLAIS. Schleicher G.m.b.H. & Co. Kommanditgesellschaft. SN 198,086. Pub. 6–7–66. Filed 7–17–64.

813,357. PENNCRAFT. J. C. Penney Company. SN 209,453. Pub. 6–7–66. Filed 1–6–65.

813,358. KUAX. H. Kuhnke, Elektrotechnische Fabrik. MULTIPLE CLASS (Classes 21 and 23). SN 209,864. Pub. 6–7–66. Filed 1–13–65.

813,359. DIAZED. Siemens-Schuckertwerke Aktiengesellschaft. SN 210,480. Pub. 6–7–66. Filed 1–22–65.

813,360. LIFE-WATCHMAN. Elliott & Evans. Inc. SN 210,660. Pub. 6–7–66. Filed 1–26–65.

813,361. AE AND DESIGN. American Electric Mfg. Corp. SN 213,515. Pub. 6–7–66. Filed 3–8–65.

813,362. LITE TREND AND DESIGN. Lite Trend, Inc. SN 214,448. Pub. 6–7–66. Filed 3–8–65.

813,363. HIGHLANDER. Lighting Products Inc. SN 215,231. Pub. 6–7–66. Filed 3–29–65.

813,364. STROMBERG. General Time Corporation. SN 219,871. Pub. 6–7–66. Filed 5–27–65.

813,365. STROMBERG. General Time Corporation. SN 219,872. Pub. 6–7–66. Filed 5–27–65.

813,366. STAHLASTIC. Stablin Bros. Fibre Works, Inc. SN 220,034. Pub. 6–7–66. Filed 5–28–65.

813,367. INTELLUX. Intellux, Inc. SN 220,104. Pub. 6–7–66. Filed 6–1–65.

813,368. MICHIGAN. Electro-Voice, Incorporated. SN 220,750. Pub. 6–7–66. Filed 6–9–65.

813,369. GREENCAP. P. R. Mallory & Co. SN 226,255. Pub. 6–7–66. Filed 8–23–65.

813,370. ANVIL. Tensor Corporation. SN 226,392. Pub. 6–7–66. Filed 8–24–65.

813,371. ECHOTRONIC. Automatic Radio Mfg. Co., Inc. SN 226,403. Pub. 6–7–66. Filed 8–25–65.

813,372. ECHOMASTER. Automatic Radio Mfg. Co., Inc. SN 226,404. Pub. 6–7–66. Filed 8–25–65.

813,373. SEALCON. Anaconda Wire and Cable Company. SN 226,605. Pub. 6–7–66. Filed 8–27–65.

Class 22—Games, Toys, and Sporting Goods

813,374. 'KIDDY KORT.' Richard D. Bottorff. SN 189,866. Pub. 6–7–66. Filed 3–30–64.

813,375. JUMBO. Joseph L. De Maria. SN 194,968. Pub. 6–7–66. Filed 6–5–64.

813,376. AMERICANA METEOR AND DESIGN. American Hardware Supply Company. SN 201,344. Pub. 6–7–66. Filed 9–8–64.

813,377. DOMINO BRIDGE AND DESIGN. Domino Bridge Co. SN 209,918. Pub. 6–7–66. Filed 1–14–65.

813,378. MASCON M AND DESIGN. Masco Corporation. SN 212,435. Pub. 6–7–66. Filed 2–19–65.

813,379. REGULAR. William J. Parrish, d.b.a. Parrish Bass Lures. SN 213,702. Pub. 5–3–66. Filed 3–9–65.

813,380. TEXAS MONEY GAME. O. O. Ressel, d.b.a. Woodrow Wilson Co. SN 215,893. Pub. 6–7–66. Filed 4–6–65.

813,381. PHONO-VISION. The Lionel Toy Corporation. SN 215,978. Pub. 6–7–66. Filed 4–7–65.

813,382. SUPERLUX. Erwin Weiler Company. SN 216,117. Pub. 6–7–66. Filed 4–8–65.

813,383. MISCELLANEOUS DESIGN. Set Screw & Mfg. Company. SN 216,345. Pub. 6–7–66. Filed 4–12–65.

813,384. DIAL-A-WINNER. Gilbert J. Anderson, Jr., d.b.a. Dial-A-Winner. SN 217,588. Pub. 6-7-66. Filed 4-29-65.

813,385. KING KORN. King Korn Stamp Company. SN 224,426. Pub. 6-7-66. Filed 7-28-65.

813,386. MAGIC KLOCK. King Korn Stamp Company. SN 224,427. Pub. 6-7-66. Filed 7-28-65.

813,387. LIONEL AND DESIGN. The Lionel Toy Corporation. MULTIPLE CLASS (Classes 22 and 36). SN 224,688. Pub. 6-7-66. Filed 8-2-65.

813,388. GOAT. Milton Bradley Company. SN 226,208. Pub. 6-7-66. Filed 8-23-65.

813,389. RADIO AND DESIGN. Radio Steel & Mfg. Co. SN 226,283. Pub. 6-7-66. Filed 8-23-65.

813,390. FLY-T. Walnut Valley Industries, Inc. SN 227,896. Pub. 6-7-66. Filed 9-15-65.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

813,358. (See Class 21 for this trademark.)

813,391. KORALITH. Ideal Roller and Manufacturing Company. SN 206,454. Pub. 6-7-66. Filed 11-18-64.

813,392. ALMO. Almo Manifold & Tool Co. SN 206,498. Pub. 6-7-66. Filed 11-19-64.

813,393. FALCON POLY-POD. Falcon Line Products Corp. SN 208,183. Pub. 6-7-66. Filed 12-15-64.

813,394. TRAVELER. The Greater Iowa Corporation. SN 208,362. Pub. 6-7-66. Filed 12-17-64.

813,395. JACOBS. The Jacobs Manufacturing Company. SN 208,583. Pub. 6-7-66. Filed 12-21-64.

813,396. REGAL. Bostitch, Inc. SN 209,333. Pub. 6-7-66. Filed 1-5-65.

813,397. REGIFLEX. J. Cahen N.V., by change of name from N.V. Papierindustrie J. Cahen. SN 210,243. Pub. 6-7-66. Filed 11-6-64.

813,398. DRMCO. The Dominion Road Machinery Co. Limited. SN 212,090. Pub. 6-7-66. Filed 2-12-65.

813,399. JD AND DESIGN. John Dusenbery Company, Inc. SN 220,285. Pub. 6-7-66. Filed 6-3-65.

813,400. LAWN RANGER. Wheel Horse Products, Inc. SN 224,669. Pub. 6-7-66. Filed 7-30-65.

813,401. PRESSURE-EASE AND DESIGN. Alvey Conveyor Manufacturing Co. SN 224,697. Pub. 6-7-66. Filed 8-2-65.

813,402. I-S-. Ilya Scheinker. SN 226,295. Pub. 6-7-66. Filed 8-23-65.

813,403. HYDROFLATOR. McDowell Tire Co. SN 227,677. Pub. 6-7-66. Filed 9-13-65.

813,404. ICEXPRESSO. Manotecnica S.p.A. MULTIPLE CLASS (Classes 23, 24, and 31). SN 228,235. Pub. 6-7-66. Filed 9-21-65.

813,405. HARVEST KING. Mid-States Distributing Company, Inc. SN 230,063. Pub. 6-7-66. Filed 10-13-65.

813,406. GOLIATH. Goliath Tap & Die Limited. SN 230,381. Pub. 6-7-66. Filed 10-18-65.

813,407. SPIDER. Spider, Inc. SN 230,449. Pub. 6-7-66. Filed 10-18-65.

813,408. SPARKLE-IZER AND DESIGN. Roto-Wash, Inc. SN 230,706. Pub. 6-7-66. Filed 10-20-65.

Class 24 — Laundry Appliances and Machines

813,404. (See Class 23 for this trademark.)

813,409. IRONEES LAUNDRY DEPARTMENT. The Ironees Company. SN 191,393. Pub. 6-7-66. Filed 4-17-64.

813,410. VITEX. Patek & Co. SN 224,785. Pub. 6-7-66. Filed 8-2-65.

Class 26 — Measuring and Scientific Appliances

813,411. SCIOTO. Scioto Sign Co., Inc. MULTIPLE CLASS (Classes 26, 38, and 50). SN 196,067. Pub. 6-7-66. Filed 6-19-64.

813,412. DIAL-RITE. William G. Rellar. SN 206,473. Pub. 6-7-66. Filed 11-18-64.

813,413. HI-AC. Dynamics Corporation of America. SN 206,782. Pub. 6-7-66. Filed 11-23-64.

813,414. CHARMIN' CHATTY. Mattel, Inc. SN 207,628. Pub. 6-7-66. Filed 12-7-64.

813,415. INTAB AND DESIGN. Intab Wilhelm Ludwig Kg. MULTIPLE CLASS (Classes 26 and 37). SN 209,273. Pub. 6-7-66. Filed 1-4-65.

813,416. STORTZ AND DESIGN. J. L. Stortz Co., Inc. SN 213,169. Pub. 6-7-66. Filed 3-2-65.

813,417. S AND DESIGN. Scanwell Laboratories, Inc. SN 214,792. Pub. 6-7-66. Filed 3-23-65.

813,418. SILVER LABEL. Speed-O-Print Business Machines Corporation. SN 216,878. Pub. 6-7-66. Filed 4-19-65.

813,419. VIDEOMARK. Videomark Instrument Corporation. SN 216,901. Pub. 6-7-66. Filed 4-19-65.

813,420. GRAIN GUARD. Ridgewood Instrument Company. SN 217,214. Pub. 6-7-66. Filed 4-23-65.

813,421. PROLOID. Micronetics Incorporated. SN 217,375. Pub. 6-7-66. Filed 4-26-65.

813,422. ISOFLASH-RAPID. Agfa-Gevaert Aktiengesellschaft. SN 218,248. Pub. 6-7-66. Filed 5-7-65.

813,423. INSPECTASORT. Electronic Automation Systems, Inc. SN 223,016. Pub. 6-7-66. Filed 7-9-65.

813,424. DIXCO AND DESIGN. Dixson, Inc. SN 224,728. Pub. 6-7-66. Filed 8-2-65.

813,425. SPIDER. Spider, Inc. SN 230,450. Pub. 6-7-66. Filed 10-18-65.

Class 27 — Horological Instruments

813,426. WHEN SOMETHING HAPPY HAPPENS—IT'S BULOVA WATCH TIME. Bulova Watch Company, Inc. SN 217,003. Pub. 6-7-66. Filed 4-21-65.

Class 28 — Jewelry and Precious-Metal Ware

813,251. (See Class 3 for this trademark.)

813,427. BARBIE. Mattel, Inc. SN 207,621. Pub. 6-7-66. Filed 12-7-64.

813,428. FLW AND DESIGN. Frank L. Wilmarth Co. SN 210,830. Pub. 6-7-66. Filed 1-27-65.

813,429. FACET-BRITE. Waltham Watch Company. SN 222,995. Pub. 6-7-66. Filed 7-8-65.

Class 29 — Brooms, Brushes, and Dusters

813,430. CLEVYLINE. Societe Rhovyl. SN 229,557. Pub. 6-7-66. Filed 10-7-65.

813,431. CLEVYLAINE. Societe Rhovyl. SN 229,562. Pub. 6-7-66. Filed 10-7-65.

813,432. CLEVYLCO. Societe Rhovyl. SN 229,567. Pub. 6-7-66. Filed 10-7-65.

813,433. CLEVYLASTIC. Societe Rhovyl. SN 229,572. Pub. 6-7-66. Filed 10-7-65.

813,434. CLEVYLON. Societe Rhovyl. SN 229,577. Pub. 6-7-66. Filed 10-7-65.

813,435. CLEVYLIA. Societe Rhovyl. SN 229,582. Pub. 6-7-66. Filed 10-7-65.

Class 30 — Crockery, Earthenware, and Porcelain

813,436. JACQUES ORIGINALS AND DESIGN. Ceramex, Inc. SN 210,535. Pub. 6-7-66. Filed 1-25-65.

Class 31 — Filters and Refrigerators

813,404. (See Class 23 for this trademark.)

813,437. MR. MISTY. American Dairy Queen Corporation. SN 175,089. Pub. 6-7-66. Filed 8-15-63.

813,438. CFC AND DESIGN. Commercial Filters Corporation. SN 197,943. Pub. 6-7-66. Filed 7-16-64.

813,439. DYNAVANE. Farr Company. SN 206,846. Pub. 6-7-66. Filed 11-24-64.

813,440. GLIDE/PACK. Farr Company. SN 206,848. Pub. 6-7-66. Filed 11-24-64.

813,441. ROTO-SCREEN. The Patterson Kelley Co., Inc. SN 214,547. Pub. 6-7-66. Filed 3-19-65.

813,442. DYNAPURE. General Dynamics Corporation. SN 220,650. Pub. 6-7-66. Filed 6-8-65.

813,443. MARVELBO-R-2. Marvel Engineering Company. SN 226,454. Pub. 6-7-66. Filed 8-25-65.

Class 32 — Furniture and Upholstery

813,444. OXECON. Oxford Filing Supply Co., Inc. SN 193,492. Pub. 6-7-66. Filed 5-14-64.

813,445. PULLUP. Auto Glass Manufacturing Co. SN 194,548. Pub. 6-7-66. Filed 5-29-64.

813,446. CHEMFECO. Chem-Foam Engineering Co. SN 202,759. Pub. 6-7-66. Filed 9-28-64.

813,447. MARBLE-MAID. Cleveland Wash Tray Mfg. Co., Inc. SN 211,258. Pub. 6-7-66. Filed 2-3-65.

Class 33 — Glassware

813,448. NORITAKE. Nippon Toki Kabushiki Kaisha. SN 199,594. Pub. 6-7-66. Filed 8-10-64.

Class 34 — Heating, Lighting, and Ventilating Apparatus

813,259. (See Class 6 for this trademark.)

813,449. MC QUAY. McQuay, Inc. SN 187,802. Pub. 3-1-66. Filed 2-24-64.

813,450. DI AND DESIGN. Dorothea A. Daman, d.b.a. Daman Industries. SN 207,019. Pub. 6-7-66. Filed 11-27-64.

813,451. TURBO. Riley Stoker Corporation. SN 207,906. Pub. 6-7-66. Filed 12-10-64.

813,452. EL DORADO. White Products Corporation, assignee of Lamb Industries, Inc. SN 208,261. Pub. 6-7-66. Filed 12-16-64.

813,453. CONTAM-A-TROL. CRS Industries, Inc. SN 211,248. Pub. 6-7-66. Filed 2-3-65.

813,454. MATCH-O-MATIC. Match-O-Matic Inc. SN 213,999. Pub. 6-7-66. Filed 3-12-65.

813,455. BREW AND DESIGN. Richard D. Brew and Company, Inc. SN 218,356. Pub. 6-7-66. Filed 5-10-65.

813,456. MISSING LINK. Mid-States Welder Manufacturing Company. SN 220,954. Pub. 6-7-66. Filed 6-11-65.

813,457. QUICK-SILVER. Hy-Test 303 Corp. SN 224,750. Pub. 6-7-66. Filed 8-2-65.

813,458. RANGEVENTER. Nautilus Industries, Inc. SN 226,856. Pub. 6-7-66. Filed 8-31-65.

813,459. CON-O AND DESIGN. Weld Tooling Corporation. SN 226,872. Pub. 6-7-66. Filed 8-31-65.

813,460. CIR-O AND DESIGN. Weld Tooling Corporation. SN 226,873. Pub. 6-7-66. Filed 8-31-65.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

813,461. JAVELIN. The Goodyear Tire & Rubber Company. SN 225,146. Pub. 6-7-66. Filed 8-6-65.

813,462. DECATHELON. The Goodyear Tire & Rubber Company. SN 225,148. Pub. 6-7-66. 8-6-65.

813,463. CONSTELLATION. The Firestone Tire & Rubber Company. SN 225,645. Pub. 6-7-66. 8-13-65.

813,464. AWARD. The Firestone Tire & Rubber Company. SN 225,646. Pub. 6-7-66. Filed 8-13-65.

813,465. HATSEAL. W. S. Shamban & Co. SN 226,072. Pub. 6-7-66. Filed 8-19-65.

Class 36 — Musical Instruments and Supplies

813,387. (See Class 22 for this trademark.)

813,466. E. Gibson, Inc. SN 216,821. Pub. 6-7-66. Filed 4-19-65.

Class 37 — Paper and Stationery

813,250. (See Class 3 for this trademark.)

813,415. (See Class 26 for this trademark.)

813,467. BRITISH OPAQUE. Allied Paper Corporation. SN 195,836. Pub. 6-7-66. Filed 6-17-64.

813,468. BROWN IMPERIAL. International Paper Company. SN 199,572. Pub. 6-7-66. Filed 8-10-64.

813,469. VARSITY. Eberhard Faber Inc. SN 220,842. Pub. 6-7-66. Filed 6-10-65.

813,470. GOLD-ANKER RO-WI AND DESIGN. Rodi & Wienenberger Aktiengesellschaft. SN 223,045. Pub. 6-7-66. Filed 7-9-65.

813,471. UV/ULTRA. Kimberly-Clark Corporation. SN 224,214. Pub. 6-7-66. Filed 7-26-65.

813,472. M'LADY. Paper Products Incorporated. SN 226,567. Pub. 6-7-66. Filed 8-26-65.

813,473. PAPERPAX. Paper Products Incorporated. SN 226,568. Pub. 6-7-66. Filed 8-26-65.

Class 38 — Prints and Publications

813,411. (See Class 26 for this trademark.)

813,474. EYES RIGHT ETC. AND DESIGN. Dr. Chas. R. Wolf, d.b.a. EYES RIGHT. SN 223,197. Pub. 6-7-66. Filed 6-22-65.

813,475. MEMBER THE UNITED STATES JAYCEES ETC. AND DESIGN. The United States Jaycees. SN 229,894. Pub. 6-7-66. Filed 10-11-65.

Class 39 — Clothing

813,251. (See Class 3 for this trademark.)

813,476. MISTER GUY. Allied Stores Corporation, d.b.a. The Bon Marche. SN 189,418. Pub. 5-3-66. Filed 3-24-64.

813,477. TWO-TOO. Burney Epstein & Co., Inc. SN 205,578. Pub. 6-7-66. Filed 11-5-64.

813,478. BAINFLEX. Bain Corporation. SN 206,341. Pub. 6-7-66. Filed 11-17-64.

813,479. HUG-U. Blair Fashions, Inc. SN 206,409. Pub. 6-7-66. Filed 11-18-64.

813,480. CLOUD-TREDS. The Servus Rubber Company. SN 206,889. Pub. 6-7-66. Filed 11-24-64.

813,481. DAROLITE. H. Daroff & Sons, Inc. SN 209,594. Pub. 6-7-66. Filed 1-8-65.

813,482. MOLD-IT. I. B. Kleinert Rubber Company. SN 214,124. Pub. 6-7-66. Filed 3-15-65.

813,483. BUDGET UNIFORM CENTER. Budget Uniform Center, Inc., d.b.a. Budget Uniform Bazaar. SN 214,506. Pub. 6-7-66. Filed 3-19-65.

813,484. BERMONT. Maro Industries, Inc. SN 214,664. Pub. 6-7-66. Filed 3-22-65.

813,485. PRESS GARD. Elder Manufacturing Company. SN 215,716. Pub. 6-7-66. Filed 4-5-65.

813,486. "DOEREL." Fit-Rite Pants Company, Inc. SN 215,718. Pub. 6-7-66. Filed 4-5-65.

813,487. TOUJOURS. Shoe Corporation of America. SN 218,581. Pub. 6-7-66. Filed 5-11-65.

813,488. HI AROUND THE WORLD AND DESIGN. Hilton Products, Inc. SN 219,708. Pub. 6-7-66. Filed 5-25-65.

813,489. TRES GAY. Admiral Shoe Corporation, d.b.a. Mutual Shoe Sales Company. SN 221,135. Pub. 6-7-66. Filed 6-15-65.

813,490. SLEEP SHADE. Edward C. Hemphill, d.b.a. Sleep Shade Company. SN 221,269. Pub. 6-7-66. Filed 6-16-65.

813,491. GOLDEN SHEERS. Chadbourn Gotham, Inc. SN 222,549. Pub. 6-7-66. Filed 7-2-65.

813,492. STARMOUNT. Fashions Limited, Inc. SN 222,921. Pub. 6-7-66. Filed 7-8-65.

813,493. BUNNY BOOT. Huth-James Shoe, Inc. SN 222,942. Pub. 6-7-66. Filed 7-8-65.

813,494. NANCY PIPPINS. Stockton Manufacturing Co., Inc. SN 224,660. Pub. 6-7-66. Filed 7-30-65.

813,495. CLUB H AND DESIGN. C. F. Hathaway Company. SN 225,869. Pub. 6-7-66. Filed 8-17-65.

813,496. TOPPIT. Cinderella Hat Co. SN 226,039. Pub. 6-7-66. Filed 8-19-65.

813,497. COUNTRY MANOR. Nob Hill Apparel, Inc. SN 226,556. Pub. 6-7-66. Filed 8-26-65.

813,498. CLEVYLINE. Societe Rhovyl. SN 229,558. Pub. 6-7-66. Filed 10-7-65.

813,499. CLEVYLAINE. Societe Rhovyl. SN 229,563. Pub. 6-7-66. Filed 10-7-65.

813,500. CLEVYLCO. Societe Rhovyl. SN 229,568. Pub. 6-7-66. Filed 10-7-65.

813,501. CLEVYLASTIC. Societe Rhovyl. SN 229,573. Pub. 6-7-66. Filed 10-7-65.

813,502. CLEVYLON. Societe Rhovyl. SN 229,578. Pub. 6-7-66. Filed 10-7-65.

813,503. CLEVYLIA. Societe Rhovyl. SN 229,583. Pub. 6-7-66. Filed 10-7-65.

813,504. ROOSEVELT MILLS. Roosevelt Mills, Incorporated. SN 229,926. Pub. 6-7-66. Filed 10-11-65.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

813,505. CAVYAR. Collins & Aikman Corporation. SN 225,932. Pub. 6-7-66. Filed 8-18-65.

813,506. PRESTIGE. Joseph A. Kaplan & Sons, Inc. SN 228,045. Pub. 6-7-66. Filed 9-17-65.

813,507. NUPRON. Midland-Ross Corporation. SN 228,385. Pub. 6-7-66. Filed 9-22-65.

813,508. CLEVYLINE. Societe Rhovyl. SN 229,559. Pub. 6-7-66. Filed 10-7-65.

813,509. CLEVYLAINE. Societe Rhovyl. SN 229,564. Pub. 6-7-66. Filed 10-7-65.

813,510. CLEVLYCO. Societe Rhovyl. SN 229,569. Pub. 6-7-66. Filed 10-7-65.

813,511. CLEVYLASTIC. Societe Rhovyl. SN 229,574. Pub. 6-7-66. Filed 10-7-65.

813,512. CLEVYLON. Societe Rhovyl. SN 229,579. Pub. 6-7-66. Filed 10-7-65.

813,513. CLEVYLIA. Societe Rhovyl. SN 229,584. Pub. 6-7-66. Filed 10-7-65.

813,514. SESOM PRESS. Sesom Knitting Mills, Inc. SN 232,158. Pub. 6-7-66. Filed 11-4-65.

813,515. CARPET FAIR AND DESIGN. Carpet Fair, Inc. SN 232,191. Pub. 6-7-66. Filed 11-5-65.

813,516. LIT DE JOUR. Bates Manufacturing Company, Incorporated. SN 232,444. Pub. 6-7-66. Filed 11-10-65.

Class 43 — Thread and Yarn

813,517. SUMMAKOOL. Deering Milliken, Inc. SN 210,752. Pub. 6-7-66. Filed 1-27-65.

813,518. NLF. Metal Film Company, Inc. SN 231,647. Pub. 6-7-66. Filed 10-26-65.

Class 44 — Dental, Medical, and Surgical Appliances

813,272. (See Class 6 for this trademark.)

813,273. (See Class 6 for this trademark.)

813,519. VIBRATO. Beltone Electronics Corporation. SN 211,021. Pub. 6-7-66. Filed 2-1-65.

813,520. ZENITH. Zenith Radio Corporation. SN 211,610. Pub. 6-7-66. Filed 2-8-65.

813,521. IRRIGEX. The MacBick Company. SN 211,660. Pub. 6-7-66. Filed 2-9-65.

813,522. LADY PRISCILLA. Zayre Corp. SN 220,248. Pub. 6-7-66. Filed 6-2-65.

813,523. PATIENT-READY. Johnson & Johnson. SN 222,848. Pub. 6-7-66. Filed 7-7-65.

813,524. PRECISTA. Swiss American Precision Imports, Inc. SN 226,801. Pub. 6-7-66. Filed 8-30-65.

813,525. CLEVYLINE. Societe Rhovyl. SN 229,560. Pub. 6-7-66. Filed 10-7-65.

813,526. CLEVYLAINE. Societe Rhovyl. SN 229,565. Pub. 6-7-66. Filed 10-7-65.

813,527. CLEVYLCO. Societe Rhovyl. SN 229,570. Pub. 6-7-66. Filed 10-7-65.

813,528. CLEVYLASTIC. Societe Rhovyl. SN 229,575. Pub. 6-7-66. Filed 10-7-65.

813,529. CLEVYLON. Societe Rhovyl. SN 229,580. Pub. 6-7-66. Filed 10-7-65.

813,530. CLEVYLIA. Societe Rhovyl. SN 229,585. Pub. 6-7-66. Filed 10-7-65.

813,531. ACCUCHARGE. Propper Manufacturing Company, Inc. SN 230,893. Pub. 6-7-66. Filed 10-21-65.

Class 45 — Soft Drinks and Carbonated Waters

813,532. DARI-BEST. V. & E. Kohnstamm, Inc. SN 225,081. Pub. 6-7-66. Filed 8-5-65.

813,533. SWING COLA AND DESIGN. Gini International Limited. SN 226,529. Pub. 6-7-66. Filed 8-26-65.

Class 46 — Foods and Ingredients of Foods

813,534. GOLD AND RED BARS (DESIGN). Shurfine Foods, Inc. SN 164,469. COLLECTIVE MARK. Pub. 6-7-66. Filed 3-12-63.

813,535. HAV-AL-LU. Roskam Baking Company. SN 170,766. Pub. 6-7-66. Filed 6-11-63.

813,536. CLEARMINT. Philip Morris Incorporated. SN 173,032. Pub. 3-10-64. Filed 7-15-63.

813,537. NE-NERINA. Internacional de Marcas, Registros y Patentes S.A. (Indarsa). SN 175,409. Pub. 6-7-66. Filed 8-20-63.

813,538. SOLDIER HEAD (DESIGN). General Foods Corporation. SN 188,860. Pub. 6-7-66. Filed 3-17-64.

813,539. FLINGS. National Biscuit Company SN 197,750. Pub. 6-7-66. Filed 7-13-64.

813,540. FABBRI AND DESIGN. G. Fabbri S.p.A. SN 198,034. Pub. 6-7-66. Filed 7-17-64.

813,541. "BONE-AN-ZA" ETC. AND DESIGN. Quisenberry Mills, Inc., d.b.a. Kansas City Dog Food Company. SN 200,659. Pub. 6-7-66. Filed 8-26-64.

813,542. SLICE RITE AND DESIGN. John Morrell & Co. SN 201,454. Pub. 6-7-66. Filed 9-8-64.

813,543. BIG VALUE. Thomas & Howard Company of Charleston, Inc., d.b.a. Thomas and Howard Company. SN 202,227. Pub. 6-7-66. Filed 9-21-64.

813,544. MONKS'. Abbey of the Genesee. SN 202,532. Pub. 6-7-66. Filed 9-24-64.

813,545. ARABREAD AND DESIGN. Old World Bread Co., Inc. SN 202,947. Pub. 6-7-66. Filed 9-29-64.

813,546. "DAD'S" CHUNX. Dad's Dog Foods, Inc. SN 203,583. Pub. 6-7-66. Filed 10-8-64.

813,547. CREAM OF OATS. National Oats Company. SN. 204,395. Pub. 7-27-65. Filed 10-20-64.

813,548. CAP'N CRUNCH AND DESIGN. The Quaker Oats Company. SN 205,001. Pub. 6-7-66. Filed 10-28-64.

813,549. THE SWEETEST NAME IN CANDY. Shari Candies Inc. SN 205,462. Pub. 6-7-66. Filed 11-3-64.

813,550. KATTLE-KING. V.M.E., Corp. SN 205,635. Pub. 6-7-66. Filed 11-5-64.

813,551. FLAVOFERM. Commercial Solvents Corporation. SN 205,773. Pub. 6-7-66. Filed 11-9-64.

813,552. CADBURY'S TOPS. Cadbury Brothers, Limited. SN 206,696. Pub. 6-7-66. Filed 11-23-64.

813,553. PRUNELLA PIG. Redfern Sausage Company. SN 206,967. Pub. 6-7-66. Filed 11-25-64.

813,554. DIPZELS. Donald Fraser Incorporated. SN 207,286. Pub. 6-7-66. Filed 12-2-64.

813,555. TUNARONI. American Home Products Corporation. SN 207,696. Pub. 6-7-66. Filed 12-8-64.

813,556. WURSTMACHER. Hygrade Food Products Corporation. SN 207,807. Pub. 6-7-66. Filed 12-9-64.

813,557. KISSIN' CUZZIN. Kissin' Cuzzin', Inc. SN 208,258. Pub. 6-7-66. Filed 12-16-64.

813,558. EPICURE. Epicure Bakeries, Inc. SN 209,158. Pub. 6-7-66. Filed 12-31-64.

813,559. COL. SANDERS RECIPE KENTUCKY FRIED CHICKEN. Kentucky Fried Chicken Corporation. SN 209,173. Pub. 6-7-66. Filed 12-31-64.

813,560. HOTANGO. Filler Products, Inc. SN 209,432. Pub. 6-7-66. Filed 1-6-65.

813,561. 2+DAILY C. Roberts Dairy Company. SN 209,880. Pub. 6-7-66. Filed 1-13-65.

813,562. FUTURITY. V.M.E., Corp. SN 211,766. Pub. 6-7-66. Filed 2-10-65.

813,563. TARRY 'N' TASTE. Tarry 'N' Taste, Inc. SN 211,848. Pub. 6-7-66. Filed 2-11-65.

813,564. DACHSHUND (DESIGN). General Industries Corporation. SN 215,411. Pub. 6-7-66. Filed 3-31-65.

813,565. NU FLO. National Starch and Chemical Corporation. SN 215,537. Pub. 6-7-66. Filed 4-1-65.

813,566. TRIPLE AAA QUALITY AND DESIGN. Martin Rice, Inc. SN 216,175. Pub. 6-7-66. Filed 4-9-65.

813,567. S "FRANKIE" AND DESIGN. Superior's Brand Meats Inc. SN 216,351. Pub. 6-7-66. Filed 4-12-65.

813,568. TOP HORSE. Kimbell Milling Company. SN 217,548. Pub. 6-7-66. Filed 4-28-65.

813,569. CUMBERLAND FARMS. Cumberland Farms Dairy, Inc. SN 221,704. Pub. 6-7-66. Filed 6-22-65.

813,570. FANCY FRANK. Joseph F. Defrates, d.b.a. Joseph F. Defrates Co. SN 221,902. Pub. 6-7-66. Filed 6-24-65.

813,571. NIFTY. Nifty Foods Corp., d.b.a. Lustig Foods. SN 222,401. Pub. 6-7-66. Filed 6-30-65.

813,572. GOLD STANDARD. Eppens, Smith Company. SN 224,181. Pub. 6-7-66. Filed 7-26-65.

813,573. THREE STAR. Eppens, Smith Company. SN 224,183. Pub. 6-7-66. Filed 7-26-65.

813,574. CARDINAL FOOD STORES AND DESIGN. Consolidated Foods Corporation. SN 224,848. Pub. 6-7-66. Filed 8-3-65.

813,575. EL COCHINITO AND DESIGN. The Cudahy Packing Company. SN 225,292. Pub. 6-7-66. Filed 8-9-65.

813,576 SUGARPLUM. Sunsweet Growers Inc. SN 225,448. Pub. 6-7-66. Filed 8-10-65.

813,577. BLUE DIAMOND AND DESIGN. California Almond Growers Exchange. SN 226,816. Pub. 6-7-66. Filed 8-16-65.

813,578. KLEAN-CHUM. Beton, Inc. SN 227,475. Pub. 6-7-66. Filed 9-9-65.

813,579. GUGGLE-MUGGLE. Harry Felsenstein. SN 227,836. Pub. 6-7-66. Filed 9-15-65.

813,580. NEW-ENGLANDER. National Dairy Products Corporation. SN 230,276. Pub. 6-7-66. Filed 10-15-65.

Class 47 — Wines

813,581. CAVES ABBEVILLE. E. & J. Gallo Winery, d.b.a. Gourmet Vineyards. SN 207,035. Pub. 6-7-66. Filed 11-27-64.

813,582. THE SUN NEVER SETS ON MARTINI & ROSSI AND DESIGN. Martini & Rossi Corporation. SN 227,163. Pub. 6-7-66. Filed 9-3-65.

Class 48 — Malt Beverages and Liquors

813,583. THISTLE DESIGN. Rheingold Breweries, Inc. SN 228,404. Pub. 6-7-66. Filed 9-22-65.

Class 49 — Distilled Alcoholic Liquors

813,584. WHITESIDE. Consolidated Distilled Products, Inc., d.b.a. Robert Bruce and Company. SN 212,192. Pub. 6-7-66. Filed 2-17-65.

813,585. HEAD OF THE BOURBON FAMILY. National Distillers and Chemical Corporation, d.b.a. National Distillers Products Co. SN 218,888. Pub. 6-7-66. Filed 5-14-65.

813,586. JACQUIN'S PREMIUM AND DESIGN. Charles Jacquin et Cie., Inc. SN 219,575. Pub. 6-7-66. Filed 5-24-65.

813,587. K&B. Jules Berman & Associates, Inc. SN 227,233. Pub. 6-7-66. Filed 9-7-65.

Class 50 — Merchandise Not Otherwise Classified

813,411. (See Class 26 for this trademark.)

813,588. FLOCK O' FUN. Danberg Flock Manufacturing, Inc. SN 215,192. Pub. 6-7-66. Filed 3-29-65.

813,589. LEALITE. Peter L. Hrynyk. SN 220,373. Pub. 6-7-66. Filed 6-4-65.

Class 51 — Cosmetics and Toilet Preparations

813,521. (See Class 18 for this trademark.)

813,590. BIDETTE AND DESIGN. Young Drug Products Corporation, by change of name from Youngs Rubber Corporation. SN 194,267. Pub. 6-7-66. Filed 5-25-64.

813,591. MANI-COLOR. Faberge, Inc. SN 210,944. Pub. 6-7-66. Filed 1-29-65.

813,592. SET 3. Maradel Products, Inc. SN 214,138. Pub. 6-7-66. Filed 3-15-65.

813,593. MAKE-OP. Faberge, Inc. SN 218,188. Pub. 6-7-66. Filed 5-6-65.

813,594. FAIR AND TAN. Antoine de Paris, Inc. SN 219,189. Pub. 6-7-66. Filed 5-19-65.

813,595. CRAZY BUBBLES. Aerosol Corporation of America. SN 219,300. Pub. 6-7-66. Filed 5-20-65.

813,596. FANCI-FIX. Roux Laboratories, Inc. SN 220,970. Pub. 6-7-66. Filed 6-11-65.

813,597. SILVER SURF. Amway Corporation. SN 223,492. Pub. 6-7-66. Filed 7-16-65.

813,598. EGYPTIQUE. Amway Corporation. SN 223,493. Pub. 6-7-66. Filed 7-16-65.

813,599. LEGACY AND DESIGN. Cosmetics Manufacturing Company, d.b.a. Legacy. SN 223,533. Pub. 6-7-66. Filed 7-16-65.

813,600. KANEBO REINE. Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd. SN 224,207. Pub. 6-7-66. Filed 7-26-65.

813,601. KANEBO SOIE DE REINE. Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd. SN 224,208. Pub. 6-7-66. Filed 7-26-65.

813,602. B TREAT. Parker Herbex Corporation. SN 225,347. Pub. 6-7-66. Filed 8-9-65.

813,603. CURLS IN MOTION. Samuel Bonat & Bro., Inc. SN 226,206. Pub. 6-7-66. Filed 8-23-65.

813,604. 'TIZ-SECURE.' Maradel Products, Inc. SN 226,254. Pub. 6-7-66. Filed 8-23-65.

813,605. BRUSH FIRE. Cosmetically Yours, Inc. SN 226,516. Pub. 6-7-66. Filed 8-26-65.

813,606. VEIL NATURELLE. Chas. Pfizer & Co., Inc. SN 226,671. Pub. 6-7-66. Filed 8-27-65.

813,607. TOUCH OF FROST. Bonne Bell, Inc. SN 226,717. Pub. 6-7-66. Filed 8-30-65.

813,608. KIHO. Sid S. Mack, d.b.a. Chez Boye. SN 226,847. Pub. 6-7-66. Filed 8-31-65.

813,609. 'PERFUME WAND.' Revlon, Inc. SN 227,799. Pub. 6-7-66. Filed 9-13-65.

813,610. K MART AND DESIGN. S. S. Kresge Company. SN 228,542. Pub. 6-7-66. Filed 9-24-65.

813,611. PORT & STARBOARD. The Procter & Gamble Company. SN 229,452. Pub. 6-7-66. Filed 10-6-65.

813,612. "STRIKE 3." Amulet Corporation. SN 229,484. Pub. 6-7-66. Filed 10-7-65.

813,613. JACQUELINE COCHRAN. Jacqueline Cochran, Inc. SN 229,946. Pub. 6-7-66. Filed 10-12-65.

813,614. JEUNELLE. Max Factor & Co., d.b.a. Max Factor. SN 230,142. Pub. 6-7-66. Filed 10-14-65.

813,615. RIP TIDE. A. Stein & Company, Inc. SN 230,204. Pub. 6-7-66. Filed 10-14-65.

813,616. LILAC LADY AND DESIGN. Ray W. Stormer and Viola Stormer Linder, d.b.a. Lilac Lady Company. SN 230,207. Pub. 6-7-66. Filed 10-14-65.

813,617. CA-3. Hazel Bishop Inc. SN 231,882. Pub. 6-7-66. Filed 11-1-65.

813,618. MIDNIGHT. Lehn & Fink Products Corporation, d.b.a. Tussy Cosmetics. SN 232,003. Pub. 6-7-66. Filed 11-2-65.

813,619. SILK 'N SATIN. Pacquin-Lester Company. SN 232,031. Pub. 6-7-66. Filed 11-18-65.

813,620. MOON FLOWER. Avon Products, Inc. SN 232,066. Pub. 6-7-66. Filed 11-19-65.

Class 52 — Detergents and Soaps

813,252. (See Class 4 for this trademark.)

813,272. (See Class 6 for this trademark.)

813,273. (See Class 6 for this trademark.)

813,621. SAFETICLEAN. American Optical Company. SN 201,076. Pub. 6-7-66. Filed 9-2-64.

813,622. KUF 'N KOLAR. Norsan Products, Inc. SN 210,149. Pub. 6-7-66. Filed 1-18-65.

813,623. CITATION AND DESIGN. The Mennen Company. SN 216,523. Pub. 6-7-66. Filed 4-14-65.

813,624. FABRIC-MAGIC. Fabmagic, Inc. SN 217,723. Pub. 6-7-66. Filed 4-30-65.

813,625. RAPIDO-EZE. Rapidograph, Inc., assignee of Koh-I-Noor, Inc. SN 220,946. Pub. 6-7-66. Filed 6-11-65.

813,626. OVERTURE. Red Top Maintenance Service, Inc. SN 222,869. Pub. 6-7-66. Filed 7-7-65.

813,627. WCP KLEEN. West Chemical Products, Inc. SN 226,186. Pub. 6-7-66. Filed 8-20-65.

813,628. GAUCHO. Les Parfums de Dana, Inc. SN 227,690. Pub. 6-7-66. Filed 9-13-65.

813,629. ATTITUDE. Wyandotte Chemicals Corporation. SN 231,519. Pub. 6-7-66. Filed 10-23-65.

813,630. PRECIOUS CARE. Tecla, Inc. SN 231,779. Pub. 6-7-66. Filed 10-28-65.

813,631. FIRST STEP. Product Sales, Inc. SN 231,848. Pub. 6-7-66. Filed 10-29-65.

813,632. MAN TRAP. Colgate-Palmolive Company. SN 232,117. Pub. 6-7-66. Filed 11-4-65.

813,633. FAULTLESS AND DESIGN. Faultless Starch Company. SN 232,538. Pub. 6-7-66. Filed 11-12-65.

Service Marks

Class 100 — Miscellaneous

813,634. IF YOUR PIZZA IS PERFECTION IT'S FROM SHAKEY'S. Shakey's Incorporated, by merger from Shakey's Franchise Systems, Inc. SN 174,982. Pub. 6-7-66. Filed 8-13-63.

813,635. AMERICAN DISH SERVICE ETC. AND DESIGN. American Dish Service, Inc. SN 186,806. Pub. 6-7-66. Filed 2-17-64.

813,636. THE FINE OLD INNKEEPING TRADITION IN A MODERN SETTING. Holiday Inns of America, Inc. SN 195,412. Pub. 6-7-66. Filed 6-11-64.

813,637. MAX FRAC. The Western Company of North America. SN 198,687. Pub. 6-7-66. Filed 7-28-64.

813,638. TAYLOR. The Taylor Provisions Company. SN 198,909. Pub. 6-7-66. Filed 7-30-64.

813,639. FCI AND DESIGN. Fluid Controls Institute, Inc. SN 201,934. Pub. 6-7-66. Filed 9-15-64.

813,640. LANDMARK FOR HUNGRY AMERICANS. Howard D. Johnson Company. SN 208,936. Pub. 6-7-66. Filed 12-28-64.

813,641. BPA, ETC. AND DESIGN. U.S. Department of the Interior. SN 211,899. Pub. 6-7-66. Filed 2-4-65.

813,642. ECONO LODGE AND DESIGN. Economotels, Inc. SN 219,774. Pub. 6-7-66. Filed 5-26-65.

813,643. HARDEE'S LI'L CHEF AND DESIGN. Hardee's Food Systems, Inc. SN 221,496. Pub. 6-7-66. Filed 6-18-65.

813,644. VARSITY DRIVE INNS. Varsity Drive Inns Restaurants, Inc. SN 222,321. Pub. 6-7-66. Filed 6-29-65.

813,645. S&P AND DESIGN. Sverdrup & Parcel and Associates, Inc. SN 224,806. Pub. 6-7-66. Filed 8-2-65.

813,646. F.I.A. AUTOMOBILE COMPETITION COMMITTEE·UNITED STATES AND DESIGN. Automobile Competition Committee for the United States, FIA, Inc. SN 226,116. Pub. 6-7-66. Filed 8-20-65.

Class 101 — Advertising and Business

813,251. (See Class 8 for this trademark.)

813,647. ARA AND DESIGN. Automatic Retailers of America, Inc. MULTIPLE CLASS (Classes 101 and 103). SN 169,819. Pub. 6-7-66. Filed 5-28-63.

813,648. BONUS DOLLAR DAYS. John W. Avary, Sr., d.b.a. Bonus Dollar Days. SN 179,851. Pub. 6-7-66. Filed 10-28-63.

813,649. KINGS CROWN INN ETC. AND DESIGN. Kings Crown Inn of America, Inc. SN 182,427. Pub. 6-7-66. Filed 12-5-63.

813,650. THE MONEY TREE. The Money Tree Company. SN 183,775. Pub. 6-7-66. Filed 12-30-63.

813,651. PATRICIA STEVENS. Patricia Stevens, Incorporated. SN 216,021. Pub. 6-7-66. Filed 4-7-65.

813,652. REACTIONS. Reactions, Inc. SN 218,321. Pub. 6-7-66. Filed 5-7-65.

813,653. CROSS COUNTRY COINS AND DESIGN. Cross Country Coins. SN 219,862. Pub. 6-7-66. Filed 5-27-65.

813,654. BIG APPLE SUPER MARKETS AND DESIGN. Alterman Foods, Inc. SN 222,903. Pub. 6-7-66. Filed 7-8-65.

Class 102 — Insurance and Financial

813,655. HUMAN (DESIGN). The College Life Insurance Company of America. SN 188,725. Pub. 6-7-66. Filed 3-16-64.

813,656. SERVING YOU AROUND THE WORLD . . . AROUND THE CLOCK AND DESIGN. St. Paul Fire & Marine Insurance Company. SN 198,083. Pub. 6-7-66. Filed 7-17-64.

813,657. PROTECTOR. Continental Casualty Company. SN 199,890. Pub. 6-7-66. Filed 8-14-64.

813,658. PUBLIC SCHOOL ACCIDENT PLAN AND DESIGN. Special Accident & Health Plans, Inc. SN 210,838. Pub. 6-7-66. Filed 12-26-64.

813,659. TIGER AND CUB DESIGN. Axe-Houghton Stock Fund, Inc. SN 215,936. Pub. 6-7-66. Filed 4-7-65.

813,660. INB ON BEE DESIGN. The Illinois National Bank of Springfield. SN 219,744. Pub. 6-7-66. Filed 5-14-65.

813,661. DESIGN OF A PICK. Dean Witter & Co. SN 224,573. Pub. 6-7-66. Filed 7-29-65.

813,662. WILLIAM PENN AND DESIGN. The Penn Mutual Life Insurance Company. SN 226,391. Pub. 6-7-66. Filed 9-22-65.

Class 103 — Construction and Repair

813,647. (See Class 101 for this trademark.)

813,663. LINASCAN. AMF Tuboscope Inc., assignee of Tuboscope Company. SN 160,905. Pub. 6-7-66. Filed 1-17-63.

813,664. BUILDING DESIGN. Peter Schumacher Sons, Inc. SN 188,117. Pub. 6-7-66. Filed 12-16-63.

813,665. THE DYNAMICS OF TOTAL ENERGY AND DESIGN. Energy Dynamics Inc. SN 205,265. Pub. 6-7-66. Filed 11-2-64.

813,666. ENERGY DYNAMICS INC. AND DESIGN. Energy Dynamics Inc. SN 205,266. Pub. 6-7-66. Filed 11-2-64.

813,667. CAR-MATIC. Vail Spring Works, Inc. SN 207,922. Pub. 6-7-66. Filed 12-10-64.

813,668. REPRESENTATION OF A SCOTCHMAN. McRae Bros., Inc. SN 220,865. Pub. 6-7-66. Filed 6-10-65.

Class 105 — Transportation and Storage

813,669. SUREWAY AND DESIGN. Transvan, Inc. SN 211,322. Pub. 6-7-66. Filed 2-3-65.

813,670. FROZEN FOOD CITY. Merchants Refrigerating Company. SN 211,550. Pub. 6-7-66. Filed 2-8-65.

813,671. FOR DISTRIBUTION SAVINGS TRANSOLIDATE SERVICE AND DESIGN. Service Warehouse Corporation. SN 220,033. Pub. 6-7-66. Filed 5-28-65.

813,672. TRAILWAYS. National Trailways Bus System. SN 227,864. Pub. 5-31-66. Filed 9-15-65.

813,673. VISTACRUISER. Allegheny Airlines, Inc. SN 234,325. Pub. 6-7-66. Filed 12-10-65.

813,674. VISTALINER. Allegheny Airlines, Inc. SN 234,326. Pub. 6-7-66. Filed 12-10-65.

Class 106 — Material Treatment

813,675. BROWN. Brown Photo Company. SN 198,254. Pub. 11-2-65. Filed 7-21-64.

Class 107 — Education and Entertainment

813,676. BRINGING CHRIST TO THE NATIONS. Lutheran Laymen's League. SN 149,579. Pub. 6-7-66. Filed 7-23-62.

813,677. MISS BRONZE AMERICA ETC. AND DESIGN. Macfadden-Bartell Corporation. SN 180,219. Pub. 6-7-66. Filed 10-31-63.

813,678. RUHANI SATSANG. Kirpal Ruhani Satsang Society. SN 181,250. Pub. 6-7-66. Filed 11-15-63.

813,679. AMERICAN QUARTER HORSE ASSOCIATION. American Quarter Horse Association. SN 188,834. Pub. 6-7-66. Filed 3-17-64.

813,680. SHOWCASE CINEMA. National Amusements, Inc. SN 205,956. Pub. 6-7-66. Filed 11-10-64.

813,681. STEVENS AVIATION INC. AND DESIGN. Stevens Aviation, Inc. SN 209,738. Pub. 6-7-66. Filed 1-11-65.

813,682. ASTROS. Houston Sports Association, Inc. SN 215,737. Pub. 6-7-66. Filed 4-5-65.

813,683. SALESMANSHOP. Leadership Techniques Institute, Inc. SN 216,416. Pub. 6-7-66. Filed 4-13-65.

813,684. MISCELLANEOUS DESIGN. Houston Sports Association, Inc. SN 218,994. Pub. 6-7-66. Filed 5-17-65.

813,685. INTRANSIT AND DESIGN. Intransit Motion Pictures, Inc. SN 221,184. Pub. 6-7-66. Filed 6-15-65.

813,686. INTERNATIONAL TEEN PRINCESS PAGEANT AND DESIGN. The International Teen Princess Pageant, Ltd. SN 222,582. Pub. 6-7-66. Filed 7-2-65.

813,687. PRISON ON WHEELS. J. Edward Slavin. SN 224,034. Pub. 6-7-66. Filed 7-22-65.

Certification Marks

Class A — Goods

813,688. DANISH QUALITY AND DESIGN. Eksport-Svineslagteriernes Salgsforening. SN 184,901. Pub. 6-7-66. Filed 1-20-64.

813,689. FULL SPECTRUM AND DESIGN. John Ott Laboratories, Inc. SN 236,772. Pub. 6-7-66. Filed 1-18-66.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1 — Raw or Partly Prepared Materials

813,690. A/S Olivin, Aheim, Vanylven, Norway. SN 231,970. Filed P.R. 11-2-65; Am. S.R. 3-17-66.



Priority claimed under Sec. 44(d) on Norwegian application filed May 5, 1965; Reg. No. 67,516, dated Dec. 9, 1965. The stippling in the drawing is for shading only.

For Olivine as Raw Material and in Form of Sand, for Agricultural Use and for Foundry Use as Moulding Sand.

Class 2 — Receptacles

813,691. Olympia Brewing Company, Olympia, Wash. SN 193,398. Filed P.R. 5-13-64; Am. S.R. 6-27-66.

COLD CASE

For Beer Cartons.
First use May 4, 1964.

Class 7 — Cordage

813,692. Hallmark Cards, Incorporated, Kansas City, Mo. SN 219,568. Filed P.R. 5-24-65; Am. S.R. 6-10-66.

VELVET SHEEN

For Ribbon for Gift Wrapping Purposes.
First use Apr. 30, 1965.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

813,693. Trius Products, Inc., Cleves, Ohio. SN 212,712. Filed P.R. 2-24-65; Am. S.R. 6-17-66.

BI-OCULAR

For Gun Sights.
First use Feb. 5, 1965.

Class 18 — Medicines and Pharmaceutical Preparations

813,694. American Vitamin Products Inc. Newark, N.J. SN 216,125. Filed P.R. 4-9-65; Am. S.R. 6-3-66.

IRON Plus

For Multiple Vitamins.
First use Feb. 23, 1965.

Class 22 — Games, Toys, and Sporting Goods

813,695. Anderson & Thompson Ski Co., Inc., Seattle, Wash. SN 201,788. Filed P.R. 9-14-64; Am. S.R. 5-11-66.

KANDAHAR

For Snow Skis and Ski Bindings.
First use Oct. 15, 1959.

813,696. Milton Bradley Company, Springfield, Mass. SN 202,753. Filed P.R. 9-28-64; Am. S.R. 5-2-66.

TILT'N ROLL

For Apparatus Sold as a Unit for Playing a Game of Advancing a Ball Through a Predetermined Maze.
First use June 9, 1964.

813,697. Milton Bradley Company, Springfield Mass. SN 202,755. Filed P.R. 9-28-64; Am. S.R. 5-4-66.

MELT'N COLOR

For Coloring Set.
First use Apr. 30, 1964.

813,698. Gentex Corporation, New York, N.Y. SN 202,999. Filed P.R. 9-30-64; Am. S.R. 5-13-66.

WATER SPORT

For Buoyant Vests.
First use Aug. 4, 1964.

813,699. Naomi Cocanower, Phoenix, Ariz. SN 217,848. Filed 5-3-65; Am. S.R. 6-7-66.

AriZonA (100)

For Equipment Sold as a Unit for Playing a Game.
First use May 1, 1965.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

813,700. Southern Mill Equipment Corp., Charlotte, N.C. SN 221,413. Filed P.R. 6-17-65; Am. S.R. 6-24-66.

INSPECTO-SEAM

For Hosiery Inspection and Seaming Unit.
First use Jan. 25, 1965.

Class 26 — Measuring and Scientific Appliances

813,701. Nuclear Materials and Equipment Corporation, Apollo, Pa. SN 187,953. Filed P.R. 3-4-64; Am. S.R. 6-28-66.

NEUTRON-PAC

For Educational and Research Apparatus and Particularly for Apparatus for Demonstrating and Exploring the Interaction of Neutrons With Selected Materials.
First use on or about Sept. 17, 1963.

Class 34 — Heating, Lighting, and Ventilating Apparatus

813,702. The Patterson Kelley Co., Inc., East Stroudsburg, Pa. SN 218,897. Filed P.R. 5-14-65; Am. S.R. 6-22-66.

SCALEFREE

For Industrial Water Heaters.
First use on or about Jan. 15, 1961.

Class 40 — Fancy Goods, Furnishings, and Notions

813,703. Kleer-Vu Industries, Inc., New York, N.Y. SN 191,775. Filed P.R. 4-22-64; Am. S.R. 5-13-66.

NIGHT & DAY
Wardrobe of Lashes

For Eye Beauty Aids—Namely, Artificial Eyelashes.
First use Mar. 15, 1964.

Class 44 — Dental, Medical, and Surgical Appliances

813,704. American Cotton Yarns, Inc., Chicago, Ill. SN 221,778. Filed P.R. 6-23-65; Am. S.R. 6-20-66.

SUPER TENSION PLUS

For Elastic Bandages.
First use on or about May 3, 1965.

Class 45 — Soft Drinks and Carbonated Waters

813,705. Party-Time Products, Inc., New York, N.Y. SN 215,776. Filed P.R. 4-5-65; Am. S.R. 5-24-66.



For Non-Alcoholic Prepared Cocktail Mixes.
First use Aug. 8, 1963.

813,706. The Tru-Ade Company, Elgin, Ill. SN 220,806. Filed P.R. 6-9-65; Am. S.R. 6-15-66.



For Soft Drinks.
First use at least as early as 1949.

Class 46 — Foods and Ingredients of Foods

813,707. Nalley's, Inc., Tacoma, Wash. SN 196,181. Filed P.R. 6–22–64; Am. S.R. 6–3–66.

MEXICAN . . . BUT MILD!

For Frozen Packaged Spanish-Type Food Products—Namely, Mexican Style Dinners Containing the Following: Cheese Enchilada, Refried Beans, Spanish Rice, Beef Tamale and Chili Con Carne; Dinners Containing Beef Enchilada, Refried Beans and Small Tacos; Dinners Containing Cheese Enchilada, Spanish Rice and Refried Beans; Beef Enchilada in Sauce; Cheese Enchilada in Sauce; and Large and Small Beef Tacos.
First use Jan. 16, 1964.

813,708. Central Soya Company, Inc., Fort Wayne, Ind. SN 201,372. Filed P.R. 9–8–64; Am. S.R. 6–20–66.

RICH FREEZE

For All-Vegetable Dry Mix for Making a Frozen Dessert.
First use June 24, 1964.

813,709. Land O'Lakes Creameries, Inc., Minneapolis, Minn. SN 203,308. Filed P.R. 10–5–64; Am. S.R. 6–17–66.

PRIMO

For Cheese.
First use Sept. 10, 1964.

813,710. Flav-O-Rich Dairy, Inc., d.b.a. Flav-O-Rich Dairy, Fayette, Ala. SN 211,407. Filed 1–28–65.

Flav-O-Rich

For Pasteurized, Homogenized Sweet Milk; Cultured Buttermilk; Chocolate Milk; Skim Milk; Fortified Skim Milk; Margarine; Half and Half; Whipping Cream; Sour Cream; and Cottage Cheese.
First use June 1, 1955.

813,711. Tiny Tim (Petfoods) Limited, Northumberland, England. SN 216,359. Filed P.R. 4–12–65; Am. S.R. 6–7–66.

SO-TAIST-EE

For Cat Foods.
First use Dec. 14, 1964; in commerce Mar. 20, 1965.

813,712. Southern States Cooperative, Incorporated, Richmond, Va. SN 219,145. Filed P.R. 5–18–65; Am. S.R. 5–23–66.

BEEF BOOSTER PELLETS

For Cattle Feed.
First use Apr. 26, 1965.

813,713. Seapak Corporation, St. Simons Island, Ga. SN 225,515. Filed P.R. 8–11–65; Am. S.R. 6–1–66.

CHUNK-EES

For Frozen Breaded Shrimp Pieces.
First use April 1959.

Class 47 — Wines

813,714. Champagne Ayala (Societe Anonyme), Ay, Marne, France. SN 221,698. Filed 6–22–65.

AYALA & Co.
CHÂTEAU D'AY.
France
CHAMPAGNE

For Champagne Wines.
First use 1875; in commerce 1933.

Class 49 — Distilled Alcoholic Liquors

813,715. Drury's S.A. Distribuidora de Productos Internacionias, d.b.a. Drury's S.A., Sao Paulo, Brazil. SN 217,872. Filed P.R. 5–3–65; Am. S.R. 4–20–66.

BAHIA

For Coffee Liqueur.
First use Apr. 16, 1965; in commerce Apr. 16, 1965.

Class 50 — Merchandise Not Otherwise Classified

813,716. The First National Bank of Boston, Boston, Mass. SN 197,483. Filed P.R. 7–9–64; Am. S.R. 5–11–66.

TIP-KIT

For Packets for Travelers Comprising Money Conversion Tables, Tipping Guide and Foreign Currency.
First use on or about May 1, 1964.

813,717. Fracon Company, Weston, Mass. SN 213,106. Filed P.R. 3–2–65; Am. S.R. 6–7–66.

SAF·T·ARM

For Building and Constructing Equipment—Namely, Ladders and Staging.
First use Jan. 30, 1965.

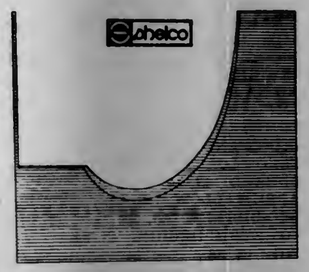
813,718. Joseph Shapiro, d.b.a. The Placqu-Tray Co., Los Angeles, Calif. SN 235,077. Filed 12–20–65.

PLACQU-TRAY

For Metallic Wall Plaques.
First use June 10, 1963.

Class 52 — Detergents and Soaps

813,719. Shelco, Inc., Needham, Mass. SN 213,723. Filed P.R. 3–9–65; Am. S.R. 6–14–66.



The drawing is lined for the color blue.
For Oven Cleaner.
First use Nov. 2, 1964.

Service Marks

Class 101 — Advertising and Business

813,720. National Identification Service, Incorporated, Elmont, N.Y. SN 145,115. Filed P.R. 5–21–62; Am. S.R. 6–13–66.

NATIONAL IDENTIFICATION DOCUMENT

The words "Identification Documents" are disclaimed from the mark as shown.
For Preparation and Issuance of Personalized Identification Cards.
First use Aug. 28, 1961.

Class 104 — Communication

813,721. Radio Station WCHB of the Bell Broadcasting Company, Inkster, Mich. SN 204,215. Filed P.R. 10–12–64; Am. S.R. 6–16–66.

SOUL RADIO

For Radio Broadcasting Services.
First use Apr. 13, 1964.

TRADEMARK REGISTRATIONS RENEWED

50,772. BOULEVARD. Cl. 42. 3–27–06.
50,947. SMITH BROTHERS' S.B. AND DESIGN. Cl. 18. 4–3–06.
53,994. WINCHESTER. Cl. 9. 6–19–06.
54,100. PAINKILLER. Cl. 18. 6–19–06.
54,295. SLOAN'S NERVE & BONE LINIMENT AND DESIGN. Cl. 18. 6–26–06.
54,506. KIS=ME. Cl. 46. 6–26–06.
54,721. PLYMOUTH. Cl. 7. 6–26–06.
54,722. REO. Cl. 19. 6–26–06.
55,669. BOSTONIAN. Cl. 39. 8–21–06.
55,688. STERLING KID. Cl. 1. 8–21–06.
56,100. THE AMERICAN GIRL. Cl. 39. 8–21–06.
58,232. NIAGARA. Cl. 23. 12–11–06.
211,488. COLORANTES FIJOS DE PUTMAN "EL CABALLO" AND DESIGN. Cl. 6. 4–13–26.
213,673. BROGDEX. Cl. 46. 6–1–26.
214,769. SUNYLAND. Cl. 42. 7–6–26.
215,302. DEVOLITE. Cl. 6. 7–13–26.
215,303. STOCKALITE. Cl. 6. 7–13–26.
215,534. ALADDINETTE. Cl. 34. 7–20–26.
215,794. VICTOR. Cl. 36. 7–27–26.
215,819. STOCKALITE. Cl. 1. 7–27–26.
215,820. DEVOLITE. Cl. 1. 7–27–26.
216,353. ABERFOYLE. Cl. 42. 8–10–26.
217,703. CARNATION. Cl. 11. 9–7–26.
218,760. REPUBLIC. Cl. 1. 10–5–26.
218,934. KANSAS VETERAN. Cl. 46. 10–5–26.
220,902. SANTOCHLOR. Cl. 6. 11–16–26.
221,168. SHURON. Cl. 12. 11–23–26.
221,212. BLACK STAR. Cl. 1. 11–23–26.
221,418. HAPPY. Cl. 46. 11–30–26.
221,450. NECTARS. Cl. 46. 11–30–26.
221,594. KEEBLER. Cl. 46. 12–7–26.
221,836. ALWAYS MILES AHEAD AND DESIGN. Cl. 39. 12–14–26.
221,886. LE PARFUM IDEAL. Cl. 51. 12–14–26.
222,034. LOTION CREAM. Cl. 4. 12–21–26.
421,305. BLACK DIAMOND. Cl. 6. 5–28–46.
421,533. HYER. Cl. 39. 6–4–46.
421,979. ELGINITE. Cl. 27. 6–25–46.
422,032. FIXIA. Cl. 51. 6–25–46.
422,187. MELROSE UNCHANGING IN A CHANGING WORLD. Cl. 49. 7–9–46.
422,195. SYROCO. Cl. 32. 7–9–46.
422,203. MELROSE THE ROSE THAT NEVER FADES. Cl. 49. 7–9–46.
422,238. CULDOSCOPE. Cl. 44. 7–9–46.
422,349. DERMOLATE. Cl. 52. 7–16–46.
422,407. EIMAC. Cl. 21. 7–23–46.
422,538. KELEKET AND DESIGN. Cl. 44. 7–30–46.
422,566. SYROCO. Cl. 40. 7–30–46.
422,571. FROSTED TORTOISE SHELL. Cl. 51. 7–30–46.
422,644. RANDFLEX. Cl. 50. 8–6–46.
423,286. STREETFIELD. Cl. 39. 8–27–46.
423,310. WEIRITE. Cl. 14. 8–27–46.
423,439. SPORLAN. Cl. 31. 9–3–46.
423,453. GLASTIC. Cl. 23. 9–3–46.
423,533. NYLONITE. Cl. 21. 9–3–46.
423,567. XACTEMP. Cl. 26. 9–3–46.
423,770. DU PONT AND DESIGN. Cl. 6. 9–10–46.
423,933. GLISS. Cl. 52. 9–17–46.
423,963. 40–E. Cl. 14. 9–17–46.
424,450. HERMEFLEX. Cl. 23. 10–8–46.
424,956. CLARION. Cl. 46. 10–29–46.
425,190. NIAGATHAL. Cl. 6. 11–5–46.
425,492. PANADAPTOR. Cl. 26. 11–26–46.
425,493. PANALYZOR. Cl. 26. 11–26–46.
425,536. TORTOISE SHELL. Cl. 51. 11–26–46.
425,554. FABERGE. Cl. 28. 11–26–46.
425,605. PICTURE OF BOY (DESIGN). Cl. 46. 11–26–46.
425,674. VELSICOL. Cl. 6. 11–26–46.
425,676. VELSICOL AND DESIGN. Cl. 6. 11–26–46.
425,696. FAIRBANKS-MORSE. Cl. 26. 12–3–46.
426,116. RIP VAN WINKLE DEPARTMENT. Cl. 38. 12–17–46.
426,155. GOLD MINE. Cl. 46. 12–17–46.

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133,856. USCO. Cl. 20. 8–3–20.
232,417. PAX. Cl. 46. 9–6–27.
374,582. VAC-U-MATIC. Cl. 23. 1–16–40.
378,085. TWINSULATION. Cl. 21. 5–28–40.
380,111. FAIRFOREST. Cl. 42. 8–6–40.

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700,292. TROFLEX. Cl. 1.
700,293. WEETEEN. Cl. 1.
700,294. TREEBARK. Cl. 1.
700,295. NUBIAN. Cl. 1.
700,298. SPORT PAC. Cl. 1.
700,299. BROADTAIL GRANDE. Cl. 1.
700,300. TEXTURESKIN. Cl. 1.
700,302. UNION CARBIDE AND DESIGN. Cl. 1.
700,303. KEMET. Cl. 1.
700,306. F AND DESIGN. Cl. 1.
700,310. SPEEDILY YOURS. Cl. 2.
700,313. CLEARVIEW. Cl. 2.
700,317. CLIFTON'S PRINCESS. Cl. 3.
700,318. WHISPER-LITE. Cl. 3.
700,320. PENNY-PINCHER. Cl. 3.
700,327. ACTO-VATE. Cl. 6.
700,339. SANIPHOR. Cl. 6.
700,340. FINEX. Cl. 6.
700,349. AIRDOX AND DESIGN. Cl. 9.
700,351. ASSURANCE AND DESIGN. Cl. 11.
700,355. CERTON. Cl. 12.
700,360. THE VILLAGE BLACKSMITH. Cl. 12.
700,365. PLYGLAZE 101. Cl. 12.
700,366. X-LIME. Cl. 12.
700,370. GEOMETRIC DESIGN. Cl. 12.
700,371. CURMET. Cl. 13.
700,372. DENISON ELECTROILIC. Cl. 13.
700,374. INVIZIP. Cl. 13.
700,380. CURMET. Cl. 14.
700,383. CONOCO. Cl. 15.
700,384. TOT'N TEEN BIRTHDAY CANDLE. Cl. 15.
700,391. BUTY-ROOF. Cl. 16.
700,393. DIARASOL. Cl. 16.
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700,398. STERABOL. Cl. 18.
700,399. LIFANU. Cl. 18.
700,403. TRAMS. Cl. 18.
700,409. DIET-MASTER. Cl. 18.
700,410. INSULFON. Cl. 18.
700,412. RAULYSIN. Cl. 18.
700,421. ACTIVAGE. Cl. 18.
700,422. RADOCONTRAL. Cl. 18.
700,423. RADOSECUR. Cl. 18.
700,428. EFOPAQUE. Cl. 18.
700,431. KORLIS. Cl. 19.
700,433. CAR-BUOY. Cl. 19.
700,434. BRISTOL. Cl. 19.
700,436. ZEPHYR. Cl. 21.
700,437. RBS AND DESIGN. Cl. 21.
700,440. INVAR AND DESIGN. Cl. 21.
700,441. PLEASANT AIRE. Cl. 21.
700,454. SANI-MATIC. Cl. 21.
700,455. GT AND DESIGN. Cl. 21.
700,457. BUDGE INTERNATIONAL. Cl. 22.
700,462. COUNTESS IMPERIAL. Cl. 22.
700,464. UL AND DESIGN. Cl. 22.
700,465. QWIK-NIKS. Cl. 22.
700,467. GENERAL BLOON. Cl. 22.
700,468. SPIRAL-GUIDE AND DESIGN. Cl. 23.
700,469. LADY. Cl. 23.
700,471. HONEST SPEED PARTS AND DESIGN. Cl. 23.
700,473. STRAIGHT GROUND. Cl. 23.
700,477. MAG-NA-PAD. Cl. 23.
700,489. TEMPLAMATION. Cl. 23.
700,500. GEOMETRIC DESIGN. Cl. 23.
700,503. AIRDOX AND DESIGN. Cl. 23.
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700,521. FEDERAL. Cl. 32.
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700,524. ROTO-BURNER. Cl. 34.
700,530. GEOMETRIC DESIGN. Cl. 34.
700,534. ZING. Cl. 36.
700,536. AUDIO LABORATORY. Cl. 36.
700,539. AMRAWCO. Cl. 36.
700,544. PLEASE NOTIFY. Cl. 37.
700,562. INTERNATIONAL NEWS SOUNDPHOTO. Cl. 38.
700,564. KIMFACTS. Cl. 38.
700,573. PETROLEUM WEEK. Cl. 38.
700,576. OVERVIEW. Cl. 38.
700,577. THEY NEVER CHANGE. Cl. 38.
700,582. ANN-LEE. Cl. 39.
700,583. COBAR. Cl. 39.
700,586. ELASTIC-BAC. Cl. 39.
700,598. PRO-MOLD. Cl. 39.
700,604. MARLENE. Cl. 39.
700,608. TIDEE. Cl. 40.
700,609. COBAR. Cl. 40.
700,610. EINIGER HONORE. Cl. 42.
700,611. BONDYNE ETC. AND DESIGN. Cl. 42.
700,613. IBO LELE. Cl. 42.
700,618. CRESTINE. Cl. 42.
700,619. CRESTINE. Cl. 43.
700,625. LI'L PO'KS. Cl. 46.
700,627. HARVEST. Cl. 46.
700,633. MERKEL AND DESIGN. Cl. 46.
700,641. ST. CHRISTOPHER. Cl. 46.
700,642. MALT DIATEX. Cl. 46.
700,655. SHANDREX. Cl. 48.
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700,661. CELLO MAT. Cl. 50.
700,662. SLIDE-A-POUR. Cl. 50.
700,668. BANTEE. Cl. 52.
700,670. FUR GLAMOR AND DESIGN. Cl. 52.
700,674. WESTERN PANCAKE HOUSE AND DESIGN. Cl. 100.
700,684. HERTZ. Cl. 105.
700,687. TAKE FIVE AND DESIGN. Cl. 107.
700,689. PINOCHLE BUGS, INC. AND DESIGN. Cl. 200.
700,690. CERTIFIED RATINGS-AMCA ETC. AND DESIGN. Cl. A.
700,693. K-BOARD. Cl. 12.
700,696. CAMERON. Cl. 27.
700,701. GEORGIA CHICK. Cl. 46.
700,704. BEAUTIFUL SKIN. Cl. 51.
700,706. BOTTLE DESIGN. Cl. 51.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

55,744. ANESTHESIN. Cl. 6. 8–21–06. Farbwerke vorm. Meister Lucius & Bruning. Abbott Laboratories, North Chicago, Ill. Amended to appear:

ANESTHESIN

TM 220

75,751. CARNATION. Cl. 46. 11–9–09. Ratcliff-Sanders Grocer Company. Carnation Company, Los Angeles, Calif. Amended to appear:

Carnation

213,054. SUNBEAM. Cl. 37. 5–18–26. Crown Willamette Paper Company, assor. to Crown Willamette Paper Company. Crown Zellerbach Corporation, San Francisco, Calif. Amended to appear:

SUNBEAM

214,557. WURLITZER. Cl. 36. 6–29–26. The Rudolph Wurlitzer Company. The Wurlitzer Company, Chicago, Ill. Amended: In the statement, column 1, line 24 through column 2, line 23, the description of goods is deleted and *woodwind instruments, brass wind instruments, percussion instruments, stringed instruments, rhythm instruments, keyboard instruments, phonographs, parts thereof, and accessories therefor* is inserted.

218,086. BUMPER HARVEST. Cl. 10. 9–21–26. The Standard Gypsum Company. Kaiser Gypsum Company, Inc., Oakland, Calif. Amended: In the statement, column 2, lines 9 through 11 are deleted, and the drawing is amended to appear:

BUMPER HARVEST

500,611. DYNASPEDE. Cl. 21. 6–8–48. Dynamatic Corporation. Eaton Yale & Towne Inc., Cleveland, Ohio. Amended to appear:

DYNASPEDE

636,797. HYRAN. Cl. 26. 11–6–56. Hyran, Inc., Los Angeles, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Nevada* should be inserted.

694,258. FAMOUS MONSTERS OF FILMLAND. Cl. 38. 3–8–60. Central Publications, Inc. Warren Publishing Co., Philadelphia, Pa. Amended: In the statement, column 1, after line 3, , *now by change of name Warren Publishing Co., 1426 E. Washington Lane, Philadelphia, Pa.* is inserted.

697,618. THE SLOW BREWED BEER. Cl. 48. 5–10–60. Carling Brewing Company, Incorporated, assignee of Heidelberg Brewing Co. Carling Brewing Company Incorporated, Cleveland, Ohio. Amended to appear:

THE SLOW BREWED BEER

701,371. L. Cl. 28. 7–19–60. Union Carbide Corporation, New York, N.Y. Amended to appear:



726,104. CHARG 'N MAIL. Cl. 106. 1–2–62. Hyran, Inc., Los Angeles, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Nevada* should be inserted.

793,545. VIRANIT. Cl. 6. 8–3–65. Ciba Limited, Basel, Switzerland. Amended to appear:

VIRANIT

801,615. DESIGN OF CAVALIER. Cl. 4. 1–11–66. The Kiwi Polish Company Proprietary Limited, Melbourne, Australia. Corrected: In the statement, column 2, line 2, before "leathers" *and polishing* should be inserted.

804,247. HYRO TUBE. Cl. 26. 2–22–66. Hyran, Inc., Los Angeles, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Nevada* should be inserted.

809,259. FORGE-WELD. Cl. 34. 5–31–66. Welding Equipment & Supply Co., Detroit, Mich. Corrected: In the statement, column 2, line 2, "art" should be deleted and *arc* should be inserted.

810,826. TORO. Cl. 46. 7–5–66. Rieber & Son A/S, Bergen, Norway. Corrected: In the statement, column 1, line 1, "Sons" should be deleted and *Son* should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

218,086. BUMPER HARVEST. Cl. 10. The Standard Gypsum Company. 9–21–26. New Cert. Sec. 7(c) to Kaiser Gypsum Company, Inc., Oakland, Calif.

580,391. SUPER SAW AND DESIGN. Cl. 23. RCS Tool Sales Corporation. 9–22–53. New Cert. Sec. 7(c) to Millers Falls Company, Greenfield, Mass.

699,379. SUPER SAW. Cl. 23. R.C.S. Tool Corporation. 6–14–60. New Cert. Sec. 7(c) to Millers Falls Company, Greenfield, Mass.

779,469. ASTRA-SONIC. Cl. 36. Pentron Electronics Corporation. 11–3–64. New Cert. Sec. 7(c) to The Magnavox Company, Fort Wayne, Ind.

792,638. BONNIE. Cl. 46. Bonnie Baking, Inc. 7–13–65. New Cert. Sec. 7(c) to Bonnie Baking-Redi Froz Distributing Company, Inc., South Bend, Ind.

792,999. LA INCA. Cl. 46. Inter-American Food Products, Inc. 7–20–65. New Cert. Sec. 7(c) to Quintana & Company, Inc., Long Island City, N.Y.

INDEX OF REGISTRANTS

AUGUST 23, 1966

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

AMF Tuboscope Inc., from Tuboscope Co., Houston, Tex. 813,663, pub. 6–7–66. Cl. 103.
A/S Olivin, Aheim, Vanylven, Norway. 813,690. Cl. 1.
Abbey of The Genesee, Piffard, N.Y. 813,544, pub. 6–7–66. Cl. 46.
Abbott Laboratories: *See*—
Farbwerke vorm. Meister Lucius & Bruning.
Aberfoyle Co., The: *See*—
Aberfoyle Mfg. Co
Aberfoyle Mfg. Co., Chester, Pa., to The Aberfoyle Co., New York, N.Y. 216,353, ren. 8–23–66. Cl. 42.
Admiral Shoe Corp., d.b.a. Mutual Shoe Sales Co., Manchester, N.H. 813,489, pub. 6–7–66. Cl. 39.
Aerofast Co.: *See*—
Martens, Jack R.
Aerosol Corp. of America, Clifton, N.J. 813,595, pub. 6–7–66. Cl. 51.
Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany. 813,422, pub. 6–7–66. Cl. 26.
Air Moving and Conditioning Association, Inc., Detroit, Mich. 700,690, canc. Cl. A.
Airdox Cardox Products Co.: *See*—
Marmon-Herrington Co., Inc.
Aladdin Industries, Inc., Chicago, Ill. 215,534, ren. 8–23–66. Cl. 34.
Aldens, Inc., Chicago, Ill. 813,352, pub. 6–7–66. Cl. 19.
Allegheny Airlines, Inc., Washington, D.C. 813,673, pub. 6–7–66. Cl. 105.
Allegheny Airlines, Inc., Washington, D.C. 813,674, pub. 6–7–66. Cl. 105.
Allied Kid Co.: *See*—
Keystone Leather Co.
Allied Paper Corp., Kalamazoo, Mich. 813,467, pub. 6–7–66. Cl. 37.
Allied Stores Corp., d.b.a. The Bon Marche, Seattle, Wash. 813,476, pub. 5–3–66. Cl. 39.
Almo Manifold & Tool Co., Centerline, Mich. 813,392, pub. 6–7–66. Cl. 23.
Alterman Foods, Inc., Atlanta, Ga. 813,654, pub. 6–7–66. Cl. 101.
Alvey Conveyor Mfg. Co., St. Louis, Mo. 813,401, pub. 6–7–66. Cl. 23.
American Brake Shoe Co., New York, N.Y. 700,372, canc. Cl. 13.
American Chicle Co., New York, N.Y., to Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 54,506, ren. 8–23–66. Cl. 46.
American Cotton Yarns, Inc., Chicago, Ill. 813,704. Cl. 44.
American Cyanamid Co., New York, N.Y. 700,340, canc. Cl. 6.
American Cystoscope Makers, Inc., Pelham Manor, N.Y. 422,238, ren. 8–23–66. Cl. 44.
American Dairy Queen Corp., Minneapolis, Minn. 813,437, pub. 6–7–66. Cl. 31.
American Dish Service, Inc., Kansas City, Mo. 813,635, pub. 6–7–66. Cl. 100.
American Electric Mfg. Corp., Southhaven, Miss. 813,361, pub. 6–7–66. Cl. 21.
American Girl Shoe Co.: *See*—
Wolf Bros. and Co., The.
American Hardware Supply Co., East Butler, Pa. 813,376, pub. 6–7–66. Cl. 22.
American Home Products Corp.: *See*—
Griffin Mfg. Co., Inc.
American Home Products Corp., New York, N.Y. 813,347, pub. 6–7–66. Cl. 18.
American Home Products Corp., New York, N.Y. 813,555, pub. 6–7–66. Cl. 46.
American Optical Co., Southbridge, Mass. 813,621, pub. 6–7–66. Cl. 52.
American Pop Corn Co., Sioux City, Iowa. 426,155, ren. 8–23–66. Cl. 46.
American Quarter Horse Association, Amarillo, Tex. 813,679, pub. 6–7–66. Cl. 107.
American Rawhide Mfg. Co., Chicago, Ill. 700,539, canc. Cl. 36.
American Tobacco Co., The, New York, N.Y. 813,314, pub. 6–7–66. Cl. 17.
American Tobacco Co., The, New York, N.Y. 813,315, pub. 6–7–66. Cl. 17.
American Vitamin Products Inc., Newark, N.J. 813,694. Cl. 18.
Amulet Corp., Los Angeles, Calif. 813,612, pub. 6–7–66. Cl. 51.
Amway Corp., Ada, Mich. 813,597, pub. 6–7–66. Cl. 51.
Amway Corp., Ada, Mich. 813,598, pub. 6–7–66. Cl. 51.
Anaconda Co., The, New York, N.Y. 813,295, pub. 6–7–66. Cl. 12.
Anaconda Wire and Cable Co., New York, N.Y. 813,373, pub. 6–7–66. Cl. 21.
Andersen Corp., Chicago, Ill. 700,353, canc. Cl. 12.
Anderson & Thompson Ski Co., Inc., Seattle, Wash. 813,695. Cl. 22.
Anderson, Gilbert J., d.b.a. Dial-A-Winner, Los Angeles, Calif. 813,384, pub. 6–7–66. Cl. 22.
Antoine de Paris, Inc., New York, N.Y. 813,594, pub. 6–7–66. Cl. 51.
Armour and Co., Chicago, Ill. 700,298, canc. Cl. 1.
Armour and Co., Chicago, Ill. 700,300, canc. Cl. 1.
Artnell Co., Chicago, Ill. 813,353, pub. 6–7–66. Cl. 19.
Audio Fidelity Inc., New York, N.Y. 700,536, canc. Cl. 36.
Auto Glass Mfg. Co., Detroit, Mich. 813,445, pub. 6–7–66. Cl. 32.
Automatic Radio Mfg. Co., Inc., Melrose, Mass. 813,371, pub. 6–7–66. Cl. 21.
Automatic Radio Mfg. Co., Inc., Melrose, Mass. 813,372, pub. 6–7–66. Cl. 21.
Automatic Retailers of America, Inc., Philadelphia, Pa. 813,647, pub. 6–7–66. Multiple Class (Classes 101 and 103).
Automobile Competition Committee for the United States, New York, N.Y. 813,646, pub. 6–7–66. Cl. 100.
Avary, John W., Sr., d.b.a. Bonus Dollar Days, Laurel, Miss. 813,648, pub. 6–7–66. Cl. 101.
Avon Products, Inc., New York, N.Y. 813,620, pub. 6–7–66. Cl. 51.
Axe-Houghton Stock Fund, Inc., Tarrytown, N.Y. 813,659, pub. 6–7–66. Cl. 102.
Bain Corp., Brookline, Mass. 813,478, pub. 6–7–66. Cl. 39.
Bantam Match Corp., Freeport, N.Y. 813,284, pub. 6–7–66. Cl. 9.
Bastian-Morley Co., Inc., La Porte, Ind. 700,524, canc. Cl. 34.
Bates Mfg. Co., Inc., Lewiston, Maine. 813,245, pub. 6–7–66. Cl. 1.
Bates Mfg. Co., Inc., Lewiston, Maine. 813,516, pub. 6–7–66. Cl. 42.
Baxter Laboratories, Inc., Morton Grove, Ill. 813,269, pub. 6–7–66. Cl. 6.
Beach Soap Co., Lawrence, Mass., to National Industrial Products Co., Columbus, Ohio. 423,933, ren. 8–23–66. Cl. 52.
Beautiful Eyes, Ltd., New York, N.Y. 700,704, canc. Cl. 51.
Behringwerke Aktiengesellschaft, Marburg (Lahn), Germany. 813,332, pub. 6–7–66. Cl. 18.
Beltone Electronics Corp., Chicago, Ill. 813,519, pub. 6–7–66. Cl. 44.
Berman, Jules, & Associates, Inc., Beverly Hills, Calif. 813,587, pub. 6–7–66. Cl. 49.
Best Industries, Inc., Miami, Fla. 700,351, canc. Cl. 11.
Beton, Inc., West Wyoming, Pa. 813,578, pub. 6–7–66. Cl. 46.
Big Three Welding Supply Co., Fort Worth, Tex. 700,291, canc. Cl. 1.
Bishop, Hasel, Inc., Union, N.J. 813,617, pub. 6–7–66. Cl. 51.
Black Star Coal Co., to Black Star Coal Corp., Louisville, Ky. 221,212, ren. 8–23–66. Cl. 1.
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Black Star Coal Co.
Blacknall, Vol T., Co., Atlanta, Ga. 700,613, canc. Cl. 42.
Blair Fashions, Inc., Chicago, Ill. 813,479, pub. 6–7–66. Cl. 39.
Boehringer, C. F., & Soehne G.m.b.H., Mannheim-Waldhof, Germany. 700,410, canc. Cl. 18.
Boehringer, C. F., & Soehne G.m.b.H., Mannheim-Waldhof, Germany. 700,412, canc. Cl. 18.
Boehringer, C. H., Sohn, Ingelheim am Rhein, Germany. 700,422, canc. Cl. 18.
Boehringer, C. H., Sohn, Ingelheim am Rhein, Germany. 700,423, canc. Cl. 18.
Bon Marche, The: *See*—
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Bonat, Samuel, & Bro., Inc., West Paterson, N.J. 813,603, pub. 6–7–66. Cl. 51.
Bondyne Associates, Inc., New York, N.Y. 700,611, canc. Cl. 42.
Bonne Bell, Inc., Lakewood, Ohio. 813,607, pub. 6–7–66. Cl. 51.
Bonnie Baking, Inc., to Bonnie Baking-Redi Fros Distributing Co., Inc., South Bend, Ind. 792,638, new cert. Cl. 46.
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Borden Co., The, New York, N.Y., to Enoz Corp., Chicago, Ill. 813,256, pub. 6–7–66. Cl. 6.
Borden Co., The, New York, N.Y., from Enos Corp., Chicago, Ill. 813,257, pub. 6–7–66. Cl. 6.
Boatitch, Inc., East Greenwich, R.I. 813,396, pub. 6–7–66. Cl. 23.
Bottorff, Richard D., Mishawaka, Ind. 813,374, pub. 6–7–66. Cl. 22.
Bradley, Milton, Co., Springfield, Mass. 813,388, pub. 6–7–66. Cl. 22.
Bradley, Milton, Co., Springfield, Mass. 813,696. Cl. 22.
Bradley, Milton, Co., Springfield, Mass. 813,697. Cl. 22.
Brew, Richard D., and Co., Inc., Concord, N.H. 813,455, pub. 6–7–66. Cl. 34.
Brogdex Co., Winterhaven, Fla., and Los Angeles, Calif., to Brogdex Co., Pomona, Calif. 213,673, ren. 8–23–66. Cl. 46.
Brown Photo Co., Minneapolis, Minn. 813,675, pub. 11–2–65. Cl. 106.

Bruce, Robert, and Co.: *See*—
Consolidated Distilled Products, Inc.
Brunswick-Balke-Collender. Co., The, Chicago, Ill. 700,462, canc. Cl. 22.
Budge, Lloyd K., White Plains, N.Y. 700,457, canc. Cl. 22.
Budget Uniform Bazaar: *See*—
Budget Uniform Center, Inc.
Budget Uniform Center, Inc., d.b.a. Budget Uniform Bazaar, Philadelphia, Pa. 813,483, pub. 6–7–66. Cl. 39.
Bulova Watch Co., Inc., Flushing, N.Y. 813,426, pub. 6–7–66. Cl. 27.
Butler Mfg. Co., Kansas City, Mo. 700,370, canc. Cl. 12.
Butler Mfg. Co., Kansas City, Mo. 700,500, canc. Cl. 23.
Butler Mfg. Co., Kansas City, Mo. 700,530, canc. Cl. 34.
Buttenheim Publishing Corp., New York, N.Y. 700,576, canc. Cl. 38.
CRS Industries, Inc., Philadelphia, Pa. 813,453, pub. 6–7–66. Cl. 34.
Cadbury Brothers, Ltd., Bournville, Birmingham, England. 813,552, pub. 6–7–66. Cl. 46.
Cahn, Bernard, Co., Inc., New York, N.Y. 700,320, canc. Cl. 3.
Cahen, J., N.V., d.b.a. N.V. Papierindustrie J. Cahen, Hertogenbosch, Netherlands. 813,397, pub. 6–7–66. Cl. 23.
California Almond Growers Exchange, Sacramento, Calif. 813,577, pub. 6–7–66. Cl. 46.
Calgon Corp., Pittsburgh, Pa. 813,279, pub. 6–7–66. Cl. 6.
Camden Furniture Co., Camden, Ark. 700,521, canc. Cl. 32.
Camp-Blox, Inc., Columbus, Ga. 813,291, pub. 6–7–66. Cl. 12.
Carling Brewing Co., Inc., from Heidelberg Brewing Co., Cleveland, Ohio. 697,618. Am. 7(d). Cl. 48.
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Carpet Fair, Inc., Baltimore, Md. 813,515, pub. 6–7–66. Cl. 42.
Cayo, Richard S., Portland, Oreg. 700,360, canc. Cl. 12.
Central Publications, Inc. Warren Publishing Co., Philadelphia, Pa. 694,258. Am. 7(d). Cl. 38.
Central Soya Co., Inc., Fort Wayne, Ind. 813,708. Cl. 46.
Ceramex, Inc., Ozone Park, N.Y. 813,436, pub. 6–7–66. Cl. 30.
Chadbourn Gotham, Inc., Charlotte, N.C. 813,491, pub. 6–7–66. Cl. 39.
Champagne Ayala (Societe Anonyme), Ay, Marne, France. 813,714. Cl. 47.
Chem-Foam Engineering Co., Batavia, Ill. 813,446, pub. 6–7–66. Cl. 32.
Chemische Fabrik Pfersee G.m.b.H., Augsburg, Germany. 813,263, pub. 10–12–65. Cl. 6.
Chez Boye: *See*—
Mack, Sid. S.
Chicago White Lead & Oil Co., The, to Hooker Glass & Paint Mfg. Co., Chicago, Ill. 221,168, ren. 8–23–66. Cl. 12.
Ciba Ltd., Basel, Switzerland. 793,545. Am. 7(d). Cl. 6.
Cilag-Chemie Aktiengesellschaft, Schaffhausen, Switzerland. 813,336, pub. 6–7–66. Cl. 18.
Cinderella Hat Co., New York, N.Y. 813,496, pub. 6–7–66. Cl. 39.
Cleveland Cleaner & Paste Co., Cleveland, Ohio. 700,465, canc. Cl. 22.
Cleveland Wash Tray Mfg. Co., Inc., Cleveland, Ohio. 813,447, pub. 6–7–66. Cl. 32.
Cocanower, Naomi, Phoenix, Ariz. 813,699. Cl. 22.
Cochran, Jacqueline, Inc., Newark, N.J. 813,613, pub. 6–7–66. Cl. 51.
Colgate-Palmolive Co., New York, N.Y. 813,632, pub. 6–7–66. Cl. 52.
College Life Insurance Co. of America, The, Indianapolis, Ind. 813,655, pub. 6–7–66. Cl. 102.
Collins & Aikman Corp., New York, N.Y. 813,505, pub. 6–7–66. Cl. 42.
Colorado Milling & Elevator Co., The, also d.b.a. The Pacific Seed House, Denver, Colo., and Salt Lake City, Utah. 232,417, canc. Cl. 46.
Columbia Ribbon and Carbon Mfg. Co., Inc.: *See*—
Miller-Bryant-Pierce Co., The.
Columbian Rope Co.: *See*—
Plymouth Cordage Co.
Comey, Paul Van A., Brooklyn, N.Y. 700,583, canc. Cl. 39.
Comey, Paul Van A., Brooklyn, N.Y. 700,609, canc. Cl. 40.
Commercial Filters Corp., Lebanon, Ind. 813,438, pub. 6–7–66. Cl. 31.
Commercial Solvents Corp., New York, N.Y. 813,261, pub. 6–7–66. Cl. 6.
Commercial Solvents Corp., New York, N.Y. 813,551, pub. 6–7–66. Cl. 46.
Commonwealth Shoe and Leather Co., The, Boston, to Commonwealth Shoe & Leather Co., Inc., Whitman, Mass. 55,660, ren. 8–23–66. Cl. 39.
Commonwealth Shoe & Leather Co., Inc.: *See*—
Commonwealth Shoe and Leather Co., The.
Conroy, Peter A., Paducah, Ky. 700,310, canc. Cl. 2.
Consolidated Distilled Products, Inc., d.b.a. Robert Bruce and Co., Chicago, Ill. 813,584, pub. 6–7–66. Cl. 49.
Consolidated Foods Corp., Chicago, Ill. 813,574, pub. 6–7–66. Cl. 46.
Continental Casualty Co., Chicago, Ill. 813,657, pub. 6–7–66. Cl. 102.
Continental Oil Co., Ponca City, Okla. 700,383, canc. Cl. 15.
Cornell Seed Co., St. Louis, Mo. 700,285, canc. Cl. 1.
Cosmetically Yours, Inc., Yonkers, N.Y. 813,605, pub. 6–7–66. Cl. 51.
Cosmetics Mfg. Co., d.b.a. Legacy, Long Beach, Calif. 813,599, pub. 6–7–66. Cl. 51.
Cotopa Ltd., Bradford, England. 700,618, canc. Cl. 42.
Cotopa Ltd., Bradford, England. 700,619, canc. Cl. 43.
Crenshaw, Theodore A., d.b.a. The Tugalo Poultry Co., Toccoa, Ga. 700,701, canc. Cl. 46.
Crookes-Barnes Laboratories, Inc., Wayne, N.J. 813,329, pub. 6–7–66. Cl. 18.
Cross Country Coins, Edison, N.J. 813,653, pub. 6–7–66. Cl. 101.
Crown Willamette Paper Co. Crown Zellerbach Corp., San Francisco, Calif. 213,054. Am. 7(d). Cl. 37.
Crown Zellerbach Corp.: *See*—
Crown Willamette Paper Co.
Cudahy Packing Co., The, Omaha, Nebr. 813,575, pub. 6–7–66. Cl. 46.
Cumberland Farms Dairy, Inc., Canton, Mass. 813,569, pub. 6–7–66. Cl. 46.
Curtiss-Wright Corp., New York, N.Y. 700,371, canc. Cl. 13.
Curtiss-Wright Corp., New York, N.Y. 700,380, canc. Cl. 14.
Dad's Dog Foods, Inc., Meadville, Pa. 813,546, pub. 6–7–66. Cl. 46.
Daman, Dorothea A., d.b.a. Daman Industries, East Brady, Pa. 813,430, pub. 6–7–66. Cl. 34.
Daman Industries: *See*—
Daman, Dorothea A.
Danberg Flock Mfg., Inc., Wallingford, Conn. 813,588, pub. 6–7–66. Cl. 50.
Daroff, H., & Sons, Inc., Philadelphia, Pa. 813,481, pub. 6–7–66. Cl. 39.
Davis & Lawrence Co., Dobbs Ferry, N.Y. 54,100, ren. 8–23–66. Cl. 18.
Deering Milliken, Inc., New York, N.Y. 813,517, pub. 6–7–66. Cl. 43.
DeFrates, Joseph F., d.b.a. Joseph F. DeFrates Co., Springfield, Ill. 813,570, pub. 6–7–66. Cl. 46.
DeFrates, Joseph F., Co.: *See*—
DeFrates, Joseph F.
DeMaria, Joseph L., Enfield, Conn. 813,375, pub. 6–7–66. Cl. 22.
Dentists' Supply Co. of New York, The, York, Pa. 813,346, pub. 6–7–66. Cl. 18.
Dial-A-Winner: *See*—
Anderson, Gilbert J.
Diamond Alkali Co., Cleveland, Ohio. 700,393, canc. Cl. 16.
Diamond Alkali Co., Cleveland, Ohio. 813,267, pub. 6–7–66. Cl. 6.
Divisible Packaging Enterprises: *See*—
Riley, Brette R.
Dixson, Inc., Grand Junction, Colo. 813,424, pub. 6–7–66. Cl. 26.
Dominion Road Machinery Co., Ltd., The, Goderich, Ontario, Canada. 813,398, pub. 6–7–66. Cl. 23.
Domino Bridge Co., Kansas City, Mo. 813,377, pub. 6–7–66. Cl. 22.
Drew, E. F., & Co., Inc., New York, N.Y. 700,327, canc. Cl. 6.
Drugmaster, Inc., St. Louis, Mo. 700,409, canc. Cl. 18.
Drury's S.A.: *See*—
Drury's S.A. Distribuidora de Procutos Internacionlas.
Drury's S.A. Distribuidora de Procutos Internacionlas, d.b.a. Drury's S.A., Sao Paulo, Brazil. 813,715. Cl. 49.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 423,770, ren. 8–23–66. Cl. 6.
Dusenbery, John, Co., Inc., Clifton, N.J. 813,399, pub. 6–7–66. Cl. 23.
Dynamics Corp. of America, Garden City, N.Y. 813,413, pub. 6–7–66. Cl. 26.
Dynamatic Corp. Eaton Yale & Towne Inc., Cleveland, Ohio. 500,611. Am. 7(d). Cl. 21.
Eastern Associates, Ltd., San Francisco, Calif. 700,436, canc. Cl. 21.
Eaton Yale & Towne Inc.: *See*—
Dynamatic Corp.
Eberhard Faber Inc., Wilkes-Barre, Pa. 813,469, pub. 6–7–66. Cl. 37.
Economotels, Inc., Parsons, Kans. 813,642, pub. 6–7–66. Cl. 100.
Einiger Mills, Inc., New York, N.Y. 700,610, canc. Cl. 42.
Eisenberg, Harvey, Livingston, N.J. 813,308, pub. 6–7–66. Cl. 13.
Eitel-McCullough, Inc., San Bruno, Calif., to Varian Associates, Palo Alto, Calif. 422,407, ren. 8–23–66. Cl. 21.
Eksport-Svineslagterierne Salgsforening, Axelborg, Copenhagen, Denmark. 813,688, pub. 6–7–66. Cl. A.
Elder Mfg. Co., St. Louis, Mo. 813,485, pub. 6–7–66. Cl. 39.
Electronic Automation Systems, Inc., Grand Island, N.Y. 813,423, pub. 6–7–66. Cl. 26.
Electro-Voice, Inc., Buchanan, Mich. 813,368, pub. 6–7–66. Cl. 21.
Elgin National Watch Co., Elgin, Ill. 421,979, ren. 8–23–66. Cl. 27.
Elliott & Evans, Inc., Fort Lauderdale, Fla. 813,360, pub. 6–7–66. Cl. 21.
Emcor, Inc., Des Plaines, Ill. 813,280, pub. 6–7–66. Cl. 6.
Emhart Corp., Hartford, Conn. 813,282, pub. 6–7–66. Cl. 9.
Energy Dynamics Inc., New York, N.Y. 813,665, pub. 6–7–66. Cl. 103.
Energy Dynamics Inc., New York, N.Y. 813,666, pub. 6–7–66. Cl. 103.
English China Clays Ltd., to English Clays Lovering Pochin & Co. Ltd., St. Austell, England. 215,302, ren. 8–23–66. Cl. 6.
English China Clays Ltd., to English Clays Lovering Pochin & Co. Ltd., St. Austell, England. 215,303, ren. 8–23–66. Cl. 6.
English China Clays, Ltd., to English Clays Lovering Pochin & Co. Ltd., St. Austell, England. 215,819, ren. 8–23–66. Cl. 1.
English China Clays, Ltd., to English Clays Lovering Pochin & Co. Ltd., St. Austell, England. 215,820, ren. 8–23–66. Cl. 1.
English Clays Lovering Pochin & Co. Ltd.: *See*—
English China Clays Ltd.
Enoz Corp.: *See*—
Borden Co., The.
Epicure Bakeries, Inc., East Elmhurst, N.Y. 813,558, pub. 6–7–66. Cl. 46.

Eppens, Smith Co., Secaucus, N.J. 813,572, pub. 6–7–66. Cl. 46.
Eppens, Smith Co., Secaucus, N.J. 813,573, pub. 6–7–66. Cl. 46.
Epstein, Burney, & Co., Inc., New York, N.Y. 813,477, pub. 6–7–66. Cl. 39.
Estarta y Ecenarro, S.A., Elgoibar, Guipuzcoa, Spain. 700,469, canc. Cl. 23.
Eyes Right: *See*—
Wolf, Dr. Chas. R.
F-R Publishing Corp., The, to The New Yorker Magazine Inc., New York, N.Y. 426,116, ren. 8–23–66. Cl. 38.
Fabbri, G., S.p.A., Bologna, Italy. 813,540, pub. 6–7–66. Cl. 46.
Faberge, Inc.: *See*—
Rubin, Samuel.
Faberge, Inc., Dover, Del. 813,591, pub. 6–7–66. Cl. 51.
Faberge, Inc., New York, N.Y. 813,593, pub. 6–7–66. Cl. 51.
Fabmagic, Inc., Santa Ana, Calif. 813,624, pub. 6–7–66. Cl. 52.
Factor, Max: *See*—
Factor, Max, & Co.
Factor, Max, & Co., d.b.a. Max Factor, Hollywood, Calif. 813,614, pub. 6–7–66. Cl. 51.
Fahrney, Dr. Peter, & Sons Co., Chicago, Ill. 813,343, pub. 6–7–66. Cl. 18.
Fairbanks, Morse & Co., Chicago, Ill., to Fairbanks Morse Inc., New York, N.Y. 425,696, ren. 8–23–66. Cl. 26.
Fairbanks Morse Inc.: *See*—
Fairbanks, Morse & Co.
Falcon Line Products Corp., Pittsburgh, Pa. 813,393, pub. 6–7–66. Cl. 23.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany. 813,328, pub. 6–7–66. Cl. 18.
Farbwerke vorm. Meister Lucius & Bruning. Abbott Laboratories, North Chicago, Ill. 55,744. Am. 7(d). Cl. 6.
Farr Co., El Segundo, Calif. 813,439, pub. 6–7–66. Cl. 31.
Farr Co., El Segundo, Calif. 813,440, pub. 6–7–66. Cl. 31.
Fashions, Ltd., Inc., Greensboro, N.C. 813,492, pub. 6–7–66. Cl. 39.
Faultless Starch Co., Kansas City, Mo. 813,633, pub. 6–7–66. Cl. 52.
Felsenstein, Harry, Brooklyn, N.Y. 813,579, pub. 6–7–66. Cl. 46.
Felt Slipper Co., Inc., New York, N.Y. 700,606, canc. Cl. 39.
Fermco Laboratories, Inc., Chicago, Ill. 813,266, pub. 6–7–66. Cl. 6.
Fiber Industries, Inc., Charlotte, N.C. 813,234, pub. 6–7–66. Cl. 1.
Fiberfil, Inc., Evansville, Ind. 813,232, pub. 6–7–66. Cl. 1.
Fichtel & Sachs Aktiengesellschaft Corp., Schweinfurt-am-Main Germany. 813,350, pub. 6–7–66. Cl. 19.
Fife Pharmaceuticals, Inc., Elberton, Ga. 813,327, pub. 6–7–66. Cl. 18.
Filler Products, Inc., Forest Park, Ga. 813,560, pub. 6–7–66. Cl. 46.
Finch, Joseph S., and Co.: *See*—
Records & Goldsborough, Inc.
Firestone Tire & Rubber Co., The, Akron, Ohio. 813,463, pub. 6–7–66. Cl. 35.
Firestone Tire & Rubber Co., The, Akron, Ohio. 813,464, pub. 6–7–66. Cl. 35.
First National Bank of Boston, The, Boston, Mass. 813,716. Cl. 50.
Fit-Rite Pants Co., Inc., New York, N.Y. 813,486, pub. 6–7–66. Cl. 39.
Flav-O-Rich Dairy: *See*—
Flav-O-Rich Dairy, Inc.
Flav-O-Rich Dairy, Inc., d.b.a. Flav-O-Rich Dairy, Fayette, Ala. 813,710. Cl. 46.
Fluid Controls Institute, Inc., Pompano Beach, Fla. 813,639, pub. 6–7–66. Cl. 100.
Foresight Corp., Chicago, Ill. 813,271, pub. 6–7–66. Cl. 6.
Foresight Corp., Chicago, Ill. 813,274, pub. 6–7–66. Cl. 6.
Forest Laboratories, Inc., Elizabeth, N.J. 813,325, pub. 6–7–66. Cl. 18.
Fougera, E., & Co., Inc., Hicksville, N.Y. 700,428, canc. Cl. 18.
Fracon Co., Weston, Mass. 813,717. Cl. 50.
Frank, J. P., Corp., Brooklyn, N.Y. 700,306, canc. Cl. 1.
Fraser, Donald, Inc., Duluth, Minn. 813,554, pub. 6–7–66. Cl. 46.
Freihofer, William, Baking Co., Allentown, Pa. 813,246, pub. 6–7–66. Cl. 2.
Frontier Bronze Corp., Niagara Falls, N.Y. 423,963, ren. 8–23–66. Cl. 14.
Gallo, E. & J. Winery, d.b.a. Gourmet Vineyards, Modesto, Calif. 813,581, pub. 6–7–66. Cl. 47.
Garrett Laboratories, Inc., Baltimore, Md. 813,324, pub. 12–28–65. Cl. 18.
Geigy Chemical Corp., Ardsley, N.Y. 813,342, pub. 6–7–66. Cl. 18.
General Dynamics Corp., New York, N.Y. 813,442, pub. 6–7–66. Cl. 31.
General Foods Corp., White Plains, N.Y. 813,538, pub. 6–7–66. Cl. 46.
General Industries Corp., Salt Lake City, Utah. 813,564, pub. 6–7–66. Cl. 46.
General Mills, Inc.: *See*—
Red Star Milling Co., The.
General Motors Corp., Detroit, Mich. 813,303, pub. 6–7–66. Cl. 13.
General Precision, Inc.: *See*—
Kearfott Engineering Co.
General Rubber Products, Inc., Dallas, Tex. 700,467, canc. Cl. 22.
General Time Corp., New York, N.Y. 813,364, pub. 6–7–66. Cl. 21.
General Time Corp., New York, N.Y. 813,365, pub. 6–7–66. Cl. 21.
General Tire & Rubber Co., The, Akron, Ohio. 813,293, pub. 6–7–66. Cl. 12.
Gentex Corp., New York, N.Y. 813,698. Cl. 22.
Gerry Designs, Inc., Boulder, Colo. 813,351, pub. 6–7–66. Cl. 19.
Gibson, Inc., Kalamazoo, Mich. 813,466, pub. 6–7–66. Cl. 36
Gini International Ltd., Evanston, Ill. 813,533, pub. 6–7–66. Cl. 45.
Glass, Henry, & Co., New York, N.Y. 214,769, ren. 8–23–66. Cl. 42.
Glass-Tite Industries, Inc., Providence, R.I. 700,455, canc. Cl. 21.
Glastic Corp., The: *See*—
White, Roger B.
Goliath Tap & Die Ltd., Aston, Birmingham, England. 813,406, pub. 6–7–66. Cl. 23.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 813,461, pub. 6–7–66. Cl. 35.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 813,462, pub. 6–7–66. Cl. 35.
Gordon, Claud S., Co., Chicago, Ill., to Claud S. Gordon Co., Cleveland, Ohio. 423,567, ren. 8–23–66. Cl. 26.
Gourmet Vineyards: *See*—
Gallo, E. & J., Winery.
Grace, W. R., & Co., New York, N.Y. 813,260, pub. 6–7–66. Cl. 6.
Greater Iowa Corp., The, Des Moines, Iowa. 813,394, pub. 6–7–66. Cl. 23.
Griffin Mfg. Co., Inc., to American Home Products Corp., New York, N.Y. 222,034, ren. 8–23–66. Cl. 4.
Guide Stitch Corp., Raritan, N.J. 700,468, canc. Cl. 23.
Hallmark Cards, Inc., Kansas City, Mo. 813,692. Cl. 7.
Hardee's Food Systems, Inc., Rocky Mount, N.C. 813,643, pub. 6–7–66. Cl. 100.
Hart Laboratories, Inc., Paoli, Pa. 813,326, pub. 6–7–66. Cl. 18.
Hathaway, C. F., Co., Waterville, Maine. 813,495, pub. 6–7–66. Cl. 39.
Heidelberg Brewing Co.: *See*—
Carling Brewing Co., Inc.
Hemphill, Edward, Co., d.b.a. Sleep Shade Co., San Francisco, Calif. 813,490, pub. 6–7–66. Cl. 39.
Herbex, Parker, Corp., Plainview, N.Y. 813,602, pub. 6–7–66. Cl. 51.
Herbig, R. G., d.b.a. R. G. H. Co., Lafayette, Ind. 700,641, canc. Cl. 46.
Herts Rent A Plane System, Inc., Chicago, Ill. 700,684, canc. Cl. 105.
Hills-McCanna Co., Carpentersville, Ill. 813,298, pub. 6–7–66. Cl. 13.
Hilton Products, Inc., Chicago, Ill. 813,488, pub. 6–7–66. Cl. 39.
Hirsh, S. A., Mfg. Co., Skokie, Ill. 813,304, pub. 6–7–66. Cl. 13.
Holiday Inns of America, Inc., Memphis, Tenn. 813,636, pub. 6–7–66. Cl. 100.
Honest Charley Speed Shop, Inc., Chattanooga, Tenn. 700,471, canc. Cl. 23.
Hooker Chemical Corp.: *See*—
Niagara Alkali Co.
Hooker Glass & Paint Mfg. Co.: *See*—
Chicago White Lead & Oil Co., The.
Houbigant, Inc., New York, N.Y. 221,886, ren. 8–23–66. Cl. 51.
Houston Sports Association, Inc., Houston, Tex. 813,682, pub. 6–7–66. Cl. 107.
Houston Sports Association, Inc., Houston, Tex. 813,684, pub. 6–7–66. Cl. 107.
Hrynyk, Peter L., Fort William, Ontario, Canada. 813,589, pub. 6–7–66. Cl. 50.
Hubbard, C. D., Fruit Co., to Santa Barbara Lemon Association, Carpenteria, Calif. 221,418, ren. 8–23–66. Cl. 46.
Huth-James Shoe, Inc., Milwaukee, Wis. 813,493, pub. 6–7–66. Cl. 39.
Hydro Fitting Mfg. Corp., South Hackensack, N.J. 813,307, pub. 6–7–66. Cl. 13.
Hydrophane Laboratories Ltd., Hitchin, England. 813,337, pub. 6–7–66. Cl. 18.
Hyer, C. H., & Sons, to C. H. Hyer & Sons, Inc., Olathe, Kans. 421,533, ren. 8–23–66. Cl. 39.
Hyer, C. H., & Sons, Inc.: *See*—
Hyer, C. H., & Sons.
Hygrade Food Products Corp., Detroit, Mich. 813,556, pub. 6–7–66. Cl. 46.
Hyran, Inc., Angeles, Calif. 636,797, cor. Cl. 26.
Hyran, Inc., Los Angeles, Calif. 726,104, cor. Cl. 106.
Hyran, Inc., Los Angeles, Calif. 804,247, cor. Cl. 26.
Hy-Test 303 Corp., Rutherford, N.J. 813,268, pub. 6–7–66. Cl. 6.
Hy-Test 303 Corp., Rutherford, N.J. 813,457, pub. 6–7–66. Cl. 34.
Ideal Fastener Corp., Long Beach, N.Y. 700,374, canc. Cl. 13.
Ideal Roller and Mfg. Co., Chicago, Ill. 813,391, pub. 6–7–66. Cl. 23.
Illinois National Bank of Springfield, The, Springfield, Ill. 813,660, pub. 6–7–66. Cl. 102.
Illinois Shade Division of Slick Industrial Co.: *See*—
Slick Industrial Co.
Impecco Ltd., New York, N.Y. 813,259, pub. 6–7–66. Multiple Class (Classes 6 and 34).
Imperial Chemical Industries Ltd., Millbank, London. 813,235, pub. 6–7–66. Cl. 1.
Intab Wilhelm Ludwig KG., Nurtingen, Wurttemberg, Germany. 813,415, pub. 6–7–66. Multiple Class (Classes 26 and 37).
Intellux, Inc., Goleta, Calif. 813,367, pub. 6–7–66. Cl. 21.
Inter-American Food Products, Inc., to Quintana & Co., Inc., Long Island City, N.Y. 792,999, new cert. Cl. 46.

Internacional De Marcas, Registros Y Patentes S.A. (Indarsa), Caracas, Venezuela. 813,537, pub. 6–7–66. Cl. 46.
International Paper Co., New York, N.Y. 813,468, pub. 6–7–66. Cl. 37.
International Teen Princess Pageant, Ltd., The, Chicago, Ill. 813,686, pub. 6–7–66. Cl. 107.
Interoceanic Commodities Corp., St. Paul, Minn. 813,292, pub. 6–7–66. Cl. 12.
Intransit Motion Pictures, Inc., New York, N.Y. 813,685, pub. 6–7–66. Cl. 107.
Invar Electronics Corp., Pasadena, Calif. 700,440, canc. Cl. 21.
Ironcea Co., The, Philadelphia, Pa. 813,409, pub. 6–7–66. Cl. 24.
Irwin Corp., New York, N.Y. 700,608, canc. Cl. 40.
Jacobs Mfg. Co., The, West Hartford, Conn. 813,395, pub. 6–7–66. Cl. 23.
Jacobson, F., & Sons, Inc., to F. Jacobson & Sons, Inc., New York, N.Y. 423,286, ren. 8–23–66. Cl. 39.
Jacquin, Charles, et Cie, Inc., Philadelphia, Pa. 813,586, pub. 6–7–66. Cl. 49.
Janssen Pharmaceutica NV, Beerse, Belgium. 813,334, pub. 6–7–66. Cl. 18.
Janssen Pharmaceutica NV, Beerse, Belgium. 813,335, pub. 6–7–66. Cl. 18.
Jil Corp., Chelsea, Mass. 813,313, pub. 6–7–66. Cl. 16.
Johnson & Johnson, New Brunswick, N.J. 700,706, canc. Cl. 51.
Johnson & Johnson, New Brunswick, N.J. 813,344, pub. 6–7–66. Cl. 18.
Johnson & Johnson, New Brunswick, N.J. 813,523, pub. 6–7–66. Cl. 44.
Johnson, Howard D., Co., Wollaston, Mass. 813,640, pub. 6–7–66. Cl. 100.
Justman, Anton, (Amsterdam & London) Ltd., London, England. 813,320, pub. 6–7–66. Cl. 17.
Kaiser Gypsum Co., Inc.: *See*—
Standard Gypsum Co., The.
Kamenstein, David, Inc., New York, N.Y. 813,302, pub. 6–7–66. Cl. 13.
Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd., Miyakojima-ku, Osaka, Japan. 813,600, pub. 6–7–66. Cl. 51.
Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd., Miyakojima-ku, Osaka, Japan. 813,601, pub. 6–7–66. Cl. 51.
Kanegafuchi Spinning Co., Ltd.: *See*—
Kanegafuchi Boseki Kabushiki Kaisha.
Kansas City Dog Food Co.: *See*—
Quisenberry Mills, Inc.
Kaplan, Joseph A., & Sons, Inc., d.b.a. Prestige Shower Curtain Co., New York, N.Y. 813,506, pub. 6–7–66. Cl. 42.
Kearfott Engineering Co., New York, to General Precision, Inc., Little Falls, N.Y. 424,450, ren. 8–23–66. Cl. 23.
Keasbey & Mattison Co., Ambler, Pa. 700,693, canc. Cl. 12.
Keebler Weyl Baking Co., Philadelphia, Pa., to United Biscuit Co. of America, Chicago, Ill. 221,594, ren. 8–23–66. Cl. 46.
Kelley-Koett Mfg. Co., The, Covington, Ky., to Laboratory For Electronics, Inc., Waltham, Mass. 422,538, ren. 8–23–66. Cl. 44.
Kennele Corp.: *See*—
Petrx Corp.
Kentucky Fried Chicken Corp., Shelbyville, Ky. 813,559, pub. 6–7–66. Cl. 46.
Keystone Leather Co., Philadelphia, Pa., to Allied Kid Co., Boston, Mass. 55,688, ren. 8–23–66. Cl. 1.
Kimbell Milling Co., Fort Worth, Tex. 813,568, pub. 6–7–66. Cl. 46.
Kimberly-Clark Corp., Neenah, Wis. 700,564, canc. Cl. 38.
Kimberly-Clark Corp., Neenah, Wis. 813,471, pub. 6–7–66. Cl. 37.
King & Co., Inc., Clarksville, Ark. 813,289, pub. 6–7–66. Cl. 12.
King Korn Stamp Co., Chicago, Ill. 813,385, pub. 6–7–66. Cl. 22.
King Korn Stamp Co., Chicago, Ill. 813,386, pub. 6–7–66. Cl. 22.
King's Crown Inn of America, Inc., Kokomo, Ind. 813,649, pub. 6–7–66. Cl. 101.
Kirpal Ruhani Satsang Society, Washington, D.C. 813,678, pub. 6–7–66. Cl. 107.
Kissin' Cuzzin', Inc., Minneapolis, Minn. 813,557, pub. 6–7–66. Cl. 46.
Kiwi Polish Co. Proprietary Ltd., The, Melbourne, Australia. 801,615, cor. Cl. 4.
Kleinert, I. B., Rubber Co., New York, N.Y. 813,482, pub. 6–7–66. Cl. 39.
Kleer-Vu Industries, Inc., New York, N.Y. 813,703. Cl. 40.
Koh-I-Noor, Inc.: *See*—
Rapidograph, Inc.
Kohnstamm, V. & E., Inc., Brooklyn, N.Y. 813,532, pub. 6–7–66. Cl. 45.
Koppers Co., Inc., Pittsburgh, Pa. 813,237, pub. 6–7–66. Cl. 1.
Korils, Ltd., New York, N.Y. 700,431, canc. Cl. 19.
Kresge, S. S., Co., Detroit, Mich. 813,610, pub. 6–7–66. Cl. 51.
Kuhnke, H., Elektrotechnische Fabrik, Kiel, Germany. 813,358, pub. 6–7–66. Multiple Class (Classes 21 and 23).
Laboratory For Electronics, Inc.: *See*—
Kelley-Koett Mfg. Co., The.
Ladish Co., Cudahy, Wis. 813,300, pub. 6–7–66. Cl. 13.
Ladish Co., Cudahy, Wis. 813,301, pub. 6–7–66. Cl. 13.
Lamb Industries, Inc.: *See*—
White Products Corp.
Land O'Lakes Creameries, Inc., Minneapolis, Minn. 813,709. Cl. 46.
Langnickel, A., Inc., New York, N.Y. 700,518, canc. Cl. 29.
Leadership Techniques Institute, Inc., Chicago, Ill. 813,683, pub. 6–7–66. Cl. 107.
Le Doux, Herbert C., New York, N.Y. 700,454, canc. Cl. 21.
Legacy: *See*—
Cosmetics Mfg. Co.
Lehn & Fink Products Corp., d.b.a. Tussy Cosmetics, New York, N.Y. 813,618, pub. 6–7–66. Cl. 51.
Lentheric, Inc., to Lentheric Inc., New York, N.Y. 422,032, ren. 8–23–66. Cl. 51.
Les Parfums de Dana, Inc., New York, N.Y. 813,628, pub. 6–7–66. Cl. 52.
Lever Bros. Co., New York, N.Y. 813,333, pub. 6–7–66. Cl. 18.
Levitt, Barth, Products, Lynbrook, N.Y. 700,642, canc. Cl. 46.
Lifanu Corp. of America, Fort Worth, Tex. 700,399, canc. Cl. 18.
Lighting Products Inc., Highland Park, Ill. 813,363, pub. 6–7–66. Cl. 21.
Lilac Lady Co.: *See*—
Stormer, Ray W., and Viola Stormer Linder.
Lionel Toy Corp., The, Wilmington, Del. 813,381, pub. 6–7–66. Cl. 22.
Lionel Toy Corp., The, Hillside, N.J. 813,387, pub. 6–7–66. Multiple Class (Classes 22 and 36).
Lipsky, Mark, Los Angeles, Calif. 700,403, canc. Cl. 18.
Lite Trend, Inc., Chicago, Ill. 813,362, pub. 6–7–66. Cl. 21.
Lustig Foods: *See*—
Nifty Foods Corp.
Lutheran Laymen's League, St. Louis, Mo. 813,676, pub. 6–7–66. Cl. 107.
MSL Industries, Inc., Elk Grove Village, Ill. 813,264, pub. 6–7–66. Cl. 6.
MacBick Co., The, Wilmington, Mass. 813,521, pub. 6–7–66. Cl. 44.
Macfadden-Bartell Corp., New York, N.Y. 813,677, pub. 6–7–66. Cl. 107.
Mack, Sid S., d.b.a. Ches Boye, Jacksonville, Fla. 813,608, pub. 6–7–66. Cl. 51.
Magnano, Frank N., d.b.a. The Southern New England Ultraviolet Co., Middletown, Conn. 813,355, pub. 6–7–66. Cl. 21.
Magnavox Co., The: *See*—
Pentron Electronics Corp.
Majestic Drug Co., Inc., New York, N.Y. 813,331, pub. 6–7–66. Cl. 18.
Mallory, P. R., & Co., Inc., Indianapolis, Ind. 813,369, pub. 6–7–66. Cl. 21.
Manotecnica S.p.A., Milano, Italy. 813,404, pub. 6–7–66. Multiple Class (Classes 24, 23, and 31).
Maradel Products, Inc., Farmingdale, N.Y. 813,592, pub. 6–7–66. Cl. 51.
Maradel Products, Inc., Farmingdale, N.Y. 813,604, pub. 6–7–66. Cl. 51.
Marmon-Herrington Co., Inc., Indianapolis, Ind., from Airdox Cardox Products Co., Chicago, Ill. 700,349, canc. Cl. 9.
Marmon-Herrington Co., Inc., Indianapolis, Ind., from Airdox Cardox Products Co., Chicago, Ill. 700,503, canc. Cl. 23.
Maro Industries, Inc., Thomasville, N.C. 813,484, pub. 6–7–66. Cl. 39.
Martens, Jack R., d.b.a. Aerofast Co., Wheaton, Ill. 813,296, pub. 6–7–66. Cl. 13.
Martini & Rossi Corp., New York, N.Y. 813,582, pub. 6–7–66. Cl. 47.
Marvel Engineering Co., Chicago, Ill. 813,448, pub. 6–7–66. Cl. 31.
Masco Corp. (Mascon Toy Co. Division), Detroit, Mich. 813,378, pub. 6–7–66. Cl. 22.
Match-O-Matic Inc., New York, N.Y. 813,454, pub. 6–7–66. Cl. 34.
Mattel, Inc., Hawthorne, Calif. 813,414, pub. 6–7–66. Cl. 26.
Mattel, Inc., Hawthorne, Calif. 813,427, pub. 6–7–66. Cl. 28.
McDowell Tire Co., Kansas City, Mo. 813,403, pub. 6–7–66. Cl. 23.
McGraw-Hill Publishing Co., Inc., New York, N.Y. 700,573, canc. Cl. 38.
McNaught Syndicate, Inc., The, New York, N.Y. 700,577, canc. Cl. 38.
McNeil Laboratories, Inc., Fort Washington, Pa. 813,345, pub. 6–7–66. Cl. 18.
McQuay, Inc., Minneapolis, Minn. 813,449, pub. 3–1–66. Cl. 34.
McRae Bros., Inc., Patchogue, N.Y. 813,285, pub. 6–7–66. Cl. 12.
McRae Bros., Inc., Patchogue, N.Y. 813,668, pub. 6–7–66. Cl. 103.
Melville Shoe Corp.: *See*—
Miles, W. H., Shoe Co., Inc.
Mennen Co., The, Morristown, N.J. 813,623, pub. 6–7–66. Cl. 52.
Merchants Refrigerating Co., New York, N.Y. 813,670, pub. 6–7–66. Cl. 105.
Merwitz, Theodore, Textiles, Inc., Chicago, Ill. 700,661, canc. Cl. 50.
Metal Film Co., Inc., Passaic, N.J. 813,518, pub. 6–7–66. Cl. 43.
Micronetics Inc., San Diego, Calif. 813,421, pub. 6–7–66. Cl. 26.
Midland Grocery Co., The, Columbus, Ohio. 424,956, ren. 8–23–66. Cl. 46.
Midland-Ross Corp., Cleveland, Ohio. 813,507, pub. 6–7–66. Cl. 42.
Mid-States Distributing Co., Inc., St. Paul, Minn. 813,405, pub. 6–7–66. Cl. 23.
Mid-States Welder Mfg. Co., Chicago, Ill. 813,456, pub. 6–7–66. Cl. 34.
Miles Laboratories, Inc., Elkhart, Ind. 813,277, pub. 6–7–66. Cl. 6.
Miles, W. H., Shoe Co., Inc., Richmond, Va., to Melville Shoe Corp., New York, N.Y. 221,836, ren. 8–23–66. Cl. 39.

Miller-Bryant-Pierce Co., The, Aurora, Ill., to Columbia Ribbon and Carbon Mfg. Co., Inc., Glen Cove, N.Y. 217,703, ren. 8–23–66. Cl. 11.
Miller Pattern and Mfg. Co., Saginaw, Mich. 700,477, canc. Cl. 23.
Miller Pharmacal Co., d.b.a. The Miller Pharmacal Co., West Chicago, Ill. 813,339, pub. 6–7–66. Cl. 18.
Miller Pharmacal Co., d.b.a. The Miller Pharmacal Co., West Chicago, Ill. 813,340, pub. 6–7–66. Cl. 18.
Miller Pharmacal Co., The: *See*—
Miller Pharmacal Co.
Millers Falls Co.: *See*—
R.C.S. Tool Corp.
RCS Tool Sales Corp.
Money Tree Co., The, Minneapolis, Minn. 813,650, pub. 6–7–66. Cl. 101.
Monroe Chemical Co.: *See*—
Monroe Drug Co.
Monroe Drug Co., to Monroe Chemical Co., Quincy, Ill. 211,488, ren. 8–23–66. Cl. 6.
Monsanto Chemical Works, to Monsanto Co., St. Louis, Mo. 220,902, ren. 8–23–66. Cl. 6.
Moog Industries, Inc., St. Louis, Mo. 700,433, canc. Cl. 19.
Morrell, John, & Co., Ottumwa, Iowa. 813,542, pub. 6–7–66. Cl. 46.
Morris, Philip, Inc., New York, N.Y. 813,536, pub. 3–10–64. Cl. 46.
Mutual Shoe Sales Co.: *See*—
Admiral Shoe Corp.
N.V. Papierindustrie J. Cahen: *See*—
Cahen, J., N.V.
Nalley's, Inc., Tacoma, Wash. 813,707. Cl. 46.
National Amusements, Inc., Boston, Mass. 813,680, pub. 6–7–66. Cl. 107.
National Biscuit Co., New York, N.Y. 813,539, pub. 6–7–66. Cl. 46.
National Chemicals, Inc., Winona, Minn. 813,270, pub. 6–7–66. Cl. 6.
National Dairy Products Corp., Chicago, Ill. 813,580, pub. 6–7–66. Cl. 46.
National Distillers and Chemical Corp., d.b.a. National Distillers Products Co., New York, N.Y. 813,585, pub. 6–7–66. Cl. 49.
National Distillers Products Co.: *See*—
National Distillers and Chemical Corp.
National Gypsum Co., Buffalo, N.Y. 700,391, canc. Cl. 16.
National Identification Service, Inc., Elmont, N.Y. 813,720. Cl. 101.
National Industrial Products Co.: *See*—
Beach Soap Co.
National Oats Co., Cedar Rapids, Iowa. 813,547, pub. 6–27–66. Cl. 46.
National Oil Products Co., Harrison, to White Laboratories, Inc., Kenilworth, N.J. 422,349, ren. 8–23–66. Cl. 52.
National Starch and Chemical Corp., New York, N.Y. 813,253, pub. 6–7–66. Cl. 5.
National Starch and Chemical Corp., New York, N.Y. 813,565, pub. 6–7–66. Cl. 46.
National Steel Corp., Pittsburgh, Pa. 423,310, ren. 8–23–66. Cl. 14.
National Trailways Bus System, Washington, D.C. 813,672, pub. 5–31–66. Cl. 105.
Nautilus Industries, Inc., Freeland, Pa. 813,458, pub. 6–7–66. Cl. 34.
Newberry, J. J., Co. Inc., New York, N.Y. 700,604, canc. Cl. 39.
New England Laboratory: *See*—
Solomon, Sanford E.
New York Wire Co., York, Pa. 813,310, pub. 6–7–66. Cl. 16.
New Yorker Magazine Inc., The: *See*—
F-R Publishing Corp., The.
Nifty Foods Corp., d.b.a. Lustig Foods, Brockport, N.Y. 813,571, pub. 6–7–66. Cl. 46.
Niagara Alkali Co., to Hooker Chemical Corp., Niagara Falls, N.Y. 425,190, ren. 8–23–66. Cl. 6.
Niagara Machine & Tool Works, Buffalo, N.Y. 58,232, ren. 8–23–66. Cl. 23.
Nippon Toki Kabushiki Kaisha, Nishiku, Nagoya, Japan. 813,448, pub. 6–7–66. Cl. 33.
Nob Hill Apparel, Inc., New York, N.Y. 813,497, pub. 6–7–66. Cl. 39.
Norsan Products, Inc., Milwaukee, Wis. 813,622, pub. 6–7–66. Cl. 52.
Nuclear Materials and Equipment Corp., Apollo, Pa. 813,701. Cl. 26.
Old World Bread Co., Inc., Hingham, Mass. 813,545, pub. 6–7–66. Cl. 46.
Olin Mathieson Chemical Corp.: *See*—
Winchester Repeating Arms Co.
Olympia Brewing Co., Olympia, Wash. 813,691. Cl. 2.
Ott, John, Laboratories, Inc., Lake Bluff, Ill. 813,689, pub. 6–7–66. Cl. A.
Oxford Filing Supply Co., Inc., Garden City, N.Y. 813,444, pub. 6–7–66. Cl. 32.
Pacific Seed House, The: *See*—
Colorado Milling & Elevator Co., The.
Pacquin-Lester Co., Litchfield, Conn. 813,619, pub. 6–7–66. Cl. 51.
Palmer Chemical and Equipment Co., Inc., Douglasville, Ga. 813,281, pub. 6–7–66. Cl. 9.
Pan American Laboratories, Inc., New Orleans, La. 700,397, canc. Cl. 18.
Panoramic Radio Corp., to The Singer Co., New York, N.Y. 425,492, ren. 8–23–66. Cl. 26.
Panoramic Radio Corp., to The Singer Co., New York, N.Y. 425,493, ren. 8–23–66. Cl. 26.
Paper Products Inc., Long Beach, Calif. 813,472, pub. 6–7–66. Cl. 37.
Paper Products Inc., Long Beach, Calif. 813,473, pub. 6–7–66. Cl. 37.
Parke, Davis & Co., Detroit, Mich. 813,341, pub. 6–7–66. Cl. 18.
Parrish, William J., d.b.a. Parrish Bass Lures, Yadkinville, N.C. 813,379, pub. 5–3–66. Cl. 22.
Party-Tyme Products, Inc., New York, N.Y. 813,705. Cl. 45.
Parrish Bass Lures: *See*—
Parrish, William J.
Patek & Co., San Francisco, Calif. 813,410, pub. 6–7–66. Cl. 24.
Patterson Kelley Co., Inc., The, East Stroudsburg, Pa. 813,441, pub. 6–7–66. Cl. 31.
Patterson Kelley Co., Inc., The, East Stroudsburg, Pa. 813,702. Cl. 34.
Paul-Reed, Inc., Charlevoix, Mich. 700,668, canc. Cl. 52.
Penn Mutual Life Insurance Co., The, Philadelphia, Pa. 813,662, pub. 6–7–66. Cl. 102.
Penn Wax Works, Inc., Philadelphia, Pa. 700,384, canc. Cl. 15.
Penney, J. C., Co., New York, N.Y. 813,357, pub. 6–7–66. Cl. 21.
Pentron Electronics Corp., to The Magnavox Co., Fort Wayne, Ind. 779,469, new cert. Cl. 36.
Permatex Co., Inc., Brooklyn, N.Y. 813,294, pub. 6–7–66. Cl. 12.
Peter's Bag & Novelty Corp., New York, N.Y. 700,318, canc. Cl. 3.
Petrx Corp., from Kennele Corp., Chicago, Ill. 813,272, pub. 6–7–66. Multiple Class (Classes 6, 18, 44, and 52).
Petrx Corp., from Kennele Corp., Chicago, Ill. 813,273, pub. 6–7–66. Multiple Class (Classes 6, 18, 44, and 52).
Pfizer, Chas., & Co., Inc., New York, N.Y. 813,322, pub. 6–7–66. Cl. 18.
Pfizer, Chas., & Co., Inc., New York, N.Y. 813,606, pub. 6–7–66. Cl. 51.
Pinochle Bugs, Inc.: *See*—
Pinochle Bugs Social and Civic Club, Inc.
Pinochle Bugs Social and Civic Club, Inc., d.b.a. Pinochle Bugs, Inc., Roanoke, Va. 700,689, canc. Cl. 200.
Pivot Punch & Die Corp., North Tonawanda, N.Y. 700,473, canc. Cl. 23.
Plastic Service Co.: *See*—
Standard, Louis G.
Plastic Wire & Cable Corp., The, Jewett City, Conn. 423,533, ren. 8–23–66. Cl. 21.
Please Notify, Inc., Poplar Bluff, Mo. 700,544, canc. Cl. 37.
Plymouth Cordage Co., Plymouth, Mass., to Columbian Rope Co., Auburn, N.Y. 54,721, ren. 8–23–66. Cl. 7.
Porta-Floor Co., St. Louis, Mo. 813,354, pub. 6–7–66. Cl. 20.
Post, Sandra, of Florida, Inc., Miami Beach, Fla. 813,251, pub. 6–7–66. Multiple Class (Classes 3, 28, 39, and 101).
Precast Architectural Concrete Elements Corp., Pittsburgh, Pa. 813,286, pub. 6–7–66. Cl. 12.
Prestige Shower Curtain Co.: *See*—
Kaplan, Joseph A., & Sons, Inc.
Procter & Gamble Co., The, Cincinnati, Ohio. 813,611, pub. 6–7–66. Cl. 51.
Product Sales, Inc., Cleveland, Ohio. 813,631, pub. 6–7–66. Cl. 52.
Productos Mexalit, S.A., Santa Clara, Mexico. 813,290, pub. 6–7–66. Cl. 12.
Propper Mfg. Co., Inc., Long Island, N.Y. 813,531, pub. 6–7–66. Cl. 44.
Quaker Oats Co., The, Chicago, Ill. 813,548, pub. 6–7–66. Cl. 46.
Quimby Allen, Veneer Co., Bingham, Maine. 700,434, canc. Cl. 19.
Quintana & Co., Inc.: *See*—
Inter-American Food Products, Inc.
Quisenberry Mills, Inc., d.b.a. Kansas City Dog Food Co., Kansas City, Mo. 813,541, pub. 6–7–66. Cl. 46.
R.B.S. Mfg. and Sales Co., Inc., Shawnee, Okla. 700,437, canc. Cl. 21.
R.C.S. Tool Corp., to Millers Falls Co., Greenfield, Mass. 699,379, new cert. Cl. 23.
RCS Tool Sales Corp., to Millers Falls Co., Greenfield, Mass. 580,391, new cert. Cl. 23.
R.G.H. Co.: *See*—
Herbig, R. G.
Radio Corp. of America: *See*—
Victor Talking Machine Co.
Radio Station WCHB of the Bell Broadcasting Co., Inkster, Mich. 813,721. Cl. 104.
Radio Steel & Mfg. Co., Chicago, Ill. 813,389, pub. 6–7–66. Cl. 22.
Rand Rubber Co., Brooklyn, N.Y. 422,644, ren. 8–23–66. Cl. 50.
Rapidograph, Inc., d.b.a. Koh-I-Noor, Inc., Bloomsbury, N.J. 813,625, pub. 6–7–66. Cl. 52.
Ratcliff-Sanders Grocer Co. Carnation Co., Los Angeles, Calif. 75,751. Am. 7(d). Cl. 46.
Reactions, Inc., Kennebunk, Maine. 813,652, pub. 6–7–66. Cl. 101.
Records & Goldsborough, Inc., Baltimore, Md., to Joseph S. Finch and Co., Schenley, Pa. 422,187, ren. 8–23–66. Cl. 49.
Records & Goldsborough, Inc., Baltimore, Md., to Joseph S. Finch and Co., Schenley, Pa. 422,203, ren. 8–23–66. Cl. 49.
Red Star Milling Co., The, Wichita, Kans., to General Mills, Inc., Minneapolis, Minn. 218,934, ren. 8–23–66. Cl. 46.
Red Top Maintenance Service, Inc., Denver, Colo. 813,626, pub. 6–7–66. Cl. 52.
Redfern Sausage Co., Atlanta, Ga. 813,553, pub. 6–7–66. Cl. 46.
Reeves Brothers, Inc., New York, N.Y. 380,111, canc. Cl. 42.

Rellar, William G., Cincinnati, Ohio. 813,412, pub. 6–7–66. Cl. 26.
Reo Car Co., Lansing, Mich., to White Motor Corp., Cleveland, Ohio. 54,722, ren. 8–23–66. Cl. 19.
Republic Coal & Coke Co., Chicago, Ill. 218,760, ren. 8–23–66. Cl. 1.
Ressel, O. O., d.b.a. Woodrow Wilson Co., Corona Del Mar, Calif. 813,380, pub. 6–7–66. Cl. 22.
Revlon, Inc.: *See*—
Revlon Products Corp.
Revlon, Inc., New York, N.Y. 813,609, pub. 6–7–66. Cl. 51.
Revlon Products Corp., to Revlon, Inc., New York, N.Y. 422,571, ren. 8–23–66. Cl. 51.
Revlon Products Corp., to Revlon, Inc., New York, N.Y. 425,536, ren. 8–23–66. Cl. 51.
Rexall Drug and Chemical Co.: *See*—
Syracuse Ornamental Co.
Rexal Drug and Chemical Co., d.b.a. Tupperware, Los Angeles, Calif. 813,248, pub. 6–7–66. Cl. 2.
Rheingold Breweries, Inc., Brooklyn, N.Y. 813,583, pub. 6–7–66. Cl. 48.
Rice, Martin, Inc., Crowley, La. 813,566, pub. 6–7–66. Cl. 46.
Richardson-Merrell Inc., New York, N.Y. 813,348, pub. 6–7–66. Cl. 18.
Ridgewood Instrument Co., Kansas City, Mo. 813,420, pub. 6–7–66. Cl. 26.
Rieber & Son A/S, Bergen, Norway. 810,826, cor. Cl. 46.
Ries, Iwan, & Co., Chicago, Ill. 813,316, pub. 6–7–66. Cl. 17.
Ries, Iwan, & Co., Chicago, Ill. 813,317, pub. 6–7–66. Cl. 17.
Ries, Iwan, & Co., Chicago, Ill. 813,318, pub. 6–7–66. Cl. 17.
Riley, Brette R., d.b.a. Divisible Packaging Enterprises, Pratt, Kans. 813,249, pub. 6–7–66. Cl. 2.
Riley Stoker Corp., Worcester, Mass. 813,451, pub. 6–7–66. Cl. 34.
Roberts Dairy Co., Omaha, Nebr. 813,561, pub. 6–7–66. Cl. 46.
Rockland Tackle Co., Inc., Suffern, N.Y. 700,464, canc. Cl. 22.
Rodi & Wienenberger Aktiengesellschaft, Pforzheim, Germany. 813,470, pub. 6–7–66. Cl. 37.
Roosevelt Mills, Inc., Rockville, Conn. 813,504, pub. 6–7–66. Cl. 39.
Roskam Baking Co., Grand Rapids, Mich. 813,535, pub. 6–7–66. Cl. 46.
Roto-Wash, Inc., Fort Lauderdale, Fla. 813,408, pub. 6–7–66. Cl. 23.
Roux Laboratories, Inc., New York, N.Y. 813,596, pub. 6–7–66. Cl. 51.
Rubin, Samuel, to Faberge, Inc., New York, N.Y. 425,554, ren. 8–23–66. Cl. 28.
St. Paul Fire & Marine Insurance Co., St. Paul, Minn. 813,656, pub. 6–7–66. Cl. 102.
St. Regis Paper Co., New York, N.Y. 700,365, canc. Cl. 12.
Santa Barbara Lemon Association: *See*—
Hubbard, C. D., Fruit Co.
Saja Chemical Co. of America, Inc., Coral Gables, Fla. 700,670, canc. Cl. 52.
Scanwell Laboratories, Inc., Springfield, Va. 813,417, pub. 6–7–66. Cl. 26.
Scarlett, Wm. G., & Co., Baltimore, Md. 700,627, canc. Cl. 46.
Scheinker, Ilya, New York, N.Y. 813,402, pub. 6–7–66. Cl. 23.
Schenley Industries, Inc., New York, N.Y. 700,662, canc. Cl. 50.
Schleicher G.m.b.H. & Co. Kommanditgesellschaft, Berlin, Germany. 813,356, pub. 6–7–66. Cl. 21.
Schumacher, Peter, Sons, Inc., Mishawaka, Ind. 813,664, pub. 6–7–66. Cl. 103.
Scioto Sign Co., Inc., Kenton, Ohio. 813,411, pub. 6–7–66. Multiple Class (Classes 26, 38, and 50).
Seapak Corp., St. Simons Island, Ga. 813,713. Cl. 46.
Seltzer, Louis N., Downingtown, Pa. 700,534, canc. Cl. 36.
Serder-Societe d'Etudes de Recherches de Diffusion et d'Exploitation, Levallois-Perret (Seine), France. 813,338, pub. 6–7–66. Cl. 18.
Service Warehouse Corp., Huntington, W. Va. 813,671, pub. 6–7–66. Cl. 105.
Servus Rubber Co., The, Rock Island, Ill. 813,480, pub. 6–7–66. Cl. 39.
Sesom Knitting Mills, Inc., New York, N.Y. 813,514, pub. 6–7–66. Cl. 42.
Set Screw & Mfg. Co., Bartlett, Ill. 813,383, pub. 6–7–66. Cl. 22.
Seymour of Sycamore, Inc., Sycamore, Ill. 813,311, pub. 6–7–66. Cl. 16.
Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany. 813,359, pub. 6–7–66. Cl. 21.
Singer Co., The: *See*—
Panoramic Radio Corp.
Shakey's Franchise Systems, Inc.: *See*—
Shakey's Inc.
Shakey's Inc., Burlingame, from Shakey's Franchise Systems, Inc., Sacramento, Calif. 813,634, pub. 6–7–66. Cl. 100.
Shamban, W. S., & Co., West Los Angeles, Calif. 813,465, pub. 6–7–66. Cl. 35.
Shander, Benjamin, Inc., Philadelphia, Pa. 700,582, canc. Cl. 39.
Shandex (Edinburgh) Ltd., Perth, Scotland. 700,655, canc. Cl. 48.
Shandex (Edinburgh) Ltd., Perth, Scotland. 700,656, canc. Cl. 48.
Shapiro, Joseph, d.b.a. The Placqu-Tray Co., Los Angeles, Calif. 813,718. Cl. 50.
Shari Candies Inc., Mankato, Minn. 813,549, pub. 6–7–66. Cl. 46.
Shelco, Inc., Needham, Mass. 813,719. Cl. 52.
Shell Oil Co., New York, N.Y. 813,265, pub. 6–7–66. Cl. 6.
Shetland Co., Inc., The, Salem, Mass. 813,247, pub. 6–7–66. Multiple Class (Classes 2, 4, and 21).
Shoe Corp. of America, Columbus, Ohio. 813,487, pub. 6–7–66. Cl. 39.
Shulof & Co., Inc., New York, N.Y. 700,299, canc. Cl. 1.
Shurfine Foods, Inc., Northlake, Ill. 813,534, pub. 6–7–66. Cl. 46.
Slavin, J. Edward, Woodbridge, Conn. 813,687, pub. 6–7–66. Cl. 107.
Sleep Shade Co.: *See*—
Hemphill, Edward, Co.
Slick Industrial Co., d.b.a. Illinois Shade Division of Slick Industrial Co., Chicago Heights, Ill. 813,255, pub. 6–7–66. Cl. 6.
Sloan, Earl S., Boston, Mass., to Standard Laboratories, Inc., Morris Plains, N.J. 54,295, ren. 8–23–66. Cl. 18.
Smith, William W., Poughkeepsie, N.Y., to Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 50,947, ren. 8–23–66. Cl. 18.
Smokers' Haven, Inc., Columbus, Ohio. 813,319, pub. 6–7–66. Cl. 17.
Societa Farmaceutici Italia, Milan, Italy. 700,398, canc. Cl. 18.
Societe Rhovyl, Paris, France. 813,238, pub. 6–7–66. Cl. 1.
Societe Rhovyl, Paris, France. 813,239, pub. 6–7–66. Cl. 1.
Societe Rhovyl, Paris, France. 813,240, pub. 6–7–66. Cl. 1.
Societe Rhovyl, Paris, France. 813,241, pub. 6–7–66. Cl. 1.
Societe Rhovyl, Paris, France. 813,242, pub. 6–7–66. Cl. 1.
Societe Rhovyl, Paris, France. 813,243, pub. 6–7–66. Cl. 1.
Societe Rhovyl, Paris, France. 813,430, pub. 6–7–66. Cl. 29.
Societe Rhovyl, Paris, France. 813,431, pub. 6–7–66. Cl. 29.
Societe Rhovyl, Paris, France. 813,432, pub. 6–7–66. Cl. 29.
Societe Rhovyl, Paris, France. 813,433, pub. 6–7–66. Cl. 29.
Societe Rhovyl, Paris, France. 813,434, pub. 6–7–66. Cl. 29.
Societe Rhovyl, Paris, France. 813,435, pub. 6–7–66. Cl. 29.
Societe Rhovyl, Paris, France. 813,498, pub. 6–7–66. Cl. 39.
Societe Rhovyl, Paris, France. 813,499, pub. 6–7–66. Cl. 39.
Societe Rhovyl, Paris, France. 813,500, pub. 6–7–66. Cl. 39.
Societe Rhovyl, Paris, France. 813,501, pub. 6–7–66. Cl. 39.
Societe Rhovyl, Paris, France. 813,502, pub. 6–7–66. Cl. 39.
Societe Rhovyl, Paris, France. 813,503, pub. 6–7–66. Cl. 39.
Societe Rhovyl, Paris, France. 813,508, pub. 6–7–66. Cl. 42.
Societe Rhovyl, Paris, France. 813,509, pub. 6–7–66. Cl. 42.
Societe Rhovyl, Paris, France. 813,510, pub. 6–7–66. Cl. 42.
Societe Rhovyl, Paris, France. 813,511, pub. 6–7–66. Cl. 42.
Societe Rhovyl, Paris, France. 813,512, pub. 6–7–66. Cl. 42.
Societe Rhovyl, Paris, France. 813,513, pub. 6–7–66. Cl. 42.
Societe Rhovyl, Paris, France. 813,525, pub. 6–7–66. Cl. 44.
Societe Rhovyl, Paris, France. 813,526, pub. 6–7–66. Cl. 44.
Societe Rhovyl, Paris, France. 813,527, pub. 6–7–66. Cl. 44.
Societe Rhovyl, Paris, France. 813,528, pub. 6–7–66. Cl. 44.
Societe Rhovyl, Paris, France. 813,529, pub. 6–7–66. Cl. 44.
Societe Rhovyl, Paris, France. 813,530, pub. 6–7–66. Cl. 44.
Solomon, Sanford E., d.b.a. New England Laboratory, Hartford, Conn. 700,598, canc. Cl. 39.
Southern Mill Equipment Corp., Charlotte, N.C. 813,700. Cl. 23.
Southern New England Ultraviolet Co., The: *See*—
Magnano, Frank N.
Southern States Cooperative, Inc., Richmond, Va. 813,712. Cl. 46.
Special Accident & Health Plans, Inc., New York, N.Y. 813,658, pub. 6–7–66. Cl. 102.
Speed-O-Print Business Machines Corp., Chicago, Ill. 813,418, pub. 6–7–66. Cl. 26.
Spider, Inc., Sudbury, Mass. 813,407, pub. 6–7–66. Cl. 23.
Spider, Inc., Sudbury, Mass. 813,425, pub. 6–7–66. Cl. 26.
Sporlan Valve Co., St. Louis, Mo. 423,439, ren. 8–23–66. Cl. 31.
Srader Sportswear, Inc., Mt. Pleasant, Tex. 700,586, canc. Cl. 39.
Stahlin Bros. Fibre Works, Inc., Belding, Mich. 813,366, pub. 6–7–66. Cl. 21.
Standard Gypsum Co., The, to Kaiser Gypsum Co., Inc., Oakland, Calif. 218,086, new cert. Cl. 10.
Standard Laboratories, Inc.: *See*—
Sloan, Earl S.
Standard, Louis G., d.b.a. Plastic Service Co., Los Angeles, Calif. 813,250, pub. 6–7–66. Multiple Class (Classes 3 and 37).
Standard Milling Co., to Standard Milling Co., Chicago, Ill., New York, N.Y., to Standard Milling Co., Kansas City, Mo. 425,605, ren. 8–23–66. Cl. 46.
State Upholstery Corp., Newburgh, N.Y. 700,522, canc. Cl. 32.
Stauffer Chemical Co., New York, N.Y. 813,258, pub. 6–7–66. Cl. 6.
Stauffer Chemical Co., New York, N.Y. 813,262, pub. 6–7–66. Cl. 6.
Stein, A., & Co., Inc., Chicago, Ill. 813,615, pub. 6–7–66. Cl. 51.
Stevens Aviation, Inc., Greer, S.C. 813,681, pub. 6–7–66. Cl. 107.
Stevens, Patricia, Inc., Chicago, Ill. 813,651, pub. 6–7–66. Cl. 101.
Stockton Mfg. Co., Inc., Dallas, Tex. 813,494, pub. 6–7–66. Cl. 39.
Stormer, Ray W., and Viola Stormer Linder, d.b.a. Lilac Lady Co., Searcy, Ark. 813,616, pub. 6–7–66. Cl. 51.

Storts, J. L., Co., Inc., Watertown, N.Y. 813,416, pub. 6–7–66. Cl. 26.
Sun Chemical Corp., New York, N.Y. 700,366, canc. Cl. 12.
Sun Chemical Corp., New York, N.Y. 813,254, pub. 10–9–62. Cl. 6.
Sun Chemical Corp., New York, N.Y. 813,278, pub. 6–7–66. Cl. 6.
Sun-Maid Raisin Growers of California, Kingsburg, Calif. 221,450, ren. 8–23–66. Cl. 46.
Sunsweet Growers, Inc., San Jose, Calif. 813,576, pub. 6–7–66. Cl. 46.
Superior's Brand Meats, Inc., Massillon, Ohio. 813,567, pub. 6–7–66. Cl. 46.
Supradur Mfg. Corp., Wind Gap, Pa. 813,287, pub. 6–7–66. Cl. 12.
Sverdrup & Parcel and Associates, Inc., St. Louis, Mo. 813,645, pub. 6–7–66. Cl. 100.
Swiss American Precision Imports, Inc., Playa Del Rey, Calif. 813,524, pub. 6–7–66. Cl. 44.
Syntex Laboratories, Inc., Palo Alto, Calif. 813,330, pub. 6–7–66. Cl. 18.
Synvar Corp., Wilmington, Del. 813,233, pub. 6–7–66. Multiple Class (Classes 1 and 5).
Syracuse Ornamental Co., Syracuse, N.Y., to Rexall Drug and Chemical Co., d.b.a. Syroco, Los Angeles, Calif. 422,195, ren. 8–23–66. Cl. 32.
Syracuse Ornamental Co., Syracuse, N.Y., to Rexall Drug and Chemical Co., d.b.a. Syroco, Los Angeles, Calif. 422,566, ren. 8–23–66. Cl. 40.
Syroco: *See*—
Syracuse Ornamental Co.
Talon, Inc., Meadville, Pa. 813,299, pub. 6–7–66. Cl. 13.
Talon, Inc., Meadville, Pa. 813,305, pub. 6–7–66. Cl. 13.
Talon, Inc., Meadville, Pa. 813,306, pub. 6–7–66. Cl. 13.
Tarry 'N Taste, Inc., Westwood, Mass. 813,563, pub. 6–7–66. Cl. 46.
Taylor Provisions Co., The, Trenton, N.J. 813,638, pub. 6–7–66. Cl. 100.
Tecla, Inc., New York, N.Y. 813,630, pub. 6–7–66. Cl. 52.
Tel-E-Lect, Inc., Minneapolis, Minn. 813,349, pub. 6–7–66. Cl. 19.
Temme Spring Corp., Chicago, Ill. 374,582, canc. Cl. 23.
Tensor Corp., Brooklyn, N.Y. 813,370, pub. 6–7–66. Cl. 21.
Thibaut & Walker Co., Inc., The, Newark, N.J. 813,312, pub. 6–7–66. Cl. 16.
Thomas and Howard Co.: *See*—
Thomas & Howard Co. of Charleston, Inc.
Thomas & Howard Co. of Charleston, Inc., d.b.a. Thomas and Howard Co., Charleston Heights, S.C. 813,543, pub. 6–7–66. Cl. 46.
Tiny Tim (Petfoods) Ltd., Northumberland, England. 813,711. Cl. 46.
Transvan, Inc., Seattle, Wash. 813,669, pub. 6–7–66. Cl. 105.
Trius Products, Inc., Cleves, Ohio. 813,693. Cl. 9.
Trostel, Albert, & Sons Co., Milwaukee, Wis. 813,236, pub. 6–7–66. Cl. 1.
Trostel, Albert, & Sons Co., Milwaukee, Wis. 700,292, canc. Cl. 1.
Trostel, Albert, & Sons Co., Milwaukee, Wis. 700,293, canc. Cl. 1.
Trostel, Albert, & Sons Co., Milwaukee, Wis. 700,294, canc. Cl. 1.
Trostel, Albert, & Sons Co., Milwaukee, Wis. 700,295, canc. Cl. 1.
Tru-Ade Co., The, Elgin, Ill. 813,706. Cl. 45.
Tuboscope Co.: *See*—
AMF Tuboscope Inc.
Tugalo Poultry Co., The: *See*—
Crenshaw, Theodore A.
Tupperware: *See*—
Rexall Drug and Chemical Co.
Tussy Cosmetics: *See*—
Lehn & Fink Products Corp.
Uhu-Werk H. & M. Fischer, Buehl/Baden, Germany. 813,321. pub. 6–7–66. Multiple Class (Classes 18 and 51).
Union Carbide Corp., New York, N.Y. 700,302, canc. Cl. 1.
Union Carbide Corp., New York, N.Y. 700,303, canc. Cl. 1.
Union Carbide Corp., New York, N.Y. 701,371. Am. 7(d). Cl. 28.
United Biscuit Co. of America: *See*—
Keebler Weyl Baking Co.
United Press International, Inc., New York, N.Y. 700,562, canc. Cl. 38.
U.S. Department of the Interior, Washington, D.C. 813,641, pub. 6–7–66. Cl. 100.
United States Jaycees, The, Tulsa, Okla. 813,475, pub. 6–7–66. Cl. 38.
U.S. Line Co.: *See*—
United States Whip Co.
United States Rubber Co., New York, N.Y. 133,856, canc. Cl. 20.
United States Rubber Co., New York, N.Y. 378,085, canc. Cl. 21.
United States Whip Co., d.b.a. U.S. Line Co., Westfield, Mass. 813,275, pub. 6–7–66. Cl. 6.
Universal Oil Products Co., Des Plaines, Ill. 813,276, pub. 6–7–66. Cl. 6.
V.M.E. Corp., Saginaw, Tex. 813,550, pub. 6–7–66. Cl. 46.
V.M.E. Corp., Saginaw, Tex. 813,562, pub. 6–7–66. Cl. 46.
Vail Spring Works, Inc., Norfolk, Va. 813,667, pub. 6–7–66. Cl. 103.
Varian Associates: *See*—
Eitel-McCullough, Inc.
Varsity Drive Inns Restaurants, Inc., State College, Pa. 813,644, pub. 6–7–66. Cl. 100.
Velsicol Chemical Corp.: *See*—
Velsicol Corp.
Velsicol Corp., to Velsicol Chemical Corp., Chicago, Ill. 425,674, ren. 8–23–66. Cl. 6.
Velsicol Corp., to Velsicol Chemical Corp., Chicago, Ill. 425,676, ren. 8–23–66. Cl. 6.
Vick Chemical Co., New York, N.Y. 700,421, canc. Cl. 18.
Victor Talking Machine Co., Camden, N.J., to Radio Corp. of America, New York, N.Y. 215,794, ren. 8–23–66. Cl. 36.
Videomark Instrument Corp., Hawthorne, Calif. 813,419, pub. 6–7–66. Cl. 26.
Virittrol Corp., Bethesda, Md. 700,441, canc. Cl. 21.
Walnut Valley Industries, Inc., Columbia, N.J. 813,390, pub. 6–7–66. Cl. 22.
Waltham Watch Co., Chicago, Ill. 813,429, pub. 6–7–66. Cl. 28.
Warner-Lambert Pharmaceutical Co.: *See*—
Smith, William W.
American Chicle Co.
Warren Publishing Co.: *See*—
Central Publications, Inc.
Weiser, Bernard, Weatogue, Conn. 813,283, pub. 6–7–66. Cl. 9.
Weld Tooling Corp., Pittsburgh, Pa. 813,460, pub. 6–7–66. Cl. 34.
Weld Tooling Corp., Pittsburgh, Pa. 813,459, pub. 6–7–66. Cl. 34.
Welding Equipment & Supply Co., Detroit, Mich. 809,259, cor. Cl. 34.
Weller, Erwin, Co., Sioux City, Iowa. 813,382, pub. 6–7–66. Cl. 22.
Western Co. of North America, The, Fort Worth, Tex. 813,637, pub. 6–7–66. Cl. 100.
Western Pancake Houses, Inc., Colorado Springs, Colo. 700,674, canc. Cl. 100.
Western States Ceramic Corp., Sacramento, Calif. 813,288, pub. 6–7–66. Cl. 12.
Western Supply Co.: *See*—
Wood, Clifton.
West Chemical Products, Inc., Long Island City, N.Y. 813,627, pub. 6–7–66. Cl. 52.
West Shore Products Inc., Holland, Mich. 700,625, canc. Cl. 46.
Whaling City Marine Co., Inc., New Bedford, Mass. 813,297, pub. 6–7–66. Cl. 13.
Wheel Horse Products, Inc., South Bend, Ind. 813,400, pub. 6–7–66. Cl. 23.
Whetstone, H. M., & Co.: *See*—
Whetstone, Henry M.
Whetstone, Henry M., d.b.a. H. M. Whetstone & Co., St. Augustine, Fla. 813,309, pub. 6–7–66. Cl. 16.
White Motor Corp.: *See*—
Reo Car Co.
White Laboratories, Inc.: *See*—
National Oil Products Co.
White Products Corp., Middleville, Mich., from Lamb Industries, Inc., Toledo, Ohio. 813,452, pub. 6–7–66. Cl. 34.
White, Roger B., Cleveland Heights, to The Glastic Corp., Cleveland, Ohio. 423,453, ren. 8–23–66. Cl. 23.
Wiedemann Machine Co., King of Prussia, Pa. 700,489, canc. Cl. 23.
Wilde, Herman E., d.b.a. Herman E. Wilde Chemical Co., Westfield, N.J. 700,339, canc. Cl. 6.
Wilde, Herman E., Chemical Co.: *See*—
Wilde, Herman E.
Wilmarth, Frank L., Co., East Providence, R.I. 813,428, pub. 6–7–66. Cl. 28.
Wilson, John E., d.b.a. Wilson Co., Shreveport, La. 813,244, pub. 6–7–66. Cl. 1.
Wilson, Woodrow, Co.: *See*—
Ressel, O. O.
Williams-McWilliams Industries, Inc., New Orleans, La. 700,633, canc. Cl. 46.
Williamson, Floyd M., Detroit, Mich. 700,313, canc. Cl. 2.
Wilson Co.: *See*—
Wilson, John E.
Wilson & Co., Inc., Chicago, Ill. 700,687, canc. Cl. 107.
Wimpfheimer, A., and Bro., New York, N.Y., to A. Wimpfheimer & Bro. Inc., Stonington, Conn. 50,772, ren. 8–23–66. Cl. 42.
Wimpfheimer, A., & Bro. Inc.: *See*—
Wimpfheimer, A., and Bro.
Winchester Repeating Arms Co., New Haven, Conn., to Olin Mathieson Chemical Corp., New York, N.Y. 53,994, ren. 8–23–66. Cl. 9.
Witco Chemical Co., Chicago, Ill., to Witco Chemical Co., Inc., New York, N.Y. 421,305, ren. 8–23–66. Cl. 6.
Witco Chemical Co., Inc.: *See*—
Witco Chemical Co.
Witter, Dean, & Co., San Francisco, Calif. 813,661, pub. 6–7–66. Cl. 102.
Wolf Bros. and Co., The, Cincinnati, Ohio, to American Girl Shoe Co., Boston, Mass. 56,100, ren. 8–23–66. Cl. 39.
Wolf, Dr. Chas. R., d.b.a. Eyes Right, Indianapolis, Ind. 813,474, pub. 6–7–66. Cl. 38.
Wood, Clifton, d.b.a. Western Supply Co., Ardmore, Okla. 700,317, canc. Cl. 3.
Woolworth, F. W., Co., New York, N.Y. 700,696, canc. Cl. 27.
Wright, J. A., & Co., Keene, N.H. 813,252, pub. 6–7–66. Multiple Class (Classes 4 and 52).
Wurlitzer Co., The: *See*—
Wurlitzer, Rudolph, Co.
Wurlitzer, Rudolph, Co. The Wurlitzer Co., Chicago, Ill. 214,557. Am. 7(d). Cl. 36.
Wyandotte Chemicals Corp., Wyandotte, Mich. 813,629, pub. 6–7–66. Cl. 52.
Young Drug Products Corp., from Youngs Rubber Corp., New York, N.Y. 813,590, pub. 6–7–66. Cl. 51.
Youngs Rubber Corp.: *See*—
Young Drug Products Corp.
Zayre Corp., Natick, Mass. 813,522, pub. 6-7-66. Cl. 44.
Zenith Radio Corp., Chicago, Ill. 813,520, pub. 6–7–66. Cl. 44.

U.S. GOVERNMENT PRINTING OFFICE: O—1966

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
August 30, 1966 Volume 829 Number 5

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of July 1966

Examiner affirmed	215
Examiner affirmed in part	49
Examiner reversed	63
Total	327

Extensions of Time

It is ordinarily desirable that notice of the action taken by the Patent Office on requests for extension of time be communicated to the persons making the requests as soon as is reasonably possible. In order to improve Patent Office service to patent and trademark applicants in this regard, the following procedure is being instituted effective immediately. If a request for extension of time is filed in duplicate and accompanied by a stamped return-addressed envelope, the Office will indicate the action taken on the duplicate and return it promptly in the envelope. Utilization of this procedure is optional on the part of applicant.

EDWARD J. BRENNER,
Commissioner of Patents.

Aug. 3, 1966.

Second Action Rejection

Effective Sept. 1, 1966, on a trial basis until further notice, second actions on the merits will not be made final where the Examiner introduces new art or a new ground of rejection not necessitated by an amendment or change in the claims or specification. Also, a shortened statutory period of three months will be set in such actions. The third action should then be made final and include a three-month shortened statutory period. Thus, no shortened statutory period in excess of three months will be set in any action.

RICHARD A. WAHL,
Assistant Commissioner

Discontinuation of a Service by Mail Room

Effective Sept. 1, 1966, the privilege that has been extended to applicants and their representatives with respect to personal service in the Mail Room will be modified. Amendments and other papers may continue to be hand delivered to the Mail Room where they will be dated and then processed in the normal manner. However, in the interest of Office efficiency, the special privilege of having these documents returned to the applicant or his representative for the purpose of hand delivery to other Branches or Examining Groups will be discontinued. If it is considered necessary to discuss the subject matter of any document that has been officially deposited in the Mail Room, it would be appropriate to use a copy of the document for that purpose.

EDWARD J. BRENNER,
Commissioner.

Aug. 8, 1966.

Patents Available for Licensing or Sale

3,067,310. MICROFILM ELECTRIC HEATERS. Frank C. Wals, et al. Correspondence to: Anderson, Spangler & Wymore, Suite 2114, 1700 Broadway, Denver, Colo., 80202.

3,215,917. ELECTRICALLY-DRIVEN TIMING DEVICE. Willard E. Buck. Correspondence to: Anderson, Spangler & Wymore, Suite 2114, 1700 Broadway, Denver, Colo., 80202.

3,230,823. EASEL FOR PRINTING A PLURALITY OF PHOTOGRAPHS. Nicholas Krassopoulos, 8 Abbott St., Worcester, Mass., 01602.

3,256,107. TRANSFER SHEET. Kores Manufacturing Corp., New York, N.Y. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,256,108. TRANSFER SHEET. Kores Manufacturing Corp., New York, N.Y. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,258,992. RECIPROCATING PISTON ENGINES. John L. Hittell, 1205 Virginia, De Ridder, La.

3,259,310. RATIO INDICATOR. Jean D. Rochfort, 385 Royal Ave., Box 192, Simi, Calif.

3,259,915. DOUBLE SOCK. Stanley W. Dison, 5221 Carmen Way, Sacramento, Calif., 95822.

3,263,261. NON-GLARE COVER FOR WINDSHIELD WIPER ARM. Lear W. Schuls, 1852 N. 84th St., Omaha, Nebr., 68114.

3,266,836. MULTI-PURPOSE TRAILERS. Chester F. Taylor, et al. Correspondence to: Fred Fisher, 630 Benner Road, Allentown, Pa., 18104.

General Electric Company is prepared to grant non-exclusive licenses under the following 19 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 4 patents may be addressed to: Division Patent Counsel, Power Transmission Division, General Electric Company, 6901 Elmwood Ave., Philadelphia, Pa., 19142.

3,257,591. PLUG TYPE PROBE FOR CAPACITIVELY MEASURING SURFACE FLATNESS SURROUNDING CIRCULAR HOLE IN METAL PLATE.

3,076,081. CONDITION-RESPONSIVE INDICATING MEANS FOR AN ELECTRIC CIRCUIT BREAKER.

3,105,172. ELECTRIC CIRCUIT BREAKER.

3,152,283. ELECTRIC CIRCUIT BREAKER.

Applications for license under the following 6 patents may be addressed to: Patent Counsel, Power Generation Division,

New Applications Received During July 1966

Patents	6925
Designs	380
Plant Patents	2
Reissues	14
Total	7321

Issue—August 30, 1966

Patents	1440	No. 3,268,911 to No. 3,270,350, incl.
Designs	42	No. 205,609 to No. 205,650, incl.
Plant Patents	1	No. 2,666
Total	1483	

General Electric Company, 1 River Road, Bldg. #53, Schenectady 5, N.Y.

3,163,009. BOILER FEED PUMP ARRANGEMENT FOR STEAM TURBINE POWERPLANT.

3,185,854. TURBINE GENERATOR.

3,199,293. TWO-SHAFT GAS TURBINE CONTROL SYSTEM.

3,224,262. TORQUE METER.

3,248,596. GAS TURBINE POWER SYSTEM STABILIZER.

3,243,622. RETAINER FOR CONDUCTORS IN SLOTS.

Applications for license under the following 9 patents may be addressed to: General Electric Company, Component Products Division, 1635 Broadway, Fort Wayne, Ind., Attn: Patent Counsel.

3,100,827. THERMALLY RESPONSIVE SWITCH.

3,133,452. DRIVE MECHANISM.

3,243,727. SEMICONDUCTOR INVERTER CIRCUIT WITH VOLTAGE REDUCING MEANS.

3,244,962. SILICON CONTROLLED RECTIFIER CIRCUIT WITH FIRING MEANS EMPLOYING SERIALLY CONNECTED LINEAR AND SATURABLE REACTORS.

3,249,806. PHASE CONTROL CIRCUITS AND SYSTEMS FOR CONTROLLING POWER TO ELECTRIC DISCHARGE LAMPS.

3,251,015. MINIATURE MAGNETIC CORE AND COMPONENT ASSEMBLIES.

3,256,402. SWITCH RELAY FOR USE IN ELECTRIC MOTORS.

3,256,403. SWITCH RELAY FOR USE IN DYNAMOELECTRIC MACHINES.

Re 25,989. DIMMING SYSTEM FOR GASEOUS DISCHARGE LAMPS.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JULY 1, 1966

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7-1-63	11-14-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—G. D. MITCHELL, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	1-29-63	2-20-61
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	7-1-63	4-13-62
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	7-1-63	7-11-60
COMPOSITIONS AND MOLDING, GROUP 150—M. STERMAN, Manager Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	7-23-63	2-26-60
COATING AND LAMINATING, GROUP 160—J. R. LIBERMAN, Manager Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	6-4-63	12-4-61
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	11-16-62	10-11-61
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1-11-63	12-18-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER AND ELEMENTS, GROUP 210—M. L. LEVY, Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	12-31-62	10-19-61
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	8-26-63	1-16-62
INFORMATION TRANSMISSION, GROUP 230—E. J. SAX, Manager Communications; Multiplexing Techniques; Facsimile and Related Art.	4-4-63	12-22-61
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—E. J. SAX, Manager Data Processing, Computation and Conversion; Storage Devices and Related Art.	12-28-62	2-6-61
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—F. M. STRADER, Manager Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	12-17-62	7-31-61
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager Optics; Radiant Energy; Measuring.	1-8-63	8-8-61
PHYSICS, GROUP 280—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	9-18-63	10-25-62
DESIGNS, GROUP 290—S. BOYD, Manager Industrial Arts; Household, Personal and Fine Arts.	5-17-65	9-21-64

Total number of pending applications (excluding Designs)	196,314
Total number of Design applications pending	4,534
Total number of applications awaiting action (excluding Designs)	145,101
Total number of Design applications awaiting action	2,563
Date of oldest new application awaiting action	Nov. 16, 1962
Date of oldest amended application awaiting action	Feb. 26, 1960

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during August 1966, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1965*.

Patents ..... Numbers 2,477,558 to 2,490,820, inclusive

Plant Patents ..... Numbers 858 to 869, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	10-5-64	2-19-64
MANUFACTURING; METAL, PLASTICS WORKING; MACHINE TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders.	3-3-64	3-6-62
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	7-7-64	4-30-63
FLUID HANDLING, GROUP 360—T. J. HICKEY, Manager Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	5-18-64	11-7-62
HEAT AND POWER ENGINEERING, GROUP 370—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration, Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	8-17-64	11-14-63
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, Etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletry.	10-14-63	1-3-62
CIVIL ENGINEERING, GROUP 420—T. J. HICKEY, Manager Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	7-1-64	6-25-62
TEXTILES AND APPAREL, GROUP 440—W. S. COLE, Manager Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	7-1-64	6-21-62
TRANSPORTATION, GROUP 450—A. BERLIN, Manager Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	7-16-64	7-22-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	7-1-64	1-24-63
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—A. RUEGG, Manager Printing; Typewriters; Stationery; Material Treatment.	7-1-64	7-25-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE WILBUR F. CHAPMAN AND JOHN N. COSBY

No. 7412. Decided March 17, 1966

[53 CCPA —; 357 F.2d 418; 148 USPQ 711]

1. PATENTABILITY—COMBINING REFERENCES—OBVIOUSNESS.

"We think this argument overlooks the fact that one rejection is based on both Noeske and Hoerger. While it might be surprising, in view of the Noeske disclosure, to find *no* charring if *low* molecular weight polyethylene were directly chlorinated at temperatures of about 60° C. and above without the use of a pulverulent diluent, this is not appellants' invention. Whether one skilled in the art, looking at Noeske *alone*, might expect the product to char if a polyethylene of 1,000,000 to 5,000,000 molecular weight were used, we need not say, for we believe the total disclosure of Noeske and Hoerger suggests that it would not."

2. SAME—COMPOUND—OBVIOUSNESS.

"We do not agree with the Board that a high molecular weight polyethylene of Hoerger should have been substituted for the polyethylene of Noeske if comparative data are to be presented for this, we think, would amount to requiring comparison of the results of the invention with the results of the invention. Nor can we agree that appellants' compositions are unpatentable because such a process 'would inherently yield' a product substantially the same as that claimed, since that position implies that any and all products of obvious processes are unpatentable by reason of their being the 'inherent' results of those processes. The issue is simply obviousness of a composition of matter and we do agree with the Board's decision on that issue."

3. SAME—AFFIDAVIT—COMPARATIVE TESTS SHOULD BE WITH CLOSEST PRIOR ART.

"* * * comparing the claimed polymers with the closest polymer of Noeske, i.e. one of 300,000 molecular weight, would have been the most meaningful comparison in all respects and is what, we think, appellants should have done if comparative data were to be relied upon for patentability."

4. SAME—REFERENCE—DISCLOSURE NOT LIMITED TO ILLUSTRATIVE EXAMPLES.

"A reference can be used for all it realistically teaches, and is not limited to the disclosures in its specific illustrative examples. *In re Widmer*, 53 CCPA —, 353 F.2d 752, 147 USPQ 518, at 523."

5. SAME—COMPOUND—OBVIOUSNESS—PRIMA FACIE CASE OF OBVIOUSNESS.

"* * * while appellants have urged patentability of their claimed polymers on the basis of selected portions of Noeske and Hoerger, they have overlooked other and more relevant disclosures in those references. Considering all of the evidence of record including the close structural similarity, the similar method of making the polymers, the similar properties and uses, we think the Examiner has established a prima facie case of obviousness of the claimed invention. Appellants' evidence and arguments have failed to rebut that case."

6. SAME—PARTICULAR SUBJECT MATTER—"HIGH STRENGTH CHLORINATED POLYETHYLENE AND PROCESS FOR PREPARING THEM."

The refusal of certain claims in an application entitled "High Strength Chlorinated Polyethylenes and Process for Preparing Them," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 819,106.

AFFIRMED.

Elizabeth Hunter, *George B. Campbell*, *Arnold B. Christen* for appellants.

Clarence W. Moore (*Raymond E. Martin* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the Examiner's rejection of product claims 1 to 4 and process claims 5, 6 and 8 in application Serial No. 819,106, filed June 9, 1959, for "High Strength Chlorinated Polyethylenes and Process for Preparing Them." No claim is allowed.

Appellants invented improvements in the art of chlorinating polyethylenes. Their application points out that while it is known to chlorinate polyethylenes having a wide variety of structures and molecular weights to obtain resins useful in many applications, such prior art chlorinated polyethylenes are "generally lacking in the high strength characteristics required for the purposes served by the more expensive, rubber-like thermoplastic resins of the polyvinyl and polyvinylidine chloride types." This lack has been due, according to appellants, in part to an inherent lack of these properties in the polyethylene materials chlorinated and in part to degradation of the polyethylene molecules during chlorination, resulting in products of low molecular weights.

According to appellants' brief, by the "combined factors of using as starting materials high molecular weight polyethylenes which themselves have high tensile strengths, and subjecting these polyethylenes to chlorination under such conditions as to minimize molecular weight degradation and consequent loss of strength characteristics" appellants have produced chlorinated polyethylenes alleged to possess "outstanding high [tensile] strength characteristics * * *, rendering the resulting products useful in the production of films, coatings, floor coverings and wall coverings of high strength and durability." Appellants emphasize the importance of maintaining the rate of chlorination "within relatively narrow limits" to minimize molecular weight degradation.

Claims 1 and 5, to the product and process, read:

1. A chlorinated polyethylene resin having a chlorine content between about 25% and about 65% by weight, molecular weight characteristics such that its intrinsic viscosity as measured in o-dichlorobenzene at 100° C. is not less than about 1.8, chemically inert, insoluble in organic solvents at 20–25° C., having a tensile strength value according to ASTM Method D–638–58T of at least about 3,000 and equal to at least about 100 times the weight percent chlorine in the resin, having a true ultimate tensile value of at least about 8,000, and having an infrared spectrogram showing characteristic absorption peaks at the following wave length: 3.42 to 3.5 microns; 3.38 to 3.48 microns; 6.8 to 6.9 microns; and at 7.8 to 7.9 microns.

5. A process for producing chlorinated polyethylene resins of high strength characteristics which comprises contacting, in finely divided porous powder form, a polyethylene having a weight average molecular weight between about 1,000,000 and about 5,000,000, density between about 0.935 and about 0.985, with a chlorine-containing gas containing chlorine and an inert gas in a ratio of not less than about 0.5 part of inert gas per part of chlorine by weight, at temperatures between about 40° C. and about 100° C., and continuing the contacting until the resulting chlorinated product contains between about 25% and about 65% chlorine by weight, said conditions of temperature, chlorine to inert gas ratio and degree of chlorination being so correlated that the rate of chlorination in terms of weight gain per hundred unit weights of reacting charge per hour is between about 0.5 and about 15.0.

Claims 2, 3 and 4 are dependent on claim 1 and recite further limitations such as an absorption peak at 13.88 microns (claims 2 and 3), a narrower range of chlorine content in the resinous products (claim 2), an intrinsic viscosity range between about 4.0 and about 3.0 (claim 2), higher lower limits for tensile strength and ultimate tensile strength (claim 2), intensity values for certain absorption peaks (claim 3), and the existence of the resin in "particulate form" (claim 4), the particles having densities within a range of about 1.15 and about 1.65.

Claim 6 is dependent on claim 5 and calls for maintaining the temperature between about 40° C. and about 50° C. until the chlorine content is between about 20% and about 30% and then raising the temperature and maintaining it between about 60° C. and about 90° C. until a chlorine content of about 45% to about 65% has been reached.

Claim 8 is independent and defines a method for producing a chlorinated polyethylene having the chlorine content and strength characteristics of the resin defined by claim 2, by a process such as that defined by claim 5.

The references relied on are:

Hoerger et al., 2,913,449, November 17, 1959.

Noeske, 2,928,819, March 15, 1960.

Noeske is entitled "Process for the Chlorination of Polyethylene" and discloses a process for treating solid, powdered, low molecular weight (i.e., about 100,000 to about 300,000) polyethylene, at temperatures up to about 110° C., with gaseous chlorine diluted, if desired, with inert gases. Noeske admixes a pulverulent inert-to-chlorine material such as magnesia, anhydrous magnesium sulfate, anhydrous aluminum sulfate, anhydrous sodium sulfate, or sodium chloride, with the powdered polyethylene prior to chlorination, thereby permitting the use of higher reaction temperatures and consequent shorter reaction times, without entailing the risk of charring the product because of the evolution of excessive heat. Noeske says that prior to his work it had been difficult to obtain products having a chlorine content above about 40% by weight because extremely long chlorination periods were required. The degree of chlorination disclosed by Noeske ranges from 52% in Example 1 to 69% in Example 6. The actual temperatures employed range from 50° C. in Example 7 to 105° C. in Example 6. In six of Noeske's eight examples, a constant weight ratio of nitrogen to chlorine of 0.4 is employed; and, in the other two, a nitrogen to chlorine ratio by weight ranging initially from 2.0 to 0.5 after five hours is used. The highest percent chlorination at the end of this period appears to be about 32, the reaction temperature being about 65° C. throughout.

Hoerger discloses a process for chlorinating a high molecular weight polyolefin by a so-called "conjoint halogenation technique." Finely divided powdered polyethylene sequentially undergoes "direct" chlorination with a mixed stream of chlorine and nitrogen, this step ordinarily being employed first, and a "solution chlorinating" step. The chlorination of polyethylene, polypropylene, polybutylene, and other polyolefins having linear, unbranched molecular structures is disclosed, such starting materials having molecular weights "usually from at least 40,000 to as much as 500,000 and 3,000,000 and greater." Specifically disclosed is the *direct* chlorination of *polyethylene*, "especially that having a relatively high molecular weight of from 40,000 to 500,000 and greater * * * by subjecting the agitated, free-flowing mass of polymer to an atmosphere of chlorine at a temperature between about room temperature and about 85° C." to provide a product having "any desired halogen content to as great as about 80 percent or more by weight * * *."

It is unnecessary to discuss Hoerger's "solution chlorination" process beyond noting that chlorinated polyethylenes obtained by such a process have "a more uniform distribution of the substituent chlorine atoms along the polymer molecule" than is usually the case, and also have "greater elongations and elasticities than may be obtained in products chlorinated by other methods."

The Process Claims

The Examiner's position is thus stated in his answer:

Noeske shows all of the features of the process claims, except for the molecular weight of the starting polyethylene. With respect to said starting materials, Noeske contemplates treating polyethylenes prepared by the Ziegler process (column 1, lines 41–50) which process is known to produce polyethylenes of the claimed density. The molecular weights are not held to be critical by Noeske and the highest molecular weight shown is 300,000 (Example 8) apparently determined viscosimetrically as in Example 1. In Example 8 (compared with claim 5 on appeal), the powdered (see claim 1) polyethylene is treated at 80° C. for 12 hours with a gas containing chlorine and initially 5 parts by volume of nitrogen per volume of chlorine or about 2 parts by weight. Based on the table at column 4, lines 15–19, the rate of chlorine addition is on the order of 4% per hour during the first 12 hours. At the end of 12 hours the chlorine content is 43% and at 20 hours 61%, both contents falling within the scope of applicants' claim 5. Claim 6 which requires the initial chlorination to be performed at between 40 and 50° C. and later between 60 and 90° C. is deemed anticipated by the raising of the chlorination temperature in later stages of chlorination in Examples 1–3, 5, 6 and 8 of the reference. The determination of the exact temperatures to use in each stage is deemed well within the skill of the art. Claim 8 is further limited to a chlorine content of 45%–55%, but this is anticipated by the chlorine content of 53% after 16 hours in Example 8 and by the final products of Examples 1, 2 and 3.

It is admitted that Noeske does not specifically disclose the treatment of polyethylenes having weight average molecular weights of as high as 1,000,000. However it is deemed obvious to treat other known polyethylenes (the instant polyethylenes have not been alleged to be novel) by the process of Noeske. This conclusion is deemed further supported by Hoerger et al. who discloses the chlorination (in another manner) of polyolefins including polyethylenes having a molecular weight as high as 3,000,000 (column 1, lines 50–61). It is deemed obvious to substitute the olefins of Hoerger et al. for those of Noeske.

Without passing on the Examiner's finding that certain claims are "anticipated," we otherwise agree with his reasoning and ultimate conclusions, adopted in essence by the Board. We also express our agreement with the Examiner and Board, by way of responding to appellants' contention that Noeske requires the presence of an added solid pulverulent diluent substance, that (1) appellants' claims are sufficiently broad to include the use of such a substance and (2) portions of Noeske's Examples 1 and 7 disclose processes (for comparison purposes) wherein the added pulverulent material is omitted.

We have considered appellants' remaining arguments, many of which go to the question of novelty, not obviousness, but are unable to agree that the Board's decision should be reversed. Their most noteworthy contention, we think, is:

Although the differences in Noeske's and applicants' conditions may appear slight, they spell the difference between failure (Noeske), who obtained a charred product in the absence of powdered diluent, and success by the applicants' procedure * * *. The Noeske disclosure thus leads away from the applicants' process of chlorination, which does not depend upon the presence of added inert material, yet may be performed at temperatures as high as 100° C. with his controlled chlorine dilution.

[1] We think this argument overlooks the fact that one rejection is based on both Noeske and Hoerger. While it might be surprising, in view of the Noeske disclosure, to find *no* charring if *low* molecular weight polyethylene were directly chlorinated at temperatures of about 60° C. and above without the use of a pulverulent diluent, this is not appellants' invention. Whether one skilled in the art, looking at Noeske *alone*, might expect the product to char if a polyethylene of 1,000,000 to 5,000,000 molecular weight were used, we need not say, for we believe the total disclosure of Noeske and Hoerger suggests that it would not.

The Product Claims

Notwithstanding the Solicitor's urging that product claims 1 to 4 should stand or fall with process claims 5, 6 and 8, and that all claims should stand or fall with process claim 5, we consider the question of the patentability of those products to be a separate issue, to which we now turn.

We again consider the rejection on the disclosures of both Noeske and Hoerger. The Examiner's answer says:

It is deemed that in view of the similarity in preparation, the claimed polymers must be the same as the Noeske polymers except for properties that are the result of treating a higher molecular weight starting material. *Ex parte Fryling et al.*, 723 OG 5. Applicants, in an affidavit submitted February 9, 1962 have shown certain properties * * * for a polymer [1] having a molecular weight of 170,000 chlorinated in the manner taught by Noeske. Of the properties compared in the affidavit, ultimate elongation does not appear in the claims, ultimate tensile strength falls somewhat short of the claimed limitation, "equal to at least about 100 times the weight percent chlorine content" and the true [ultimate] tensile strengths of 8,677 and 12,080 compared with "at least about 8,000" in claim 1 and "at least about 10,000" in claim 2. The claims also recite an intrinsic viscosity limitation, and since this corresponds to molecular weight, it is presumably not met by the lower molecular weight polymers of Noeske.

In view of the fact that the polyethylene of the affidavit is lower in molecular weight than the highest molecular weight polyethylene of Noeske and in view of the use of "about" with respect to the limitations of the claims, the difference between the properties of the Noeske polymer and the properties specified in the claims is not apparent. At any rate, the diferences are not considered to be differences in kind and have not been shown to be due to a factor other than the use of a higher molecular weight starting material, which is obvious as explained with respect to the rejection of the process claims.

The Board added:

* * * the affidavit is silent as to the results obtained when the high molecular weight polyethylene of Hoerger et al. is substituted for the polyethylene of Noeske. This is the essence of the Examiner's rejection and it would appear that such a substitution would inherently yield a product substantially the same as that claimed.

[2] We do not agree with the Board that a high molecular weight polyethylene of Hoerger should have been substituted for the polyethylene of Noeske if comparative data are to be presented for this, we think, would amount to requiring comparison of the results of the invention with the results of the invention. Nor can we agree that appellants' compositions are unpatentable because such a process "would inherently yield" a product substantially the same as that claimed, since that position implies that any and all products of obvious processes are unpatentable by reason of their being the "inherent" results of those processes. The issue is simply obviousness of a composition of matter and we do agree with the Board's decision on that issue.

[1] Two runs were made, giving polymers containing 47.5% and 56.9% chlorine respectively.

In describing his *directly* chlorinated products, Hoerger says the resultant chlorine distribution in the polymer chain is "more intermittent, non-statistical * * * block-like," and states that "as many as four adjacent methylene groups may be found at random points in the polymer molecule." Products obtained by the "direct" method are said to "have *greater tensile strengths and rigidities*" than products obtained by other methods. [Emphasis ours.] Hoerger goes on to say:

> The halogenated, and particularly the chlorinated products of the present invention have felicific typical properties and characteristics which usually include good elastomeric propensities, generally satisfactory elongations and excellent tensile strengths. Although the properties of the various products that may be obtained by practice of the duplex halogenating procedure of the present invention are dependent and tend somewhat to be patterned after the properties attributable to the predominant type of substitution that is effected, they are not necessarily average or linearly proportionate values that are strictly predictable on the percentage of combined chlorine or other halogen that has been attached during either the direct or the solution step of the total halogenation procedure. This point is further illustrated in the subsequent examples contained herein. In this connection, however, particularly desirable halogenated products, especially chlorinated products, may usually be prepared when the predominant proportion of the total combined halogen has been attached by block distribution-favoring direct halogenating techniques. *Such products ordinarily are characterizable in having high tensile strengths and desirable, moderate degrees of elongatability.* [Emphasis ours.]

By using the conjoint halogenation technique, Hoerger obtained products having tensile and elongation properties intermediate those of the products obtained through use of "direct" or "solution" chlorination processes alone.

In response to the Examiner's rejection, appellants submitted a Rule 132 affidavit which they stated supported their position that the claimed process "is patentably different from those of either of the references taken alone or together and produces a different product." The Examiner's answer, quoted above, gives his analysis of that affidavit. He observed, inter alia, that "the polyethylene of the affidavit is lower in molecular weight than the highest molecular weight polyethylene of Noeske * * *." The Examiner was there referring to the fact that appellants chlorinated a polyethylene of 170,000 molecular weight in accordance with the procedure of Noeske's Example 8 whereas that example employs a polyethylene of 300,000 molecular weight. The Examiner also noted that the claimed polymers and the polymers of the affidavit differed in ultimate tensile strength but did not differ in *true* ultimate tensile strength.[2]

Considering that appellants, in their specification, regard true ultimate tensile strength as a more "true and accurate evaluation" of the absolute strength of the material evaluated than ultimate tensile strength, we think the Examiner was correct in concluding that the affidavit was not adequate to establish significant differences in properties between the claimed polymers and those of Noeske. [3] Also, comparing the claimed polymers with the closest polymer of Noeske, i.e. one of 300,000 molecular weight, would have been the most meaningful comparison in all respects and is what, we think, appellants should have done if comparative data were to be relied upon for patentability.

[2] Appellants state that the true ultimate tensile strength of the material gives a better indication of its strength, since calculation of that tensile strength value takes into account the elongation and resultant reduction in cross-section of the test specimen at break. In other words, true ultimate strength tests take into account the minimum cross-sectional area of the test sample *at the moment of rupture* whereas ordinary ultimate tensile strength tests do not.

Although appellants say the purpose of their affidavit was to show that the claimed products are different from those of both references, taken alone or together, no comparison was made with the polymers of Hoerger. They do compare Hoerger's polymers with theirs in their brief, saying:

> The highest tensile product disclosed by Hoerger et al. is 2,580 p.s.i. in Example 1. This is for a 42 percent chlorine product. Applicants' claim 1 provides for a tensile strength of at least about 3,000, and equal to at least about 100 times the weight percent chlorine in the resin. Thus the applicants' 42% chlorinated resins have tensiles of at least about 4,200. Similarly, Hoerger's Example II, wherein a 43% chlorine resin had a tensile of only 1,500, whereas applicants' 43% chlorine products have tensiles of at least 4,300. Example III of the Hoerger et al. patent discloses a resin of 35% chlorine with a tensile of 2,900 p.s.i., whereas the applicants' 35% chlorine resins have tensiles of at least 3,500. Example IV of Hoerger et al. illustrates a 25% chlorine resin with a tensile of 1,400 p.s.i., whereas applicants' 25% chlorine resins have tensiles of at least 3,000 p.s.i. These variations of tensile strength with chlorine content are graphically illustrated in curve A of FIGURE 9 of the instant application * * *. Hoerger et al. do not disclose a chlorinated product containing more than 43% chlorine.
>
> Claim 2 of the present application is directed to the applicants' preferred products containing between about 45% and 55% chlorine and having the highest overall strength properties; namely tensile strengths of at least 5,000 p.s.i. combined with good elongation properties so as to provide "true ultimate tensile" values of at least about 10,000, even at these relatively high chlorine contents. Hoerger et al. clearly fail to anticipate this preferred product. They fail to show a product of the same chlorine content, or of comparable tensile strengths.

What appellants fail to point out is that Hoerger used a polyethylene of 60,000 molecular weight as a starting material in Example 1, much lower than the 500,000 to 3,000,000 molecular weight polyethylene Hoerger elsewhere discloses he can use. Moreover, the 42 percent chlorine product Hoerger prepared in Example 1 is not a product obtained by "direct" chlorination alone. Only two-thirds of that chlorine percentage was introduced by the "direct" process; one-third was introduced by the "solution" process. A similar analysis may be applied to the remaining examples of Hoerger. In view of Hoerger's disclosure that a polymer produced by conjoint chlorination has tensile properties intermediate those produced by "direct" or "solution" processes used alone, we think it would be expected that a 42 percent chlorine product produced by the "direct" process alone would have a much higher tensile strength. As noted by Hoerger, the "direct" process can introduce 10–80% chlorine into the polyethylene. [4] A reference can be used for all it realistically teaches, and is not limited to the disclosures in its specific illustrative examples. *In re Widmer*, 53 CCPA —, 353 F.2d 752, 147 USPQ 518, at 523.

[5] Summarizing, while appellants have urged patentability of their claimed polymers on the basis of selected portions of Noeske and Hoerger, they have overlooked other and more relevant disclosures in those references. Considering all of the evidence of record including the close structural similarity, the similar method of making the polymers, the similar properties, and uses, we think the Examiner has established a prima facie case of obviousness of the claimed invention. Appellants' evidence and arguments have failed to rebut that case. *In re Lohr*, 50 CCPA 1274, 317 F.2d 388, 137 USPQ 548.

[6] The decision of the Board is affirmed.

AFFIRMED.

United States Court of Appeals
District of Columbia Circuit

WALTER SCHINDLER, ET AL. *v.* COMMISSIONER OF PATENTS

No. 19,706. Decided April 26, 1966

[— U.S.App.D.C. —; 360 F.2d 836; 149 USPQ 594]

1. APPEAL TO U.S. COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA—EVIDENCE—REMAND TO CONSIDER COMPARATIVE EVIDENCE OF UTILITY.

Having found "contrary to the finding of the trial court, that there is evidence in the record of comparative tests relating to anti-depressant activity of the compound of claim 8 and that of Example 2 of the Schindler, et al. patent which is of legal significance, and that the original description does support a proffer that the compound of claim 8 has anti-depressant properties," *Held* that "Now, therefore, this court retains jurisdiction in this appeal * * *" and ORDERED that "the record on appeal herein be remanded to the District Court with directions: (1) that it consider such evidence, described above, with such additional evidence as in its discretion and at the request of the parties it might permit to be adduced; and (2) that it supplement the record with new findings of fact and conclusions of law, and return the enlarged record to this court in this case."

APPEAL from the United States District Court for the District of Columbia.

REMANDED.

Caspar C. Schneider, Jr., pro hac vice, and *William A Smith, Jr.*, for Walter Schindler, et al.

Joseph Schimmel (*Jack E. Armore* of counsel) for the Commissioner of Patents.

Before FAHY, *Circuit Judge*, BASTIAN, *Senior Circuit Judge*, and BURGER, *Circuit Judge*

PER CURIAM:

ORDER

[1] THIS CAUSE came on to be heard on the record on appeal from the United States District Court for the District of Columbia, and was argued by counsel, and it appearing to this court, contrary to the finding of the trial court, that there is evidence in the record of comparative tests relating to anti-depressant activity of the compound of claim 8 and that of Example 2 of the Schindler, et al. patent which is of legal significance, and that the original description does support a proffer that the compound of claim 8 has anti-depressant properties,

Now, therefore, this court retains jurisdiction in this appeal; and it is

ORDERED by the court that the record on appeal herein be remanded to the District Court with directions:

(1) that it consider such evidence, described above, with such additional evidence as in its discretion and at the request of the parties it might permit to be adduced; and

(2) that it supplement the record with new findings of fact and conclusions of law, and return the enlarged record to this court in this case.

We express no view on the merits of the appeal nor as to the effect, if any, of the above described evidence.

PER CURIAM.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,546,354, Bacon and Kent, NAILING MACHINE; **2,652,564,** same, NAIL-DRIVING MECHANISM; **2,679,644,** same, NAIL-DRIVING MACHINE WITH MOVABLE NOSEPIECE, filed Jan. 6, 1959, D.C., S.D. Calif. (Los Angeles), Doc. 20–59–T, *Nu-Matic Nailer, Inc.* v. *Clyde Weems.* Judgment issued in original action holding Patent No. 2,546,354, and claims 1 and 5 thereof, infringed. Appealed, but later dismissed by stipulated order. Present action arises as a consequence of a supplemental complaint filed in the above-entitled action. Patent held not infringed Mar. 27, 1963. Plaintiff appealed, C.C.A., 9th Cir. Judgment of Mar. 27, 1963 vacated. Interlocutory judgment holding Patent No. 2,546,354, and claims 1 and 5 thereof, valid and infringed, Jan. 7, 1965. Appealed, C.C.A., 9th Cir., Doc. 20098. Appeal dismissed pursuant to stipulation between parties Apr. 19, 1966. Interlocutory judgment, entered Jan. 7, 1965, hereby made the Final Judgment of this action Apr. 27, 1966.

2,652,564. (See 2,546,354.)

2,679,644. (See 2,546,354.)

2,798,777, Flick and Kudlaty, CYLINDER MOUNT; **2,842,284,** F. S. Flick, CYLINDER END SEAL FOR FLUID PRESSURE CYLINDER, filed Apr. 1, 1959, D.C., N.D. Ill. (Freeport), Doc. 59C25, *Flick-Reedy Corporation* v. *Hydro-Line Manufacturing Co.* Remanded from Court of Appeals, 7th Cir. Apr. 7, 1966—Claims 1, 2, and 5 of Patent No. 2,842,284 held invalid; claim 1 of Patent No. 2,798,777 held valid and infringed—injunction issued; and claims 2 and 4 of Patent No. 2,798,777 held invalid July 25, 1966.

2,842,284. (See 2,798,777.)

3,003,562, R. A. Yates, SAND PUMP, filed May 4, 1964, D.C., N.D. Tex. (Lubbock), Doc. 5–131, *Fred W. Cook* v. *Lloyd Owen et al.* Judgment for defendants June 3, 1966.

3,025,116, R. F. McMahan, Jr., FACE-TO-FACE PLATE TYPE SWIVEL, filed June 6, 1966, D.C., M.D.N.C. (Greensboro), Doc. C–97–G–66, *American Metal Products Company* v. *Hickory Springs Manufacturing Co.*

3,033,269, A. S. Knapp, STEAM AND SPRAY IRON, filed June 3, 1966, D.C., N.D. Ohio (Cleveland), Doc. C66–399, *Dominion Electric Corporation* v. *Knapp-Monarch Company.* Same, filed Nov. 5, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c1990, *Knapp-Monarch Co.* v. *McGraw-Edison Co. et al.* Settlement agreement—complaint dismissed; counterclaims dismissed with prejudice June 15, 1966.

3,039,343, A. F. Richards, DOUBLE CUTTING METAL SHEARS, filed Jan. 18, 1963, D.C., W.D. Wash. (Seattle), Doc. 5778, *Harris Foundry & Machine Company* v. *Richards Shear Company.* Case dismissed June 14, 1966.

3,039,370, King and Margraf, PORTABLE CARTON BOTTOM SEALERS, filed June 10, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66–995WB, *Bud Antle, Inc.* v. *Stoddard Jess et al.*

3,066,247, P. Robinson, ELECTRICAL CAPACITORS, filed June 8, 1966, D.C., S.D. Ind. (Indianapolis), Doc. IP66–C–275, *P. R. Mallory and Co., Inc.* v. *Sprague Electric Company.*

3,069,608, J. W. Forrester et al., NUMERICAL CONTROL SERVO-SYSTEM, filed June 10, 1966, D.C., W.D. Mich. (Grand Rapids), Doc. 5352, *The Bunker-Ramo Corporation* v. *The Bendix Corporation et al.*

3,070,355, J. R. Wyatt, FAIRLEAD FOR USE IN GUIDING CABLE, filed July 7, 1964, D.C., W.D. Wash. (Seattle), Doc. 6217, *Eugene Wyatt* v. *Todd Shipyards Corporation.* Dismissed without prejudice Nov. 18, 1965.

3,071,857, Preis and Kuhni, SAFETY RAZOR BLADE HAVING MEANS FOR TILTABLY LOCKING THE SAME IN THE OPENED UP HEAD OF A RAZOR, filed Sept. 12, 1963, D.C., E.D. Va. (Richmond), Doc. 3777, *Eversharp, Inc.* v. *Philip Morris, Inc.* Final judgment—Patent No. 3,071,857 held invalid; complaint dismissed with prejudice June 1, 1966.

3,080,265, W. Maasberg, PROCESS AND APPARATUS FOR CLEANING WASTE-DISPOSAL SYSTEMS, filed June 3, 1966, D.C., S.D. Tex. (Houston), Doc. 66–H–348, *The F. E. Myers & Bro. Co.* v. *Flo-Max, Inc. et al.*

3,104,170, J. H. Mahon, METHODS OF PROCESSING POULTRY, filed June 2, 1966, D.C., E.D. Pa. (Philadelphia), Doc. 40405, *Armour & Company* v. *Calgon Corporation.*

3,105,477, W. W. Lowther, CRANKCASE VALVE VENTILATING SYSTEM, filed Oct. 9, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c1769, *Novo Industrial Corporation* v. *Standard Screw Company.* Judgment holding Patent No. 3,105,477 invalid June 15, 1966.

3,120,848, G. R. Seperack, BRASSIERE, filed June 3, 1966, D.C., S.D.N.Y., Doc. 66/1595, *Warner Brothers Company* v. *The Bali Company, Inc. et ano.*

3,125,060, S. J. Leonard, WATER SKI STARTING DEVICE, filed June 10, 1964, D.C. Minn. (St. Paul), Doc. 3–64–171, *Skee-Trainer, Inc. et al.* v. *Garelick Mfg. Co.* Judgment for defendant Apr. 23, 1965. Appealed July 6, 1965, C.C.A., 8th Cir., Doc. 18067, *Skee-Trainer, Inc. et al.* v. *Garelick Mfg. Co.* Judgment of District Court affirmed June 8, 1966.

3,161,051, J. A. Perry, Jr., LEVEL INDICATING DEVICE AND SYSTEM, filed June 8, 1966, D.C., W.D.N.C. (Charlotte), Doc. 2140, *Cherry-Burrell Corporation* v. *The Wizard Gauge Co., Inc.* Same, filed June 9, 1966, D.C. Minn. (St. Paul), Doc. 6–66–165, *Cherry-Burrell Corporation* v. *Dairy Craft, Inc.* Same, filed June 10, 1966, D.C., W.D.N.Y. (Buffalo), Doc. 11,864, *Cherry-Burrell Corporation* v. *Taylor Instrument Companies.*

3,177,761, S. Redner, POLARISCOPE HAVING SIMULTANEOUSLY ROTATABLE WAVEPLATES, filed June 7, 1966, D.C., E.D. Pa. (Philadelphia), Doc. 40427, *The Budd Co.* v. *Photolastic, Inc.*

3,197,800, Corn and De Lay, CHICKEN PICKING MACHINE, filed June 10, 1966, D.C., W.D. Mo. (Kansas City), Doc. 16045–1, *Gainesville Machine Company, Inc.* v. *Gordon Johnson Company.* Same, filed Nov. 24, 1965, D.C., W.D. Mo. (Kansas City), Doc. 15779–1, *Gordon Johnson Company* v. *Gainesville Machine Company, Inc.* Stipulation for dismissal without prejudice June 14, 1966.

3,196,493, E. G. Sukup, PORTABLE GRAIN AERATION DEVICE, filed June 6, 1966, D.C., S.D. Ill. (Springfield), Doc. 3906, *Sukup Manufacturing Co. et al.* v. *Illiana Stir-Ator Co. et al.*

3,199,206, Quester and Grubb, ACETYLENE PURIFICATION, filed June 15, 1966, D.C. Conn. (New Haven), Doc. 11482, *Chester Electronic Laboratories, Incorporated* v. *Continuous Progress Education, Inc. et al.*

Des. 171,742, F. Armbrust, ORNAMENTAL CHAIN, filed May 26, 1966, D.C., R.I. (Providence), Doc. 3638, *Armbrust Chain Company* v. *Prochain, Inc.*

Des. 178,866, A. J. Ouellette, BABY CHAIR, filed Aug. 14, 1963, D.C., S.D. Calif. (Los Angeles), Doc. 63–979–Y, *Infanseat Company* v. *Cuddle-King Products, Ltd. et al.* Transferred, D.C., E.D. Mich. (Detroit), Doc. 25089. Stipulation and order of dismissal of complaint and counterclaim without prejudice May 26, 1966.

Des. 191,901, J. C. Breneman, BATH MAT OR SIMILAR ARTICLE, filed Oct. 21, 1964, D.C., S.D.N.Y., Doc. 64/3192, *Harte & Company, Inc.* v. *Rubbermaid, Inc.* Order discontinuing action with prejudice May 16, 1966.

Des. 193,210, E. C. Hallock, GRILLE, filed Dec. 10, 1962, D.C., W.D. Okla. (Oklahoma City), Doc. 9954, *Construction Specialties, Inc.* v. *Brown Manufacturing Company.* Consent decree—patent held infringed; injunction issued May 25, 1966.

Des. 194,064, S. C. La Bue, GIRDLE, filed May 4, 1966, D.C., N.D.N.Y. (Utica), Doc. 66–CV–167, *Vanity Fair Mills, Inc.* v. *Crescent Corset Co., Inc.*

Des. 194,042, H. E. Guthormsen, BAR BELL OR SIMILAR ARTICLE, filed May 24, 1966, D.C., E.D. Pa. (Philadelphia), Doc. 40351, *Healthways* v. *Atlas Associates, Inc.*

Des. 203,580, W. H. Hiser, TEAR GAS WEAPON, filed May 13, 1966, D.C., E.D. Mo. (St. Louis), Doc. 66C112(2), *Casey's Enterprises, Inc.* v. *Scruggs-Vandervoort-Barney, Inc.*

Des. 204,196, H. F. Lippisch, CUP AND PLATE RACK, filed May 27, 1966, D.C., S.D.N.Y., Doc. 66/1553, *Rubbermaid Incorporated* v. *Sanita Plasticware, Inc.*

PLANT PATENTS

GRANTED AUGUST 30, 1966

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,666
GLADIOLUS PLANT
Don Walker and Audrey Walker, both of 323 Aquetong Road, New Hope, Pa.
Filed Aug. 2, 1965, Ser. No. 476,769
1 Claim. (Cl. Plt.—85)

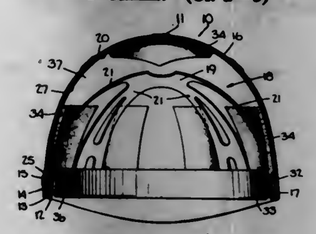
A new and distinct variety of gladiolus plant, substantially as herein shown and described, characterized by its green color and its good health, good bud count, opening ability after being shipped dry, and modern ruffling.

PATENTS

GRANTED AUGUST 30, 1966

GENERAL AND MECHANICAL

3,268,911
COMBINATION HAT AND VENTILATED PROTECTIVE SHELL
Wilma W. Cox, 930 5th Ave., New York 21, N.Y.
Filed Sept. 29, 1964, Ser. No. 400,018
3 Claims. (Cl. 2—3)



1. In combination a sportscap having a peripheral sweatband therein, said sportscap and said sweatband being joined at their lower edges and said sweatband extending upwardly within said sportscap to provide a shell receiving pocket therebetween, a head protective shell dimensioned to be received within said sportscap and disposed therein in close conformity with the interior surface thereof, said shell having a lower peripheral edge disposed within said pocket whereby said shell is retained in said cap, a head harness disposed within said shell having a crown portion spaced from said shell and circumferentially spaced depending strap members each having a lower pair of fastener tabe, the first tab of each said pair releasably affixed to said shell adjacent the lower edge thereof and lying within said pocket, the second tab of each said pair lying inwardly of said sweatband, a second sweatband releasably affixed to said second tabe near their lower ends and carried thereby at an inwardly spaced position from said first named sweatband, providing a peripheral ventilating space between said sweatbands communicating with the space between said shell and said crown portion of said harness.

3,268,912
ANKLE PROTECTOR FOR BOWLER
Clifford H. Whelan, 1001 Brunswick Drive, Jeffersonville, Ind.
Filed Jan. 6, 1964, Ser. No. 335,966
3 Claims. (Cl. 2—22)



1. A device for protecting the ankle bone of the leg of a bowler, comprising:
(A) a body member
(1) having a protecting section
(a) blister-shaped to fit over the ankle bone of a wearer when operatively positioned on a leg of the wearer, and
(b) composed of a firm outer shield and a relatively soft yieldable inner pad, and
(2) terminating in a lower anchoring section
(a) arranged to extend from said protecting section downwardly along a leg of the wearer, and
(b) shaped for endwise insertion vertically downward into the space between the foot and shoe of the wearer; and
(B) ankle band means for removably securing said body member to the leg of the wearer.

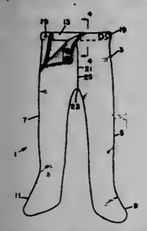
3,268,913
ADJUSTABLE SLEEP TURBAN
Lillian L. Gottlieger, 2509 Shelley Dale Ave., Baltimore, Md.
Filed Jan. 8, 1965, Ser. No. 424,387
2 Claims. (Cl. 2—196)



1. An adjustable sleep turban formed with an oversized contour which can be adjusted to conform closely to the wearer's hair contour, said turban comprising a panel of flexible mesh netting, said panel having a first elongated linear side edge, a second elongated linear side edge spaced in parallel juxtaposition to said first linear edge, first and second end edges extending substantially perpendicularly from said second side edge and merging arcuately into said first side edge, a first ruffled edge banding stitched to said first side edge, said first ruffled banding having a length less than that of said first side edge, said first side edge being shirred to diminish its length to substantially that of said first ruffled edge banding, said shirring causing said panel to form a slight arcuate pocket along the shirred first side edge thereof, a short elastic strip, a second ruffled edge banding, said elastic strip being stretched to an elongated condition and being stitched with said second edge banding to said panel second side edge, said elastic strip causing said panel to be puckered along its second side edge, said first and second end edges being stitched together in a medial seam to convert said panel into a tubular sock configuration having a first open end defined by said first side edge and a second open end defined by said second side edge, a hollow ring member, said netting being compressed at its first open end and slipped through said hollow ring member, said compressed netting projecting beyond said ring member defining a ruffled rosette, said tubular sock being folded back upon itself along said medial seam and at least a portion of said rosette being stitched along said second open end where said medial seam intersects said second side edge, said tubular sock thus being converted into a sleep turban having a head receiving opening formed by said second open end with said elastic strip surrounding said head receiving opening, said turban being applicable to a wearer's head with said elasticized second edge extending generally along the wearer's hair line and said ruffled rosette being centrally disposed above the wearer's fore-

head, said turban being adjustable to conform closely to the wearer's hair contour by manual movement of said ring member.

3,268,914
WATERPROOF GARMENT
Esther Barber, 19 Killean Park, Colonie, N.Y.
Filed Aug. 26, 1963, Ser. No. 304,439
2 Claims. (Cl. 2—227)



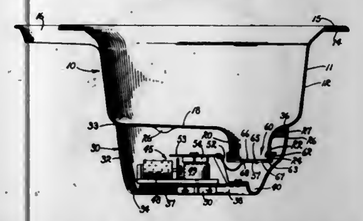
1. A one-piece bifurcated nether garment of plastic material having closed-ended leg portions for emplacement between the shoes and overshoes and over the snow suit of a child to keep the child warm and dry while outdoors in inclement weather, said garment being adapted to enclose the lower extremities and the feet of the wearer, said one-piece garment having a waistband portion, said waistband portion being folded upon itself, said folded portion being heat-welded to the garment for strengthening the upper edge of said garment, and an insert heat-welded to the crotch portion of said garment to provide further strength and spread to said crotch portion.

3,268,915
PROCESS OF MANUFACTURING PRESS-FREE GARMENT WITH RETAINED CREASES
William K. Warnock, Kentfield, and Frank G. Hubener, San Carlos, Calif., assignors, by mesne assignments, to Koratron Company, Inc., San Francisco, Calif., a corporation of California
Filed Apr. 8, 1963, Ser. No. 271,107
7 Claims. (Cl. 2—243)



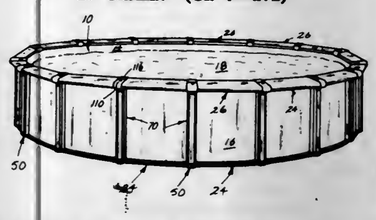
1. A process of manufacturing garments of any style, size, design and type which are press-free with sharp imparted creases retained therein after repeated washings; said process comprising the steps of impregnating fabrics with an aqueous solution of a thermosetting compound containing a catalyst possessing the property of maintaining the compound in stable equilibrium in the fabrics for appreciable periods at temperatures below the setting temperature of the compound, drying the fabrics containing said compound at a temperature below setting temperature of said compound and to an extent that approximately 8% to 10% of moisture is retained therein, thereafter cutting said fabrics containing said compound while in an unset state to the size, shape and design of desired garments, sewing the fabrics to provide garment seams located at the areas to be creased, finishing the cut and sewn fabrics to completed garments of desired styles and designs, thereafter imparting at least one crease in said completed garment consistent with the desired style and design of the garments, and at the same time pre-setting said garment containing compound at the locations of said seams and said crease, and finally curing the impregnated partially dried and partially preset completed garments to water-insolubilize the contained compound in situ so that the completed garments are press-free with a retained sharp imparted crease and smooth unpuckered seams therein at said locations after repeated washings.

3,268,916
NURSERY TRAINING DEVICE
William R. Hix, Jr., 1339 Grandview Ave., Ceres, Calif.
Filed May 21, 1963, Ser. No. 282,056
2 Claims. (Cl. 4—138)



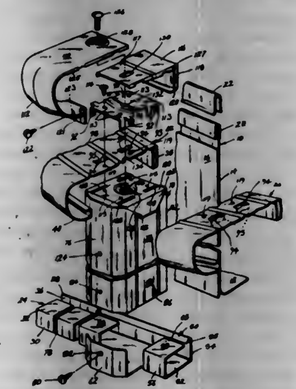
1. A nursery training device comprising a receptacle having a continuous circular wall, an upper outwardly extending flanged seat portion and an opposite bottom portion, said bottom portion of the receptacle having an integral tubular nozzle eccentrically related to said wall and providing a downwardly disposed constricted opening from said bottom portion of the receptacle; a base member detachably mounted on the bottom of said receptacle in circumscribing relation to said nozzle of the receptacle; a musical device mounted on said base member having a trigger providing a locking end and an opposite actuating end disposed beneath said opening of the nozzle; and a diaphragm of resiliently flexible material and having an upstanding annular ring about the rim thereof, said annular ring detachably mounting the diaphragm on the end of said nozzle in closing relation to the opening therethrough in a substantially flat condition and in constant engagement with the actuating end of said trigger to energize the musical device immediately incident to contact of eliminative material with the diaphragm.

3,268,917
SWIMMING POOL FRAME ASSEMBLY
Joseph Diemond, East Hartford, and Melvin Y. Gershman, West Hartford, Conn., and Norbert A. Vangness, Longmeadow, Mass., assignors, by mesne assignments, to Coleco Industries, Inc., Hartford, Conn., a corporation of Connecticut
Filed Sept. 3, 1965, Ser. No. 485,009
17 Claims. (Cl. 4—172)



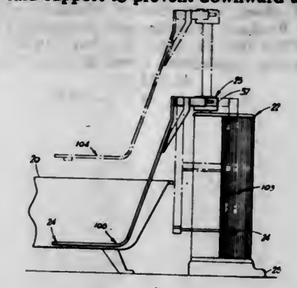
1. In a swimming pool of the type having a liner member of flexible, relatively waterproof sheet material providing a bottom wall portion and a sidewall portion extending about the periphery of said bottom wall portion,

the combination therewith of a frame assembly for supporting said liner member including a generally vertical support panel about the exterior periphery of said liner sidewall portion and closely adjacent thereto to provide horizontal support for said liner sidewall portion; a plurality of cooperating elongated horizontal support members extending in end-to-end relationship about said liner member at the upper edge of said liner sidewall portion and support panel, said horizontal support members having a top wall portion and a depending inner sidewall portion extending therealong providing a shoulder adjacent the upper edge portion of said support panel to align said support panel and limit movement thereof; generally vertical support members at the adjacent end portions of cooperating pairs of horizontal support members, said vertical support members extending outwardly of said vertical support panel and said inner sidewall portions of said horizontal support members, said vertical support members having vertically extending wall portions and a horizontal seating surface portion at the upper end thereof, the end portions of said horizontal support members having depending retaining elements thereon engaged with said seating surface portion to limit horizontal movement of said horizontal support members relative to said vertical support members and to each other; and cover members overlying the end portions of said cooperating pairs of horizontal support members and having retaining means thereon engaged with said vertical and horizontal support members to provide a firm assembly therewith.

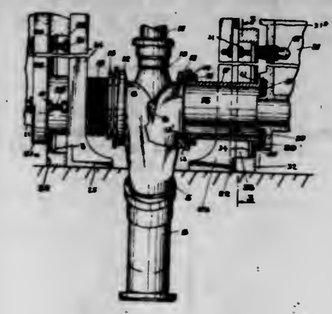


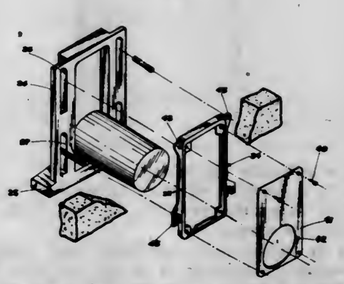
3,268,918
INVALID LIFTING APPARATUS
Frederick Albert Batty, 84 New Road, Bromsgrove, and Peter Lawrence Batty, 98 Harport Road, Redditch, England
Filed Sept. 6, 1963, Ser. No. 307,192
6 Claims. (Cl. 4—185)

1. Invalid lifting apparatus for use in the transfer of an invalid into and out of a bath, said apparatus comprising a stationary support having a vertical axis, a lift by which an invalid can be carried, said lift and support having co-operating parts whereby said lift is mounted on said support for vertical sliding movement relative thereto and for horizontal swinging movement about said vertical axis, power means for effecting at least upward movement of said lift relative to said support, non-positive retaining means operative over at least a substantial part of the vertical travel of said lift and when said lift is in a pair of predetermined angularly spaced positions for restraining said lift against swinging movement about said axis between said spaced positions and positive location means on said lift and said support which co-operate in a predetermined angular and vertical position of said lift relative to said support to prevent downward and angular movement of said lift whereby said lift is held rigidly to enable an invalid to be transferred to or from said lift in safety.



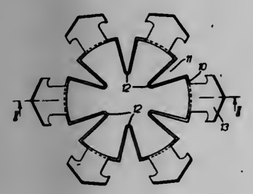
3,268,919
FITTING AND TILING FRAME FOR WALL MOUNTED WALL DISCHARGE WATER CLOSET
Courtney C. Pope, P.O. Box 187, Haines City, Fla.
Filed Nov. 18, 1963, Ser. No. 324,439
7 Claims. (Cl. 4—252)





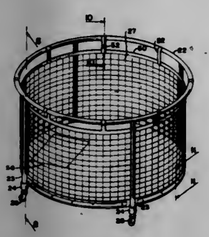
1. A mounting means for a toilet bowl comprising a soil pipe coupling having an entrance and provided with an annular seat, a toilet bowl having a flanged outlet, a sleeve having one end maintained against the seat, the opposite end of the sleeve seating with the flanged outlet of the toilet bowl, fixed means for supporting the toilet bowl, a tiling frame that encircles the sleeve and mounted in a wall opening and interposed behind the flanged outlet of the toilet bowl flush with the wall opening to constitute a tiling guard, the tiling frame being also supported upon the fixed means that supports the toilet bowl and a closure plate for the tiling frame, said tiling frame defining an opening for access to said coupling.

3,268,920
DEBRIS COLLECTOR FOR FLUID RECEPTACLE OUTLETS OF VARIOUS SIZES
Donald C. Beer, Lewes, Sussex, England, assignor to Vortex Products (Hairdressers Sundries) Limited
Filed Oct. 29, 1963, Ser. No. 319,851
Claims priority, application Great Britain, Nov. 6, 1962, 41,926/62
8 Claims. (Cl. 4—292)



1. A waste trap adapted for insertion within receptacle outlets of various sizes for collecting debris from fluid discharged therethrough, comprising
a generally-circular resilient radially-expansible support member adapted for frictional mounting coaxially within a receptacle outlet, said support member containing a central through passage, and a plurality of finger members extending generally axially from said support member in the direction of said receptacle.

3,268,921
CRIB-TABLE COMBINATION
Darrell W. Schurle, 434 Walnut, Brighton, Colo.
Filed Aug. 7, 1964, Ser. No. 388,192
7 Claims. (Cl. 5—98)



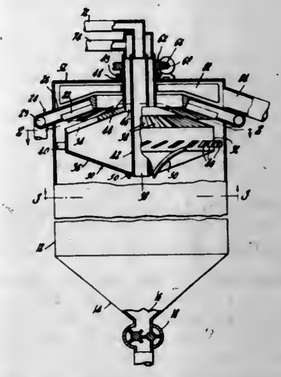
1. A crib-table comprising:
(a) a framework including an enclosed top rail and legs depending therefrom to support the rail at a selected elevation;
(b) an elevationally adjustable deck adapted to fit within the embrace of the top rail with the top of the deck being at the top of said top rail when at the elevation of the rail to serve as a table and to fit between the legs when at an elevation below the rail to serve as a crib deck;
(c) a sleeve slidably mounted upon each leg and affixed to the edge of the deck to slidably secure the deck within the framework with each sleeve being offset below the deck surface a distance sufficient to permit the deck to move upwardly into the embrace of the top rail and to the top of the top rail as each sleeve moves to the top of its leg; and,
(d) releasable lock means adapted to secure the deck at the top and at selected elevations within the framework.

3,268,922
MATTRESSES
John F. Moxley, Rte. 7, P.O. Box 75, Medina, Ohio
Filed Jan. 2, 1964, Ser. No. 335,279
6 Claims. (Cl. 5—344)



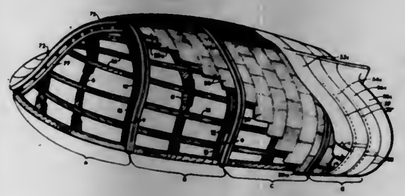
1. A mattress of the type which is adapted to be rolled up for carrying and storage purposes, said mattress having an elongated body member of resilient compressible material and also having means providing a pocket at one end of said body member in spaced relation thereto, said body member being of a thickness which would cause it to be quite bulky if rolled up in a non-compressed condition and said pocket extending transversely of said body member for substantially the full width thereof, a generally rigid and substantially flat member of slat-like form disposed in said pocket and generally corresponding in length to that of said pocket, the spacing of said pocket relative to said body member enabling said pocket and the slat-like member disposed therein to be selectively positioned either in an out-of-the-way location beneath said body member or upon the adjacent end portion of said body member for the application thereto of manual pressure substantially across the full width of the body member to thereby enable it to be progressively compressed along its length as it is manually rolled up, said mattress also being provided with strap-like means to enable said body member to be releasably maintained in its compressed rolled up condition for carrying and storage purposes.

3,268,923
EXTRUSION WASHER
Elmer R. Burling, Nashua, N.H., assignor to Improved Machinery Inc., Nashua, N.H., a corporation of Maine
Filed May 11, 1964, Ser. No. 366,428
16 Claims. (Cl. 8—156)



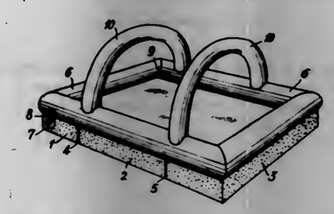
14. A method of treating high consistency wood pulp comprising the steps of
advancing upwardly in generally cylindrical columnar configuration with a height to width ratio of at least 3 to 1 a mass of wood pulp having a high consistency of from 10 to 40 percent by applying lifting forces solely at the lower end of said column,
forming said mass at its upper end into a longitudinally extended annular ring of pulp having a wall thickness of from one to six inches by diverting said pulp radially outwardly from its central axis along an upwardly diverging conical surface while diluting at least a portion of said pulp along said surface to a consistency of less than 10 percent and
flowing a treating liquid generally radially through said annular ring of pulp to treat said pulp.

3,268,924
SANDWICHED STRUCTURAL SURFACES
Ernest B. Dane, Jr., 57 Tyler Road, Belmont, Mass.
Filed Sept. 4, 1964, Ser. No. 394,419
7 Claims. (Cl. 9—6)



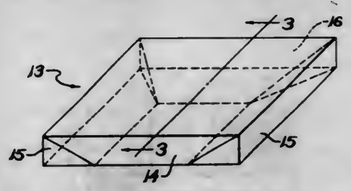
1. In a boat hull having a deck and further comprising;
(a) a plurality of foam plastic blocks disposed along said hull each having mutually opposed first and second faces, blocks of higher density material forming a rim in said hull along said deck level, and the periphery of said deck rigidly fastened to said rim of higher density blocks,
(b) a first metallic skin comprising at least one layer of overlapping metallic strips cemented to said first faces of said blocks,
(c) a second metallic skin comprising at least one layer of overlapping metallic strips cemented to a said second faces of said blocks, and
(d) at least one structurally supporting member fastened to said first and second skins and projecting perpendicularly from said second skin.

3,268,925
LIFE-SAVING RAFT
Juan Duarry Serra, Calle Roselloa 1, Barcelona 15, Spain
Filed Oct. 12, 1964, Ser. No. 403,031
Claims priority, application Spain, Jan. 15, 1964, 295,742
2 Claims. (Cl. 9—11)



1. In a life raft of the type comprising a bottom floating section of solid buoyant material and secured thereto an upper inflatable floating section provided with pneumatically inflatable hoops, the improvement wherein said bottom floating section comprises at least two hingingly connected members adapted to be folded together with said upper inflatable floating section when said latter is in the deflated state, to form a compact block occupying a reduced space for the storage on board of a vessel.

3,268,926
SEAT CUSHION
Anselm Talalay, New Haven, Conn., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Dec. 9, 1964, Ser. No. 417,110
5 Claims. (Cl. 9—12)



3. A seat cushion intended to serve as auxiliary flotation equipment for supporting a person in the water which comprises a body portion made of flexible resilient open-cell cellular foam material which underlies and supports the trunk and thighs of a person sitting upon the cushion in a normal manner and provides a resilient cushioning component for comfortable seating, longitudinally disposed flotation elements positioned along the side marginal zones of the cushion, and a flotation element positioned along the rear marginal zone of the cushion, said flotation elements being made of a flexible resilient closed-cell cellular foam material having a specific gravity less than that of water and being combined with said body portion of the cushion to provide a unitary structure, the margins of the upper surface of said body portion being substantially coextensive with the upper marginal edges of said seat cushion and said body portion having a height substantially equal to the height of said flotation elements.

3,268,927
SKIN DIVER FIN
Joel Markowitz, 239 Central Park W., New York, N.Y.
Filed July 21, 1964, Ser. No. 384,144
6 Claims. (Cl. 9—304)

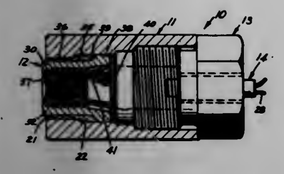


1. An improved finned boot which comprises: a boot adapted to fit securely about the foot and lower leg; a first pair of struts longitudinally affixed to said boot; linking means for pivotally connecting said first pair of struts to one end of a second pair of struts in the vicinity of the ankle portion of said boots; a fin rigidly affixed to the other end of said second pair of struts; locking means to maintain said first and second pair of struts at an angle of substantially 180°; and means for rotating said second pair of struts to an acute angle in respect to said first pair of struts.

3,268,928
METHOD OF PRODUCING A SEPARABLE NUT
William R. Dickie, Manhattan Beach, Calif., assignor to Hi-Shear Corporation, Torrance, Calif., a corporation of California
Original application Nov. 6, 1961, Ser. No. 150,305, now Patent No. 3,176,573, dated Apr. 6, 1965. Divided and this application Oct. 12, 1964, Ser. No. 411,658
1 Claim. (Cl. 10—86)

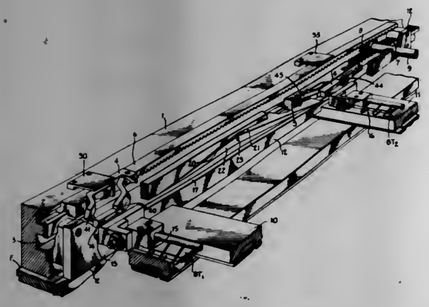
A method for making a separable fastener of the class which includes a retainer having a chamber defined by an internal wall, a passage through the wall defined by a

boundary, and a plurality of nut segments each of which bears a thread fragment for engagement to a threaded shank member, comprising: positioning an externally fluted element in the passage, with a complete peripheral clearance between the boundary and the peripheral surface of the element, encapsulating at least a portion of



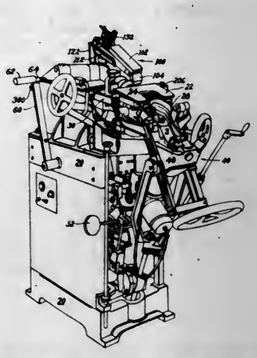
the element by filling the clearance with an extrudable settable encapsulating material, allowing the material to set, drilling out the center of the fluted element to leave spaced apart, disconnected segments set in the encapsslating material, and then tapping a thread in said hole to form the thread fragments on the segments.

3,268,929
BOOK COVER MANUFACTURING MACHINE
Lorenzo Depetris, Milan, Italy, assignor to Smyth Europea S.p.A., Milan, Italy
Filed Dec. 7, 1964, Ser. No. 416,340
Claims priority, application Italy, Dec. 10, 1963, 25,597/63
9 Claims. (Cl. 11—2)



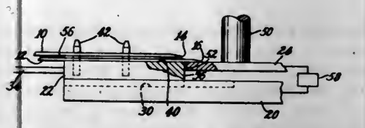
1. A machine of the type referred to for manufacturing book covers comprising frame means, vertically movable platform means mounted on said frame means and adapted to receive paperboard blanks, a back piece and cloth covering means, transfer means comprising a vertically displaceable and rotatable shaft journaled in said frame and having a suction head thereon adapted to transfer said paperboard blanks onto said platform, cloth supply means adjacent said platform means, guide means secured to said frame along opposite sides of said platform means, means for transferring a glued cloth sheet from said cloth supply means onto said platform comprising a pair of bars arranged in said guide means transversely of said platform and displaceable along said platform, gripping means on each of said bars adapted to grip a cloth cover means, and means for simultaneously moving said bars in opposite directions to transfer a cloth cover means from said supply means to said platform means.

3,268,930
LASTING MACHINES
Adelbert W. Rockwell, Jr., Gloucester, John A. Meuse, Everett, and Albert E. Newton, Beverly, Mass., assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Mar. 25, 1965, Ser. No. 442,749
8 Claims. (Cl. 12—12.4)



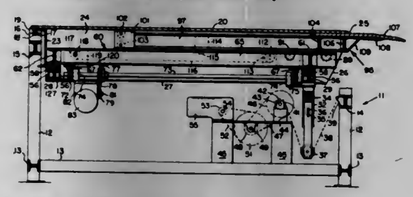
1. In a machine for lasting shoes having a support for a shoe including an upper and an insole assembled on a last, means for shaping the upper of a shoe on the support to the toe end of its last and for securing the lasting margin of the upper to the insole in lasted position including wipers for wiping the lasting margin of the upper inwardly over and for pressing the lasting margin against the bottom of the insole, and means for effecting the operation of said upper shaping means including a manually operable member adapted to terminate the action of the upper shaping means after the upper has been shaped to the toe end of the last and thereafter to cause the wipers to be operated to wipe the lasting margin inwardly over and to press it against the insole, an adhesive applying device including a nozzle, means mounting said adhesive applying device for movement from a remote in operative position in which the toe end of the shoe is fully exposed and accessible by an operator during and after the upper shaping operation, to an operative position in which the nozzle is in engagement with the toe end of the insole of the shoe, and an operator controlled power means operable to effect movement of the adhesive applying device to operative position and to cause adhesive to be extruded through the nozzle onto the toe end of the insole prior to the operation of the wipers by said manually operable member.

3,268,931
APPARATUS FOR MAKING ADHESIVE SEAMS
Philip J. Webster, Leicester, England, assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Nov. 9, 1965, Ser. No. 506,953
5 Claims. (Cl. 12—55)



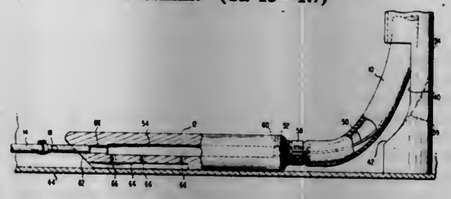
1. A machine for forming an adhesively bonded shoe seam comprising a bed, a table movably mounted on said bed, a platen movable toward and away from the bed, a forming member, means associated with said table for mounting shoe parts to be joined and the forming member on the table with the forming member interposed between said shoe parts, the shoe part interposed between the table and the forming member having a portion thereof overhanging an end of the table, an end of the other shoe part and the forming member being located in overlying, essentially alined relation to said table end, means for moving said platen into engagement with said overhanging portion to wipe it about the end of the forming member into an upstanding position relative to the bed, and means for moving said table longitudinally of said bed under said platen to fold the upstanding portion into overlapping engagement with the end portion of the other shoe part.

3,268,932
LOADING DOCK
Elmer C. Hartman, Fairport, N.Y., assignor to Hartman Metal Fabricators, Inc., Waterloo, N.Y., a corporation of New York
Filed Aug. 9, 1963, Ser. No. 301,069
6 Claims. (Cl. 14—71)



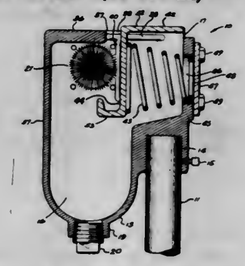
1. A loading dock comprising
(a) a frame,
(b) a deck mounted adjacent its rear edge in said frame to pivot about a stationary horizontal axis above and below a horizontal plane,
(c) a carriage movably mounted beneath said deck for pivotal movement therewith, and for reciprocable movement parallel to said axis and laterally of said deck between opposite sides thereof, and
(d) a ramp mounted on said carriage for lateral movement with said carriage beneath said deck, and for independent movement at right angles to said axis, and
(e) drive means for said ramp mounted on said carriage and operable independently of said deck and said carriage for moving said ramp relative to said deck at right angles to said axis, and into a position in which said ramp projects beyond the forward edge of said deck to form an extension for said deck.

3,268,933
TANK CLEANING APPARATUS
James C. Marantette, Garden Grove, and Harrie E. Bennett, Jr., Long Beach, Calif., assignors to Richfield Oil Corporation, Los Angeles, Calif., a corporation of Delaware
Filed Jan. 4, 1965, Ser. No. 423,055
8 Claims. (Cl. 15—1.7)



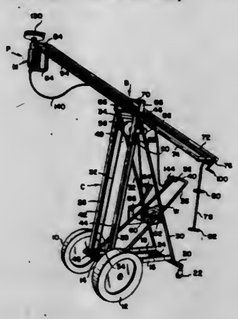
1. An apparatus for removing extraneous liquid and sediment from the bottom of a liquid-filled tank comprising a length of flexible hose having one end adapted to be connected to a source of suction, an elongated spring metal strap in said hose to permit the hose to bend in only one direction, a probe head on the other end of said flexible hose and fixed to an end of said strap, said probe head having a fluid passage therein in fluid communication with said other end of said flexible hose, and elongated flexible tubular means connected to said head for fluid flow communication with said hose and having an opening therein for drawing said extraneous water and sediment therethrough.

3,268,934
CLEANER FOR GOLF CLUB HEADS AND THE LIKE
Louis J. Postula and Victor A. Postula, Marshall, Mich., assignors to Postula Products, Inc., Marshall, Mich., a corporation of Michigan
Filed Dec. 28, 1964, Ser. No. 421,466
20 Claims. (Cl. 15—21)



1. An article cleaning device, comprising a housing having an inlet at its top and adapted to contain a cleaning media, a movable brush means within said housing, means supporting said brush for movement within said housing, means for moving said brush, and a movable means at the inlet of said housing for automatically varying the size of said inlet to receive said article to be cleaned, said inlet opening being in alinement with said brush so that said article to be cleaned may be inserted into said housing through said inlet and held in position for said brush to clean same.

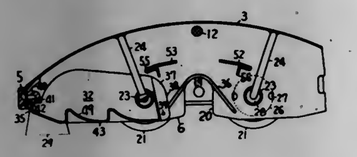
3,268,935
ADJUSTABLE SUPPORT FOR A POWER DEVICE
Carl William Ungeheuer, 175—20 Henley Road, Jamaica, N.Y.
Filed Feb. 8, 1965, Ser. No. 430,806
9 Claims. (Cl. 15—21)



1. A power machine, comprising:
(a) a wheeled frame having a pair of upright standard bars;
(b) a vertically movable elevating assembly reciprocably supported by said standard bars and having a pivot assembly adjacent the top thereof;

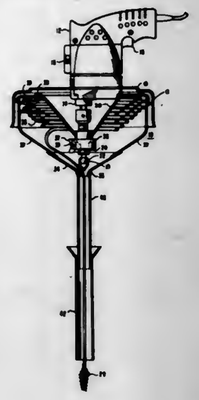
(c) an elongated boom having a central section connected to said pivot assembly and extending at its forward end beyond said wheeled frame;
(d) the forward end of said boom having a power tool assembly pivotally connected thereto;
(e) the rear end of said boom having a handle which enables an operator to swing the boom in an arc about said pivotal connection to position the forward end of said boom; and
(f) control means connected to the power tool for adjusting its disposition about its pivotal connection to the forward end of the boom.

3,268,936
MANUAL FLOOR CLEANER WITH PIVOTALLY MOUNTED RESILIENT DRIVING WHEELS
Hiroshi Fukuba, 320—82 2 chome, Matsugaoka, Nagareyama-machi, Higashi-Katsushika-gun, Japan
Filed Nov. 17, 1964, Ser. No. 411,838
2 Claims. (Cl. 15—41)



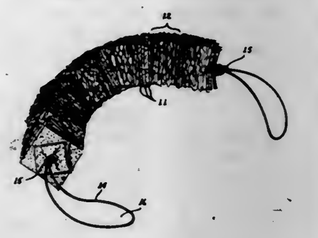
1. In a floor cleaner, the combination of
a main casing having a recessed bottom portion with the casing being substantially rectangular in plan and of convex arcuate shape in side elevation with the two short sides being resiliently bendable manually outwardly,
elongated resilient and deformable brush means rotatably mounted at each end to the short sides of the casing inside the recessed bottom portion whereby the brush means is substantially parallel to the bottom of the casing and extends below the bottom surface thereof, and whereby the brush means may be removed by manually bending the short sides outwardly,
substantially rigid driven rollers of lesser diameter than the brush means operatively mounted in fixed relation to each end of the brush means,
four substantially U-shaped support shafts, each respective shaft having one leg pivotally mounted to the inside of the main casing substantially parallel to the brush means and in alignment on one side or the other of one of the driven rollers, the central portion of each shaft directed downwardly and inwardly axially of the cleaner toward its respective side of one of the driven rollers,
means to limit the pivotal movement of the other leg of each shaft around the pivotally mounted leg so as to allow limited oscillatory movement thereof,
four resilient driving rollers each rotatably mounted to the other leg of a respective shaft so as to be on each side of the driven rollers in alignment therewith and normally slightly out of contact with the driven rollers, said driving rollers center of rotation being slightly below the axis of the brush means, but said brush means extending slightly below the bottom of said driving rollers,
means to collect dust and dirt particles picked up by the brush means, and
means to manually push the main casing over a floor to pivotally move at least certain of the driving rollers into frictional contact with the driven rollers to effect rotation of said brush means and cleaning of the floor.

3,268,937
POWER DRIVEN PLUMBER SNAKE
Burton J. Bollinger, 10232 Tinker Ave., Tujunga, Calif.
Filed June 1, 1964, Ser. No. 371,679
20 Claims. (Cl. 15—104.3)



7. An arrangement for driving a flexible conduit cleaner cable comprising a cage assembly for containing a length of flexible cable to be used in clearing a conduit, a rotatable drive member inserted within and coupled to the cage assembly, the drive member being movable with respect to the cage assembly to provide different extents of insertion therein, means mounted on the drive member for engaging the cage assembly at a selected extent of insertion thereof, and means coupled to said drive member and independent of said cage assembly for rotating the drive member to the selected extent of insertion, thereby to rotate the drive member, cable and cage assembly in locked relation.

3,268,938
BODY SCRUBBER
Marguerite A. Smith, 611-a N. 16th St., Phoenix, Ariz.
Filed Feb. 18, 1965, Ser. No. 433,763
2 Claims. (Cl. 15—118)



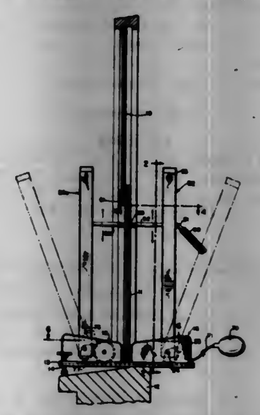
1. A body scrubber comprising a plurality of pad members, each pad member formed of a plurality of sponges and having a thickness of from about ¼ inch to about ½ inch, and a plurality of stimulation members, each stimulation member formed of multi-thickness crinoline material and having a thickness of from about ¼ inch to about 1 inch, said pad members and said stimulation members disposed on a water-proof cord to provide a washer portion having a length of from about one to about two feet, said cord being knotted to restrain said washer portion and having lops at each end, thereby to provide handles.

3,268,939
COSMETIC DEVICES
Joseph Averna, Scarsdale, N.Y.
(270 Lafayette St., New York 12, N.Y.)
Filed Nov. 3, 1964, Ser. No. 408,477
2 Claims. (Cl. 15—184)



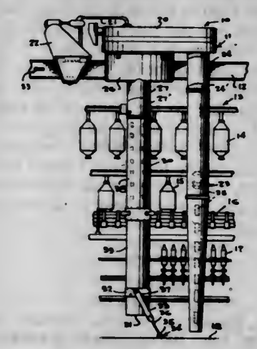
1. In a cosmetic applicator, the combination with a cylindrical casing open at one end and having a diminished portion at its other end terminating in a small opening, of an anchor slidably mounted in said casing, said casing having an inner periphery conforming to the outer periphery of said anchor, an applicating unit connected to said anchor and projecting toward said diminished end, said anchor having a shoulder facing toward the diminished end of said casing, a spring mounted in said casing on said anchor and tensed between said shoulder and said diminished end of said casing, there being a longitudinally extending slot in said casing, said anchor having an integral projection mounted on the free end of an arm extending into said slot and yieldable inward, and a cap engaging said projection to move it forwardly toward the diminished end of said casing against the tension of said spring, means for frictionally anchoring said cap on said casing in position to extend said applicating unit from the front end of said casing or in position on said casing to close the front end of said casing and to enable said spring to position said applicating unit inside of said casing, said anchor including said projection being composed of a yieldable substance to enable said projection normally to project through said opening and slide along said opening when said anchor is actuated by said cap.

3,268,940
WINDOW CLEANING DEVICES
Enzo Sciamanna, 166 W. 72nd St., New York, N.Y.
Filed Oct. 1, 1964, Ser. No. 400,855
6 Claims. (Cl. 15—250.11)



1. A window cleaning device for cleaning both sides of a window simultaneously, said device comprising a front upright, a rear upright, a first cleaning blade slidably mounted on said front upright for sliding action relative thereto, a manually operated handle connected to said first cleaning blade, a second cleaning blade slidably connected to said second upright, cable means inter-connecting said cleaner blades whereby actuation of said first cleaning blade is duplicated by said second cleaning blade, a bottom platform, each of said uprights being swingably connected to respective ends of said platform, said uprights being swingable relative to said platform in a vertical plane and in respectively opposite directions, manual swinging of said front upright in one direction automatically producing swinging of said rear upright in an opposite direction in the same vertical plane, a flat rack gear on said platform, a driving arcuate gear segment on said front upright in engagement with said rack gear, a driven arcuate gear segment on said rear upright, means to drive said driven gear segment in a direction opposite to that of said driving gear segment whereby swinging action of said front upright is duplicated in an opposite direction by said rear upright.

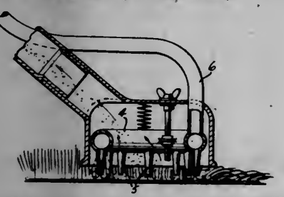
3,268,941
HINGED CLEANER TRUNK FOR FLOOR CLEANER
James F. King, Jr., Winston-Salem, N.C., assignor to The Babcock Company, Winston-Salem, N.C., a corporation of North Carolina
Filed Nov. 23, 1964, Ser. No. 413,210
10 Claims. (Cl. 15—312)



1. In a travelling cleaner for textile processing machines, an overhead carriage movable longitudinally of the machines having a suction source, a vertically elongated suction trunk communicating at its upper end with said suction source and depending from said carriage to a position adjacent the floor, said suction trunk having a downwardly opening suction inlet nozzle at its lower end, a mechanical lint accumulator supported on a lower portion of said suction trunk having a transversely extending floor engaging accumulator member immediately below said inlet nozzle to sweep lint which has settled onto the floor along the floor in a path paralleling the adjacent sides of the machines, damper means normally occupying a first position closing off said inlet nozzle of said suction trunk from communication with said suction source and movable to a second position to establish communication between said inlet nozzle and said suction source to effect suction withdrawal of lint sweepings accumulated by said accumulator member to said carriage, said suction trunk having journal means intermediate the uper and lower ends thereof for accommodating rotation of this lower end portion of said trunk and said accumulator relative to the trunk portion thereabove from a normal position through a selected arc

about the longitudinal axis of the trunk to facilitate passage of the accumulator member past obstructions alongside the machines, and means responsive to rotation of said lower trunk portion and accumulator member for adjusting said damper means from said first position to said second position to effect suction withdrawal of lint sweepings accumulated by said accumulator member to said carriage immediately upon rotation of said lower trunk portion from its normal position.

3,268,942
SUCTION CLEANING NOZZLE
Michael Rosman, 11724 Lovejoy St., Silver Spring, Md.
Filed Jan. 6, 1965, Ser. No. 423,754
5 Claims. (Cl. 15—346)



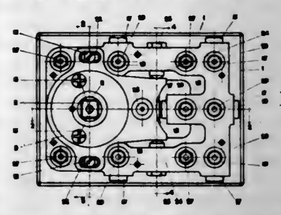
1. The combination with a motor operated suction cleaning machine having a suction inlet and an exhaust outlet, a suction head having an air inlet and means attached to the exhaust outlet of the machine and positioned within the suction head to comb the pile of the floor covering during the suction action in the head and to comb and lift the pile and free the dust and dirt adjacent to the web of the floor covering for action upon it by the air suction within the suction head, said means including a conduit adjustably positioned within said head and substantially conforming to the contour of said suction head air inlet; said conduit having a plurality of depending closely spaced, flexible, hollow tubes depending therefrom and projecting below the plane formed by the suction head air inlet, said plurality of open-ended tubes being arranged to act as combs and to deliver air under pressure into the pile.

3,268,943
PAINT ROLLER
Michael Melnyck, Hamilton, Ontario, Canada, assignor to Crofton Plastics, Inc., Byron, Mich., a corporation of Michigan
Filed June 1, 1964, Ser. No. 371,383
1 Claim. (Cl. 15—541)



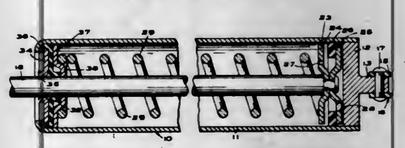
A paint roller apparatus comprising: a hollow bottle like handle fabricated of pliable material and forming a paint receptacle, said handle having a threaded neck of reduced diameter and a shoulder adjacent thereto; a rigid tube communicating with said handle; a one piece cylindrical cap secured to said tube; said cap having at least two cylindrical portions, one for receiving the threaded neck and the other for receiving a portion of said handle adjacent said neck; said one threaded neck receiving cylindrical portion being secured to said tube and having a U-shaped cross-section; the other handle receiving cylindrical portion in cross-section including a first flange extending radially outwardly from the extremities of the legs of said U-shaped portion and a second flange extending perpendicular from the extremities of said first flange in a direction opposite from said U-shaped neck receiving portion; a cylindrical flange extending from the bight of the said U-shaped neck receiving portion of said cap in the same direction and parallel to the legs thereof, said cylindrical flange being spaced from the legs to tightly receive therebetween the threaded neck of said handle; said legs of said U-shaped portion having threads on their inner surface for receiving the threaded neck of said handle, said second flange tightly receiving said portion of said handle adjacent said threaded neck with said shoulder of said handle abutting against said first flange; said tube including a reverse turn and a portion spaced from and lying generally perpendicular to said handle; said portion of said tube being apertured; an apertured roller rotatably mounted on said portion on said tube; a layer of absorbent material covering said roller.

3,268,944
AUTOMATIC DOOR CHECK AND CLOSURE DEVICE
Alfonso Rodriguez Sanchez, 12 Arapiles, Madrid, Spain
Filed Nov. 27, 1963, Ser. No. 326,462
Claims priority, application Spain, Nov. 30, 1962, 282,975; July 27, 1963, 290,375
6 Claims. (Cl. 16—49)



1. An automatic door closing and checking device adapted to be mounted in a recess beneath the door, comprising a rotatable door operated shaft, a crown surrounding the lower end of said shaft and rotatable therewith, rollers secured to said crown having axes normal to the axis of the door, cams forming helical ramps for said rollers, said rollers rising on said ramps when the door swings open, whereby the horizontal component of the weight of the door causes closing movement when the door is let go, a disc surrounding said shaft above and spaced from said crown, a groove in the bottom face of said disc, said groove forming an incomplete circle and leaving an ungrooved portion acting as stop, and a projection on said crown engaging said groove and being arrested at said stop before said rising rollers reach the vertex of each of said ramps.

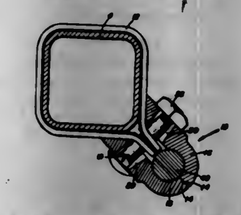
3,268,945
HYDRAULIC DOOR CLOSER
Kaloust P. Sogoian, 23633 Berg Road, Southfield, Mich.
Filed June 5, 1964, Ser. No. 372,988
2 Claims. (Cl. 16—52)



2. For use in a hydraulic door closer including
a piston rod reciprocally mounted in a casing with one end thereof extending within said casing and the other end thereof extending externally of said casing, the improvement comprising

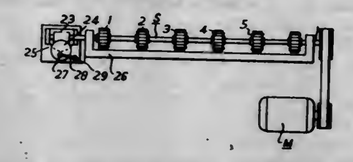
means for sealing around a portion intermediate the ends of said rod comprising
a washer of resilient material having an axial opening therein through which said rod projects,
the diameter of said opening being less than the diameter of said rod,
said washer being substantially flat in an untensioned state when removed from the casing,
a first rigid washer engaging a surface of said resilient washer and having a central portion spaced from said resilient washer allowing a central portion of said resilient washer to extend axially along said rod in a direction toward the interior of said casing,
the axially extending portion of said resilient washer being of such thickness and length that flexing of said axially extending portion is prevented during reciprocating movement of said rod in both directions so that said axially extending portion extends toward the interior of said casing during movement of said piston rod in both directions,
the free end of said axially extending portion being unrestrained in a direction toward the interior of said casing,
a second rigid washer, which closes a portion of an end of said casing, on the other side of said resilient washer,
said resilient washer having a peripheral portion surrounding and extending axially around the radially outermost periphery of said second rigid washer in a direction away from the interior of said casing,
said casing having a peripheral portion deformed radially inwardly to compress said peripheral portion of said resilient washer against the radially outermost periphery of said second rigid washer to provide a seal between said casing and the peripheral portion of said resilient washer,
and means for applying an axial force to said first rigid washer at an area surrounding said central portion of the resilient washer.

3,268,946
GATE HINGE SUPPORT CLAMP DEVICE
John S. Case, Towson, Md., assignor to Anchor Post Products, Inc., Baltimore, Md., a corporation of New Jersey
Filed July 27, 1964, Ser. No. 385,399
4 Claims. (Cl. 16—158)



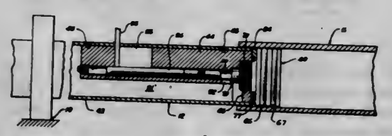
1. A hinge bracket device for pivotally connecting a structural member to a post member having a cross-section consisting of four sides, comprising a narrow flat flexible strap member for mounting on said post member, said strap member terminating in a pair of parallel extending spaced apertured ends, a pair of substantially identical mating half members each having a transversely and horizontally extending apertured boss arranged in axial alignment, a jaw extending from one end of each boss having a vertically extending concavity therein and a wing extending outwardly and angularly from the opposite end of each boss, with the angularity between the wings of said mating half members being equal to the angle between a pair of adjacent sides of said post member, the outer end of each wing extending to a point intermediate the width of its respective side of said pair of adjacent sides of said post member, each wing and boss of each mating half member having spaced guides with a recessed surface therebetween on their respective inner faces for receiving in surface engagement therewith said strap member, the depth of each said recessed surface corresponding to the thickness of said strap member and each said recessed surface being parallel to the inner face of its respective mating half member, and means extending through said apertured bosses and apertured terminating ends of said strap member for simultaneously holding said terminating ends of said strap member between the respective recessed surfaces of said mating half members, whereby said strap member is held in surface engagement with substantially the entire width of each side of said pair of adjacent sides of said post member, with the concavities of said jaws simultaneously being drawn together to form a continuous surface for receiving a portion of said structural member.

3,268,947
MEAT CUTTING TOOL
Georges Aubert, 6 Rue Pierre Dupré, Marseille, France
Filed May 20, 1965, Ser. No. 457,454
Claims priority, application France, Aug. 7, 1962, 19,826, Patent 1,330,600
1 Claim. (Cl. 17—1)



Apparatus for the mechanical boning of meat comprising:
(a) a reciprocatably mounted carriage;
(b) shaft means rotatably mounted on said carriage;
(c) a plurality of cylindrical cutter tools mounted on said shaft means to rotate therewith;
(d) each of said cutter tools being provided with a series of radially extending cutter portions, each portion having three cutting edges, the first cutting edge extending axially parallel to said shaft means and each of the other edges extending obliquely from an end of said first edge; and
(e) means for rotating said shaft and reciprocating said carriage.

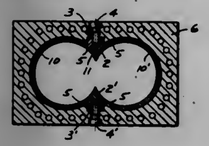
3,268,948
SAUSAGE MANUFACTURE
Norman Swift, Western Springs, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 6, 1964, Ser. No. 401,930
3 Claims. (Cl. 17—32)



1. In a sausage molding apparatus having a fixed nozzle-electrode assembly forming an end closure and source of heat energy for a cylindrical sleeve mold member, the improvement in said nozzle-electrode assembly comprising: a cylindrical thermal insulator member mountable to an end of said assembly; an electrode face disk fastened to said insulator body opposite said assembly, both of said insulator member and disk having

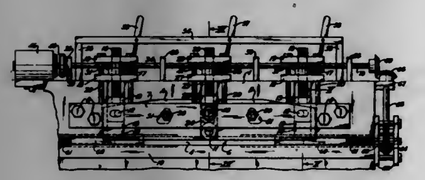
an axial passageway for the ejection of emulsion; and a plurality of electrically conductive pins extending through said thermal insulator member and connected to said electrode face disk for conducting current between said assembly and said face disk.

3,268,949
HOUSING FOR SCREW EXTRUDERS
Norwin Schmidt, Kornwestheim, and Rudolf Paul Fritsch, Stuttgart-Wellimdorf, Germany, assignors to Werner & Pfleiderer, Stuttgart-Feuerbach, Germany, a German firm
Filed Mar. 19, 1965, Ser. No. 441,049
Claims priority, application Germany, Mar. 28, 1964, W 36,474
7 Claims. (Cl. 18—2)



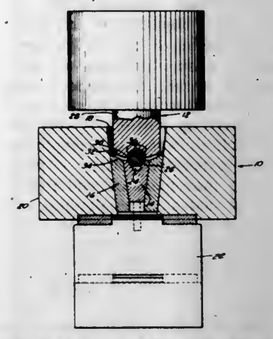
1. In a twin screw extruder for thermoplastic material, in combination, a housing including two parallel generally cylindrical chambers for receiving two rotary extrusion screws, the peripheral outlines of said chambers being in partly intersecting relationship, the lengthwise edge portions of the housing material at the points of intersection of said peripheral outlines defining a gap joining the two chambers, a generally cylindrical liner fitted in each of said chambers, said liners having in their peripheral walls lengthwise extending cut-outs in substantial registry with said edges of the housing material, said housing further including grooves extending parallel to said cylindrical chambers and being each disposed between said edge portions, and a saddle bar slidably inserted into each of said grooves to close said cut-outs in the liners.

3,268,950
ADJUSTABLE TREAD RUBBER EXTRUDING DIE
Floyd C. Rankin, Indiana, Pa., assignor to McCreary Tire & Rubber Company, Indiana, Pa., a corporation of Pennsylvania
Filed Dec. 23, 1964, Ser. No. 420,526
5 Claims. (Cl. 18—12)



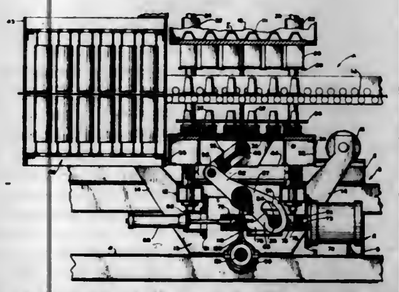
1. An adjustable die for extruding a strip of tire tread rubber, comprising a die block provided with a horizontal extrusion slot therethrough for passage of the tread rubber under pressure, a vertical die plate mounted above the exit end of said slot, means for adjusting the plate bodily downward across the slot to reduce the height of the slot exit, said plate being formed from two longitudinally aligned plate sections having overlapping inner ends connected by a horizontal pivot, and means for adjusting said pivot vertically relative to the outer ends of said plate sections to change the longitudinal shape of the bottom of the plate, whereby to provide a predetermined shape for the top of the tread strip issuing from said slot.

3,268,951
HIGH PRESSURE PRESS
Donald H. Newhall, Walpole, Mass., assignor to Harwood Engineering Company, Walpole, Mass., a corporation of Massachusetts
Filed Oct. 1, 1963, Ser. No. 313,108
3 Claims. (Cl. 18—16)



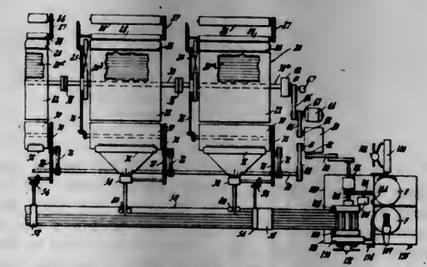
1. In a high pressure press for subjecting to ultra high pressure prepared samples comprising specimens encased in a substantially incompressible material ductile at said high pressure, an anvil assembly and a ram assembly relatively movable along a single line of thrust, said anvil assembly comprising an anvil member formed with a hemispherical sample receiving cavity to be filled to excess with said incompressible encasing material and terminating in a gasket forming lip, and said ram assembly comprising an anvil contact member having a flat sample engaging surface formed to fit closely into the open face of said cavity, and having adjacent said flat surface a gasket forming lip, said flat sample engaging surface of the ram being spaced apart from the hemispherical cavity to be moved relatively to a position in which said incompressible material is placed under a maximum pressure, and in which excess incompressible material is extruded between said lips, and said gasket forming lip being spaced apart to be moved clamping between them said extruded material at said maximum pressure to form a frictionally immovable cavity sealing gasket sealing in said incompressible material filled cavity at said maximum pressure.

3,268,952
MOLDING MACHINES
Richard K. Shelby, Downers Grove, Ill., assignor to Monsanto Company, a corporation of Delaware
Filed Dec. 26, 1963, Ser. No. 333,440
10 Claims. (Cl. 18—19)



1. A molding machine comprising a supporting frame, a pair of oppositely disposed cooperating upper and lower die frames operatively mounted on said molding machine and being adapted to shift toward and away from each other, means for passing a web of moldable material between said die frames, means operatively mounted on said molding machine for reciprocatively shifting said upper die frame toward and away from the lower die frame, a first link pivotally connected to said lower die frame, a second link pivotally connected to said first link, and being pivotally mounted on said supporting frame, pneumatic means operatively mounted on said supporting frame, camming means operable by said pneumatic means and providing an operative interconnection between said pneumatic means and said second link, whereby actuation of said pneumatic means will cause said camming means to create a pivotal movement of said second link for shifting said first and second links thereby raising and lowering said lower die frame in timed relation to the movement of said web.

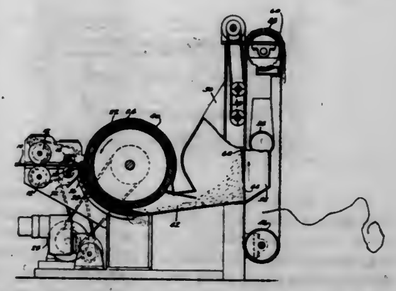
3,268,953
TEXTILE CARDING AND DRAFTING APPARATUS
Virgil A. Burnham, Saco, Maine, assignor to Maremont Corporation, Chicago, Ill., a corporation of Illinois
Filed May 7, 1963, Ser. No. 278,727
2 Claims. (Cl. 19—.25)



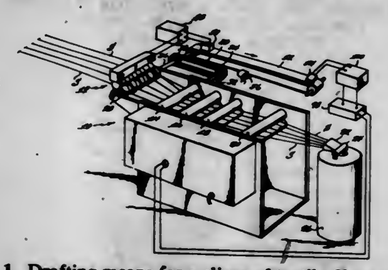
1. A carding apparatus which comprises
a card having a main cylinder and a doffer cylinder,
main cylinder drive means for driving the main cylinder at an operating speed,
doffer cylinder drive means shiftable between operating and creep speeds,
quantity defining means establishing the amount of sliver to be collected as a package in a receptacle,
package receptacle changing means, and
control means responsive to said quantity defining means, said control means being connected to said doffer cylinder drive means operative to shift said doffer cylinder drive means to drive said doffer cylinder at said creep speed and to operate said package receptacle changing means to change said package receptacle while said doffer cylinder continues to be driven at said creep speed and said main cylinder continues to be driven at said operating speed and, after said package receptacle has been changed, to again operate said doffer cylinder drive to drive said doffer cylinder at operating speed.

3,268,954
METHOD FOR DISINTEGRATING WOOD PULP BOARD INTO ITS COMPONENT FIBERS AND REASSEMBLING THE FIBERS AS A SOFT BAT
Curt G. Joa, Ocean Ridge, Fla.
(Box 1121, Boynton Beach, Fla.)
Filed Dec. 9, 1963, Ser. No. 329,120
2 Claims. (Cl. 19—156.3)

1. A method of removing fibers from compacted wood pulp boards which individually have different degrees of hardness and density and reassembling the fibers as a soft bat and comprising the steps of superimposing in laminated face relation a plurality of such boards so that the aggregate hardness and density of successive sets of such laminated boards tends to be more uniform than successive individual boards, feeding the laminated boards toward a picking drum provided with pins, rotating the drum and bending the laminated boards concurrently into substantial tangency with the movement of the pins so that a lower board yieldingly supports an upper board and supports said boards in positions such that said pins progressively enter top surface portions of the successive superimposed boards and move toward the ends of such boards to pick fibers therefrom, delivering such fibers to a bat forming screen and forming a soft bat from said fibers on said screen.

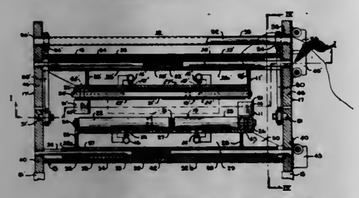


3,268,955
DRAFTING APPARATUS
Arthur L. Burnet and Herbert J. Woods, Greensboro, N.C., assignors to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Feb. 7, 1964, Ser. No. 343,422
8 Claims. (Cl. 19—240)



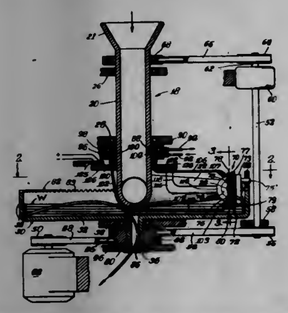
1. Drafting means for a sliver of textile fibers comprising: back rolls; front rolls; a single source of power for driving said back rolls at a predetermined constant speed and for driving said front rolls at a different speed relative said back rolls to draft slivers between said front and back rolls; a direct drive operatively connecting said back rolls to said single source of power, said direct drive including a shaft and gearing rotated by said shaft for driving said back rolls; a differential unit operatively connected to said direct drive and driven thereby, said differential unit including a gear fixed to said shaft, a planet gear meshing with the gear fixed to said shaft, a sun gear carrying said planet gear, a second gear meshing with said planet gear, said second gear being operatively connected to said front rolls; sensing means for sensing variations in sliver as it approaches said back rolls; a variable speed motor operatively connected to said sun gear of said differential unit to control the rotational speed of said sun gear so as to vary the speed of said front rolls independently of the single source of power; and means operatively connecting said sensing means to said variable speed motor for coordinating the speed of said variable speed motor with variations sensed in the sliver.

3,268,956
CONTINUOUS CASTING ADJUSTABLE ROLLER SPRAY APRON
Herbert Lemper, Pittsburgh, Pa., assignor to Mesta Machine Company, a corporation of Pennsylvania
Filed Feb. 19, 1964, Ser. No. 345,995
4 Claims. (Cl. 22—57.2)



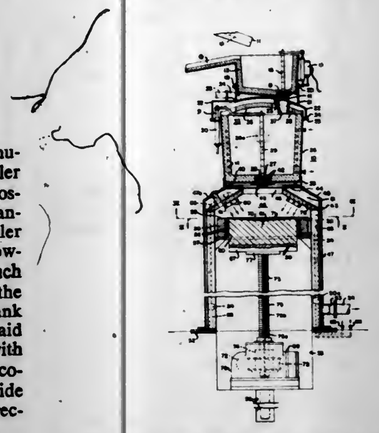
1. An adjustable roller spray apron for use in continuous casting machines comprising at least a pair of roller bank means of L-shaped cross section disposed in opposing relationship wth respect to each other to form a channel of rectangular cross section therebetween, each roller bank means having a broadside roller bank and a narrowside roller bank disposed with respect to each other such that in cross section the broadside roller bank forms the long part of the L-shape and the narrowside roller bank forms the short part of the L-shape, at least one of said roller bank means having means operable to move it with respect to the opposing roller bank means in planes coincident with the planes of said broadside and narrowside roller banks such that the lineal dimensions of said rectangular cross section are selectively varied.

3,268,957
CASTING VELOCITY CONTROL MECHANISM FOR CENTRIFUGAL WIRE CASTING MACHINES
Ernest U. Lang, Niles, Mich., assignor to National Standard Company, Niles, Mich., a corporation of Delaware
Filed June 24, 1963, Ser. No. 289,998
9 Claims. (Cl. 22—57.2)



1. In a centrifugal wire casting machine, the improvement comprising, in combination, a rotatable casting assembly including means for receiving molten metal and conducting the same under the influence of centrifugal force to a casting nozzle associated therewith whereby metal is forced outwardly through said nozzle to form a continuous length of wire, a collecting member disposed beneath said casting assembly for collecting wire which is delivered from said casting nozzle, said collecting member being rotated at a speed less than the speed of rotation of said casting assembly, control means carried on said casting assembly and disposed adjacent the outlet of said nozzle for engaging the wire which is delivered therefrom and thereby controlling the casting velocity, and means responsive to the relative rotation of the casting nozzle with respect to said collecting member for actuating said control means.

3,268,958
SLOW POURING AND CASTING SYSTEM FOR FERROUS AND OTHER METALS
Adolf Heinrich Wilhelm Sickbert, Wattenscheid-Eppendorf, Germany, assignor, by mesne assignments, to Midvale-Heppenstall Company, Nicetown, Pa., a corporation of Pennsylvania, and Heppenstall Company, Pittsburgh, Pa., a corporation of Pennsylvania, jointly
Filed Dec. 19, 1963, Ser. No. 331,731
16 Claims. (Cl. 22—57.2)

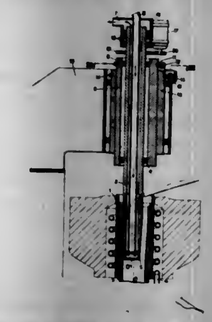


3. Slow pouring and casting method for metals, comprising, in combination, pouring molten metal into an evacuated teeming member to fragment and degas such poured molten metal as it falls, maintaining a selected temperature of the degassed molten metal in said teeming member, teeming degassed molten metal from said teeming member without exposure to air at a selected relatively slow rate, evacuating a mold chamber below said teeming member to receive and further degas said teemed molten metal, quickly molding and freezing the teemed molten metal in ingot form in a coolable ring mold with a relatively thin molten metal layer at the very top of said ingot, freezing said teemed molten metal substantially at the rate of its teeming, maintaining the surface of said thin molten metal layer open without crusting and bridging, and moving said ingot downwardly relative to said ring mold in correspondence with the rate of teeming and freezing.

3,268,959
METHOD AND APPARATUS FOR VERTICAL CASTING OF HOLLOW METALIC BODIES
Louis Babel, Sauvigny-les-Bois, Nievre, and Pierre Peytavin, Aulnoye Aymeries, Nord, France, assignors to Société Civile dite: Société Civile d'Etudes de Centrifugation, Paris, France, a corporation of France
Filed Apr. 15, 1963, Ser. No. 273,098
Claims priority, application France, Apr. 26, 1962, 895,753, Patent 1,329,048
10 Claims. (Cl. 22—57.3)

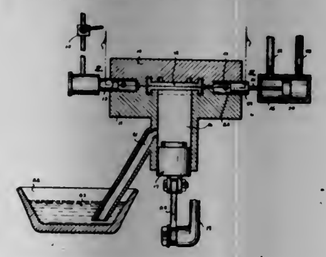
1. Apparatus for casting metal comprising a mandrel mounted to rotate about a vertical axis, a hollow mould encircling said mandrel and mounted to rotate about an axis parallel to but slightly spaced from the axis of said mandrel so that the inner wall of the mould approaches the outer wall of said mandrel more closely at one point on its periphery than elsewhere, and means for supplying molten metal to said mould at an angular distance of between 30 and 120° from said one point preceding the point at which the mandrel and mould are closest.

7. The method of making hollow castings by vertical continuous casting comprising the steps of rotating a first cylindrical surface within a second cylindrical surface about an axis displaced from but parallel to that of said second cylindrical surface so that said surfaces approach each other most closely at one particular position and



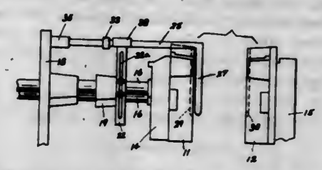
feeding molten metal between said surfaces at a feeding position reached by any given point on one of said surfaces between 30 and 120° before it reaches said particular position.

3,268,960
METHOD OF AND MEANS FOR PRODUCING DENSE ARTICLES FROM MOLTEN MATERIALS
Glenn R. Morton, 7025 Sarpy Ave., Omaha, Nebr.
Filed Sept. 8, 1964, Ser. No. 395,983
2 Claims. (Cl. 22—68)



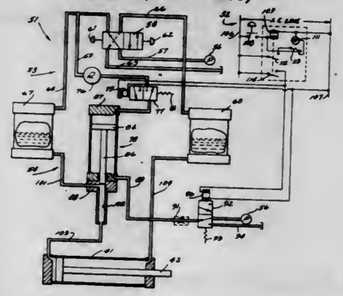
1. In a vacuum die casting machine, comprising a pair of mold sections with adjacent facing surfaces, each of said surfaces having a recess formed therein, cooperating to form a mold cavity disposed on a plane extending parallel to said surfaces, said surfaces each having an arcuate recess formed therein and extending around said die cavity and cooperating to form a conduit, said surfaces each having half of a cylinder formed therein and cooperating to form a full cylinder, said conduit opening into said cylinder, a piston disposed in said cylinder and movable to an inward position to close said conduit, a vacuum source in communication with said conduit, and said conduit being in communication with said mold cavity, when said piston is in a retracted position exposing said conduit opening to said cylinder, a hydraulic power means connected to said piston for selectively moving said piston between said inward position and said retracted position, one of said mold sections having an enlarge opening formed therethrough in direct alignment with said mold cavity, a shot cylinder in communication with said enlarged opening and disposed at 90 degrees to said first mentioned cylinder, a ram piston in said shot cylinder, power means for reciprocating said ram piston to a position closely adjacent said mold cavity to a position remote therefrom, a conduit in communication at one end with the interior of said shot cylinder, a container having molten material and the other end of said last mentioned conduit in communication with said molten material.

3,268,961
CASTING EJECTOR APPARATUS
Kenneth D. Clark, Caro, Mich., assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 16, 1963, Ser. No. 309,117
6 Claims. (Cl. 22—94)



1. A split permanent mold casting machine comprising in combination:
(a) a mold-supporting apparatus;
(b) a first mold section carried by said supporting apparatus;
(c) a second mold section carried by said supporting apparatus and movable toward and away from said first section to close and open said mold;
(d) means for moving said second mold section;
(e) means for ejecting a casting formed in the mold, said means including:
(f) a finger for engaging and adhering to a portion of a casting formed in the mold;
(g) means for supporting said finger;
(h) means coacting with said finger in response to movement of said mold section away from said first mold section a predetermined distance and when said casting adheres to said first mold section, for selectively positively moving said finger away from said first mold section such that the attached casing is removed from said mold section; and
(i) means coacting with said finger when said second mold section moves a predetermined distance from said first mold section and said casting adheres to said second mold section, for selectively positively moving said finger away from said second mold section such that the casting is removed from said second mold section.

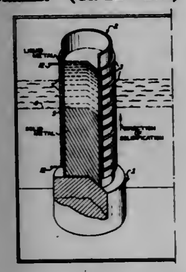
3,268,962
METHOD OF CASTING
Claude L. Roles, Vassar, Mich., assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Filed Mar. 5, 1964, Ser. No. 349,567
4 Claims. (Cl. 22—200)



1. A method for casting metal capable of expanding while it is being cooled from a molten condition to a solid condition in a multipart permanent mold, which comprises the steps of:
closing the mold and applying a clamping pressure thereto sufficient to hold the mold closed during the hereinafter mentioned casting step;

casting molten metal into the mold;
allowing the mold and casting to cool until expansion of the casting begins;
then reducing the clamping pressure while the casting is undergoing expansion as it is cooled and maintaining a reduced holding pressure on the mold parts urging the mold parts to a closed position, which holding pressure is sufficient to permit the mold parts to move apart in response to expansion of the casting but which maintains the mold parts in supporting engagement with the casting;
allowing the casting to cool to an ejection temperature and opening the mold and ejecting the casting.

3,268,963
CASTING OF METAL INGOTS
Karl Ernst Mann, Meinerzhagen, Westphalia, Germany, assignor to Otto Fuchs K.G., Westphalia, Germany, a corporation of Germany
Filed Apr. 8, 1964, Ser. No. 358,308
5 Claims. (Cl. 22—212)



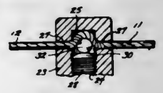
1. In the tin-can casting process of metals and their alloys in which the molten metal, placed in the tin can, is gradually solidified from the bottom of the tin can up by a relative movement between a coolant bath and the tin can, while maintaining that metal amount in the tin can being above the level of the coolant in the fully molten state by heating means surrounding the tin can, the improvement which comprises that no relative movement takes place between said heating means and the tin can during the solidifying proceedings.

3,268,964
TRIM BUTTON
Ray E. Forsyth, 16151 James Couzens Hwy., Birmingham, Mich.
Filed May 18, 1964, Ser. No. 368,269
3 Claims. (Cl. 24—113)



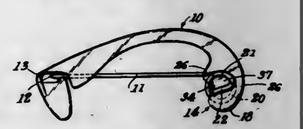
1. A trim button comprising
a collet,
said collet having an annular peripheral surface extending generally axially and a base surface extending generally radially inwardly from said surface,
a cap,
said cap being generally cup-shaped and having a top wall and an annular side wall terminating in a free edge,
a covering on said cap,
said covering extending over the outer surface of said top wall and the outer surface of said side wall around the free edge of said side wall and along the inner surface of said side wall and a portion of the inner surface of said top wall,
said side wall of said cap being deformed inwardly to hold the covering in contact with the peripheral surface of said collet with the portion adjacent the free edge of said side wall being deformed radially inwardly to hold the covering in contact with said base surface of said collet,
said covering being substantially thicker in the portions of the free edge of said side wall of said cap.

3,268,965
CABLE CLAMP
John Read Arthur, Clarinda, Iowa, assignor to Lisle Corporation, Clarinda, Iowa, a corporation of Iowa
Filed May 11, 1964, Ser. No. 366,535
1 Claim. (Cl. 24—135)



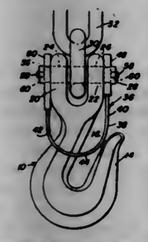
A cable clamp comprising in combination:
housing means having a polygonally formed exterior surface, and having internally a passage formed therethrough through which a flexible cable is adapted to pass, and having further a bore formed therein at substantially right angles to said passage and intersecting same;
said bore having a portion thereof threaded, said threaded portion disposed on one side of said passage, and having further an inner closed end disposed on the opposite side of said passage, the end of which is right angular in cross-section and the surface of which is completely smooth;
an externally threaded member inserted into said bore toward the closed inner end thereof, the inner end of said member being substantially smooth, the diameter of which is greater than the diameter of said threaded member; and
a separate, spherical, deformable element placed within the said bore and engageable by the inner end of said member to engage in turn the cable, said element having a diameter approximately one-half the diameter of said bore and equal approximately to the depth of said inner closed end, said member threadable within said bore to force said element against the cable and toward the inner closed end of said bore.

3,268,966
SAFETY PIN CONSTRUCTION
Richard W. Nickerson, 5261 Sierra Villa Drive, Los Angeles, Calif.
Filed June 17, 1964, Ser. No. 375,872
4 Claims. (Cl. 24—161)



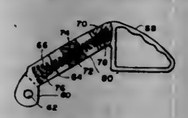
1. In a safety pin having a rigid frame with opposite ends, and a spring pin member operatively associated with said frame to open and close the safety pin at one of its ends, means interconnecting the opposite end of said pin member and the corresponding end of the frame comprising:
(a) a loop in said opposite end of the pin member comprising one full turn and approximately a half turn superimposed on the full turn, and
(b) groove-provided opposite face portions on said corresponding end of the frame receiving and conforming to the full and half turns of the loop, the face portion that receives the half turn being provided with a guide channel having open ends and along which the half turn of the loop is slid during snap-retention assembly of the pin member and frame,
(c) said face portion, between the channel ends, being provided with a slope up which the half-turn loop part is guided during assembly of the frame and pin member.

3,268,967
CHAIN HOOK ATTACHMENT
Edgar A. Jordan, 2510½ Gottle St., Klamath Falls, Oreg.
Filed Oct. 19, 1964, Ser. No. 404,588
6 Claims. (Cl. 24—236)



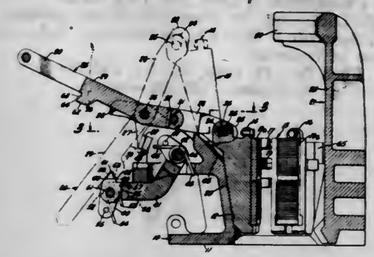
1. In combination with a hook member including an elongated shank terminating at one end in a backturned hook defining a throat opening between the free end portion of said hook and said shank, an attachment for preventing accidental withdrawal of a member from said hook through said throat, said hook member defining a medial plane, said attachment including a resilient generally U-shaped member including a pair of arms interconnected at one pair of corresponding ends by means of a bight portion, means securing the other pair of corresponding ends of said arms to opposite sides of the end of said shank remote from said backturned hook with the medial planes of said hook member and said U-shaped member generally paralleling each other and the closed end of said U-shaped member slightly laterally deflected by and to one side of the portions of said hook member defining said throat and disposed alongside said portions with at least portions of said bight portion extending at least substantially across the said throat and substantially blocking the latter.

3,268,968
SLIP HANDLE
Charles D. Crickmer, Houston, Tex., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 19, 1964, Ser. No. 412,528
9 Claims. (Cl. 24—263)



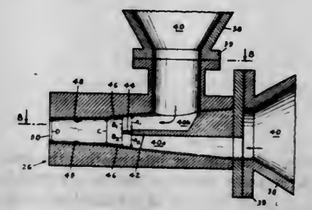
4. A slip handle comprising, an elongated member adapted to be connected with a slip body; said member being shock absorbing and composed throughout a substantial portion of the length thereof at least in part of a resilient elastomer compound.

3,268,969
SPIDER FOR WELL PIPE
John W. Turner, Jr., Houston, Tex., assignor to Byron Jackson, Inc., Long Beach, Calif., a corporation of Delaware
Filed Feb. 12, 1965, Ser. No. 432,347
5 Claims. (Cl. 24—263)



3. A spider comprising:
(a) a body having an opening therethrough;
(b) slips seated in said opening and movable from a seated position to an unseated position and vice versa;
(c) a lever pivoted to said body and connected to said slips for moving said slips from one said position to the other;
(d) a latch element on said body;
(e) another latch element on said lever;
(f) means responsive to pivoting of said lever into a position wherein said slips are in said unseated position for interengaging said latch elements; and
(g) means responsive to pivoting of said lever from its position wherein said latch elements are interengaged in a direction to move said slips towards said seated position for mutually disengaging said latch elements.

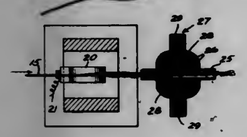
3,268,970
APPARATUS FOR MAKING MULTICOLORED SOAP BARS
William A. Kelly and Philip J. Petix, Teaneck, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Nov. 27, 1964, Ser. No. 414,357
12 Claims. (Cl. 25—8)



1. Apparatus for making striped soap comprising a die member having a die passage therein corresponding in cross-section substantially to the cross-section of a finished soap bar, a screw conveying device for supplying plastic soap to one end of said die passage for flow therethrough, at least one flange extending into said die passage from one side thereof and having an inner edge disposed in about the mid-plane of said die passage to form a groove in the soap flowing through said passage,

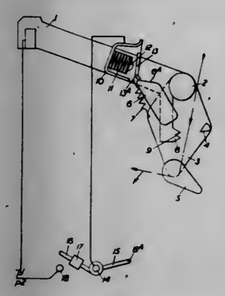
said flange having a closed leading end facing toward said conveying device and a trailing end having a slot extending throughout the height of the flange and through the trailing end and the inner edge thereof and a screw conveying device for supplying plastic different soap material to said slot for flow therethrough into said groove to fill it completely.

3,268,971
ELECTRO-MECHANICAL APPARATUS FOR CRIMPING YARN OR THE LIKE
Russell C. Lockwood, Jr., Stamford, Conn., assignor to Joseph Bancroft & Sons Co., Wilmington, Del., a corporation of Delaware
Filed Dec. 19, 1962, Ser. No. 245,859
7 Claims. (Cl. 28—1)



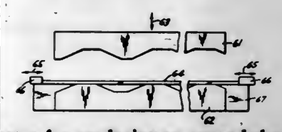
1. Apparatus for bulking yarn or the like comprising a charging zone including a pair of electric contact elements carrying a high voltage charge and an electromagnet having a concentrated alternating flux path, feed rolls feeding said yarn to said charging zone and to said electromagnet in a path extending across the axis of said concentrated flux path and a pair of delivery rolls contacting said yarn beyond said electromagnet, said feed rolls and said delivery rolls being driven at a fixed ratio adapted to maintain the crimped yarn under a predetermined tension.

3,268,972
STOP MECHANISM FOR STRETCHING DEVICES
Joseph Flori, Vaulx-en-Velin (Rhone), France, assignor to Textile & Chemical Research Company Limited, Vaduz, Liechtenstein, a corporation of Liechtenstein
Filed Mar. 5, 1964, Ser. No. 349,681
Claims priority, application France, Mar. 5, 1963, 926,888
1 Claim. (Cl. 28—71.4)



In a stop mechanism for interrupting the feed of yarns of large diameter as they are fed to a stretching station, comprising a knife located in advance of said stretching station having a dihedral cross section and a fixed plate having a groove adapted to receive said knife, and having means for feeding said yarn beyond said knife and said fixed plate to said stretching station, the improvement which comprises a pivoted member carrying said knife, means for latching said knife in a retracted position, said latching means including a plate and a latch operatively associated therewith, said plate being supported by the pivoted member, spring means for advancing the knife to a severing position in advance of said stretching station, feeler means behind said stretching station actuated in response to breakage of the yarn thereby releasing the latch and thus advancing the knife to yarn severing position, the severing of the said yarn causing an interruption of the feed thereof to said stretching station, said stop mechanism further including an electromagnetic means adapted to actuate the latch to release said knife for severing the yarn at a point in advance of the stretching station.

3,268,973
APPARATUS FOR PRODUCING EXPANDED METAL
Robert M. Felsenthal, Westport, Conn., assignor to Exmet Corporation, Bridgeport, Conn., a corporation of Delaware
Original application Apr. 24, 1962, Ser. No. 189,839, now Patent No. 3,162,925, dated Dec. 29, 1964. Divided and this application Nov. 16, 1964, Ser. No. 411,412
1 Claim. (Cl. 29—6.2)

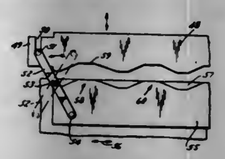


In apparatus for producing an expanded metal sheet in which successive staggered rows of pendant sheared-out strands are linked together by connecting bridges:
(a) a shear plate and a serrated punch reciprocable in shearing relation to each other,
(b) means for causing stepwise advancement of the sheet to be treated, to bring successive areas into overhanging relation to the shear plate and thus subject them to the shearing action of said punch,
(c) means for effecting a relative back-and-forth lateral shift of punch and sheet between shearing operations, said means comprising means for imparting lateral back-and-forth movements to the sheet while the punch remains laterally stationary, and
(d) means for supporting the overhanging area of the sheet during each shearing operation in the regions between the serrations of the punch so as to counteract the tendency of the punch to pull the connecting bridges out of the plane of the sheet,
said means comprising a laterally stationary comb directly adjacent to and in contact with the shear plate and directly beneath the overhanging sheet area, said comb having serrations facing toward and in complementary alignment with those of the punch, the peak of each comb serration lying substantially at the level of the shearing edge of said plate.

3,268,974
APPARATUS FOR PRODUCING EXPANDED METAL
Robert M. Felsenthal, Westport, Conn., assignor to Exmet Corporation, Bridgeport, Conn., a corporation of Delaware
Original application Apr. 24, 1962, Ser. No. 189,839, now Patent No. 3,162,925, dated Dec. 29, 1964. Divided and this application Nov. 16, 1964, Ser. No. 411,449
4 Claims. (Cl. 29—6.2)

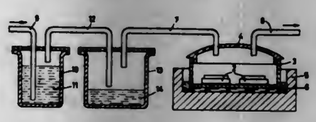
1. In apparatus for producing an expanded metal sheet in which successive staggered rows of pendant sheared-out strands are linked together by connecting bridges:
(a) a shear plate and a serrated punch reciprocable in shearing relation to each other,
(b) means for causing stepwise advancement of the sheet to be treated, to bring successive areas into overhanging relation to the shear plate and thus subject them to the shearing action of said punch,

(c) means for moving the punch laterally to effect a relative back-and-forth lateral shift of punch and sheet between shearing operations,
(d) means for supporting the overhanging area of the sheet during each shearing operation in the regions between the serrations of the punch so as to counteract the tendency of the punch to pull the connecting bridges out of the plane of the sheet,
said means comprising a comb directly adjacent to and in contact with the shear plate and directly beneath the overhanging sheet area, said comb having serrations facing toward and in complementary alignment with those of the punch, the peak of each comb serration lying substantially at the level of the shearing edge of said plate, and



(e) means for effecting relative lateral shifts of comb and sheet with respect to each other to establish said complementary alignment during each shearing cycle,
said means comprising an interengagement between punch and comb which includes a pivot link fulcrumed as a lever whose arms are pivotally articulated to the punch and comb, respectively, whereby lateral movements of the punch are accompanied by lateral movements of comb, said articulations being such that movements of the punch in shearing direction remain unimpeded.

3,268,975
METHOD OF PRODUCING A SEMICONDUCTOR MEMBER
Reimer Emeis, Ebermannstadt, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Feb. 19, 1963, Ser. No. 259,581
Claims priority, application Germany, June 19, 1962
S 79,972
4 Claims. (Cl. 29—25.3)



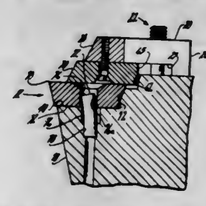
1. The method of producing a semiconductor member, which comprises joining metallic contact electrodes with a monocrystalline semiconductor body, placing such bodies into a processing chamber, charging a current of substantially inactive gas with vapors from above the level of etching liquid composed of a mixture of hydrofluoric acid in about 40% concentration with fuming nitric acid in the approximate ratio of 1:1, and passing the vapor-laden gas current through the processing chamber for chemically cleaning the exposed semiconductor surfaces, while simultaneously heating the semiconductor body to a temperature above that of the vapor-laden gas current, and scavenging the reaction products away therefrom and out of the chamber.

3,268,976
BROACH FOR CURVED GRAPHITE PASSAGES
Ezra Hollister, deceased, late of Kennewick, Wash., by Robert A. Hollister, Salt Lake City, Utah, and Sharon H. Everitt, Pasco, Wash., executors, assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed July 9, 1964, Ser. No. 381,601
5 Claims. (Cl. 29—95.1)



1. A sizing device comprising a slender shaft, a row of broaching elements loosely fitting the shaft and having spiral cutting portions, the cutting portions spiraling in opposite directions in alternate broaching elements, and locking washers located on the shaft between the broaching elements for keying the elements against rotation with respect to one another.

3,268,977
TOOL HOLDER AND INSERT
Le Roy H. Diemond, 82 Arnold Drive, East Hartford, Conn.
Filed Feb. 13, 1964, Ser. No. 344,688
8 Claims. (Cl. 29—96)

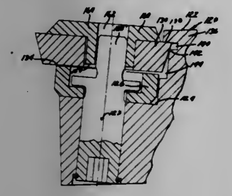


1. A cutting tool comprising a tool holder having shank and head portions the latter of which defines a bottom seating surface, said seating surface having angularly related first and second rear edges arranged as a contiguous pair, said head portion also defining angularly related first and second rear seating surfaces disposed respectively adjacent said rear edges of said bottom seating surface and inclined upwardly and rearwardly with respect thereto, a cutting insert which has a bottom seating surface and angularly related first and second rear seating surfaces all of which surfaces are at least approximately complementary to the corresponding seating surfaces on said head portion, said cutting insert also having an opening therein with a rear wall at least approximately normal to the bottom seating surface thereon, and said bottom seating surface on the head portion being provided with a cooperating upstanding post, said opening rear wall and post being spaced forwardly respectively from the rear seating surfaces on the insert and the rear seating surfaces on the head portion in such manner that the post is engaged and flexed forwardly by the wall when the insert is urged downwardly and seated in the head portion, and a clamping means engageable with the head portion and the insert and operable to seat the insert.

3,268,978
TOOL HOLDER
Donald F. Reck, 1985 Belmont Drive, Muskegon, Mich.
Filed Mar. 31, 1965, Ser. No. 444,184
11 Claims. (Cl. 29—96)

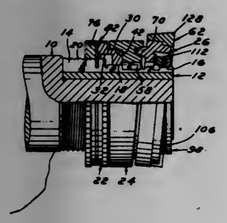
1. A machining tool comprising: a tool holder having an elongated shank and an insert-receiving recess on one

end thereof; said recess having a bottom support ledge and a back wall portion; an indexable tip insert in said recess with a cutting edge overhanging said ledge, and having a rear edge at said wall portion; eccentric, rotatable locking means supported in said shank and projecting up through said ledge and into said tip insert, to lock said



insert against said wall portion in said recess; and said shank having a projection protruding from said wall portion into hold-down relation with the rear edge of said tip insert, to limit rotation of said tip insert with respect to said wall portion.

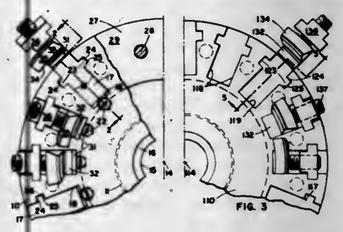
3,268,979
CUTTING TOOL
James W. Stewart, Detroit, and Orval A. Opperthauser, Bloomfield Township, Oakland County, Mich., assignors to F. Joseph Lamb Co., Warren, Mich., a corporation of Michigan
Filed Apr. 3, 1964, Ser. No. 357,184
20 Claims. (Cl. 29—101)



1. A cutting tool comprising a spindle having a cylindrical end portion, a tool bit holder ring rotatably supported on said end portion of the spindle, a tool bit in the form of a circular segment mounted on said holder, said holder ring having an inner diameter greater than the diameter of the end portion of said spindle, an eccentric ring rotatably supported on the end portion of the spindle and operatively connected with the holder ring such that when the eccentric ring is rotated, the holder ring is shifted radially on the end portion of the spindle, and means threaded on the end portion of the spindle for clamping the ring assembly in an axially fixed position on the spindle.

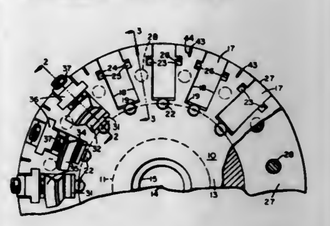
3,268,980
INSERTED BLADE FACE MILL CUTTER
Richard C. Blakesley, Holcomb, and Lawrence J. Smith, Rochester, N.Y., assignors to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed Oct. 16, 1964, Ser. No. 404,421
8 Claims. (Cl. 29—105)

1. A face mill cutter comprising a head having substantially radial slots with parallel sides, said sides having lateral recesses whose outer surfaces are substantially perpendicular to said parallel sides, bridge pieces extending across the slots and bearing on said outer surfaces, cutter blades in the slots inward of the bridge pieces, and



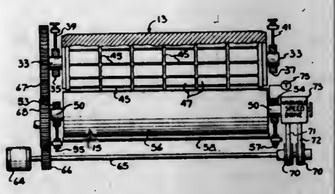
compression screws threaded to the bridge pieces for clamping the blades in the slots.

3,268,981
INSERTED BLADE FACE MILL CUTTER
Richard C. Blakesley, Holcomb, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed Aug. 20, 1965, Ser. No. 481,349
9 Claims. (Cl. 29—105)



1. A face mill cutter comprising a head of generally circular form and having around its periphery substantially radial slots whose opposite sides have lateral recesses, bridge pieces extending across the slots and bearing on the outer surfaces of said recesses, cutter blades confined in the slots between the sides thereof and inwardly of the bridge pieces, and compression screws threaded to the bridge pieces for clamping the blades in the slots, the cutter head having slits around the periphery thereof extending radially into the lands between adjacent slots.

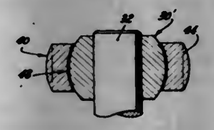
3,268,982
SHEET COATING APPARATUS AND METHOD OF REPAIRING SAID APPARATUS
Edward J. Schultze, Mount Prospect, Ill., assignor to National Can Corporation, Chicago, Ill., a corporation of Delaware
Filed May 5, 1964, Ser. No. 364,912
9 Claims. (Cl. 29—148.4)



4. In a method of repairing a sheet coating apparatus having a coating roller, an impression roller rotatable at the same peripheral speed as and cooperating with the coating roller to grip and feed a sheet therebetween to apply a coating of material from the coating roller to one

side of the sheet, and scraper means in pressure engagement with the periphery of the impression roller for removing therefrom coating material that may become deposited thereon and wherein the scraper causes irregular wear of said periphery; the steps comprising machining the periphery of the impression roller to reduce the diameter thereof, and thereafter changing the speed of rotation of the one of the rollers relative to that of the other roller sufficient to render the peripheral speed of the impression roller substantially the same as that of the coating roller.

3,268,983
METHOD OF MAKING LOW FRICTION SPHERICAL BEARINGS
Frederick A. Straub, 4222 Los Nieto Drive, Los Angeles, Calif.
Filed Aug. 21, 1964, Ser. No. 391,128
9 Claims. (Cl. 29—149.5)



1. A method of making a self-aligning, spherical bearing of the self-lubricating type having a cylindrical outer race ring, a central ball element having a smooth spherical zone surface and a liner disposed between said ring and ball element, comprising the steps of:

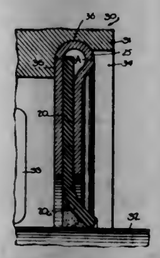
forming at least one generally spiral groove in the inner surface of the cylindrical race ring;

positioning the liner within said race ring;

positioning said race ring and said liner around the central ball element; and

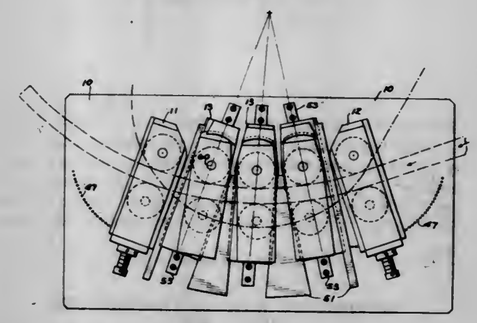
press-forming said ring and liner around said central element by the application of forces directed toward the center of said ball element to permanently deform said ring around said ball element and liner, to cause portions of said liner to enter said generally spiral groove, to cause the width of said groove to become narrower due to the deformation of the ring to lock said liner by said portions to said race ring between said race race ring and ball element to prevent shifting of said liner relative to said race ring upon rotation of said ball element and to place said liner inner surface in rotational bearing relation with the spherical surface of said ball element.

3,268,984
METHOD OF MAKING A BEARING SEAL
John J. Kupchick, Forestville, Conn., assignor, by mesne assignments, to TRW Inc., a corporation of Ohio
Filed Nov. 1, 1963, Ser. No. 320,690
2 Claims. (Cl. 29—149.5)



1. A process for manufacturing a bearing seal comprising stamping a ring-shaped flange from a sheet of deformable metal and turning a peripheral flange at 90° thereto, assembling a resilient diaphragm on said ring-shaped flange, bending the peripheral flange over and forming a peripheral curved portion, creasing the peripheral flange to form a conical-shaped portion extending inward from the curved portion and pressing the conical-shaped portion to clamp a resilient diaphragm and form a deformable peripheral bead.

3,268,985
METHOD AND APPARATUS FOR BENDING STRUCTURAL MEMBERS
Ralph G. Smith, 5000 Stecker, Whitmore Lake, Mich.
Filed May 31, 1963, Ser. No. 284,404
16 Claims. (Cl. 29—155)



1. The method of bending a structural member to a predetermined curvature without the application of heat and in a single pass which comprises the steps of

directing the leading end of said length of structural member between a pair of continuously driven rolls,

rotating said rolls to cause said leading end to be pulled through said rolls,

thereafter directing the leading end of said length between at least three pair of spaced idler rolls,

positioning said first pair of idler rolls adjacent said first pair of drive rolls with the axes of said rolls lying in a plane such that the length of the structural member between the first pair of drive rolls and the first pair of idler rolls tends to assume a parabolic curvature,

directing the leading end of said length after passage through said pairs of idler rolls between a second pair of driven rolls,

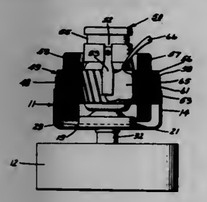
rotating said second pair of driven rolls at substantially the same peripheral speed as said first pair of driven rolls,

and positioning said second pair of driven rolls with relation to said last pair of idler rolls such that the length of structural member assumes the desired configuration between said second pair of driven rolls and said last pair of idler rolls.

3,268,986
METHOD OF MANUFACTURING DYNAMO-ELECTRIC MACHINES
Michael J. Lacy, Florissant, Mo., assignor to General Electric Company, a corporation of New York
Filed May 7, 1963, Ser. No. 278,656
5 Claims. (Cl. 29—155.5)

1. A method of assembling a dynamoelectric machine having a stationary member including a stator, a rotatable assembly including a rotor rotatable with a shaft, and rotor supporting means including at least one bearing rotatably supporting the shaft; establishing a predetermined relation between the stationary member and rotatable assembly by spacer means in engagement with

said member and said assembly and with the shaft extending into the bearing; applying in fluid form disintegrable holding material, which is stable at room temperature, in between said stator and rotatable assembly to preserve said established predetermined relation; solidifying said disintegrable holding material, while maintaining said established predetermined relation by the



disintegrable holding material having a constant volume at room temperature; removing said spacer means; rigidly attaching said rotor supporting means and stationary member together in a fixed relation; and disintegrating the holding material thereby releasing the rotor and shaft for rotation relative to the stationary member and bearing.

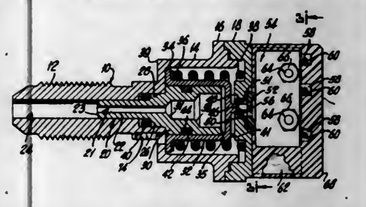
3,268,987
METHOD OF MAKING TRANSDUCER HEAD CORES
Edmond Adams, 713 Gist Ave., and William M. Hubbard, 10606 Lilac Place, both of Silver Spring, Md.
Filed May 11, 1959, Ser. No. 812,546
16 Claims. (Cl. 29—155.5)



1. The method of fabricating a multi-structured transducer head core having a body constituted of low reluctance, physically-soft alloy and a tape contacting portion of a low reluctance, physically-hard alloy comprising the steps of metallically and integrally fusing suitably configured material of a physically-hard alloy to form said tape contacting portion to suitably configured material of a physically-soft alloy to form said body, forming the fused materials into a desired core configuration, heat treating the formed core to develop the magnetic properties, and working the core into a dimensionally mated product.

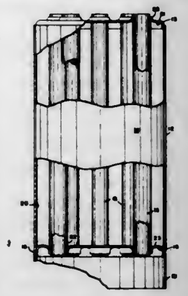
3,268,988
PRESSURE CONTROL SWITCH
Peter H. Palen, 5 Crestview Road, Mountain Lake, N.J.
Original application July 22, 1959, Ser. No. 828,886, now Patent No. 3,118,030, dated Jan. 1, 1964. Divided and this application Nov. 19, 1963, Ser. No. 327,865
2 Claims. (Cl. 29—155.5)

1. A method of assembling an electrical button operated switch with a pressure actuator having an actuating pin, comprising the steps of: positioning a sealing member around an opening in a cover plate of said actuator through which said pin of said pressure actuator extends, positioning said switch with the button thereof in alignment with said opening and said pin, the body of said switch being pressed against said sealing member with the switch body fixedly spaced from said cover plate to define an encapsulating recess between said switch



body, said cover plate and said sealing member, and encapsulating said switch and said recess with a hardenable resin to seal said recess and said switch.

3,268,989
METHOD OF ASSEMBLING A CERAMIC LINED WATER HEATER
Lee R. Erwin, Duarte, Gordon E. Gustavson, Brea, and Douglas W. McCallum, Norwalk, Calif., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Mar. 26, 1962, Ser. No. 182,537
1 Claim. (Cl. 29—157.3)

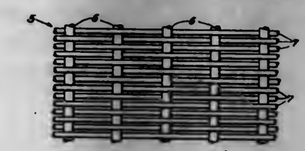


A method of assembling a flue type ceramic lined water heater including a top head and shell assembly of relatively large surface area, a bottom head of relatively large surface area, and flues of relatively small surface area as compared to the surface areas of said shell and heads, said method comprising the steps of: spraying the flues with the ceramic coating slip; drying the slip on the flues; firing the coating on the flues to fuse the coating to the surface of the flue; spraying the top head and shell assembly with the ceramic coating slip; drying the coating on the head and shell assembly; spraying the bottom head with the ceramic coating; drying the ceramic coating on the bottom head; positioning the top head and shell assembly with the top head down; positioning the flues in position with respect to the top head; lowering the bottom head over the flues into position with respect thereto and the shell; welding the flues to the bottom head and top head; welding the top and bottom heads to the shell; and firing the welded heads, shell and flues to fuse the ceramic lining to the surfaces to which the lining is applied.

3,268,990
METHOD OF MAKING FILTERS
Orville E. Adler, Niles, Mich., assignor to National-Standard Company, Niles, Mich., a corporation of Delaware
Filed Dec. 2, 1963, Ser. No. 327,408
6 Claims. (Cl. 29—163.5)

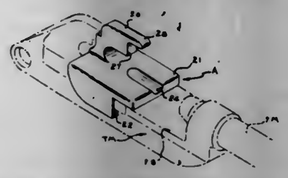
1. In the method of making a filter formed by combining first and second fabrics, each of which is composed of a plurality of first metal filaments and a plu-

rality of second metal filaments in crossing relation with respect to each other, and in which said first and second fabrics are arranged with their second metal filaments in crossing relation, the steps comprising joining said sec-



ond metal filaments at their crossing portions by a first sintering step, removing said first filaments of said first and second fabrics, and then compressing said filter to flatten the crossing portions of said second filaments of said first and second fabrics.

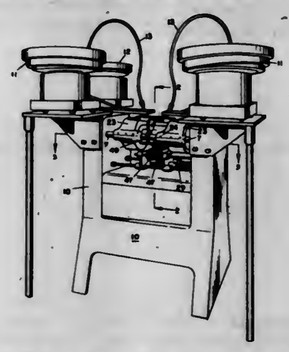
3,268,991
DEVICE TO DISASSEMBLE CONNECTOR ASSEMBLIES
Ernest Lloyd Beinhaur, Harrisburg, Pa., assignor to Amp Incorporated, Harrisburg, Pa.
Filed Jan. 28, 1964, Ser. No. 340,737
3 Claims. (Cl. 29—203)



1. For use on a tool having a working area including a stationary section and a movable section, an attachment for disposition in said working area comprising a flat section, retaining means on said flat section for retaining said attachment on said tool, engaging means on said flat section engaging said stationary section to limit movement of said attachment relative to said tool, said engaging means having a surface which a first element of a connection assembly engages, said surface being disposed from said flat section and defining a space therebetween which extends along said flat section, said movable section adapted to engage a second element of said connection assembly to forcefully move same into said space relative to said first element.

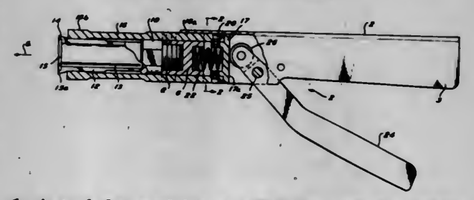
3,268,992
CAPPER FOR RESISTOR BODIES
Joseph N. Ianuzzi and Ernest James Bryner, Bradford, Pa., assignors to Sigma Engineering Service, Inc., Custer City, Pa., a corporation of Pennsylvania
Filed Nov. 3, 1964, Ser. No. 408,535
10 Claims. (Cl. 29—203)

1. A machine for capping elongated bodies comprising:
a frame,
a body wheel and a cap wheel supported on said frame and rotatable together about a common axis,
means restraining said cap wheel and said body wheel to rotate together,
spaced support means for supporting said bodies on said body wheel,
spaced cap dies on said cap wheel,
said cap dies each having a cavity therein facing said body wheel,
feeder means for feeding caps to said cap dies,
said feeding means comprising two door members supported on said machine and defining a V-shaped trough,
a cap positioner supported adjacent said trough,
said cap positioner having a cap seater disposed below said trough,
means to feed caps into said trough,
means to swing one said door whereby a cap is deposited on said cap seater,



means on said cap seater adapted to move caps into said cavity as said cap wheel and body wheel rotates, and
means for moving each of said cap dies toward said body wheel as said wheels rotate.

3,268,993
HAND TOOL FOR RADIALLY APPLYING LOCKING RINGS OR THE LIKE
Guy O. Conner, Cleveland, Ohio, assignor to Waldes Kohinoor, Inc., Long Island City, N.Y., a corporation of New York
Filed Oct. 9, 1963, Ser. No. 314,903
18 Claims. (Cl. 29—212)

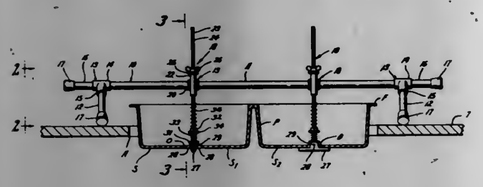


1. A tool for applying a radial force on a circular locking ring comprising a collet, said collet having a plurality of spaced substantially parallel fingers extending at an axial direction thereof, the free ends of said fingers having a different cross sectional configuration as compared with the remainder of the fingers, said free ends of said fingers being adapted to cooperate with a circular locking ring for applying a radial force sufficient to distort the ring, means fixedly supporting said collet and reciprocally supporting an element structurally interrelated with said fingers so that said element in one position thereof applies a biasing force on the fingers to effect the radial distortion of the locking ring, and a manually operable actuator pivotably supported by said means and structurally interrelated with said element for moving said element in an axial direction with respect to said collet.

3,268,994
FIXTURE FOR INSTALLING SINKS AND THE LIKE
S. Harold Riley, 1702 Forest Hill, Houston, Tex.
Filed Dec. 4, 1963, Ser. No. 327,999
7 Claims. (Cl. 29—244)

1. An installation fixture for sinks and the like, comprising, a horizontally disposed frame adapted to span an opening in a table or the like in which a sink is to be

mounted, said frame comprising a horizontally disposed bar and longitudinally spaced pairs of angularly disposed leg members secured to said bar for supporting said bar in elevated relation to said table, a vertically disposed hanger member including an externally threaded hanger rod, bracket means comprising a horizontally disposed sleeve slidable on said bar and a vertically disposed sleeve secured to the horizontal sleeve and having a bore through



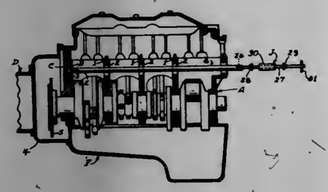
which said hanger rod slidably extends, a cross-arm member carried by the lower end of said hanger rod connectible to a sink, pivoted connection means between said cross-arm member and said hanger rod permitting said cross-arm member to rock between a generally upright position and a transverse position, and means carried by said bracket member for adjusting the hanger rod vertically relative to said frame.

3,268,995

CAM SHAFT REAR BEARING REMOVING TOOL WITH AN IMPACT ARBOR AND HAVING PLUNGER MEANS TO ENGAGE SAID BEARING

John A. Pullia, 110 Fir Ave., San Francisco, Calif.

Filed July 6, 1964, Ser. No. 380,561
4 Claims. (Cl. 29—275)



1. A cam shaft rear bearing remover comprising:

(a) a rear bearing gripping member having a cylindrical body adapted to be removably received in a cylindrical cam shaft rear bearing that has oil holes in its cylindrical wall;

(b) said member having an annular flange adjacent to its front face and adapted to contact with the adjacent edge of said bearing when said cylindrical body is received in said bearing;

(c) radially extending plungers slidably carried by said cylindrical body and adapted to have their outer ends moved into the oil holes in said bearing;

(d) said cylindrical body having an axially aligned threaded bore; and

(e) an elongated arbor having a length greater than the distance from said rear bearing to the front of an engine in which said bearing is mounted;

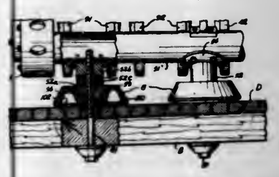
(f) said arbor having a reduced threaded portion adapted to be received in the threaded portion with a conical outer end for contacting with the inner ends of said plungers for moving them outwardly and causing them to enter the oil holes; the outer end of said arbor projecting beyond the front of the engine.

3,268,996

TRAWL WINCH MOUNTING ADJUSTING METHOD

Frank J. Luketa, 5567 Greenwood Ave. N., Seattle 3, Wash.

Original application Dec. 31, 1962, Ser. No. 248,452. Divided and this application July 14, 1965, Ser. No. 471,991
1 Claim. (Cl. 29—407)



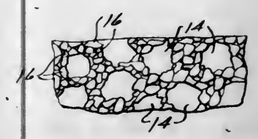
The method of mounting on a nonplanar deck a winch having at least four feet, which comprises settling the winch on the deck, varying the spacing between upper and lower parts of at least one winch foot to assure firm bearing of all the winch feet on the deck, inserting filler means between such spaced upper and lower winch foot parts, and bonding such filler means to at least one foot part and thereby retaining such upper and lower foot parts permanently in their adjusted spaced relationship engaged with such filler means.

3,268,997

METHOD OF MAKING A POROUS SEALING DEVICE

Forbes M. Miller, Detroit, Mich., assignor to Wall Colmonoy Corporation, Detroit, Mich., a corporation of Delaware

Filed May 14, 1963, Ser. No. 280,360
6 Claims. (Cl. 29—420)



2. The method of forming a compressible porous matrix which comprises the steps of blending a metallic powder and a volatile powder forming a substantially uniform powder mass containing from about 40% to about 75% by volume of said volatile powder, said metallic powder having a size ranging from about 20 microns to about 177 microns, said volatile powder having a size ranging from 105 microns to about 420 microns, heating said powder mass to an elevated temperature for a period of time sufficient to sinter and tenaciously bond the particles of said metallic powder into a porous network and to volatilize said volatile powder forming a porous matrix having a plurality of pores therein corresponding substantially to the spaces formerly occupied by the particles of said volatile powder, and thereafter impregnating said matrix with a solid lubricant forming a thin layer thereof on the surfaces of said metallic powder comprising said network.

3,268,998

METHOD FOR FORMING STEEL STRIP INTO LOOSE COIL

Nobuo Urushiyama, Tetsuo Motomura, and Hiromichi Koshiishi, all of Kitakyushu City, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan

Filed Sept. 11, 1964, Ser. No. 395,771
Claims priority, application Japan, Sept. 16, 1963, 38/49,720
8 Claims. (Cl. 29—423)



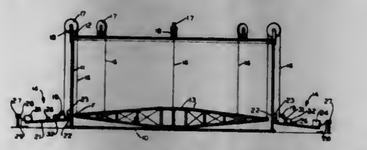
1. A method of heat treating a strip of steel, comprising the steps of placing a flammable material on the strip, rolling said strip of steel into a coil with the flammable material between the spires of the coil and spacing the spires of the coil, heating said coil to burn away the flammable material completely so as to leave a space between the spires of the coil, removing the gas produced by the burning of the flammable material from between the spires of the coil, and subjecting the coil to a heat treatment in a heat treatment gaseous atmosphere.

3,268,999

METHOD FOR RAISING A STIFF HORIZONTAL FRAME

John H. Wiggins, P.O. Box 418, Menlo Park, Calif.

Original application Nov. 10, 1964, Ser. No. 411,675. Divided and this application June 28, 1965, Ser. No. 467,339
3 Claims. (Cl. 29—429)



1. The method of raising a stiff member with respect to an upright supporting structure, which comprises individually connecting to said member a series of first sources of lifting power disposed adjacent said supporting structure, providing for each of said first sources a second source of lifting power, and activating said second source whenever said first source of lifting power is interrupted.

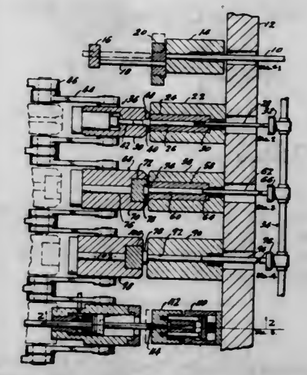
3,269,000

METHOD AND APPARATUS FOR MAKING END WELDABLE STUDS

Joseph J. Kurtz, Lorain, Dale A. Webster, Elyria, and John J. Kuracz, Lorain, Ohio, assignors to Gregory Industries, Inc., Lorain, Ohio, a corporation of Michigan

Filed Sept. 17, 1964, Ser. No. 397,259
25 Claims. (Cl. 29—430)

1. A method of making an end weldable stud having an enlarged head on one end and a body of flux inserted at the other end, said method comprising feeding bar stock longitudinally to a cutting station, severing a piece of bar stock to a predetermined length, transferring the severed piece to a first forming station, rounding the edge of the flux end of the piece and simultaneously forming an initial enlargement of the head end thereof, forming an initial stud recess centrally located in the flux end, transferring the piece to a second forming station, completing rounding the edge of the flux end of the piece, and simultaneously causing final enlargement of the enlarged end thereof to form the head on the piece, finally forming and shaping the recess in the flux end of the stud, transferring the piece to a third forming station, crimping the flux end of the stud adjacent the stud recess to force inwardly portions of the edges of the stud recess, transferring the piece to a flux-loading station, centering a flux ball with the stud recess, and forcing the ball into the stud recess and simultaneously shaping it to a generally conical configuration.

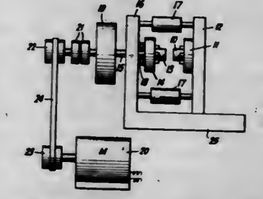


3,269,001

FRICTION WELDING

Milton Bernard Hollander, Stamford, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed July 10, 1963, Ser. No. 294,105
3 Claims. (Cl. 29—470.3)



3. The method of friction welding aluminum and ferrous alloy workpieces comprising the steps of imparting rotation to one workpiece and then forcing the workpieces together with a force of over 5,000 pounds per square inch of weld area and decelerating the rotating workpiece to complete the weld within ten seconds as the rotating workpiece delivers between about 3,000 and about 30,000 foot pounds of energy per square inch to the weld area.

3,269,002

FRICTION WELDING

Milton Bernard Hollander, Teaneck, N.J., and Edgar Lynn Von Rosenberg, Oklahoma City, Okla., assignors to American Machine & Foundry Company, a corporation of New Jersey

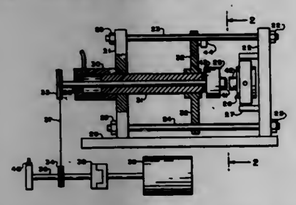
Original application Aug. 12, 1959, Ser. No. 833,339, now Patent No. 3,134,278, dated May 12, 1964. Divided and this application Apr. 30, 1964, Ser. No. 377,434
2 Claims. (Cl. 29—470.3)

1. In a method of friction welding metal workpieces in which:

(a) a first workpiece is rotationally driven through a releasable connection by a drive means;

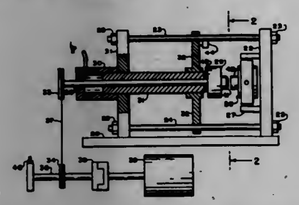
(b) a second workpiece, axially aligned therewith, is rotationally fixed;

(c) the workpieces are engaged and rubbed against each other under pressure until the engaged surfaces reach a welding temperature; and
(d) the rubbing is stopped,



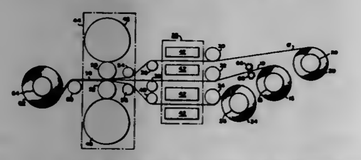
the improvement in which the relative rotation of the workpieces is stopped by releasing the first driven workpiece from the drive means and allowing the workpieces to seize without use of a brake.

3,269,003
FRICTION WELDING
Milton Bernard Hollander, Teaneck, N.J., and Edgar Lynn Von Rosenberg, Oklahoma City, Okla., assignors to American Machine & Foundry Company, a corporation of New Jersey
Original application Aug. 12, 1959, Ser. No. 833,339, now Patent No. 3,134,278, dated May 12, 1964. Divided and this application May 1, 1964, Ser. No. 377,436
2 Claims. (Cl. 29—470.3)



1. A method of friction welding comprising the steps of:
(a) rotating metal workpieces relative to each other;
(b) rubbing said workpieces together under pressure and at constant speed to bring said workpieces to welding conditions at which torque between the workpieces declines abruptly;
(c) detecting the change of torque; and
(d) rapidly stopping rotation in response to said change of torque while continuing to press the workpieces together.

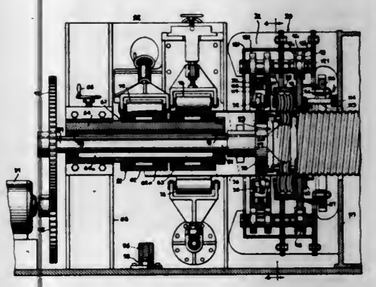
3,269,004
PROCESS OF ROLL BONDING STAINLESS STEEL AND ALUMINUM
George A. Smith, Jr., Waterbury, and John H. Norton and Poul Andersen, Wallingford, Conn., assignors to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania
Filed May 6, 1963, Ser. No. 278,199
11 Claims. (Cl. 29—471.1)



1. In the method of roll bonding an aluminum strip between two stainless steel strips, wherein the aluminum strip sandwiched between the two stainless steel strips is passed through a rolling mill at a lineal speed in excess of about thirty feet per minute with the rolls arranged to reduce the thickness of the aluminum strip at least 60%, the improvement which comprises, providing the rolls with a surface having a roughness of at least 4 microinches, R.M.S., and maintaining the work rolls at a temperature of between 250° F. and 400° F., said method being characterized by maintaining the rolls and strips free from any rolling lubricant.

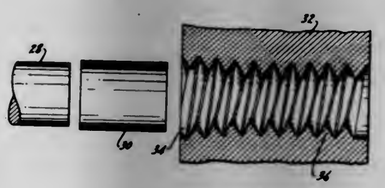
8. In the method of roll bonding an aluminum strip between two stainless steel strips, wherein the aluminum strip sandwiched between the two stainless steel strips is passed through a rolling mill with the rolls arranged to reduce the thickness of the aluminum strip at least 60%, the improvement which comprises, providing the rolls with a surface having a roughness of at least 4 microinches, R.M.S., maintaining the work rolls at a temperature of between 250° F. and 400° F., prior to its entry into the rolling mill, and passing the aluminum strip through a furnace zone heated to about 900° F., said method being characterized by maintaining the rolls and strips free from any rolling lubricant.

3,269,005
METHOD AND APPARATUS FOR FORMING CORRUGATED TUBING
Edward A. Smith, Chatham, N.J., and Reidar J. Nicolaisen, New York, N.Y., assignors to Raymond International Inc., a corporation of New Jersey
Filed Aug. 24, 1955, Ser. No. 530,366
3 Claims. (Cl. 29—477.3)



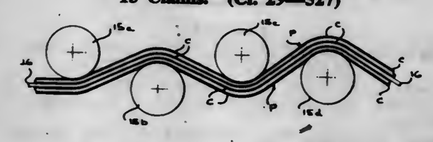
1. In apparatus for continuously forming a tube about a selected axis by helically winding thereabout a strip of sheet metal and corrugating such tube, including in combination: a strip feeder having opposed feed roll means between which such strip is directed, said feed rolls being power driven thereby forcefully feeding same; a tube former for receiving the strip from said strip feeder, including guide means for guiding such strip in a helical path about such axis into a tubular configuration having the edges of the strip positioned adjacent one another, said tube former also including a welding means for continuously joining the edges of the oncoming strip with those of the tube, the tube so formed thus being caused to rotate about such axis at a rate proportional to the speed of such strip feed, said tube former including a rotatable central roll, the axis of rotation of which extends in the same direction as the longitudinal axis of said tube and upon the upper surfaces of which the tube rests as the strip is formed into such tube as aforementioned; a corrugating head positioned for corrugating the tube so formed by the tube former, said corrugating head including an inner corrugating sub-head mounted for rotation within such tube, an outer rotatably mounted corrugating sub-head constructed and arranged for cooperating with said inner sub-head for corrugating such tube, means for rotating said sub-heads in a common angular direction at a common angular speed whereby they cooperate to corrugate such tube, said corrugating sub-heads being mounted for rotation about such longitudinal axis of the tube; said strip feeder including means for feeding said strip to said tube former at a selected speed having a predetermined ratio with respect to the speed of rotation of said corrugating head, said ratio being a function of the lead of the corrugation of the tube as compared to the rate of formation of such tube, tube braking head means situated intermediate the aforementioned corrugating head and tube former and including inner back-up roll means situated within the tube and engaging the inner surface thereof, said back-up roll means being mounted coaxially with the corrugating head for rotation about such axis, said braking head means also including an outer gripper roll ring mounting a plurality of outer gripper rolls for engaging the outer surface of the tube which is exterior to and supported interiorly by said back-up roll means, said gripper roll ring being situated exterior to such tube and mounted for angular movement about such axis, and means for rotating said gripper roll ring whereby to prevent injury to the tube through twisting in the region intermediate said tube former and said corrugating head.

3,269,006
METHOD OF SWAGING METAL TUBES ONTO INTERNAL MEMBERS
Donald P. Welles, Jr., Rockford, Ill., assignor, by mesne assignments, to Besly-Welles Corporation, a corporation of Delaware
Filed Aug. 20, 1964, Ser. No. 390,863
1 Claim. (Cl. 29—517)
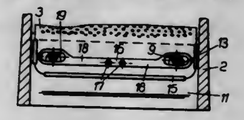


A method of interconnecting a relatively thin wall tube formed of a ductile meaterial to a concentric surface formed of a generally incompressible distortable material and having a diameter on the order of the diameter of the tube surface adjacent it, including the steps of supplying a tube of sufficient ductility and thickness such that it will deform radially when subjected to radially directed metal swaging pressure, initially positioning the thin wall tube in contact in concentric relationship with the concentric surface and on the outside thereof, thereafter directly applying metal working and swaging pressure to the outside surface of the tube, the pressure being applied at spaced, but limited axial areas, alternately applying and relieving such pressure and the intensity thereof on a uniformly cyclical basis to displace the inner and outer surfaces of the tube both inwardly and outwardly from their orginal diameters by approximately the same amount and to cooperatively displace the material of the concentric surface, the pressure being of sufficient intensity relative to the material and wall thickness of the tube and material of the concentric surface such as to interlock the tube with the concentric surface, with said concentric surface being displaced both inwardly and outwardly, following the inward and outward displacement of the tube inner surface as said pressure is applied.

3,269,007
METHOD OF RESTORING DUCTILITY TO HEAVILY COLD WORKED SHEET METAL
John E. O'Donnell, Highland, Ind., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 21, 1960, Ser. No. 70,642
13 Claims. (Cl. 29—527)



1. A method of increasing the ability of work hardened rolled metal strip and sheets cut therefrom to withstand fabrication with a reduction in brittleness of the metal and an increase in the ductility thereof, the method comprising the steps of first stressing the metal in a manner wherein the metal along the surface layer of the first side thereof is in tension and simultaneously the metal along the surface layer of the second side thereof is in compression with the metal along at least one surface layer thereof being stressed beyond the yield strength of the metal, then stressing the metal in a reverse manner wherein the metal along said first surface layer is in compression and the metal along the said second surface layer is in tension with the metal along at least one surface layer thereof being stressed beyond the yield strength of the metal and repeating the reversed stressing steps at least 25 times until the desired fabrication properties are obtained, the work hardened rolled metal reversibly stressed beyond its yield strength extending inwardly to a depth ranging from 10% to 40% of the thickness of the rolled metal inwardly from each surface layer.

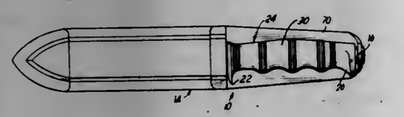
3,269,008
SHAVING APPARATUS HEAD
Werner Messinger and Robert Wich, Frankfurt am Main, Germany, assignors to Braun Aktiengesellschaft, Frankfurt am Main, Germany
Filed July 15, 1963, Ser. No. 294,925
Claims priority, application Germany, July 24, 1962, B 68,148
6 Claims. (Cl. 30—43.91)



1. In a shaving apparatus, in combination, frame means having a pair of fastening portions; cutter means carried by said frame means movable relative thereto in at least two directions; a shearing foil extending around and engaging with its inner side said cutter means and having a pair of free end portions overlapping said frame means; and connecting means connecting said free end portions of said foil to said frame with said foil, including said end portions thereof, movable relative to said frame with universal play in the plane in which said end portions of said foil overlap said fastening portions of said frame so that the inner side of said shearing foil is adapted to maintain contact with said cutter means during movement of the same in said two directions, said connecting means including a plurality of pins carried by said frame means, said free end portions of said foil being formed with openings through which said pins respectively pass, and means surrounding said pins and urging said free end portions of said foil against said frame means to provide a relatively

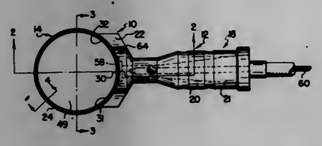
light frictional resistance to movement of said foil relative to said frame means, the openings of said foil through which said pins respectively extend being substantially larger than the cross section of said pins so that said foil has a considerable freedom of movement relative to said pins.

3,269,009
RELEASABLE RETENTION STRUCTURE FOR SCABBARD-KNIFE COMBINATION
Edward A. Eastman, Independence, Mo., assignor to Locknife, Inc., Independence, Mo., a corporation of Missouri
Original application Mar. 25, 1963, Ser. No. 267,488. Divided and this application Jan. 14, 1966, Ser. No. 520,797
8 Claims. (Cl. 30—151)



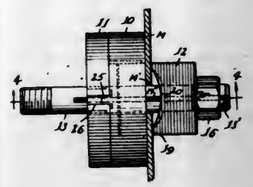
1. A knife assembly comprising:
a knife provided with a knob;
a scabbard for receiving the knife and having a hinged flap thereon movable into a position adjacent said knob when the knife is received by said scabbard;
a first fastener mounted on said flap;
a second fastener for said knob and having a bore therein;
means on said knob for releasably securing the fastener thereto, said first fastener being disposed for releasable intercoupling relationship with said second fastener when said flap is in said position and said second fastener is secured to said knob; and
means secured to said second fastener within the bore of the latter for locking said second fastener to said knob.

3,269,010
TRIMMING, SLICING AND BONING DEVICE
Louis A. Bettcher, Amherst, Ohio, assignor to Bettcher Industries, Inc., Vermilion, Ohio, a corporation of Ohio
Filed Apr. 28, 1964, Ser. No. 363,162
6 Claims. (Cl. 30—276)



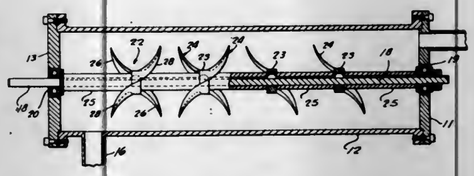
1. An annular cutter adapted to be rotatably supported by an annular support means of a manually manipulatable cutting tool for cutting meat comprising an annular member having a through axial opening through which severed meat is adapted to pass; said member comprising a generally cylindrically shaped portion and a generally convergent portion terminating in an annular radially inwardly extending cutting edge at its free end; said annular member having a concave inner surface as viewed from the axis of the through axial opening, said convergent portion having a substantially uniform radial thickness for a portion of its length proceeding from the cutting edge toward said cylindrically shaped portion and with the radial thickness of said convergent portion being less than the radial thickness of said cylindrically shaped portion.

3,269,011
METAL PUNCH AND DIE
Rudolph E. Herrstrum, Rockford, Ill., assignor to Greenlee Bros. & Co., a corporation of Illinois
Filed Jan. 20, 1964, Ser. No. 338,806
2 Claims. (Cl. 30—360)



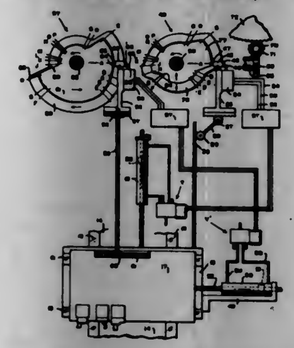
1. A metal punch and die set comprising, a die member having a square hole therethrough and shallow arcuate grooves in the central portion of each flat side of the hole from a point adjacent the cutting edge to the opposite surface thereof, a backing member fitting against the said opposite surface of the die member having a central cylindrical portion fitting into said arcuate grooves and a larger flat portion fitting against the die member, and a square punch element having flat exterior sides and shaped on its face adjacent the die element to form cutting edges which are flat at the corners and arcuate therebetween.

3,269,012
PLASTICIZING APPARATUS FOR PRODUCING UNIFORMLY EMULSIFIED MARGARINE
William E. Fricks, deceased, late of Rome, Ga., by Charles L. Fricks, administrator, Cedartown, Ga., assignor to Fricks' Foods, Inc., Cedartown, Ga., a corporation of Georgia
Filed Sept. 10, 1965, Ser. No. 486,567
3 Claims. (Cl. 31—35)



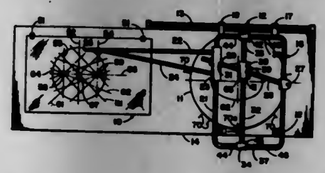
1. Apparatus for producing completely and uniformly emulsified margarine comprising an elongated tunnel member having an inlet at one end for introducing margarine-producing materials in the said member and an outlet adjacent the other end for discharging the emulsified margarine from said member, a driven shaft extending along the longitudinal axis of said member for the length thereof, at least one pair of rotors arranged in tandem spaced-relation along said shaft, each of said rotors having a hub and four identical curved vanes projecting from the perimeter of said hub, the hub of each rotor being circumposed about said shaft and connected to said shaft for rotation therewith, each rotor having two of its vanes bent to one side of its hub and facing toward said inlet and having two of its vanes bent to the other side of its hub and facing toward said outlet, each vane having a concave leading edge and a convex trailing edge with the aforesaid edges terminating in a tip, the tips of the vanes of the respective rotors being spaced from and adjacent to the inner surface of said member.

3,269,013
PROGRAM CONTROL
Edward P. Bullard III, Fairfield, Conn., assignor to The Bullard Company, Bridgeport, Conn., a corporation of Connecticut
Filed May 11, 1964, Ser. No. 366,454
13 Claims. (Cl. 33—18)



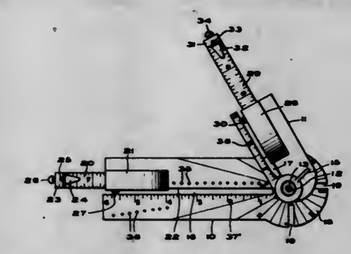
1. Apparatus comprising in combination, a member; separate power means for moving said member along a plurality of intersecting axes in accordance with a predetermined program; separate template means for each axis of movement of said member, the coordinates of each template means being proportional to the corresponding axis coordinates of the desired path of movement of said member; separate servo means for each template means adapted to be operated by its corresponding template means for controlling the corresponding power means for said member, each servo means including electromechanical signal transducer means; feedback means responsive to the movement of said member along the axis corresponding to said servo means for controlling said servo means; and means for moving all of said template means in unison relative to said servo means, the construction and arrangement of the parts being such that the velocity of the movable member can be controlled as it is moved between any two successive points in its path of travel by the slope of the effective template surface between the corresponding template coordinates of said points.

3,269,014
DRAFTING METHOD AND MACHINE
Franklin I. Gase, Starke, Fla.; Bertha M. Pieffer, executrix, of said Franklin I. Gase, deceased
Continuation of application Ser. No. 728,883, Apr. 16, 1958. This application Dec. 19, 1963, Ser. No. 331,897
6 Claims. (Cl. 33—23)



1. The method of making a pictorial drawing from a mutli-view projection of an object definable by mutually perpendicular end, side and top planes, the pictorial drawing being a projection from the object to a viewing plane, said viewing plane making first, second and third angles with the end, side and top planes respectively, comprising the steps of:
orienting the top view on a tracing board so that the end and side planes make the first and second angles respectively with a horizontal line representing the viewing plane on the tracing board, and with a viewing point common to all views located at a designated point;
tracing the top view with the tracing point of an ellipsograph which reproduces the top view with vertical dimensions reduced compared with horizontal dimensions on a drawing board by means of a drawing point;
orienting the side view on the tracing board so that the top and end planes make the third and first angles respectively with the viewing plane, and with the viewing point located at the designated point;
rotating the reproduced top view about the viewing point to a new position so the junction of the top and end planes is vertical for proper joinder of a side view;
tracing the side view with the tracing point so that the view is reproduced on the drawing board properly joined to the reproduced top view;
orienting the end view on the tracing board so that the top and side planes make the third and second angles respectively with the viewing plane, and with the viewing point located at the designated point;
rotating the joined reproduced top and side views about the viewing point to a new position so the junction of the top and side planes is vertical for proper joinder of an end view;
tracing the end view with the tracing point so that the view is reproduced on the drawing board properly joined to the reproduced top and side views, completing the pictorial drawing.

3,269,015
LAYOUT INSTRUMENT
Ronald Andrew Barker, 474 Mayzel Road, Burlington, Ontario, Canada
Filed Feb. 3, 1964, Ser. No. 342,116
7 Claims. (Cl. 33—27)

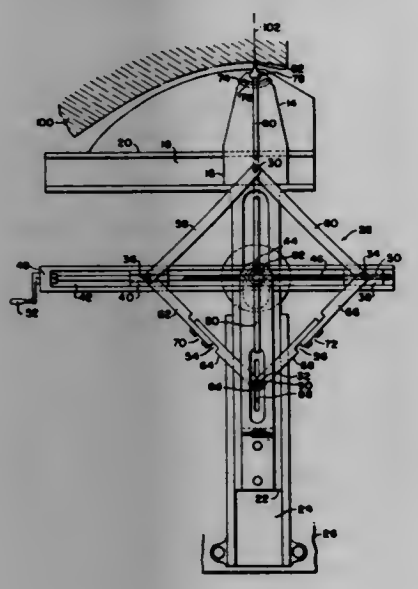


1. A layout tool comprising a relatively short arm, a relatively long arm, a pivot member interconnecting end portions of said arms, at intersecting axes thereof a retractable rule housing mounted on the free end portion of each of said arms, a rule blade extensible outwardly therefrom parallel to the said axis of its respective said arm and an edge on each said rule blade aligned and coincident with the said axis of its respective sand arm.

3,269,016
CONIC TOOL GUIDE
Edward J. Barnett, 162 Nason Hill Road, Sherborn, Mass.
Filed Oct. 22, 1965, Ser. No. 501,420
5 Claims. (Cl. 33—27)

1. Apparatus for moving a tool along a selected conic path comprising a sliding member having a first slide free to move in a first way, a second way on said sliding member located perpendicular to said first way, a tool post having a second slide free to move in said second way, a four-bar linkage, a first pivot of said four-bar linkage affixed to said tool post, a second pivot of said

four-bar linkage affixed to said sliding member, third and fourth pivots of said four-bar linkage affixed to third and fourth slides, and a rotating guide having a third way, said third and fourth slides moving in said third way,



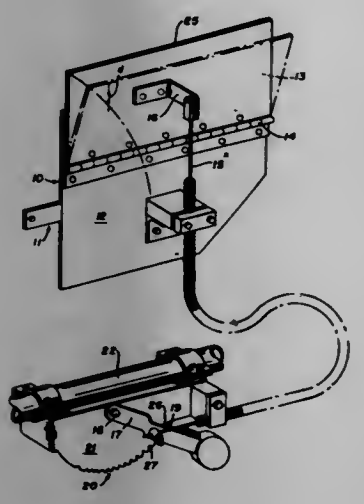
said third way having a fifth pivot in line with said first way, and means to vary the separation of said third and fourth slides, whereby said tool post moves through a conic path.

3,269,017

PEAKING SHADOW BOARD

John Kenneth Stewart, 60 Ballantyne Terrace, Dorval, Quebec, Canada

Filed June 5, 1964, Ser. No. 372,825
Claims priority, application Canada, Oct. 15, 1963, 886,701
5 Claims. (Cl. 33—60)



1. A shadow device adapted for contact with the rails of a railroad track for use in a railroad surveying system between a high frequency beam transmitter and a high frequency beam receiver, which shadow device comprises a mounting member including a board-like extension element adapted for location substantially above a rail of the track, a beam interference member hingedly mounted by a piano hinge to the extension element for vertical adjustment relative thereto and means for moving the beam interference member in measured increments whereby to alter the height of the beam interference member the rails.

3,269,018

CONTINUOUSLY VARIABLE PROPORTIONAL SCALE

Franz Ferrari, Sigismundkorso 19, Berlin-Frohnau, Germany

Filed June 22, 1964, Ser. No. 377,016
Claims priority, application Germany, July 10, 1963, F 40,202; July 20, 1963, F 40,292; Aug. 3, 1963, F 40,445; Aug. 17, 1963, F 40,626; Sept. 11, 1963, F 40,773; Sept. 30, 1963, F 40,890; Nov. 6, 1963, F 41,194; Apr. 9, 1964, F 42,820
15 Claims. (Cl. 33—137)



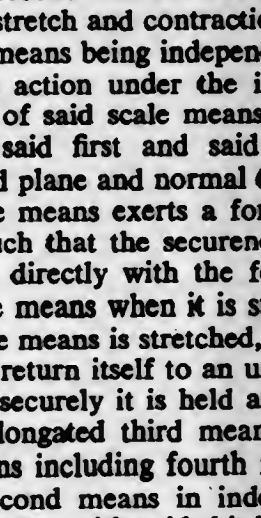
1. In an instrument of the kind described having a continuously variable proportional scale and defining a plane; a continuously stretchable and contractable elastomeric scale means having first and second ends; first means associated with said first end and second means associated with said second end for independently varying continuously the stretch and contraction of said scale, said first and second means being independently self-locking by a self-locking action under the influence of the elastomeric property of said scale means, said self-locking action securing said first and said second means against stresses in said plane and normal thereto; wherein said elastomeric scale means exerts a force on said first and second means such that the secureness of said self-locking action varies directly with the force exerted by said elastomeric scale means when it is stretched, whereby the more said scale means is stretched, and the greater the force it exerts to return itself to an unstretched state, the more firmly and securely it is held and locked in its stretched state; an elongated third means; each of said first and second means including fourth means for holding said first and second means in independent, longitudinal sliding association with said third means; at least one second scale associated with said instrument; said elastomeric scale means carrying at least one set of graduations comprising at least one first scale; and at least one sixth means, slidably associated with said instrument, for bringing the graduations of said at least one first and second scales into cooperative association for performing multiplication and division.

3,269,019

TREAD DEPTH GAUGE

Henry W. Krohn, North Olmsted, Ohio, assignor to Eaton Yale & Towne Inc., a corporation of Ohio

Filed Feb. 16, 1965, Ser. No. 433,072
6 Claims. (Cl. 33—169)



1. A tire tread depth gauge comprising a body member having a base portion with an aperture extending therethrough, said body member having an elongated hollow portion extending upwardly from said base portion,

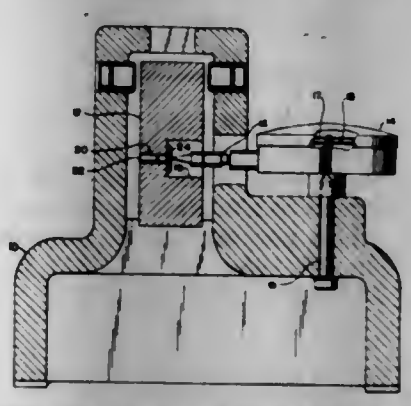
detent means associated with the upper end of said hollow portion, first movable means mounted within said hollow portion and extending through said aperture in said base portion, said first movable means comprising a depth measuring member having an upper portion of substantially the same width as said hollow portion and a lower elongated feeler portion of reduced width, second movable means mounted within said hollow portion above said movable means, said first and second movable means being independently movable relative to each other, and restraining means fixedly secured to the lower end of said second movable means, said restraining means cooperating with said elongated hollow portion to hold said second movable means in adjusted position relative to said hollow portion and further cooperating with said detent means to prevent said second movable means from being completely withdrawn from said hollow portion whereby said second movable member may be moved inwardly until it stops and said second movable means provides an indication which is representative of the depth of the void being measured.

3,269,020

MEASURING DEVICE

Russel W. Anthony, Detroit, Mich., assignor to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan

Filed Dec. 8, 1964, Ser. No. 416,780
22 Claims. (Cl. 33—172)



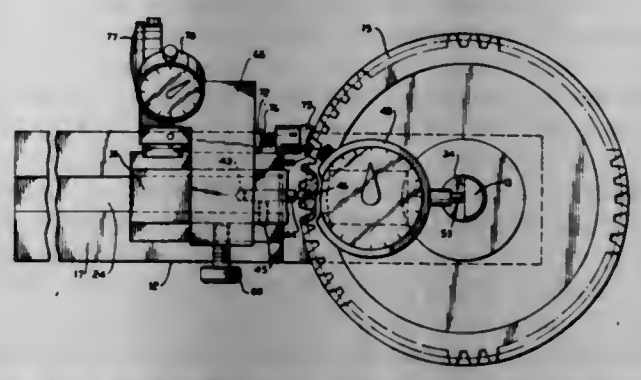
1. A measuring device comprising a support, a movable element carried by said support, a movable actuating member carried by said support, motion transmitting connections between said member and element, and yieldable highly resilient contact means on said member engageable with a surface the position and movement of which is to be sensed, said resilient means being a soft elastomer characterized by sufficient energy absorption to prevent substantial vibration of said element.

3,269,021

GEAR CHECKING APPARATUS

Carl J. Bonem, Parma Heights, Ohio, assignor to White Motor Corporation, a corporation of Ohio

Filed Jan. 10, 1963, Ser. No. 250,521
16 Claims. (Cl. 33—179.5)



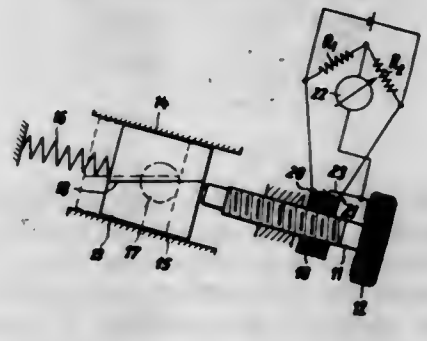
1. A gear checking apparatus comprising:
(a) a carrier movable relative to a gear to be checked;
(b) a plurality of locators carried by said carrier;
(c) a first of said locators being adapted to locate the gear center axis;
(d) a second of said locators being spaced from said first locator and adapted to locate a predetermined point on the gear teeth;
(e) said first and second locators being relatively movable;
(f) indicator means interposed between said locators to indicate the relative spacing of said locators as said locators locate their respective places on the gear;
(g) a third of said locator being rotatably mounted on said carrier and adapted to engage portions of a tooth side face;
(h) a second indicating means connected to said third locator to indicate the tooth angle by measuring angular movement of said third locator; and,
(i) said carrier being movable toward the gear until said first and second locators have both located their respective places on the gear and said third locator is against the face of a gear tooth whereby relative movement of said first and second locators checks a gear dimension and angular movement of said third locator checks the gear tooth angle.

3,269,022

FINE MEASURING INSTRUMENT WITH A MEASURING EYEPIECE

Willy Fahland, Glinde, Hamburg, Germany, assignor to J. D. Möller Optische Werke G.m.b.H., Wedel, Holstein, Germany

Filed Apr. 24, 1963, Ser. No. 275,450
Claims priority, application Germany, Apr. 27, 1962, M 52,650
2 Claims. (Cl. 33—180)



1. In an optical instrument, a measuring plate carrying thereon a measuring line extending across the plate, guides mounting said plate for sliding movement at an acute angle to said line, a screw to move said plate along said guides, a potentiometer comprising relatively movable resistance and contact elements, one of said elements being connected to said screw to move relatively to the other element to adjust said potentiometer, and an indicating instrument responsive to current through said potentiometer to indicate the movement of said screw and plate.

3,269,023

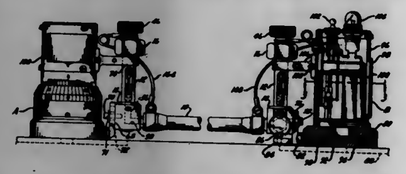
MICROMETER LEVEL

Chauncey L. Calkins, 222 Prospect Ave., Lake Bluff, Ill.

Continuation of application Ser. No. 57,600, Aug. 26, 1960. This application July 29, 1963, Ser. No. 298,049
5 Claims. (Cl. 33—209)

1. A micrometer level including a pair of spaced platforms, a housing mounted on each of said platforms, each of said housings including a chamber containing a column of liquid mercury, each housing mounting a non-metallic electrode positioned for contact with the column of mercury in that housing, an electrical connection between said columns of mercury including a flexible hose containing a pool of liquid mercury, said hose having an electrically conductive reinforcement which is electrically insulated from said mercury, one of said electrodes being

electrically connected to said electrically conductive reinforcement, the other electrode being connected through a high resistance to an indicator, a transistor, the emitter and collector of said transistor being in series connection with said indicator and a D.C. voltage source, the body of said transistor being connected to said electrically con-



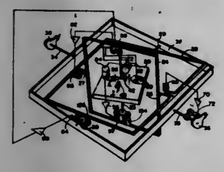
ductive reinforcement, said transistor being effective to amplify minute currents flowing through the current path formed by the mercury and electrically conductive reinforcements when both electrodes are in contact with the mercury, to provide sufficient current to operate said indicator.

3,269,024

METHOD AND MEANS FOR ALIGNING AN AXIS ON A GIMBALED PLATFORM

John J. Fischer, Fullerton, and Frank M. Pelteson, Long Beach, Calif., assignors to North American Aviation, Inc.

Filed Dec. 20, 1961, Ser. No. 160,728
4 Claims. (Cl. 33—226)



1. A method for aligning a first predetermined axis whose direction is known relative to a platform with a second predetermined axis whose direction is known with respect to the earth, said platform being gimbaled with respect to the earth on at least three gimbals having a non-vertical outer axis, a horizontal cross-level axis, and an inner axis perpendicular to said cross-level axis, said platform having an X, Y, Z orthogonal coordinate system fixed thereon with the Z axis aligned with the inner axis comprising the steps of:

leveling the XY plane of said platform;

measuring the angle about said inner axis between the Y-axis of said X, Y, Z coordinate system and the cross-level axis when said Y axis is level;

determining the azimuth of said cross-level axis with respect to said second predetermined axis;

computing the factors C and P from the following matrix equation

$$\begin{pmatrix}\omega\\0\\0\end{pmatrix}=\begin{pmatrix}\cos\phi & 0 & \sin\phi\\ 0 & +1 & 0\\ -\sin\phi & 0 & \cos\phi\end{pmatrix}\cdot\begin{pmatrix}\cos\gamma & -\sin\gamma & 0\\ \sin\gamma & \cos\gamma & 0\\ 0 & 0 & +1\end{pmatrix}\cdot$$
$$\begin{pmatrix}0 & +1 & 0\\ -1 & 0 & 0\\ 0 & 0 & +1\end{pmatrix}\cdot\begin{pmatrix}\cos P & 0 & -\sin P\\ 0 & +1 & 0\\ \sin P & 0 & \cos P\end{pmatrix}\cdot$$
$$\begin{pmatrix}\cos\mu & -\sin\mu & 0\\ \sin\mu & \cos\mu & 0\\ 0 & 0 & +1\end{pmatrix}\cdot\begin{pmatrix}\cos C & \sin C & 0\\ -\sin C & \cos C & 0\\ 0 & 0 & +1\end{pmatrix}\cdot\begin{pmatrix}\omega_x\\ \omega_y\\ \omega_z\end{pmatrix}$$

in which ω_x, ω_y, ω_z are components of a vector ω colinear with said first predetermined axis, expressed in said X, Y, Z orthogonal coordinate system, ϕ is the known local elevation angle of the second predetermined axis, and γ is the angle between said cross-level axis and the bearing of said second predetermined axis;

and positioning said platform about said cross-level axis through an angle P and about said inner axis through an angle C to align said first predetermined axis of the vector ω parallel with said second predetermined axis.

3,269,025

FREEZE-DRYING METHOD UNDER HIGH VACUUM UTILIZING A FLUIDIZED BED

Charles E. Dryden, William H. Mink, and Herman Nack, Columbus, Ohio, assignors, by mesne assignments, to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware

No Drawing. Filed May 21, 1962, Ser. No. 196,525
11 Claims. (Cl. 34—5)

1. A method of freeze-drying a material, which when frozen solid contains water in the form of ice, which method includes:

(a) maintaining a fluidized bed of discrete, frozen-solid particles of the material by passing a gas therethrough while maintaining the particles in a frozen-solid state and while maintaining a vapor pressure of less than about 4 millimeters of mercury on the fluidized mass of particles;

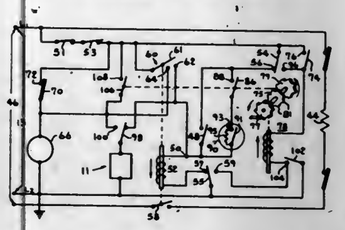
(b) removing dried particles from said mass when said particles reach a desired residual moisture content.

3,269,026

DRYER CONTROL

John E. Maas, La Grange Park, and Otto R. Behrens, Skokie, Ill., assignors to Controls Company of America, Melrose Park, Ill., a corporation of Delaware

Filed Jan. 13, 1964, Ser. No. 337,305
24 Claims (Cl. 34—45)



1. In a dryer having a heater and motor the combination of:

machine relay means for controlling energization of said motor and heater,

control means connected with and energized when said relay means is actuated to energize said motor and heater and operative, when energized, to in turn control said relay means, said control means including control switch means connected with and controlling the operational state of said relay means, means for sensing moisture content of articles in said dryer and operative, when connected with said control switch means, to control and actuate said control switch means in accordance with moisture content of said articles, electronic time delay means operative, when connected with said control switch means, to actuate said control switch means with a predetermined time delay after said electronic means is energized, and selector switch means for selectively connecting said moisture sensing means and electronic means with and for control of said control switch means,

second control means connected for selective energization in accordance with the operational state of said control switch means and operative, in response to actuation of said control switch means by said moisture sensing means to de-energize said machine relay, to establish a circuit to re-energize said relay means, heater and motor and operate said selector switch means to connect said electronic means in circuit with said control switch means,

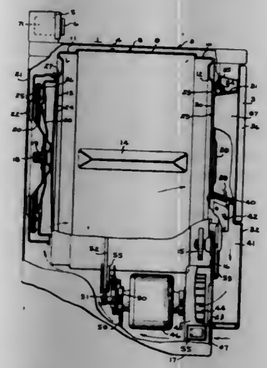
and switch means in the circuit established by said second control means and operative selectively to open and complete said circuit to provide selection of either a first drying cycle controlled by said moisture sensing means and extended by said electronic means or a second drying cycle controlled by and having a period determined solely by said moisture sensing means.

3,269,027

HUMIDITY-RESPONSIVE AUTOMATIC DRYER CONTROL SYSTEM

John D. Harnden, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Feb. 7, 1964, Ser. No. 343,313
9 Claims. (Cl. 34—48)



1. A fabric drying machine comprising:

(a) a fabric container having an air inlet opening and an air outlet opening both communicating with atmosphere;

(b) outlet conduit means for guiding air from said outlet opening to atmosphere, said conduit means including a protected portion receiving a small air flow compared to the air flow through the remainder of said conduit means;

(c) means for circulating air into said container through said inlet opening and out of said container through said outlet opening;

(d) a heater positioned to supply heat to fabrics in said container;

(e) first humidity-sensing means in said protected portion positioned to be readily cooled substantially to atmospheric temperature;

(f) means for causing cooling of said first humidity-sensing means substantially to atmospheric temperature;

(g) second humidity-sensing means positioned to sense atmospheric conditions;

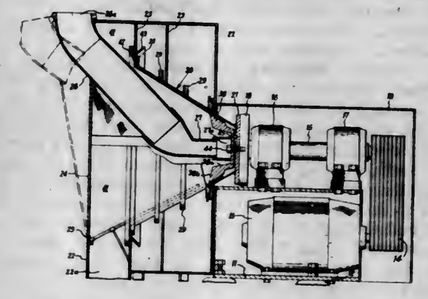
(h) and control means responsive to a predetermined relationship of the humidities sensed by said first and second humidity-sensing means to effect termination of operation of said heater.

3,269,028

CENTRIFUGAL SEPARATOR

Philippe P. Strich, 10178 Shady Lane, Cincinnati, Ohio

Filed Oct. 1, 1962, Ser. No. 227,425
10 Claims. (Cl. 34—58)



8. A filtering cone for a centrifugal separator, said cone comprising:

(a) a frusto-conical basket,

(b) an annular flange at the base of said basket,

(c) an annular groove in said flange,

(d) at least one layer of relatively coarse screening covering the inner surface of said basket and independent means for securing said screening to said basket,

(e) a very fine screen covering said layer of relatively coarse screening, the edge of said very fine screen adjacent the base of said basket being engaged in said groove in said flange, and

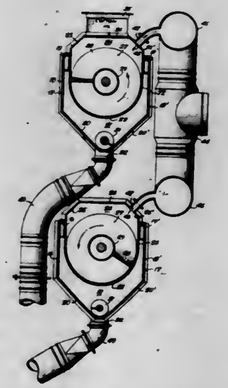
(f) additional independent means for securing said very fine screen to the apex of said basket whereby said very fine screen can be removed without substantially disturbing said relatively coarse screening.

3,269,029

JET SPIRAL DRIER

Hoyle G. Moss and Robert C. Schwartz, Lubbock, Tex., assignors, by mesne assignments, to Continental/Moss-Gordin, Inc., Prattville, Ala., a corporation of Delaware

Filed Jan. 11, 1963, Ser. No. 250,834
7 Claims. (Cl. 34—182)



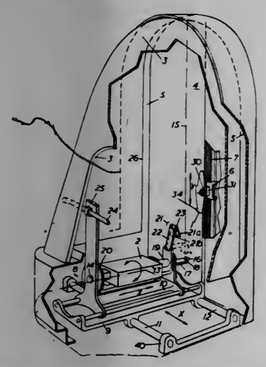
1. Apparatus for treating seed cotton and the like to alter the moisture content thereof by exposure to treating air having a preselected temperature and humidity to effect moisture exchange therebetween comprising horizontally elongated casing means having a feed end and a discharge end, said casing means including exterior wall

means and a stationary interior partition having an upwardly concave semi-cylindrical perforate curved wall portion concentric with a substantially horizontal longitudinal axis of the casing means dividing the space bounded by said exterior wall means into an upper conveyor chamber and a lower trash collecting chamber of substantially co-extensive extent longitudinally of the casing means, a rotatable conveyor screw in said upper conveyor chamber extending the length thereof having its periphery disposed in a cylindrical path concentric with said axis and immediately adjacent said curved wall portion for advancing cotton therealong from the feed end to the discharge end of said casing means, said curved wall portion having openings distributed along the axial length thereof below the horizontal plane through said axis sized to retain cotton fed into said casing means at the feed end thereof in the path of said conveyor screw to be advanced along a flow path toward said discharge end and permitting passage of trash and moisture laden air therethrough into said collecting chamber, said collecting chamber extending in radially outwardly surrounding relation to said curved wall portion and having communication with said conveying chamber only through said openings in said curved wall portion, treating air supply means including air inlet opening means opening directly into said conveying chamber above said horizontal plane and spaced out of direct communication with said collecting chamber to discharge treating air downwardly into moisture exchange relation with the cotton in said conveying chamber, and exhaust duct means coupled directly to said collecting chamber for continuously withdrawing trash and moisture laden air therefrom.

3,269,030
FLIGHT SIMULATOR

Saxon M. Poole, Paris, and Guy L. H. Herondelle, La Celle-Saint-Cloud, France, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 6, 1964, Ser. No. 343,053
9 Claims. (Cl. 35—12)

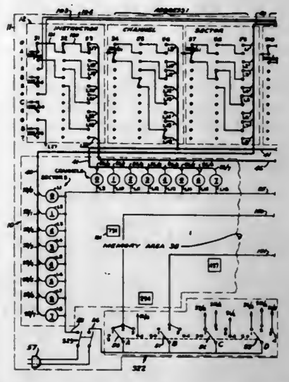


1. A flight simulator for a pilot in training comprising a celestial dome and a scenic representation of land and sea, means for moving said celestial dome with respect to said scenic representation a television camera, a receiver, means coupling the output of said camera to said receiver, a screen disposed before the pilot to project the image obtained by said camera, means to shift the camera along two coordinate axes X and Z, where Z represents the altitude, and means to shift a runway model along the third orthogonal axis Y representing the direction of the runway axis, whereby there is affected a relative model-to-camera motion having a similarity with the relative runway-to-pilot motion.

3,269,031
DEVICE FOR TEACHING COMPUTER PROGRAMMING

William K. Pratt, Los Angeles, Calif., assignor, by direct and mesne assignments, to Calair Diversified, Inc., Santa Monica, Calif., a corporation of California

Filed Feb. 4, 1964, Ser. No. 342,356
9 Claims. (Cl. 35—13)



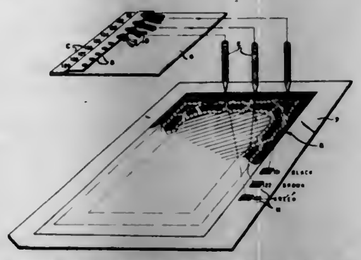
1. A machine for teaching computer programming comprising: an area for simulating memory cells locatable by channel and sector coordinates; memory indicia means adapted to indicate selected channels and sectors; register indicia means adapted to indicate an operation of transfer of data from a cell; operation indicia means adapted to indicate the performance of a specified operation; an order register adapted to receive instructions relating to an operation to be performed and to data storage; and an operation switch adapted to activate memory indicia and register indicia means respective to a selected memory cell and step in a selected program, and thereafter an operation indicia means to indicate the class of operation to be conducted with the data respective to the register indicia means, and thereafter, when appropriate, the disposition in the area of data resulting from the operation, said operation switch being functionally unrelated to the actual performance or completion of any calculation or manipulatory step, said calculation or manipulatory steps being accomplished by the student in compliance with program steps indicated by actuation of said means as a consequence of sequential settings of the operation switch.

3,269,032
TEXTILE DESIGN KIT AND METHOD OF MAKING TEXTILES THEREFROM

Jason Sumner, 7 William St., Riverside, Conn.

Filed June 10, 1964, Ser. No. 375,974
3 Claims. (Cl. 35—15)

1. A patterned textile design kit to provide the means to make a customized small scale colored patterned simulation of a desired textile prior to manufacturing the full scale textile and where such colored patterned simulation is available to directly compare with the remaining decor of the space to receive the full scale textile, the colors coming from a predetermined group of true textile colors and a predetermined pattern that is available for manufacturing said full scale textile, said kit comprising a color board having a plurality of spaced positions therein with a corresponding indicia for each position, said indicia corresponding to each of the colors in said predetermined group, true color textile samples affixed to said color board at said positions with each sample having a color from said predetermined group, a plurality of coloring devices producing colors corresponding to those in said predetermined group and matching said true color textile samples, a separate and identified textile pattern simulation card and corresponding to said predetermined textile pattern, said card having a small scale outline of at least

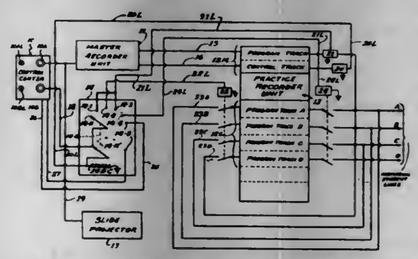


a portion of said pattern in the spaces of which at least two selected textile colors are placed by use of said coloring devices to produce a color simulation of said textile pattern and true color textile samples.

3,269,033
AUDIO-VISUAL TEACHING APPARATUS

Robert H. Redfield, 609 Elmwood Ave., Evanston, Ill., and Wayne M. Collander, 7821 43rd, Lyons, Ill.

Continuation of application Ser. No. 139,409, Sept. 20, 1961. This application Oct. 5, 1965, Ser. No. 505,087
11 Claims. (Cl. 35—35)

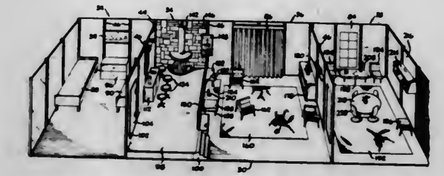


1. A practice teaching machine comprising a practice recorder unit having a recording medium provided with a master track section and a student track section in side by side relation, with the student track section having a beginning point at the end point of the master track section and with the master track section having a beginning point at the end point of the student track section, a sequencing device connected to control said practice recorder unit, means for recording a master message and a control signal in the master track section of said practice recorder unit, means concurrently operable for playing back said master message and said control signal from the master track section of said practice recorder unit to actuate said sequencing device, means responsive to actuation of said sequencing device for connecting said practice recorder unit to receive and record a practice message in the student track section and for again playing back said recorded control signal to actuate said sequencing device, means thereupon responsive to actuation of said sequencing device for playing back said recorded master message from said practice recorder unit and for playing back said recorded control signal to again actuate said sequencing device, and means thereupon responsive to actuation of said sequencing device for playing back said recorded student message from said practice recorder unit, and for playing back said control signal to actuate said sequencing device, and means responsive to the last-mentioned actuation of said sequencing device for resetting the sequencing device for another cycle of operation.

3,269,034
DECORATOR KIT

Marvin I. Glass, Chicago, Harry Dinko, Park Ridge, and Dalia E. Verbickas, Chicago, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership

Filed Feb. 14, 1964, Ser. No. 344,876
6 Claims. (Cl. 35—53)

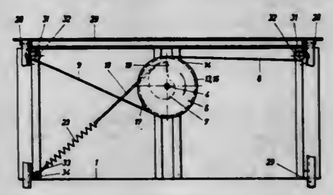


1. In a decorator kit, a building construction comprising a floor, a plurality of frame members of generally rectangular form, each comprising a lower stringer portion, an upper stringer portion, and a plurality of vertical end and intermediate stud portions joining said upper and lower stringer portions, said stud portions each having a slot extending along the length thereof on one side, and also having a slot extending substantially the length thereof on the other side, and the end stud portions of said frame members each having a rib extending along the length thereof and projecting in the direction of said frame, said ribs and said slots being of a common cross-sectional dimension whereby said ribs are engageable in said slots to form miniature building frames of various configurations at the wish of the decorator.

3,269,035
SPRING BALANCED ADJUSTABLE BLACKBOARD

Friedrich Bong, % Dr.-Ing. A. Varren, 30 Kettwiger Strasse, Essen, Germany

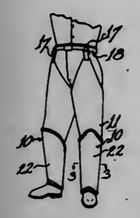
Filed Nov. 26, 1963, Ser. No. 326,043
1 Claim. (Cl. 35—63)



In a school blackboard perpendicularly adjustable in a stationary framework, a circular double grooved pulley, a grooved cam disc securely fastened thereto, both being rotatably mounted on a pin fixed at the back of said blackboard, two reversing pulleys, each rotatably mounted on an end of the blackboard at the back thereof, two bearing ropes each attached with its one end to one side of said stationary framework near the upper end thereof and running downwards and over one of said reversing pulleys into one of the grooves of said double grooved pulley, and means for fastening the other end of said bearing ropes in the related grooves,

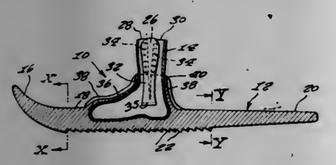
a tension spring attached with its one end to the back of said blackboard, with its other end to a connecting rope attached to a point in the groove of said cam disc having the greatest radius thereof, said cam disc being designed thus that its radius decreases, starting from said end attachment point for said connecting rope, inversely proportionally to the increasing of the tensioning of said spring on lowering the blackboard, whereby the whole movable pulley, cam disc and rope mechanism remains hidden from the pupils regardless of the extent of the shifting of the blackboard.

3,269,036
PROTECTIVE LEGGING
Mitchell Parker, William H. McDaniel, and Joe B. Gantt, all of Florala, Ala., assignors to Gator Chaps, Inc., a corporation of Alabama
Filed Apr. 6, 1964, Ser. No. 357,540
1 Claim. (Cl. 36—2)



A protective legging comprising:
(a) a sheet of fabric of a size to encase and fit closely adjacent a leg of a user with the side edges of said sheet of fabric adjacent each other, said sheet having a lower portion adapted to cover the leg of the user below the knee and an upper portion adapted to cover the leg thereabove,
(b) a slide-type fastener detachably connecting the lower portion of said side edges to each other,
(c) a flexible strap attached to the upper portion of said sheet of fabric and adapted to be connected to a belt of the user to support said sheet of fabric,
(d) a protective sheet of aluminum-like material secured to said lower portion of said sheet of fabric and being of a width substantially equal the width of said lower portion of said sheet of fabric whereby said protective sheet of material encases the lower leg of the user while said side edges are connected to each other, and
(e) vertically spaced, snap-type fasteners connecting the side edges of said sheet of fabric to each other above said protective sheet of material to permit free bending of the leg of the user.

3,269,037
FOAM LIGHT WEIGHT RUBBER SNOW SHOES
William Massicotte, Box 103, Wawa, Ontario, Canada
Filed Oct. 13, 1965, Ser. No. 495,513
3 Claims. (Cl. 36—4.5)



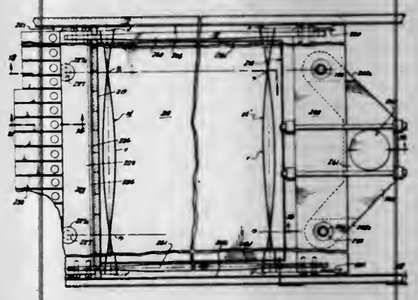
1. A snow shoe comprising:
(a) an elongated runner formed of a flexible plastic material having a prow portion, an intermediate support portion and a tail portion,
(b) a boot positioned at said intermediate support portion and bonded thereto,
(c) a thin shroud of like flexible plastic material completely encasing at least the foot portion of said boot and bonded thereto,
(d) said shroud being an integral part of said plastic material runner,
(e) said prow portion converging from the front end of said intermediate support portion and curving upwardly therefrom,
(f) said intermediate support portion and said tail portion tapering in thickness from said front end of said intermediate support portion towards the terminal rear end of said tail portion,
(g) said tail portion being substantially rectangular in form,
(h) said boot being formed of a fabric material,
(i) a slit at one side of said boot,
(j) a tongue inside of said boot spanning said slit,
(k) and fastening means for joining opposed edge portions of said slit,
(l) the bottom of said slit lying below the top edge of said shroud.

3,269,038
INSIDE SLIPPER FOOT COVER
Ursula E. Abel, 902 W. Roma Ave., Phoenix, Ariz.
Filed Aug. 30, 1965, Ser. No. 483,519
3 Claims. (Cl. 36—10)



1. In a foot cover, a body comprised of relatively flimsy fabric adapted to be stretched over the foot of a wearer and having a bottom wall; a reinforcing element for the heel portion of said body comprising a strip of flexible, relatively stiff material having its top edge portion secured to the top edge portion at the inside of the heel portion of said body; said reinforcing element having depending opposite side portions terminating in overlapping relationship overlying the heel portion of said bottom wall in position to be pressed thereagainst by the heel of the wearer.

3,269,039
SONIC EARTH MOVING MACHINE
Albert G. Bodine, Los Angeles, Calif.
(7877 Woodley Ave., Van Nuys, Calif.)
Filed Nov. 27, 1963, Ser. No. 326,419
5 Claims. (Cl. 37—126)



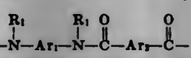
1. The combination comprising:
an earth moving machine or the like configured to afford an earth flow region;
an earth receiving and carrying shell in said machine having a bottom wall provided with a forward entrance edge, and a back wall;
a sonic resonant elastically vibrator member in the form of a horizontal elastic bar extending transversely of and generally adjacent the entrance edge of said bottom wall of said shell;

mounting means for said bar on said machine in the region of a nodal point of said bar for a mode of lateral resonant standing wave vibration of said bar, wherein said bar vibrates in a pattern of nodes and antinodes;
a sonic vibration generator operable at the frequency of said standing wave vibration of said bar acoustically coupled to said bar at an antinode of said standing wave vibration for setting said bar into said resonant vibration; and
said bar having a surface coupled to earth material flowing through said earth flow region in a path extending over said bar and entrance edge and adapted by virtue of its vibration to transmit vibration into said dirt traversing said path.

3,269,040
STEAM IRON ACCESSORY
Joseph K. Dikoff, 15004 Oxnard St., Van Nuys, Calif.
Filed Sept. 8, 1965, Ser. No. 492,966
3 Claims. (Cl. 38—97)



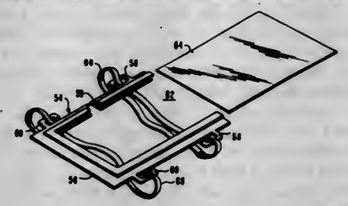
1. A method of making a shoe for the sole of a hand-held steam iron that includes:
providing a frame that is attachable to the sole of said hand-held steam iron;
forming a thin sheet of aromatic polyamide fibers substantially less than 1/16 of an inch thick and having a porosity sufficient to freely pass steam from said iron and through said sheet;
shaping said thin sheet into a configuration similar to that of the periphery of said frame, said aromatic polyamide consisting essentially of the recurring structural unit



wherein R_1 is selected from the group consisting of hydrogen and lower alkyl and wherein Ar_1 and Ar_2 are selected from unsubstituted divalent aromatic radicals and substituted divalent aromatic radicals, the chain-extending bonds of said divalent aromatic radicals being oriented para to one another, and the substitutions being non-polyamide forming during polymerization, said aromatic polyamide having a melting point in excess of 350° C.;
stretching said thin sheet over the underside of said frame and securing said thin sheet thereto, whereby it is adapted to come into direct contact with the underside of said hand-held steam iron when said frame is attached to the sole thereof.

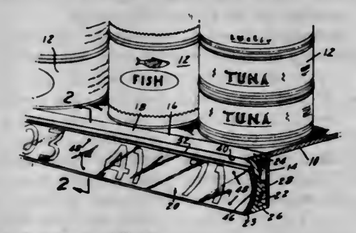
3,269,041
CERTIFICATE HOLDER
Morris L. Marcus, Los Angeles, Calif.
(215 Peck Drive, Beverly Hills, Calif.)
Filed Jan. 24, 1964, Ser. No. 339,957
17 Claims. (Cl. 40—10)

1. A holder comprising a generally rectangular body, retaining means on said body for retaining an article thereon, a generally rectangular hook frame attached to the body, hooks integrally formed with said hook frame on edges thereof, said hooks shaped to removably retain resilient closed loop attaching means whereby the holder can be removably attached to a support by hooking one end of said closed loop attaching means to one hook on one edge of the hook frame and stretching the resilient closed loop attaching means around the support and hooking the opposite end of said closed loop attaching



means to a hook on another edge of the hook frame, said hook frame and said hooks shaped so when said holder is mounted on the support with said closed loop attaching means hooked onto said hooks, the force exerted on said hook frame by said closed loop attaching means is neutralized so that the closed loop attaching means exerts no tension on the body of the holder.

3,269,042
PRICE TAG MOLDING
Archer W. Carpenter, Whittier, Calif., assignor of one-half to Malcolm R. Speirs, Lakewood, Calif.
Filed July 21, 1964, Ser. No. 384,186
8 Claims. (Cl. 40—10)

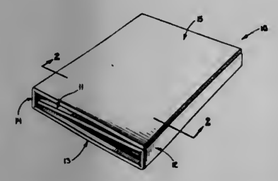


1. In price tag molding:
(A) an elongated back member having its front side concavely grooved longitudinally, said member being adapted to be attached to a shelf for the display of merchandise;
(B) a transparent front member disposed in the groove of said back member, the back side of said front member having a curvature corresponding to the curvature of said groove;
(C) and pin means for securing said members together in spaced relation to each other to provide space for tags, said pin means comprising pins adjacent the longitudinal edges of said molding members with the pins adjacent one edge diverging relative to the pins adjacent the other edge.

3,269,043
DISPLAY DEVICE
John Norman Swanson, Indianapolis, Ind., assignor of twenty-five percent to Donald L. Rutledge, Indianapolis, Ind., and ten percent to Richard L. Harbison, Indianapolis, Ind.
Filed Apr. 22, 1964, Ser. No. 361,727
5 Claims. (Cl. 40—102)

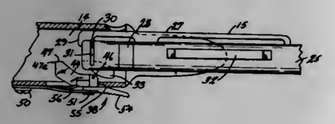
1. A display device comprising five stiffener plates all having an equal height, a cloth covering for said stiffener plates covering and foldably connecting said stiffener plates together width-edge-to-width-edge to provide a string of rectangular connected panels with a first thereof

connected to a second thereof connected to a third thereof connected to a fourth thereof connected to a fifth thereof, each of the first, third and fifth panels having a rectangular sheet of hard board secured thereto and substantially covering the respective panel, each sheet of hard board having a pair of opposite edges which taper toward one another and toward their respective panels from the distal face of the hard board to the proximal face thereof, a plurality of rigid transparent members slidably received on and covering said sheets of hard board, said transparent members each having flanges at opposite edges thereof which project inwardly and engage said opposite edges of the respective hard board sheets, a pair of rivets secured to and extending through the third panel's sheet of hard board adjacent the second of said panels, each of said rivets having an enlarged cylindrical portion projecting away from said third panel's sheet of hard board and an enlarged head on the distal end of said cylindrical portion, said rigid transparent member for said third panel's hard board sheet having recesses which



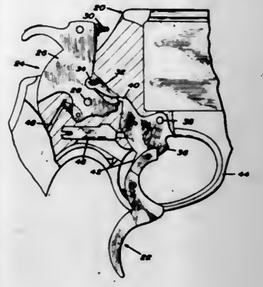
receive said rivets and permit said third panel's transparent member to be slidably removed from said third panel, transparent overlays selectively and alternatively and removably mounted on said rivets, said overlays each having a pair of recesses which receive the cylindrical portions of said rivets, said overlays each having a different colored graph thereon and each having a corresponding color code with identifying indicia thereon whereby each graph can be identified by its distinctively colored indicia, said third panel's transparent member having therebeneath an abscissa and ordinate carrying sheet for said overlays, said second panel having a width appropriate to permit folding said third panel over and generally parallel with said first panel with said overlays, rivets and two of said hard boards therebetween, said fourth panel having a width appropriate to permit folding said fifth panel over and generally parallel with said third panel with said hard boards and first panel and overlays and rivets therebetween; and friction grip material on the edge of said fifth panel which is away from said fourth panel.

3,269,044
BOLT RELEASE AND EJECTOR MECHANISM
Glen L. Mittelsteadt, Waseca, Minn., assignor to Herter's Inc., Waseca, Minn., a corporation of Minnesota
Filed Nov. 9, 1964, Ser. No. 409,909
5 Claims. (Cl. 42—25)



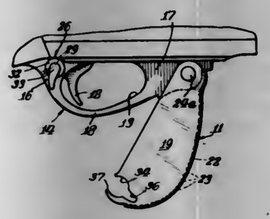
1. In a bolt release mechanism for a firearm, the combination comprising,
a rifle receiver provided with a bolt slide opening therein,
a bolt member reciprocal in said opening and provided with a laterally extending locking lug thereon,
a bolt release member shiftably mounted on said receiver, said release member having a bolt retaining lug thereon in communication with said slide opening,
a first camming surface and a stop surface on said retaining lug, said surfaces extending into the path of said locking lug,
a leaf spring on said receiver and cooperating with said bolt release member to urge said retaining lug into the path of said locking lug,
a second camming surface on said release member for cooperation of said release member with said receiver to move said retaining lug out of the path of said locking lug,
and an ejector member pivotally mounted on said retaining lug for limited pivoting movement relative thereto, and means for yieldably resisting pivoting movement of said ejector member.

3,269,045
REVOLVER WITH SHOOTING TRIGGER AND DIGITALLY ENGAGEABLE AUXILIARY MEANS SECURED THERETO
Robert E. McGaughey, 51 E. 39th St., Hialeah, Fla.
Filed Mar. 11, 1965, Ser. No. 438,836
18 Claims. (Cl. 42—65)



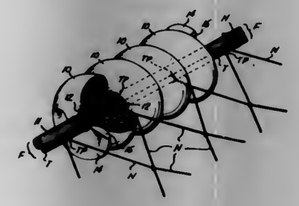
1. In a revolver having a firing mechanism and a shooting trigger operatively connected thereto, the combination comprising:
said shooting trigger being movable between a forward inactive position and a rearward firing position; and
digitally engageable auxiliary means secured to said shooting trigger;
said auxiliary means having a forward and a rearward position;
said auxiliary means being digitally operable to move from its forward position to its rearward position to simultaneously move said shooting trigger from its forward position to an intermediate position between its forward and firing positions;
said auxiliary means, when in its rearward position, preventing said shooting trigger from moving from its intermediate position to its firing position;
said auxiliary means being releasable from its rearward position for movement toward its forward position whereupon said shooting trigger can be digitally moved from its intermediate position to its firing position to operate said firing mechanism;
said auxiliary means including an adjustable means which varies said shooting trigger intermediate position.

3,269,046
TRIGGER SHIELD FOR FIREARMS
Edward E. Schaefer, Winnetka, Ill. (% Central Specialties Company, 3813 N. Harlem Ave., Chicago, Ill. 60634)
Filed Aug. 11, 1965, Ser. No. 478,859
18 Claims. (Cl. 42—70)



1. In combination with a gun having a trigger and a trigger guard, a shield movably mounted on the gun for movement between a closed position in which the shield encloses the trigger guard for preventing access to the trigger and an open position in which the trigger guard and trigger are exposed, biasing means normally urging said shield to said open position, and releasable retainer means for holding said shield in said closed position, whereby said shield is automatically opened by said biasing means in response to release of said retainer means.

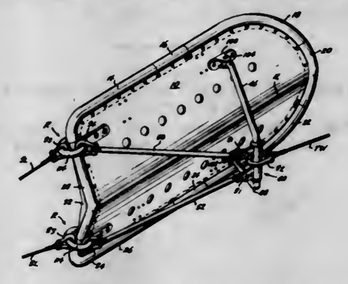
3,269,047
MARINE LINE FLOATS
Robert M. Slattery, Seattle, Wash., assignor to John O. Graybeal, Seattle, Wash.
Filed Oct. 3, 1963, Ser. No. 320,596
17 Claims. (Cl. 43—7)



14. In combination with a fishing net float line with net webbing secured thereto at close intervals, a net float comprising a series of substantially contiguous turns of buoyant, trapped gas containing, elastically resilient material with the float line positioned axially within the inner bore defined by said turns and with the net webbing extending laterally between certain of the turns to maintain the float at the desired location on said net float line.

3,269,048
TRAWL DOOR AND BRIDLE APPARATUS FOR SAME
Frank J. Luketa, 5567 Greenwood Ave. N., Seattle, Wash.
Continuation of application Ser. No. 291,203, June 27, 1963. This application Apr. 23, 1965, Ser. No. 453,870
6 Claims. (Cl. 43—9)

4. A trawl door comprising: a water reaction panel having an anterior face, a posterior face and a rear edge; marginal edging extending along the rear edge of said panel; a pair of ring members connected to said panel at spaced apart locations adjacent the rear edge therof, each said ring member including an inner portion interposed between adjacent portions of said marginal edging,



and a line securing element generally encircling said inner portion; and means for connecting said water reaction panel to a towing warp.

3,269,049
FISHING APPARATUS
Ottie C. Emmons, % Granot Lodge, 730 S. 10th St., Clinton, Okla.
Filed Sept. 30, 1964, Ser. No. 400,403
9 Claims. (Cl. 43—23)



1. Fishing apparatus including a tubular fishline having means for connecting a lure attached thereto for transmitting air to the vicinity of the lure, said apparatus comprising:
a fishline reel having a passageway therein in communication with said tubular fishline; and,
a casting rod having an elongated portion arranged to support the fishline and a handle portion arranged to support said reel, said handle portion including means forming a variable volume chamber therein, and having a passageway providing communication between said chamber and the passageway in said reel.

3,269,050
FISHING LURE
Ernest H. Garwood, 240 W. 33rd Way, Long Beach, Calif.
Filed Sept. 24, 1964, Ser. No. 398,863
2 Claims. (Cl. 43—42.33)

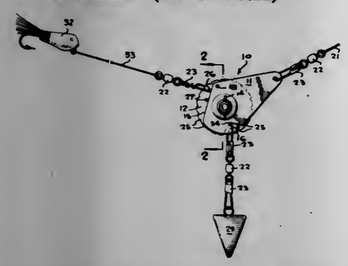


2. A fishing lure comprising,
a hollow body having a counterbore therein,
a cap mounted on one end of the body to close the same,
an inner element mounted in the body,
said body and cap each having a socket formed therein to receive one end of said inner element,

said body, cap, and inner element having aligned longitudinally extending bores therein through which a fishing line extends,

said inner element being of lesser outside diameter than the diameter of the counterbore.

3,269,051
AUTOMATIC WEIGHT RELEASE MECHANISM FOR FISHING LINES
Walter Conway Saunders, Jr., Coles Point, Va.
Filed Sept. 29, 1964, Ser. No. 400,058
6 Claims. (Cl. 43—43.12)



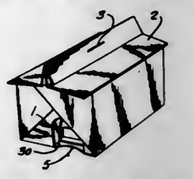
1. A sinker releasing mechanism for connection between a fishing line and a lure leader adapted to support a sinker in a normally depending position and to release the sinker responsive to a predetermined amount of force exerted on the lure leader by a striking fish, comprising a pair of side plates having adjustable mounting means holding the plates closely adjacent one another with a predetermined compression force, one of the plates being of a flat elongated configuration having at one end a tapered portion and at the other end a rounded portion, the tapered portion having a fishing line receiving aperture therethrough for interconnection with a portion of a fishing line, the other side plate being of circular configuration having a central aperture, there being a central aperture in the rounded portion of the elongated side plate adapted to register with the central aperture of the circular side plate, said apertures being adapted to receive said mounting means, there being a sinker receiving recess in the bottom of the rounded portion of the elongated side plate, lure attachment means located near the periphery of the circular side plate to provide predetermined moment arms to the lure leader with respect to the center of the circular side plate, there being a sinker receiving recess in the bottom of the circular side plate projecting generally toward the center of the plate in a manner that opposes the longitudinal length of the elongated side plate sinker receiving recess to form a closed sinker receiving recess in conjuction with the elongated side plate so that the sinker is adapted to be held in operative position in the closed sinker receiving recess whereby in response to a pull exerted upon the lure leader the circular side plate is rotated with respect to the elongated side plate to open the closed sinker receiving recess thereby releasing the sinker from engagement with the release mechanism.

3,269,052
DISPOSABLE RODENT BAIT STATION
Clyde S. Barnhart, Joppa, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed July 6, 1964, Ser. No. 380,711
2 Claims. (Cl. 43—131)

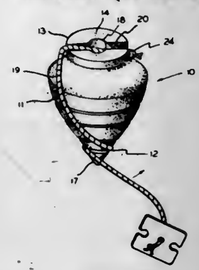
1. A blank construction for a rodent bait station for dispensing rodent bait, comprising:

(a) a single sheet outer shell blank comprising a floor section, a plurality of side and end wall sections extendable upwardly from said floor section, and roof sections comprising extensions which are adapted to overhang said end wall sections, said roof sections being formed from a continuation of said side wall sections, said side wall continuations being foldable upwardly and fastenable at their distal ends to form a carrying handle for said outer shell, said outer shell blank having an aperture in each of said end wall sections, each said aperture extending into said floor section to form an ingress and egress passageway through said outer shell which permits rodents to partially enter said outer shell without contacting said floor; and

(b) a single sheet combined bait hopper and feeding tray blank insertable within said outer shell, the bait hopper portion of said last mentioned blank comprising a side wall portion adapted to be inclined upwardly from the floor to the roof of said outer shell, said side wall portion including a tab at its upper end which is adapted to extend into the handle portion of said outer shell to fasten said side wall portion to said shell, end tabs foldable parallel to the side walls of said outer shell to form the bait hopper, and there being an aperture at the lower end of said side wall portion to permit dispensing of bait from said hopper to the feeding tray portion, said feeding tray portion comprising a floor section which is a foldable continuation of the side wall portion of said bait hopper, and end wall sections which are foldable upwardly from said tray floor section to form the feeding tray.

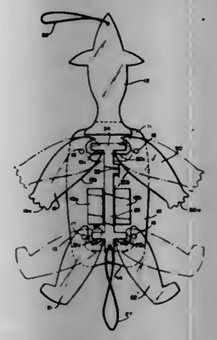


3,269,053
SPINNING TOP WITH CORD RECEIVING GROOVE
Edwin A. Dawson, Jr., Evanston, Ill., assignor to Donald F. Duncan Inc., Evanston, Ill., a corporation of Delaware
Filed Feb. 10, 1964, Ser. No. 343,651
4 Claims. (Cl. 46—67)



1. A spinning top including a spinning top body of generally inverted conic form, a pivot at the apex of the body at the lower portion thereof, said body having an essentially flat surface extending transversely to the spinning axis of the body and defining a crown at the top portion of the body, said surface having a groove extending from one side of said surface toward the other side and in intersecting relation to said axis, the bottom of said groove being formed on a shallow angle with said surface, the uppermost portion of said groove terminating at a point flush with said surface, said groove having a lower portion spaced from said point, and means defining a shoulder at said lower portion of said groove whereby a winding string for said top may be positioned in said groove with a knot on said string held tautly against said shoulder.

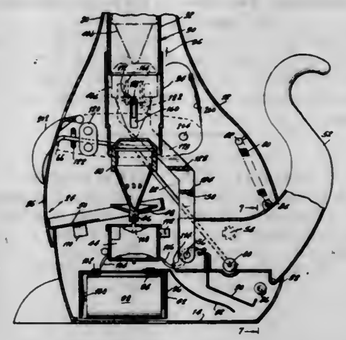
3,269,054
MOVABLE ACROBATIC FIGURE TOY
Marvin C. Taylor, Washington, D.C., assignor to Fisher-Price Toys, Inc., East Aurora, N.Y., a corporation of New York
Filed Oct. 28, 1964, Ser. No. 407,075
6 Claims. (Cl. 46—130)



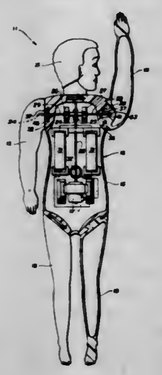
1. A jumping jack comprising a first body plate shaped to represent part of the body of the jumping jack, said plate having four pivot pins projecting from one face thereof for supporting arms and legs, two of said pins being leg-supporting pins and located adjacent the lower end of the body plate on opposite sides of the vertical center line of the body, the other two of said pins constituting arm-supporting pins and also being located respectively on opposite sides of the vertical center line of the body and at a higher level than the leg-supporting pins, right and left arms each having a shoulder-end, each said arm defining a pivot pin hole adjacent its shoulder-end through which said arm-supporting pins pass to thus provide for rotary movements of said arms about their respective pivot pins, right and left legs each having a hip-end, each said leg defining a pivot pin hole adjacent its hip-end through which said leg-supporting pins pass to thus provide for rotary movements of said legs about their respective pivot pins, each arm at its shoulder-end and each leg at its hip-end defining a cam surface, a rigid vertical member passing between the hip-ends of the legs and the shoulder-ends of the arms and including four rigid cam operators which respectively engage the cam surfaces of the arms and legs to effect rotary movements of the arms and legs about their respective pivot pins when the vertical member is moved down, said plate having projecting from said one face guiding means for guiding the vertical member for limited up and down movement, and a second body plate attached to the first-named body plate and covering the vertical member, and the shoulder and hip-ends of the arms and legs.

3,269,055
ARTICULATED TOY FOR SPINNING TOPS
Al Gordon, New York, N.Y., assignor of twenty-five percent to Nathan M. Briskin and Kenneth S. Goldfarb, both of New York, N.Y., and fifteen percent to Thomas A. Mamalis, New Rochelle, N.Y.
Filed July 29, 1963, Ser. No. 298,171
15 Claims. (Cl. 46—243)

1. A toy comprising a hollow body having an opening, drive means in said body, rotatable means for rotating a top connected to said drive means, means for feeding a top to said rotatable means, and actuating means for moving said rotatable means to direct a top carried thereby through said opening.



3,269,056
SWIMMING DOLL
Mary E. Hockman, Imola, and Rachel M. Walker and Frank K. Allen, Vallejo, Calif., assignors, by direct and mesne assignments, to Raymond J. Hockman and Mary E. Hockman, both of Imola, Calif., and Rachael M. Walker, Vallejo, Calif.
Filed Mar. 4, 1964, Ser. No. 349,197
5 Claims. (Cl. 46—247)



1. A swimming doll comprising:

a buoyant body member simulating a human body and being formed with a pair of annular flanges disposed on opposite sides of said body member;

a pair of arms, each having a flexible resilient annular flange said first mentioned flanges providing means for interlocking engagement releasably connecting each of said arms to said body member and permitting free relative rotational movement thereon;

a transverse driven shaft mounted on said body coaxially of said annular flanges;

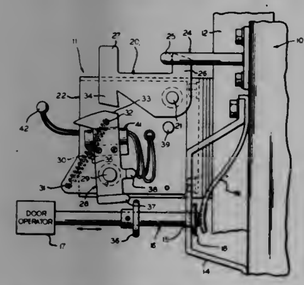
power means housed within said body member coupled to said driven shaft for selectively producing rotary movement thereof; and

coupling means releasably connecting each of said arms to opposite ends of said shaft at varying positions of rotational displacement relative to one another for joint driven rotation of said arms.

3,269,057
METHOD OF TREATING WILD RICE
Richard Walter Heineman, 502 2nd Ave. S., Glasgow, Mont.
No Drawing. Filed Oct. 9, 1964, Ser. No. 402,940
4 Claims. (Cl. 47—58)

1. A method of treating wild rice prior to harvesting which comprises applying an adherent film of an air hardenable adhesive to the area of the joint between the stalk and the kernel at a time when the rice is in the milk stage.

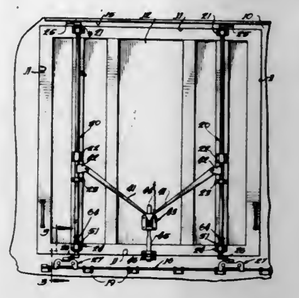
3,269,058
DOOR LOCKING MECHANISM
Robert J. Lynn, Morton Grove, Kristupas Daugirdas, Wilmette, Clarence L. Wanlund, Evanston, and William W. Parks, Glenview, Ill., assignors to Vapor Corporation, Chicago, Ill., a corporation of Delaware
Filed July 29, 1964, Ser. No. 385,946
11 Claims. (Cl. 49—14)



1. In a vehicle having a door opening and a door selectively movable between open and closed positions relative to said door opening, a door operator having a control rod drivingly connected to said door, and a locking mechanism for locking the door in closed position, said locking mechanism comprising, a lock pin secured to said door, a locking pawl movable to block movement of said lock pin when the door is in substantially fully closed position to thereby lock the door against movement to open position, a lock pawl latch coacting with said locking pawl and movable to selectively prevent movement of said locking pawl when it is in position to block movement of said lock pin and permitting said locking pawl to move to a position to permit movement of said locking pawl and thereafter said lock pin, means for impositively holding said lock pawl latch in blocking and permitting positions, and means on said control rod coacting with said lock pawl latch and driving said lock pawl latch between blocking and permitting poistions during opening and closing of said door by said door operator.

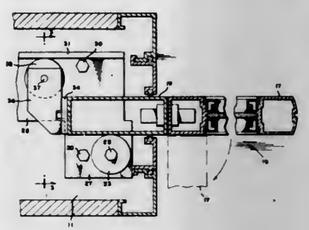
3,269,059
VERTICALLY ADJUSTABLE SUPPORTING MEANS FOR LATERALLY MOVABLE DOORS
John D. Bailey, Chicago, Ill., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Aug. 26, 1964, Ser. No. 392,111
9 Claims. (Cl. 49—219)

8. Mechanism for mounting a laterally movable door on a wall structure including a generally vertical shaft rotatably mounted on the door, said shaft extending through and being guided by a bracket secured to said door, said bracket having a downwardly facing mounting surface, and said shaft having vertically adjustable means in supporting engagement with said mounting surface of said bracket whereby said door is vertically adjustable with reference to said shaft, said vertically adjustable means comprising a sleeve surrounding said shaft and said shaft having a mating portion, said sleeve having a head portion adjustably mating with the shaft portion, said shaft portion being disposed above said mounting surface of said bracket, said sleeve extending downwardly



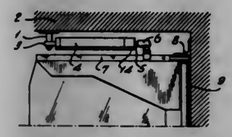
from said sleeve head portion through said bracket and having a lower end flange in supporting relation with said mounting surface.

3,269,060
PREVENTION OF JAMMING, IN AN AUTOMATIC ENTRANCE HAVING SLIDING DOOR, UNDER A PANIC CONDITION
Robert E. Dimmitt and Charles Kessner, Seattle, Wash., assignors to Dor-West, Inc., Seattle, Wash., a corporation of Washington
Filed Feb. 17, 1965, Ser. No. 433,388
8 Claims. (Cl. 49—264)



1. In an automatic entrance, an entry-way, a pocket of substantial depth located to one side of the entry-way, a door for said entry-way mounted for reciprocal slide movement between a normal closed position occupying the entry-way and an open position occupying the pocket, said door comprising a frame section guidably supported for said slide movement and a swing section hinged to the frame for swing motion about a vertical axis which lies close to the pocket side of the entry-way when the door is in said normal closed position, means for moving the door in its opening slide travel and in its closing slide travel, a normally incomplete electric circuit normally caused to be completed when a person enters a given traffic lane which includes the entry-way, said electric circuit being so operatively associated with both the door-opening and the door-closing means that a door-opening effort is exerted when the electric circuit is completed and a door-closing effort is exerted when the electric circuit is broken, and means operatively associated with said electric circuit causing the same to be made incomplete when manual pressure, exerted in a direction which is outward with respect to the entry-way, is applied against the swing section while the door is in the process of sliding open.

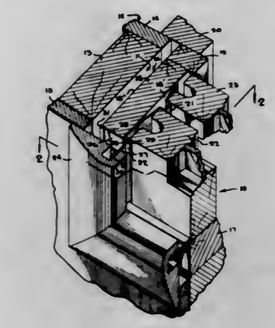
3,269,061
PNEUMATIC JACK-OPERATED SWINGING DOOR AND THE LIKE
Pierre Massina, Paris, France, assignor to Tubest, a corporation of France
Filed Apr. 22, 1964, Ser. No. 361,712
Claims priority, application France, Apr. 26, 1963, 932,765
7 Claims. (Cl. 49—326)



1. In a device of the type described comprising in combination:
(1) a frame defining an opening,
(2) a leaf member,
(3) hinge means mounting said member on said frame, whereby to enable said member to pivot through said opening in both directions from a closed position wherein said member lies in the plane of said frame,
(4) spring means urging said member to said closed position, and
(5) actuating means for said member comprised of
(a) a pneumatic jack including a cylinder, a piston and a piston rod extending from one end of said cylinder, said cylinder and piston rod movable apart by the admission of operating medium to said cylinder,
(b) means pivoting the opposite end of said cylinder to said frame,
(c) further means pivoting the projecting end of said rod to the edge of said leaf member at a point intermediate the axes of said hinge means and said first pivoting means,
(d) an air inlet valve associated with said jack and including a seat, a valve member and a valve spring urging said valve member against said seat,
(e) a sleeve sliding with substantial friction on a first portion of said piston rod, and
(f) a pusher disposed to transmit actuating movement from said sleeve to said valve member in opposition to said valve spring,
(g) said piston rod including a second portion of reduced diameter spaced from said first portion and enabling friction between said sleeve and piston to be nullified when said rod attains a predetermined extended position.

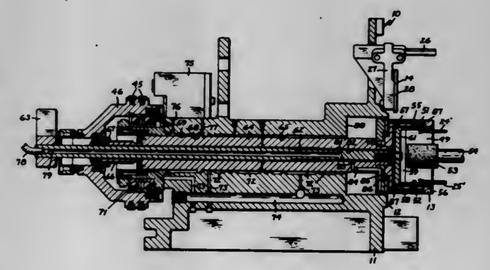
3,269,062
THICKNESS ADJUSTABLE WINDOW FRAME CONSTRUCTION
John H. Mears, Jr., Baltimore, Md. (Manor Vale Farm, Catonsville, Md. 21228)
Filed Mar. 23, 1965, Ser. No. 442,081
8 Claims. (Cl. 49—505)

1. In a frame assembly for window frames, door frames, and the like adapted to be installed in building wall openings in building walls of variable widths within a selected range, and including a jamb member of substantially rectangular cross section spaced from a bounding surface of the wall opening having a narrow substantially planiform inner surface facing inwardly of the building wall and surfaces extending perpendicular thereto; the improvement comprising an inner trim member to be secured to the inner surface of the building wall and extend in spaced covering relation to said inner surface of said jamb member to a point spaced toward the center of said opening from said inner surface, said inner trim member having a channel groove of selected depth therein opening toward said inner surface, and an integral jamb extender member of a length corresponding substantially to the length of said jamb member having a first and second legs having abutment surfaces corresponding to the configuration of said inner surface, either of said legs being mountable in coplanar butting relation on one of the surfaces of said jamb member with the



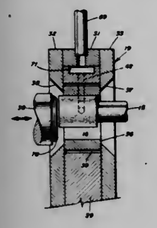
other of said legs projecting from said inner surface in alignment with and into variably lapped relation in said channel groove, said legs being of different selected widths correlated to a range of building wall widths obtainable with various thicknesses of selected building wall inner surfacing materials to dispose the free end of the projecting leg of said jamb extender in lapped relation in said channel groove over said range of building wall widths.

3,269,063
GRINDING MACHINE
Robert S. Hahn, Northboro, and George H. Lockwood, Worcester, Mass., assignors to The Heald Machine Company, Worcester, Mass., a corporation of Delaware
Filed Jan. 17, 1964, Ser. No. 338,332
11 Claims. (Cl. 51—48)



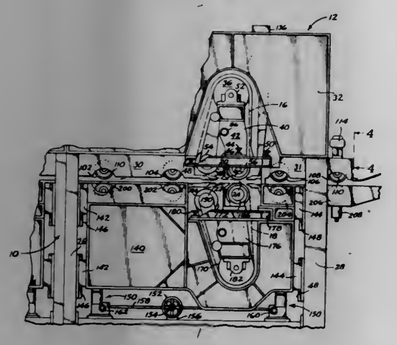
11. A grinding machine for finishing a surface of revolution of a workpiece, comprising
(a) an abrasive wheel adapted to be rotated and to engage the workpiece for finishing the same,
(b) a supporting member adapted to extend around a substantial portion of a surface of revolution of the workpiece with a very small clearance,
(c) means supplying a viscous fluid to the clearance between the supporting member and the workpiece, and
(d) means for rotating the supporting member.

3,269,064
GRINDING MACHINE
George H. Lockwood, Worcester, Mass., assignor to The Heald Machine Company, Worcester, Mass., a corporation of Delaware
Filed Jan. 17, 1964, Ser. 338,333
7 Claims. (Cl. 51—48)



1. A grinding machine for use with a workpiece having outer and inner surfaces of revolution, comprising
(a) a work support having a bore which is only slightly larger than the outer surface of the workpiece and in which the workpiece resides,
(b) means restricting the workpiece to the bore during grinding, and
(c) means providing fluid under pressure to the space between the workpiece and the bore, the bore being located in a plate member which is supported by two plates, one on each side, the plates being provided with apertures which are adapted to be axially aligned with the bore.

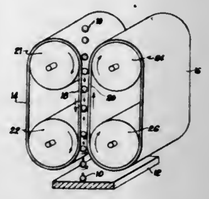
3,269,065
SANDING APPARATUS
John A. Nylund, Camas, Wash., assignor to Charles R. Tidland and Arthur T. Williams, Camas, Wash.
Filed Dec. 23, 1963, Ser. No. 332,662
12 Claims. (Cl. 51—139)



1. A method of sanding a nonmetallic workpiece having opposed yielding and elastic surfaces of varying degrees of hardness in zones nonuniformly distributed over the surfaces, the method comprising
passing said workpiece between a pair of endless traveling sanding belts, where said belts have runs disposed opposite each other that converge on each other and that define a sanding zone for the workpiece in a region where the belt runs come the closest to each other,
sanding both of said opposed surfaces simultaneously with said belt runs in said sanding zone, whereby each belt run in the sanding zone defines a datum plane for the depth and smoothness of finish produced by the belt run opposite,
compressing the yielding and elastic surfaces of said workpiece in said sanding zone with said opposed runs, whereby the workpiece in said zone has under compression a dimension between its said opposed surfaces which is less than the finally developed dimension between said surfaces, and
fixing the spacing between the belt runs in said sanding zone, during the compressing and sanding of the workpiece, whereby the workpiece has under compression a dimension between its said opposed surfaces which is uniform throughout the expanse of the workpiece treated.

6. A dimensional sanding apparatus for nonmetallic workpieces comprising
a frame,
a pair of substantially horizontal rollers,
rigid peripheries for the rollers centered about the axes for the rollers,
means mounting the rollers on said frame with one directly above the other,
said means mounting said rollers supporting the rollers with their axes a fixed distance apart and with the peripheries of the rollers in spaced relationship, and
an endless belt trained over each of said rollers,
said rollers providing nonyielding backing for the two belts in a zone located between the rollers which constitutes a dimensional sizing and sanding zone in the apparatus.

3,269,066
METHOD FOR PRODUCTION OF ABRADED DESIGN ON WORK SURFACES
John Clarence Straub, South Bend, Ind., assignor, by mesne assignments, to The Wheelabrator Corporation, Mishawaka, Ind., a corporation of Delaware
Filed Jan. 9, 1963, Ser. No. 250,431
6 Claims. (Cl. 51—319)



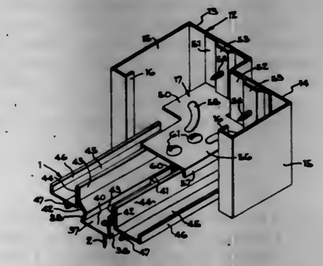
1. In the method of producing a decorative finish onto surfaces of a work comprising projecting rounded pellets of a resilient material in laterally spaced apart relation onto the surface of the work with a movement having a linear component and a rotational component, simultaneously providing a pulverulent particulate abrasive material at the point of impact of the pellets with the surface of the work whereby a pattern corresponding to the area of the pellets in engagement with the surface of the work is inscribed in the surface, providing relative movement between the work and the source from which the pellets are projected onto the surface of the work in a direction substantially perpendicular to the linear direction of the pellets projected onto the work surface and at a rate which will cause engagement between the pellets and spaced portions of the work surface whereby the patterns inscribed on the surface of the work are spaced one from the other in the work surface.

3,269,067
CONSTRUCTION FOR RECESS IN PLASTER WALL
Donald A. Ellis, Waukesha, and Albert T. Krueger, Milwaukee, Wis., assignors to Inland Steel Products Company, Milwaukee, Wis., a corporation of Delaware
Filed Apr. 24, 1962, Ser. No. 189,789
2 Claims. (Cl. 52—216)



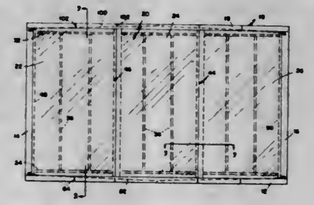
1. A prefabricated construction for a recess in a plaster wall, said construction comprising:
casing means defining the side walls of said recess;
said casing means having a pair of opposite open ends;
imperforate lip means extending outwardly at one end of said casing means around the periphery of and substantially perpendicular to the casing means;
flange means extending outwardly at the other end of the casing means around the periphery of and substantially perpendicular to the casing means;
said flange means and said lip means lying in respective substantially parallel, spaced-apart planes;
said flange means extending further outwardly than said lip means;
said flange means being imperforate in the area of projection of said lip means on the flange means, when the lip means are projected in a direction perpendicular to said flange means;
said flange means including, as an integral part thereof, expanded material means extending outwardly around the periphery of said imperforate area;
and a plurality of openings in said flange means;
all of said openings being located outwardly of said area of projection of the lip means on the flange means.

3,269,068
BASE ANCHOR FOR SECTIONAL METAL DOOR FRAMES
Donald L. King, Loveland, Ohio, assignor to The Steelcraft Manufacturing Company, Rossmoyne, Ohio, a corporation of Ohio
Filed Apr. 15, 1964, Ser. No. 359,951
3 Claims. (Cl. 52—217)



1. A base anchor structure securing the lower end portions of the vertical jambs of a sectional door frame relative to the floor of a building to delineate a door opening in a wall structure, said door frame being of sectional construction and having a horizontal header, a pair of vertical jambs, and coacting elements interconnecting the opposite ends of the header to the upper ends of the jambs, said base anchor structure comprising:
a runner strip secured to the floor of the building and delineating the wall to be erected, said runner strip being interrupted to provide a door opening corresponding generally to the location of the sectional door frame;
said runner strip being formed of sheet metal to provide a longitudinal corrugation having a bottom plate and having side walls which converge upwardly toward one another to provide a dovetail slideway extending longitudinally of the runner strip;
said runner strip including vertical walls projecting upwardly above said dovetail section and extending longitudinally of the runner strip;
a pair of base anchors;
a mounting plate on each base anchor seated upon the vertical walls of the runner strip;
said base anchors connected to the end portions of said runner strip on opposite sides of the door opening thereof;
the mounting plate of each of said base anchors being provided with downwardly projecting flanges along opposite longitudinal edges, said flanges of the base anchor overhanging the said vertical side walls of the runner strip at opposite sides, thereby to locate the mounting plate of the base anchor for longitudinal adjustment of the base anchor along the runner strip;
respective clamping nuts slidably confined in said dovetail slideway, one for each of said base anchors;
clamping screws passing through said mounting plates of the base anchor and into threaded engagement with said clamping nuts, and clamping each base anchor permanently in adjusted position with respect to the runner strip, flanges projecting upwardly from both of said base anchors,
and attachment means securing the lower end portion of said vertical jambs to the upwardly projecting flanges of the base anchors after the upper ends of the jambs have been interconnected with the opposite ends of the header by said coacting elements, thereby to secure the sectional door frame permanently in erected position with respect to the door opening provided by the runner strip.

3,269,069
PREFABRICATED BUILDING CONSTRUCTION
Donald A. Carlson, 3216 E. Pine, Wichita, Kans.
Filed Dec. 10, 1962, Ser. No. 243,257
10 Claims. (Cl. 52—227)



10. An improvement in building construction comprising a first straight frame member with second and third straight frame members extending perpendicularly therefrom, said second and third frame members being spaced apart and defining with said first frame member a U-shaped frame, a rectangular wall panel coplanar with the frame disposed between the second and third frame members and having an edge bearing against the first frame member: an elongated tension member extending through the wall panel and connected to the second and third frame members at positions spaced from the first

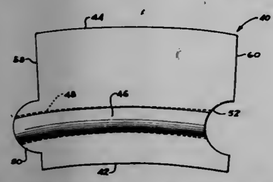
frame member, said second and third frame members being susceptible to at least a limited extent of movement toward each other at said positions, said tension member throughout a major portion of its extent between the second and third members being deflected toward the first frame member with means connecting such deflected portion of the tension member to the first frame member, and with said tension member being connected to the second and third frame members by means for tensioning the tension member, whereby tensioning of the tension member yieldingly urges the second and third frame members towards each other and the wall panel and also applies forces against the second and third frame members directed toward the first frame member.

3,269,070

REFRACTORY LINER BRICK WITH TONGUE AND COMPOUND GROOVE FOR FORMING CIRCULAR TAPERED FURNACE STACK CONSTRUCTIONS

Thomas J. Stoy, Clearfield, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 11, 1963, Ser. No. 308,290
6 Claims. (Cl. 52—249)



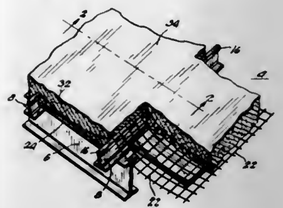
1. As an article of manufacture, a refractory shape arranged to be used with a plurality of identical shapes to form a tapered circular wall, said shape being elongate and of generally arcuate configuration with opposed long sides describing parallel curves, opposed ends, and parallel top and bottom faces extending between said curved sides and opposed ends to define the shape, a combination of one face and an adjacent end including cooperating means arranged to polarize the shape, said cooperating means which polarize the shape being of the tongue and groove type, and in which at least one tongue extends lengthwise across the upper face and down an adjacent end, and at least one groove extending lengthwise across the bottom face and up the other end of the opposed ends, the respective grooves and tongues having respective center lines parallel to a pair of opposed edges where the respective faces and ends join the curved long sides to form the shape, the groove in the bottom face of the shape being characterized by substantially identical cross sectional area at either end, the cross sectional area of a mid-point of this groove in the bottom face being smaller than that of the ends but slightly larger than the cross sectional area of the tongue on the upper face, said groove being a compound groove formed by two grooves intersecting at substantially the center point of said bottom face, the vertical bisector of each groove having a diameter of different length, the vertical bisector of the tongue on the upper face having a diameter which is the mean of the diameters of the vertical bisectors of the compound bottom groove thereof, whereby a plurality of identical shapes may be stacked in successive rings to form a curved wall in which shapes in these successive rings may be rotated on the top face of shapes in the next lower supporting ring, the rotation being only in a plane parallel to the bottom face and about said mid point of the groove in the bottom face of said shape which is of smaller cross sectional area than the ends of said groove, and the degree of rotation of the shape being limited by the cross sectional area of the ends of said groove in the bottom face, the respective tongue and groove portions of the ends of said article so dimensioned that the tongue of another identical shape can be encompassed within the end groove of a successive identical shape in forming a ring of a circular wall while allowing said limited rotation of one shape relative to the next, the respective end tongue and end groove of said shape being so dimensioned as to assure on the order of about a 50% area contact between the outer face of the tongue and the inner wall of the shape which defines the end groove in all positions during said limited horizontal rotation, and the surface areas adjacent either side of the end tongue being rearwardly sloped to assist in maintaining said 50% area contact during said limited horizontal rotation.

3,269,071

GYPSUM COMPOSITION AND BUILDING CONSTRUCTION

Elmer S. Johnson, deceased, late of Arlington Heights, Ill., by Lucille G. Johnson, executrix, Arlington Heights, Ill., assignor to United States Gypsum Company, Chicago, Ill., a corporation of Illinois

Continuation of application Ser. No. 38,931, June 27, 1960. This application Sept. 26, 1963, Ser. No. 313,141
3 Claims. (Cl. 52—338)



1. An improved lightweight monolithic poured gypsum roof and floor construction having a plurality of spaced roof and floor supporting means having a vertical web portion and subtending flanges, formboards disposed between said supporting means and supported at their marginal portions by the said subtending flanges, an open reticulated reinforcing means overlying said supporting means and formboards and spanning the spaces between the vertical portions of the supporting means, and a set gypsum overlying the formboards and encasing the reinforcing means and vertical portions of the supporting means to encase the same and bonded thereto in a monolithic structure, the set gypsum composition being comprised of an admixture of water and a dry gypsum mix consisting essentially of calcined gypsum, from 0.25 to 5.0 weight percent Portland cement on a calcined gypsum basis and from 2 to 6 cubic feet of perlite aggregate per 100 pounds of calcined gypsum, said admixture forming a gypsum slurry further characterized in having a set time of up to about 35 minutes.

3,269,072

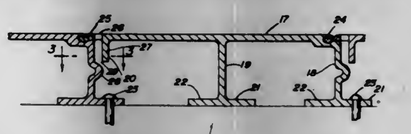
VEHICLE FLOOR CONSTRUCTION

James J. Black, Cincinnati, Ohio, assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Filed Aug. 26, 1963, Ser. No. 304,435
12 Claims. (Cl. 52—377)

1. A freight vehicle floor comprising a plurality of juxtaposed planks, each of said planks comprising a floor part and transverse opposed end flanges, groove means adjacent the intersection of the one flange and the floor part, tongue means extending from said floor

part adjacent the other flange thereof, said tongue means being adapted to fit in the groove means of an adjacent plank, a series of elongated slots in said floor part between said tongue means and said other flange, said one flange of one plank and said other flange of an adja-



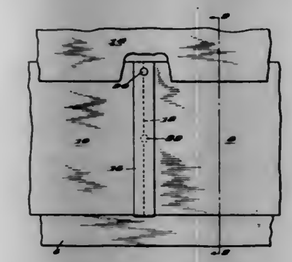
cent plank forming an extension defining the sidewalls of each of said elongated slots when said planks are interfitted, one of said flanges having ridge means thereon curling into said slot while the other of said flanges terminates in region of said ridge.

3,269,073

WOOD SIDING CONSTRUCTION

Gerald A. Koenigshof, Kensington, Md., assignor to Timber Engineering Company, District of Columbia, a corporation of Delaware

Filed Mar. 6, 1963, Ser. No. 263,150
5 Claims. (Cl. 52—465)



3. In combination a covered lap siding butt joint formed between coplanar abutting pieces of wood siding comprising a thin strip extending transversely across one face of the siding over the joint, one end of said strip extending across one edge of the siding and overlapping the opposite face of the siding, said strip having opposite longitudinal edges and a central portion transversely arched outwardly between said edges and extending from said one end continuously for substantially the length of said strip, said edges engaging said one face of siding, said strip being resiliently biased toward being curved longitudinally, and means for securing the opposite end of the strip to the siding whereby the edges of the strip are urged against the siding by the resilient longitudinal curvature of the strip.

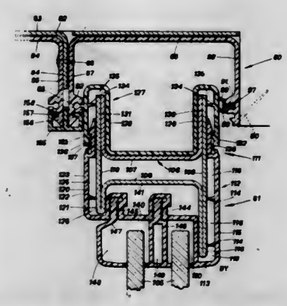
3,269,074

SASH AND FRAME FOR WINDOWS AND DOORS

Otto Johann Darmstadt, Clarkson, Ontario, Canada, assignor to Armstadt Manufacturing Limited, Toronto, Ontario, Canada

Filed July 22, 1963, Ser. No. 296,816
6 Claims. (Cl. 52—498)

1. A sash for supporting a sheet of glass comprising in combination a rigid reinforcing member consisting of a pair of channels each having a web portion and a pair of arms, means for rigidly interconnecting said channels in a spaced, back-to-back relation to form a unitary structure, one of said channels having one arm longer than the other, a sheath formed from a resilient material so constructed and arranged as to substantially envelope the reinforcing member, and means for removably securing at



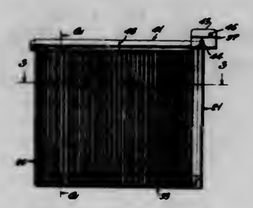
least one sheet of glass to the channel having the longer arm such that the sheet of glass substantially abuts the sheath portion enclosing said long channel arm to effect a substantial vapour barrier between the glass and the sash.

3,269,075

ALUMINUM SHINGLE

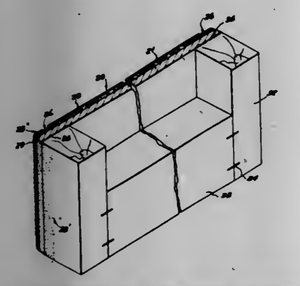
Thomas O. Marini, Haddon Heights, and Louis G. Marini and Bryan L. Cosden, Moorestown, N.J.; said Thomas O. Marini and Louis G. Marini assignors to Bryan L. Cosden, Medford Lakes, N.J.

Filed Nov. 8, 1963, Ser. No. 322,462
3 Claims. (Cl. 52—522)



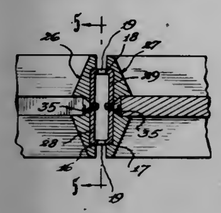
2. An aluminum shingle of rectangular shape, said shingle comprising a sheet of metal with one side edge reversely bent to overlie the upper face of said sheet and the opposite side edge reversely bent to underlie the lower face of said sheet to provide means for interlocking laterally adjacent shingles, the lower edge of said sheet being reversely bent to underlie the lower face of said sheet to provide means for interlocking said shingle with the adjacent lower shingle, the upper edge of said sheet being reversely bent to overlie the upper face of said sheet to provide means for interlocking said shingle with the adjacent upper shingle and an integral fastening tab at the upper corner of said sheet adjacent said one side edge, said tab comprising an extension of said reversely bent upper edge projecting outwardly of the adjacent reversely bent side edge, said extension overlying the upper end of the adjacent reversely bent side edge to close the upper end of the channel formed thereby to prevent upward flow of moisture to the underside of said shingle, and a portion of said extension being bent upwardly in the opposite direction of, and along a bend which is parallel to, said reversely bent upper edge to project up beyond said reversely bent upper edge.

3,269,076
LAMINATED PANELS FOR BUILDING CONSTRUCTION
Carl A. Strand, 3341 N. Adams Road, Birmingham, Mich.
Filed Nov. 18, 1963, Ser. No. 324,491
6 Claims. (Cl. 52—623)



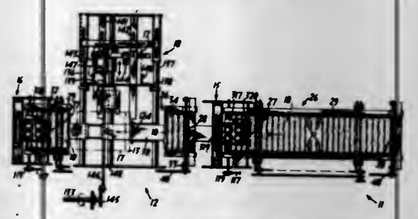
1. In a door construction, a hollow rectangular frame including interconnected rails and stiles; and
a laminated panel overlying the face of said frame and secured thereto; the panel comprising:
an elongated hardboard backing;
a layer of resilient padding of the same shape impregnated with a fusible resin and overlying said backing;
an outer vinyl plastic cover juxtaposed over said backing and padding and extending to the marginal edges thereof; and
an elongated barline weld extending along the outer side edges of said cover, of appreciable width, heat and pressure bonded through said padding to adjacent portions of the backing with the padding compressed therebetween.

3,269,077
PILASTER
John R. Janus, Barrington, Ill., assignor to Garcy Corporation, a corporation of Illinois
Filed Jan. 20, 1964, Ser. No. 338,675
4 Claims. (Cl. 52—730)



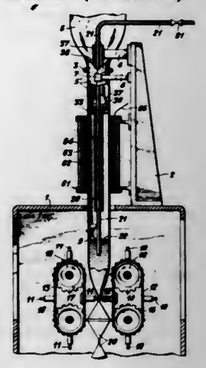
1. A pilaster for supporting one edge of a panel and a bracket extending at right angles to said panel, said pilaster comprising a tubular core having a pair of end walls and a pair of side walls, one of said end walls being apertured to receive projections extending from one end of said bracket, a pair of outer strips of material of lighter weight than the material of said core, the inner surface of each of said outer strips having a recess adapted to receive one side wall and contiguous portions of both end walls of said core, means for detachably securing one of said outer strips to each side wall of said core to conceal both side walls of said core and portions of both end walls of said core on opposite sides of said apertured portion, each of said outer strips having an outer surface provided with a longitudinal channel of a width approximately equal to the thickness of said panel, whereby one edge of said panel may be fitted into said longitudinal channel to be supported in upright position.

3,269,078
METHOD OF PACKAGING ARTICLES
Clarence P. Ouellette, East Longmeadow, Mass., assignor, by mesne assignments, to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Original application June 21, 1962, Ser. No. 204,142. Divided and this application June 23, 1965, Ser. No. 466,163
4 Claims. (Cl. 53—3)



1. A method of packaging an article comprising in combination feeding a sheet of bumper strips, severing individual bumper strips from said sheet, feeding an individual article from a stack of articles to be packaged, assembling two bumper strips on opposed sides of said individual article, conveying the two bumper strips and said article as a unit, feeding an individual wrapper from a stack of wrappers, adhering said wrapper to the tops of said bumper strips, folding said wrapper around the edges of said article and the ends of said strips with edges of said wrapper in opposed relation, and securing said wrapper in contact with the underside of said strips.

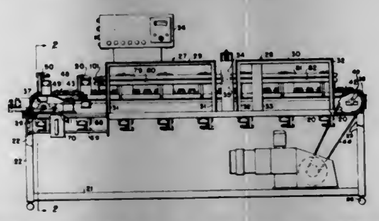
3,269,079
METHOD OF AND APPARATUS FOR STERILE PACKAGING OF STERILE CONSUMER GOODS
Rudolf Schmied, Tonisbach, Konolfingen, Switzerland, assignor to Alpura A.G., Bern, Switzerland, a corporation of Switzerland
Filed Apr. 9, 1963, Ser. No. 271,771
Claims priority, application Switzerland, Apr. 12, 1962, 4,472/62
12 Claims. (Cl. 53—28)



1. A method of sterile packing sterile consumer goods, comprising:
continuously forming a tube from longitudinally moving striplike material,
compressing the tube in a direction normal to the longitudinal axis of the tube for closing one end of the tube,
partly filling the tube with the sterile goods,
compressing the tube in a direction normal to the longitudinal axis of the tube and in spaced relation to the closed end of the tube for forming a closed container enveloping the goods,

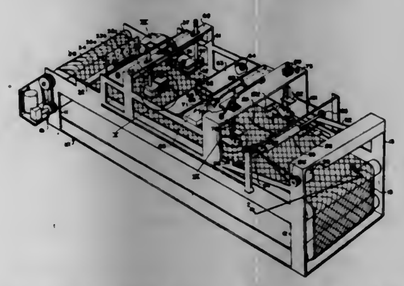
partly filling the tube beyond said last formed container,
compressing the tube in a direction normal to the longitudinal axis of the tube and in spaced relation to the last compression of the tube for forming a new container enveloping the goods,
continuing said filling and compressing steps to continuously form containers containing the goods, and
continuously transporting energy through the wall of said tube from the outside to the inside thereof at a location beyond the goods filled into the tube and where the tube is empty, said energy being capable of being transformed into heat at the inside of the tube for heating and sterilizing the inside of the tube prior to coming in contact with the sterile goods.

3,269,080
SEALING METHOD AND APPARATUS THEREFOR
Milton A. Howe, Jr., Bedford, Mass., assignor to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut
Filed Mar. 21, 1963, Ser. No. 266,913
9 Claims. (Cl. 53—30)



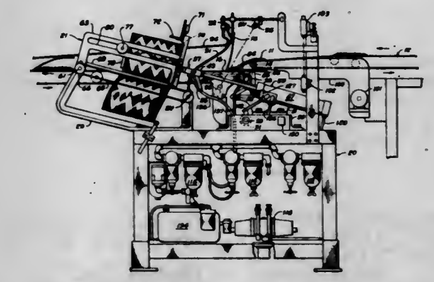
1. Method for sealing the open end of bags made from heat shrinkable thermoplastic films comprising gathering the open end into a compact mass, transversely clamping at least a portion of the compact mass between the enclosed product and the bag end, heating the compacted mass while pressure thereon is not greater than that which permits the heat mass to shrink and expand to thickened cross-section, discontinuing said heating, and applying increased pressure to said mass while cooling the heated mass to temperatures below that at which the film is resolidified, said increased pressure on the heated mass being sufficient to reduce the thickness thereof at least about 10 percent.

3,269,081
WRAPPING METHODS AND APPARATUS
Kelvin G. Anderson, Greer, S.C., assignor to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut
Filed Aug. 28, 1963, Ser. No. 305,109
12 Claims. (Cl. 53—31)



1. Method of folding a sheet of limp, organic thermoplastic film over an object comprising:
(a) placing the object on the film sheet,
(b) applying an electrostatic charge to an uncovered portion of the sheet,
(c) subjecting the opposite outside surface of the film sheet to an electrostatic force field of like polarity,
(d) simultaneously subjecting the charged surface portion to an electrostatic force field of opposite polarity, and
(e) adjusting the strength of the said fields to a value at least sufficient to lift the charged film portion up and then force it down over the product.

3,269,082
METHOD AND APPARATUS FOR FEEDING BLANKS TO PACKAGE SLICED PRODUCT
Ernest A. Bonami, La Grange, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 15, 1963, Ser. No. 273,123
11 Claims. (Cl. 53—35)

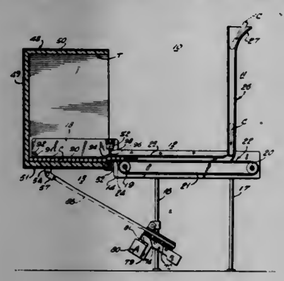


1. An improved method for positioning supporting members to receive units of product, said method comprising: spacing units of product on a first continuously moving conveyor means; maintaining a second continuously moving conveyor means spaced below an end of said first means; maintaining groups of supporting members at each side of said first and second means adjacent said end, said groups of supporting members disposed at a slight angle to the horizontal with the major surfaces of such members disposed substantially vertically; vacuum gripping the forwardmost supporting member alternately from said groups; withdrawing successively gripped members alternately from said groups in the direction of said angle; turning each withdrawn member so as to dispose it substantially horizontally while continuing to maintain the vacuum grip thereon; transporting a horizontally turned member, while so gripped, in a direction transverse to the movement of said first means from one side to a point below the end thereof and just above said second means; releasing the vacuum grip on said member; depositing product from said first conveyor means onto said member to cause the latter to be carried away from said point on the second conveyor means; and thereafter transporting the succeeding supporting member to said point transversely from the side opposite said one side.

3,269,083
LOADING APPARATUS
Herbert W. Marano, Summit, N.J., assignor to Consolidated Cigar Corporation, New York, N.Y., a corporation of Delaware
Filed July 23, 1963, Ser. No. 297,029
5 Claims. (Cl. 53—64)

2. A loading apparatus comprising an endless conveyor belt having a longitudinal upper horizontal advancing run terminating in a leading discharge point for transporting articles along a predetermined path to said discharge point, a bracket swingable about a horizontal transverse axis adjacent to said discharge point between a raised and a lowered position and gravity urged toward said lowered

position, a longitudinally extending rack connected to said bracket, a rockable escapement engaging and releasably locking said rack, means on said bracket for releasably engaging an open-topped receptacle, means for sensing



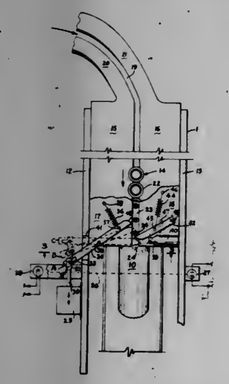
the raising of said articles to a level above that of said predetermined path, and means responsive to said sensing means for rocking said escapement and permitting the advance movement of said rack and the lowering of said bracket until said articles fall below said level.

3,269,084

CONTAINER ACTUATED APPARATUS POSITIONING CAPPED STEM WITHIN CONTAINER AND CAP TO FALL THEREON

Harold A. Stiefel, Jr., Highlands, Tex.
(342 Brookview Drive, Channelview, Tex.)

Filed June 25, 1963, Ser. No. 290,509
6 Claims. (Cl. 53—68)



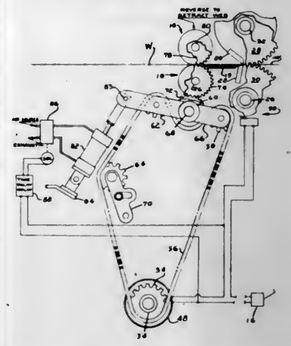
1. Apparatus actuated by horizontally conveyed, open necked, filled containers, for positioning capped stems within the container necks with caps to fall on said necks, said apparatus comprising support means, upper and lower slotted tracks carried thereby with said caps to ride along said upper track and said stems to extend downwardly through said lower track slot, stop means to contact the upper part of a cap at the lower end of said upper track, a yieldable detent pivotally mounted on said lower track normally in path of stem movement, light means and a photoelectric cell in beam circuit and in circuit with a relay and a solenoid, a trigger yieldably mounted on said lower track normally out of path of stem movement and urged by said solenoid as relay actuated as a leading container breaks said beam circuit to urge leading stem past said detent and the lower end thereof into a leading container, while container movement pivots said leading cap between upper track and stop means so that said leading capped stem takes upright position and drops with said stem falling further into said container and said cap falling upon said container neck.

3,269,085

WRAPPER FEED MECHANISM

Paul V. Czajkowski, Springfield, Mass., assignor to Package Machinery Company, East Longmeadow, Mass., a corporation of Massachusetts

Filed Sept. 23, 1963, Ser. No. 310,790
5 Claims. (Cl. 53—73)



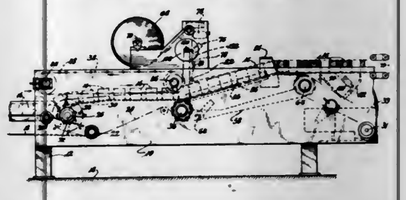
1. In combination with a wrapping machine having an article feeder, and means for detecting an interruption in the supply of articles at the feeder, wrapper supply mechanism comprising a continuously operating rotary knife for severing individual wrappers from the leading end of a web of wrapping material, a pair of feed rolls for advancing the web to the knife, means operative in response to actuation of said detecting means for stopping said feed rolls and imparting a limited reverse rotation thereto to retract the leading edge of the web from the rotary knife and prevent it from being drawn into the knife and thereby to prevent small slivers from being severed therefrom.

3,269,086

MACHINE FOR ENTUBING ARTICLES

Henry R. Cloots, Neenah, Wis., and Robert G. Nutting, Glenview, and Richard C. Wagner, Clarendon Hills, Ill., assignors, by direct and mesne assignments, to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed June 17, 1963, Ser. No. 288,290
7 Claims. (Cl. 53—180)



1. In a machine for entubing generally cylindrical articles in a film-like material:
(a) means for feeding to said machine multiple rows of axially aligned articles in end-to-end abutment,
(b) means for upending each article so fed into a vertical position, with the articles of each row staggered transversely of articles of other rows,

(c) a ramp positioned adjacent said upending means and leading downstream thereof and onto which said articles are deposited as upended,
(d) spaced conveyor-driven elements extending transversely the said ramp and spaced above said ramp to engage and move articles downstream with each element engaging one ramp supported article,
(e) and guide means converging in a downstream direction and positioned above said ramp for article contact therewith as driven by said conveyor elements, whereby plural articles from multiple infed rows are directed by said guide means into single file relation.

2. The device of claim 1 including:
(a) a medially slotted inclined ramp leading downstream from said guide means onto which aligned articles are fed by said conveyor-driven elements,
(b) a lug conveyor positioned below said inclined ramp for movement of the lugs thereof downstream while projecting upwardly through said ramp slot,
(c) the lugs of said conveyor being so spaced as to engage every second article for the conveyance of said articles, in paired abutment, up said inclined ramp.

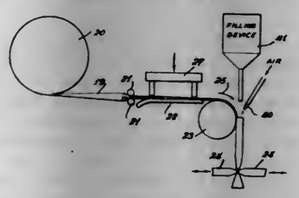
3. The device of claim 2 including:
(a) means for feeding a film-like wrapping material of sufficient width to entube said articles along the upper surfaces of said articles as paired by said lug conveyor,
(b) said film being maintained under tension between a position adjacent the lower end of said ramp and a position at the crest of said ramp where the article pair are applied to said film, whereby lateral portions of said tensioned film, moving downstream at an upward incline, are drawn downwardly along the sides of said article pairs.

3,269,087

PACKAGING APPARATUS

Charles E. Cloud, Wilmette, Lawrence M. Husak, Evanston, and Lloyd N. Krohn, Chicago, Ill., assignors to Cloud Machine Corporation, Skokie, Ill., a corporation of Delaware

Filed Feb. 28, 1962, Ser. No. 176,215
5 Claims. (Cl. 53—183)



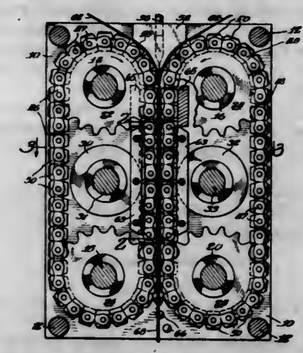
1. An apparatus for use in packing product using an elongated tube of packaging material, said apparatus comprising: a frame; means on said frame to move the tube in a given direction along a predetermined path; a cutter positioned transversely to said path and adjacent a side of the tube, said cutter being mounted for movement into said side to form a transverse cut therein; means connected to the cutter to move said cutter into said side at timed intervals; and means at a point along said path in said direction from the cutter to sequentially separate said side of the tube, in one longitudinal direction from each cut, from the opposite side of the tube to enable product to be inserted through the opening into the tube; including a separator in the tube to hold the one side spaced from the opposite side; and means to hold the separator in the tube at a position opposite the cutter.

3,269,088

APPARATUS FOR MAKING FLUID FILLED CAPSULES

Alfred W. Kath, Grosse Pointe, Mich., assignor to R. P. Scherer Corporation, Detroit, Mich., a corporation of Michigan

Filed Sept. 9, 1963, Ser. No. 307,597
8 Claims. (Cl. 53—184)



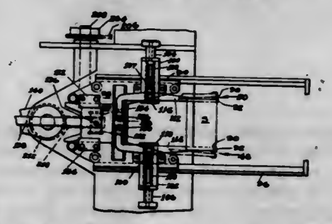
1. Apparatus for making fluid filled capsules comprising a feeder head having opposite curved sides terminating in a wedge-shaped nozzle, a plurality of opposed die bars movable across said curved sides and having mating faces provided with die pockets having severing lands therearound, chain links connecting said die bars together, first sprockets with which said chain links mesh and operable to determine their path along said curved sides of said feeder head, second sprockets spaced from said first sprockets, said chain links extending from said first sprockets to and around said second sprockets, said curved sides and the adjacent faces of said die bars being adapted for a sheet of gelatine or the like to be fed between each curved side and the adjacent die bars, means for supplying liquid under pressure to said feeder head, said feeder head having nozzle passageways discharging from said wedge-shape nozzle and between said sheets of gelatine to deform the sheets into said pockets of said die bars, means cooperating with said opposed die bars as they leave said first sprockets to press the adjacent surfaces of said sheets of gelatine into sealing contact around said pockets, and additional means for moving said opposed die bars toward each other whereby said severing lands sever the individual fluid filled capsules from said sheets of gelatine.

3,269,089

MACHINE FOR BANDING ENVELOPES

Vincent E. Heywood, Worcester, Mass., assignor to United States Envelope Company, Springfield, Mass., a corporation of Maine

Filed Dec. 17, 1962, Ser. No. 245,090
5 Claims. (Cl. 53—198)



3. In an envelope banding machine, the combination with an elongated support plate having a collating station for collating envelopes as they emerge from an

envelope making machine and a banding station for wrapping a band around a stack of envelopes spaced apart therefrom, and means for transferring a collated stack from the collating station to the banding station, of

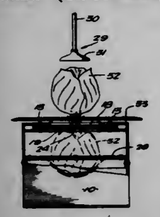
(a) means for collating the envelopes in stacks such that the individual envelopes lie substantially parallel to said support plate,

(b) opposed, cooperating stack handling members having lateral and trailing side stack engaging portions movably associated with said transferring means for aligning and engaging a stack being transferred from said collating station to said banding station,

(c) means to engage a collated stack at said collating station with said stack handling member after a predetermined number of envelopes have been collated,

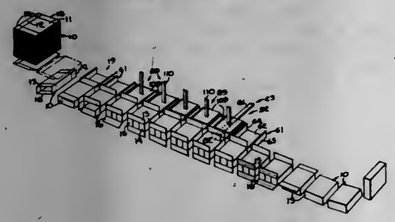
(d) means to release the stack from said stack handling members after the stack has come to rest at said banding station.

3,269,090
APPARATUS FOR FIELD WRAPPING LETTUCE WITH TRANSPARENT FILM
Joseph M. Schmied, Millbrae, Calif., assignor to M-C-T Enterprises, Inc., Salinas, Calif., a corporation of California
Filed Dec. 28, 1961, Ser. No. 162,744
8 Claims. (Cl. 53—221)



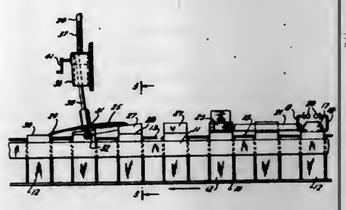
1. A packaging device comprising: a pair of yieldable discs held at their outer edges in a fixed position adjacent one another, each of said discs being radially slotted, all of the slots in one of said discs being located in positions different from all of the slots in the other of said discs.

3,269,091
CARTONING MACHINE
Le Roy L. Martin, Dixon, Ill., assignor to Bartelt Engineering Company, Inc., Rockford, Ill., a corporation of Delaware
Filed Sept. 19, 1962, Ser. No. 224,810
3 Claims. (Cl. 53—252)



3. In a cartoning machine, the combination of, a carton carrier movable along a first path through a loading station, means on said carrier for supporting a series of cartons of predetermined height in evenly spaced relation and advancing the cartons edgewise along said path through said station with one end of each carton opening to one side of said path, an article carrier closely adjacent said one side and movable along a second path to said station, means on said article carrier for supporting a series of compressible articles to be cartoned and holding the articles in alinement with the open carton ends at said station, a plurality of presser elements, a presser carrier disposed above said article carrier and movable along a third path following said second path, means mounting said elements on said presser carrier with one element disposed above each article and movable relative to the presser carrier toward and away from said article carrier, mechanism for driving said carriers continuously and in unison to deliver successive cartons, articles, and elements simultaneously to said station, means for moving each of said elements individually from a raised into a lowered position as the element approaches said station, back to an intermediate position as the element passes through said station, and finally back to said raised position, said elements being spaced above the article carrier in said lowered positions a distance less than said predetermined height to compress the articles thereon, and being spaced above the article carrier in said intermediate positions a distance also less than said predetermined height thereby relieving the pressure on the articles while limiting expansion of the articles, and a loader for transferring each article laterally into the alined carton at said station.

3,269,092
APPARATUS FOR CLOSING BAG TOPS AND THE LIKE
Warren E. Macdonald, West Barrington, R.I., assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York
Filed Aug. 23, 1963, Ser. No. 304,042
5 Claims. (Cl. 53—371)



2. Apparatus for folding over upstanding closure portions on packages, comprising in combination: means for conveying the packages along a predetermined line of travel with closure portions upstanding therefrom; and a rotatable disk mounted in a position whereby the closure portions on the conveyed packages engage along one side of the undersurface areas of the disk, said disk being mounted on an axis so tilted at its lower portions rearwardly with respect to the direction of travel of the packages that said closure portions first engage higher areas on the undersurface of the disk and gradually become engaged by progressively lower areas on the undersurface of the disk and thereby become folded over as the packages advance.

3,269,093
ALIGNING MACHINES FOR BAG CLOSING UNITS
John D. Merrifield, 406 N. 9th St., Rocky Ford, Colo.
Filed Oct. 21, 1963, Ser. No. 317,447
9 Claims. (Cl. 53—393)

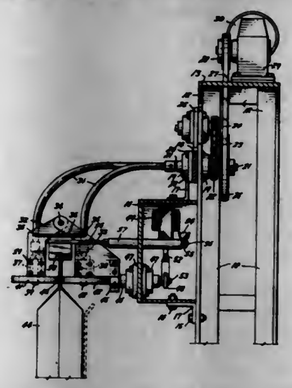
1. A bag-top-aligning machine for bag closing units of the type having an infeed conveyor for conveying a continuous series of substantially vertical, filled bags along a horizontal path into the bag closing unit comprising:

(a) a supporting frame;

(b) a pair of substantially vertical roller shafts supported from said frame and adapted to be positioned on opposite sides, respectively, of the path of said bags;

(c) a top-gripping roller mounted on each roller shaft, said rollers being positioned in a common roller plane;

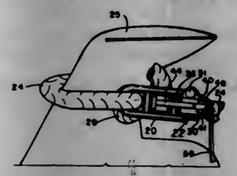
(d) means for urging said rollers toward each other so as to grip a bag-top therebetween;



(e) means for driving the roller shafts in opposite directions so that the rollers will advance the gripped bag-tops forwardly; and

(f) means for tilting said roller shafts forwardly and rearwardly to tilt said roller plane in the direction of advancement to bring said tops to a desired horizontal plane.

3,269,094
LARIAT RELEASE DEVICE
John Marvin Hasser, Hasty, Colo.
Filed Mar. 22, 1965, Ser. No. 441,627
7 Claims. (Cl. 54—46)

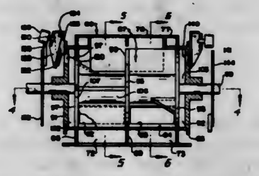


7. A lariat latch device for engaging a buckle at the knot end of a lariat for forming a releasable loop for attaching said lariat to a saddle horn, said latch device comprising, in combination, a tubular body having an opening through which one free end of the lariat extends, means on said tubular body for releasably engaging the buckle thereby to form a loop for engagement with the saddle horn, and means for releasing said buckle engaging means to open said loop and release the lariat from the saddle horn.

3,269,095
METHOD OF REMOVING CHLORINE COMPOUNDS FROM GASES OBTAINED BY COMBUSTION OF WASTE LIQUORS
Rolf Brisaland, Ornskoldsvik, Sweden, assignor to Mo Och Domsjo AB, Ornskoldsvik, Sweden, a corporation of Sweden
No Drawing. Filed Nov. 26, 1963, Ser. No. 326,262
Claims priority, application Sweden, Dec. 5, 1962, 13,130/62
4 Claims. (Cl. 55—71)

1. A method of removing water-soluble chlorine compounds from gases obtained by combustion of waste liquors from the pulping of cellulosic materials by the sulfite or sulfate pulping methods, which comprises contacting superheated gases resulting from said combustion at a temperature within the rang from about 100 to about 400° C., and at a velocity within the range from about 10 to about 20 meters per second with cold water at a temperature within the range from about 0 to about 20° C., and at an average droplet size within the range from about 0.1 to about 0.5 mm. in an amount sufficiently in excess of the amount required to saturate the gas to lower the temperature of the gas to about 0.2 to about 2° C. below the dew point of the gas saturated with water vapor.

3,269,096
BACK-WASH VALVE FOR GAS-SOLID SEPARATING APPARATUS
William C. Smith, North Vancouver, British Columbia, Canada, assignor to Rader Pneumatics & Engineering Co. Ltd., Vancouver, British Columbia, Canada, a corporation of British Columbia, Canada
Filed July 12, 1963, Ser. No. 294,621
8 Claims. (Cl. 55—302)

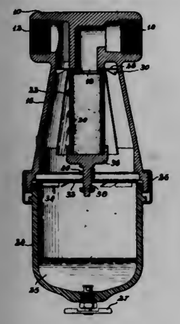


1. A back-wash valve for apparatus used to separate particles from gases, comprising a rotor casing having a cylindrical wall with a plurality of independent circumferentially-spaced inlet ports therein adapted to be connected individually to a plurality of separator chambers to receive air therefrom, said casing having an outlet aligned with and circumferenitally spaced from said inlet ports and adapted to be connected to a source of suction, a rotor unit rotatably mounted within the casing and radially spaced inwardly from said cylindrical wall, opposed radial discs forming part of the rotor unit and having edges slidably engaging the cylindrical wall, said discs being axially spaced apart and positioned to enclose the inlet ports and the outlet whereby said ports are normally in communication with said outlet, an enclosing pocket on the rotor unit extending between said discs and opening out radially of the unit, said pocket being closed at one disc and opening out through the opposed disc, said pocket being large enough to enclose each inlet port as the pocket passes the latter during rotation of the rotor unit, and opening means in and opening out from the casing near said disc through which the pocket opens and in communication with said pocket when the latter moves over each inlet port.

3,269,097
AIRLINE FILTER
Dale F. German, Bryan, Ohio, assignor to The Aro Corporation, Bryan, Ohio, a corporation of Ohio
Filed Jan. 27, 1964, Ser. No. 340,418
2 Claims. (Cl. 55—337)

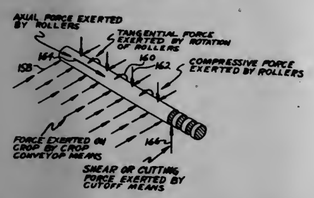
1. In an airline filter, a head, a frusto-conical body depending from said head, a water collecting bowl depending from the lower end of said frusto-conical body, said head having an inlet and an outlet in the upper end of said body, said outlet having an air receiving end which is substantially centrally located in the upper end of said body, a tubular filter element depending from said air receiving end of said outlet, a support therefor, spring means urging said support upwardly against said filter element and said filter element upwardly against said air receiving end of said outlet, a tubular baffle surrounding

said filter element, said filter element and said tubular baffle having diameters throughout their height which have a downwardly diverging relationship to each other to equally distribute air from the lower end of said body over the surface of said filter element, baffle plates across the upper and lower ends of said frusto-conical body, one of said baffle plates having swirl blades which are inclined to swirl the air in one direction and the other of said baffle plates having swirl blades which are inclined to swirl the air in the opposite direction, the lower one



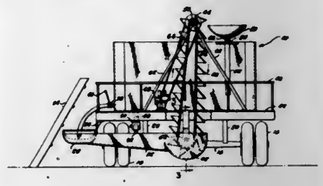
of said baffle plates being supported by interposition between said body and said water collecting bowl, means for connecting the upper end of said water collecting bowl to the lower end of said frusto-conical body, said spring being interposed between said lower baffle plate and said support, the frusto-conical shape of said body reducing the velocity of the air before it reverses direction to flow from said body and enter said tubular baffle, and a drain valve at the lower end of said water collecting bowl.

3,269,098
METHOD OF FORMING PELLETS FROM HAY AND LIKE FIBROUS MATERIALS
Richard W. Bushmeyer, Rockford, Ill., Charles D. Miller, deceased, late of Rockford, Ill., by John T. Holmstrom, Jr., special administrator, Rockford, Ill., and Robert E. Strohman, Lansing, Mich., assignors to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Continuation of application Ser. No. 98,592, Mar. 27, 1961. This application Nov. 12, 1963, Ser. No. 323,166
16 Claims. (Cl. 56—1)



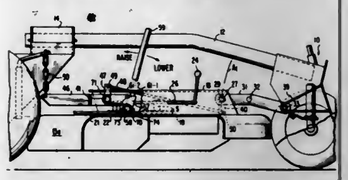
1. In a process for forming pellets from hay and like fibrous material the steps of inserting the material into a core rolling chamber formed by a plurality of rollers turning in the same direction, rolling the material in said chamber by means of said rollers with the material contacting surface of several of the rollers imparting a combined circumferential and axial movement to said material while compacting the inserted material within said chamber into a dense self-supporting rotating substantially cylindrical core, said axial movement expelling said cylindrical core from said chamber; and cutting said core as it emerges, into a plurality of bodies of desired size.

3,269,099
APPARATUS AND METHOD OF HARVESTING BERRIES
Truman H. Fricks, 1302 Rains St., Arlington, Tex. Substituted for abandoned application Ser. No. 196,792, May 22, 1962. This application May 27, 1964, Ser. No. 372,446
9 Claims. (Cl. 56—1)



1. In a growing and harvesting apparatus wherein a trellis for berries is located along and at least partially over the path of travel of the harvesting apparatus, said harvesting apparatus comprising:
(1) a tank adapted to contain water;
(2) means supporting said tank for movement along the ground;
(3) a trough;
(4) means connecting said trough to said means supporting said tank whereby at least a portion of said trough extends beneath the berries to be harvested such that berries threshed from a vine fall into said trough;
(5) means for controlling the flow of water into said trough from said tank;
(6) and means for transporting the water and berries in said trough into said tank.

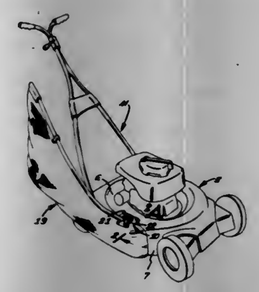
3,269,100
HEIGHT ADJUSTMENT MECHANISM FOR LAWN MOWERS
William R. Smith, McDonough, Ga., assignor to McDonough Power Equipment, Inc., McDonough, Ga., a corporation of Georgia
Filed July 15, 1964, Ser. No. 382,861
6 Claims. (Cl. 56—25.4)



1. In a power mower having forward and rearward ground engaging wheels, a linkage system interconnecting said forward and rearward ground engaging wheels and a cutter unit assembly suspended from said linkage system; said linkage system comprising:
a forward bell crank lever having a first arm pair extending forwardly of said housing with the forward wheel means being mounted on the forward end of said first arm pair,
a short arm extending at an angle from said first arm pair,
a rearward bell crank lever having a second arm pair, extending rearwardly of the cutter unit, said rear wheel means being mounted on the rearwardly extending ends of said second arm pair,

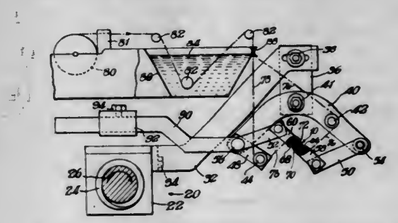
a second short arm rigid with said second arm pair and extending at an angle therefrom in a direction opposite to the direction in which said first short arm extends,
an intermediate link interconnecting the short arms of said forward and rearward bell crank levers,
said cutter unit assembly normally constraining said linkage system to cause said forward and said rearward wheels to move away from each other along the longitudinal axis of the cutter unit,
cam means between said linkage system and said cutter unit for restraining longitudinal movements of said wheel means relative to said cutter unit assembly,
said cam comprising an eccentric scalloped cam pivotally mounted on said cutter unit, each scallop of said cam having an effectively different radius from the pivotal mounting of said sam on the housing,
a third arm on one of said bell crank levers cooperatively associated with said cam for engagement with one of the scallops on said cam,
and means for rotating said scalloped cam to move a different one of the scallops thereon into cooperative association with said third arm and effect clockwise rotation of one of said bell crank levers in counterclockwise rotation of the other of said bell crank levers to thus adjust the height of the cutting unit above ground.

3,269,101
GRASS CATCHER ATTACHMENT FOR ROTARY LAWN MOWER
Edward R. Reynolds, St. Paul, Minn., assignor of one-half to Miller Bag Co., Minneapolis, Minn., a corporation of Minnesota, and one-half to Joe Leader, doing business as Trojan Products Company, Minneapolis, Minn.
Filed Nov. 5, 1964, Ser. No. 409,154
3 Claims. (Cl. 56—202)



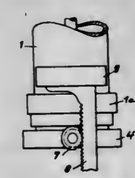
1. In a grass catching attachment for a rotary-type lawn mower comprising:
(a) a lawn mower housing having generally horizontally extending peripheral portions defining a discharge member,
(b) said horizontally extending peripheral portions terminating in a lip structure having a thickness substantially in excess of the remainder of said portions,
(c) a generally flat U-shaped plate member having in cross-section a pair of closely spaced leg portions which are greater in width than in length and are adapted to receive said horizontally extending peripheral portion of said housing therebetween in close fitting relation,
(d) said plate member having a bight portion connecting said leg portions and forming an inner channel therein between said leg portions, said channel having transverse dimensions substantially in excess of the spacing between said leg portions and substantially equal to the transverse dimensions of said lip structure of said peripheral portions of said housing,
(e) adjustable securing means carried by said leg portions of said plate member for fixedly securing said plate member to said peripheral portions of said housing,
(f) said plate member being shiftable laterally relative to said peripheral portions of said housing by adjustment of said securing means,
(g) a grass catching bag supporting member adapted to engage said generally U-shaped plate member to support the bag in grass receiving relation with said discharge member,
(h) releasable means carried by said leg portions for engagement by said bag supporting member securing the bag supporting member to said plate member on said housing discharge member, in grass receiving relation.

3,269,102
SPIRAL WINDING DEVICE
George F. Holton, Kennett Square, Pa., assignor to National Vulcanized Fibre Company, a corporation of Delaware
Filed Jan. 21, 1964, Ser. No. 339,187
8 Claims. (Cl. 57—13)



1. A winding machine for applying wrapping material to an elongated workpiece in a spiral pattern comprising guide means for supplying wrapping material under tension to the workpiece and for controlling the helix angle of the wrapping material, the guide means including plural shoe members, each mounted for shifting motion to ride against the workpiece and shaped to direct the travel of wrapping material to the workpiece from plural circumferentially spaced radial paths at a constant helix angle.

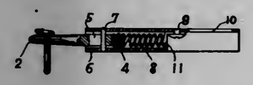
3,269,103
DEVICE FOR ARRESTING A MULTIPLE TWIST SPINDLE
Gustav Franzen, Neersen, near Krefeld, Germany, assignor to Palitex Project-Company G.m.b.H., Krefeld, Germany, a company of Germany
Filed Dec. 15, 1964, Ser. No. 418,519
Claims priority, application Germany, Dec. 21, 1963, N 24,199
13 Claims. (Cl. 57—88)



1. A device for stopping a multiple twist spindle in a predetermined angular position, comprising means for initially braking the rotation of the spindle, control means for operating said braking means and magnetic means for

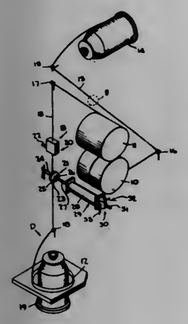
bringing the spindle to a standstill in a predetermined position and operative in response to further movement of said control means after initial braking.

3,269,104
LAPPET FOR SPINNING MACHINE
Hiroshi Morita, 56 Hinode-cho, Koyoen, Nishinomiya-shi, Hyogo-ken, Japan
Filed June 3, 1965, Ser. No. 460,937
6 Claims. (Cl. 57—106)



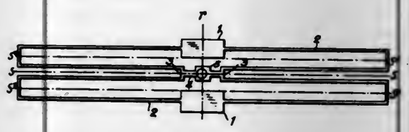
1. A lappet for a spinning machine, comprising a lappet body, a tubular member adjustably secured to said lappet body, a snail wire slidably supported by said tubular member, spring means disposed in said tubular member and acting between said snail wire and said tubular member, said snail wire comprising a yarn guide opening at a free end of said snail wire and a rearward straight portion received in said tubular member and having an elongated slot, said elongated slot disposed in said straight portion in the direction of the center line of said straight portion, a pin having slightly a lesser diameter than the width of said slot rigidly secured in said tubular member so as to pass through said slot when said tubular member receives said rearward straight portion of said snail wire, said spring means resiliently positioning said snail wire in an axial direction of the tubular member with said pin being positioned in an intermediate portion of said slot during the spinning operation.

3,269,105
NOVELTY YARN
Clare W. Eldridge and Charles W. Long, Rock Hill, S.C., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Original application Feb. 2, 1960, Ser. No. 6,129, now Patent No. 3,194,000, dated July 13, 1965. Divided and this application Dec. 7, 1964, Ser. No. 422,880
3 Claims. (Cl. 57—140)



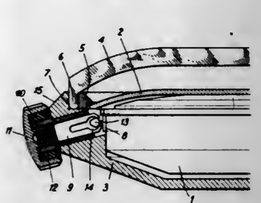
2. A yarn having a basis of an organic ester of cellulose containing along its length intermittent sections in which ester groups of said cellulose ester have been replaced by hydroxyl groups, and intermittent bulky sections, said sections in which ester groups have been replaced by hydroxyl groups overlapping said bulky sections.

3,269,106
MECHANICAL RESONATOR FOR NORMAL FREQUENCY OSCILLATORS IN TIME-KEEPERS
Heinz Waldburger, Neuchatel, Switzerland, assignor to Centre Electronique Horloger S.A., Neuchatel, Switzerland, a corporation of Switzerland
Filed Jan. 11, 1965, Ser. No. 424,751
Claims priority, application Switzerland, Jan. 20, 1964, 582/64
10 Claims. (Cl. 58—23)



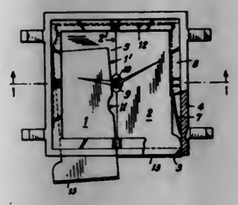
1. A mechanical resonator for normal frequency oscillators in time-keepers, with two axes of symmetry which are at right angles to one another and of which the one forms the resonance straight line, comprising two masses oscillating in opposition on the resonance line, securing means which stand mathematically still in space with relation to said masses, two substantially identical swinging frames having two opposite longitudinal and two opposite short sides arranged symmetrically in relation to the axes of symmetry in such a manner that the longitudinal sides are halved by the resonance straight line, said frames carrying on each of their farther longitudinal sides one of said oscillating masses arranged symmetrically in relation to the resonance straight line, said securing means being arranged symmetrically between said frames and elastically connecting the two adjacent longitudinal sides of said frames.

3,269,107
WINDING AND HAND-SETTING STEM ARRANGEMENT IN A WATCHCASE
Ernest Morf, Vaudijon, Colombier, Neuchatel, Switzerland
Filed June 3, 1965, Ser. No. 460,906
Claims priority, application Switzerland, June 4, 1964, 7,267/64
4 Claims. (Cl. 58—63)



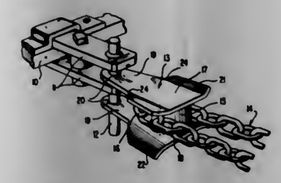
1. A watch comprising, in combination, a substantially flat watchcase having an axis perpendicular thereto, a watch movement located in said watchcase, a first winding and hand-setting stem piece carried by said watch movement and being perpendicular to the watchcase axis, and a second winding and hand-setting stem piece carried by said watchcase and being connected to said first winding and hand-setting stem piece for transmitting motion thereto upon actuating the second winding and hand-setting stem piece, said second winding and hand-setting stem piece being located in an inclined position with respect to a plane perpendicular to the watchcase axis.

3,269,108
WATCH DIAL ARRANGEMENT
Enrico Mottironi, La Pallanterie, Switzerland, assignor to Compagnie des Montres Ardath, Dreyfuss & Cie, Geneva, Switzerland, a corporation of Switzerland
Filed Dec. 15, 1964, Ser. No. 418,437
Claims priority, application Switzerland, Jan. 8, 1964, 170/64
4 Claims. (Cl. 58—88)



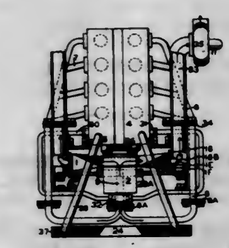
1. A watch characterized by comprising a dial formed of at least two interchangeable parts, a case providing an opening for the insertion of said dial parts, said case further comprising a cover glass on one side of said opening and a protective plate on the other side thereof, and elastic means within the case to press the parts of the dial elastically against each other once they have been inserted into the case.

3,269,109
CLEVIS FOR CONNECTING TOW CHAIN LOOP WITH HITCH DEVICE
Bernie Daniel Hart, Devers, Tex.
Filed June 30, 1964, Ser. No. 379,153
3 Claims. (Cl. 59—86)



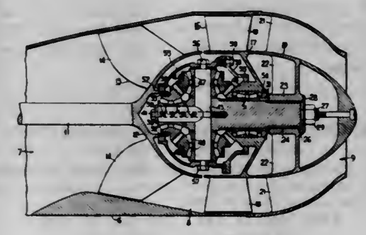
1. A clevis for connecting a heavy looped farm implement tow chain with a tractor hitch or the like comprising a relatively large diameter smooth cylindrical chain loop engaging body portion which is upright during use and of a sufficient axial length to accommodate the chain loop with some space above and below the chain loop, and a pair of opposed parallel plates rigidly secured to opposite ends of said body portion for confining the chain loop on the body portion and each adapted to support the weight of the chain loop when arranged lowermost and while the chain is slackened, said plates including forwardly projecting apertured extensions adapted to receive a vertical hitch pin pivotally a substantial distance forwardly of the body portion, and said plates including opposite side inclined extensions which extend longitudinally adjacent the body portion and generally radially of the same and away from opposite ends thereof, said extensions adapted to guide the sides of the chain loop into proper non-binding engagement with the body portion after slackening and retensioning of the chain.

3,269,110
COMBINATION EXHAUST SUCTION AND RADIATOR COOLING FAN
Alfred M. Caddell, Philadelphia, Pa. (908 Amosland Road, Prospect Park, Pa. 19076)
Filed Nov. 17, 1964, Ser. No. 411,866
6 Claims. (Cl. 60—32)



1. In combination, a multi-cylinder internal combustion engine, a fluid-type radiator open to atmosphere and having fluid connection with said engine, said engine having a crankshaft extending toward said radiator, a combination exhaust suction and radiator cooling fan assembly located between the engine and said radiator, a rotatable drum having connection with said crankshaft, a compartment formed in said drum and a manifold system for conveying exhaust gas from the cylinders of the engine to said compartment, said fan assembly being mounted on the periphery of said drum and being comprised of a hollow hub and a plurality of hollow blades extending radially therefrom, said blades having a discharge nozzle secured on their tips, said hub and said blades having open communication with said compartment for effecting centrifugal suction of said exhaust gas therefrom and said blades having a pitch for drawing cooling air through said radiator simultaneously with the suction of said gas, a collector ring mounted to receive the gas from said nozzles and a duct merging with said ring for conveying said gas to atmosphere.

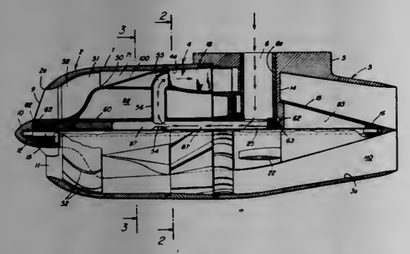
3,269,111
POWER TRAIN FOR JET PROPELLED WATER CRAFT
Edward F. Brill, Oconomowoc, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 1, 1964, Ser. No. 356,599
3 Claims. (Cl. 60—35.5)



1. A propulsion means for a water craft comprising: walls defining a water confining passage having an inlet end and a discharge end; a first pump impeller disposed within said passage for drawing water therein through said inlet end; a drive shaft connected to said first impeller for rotating same in one direction; a main shaft;

means rigidly supporting said main shaft in axial alignment with said drive shaft; a driven gear rotatably supported on said main shaft; a second impeller positioned within said passage in downstream relation to said first impeller and connected to said driven gear for rotation therewith; a drive gear rotatably supported on said main shaft in axially spaced relation to said driven gear and connected for rotation with said drive shaft; and means providing a torque transmitting connection between said drive and driven gears including a transversely extending countershaft supported by said main shaft between said drive and driven gears and having an idler gear rotatably supported by said countershaft in torque transmitting engagement with both said drive and driven gears.

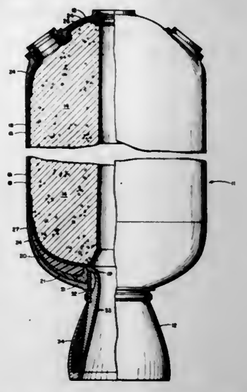
3,269,112
STEAM ACTUATED JET PROPULSION ENGINE
Miklos Kemenczky, Point Pleasant, N.J., assignor to Kemenczky Establishment, Vaduz, Liechtenstein, a corporation
Filed May 12, 1964, Ser. No. 366,794
8 Claims. (Cl. 60—35.5)



1. A jet propulsion engine comprising a thrust tube having a fluid inlet opening and a fluid discharge opening, a plurality of work chambers arranged about the periphery of the inner surface of a central portion of said thrust tube and having inlet openings and outlet openings, a rotating unit comprising a centrifugal pump, a steam pipe rigidly attached at one end to said centrifugal pump and having a steam outlet opening at the other end from said centrifugal pump, said steam outlet opening being of substantially the same size as the inlet opening of each of said work chambers, and a turbine wheel rigidly connected to said rotating unit and located downstream of and receiving steam and fluid from said work chambers, said centrifugal pump being adapted to direct said fluid into said engine with a spiral motion, said pipe being adapted to carry steam, whereby during rotation of said pipe, said work chambers are alternately fed by said fluid and by steam to form alternating plugs of steam and fluid, each steam plug propelling each fluid plug rapidly through said work chambers to said turbine wheel and said discharge opening positioned to receive steam and fluid from said turbine wheel.

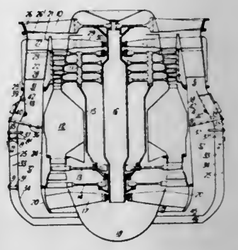
3,269,113
ROCKET MOTOR HAVING SOLID FUEL INSULATING MEANS
John P. Crews and Martin W. Shookhoff, Sacramento, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Dec. 18, 1962, Ser. No. 247,439
5 Claims. (Cl. 60—35.6)

1. Means for insulating solid propellant grain in a rocket engine chamber having forward intermediate and aft portions to provide maximum heat reduction and avoid increased burning area during motor ignition comprising lining means lining the intermediate portion of the chamber, said lining means being bonded to the chamber and to the propellant, first flexible insulation means bonded to the chamber in the forward portion thereof, first boot means bonded to the first insulation means, second flexible insulation means bonded to the aft portion of the chamber, and second boot means bonded to the second insula-



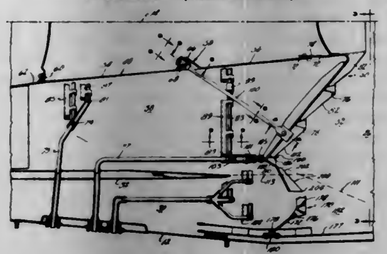
tion means, each of said boot means also being bonded to said propellant whereby differential expansion of the propellant is permitted and gas is prevented from flowing between the boot means and the propellant.

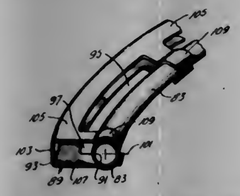
3,269,114
JET PROPULSION ENGINES
Francis Charles Ivor Marchant, George Arthur Day, and George William Collins, Bristol, England, assignors to Bristol Siddeley Engines Limited, Bristol, England, a British company
Filed Oct. 25, 1963, Ser. No. 319,014
Claims priority, application Great Britain, Oct. 30, 1962, 41,026/62
3 Claims. (Cl. 60—35.6)



1. A gas turbine jet propulsion engine comprising a casing having an air intake and surrounding an air compressor, a combustion system downstream from the compressor, and a turbine system downstream from the combustion system, a ducted fan comprising a fan within a duct, upstream of the air compressor, means for driving the ducted fan and the air compressor from the turbine system, a by-pass duct surrounding the casing and communicating at its upstream end with the downstream end of the duct of said ducted fan, a fixed tubular partition which divides the by-pass duct into radially inner and outer air passages having separate outlet nozzles, means for burning fuel in the air flow through the inner passage, a valve adjacent the upstream end of the partition upstream from said fuel burning means for preventing flow through the outer passage only, and means for opening and closing the valve operable from the outer wall of the outer passage.

3,269,115
JET ENGINE AFTERBURNER CONTINUOUS SPLASH PLATE
Arthur W. Nelson, Jr., Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 29, 1965, Ser. No. 451,860
9 Claims. (Cl. 60—35.6)

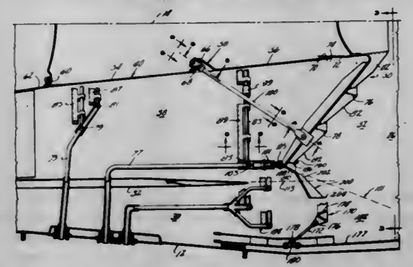




1. A jet engine afterburner comprising an afterburner case of circular cross-section and concentric about an axis and having a forward end and an after end, a flame-holder ring positioned within said case and concentric about said axis, a hollow fuel dispensing ring positioned within said case and concentric about said axis and being of substantially the same diameter as said flameholder ring, said fuel dispensing ring being spaced forward of said flameholder ring and having a plurality of apertures in the forward wall thereof, and an arcuate splash plate having the contour of the diameter or said fuel dispensing ring and positioned adjacent said fuel dispensing ring and located forward of said apertures and being of U-shaped cross-section and having a first radially extending plate forming the base of said U-shape and extending across said apertures and further having two cylindrically shaped plates attached to and extending along said case axis from said radially extending plate to form the legs of said U-shape and still further including means to support said attached U-shaped plates in spaced relation to said fuel dispensing ring to form top and bottom circumferential apertures therewith, and means to provide pressurized fuel into said fuel dispensing ring to be projected therefrom through said apertures against said splash plate.

6. Combustion equipment including an afterburner case concentric about an axis, a hollow fuel dispensing ring positioned within said case concentrically about said axis and having a forward and an after end, a plurality of circumferentially spaced fuel dispensing apertures in the forward wall of said fuel dispensing tube oriented toward said forward end, a continuous splash plate including support arms attached to the radial top and radial bottom of said tube in radial alignment with each of said apertures and projecting axially forward thereof to define an axial forwardly extending passage therebetween projecting forwardly from each of said apertures, a circumferentially extending, U-channeled, arcuate member attached to and supported by said support arms in spaced relation to said fuel dispensing tube and located thereby to be positioned axially forward of said apertures and in spaced relation thereto and extending across said apertures and bridging the circumferential gap therebetween to form a continuous, circumferential, U-shaped trough positioned axially forward and extending circumferentially between said apertures and forming top and bottom circumferential apertures with said fuel dispensing tube.

3,269,116
CENTRALLY SUPPORTED FLAMEHOLDER
Thomas Frasca, Wethersfield, Jack Rodin, Bloomfield, and Joseph F. Loftus, Windsor, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 29, 1965, Ser. No. 451,862
7 Claims. (Cl. 60—35.6)



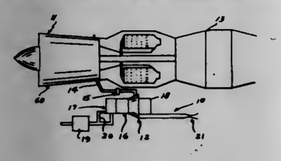
1. A flameholder assembly having an axis, a central support member concentric about said axis and having a substantially cylindrical support surface at its after end and support bosses forward thereof, a flameholder having a plurality of rings of gutter-shaped cross-section positioned concentrically about said axis and a plurality of radially extending connectors of gutter-shaped cross-section extending between said rings and connected thereto and in interior communication therewith to support said rings and including an inner support sleeve attached to said connectors and having a substantially cylindrical support surface in slip-fit engagement with said substantially cylindrical support surface of said central support member, and support rods pivotally attached to said flameholder and to said support bosses so that said flameholder is supported by said central support member.

5. An afterburner including a flow confining duct having an axis, a central support member of circular cross-section and concentric about said axis and having a substantially cylindrical support surface at its after end and support bosses forward thereof, said duct enveloping said central support member to define an annular gas passage therebetween, a flameholder located in said annular gas passage and having a plurality of rings of gutter-shaped cross-section positioned concentrically about said axis and a plurality of radially extending connectors of gutter-shaped cross-section extending between said rings and connected thereto and in interior communication therewith to support said rings and including an inner support sleeve attached to said connectors and having a substantially cylindrical support surface in slip-fit engagement with said substantially cylindrical support surface of said central support member, and support rods pivotally attached to said flameholder and to said support bosses so that said flameholder is supported by said central support member.

3,269,117
AIR DRIVEN TURBOPUMP
John H. Tweet, Tolland, Conn., assignor to the United States of America as represented by the Secretary of the Air Force
Filed June 28, 1965, Ser. No. 467,796
3 Claims. (Cl. 60—39.18)

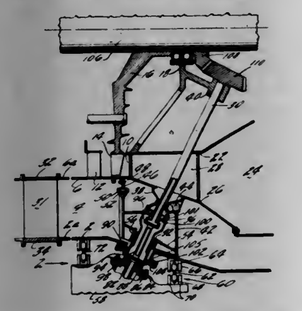
1. An air driven turbine accessory package for a turbojet engine having a compressor, burners, and turbine drive; comprising: a housing for said accessory package includ-

ing, a fuel pump compartment with input and output ports, an oil pump compartment with input and output passages, a turbine drive compartment and a water pump compartment with input and output ports; a pair of bearings supported within said housing, with one bearing on each side of said oil compartment; means within said housing for supplying oil to said bearings; a drive shaft passing through each of said compartments and supported by said bearings; a turbine drive, in said turbine drive compartment, connected to said shaft; duct means, adapted to be connected to the compressor of said turbojet engine for supplying air to said turbine drive; means, connected in said duct means, for controlling the flow of air to said turbine drive, whereby the speed of said turbine drive can be con-



trolled; a centrifugal water pump impeller, in said water pump compartment, connected to one end of said drive shaft adjacent said turbine drive; means for keeping water from said water pump compartment from entering said turbine drive compartment; a centrifugal drill hole oil pump drum, in said oil pump compartment, connected to said drive shaft; means for keeping oil from said pump compartment from reaching said bearings; a fuel impeller connected to said drive shaft at the end remote from said water pump; means for preventing mixing of fuel and oil in said fuel pump compartment and around said bearings; a plurality of injector nozzles adjacent the input of said fuel impeller and means for supplying a portion of the output fuel from said fuel impeller to said nozzles to raise the fuel pump suction pressure.

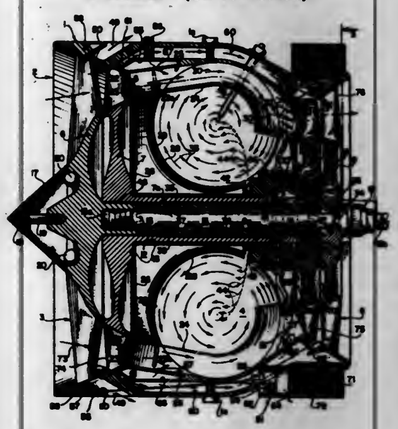
3,269,118
ACCESSORY CASE MOUNTING
Marcus C. Benedict, Glastonbury, and Paul A. Boris, Manchester, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 28, 1965, Ser. No. 451,534
8 Claims. (Cl. 60—39.31)



1. A mounting for an accessory casing on a turbofan engine including a main engine case having an accessory drive shaft extending substantially radially therefrom, an annular fan air duct surrounding and in spaced relation to the main engine case, an accessory case externally of the fan air duct and having a plurality of flexible mounts supporting the case on the duct, one of said mounts preventing radial movement and circumferential movement but permitting axial movement of the accessory case relative to the annular duct and the other mounts permitting axial and circumferential movement without radial movement, a strut extending across the space between the engine case and the fan duct and securely mounted on the engine case, said strut surrounding the accessory shaft, a sleeve rigidly mounted on the accessory case and a guide sleeve within the strut to receive and support the first sleeve therein for radial sliding movement only.

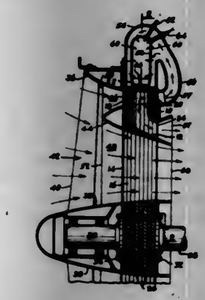
5. A mounting for an accessory case on a turbofan engine, including a main engine case having a laterally projecting accessory drive shaft therein, a bearing in said casing supporting said shaft, a strut mounted securely on and extending outwardly from said case, an outer casing supported on and arranged in spaced relation to the engine case, an accessory case mounted on said outer case and having a bearing therein in substantial alignment with said bearing in the main case, means supporting said accessory case for limited axial and lateral movement on the outer casing but without radial movement therebetween, a projecting hub rigidly mounted on said accessory case in alignment with the bearing therein and a guide on said strut to receive and align the hub, said guide being axially aligned by said strut with the bearing in the main case.

3,269,119
TURBO-JET POWERPLANT WITH TOROIDAL COMBUSTION CHAMBER
Nathan C. Price, 424¼ Kelton Ave., Westwood, Calif.
Original application Mar. 16, 1960, Ser. No. 15,088, now Patent No. 3,203,180, dated Aug. 31, 1965. Divided and this application May 7, 1964, Ser. No. 375,407
2 Claims. (Cl. 60—39.36)



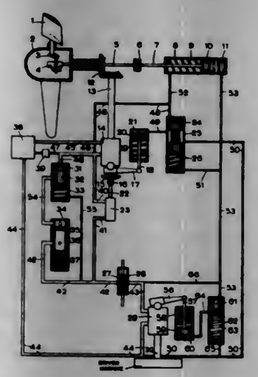
1. A turbo-jet powerplant comprising; a compressor rotor section, a turbine rotor section drivingly connected to said compressor rotor section for driving thereof, a toroidal combustor located between the compressor and turbine rotor sections, first flow directing means extending forward tangentially from the radial outer portion of said combustor to adjacent the aft end of the compressor rotor section for introducing the compressor fluid discharge into the combustor, second flow directing means extending aftward tangentially from the radial outer portion of said combustor to adjacent the forward end of the turbine rotor section for introducing combustion gases into the turbine rotor section, and a radially extending continuous annular channel located circumferentially around the radial inner portion of the toroidal combustor forming a fuel delivery discharge means for discharging fuel into the combustor in a radial annular spray pattern.

3,269,120
GAS TURBINE ENGINE WITH COMPRESSOR AND TURBINE PASSAGES IN A SINGLE ROTOR ELEMENT
Andrew Sabatiuk, Mountain Lakes, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed July 16, 1964, Ser. No. 383,092
6 Claims. (Cl. 60—39.43)



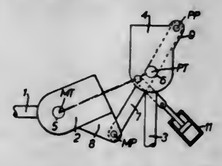
5. A gas turbine engine comprising a rotor which includes a set of generally radially extending vanes having hollow interior portions which form curved axial flow compressor passages and the exterior surfaces of which define curved radial turbine passages, a combustor for supplying hot gases flowing radially inwardly through said turbine passages, and means for supplying air for combustion from the said compressor passages to the combustor.

3,269,121
WIND MOTOR
Ludwig Bening, Postfach 8, Barnstorf, Bezirk Bremen, Germany
Filed Feb. 26, 1964, Ser. No. 347,481
8 Claims. (Cl. 60—52)



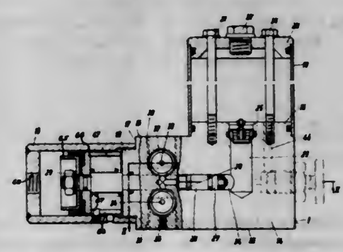
1. A wind motor comprising a wind wheel, a variable hydraulic pump driven by said wind wheel and producing a flow of hydraulic fluid, a variable hydraulic motor driven by said flow of hydraulic fluid, a calibrating valve for said hydraulic fluid situated between said pump and said motor, a reservoir for said hydraulic fluid, ducts for said hydraulic fluid from said pump to said calibrating valve, from said calibrating valve to said motor, from said motor to said reservoir, and from said reservoir to said pump, and means for controlling said pump and said calibrating valve such that the delivery volume of said pump varies approximately as the square of the velocity of the wind driving said wind wheel and the amount of fluid flowing through said calibrating valve varies approximately as the cube of said velocity.

3,269,122
HYDRAULIC APPARATUS
Dennis Ernest Lambeth, Cheltenham, England, assignor to Dowty Technical Developments Limited, Cheltenham, England, a British company
Filed Apr. 15, 1965, Ser. No. 448,295
Claims priority, application Great Britain, Apr. 18, 1964, 16,184/64
8 Claims. (Cl. 60—53)



1. A hydraulic power transmission comprising a tilting head pump unit in hydraulic connection with a tilting head motor unit, a support carrying the two units and locating the tilt axes and the drive shafts in fixed relative positions in which the tilt axes are parallel to one another, a link of fixed length having a pair of spaced pivots connecting the link respectively to the pump head and to the motor head, the pivots being attached to the heads either directly or by extensions whereby the spacing for each head between the tilt axis and the pivot axis forms a lever arm, the pivot axes being parallel to the tilt axes, stops or limiting means for the pump head so that the range of permitted angular movement of the pump head includes a position, referred to as pump dead centre position, where the pump tilt axis lies in a plane with the pivot axes, this position defining the maximum hydraulic capacity position of the motor, the pivot axes in the pump dead centre position lying one on either side of a plane passing through the tilt axes.

3,269,123
HYDRAULIC APPARATUS
Hans Gaenger, Upper Bavaria, Germany, assignor to Carl Deschamps, trading as Delkydraulik Altenerding Dipl. Ing. Carl Deschamps, Upper Bavaria, Germany
Filed July 10, 1964, Ser. No. 381,645
1 Claim. (Cl. 60—54.6)



Hydraulic apparatus comprising, in combination, a substantially rectangular housing block formed with a vertically extending cylindrical portion (16); and a horizontally extending portion forming a pressure chamber; an oil supply reservoir (19, 20) mounted on said vertically extending cylindrical portion; a cylindrical air motor housing (13) secured to the free end of said horizontally extending portion;

said housing block having a vertical bore (23) terminating as a blind lower portion, and a horizontal bore (24) whose one end communicates with said blind lower portion, the upper end of said vertical bore opening into said oil supply reservoir (19, 20); a suction check valve (25) in said vertical bore's upper portion, said suction check valve being adapted to open in the direction of said blind lower portion, for connecting the reservoir and the pressure chamber; a control member (26) slidable in said horizontal bore, said control member including a pressure-producing piston (27) secured to its one end and an air pressure responsive piston (65) secured to its other end, said air-pressure responsive piston being displaceable in said cylindrical air motor housing (13), said control member (26) having a transverse bore (28);

said housing block having:

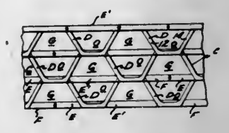
a pair of coaxial output bores (30, 31) communicating with said horizontal bore, one of said coaxial output bores issuing into the top surface, the other of said coaxial outlet bores issuing into the bottom surface of the block, for connecting to a pair of power cylinders, a pair of tapped bores (36, 37) issuing at the lateral surface (35) of the housing block, a pair of transverse bores (33, 34) connecting said coaxial output bores (30, 31) with said tapped bores (36, 37), each of said tapped bores (36, 37) being provided with a check valve (39), for releasing the flow in the direction of the transverse bores (33, 34), a blind bore (40) interconnecting said pair of tapped bores (36, 37) at right angles thereto and issuing into the bottom face of said block, said blind bore (40) being closed thereat, said blind bore (40) communicating with said blind lower portion of said vertical bore (23) and terminating as a tapped end portion (43) in the end face (44) of said block, an adjustable vent valve (45) in said tapped end portion, said air pressure responsive piston having a skirt portion (68) provided with a guide slot, a guide element (67) secured in said cylindrical air motor housing and extending into said slot, a spring (47) disposed between said other end of said control member (26) and the bottom of said skirt portion and an inlet opening (69) in said cylindrical air motor housing.

3,269,124
TUNNEL FISHWAY
Stephen R. Leathers, 1335 W. Birchwood, Chicago, Ill.
Filed Nov. 29, 1963, Ser. No. 326,807
2 Claims. (Cl. 61—21)



1. A fishway adapted to facilitate upstream and downstream passage of fish in a stream having a dam or the like extending thereacross, said dam defining a substantially quiescent backwater zone upstream thereof which includes the former bed of said stream, said fishway comprising conduit means extending through said dam and having one end thereof opening on the downstream side of said dam, said one end being disposed at substantially the same level as the level of the stream on the downstream side of the dam, said conduit means extending upstream from said dam through said quiescent backwater and having its other end opening at substantially the same level as said stream, said conduit means having a cross sectional area sufficiently large to accommodate the entire stream flow therethrough under normal open-channel conditions of flow, whereby flow through said conduit means substantially simulates the original stream flow, means at said other end of said conduit means for diverting said stream into the former, said diverting means comprising an embankment spanning said stream, said other end of said conduit means extending thruogh said embankment and opening on the upstream side thereof, and said embankment isolating said other end of said conduit means from said quiescent backwater zone, and a gate carried by said diverting means for opening and closing said other end of said conduit means to control stream flow therethrough, said diverting means being operable when said gate is open to direct the entire stream flow through said conduit means, whereby fish may migrate upstream or downstream of said dam along a substantially natural path through said conduit means.

3,269,125
HILLSIDE STABILIZING CONSTRUCTION
George R. Moore, Long Beach, Calif.
(3252 Falkland Circle, Huntington Beach, Calif.)
Filed Nov. 21, 1963, Ser. No. 325,285
6 Claims. (Cl. 61—35)



1. A block assembly for stabilizing hillside areas, comprising:

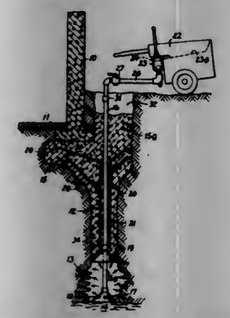
(a) a plurality of first U-shaped dimensionally stable header blocks, each of which includes a forwardly disposed web and two legs that extend rearwardly and outwardly in opposite directions from the ends thereof, said web having a forwardly disposed recess formed in the forward under portion thereof and a tongue that projects downwardly in said recess, with each of said legs having a first bore formed therein that extends downwardly through a rear portion thereof, which header blocks are disposed in rows on said hillside areas wherein they are horizontally spaced from one another first distances, vertically spaced from one another second distances, with said webs of said blocks in one row being in vertical alignment with rear portions of said legs of said blocks in said row therebelow;

(b) a plurality of rectangular dimensionally stable stretcher blocks of the same height as said second distance that are arranged in rows adjacent said header blocks, each of said stretcher blocks having a groove formed therein that is engaged by one of said tongues, with each of said stretcher blocks having a second vertical bore formed therein that is in vertical alignment with one of said first bores, which stretcher blocks rest on the upper surfaces of said webs, and when so disposed the ends of said stretcher blocks in said rows are in abutting contact;

(c) means on the ends of said stretcher blocks for interlocking one to another when said blocks are arranged in said rows; and

(d) a plurality of dowels that extend through said first and second bores into said hillside to hold said assembly thereon as an integral structure.

3,269,126
METHODS FOR STABILIZING AND RAISING FOUNDATION STRUCTURES
Thomas R. Freeman, Jr., 3338 Marmary Lane, St. Ann, Mo.
Filed Oct. 7, 1963, Ser. No. 314,459
5 Claims. (Cl. 61—51)



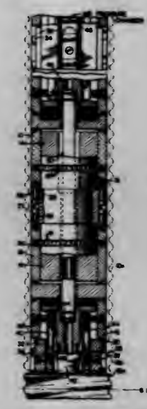
1. The method of underpinning a foundation structure which includes the steps of forming a substantially vertical hole adjacent the foundation, and forming a lateral opening from the hole under the foundation, casting a hollow concrete column in said hole with the lower end of said column spaced a substantial distance above the bottom of the hole, the column including a shoulder in the lateral opening and under the foundation, forming a base or footing at the lower end of said column by injecting firm-setting plastic material through the column and into the space therebelow, continuing said injection process until the space is filled and pressure is sufficient to displace the column, and allowing said material to solidify while being held under pressure.

3,269,127
HOLLOW PILE DRIVING MANDREL
Fredric Rusche, Southfield, Mich.
(8125 Medina St., Detroit, Mich.)
Filed Nov. 15, 1963, Ser. No. 323,941
12 Claims. (Cl. 61—53.72)



1. A pile driving mandrel comprising in combination a tube whose length is at least six times its internal diameter, a plurality of axially extending rows of axially elongated slits through the wall of the tube, said rows being distributed circumferentially about the tube, a plurality of channel members in the tube extending substantially the length of the tube, each channel member overlying one row of slits, each channel member being integrally joined to the tube at points adjacent each end of each slit to form an elongated first chamber overlying the row of slits, an elongated retaining plate associated with each slit and disposed within the tube, each plate being longer than its associated slit and insertable through the associated slit into the chamber, a shell gripping plug movable radially in each slit for engaging a shell outside the tube, each plug being secured to a plate, spring means adjacent the ends of each plate engaging the inner side of the tube for urging the associated plug inward, an elongated flexible and expansible fluid pressure chamber in each first chamber radially inward of said plates and extending throughout the length of the row of plates, a pressure fluid manifold integrally joined to the inside of the tube between the ends of the group of first chambers, said manifold passing through said first chambers and being pneumatically isolated therefrom, a pressure fluid transmitting connection between each pressure fluid chamber and the manifold within one of said first chambers, and means for supplying the manifold with pressure fluid to urge all of the plugs outward.

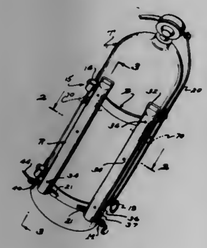
3,269,128
COUPLED PILE DRIVING MANDREL
Fredric Rusche, Southfield, Mich.
(8125 Medina St., Detroit, Mich.)
Filed Nov. 15, 1963, Ser. No. 323,942
6 Claims. (Cl. 61—53.72)



1. A jointed mandrel for spirally corrugated casings comprising in combination a pair of aligned cylindrical tubes each having a fluid pressure chamber including a circular tubular portion, expansible means extending through openings in each tube radially expressable in response to pressure in the chamber for fitting into the corrugations of a casing, means for conducting pressure fluid between the chambers to express the expansible means of one tube when the expansible means of the other tube is expressed, said conducting means including a conduit extending between said circular portions of said fluid pressure chambers and having opposite circular ends slidable in said tubular portions to permit relative axial movement of the tubes in being coupled and uncoupled, sealing means between each end of the conduit and the surrounding tubular portion, a hollow coupling surrounding the conduit, the coupling including a male cylinder engaging in one end of one tube and including a second male cylinder joined to the first and engaging in the adjacent end of the other tube, the coupling also including an abutment for compressive forces between the ends of the tubes, each of the male cylinders having a first groove extending in the direction of its periphery, each tube having a mating second groove extending circumferentially along its inner

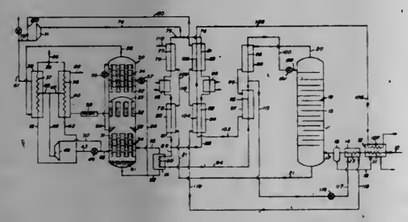
surface, means for transmitting tension force between the tubes including balls between the grooves preventing separation of the tubes, each tube having an opening through its wall into the second groove through which the balls can be inserted into the pair of grooves and removed therefrom, and means for aligning the expansible means of one tube with the expansible means of the other tube including axially slidable and non-rotatable engaging means on said coupling and each of said tubes.

3,269,129
BACK PACK FOR DIVERS' AIR TANKS
Rodolfo C. Zambrano, 629½ W. 11th St., San Pedro, Calif.
Filed June 29, 1965, Ser. No. 467,873
8 Claims. (Cl. 61—70)



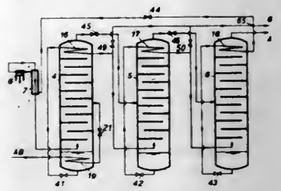
1. A back pack of the character referred to including, a pair of elongate parallel, vertical, tubular rails having open lower ends, longitudinally spaced tank engaging clamp bands fixed to and extending between the rails, a plurality of weights slideably engaged within the rails, manually operable retaining means at the lower ends of the rails and releaseably retaining the weights within the rails, and harness means including a plurality of body engaging straps fixed to the rails and bands and adapted to releaseably hold the pack on the back of a person carrying the pack.

3,269,130
SEPARATION OF GASEOUS MIXTURES CONTAINING HYDROGEN AND NITROGEN
Joe L. Cost and Lee S. Gaumer, Jr., Allentown, Pa., assignors, by mesne assignments, to Air Products and Chemicals, Inc., Trexlertown, Pa., a corporation of Delaware
Filed Jan. 4, 1957, Ser. No. 632,526
9 Claims. (Cl. 62—30)



1. Method of separating gaseous mixtures containing low boiling point component and higher boiling point component comprising the steps of cooling gaseous mixture containing low boiling point component and high boiling point component, passing cool gaseous mixture to a scrubbing zone, scrubbing cool gaseous mixture in the scrubbing zone with subcooled liquid scrubbing material to provide top gas and bottom liquid of the scrubbing zone, the top gas including low boiling point component and scrubbing material and the bottom liquid including higher boiling point component, and passing a portion of the subcooled liquefied scrubbing material in heat interchange with the cooled gaseous mixture before the cooled gaseous mixture is passed to the scrubbing zone to further cool the gaseous mixture and warm the scrubbing material, the subcooled liquid scrubbing material being provided by passing compressed gaseous scrubbing material in countercurrent heat interchange with top gas and bottom liquid withdrawn from the scrubbing zone to cool the compressed scrubbing material, liquefying the cool compressed scrubbing material by heat interchange with relatively cold fluid, and subcooling the liquefied scrubbing material by heat interchange with top gas of the scrubbing zone at a temperature substantially corresponding to the temperature of the top gas within the scrubbing zone.

3,269,131
RECTIFICATION OF LIQUID MIXTURES BOILING AT LOW TEMPERATURES
Rudolf Becker, Munich-Solln, Germany, assignor to Gesellschaft für Linde's Eismaschinen Aktiengesellschaft, Hollriegelskreuth, near Munich, Germany, a company of Germany
Application Dec. 29, 1961, Ser. No. 163,119, now Patent No. 3,208,231, dated Sept. 28, 1965, which is a division of application Ser. No. 684,359, Sept. 16, 1957, now Patent No. 3,057,168, dated Oct. 9, 1962. Divided and this application Mar. 18, 1965, Ser. No. 440,883
Claims priority, application Germany, Oct. 18, 1956, G 20,749
5 Claims. (Cl. 62—30)



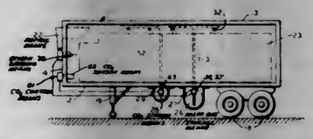
1. Process for the rectification into two fractions of a low boiling liquid, normally gaseous, mixture, in at least three separate columns in series, the components of the mixture having boiling points very close to each other, which comprises supplying the mixture to a first column, in which the highest pressure is maintained, at a point between the head and the foot thereof depending on the composition of said mixture, separating the mixture therein into a pure liquid product and an impure vapor product, removing the impure vapor product as overhead to the serially next column, which is under lower pressure, at a point between the head and the foot thereof, separating said impure vapor product therein into the same pure liquid product as in the first column and a further impure vapor product, removing said further impure vapor product as overhead to the serially next column, under still lower pressure, at a point between the head and the foot thereof and separating it therein, withdrawing a fraction of the same pure liquid product from each column, vaporizing it at least partially by heat exchange in the head of the same column and feeding part of it into the foot of the next column and feeding said part from the last column into the foot of the first column, collecting the other part of the vaporized pure product and withdrawing it.

3,269,132
CONTAINER, PARTICULARLY FOR LIQUEFIED PETROLEUM GAS
Oscar J. van Leer, Kortenhoef, Netherlands, assignor to Metal Containers Limited, London, England, a British limited-liability company
Filed May 22, 1964, Ser. No. 369,552
Claims priority, application Great Britain, May 24, 1963, 20,815/63
10 Claims. (Cl. 62—45)



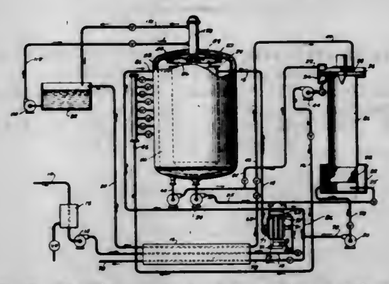
1. A storage container, particularly for liquefied petroleum gas, comprising a shell, said shell constructed from material which is porous over part of its area, and an internal lining positioned adjacent said shell, said internal lining constructed from material which is impermeable to gas and liquid at normal storage temperatures and when heated to a temperature above approximately 100 centigrades becomes leaky whereby the gas is allowed to escape through the leaky portion of the lining and through the porous part of the shell to thus relieve the internal pressure within the container to avoid the danger of explosion of said container.

3,269,133
APPARATUS FOR TRANSPORTING PRODUCE UNDER CONTROLLED ATMOSPHERE
David A. Dixon, San Anselmo, Calif., assignor to The Best Fertilizers Co., Lathrop, Calif., a corporation
Original application Apr. 1, 1964, Ser. No. 356,624, now Patent No. 3,239,360, dated Mar. 8, 1966. Divided and this application Dec. 23, 1964, Ser. No. 420,564
6 Claims. (Cl. 62—51)



1. Apparatus for controlling the oxygen concentration in the atmosphere in a compartment means, comprising:
compartment means adapted to the passage of gaseous atmospheres thereinto and therefrom,
equipment means operable to refrigerate said compartment means,
inert gas material source storage means for storing a supply of inert gas material other than oxides of carbon, to provide a source of inert gas material other than oxides of carbon,
passage means having an inlet means communicating with the interior of said source storage means and an outlet means communicating with the interior of said compartment means to allow passage of said inert gas material from the interior of said source storage means and out of said outlet means into the interior of said compartment means to become part of said atmosphere in said compartment means,
valve means in said passage means,
oxygen sensing means in said compartment means for sensing the oxygen concentration in said atmosphere in said compartment means,
valve control means responsive to said oxygen sensing means and connected to control said valve means, whereby said valve means is actuated to permit said inert gas material to flow from said source storage means into the interior of said compartment means to become part of said atmosphere therein when said oxygen sensing means senses oxygen in said atmosphere in said compartment means at a concentration above a predetermined value and to prevent the flow of said inert gas material from said storage means into the interior of said compartment means when said oxygen sensing means senses oxygen in said atmosphere in said compartment means at a concentration below said predetermined value.

3,269,134
SEPARATING A SOLVENT FROM SOLUTION IN INDIRECT AND DIRECT FREEZE UNITS
Oani Lindfors and Wallace E. Johnson, Beloit, Wis., assignors to Desalination Plants (Developers of Zarchin Process) Limited, Tel Aviv, Israel, a limited company of Israel
Filed May 16, 1962, Ser. No. 195,883
10 Claims. (Cl. 62—58)

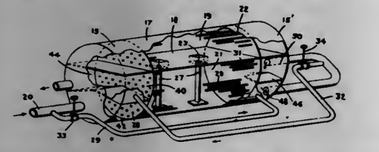


6. In the freezing method of separating a solvent in substantially pure form from a liquid solution, the steps comprising passing at least a portion of the solution through indirect heat exchange means for removing heat from said portion of the solution and for producing frozen solvent from a portion of the liquid solvent of said portion of the solution and leaving a remainder as a second portion of said solution, passing at least a second portion of the solution to direct heat exchange means, said direct heat exchange means being operable by establishing and maintaining a vacuum condition within the direct heat exchange means to encourage vaporization of solvent in said second portion to thereby form frozen solvent from said solvent, and melting said frozen solvent to produce liquid solvent.

3,269,135
MULTI-STAGE HEAT EXCHANGE APPARATUS AND METHOD
Donald E. Clubb, Caldwell, and Bernd S. Givon, East Orange, N.J., assignors to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Oct. 7, 1963, Ser. No. 314,437
10 Claims. (Cl. 62—98)

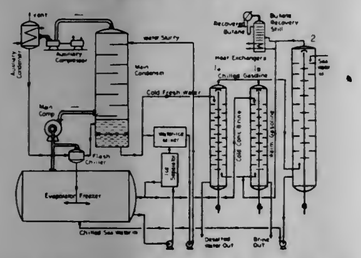
8. In a method for progressively cooling a liquid by passage thereof through first and second, serially connected cooling stages of a multistage evaporator which is adapted to contain a liquid and vaporous cooling medium therein, the steps of, dividing a stream of said liqnid at entry temperature into first and second streams, passing said first liquid stream through said first cooling stage of said evaporator in heat exchanger relationship with said

liquid cooling medium with resultant lowering of the temperature of said first liquid stream below said entry temperature, maintaining the temperature of said second liquid stream at substantially entry temperature and mixing said second liquid stream with said first liquid stream after the latter has been passed through said first cooling stage to provide an intermixed stream of liquid at an intermediate temperature which is lower than said entry temperature, dividing said intermixed stream of liquid into third and fourth streams, passing said third liquid stream



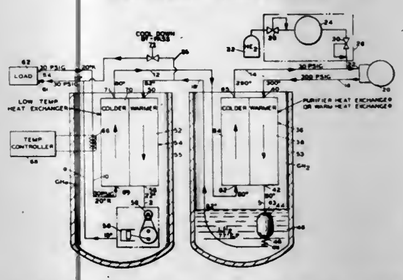
through said second cooling stage in heat exchange relationship with said vaporous cooling medium with resultant lowering of the temperature thereof to a temperature below said intermediate temperature, maintaining the temperature of said fourth liquid stream at substantially intermediate temperature and mixing said fourth liquid stream with said third liquid stream after the latter has passed through said second cooling stage to provide a mixed liquid stream at a temperature below said intermediate temperature.

3,269,136
APPARATUS FOR SEPARATION OF SOLVENT FROM SOLUTE BY FREEZING
Shuji Umano, 791 Nishikoiso, Aiso, Kanagawa, Japan
Continuation of application Ser. No. 25,618, Apr. 29, 1960. This application Dec. 15, 1964, Ser. No. 418,469
9 Claims. (Cl. 62—123)



1. An apparatus for separating a solvent from a solution containing the solvent by direct contact with a volatile refrigerant immiscible with the solvent or solution comprising an evaporator-freezer, a line for delivering solution to the evaporator-freezer, a line for delivering a liquid refrigerant to the evaporator-freezer for direct contact with the solvent below the liquid level therein, said apparatus containing sufficient refrigerant to produce a layer thereof in liquid phase in interface contact with the body of solution in the evaporator-freezer, an agitator which mixes the liquid refrigerant at the top of the body of solution as dispersed drops down into the solution, a condenser, means for withdrawing refrigerant vapor from the evaporator-freezer and delivering it to the condenser whereby to evaporate the volatile refrigerant and produce a pressure and temperature in the evaporator-freezer to freeze solvent from solution, separating means for separating ice crystals from solution, conduit means for withdrawing a slurry of ice crystals and solution from the evaporator-freezer and deliver it to the separating means, means forming a slurry of separated ice crystals and solvent and delivering the slurry into the condenser for direct contact with the refrigerant vapor to condense the latter and melt the ice crystals, said liquid refrigerant and condensed solvent separating by gravity in the condenser, said line for delivering liquid refrigerant to the evaporator-freezer being connected to withdraw liquid refrigerant from the condenser, and said means forming a slurry of ice crystals and solvent comprising a conduit for delivering liquid solvent from the condenser.

3,269,137
DENSE GAS HELIUM REFRIGERATOR
Charles B. Hood, Jr., Columbus, Ohio, assignor to Cryo-Vac, Inc., Columbus, Ohio, a corporation of Ohio
Filed Dec. 18, 1964, Ser. No. 419,408
14 Claims. (Cl. 62—127)

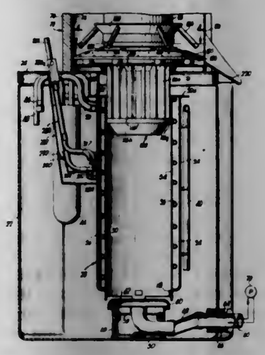


2. A helium refrigerator comprising, in combination, a load to be refrigerated; frame means; a first Dewar mounted on said frame means and including a liquid phase of a cryogenic gas in the lower portion thereof and a gaseous phase of said cryogenic gas above said liquid phase; a purifier within said first Dewar and immersed in said liquid phase of said cryogenic gas; a warmer heat exchanger mounted in the upper portion of said first Dewar and within said gaseous phase of said cryogenic gas; a second Dewar mounted on said frame means adjacent said first Dewar and containing an environment of gaseous helium; a colder heat exchanger mounted in said second Dewar and within said gaseous helium environment; an expansion engine mounted outside said second Dewar and including an inlet extending into said second Dewar and communicating with an outlet of said colder heat exchanger; a helium gas supply tank mounted on said frame means adjacent said Dewars; a helium compressor; helium delivery conduit means leading from helium gas supply through said compressor, warmer heat exchanger, purifier, colder heat exchanger and expansion engine to said load; refrigerated helium return conduit means leading from said load through said colder heat exchanger and warmer heat exchanger back to the inlet of said compressor; and a second heat exchanger and immersed in said liquid phase of said cryogenic gas in said first Dewar.

3,269,138
ICE MAKING APPARATUS FOR BEVERAGE VENDING MACHINE
Theodore L. Hanson, Kansas City, Stewart L. Black, Lee's Summit, and James F. Ferguson, Independence, Mo., assignors to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Oct. 2, 1964, Ser. No. 401,210
20 Claims. (Cl. 62—135)

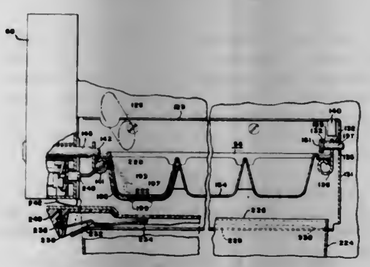
1. Particulate ice making apparatus comprising:
structure defining a generally cylindrical wall surface;
means operably associated with said wall surface for cyclically cooling the latter to a first temperature level sufficiently low to freeze water thereon and then heating the wall surface to a second temperature above the freezing point of water;
means for supplying water to be frozen to said wall surface;

an element shiftable within said wall surface axially thereof to displace ice therefrom, after freezing of the water on the wall surface and loosening of the ice from the wall surface as the temperature level thereof is increased from said first temperature toward said second temperature, said shiftable element being provided with spaced, radially extending projections thereon projecting toward and ter-



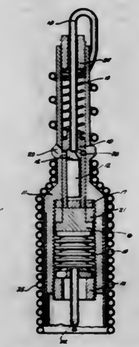
minating proximal to the wall surface of said structure and cooperable therewith to define a series of water receiving channels whereby an elongated, individual ice stick is formed within each channel; and means within the path of said loosened ice sticks as the latter are shifted simultaneously by said element for changing the direction of movement thereof to break the ice into particles.

3,269,139
TWISTABLE TRAY TYPE AUTOMATIC ICE MAKER WITH DETACHABLE TRAY
Patsy De Vincent, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 1, 1964, Ser. No. 371,559
9 Claims. (Cl. 62—137)



1. An automatic liquid freezer including a mold having wall portions forming liquid holding compartments, means for freezing liquid in said mold, a temperature responsive means in contact with a wall portion adjacent one of said compartments, an insulating member shaped to fit over and overlay said temperature responsive means and the adjacent wall portion and a major part of the wall portion of one of said compartments, and means responsive to the temperature of the temperature responsive means for ejecting frozen liquid from said mold.

3,269,140
TEMPERATURE SENSITIVE VALVE ARRANGEMENT
Eugene W. Peterson and Michael J. Nagy, Santa Barbara, Calif., assignors to Santa Barbara Research Center, Goleta, Calif., a corporation of California
Filed July 10, 1964, Ser. No. 381,770
6 Claims. (Cl. 62—223)

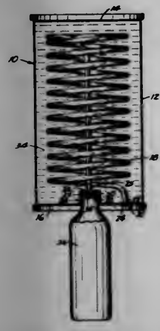


1. In a temperature-sensitive valve arrangement for volumetric control of fluid flow therethrough,
said fluid having a temperature level in the cryogenic range,
the combination of a valve body member and a valve seat member mounted for movement relative to each other,
a poppet valve carried by the members and movable relative to the valve seat member,
the flow of fluid through the arrangement being responsive to the last-mentioned relative movement,
spring means compressively interposed between the members and normally biasing same for movement relative to each other in one direction,
an expansion and contraction device in pressured interposition between said members,
said device being subject to expanding and contracting movements in response to the departure thereof from a determined temperature level,
the expansion movement of said device being in opposition to said one direction movement between the members and the contraction movement of said device being complementary to said one direction movement between the members,
fluid inlet and outlet port means communicating with the arrangement,
and heat transfer means in direct thermal communication with the arrangement to vary the temperature level of the expansion and contraction device above and below said determined level and thereby control the flow of fluid through the arrangement.

3,269,141
BEVERAGE CONTAINER
Joseph F. Weiss, Lakeland, Minn. (Rte. 5, Stillwater, Minn.)
Filed Feb. 26, 1965, Ser. No. 435,449
3 Claims. (Cl. 62—294)

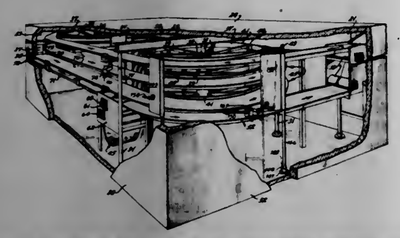
1. A hermetically sealed container containing a potable beverage therein, one end of said container having fixed therein an entry port and an exit port, said entry port being in the form of a cylindrical depression adapted to receive the sealed mouth and neck of a cartridge containing a cryogenic material, the bottom of said depression having fixed therein piercing means formed from a circular metallic disk having a V-shaped barb punched therefrom and extending perpendicular from the plane of

said disk, said ports being connected by a sealed continuous partially convolute passageway for conducting a cooling medium through said beverage, said passageway



being defined by a material which is a good heat conductor, and said piercing means having thereover a resilient ring-shaped gasketing material.

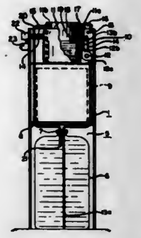
3,269,142
PROCESSING APPARATUS FOR CHANGING THE TEMPERATURE OF ARTICLES
Carlos L. de Mola, Whittier, Calif., William J. Wakatsuki, Seabrook, N.J., Donald W. Christiansen, Kettering, Ohio, and Moshe Y. Dreksler, Waynesboro, Pa., assignors to Frick Company, Waynesboro, Pa., a corporation of Pennsylvania
Filed Dec. 24, 1964, Ser. No. 421,011
12 Claims. (Cl. 62—381)



4. Refrigeration apparatus comprising spaced rotatable wheel assemblies having spaced vertical tiers, at least one endless conveyor for supporting thereon matter to be refrigerated, said conveyor being of generally flat foraminous construction with portions mounted to travel in a curved path by shortening along one edge and lengthening along the other while in a substantially horizontal position, and providing gradual variations in elevations, loading and unloading stations for matter to be supplied to the conveyor and removed therefrom, means for refrigerating matter carried by the conveyor, means for causing the circulation of air over the conveyor and in contact with the matter supported thereon for modifying the temperature thereof, and means whereby said conveyor including the wheel assemblies can be driven.

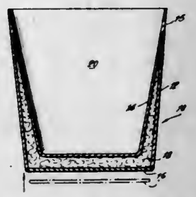
3,269,143
SELF-CONTAINED LIQUID DISPENSER
Mark Gasparovich, Stowe Township, Allegheny County, Pa.
Filed Mar. 31, 1964, Ser. No. 356,132
6 Claims. (Cl. 62—389)

1. A self contained liquid dispenser and cooler comprising a cabinet having a compartment in the lower portion thereof adapted to receive a removable liquid reservoir, said reservoir being independent from the dispenser and cooler, a liquid holding well positioned in the upper portion of the cabinet, refrigeration means positioned within the cabinet and having evaporator means in cooling relationship to said well, an outlet from said well below the normal level of liquid contained in the well and adapted for withdrawal of liquid from the well, valve means operable to open and close said outlet for dispensing of liquid, pump means having a liquid intake in flow



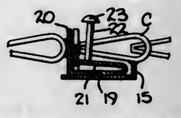
relationship to liquid contained within the reservoir, said liquid intake being freely insertable into and removable from an opening in the reservoir, said pump means also having a liquid discharge discharging into said well, and switch means in controlling relationship to said pump and controlling operation of said pump to replenish liquid drawn from the well through said outlet, whereby a supply of cooled liquid is maintained at a desired level in said well.

3,269,144
DOUBLE WALL TUMBLER HAVING COOLING MEANS THEREIN
Harry Poris, 165 W. 66th St., New York, N.Y.
Filed Oct. 16, 1964, Ser. No. 404,377
6 Claims. (Cl. 62—457)



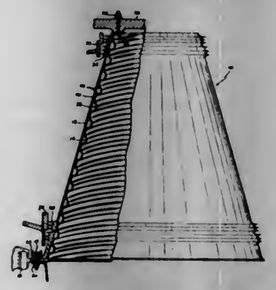
1. A container comprising inner and outer receptacles, means securing said receptacles to each other in a fluid tight manner, and cooling means disposed between said receptacles, said cooling means comprising wood flour saturated with formaldehyde.

3,269,145
SNAP CLASP FOR JEWELRY BANDS
Bernard Druskin, Jackson Heights, N.Y., assignor to Unity Manufacturing Corp., New York, N.Y., a corporation of New York
Filed Apr. 2, 1965, Ser. No. 445,153
3 Claims. (Cl. 63—4)



1. A snap clasp in combination with a jewelry band, comprising a male element attached to one end of the band and a female element attached to the other end thereof, said male element including a wing to which said one end is attached and a depressible spring section having a post extending upwardly therefrom, said female element including a bottom wall, a rear wall perpendicular thereto and a front wall in the form of a pair of spaced wings having a slot therein to receive said spring section along the bottom wall, said female element being free of side walls, the space between said wings accommodating said post, the other end of said band being attached to said female element at both said pair of wings and said rear wall only, to form a strut reinforcing said female element, the absence of side walls in said female element exposing the associated end of said band, the resultant loss in strength of said female element being compensated by the reinforcing strut, the wing on the male element and the wings on the female element being trimmable to accommodate the snap clasp to different band widths.

3,269,146
LIGHTWEIGHT HOLLOW DRIVE SHAFT ASSEMBLY
Max W. Stanley, Fairfield, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 25, 1963, Ser. No. 254,824
6 Claims. (Cl. 64—1)

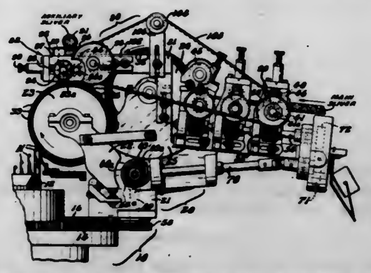


1. In an axial flow machine, a hollow drive shaft assembly operable in an area under high ambient pressure on the outside, and a lower pressure on the inside of said drive shaft assembly comprising: a solid wall hollow outer structure joinable at each end to a rotating element of said machine for transmitting torque at high speed from one of the said rotating elements to the other rotating element; and a hollow inner structure having a plurality of flutes with sidewalls at an angle to the general outer wall surface of said inner structure, the outer wall surface between the flutes being in proximity with the inner wall surface of said outer structure and supporting, through the effect of centrifugal force during high speed rotation, the said outer structure against the inwardly deflecting influence of the external ambient pressure.

3,269,147
METHOD AND MEANS FOR KNITTING PILE FABRIC
Otto T. Radtke and Clarence E. Sytz, Tarboro, N.C., assignors to Glenolt Mills, Inc., Tarboro, N.C., a corporation of Delaware
Filed Mar. 2, 1964, Ser. No. 348,604
3 Claims. (Cl. 66—9)

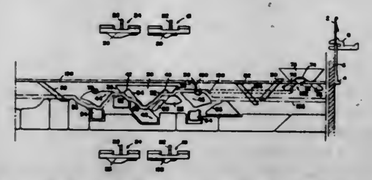
1. A method of knitting a patterned sliver pile fabric on a knitting machine having a plurality of loop forming elements, at least one carding head for delivering a base sliver to the loop forming elements, said carding head including a transfer roll and a doffer, and auxiliary sliver feeding means for delivering an auxiliary sliver to the carding head to combine with the base sliver, said method including the steps of

(a) actuating the loop forming elements to knit a backing fabric for the sliver pile fabric,
(b) continuously delivering a base sliver via the transfer roll and doffer to the loop forming elements while they are being actuated, at a selected feeding rate,
(c) feeding an auxiliary sliver to the doffer and thence



to the loop forming elements while they are being actuated, at an intermittent feeding rate and
(d) combining the intermittently fed auxiliary sliver with the base sliver as slugs as the latter passes to the doffer to produce a pattern sliver for incorporation by the loop forming elements into the backing fabric.

3,269,148
KNITTING METHOD AND MACHINE
John J. Millar, Laconia, N.H., assignor to Scott & Williams, Incorporated, Laconia, N.H., a corporation of Massachusetts
Filed Oct. 23, 1962, Ser. No. 232,552
2 Claims. (Cl. 66—48)

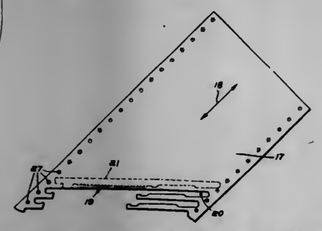


1. The method of knitting a circular knit stocking on a circular knitting machine having at least two feeds, a circle of needles, and elements cooperating with the needles for the formation of stitches comprising
effecting multiple feed rotary knitting of a foot portion on all of said needles,
effecting multiple feed reciprocatory knitting of a toe portion on a group of adjacent needles while other needles are inactive but hold stitches,
with successive addition of needles to the ends of said group from the inactive needles, thereby to increase successively the number of wales in the courses of said toe portion, and
thereafter restoring all of the needles to action and effecting multiple feed rotary knitting.

3,269,149
PATTERN JACK
Philip C. Davis, Laconia, N.H., assignor to Davis Tool Company, Incorporated, Laconia, N.H., a corporation of New Hampshire
Original application Jan. 28, 1963, Ser. No. 254,266, now Patent No. 3,232,155, dated Feb. 1, 1966. Divided and this application June 11, 1965, Ser. No. 463,105
1 Claim. (Cl. 66—156)

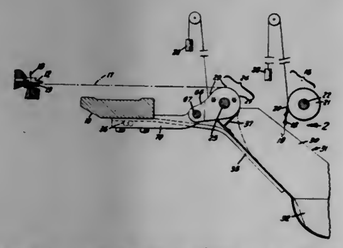
A pattern jack for knitting machines comprising an elongated body portion having a longitudinal direction, teeth projecting laterally from said body portion, the

jack being formed of sheet metal of a type having a grain structure imparting a shear strength perpendicular to the



grain higher than that parallel to the grain, and the grain being disposed at an angle of approximately 45° with respect to said longitudinal direction.

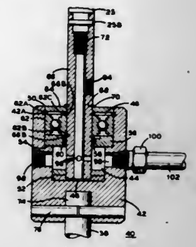
3,269,150
FABRIC DRAW-OFF MEANS FOR KNITTING MACHINES
Herbert E. Haehnel, Reading, Pa., assignor to Textile Machine Works, Wyomissing, Pa., a corporation of Pennsylvania
Filed Aug. 3, 1964, Ser. No. 387,009
8 Claims. (Cl. 66—149)



1. A fabric draw-off mechanism for a knitting machine for tensioning and taking up fabric knitted on said machine including
(a) a rotatable shaft,
(b) means for rotating said shaft in a fabric take-up direction,
(c) a reel member mounted on said shaft for rotation therewith,
(d) hook members,
(e) rotatable means for mounting said hook members in said reel member,
(f) means for operating said rotatable mounting means to move said hook members from retracted positions within said reel member to projected positions beyond the outer surface of said reel member for engagement with said fabric and to return said hook members to said retracted positions to disengage said hook members from said fabric, and
(g) openings in said steel member through which said hook members are moved between said projected and retracted positions.

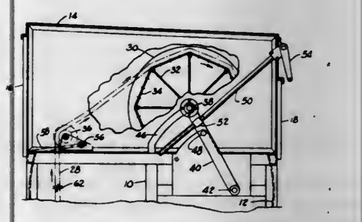
3,269,151
CLEANING APPARATUS FOR KNITTING MACHINES
Abraham Abrams, Roslyn Heights, and Rolland L. Tetrault, Huntington, N.Y., assignors to Uniwave, Inc., Farmingdale, N.Y., a corporation of New York
Filed Apr. 16, 1964, Ser. No. 360,286
14 Claims. (Cl. 66—168)

1. Apparatus for cleaning a knitting machine of the type having a rotatable part including a member disposed on the axis of rotation of said rotatable part and a stationary part disposed on said axis of rotation and axially displaced from said member, said apparatus comprising a body including a chamber, the first end of said chamber being open and the second end of said chamber being closed, bearing means in said chamber, a hollow shaft including first and second ends and extending along said axis of rotation and through said bearing means, the first end of said hollow shaft being connected to said stationary part, the second end of said hollow shaft extending within said chamber for engaging said bearing means, an air seal means disposed about said hollow shaft in the region of the first end



of said chamber, means for connecting said hollow shaft to said stationary part, means for connecting said body to the member of said rotatable part whereby the axes of said hollow shaft, said body and said connecting means are disposed along said axis of rotation, an air conduit in said hollow shaft in the region thereof external to said body and adapted to receive air under pressure, an outlet in said hollow shaft in the region thereof with said body in the region thereof between said air seal in said chamber, and at least one passageway through means and the second end of said body for providing an egress for air under pressure.

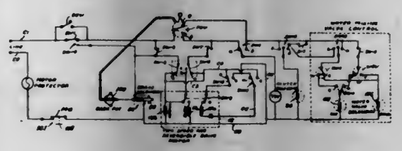
3,269,152
DYEING MACHINE
Robert M. Bell, Ardsley, Pa., and George E. Horswood, Palmyra, N.J., assignors to Klauder Weldon Giles Machine Company, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 24, 1964, Ser. No. 391,458
10 Claims. (Cl. 68—4)

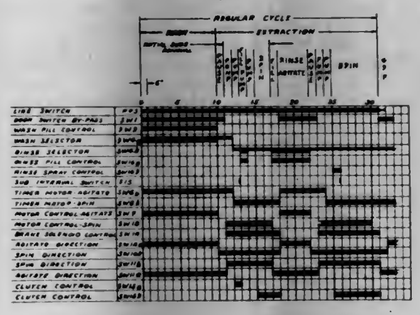


1. A dyeing machine including:
a vat adapted to contain dye liquor,
a wheel,
means mounting said wheel for movement to a first position remote from, and to other positions closer to, the level of the liquor in the vat,
means for retaining said wheel in any of said positions,
means for rotating said wheel,

and means carried by said wheel for supporting and propelling the goods to be dyed.

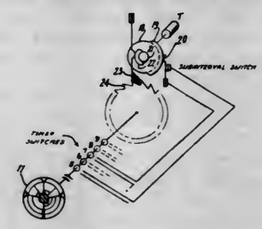
3,269,153
AUTOMATIC WASHER
Charles R. Waldrop, Herrin, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed June 1, 1964, Ser. No. 371,670
4 Claims. (Cl. 68—12)





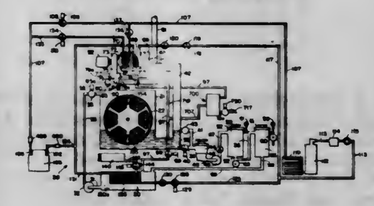
1. In a control system for a washer having a tub for receiving and holding a liquid and a basket rotatably supported in the tub to form a container for articles, the basket coupled to a motor through a drive train to spin the basket, the combination comprising: means for controlling feeding of liquid into the tub, means for removing liquid from the tub, means for sensing the liquid level in the tub, means in said drive train for selectively engaging and disengaging the drive connection between the motor and basket, an electrical source, a circuit energized by said electrical source and coupled to said liquid sensing means and to said drive operating means, a programmer having selected instructions stored therein for sequential feed-out including first spin instructions for effecting acceleration of the basket to a first predetermined speed and second spin instructions for effecting continual spinning of said basket, said first spin instructions effecting driving of said basket for only a fraction of the time period that said second spin instructions effect basket drive, circuit means coupled to said programmer and responsive thereto to actuate said drive operating means, said liquid removal means coupled to said programmer and responsive to spin instructions therefrom to remove liquid from the tub, said circuit responsive to a tub empty indication from said liquid level sensing means and to programmer actuation of said circuit means to engage said drive train means thereby accelerating said basket, said programmer effecting disengagement of said drive train after a preselected interval of time, said engagement and subsequent disengagement of said drive means effecting an acceleration and then a coast of the basket to extract wash liquid carried by the articles, and means coupling said programmer to said liquid feed control means to introduce liquid while said basket is coasting to wash down suds.

3,269,154
WASHING MACHINES
George J. Deiss, Philadelphia, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed July 13, 1964, Ser. No. 382,299
4 Claims. (Cl. 68—12)



4. A machine for conditioning a variety of fabrics by submerging, agitating and spin-drying them, comprising motor means for said agitating; solenoid means for said submerging and spin-drying; a circuit for operating said motor and solenoid means in predetermined intervals of submersion, agitation, and spin-drying; a switch disposed in said circuit and constructed and arranged to be opened and closed in subcycles shorter than said cycles; a relay in said circuit, controlled by said switch and including means for controlling said motor means; and means in said circuit, controlled by said switch without said relay, for controlling said solenoid means.

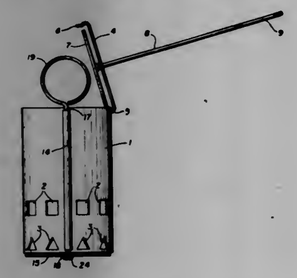
3,269,155
DRY CLEANING MACHINE AND SEPARATING DEVICE THEREFOR
Harry L. Shaw, 2431 Clearview Circle, Dallas, Tex.
Filed Nov. 1, 1963, Ser. No. 320,685
5 Claims. (Cl. 68—18)



1. An apparatus for dry cleaning soiled garments and the like, including: means providing a closed chamber into which garments and the like may be introduced; a solvent reservoir; filter means; conduit means connecting said reservoir to said chamber and to said filter means and connecting said closed chamber to said filter means; means operatively associated with said conduit means for circulating said solvent from said reservoir through said closed chamber, said filter means and back to said reservoir; means for providing a closed air flow path including said chamber; vent means operatively associated with said last mentioned means; valve means for selectively connecting said chamber to said vent means and to said air flow path to cause said chamber to constitute a section of said closed flow path; means for moving air through said closed flow path; a cooling means disposed in said means providing said closed air flow path for cooling air flowing from the chamber through said closed air flow path; heating means for heating the air previously cooled by said cooling means and moving through said closed air flow path back into said chamber; a liquid separator device; condensate conduit means connected to said closed air flow path and said device for causing liquid condensate condensed by said cooling means to

flow to said device wherein solvent is separated from extraneous liquids; conduit return means connecting said device to said reservoir for returning separated solvent from said device to said reservoir; and valve means connected in said conduit return means for selectively closing said conduit return means to flow in either direction therethrough, said liquid separator device including a vessel, said condensate conduit means opening to said vessel adjacent its upper end; a siphon tube having an inner section open adjacent the bottom of said vessel, an upper intermediate section, and an outer section extending downwardly from said intermediate section and connected to said conduit return means; a siphon vent tube communicating with said intermediate section and opening to the interior of said vessel above said upper section; and valve means for closing said siphon vent tube when the solvent in said vessel rises to a first predetermined level and for opening said vent tube to interrupt the siphoning action of said siphon tube when the solvent in said vessel drops below a second predetermined level.

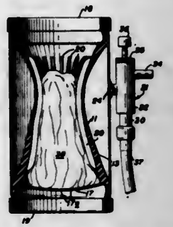
3,269,156
DIAPER RINSER
Jennie A. Chase, 450 Fillmore St., Denver, Colo.
Filed July 6, 1964, Ser. No. 380,505
4 Claims. (Cl. 68—214)



1. A diaper rinser comprising a tubular container having open ends, a plunger mounted at one end for reciprocal movement in said container, means mounting said plunger to said container for movement into and out of said container and pivotally away therefrom for loading a diaper therein, said plunger being slightly smaller in cross-sectional dimensions than the passage in said container and having a manipulating handle, a perforate closure over the opposite end of said container and hingedly mounted so as to pivot laterally of the axis of said container providing a full opening of the bottom of said container, and a rotatable manipulating handle secured to said container extending beyond the top end thereof and connected at its opposite end to said closure for pivoting the same, said handle extending a substantial distance beyond the container at said top end for gripping by a user.

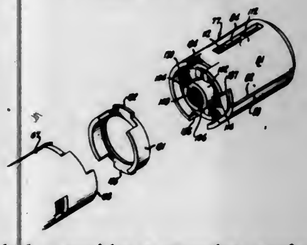
3,269,157
WRINGER
Jordan H. Ashley, Graham, Tex., assignor to Aqua-Air, Inc., Graham, Tex., a corporation of Texas
Filed July 16, 1964, Ser. No. 383,019
3 Claims. (Cl. 68—242)

1. A wringer comprising: a vertical circular cylindrical casing, a substantially cylindrical resilient membrane received within said casing, means securing said membrane around its peripheral ends only to the ends of said casing, a substantially open bottom across the lower end of said casing, an operating port in the wall of said casing, said membrane being of reduced thickness circumferentially therearound and above its axial center whereby said membrane will initially collapse above said center when a pressure fluid is introduced through said



operating port, and radially disposed spaced longitudinal resilient ribs on the inner surface of said membrane.

3,269,158
LOCK
Jean André, Mexico City, Mexico, assignor to Schlage Lock Company, a corporation
Filed May 28, 1964, Ser. No. 370,784
Claims priority, application Mexico, July 3, 1963, 72,863
5 Claims. (Cl. 70—216)



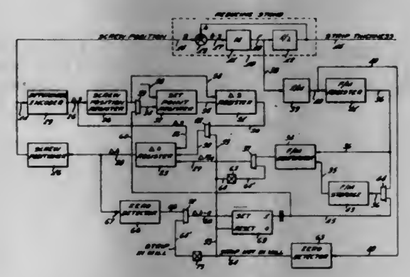
1. A lock comprising a mounting member, a hollow cylindrical spindle rotatably disposed in said mounting member, said spindle at one end having a tab projecting axially therefrom, a hollow knob mounted on and projecting beyond said spindle, a tumbler unit at one end mounted on said knob and having at the other end a cylindrical portion with a pair of slots and an indentation receiving said tab, a cylindrical ring extending into the interior of said spindle and into the interior of said tumbler unit, and axial projections on said ring disposed in said notches.

3,269,159
THEFT PREVENTION DEVICE FOR TRAILERS
Chalmers C. Young, 628 S. 9th Ave., La Grange, Ill.
Filed Aug. 17, 1964, Ser. No. 389,878
11 Claims. (Cl. 70—232)



1. An anti-theft lock collar for a generally cylindrical, vertically disposed trailer kingpin of the type having a reduced diameter section intermediate its ends, comprising, a pair of substantially semi-annular members; means pivotally connecting one end of each member to the other member whereby said members are movable between a fully opened condition wherein the surfaces defining the free ends of said members are separated a distance greater than the diameter of the kingpin and a closed condition wherein said free end surfaces abut each other, said free end surfaces being relatively flat and lying in a plane containing the pivotal axis of said members when in their closed condition, said members being positionable on a kingpin and movable to said closed condition to encircle and engage the kingpin and cover and operatively engage the reduced diameter section, the pivotal axis of said members being generally vertically disposed when said members are positioned on the kingpin in said closed condition, the free end surfaces of one of said members having an elongated groove formed therein and the free end surface of the other of said members having an integrally formed rib projecting therefrom, said rib being receivable in said groove when said members are in their closed condition, the longitudinal axes of said rib and groove being substantially parallel to the pivotal axis of said members; and releasable lock means for securing said members in their closed condition.

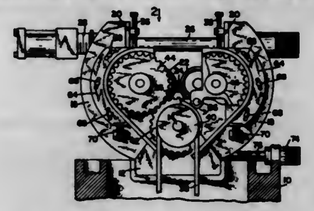
3,269,160
AUTOMATIC GAUGE CONTROL WITH UPDATE
Allan C. Halter, Milwaukee, and Paul L. McMath, Hales Corners, Wis., and Ralph E. Perrault, Monrovia, Calif., assignors, by direct and mesne assignments, to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Aug. 29, 1963, Ser. No. 305,480
12 Claims. (Cl. 72—8)



1. In a control for a device that operates on a relatively moving subject according to factors that include the position of the device, means for storing a reference position for said device,
means responsive to one subject leaving said device for positioning the device to a said reference position to begin operating on a succeeding subject,
means responsive to an error in the operation on the subject to change the position of said device in a direction to correct the error, and
means responsive to the position of the device and to the first occurrence of zero error in operating on the subject to produce and store in said storage means a new reference position for said succeeding subject corresponding to the position of the device when the error is first zero.

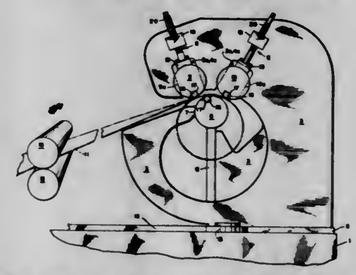
3,269,161
DIE ROLL FORMING AND FINISHING MACHINE
Howard A. Gruis, Holden, Mass., assignor to Kinefac Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Mar. 30, 1964, Ser. No. 355,589
12 Claims. (Cl. 72—98)

1. Die rolling apparatus comprising a supporting framework, a pair of shafts, means mounting the shafts on said framework, in cooperative relation with respect to each other, a die on each shaft for rotation thereby, said dies being arranged to operate on a workpiece between the same, a driving gear universally mounted on each shaft, torque transmitting means connecting each gear and its



shaft, means driving each gear, and means to adjust the shafts and thereby the dies angularly with respect to each other.

3,269,162
SPIRAL PIPE MACHINE
James E. Fay, Middletown, Ohio, assignor, by mesne assignments, to Fay Pipe and Pile Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 18, 1963, Ser. No. 296,124
4 Claims. (Cl. 72—145)

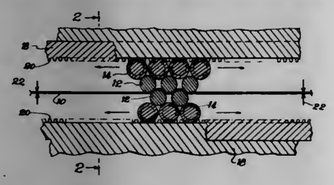


1. In a machine for the continuous manufacture of spiral pipe from stock, a spiral forming unit comprising
a stationary forming element having a fixed axial position,
means for mounting said stationary element to permit the forming spiral to pass freely around said stationary element,
two forming elements positioned outside said forming spiral,
support means positioned along said outside forming elements for supporting said elements,
said stationary and movable forming elements having longitudinal recesses formed therein, anti-friction elements positioned in said recesses,
a plurality of connecting means for connecting each of said outside forming elements to said support means, at least one of the connecting means for each outside forming element in turn comprising adjusting means for adjusting the spacing and axial alignment of the element with respect to said other forming elements whereby an outside forming element may be moved to a selected radial position relative to said stationary element to form said stock into spirals of selected size and shape.

3,269,163
BACK-UP ROLL CONSTRUCTION
Edward J. Ripling, Flossmoor, and Sheldon Mostovoy, Chicago, Ill., assignors to Materials Research Laboratory, Inc., Richton Park, Ill., a corporation of Delaware
Filed Oct. 30, 1963, Ser. No. 320,859
16 Claims. (Cl. 72—163)

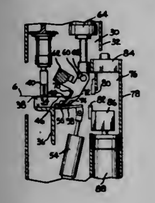
1. In a construction wherein work rolls are provided for contacting material moving relative thereto, the improvement comprising at least one back-up roll for en-

gaging an associated work roll, gear teeth in at least a portion of the periphery of said back-up roll intermediate the ends thereof, and means in said construction meshing



with said gear teeth, said last mentioned means tending to eliminate bending of said back-up roll whereby bending of the associated work roll can be eliminated by said back-up roll.

3,269,164
METHOD AND APPARATUS FOR THE FORMATION OF FOLDS IN METAL SHEETS
Donald P. Rutter, Bernardsville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Aug. 29, 1963, Ser. No. 305,334
6 Claims. (Cl. 72—294)



1. A method for forming a metal sheet having a configuration adjacent one edge thereof from a relatively long and continuous strip of metal comprising:

(a) moving at least a portion of a relatively long and continuous strip of metal into a forming apparatus,

(b) holding said portion of said strip of metal in a fixed position within said forming apparatus,

(c) forming an open Z-fold in the leading section of said portion of said strip of metal by confining a portion of said leading section adjacent the leading edge thereof between cooperating die members,

(d) moving said leading section and at least part of said portion of said strip of metal through a severing station,

(e) severing said leading section and said part of said portion of said strip of metal from said strip of metal to form a metal sheet having said open Z-fold adjacent the edge thereof, and

(f) passing said metal sheet through a press section to close said open Z-fold.

3,269,165
METHOD FOR FORMING PORTS IN A SHEET METAL TUBE
Fred T. Anderson, South Lyon, Mich., assignor of forty percent to Garnard W. Niece, South Lyon, Mich., and twenty percent to Clifton D. Hill, Northville, Mich.
Filed Aug. 19, 1965, Ser. No. 480,981
8 Claims. (Cl. 72—326)

1. Method of forming ports in the wall of a sheet metal gas burner tube, comprising:

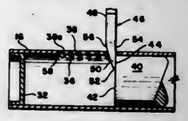
(A) lancing through said wall along a predetermined first line substantially normal to the longitudinal axis of tube;

(B) sequentially lancing through said wall from the ends of said first line, second and third lines parallel to the axis of said tube so as to form a tab hinged to said wall at a point longitudinally spaced from said first line and having its sides defined by said second and third lines;

(C) radially inwardly bending said tab so as to form a flat plane extending generally transversely of said tube and defining an extending side of said port;

(D) forming a plurality of such ports in axially aligned spaced relationship within the wall of said tube;

(E) calculating the width of said ports according to the following formula where: W=port width, L=



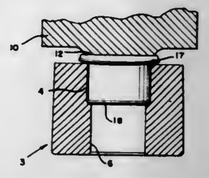
angle of inclination of the tab, T=the sheet metal tube thickness, S=the spacing between ports

$$W = S \cdot \sin L - T$$

and

(F) controlling port depth by varying the angle of inclination of said tabs from a position of being bent approximately 45° inwardly of the wall of said sheet metal tube to a position where said tab is bent to approximately 90° inwardly with respect to the wall of said tube.

3,269,166
SLUG PREPARATION FOR A COLD EXTRUSION
Max V. Mallow, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 8, 1961, Ser. No. 151,040
2 Claims. (Cl. 72—343)



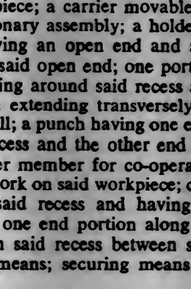
1. A method of preparing a deformable slug of substantially uniform weight and shape from a preform having an upper surface, said preform including a small, variable and unpredictable excess of material comprising: supporting the preform in a die cavity having a given diameter, said cavity supporting said preform so that the greater part of its surface is in contact with the surface of the cavity and so that the upper surface of said preform is exposed, causing a punch having a truncated conically-shaped end with a diameter slightly greater than the given diameter of said cavity to exert a deforming pressure upon said slug preform.

3,269,167
FORGING
Heinrich Hertel and Dietrich Ruppin, Berlin, Germany, assignors to Dr. Heinrich Hertel, Berlin-Charlottenburg, Germany
Filed Aug. 2, 1963, Ser. No. 299,637
Claims priority, application Germany, Aug. 22, 1962, H 46,718
12 Claims. (Cl. 72—377)

1. The process of forging an end of an elongated forgeable member to change the shape of said end while leaving the shape of the body of the member unchanged, which comprises:

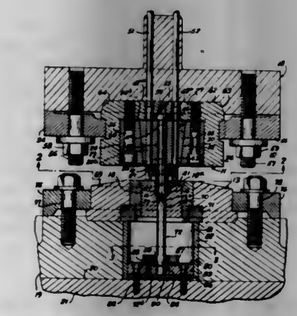
(a) placing the member in a forging tool providing said end exposed for forging thereof, said forging tool comprising a bucking weight disposed adjacent the end to be forged;

(b) placing a plate in operative connection with said end for forging of said end upon movement of the plate toward said end, the plate being of relatively large area with respect to the cross-sectional area of said end;



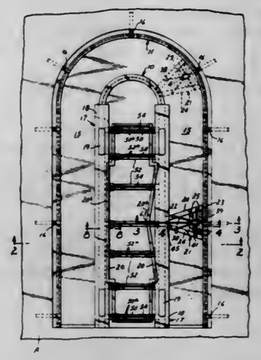
(c) imparting motion to the plate by expending kinetic energy provided by explosion of an explosive charge against the plate to drive it toward the said end, said motion of the plate forging the end of the elongated member while leaving the shape of the body of the member unchanged.

3,269,168
DIE APPARATUS
Edward A. Anderson, Cleveland Heights, Ohio, assignor to The Lamson & Sessions Company, Cleveland, Ohio, a corporation of Ohio
Continuation of abandoned application Ser. No. 290,840, June 26, 1963, which is a continuation of application Ser. No. 124,900, July 18, 1961. This application Mar. 5, 1965, Ser. No. 446,759
27 Claims. (Cl. 72—412)



1. In a die apparatus; a stationary assembly comprising a support and a die thereon having an opening adapted to receive a workpiece; a carrier movable toward and away from said stationary assembly; a holder member on said carrier and having an open end and a recess extending thereinto from said open end; one portion of said holder member extending around said recess as a side wall and another portion extending transversely of said recess as an inner end wall; a punch having one end portion extending into said recess and the other end portion projecting from said holder member for co-operation with said die in performing work on said workpiece; contractible clamping means in said recess and having gripping engagement with said one end portion along the sides thereof; a wedge ring in said recess between said side wall and said clamping means; securing means effective on said wedge ring for moving the same to, and securing the same in, an axially inwardly shifted position in said recess; the adjacent sides of said wedge ring and clamping means having annular tapers both extending in a diverging relation into said recess away from said open end and disposed in mutually co-operative engagement for causing contraction of said clamping means into said gripping engagement in response to the inward axial movement of said wedge ring and for retaining the clamping means in said recess; said punch being a single straight piece of tool steel bar stock of predetermined length and having a uniform-size and uniform-shape transverse cross-section for the full length of the punch; said end portions being substantially the same whereby said punch is reversible for co-operation of either end portion thereof with said die; and back-up insert means in said holder member adjacent said inner end wall and engaged by said one end portion; said punch being subject to reconditioning by grinding of said end portions, and said insert means having an axial dimension to compensate for shortening of said punch due to said grinding.

3,269,169
AUTOMOTIVE VEHICLE FRAME STRAIGHTENING DEVICE
Joseph J. Latuff and George R. Friend, St. Paul, Minn., assignors to Latuff Bros., Inc., St. Paul, Minn., a corporation of Minnesota
Filed Dec. 20, 1963, Ser. No. 332,217
9 Claims. (Cl. 72—447)



1. In a device of the class described,

(a) spaced apart parallel first and second U-shaped guide-acting frame members each having opposed legs spaced apart a sufficient distance to receive a vehicle therebetween,

(b) means rigidly mounting said frame members in generally horizontal positions on a common support and defining therebetween a U-shaped passageway,

(c) means fixedly positioned relative to said first frame member and defining a longitudinally extended vehicle-supporting surface partially surrounded by said U-shaped passageway,

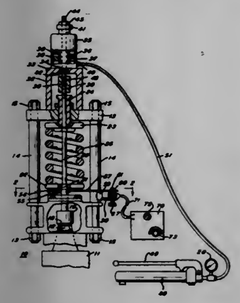
(d) a subframe bridging said frame members and mounted and guided thereon for movements longitudinal of said passageway to be selectively positioned about the periphery of said vehicle supporting surface,

(e) a generally upright boom mounted and guided in said subframe for raising and lowering movements with respect thereto,

(f) a flexible cable associated with said boom and entrained over pulley means thereon for extending and retracting movements,

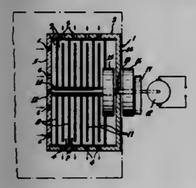
(g) power means carried by said subframe for imparting retracting movements to said cable, and
(h) means for locking said subframe in selected positions along its path of travel in said passageway.

3,269,170
PRESSURE RELIEF VALVE TESTING APPARATUS
Edward H. Sebring, Box 144, Rte. 2, Street, Md., and James J. Hackett, 46 Barclay Drive, Turnersville, N.J.
Filed Sept. 28, 1964, Ser. No. 399,512
8 Claims. (Cl. 73—4)



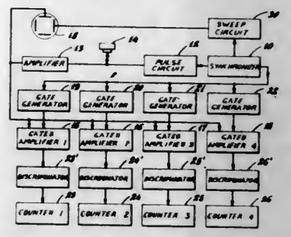
1. Apparatus for determining the pressure setting of a variable spring held seat engaging valve disc having a spindle extending from the valve disc and on which the spring is mounted comprising
pressure responsive means connected to said spindle for exerting a force on said spindle in opposition to the force of the spring,
a member for measuring the force applied at said pressure responsive means,
a fixedly mounted reference member,
a reference member between said valve disc and said spring and movable with said spindle and with respect to said fixedly mounted reference member, and
movement responsive means responsive to relative movement of said reference members for indicating movement immediately prior to separation of the valve disc from its seat.

3,269,171
APPARATUS FOR MEASURING THE VISCOSITY OF LIQUID AND PLASTIC MATERIALS
Herbert K. Bruss, 40 Schenck Ave., Great Neck, N.Y., and Abund O. Wist, 124 Meadowcroft Road, Mount Lebanon, Pa.
Filed June 14, 1965, Ser. No. 463,712
Claims priority, application Germany, June 19, 1964, B 69,950
12 Claims. (Cl. 73—60)



1. Apparatus for measuring the viscosity of liquid and plastic materials, comprising a rotatable body adapted to be at least partially enveloped in the substance to be measured, a housing for said rotatable body, said rotatable body comprising a plurality of laterally spaced-apart, generally parallel, coaxially disposed members, a plurality of substantially parallel, laterally spaced-apart vanes carried by the housing and disposed, respectively, in the spaces between the members on the rotatable body, means to rotate said members on a common axis substantially normal to the planes of revolution of the surfaces of the members, means to measure the torque thereon, said vanes and members having opposing surfaces which upon relative rotation maintain substantially uniform spacing one from the other.

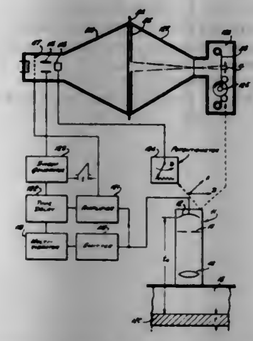
3,269,172
APPARATUS FOR MEASURING PARTICLES IN LIQUIDS
William C. McGaughey, New Fairfield, Conn., assignor to Automation Industries, Incorporated, El Segundo, Calif., a corporation of California
Filed Feb. 28, 1963, Ser. No. 261,724
6 Claims. (Cl. 73—61)



3. An apparatus for testing a fluid for particle inclusions wherein the particles have sizes in preselected ranges and wherein the particles are normally distributed in predetermined ratios between said ranges, said apparatus including the combination of,
means for transmitting pulses of ultrasonic energy into said fluid, said means being effective to receive ultrasonic energy reflected from particles contained in said fluid and produce equivalent electrical signals,
gating means coupled to the first means for alternately blocking and passing said signals,
said transmitting means and said gating means providing a beam of ultrasonic energy in which test zones of different volumes are established along its length, said volumes being in approximately the same ratios as the numbers of said particles and in said size ranges, and
separate counting means for each of said test zones, each of said counting means being coupled to the gating means for counting the echoes corresponding to the zones and having amplitudes corresponding to the particles having sizes within the corresponding ranges.

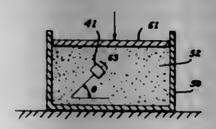
3,269,173
APPARATUS FOR ULTRASONIC DIAGNOSIS
Manfred von Ardenne, Dresden-Weisser Hirsch, Germany, assignor to Veb. Transformatoren- und Rontgenwerk Dresden, Dresden, Germany
Filed Mar. 2, 1962, Ser. No. 177,063
4 Claims. (Cl. 73—67.9)

1. An apparatus for examining predetermined depth layers of human tissues and the like, comprising an ultrasonic transducer for transmitting directional pulses and receiving the echoes arising from the reflection of said pulses, a cathode-ray tube having a beam-intensity control grid and two deflection systems for deflecting the beam in first and second directions, respective first and second control means for said first and said second deflection systems, said first control means being synchronized with said pulses transmitted by said transducer, the received echoes being applied to said control grid, scanning means for displacing said transducer along a predetermined path, said scanning means covering a predetermined area of said tissue along a line-by-line path, said second control means being synchronized with the line-scanning motion, recorder means for photographing the screen of said cathode-ray tube unto a medium, means for advancing said medium by a predetermined distance at the completion of



each line-scanning motion, and a masking slot in front of said cathode-ray tube, wherein the dimension of said slot corresponds, in the direction of said first deflection, to the width of said depth layer of tissue in the direction of propagation of said pulses, while the dimension of said slot in the direction of said second deflection corresponds to the length of a scanned line.

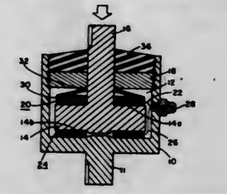
3,269,174
STRESS SENSOR AND STRESS SENSING SYSTEM
Frank A. Linville, 728 N. Campbell, Tucson, Ariz.
Filed Mar. 9, 1964, Ser. No. 350,228
6 Claims. (Cl. 73—88.5)



1. A stress sensing system comprising:
(a) a piezothermal means defining an elastomer deformable under stress;
(b) a thermistor imbedded in said elastomer;
(c) a current source;
(d) means connecting said current source to said thermistor to form a completed electrical circuit;
(e) detector means for detecting and indicating a change of current flowing in said electrical circuit;
(f) a rigid shell encasing said elastomer to resist deformation of said elastomer in predetermined directions while permitting deformation in other predetermined directions.

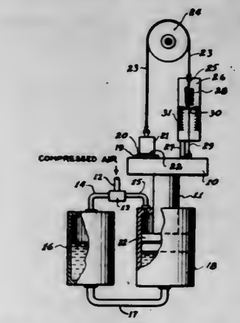
3,269,175
PIEZOELECTRIC FORCE MEASURING DEVICE
Clarence F. Sprosty, Parma, Ohio, assignor to Clevite Corporation, a corporation of Ohio
Filed Mar. 16, 1964, Ser. No. 351,899
12 Claims. (Cl. 73—141)

1. A piezoelectric force measuring device for testing a rubber article or the like, comprising, in combination: a housing member; a stud member displaceable relative to and within said housing member along a predetermined axis, one of said members including driving means adapted for engaging the test article; a first pair of piezoelectric elements responsive in compression and poled in a direction parallel to said axis, said elements being disposed between one end of the stud and the housing; a second pair of piezoelectric elements electrically connected in parallel with said first pair and responsive in compression and poled in a direction parallel to said



axis, said elements being disposed between the opposite end of said stud and said housing, whereby upon relative axial movement between said members one of said pairs of elements is under compression and the other is comparatively relaxed; and pre-tension means interposed between said elements and said housing member.

3,269,176
APPARATUS FOR MEASURING THE TACK OF COATED SURFACES
John L. Egitto, Belleville, N.J., and John A. Mascaro, Bronx, N.Y., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio
Filed July 16, 1963, Ser. No. 295,308
5 Claims. (Cl. 73—150)

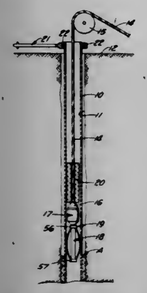


1. Apparatus for measuring the tack of a coated surface comprising a level vertically movable platform, means for vertically moving said platform, means for mounting said surface flat upon said platform, a weight having a flat surface resting flush upon the coated surface, tackle means attached to said first weight having a counterbalancing weight equivalent to said first weight, said tackle means being initially inactive, but being activatable as the platform is lowered past a preselected level at which point said first weight becomes fully counterbalanced and spring balance means connected to said surface and to said weights and tackle means for acting upon said coated surface, said spring balance being initially inactive but being activatable at the level where said initial weight is counterbalanced to resist the downward movement of the coated surface.

3,269,177
STUCK-POINT INDICATOR FOR WELL PIPE
Martin B. Conrad, P.O. Box 1026, North Downey Station, Downey, Calif.
Filed Feb. 13, 1964, Ser. No. 344,569
6 Claims. (Cl. 73—151)

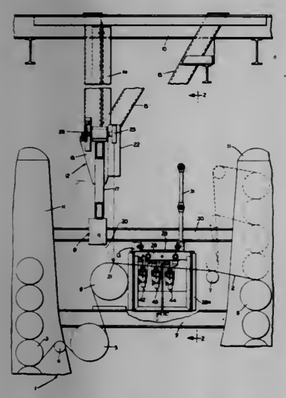
1. Apparatus for determining the stuck-point of a pipe in a well, comprising in combination: a gyroscope device having a pipe-contacting element thereon, means for low-

ering the device into the pipe, the device including a gyroscope wheel mounted to rotate about an axis noncoincident with the longitudinal axis of the pipe, means for suddenly turning the upper end of the pipe to cause said



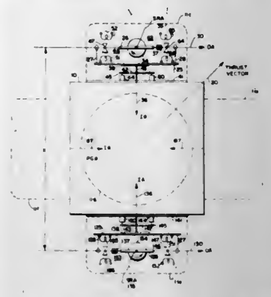
element to turn the device about the pipe axis, signal means operated by precession movement of the gyroscope wheel resulting from such turning of the device, said signal means acting to transmit a signal to the surface in accordance with the extent of such precession movement.

3,269,178
PAPER MACHINE FLAW DETECTING AND MARKING APPARATUS
John B. Kohler, North Canton, Ohio, assignor to The Kohler Coating Machinery Corporation, Greentown, Ohio, a corporation of Ohio
Filed Aug. 2, 1963, Ser. No. 299,605
7 Claims. (Cl. 73—159)



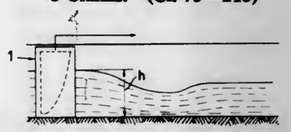
1. Flaw detecting and marking apparatus for high speed continuous web paper machines including, electronic flaw detector means having a plurality of light actuated web scanning devices and circuitry to initiate a signal impulse in response to the passage of a detected flaw on a continuously moving paper web past any such scanning device; said scanning devices being adapted to scan one each of a plurality of different predetermined longitudinally extending zones of a continuously moving paper machine web; chalk marking means including a separate chalk marking device associated with each scanning device operable to mark an edge of the web during continuous web movement with a selective chalk mark in response to a scanning device signal impulse in the circuitry of the scanning device associated with such marking device, thereby forming for each flaw a chalk mark signal visible externally at an end of a roll of paper produced by a paper machine indicating the presence and location of such flaw; and control means operatively connecting each scanning device with its associated chalk marking device actuated by the signal impulse initiated in the circuitry of such scanning device to operate such associated chalk marking device.

3,269,179
NAVIGATIONAL INSTRUMENTS
John E. Anderson, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed May 29, 1959, Ser. No. 816,959
4 Claims. (Cl. 33—178)



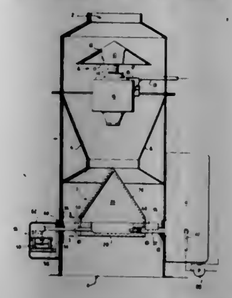
4. An inertial reference system for a dirigible craft comprising: means including a plurality of inertial instruments for sensing motions, said instruments having turn tables adapted to be rotated about their rotational axes; mounting means for mounting said plurality of inertial instruments so that said rotational axes intersect and so that said rotational axes form substantially equal angles with respect to a reference vector; means responsive to forces external to said inertial instruments and adapted to cause rotation of the turn tables of said inertial instruments about said rotational axes; digital means responsive to rotation of said turn tables to provide output signals; and signal separator means connected to said digital means and responsive to said output signals, said signal separator means separating said digital output signals into components.

3,269,180
CAPACITIVE ELECTRODE FOR FLOW MEASUREMENT IN OPEN CHANNELS
Dag Sigurdsson Schreiber, Lidingo, Sweden, assignor to AB Deber-Kontroll, Lidingo, Sweden
Continuation of application Ser. No. 182,225, Mar. 26, 1962. This application Nov. 5, 1965, Ser. No. 506,567
Claims priority, application Sweden, Mar. 28, 1961, 3,254/61
8 Claims. (Cl. 73—215)



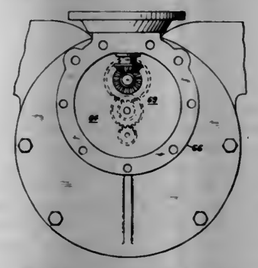
1. A device for measuring the flow of a liquid comprising in combination with an open channel with a constriction so that the liquid level before the constriction is a measure of the flow thereof, a single insulation covered capacitive electrode positioned in said channel before said constriction, said electrode being so shaped and positioned that the capacity thereof varies linearly with the flow, the shape of said electrode being determined by the formula $b=k\cdot\alpha\cdot h^{(\alpha-1)}$ in which b is the horizontal dimension of the electrode at the liquid level, k is a constant depending upon the unit of measurement and the dielectric constant of the insulation and α is a constant depending upon the shape of the constriction and means for measuring the capacity of said electrode.

3,269,181
FLOW RESPONSIVE DEVICES
Orum E. Seay, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Jan. 23, 1964, Ser. No. 339,668
3 Claims. (Cl. 73—228)



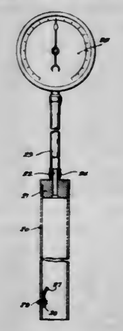
1. In a fluent material flow meter of the type comprising a vertically extending housing having a fluent material inlet adjacent the upper end thereof, an impact sensing element movably positioned in said housing subjacent said inlet, said sensing element having an upstream face adapted to be impacted by fluent material falling through said housing, supporting means movably supporting said sensing element for limited vertical deflection in response to impact thereon by the fluent material, signal means associated with said support means for indicating the extent of vertical deflection of said sensing element, the improvement comprising pressure means for directing pressurized fluid internally of said sensing element, said upstream face of said sensing element being constructed of fluid transmitting material whereby pressurized fluid is directed through said upstream face for lubricating the same and circumventing material accumulation thereon.

3,269,182
POSITIVE DISPLACEMENT LIQUID METER
Albert J. Granberg, Oakland, Calif., assignor to Cal-Meter Co., Emeryville, Calif., a corporation of California
Filed May 10, 1965, Ser. No. 454,573
8 Claims. (Cl. 73—259)



1. A positive displacement liquid meter comprising
a meter housing defining a generally cylindrical chamber having a generally cylindrical internal wall with at least first and second truly cylindrical sections disposed at opposite sides of said chamber,
end cover plates mating and sealing with said housing at the ends of said cylindrical chamber,
inlet and outlet ports disposed on opposite sides of the first of said wall sections communicating through said housing with said cylindrical chamber,
a generally cylindrical rotor cage in said chamber having a diameter less than that of said chamber and mounted on a central shaft supported eccentrically in said chamber with the cage substantially tangent to the first of said cylindrical wall sections of said chamber at a point substantially midway between said inlet and outlet ports, said cage having a plurality of equally spaced radial slots therein,
a flat blade slidably disposed in each of said radial slots and adapted to slidably seal with the generally cylindrical wall of said chamber, at least one of said blades sealing with each of said cylindrical sections of said housing wall continuously,
means for permitting the escape of liquid from the decreasing chamber formed by the rotor cage and that portion of the first cylindrical internal wall section between the point of tangency of said rotor with said wall section and said outlet port and a blade moving from said outlet port toward said point of tangency during operation of the meter,
a cam ring disposed between an end of said rotor cage and the adjacent end cover plate with its axis concentric with the axis of said chamber, said cam ring being rotatably mounted and having a circular cam guide in the form of an annular groove concentric with the axis of said cam ring,
a like cam ring similarly disposed between the opposite end of said rotor cage and the adjacent end cover plate,
cam followers projecting laterally from the inner radial ends of said blades engaging the annular grooves of the proximate cam rings, and
register means connected with said rotor cage for recording the rotation thereof.

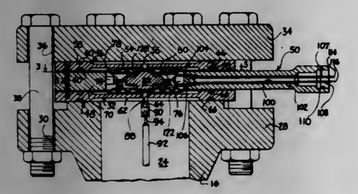
3,269,183
WELL WATER LEVEL INDICATOR
Edmund N. Firth and James E. Nezworski, New Berlin, and Orval E. Jacobsen, Brookfield, Wis.
Filed Feb. 24, 1964, Ser. No. 346,802
2 Claims. (Cl. 73—299)



1. A device for remote indication of variation in the relative water level in a well and comprising a rigid tube for immersion in the water in the well, a flexible tube connected at one end with an end of the rigid tube in substantially airtight relation thereto, said flexible tube having an inside diameter smaller than the inside diameter of the rigid tube, said rigid tube having an unobstructed opening at its lower end through which water may enter and leave, and a gauge connected in substantially airtight relation with the other end of the flexible tube for mounting at a location remote from the water

level for indicating increase and decrease in pressure within the tubes as the water level rises and drops respectively in the rigid tube, the ratio of air volume within the rigid tube to the air volume within the flexible tube being no more than 1:6, the wall of the flexible tube being sufficiently thick to be unaffected by air pressure variation within and without said tube, the portion of said device mounted within said well consisting solely of said rigid tube and said flexible tube, the air within said device coming solely from atmospheric air trapped within said tubes when said device is placed in a well, and means mounted inside the rigid tube for delivering oil upon contact with water and thereby spreading a film of oil over the water surface within said surface, said means consisting of an absorbent body within the rigid tube, said absorbent body containing a substantially non-volatile substance capable of forming a film on the surface of a body of water.

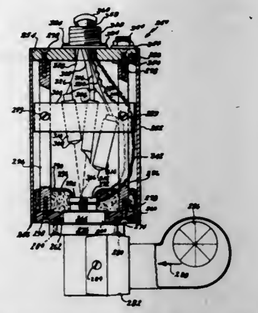
3,269,184
APPARATUS FOR MEASURING FLUID CHARACTERISTICS
Ward F. O'Connor, Deanville, N.J., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Apr. 24, 1964, Ser. No. 362,443
7 Claims. (Cl. 73—309)



1. An apparatus for remotely indicating the displacement characteristics of a fluid within a fluid process vessel including an electrical indicating means positioned remote of said processing equipment and being provided with a source of electrical power said apparatus comprising: a thin walled, vertically disposed cylindrical casing, an elongated cylindrical float positioned within said cylinder and spaced slightly therefrom for limited vertical movement within said cylinder and with said cylinder wall preventing lateral deflection of said float within said cylinder, means for allowing said process fluid to pass freely within said chamber formed by said cylinder about said float, a transducer including an electrical strain gauge, substantially vertical connecting rod means for directly attaching said float to said strain gauge concentrically thereof, said connecting rod means including means allowing a slight pivoting movement, whereby substantially only vertical movement of said float is transmitted to said strain gauge, and means for electrically connecting said strain gauge to said source of electrical power and said electrical indicating means whereby said strain gauge is stressed uniformly as a result of minute fluid displacement of said float to provide maximum accuracy of displacement measurement.

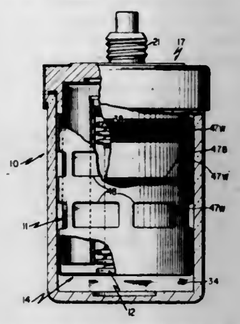
3,269,185
DEWPOINT SENSING STRUCTURE
Charles C. Francisco, Watertown, Mass., assignor to Cambridge Systems, Inc., Watertown, Mass., a corporation of Massachusetts
Filed Jan. 28, 1963, Ser. No. 254,191
10 Claims. (Cl. 73—336.5)

1. In a dewpoint sensing structure, the combination of a chamber having an inlet and an outlet for a gas whose dewpoint is to be measured, a mirror having a highly reflective surface in the chamber, a thermoelectric cooler having cold and hot sides with the cold side in thermal engagement with the mirror, a directional light means disposed to illuminate the reflective surface of the mirror, a first photosensitive element mounted to receive directly reflected light from the reflective surface of the mirror, a second photosensitive element mounted to receive only scatter light from the reflective surface of the mirror, heat



conductive means in thermal engagement with the hot side of the thermoelectric cooler for maintaining said hot side at substantially the temperature of said gas, and a heat flow insulating filler about the cooler in a manner to confine substantially all heat flow between the mirror and heat conductive means to a path formed by said thermoelectric cooler.

3,269,186
TEMPERATURE COMPENSATED PRESSURE INDICATOR
Lester Y. Hebenstreit, Bloomfield, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed July 22, 1963, Ser. No. 296,620
6 Claims. (Cl. 73—393)



3. A pressure indicator comprising a tubular housing having a closed end and an open end, a closure for sealing said open end having an opening for fluid flow connection of said housing to a receptacle containing a gaseous medium under pressure to be monitored, a tubular casing in said housing for containing a constant mass of gaseous medium under pressure having a wall at one end secured to said closure and having a tubular well at its other end extending axially towards said wall and provided with an open inner end facing said wall, a tubular pressure responsive element in said well having an open inner end sealed within the open inner end of said well and having a closed outer end extending outwardly of said well, whereby the constant mass of gaseous medium is confined within said casing and said element and said element is movable in response to pressure changes of

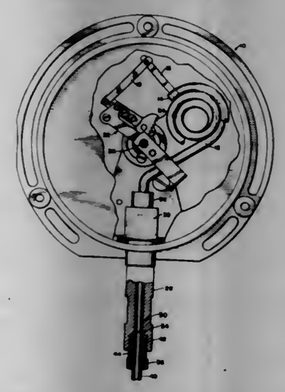
the gaseous medium in said housing, and an indicator member secured to said pressure responsive element for movement therewith, said housing being constructed and arranged for viewing said indicator member.

3,269,187
DIFFERENTIAL PRESSURE TRANSDUCER
Peter R. Perino, Northridge, Calif., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California
Filed Mar. 22, 1963, Ser. No. 267,169
8 Claims. (Cl. 73—398)



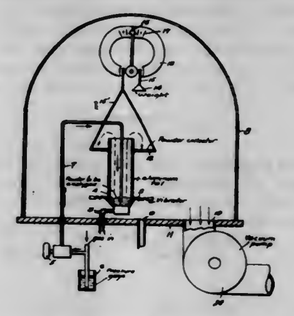
1. A pressure transducer responsive to the difference between two pressures and substantially independent of the magnitude of said pressures, which comprises electrical resistance strain wires arranged in a Wheatstone bridge, a force-summing means to which said difference in said pressures is applied, a connection between said force-summing means and said strain wires responsive to said difference, to alter the tensions in said wires, and a second strain wire means resposive to one only of said pressures to alter the tension in said strain wire, said last-named wire electrically connected to said first-mentioned strain wires, whereby the impedance of said second-mentioned wire modifies the voltage difference of said Wheatstone bridge.

3,269,188
PRESSURE RESPONSIVE DEVICE
Richard K. McCally, Fairfield, and Lloyd L. Young, Stratford, Conn., assignors, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed July 18, 1963, Ser. No. 296,026
5 Claims. (Cl. 73—418)



1. In a pressure responsive instrument of the type incorporating a relatively small diameter deformable tube adapted to receive pressure fluid and having a movable and a fixed end; means mounting said fixed end of the tube comprising a fixed socket member having a throughbore receiving the fixed end of said tube, the fixed end portion of said tube being externally threaded, a portion of said throughbore of said socket being threaded and being threadably engaged with the threaded portion of said tube, said socket member being provided with a deformable collar-like portion at the end thereof opposite the fixed end of said tube, said collar portion clampingly engaging the tube to fix the tube relative to the socket at the portion thereof where the tube enters the socket, said throughbore being provided with a counterbore at one end of which the fixed end of the tube terminates, said fixed end of the tube further being provided with a conical seat adapted to mate in fluid sealed relation with a complementally shaped end portion of tubing carrying pressure fluid.

3,269,189
APPARATUS AND METHOD FOR ELUTRIATING AND MEASURING FINE SOLID PARTICLES
Gaines W. Monk, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Army
Filed Dec. 18, 1964, Ser. No. 420,253
8 Claims. (Cl. 73—432)

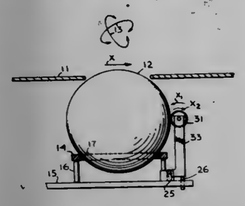


3. Apparatus for separating dust particles comprising: an enclosed chamber; material support means in said chamber to support a quantity of dust particles; means to introduce a gas into said quantity of dust particles; means to regulate the rate of flow of gas into said quantity of dust particles to separate out lighter or less dense particles at low gas flow or heavier or more dense particles at higher gas flow; means to determine the quantity of dust particles separated out from said quantity; and means to produce a vacuum in said chamber whereby said dust particles will fall quickly after being separated out from said quantity.

3,269,190
POSITION CONTROL BALL ASSEMBLY
George M. Luman, Los Angeles, Calif., assignor to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed Aug. 9, 1965, Ser. No. 478,390
6 Claims. (Cl. 74—471)

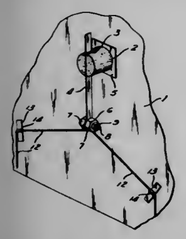
6. A manually operable control assembly comprising:
a ball having a relatively smooth outer surface comprised of a relatively hard material;
a support plate of relatively soft material exhibiting a relatively low coefficient of friction when in contacting relation to the surface of said ball, said support plate having a circular aperture the diameter of which is less than the diameter of said ball, said ball being supported by said plate through contact with the periphery of said aperture;

a base member having an upper working surface designated for orientation in a substantially horizontal plane;
means holding said support plate in displaced relation to said base member working surface with a sufficient clearance therebetween to permit said ball to freely move in non-contacting relation to said base member;
rotatable transducing means supported by said base



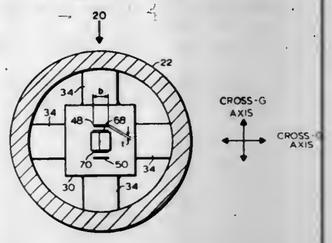
member in frictional engagement with the surface of said ball to resolve the motion of said ball in effectively two components; and
a cover member fixed relative to said support plate and having a circular aperture therein the diameter of which is less than the diameter of said ball, said cover member being positioned relative to said ball to establish the periphery of the aperture therein immediately adjacent but not in contact with the ball surface.

3,269,191
ACCELERATION MEASUREMENT APPARATUS
Lawrence C. Simmons, Cleveland, Ohio, assignor to Cleveland Technical Center, Inc., Cleveland, Ohio, a corporation of Delaware
Filed Apr. 13, 1964, Ser. No. 359,041
10 Claims. (Cl. 73—492)



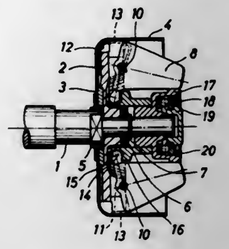
1. In a device of the character described, a support, a movable member, a leaf spring dependingly movably supporting said movable member from a fixed position on said support for movement in a generally arcuate path below said position, said leaf spring means biasing said movable member to an at-rest position but permitting movement of said movable member in response to acceleration to which said support is subjected from said at-rest position to a position spaced from said at-rest position by an amount determined by the magnitude of the acceleration, and a length of flexible strand fixed to said movable member and slidably carried by said support at a location thereon at the side of said movable member away from the direction in which said movable member moves in response to acceleration to which said support is subjected, so that when said member moves in response to acceleration the length of said strand between said movable member and said location increases to provide an indication of the magnitude of the acceleration.

3,269,192
TUNING FORK DIGITAL ACCELEROMETER
Hamilton Southworth, Jr., New York, N.Y., and John C. Stiles, Morristown, N.J., assignors to General Precision, Inc., Little Falls, N.J., a corporation of Delaware
Filed Nov. 7, 1962, Ser. No. 236,107
16 Claims. (Cl. 73—517)



1. A digital accelerometer comprising a frame, an inertial mass, tuning fork means comprising one tine connecting said mass to said frame, and cross-axis support means for supporting said mass on said frame in a manner to introduce negligible resistance to the movement of the mass longitudinally of said tuning fork means but to resist other movements of the mass, said inertial mass compressing said tuning fork means in response to longitudinal acceleration in one direction and tensioning said tuning fork means in response to longitudinal acceleration in the other direction whereby the natural frequency of vibration of said tuning fork means will be decreased and increased to provide an indication of the magnitude and direction of the acceleration, said tine having a longitudinal portion with two identical branch portions, equally spaced from and substantially symmetrical about said tine axis forming a closed loop.

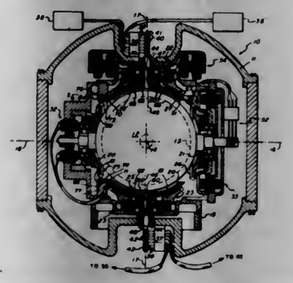
3,269,193
FLYWEIGHT GOVERNOR, PARTICULARLY FOR FUEL INJECTION TYPE INTERNAL COMBUSTION ENGINES
Rudolf Kleeberger, Munich, Germany, assignor to Kugelfischer Georg Schafer & Co., Schweinfurt, Germany
Filed Sept. 19, 1963, Ser. No. 310,100
Claims priority, application Germany, Oct. 1, 1962, K 47,859
5 Claims. (Cl. 73—526)



1. A flyweight governor comprising a plurality of flyweights mounted for pivotal motion radially of a governor shaft, said flyweights being in engagement with a spring loaded sleeve adapted to be axially displaced in relation to said governor shaft in such a manner that any pivotal motion of the flyweights will produce a displacement of said sleeve, a pot-shaped casing on said governor shaft, said casing including a cylindrical portion formed with radial slots adapted to receive and laterally guide a plurality of plate-like flyweights, said casing being provided with an annular groove receiving a ring formed of

wire and serving as a pivot for said flyweights, said wire formed ring being held in position by a plurality of clips equidistantly spaced along the circumference of the ring, said clips being of U-shape and made of spring wire, said clips straddling the periphery of said casing to retain said ring in said annular groove formed in said casing.

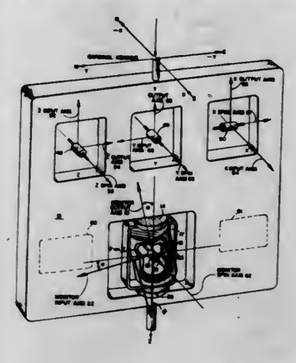
3,269,194
ANTI-FRICTION MECHANISM FOR GYROSCOPIC DEVICES
Charles G. Buckley, Huntington, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Apr. 29, 1963, Ser. No. 276,529
15 Claims. (Cl. 74—5)



7. In gyroscopic apparatus having members rotatable relative to each other about a first axis,
(a) an electrical brush block having a plurality of brushes mounted on one of said members,
(b) slip ring means including a shaft having a corresponding plurality of slip rings mounted thereon cooperative with said brushes and positionably mounted on another of said members,
(c) the centers of said slip rings defining an axis of symmetry of said shaft,
(d) said brushes engaging said respective slip rings and applying a torque with respect to said axis of symmetry which normally tends to produce undesirable gyro drift,
(e) slip ring support bridge means connected to said slip ring shaft for slidably supporting said shaft on said another member,
(f) eccentric bearing means rotatably supporting said slip ring shaft and adapted to maintain said axis of symmetry parallel to and rotatable around said first axis independently of the relative movement of said members, and
(g) means for rotating said eccentric bearing means and periodically reversing the direction of rotation thereof whereby said undesirable gyro drift is appreciably reduced.

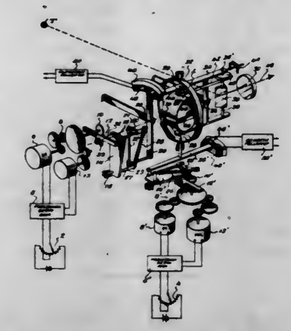
3,269,195
ACCELERATION AND RATE CONTROL FOR GYRO CASE ROTATION
Dick B. Caboon, La Mirada, and Larry B. Romine, Anaheim, Calif., assignors to North American Aviation, Inc.
Filed Apr. 3, 1964, Ser. No. 357,167
8 Claims. (Cl. 74—5.4)

1. In combination:
a stabilized platform having at least one-degree-of-angular freedom;
at least one single-degree-of-freedom gyroscope, equal in number to said degrees-of-angular freedom, supported by said platform with their sensing axes, respectively positioned to sense angular displacement of said platform about axes corresponding to said degrees-of-angular-freedom;
servo means, connected between said gyroscopes and said platform, to stabilize said platform;
an additional single-degree-of-freedom gyroscope, its case mounted for at least 180° angular displacement, relative to said platform, about an axis of rotation perpendicular to the sensing axis of at least one of said first named gyroscopes, the sensing axis of said



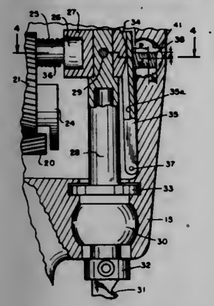
additional gyroscope having a direction component parallel to said axis of rotation;
means for angularly positioning said additional gyroscope about said axis of rotation;
means for connecting signals from said additional gyroscope to said means for angularly positioning, to limit the angular drive rate of said additional gyroscope about said axis of rotation.

3,269,196
FIRE CONTROL GYROSCOPES
Benjamin L. Leeds, Huntington Station, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed May 23, 1951, Ser. No. 227,840
5 Claims. (Cl. 74—5.4)



4. A spring biased lever system for applying a torque to a gyro about an axis of the gyro proportional to the extent of a displacement imparted to a point in the system, comprising a bell crank lever, a pivoted member on which said bell crank is pivoted, a biasing spring connecting said lever and member, a link connecting said bell crank and a point on the gyro below said axis such that in the zero position its point of connection to said bell crank lies coaxial with said first axis and is not displaced by tilt of the gyro and means for displacing said first named point in the system through a distance proportional to the desired torque to tilt said member without tilting said bell crank on said member.

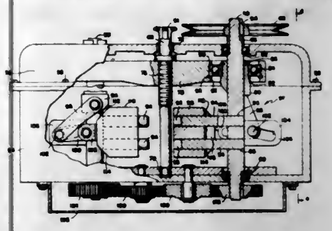
3,269,197
VARIABLE MOTION JIG SAW
Sherwood G. Enders, Bowley's Quarters, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed July 24, 1963, Ser. No. 297,377
3 Claims. (Cl. 74—50)



1. A variable motion jig saw comprising:
(a) a housing;
(b) a pivoted bearing in said housing;
(c) a shaft journaled in said bearing and ordinarily reciprocating in a linear path;
(d) a member secured to said shaft within said housing;
(e) a guide channel for said member, said channel being pivoted at one end thereof within said housing; and
(f) means to vary the angle of inclination of said channel about its pivot and with respect to the longitudinal axis of said shaft, whereby said channel may be angularly skewed with respect to the axis of said shaft with their respective axes converging towards each other in a direction away from said pivoted bearing, and whereby, if desired, said shaft may be constrained to reciprocate in an arcuate path which is concave when viewed towards the direction of the cut;
(g) said last-named means to vary the angle of inclination of said channel about its axis, comprising:
(1) a block pivoted within said housing and having a plurality of faces selectably-engageable against the back of said guide channel above the pivot axis of said channel;
(2) a pivot pin secured within said block about an axis which is eccentrically disposed with respect to said faces of said block, and which is parallel to the pivot axis of said channel; and
(3) an external member secured on the end of said pivot pin, whereby, as desired, said shaft may be reciprocated in a linear path or in a plurality of arcuate paths.

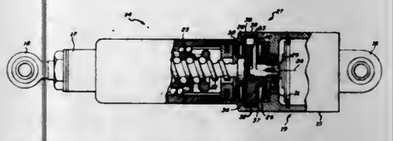
3,269,198
VARIABLE THRUST OSCILLATOR
Takuzo Tsuchiya, Minneapolis, and Clifton H. Morrison, St. Paul, Minn., assignors to General Mills, Inc., a corporation of Delaware
Continuation of application Ser. No. 253,933, Jan. 25, 1963. This application May 5, 1965, Ser. No. 456,891
3 Claims. (Cl. 74—61)

3. An oscillator for producing a vibratory force comprising a housing, a pair of parallel shafts rotatably mounted in said housing, a pair of eccentric weights within the housing, means for connecting one of said weights to one shaft so that it is disposed proximate the surface of said shaft, said means including a first linkage comprised of first and second links, said links being pivotally connected together at one end, means for connecting the other weight to the other shaft so that it is disposed proximate the surface of said other shaft, said means including a second linkage comprised of first and second links, said links being pivotally connected together at one end, said weights being positioned with respect to each other so that a desired phase relationship exists, means for rotating said shafts in opposite directions a third shaft rotatably mounted in the housing, said third shaft being parallel to the first two shafts and positioned therebetween, an elongate arm member positioned within the housing threadedly mounted on said third shaft and slidably mounted on the first two shafts, and means for operatively connecting the ends of said arm member to



the eccentric weights in such a manner that rotation of said third shaft causes axial movement of said arm member relative to the third shaft within the housing, said means including the first and second linkages which connect the weights to their respective shafts, means for pivotally connecting the other end of the first link of each linkage to the arm member, means for pivotally connecting the other end of the second link of each linkage to one of the weights, axial movement of said arm member relative to the third shaft causing the eccentric weights to move radially relative to their respective shafts while the shafts are rotating thereby varying the component of vibratory force produced by the oscillator.

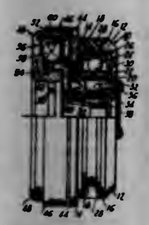
3,269,199
MOTION CONVERTING MECHANISM
Leonard W. Deehan, Scottsdale, and Peter E. Jacobson, Phoenix, Ariz., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Oct. 15, 1963, Ser. No. 316,251
6 Claims. (Cl. 74—89)



1. A linear actuator comprising
(a) an elongated housing having a splined extensible member supported in at least one correspondingly splined end of said housing, said housing and member being adapted to be connected in a mechanism for moving a load and also being subject to the reactive force of the load so moved,
(b) a low-friction lead screw connected between said housing and member for extending and retracting said member relative to said housing,
(c) first brake means between said screw and said housing for restraining rotary motion of said screw in response to torsional forces produced through said screw by normal reactive axial loads thereon,
(d) second brake means between said screw and said housing for restraining rotary motion of said screw in response to axial forces produced by greater than normal reactive axial loads,

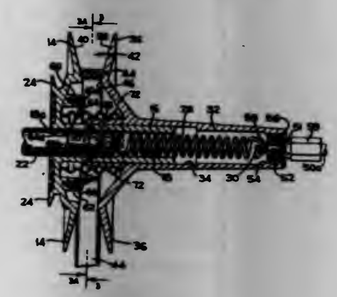
(e) spring means coupled with said second brake means for releasing the same when said axial loads are substantially normal, and
(f) motive means coupled with said first brake means for releasing the same and for rotating said screw relative to said housing whereby to extend and retract said member relative to said housing.

3,269,200
BELT ENGAGING PULLEY
David S. Vaughn and Charles A. Mendenhall, both of Horseheads, N.Y., assignors to The Bendix Corporation, Eclipse Machine Division, Elmira, N.Y., a corporation of Delaware
Filed May 13, 1964, Ser. No. 367,013
10 Claims. (Cl. 74—230.17)



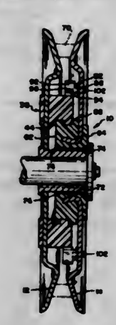
1. A belt engaging pulley comprising: a rotatable pulley device having first and second relatively axially moveable pulley halves each having a surface forming a side of a drive belt groove, bearing means intermediate said pulley halves, said bearing means having a free rotatable annular member forming the base of said drive belt groove, variable pressure actuating means for selectively moving said pulley halves relative to one another axially in a first belt engaging position and a second belt released position.

3,269,201
VARIABLE SPEED DRIVE
Olin L. Looker, Stockland, Ill., assignor to FMC Corporation, a corporation of Delaware
Filed June 5, 1964, Ser. No. 372,935
5 Claims. (Cl. 74—230.17)



1. In a variable ratio belt transmission, two coaxially mounted sheave halves, means mounting said sheave halves for relative axial motion to vary the pitch diameter of a belt trained around the driving faces thereof, an elongate laterally flexible driving link mounted between said sheave halves radially within their driving faces and with its flat faces substantially parallel to the general planes of the sheave halves, and means securing one end portion of said link to one of said sheave halves and the other end portion of said link to the other of said sheave halves for coupling said sheave halves together for simultaneous rotation, said link simultaneously accommodating variations in the interspacing of the sheave halves by lateral flexure.

3,269,202
PULLEY APPARATUS
Edward T. Getz, Cleveland Heights, and Matthew Pacak, Solon, Ohio, assignors to Eaton Yale and Towne Inc., a corporation of Ohio
Filed Apr. 13, 1964, Ser. No. 359,172
16 Claims. (Cl. 74—230.17)



1. Self-compensating torque transmitting pulley apparatus having compensating means for automatically compensating for lengthening of belt-type driving means, said compensating means comprising a plurality of inserts fabricated of a plasticized substance, each of which is moldingly incorporated with a corresponding one of a plurality of sheave halves, said inserts being so constituted and arranged as to be threadably rotatably mutually cooperatively engageable with one another, the improvement comprising, in combination:
clutch means for releasably substantially permanently maintaining said compensating means in any one of a substantially infinite plurality of compensated positions, said clutch means comprising:
a plate of generally annular configuration disposed to completely annularly encompass one of said plurality of inserts;
said plate being fixedly structurally connected to at least one of said plurality of sheave halves, and being disposed axially generally medially thereof, said plate comprising:
a plurality of grooves equally annularly spaced about the periphery thereof;
a plurality of clutch fingers structurally disposed in said grooves, said clutch fingers comprising:
a base disposed fixedly in one wall of a corresponding one of said plurality of grooves, enabling said fingers to extend generally radially outwardly of said annular plate in generally perpendicular relationship with respect thereto;
a plurality of legs integral with one another;
at least one of said legs being inherently resilient and being of greater longitudinal dimensional extent than the other of said legs, enabling said one leg to be disposed in continuous frictional mutual cooperative engagement with the periphery of one of said plurality of inserts;
another of said legs being integral with said base;
said legs being disposed in angular relationship with respect to one another defining an abutting ridge at the apex thereof extending generally transversely of each of said clutch fingers;

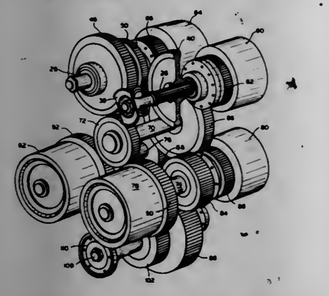
said abutting ridge being particularly adapted to be disposed in abutting mutual cooperative engagement with said base, enabling said one insert to be rotatably moveable relative to another of said plurality of inserts in one of a plurality of directions only, and to be precluded from rotational movement in another of said plurality of directions; and

a flange integral with at least one of said legs and extending laterally therefrom;

each said flange being particularly adapted to extend within and through a corresponding one of a plurality of apertures in said one sheave half and outwardly thereof;

said apertures being disposed generally in alignment with said grooves and corresponding generally in number thereto; enabling said inserts to be rotatably moveable relative to one another in said other of said plurality of directions.

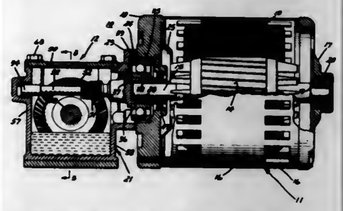
3,269,203
TRANSMISSION
Barry L. Frost, Jackson, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Dec. 23, 1963, Ser. No. 332,474
10 Claims. (Cl. 74—333)



1. In a transmission, an input shaft, a first clutch gear rotatable on said input shaft, a first clutch adapted to selectively connect said first clutch gear to said input shaft, a forward-reverse shaft, a second clutch gear rotatable on said forward-reverse shaft, a second clutch adapted to selectively connect said second clutch gear to said forward-reverse shaft, a pair of gears secured to said forward-reverse shaft, an idler gear in constant mesh with one of said gears on said forward-reverse shaft, a gear mounted on said input shaft for rotation therewith and being axially shiftable therealong for meshing engagement with either said idler gear or the other of said gears on said forward-reverse shaft, and gear means selectively driven from said first and second clutch gears.

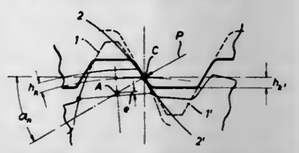
3,269,204
GEAR MOTORS AND GEARING UNITS THEREFOR
Allison R. Schleicher, Jr., Upper Montclair, N.J., assignor to General Electric Company, a corporation of New York
Filed Jan. 6, 1964, Ser. No. 335,818
8 Claims. (Cl. 74—424.5)

1. In a gear motor including a gear unit having a gear case formed with a flanged portion, an output shaft rotatably supported by bearings mounted in the gear case, an output gear carried on said output shaft, a pinion shaft having a pinion meshed with said output gear, said pinion shaft supported at one end by a pinion shaft bearing mounted in the gear case and having a coupling portion at the other end, an electric motor with a motor shaft rotatably supported at one end and having a driving end for connection with the coupling portion of the pinion shaft, the improvement comprising: a ball bearing having an inner and an outer race with balls disposed therebetween, said inner race carried on the coupling portion for rotation with said pinion shaft, said coupling portion having a bore with the other end of the motor shaft disposed in said bore, a first resilient tolerance ring disposed within said bore to couple said pinion shaft with said motor shaft, a rabbet formed in the flanged portion



of said gear case and engaging the outer race to align said ball bearing with respect to said pinion shaft bearing mounted in the gear case, an end shield member attached to said flanged portion and having a bearing-receiving recess with an annular surface in predetermined spaced relationship to the outer race, and a second resilient interference ring interposed between said annular surface and the outer race to hold said outer race in nonrotational relation with said end shield member.

3,269,205
HELICAL GEAR TOOTH STRUCTURE
Gustav Niemann, Flemingstrasse 39, Munich 27, Germany
Filed Dec. 31, 1963, Ser. No. 334,873
Claims priority, application Germany, Jan. 2, 1963, N 22,559
6 Claims. (Cl. 74—458)



1. A gear having a pair of opposed end faces and having teeth the ends of which at one of said end faces are angularly displaced with respect to the ends of the teeth at the other of the end faces by an angular distance which is greater than the circular pitch of the gear, and each tooth of said gear having with a mating tooth of another gear, an area of contact which advances longitudinally along each tooth from one end thereof to the other end thereof during rotation of the gear, and the profile of each tooth limiting the area of contact between each tooth and a tooth of a mating gear in each plane parallel to the end faces substantially to the pitch point.

ERRATUM

For Class 74—471 see:
Patent No. 3,269,190

3,269,206
VEHICLE
Earl T. Carr, Secor, Ill., assignor to LeTourneau-Westinghouse Company, Peoria, Ill., a corporation of Illinois
Filed Sept. 3, 1963, Ser. No. 305,933
13 Claims. (Cl. 74—472)

1. In a vehicle,

an engine,

means including a throttle to supply fuel to the engine, the throttle having an idle position and a plurality of load positions,

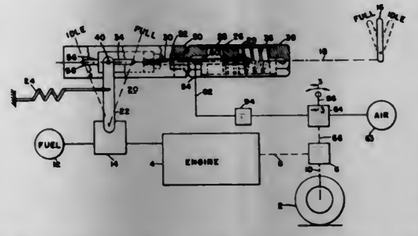
means to propel the vehicle,

means connecting the engine and the propelling means and including a variable ratio device,

a source of fluid under pressure,

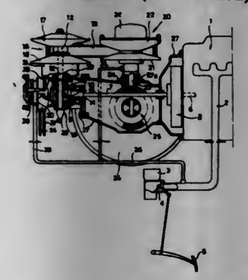
a fluid pressure operated selector connected with said source to control said device,

operator-operable means, and



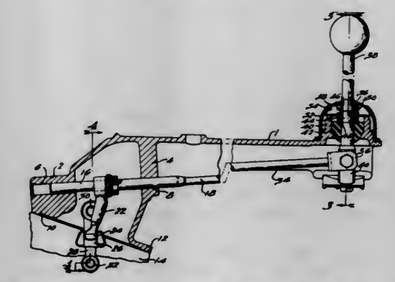
linkage connecting the operator-operable means and the throttle and including fluid pressure operated means connected to receive fluid under pressure for throttle control by the operator-operable means while the ratio of said device is fixed and adapted to discharge fluid to move the throttle toward idle position in response to selector operation to vary the ratio of said device.

3,269,207
AUTOMATIC VARIABLE SPEED TRANSMISSION, MORE PARTICULARLY FOR MOTOR VEHICLES
Virgilio Borsattino, Turin, Italy, assignor to Sira Società Industriale Ricerche Automotoristiche, Turin, Italy
Filed May 15, 1964, Ser. No. 367,701
Claims priority, application Italy, May 21, 1963, 10,910/63; Feb. 15, 1964, 3,754/64
3 Claims. (Cl. 74—472)



1. Automatic variable speed transmission more particularly for motor vehicles, of the type in which the driving shaft is coupled with the internal combustion engine by an automtic clutch, the driven shaft being connected with the stub axles of the wheels through a differential gear, said transmission comprising two expansible pulleys, namely a driving and a driven pulley, respectively, interconnected by a V-belt, each pulley comprising a flange fixed to its respective shaft and a movable flange capable of axial displacement on its respective shaft; means for controlling the axial displacements of the movable flange of the driving pulley comprising a hydraulic actuator having its movable portion operatively connected with said movable flange and a valve hydraulically connected with said actuator and with feed and discharge conduits for a pressure fluid, said valve comprising a body, a first and a second valve member which are relatively movable and axially slidable in the body of the valve, springs arranged between said valve body and each of said valve members in order to maintain their respective valve member in an inoperative position, in which the discharge conduit connects with the hydraulic actuator, the first valve member being axially displaceable by a centrifugal governor rotated by the driving shaft, the second valve member being axially displaceable by the deformation of a sealed deformable chamber pneumatically connected with an induction conduit of the engine and means for controlling the axial displacements of the movable flange of the driven pulley comprising spring means arranged between the driven shaft and the movable flange of the driven pulley and urging said movable flange towards the fixed flange, a centrifugal governor rotated by the driven shaft and operatively connected with the movable flange of the driven pulley and a deformable sealed chamber pneumatically connected with the induction conduit of the engine and having a fixed wall fast with the driven shaft and a movable wall connected with the movable flange of the driven pulley, the action of the last mentioned centrifugal governor on rise in number of revolutions of the driven shaft, and the action due to air suction from the last mentioned chamber being oppositely directed to the action of the springs urging the movable flange of the driven pulley towards the fixed flange.

3,269,208
GEARSHIFT CONTROL LINKAGE
Ernest Whitchurch, Hornchurch, Essex, England, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 23, 1963, Ser. No. 332,788
Claims priority, application Great Britain, Jan. 18, 1963, 2,300/63
8 Claims. (Cl. 74—473)

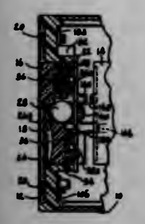


1. A movement control linkage including a lever, means mounting said lever for an arcuate movement of one end, a flexible longitudinally extending connecting member, means mounting one portion of said member for a rotational movement while preventing lateral movements, means connecting another portion of said member to the end of said lever for movement with said lever, and an actuating element fixed to said one end of said member for movement with said member, arcuate movement of said lever in one direction rotating and arcuately bending said another portion laterally of its longitudinal axis to rotate said actuating element.

3,269,209
PUSHBUTTON INTERLOCKS
Charles C. Davis, Brookfield, Wis., assignor to Cutler, Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Aug. 4, 1964, Ser. No. 387,434
3 Claims. (Cl. 74—483)

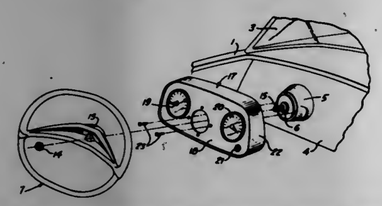
1. In a pushbutton device, a support having at least two openings extending therethrough, pushbutton operators mounted in each of said openings, a slot extending transversely between said openings, a disc having a diameter

greater than the length of said slot between said openings disposed in said slot, springs bearing at corresponding ends against each of said pushbuttons, and a plate secured to said support which closes the open side of said slot and which bears against the other ends of said springs to cause



the latter to bias said pushbuttons outwardly of said support, said disc when either of said operators is depressed inwardly of said support being moved into an interferring relation with the other operator to block depression of the latter while the former is maintained in depressed position.

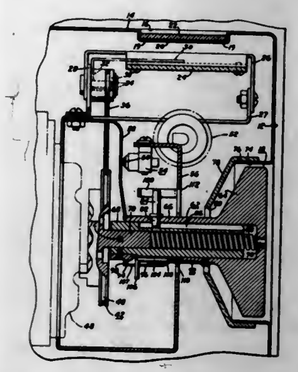
3,269,210
COMBINED STEERING WHEEL AND INSTRUMENT PANEL MOUNTING FOR BOATS
Owen L. Steele, Jr., Fond du Lac, and Arthur F. Miller, Oshkosh, Wis., assignors to Kiekhaefer Corporation, Fond du Lac, Wis., a corporation of Delaware
Filed Aug. 28, 1964, Ser. No. 392,785
4 Claims. (Cl. 74—492)



1. In a device of the class described having a steering post carrying a steering wheel and journaled in a hub secured to the dash of a boat or the like, an instrument panel surrounding the hub and comprising a front plate carrying instruments for observation by the operator of the steering wheel, a skirt at the outer edge of said front plate and engaging with the dash to space the plate from the dash and provide an enclosure for the instruments, and means securing said plate to the hub.

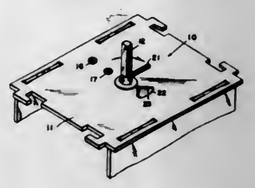
3,269,211
CONTROL KNOB INDICATOR ASSEMBLY
Stephen L. McGarry, Rochester, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 1, 1964, Ser. No. 356,621
11 Claims. (Cl. 74—504)

1. A control knob assembly for association with a domestic appliance comprising the combination of, a housing having a recessed surface portion, a knob having an elongated end directed inwardly of said housing, said knob being located within said recessed surface of said housing and movable relative thereto, means for supporting said elongated inwardly directed portion of said knob for movement inwardly and exteriorly of said recessed surface portion of said surface housing, coacting means on said elongated knob extension and said housing for preventing rotation of said knob with respect to said housing when said knob is located inwardly of said recessed surface portion, said coacting means being inoperative when said knob is moved exteriorly of said recessed surface for allowing free rotation thereof with respect to said housing when in such an exterior position, and means



for holding said knob in a position interiorly of said recessed surface portion, said means being operative upon inward pushing of said knob for releasing said knob for movement exteriorly of said recessed surface portion.

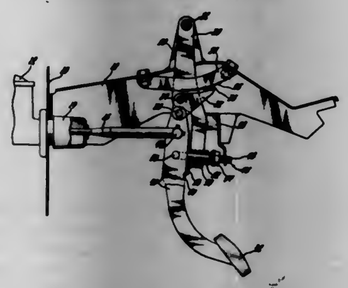
3,269,212
AXIAL SHAFT POSITIONING MEANS
Elmo W. Voland, Indianapolis, Ind., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Oct. 28, 1964, Ser. No. 407,160
10 Claims. (Cl. 74—504)



8. A shaft positioning means comprising: an apertured mounting plate; an axially displaceable shaft projecting through said mounting plate and rotatably journalled therein, said shaft including first and second circumferential grooves disposed thereon; hairpin spring means fixedly connected to said mounting plate and including two spring fingers, said fingers mating with first one of said grooves; ramp means slidably interfitting with said aperture in said plate, said ramp means including a ramp, a wedge projection and a stop flange, said flange engaging with said mounting plate after predetermined displacement of said ramp means in said aperture; and a pin connected to said shaft and rotatable therewith such that rotational displacement of said shaft causes said pin to engage with said ramp, said pin riding up said ramp thereby slidably displacing said ramp means downwardly in said aperture, said wedge projection engaging with said extremities of said spring fingers and displacing said extremities outwardly from said first groove thereby storing energy therein, continued displacement of said pin causes said stop flange to engage with said plate thereby preventing further displacement of said ramp means in said aperture, thereafter said pin displaces said shaft as said pin

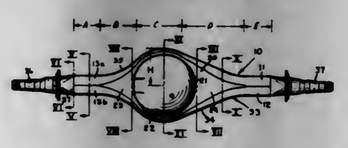
continues to ride up said ramp allowing said stored energy to be released thereby slidably displacing said ramp means and axially displacing said shaft so that said fingers mate with said second groove.

3,269,213
VARIABLE RATIO MECHANICAL BRAKE ACTUATING LINKAGE
Robert M. Buchwald, Berkley, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 13, 1964, Ser. No. 389,245
6 Claims. (Cl. 74—516)



2. Lever mechanism for varying the rate of output of the mechanism relative to the input, said mechanism comprising: input means adapted to be pivoted at least at one pivot; output means pivotally engaging said input means; lever means pivotally attached to a relatively fixed member; linking means pivotally engaging said input means and said lever means and including means for maintaining said lever means fixed with respect to said input means during one condition of operation and thereafter changing the effective pivot point of the input means in a manner creating a greater mechanical advantage for subsequent operation, said linking means including biasing means for resiliently holding said lever means and said input means in resilient engagement during pivotal movement of said input means between two extremes of movement.

3,269,214
FABRICATED TRUCK AND TRAILER AXLE HOUSING
William S. Nagel, Fraser, Mich., assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Filed July 30, 1962, Ser. No. 214,795
9 Claims. (Cl. 74—607)

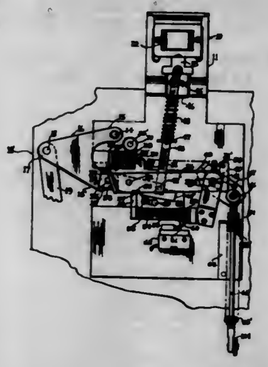


1. An axle housing made from sheet material and including a banjo portion and aligned tubular portions and sloping portions connecting said banjo portion with said tubular portions wherein the radius of the blend from the tubular portion to said sloping portions is approximately 0.8 to 2.0 times the rise from the tubular portion to the banjo portion and wherein the cross-sectional area of said tubular portions is substantially rectangular with rounded corners and conforms to the formula

$$\frac{\text{section modulus}}{(\text{cross-sectional area})^{3/2}}=0.62-0.68$$

3,269,215
SAFETY MECHANISM
Jonas Theodore Lindquist, 7654 Tripp Ave., Skokie, Ill.
Filed Oct. 15, 1964, Ser. No. 403,997
8 Claims. (Cl. 74—612)

1. A safety device of the class described comprising
(a) a mounting plate having a V-shaped lever attached thereto,
(b) a manually operated treadle lever pivoted thereto,
(c) a blocking member,
(d) a slot and pin connection between the blocking member and the mounting plate,
(e) a latch bar pivotally connected to one leg of the lever and having a notch formed therein for latched engagement with an edge of the blocking member,
(f) a pull plate having pivotal connection with the latch bar intermediate the latter's end portions,
(g) a slot and pin connection pivotally connecting one end portion of the pull plate to the mounting plate,
(h) the opposite end portion of said pull plate having a laterally and upwardly extending angled end portion,
(i) an electromagnetic solenoid carried by said mounting plate and having a plunger,

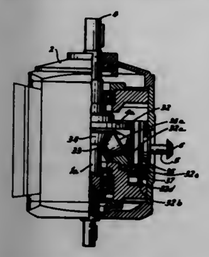


(j) a link connection between said plunger and the latch bar for pivoting said latch bar relative to said pull plate and for pivoting said pull plate relative to its slot and pin connection when said solenoid is energized,
(k) switch means engageable by said blocking member for establishing an electric circuit to said solenoid, in combination with
(l) a pivoted clutch rod having means disposed in the path of movement of said angled end portion of said pull plate and adapted for engagement therewith when the pull plate is pivoted as aforesaid by said solenoid and said blocking member is unlatched from said latch bar,
(m) and a movable guard also actuating said switch means when said treadle lever is manually operated.

3,269,216
VARIABLE KNITTING MACHINE DRIVE
Richard Schmidt, Stuttgart-Vaihingen, Germany, assignor to Franz Morat G.m.b.H., Stuttgart-Vaihingen, Germany
Filed Aug. 6, 1964, Ser. No. 387,832
Claims priority, application Germany, Aug. 7, 1963, M 57,748
14 Claims. (Cl. 74—675)

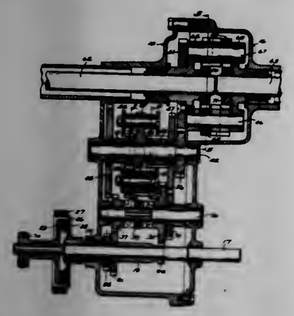
1. Control apparatus for a machine of the type described, comprising, in combination, a drive motor; an infinitely variable transmission including an output shaft

for driving the machine and a movable control element for varying the speed of said output shaft; a reversible control motor connected to said control element for operating the same; and manually operable switching means



electrically connected with said control motor for starting, stopping, and reversing the same so that the speed of said machine is selectively increased or reduced, and can be set to any selected speed by stopping said control motor.

3,269,217
TRANSMISSION-DIFFERENTIAL UNIT
Maurice O. Holtan, 2012 Menomonee River Parkway, Wauwatosa, Wis.
Filed Sept. 6, 1963, Ser. No. 307,214
7 Claims. (Cl. 74—705)



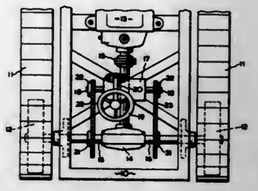
1. In a transaxle, the combination with an input shaft and a pair of output axle shafts, of means for transmitting motion at different speed ratios from the input shaft to the output shafts, said means comprising

a differential mechanism for driving the output axle shafts and including sun gears on said shafts, planet gears meshing with the sun gears, a differential carrier upon which the planet gears are mounted, and a carrier gear connected with the carrier,

a planetary transmission for driving the differential mechanism and including a planetary jack shaft having a gear in mesh with the driving gear of said differential mechanism, a carrier fixed to the jack shaft, planet gears rotatably supported on the carrier, sun gears rotatable with respect to the jack shaft and meshing with the planet gears, and

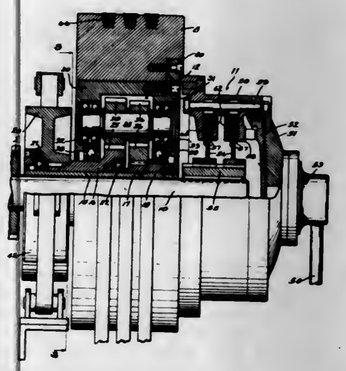
a change speed gear set comprising a change speed jack shaft, gear pairs for respectively driving the sun gears of the planetary transmission, one of said gear pairs having a driving gear on the change speed jack shaft, an input shaft on which the driving gear of the other pair is rotatably mounted, means for selectively braking said last mentioned driving gear and alternatively clutching it to the said input shaft, input shaft gear pairs of differing ratio including driving gears fixed to the input shaft and driven gears rotatably mounted on the change speed jack shaft and with which the driving gears on the input shaft mesh, and means for selectively clutching the change speed jack shaft to the last said driven gears rotatably mounted thereon.

3,269,218
STEERING MECHANISMS
Alfred G. Fisher, 1152 Linbrook Road, Oakville, Ontario, Canada
Filed May 11, 1964, Ser. No. 366,243
17 Claims. (Cl. 74—720.5)



1. A vehicle steering system comprising a differential gear having an input member for connection to a power source and two output members connected for differential rotation by the gear, two vehicle driving members which are operatively connected respectively to the said two output members and which rotate at different speeds for steering the vehicle on other than a straight course, a variable speed ratio device having two device members and means for changing the relative speed of rotation of the said device members, means operatively connecting the said device members respectively to the two differential gear output members, and vehicle steering means operatively connected to the variable ratio device for changing the relative speed of rotation of said device members.

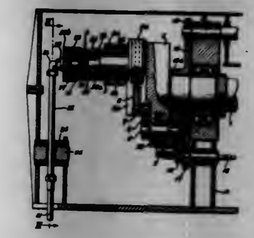
3,269,219
PLANETARY TRANSMISSION FOR MACHINE TOOLS
Walter L. Hart, 6528 W. Center St., Milwaukee, Wis.; Chauncy C. Hart, executor of Walter L. Hart, deceased
Filed Apr. 16, 1963, Ser. No. 273,419
4 Claims. (Cl. 74—781)



1. In a machine having a driven part subject to predetermined periodic load fluctuation between relatively heavy load and relatively light load, the combination with such a part, of means for the actuation thereof including a driving shaft, a flywheel, means for driving

the flywheel at a substantially constant rate, means including a planetary transmission and a clutch for selectively coupling the flywheel with the shaft at differing ratios, said transmission including reduction gears having a ratio in substantially the proportion of the heavy load to the light load to which the driven part is subject, and means for automatically varying the ratio of drive between the flywheel and the shaft in anticipation of changes in load to which said part is subject, said means including mechanism for selectively coupling the flywheel directly with the shaft through said clutch means and for coupling the flywheel with the shaft through said reduction gears, the flywheel continuing in rotation at a substantially constant rate and the rate of rotation of the shaft varying inversely with the load to which the driven part is subject, the flywheel absorbing energy when coupled with the shaft through said clutch means and delivering energy to the shaft with increased mechanical advantage when coupled with the shaft through said reduction gears.

3,269,220
DRIVING ARRANGEMENT FOR THE OSCILLATING MOVEMENT OF THE SHEAR FRAME OF FLYING SHEARS FOR CONTINUOUSLY MOVING ROLLING STOCK
Walter Waldura and Josef Fatscher, St. Ingbert, Saar, Germany, assignors to Verwaltungsgesellschaft Moeller und Neumann Offene Handelsgesellschaft, Saar, Germany
Filed Apr. 13, 1964, Ser. No. 359,422
Claims priority, application Germany, Apr. 13, 1963, V 23,938
8 Claims. (Cl. 74—837)



1. A driving arrangement for the oscillating movement of the shear frame of flying shears comprising, in combination,

a main crank shaft mounted for rotation in a bearing frame,

a crank disk connected to said main crank shaft and having a radially extending guide channel,

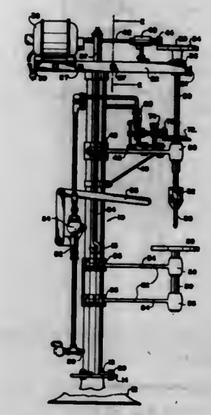
slide means disposed in said guide channel and carrying a crank stud extending parallel of said main crank shaft and actuating a connecting rod for imparting oscillating movement to said shear frame when said slide means together with said crank stud are in a secured position within the walls of said guide channel,

a gear ring mounted freely rotatably on said main crank shaft,

stationary drive means for rotating said freely rotatable gear ring relative to said main crank shaft, and

adjusting means carried by and rotating with said crank disk including a first eccentrically disposed pinion gear coupled with said freely rotatable gear ring on said main crank shaft and a last member connected to said slide means for displacing said slide means together with said crank stud when said slide means is unlocked and said stationary drive means is actuated to vary the stroke of said crank stud.

3,269,221
DRILLING AND CUTTING APPARATUS
Kenneth J. Powell, 860 Navajo, Salina, Kans.
Filed Nov. 26, 1963, Ser. No. 325,891
4 Claims. (Cl. 77—33.5)

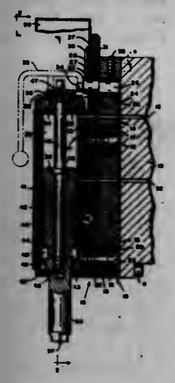


4. A cutting apparatus comprising, a base, a hollow upright post mounted on said base, a spindle means having a vertically extending shaft, a means to hold a cutting tool on the lower end of said shaft, a bearing means adapted to rotatably support said vertically extending shaft, a motor means, drive means for transmission of driving energy from said motor to said vertically extending shaft, a support means on said hollow post for supporting said motor and said spindle means, a movable work support on said upright post adapted to move relative to said vertically extending shaft, a piston means slidably disposed in said upright hollow post, piston rod means rigidly joined to said piston means, hanger means joined at one end to said work support, means joining said piston rod means and the opposite end of said hanger means for said work support, a hydraulic actuating means for said work support comprising, a fluid pump, drive means for transmitting driving energy from said motor to said fluid pump, a valve means, a first aperture in said post below said piston means, a second aperture in said post positioned above said piston means, a first conduit means adapted to transfer fluid with said pump from said second aperture to said first aperture, a second conduit means having said valve therein adapted to provide a conduit to adjustably pass fluid from said first aperture to said second aperture, said drill press adapted to utilize the energy of said motor to drive said spindle means and move said work table.

3,269,222
RETRACTABLE BORING BAR
Edward P. Bullard III, Fairfield, Conn., assignor to The Bullard Company, Bridgeport, Conn., a corporation of Connecticut
Filed Aug. 18, 1964, Ser. No. 390,389
7 Claims. (Cl. 77—58)

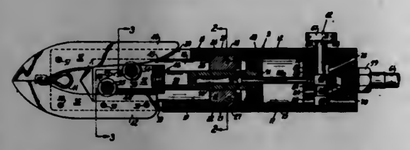
1. In a tool holder for machine tools comprising in combination, a base adapted removably to be attached to a movable member of a machine tool; a block mounted on said base; a cylinder in said block; a piston mounted within said cylinder for reciprocative movement, said piston including a portion of reduced diameter extending outwardly from one end of said cylinder; means for connecting a tool to the extended portion of said piston; and means for supplying pressure fluid to said piston; rod means extending from outside said cylinder inside the

same and connected therein to said piston; and collar means threadably adapted to cooperate with a portion



of said rod means outside said cylinder to provide vertical adjustment of said piston therein.

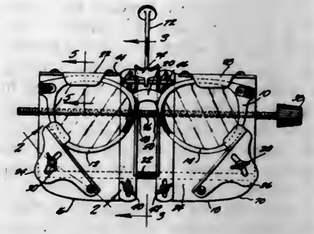
3,269,223
FLUID OPERATED HAND TOOL
James A. Pawloski, East Woodstock, Conn.
Filed Nov. 4, 1964, Ser. No. 408,900
12 Claims. (Cl. 81—1)



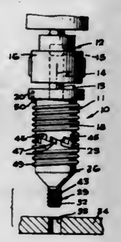
1. A fluid operated hand tool comprising an elongated manually manipulatable tool housing having separable forward and rear housing portions with quick-disconnect means for detachable connection thereof, a pair of forwardly extending cooperating jaws mounted on the forward housing portion, at least one of the jaws being mounted for pivotal movement about a laterally extending axis for cooperative action with the other jaw, said jaws having rearwardly extending lever arms with opposed inner edge portions receivable within the forward housing portion, a longitudinally extending operating cylinder in the rear housing portion, an actuating piston longitudinally reciprocable within the operating cylinder, a rod fixed to the piston projecting forwardly thereof, a pair of rollers supported on the rod engageable with said opposed inner edge portions of the lever arms respectively for effecting operation of the jaws upon longitudinal movement of the actuating piston, at least one of the rollers having an annular groove adapted for receiving the edge portion of the respective lever arm for maintaining the rollers in operative alignment with the lever arms, and manually operable fluid valve means in the rear housing portion rearwardly of the operating cylinder for controlling the longitudinal movement of the piston.

3,269,224
OPHTHALMIC FRAME BRIDGE TOOL
Harold Hamilton Magee, 3192 Spottswood Ave., Memphis, Tenn.
Filed Dec. 30, 1964, Ser. No. 422,358
4 Claims. (Cl. 81—3.5)

1. An ophthalmic frame bridge tool comprising a pair of bases adapted to receive a pair of spectacles, each base having retaining means to secure the associated lens of the pair of spectacles to the base, a pair of parallel rods extending from one base to the other, and one rod having one end secured to one base and the other end slidably engaging the other base and the other rod having left and right-handed threaded portions, respectively, to engage corresponding left and right-handed threaded portions of the bases, a bridge holding means including jaws for engaging the bridge of the pair of spectacles and thus allowing the bridge to be stretched or distorted when the bases are moved toward or apart from each other.

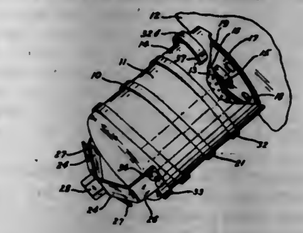


3,269,225
THREADED ELEMENT INSTALLING TOOL
Robert Neuschotz, 1162 Angelo Drive, Beverly Hills, Calif.
Filed Sept. 3, 1964, Ser. No. 394,223
13 Claims. (Cl. 81—53)



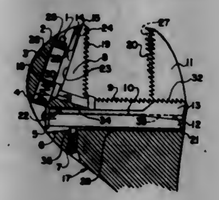
1. A tool for screwing a threaded element into a carrier part including a first section adapted to be turned about an axis, means carried by said first section having threads for threadedly engaging said element in driving relation, a second section mounted for rotation with said first section and for limited rotary motion relative thereto about said axis, means forming a shoulder for engaging axially inwardly against said element and transmitting axially inward force from said second section to said element, a set of first teeth on said first section projecting axially inwardly and spaced circularly apart about said axis, and a set of second teeth on said second section projecting axially outwardly toward and engaging said first teeth and spaced circularly apart about said axis, at least some of the individual teeth having camming surfaces which are inclined to advance circularly as they advance axially and which engage others of the teeth in a relation camming said second section axially toward and against said element in response to relative rotation of the first section in a direction to advance said element into the carrier part, whereby upon rotation of said first section in a reverse unscrewing direction said inclined camming surfaces release said second section and shoulder for axial retracting movement relative to the first section.

3,269,226
WRENCH
Alfred L. von Tersch, Waterloo, Iowa, assignor to Lisle Corporation, Clarinda, Iowa, a corporation of Iowa
Filed Dec. 4, 1963, Ser. No. 328,015
3 Claims. (Cl. 81—64)



1. A wrench for rotatably removing a circular element threadably attached to an object comprising in combination:
an elongated bar U-shaped in side elevation and having a pair of projections extended in opposite directions from the longitudinal center thereof, said bar adapted to receive torque; and
a resilient spiral member, said bar connected at opposite ends thereof to diametrically opposed parts of one end of said member.

3,269,227
AUTOMATICALLY ADJUSTABLE WRENCH
Ralph L. Weaver, 4322 Annapolis Road, Baltimore, Md.
Filed Nov. 2, 1964, Ser. No. 407,989
9 Claims. (Cl. 81—147)



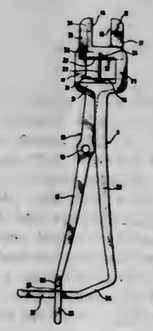
1. A wrench comprising,
a handle having a fixed jaw formed at one side of its head end, and a ratchet bottom extending from the base of said jaw to the other side of the head end,
said ratchet bottom having a series of pointed teeth extending cross-wise thereof and being inclined toward said fixed jaw,
a movable jaw slidably mounted in said head end for adjustment relative to said stationary jaw from the other side of said head end, and having pawl means formed in its bottom resiliently biased against said ratchet bottom for interlocking engagement therewith in any adjustment toward said fixed jaw,
said pawl means on the bottom of the movable jaw being complementary to said pointed teeth on the ratchet bottom so as to readily slide over the ratchet bottom when the movable jaw is pushed toward the fixed jaw to any adjusted position, and so as to interlock firmly with the ratchet bottom against separation of the jaws from said adjusted position,
said head end having a guide bore therethrough from side to side below the ratchet bottom, connected by an axial slot in said ratchet bottom,
said movable jaw having a lever slidable in said bore and connected therewith by an axial web slidable within said slot in the ratchet bottom,
a resilient biasing means in the bottom of said guide bore under said fixed jaw and bearing against said slidable lever, said lever having a fulcrum point near the base of the movable jaw slidably engaging the top of the guide bore on the opposite sides of the slot.

3,269,228
DISC-LIKE SOCKET WRENCH HAVING LATERALLY PIVOTING ARMS
Wilbur Mack, 168 Laurel St., Willits, Calif.
Filed Aug. 17, 1964, Ser. No. 390,114
1 Claim. (Cl. 81—177)



A mechanic's tool comprising a disc, one surface of the disc having a central polygonal recess to engage a correspondingly shaped fastener, first and second curved arms, each oppositely disposed about the periphery of the disc and having a curvature corresponding thereto, one end of one arm being hingedly secured to said periphery, one end of the other arm adjacent said one end of the other arm also being hinged to said periphery, said arms being spaced apart from each other, said arms having a retracted position at which the arms are coincident with said periphery and an extended position at which said arms extend in opposite directions away from said periphery.

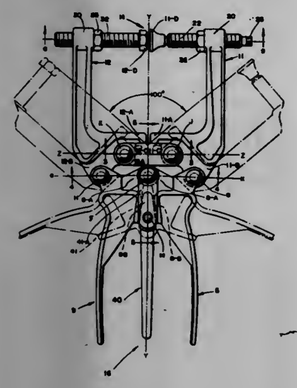
3,269,229
GRIPPING TOOL OR VISE HAVING SERRATED FULCRUMING AND LIMITING MEANS
Charles D. Jubb, 908 2nd Ave., Council Bluffs, Iowa
Filed Dec. 9, 1964, Ser. No. 417,055
2 Claims. (Cl. 81—343)



1. A two-part gripping tool comprising in combination a first independently formed tool section including an elongated lever, a substantially C-shaped head carried by one end of the lever including a forwardly projecting jaw near the open side of said head, said head having a forward transverse side whose rear edge is serrated, a toothed transverse bar portion on the rear end of said lever and projecting toward the open side of said head and being substantially perpendicular to said jaw and parallel to said serrated edge, a second independently formed tool

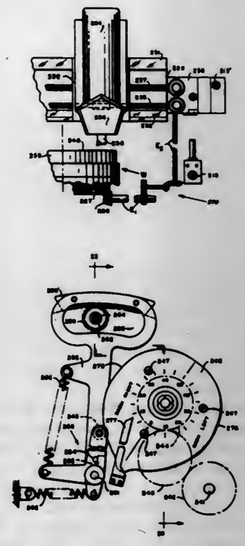
section including an elongated lever substantially coextensive with the first-named lever, a substantially C-shaped head carried by one end of the second-named lever and adapted for superposed oppositely facing relation with the first-named head, the head of the second tool section including a forwardly projecting jaw near the open side thereof adapted with the jaw of the first tool section to grip work, a fulcrum plate secured rigidly to the head of the second tool section near the transverse center thereof and having a forward beveled edge extending normal to the head of the second tool section and engageable with said serrated edge, said fulcrum plate having a retainer part overlapping the head of the first tool section to resist separation of the tool sections while permitting free pivoting thereof, and a locking tooth element on the remote end of the lever of the second tool section engageable with the teeth of said toothed transverse bar portion of the first tool section.

3,269,230
HAND TOGGLE PLIERS
John R. Cambron, Los Angeles, Calif., assignor to Viler Engineering Corporation, Los Angeles, Calif., a corporation of Delaware
Filed May 10, 1965, Ser. No. 454,491
6 Claims. (Cl. 81—350)



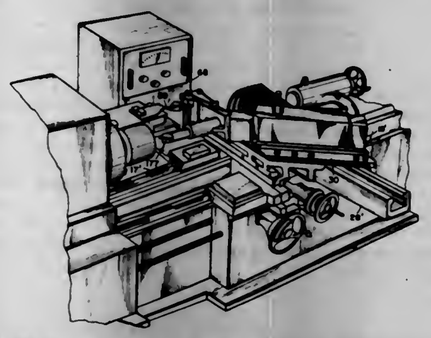
1. In a hand toggle pliers comprising a pair of substantially identical L-shaped handles, a first swinging clamp arm, a second swinging clamp arm, the pliers having a center axis, a forward clamping end and a rear handle end; the two handles being arranged on opposite sides of said center axis with their short legs extending transversely to and overlapping and being pivotally interconnected substantially at said center axis and their long legs normally extending rearwardly alongside the center axis, with the two clamp arms each being arranged on opposite sides of said center axis and each having a clamping portion arranged to clamp against the clamping portion of the other arm, a lower end portion pivotally connected to its respective adjacent handle at the junction between the long and short legs of the respective handles, and a lateral portion normally extending laterally from the clamp arm between said clamping and said lower end portions towards the end of the other lateral portion, the two lower end portion handle pivots being equidistantly spaced from the center axis and being normally aligned on an axis which is perpendicular to the center axis and which is approximately coaxial with the central pivotal interconnection between the two handles, the improvement comprising a link crossing the center axis and having one end pivotally connected to the lateral portion of the first clamp arm at a point spaced at one side of the center axis approximately midway between the central handle pivotal interconnection and the lower end clamp arm handle interconnection and the other end pivotally connected to the lateral portion of the second clamp arm at a point spaced at the opposite side of the center axis approximately midway between the central handle pivotal interconnection and the lower end clamp arm handle interconnection, each of said lateral portion interconnections being spaced forwardly of the axis on which the two handle base pivots are aligned, a distance which is from about 34% to about 82% of the distance between the central handle pivotal interconnection and one of the lower end clamp arm handle pivotal interconnections when the pliers is in its normal clamping position, whereby the clamping portions of the arms may be swung towards and away from each other for clamping and releasing by manually swinging the long legs of the handles about their central common pivotal interconnection to provide separation of the axes of the clamp arms by from about 90° to about 120°.

3,269,231
CONTROL FOR VARIABLE SPEED TRANSMISSION
Edward P. Bullard III, 151 Cherry Lane, Fairfield, Conn.
Original application Feb. 23, 1961, Ser. No. 91,207, now Patent No. 3,203,276, dated Aug. 31, 1965. Divided and this application May 4, 1965, Ser. No. 453,079
6 Claims. (Cl. 82—2)



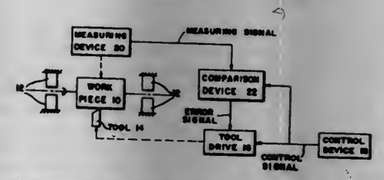
1. In a lathe, a work-supporting table; a tool head adapted to be moved across said table to points on either side of the axis of rotation of said table for removing metal from work fixed to said table; means connected to said tool head for moving it; a variable speed transmission for rotating said work-supporting table and for driving said means for moving said tool head; means for varying the speed of said transmission; balanced electrical impedance means for controlling the output speed of rotation of said transmission including a first element adapted to be moved in proportion to the movement of said tool head and a second element connected to said transmission speed varying means and movable in proportion to the variation in speed of said work-supporting table; cam means connected to the means that moves said tool head for moving said first element so that a substantially constant cutting speed of said work can be maintained as said tool head moves to different radii of said work; and means for adjusting said cam means relative to said first element, whereby a predetermined substantially constant cutting speed can be maintained as said tool head moves to different radii of said work.

3,269,232
SYSTEM FOR COORDINATING THE OPERATIONS OF A TOOL WITH A PATTERN
Victor M. Hovis, Jr., Kingston, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 28, 1964, Ser. No. 340,834
5 Claims. (Cl. 82—14)



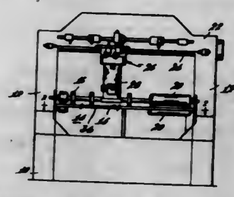
1. An arrangement for positioning a tool holder to conform to a pattern comprising a housing, a non-circular tool holder positioned in the housing, spaced pockets in the housing positioned around the exterior of the tool holder for receiving liquid, means for supplying liquid under pressure directly to the pockets from an external source for supporting the tool holder in spaced relation to the housing, and tracer means for scanning the pattern to actuate the tool holder in relation to a work piece.

3,269,233
CONTROL ARRANGEMENT AND METHOD
Franz Lothmann, Stutgerloch, near Langerwehe, Rhineland, Germany, assignor to O. Dörries A.G., Duren, Germany
Filed May 19, 1964, Ser. No. 368,602
Claims priority, application Germany, May 22, 1963, D 41,613
3 Claims. (Cl. 82—14)



1. A numerical control arrangement for a machine tool, comprising, in combination:
(a) means for supplying a program in accordance with which a work piece is to be worked;
(b) a work tool for working the work piece;
(c) a movable tool support carrying said work tool;
(d) a support drive for driving said tool support;
(e) first measuring means for measuring the displacement of said support under the action of said support drive;
(f) second measuring means associated with the work piece for producing a signal representing the difference between the actual value of a dimension of the work piece and the desired value of the dimersion;
(g) information storage means connected to said second measuring means and to said means for supplying a program for producing a signal representing the sum of the outputs of said second measuring means and of said means for supplying a program; and
(h) comparison means having a first input directly connected to the output of said information storage means, a second input directly connected to the output of said first measuring means, and an output directly connected to said support drive for causing said support drive to drive said support by an amount which is proportional to the difference between the signals appearing at said two inputs.

3,269,234
AUTOMATIC CUTTING MACHINE AND METHOD FOR COMPENSATION OF MINOR STRUCTURAL MISALIGNMENT
Constantinos Talas, Amesbury, Mass., assignor to Compo Shoe Machinery Corporation, Waltham, Mass., a corporation of Delaware
Filed July 17, 1964, Ser. No. 383,379
15 Claims. (Cl. 83—13)

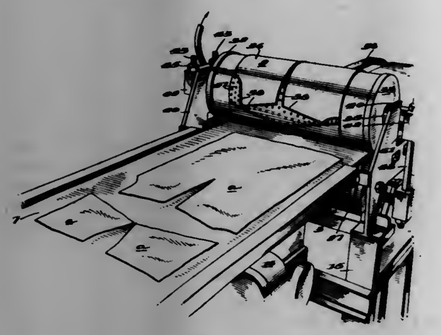


1. The combination in a die-cutting machine, of a hardened but flexible metal platen, a die, means supporting the die a predetermined distance above the platen for movement perpendicular thereto into engagement with work resting on the platen, said means providing for cutting movement which is greater than said predetermined distance, and a uniformly-thick flat cushion sheet yieldingly supporting the platen for flexing, following engagement of the die therewith, of that portion thereof with which the die has contact, to a position such that the entire edge of the die has contact with the platen.

3,269,235
ROTARY CUTTING APPARATUS
Fred P. Crouch and Wilbur M. Lockrow, Winston-Salem, N.C., assignors, by mesne assignments, to Hanes Corporation, Winston-Salem, N.C., a corporation of North Carolina
Original application May 27, 1963, Ser. No. 283,252. Divided and this application Feb. 18, 1965, Ser. No. 449,348
4 Claims. (Cl. 83—99)

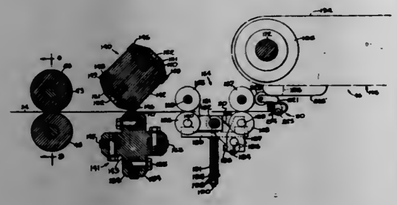
1. For a continuous cloth cutter, a rotary die cutter comprising: a drum defining a hollow center and a plurality of holes extending radially from the hollow center to the periphery of the drum; a pair of end plates, each enclosing an end of the hollow center of the drum; fluid port means extending through one of the end plates to the hollow center of the drum for communication therewith; a removable sleeve enclosing the periphery of the drum and including a pattern of grooves according to a selected pattern; cutter blades each defining an anchoring portion fitting in the grooves and including faces on each

side of the blade edge; and screws threaded into the sleeve and including heads retaining the cutter blades in the grooves through the said faces so as to secure the cutter blades to the outer surface of the sleeve in a selected pattern forming separate blank sections and intermediate



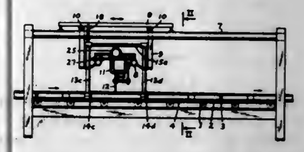
waste sections, the sleeve defining fluid flow openings connecting a part of the holes in the drum to only the part of the outer surface of the sleeve between the cutter blades forming the waste portions, the remaining holes of the drum being blocked by the sleeve.

3,269,236
PACKAGING MACHINE
Kenneth R. Johnson and Carl J. Beert, Rockford, Ill., assignors to Bartelt Engineering Company, Inc., Rockford, Ill., a corporation of Delaware
Filed Dec. 12, 1962, Ser. No. 246,287
9 Claims. (Cl. 83—112)



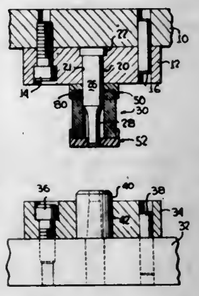
1. In a packaging machine, the combination of, mechanism for supporting a series of bags connected at their edges and advancing the same edgewise with a continuous motion at a first preselected linear speed, a cutter operable to sever the successive end bags, an endless carrier disposed beyond said cutter and driven at a second preselected speed greater than said first speed, said carrier including a plurality of clamps spaced along the carrier to pass successively through a position adjacent to but spaced from said cutter, means for opening and then closing each clamp as it passes through said position, said clamps opening rearwardly relative to the advance of said carrier and toward said cutter to receive bags from said cutter, a pair of rollers disposed between said cutter and said position and arranged adjacent the cutter to receive and grip each bag between them as it is severed, and means operable to turn said rollers at a peripheral speed greater than both of said preselected speeds thereby to accelerate each severed bag from said cutter and deliver the bag into said clamp at said position.

3,269,237
APPARATUS FOR THE CONTINUOUS CUTTING OF BUILDING BLOCKS FROM A FIBROUS MIXTURE
Gerrit Jan van Elten, Tromplaan 1, Voorthuizen, Netherlands
Filed Mar. 13, 1962, Ser. No. 179,418
Claims priority, application Germany, July 14, 1961, E 21,396
11 Claims. (Cl. 83—120)



1. In an apparatus for the continuous cutting of light weight building blocks of uniform length from wood wool mixed with a binder, a plurality of plate-like forms for carrying the mixture of wood wool and binder, said forms being located end to end and movable in one direction, rims carried by said forms on opposite longitudinal sides thereof, said rims terminating short of the ends of the forms, a saw for cutting said mixture along the line of contact of adjacent forms, means supporting said saw for movement in a direction parallel to said line of contact, means supporting the first-mentioned means for movement in the direction of movement of said forms, and means connected with the second-mentioned means and adapted to engage opposite rims of a form to cause said saw to move with said forms, the last-mentioned means being adapted to center said saw relatively to said line of contact.

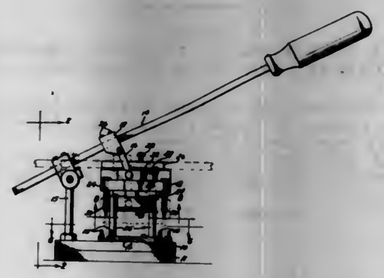
3,269,238
PUNCH STRIPPER APPARATUS
Lawrence V. Whistler, Sr., 251 Doncaster Road, and Lawrence V. Whistler, Jr., 259 Doncaster Road, both of Kenmore, N.Y.
Filed Dec. 2, 1964, Ser. No. 415,250
8 Claims. (Cl. 83—139)



1. Punch stripper apparatus comprising a first relatively rigid end portion and a second relatively rigid end portion spaced from said first end portion, each of said end portions having a central hole formed therethrough for receiving a portion of a punch, resilient means interposed between and engaging said first and second end portions, said resilient means defining a central clearance area for receiving a punch, and retainer means adjacent said first end portion for retaining the stripper appaartus on a punch, said retainer means being formed of a relatively rigid resilient material, said retainer means comprising a substantially flat sheet-like means defining a central hole for snugly engaging an associated punch and being of such thickness that it is adapted to flex in opposite directions while in gripping engagement with

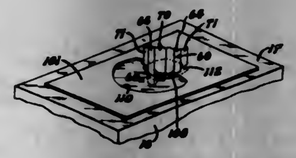
an associated punch, said retainer means defining a first surface facing toward said second end portion and an opposite surface facing toward said first end portion, and a flat surface engaging said opposite surface of the retainer means, said retainer means extending radially inwardly of said flat surface only a very small distance whereby said flat surface tends to prevent flexing of said retainer means in a direction to release the stripper apparatus from an associated punch.

3,269,239
GRAFTING MACHINE
John J. Dixon, 425 NW. 4th Ave., Ontario, Oreg.
Filed Oct. 13, 1964, Ser. No. 403,507
8 Claims. (Cl. 83—140)



1. A grafting machine of the character described, comprising a base; a blade holding block mounted above the said base; and a hand activated operating lever having one end indirectly secured to the said base as well as connected to the said blade holding block; and two cutting blades secured to the underside of the said blade holding block, the said blades being positioned in the form of a letter V, when viewed from the underside of the said blade holding block; and mechanism adapted to hold the stock of a plant and the scion of a plant that is cut one at a time by the manual activation of the said operating lever; and mechanism adapted to eject the said stock of the plant after the said cut has been made.

3,269,240
QUADRANT PUNCH FOR TURRET PUNCH PRESSES AND THE LIKE
John S. Killaly, Box 86, Spring House, Montgomery County, Pa., and Arthur B. Kettle, 864 Webster St., Needham, Norfolk County, Mass.
Filed Mar. 29, 1965, Ser. No. 443,434
8 Claims. (Cl. 83—140)

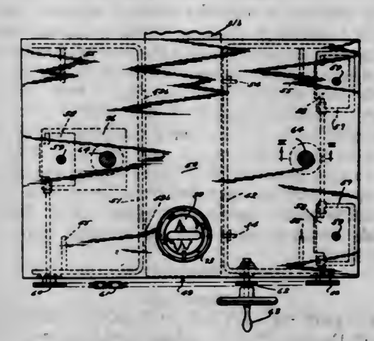


1. In a turret type punch press or the like, a nibbling quadrant punch for knocking out round hole of greater diameter than the width of the punch, said punch comprising

a punch mounted for axial movement relative to a female die, said punch having a relatively flat downwardly-directed cutting surface and a plurality of arcuated shaped side surfaces, each surface having a defining radius which is greater in length than one-half of the width of the punch, and

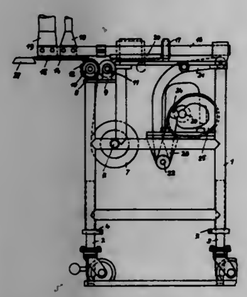
a plurality of generally cylindrically shaped aligning heels mounted within the punch for axial movement partially independent thereof, at least a few of said heels having an arcuately shaped side surface forming part of the punch side surfaces, said heels being spring biased downwardly in advance of the punch cutting surface so as to extend into the female die when not encountering material thereon, so that after a series of strokes and movement of the blank on the die a hole is knocked out having a diameter greater than the width of the punch and having a circumference defined by the arc of the punch side surfaces.

3,269,241
PUNCHING MACHINE AND STRUCTURE THEREFOR
Arthur K. Schott, Clarence, Kenneth J. Bartha, Tonawanda, and Charles Lee Rovoldt, Getzville, N.Y., assignors to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Original application Nov. 1, 1960, Ser. No. 66,639, now Patent No. 3,225,636, dated Dec. 28, 1965. Divided and this application Apr. 19, 1965, Ser. No. 449,248
10 Claims. (Cl. 83—144)



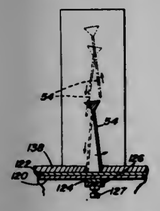
1. A punching machine comprising in combination: a frame having a bed; a movable ram carried by said frame and adapted to be selectively moved toward and from said bed; an upper tool support secured in a fixed stationary position to said frame and adapted to slidably support a separate upper tool below and in alignment with the ram; means on the bed adapted to support a separate lower tool for cooperation with the upper tool; a horizontally directed table encircling said tool support means on said bed and disposed to directly support a workpiece with the lower face of the workpiece normally in substantially coplanar relation with the upper face of the lower tool; said tool supporting means on said bed being operative to support its tool with the upper end of the tool substantially flush with the upper surface of said table; and manually actuatable means carried by said bed and normally disposed in a position out of any supporting relation to said tool support means on said bed, for effecting a relative vertical movement between said lower tool support means and said table in such direction that the workpiece may thereby be spaced upwardly from said table, said manually actuatable means including a handle extending to one accessible side of the machine below the upper surface of said table to enable actuation thereof with the workpiece overlying any portion of said table.

3,269,242
AUTOMATIC ROLL WRAPPER FEED
Harry Allison Hooper, Larchmont, N.Y., and Emil S. Asfour, Zurich, Switzerland, assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Jan. 8, 1965, Ser. No. 424,282
Claims priority, application Germany, Jan. 28, 1964, A 45,103
9 Claims. (Cl. 83—152)



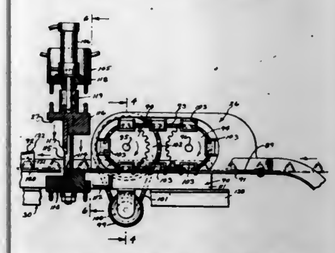
1. Automatic wrapper feed for cigar machines, wherein the continuous wrapper web is drawn off a bobbin by means of feed rolls and fed to a suction head which further advances the wrapper web, said suction head being movable between a receiving position adjacent the feed rolls and a discharge position, which is located adjacent a suction plate cooperating with the wrapper cutting device of the cigar machine, the member which carries the wrapper web feed suction head carrying a rack which cooperates in meshing engagement with a drive gear for one of said feed rolls, a valve being provided for switching the suction from the wrapper web feeding suction head to the suction plate of the wrapper cutting device, when the wrapper web has been fed from the suction head to said suction plate, and a scavenging suction head displaceable simultaneously with the wrapper web feeding suction head.

3,269,243
GUILLOTINE CUTTER FOR ROLL SHEETER
Henry B. Denker, 1961 W. Adams, and Grover C. Parker, 1607 N. 2nd St., both of St. Charles, Mo.
Filed July 9, 1965, Ser. No. 470,733
11 Claims. (Cl. 83—155)



1. In combination with a conveyor assembly including a horizontally movable belt reach for conveying dough, a guillotine cutter assembly for cutting and parting dough as it moves along said conveyor assembly on said belt, said guillotine cutter assembly comprising upstanding support means carried by said conveyor assembly, an upstanding cutter blade, mounting means mounting said blade from said support means above said belt for movement in an upstanding plane toward and away from said belt between an upper limit position and a lower limit position, said blade including a lower cutting edge substantially paralleling the plane containing the portion of said belt disposed therebeneath and engageable with said belt when in said lower limit position, drive means operatively connected with said blade and operable to oscillate said blade between said upper and lower limit positions, said mounting means also including means mounting said blade for oscillation about an axis generally paralleling said cutting edge and spaced thereabove between a first position and a second position inclined slightly relative to the first position, said drive means and said mounting means including coacting means defining snap action means operable to snap said blade from said first position to said second position as said blade reaches said lower limit position and to thereafter move said blade from said second position toward said first position prior to the completion of a full cycle of oscillation of said blade and its next downward movement into close proximity with said belt.

3,269,244
DEVICE FOR FEEDING, CUTTING AND DROPPING A MEASURED LENGTH OF CUSHIONING MATERIAL
Martin Van Antwerpen and Leslie G. Freedy, Milwaukee, Wis., assignors to Vanant Company, Inc., Milwaukee, Wis., a corporation of Wisconsin
Original application Aug. 22, 1962, Ser. No. 218,700. Divided and this application Oct. 8, 1965, Ser. No. 494,090
4 Claims. (Cl. 83—222)

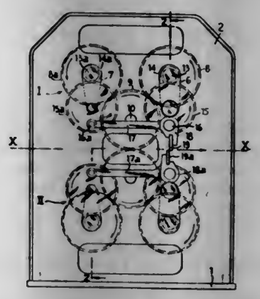


1. In a packaging machine, means for feeding and cutting a measured length of a packaging cushioning strip of the type having a base ply and at least one second ply having a series of equidistantly spaced outwardly projecting cushioning peaks, including a chute for receiving the strip, a power driven endless chain disposed longitudinally of the chute and provided with laterally projecting equidistantly spaced slats and according to the spacing of the cushioning peaks for engaging the strip between said peaks for moving the strip over the chute during operation of the chain, a strip severing means positioned at the end of the chute, and means for operating the strip severing means from said chain according to the length of the strip being advanced by it.

3,269,245
FLYING SHEAR WITH CONSTANTLY ORIENTED TOOL AND MISCUT FEATURES
Hubert Jean Elineau, Versailles, France, assignor to Societe Pour l'Etude et la Construction d'Installations Metallurgiques, a corporation of France
Filed Feb. 23, 1965, Ser. No. 434,475
Claims priority, application France, Mar. 9, 1964, 966,674; Dec. 15, 1964, 998,612
12 Claims. (Cl. 83—305)

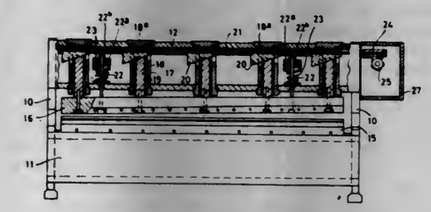
1. In a flying shear having two movable blades comprising a first kinematic system for one of the movable blades wherein said first system comprises:
a jaw formed by a horizontal connecting rod, a head carried by said rod and one of the blades of the shear secured to said head,

said jaw carried at its opposite ends by two eccentric shafts each formed integral with a relatively large diameter gear, wherein said gears function as planetary gears,
said gears being carried by two parallelly rotatably mounted cranks synchronized in rotation,



said planetary gears, each meshing with a non-rotating center gear of relatively small diameter,
each of said center gears being mounted coaxially with the axis of one of said cranks, and
a second kinematic system for said other blades of the shear.

3,269,246
RECIPROCAL CAM DRIVE FOR SHEET METAL SHEARS
Max Hänggi, Fehren, Solothurn, Switzerland
Filed Jan. 7, 1965, Ser. No. 423,984
Claims priority, application Switzerland, Jan. 9, 1964, 208/64
5 Claims. (Cl. 83—588)



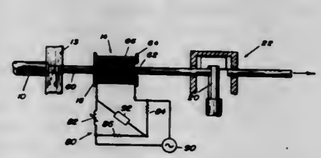
1. In metal-sheet shears comprising two side columns interconnected by tubular struts, two blades coacting for carrying out a horizontal cut, and two beamlike blade holders to which said blades are secured, the lower holder being rigidly secured to the corresponding strut and the upper one being vertically guided, the improvement comprising guide pins to the lower ends of which is secured the upper blade holder, said guide pins being disposed in vertical guides built in the upper strut and being beveled at their upper ends to one and the same side, sliding wedges adapted to coact with the beveled faces, a tie rod on which said wedges are immovably mounted, and control means in operative connection with said tie rod, the latter in the course of its working stroke causing said wedges through pressure on the beveled surfaces of said guide pins to depress the upper blade holder and the blade secured thereto against the action of tension springs for the purpose of carrying out the cutting operation.

3,269,247
MUSICAL INSTRUMENT
Roy Connors, 330 W. 58th St., New York, N.Y.
Filed Oct. 8, 1965, Ser. No. 494,104
4 Claims. (Cl. 84—267)



1. A stringed musical instrument in the nature of a guitar, said instrument having eight strings disposed in four pairs comprising a first pair of strings of substantially equal weight, a second pair of strings of substantially equal weight and heavier than the strings of said first pair, a third pair of strings, a first of said third pair being heavier than a string of said second pair and a second of said third pair being approximately one-half as heavy as said first of said third pair, and a fourth pair of strings, a first of said fourth pair being heavier than said first string of said third pair and a second of said fourth pair being approximately one-half as heavy as said first string of said fourth pair, said second string of said third pair being tunable to a pitch higher than the strings of said first pair.

3,269,248
APPARATUS FOR PROCESSING WELDING WIRE
Thomas D. Nast, White Plains, N.Y., and Richard G. Wooldridge, Glastonbury, Conn., assignors to All-State Welding Alloys Co., Inc., White Plains, N.Y., a corporation of New York
Original application Sept. 27, 1963, Ser. No. 312,221, now Patent No. 3,210,838, dated Oct. 12, 1965. Divided and this application Jan. 21, 1965, Ser. No. 435,770
4 Claims. (Cl. 83—371)



1. Apparatus for sensing and removing defects from wire comprising in combination:
(a) a normally balanced bridge circuit having in one arm thereof an inductance means through which a wire is adapted to pass to cause variations in the impedance thereof in response to defects in the wire, said inductance means comprising a coil of electrically conductive wire, said bridge circuit producing an electrical output in response to variations in said impedance;
(b) frame means;
(c) a coil support mounted on said frame means for reciprocal movement along a first axis, said coil support carrying said coil thereon whereby said coil can be adjusted on said axis to receive the wire therethrough;

(d) first and second roller means disposed on said frame on opposite sides of said coil support, said first and second roller means engaging respectively opposite portions of the wire, at least one of said roller means including a movably mounted roller and spring means for urging said roller to a position in engagement with the wire;

(e) cutter means comprising a knife, means mounting said knife for reciprocal movement across the path of movement of the wire and along an axis parallel to said first axis, and means for normally urging said knife to a retracted position outside said path of movement; and,

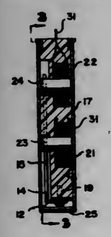
(f) means for operating said cutter means in response to said electrical output comprising a fluid operated piston and cylinder means for reciprocating said knife, a fluid supply, and an electrically activatable valve means responsive to said electrical output, said electrically activated valve being disposed between said fluid supply and said piston and cylinder means whereby said fluid supply causes said piston and cylinder means to move said reciprocating knife across said path of said wire when said valve means is activated.

ERRATUM

For Class 84—267 see:
Patent No. 3,269,247

3,269,249
SHEET METAL TUNING FORK

Donald R. Dailey, Leesburg, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Mar. 26, 1965, Ser. No. 442,955
9 Claims. (Cl. 84—457)

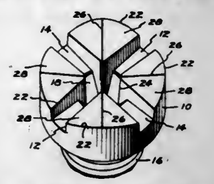


1. An electro-mechanical resonator assembly comprising a magnetically permeable, U-shaped, sheet metal tuning fork having a pair of tines joined by a leg between them, the thickness of said U being substantially equal to the thickness of said sheet, a support for said fork fixedly mounted to said leg so said tines vibrate in the plane of the sheet relative to the mounting position and electromagnet means being positioned to drive said tines so they vibrate in the plane of the sheet.

3,269,250
UNIVERSAL SCREW HEAD

Lawrence M. Curtiss, Mountainside, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey
Filed July 2, 1964, Ser. No. 379,993
4 Claims. (Cl. 85—45)

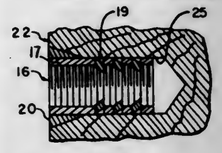
1. A screw head of substantial length and uniform diameter having a cross-slotted driving recess centrally thereof forming a plurality of diametrically opposite triangular segments, each of said segments presenting a slightly inclined upstanding corner edge radially of and adjacent the screw head axis adapted to be engaged by a winged type driving tool, each of said segments having a top face and a ridge extending radially of said screw head and bisecting said segment, said top face being inclined downwardly radially toward the screw head axis and inclined downwardly in opposite directions from said ridge so as to define a pair of sloping triangular surfaces



the terminal edges of which define the cross-slots and which are adapted to deflect a bladed driving tool into alignment with the slots in said recess when brought into contacting engagement with said screw head.

3,269,251
THREADED INSERTS WITH SLIDING SEGMENTAL SECURING MEANS

Henry James Bass, 360 La Perle Place, Costa Mesa, Calif.
Filed Aug. 17, 1964, Ser. No. 390,137
1 Claim. (Cl. 85—66)



A self-retaining insert which is adapted to be imbedded into an unthreaded mounting hole in the work piece to function as a nut comprising, in combination, a cylindrically hollow sleeve, said sleeve having a plurality of retaining means integral with and projecting radially outwardly from said sleeve, said retaining means being flush with one end of said sleeve and being adapted for pressing into said mounting hole for retention therein with said one end flush with the surface of said work piece, said sleeve having internal threads at least at said one end, at intervals on said sleeve being provided a plurality of slots inwardly of said one end and extending circumferentially, segmental teeth mounted for sliding movement in said slots and projected into the bore of said sleeve, said segmental teeth being arcuate and having radially inner and outer surfaces inclined and in a converging relation toward the end of said sleeve opposite said one end, said segmental teeth being adapted to be forced radially outwardly through said slots and imbedded into the walls of said mounting hole permanently securing said insert therein.

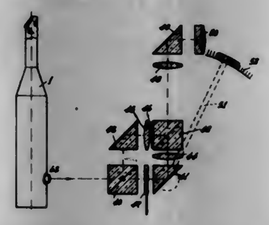
3,269,252
PHOTOGRAPHIC MATERIAL

Lodewijk Felix De Keyser, Mortsel-Antwerp, Frans Albrecht, Borgerhout-Antwerp, and Louis Achilles Meeussen, Mortsel-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company
Filed May 7, 1962, Ser. No. 192,937
Claims priority, application Belgium, May 8, 1961, 40,623, Patent 603,489
5 Claims. (Cl. 96—87)

1. Method for preventing photographic materials, consisting of a plastic support and at least one gelatino silver halide emulsion layer, from being electrostatically charged, comprising applying onto the plastic support a subbing layer for anchoring the support to the gelatin emulsion layer, said subbing layer containing colloidal carbon and gelatin, said carbon being present in an amount equal to about 30–70 percent by weight of gelatin.

3,269,253
PERISCOPE SEXTANT

Abraham C. S. van Heel, Delft, Gerardus J. Beernink, The Hague, and Jan G. Doekes and Hendrik J. Raterink, Delft, Netherlands, assignors to The Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek ten Behoeve van de Rijksverdediging (The National Defence Research Council T.N.O.), The Hague, Netherlands, a corporation of the Netherlands
Filed Sept. 26, 1956, Ser. No. 612,331
Claims priority, application Netherlands, Oct. 3, 1955, 200,913
10 Claims. (Cl. 88—2.3)



1. A periscope sextant comprising a periscope tube having a viewing window in the upper part of said periscope tube and an eyepiece in the lower part of said periscope tube, a stationary mirror system in the upper part of said periscope tube, means in said mirror system to divide the light of the total range between the horizon and the zenith in the direction of the bearing into 10 to 30 parts of light of about 3 to 9 degrees each, said parts of light overlapping each other slightly, said mirror system reflecting all of said parts of light of the total range between the horizon and the zenith in the direction of the bearing, means to transmit said reflected parts of light along with the light from the horizon to the bottom of said periscope tube through conventional prisms and lenses in such a manner that when a real image of the said mirror system is formed at the eye side of the eyepiece of said periscope said image is composed of the said 10 to 30 parts of light situated in a number of 3 to 6 adjacent rows, each row being composed of a few of said parts of light, and the horizon, and means to measure the angle to be observed between said parts of light and the horizon.

3,269,254
OPTICAL APPARATUS FOR INDICATING AND MEASURING THE ROLL ANGULAR ORIENTATION OF A MOVABLE BODY

Lawrence Cooper, Endwell, and Richard W. Kern, Vestal, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 31, 1962, Ser. No. 248,393
7 Claims. (Cl. 88—14)

1. Optical apparatus for indicating the roll angular orientation of a movable body comprising:

(a) a collimator device having a collimating object lens and a reticle in optical alignment with the optical axis of said lens,

(b) said reticle being located at the focal point of said object lens for displaying images transmitted thereto by said object lens;

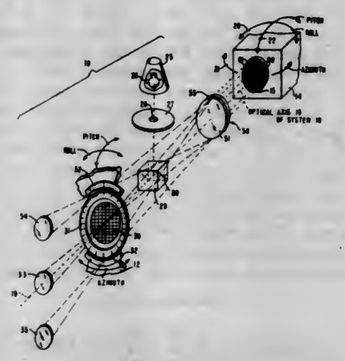
(c) means operable with said collimator lens for producing a line image on said reticle for indicating the roll angular orientation of a body having its roll axis in optical alignment with said object lens comprising,

(d) a diffraction grating fixedly attached to said body so as to be optically aligned with said collimating object lens,

(e) said diffraction grating having a plurality of parallel straight line diffraction rulings,

(f) said rulings having a predetermined co-ordinate orientation when mounted on said body,

(g) parallel beam light source for producing a diffraction pattern from said diffraction grating for transmission by said object lens to said reticle,

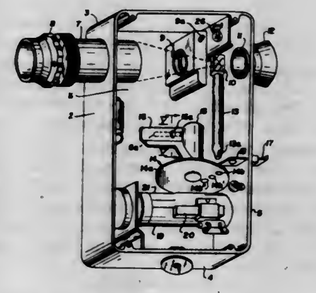


(h) reference mark means associated with said reticle for indicating a predetermined angular co-ordinate; and

(i) means for simultaneously viewing said reference mark means and said line image produced by said diffraction grating and object lens on said reticle for determining the roll angular orientation of said body.

3,269,255
MULTI-RANGE TEMPERATURE MEASURING APPARATUS

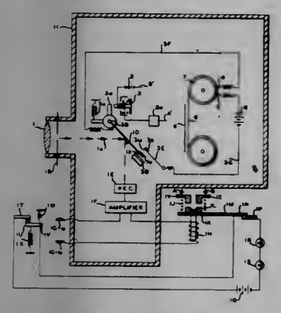
Vincent G. Shaw, Unity Township, Westmoreland County, Pa., assignor to Latronics Corporation, Latrobe, Pa., a corporation of Pennsylvania
Filed Nov. 20, 1961, Ser. No. 153,598
2 Claims. (Cl. 88—22.5)



1. A sensing head for an instrument of the class described comprising a box, a lens tube on the box opening into the box, an eye-piece on the box opening into the box opposite the lens tube, a beam splitter in the box interposed between the lens tube and the eye-piece arranged to enable part of the light entering the box through the lens tube to pass directly to the eye-piece whereby the instrument may be aimed by looking through the eye-piece and lens tube to the object to be observed, a light pipe at right angles to the line of sight from the eye-piece through the lens tube, the beam splitter and light pipe being arranged to transmit part of the entering

light from the lens tube into the light pipe, a photo-multiplier tube and enclosure therefor in the box, the light-sensitive area of said tube being in the path of light transmitted by the light pipe, a filter disk mounted for rotation in the box between the light pipe and the photo-multiplier tube and in the path of light transmitted from the pipe, the disk being of a uniform color for passing a band frequency of light energy within that color of the spectrum and having independent filters of different colors for passing selected band frequencies of light energy, each independent filter being positioned orbitally within the disk at a radial distance such that the rotation of the disk between the light pipe and photo-multiplier tube alternately passes light energy from the pipe to the photo-multiplier tube of a band frequency within the uniform color band of the spectrum and the color band of only one of the independent filters for each revolution of the disk, means for positioning the disk for selectively positioning one of the orbital independent filters in the light path between the pipe and photo-multiplier tube for rotation, and means in the box for rotating the disk.

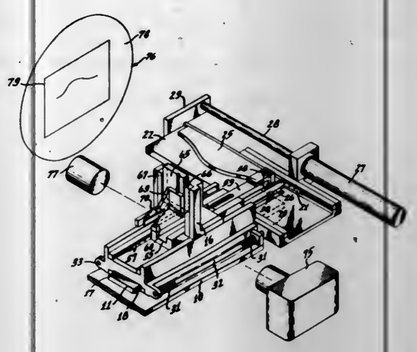
3,269,256
APPARATUS FOR SAFEGUARDING INFORMATION
Fredun Anthony Malik, 900 W. Bonanza Road, Las Vegas, Nev.
Filed Sept. 6, 1963, Ser. No. 307,188
3 Claims. (Cl. 88—24)



1. In a camera adaptable to single frame exposure upon a sensitized film and having a lens positioned to focus an image upon said film, the improvement comprising a reflective surface interposed between said lens and said film to deflect light passing through said lens away from said film, said reflective surface being moveably mounted, photocell means positioned in said camera to receive light reflected from said reflective surface, means responsive to said photocell means adapted to move said reflective surface out of the path of light passing through said lens, means for activating said camera, and means for advancing said film when said camera is activated.

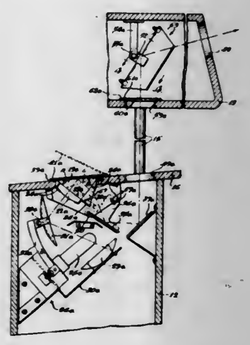
3,269,257
APPARATUS FOR CHECKING CAMS
Nils Hoglund, 296 Hartshorn Drive, Short Hills, N.J.
Filed Oct. 24, 1963, Ser. No. 318,542
11 Claims. (Cl. 88—24)

7. Apparatus for checking the accuracy of contours on cams including (a) a base member, (b) a comparator on one side of said base member and a (c) light source on the other side of said base member, a first slide on said base member movable transversely of said light source and said comparator, a simulated tool slide on said first slide and movable transversely of said first slide and carrying a simulated tool, a second slide on said first slide and movable transversely of said first slide, a cam to be checked supported on said second slide, said first slide having cam and follower means for connecting said cam to be checked and said simulated tool slide for causing



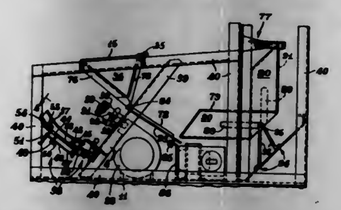
movement of said simulated tool between said light source and said comparator whereby the shadow cast by said simulated tool traces a path on said comparator determined by said cam.

3,269,258
MEANS FOR CORRECTING DEPTH-OF-FIELD ERROR IN A PROJECTION SYSTEM
Joseph L. Byrd and Paul G. Andrus, Columbus, Ohio, assignors, by mesne assignments, to Brunswick Corporation, Chicago, Ill., a corporation of Delaware
Filed Apr. 9, 1964, Ser. No. 358,525
18 Claims. (Cl. 88—24)



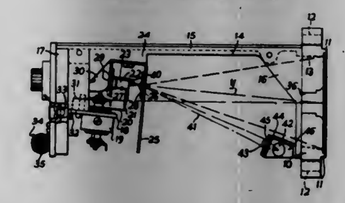
7. A projection system comprising a light transmitting prism having an internally reflecting surface for receiving a reflectivity destroying mark thereon, a light source and means associated therewith for directing light through said prism toward said internally reflecting surface and reflecting an image therefrom exiting from the prism through a second surface of said prism, means including a projection lens for directing the image from the prism to a viewing screen, and triangular prism means in the path of light exiting from said second surface between the prism reflecting surface and projection lens for at least partially correcting depth of field error in the reflected image as viewed by the projection lens.

3,269,259
PROJECTION APPARATUS FOR PROJECTING BOWLING SCORES
Jack A. Russell, Muskegon, Mich., assignor to Brunswick Corporation, a corporation of Delaware
Filed May 8, 1964, Ser. No. 365,960
14 Claims. (Cl. 88—24)



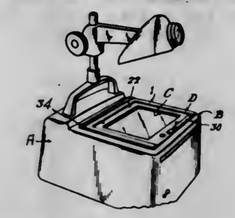
2. A score projector, comprising: a housing, a light transmitting platen mounted in said housing having an internally reflecting surface for backing a sheet of material adapted to have a score legend impressed thereon, means for holding the sheet adjacent said platen surface with the surface of the sheet remote from said platen surface accessible for impression of a score legend thereon, a light source, first adjustable means mounting said light source in said housing, optical means associated with said light source for directing light to said platen and said sheet for directing an image of said legend therefrom, second separate adjustable means mounting said optical means in said housing, port means in said housing, and projection means mounted in said housing for projection of the directed image through said port means.

3,269,260
ELECTRICALLY OPERATED VISUAL INDICATOR DEVICES
Derek John Dean, Middlesex, England, assignor to Sangamo Electric Company, Springfield, Ill., a corporation of Delaware
Filed Sept. 28, 1964, Ser. No. 399,580
Claims priority, application Great Britain, Oct. 1, 1963 38,659/63
10 Claims. (Cl. 88—24)



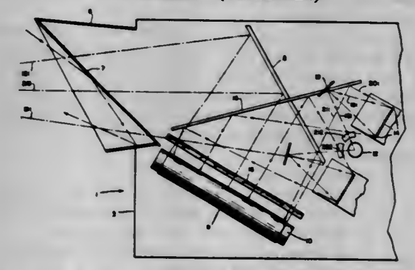
1. An electrically operated visual indicating device which includes a fixed position light source, a display screen, a movable image bearing strip having a plurality of separate images thereon, a first optical projection system arranged to project any one of said images on to said display screen by illumination from said light source, a moving coil type instrument movement for moving said projection strip relative to said optical projection system to cause projection of any chosen one of said images on to said display screen and first circuit means for applying an operating current to said instrument movement and which also comprises a light responsive unit, an optical record track on said projection strip, said track including for each image thereon a region having sharply defined light obstructing and light transmitting portions, a second optical projection system for directing a beam of light from said light source through said record track on to said light responsive unit and second circuit means including change-over switch means for applying a centralizing current derived from the output of said light responsive unit to control the operation of said instrument movement instead of said operating current.

3,269,261
REGISTRATION METHOD AND FRAME
Oscar S. Porter, Kinnelon Borough, N.J., assignor to Porter & Co., Inc., a corporation of New Jersey
Filed Sept. 30, 1963, Ser. No. 312,689
5 Claims. (Cl. 88—24)



1. In a photographic projector of the type including a platform having a rectangular light transmitting opening therethrough, a frame for supporting and registering flat transparent rectangular sheets over said opening, said frame being rectangular and having a rectangular opening to register with said opening in said platform and bordered by a flange to support such sheets, a plurality of sheets set on said flange in overlying relation to said opening in the frame, each of which sheets has top and bottom parallel edges and parallel side edges perpendicular to said top and bottom edges and also has a plurality of notches in one edge spaced differently from the corresponding edges that are perpendicular to said one edge, said frame also having guide elements thereon spaced from the edges of said opening in the frame each to abut one end of said sheet, one of said guide elements comprising a plurality of lugs spaced from each other along one edge of the opening in the frame a distance corresponding to the distance between said notches in the sheet, each to engage one of said notches for registering the sheets right side up with said opening in the frame.

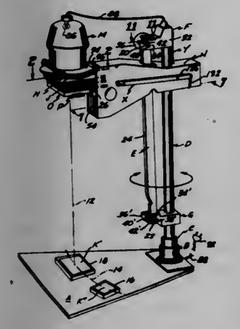
3,269,262
RECORDER
Richard S. Kampf, Denver, Colo., assignor to Honeywell Inc., a corporation of Delaware
Filed Nov. 4, 1963, Ser. No. 321,264
4 Claims. (Cl. 88—24)



1. Means for monitoring the data being measured by an oscillograph, including, a light-sensitive phosphor coated belt, means for driving said belt at a uniform speed, means for making a visible indication on said belt, a case housing said belt and said two above-mentioned means and having an aperture therethrough, a hood surrounding said aperture and extending from said belt so

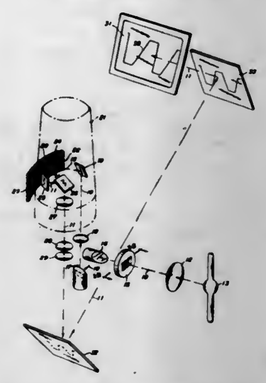
as to exclude direct rays of ambient light from said belt, a window pane extending across said aperture and reflecting some of the ambient light passing into said aperture, and a viewing mirror in said housing between said aperture and said belt and affording a view of the indication on said belt through said aperture.

3,269,263
PHOTOGRAPHIC ENLARGER
Hjalmar O. Knudsen, San Pedro, Calif. (15112½ South Western Ave., Gardena, Calif. 90249)
Filed Dec. 6, 1963, Ser. No. 328,738
10 Claims. (Cl. 88—24)



1. A photographic enlarger for reproducing an image from any one of a plurality of negatives of different sizes as an enlarged light image of any desired magnification or reduction on an unexposed photographic paper, including:
(a) a base;
(b) an upright rotatably supported on said base;
(c) an elongate cam;
(d) upper and lower cam supports;
(e) first and second means on said upper and lower cam supports for adjustably supporting the upper and lower ends of said cam to permit the same to occupy any one of a plurality of angular positions relative to said upright;
(f) a hollow carriage movably mounted on said upright;
(g) a support projecting forwardly from an upper portion of said carriage, said support having a recess formed in the upper portion thereof that extends rearwardly from the forward edge thereof, and a downwardly extending opening which communicates with said recess;
(h) negative holding means insertable in said recess for holding one of said negatives over said opening;
(i) light generating means which directs a beam of light downwardly through said negative in said holding means and through said opening in said support;
(j) a bellows supported from the lower end of said support;
(k) an enlarging lens;
(l) an opaque support for said lens that is connected to the lower end of said bellows and supports said lens in vertical alignment with said opening;
(m) a lense adjuster vertically movable in the forward interior portion of said carriage;
(n) third means for slidably connecting said lens support to said lens adjuster;
(o) fourth means for varying the vertical distance of said lense adjuster relative to said third means and lens support;
(p) a cam follower pivotally supported in said housing;
(q) fifth means for pivotally connecting a forward end portion of said cam follower to said lens adjuster;
(r) a roller rotatably supported on a rear end of said cam follower that at all times contacts a forward edge of said cam; and
(s) spring means which at all times tend to move said lens adjuster downwardly to maintain said roller in contact with said cam, said first and second means and said fourth means capable of being manually adjusted to so space said lens relative to said negative that said beam of light casts a light image of said image on said negative in said holder onto a surface occupying a fixed position relative to said base, and on which surface said unexposed paper can be disposed, with said light image being maintained in true focus as said carriage is moved upwardly or downwardly on said upright when said cam follower pivots said cam to vary the distance between said negative in said holder and lens as such movement of said carriage takes place.

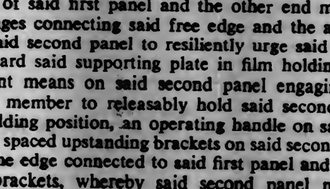
3,269,264
APPARATUS FOR EXHIBITING COUPLING-THREAD CONTOUR
George G. Cocks, Worthington, Ohio, assignor, by mesne assignments, to United States Steel Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed May 28, 1964, Ser. No. 370,998
17 Claims. (Cl. 88—24)



1. Optical apparatus for exhibiting a coupling-thread contour comprising a hairline reticle, means for illuminating the hairline, first optical means adapted to project a black image of said hairline with a light background onto a coupling thread and second optical means adapted to pick up and project an image of the thread profile produced by said hairline image.

3,269,265
PROCESS CAMERA FILM HOLDER AND MOUNT THEREFOR
Sophia Polland, 3552 E. 10th Court, Hialeah, Fla.
Original application Jan. 19, 1962, Ser. No. 168,031, now Patent No. 3,207,030, dated Sept. 21, 1965. Divided and this application June 8, 1965, Ser. No. 475,621
9 Claims. (Cl. 88—24)

9. For use in a process camera a film holder and mount comprising spaced parallel horizontal supports, a film holder carriage, means on said carriage for supporting said carriage on said supports for movement thereon, means to lock said carriage in adjusted position, a generally U-shaped film holder bracket having a central portion rotatably mounted on said carriage for angular adjustment about a vertical axis, the arms of said bracket depending from said central portion, means for indicating the angular position of said bracket, means for locking said bracket in adjusted position, a rectangular film holder,

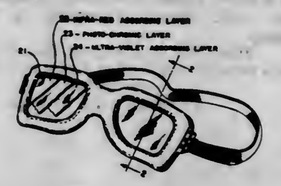


means for mounting said film holder between said arms for movement about a horizontal axis, means for clamping said film holder in adjusted position and means for indicating the angular position of said film holder.

3,269,266
PROCESS CAMERA FILM HOLDER
Sophia Polland, 3552 E. 10th Court, Hialeah, Fla.
Original application Jan. 19, 1962, Ser. No. 168,031, now Patent No. 3,207,030, dated Sept. 21, 1965. Divided and this application June 8, 1965, Ser. No. 475,622
7 Claims. (Cl. 88—24)

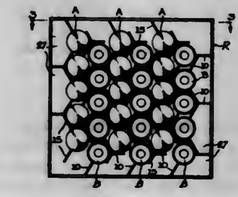
1. A film holder comprising a generally rectangular frame having side and end members, a transparent film-supporting plate fixed in said frame, a pressure plate for holding one or more sheets of film in intimate contact with the inner surface of said supporting plate, said pressure plate comprising a generally rectangular panel hingedly mounted along one edge on one end member, the opposite free edge of said panel terminating substantially midway between said end members, a removable bar extending between said side members overlying said panel and spaced from said free edge, spaced compression springs secured to said bar and engaging said panel to resiliently urge said panel toward said supporting plate in film holding position, a second generally rectangular panel disposed between the free edge of said first panel and the other end member, spring hinges connecting said free edge and the adjacent edge of said second panel to resiliently urge said second panel toward said supporting plate in film holding position, detent means on said second panel engaging said other end member to releasably hold said second panel in film holding position, an operating handle on said second panel, spaced upstanding brackets on said second panel adjacent the edge connected to said first panel and rollers on said brackets, whereby said second panel may be moved against the action of said spring hinges away from said supporting plate to permit the insertion or removal of the sheet of film between said second panel and said supporting plate, further movement of said second panel serving to engage said rollers with said bar to cam said first panel away from said supporting plate against the action of said compression springs to permit the insertion or removal of a sheet of film between said first panel and said supporting plate.

3,269,267
SUNGLASSES WITH ALIGNED INFRA-RED, PHOTOCHROMIC AND ULTRAVIOLET FILTERS
Robert D. Collins, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Nov. 19, 1962, Ser. No. 238,344
1 Claim. (Cl. 88—112)



A sunglass device having two modes of application to the eyes of a user, including combination
(a) a three-element optical system including in alinement optically
(1) an infra-red reflecting filter capable of passing visible and ultraviolet light,
(2) a photochromic filter, including photochromic dye in solution, normally passing visible light but becoming substantially opaque thereto under the influence of ultraviolet light and
(3) an ultraviolet light absorbing filter passing visible light; and
(b) reversible mounting means to hold system (a) before the eyes in a first mode where incident light first strikes filter (1) of system (a), and which mounting means is reversible at will to a second mode where system (a) is held before the eyes so incident light first strikes filter (3), whereby in said first mode, the user is protected against harmful solar radiation containing eye-harmful ultraviolet, visible and infra-red components, and in said second mode, the photochromic filter remains in a condition to pass visible light.

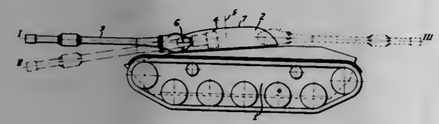
3,269,268
NESTED ROCKETS
Bert B. Gould, San Ramon, Calif., assignor to MB Associates, a corporation of California
Filed May 14, 1964, Ser. No. 367,593
8 Claims. (Cl. 89—1.813)



1. An improved method of preparing rocket means for subsequent ignition and firing, the steps including: stacking miniature rockets in an alternated columnar nested relation in an explodable compartmentalized confining means; introducing foam plastic into the confining means to surround the nested miniature rockets; removing portions of the confining means to expose predetermined, oppositely extending areas of said rockets defined by openings in the solidified plastic, and securing a pyrotechnic

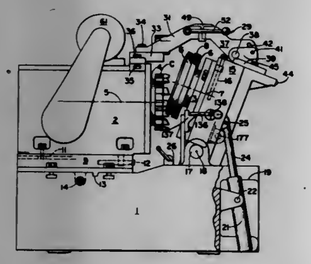
sheet igniter means to the exposed areas of said rockets, whereby upon appropriate ignition of said pyrotechnic sheet igniter means the rockets will be dispersed from their confining means.

3,269,269
COMBAT VEHICLE
Herbert Kunze, Kassel, Germany, assignor to Henschel-Werke A.G., Kassel, Germany, a corporation of Germany
Filed Nov. 2, 1964, Ser. No. 418,368
Claims priority, application Germany, Nov. 5, 1963, H 50,744
4 Claims. (Cl. 89—36)



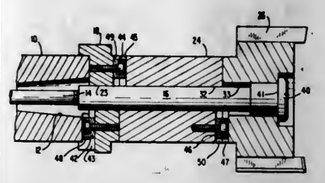
1. A combat vehicle, particularly of armored construction, having a heavy weapon mounted thereon in a turret rotatable through 360° in which the turret is mounted on the vehicle with a forwardly inclined axis of rotation, with reference to the vertical, whereby the structural height of the rearward portion of the vehicle is sufficient to accommodate an engine and related equipment.

3,269,270
GEAR MACHINE OR THE LIKE
Norman W. Fowler, Rochester, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed May 4, 1964, Ser. No. 364,483
13 Claims. (Cl. 90—5)



1. A gear cutting machine comprising a frame, a housing supporting a cutter spindle for rotation in a substantially horizontal plane, a work head supporting a work spindle for rotation about an axis disposed in a vertical plane parallel to the cutter spindle axis, and a swinging base carrying said work head and pivoted to the frame, to swing the work spindle in said vertical plane for work advance and work withdrawal, about a horizontal axis perpendicular to the work spindle axis, said horizontal axis being disposed below the work spindle axis whereby the work head is swung upwardly and toward the cutter spindle upon advance of the swinging base and is swung downwardly and away from the cutter spindle upon withdrawal of the swinging base, said work head being adjustable on the swinging base in a direction perpendicular to both said horizontal axis and the work spindle axis.

3,269,271
MOUNTING AND CENTERING DEVICE FOR MILLING CUTTERS
Karl Georg Bruckner, Haffnerstrasse 7, Stuttgart-Feuerbach, Germany
Filed June 25, 1964, Ser. No. 378,023
2 Claims. (Cl. 90—11)



1. In a milling machine accommodating one of a plurality of cutter heads varying widely in diameter and size for engagement with either a cylindrical or conical rotating spindle, the axially joined, rigidly stable combination of an elongated, axially bored spindle having an end face perpendicular to the face perpendicular to the spindle axis; and axially bored mounting collar having inner and outer faces parallel to each other and perpendicular to the spindle axis, said collar having a counterbored inner face whose configuration is substantially that of the spindle end portion, with the said counterbored inner face of said collar receiving a predetermined length of the spindle end portion, in close fitting engagement, the said counterbored inner face of said collar when engaged with the spindle end constituting the sole means on said collar for centering said collar on said spindle; a centrally bored, intermediate member having planar inner and outer faces disposed with its inner face abutting the said outer face of said collar; an axially bore cutter having a planar inner face perpendicular to the axis of said spindle and disposed in abutting relationship against the outer face of said intermediate member, and having a counterbored outer end face providing a radial shoulder portion; a draw-bar extending along substantially the entire length of the center bore of said spindle, said draw-bar being threaded at its outer end; and internally threaded stud closely fitted within the axial bores of the said collar, intermediate member, and cutter, said stud having an enlarged outer end portion engaging the said shoulder provided by the said counterbore in the said outer end face of said cutter, and at its inner end receiving the threaded outer end of said draw-bar, said stud constituting the sole means for maintaining said collar, intermediate member and cutter in axial alignment, and for resisting transverse shearing loads imposed upon the spindle, collar, intermediate member and cutter assembly, said stud and draw-bar constituting the sole tensioning means for clamping together the said cutter, intermediate member, collar and spindle; and suitable means for transmitting driving torque forces between the said spindle, collar, intermediate member and cutter.

3,269,272
REMOTE MOUNTED AUXILIARY BRAKE APPLICATOR
Edgar A. Rager, Los Gatos, Willie T. Davis, San Jose, and Timothy D. Regan, Burlingame, Calif., assignors to Neway Equipment Company, Muskegon, Mich., a corporation of Michigan
Filed May 3, 1965, Ser. No. 456,026
17 Claims. (Cl. 91—170)

1. A remote mounted auxiliary brake applicator for mounting on a vehicle having a compressed air supply and having brakes and regular air-brake-actuating equipment mounted thereon, which regular air-brake-actuating equipment includes a regular air pot comprising a pot housing and a compressed-air-actuated piston mounted

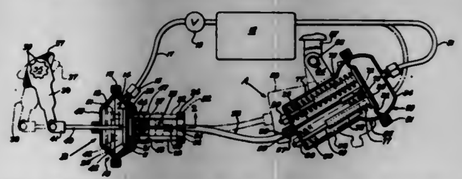
for brake-actuating movement therein, together with valve means for controlling communication between the compressed air supply and the regular air pot for regular air operation of the vehicle brakes, said auxiliary brake applicator comprising,

an auxiliary air pot comprising an auxiliary housing and a compressed-air-actuated auxiliary piston mounted for movement lengthwise therein,

means mounting the auxiliary pot housing for limited movement lengthwise thereof relative to, and in spaced relation to, the regular air pot,

anchor means anchoring the auxiliary pot piston to a fixed element of a vehicle upon which the regular air pot is mounted,

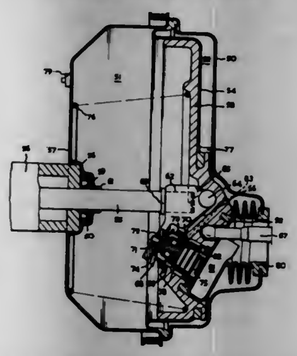
compression means in endwise compressive relation with the auxiliary pot housing and with the piston of the regular air pot,



powerful biasing means acting between the auxiliary pot housing and the auxiliary pot piston and urging the auxiliary pot housing in a direction to urge the compression means and the regular air pot piston toward brake-applying position,

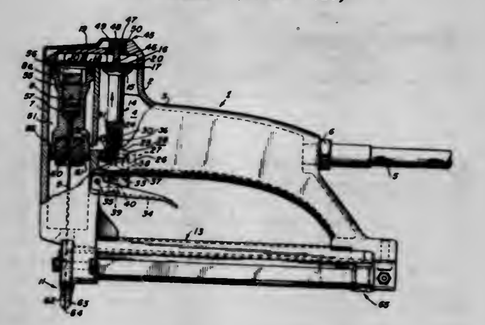
and means communicating the interior of the auxiliary air pot with the compressed air supply to urge the auxiliary pot piston in a direction to overcome the biasing effect of the biasing means and with a force greater than that of the biasing means when the compressed air supply is at brake-operating pressure, thereby to free the regular air pot piston for regular air operation of the brakes.

3,269,273
FLUID PRESSURE OPERATED BOOSTERS
Stewart Kevern Hambling, Staffordshire, and Harold Fineman, Birmingham, England, assignors to Girling Limited, Birmingham, England, a British company
Filed Feb. 12, 1964, Ser. No. 344,477
Claims priority, application Great Britain, Feb. 19, 1963, 6,575/63
20 Claims. (Cl. 91—376)



1. A fluid-pressure operated booster comprising a housing defining a power chamber, a pressure responsive wall in the housing dividing the housing into a constant pressure chamber and a variable pressure chamber, said pressure responsive wall being subjected to differential fluid pressures when the booster is energized and being movable in response to such differential fluid pressure, said movable wall including a lever part, said lever part having a first point which is acted upon at the center of pressure of said movable wall, a force output member, a force input member acting on said force output member through said lever part of which said input member acts on said lever part at a second point spaced from said first point, means defining a fulcrum between said output member and said lever part at a third point thereon between said first and second points, and valve means to control development of said pressure differential actuated upon movement of said input member.

3,269,274
FASTENER DRIVING TOOL
Harrison C. Lingle, Wilmette, and Frank C. Howard, Wheeling, Ill., assignors to Signode Corporation, a corporation of Delaware
Filed Sept. 8, 1964, Ser. No. 394,820
4 Claims. (Cl. 91—417)



3. A fastener driving tool having a housing with a cylinder disposed at one end thereof and defining a reservoir adapted to receive compressed air and having an opening immediately adjacent said cylinder, a driving piston slidably disposed in said cylinder, a driver blade secured to one side of said piston, a removable cap member secured to said housing and defining a vent port and a chamber interconnecting the opening in said reservoir and the other side of said piston, a valve assemblage for controlling the flow of compressed air from the reservoir to said cylinder through said opening including aligned main, pilot and exhaust valve means disposed beneath said cap and parallel to said cylinder, said main valve means including a valve head, a valve stem, a piston portion slidably disposed in a recess defined by said housing within said reservoir, and passage means intercommunicating said reservoir with the chamber located on the opposite side of said piston portion for maintaining the main valve closed, the exhaust valve means for venting the air from said cap chamber including a valve stem connected to said main valve and a cooperating elastic valve seat and seal member located in said cap member, said valve seat and seal member defining an exhaust port communicating with said cap vent port and said valve stem including a land portion adapted to control the flow of air through said exhaust port.

3,269,275
TWO STAGE HYDRAULIC CYLINDER
Richard S. Waite, Columbus, Nebr., assignor to The Soil Mover Company, Inc., a corporation of Nebraska
Filed July 21, 1964, Ser. No. 384,084
6 Claims. (Cl. 92—52)

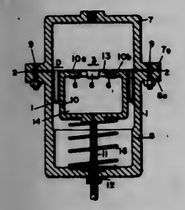
1. A two-stage fluid motor of the extendible type including an outer cylinder closed at one end and including a closure wall at the other end having a bore formed

therethrough, an inner cylinder reciprocal in said outer cylinder and closed at a first end thereof corresponding to one end of said outer cylinder, said first end defining a diametrically enlarged first piston for said outer cylinder, said inner cylinder including a closure wall at its second end having a bore formed therethrough axially aligned with the first-mentioned bore, a piston rod physically extending through and reciprocal in said bores in fluid-tight sealing engagement with said closure walls and including a second diametrically enlarged piston on the end thereof disposed in said inner cylinder, each of the opposite end portions of said outer cylinder including free flow fluid passage means defining first fluid inlet and outlet passage means for free passage of fluid under pressure into and out of said opposite end portions of said outer cylinder and opening into said outer cylinder at one pair of corresponding ends on the corresponding side of said



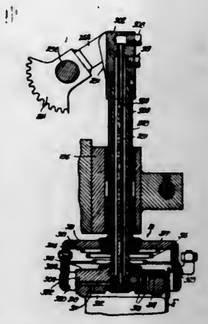
first piston when the latter is disposed in its corresponding limit position of reciprocation and outwardly of said outer cylinder at the other pair of corresponding ends thereof, said inner cylinder including free flow fluid passage means defining second fluid inlet and outlet means opening into said inner cylinder at a point spaced beyond the limit of movement of said second piston therein toward the fully extended position at one end and directly into the area of said outer cylinder forwardly of said first piston in the direction of its movement toward the extended position at its other end and for free passage of fluid under pressure between said point and said area, and free flow fluid passage means formed through said first piston communicating said one end of said outer cylinder and the corresponding end of the interior of said inner cylinder defining third fluid inlet and outlet passage means for free passage of fluid therethrough in both directions.

3,269,276
ROLLING DIAPHRAGM DEVICE WITH DIAPHRAGM HAVING A CLAMPING INSERT
Julian S. Natanson, Lexington, Mass., assignor to John F. Taplin, West Newton, Mass., a corporation of Massachusetts
Filed Mar. 17, 1965, Ser. No. 440,497
7 Claims. (Cl. 92—99)



1. In a rolling diaphragm having radially outer clamping means, radially inner clamping means and a rolling wall between said radially outer clamping means and said radially inner clamping means the improvement comprising a fastener plate of a material capable of being bent and of retaining a predetermined shape into which it has been bent, said fastener plate being integral with said radially inner clamping means and defining a central aperture, and said fastener plate including a plurality of tab-like projections extending radially inwardly into said central aperture.

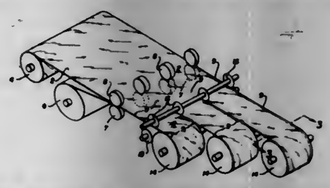
3,269,277
APPARATUS FOR PLACING CUT SHEETS IN PACKAGING FORMS
Erwin G. Dueringer, Milwaukee, and Charles H. Johnson, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois
Original application Feb. 25, 1963, Ser. No. 260,553. Divided and this application May 25, 1965, Ser. No. 477,053
7 Claims. (Cl. 93—1)



1. Apparatus for automatically placing package forming sheets in the open upper ends of hollow packaging forms comprising a reciprocating plunger assembly having a hollow stem and a downwardly facing cup-like member on the bottom end thereof, an inner slide member in said stem and a plunger head member on the bottom end of said slide member, said plunger head member and said slide member having passageways therein which are connected to a vacuum line whereby a sheet is held on said plunger head member when engaged thereby, means for delivering sheets beneath said plunger assembly, means for positioning packaging forms beneath said plunger assembly to receive the sheets, and means for reciprocating the plunger assembly to place successive sheets in the forms.

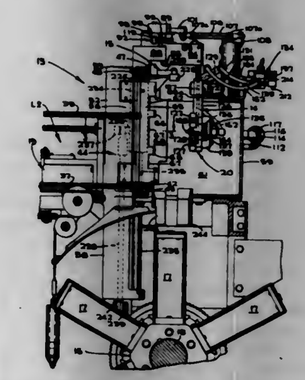
3,269,278
MULTI-PLY POUCH MANUFACTURING
Carl P. Olstad, Kirkwood, Mo., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada
Filed Apr. 16, 1962, Ser. No. 187,723
7 Claims. (Cl. 93—35)

4. The method of manufacturing multi-ply pouches in which an inner flexible heat sealable ply of the pouch is free of adherence to an outer flexible ply between marginal portions of the pouch, which comprises continuously unwinding sheets of said plies from rolls thereof and moving them in one general direction, continuously heat sealing said sheets together along longitudinally extending spaced apart band portions which are to provide the top of the pouch while leaving said sheets substantially free of adherence between said band portions, and subsequently winding the thus secured sheets into a roll for use in subsequently forming the pouch; and forming said pouches by unwinding the thus secured sheets from said roll, folding them upwardly along a longitudinally extending line between said heat sealed band portions whereby said band portions are at the top, and heat sealing and cutting said sheets at selected spaced apart locations ex-



tending transversely to the fold line, to provide pouches with individual heat sealed side margins and open tops wherein the top marginal portions of all the plies forming the respective side walls of the pouch are heat sealed together prior to filling of product into the pouch.

3,269,279
CARTON ERECTING AND LOADING APPARATUS
Leslie Vadas, Los Gatos, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Oct. 21, 1963, Ser. No. 317,412
10 Claims. (Cl. 93—53)

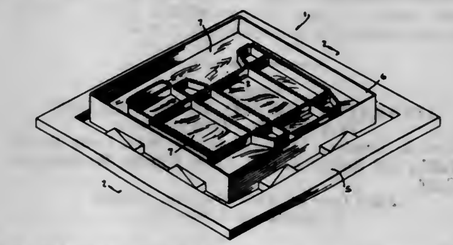


1. Apparatus for erecting a carton and for loading the erected carton onto a mandrel comprising, means for supporting a carton in a flat folded position, erecting means for gripping and swinging the carton from the support means into endwise alignment with the mandrel and for erecting the carton into an open-ended tube of rectangular cross-section, means for engaging said carton and for moving said carton onto the aligned mandrel, stationary guide means slidably engaging one corner of said erected carton, movable guide means supported by said erecting means, and means for moving said movable guide means into position to eject the carton from said erecting means and to slidably engage that corner of said carton which is diagonally opposed from said first mentioned corner for guiding said carton as it moves onto said mandrel.

3,269,280
CARTON BLANKING DIE
Willard R. Bonwit, Rydal, Pa., and John J. Hartlove, Baltimore, Md., assignors to The Lord Baltimore Press Incorporated, Baltimore, Md., a corporation of Maryland
Original application Feb. 21, 1962, Ser. No. 174,807, now Patent No. 3,196,716, dated July 27, 1965. Divided and this application Apr. 6, 1965, Ser. No. 460,883
9 Claims. (Cl. 93—58)

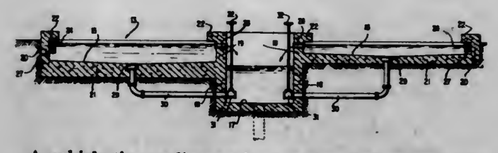
1. A molded master die for forming molded unit dies

comprising a unitary molded base, a set of rules mounted in a predetermined pattern in said base corresponding to



the desired carton, and anchoring members on said rules firmly locking said rules into the molded base.

3,269,281
VEHICLE TIRE COOLING STATIONS FOR HIGHWAYS
Clarence L. Carter, P.O. Box 5A, Fort Lawn, S.C.
Filed Feb. 6, 1964, Ser. No. 342,970
1 Claim. (Cl. 94—1)



A vehicle tire cooling station positioned along the side of a roadway comprising a pair of elongated laterally spaced substantially parallel tire cooling troughs of sufficient length to thoroughly cool a tire rolling therethrough, each trough of sufficient width to receive the four wheels of an automotive type vehicle and of sufficient depth to substantially submerge the lower sides of tires rolling therethrough, one trough being materially deeper than the other trough to facilitate cooling tires of larger size, a common drain trough between said pair of tire cooling troughs and being substantially narrower than the tire cooling trough and of a greater depth and having its bottom wall spaced below the bottoms of the tire cooling troughs, said common drain trough communicating with a subterranean drain means, cooling water supply pipes extending longitudinally along the interior faces of the outer side walls of the tire cooling troughs and having longitudinally spaced water outlets to continuously supply fresh water to the tire cooling troughs adjacent their outer sides, longitudinally spaced drain tubes mounted within the interior side walls of the tire cooling troughs and communicating with said common drain trough and allowing water to continuously drain from the tire cooling troughs into the common drain trough and also maintaining a constant water level in each tire cooling trough near the top thereof, flushing drains in the bottoms of the tire cooling troughs substantially at their transverse centers, each tire cooling trough having its bottom wall sloping downwardly somewhat from the sides of the trough toward the transverse center thereof, drain pipes leading from said flushing drains and through the side walls of the common drain trough below the bottom walls of the tire cooling troughs and into the common drain trough, whereby sediment can be drained and flushed periodically from the tire cooling troughs into the common drain trough, manual valves connected in said drain pipes adjacent the sides of the common drain trough, horizontal longitudinal protective ledges on the tops of the inner and outer side walls of said tire cooling troughs and extending inwardly of said side walls in close overlying relation to

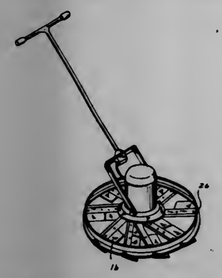
the supply pipes and water outlets and said drain tubes so as to protect the same from engagement with the wheels of vehicles passing through the tire cooling troughs, and access ramps at opposite ends of said cooling troughs communicating with said roadway.

3,269,282
APPARATUS FOR PROVIDING FAILURE PLANES IN CONCRETE
Robert L. Beesley, 13212 Anawood Way, Long Beach, Calif., and Robert F. Dill, 13341 Illinois, Westminster, Calif.
Filed June 11, 1964, Ser. No. 374,495
7 Claims. (Cl. 94—39)



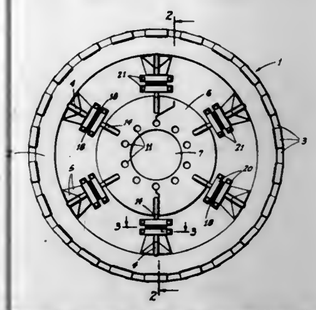
1. A flexible ribbon placement means comprising:
a generally flat blade having two sides;
means to immerse said blade in a plastic mass having a top surface;
means to move said immersed blade through said plastic mass;
an inclined guide carried by said blade, said inclined guide having a straight edge adapted to contact and fold a flexible ribbon as it passes from one side of said blade to the other, said means to immerse being adapted to position said blade with its plane in the direction of its motion so that said straight edge extends beneath said top surface at an inclined angle to said top surface; and
means to feed a flexible ribbon along one side of said blade to said guide, said means to feed being adapted to feed said flexible ribbon so that the edge of said ribbon is at an angle incident to said top surface, said incident angle being twice said inclined angle.

3,269,283
SURFACE FINISHING TOOL
Richard Grüb, Schorndorf, Wurttemberg, Germany (Im Bruhl, Schlichten-Schorndorf, Germany)
Filed Mar. 13, 1962, Ser. No. 179,413
Claims priority, application Germany, Mar. 14, 1961, G 31,817
3 Claims. (Cl. 94—45)



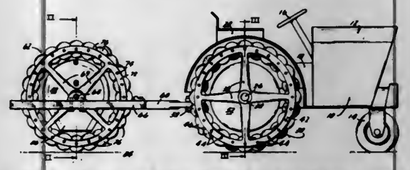
1. A surface finishing tool, comprising a rotary disk-shaped carrier having a bottom face; a plurality of substantially flat flexible blades adjacent to said bottom face, each of said blades having a leading edge portion closer to and a surface-engaging trailing edge portion more distant from said bottom face, said blades arranged in at least one annular group about the axis and having portions projecting beyond the circumference of said carrier, each of said blades of said finishing tools having substantially the shape of a parallelogram and arranged in such a manner that a leading radial line drawn through the outer end of the leading edge and a trailing radial line drawn through the outer end of the trailing edge are located entirely within the respective parallelogram-shaped blade and form with the leading and trailing edge of said blade, respectively, small angles and means for detachably connecting the leading edge portions of said blades to said carrier.

3,269,284
SHOCK ABSORBING WHEEL
Fred J. Caron, Citrus Heights, Calif., assignor to Pactor Corporation, West Sacramento, Calif., a corporation of California
Filed Mar. 23, 1964, Ser. No. 354,022
4 Claims. (Cl. 94—50)



1. A ground engaging wheel comprising initially separate radially outer and inner units, a central ring included with the inner unit adapted for support from an axle, the outer unit including a plurality of transversely spaced rim rings, circumferentially spaced spoke-forming plates projecting radially in from the rim rings transversely of the wheel and tying said rim rings together, other spoke-forming plates projecting radially out from the first named ring in radial alinement with the first named plates but spaced therefrom, said first named ring being disposed substantially centrally of the width of the wheel, a transversely extending channel secured on each of the last named plates and facing radially out, a similar channel secured on each of the first named plates in opposed matching relation to the corresponding first named channel, the corresponding channels facing but being spaced from each other radially of the wheel, a compressible and resilient block in and filling said corresponding channels and the space therebetween, and cross bars closing the ends of the channels.

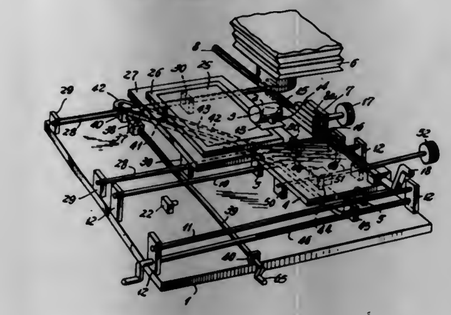
3,269,285
EARTH COMPACTING DEVICE
William C. Lathers, 4337 Britta Parkway, Madison, Wis.
Filed Feb. 12, 1964, Ser. No. 344,343
9 Claims. (Cl. 94—50)



1. An earth compacting device comprising a generally cylindrical skeletonized roller frame having a mounting shaft, hub means rotatable about the axis of the shaft,

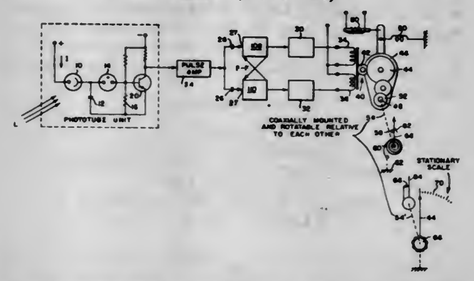
spoke means radiating from said hub means, ring means carried by the spoke means, circumferentially spaced shafts carried by said ring means, rings mounted on the shafts and through which the shafts extend, spacers between said rings maintaining the rings in substantial parallelism, the space in the interior of the frame being free of any support for said rings to facilitate discharge of earth, and rotatable tread rolls mounted on the shafts in a plurality of annular series, the rolls of each series being interposed between spaced rings and mounted on respective shafts and freely rotatable in clearance assured by said spacing means and with the rolls of one annular series staggered in relation to the rolls of an adjacent annular series.

3,269,286
COPY JUSTIFICATION APPARATUS
Eli Fuchs, Rockwell Apt. 3, R.F.D. 4, Chambersburg, Pa., and Robert E. Ostwald, 479 Carlton Blvd., Staten Island, N.Y.
Filed Nov. 3, 1964, Ser. No. 408,608
18 Claims. (Cl. 95—4.5)



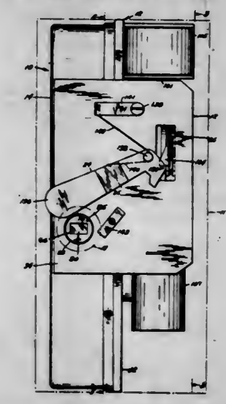
1. Apparatus for producing uniformly expanded or contracted justified images of lines of copy from an original having a plurality of lines of various lengths forming a nonuniform right-hand margin, said apparatus comprising means to support an original copy, means mounting the copy support for traveling movement parallel to lines of copy on the original copy, scanning means including illuminating means for illuminating successive increments of the line of copy, and means mounting said scanning and illuminating means over said copy support for traveling movement relative to said original copy and parallel with a line of the latter a determinable distance equal to the length of a justified line, variably settable differential coupling means connected to said scanning means and said copy support in continuous and synchronous driving relationship capable of differentially and continuously moving said copy support a limited distance in direct response to movement of said scanning means over said determinable distance, and control means operatively connected to said coupling means for determining the amount of said limited distance movement of said copy support to be equal to the difference in length, if any, between a line of copy being scanned and the length of a justified line, and for simultaneously setting said coupling means to cause said coupling means to uniformly move said copy support over said limited distance, if any, while said scanning means travels said determinable distance, said coupling means, when thus set by said control means in response to said determination, moving said copy support means continuously said determined limited distance which is equal to the amount, if any, by which the image of a line of copy being scanned will be produced in uniformly expanded or contracted form as a justified image on a light receiving medium as said scanning means travels the determinable distance equal to the length of a justified line.

3,269,287
ELECTRONIC MECHANICAL SYSTEM FOR INTEGRATING RADIANT ENERGY
Clarence S. Ost, 118 N. Mansfield Ave., Margate City, N.J.
Filed July 22, 1963, Ser. No. 296,825
14 Claims. (Cl. 95—10)



1. An integrating radiant energy system comprising radiant energy-sensitive means, means to form respective electrical pulses responsive to the reception of predetermined quantities of radiant energy flux by said radiant energy-sensitive means, a stepping motor having an armature driven through discrete rotary steps responsive to the reception of successive pulses by the motor, means to apply the pulses to said motor, first indication means connected to said armature and being driven thereby, manually settable second indication means arranged in the path of movement of said first indication means, and means to terminate the operation of said motor responsive to the interengagement of said first and second indication means.

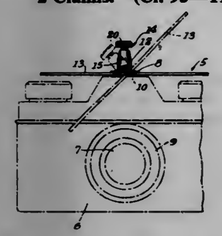
3,269,288
SURVEILLANCE CAMERA
David Sigmond, 1311 Brightwater Ave., Brooklyn, N.Y.
Filed June 12, 1964, Ser. No. 374,601
4 Claims. (Cl. 95—11)



1. A photographic surveillance camera comprising: a casing, said casing having an aperture therein, a camera lens carried by the casing in register with the aperture, a rigid frame member of substantially "T" shaped cross section secured to the casing comprising a base plate and an apertured front shutter base plate, a cassette for holding a supply of photographic strip film carried within said casing upon the frame member, said cassette having an opening therein, a fixed plate secured within the cassette opening, said fixed plate having a film exposing aperture therein in register with the casing and frame apertures, film guide means in said cassette, spaced bearing

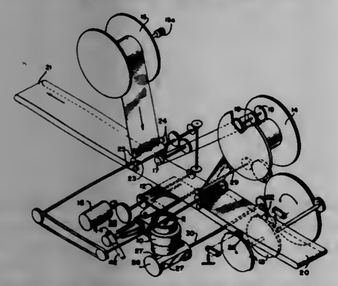
members carried by the fixed plate, extending outwardly thereof and disposed against the front shutter base plate whereby the film within the cassette is held in positive spaced relationship with respect to said front plate and in the desired focal plane, film stepped advancing means comprising a solenoid carried by the frame member, means to control the action of the solenoid, and a shutter swingably carried upon the front shutter base plate, overlying the aperture in said front plate and responsive to the action of the solenoid to expose the film within the cassette.

3,269,289
CAMERA LENS SHADE
Emery W. Ginter, 1325 N. Poinsettia Place, Los Angeles, Calif.
Filed July 27, 1964, Ser. No. 385,373
2 Claims. (Cl. 95—11)



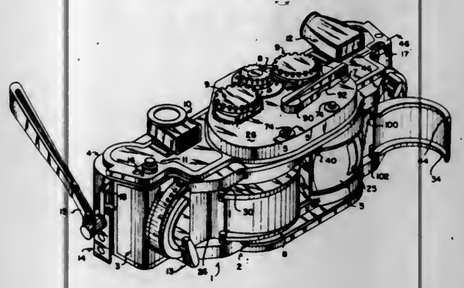
1. A camera lens shade comprising:
(a) a rod having a mounting end and adapted to be separably connected by said end to a camera having a photographing lens,
(b) a lens-shading plate, and
(c) means carried by the plate to adjustably mount said plate on the rod,
(d) the last-mentioned means comprising a leaf spring affixed by its middle portion to the plate, flexible ends on said spring having holes therein through which the rod extends, the spring ends being biased in a direction to frictionally engage the rod.

3,269,290
PANORAMIC AERIAL CAMERA
Gordon Lysle, Greenlawn, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Original application Jan. 7, 1963, Ser. No. 249,693, now Patent No. 3,160,082, dated Dec. 8, 1964. Divided and this application Aug. 17, 1964, Ser. No. 389,915
6 Claims. (Cl. 95—12.5)



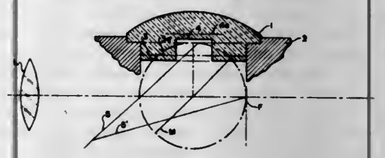
1. An optical system for a panoramic aerial camera including a lens and a lens holder comprising:
(a) a continuously rotatable multiple-dove optical scanner adapted to be disposed ahead of said lens for scanning the scene to be photographed;
(b) a shaft continuously rotatable at a speed which is a multiple of that of said scanner;
(c) a member pivotally mounted on said shaft, rotatable therewith and normally coaxial therewith;
(d) a universal support including an inner gimbal ring rotatably supporting said rotatable member and an outer gimbal ring adapted to be secured to said lens holder;
(e) and means for tilting the axis of said rotatable member relative to that of said shaft, thereby to oscillate said outer gimbal ring upon rotation of said shaft and compensate for the apparent image motion at the focal plane.

3,269,291
STEREOSCOPIC CAMERA
Robert V. Bernier, Dayton, Ohio, assignor to Globe Industries, Inc., Dayton, Ohio, a corporation of Ohio
Filed June 29, 1961, Ser. No. 128,617
51 Claims. (Cl. 95—15)



1. A stereoscopic panoramic nodal camera comprising, in combination: means for supporting a film in stationary position during exposure; a pair of lens means for projecting a pair of images upon said film having their axes parallel and horizontally spaced apart; means enabling the simultaneous rotation of said pair of lens means each about a separate axis; and means for biasing said axes so as to continually maintain said axes in non-displaceable spatial relationship to one another.

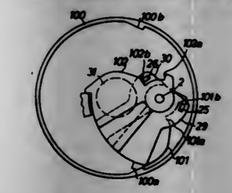
3,269,292
FINE FOCUSING DEVICE
Joseph Dahl, Rugener Strasse 6, Berlin N 65, Germany
Filed May 8, 1961, Ser. No. 110,607
1 Claim. (Cl. 95—44)



In a camera having an adjustable lens for focussing an image on a sensitive layer in the focal plane of the camera, a transparent focusing device, said device having matted plane surfaces spaced longitudinally along and perpendicular to the path of light from said lens on which the image formed by said lens may be focussed, said device having locating means cooperating with positioning means in the camera for locating the device in the camera, said locating means being positioned relative to said matted plane surfaces such that when the image viewed through the device appears equally in focus on said matted surfaces the focal plane of the lens in said device is at the same distance from the lens as the focal plane of the camera, said locating means fixing the focal plane

in said device so as to compensate for the longitudinal image displacement caused by the refractive character of said device.

3,269,293
BETWEEN-THE-LENS SHUTTER ASSEMBLIES
Gerd Kiper, Unterhaching, near Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany
Filed Aug. 12, 1964, Ser. No. 389,112
Claims priority, application Germany, Aug. 24, 1963, A 43,890
14 Claims. (Cl. 95—60)



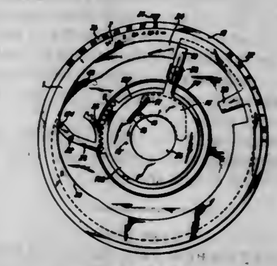
1. In a between-the-lens shutter assembly having an exposure aperture, in combination, support means; leading and trailing shutter blades supported by said support means for turning movement between run-down and cocked positions, said blades turning together from their run-down to their cocked positions and said leading blade turning from its cocked to its run-down position in advance of said trailing blade to uncover said aperture and said trailing blade then turning from its cocked to its run-down position to partially cover said aperture, said leading blade in its run-down position being completely displaced beyond said aperture and in its cocked position partially covering said aperture, and said trailing blade in its run-down position partially covering said aperture and in its cocked position being completely displaced beyond said aperture; leading and trailing auxiliary blades also supported for turning movement by said support means; motion-transmitting means operatively connected to both of said leading blades for turning said leading auxiliary blade in response to turning of said leading shutter blade to a position where said leading auxiliary blade partially overlaps said leading shutter blade and completes the covering of said aperture when said leading shutter blade is in its cocked position partially covering said aperture and to a position where said leading auxiliary blade is completely displaced beyond said aperture when said leading shutter blade is in its run-down position completely displaced beyond said aperture; and second motion-transmitting means operatively connected to both of said trailing blades for turning said auxiliary trailing blade in response to turning of said trailing shutter blade to a position where said auxiliary trailing blade partially overlaps said trailing shutter blade and completes the covering of said aperture when said trailing shutter blade is in its run-down position and to a position where said trailing auxiliary blade is completely displaced beyond said aperture when said trailing shutter blade is in its cocked position displaced completely beyond said aperture.

3,269,294
BETWEEN-THE-LENS SHUTTER ASSEMBLY
Gerd Kiper, Unterhaching, near Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany
Filed July 16, 1964, Ser. No. 383,079
Claims priority, application Germany, Aug. 24, 1963, A 43,892
13 Claims. (Cl. 95—63)

1. An assembly arrangement for a between-the-lens shutter assembly having an optical axis comprising assembled parts including a shutter plate and lens holding rings on each side of said shutter plate, said assembled parts having a clearance between them, resilient stay means reacting between said shutter plate and a lens holding ring, said resilient stay means having a reaction component directed perpendicularly to and being angularly oriented about said optical axis for maintaining the pattern of contact and clearance between said parts in a predetermined angular orientation about said optical axis whereby their concentric alignment is controlled, said clearance being between each of said lens holding rings and said shutter plate, and said resilient stay means comprising a pair of spring means disposed to react between said shutter plate and both of said lens holding rings on opposing sides of said optical axis whereby the misaligning effects of said clearances subtract from each other.



3,269,295
PHOTOGRAPHIC CAMERAS
Heinz Köppen, Stuttgart, Germany, assignor to Zeiss Ikon Aktiengesellschaft, Stuttgart, Germany
Original application Dec. 4, 1961, Ser. No. 156,740, now Patent No. 3,169,464, dated Feb. 16, 1965. Divided and this application Sept. 9, 1963, Ser. No. 307,722
Claims priority, application Germany, Dec. 15, 1960, Z 8,428
7 Claims. (Cl. 95—64)



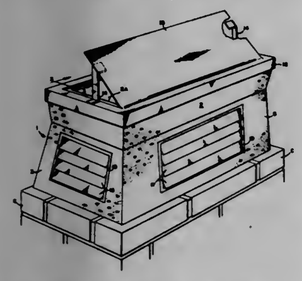
1. A photographic camera designed for selectively making flash exposures, automatically adjustable exposures and manually adjustable daylight exposures, said camera comprising in combination:
(a) a photographic objective provided with an adjustable diaphragm mechanism;
(b) a rotatable adjusting ring provided with a circumferentially extending flash guide number scale followed by an automatic exposure range and a diaphragm aperture scale employed for the manually adjustable exposures,
(c) a distance adjusting means operative to adjust the diaphragm only when said rotatable adjusting ring is set on its flash guide number scale,
(d) an automatic exposure adjusting means including an exposure meter built into the camera and operative when said adjusting ring is set in its automatic exposure range,
(e) a stationary mark adapted to serve as a common index for said guide number scale, said automatic exposure range and said diaphragm aperture scale,

(f) said diaphragm mechanism being provided with two rotatable diaphragm cages and diaphragm segments adjustable by said cages, each one of said cages being adapted to adjust said segments independently, and

(g) means for operatively connecting one of said diaphragm cages selectively with said rotatable adjusting ring for selectively making flash exposures, automatic exposures and manual exposures,

(h) said last named means comprising disconnecting cam means on said rotatable adjusting ring which render the nonselected exposure means ineffective.

3,269,296
VENTILATING DEVICE
Charles A. Best, 10045 NE. Shaver, Portland, Oreg.
Filed May 19, 1964, Ser. No. 368,609
3 Claims. (Cl. 98—67)



1. A ventilating fixture for a chimney comprising in combination,

a hollow rectangular housing having openings in at least two of its walls and terminating at its upper end in an outwardly extending perimetrical shoulder, said shoulder having upper and lower surfaces and an end wall substantially perpendicular to said surfaces,

louver means mounted within certain of said openings,

an upwardly inclined rectangular deflector plate of flexible sheet metal and integral with shoulder attachment means, and

said attachment means including angularly related portions embracing said surfaces and end wall on at least two sides of said shoulder.

3,269,297
APPARATUS FOR THE MANUFACTURE OF SAUSAGES
Paul H. Hilgeland, 2 Townsend Ave., London, England
Filed Mar. 5, 1965, Ser. No. 437,408
Claims priority, application Great Britain, July 21, 1961, 26,622/61
11 Claims. (Cl. 99—234)

1. Apparatus for the manufacture of foodstuffs having edible artificial skins comprising:

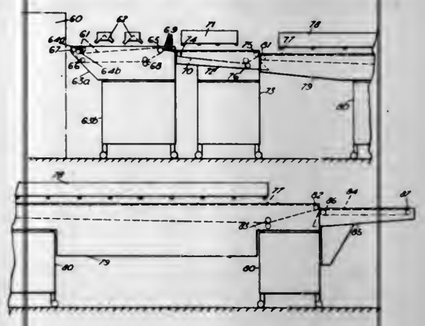
means to supply shaped foodstuffed portions in a spaced sequence;

a first endless conveyor belt, adapted to receive shaped foodstuff portions from the said supply means, a first liquid applicator, adapted to apply an edible coagulable solution to the shaped portions on the said first conveyor belt, and means maintaining the upper half of the said belt in an upward U-shape while the shaped portions are thereon;

a first drainage tank, adapted to receive coagulable solution draining from the first conveyor belt and to act as a reservoir for the aforesaid liquid applicator;

a second endless conveyor belt spaced from the first conveyor belt, a plurality of driven rollers, adapted to convey coated foodstuff portions leaving the said first belt to the said second belt and spaced to allow excess coagulable solution to drain therefrom, a second liquid applicator adapted to apply a coagulant solution to the coated portions on the said second belt, and means for maintaining the upper half of the said second belt in an upward U-shape while the said portions are thereon;

a second drainage tank, adapted to receive coagulant solution draining from the second conveyor belt and

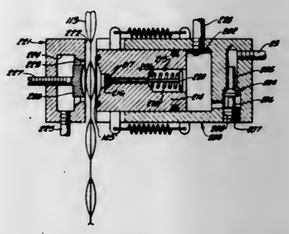


to act as a reservoir for the aforesaid second liquid applicator;

a third endless and perforated conveyor belt, not above the second conveyor belt, positioned to receive coagulant coated portions leaving the said second belt, and a blower means adapted to direct a blast of air to dry the said portions on the third belt; and

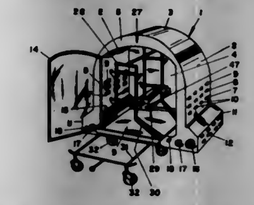
driving means for driving the aforesaid belts and the driven rollers in the same direction.

3,269,298
FLUID FLOW CONTROL APPARATUS
John F. Grundmann, 651 S. Irena Ave., Redondo Beach, Calif.
Filed Oct. 16, 1963, Ser. No. 316,753
4 Claims. (Cl. 99—289)



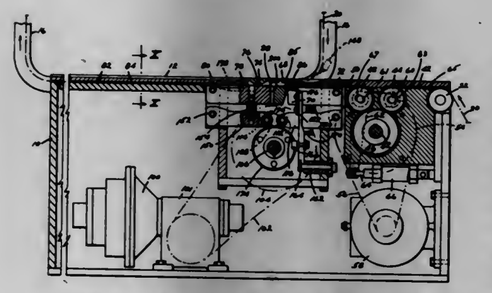
2. Apparatus for making brewed coffee comprising: a pair of closure members, said members having facing recesses, at least one of said members being movable toward and away from the other in a substantially horizontal direction; a supply of interconnected water permeable bags of coffee grounds; indexing means positioned vertically above said members, said indexing means being actuable to suspend each successive bag in a vertical position between said members in spaced relation to each; power means actuable to move at least one of said members toward the other to enclose each successive bag in a cavity between said members; fluid pressure means actuable to force hot water through said cavity and a bag therein; and means to deactuate said power means to return said members to relative positions in which both are out of contact with said bag.

3,269,299
APPARATUS FOR GRILLING OF CHICKENS
Knud Bjarne Nielsen, Bute St., Box 62, Ayr, Ontario, Canada
Filed Aug. 24, 1965, Ser. No. 482,111
6 Claims. (Cl. 99—421)



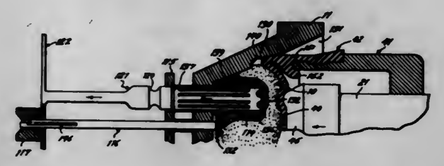
1. Apparatus for grilling chicken and like foods and comprising: a casing defining an enclosure and including a bottom, opposed vertical side walls, opposed vertical end walls, and a curved imperforate roof arched between said side walls; a door in one of said end walls; heating chambers mounted exteriorally of said casing along each of said side walls adjacent the junction between said side walls and said bottom of said casing; gaseous fuel jet means located within said heating chambers; air inlet ventilating means communicating said heating chambers directly to the atmosphere exteriorally of said casing admitting air thereto for formation of a combustible mixture with said gas; heat radiant combustion panels of a porous structure communicating between said heating chambers and the interior of said casing along the lower edges of said side walls for combustion of said mixture and transmission of radiant heat to said enclosure; fume ventilating means located in said side walls spaced downwardly from said curved roof and immediately vertically above said combustion panels; rotatable means for supporting said foods in said enclosure spaced from said casing, and drive means for said rotatable means.

3,269,300
STRAPPING MACHINE
Ronald J. Billett, Sunnyvale, and Terence H. West, San Jose, Calif., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Dec. 29, 1964, Ser. No. 421,883
15 Claims. (Cl. 100—8)



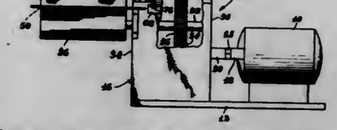
1. Apparatus for securing a tensioned plastic strap about an article, said apparatus comprising means for supporting an article in strapping position, gripping means for holding the leading end of a strap looped about the article in relaxed spaced overlapping relationship with respect to a strap portion extending to a supply, tensioning means for tensioning the strap about the article, holding means for holding the strap under tension about the article, means for melting the facing surface areas of the overlapping strap portions, squeezing means for squeezing the melted surface areas together whereby a fused joint is formed, and cutting means for cutting the strap from the supply adjacent the fused joint.

3,269,301
FRUIT JUICE EXTRACTION
Horst L. Krause, 1040 Foster St., Philadelphia, Pa.
Filed May 20, 1964, Ser. No. 368,809
12 Claims. (Cl. 100—37)



10. In compressive extraction of juice from fruit having a rind, the improvement comprising supporting a whole fruit on opposite sides without significant surface deformation thereof, excising a piece of rind before the fruit is compressed, enclosing the fruit and supporting essentially all the surface thereof except that portion from which a piece of rind was excised, compressing the fruit to expel the excised piece of rind and juice from the fruit, and replacing the excised piece of rind in the fruit after completion of the compression.

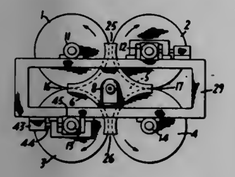
3,269,302
DEBONED POULTRY MEAT TREATING APPARATUS
Joseph Manaster, 1238 W. George St., Chicago, Ill.
Filed July 20, 1964, Ser. No. 383,704
3 Claims. (Cl. 100—73)



1. Poultry treating apparatus for flattening and spreading out variable thickness deboned poultry meat, said apparatus comprising a fixed housing, a first elongated roller member rotatably carried by and outwardly of said fixed housing so as to be supported at only one end, a movable housing carried by said fixed housing, a second elongated roller member rotatably carried by and outwardly of said movable housing so as to be supported at only one end and having its outer periphery spaced from but adjacent the outer periphery of said first roller member, meshing drive means positioned in said housings for imparting the same peripheral rotational speed to said roller members, said first and second roller members cooperating to receive and cause the substantial flattening and spreading out of said poultry meat, a support apron carried by and outwardly of said fixed housing so as to be supported at only one end and so as to be in a substantially horizontal position and aligned with the space between said spaced rollers members, the support apron defining an aperture therein substantially coextensive with the area in which the outer peripheries of the rollers are in close proximity whereby the said aperture permits meat on the support apron to be contacted by both rollers while passing therebetween, the apron serving as a support for the meat prior

to passage between the rollers and for the flattened and spread out meat after passing between the rollers, and means for biasing said movable housing towards said fixed housing whereby substantially constant compression forces are imparted to said poultry meat regardless of the varying thicknesses thereof.

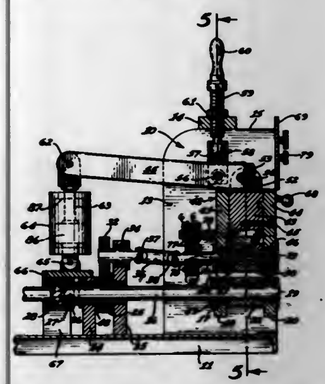
3,269,303
APPARATUS FOR TREATING FIBER MASSES
Olaf Qviller, Kirkeveien 65, Oslo, Norway
Filed June 10, 1963, Ser. No. 286,858
Claims priority, application Norway, May 31, 1958, 128,238
5 Claims. (Cl. 100—121)



1. Separation apparatus for separation of fibrous material from a liquid with which the fibrous material is mixed without subjecting the fibers of said material to a grinding or crushing action regardless of the density of said fibrous material in a mixture thereof with said liquid comprising, a plurality of vertically disposed cylindrical drums having straining walls, said drums being relatively disposed with the walls thereof defining a chamber substantially enclosed circumferentially by said straining walls, means closing opposite lower and upper ends of said chamber, means to deliver a mixture of said fibrous material and said liquid into said chamber for separation of said fibrous material from said liquid, means for selectively rotating said drums in selected directions with next adjacent drums rotating in opposite directions, means for removing from the interior of said drums liquid removed from the mixture of liquid and fibrous material in said chamber, and at least two of said drums being disposed defining a longitudinally extending space in communication with said chamber for delivery of fibrous material from said chamber as a mat of fibers automatically during rotation of said drums.

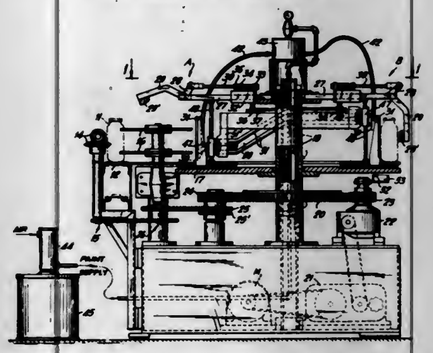
3,269,304
EMBOSSING MACHINE
Elizabeth A. Godfrey, 4616 S. 9th St., Phoenix, Ariz.
Substituted for abandoned application Ser. No. 202,768, June 15, 1962. This application July 6, 1965, Ser. No. 473,553
1 Claim. (Cl. 101—23)

An embossing machine comprising in combination:
(A) a frame,
(B) a backup roller journaled against axial and radial movement on said frame,
(C) a carriage mounted and guided for vertical sliding movement on said frame,
(D) a cylindrical embossing die journaled against axial and radial movement on said carriage located radially above and axially aligned with said backup roller,
(E) drive means mounted on said frame for simultaneously rotating said backup roller and said embossing die in opposite directions for any relative radial position of said members,
(F) a lever arm,
(G) a pivot pin pivotally supporting said lever arm at a point intermediate the ends thereof,
(H) manually actuable means on said frame for positively supporting and adjustably varying the vertical position of said pivot pin during the operation of the machine radially relative to said backup roller,
(I) a pivotal sliding connection between the front end of said lever arm and said carriage,
(J) an expandable and contractable power actuated device interconnected between said frame and the rear end of said lever arm including,



(K) an actuating element connected to swing the rear end of said lever arm relative to said frame so as to move said embossing die during the operation of the machine to and from a predetermined fixed positive radial operative position relative to said backup roller,
(L) and a positive stop element engaged by said actuating element to positively limit movement of said carriage and embossing die to said predetermined fixed operative position relative to said backup roller during the operation of said machine.

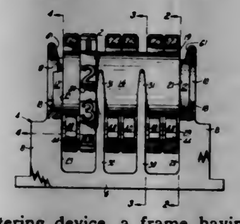
3,269,305
MACHINE FOR PRINTING UPON BOTTLES AND SIMILAR BODIES
Anthony T. Rossi, P.O. Box 338, Bradenton, Fla.
Filed Mar. 18, 1965, Ser. No. 440,694
4 Claims. (Cl. 101—35)



1. A silk screen decorating machine comprising a horizontal, substantially circular table rotatable about a vertical axis; means rotating the table; a plurality of decorating stations evenly spaced on the table in circular arrangement; each decorating station including an upstanding decorating screen with frame facing outwardly from the table, a vertically reciprocable squeegee, and stationary

first cam means effecting an upward printing movement and a following free downward return movement of the squeegee while the table rotates; conveying means carrying a row of equally spaced bodies to be decorated upon a vertical surface toward the table and decorated bodies away from the table; transferring means moving incoming bodies successively from said conveying means to the table in front of succeeding decorating screens with the surface to be decorated facing the screen; a series of clamping means each associated with a decorating station to hold the body in position while the table rotates; second stationary cam means operating said clamping means namely pressing the body against the screen frame while the squeegee moves upward and freeing the decorated body before the same is retransferred to the conveying means.

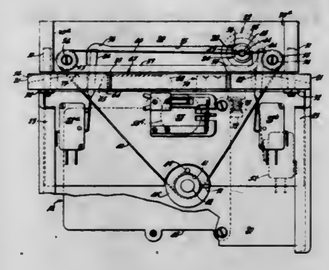
3,269,306
INDICIA WHEEL ASSEMBLY
Bruno S. Smilgys, Hartford, Conn., assignor to Veeder-Root Incorporated, Hartford, Conn., a corporation of Connecticut
Filed Feb. 18, 1964, Ser. No. 345,612
9 Claims. (Cl. 101—110)



1. In a registering device, a frame having a pair of spaced shaft supports, a shaft mounted on said shaft supports having a flat axial surface, said shaft having a plurality of axially spaced integrally formed pawls with radially resilient arms extending circumferentially from adjacent said flat axial surface and detents at free ends thereof, and a plurality of number wheels rotatably mounted on the shaft and about the pawls, said number wheels having inner generally cylindrical surfaces engaging the shaft formed with a plurality of angularly spaced radial grooves adapted for selectively receiving the detents and thereby restrain the wheels against rotation, and said frame having a rib extending between a pair of wheels with a flat supporting surface in engagement with the flat axial surface of the shaft.

3,269,307
IMPRINTING MACHINE WITH RECIPROCATING CYLINDER
Vincent G. Bell, Jr., Stratford, Wayne, and Dunstan P. Sheldon, Daylesford, Pa., assignors, by mesne assignments, to Dashew Business Machines, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Sept. 4, 1963, Ser. No. 306,470
10 Claims. (Cl. 101—269)

1. An imprinting device, comprising in combination, a platen for holding printing elements and a medium to be imprinted by said elements, an elongated cam rail closed at both ends above said platen having a longitudinal cam track with a central pressure portion and a raised relief portion at at least one end of the pressure portion, an imprinting roll having a portion underlying said cam track and movable along said cam track to squeeze against the printing elements and medium when travelling along said pressure portion to imprint on said medium, and to stand in a raised position when in the raised relief portion at an end to permit removal and insertion of said medium, a cable connected to an end of said roll for reciprocating it along said cam track in pressure engagement therewith between said ends, and guide and support means for said cable at each end of the cam track, the cable guide means at the end having

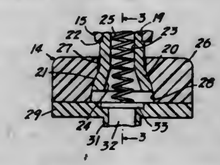


the relief portion being disposed in relation to said cam track pressure portion and relief portion as to lift the roll up into the relief portion, and means for reciprocating said cable.

3,269,308
DILATANT PLASTIC PRINTING PLATE
Daniel L. Goffredo, 104 Main St., Riverton, N.J.
No Drawing. Filed Mar. 27, 1963, Ser. No. 271,834
2 Claims. (Cl. 101—395)

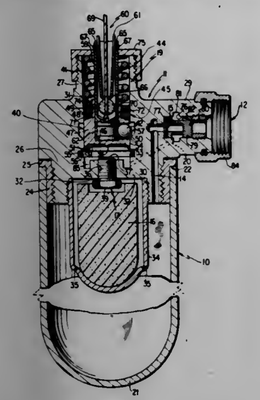
1. A printing plate with relief indicia; the printing surface is of a dilatant composition which yields under slow shear forces but resists high rates of shear; the surface composition, also, has the property of returning to its initial configuration when distorted out of such configuration by pressure, when the pressure is removed; and the composition is readily bendable and will conform to the printing drum with minimum makeready time while being self supporting and always returning to its initial configuration, after the distorting force is removed.

3,269,309
HANDGRIP UNIT FOR RUBBER STAMPS
Whitney K. Munson, Runson, N.J.
(192 Comanche Drive, Oceanport, N.J.)
Filed Nov. 1, 1965, Ser. No. 505,788
8 Claims. (Cl. 101—406)



1. In rubber hand stamps of the character defined, a handgrip unit for attachment to a stamp body, said unit comprising a socket having a chamber therein, a plunger including a crosshead arranged in the chamber of the socket, the plunger having an elongated bore opening through said crosshead, yieldable means arranged in said bore and extending into the chamber of the socket and engaging a bottom wall of said chamber in normal support of the crosshead of the plunger in raised position in said chamber, a handgrip mounted on said plunger, said mounting of the handgrip and plunger with respect to the socket providing universal tilting movement of the plunger and handgrip with respect to said socket, and the lower end of the socket having means for mounting the same in connection with a stamp body.

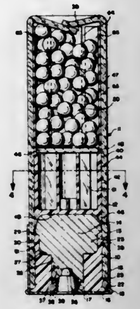
3,269,310
INFLATING APPARATUS
William F. Wismar, Union, N.J., assignor to Specialties Development Corporation, Belleville, N.Y., a corporation of New Jersey
Filed May 28, 1965, Ser. No. 459,803
4 Claims. (Cl. 102—39)



1. Inflating apparatus comprising a container for a fluid medium having an outlet opening, a control head closing said opening and having an outer surface in communication with the atmosphere and having an inner surface in communication with the interior of said container, bore means in said control head extending inwardly from said outer surface toward said inner surface and having an outer end in communication with the atmosphere and having an inner end, a pyrotechnic charge in fluid flow communication with the interior of said container, a percussion actuated igniter at said inner end of said bore for igniting said charge, an impacting member in said bore for actuating said igniter, spring means for urging said impacting member toward said igniter, locking means for normally holding said impacting member spaced from said igniter, pull cable operated trigger means for releasing said locking means, a charge of pressurized fluid medium in said container, outlet port means on said control head for attaching an inflatable unit, a first passageway through said control head having a first end in fluid flow communication with the interior of said container and having a second end in fluid flow communication with said outlet port means, a burst disc in said passageway for releasing the fluid medium when the pressure within said container is increased by the burning of said pyrotechnic charge, a second passageway through said control head having a first end in fluid flow communication with said bore and having a second end in fluid flow communication with said first passageway means downstream of said burst disc, and means for sealing said first end of said second passageway from the atmosphere when said impacting member is released from its normal position.

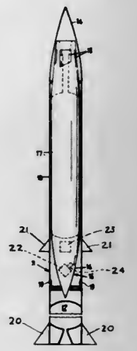
3,269,311
SHOTGUN CARTRIDGE
Ronald W. Comerford, 11905 Milan Ave., Cleveland, Ohio
Filed Oct. 23, 1962, Ser. No. 232,420
6 Claims. (Cl. 102—42)

1. A wad for use in a shot gun cartridge between a powder charge and a shot charge, the wad comprising:
(a) a cylindrical outer wall sized in its outer dimension to telescope within the cartridge case with a lower end adjacent the powder charge and an upper end adjacent the shot charge, said outer wall being flexible;
(b) a first end wall disposed transversely across the opening defined by the end of the outer wall adjacent the powder charge;
(c) a second end wall disposed transversely across the opening defined by the upper end of the outer wall adjacent the shot charge;



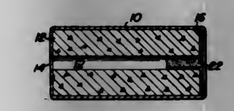
(d) a center support structure extending between and in contact with said end walls and spaced interiorly of said outer wall; and
(e) said center support structure including a plurality of wall members in contact with substantially the full length of said support extending radially outward toward said outer wall and terminating in spaced relation thereto.

3,269,312
AERIAL VEHICLES
George Herbert Alexander Fenton, Harpenden, England, assignor to British Aircraft Corporation (Operating) Limited, a British company
Filed July 3, 1963, Ser. No. 293,575
Claims priority, application Great Britain, July 10, 1962, 26,576/62
5 Claims. (Cl. 102—49)



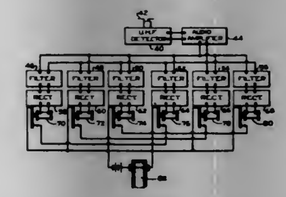
1. An aerial reconnaissance vehicle comprising a first cylindrical rocket missile having a rear portion including a propulsion means at its rear end, said propulsion means lying within the circular periphery of the missile, and a hollow front portion containing a second rocket missile which is disposed with its nose pointing towards the rear end of the first missile and which has a propulsion nozzle at its rear end; means for separating the rear part of the first missile from the front part containing the second missile; fin means on the rear portion of the first missile for stabilizing the first missile in a spinning condition; further fin means on the front portion of the first missile for stabilizing the said front portion in a spinning condition after separation of the said rear portion from the said front portion; a camera mounted in the front of the second missile with its lens pointing laterally and somewhat towards the front end of the first missile; window means in front of the camera, and gyro-operated means for operating the camera each time the camera lens points downwards during the descent of the combined first and second missiles.

3,269,313
SELF-PROPELLED SUB-MUNITION
William G. Willmann, Bethlehem, Pa., and Calvin Walbeck, Northeast, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed Jan. 18, 1965, Ser. No. 426,454
5 Claims. (Cl. 102—49)



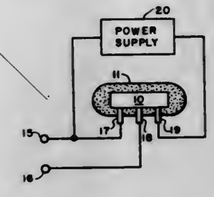
1. A self-propelled sub-munition comprising:
(A) cylindrical container means,
(1) exhaust port means in one end thereof,
(2) fuze means in one end thereof,
(B) agent-combustion means filling said container except for an axial bore, which is communicative with said port means,
(1) said means comprising a major portion of combustion means for skiddingly propelling said container randomly across the ground, mixed with a minor portion of agent means.

3,269,314
RADIO PROXIMITY FUZE
Russell H. Varian, Wantagh, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Original application July 8, 1941, Ser. No. 401,474. Divided and this application Dec. 7, 1942, Ser. No. 468,308
2 Claims. (Cl. 102—70.2)



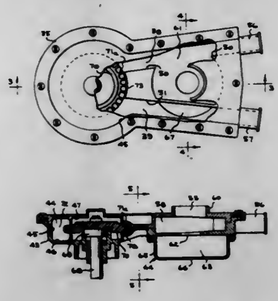
1. In apparatus of the character described, a missile adapted to be propelled toward a target, means for directing electromagnetic radiation at said missile and from the target, said missile having a receiver for receiving the direct radiation from said radiating means and for receiving radiation reflected from the target, a normally open detonation control circuit in said missile, and frequency selective means controlled from said receiver for effecting the closing of said detonation circuit when a predetermined heterodyne frequency is produced in said receiver by said direct reception and said reflected reception.

3,269,315
EXPLOSIVE PRIMER
Godfrey R. Gauld, Richmond, Ind., assignor to Avco Corporation, Richmond, Ind., a corporation of Delaware
Filed Apr. 2, 1964, Ser. No. 356,710
3 Claims. (Cl. 102—70.2)



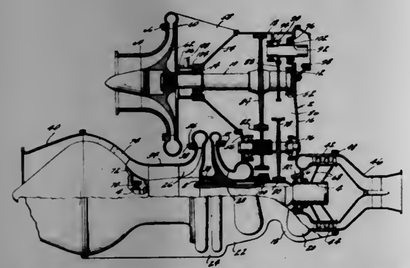
1. In ordnance, the combination of:
a three-element transistor type of semiconductor device having emitter, base, and collector electrodes,
an ignition charge surrounding said device,
and means for driving the semiconductor device into thermal runaway.

3,269,316
VORTEX TYPE TURBINE PUMP
Daniel N. Toma, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Jan. 14, 1965, Ser. No. 425,415
3 Claims. (Cl. 103—2)



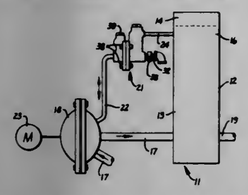
1. A fluid pump of the turbine type including:
(a) a pump housing forming a pump chamber,
(b) an impeller mounted in said chamber for selective rotation in opposite directions,
(c) first and second outlet conduits for selectively transferring fluid from said pump chamber dependent upon the direction of rotation of said impeller, each of said outlet conduits having an inner and a lower wall,
(d) a vortex chamber communicating with the lower wall of said second outlet conduit,
(e) an inlet chamber communicating with the inner wall of said first outlet conduit and with said vortex chamber whereby rotation of said impeller draws fluid from said inlet chamber into said pump chamber through one of said outlet conduits and discharges it through the other of said outlet conduits.

3,269,317
TURBOPUMP ARRANGEMENT
Frank Lattanzio, West Hartford, Conn., and Frank W. Reichenbacher, Scottsdale, Ariz., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Feb. 21, 1963, Ser. No. 261,558
9 Claims. (Cl. 103—6)



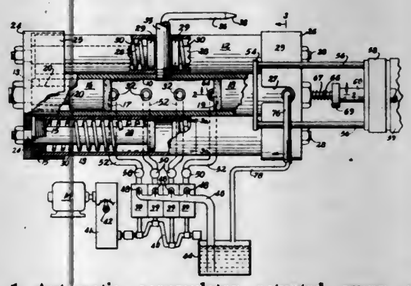
1. A turbopump assembly for a rocket, including a housing, laterally spaced substantially parallel shafts journalled therein, a pump for a first propellant mounted on the first shaft, a turbine on said first shaft for driving said first propellant pump, a second propellant pump on the second shaft, reduction gearing between the shafts, a partition in said housing to define a chamber therein for the gearing, and means for controllably passing a selected quantity of said first propellant from said first propellant pump into said chamber.

3,269,318
AUTOMATIC AIR INJECTOR SYSTEM
Carlyle O. Telford, Hayward, and Clarence L. Pritchard, Castro Valley, Calif., assignors to Malsbary Manufacturing Company, Oakland, Calif., a corporation of California
Filed Apr. 10, 1964, Ser. No. 358,764
6 Claims. (Cl. 103—6)



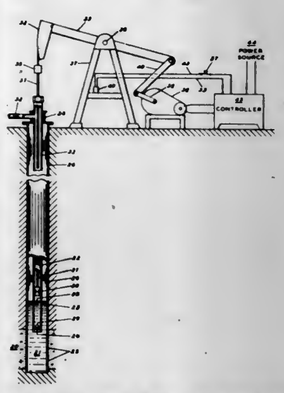
1. In a water pressure system containing a tank having a pressure chamber designed to hold water in the lower portion thereof and an air cushion under pressure in the upper portion thereof, a main supply line to the tank, a pulsating main supply pump in said main supply line, and an output line in communication with the lower portion of said tank, in combination, an air injector comprising an air supply chamber in fluid communication with said tank, an air supply pump for pumping air from the atmosphere into said air supply chamber, water coupling means between the main supply pump and the air supply pump, and a water supply line connecting said water coupling means to said air supply chamber for delivering water to said air supply chamber in response to operation of said main supply pump, said air supply pump being operated in response to operation of said main supply pump for pumping air into said air supply chamber into water delivered thereto through said water supply line, and for injecting air above the water level in said air supply chamber into the tank, the amount of air pumped into said air supply chamber and injected into said tank being responsive to the amount of water pumped to the tank by said main supply pump.

3,269,319
AUTOMATIC ACCUMULATOR ACTUATED PUMP CONTROL MEANS
Adam P. Dargas, Detroit, Mich., assignor to R. P. Scherer Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 30, 1964, Ser. No. 363,823
7 Claims. (Cl. 103—25)



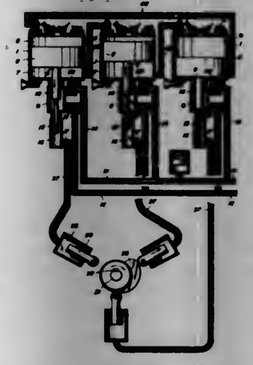
1. Automatic accumulator actuated pump control means of the character described comprising a variable volume accumulator receiving liquid from a pump which has a motor for operating the pump, said accumulator including a cylinder receiving the liquid, a piston in said cylinder, preloaded spring means biasing said piston to a position of minimum volume, a normally open limit switch adapted to be closed by predetermined movement of said piston in opposition to the bias of said spring means, said limit switch being in circuit with the motor, a starting switch shunting said limit switch, said accumulator having a second piston opposed to said first mentioned piston, and a second preloaded spring means biasing said second piston to the minimum-volume position.

3,269,320
PUMP CONTROL METHOD AND APPARATUS
Aubra E. Tilley and Oke A. Fredriksson, Fullerton, Calif., and Troy J. Pemberton, Stillwater, Okla., assignors to Chevron Research Company, a corporation of Delaware
Filed June 16, 1964, Ser. No. 375,459
8 Claims. (Cl. 103—25)



1. Apparatus for controlling the operation of an oil well pump comprising means for sensing abnormal vibrations of the pumping apparatus, means for transmitting the sensed vibrations to equivalent electrical signals, detector means for detecting signals only above a predeterminable magnitude, multivibrator means for producing an electrical pulse of a predeterminable duration in response to each detected signal, said pulse being of the same duration for each detected signal and switching means responsive to a plurality of the electrical pulses for stopping the operation of the pumping apparatus.

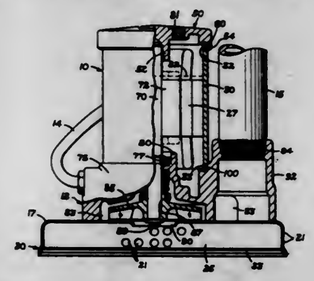
3,269,321
COMBUSTION ENGINE FOR CONVEYING A HYDRAULIC PRESSURE MEDIUM
Karl Eickmann, 2420 Ishiki, Hayama-machi, Kisaragun, Kanagawa-ken, Japan
Original application Aug. 1, 1961, Ser. No. 128,490, now Patent No. 3,174,432, dated Mar. 23, 1965. Divided and this application Feb. 14, 1964, Ser. No. 344,941
Claims priority, application Switzerland, Aug. 12, 1960, 9,162/60
12 Claims. (Cl. 103—54)



1. A piston engine comprising, in combination, a plurality of main cylinder members; a main piston member in each main cylinder member defining in the same a combustion chamber having an inlet and an outlet, and a precompression chamber having an inlet and an outlet, one of said members being movable; means for producing combustion in said combustion chambers of said main cylinder members so that said movable members are driven to perform expansion strokes in one direction; actuating means operatively connected with said movable members for moving the same in compression strokes opposite to said direction, said actuating means including a plurality of auxiliary hydraulic motors respectively operatively connected with said movable members, a plurality of auxiliary pumps, each having a movable pump part, conduit means connecting each auxiliary pump with a corresponding auxiliary hydraulic motor, and drive means for actuating said movable parts so that said auxiliary motors are operated and drive said movable members in compression strokes; and passage means for connecting said outlet of said precompression chamber of each main cylinder member with said inlet of said combustion chamber of another main cylinder member whereby a fluid containing fuel is pumped from said precompression chamber of each main cylinder member through said passage means into said combustion chamber of another main cylinder member.

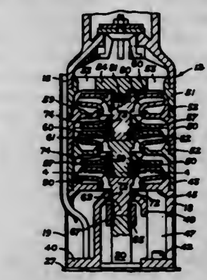
3,269,322
SUBMERSIBLE MOTOR AND PUMP
Anthony J. Lotspih, Dayton, Ohio, assignor to The Tait Manufacturing Company, Dayton, Ohio, a corporation of Ohio
Filed Nov. 30, 1964, Ser. No. 414,786
7 Claims. (Cl. 103—87)

1. A sealed motor-pump assembly adapted to be submerged within a liquid which supplies the pump, comprising a motor having a rotor and shaft and a cylindrical outer casing, a shaft support housing mounted on one end of said casing and including a cylindrical flange spaced adjacent an end portion of said casing, a pump housing connected to the opposite end of said casing and having an impeller rotatably mounted therein on said shaft, means defining a circumferential groove formed within the cylindrical surface of said end portion of said casing, means defining a corresponding circumferential groove formed



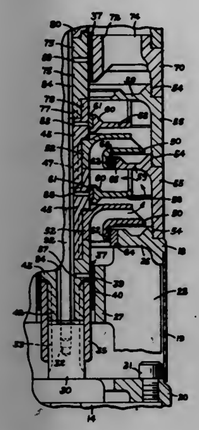
within the cylindrical surface of said flange, seat means for spacing said circumferential grooves in radially matching relation to define a torodial chamber, and a hardenable cement material within said chamber substantially filling said grooves to lock said shaft support housing firmly to said casing and to form a liquid-tight seal therewith.

3,269,323
PUMPS
Kenneth R. Lung, Morehead City, N.C., assignor to The Tait Manufacturing Company, Dayton, Ohio, a corporation of Ohio
Filed Dec. 30, 1964, Ser. No. 422,371
6 Claims. (Cl. 103—87)



1. An improved submersible multi-stage pump adapted to be driven by a drive shaft extending from a motor, comprising a plurality of pump housings connected rigidly together in stacked relationship, a corresponding plurality of impellers arranged with one impeller positioned in each said housing, integral hub extension means projecting axially from one side of each of said impellers and having external spline means formed thereon, means defining an axial opening in the opposite side of each said impeller having corresponding internal spline means for receiving said hub extension means of the adjacent said impeller to form a positive drive socket connection therebetween and for maintaining said impellers in radial and axial alignment, means separably connecting adjacent said pump housings and corresponding impellers to provide for convenient servicing of the pump, and coupling means for connecting the end impeller to the motor drive shaft for rotating said impellers by transferring the torque successively from one said impeller to the adjacent said impeller through said socket connections.

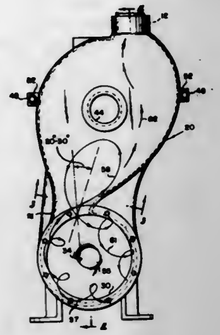
3,269,324
PUMPS
Albert D. Van Atta, Dayton, Ohio, assignor to The Tait Manufacturing Company, Dayton, Ohio, a corporation of Ohio
Filed Dec. 30, 1964, Ser. No. 422,372
9 Claims. (Cl. 103—87)



1. A submersible pump comprising a motor having a submersible casing and including a projecting motor shaft, means defining a multi-stage pump housing rigidly connected to one end of said motor casing, a plurality of impellers spaced in stacked relationship within said housing, a separate shaft segment extending through the hub of each of said impellers and connected thereto for positive rotation, means on said shaft segments providing a socket engagement between each pair of adjacent said segments to maintain axial alignment and positive drive therebetween, coupling means mounted on said motor shaft for providing a positive drive connection and axial alignment between said motor shaft and the adjacent said shaft segment, bearing means affixed to said housing for rotatably supporting at least one of said shaft segments, and means for retaining said shaft segments in said engaged relationship.

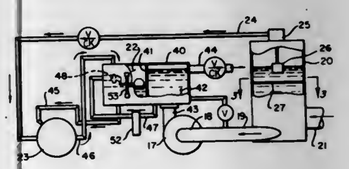
3,269,325
PUMP
George Schwed and Richard D. Combs, Sacramento, Calif., assignors to Arthur G. McKee & Company, Cleveland, Ohio, a corporation of Delaware
Filed July 29, 1963, Ser. No. 298,039
11 Claims. (Cl. 103—103)

1. A self-priming, non-clogging solids pump comprising fluid guide structure defining seriatim an inlet, a siphon breaker chamber below said inlet, a pump chamber below said inlet to receive the effluent from said siphon breaker chamber, a priming chamber located above and forming an extension of said pump chamber and an outlet at the upper portion of said priming chamber; a rotatable impeller mounted on the said guide structure at said pump chamber and located substantially completely outside of the main path of fluid flow therethrough and operative when rotated to create vortical fluid flow in said pump chamber to induce fluid flow from said siphon breaker chamber through said pump chamber into said priming chamber, said chambers and the passages between said chambers being unobstructed and the passage between the pump and priming chambers forming a throat of such size and shape that any solid which may pass through said inlet can pass through said throat into said priming chamber so that passage between said inlet and outlet of solid particles entrained in fluid passing therethrough is not precluded, the internal cross-section of said priming chamber as viewed in a plane perpendicular to the axis of rotation of the impeller being essentially of diverging-converging form from the throat



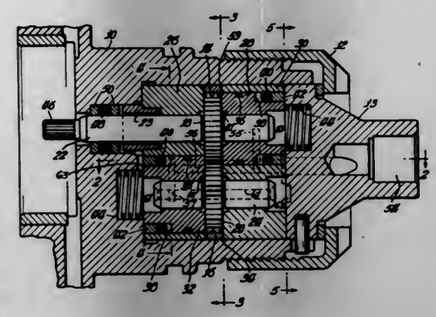
connecting the pump chamber and the priming chamber to the outlet and wherein the centerline through the throat is inclined substantially from the vertical and wherein the walls of said pumping chamber smoothly merge with the walls of said priming chamber through said throat.

3,269,326
WELLPOINT SYSTEM
Jack T. Culleton, Hayward, and Frank V. Flesher, Oakland, Calif., assignors to Pacific Pumping Company, Oakland, Calif., a corporation of California
Filed Nov. 5, 1964, Ser. No. 409,131
6 Claims. (Cl. 103—113)



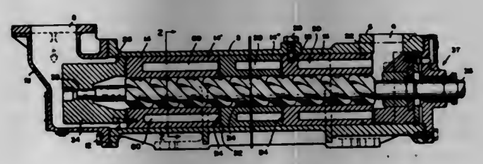
1. In a pumping apparatus for use with wellpoint dewatering systems, the combination comprising:
a main pump and means connected thereto for driving it;
a deaerating tank having an inlet connected to a header of a wellpoint system and an outlet connected to the main pump inlet;
a wet type vacuum pump of the type requiring a constant supply of liquid to produce a suction pressure at the pump inlet and means for driving said vacuum pump at a constant speed;
an air suction line connected at one end to said vacuum pump inlet and at the other end to the upper end of said deaerating tank;
a supply tank for water required to operate said wet vacuum pump;
inlet and outlet conduits connected to said vacuum pump and said supply tank;
means for utilizing the water discharged from said main pump for cooling the water in said supply tank being supplied to said set type vacuum pump.

3,269,327
PRESSURE LOADED GEAR PUMP
Francis E. Norlin, Chesterland, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 4, 1964, Ser. No. 408,780
6 Claims. (Cl. 103—126)



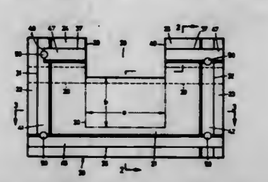
1. A gear pump comprising:
a housing, said housing containing pumping chamber;
an inlet leading to and an outlet leading from said pumping chambers;
rotatable intermeshing pumping gears disposed in said pumping chambers for drawing fluid from said inlet, pressurizing the fluid, and forcing it out said outlet under pressure;
said gears provided with axially extending journals;
static body bearings and axially movable pressure loadable bearings disposed in said housing for rotatably supporting said axially extending journals;
each of said gears having a static body bearing and an axially movable pressure loadable bearing associated therewith, the axially movable bearing adapted to be axially moved along one of said journals into sealing engagement with said gears; and
each of said axially movable bearings being mounted within and carried by a static body bearing.

3,269,328
SCREW PUMPS OR MOTORS
Morgan B. Sennet, Erwinna, Pa., assignor to De Laval Turbine Inc., Trenton, N.J., a corporation of Delaware
Filed Sept. 28, 1964, Ser. No. 399,771
4 Claims. (Cl. 103—128)



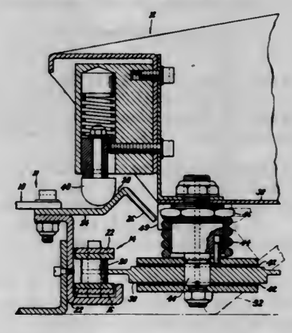
1. A hydraulic screw device comprising a casing, at least one housing member within the casing, a power screw and at least one idler screw intermeshing with said power screw, said screws rotating in respective intersecting bores in said housing member, said housing member having at least one opening therein extending about the power screw bore to provide a chamber closed with respect to the exterior of the housing member and a wall between it and the power screw bore, and means providing communication between said chamber and the portion of the power screw bore interior thereof.

3,269,329
SEALING MEANS FOR VANES OF ROTARY VANE MACHINES
Karl Eickmann, 2420 Ishiki, Hayama-machi, Miuragun, Kanagawa-ken, Japan
Filed Oct. 22, 1962, Ser. No. 232,114
Claims priority, application Germany, Oct. 28, 1961, E 21,875
20 Claims. (Cl. 103—136)



1. In a rotary vane machine having a rotor comprising a central rotor part and rotor side walls axially at both sides of said central part, said rotor having substantially radial slots extending radially within said central rotor part and said rotor side walls, and a casing ring surrounding said central rotor part, said rotor side walls at least substantially engaging with the two opposite lateral sides of said casing ring, the combination comprising a vane slidably mounted in one of said slots and having such a length that a central part of said vane extends axially along the length of said central rotor part, while the two end portions of said vane extend at least partly into said rotor side walls, said end portions having projections extending radially in the outward direction and embracing said casing ring at both lateral sides thereof, at least one longitudinal side of said vane including said projections being slidably associated with the wall of one of said slots so as to form an intermediate gap, and sealing means in the form of gasket strip means sealing said gap and extending from one lateral side of said casing ring into one end portion of said vane and around a central part of said longitudinal side of said vane into the opposite end portion of said vane and up to the other lateral side of said casing ring.

3,269,330
CONVEYOR SYSTEMS
Donald R. Skeffington, Ipswich, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey
Filed May 29, 1964, Ser. No. 371,204
2 Claims. (Cl. 104—172)



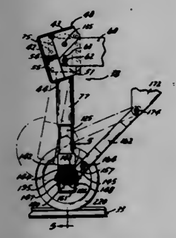
1. In a conveyor system, a tow chain, a cover disposed over said tow chain, said cover having an inclined outer portion leading to a shoulder, the outer side of said chain being exposed whereby an article carrying device having a laterally extending chain engaging means and a spring

loaded detent may be releasably engaged with said cover with the detent seated behind said shoulder and said chain engaging means engaging the side of the chain.

3,269,331
CONVERTIBLE RAILWAY-HIGHWAY VEHICLE

Clarence R. Thompson, Waverly, Iowa, assignor to Koehring Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Jan. 30, 1964, Ser. No. 341,279
6 Claims. (Cl. 105—215)



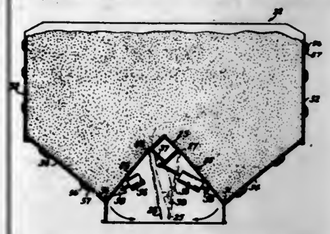
1. A vehicle capable of movement along a paved roadway as well as along railway tracks including frame means having spaced driving wheels thereon adapted for travel on said paved roadway and tracks, and a railway wheel and axle adaptor assembly comprising reinforced bumper structure pivotally supported by said frame means on a transverse axis, axle support means supported in depending relation from said bumper structure, actuating mechanism supported by said bumper structure, said axle support means including a pair of spaced guide tubes depending from said bumper structure, a retractable tube telescopically received within each of said guide tubes, gear means interconnecting said actuating mechanism with said retractable tubes for simultaneously moving the tubes upwardly and downwardly within the associated guide tubes for lifting and lowering the mechanism, a transverse axle support portion rigidly fixed to the lower ends of said retractable tubes, link means having one end thereof pivotally interconnected with said transverse axle support portion, the opposite end of said link means being pivotally interconnected with said frame means, pin means supported by said transverse axle support portion, means retaining said pin means in operative position, axle means, said axle means including at the central portion thereof means for journalling the axle means on said pin means for rotation thereabout, said axle means including wheel support portions at opposite ends of said axle means.

3,269,332
RAILROAD CAR AND DROP-FLOOR ARRANGEMENT THEREFOR

John G. Kneiling, Staten Island, N.Y., assignor to Devenco Incorporated, New York, N.Y., a corporation of New York

Original application Dec. 28, 1962, Ser. No. 248,017, now Patent No. 3,199,463, dated Aug. 10, 1965. Divided and this application Dec. 24, 1964, Ser. No. 420,948
3 Claims. (Cl. 105—240)

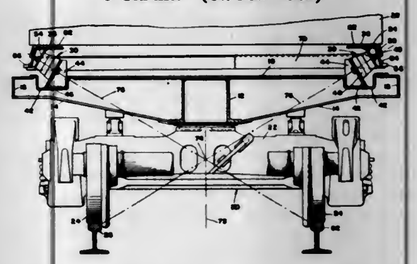
1. A drop-floor railroad car unit adapted to carry coal and like freight, comprising longitudinally extending side walls, transverse end walls, a center sill extending along a longitudinal center line of the car unit, a floor, said floor including on each side of the center sill an inwardly and downwardly sloping fixed outer section secured to the lower edge of the side wall and an outwardly and downwardly sloping inner door section hinged to the center sill, latch means holding said sections together with their lower edges in floor-closing proximity, pneumatic means for releasing said latch means to permit said door sections to drop open, and pneumatic means for reclosing said door sections, said door-closing pneumatic means including a piston-cylinder device operatively interposed between the center sill and each door section.



3,269,333
RAILROAD CAR WITH ELASTIC MEANS TO ISOLATE VAN SIZE CONTAINER THEREON

George A. Schmidt, Langhorne, Pa., assignor to Strick Corporation, Fairless Hills, Pa., a corporation of Pennsylvania

Filed Nov. 25, 1964, Ser. No. 413,779
5 Claims. (Cl. 105—366)



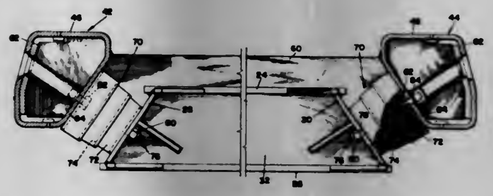
1. In combination with a container, a railroad car including a deck means, inner transversely spaced, longitudinal, vertically extending bars each secured at acute angles to said deck means and converging upwardly, outer transversely spaced longitudinal members including walls spaced from and substantially parallel to said bars, a rigid member extending transversely between and connecting said outer members, said outer members supporting said container, and elastomeric members secured between said bars and said walls and having shear axes, when relaxed, which are substantially parallel to said bars and walls, the elastic axis of the system falling below said deck means and on a vertical plane defining the longitudinal center of said railroad car, said elastomeric members acting to substantially reduce transmission to said container of the repeated vertical and lateral forces to which the railroad car is subjected as it rolls over alternating joints of rail sections to thereby prevent back and forth racking of said container which racking puts severe strain on said container causing undue wear and at times corner failure.

3,269,334
TURNTABLE

George A. Schmidt, Langhorne, Andrew Abolins, Penndel, and Paul J. Seng, Langhorne, Pa., assignors to Strick Corporation, Fairless Hills, Pa., a corporation of Pennsylvania

Filed July 27, 1964, Ser. No. 385,362
5 Claims. (Cl. 105—368)

1. In combination with a container, a railroad flatcar including a deck, a pin upstanding therefrom and a turntable supporting one end portion of said container, said turntable comprising an inner unit having longitudinal, vertically extending bars disposed at acute angles to the horizontal and converging upwardly, a member extending transversely between and connecting said bars and including means journaling said pin so that said inner unit is rotatable about the vertical axis of said pin, an outer unit including longitudinal members having walls spaced from and substantially parallel to said bars, and elastomeric members secured between said longitudinal bars and walls having shear axes, when relaxed, which are substantially parallel to said bars and walls, the elas-

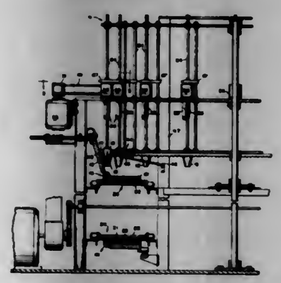


tic axis of the system falling below said turntable and on a vertical plane defining the longitudinal center of said turntable, said elastomeric members acting to substantially reduce transmission to said container of the repeated vertical and lateral forces to which the railroad flatcar is subjected as it rolls over alternating joints of rail sections to thereby prevent back and forth racking of said one end portion of said container, which racking puts severe strain on said container causing undue wear and at times corner failure.

3,269,335
MACHINE FOR FORMING FLAT TOP ROLLED ICE CREAM CONTAINERS

Albert A. Heyman, Baltimore, Md., assignor to The Maryland Baking Company, Baltimore, Md., a corporation of Maryland

Filed Feb. 5, 1964, Ser. No. 342,646
4 Claims. (Cl. 107—8)

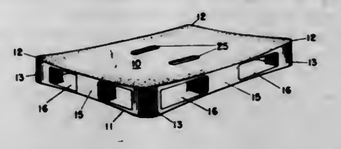


1. A cone rolling machine having a hollow conical mold for receiving a wafer to be rolled into the shape of a cone, a mandrel for rolling the wafer in the mold and subsequently removing it therefrom after the cone is formed, said mold having a transverse slot therethrough on one side in a plane perpendicular to the longitudinal axis of the mold at a distance from the apex of the mold corresponding to the length of the cone to be formed, an arm pivoted to the mold, said arm being movable between a first position within the slot overhanging the inner wall of the mold adjacent thereto and a second position clear of the inner wall of the mold, and means for moving the arm between said positions during the rolling of the wafer and during its subsequent removal from the mold, respectively.

3,269,336
FOUR-WAY ENTRY PALLET

William H. Naylor, R.D. 1, North East, Pa., and Charles F. Smith, R.D. 1, Ripley, N.Y.

Filed Nov. 27, 1964, Ser. No. 414,150
1 Claim. (Cl. 108—58)



A pallet for use with a fork lift truck comprising a generally rectangular top member and a generally rectangular bottom member spaced from each other,

said top member and bottom member each having a dished outer surface inclined inward and toward the center,

spaced supports comprising corner supports, intermediate supports, and a center support, disposed between said top and bottom members and integrally connected thereto,

said corner supports being disposed at each corner of said pallet,

said center support being integrally connected to said top and said bottom and being oval shaped in cross section,

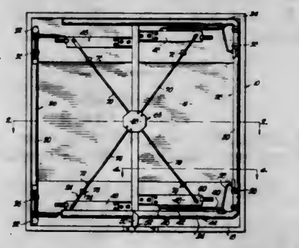
said intermediate supports being integrally connected to said top and said bottom,

said pallet being made of a material having properties of resiliency and tensile strength of fiberglass impregnated resin, the corners of said top and said bottom being rounded and said corner supports being rounded to conform to said rounded corners of said top and said bottom, said top member and said bottom member both being thicker along the outside edges than at the center, and said top member and said bottom member decreasing in thickness from the outside edge toward the center.

3,269,337
TABLE SUPPORTING STRUCTURE

Edward C. Peterson, 5111 Reeds Road, Mission, Kans.

Filed Apr. 16, 1965, Ser. No. 448,627
8 Claims. (Cl. 108—130)



1. Table supporting structure comprising:

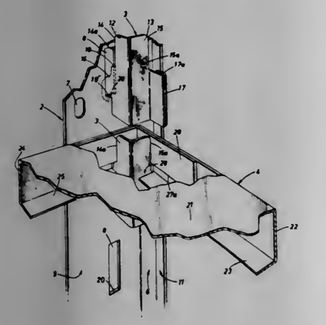
a pair of leg units swingably secured to said table whereby said units may be swung from a collapsed position to an extended, table-supporting position, each of said leg units being U-shaped whereby to present a bight portion and a pair of legs, there being bearing clamps swingably securing the bight portion of each unit to said table;

means for urging said leg units from said collapsed position to said extended position, said means including resilient means coupled with each leg of each unit;

means for locking said leg units in said extended position, said means including a locking bar corresponding to each leg and operable to maintain said leg units in an extended position; and

release mechanism coupled with each of said locking bars for releasing the same to allow said leg units to be swung to a collapsed position, said release mechanism including a hub and spokes extending therefrom to each of said locking bars, each of said spokes being in engagement with said table at a point intermediate the hub and its corresponding locking bar.

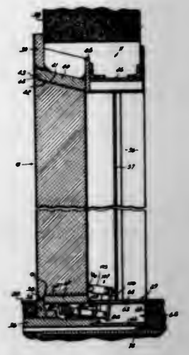
3,269,338
BOLTLESS CLIP
Earl W. Shewell, Hamilton, Ontario, Canada, assignor to Arcan Eastern Limited, Hamilton, Ontario, Canada, a company of Canada
Filed Oct. 30, 1964, Ser. No. 407,726
10 Claims. (Cl. 108—144)



1. In a prefabricated shelving structure having a plurality of angle section posts, a shelf supporting clip including a horizontally extending lug having a horizontal shelf supporting top edge and having a bottom edge in which there is an upwardly extending vertical slot engageable with a post of the prefabricated shelving structure to secure the clip to the post whereby the clip and a shelf of the prefabricated shelving structure are vertically and laterally supported, and said clip including a U-shaped channel so disposed to be engageable with an edge of the said post of the prefabricated shelving structure whereby the clip and the shelf are laterally supported.

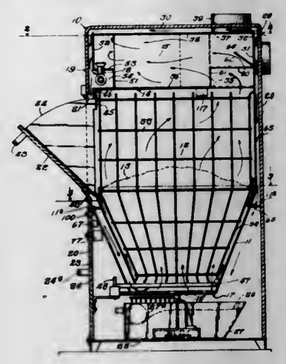
3,269,339
VAULT DOOR
Harry J. Lingal, Hamilton, Ohio, assignor to The Mosler Safe Company, Hamilton, Ohio, a corporation of New York
Filed Nov. 26, 1965, Ser. No. 509,795
10 Claims. (Cl. 109—74)

1. A walk-in vault comprising,
a door frame,
a vault having a floor located behind said frame,
a pair of hinges mounted on one side of said frame,
a door mounted upon said hinges,
said door having a bottom recess therein,
a movable floor sill plate mounted beneath said door,
said plate having a top surface located in substantially the same horizontal plane when the door is open as that of the vault floor and the floor of the building within which the vault is adapted to be installed,
means operable automatically in response to closing of said door to move a portion of said sill plate including said top surface upwardly into said door recess, whereby said top surface resides within said recess,



and operable automatically in response to opening said door to lower said plate until said top surface is located in substantially the same horizontal plane as said vault floor and the floor of said building.

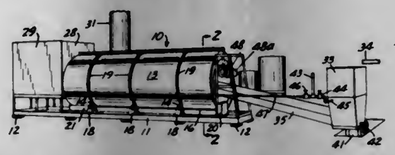
3,269,340
INCINERATOR
William R. Crawford, Cincinnati, Ohio, and James W. Lannert, St. Joseph, Mich., assignors to Whirlpool Corporation, a corporation of Delaware
Original application June 20, 1958, Ser. No. 743,246, now Patent No. 3,104,629, dated Sept. 24, 1963. Divided and this application July 9, 1963, Ser. No. 293,674
4 Claims. (Cl. 110—8)



1. An incinerator, comprising: means defining an ignition chamber having a boundary wall provided with an outlet opening; means defining an afterburner chamber for receiving products of combustion passed through said opening from the ignition chamber; a first burner in said ignition chamber; a second burner in said afterburner chamber spaced from said opening, said afterburner chamber means including means for conducting the products of combustion in a stream from said opening to said second burner; means providing in preselected ratios a first supply of air to said ignition chamber for supporting combustion therein, and a second different supply of air to said afterburner chamber for mixing with said products of combustion in said stream prior to the delivery thereof to said second burner for supporting further combustion in said afterburner chambers; and means for concurrently

controlling said burners and the total quantity of air provided by said air providing means to said ignition chamber and afterburner chamber to adjust the operation of the incinerator for proper combustion of different materials having different combustion characteristics.

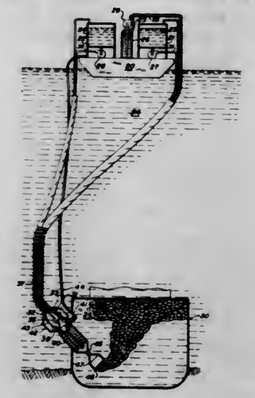
3,269,341
INCINERATOR FOR LIQUID AND SOLID SCRAP
Albert Ostrin, Minneapolis, and Myron S. Berman, St. Paul, Minn., assignors to Commercial Chemical Co., Inc., Newport, Minn., a corporation of Minnesota
Filed Feb. 13, 1964, Ser. No. 344,698
5 Claims. (Cl. 110—14)



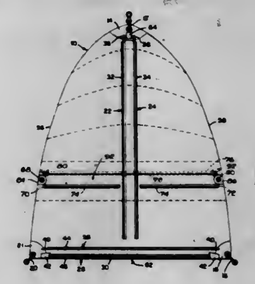
1. An incinerator for scrap containing a substantial portion of combustible liquids,
comprising a frame,
an elongate rotary burning drum lying on its side and having combustion gases ingress and egress ends,
means on the frame and mounting said drum for rotary movement and producing rotation of said drum,
vane means affixed within the drum and protruding inwardly from the inner periphery of the drum, said vane means controlling and producing movement of the scrap along the drum under the influence of rotation of the drum,
stack means in gaseous communication with the egress end of the drum and discharging combustion gases,
scrap supplying means adjacent the ingress end of the drum and including a hopper receiving and temporarily storing a quantity of the scrap, said hopper having a bottom,
said supplying means also including a conduit having a scrap receiving end communicating with the bottom of the hopper, said conduit also having a discharging end elevated entirely above the scrap receiving end and said discharging end extending into liquid communicating relation with the drum interior adjacent said ingress end of the drum,
the hopper and discharging end of the conduit cooperating when liquid is introduced into the receiving end of the conduit, to confine the liquid in and entirely fill said receiving end to prevent gaseous communication, through the conduit to the hopper and thereby preventing flashback into and through the hopper,
and said supplying means also including a conveyor in the conduit and carrying the scrap along the conduit and outwardly of the discharge end thereof and into the drum,
and a burner on the frame at the ingress end of the drum and directing a flame into the drum, thereby producing and maintaining combustion in the drum of the scrap supplied thereto.

3,269,342
METHOD FOR RAISING SUBMERGED OBJECTS
Dale W. Sobek, Oakland, Calif., assignor to Polytron Company, Richmond, Calif., a corporation of California
Filed Oct. 5, 1965, Ser. No. 493,104
10 Claims. (Cl. 114—50)

1. A method for imparting buoyancy to a sunken structure by introducing a closed-cell expanded plastic material into suitable enclosures within said structure, said method being characterized by pre-expanding and mixing a plurality of liquid plastic-foam-forming ingredients and an expanding agent selected from the group of compressed and liquefied gases under water adjacent the point of introduction prior to substantial contact with the surrounding water so as to convert substantially all of the mixing into a buoyant foam, and then introducing the buoyant foam so formed into said enclosures so as to displace water from the enclosures both by said initial pre-expansion and by any secondary expansion.



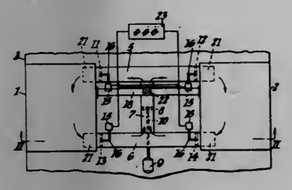
3,269,343
SAIL
Isaac F. Manchester, Jr., South Dartmouth, Mass., assignor to Manchester Yacht Sails, Inc., South Dartmouth, Mass., a corporation of Massachusetts
Filed Nov. 16, 1964, Ser. No. 411,401
18 Claims. (Cl. 114—104)



1. A sail embodying self-contained furling and unfurling means, said furling means comprising a first fastening means including two longitudinally extended, spaced separable and interengageable fastening elements secured to the sail, and a second fastening means including two similar spaced fastening elements extended transversely of the sail, portions of the sail adjacent said transversely extended fastening elements being gathered within the area of the sail between said transversely extended elements and enclosed therein upon engagement of the interengaging means to provide a pair of elongated tubes, the remainder of the sail being gathered within the portion of the sail between the longitudinally extended fastening elements and enclosed therein upon engagement of the

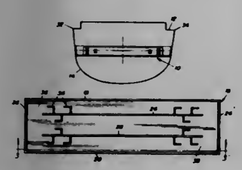
interengaging means, thereby furling the sail, said sail being readily unfurled upon disengagement of said fastening elements.

3,269,344
STABILIZATION OF FLOATING BODIES
John Bell, Beckenham, Kent, England, assignor to Muirhead & Co. Limited, Beckenham, Kent, England
Filed July 17, 1964, Ser. No. 383,276
Claims priority, application Great Britain, Nov. 1, 1963, 43,177/63
5 Claims. (Cl. 114—125)



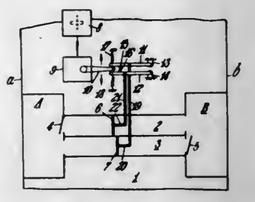
1. An arrangement for the stabilization of a ship comprising two tanks located one on either side of the ship, two passages each interconnecting the bottom portions of the two tanks, said passages lying wholly between two vertically spaced horizontal planes with the lower plane at substantially the same level as the bottoms of said tanks and with the upper plane at a level below the mid-height of said tanks, a third passage interconnecting the said two passages, pumping means for passing liquid through the third passage, flow control means controlling communication between the tanks and the said passages and operable to allow circulation of the liquid through both tanks and the passages or to accumulate the liquid in either of the tanks while drawing it from the other.

3,269,345
SHIP STABILIZER
Edward V. Lewis, Glen Head, N.Y., assignor to John J. McMullen Associates, Incorporated, New York, N.Y., a corporation of New York
Filed July 30, 1964, Ser. No. 386,197
7 Claims. (Cl. 114—125)



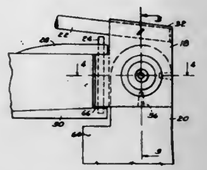
1. A ship stabilizer comprising an elongated fluid containing means for holding a fluid in all parts of said containing means, the longitudinal axis of said containing means extending parallel to the plane in which stabilization is to be imparted, at least one upstanding plate longitudinally mounted within said containing means and spaced from the ends thereof, said plate together with said containing means defining a plurality of longitudinally directed fluid passageways within said containing means, said plate including a plurality of flange members mounted at opposite ends thereof, said flange members positioned in vertical spaced relationship with respect to each other on at least one side of said plate and operative to impede the transfer of fluid within said containing means and damp the kinetic energy of the moving fluid.

3,269,346
PASSIVE TANK STABILIZERS FOR FLOATING BODIES
John Bell, Beckenham, England, assignor to Muirhead & Co. Limited, Beckenham, England, a British company
Filed Feb. 26, 1965, Ser. No. 435,613
Claims priority, application Great Britain, Mar. 2, 1964, 8,775/64
7 Claims. (Cl. 114—125)



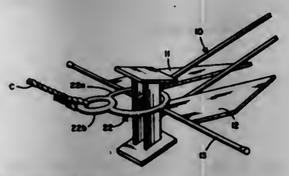
1. A stabilizing system for a floating body comprising tanks for containing liquid disposed one on each side of the floating body, at least one channel interconnecting the two tanks, roll-sensitive means mounted on the floating body, control valve means responsive to said roll-sensitive means to permit the flow of liquid through the channel in the direction required for stabilizing the roll of the floating body, non-return valve means for said channel, and means for controlling the non-return valve means from the roll-sensitive means in relation to the direction of flow so that said non-return valve means functions as a non-return valve for the flow between the tanks in either one direction or the other alternatively.

3,269,347
KICK-UP RUDDER FOR SAILBOATS
Francis L. Koenig, 5295 Old Dominion Drive, Arlington, Va.
Filed Feb. 9, 1965, Ser. No. 431,365
6 Claims. (Cl. 114—162)



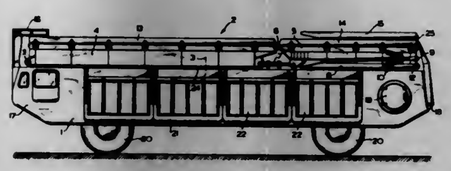
1. A kick-up rudder construction for sailboads, comprising a vertical-axis pivot pin secured to the stern of the sailboad, a rudder head bracket pivoted for horizontal swinging motion about the axis of said pivot pin said bracket comprising parallel spaced vertical plates, a rudder blade having its upper end received between said plates for vertical pivoting motion of said blade between a down-swung lowered position beneath the boat and an up-swung raised position at least substantially out of the water, a combined pivot axle and clamping bolt passing horizontally through said plates and said blade, frictional compression washers adjustably clamped against the outer faces of said plates by said bolt and a nut thereon, and cooperating localized detent formations on the inner face of one of said plates and the corresponding outer face of said blade to define rest positions of said blade in its respective lowered and raised positions.

3,269,348
BOAT ANCHOR
Jack Churchward, 976 Douglas Ave., Dunedin, Fla.
Filed Feb. 10, 1965, Ser. No. 431,685
1 Claim. (Cl. 114—208)



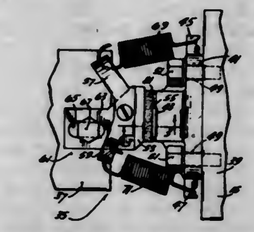
An anchor comprising:
(a) a shank;
(b) blade type fluke means attached to one end of said shank and extending laterally and toward the other end thereof;
(c) support structure including two plates extending generally parallel to a stock, one on each side of said fluke means at said one end of said shank above the bottom on which said anchor is resting for inclining said flukes relative to the bottom surface;
(d) cable attaching means including an oval ring with a smaller ring connected thereto for securing a cable to said shank, said ring being slidably attached to said shank and freely movable therealong from one end to the other and having a part adapted to pivot relative to said shank and to extend about and beyond one of said plates when said cable attaching means is moved to said one end of said shank whereby the line of force of the cable applied to said anchor extends in a line through an intermediate position of said support structure.

3,269,349
AMPHIBIOUS VEHICLE
Hermann Walter Gehlen, Pirmasenser Strasse 60, Kaiserslautern, Pfalz, Germany
Filed Mar. 5, 1965, Ser. No. 437,363
Claims priority, application Germany, Mar. 28, 1964, E 26,724
5 Claims. (Cl. 115—1)



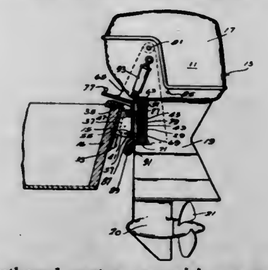
1. An amphibious vehicle of the type comprising a buoyant mobile structure including a housing and a bridge track and ramp element supported on said housing, said bridge track element being defined by a horizontal track portion mounted on a pivot element including a lever rotatable about a vertical pivot and by a ramp portion, horizontal pivot means extending transversely of and intermediate said horizontal track portion and said ramp portion and supporting said ramp portion at one end of said horizontal track portion for movement about a horizontal axis, said ramp portion being divided in two portions substantially centrally thereof and constituting a main ramp portion and an end ramp portion, and second transverse pivot means supporting said end ramp portion on said main ramp portion, said end ramp portion being disposed below said main ramp portion in the folded condition of said ramp.

3,269,350
ENGINE
Paul H. Stibbe, Kenosha, Wis., and Richard P. Hulsebus, Waukegan, Ill., assignors to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed July 13, 1964, Ser. No. 382,134
8 Claims. (Cl. 115—18)



1. The combination in an outboard motor of a supporting member pivotal about a generally vertical axis when the outboard motor is in an operative position, a power head, a friction surface carried by said supporting member, a friction surface carried by said power head, and tension spring means interconnecting said supporting member and said power head to establish pressure engagement of said friction surfaces.

3,269,351
ENGINE
William J. Shimanckas, Waukegan, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Feb. 23, 1965, Ser. No. 434,489
20 Claims. (Cl. 115—18)

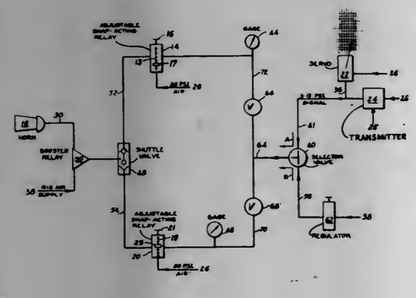


1. An outboard motor comprising a propulsion unit including a power head and a lower unit including a thrust producing element, a bracket assembly adapted to be attached to the boat transom, a yoke, pivot means connecting said bracket assembly and said yoke for horizontal swinging movement therebetween and extending generally vertically aft of the boat transom when said bracket assembly is attached to the boat transom, and pivot means uniting asid power head and said yoke for vertical swinging movement of said propulsion unit relative to said yoke and to a normal operating, generally upright position of said propulsion unit when said bracket assembly is attached to the boat transom.

3,269,352
PNEUMATIC WARNING SYSTEM
Roy L. Van Winkle, Edmond, Okla., assignor to The Geolograph Company, Oklahoma City, Okla., a corporation of Oklahoma
Original application Dec. 26, 1962, Ser. No. 247,142, now Patent No. 3,223,068, dated Dec. 14, 1965. Divided and this application Oct. 13, 1965, Ser. No. 495,601
1 Claim. (Cl. 116—65)

A warning system for indicating when the value of a given variable falls below a first predetermined value

and exceeds a second predetermined value comprising a sensing means adapted to sense the instantaneous value of said variable and to transform the same into a corresponding output pneumatic pressure falling within a predetermined range of pneumatic pressures, a recording device connected to the output of said sensing device for recording the instantaneous value of said variable, a selector valve having two inlets and a single outlet, one inlet being connected to the output of said sensing device and the other inlet of said selector valve being connected to the outlet of a regulator valve, said regulator valve having an inlet connected to a source of air pressure, said selector valve being adjustable to place said first and said second inlets alternately in communication with the outlet of said selector valve, a pair of on/off valves each having an inlet and an outlet, the outlet of said selector valve being connected in common to the inlets of said on/off valves, the first on/off valve having its outlet connected to a first pneumatic gage, a first pneumatic relay having its inlet connected to the outlet of said first on/off valve, said first pneumatic relay having



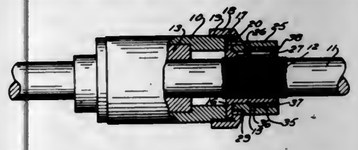
an outlet and being normally closed but being adapted to open to provide communication between its inlet and outlet when the pneumatic pressure transmitted to said first relay from said sensing means falls below said first predetermined value, the second on/off valve having its outlet connected to a second pneumatic gage, a second pneumatic relay having its inlet connected to the outlet of said second on/off valve and having an outlet which will be placed in communication with said inlet when said second relay is opened, said second pneumatic relay being normally closed but being opened when the pressure transmitted to said second relay from said sensing means indicates that the instantaneous value of said variable exceeds said second predetermined value, a two-way check valve having two inlets and a single outlet with its inlets being connected to the outlets of said pneumatic relays, respectively, an alarm device connected to the outlet of said two-way check valve, said first relay having means adjusting the same to change the pressure required to open said relay, and said second relay having means adjusting the same to change the pressure required to open said relay.

3,269,353
STEP MICROMETER ADJUSTMENT MEANS

Eldo K. Koppelmann, Cumberland, R.I., assignor to Madison Industries, Inc., a corporation of Rhode Island

Filed Aug. 26, 1964, Ser. No. 392,236
3 Claims. (Cl. 116—124)

1. An axial adjustment means for a shaft passing through a body member, comprising a set of threads on said shaft, a nut threadingly received on said shaft, means retaining said nut in axial position relative to said body member but with rotational freedom, a sleeve encircling said nut, said sleeve being rotationally coupled to said nut



and lock means on said sleeve to prevent rotational movement thereof.

3,269,354
PIPE COATING APPARATUS

Quentin M. Bloom, Villanova, Pa., assignor to Selas Corporation of America, a corporation of Pennsylvania

Filed May 4, 1962, Ser. No. 192,417
6 Claims. (Cl. 118—67)

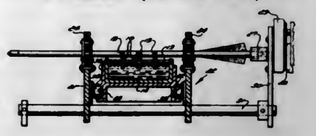


1. Apparatus for treating pipe with heat comprising means to move pipes axially through a path, heating means surrounding a first portion of said path, cooling means surrounding a second portion of said path, said cooling means comprising structure forming a plurality of separated chambers, enclosing means including means forming a restricted passage through which the pipe passes connecting each of said chambers, means associated with each chamber to circulate atmosphere to and from each of said chambers including means to direct the atmosphere against spaced points on the exterior of the pipe, and means to introduce the atmosphere to be circulated into the last of the chambers through which the pipe passes thereby to create a reduced pressure sequentially in the chambers.

3,269,355
MEANS FOR CRESTING AN ARROW SHAFT

Jerry C. Tarrant, Macomb County, Mich.
(5334 Casmere, Warren, Mich.)

Filed Sept. 28, 1962, Ser. No. 227,009
3 Claims. (Cl. 118—219)



1. In an arrow cresting device in which an arrow shaft is rotatably driven at one of its ends about its own axis, wheel means to apply paint in crests to the rotating shaft, said wheel means comprising a plurality of spaced wheels fast on a common shaft, a paint tank supporting the common shaft for rotation about its own axis so that said wheels can rotate in a supply of paint carried in the tank, and means to move the tank so that it is reciprocable axially and perpendicularly of the arrow shaft.

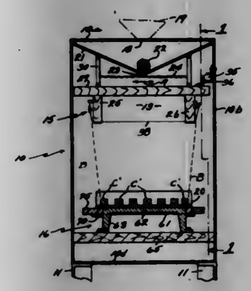
3,269,356
ELECTROSTATIC FLOCKING APPARATUS

Wayne J. Friderici, Port Clinton, Ohio, assignor to The Standard Products Company, Cleveland, Ohio, a corporation of Ohio

Filed Aug. 22, 1963, Ser. No. 303,777
5 Claims. (Cl. 118—640)

1. In flocking apparatus for electrostatically depositing fibers upon an article surface to form a pile layer thereon

including a housing defining a flocking chamber, means for conveying an article to be flocked along a conveyance path through said chamber, means for introducing flock fibers into said chamber, a stationary electrode assembly disposed in said chamber at a first level and connected to a source of electrical energy, a movable electrode assembly disposed in said chamber at a second level above said stationary electrode assembly and comprising a pair of spaced rails of nonconductive material

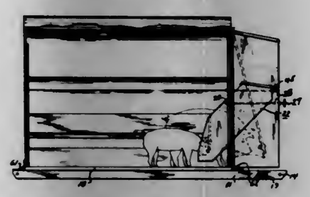


extending longitudinally along said path, a plurality of electrodes carried on said rails and extending therebetween and across said path in substantial equal spaced relation to each other, means connecting said electrodes in circuit with said source effective to provide an electrostatic field between said electrode assemblies, and means for vibrating the electrodes on said movable assembly transversely of said path effective to cause a substantial uniform distribution of flock fiber throughout said electrostatic field.

3,269,357
FARROWING ENCLOSURE

Eugene A. Rezabek, Wilber, Nebr.

Filed Oct. 1, 1964, Ser. No. 400,759
1 Claim. (Cl. 119—16)

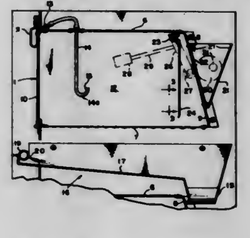


A food storage and feeding structure for the self-feeding of hogs comprising a feeding platform, a semi-cylindrical cover having end walls and a longitudinal rail extending between the end walls of the cover and above the platform for dividing the platform into two areas, one for a sow and one for pigs, one end wall of the feeder having a large vertical opening therein, a box-like self-feeder, means for removably mounting the self-feeder in the large opening, the wall having a second opening to one side of the central portion communicating with the interior of the cover at the area for the pigs, a creep feeder removably engaged in this second opening, a removable locking means for locking the cover to the platform at the end in which the named openings are located, and hinges connecting the cover and platform at the opposite end, the last named end having a door therein for passage in and out of the sow and pigs.

3,269,358
TIME OPERATED LABORATORY ANIMAL FEEDING AND HOUSING DEVICE

James W. Hawley, Seattle, Wash., assignor to Richard H. Clay, Bellevue, Wash.

Filed Feb. 15, 1965, Ser. No. 432,594
11 Claims. (Cl. 119—51.12)

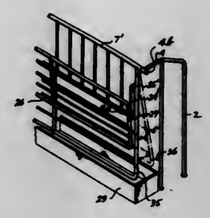


7. In combination with an animal housing unit having a fixed wall with means cooperating therewith to form a feeding trough, an automatic feeding apparatus comprising; access openings in said trough, a rotatable actuator rod mounted in said unit, and apertured feed access means connected to be actuated by said rod for permitting an animal in said housing unit to reach feed material within said trough through said access openings, selectively operable drive means for rotating said rod, and settable timing means for energizing said drive means at selected intervals according to a predetermined schedule.

3,269,359
TRIPLE GRATE FEEDING GUARD

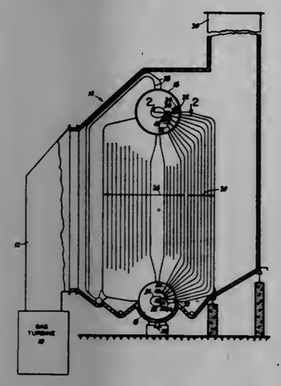
Karl Kuchenbecker, Zuckerberg 29, Trier, Germany

Filed Oct. 18, 1965, Ser. No. 497,317
12 Claims. (Cl. 119—59)



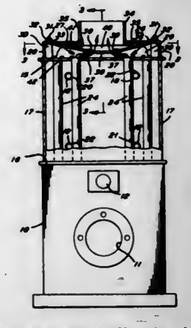
1. A stock-feeding device for use in a stable comprising a stationary feed trough having a stock-feeding side and a filling side, upright grate means, grate-mounting means supporting said upright grate means generally in an upright plane over said feed trough with the lower edge of said upright grate means located closely adjacent to the upper portion of said feed trough, means guiding said upright grate means for swinging of its lower edge between positions at the stock-feeding side of said trough and at the filling side of said trough, secondary grate means, and means supporting said secondary grate means from said upright grate means in a position adjacent to said upright grate means and diverging upwardly from said upright grate means for defining a hayrack between said secondary grate means and the upper portion of said upright grate means.

3,269,360
INTEGRATED DRAINABLE ECONOMIZER WITH BOILER BANK
William N. Adams, Granby, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed May 24, 1965, Ser. No. 458,095
4 Claims. (Cl. 122—7)



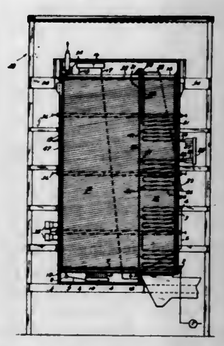
1. In combination, top, bottom and side walls forming a horizontal passageway through which hot combustion gases pass, the passageway having an inlet end and an outlet end, a first cylindrical drum located adjacent the top wall and positioned such that its axis is transverse to the axis of the passageway, a second cylindrical drum located adjacent the bottom wall and positioned such that its axis is transverse to the axis of the passageway, first wall means cooperating with a portion of the first drum wall for forming a plurality of vertically spaced, completely enclosed first compartments within the first drum interior, second wall means cooperating with a portion of the second drum wall for forming a plurality of vertically spaced, completely enclosed second compartments within the second drum interior, a portion of the second wall means being removable, said portion being of such a size and located such that when it is removed all of the second compartments are drainable into the second drum interior, a feedwater inlet tube connected to the uppermost of the first compartments, a first row of economizer tubes extending from the uppermost first compartment to the lowermost second compartment, a second row of economizer tubes connecting the lowermost second compartment to the next uppermost first compartment, a third row of economizer tubes connecting the next uppermost first compartment to the next lowermost second compartment, the rest of the first and second compartments being likewise connected together by rows of economizer tubes, and the uppermost second comparament being connected with the first drum interior by means of a last row of economizer tubes, whereby the feedwater flows serially through the economizer tubes from the first row of economizer tubes to and through the last row of economizer tubes, each row of economizer tubes being in spaced alignment in the gas passageway, with the first row of economizer tubes being closest to the passageway outlet end, and the last row of economizer tubes being closest to the gas passageway inlet, a plurality of rows of boiler tubes extending between the first and second drums, which boiler tubes are located upstream of the rows of economizer tubes, in which boiler tubes steam is generated, each row of economizer and boiler tubes containing a plurality of tubes which are spaced across the width of the passageway, and a discharge tube connected to the upper portion of the first drum, through which generated steam is discharged.

3,269,361
DOMESTIC HEATING BOILERS
Benner E. Hunt, Stockton, N.J., assignor to Repco Products Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 30, 1965, Ser. No. 452,297
7 Claims. (Cl. 122—115)



1. In a domestic heating boiler having a combustion chamber and a superposed boiler section with spaced upper and lower tube sheets and spaced rows of vertical gas tubes therebetween for conducting the combustion gases in heat transfer relation, the combination of a gas conducting hood carried on the upper tube sheet, said hood having a top wall and side walls, a flue connector ring connected to said top wall, spaced interiorly disposed inclined walls in said gas hood, said walls being connected at their outer ends to said top wall and extending downwardly toward each other with their contiguous margins spaced to provide a central opening communicating with a space thereabove with which said flue connector ring is in communication.

3,269,362
ONCE-THROUGH TYPE BOILER
Otto Engler, Dusseldorf, Germany, assignor to Vereinigte Kesselwerke AG, Dusseldorf, Germany
Filed Apr. 22, 1965, Ser. No. 450,126
Claims priority, application Germany, Apr. 25, 1964, V 25,891
12 Claims. (Cl. 122—235)

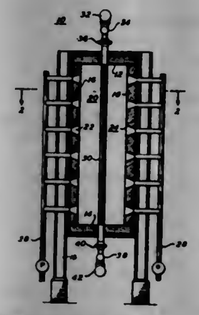


1. A once-through type boiler comprising, in combination, an outer upright substantially cylindrical wall formed by a plurality of tubes extending substantially parallel in contact with each other in substantially helical form from the lower to the upper end of said cylindrical wall and being welded to each other; a substantially vertical separating wall extending transversely through the interior of said cylindrical wall and being formed by a plurality of substantially vertical tubes welded together through a substantial portion of the length thereof, said vertical wall dividing the interior of said cylindrical wall into a furnace chamber and a heat exchange chamber, said tubes of said vertical wall being spaced at upper portions thereof from each other to provide communication between said furnace chamber and said heat exchange chamber at an upper portion of said separating wall; burner means communicating with the interior of said furnace chamber; heat exchange means in said heat exchange chamber; and tubular means connecting the tubes of said cylindrical wall, the tubes of said separating wall and said heat exchange means to each other for passage of fluid in a continuous path therethrough.

ERRATUM

For Class 122—356 see:
Patent No. 3,269,465

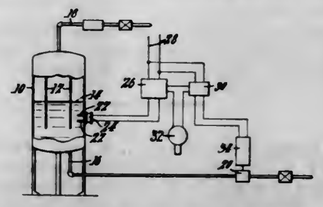
3,269,363
PROCESS HEATER AND FINNED TUBE THEREFOR
Salvatore A. Guerrieri, Rowayton, Conn., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Sept. 2, 1964, Ser. No. 393,990
3 Claims. (Cl. 122—356)



1. A process heater comprising,
a housing having a heating chamber therein,
said housing including two parallel spaced radiating surfaces for heating said chamber,
a plurality of process tubes within said chamber in spaced relation to said radiating surfaces and to each other;
two diametrically opposed elongated fin means integral with said process tubes placed along the line furthest from both radiating surfaces, said line being the line of approximate minimum heat flux to said tubes from said radiating surfaces;
each said fin means having a thickness ranging between one-eighth and three-eighths of the tube diameter and a width ranging from one-eighth to one-half of the tube diameter; and
means for passing process fluid through said tubes.
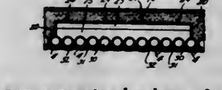
3,269,364
AUTOMATIC ADJUSTABLE ELECTRIC CONTROL OF MINERAL CONTENTS FOR BLOWDOWN IN A BOILER
Bradley C. Higgins, 200 Gold Star Blvd., Worcester, Mass.
Filed Mar. 3, 1964, Ser. No. 349,077
1 Claim. (Cl. 122—379)

In combination with a boiler including means for heating the water therein, an electrically operated blowdown valve for opening and closing the bottom of the boiler for draining boiler water, a valve for admitting decreased conductivity treated water, fresh water from a source, to the boiler to replace boiler water drawn off, electric probes submerged in the boiler water, and a circuit passing current between said probes to determine the conductivity of said boiler water, of indicating means in the circuit showing the relative conductivity of the water, a relay device in the circuit for operating the blowdown valve periodically upon sensing by the probes



of a predetermined conductivity of the boiler water, and a proportioning timer in the circuit operatively connected with respect to the blowdown valve to permit opening of the valve periodically within a given time interval, the length of each period of valve opening and the length of the interval between successive valve openings being correlated such that roiling of the water in the boiler is avoided.

3,269,365
VAPOR GENERATOR FURNACE WALL DESLAGGER
Edward L. Kochey, Jr., Colebrook, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Oct. 20, 1964, Ser. No. 405,165
3 Claims. (Cl. 122—392)



1. In a vapor generator having a furnace, tubes lining the walls of said furnace and means for burning an ash bearing fuel within said furnace whereby the ash forms on the tube lined furnace walls, an apparatus for removing ash from the furnace walls comprising: a pressure retaining chamber outside the tubes of the tube lined furnace covering a preselected area of a furnace wall; a plurality of the tubes passing in spaced relationship across said chamber forming one side thereof, the spaces between the tubes being generally unrestricted where the tubes pass across said chamber; and means for introducing under pressure a gaseous cleaning medium into said pressure chamber and passing the cleaning medium intermediate the spaced tubes toward the furnace, thereby removing the ash located on the area tube lined wall.

3,269,366
VAPOR GENERATOR FURNACE WALL DESLAGGER
Virginius Z. Caracristi, West Hartford, and Elwood P. Petit, Windsor, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Oct. 20, 1964, Ser. No. 405,166
11 Claims. (Cl. 122—392)

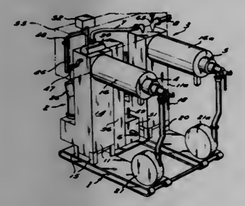
1. A furnace structure and apparatus for removing ash from the walls thereof comprising means for burning an ash bearing fuel within the furnace; a plurality of tubes lining a wall of said furnace, the axes of said tubes forming a first common plane; the furnace side of said tubes forming a second plane; means for intermittently introducing a gaseous cleaning medium intermediate adjacent

tubes; and means for directing the cleaning medium in a direction essentially parallel to the tubes lining the fur-



nace wall being cleaned, said means for directing the cleaning medium being substantially at a location outwardly of the second plane from the furnace.

3,269,367
VAPORIZING APPARATUS AND METHOD
Thomas P. Kroehle, Bay Village, Ohio, assignor to Brown Fintube Company, Elyria, Ohio, a corporation of Ohio
Filed May 18, 1965, Ser. No. 463,435
11 Claims. (Cl. 122—448)



1. Apparatus for vaporizing a low temperature liquified gas by hot gaseous combustion products comprising: a gas-containing system including conduit means comprising a heat-transfer wall adapted to have one side thereof exposed to liquified gas and the other side thereof exposed to hot gaseous combustion products, projections on the side of said wall adapted to be exposed to said hot gaseous combustion products providing substantially increased heat-transfer area, means for supplying liquified gas to said conduit means, and means for removing gaseous gas from said conduit means; a heating system comprising a source of hot gaseous combustion products, a passage extending along the side of said heat-transfer wall having said projections, means causing hot gaseous combustion products to flow from said source through said passage, said passage being shaped to cause said hot gaseous combustion products flowing through said passage to pass in close proximity to said surface of said heat-transfer wall and said projections thereon; and means responsive to the pressure of gaseous gas produced in said conduit means to control said source so the heat supplied by said hot gaseous combustion products to said heat-transfer wall and said projections thereon is sufficient to vaporize liquified gas in said conduit means and inhibit formation on said heat-transfer wall of ice that could substantially impede flow of gaseous combustion products.

3,269,368
SUPERHEATER
William N. McCoy and James D. Bell, Weirton, W. Va., assignors to National Steel Corporation, a corporation of Delaware
Filed Apr. 14, 1964, Ser. No. 359,572
8 Claims. (Cl. 122—479)

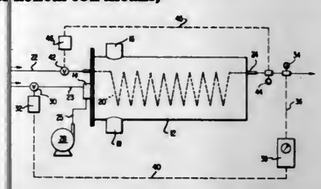
1. Independent superheater structure and control apparatus comprising

longitudinally extended heating chamber means,

helical coil means, for carrying a fluid to be heated, having convolutions defining a longitudinally extended cylindrical configuration having its longitudinal axis substantially parallel with the longitudinal axis of the heating chamber means, the helical coil means having a fluid inlet means at one longitudinal end of the heating chamber means and a fluid outlet means at the opposite longitudinal end of the heating chamber means,

fluid supply means connected to the fluid inlet means of the helical coil means for supplying a fluid under pressure to be heated during flow through the helical coil means,

fuel burner means at the longitudinal end of the heating chamber means having the fluid inlet means, the fuel burner means being disposed to discharge gases of combustion along the longitudinal axis within the cylindrical configuration formed by the convolutions of the helical coil means,



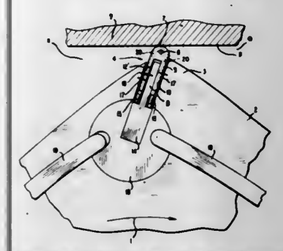
fuel supply means connected to the fuel burner means including fuel input control means for quantitatively controlling the fuel delivered to the fuel burner means,

combustion supporting gas supply means connected to the fuel burner means and including means for supplying a constant volume of combustion supporting gas to the fuel burner means,

temperature sensing means located at the fluid outlet means to measure fluid temperature and generate a signal in response to such temperature measurement, and

means connecting the temperature sensing means to the fuel input control means to control fuel input in response to temperature measurement.

3,269,369
SEAL CONSTRUCTION
Richard Ehrhardt, Stuttgart-Unterturkheim, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed July 17, 1963, Ser. No. 295,746
Claims priority, application Germany, July 24, 1962, D 39,443
13 Claims. (Cl. 123—8)



1. A radial seal for rotary-piston internal combustion engines, especially of trochoidal construction having an enclosure body provided with inner surfaces and a piston rotating along said inner surfaces, comprising:

groove means extending parallelly to the piston axis and provided within a corner of the piston,

said groove means having substantially parallel groove side walls,

sealing ledge means arranged within said groove means,

elastic means normally urging said sealing ledge means radially outwardly against the inner surfaces of the enclosure body,

said sealing ledge means being of approximately U-shaped construction including a head portion and two leg portions adjoining said head portion,

each of said leg portions having leg side walls substantially parallel to said groove side walls,

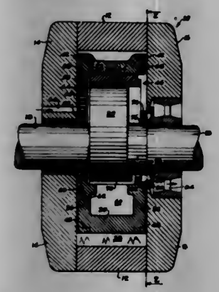
rigid guide means extending between said leg portions and mounted firmly within the groove means of the piston,

said guide means having guide side walls substantially parallel to said groove side walls,

the total distance, measured along a line perpendicular to said groove side walls, between each of said guide side walls and adjacent leg side walls being less than the total distance, measured along said line, between each of said groove side walls and adjacent leg side walls,

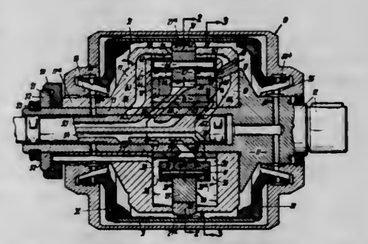
and the distance, measured along said line, between one of said guide side walls and the adjacent leg side wall of one of said leg portions being less than the distance, measured along said line, between one of said groove side walls and the adjacent leg side wall of the other of said leg portions.

3,269,370
ROTOR COOLING MEANS FOR ROTARY MECHANISM
Hanns-Dieter Paschke, Neckarsulm, Wurttemberg, and Günter Hoffmann, Neudenau (Jagst), Germany, assignors to NSU Motorenwerke Aktiengesellschaft, Neckarsulm, Germany, and Wankel G.m.b.H., Lindau (Bodensee), Germany
Filed Oct. 23, 1963, Ser. No. 318,423
Claims priority, application Germany, Nov. 28, 1962, N 22,416
7 Claims. (Cl. 123—8)



1. A cooling fluid discharge means for a rotary mechanism having an outer body including a peripheral housing interconnected with a pair of end housings with the profile of said peripheral housing being preferably basically an epitrochoid, a shaft supported coaxially with said outer body and having an eccentric portion thereon, a rotor supported on said eccentric portion with the axis of said rotor being parallel to said housing axis but spaced therefrom, said rotor being rotatable relative to said eccentric portion and said housing axis and thereby describing a planetary motion such that acceleration forces are produced in said rotor which successively change direction, said rotor being hollow and having a plurality of cooling compartments therein with inlet and outlet openings in each said compartment for receiving and draining a cooling fluid in and out of said compartments, said cooling fluid discharge means comprising; a cooling fluid collecting member connected for rotation with said shaft relative to said rotor, said cooling fluid collecting member including cooling fluid collecting means having a plurality of cooling fluid collecting pockets surrounding at least a portion of said shaft, said cooling fluid collecting pockets being disposed in axially spaced relationship with said shaft eccentric portion and substantially diametrically opposite to the maximum eccentricity region of said shaft eccentric portion, said cooling fluid collecting pockets being further disposed such that during relative rotation between said cooling fluid collecting member and said rotor, said cooling fluid collecting pockets will be positioned adjacent a rotor compartment outlet opening when the acceleration forces are acting radially inwardly relative to said rotor compartment outlet opening whereby the cooling fluid will be discharged through said rotor compartment outlet opening into said cooling fluid collecting means for discharging the cooling fluid from the rotary mechanism through said cooling fluid collecting member.

3,269,371
ROTARY VANE UNIT
Karl Eickmann, 2420 Ishiki, Hayama-machi, Kanagawa-ken, Japan
Filed Nov. 12, 1963, Ser. No. 322,724
Claims priority, application Germany, Nov. 9, 1962, E 23,831; Dec. 19, 1962, E 24,046; Dec. 28, 1962, E 24,091
20 Claims. (Cl. 123—8)



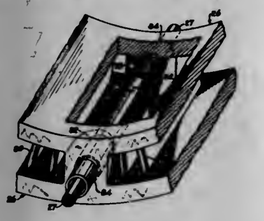
1. In a rotary machine, in combination, a rotary unit comprising rotor means mounted for rotation about an axis; a casing ring means eccentrically surrounding said rotor means and mounted for rotation so that said casing ring means moves during rotation transverse to said axis, said casing ring means defining with said rotor means an inner space; vanes mounted on one of said means for radial movement and being in contact with the respective other means so as to divide said inner space into a plurality of first working chambers for a fluid, said first working chambers expanding and contracting during transverse movement of said casing ring means; piston means mounted on one of said means movably disposed in a cavity of the respective other means and defining therein second working chambers for a fluid so that during rotation of said rotor means, said casing ring means rotates therewith and moves transverse to said axis with said piston means whereby said second working chambers expand and contract; and means for supplying a fluid to said working chambers and for exhausting fluid from the same.

3,269,372
THROUGH DOWEL CONSTRUCTION FOR ROTARY MECHANISMS
George A. Bonner, Palm Beach Gardens, Fla., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed June 3, 1964, Ser. No. 372,217
4 Claims. (Cl. 123—8)

1. An outer body for a rotary combustion engine having an inner body supported for relative rotation with said outer body and means for initiating combustion adjacent one zone of said outer body such that said one zone of said outer body is exposed to relatively high temperatures and pressures than the remainder of said outer body, said outer body comprising

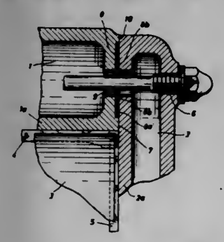
(a) a pair of parallel spaced end walls;

(b) an intermediate wall disposed between and interconnected with said end walls to form a cavity;
(c) liquid coolant passage means in said end walls and said intermediate wall for flow of a liquid coolant between said end walls and said intermediate wall;
(d) a dowel structure for maintaining alignment of said end walls with said intermediate wall, said dowel structure including;
(e) a plurality of pairs of axially-spaced bosses carried by said intermediate wall at least in the one zone of said intermediate wall exposed to combustion with said bosses being disposed in the liquid coolant passage means of said intermediate wall;



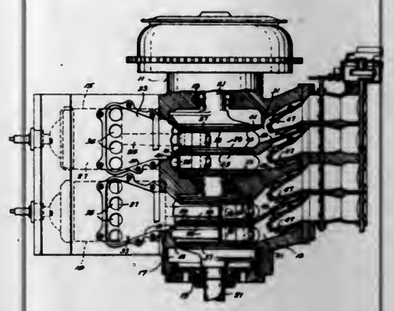
(f) a hollow dowel pin supported in each of said pairs of axially-spaced bosses, said hollow dowel pin extending across the entire width of said intermediate wall and projecting from each side thereof for mating engagement with a recess in each of said end walls such that loads imposed on said hollow dowel pin resulting from combustion adjacent the one zone of said outer body are distributed across substantially the entire length of said hollow dowel pin, and each said hollow dowel pin having a plurality of liquid coolant openings in the center portion thereof to provide for flow of liquid coolant between the interior of said hollow dowel pin and the adjacent liquid coolant passage means in said intermediate wall.

3,269,373
SEALING ARRANGEMENT FOR A ROTARY PISTON TYPE ENGINE
Hermann Baumler and Fritz Boudrolt, Burscheid, Germany, assignors to Goetzewerke Friedrich Goetze A.-G., Burscheid, Bezirk Dusseldorf, Germany
Filed July 6, 1964, Ser. No. 380,527
6 Claims. (Cl. 123—8)



5. The combination of a block having a bore, a head mounted on the block to close the end of said bore, and substantially heat-insensitive sealing means between the head and the block, said sealing means comprising a thin flexible ring-like metal member having larger lateral dimensions than said bore and being generally rectangular in cross-section, said ring having the one smaller cross-sectional dimension in one direction which represents the thickness of the metal from which it is formed and which is only a small fraction of the other and larger cross-sectional dimension, recess means formed in at least one of said block and head in surrounding relation to said bore for receiving said member and generally rectangular in cross-section, said recess means having one cross-sectional dimension at least as large as the larger cross-sectional dimension of said member and having its other cross-sectional dimension larger than the smaller cross-sectional dimension of said member in said one direction, rib means formed in said member and including at least one endless rib extending around said member adjacent the edge thereof nearest said bore, the dimension of said metal member in said one direction at said rib means when said member is not confined in said recess means being greater than the smaller cross-sectional dimension of said recess means, said cylinder head when mounted on said cylinder block and fixedly connected thereto being in direct interengagement with said block in a region extending completely around said bore and at least in an area between the inner periphery of said recess and said bore whereby said recess is closed on the side toward said bore while said metal member is confined in said recess with said rib means compressed but not crushed.

3,269,374
ENGINE
Warren C. Conover, Waukegan, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Sept. 12, 1963, Ser. No. 308,547
6 Claims. (Cl. 123—59)

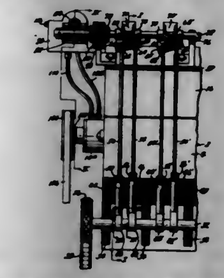


3. In a two stroke internal combustion engine, the combination of means defining a crankcase, spaced bearing means supported by said crankcase, a generally upright crankshaft supported by said bearing means and extending through said crankcase, said crankshaft including a surface extending transversely with respect to the axis between said bearings and having spaced first and second parts, a charge inlet port extending from said crankcase and having a surface extending from said first part of said crankshaft surface with a portion extending radially outwardly and upwardly from said first part, and a charge transfer passage extending from said crankcase for communication with an engine cylinder and having a surface extending from said second part of said crankshaft surface with a portion extending radially outwardly and downwardly from said second part.

3,269,375
VARIABLE VALVE TIMING MECHANISM FOR INTERNAL COMBUSTION ENGINES
Robert G. Beal, 1240 Sumner St., Kansas City, Kans.
Filed Apr. 19, 1965, Ser. No. 449,150
7 Claims. (Cl. 123—90)

1. In an internal combustion engine including a cylinder having a piston operable therein to rotate a crankshaft, an intake valve controlling the entry of explosive air-gas mixture thereto, an exhaust valve controlling the

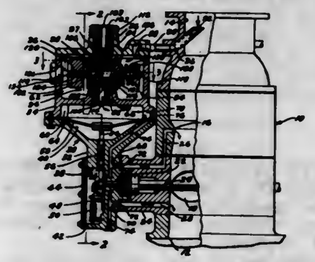
egress of burned gases of combustion therefrom, means biasing both of said valves to their closed positions, and each of said valves including a stem operable by pressure on the extended end thereof to open said valve, an operating and timing mechanism for said valves comprising:
(a) a camshaft carried rotatably by said engine and operably connected to said crankshaft whereby it is rotated at a speed proportionate to that of said crankshaft,
(b) a pair of cams mounted in spaced relation on said camshaft for each of said valves, one of said cams having a relatively sharp lobe of relatively small angular extent and the other of said cams having a relatively broad lobe of relatively large angular extent, said lobes being of equal maximum eccentricity and having their high points angularly aligned with respect to said camshaft,
(c) a pair of elongated cam follower devices extending transversely to said camshaft and carried by said engine for longitudinal movement, said follower devices engaging said cams respectively whereby to be



moved longitudinally by said cams in response to rotation of said camshaft,
(d) a tilt member extending transversely between said follower members and pivotally associated therewith whereby to be tilted in the plane of said follower devices in response to unequal movement of said follower devices,
(e) a rocker arm for each valve carried for pivotal movement by said engine on an axis intermediate its ends and parallel to said camshaft, one end of said rocker arm engaging said tilt member whereby it is pivoted by movement of said tilt member by said follower devices, and the other end of said rocker arm being disposed over the extended end of the stem of the associated valve whereby to open said valve responsively and proportionately to the pivotal movement of said rocker arm, and
(f) adjusting means for moving said rocker arm in a direction parallel to its pivotal axis, whereby it may be caused to engage said tilt member at or at any position intermediate a point aligned with one of said follower devices and a point aligned with the other of said follower devices.

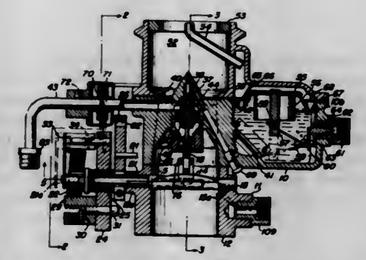
3,269,376
GOVERNOR CARBURETOR CONTROL VALVE AND ACTUATOR
Ramuald B. Locher, Jr., Madison Heights, Mich., assignor to Holley Carburetor Company, Warren, Mich., a corporation of Michigan
Filed Dec. 21, 1962, Ser. No. 247,473
3 Claims. (Cl. 123—103)

1. In a carburetor having an induction passage controlled by a throttle valve urged in the opening direction by a spring, a combined governor throttle actuator and control valve assembly, said assembly comprising a housing formed in a manner to provide a pair of adjacent generally cylindrical and axially-aligned chambers having a common end wall therebetween, one of said chambers having a flexible diaphragm forming the other end wall thereof, said diaphragm being connected to said throttle valve in a manner to close the same against the force of said spring when subjected to vacuum, a continuously open conduit between a source of vacuum and said one chamber, means for supplying air from said induction



passage to said one chamber through the other of said chambers, and centrifugally unbalanced valve rotatably mounted in the end walls of said other chamber and forming a part of said air supply means, said valve being constructed and arranged to cut off said air supply at some predetermined speed of rotation thereof and thereby apply vacuum to said diaphragm.

3,269,377
ANTI-SMOG CARBURETOR FOR INTERNAL COMBUSTION ENGINES
Robert L. Fleming, P.O. Box 55, Willowick, Ohio
Filed July 30, 1964, Ser. No. 386,240
12 Claims. (Cl. 123—119)



1. In a carburetor having a precise fuel metering system maintaining a normally constant fuel to air ratio by weight but variable under accelerating and choking operations, a working mechanism to control the metering of fuel from the metering orifice of the metering valve to a fuel/air mixing area of a carburetor throttle air valve which includes in combination: a direct-acting fuel metering valve, a metering cam pivotally mounted on a throttle plate type air valve for operating said fuel metering valve, a positioning pin for varying the meterin cam position by an engagement with a cone-shaped adjustment rod that is slidable in a tubular axle for said throttle valve, said adjustment pin being controlled in its axial location relative to said axle by a member having a helical slot and a reference pin on said adjustment pin and a straight elongated slot in said tubular throttle plate axle parallel to said axle's axis, said reference pin extending into both of said slots so that an angular movement of said helical slot member causes an axial movement of said adjustment pin to vary the positioning pin and thereby produce corresponding movement of the metering cam through the pivotable arrangement with the throttle plate;

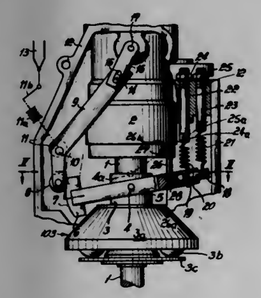
said helical slot member being a part of an inertial flywheel mounted on a bearing piloted on and pivotable with said tubular axle, said flywheel being spring loaded to a bracket fixed on said adjustment pin such that the flywheel is always spring returned to an original starting reference position and this reference position being adjustable by an adjustment screw on said fixed bracket which bears on a dowel pin's radial surface which pin is fixed in the flywheel with its axis parallel with the throttle plate's tubular axle, said return spring being of a precise calibrated type to produce a precise time delay with respect to its motion return rate of a specific mass/displacement factor of said inertial flywheel.

3,269,378

APPARATUS IN CONTROLLING THE SUPPLY OF FUEL TO A COMBUSTION ENGINE

Horst Eifler, Stuttgart, and Heinrich Knapp, Leonberg-Silberberg, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany

Filed Sept. 27, 1965, Ser. No. 490,744
Claims priority, application Germany, Sept. 26, 1964, B 78,683
5 Claims. (Cl. 123—139)



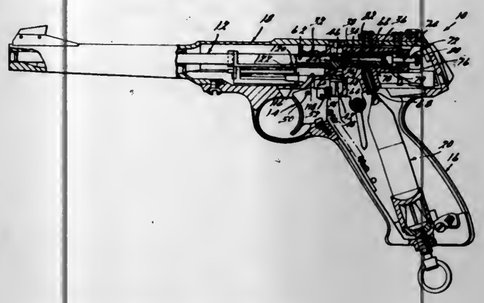
1. An apparatus for controlling the supply of fuel to a combustion engine, comprising, in combination, fuel pump means having means for varying the amount of fuel pumped to said engine including cam follower means; rotary drive shaft for driving said fuel pump means; a cam having a three dimensional cam face engaged by said cam follower means; a carrier for said cam; a sleeve mounted on said shaft, for turning movement about the axis of said shaft, and for sliding movement in axial direction of said shaft; a pair of journal pins pivotally supporting said carrier on said sleeve; a support having a recess, said carrier having a recess located opposite said recess in one turned position of said sleeve; a pin having pointed ends respectively located in said recesses of said support and of said carrier and supporting said carrier for turning movement about an axis perpendicular to said axis of said shaft so that said carrier and said cam turn about said second axis when said sleeve moves in longitudinal direction of said shaft; spring means connected with said carrier for urging the same to turn about said second axis so that said spring means is stressed when said sleeve moves in one direction along said axis; speed responsive means connected with said sleeve for urging the same to move in said one direction when the speed of said shaft increases; throttle means for controlling the flow of air into the engine; and linkage means connecting said throttle means with said sleeve so that displacement of said throttle means causes turning movement of said sleeve with said carrier and said cam about said first axis whereby said cam is displaced in two transverse directions under the control of said speed responsive means and said throttle means for actuating said cam follower means to vary the amount of fuel.

3,269,379

FLUID POWERED GUN

Guy E. Braughler and Ronald W. Joyce, Rogers, Ark., assignors to Daisy Manufacturing Company, Rogers, Ark., a corporation of Nevada

Filed June 30, 1964, Ser. No. 379,213
3 Claims. (Cl. 124—11)



1. A fluid powered gun comprising
a frame;
a barrel having a bore therethrough and supported on one end of said frame;
a projectile elevator having a projectile holding recess movable into alignment with said bore;
a source of fluid pressure; a fluid pressure control valve,
a normally closed hollow fluid pressure plunger, conduit means conducting fluid from said source for biasing said plunger away from said valve to permit the passage of fluid pressure into said plunger and towards said elevator upon upward movement of said projectile elevator,
a trigger for moving said projectile elevator upwardly to a position in which the recess therein aligns with the bore in said barrel and wherein said fluid pressure plunger enters said recess to release fluid pressure into said bore, spring means for normally biasing said plunger towards said valve,
a projectile feed tube communicating with the projectile receiving recess in said projectile elevator,
a feed plunger in said feed tube normally biased toward the recess in said elevator for discharging projectiles thereinto,
a projectile storage area located on the opposite side of said feed tube from said projectile elevator, and
a projectile feed channel extending from the other end of said frame and communicating with said projectile storage area.

3,269,380

CROSSBOWS

George M. Stevens, Box 72, Huntsville, Ark.

Filed May 12, 1964, Ser. No. 366,769
4 Claims. (Cl. 124—25)



1. A crossbow comprising a barrel portion forming the arrow groove and having opposed bow limbs secured transversely to its forward end, a bow string secured to the ends of the said bow limbs and extending transversely across the said arrow groove, a lock case containing a vertically projecting pivoted string detent member which is secured to the said lock case member on a bearing forming a pivot and a depending trigger

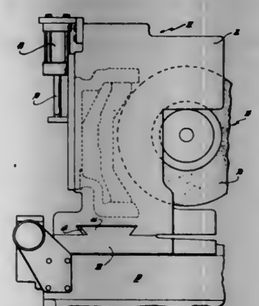
and secured to a shoulder stock member, the said lock case and shoulder stock slidably mounted on the said barrel portion, the said pivoted string detent extending vertically through the said arrow groove and engageable with the said bow string to draw the said bow limbs to a cocked position, a catch member pivotably secured at the rear of the said barrel portion and releasably engageable with the said lock case to retain same in the cocked position, a forearm grip attached to the said barrel portion and a depending pistol grip attached to the shoulder stock member for proper holding, members secured to the sides of the barrel portion to retain auxiliary arrows, and a recess in the said forearm grip member containing a service tool whereby a complete weapon is achieved suitable for isolated use, substantially as specified.

3,269,381

DRESSING ASSEMBLY FOR GRINDING MACHINE

Francis P. Healy, Springfield, Mass., assignor to Universal American Corporation, Springfield, Mass., a corporation of Delaware

Filed May 3, 1963, Ser. No. 277,752
11 Claims. (Cl. 125—11)



1. In a grinding machine of the type having a base, at least two relatively closely spaced, coaxially supported grinding wheels that are to be dressed for non-rectilinear grinding, a wheel dressing assembly on the base supported for selective horizontal reciprocation parallel with and transverse to the axis of wheel rotation, a dressing tool holder carried by the assembly for vertical reciprocation relative to the base, means for effecting horizontal reciprocation of the assembly for selectively positioning the dressing tool relative to the peripheral edge portions of the grinding wheels, and means for effecting vertical reciprocation of the tool holder, whereby the said holder can be moved from one grinding wheel to another without change in attitude selectively to dress the peripheral edge portions of the wheels.

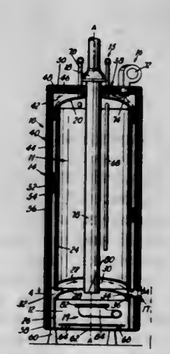
3,269,382

COMBINATION WATER AND SPACE HEATER

Kenneth M. Ronan and Donald O. Hagerty, Marshall, Mich., assignors to Ronan & Kunzl, Inc., Marshall, Mich., a corporation of Delaware

Filed Sept. 7, 1965, Ser. No. 485,297
11 Claims. (Cl. 126—101)

1. An improved combination space and water heating apparatus which comprises:
a hot water tank defined by top, bottom and cylindrical side walls and comprising cold water inlet means and hot water outlet means, said tank having a normally vertical axis;
a fuel combustion chamber defined by top, bottom and cyclindrical side walls, said chamber having a normally vertical axis coincident with said axis of said tank, said top wall being below said bottom wall of said tank and spaced therefrom, the space between said bottom wall of said tank and said top wall of said fuel combustion chamber forming an air heating chamber;
a housing comprising a top wall and a cylindrical side wall surrounding said tank, said housing having a normally vertical axis coincident with said axis of said tank, said top wall of said housing being spaced from said top wall of said tank and said side wall of said housing being spaced from said side wall of said tank, whereby there is provided air space between the top and side walls of said housing and the top and side walls of said tank and at least said side wall of said fuel combustion chamber in the region of said top wall thereof, said air space being in air flow communication with said air heating chamber, said housing further comprising bottom closure means in combination with said side wall of said fuel combustion chamber, which bottom closure means enclose said air space at the normally bottom end thereof;



hot air outlet means in combination with said air heating chamber and comprising a duct disposed through said housing for the passage of hot air from said air heating chamber to outside of said housing;
air blower means in communication with the air space between the top wall of said tank and the top wall of said housing for introducing air into said air space from outside of said housing;
combustion gas vent means comprising a pipe disposed along said axis through said top wall of said housing, top wall of said tank, said tank, said bottom wall of said tank and said top wall of said combustion chamber with the intake end thereof being disposed in said fuel combustion chamber and substantially spaced normally downwardly from said top wall of said fuel combustion chamber; and
fuel burner means centrally disposed in said fuel combustion chamber, said means being functionable to eject fuel transversely relative to said axis of said chamber toward said side wall of said chamber.

3,269,383

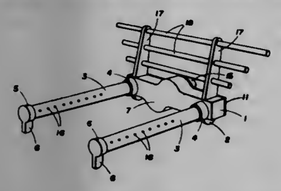
FORCED DRAFT GRATE FOR FIREPLACES

William A. Maasberg, 3310 Clement St., Stockton, Calif.

Filed Apr. 15, 1965, Ser. No. 448,480
11 Claims. (Cl. 126—164)

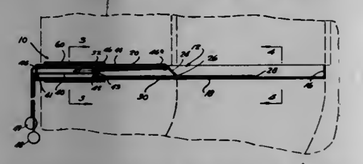
1. A fireplace grate comprising a transverse manifold, a pair of andiron tubes mounted on and projecting back from the manifold adjacent the ends thereof, said tubes being open at their forward ends to the manifold, closed

at their near ends, and provided with spaced relatively small openings intermediate such ends; and means to



create a forced draft in the manifold and from the latter into the tubes for discharge from said openings.

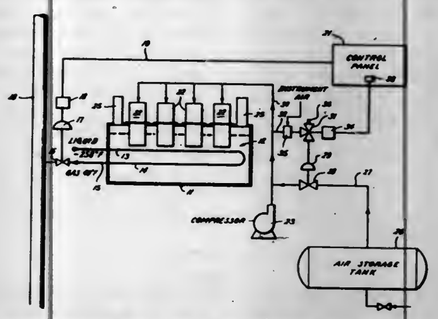
3,269,384
FIREPLACE DAMPER ASSEMBLY
Carl W. Adelt, 450 River Road, Mays Landing, N.J.
Filed Feb. 19, 1965, Ser. No. 433,879
4 Claims. (Cl. 126—288)



1. In a fireplace damper assembly, a fireplace damper unit comprising an elongated open frame having upstanding side members and an upstanding end member extending between and secured to the complemental rear ends of said side members, a ledge inwardly of and extending along each of said side members, said ledges extending toward each other, an apron bridging the ledges and extending from the complemental front ends of said side members and terminating at a point spaced from said end member and secured to said side members, a downwardly and outwardly-sloping lip extending along and depending from the terminating end of said apron, the lower end of said lip being contiguous to and spaced from said ledges and forming with said ledges a slot, the part of said frame defined by said lip, said end member and the adjacent portions of said ledges forming an opening adapted to conform to that of a flue in a fireplace, a flat plate valve mounted in said frame for sliding movement along said ledges between a position wholly concealed below said apron and inwardly of said slot and out of closing relation with respect to said opening, and a position projected out of said slot and beyond said apron and in closing relation with respective to said opening, and means operatively connected to said valve for moving said valve between the aforesaid positions.

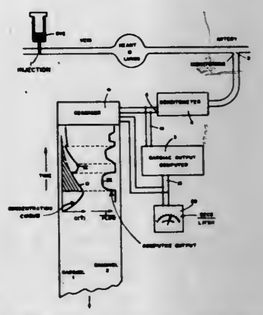
3,269,385
VAPORIZATION SYSTEM
James J. Mitchell and Gaudenz Gadmer, both of Houston, Tex., assignors to Texas Eastern Transmission Corporation, Shreveport, La., a corporation of Delaware
Filed Oct. 2, 1964, Ser. No. 401,159
3 Claims. (Cl. 126—360)

3. A vaporization system comprising,
a tank,
a body of water in said tank,
submerged burners extending into said body of water,
an air compressor,
conduit means for connecting the compressor and burners for supplying aid to said burners,
a coil submerged in said body of liquid for conveying a fluid to be vaporized through said water in indirect heat-exchange relationship therewith,
a source of compressed gas,
a valve-controlled conduit connecting the source of compressed gas with said conduit means, and



means opening said valve in response to a reduction in pressure in said conduit means to a selected value.

3,269,386
METHOD OF AND APPARATUS FOR FLOW MEASUREMENTS
Herbert Sherman, 3 Bates Road, Lexington, Mass.
Filed July 12, 1963, Ser. No. 294,561
12 Claims. (Cl. 128—2)

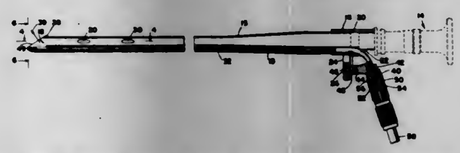


1. A method of computing the area under a blood-carried injectant concentration-curve, an unknown predetermined portion of which follows a substantially decaying exponential law having a predetermined negative-slope characteristic, that comprises, producing successive electrical signals that are the analog of the curve, continually integrating the signals, continually predicting from the successive signals successive areas corresponding to areas under predicted curves following the said substantially exponential law, monitoring the signals until a signal is reached that has the said predetermined negative-slope characteristic, and thereupon adding to the integrated signals the then-predicted area to produce a measure of the rate of flow of the injectant.

3,269,387
ENDOSCOPE WITH RIGID FIBERSCOPE ILLUMINATING MEANS
Frederick J. Wallace, New York, N.Y., assignor to American Cystoscope Makers, Inc., Pelham Manor, N.Y., a corporation of New York
Filed Oct. 1, 1963, Ser. No. 312,989
7 Claims. (Cl. 128—6)

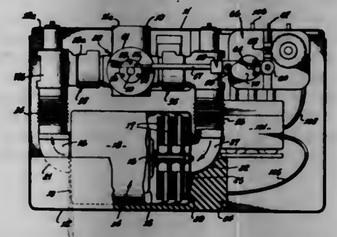
1. A bronchoscope for insertion into and for examining the bronchi in the lungs of a patient, comprising a tubular sheath forming a channel through which a field of view presented to a fenestra formed at the distal

end of said sheath may be visualized, means forming a passageway extending along the perimeter of said sheath from adjacent the distal end to adjacent the proximal end thereof, a light rod removably disposed within said passageway, said light rod comprising an outer tube and a plurality of light-conducting fibers disposed within said



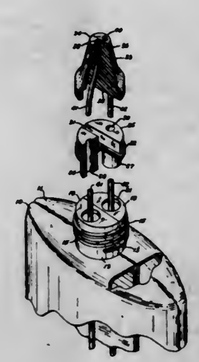
tube, said fibers being formed into a solid substantially rigid rod-shaped bundle extending from adjacent the proximal end to adjacent the distal end of said sheath, the proximal end of said rod being adapted for connection to an external light source for illuminating the bronchi of a patient.

3,269,388
APPARATUS FOR PRODUCING CYCLIC PRESSURE CONDITIONS
Harry Glascock, Los Angeles, Calif. (% Hemo-Dyne Corp., 620 E. Dyer Road, Santa Ana, Calif. 92705), and Ferdinand H. Terhaar, 4253 9th Ave., Los Angeles, Calif.
Continuation of application Ser. No. 815,717, May 25, 1959. This application Sept. 5, 1961, Ser. No. 139,033
4 Claims. (Cl. 128—30)



1. In pneumatic apparatus for producing alternate pressure conditions in repeated cycles, and including a pneumatic pump, means forming a supply passage and a return passage for said pump, means forming a motor port and an exhaust port for operating therapeutic appartus or the like, and a sequence valve cooperable with said passages and said ports for interconnecting the passages with the ports, said sequence valve being movable to two opposite positions, in one of which the supply passage fully registers with said motor port while said return passage fully registers with said exhaust port, and in the other of which said supply passage fully registers with said exhaust port while said return passage fully registers with said motor port, said sequence valve furthermore having transitional positions intermediate said opposite positions for gradual change in the pressure in said motor port, the combination therewith of motive means; a coupling deriving motion from said motive means and connected to said sequence valve for cyclically moving said sequence valve between said opposite positions, said coupling having means determining two transitional periods between said positions that together constitute a significant but fractional portion of the cycle, said coupling having means correspondingly determining two pause portions for the remaining fractional portion of the cycle, said coupling including adjustable means for proportioning the relative duration of the said two pause periods while the combined duration of the transitional periods remains substantially fixed.

3,269,389
COMPARTMENTAL DISPENSING CONTAINER FOR NOSE AND THROAT PREPARATIONS
Bernard L. Meurer and William L. Fisher, both of Adair, Iowa
Filed Mar. 11, 1963, Ser. No. 264,421
8 Claims. (Cl. 128—198)

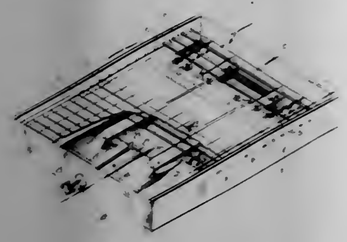


1. In a bottle,
a resilient container having a one-half neck portion with a hole in its top,
a second resilient container having a one-half neck portion with a hole in its top,
said two containers being adjacent and their two one-half neck portions forming together a cylindrical neck portion,
a nozzle having two outlet passageways operatively secured to said cylinderical neck portion,
a flexible conduit extending from inside said first container, loosely through the hole in its half neck portion and into one of the outlet passageways of said nozzle and a flexible conduit extending from inside said second container, loosely through the hole in its half neck portion, and into the other outlet passageway of said nozzle; and
said two holes in said neck portion being of a distance apart, greater than that of the distance between the two outlet passageways of said nozzle.

3,269,390
REAL ESTATE COMPARATOR WITH LOCK
Lawrence E. Standish, Alexandria, Va. (Box 103, Annandale, Va.)
Filed Feb. 7, 1964, Ser. No. 343,332
5 Claims. (Cl. 129—16)

1. A device receiving cards each having two hinge apertures and a control notch at one transverse edge comprising
a base member having a top and equally spaced transverse slots therein,
said base member including open hook hinge means having two downwardly projecting free legs positioned in each slot, each leg having a top portion positioned at about the level of the top of said base member having hinging action wtih its respective hinge aperture of a card,
lock means comprising a bar extending longitudinally of said device and at right angles to the length of said transverse slots,
moving means for moving said longitudinal bar on said base member between a lock position and an unlock position, said means moving said bar linearly towards and away from said top,

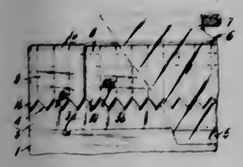
said bar having a card controlling portion which when in lock position projects above the bottom of the free legs and is received in said control notch of a card when a card is flipped to prevent release of the card from said hinge means, said control portion sub-



stantially corresponding to the shape of said notches to prevent shifting of the cards when flipped,

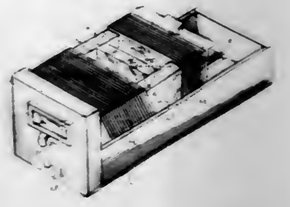
said card controlling portion of said bar when in said unlock position being below the bottom of said free legs for reception of the control notch of a card to facilitate removal of the card from said hinge means.

3,269,391
INDICATOR DEVICE
Heinz R. Wagner, Zurich, Switzerland, assignor to Rieggo-Nueggi & Cie. Aktiengesellschaft, Zurich, Switzerland
Filed Feb. 11, 1963, Ser. No. 257,637
Claims priority, application Switzerland, Feb. 20, 1962, 2,034/62; Aug. 30, 1962, 10,367/62
5 Claims. (Cl. 129—16.7)



1. An indicating device for a file, folder or similar article comprising a carrier having a front side and a rear side and a straight edge, a base strip secured to the front side of said carrier at a location spaced from said straight edge and having an edge extending above the surface of said carrier with gear-like formations facing the edge of said carrier, at least one indicator located between said base strip raised edge and said carrier edge having an orienting edge thereon with formations complementary to the gear-like formations of said raised edge and engaged with at least some of the gear-like formations of said raised edge of said base strip, a transparent securing strip having a first edge extending across the front side of said carrier and secured thereto at a location adjacent said base strip but spaced further from the edge of said carrier than the raised edge of said base strip, said transparent securing strip extending over said carrier sheet to the edge thereof and holding said indicator in position over said carrier and being of flexible material to permit bending around the edge of the carrier sheet, said transparent securing strip including a rear portion overlying the rear side of said carrier sheet, and means for detachably securing the rear portion of said securing strip to the rear side of said carrier sheet.

3,269,392
TRANSPARENT FILE SEPARATOR
Ann G. McLain, Centerville, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Mar. 30, 1965, Ser. No. 446,775
4 Claims. (Cl. 129—36)



1. A file separator comprising:

a pair of flat isosceles triangular shaped end members of transparent material, each of said end members having a first edge and a second edge of equal length and a third edge connected to said first and second edges at the ends thereof;

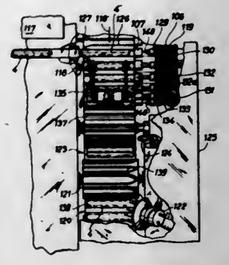
a flat rectangular shaped bridging member of transparent material having two pairs of opposed edges, said bridging member interconnecting said end members for maintaining said end members in a spaced and substantially parallel relative relation;

said interconnection being by a first pair of opposed edges of said bridging member being secured to the confronting surfaces of said end members;

the ends of one edge of the second pair of opposed edges of said bridging member meeting each of said confronting surfaces of said end members proximate the mid-point of said third edge of said end member; and

said first pair of opposed edges of said bridging member extending along said end member confronting surfaces from proximate said mid-point of said third edge toward the apex of the angle opposite said third edge.

3,269,393
METHOD OF MAKING CIGAR FILLERS
Hans-Peter Ackermann, Hamburg-Bergedorf, Germany, assignor to Hauni-Werke Korber & Co. KG, Hamburg-Bergedorf, Germany
Original application June 25, 1962, Ser. No. 204,690, now Patent No. 3,285,899, dated Sept. 14, 1965. Divided and this application Oct. 4, 1963, Ser. No. 314,039
Claims priority, application Germany, Dec. 3, 1959, H 38,055; June 24, 1961, H 42,948
16 Claims. (Cl. 131—20)



16. A method of making shaped cigar fillers, comprising the steps of forming a filler of desired length having a substantially constant cross section and a pair of substantially flat transversal end faces; transporting the fillers along a transverse path substantially transversely of the longitudinal extensions thereof by a conveyor having

individual holding means for separately holding said fillers; removing tobacco from and thereby forming in at least one of said transversal end faces a recess which is completely surrounded by the respective end portion of the filler while the fillers are located in individual holding means separately holding said fillers; and compressing said end portion inwardly so as to substantially close said recess and to impart to said end portion a substantially conical shape.

3,269,394
SMOKING ACCESSORY
Joseph A. Curtis, Jr., Anaheim, Calif. (11442 Califa, No. 1, North Hollywood, Calif.)
Filed Nov. 26, 1963, Ser. No. 326,119
5 Claims. (Cl. 131—210)



1. A device for use with either a tipped or untipped cigarette to remove condensable products of combustion and solid particles from the smoke thereof and to visually indicate the quantity of said products and particles so removed, including:

(a) a cylindrical shell having a forward and rear end and a transverse circumferentially extending body shoulder on the interior thereof intermediate said ends, with the interior of said shell forwardly of said shoulder being defined by a slightly frusto-conical first surface that diverges forwardly and outwardly and of such dimensions as to frictionally grip either a tipped or untipped end of a cigarette which is moved rearwardly therein, and with that portion of said shell interior rearwardly of said body shoulder being defined by a slightly frusto-conical second surface which diverges rearwardly and outwardly;

(b) a first partition transversely disposed in said shell and supported by said body shoulder, said partition having a centrally disposed orifice formed therein which forms smoke from said cigarette passing therethrough into a rearwardly directed high velocity jet that deposits said products of combustion and particles on a surface disposed within a predetermined range rearwardly of that portion of said partition in which said orifice is formed;

(c) a second partition that includes an exterior ring and a rearwardly extending center concave area that defines said surface, which ring has a plurality of circumferentially spaced openings formed therein;

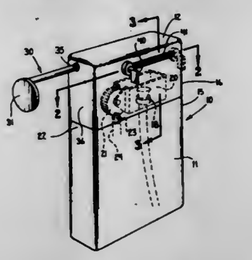
(d) a frusto-conical wall that extends rearwardly from said ring, which wall is of such angulation as to frictionally grip said second surface of said shell when said wall is moved forwardly therein, with said wall being of such length as to position said surface of said concave portion within said range when the rear edges of said wall and shell are flush, which first and second partitions cooperatively define a confined space therebetween in which said products of combustion and solid particles may build up after separation from the smoke of said cigarette and from which smoke freed of said products of combustion and particles may pass through said openings into the mouth of the user, with said shell, first and second partitions, and said wall being formed of a transparent, water impervious, rigid material to permit the quantity of said products of combustion and solid particles to be observed after said cigarette has been consumed.

3,269,395
ASH TRAY
Thomas P. Heckman, 533 Edgewood Road, Flowerfield, Lombard, Ill.
Filed Mar. 29, 1963, Ser. No. 268,916
3 Claims. (Cl. 131—235)



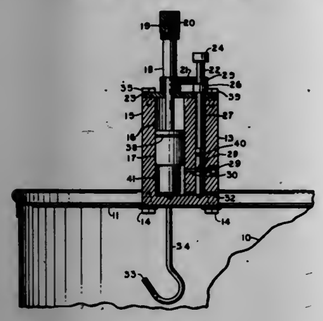
1. A combination holder for elongated tobacco smoking articles and ash tray for refuse therefrom, comprising a container having an opening therein, and a holder mounted on the container having two brushes confronting the opening therein, said brushes having a pair of spaced parallel rods mounted at opposite ends of the container, said rods being mounted for independent rotation, each of said brushes having a plurality of heat conducting, non-flammable bristles mounted at one end thereof on the rod and extending outwardly therefrom, the outward ends of the bristles defining a cylinder, the cylinder defined by the ends of the bristles of the two brushes being spaced from each other by a distance less than the smallest cross sectional dimension of a smoking article and sufficiently close to said smallest cross sectional dimension of the smoking article to permit a smoking article to be disposed between the pair of brushes without substantial damage to the article, whereby a smoking article may have its lighted end inserted between the brushes to confront the container and be held in position by the brushes.

3,269,396
LIGHTER TAMPER COMBINATION
Heber C. Lamar, P.O. Box 26011, Indianapolis, Ind.
Filed July 30, 1964, Ser. No. 386,333
4 Claims. (Cl. 131—247)



4. A lighter attachment comprising an elongated cap cover adapted to slip over and adhere to a hingedly mounted lighter cap, a tamper having an enlarged head mounted on one end of an elongated shank and projectable out of the portion of said cap cover away from the hinged portion of said cap, spring means acting against said cap cover and tamper and normally maintaining said tamper retracted, and a handle portion projecting from said cap cover on the right hand side of the cap when said cap is viewed with the hinge means away from the viewer, said handle portion being secured to said tamper for the projection thereof.

3,269,397
GAS OPERATED VERTICALLY RECIPROCATING CLEANING AGITATOR
Raymond J. Woods, Compton, Calif. (5343 Hackett Ave., Lakewood, Calif. 90713)
Filed Apr. 28, 1964, Ser. No. 363,142
3 Claims. (Cl. 134—141)



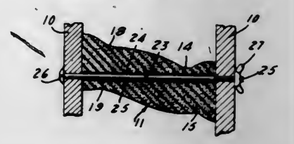
1. A cleaning agitator comprising a tank, a cover for said tank, means for supporting articles, an actuator designed to impart vertical reciprocation to said means, said actuator comprising a block, a first cylinder in said block equipped with a piston and piston rod designed to reciprocate in said first cylinder, said article supporting means connected to said piston rod, a second cylinder equipped with a cylindrical valve rod to control the flow of gas to said first cylinder, an inlet gas port in said block communicating said first cylinder with a gas supply, an outlet gas port in said block communicating said first cylinder with the atmosphere, said second cylinder communicating with said inlet and outlet ports, said cylindrical valve rod slidably mounted in a sleeve, said sleeve being rigidly connected to said piston rod, said valve rod equipped with an inlet port, said inlet port in said rod communicating with said inlet port in said block.

3,269,398
CONVEX TENTS
Yehuda Holbitz, 7 Hatamar, Tel Aviv, Israel
Filed Oct. 14, 1963, Ser. No. 315,757
Claims priority, application Israel, Oct. 17, 1962, 18,087
12 Claims. (Cl. 135—3)



1. A convex tent comprising:
a plurality of spaced apart elongated resilient primary members, each of said primary members being anchored at the ends thereof and bowed therebetween, the top ends of said primary members including bent tips, said primary members substantially determining the width and the height of said tent;
a plurality of elongated bowed resilient auxiliary members, each of said auxiliary members being fixedly and angularly associated with and between a pair of said primary members;
at least one top plate connector rigidly anchoring said top ends of said primary members, said plate connector including; an upper plate member having apertures therein, a lower plate member spaced from said upper plate member, said top ends positioned between said plate member with said bent tips thereof received within said apertures and securing means associated with said plate members for decreasing the distance between said plate members to cause the same to abut against said top ends of the primary members; and
a flexible material contacting said resilient primary and auxiliary members and substantially covering the same, said primary and said auxiliary members cooperating with said material to form the curvature for said convex tent.

3,269,399
COMBINED HANDLE AND HAND GRIP FOR CRUTCHES
Alfred A. Smith, 8277 Lankershim Blvd., North Hollywood, Calif.
Filed Aug. 3, 1964, Ser. No. 386,827
4 Claims. (Cl. 135—51)



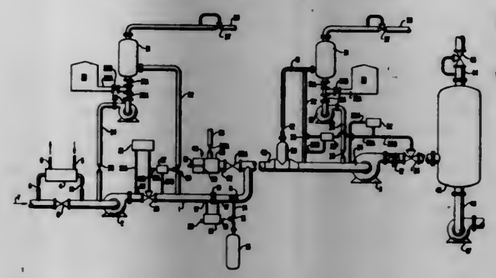
4. A combined handle and hand grip for a crutch adapted to be mounted between the bows of the crutch comprising a body member formed of resilient material, said body member being contoured to substantially fit the hand of the user, said body member having a longitudinally directed bore extending at an angle from adjacent the top of the front to adjacent the bottom of the back of said body member, a hollow rigid sleeve equal in length to said body member mounted in said bore, an elongated fastening member extending through said sleeve and through the bows of said crutch to removably mount said combined handle and hand grip on said crutch, the front of said body member slanting substantially downwardly, said body member being rotatable so that said body member is slanted toward the inside of said crutch, said body member being sufficiently soft as to be compressible by the hands and fingers of the user so that said body member can be deformed by manual pressure to fit the particular size and contour of the hand of the user, said sleeve being sufficiently strong to prevent said body member from buckling under the weight of the user or the pressure of said bows upon said body member.

3,269,400
CRUTCH PAD
Alfred A. Smith, 8277 Lankershim Blvd., North Hollywood, Calif., and Howard C. Lien, Los Angeles, Calif.; said Howard C. Lien assignor to said Alfred A. Smith
Filed Feb. 28, 1963, Ser. No. 261,799
1 Claim. (Cl. 135—52)



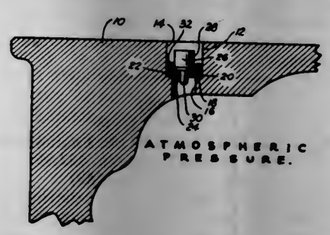
A crutch pad having a cushion-like body portion having an upper surface and lower surface, said body portion having a hollow interior and a crutch receiving opening extending into said interior from said lower surface, said body portion being formed of molded elastomeric material, and an elongated band of elastomeric material having greater tensile strength and resistance to aging than said body portion, said band being bonded to said body portion, said band extending circumferentially around the entire periphery of said crutch receiving opening and being positioned contiguous to said lower surface to reinforce said crutch receiving opening.

3,269,401
TRANSPORTING WAX-BEARING PETROLEUM FLUIDS IN PIPELINES
Paul R. Scott, Houston, and Ronald F. Scheuerman, Bellaire, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Aug. 27, 1965, Ser. No. 483,167
9 Claims. (Cl. 137—13)



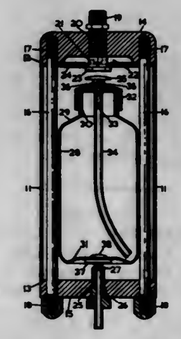
1. The method of transporting an oil which contains undissolved wax at ambient pipeline temperature and preventing buildup of strong wax structures in the pipeline which comprises the steps of:
(a) dissolving in said oil while above its pour point temperature and at superatmospheric pressure, gas in an amount in excess of that which saturates the oil at atmospheric pressure; and
(b) flowing the resulting solution at superatmospheric pressure through said pipeline whereby some of said dissolved gas separates to form gas bubbles within said oil as it cools to ambient temperature within the pipeline to prevent the formation of strong wax structures in said oil upon such cooling.

3,269,402
THERMAL FUSE
Richard F. Horner, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Nov. 22, 1963, Ser. No. 325,565
4 Claims. (Cl. 137—74)



1. A thermal fuse for use with a pressurized vessel with a well having a stepped diameter through-bore having a large diameter portion adjacent a pressure higher than that adjacent the small diameter portion, a shoulder formed in said through-bore at the juncture of the large and small diameter portions comprising:
a fusible disc disposed in said large diameter portion of the through-bore;
a cylindrical plug having an outer diameter smaller than that of the small diameter portion of the through-bore, said cylindrical plug disposed in the large diameter portion of the through-bore abutting said fusible disc;
said cylindrical plug forming an annular space with the through-bore; and
an O-ring disposed in said annular space in sealing contact with said cylindrical plug and the through-bore, said O-ring further operative to provide a frictional holding force to retain said cylindrical plug in position.

3,269,403
FLOAT CONTROLLED DRAIN VALVE
Cosby Donald Philipps Smallpeice, Riddell's Bay, Bermuda, assignor of one-half to Nuquip Limited, Richmond, Surrey, England
Original application Feb. 9, 1962, Ser. No. 172,220, now Patent No. 3,203,245, dated Aug. 31, 1965. Divided and this application May 18, 1965, Ser. No. 470,284
4 Claims. (Cl. 137—192)

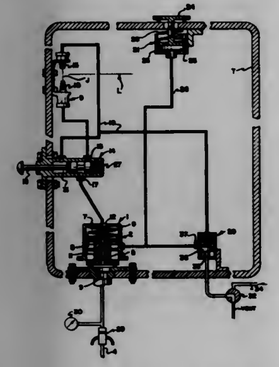


1. A drain valve comprising a hollow body, said body comprising a tubular side wall of uniform cross-section and respective end walls, said body adapted for use with the axis of its side wall vertical, tie rods within said tubular side walls and interconnecting said end walls, the uppermost end wall having an inlet for pressurised wet gas, the lowermost end wall having an outlet orifice for liquid which accumulates within said body, a float within said body, said float having a main portion of uniform cross-section, a movable valve member to open and close said orifice, said valve member fast with the bottom of said float such that when liquid accumulates in said body said float will be raised and lift said valve member off said orifice, said tie rods adapted to coact with said main portion of said float guidingly to preserve the attitude of said float during rising and falling movements thereof, said float being hollow and having thin walls so as to provide it with a high degree of buoyancy in said accumulated liquid, and said float having a vent in a position above the accumulated liquid level leading to the interior of said body whereby the pressure within the float will be substantially the same as that in said body.

3,269,404
AUTOMATIC SHUTOFF VALVE
Ralph H. Lebow, Pacific Palisades, Calif., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 3, 1962, Ser. No. 241,613
17 Claims. (Cl. 137—199)

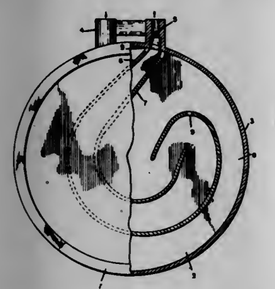
7. In combination, an automatic shutoff valve for controlling the flow of liquid into a tank, said valve having a fluid pressure operated valve member movable to positions for opening and closing a passage through the

valve, a jet nozzle from which liquid may flow in a jet stream to a jet receiver means for generating a pressure therein, means associated with said valve member for causing said valve member to close in response to the pressure in said jet receiver means dropping below a pre-



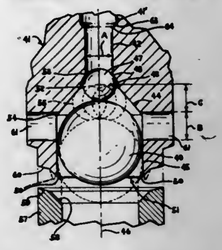
determined value, and a pilot valve operatively connected to said valve member for initiating flow of liquid from said valve member to said jet nozzle, said jet receiver means being operatively connected to said pilot valve to subject said pilot valve to sufficient pressure to maintain the same in open position.

3,269,405
WATER-COOLED HOT-GAS AND HOT-BLAST VALVE TONGUE
Johannes Uerlichs, Duren-Birkesdorf, Germany, assignor to Hermann Rappold & Co. G.m.b.H., Duren-Birkesdorf, Germany
Filed Mar. 16, 1964, Ser. No. 352,116
1 Claim. (Cl. 137—340)



A water-cooled hot-gas or hot-blast valve tongue comprising a casing having a cavity with an inlet and outlet for cooling water, an outer and an inner shorter guiding member spaced relative to each other in said cavity extending away from said cooling water outlet spirally about the center of said cavity, the spiral of said outer guiding member from its starting point at said outlet to its free end constantly moving closer to the outer peripheral wall of said casing, said free end of said spiral of said outer guiding member surrounding in an arc directed downwardly in said cavity the free end of said shorter inner guiding member, said inner guiding member from its starting point at said outlet constantly moving away from said outer guiding member, whereby cooling water flows between said guiding members and the supply of cooling water takes place in the space between the peripheral wall of said casing and said outer guiding member.

3,269,406
VALVE
Ansel B. Grose, 8 Mount Vernon St., Stoneham, Mass.
Filed Mar. 25, 1965, Ser. No. 442,747
6 Claims. (Cl. 137—436)

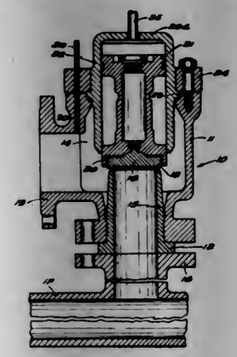


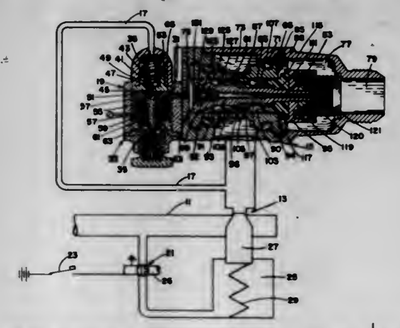
1. A liquid flow control valve member for use with a device of the character described embodying a liquid line and engagement means for engaging and operating said liquid flow control valve member, said valve member comprising a main body portion having a restricted liquid passageway therein, means on the end of said body portion adjacent said passageway for coupling said passageway to said liquid line, said body portion having a hollow tapered section internally thereof of a controlled length and of a given taper and having a valve seat adjacent its narrowest end and in communicating relation with said passageway, said valve member embodying a ball shaped face part of a diameter slightly larger than the diameter of the restricted passageway and controlled in accordance with the taper of said hollow tapered section such as to have the major portion thereof lying within said tapered section and to have line contact with said seat when in engaging relation therewith, said body portion having an enlarged cylindrically shaped open area therein communicating with the hollow tapered section and having an inwardly extending end part opposite said tapered section and an open end whose major area is of a size smaller than the diameter of said cylindrically shaped open area, said cylindrically shaped open area having openings in the side walls thereof each of an area substantially equal to the cross sectional area of the passageway, said valve member further embodying an enlarged part functioning as actuating means internally of said cylindrically shaped open area and larger than the diameter of said ball shaped face part and having a part extending outwardly of said open end and adapted to be engaged by said engagement means, said actuating part being of a length such as to prevent said part having the ball shaped face part from being displaced from within said hollow tapered section when said actuating part moves in a direction away from said valve seat and engages said inwardly extending end part and sufficient in length to provide for unrestricted flow from said passageway by said ball shaped face part to said openings.

3,269,407
SAFETY VALVE
Victor W. Farris, 104 Woodland St., Englewood, N.J.
Filed June 10, 1965, Ser. No. 462,998
1 Claim. (Cl. 137—489)

A pilot-controlled safety valve for relieving excessive pressure of fluid flowing through a conduit comprising a main valve body having inlet and outlet ports; a main valve disc controlling communication between said inlet and outlet ports; a piston slidably mounted in said main valve body and operatively connected to said main valve disc; said main valve disc and said piston being adapted to be exposed to the pressure of said fluid whereby first and second forces may be exerted against said main valve disc in directions tending, respectively, to open and close the same; the relative areas of said main valve disc and said piston being such that said second force will normally

exceed said first force initially to hold said main valve disc closed and prevent communication between said inlet and outlet ports; and means, adapted to be connected to said conduit and responsive to the pressure of said fluid, for controlling the exposure of said piston to said fluid whereby when the pressure of said fluid reaches a predetermined magnitude, said second force is reduced to a value below said first force and said main valve disc is opened to establish communication between said inlet and outlet ports thereby relieving the excessive pressure of said fluid, and whereby when the pressure of said fluid subsequently drops below said predetermined magnitude, said normal differential between said second and first forces is reestablished to close said main valve disc and discontinue communication between said inlet and outlet ports; said means including an auxiliary valve body having an auxiliary inlet port and first and second auxiliary outlet ports; said auxiliary inlet port being adapted to be connected to said conduit, said first auxiliary outlet port being connected to said main valve body above said piston, and





said second auxiliary outlet port being connected to said main outlet port of said main valve body; a plunger slidably mounted in said auxiliary valve body; an auxiliary valve disc, carried by said plunger and cooperable with an auxiliary valve seat formed in said auxiliary valve body, for controlling communication between said first and second auxiliary outlet ports; said plunger having a reduced portion which, together with the adjacent walls of said auxiliary valve body and a portion of said auxiliary valve disc, provide a chamber communicating, through a passage in said plunger, with said auxiliary inlet port and with said first auxiliary outlet port; the relative areas of said auxiliary valve disc and said auxiliary valve seat being such that when the pressure of fluid in said chamber and applied against said auxiliary valve disc reaches said predetermined magnitude, said auxiliary valve disc commences to open whereby the force developed against said auxiliary valve disc is amplified to cause said auxiliary valve disc instantaneously to achieve its optimum lift and thereby establish maximum communication between said first and second auxiliary outlet ports.

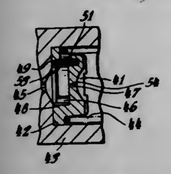
3,269,408
PRESSURE REGULATOR FOR BOTH HIGH AND LOW FLOW DEMANDS
Dennen J. Bunger, Whitesboro, Nemjee R. Chheda, Utica, and John H. Ferguson, Sauquoit, N.Y., assignors to The Bendix Corporation, Utica, N.Y., a corporation of Delaware
Filed Oct. 29, 1963, Ser. No. 319,791
1 Claim. (Cl. 137—517)

A pressure regulator for low flow of a gas comprising: housing means providing an axial bore which terminates at one end in a circular seat having a sharp edge and at the other end with a wall and having a discharge chamber extending from said seat edge in a direction away from said wall;
a valve element having a piston slidably sealingly mounted in said bore adjacent said wall to form a reference pressure chamber and having a tapered plastic valve ring spaced from said piston and arranged to seal said seat edge;
said housing having inlet means providing a flow path to said axial bore between said piston and said seat edge;
a pilot pressure reducing valve in communication with said inlet means and said reference pressure chamber to maintain a predetermined constant reference pressure in said reference pressure chamber;
axial passage means through said valve element communicating said reference pressure chamber to said discharge chamber including a check valve arranged to sense both reference pressure and discharge pressure and to provide flow from said reference pressure chamber to said discharge chamber when said valve element moves toward said wall of said bore;
said check valve including a small port surrounded by a plastic seat and a ball normally spring biased into contact with said seat;
spring means biasing said valve element toward closed position;
said valve element further including an axially-extending skirt, a supporting and blocking disc connected thereto and passages through said disc;
said inlet means terminating in ports on said bore positioned to be blocked by said disc when said valve element is in a valve closed position;
said skirt dimensioned to provide with said bore an annular throttling passage when said inlet ports are unblocked by said disc; and
said piston and said spring means operative to control said valve ring relative to said seat edge upon a predetermined pressure differential existing between said discharge chamber and said reference pressure chamber such that substantially no fluid flows through said pressure regulator.

3,269,409
CHECK VALVE FOR USE WITH A MASTER CYLINDER
Ronald William Ansell, Leamington Spa, England, assignor to Automotive Products Company Limited, Leamington Spa, England
Filed Nov. 21, 1963, Ser. No. 325,356
Claims priority, application Great Britain, Dec. 21, 1962, 47,577/62
5 Claims. (Cl. 137—525)

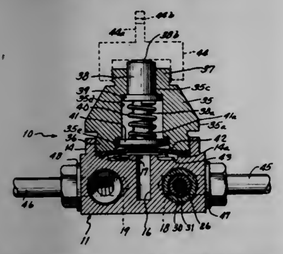
1. A valve for use with a master cylinder and the like comprising a cylindrical member with a boss forming a central recess adjacent one end thereof, a radially extending liquid passage disposed in the peripheral wall of said cylindrical member in communication with the outer

periphery of said member and the interior of said recess, said boss having a semi-circular slot disposed therein forming a peripheral wall, a semi-circular resilient valve



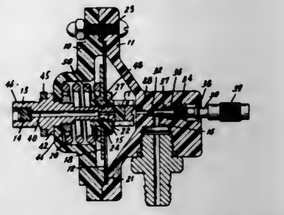
blade mounted in said slot means and covering said radial passage, whereby flow of liquid into said recess keeps said passage covered and flow of liquid in said passage unseats said valve.

3,269,410
STOPCOCK OR FLOW VALVE
Jose Alvarado, Sur 83, 430 Colonia Boturini, German de Maria y Campos Fernandez, Perseo 13, and Rolf Mattiasson, Calle Curie 10, all of Mexico City, Mexico
Filed Oct. 21, 1964, Ser. No. 405,561
1 Claim. (Cl. 137—612.1)



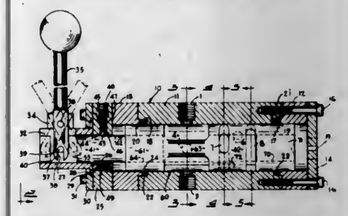
A device for use in checking fluid pressure conditions in a conduit, comprising a housing adapted to be connected into said conduit and provided with a first port and a second port extending into communication therewith, said housing defining a continuous flow path for the fluid between said first and second ports, and including a hollow space and a first pair of separate passageways respectively connecting said first and second ports therewith and a second pair of separate passageways respectively extending from each of said first pair of passageways into communication with the outside of said housing, a normally-open diaphragm valve associated with said hollow space for shutting off fluid flow therethrough and through the passageway connected to said second port, resilient means engageable with one face of the diaphragm of said valve for maintaining the diaphragm in its normally open position, a member covering the other face of said diaphragm and being provided with a two-part telescoping plunger having one part engaged with the associated face of said diaphragm and another part projecting through said member and extending therebeyond, resilient means positioned within said member for biasing apart the two parts of said plunger, means for limiting the action of said resilient biasing means, each of the said second pair of passageways being provided with means to permit fluid flow therethrough only in a direction from the said first pair of passageways toward the outside of said housing and being provided adjacent its outer end with a normally-closed stem-operated pressure gauge connecting valve, and a locking element releasably connectable with said diaphragm-covering member at the exterior of the latter for engagement with the projecting end of said plunger for reciprocating said plunger against the resistance of said resilient maintaining and biasing means and to flex the diaphragm of said normally-open valve into its closed position.

3,269,411
LECTURE BOTTLE REGULATOR
David J. Teston, Cranford, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Feb. 12, 1964, Ser. No. 344,412
3 Claims. (Cl. 137—613)



1. A pressure responsive valve comprising in combination a casing, a diaphragm in said casing, a stationary inlet nozzle having a capillary bore therethrough and mounted in said casing, an outlet passageway, a tubular guide carried by said diaphragm and receiving said nozzle, an inlet valve seat in said tubular guide engaging said bore, an outlet needle valve in said outlet passageway, said stationary inlet nozzle and said outlet needle valve each comprising a single piece of stainless steel, and said casing and said diaphragm, said tubular guide and inlet valve seat are of non-metallic, corrosion resistant, organic plastic, whereby said pressure responsive valve may operate with corrosion fluids.

3,269,412
MULTI-POSITION DISTRIBUTING AND REGULATING VALVE
Frank C. Badke, 33955 McAfee Drive, Solon 39, Ohio
Filed Jan. 27, 1964, Ser. No. 340,205
8 Claims. (Cl. 137—625.17)

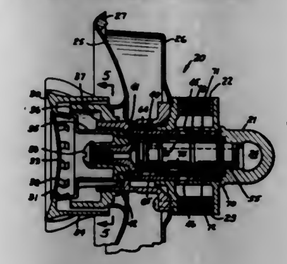


1. In a sliding piston distributing and regulating valve assembly including a hollow cylinder having ports in at least two transverse planes adapted for selective communication therein, a piston having a hollow core and a drainage channel extending longitudinaly along the surface of said piston, for communication between said port including planes, and means for rotating and axially sliding said piston, the improvement which includes:

(a) said piston having a first pair of non-communicating, arcuate recesses adapted to communicate with said ports in a first one of said planes, one of said arcuate recesses communicating with said hollow core of said piston, and said second recess communicating with said drainage channel,

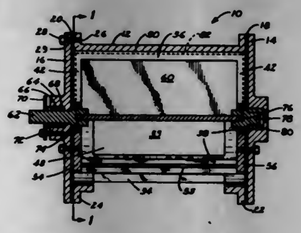
(b) a plurality of pairs of non-communicating recesses, also in said piston, in a plurality of planes axially displaced from the plane of said first pair of arcuate recesses, each of the recesses in each pair being adapted to communicate with a single cylinder port in said hollow cylinder, and said plurality of pairs of non-communicating recesses each having one recess in combination with said hollow core of said piston, and the other recess communicating with said drainage channel.

3,269,413
MIXING VALVE FOR LAVATORIES
Paul J. Weaver, Pasadena, Calif., assignor to Graning Enameling Company, El Monte, Calif., a corporation of California
Filed Dec. 7, 1964, Ser. No. 416,570
11 Claims. (Cl. 137—625.17)



1. A mixing valve comprising: a body provided with two flow inlets and a bore having an axis, said bore receiving the flow from said inlets; rotationally and axially movable means within said bore to move rotationally in order to proportion the flow from said inlets to said bore and provided with a mixing chamber inward of the mentioned bore, and to move axially to turn on and shut off the flow, said means having a flow opening extending laterally therethrough; a hollow handle on the axis of the bore and connected to the said means to set the latter according to the proportion of mix desired; and an axially fixed tubular member within the said means and having a longitudinal flow passage coaxial with the hollow handle and having a port to conduct flow from the mixing chamber into said passage for discharge through the hollow of the handle; the port and the tubular member being so positioned that the flow opening can stand in axial alignment therewith, and the tubular member shielding the ends of said means from unbalanced fluid forces derived from fluid which has passed through the flow opening.

3,269,414
MULTI-PORT FLOW-CONTROL VALVE
Preston D. Mayo, Fairfax County, Va., assignor to Atlantic Research Corporation, Fairfax County, Va., a corporation of Virginia
Filed Dec. 9, 1963, Ser. No. 329,094
7 Claims. (Cl. 137—625.21)



1. A flow-control valve comprising:

(a) a housing including an annular casing and a closure member sealingly mounted on each end of said casing to form a fluid-receiving chamber therein, said casing including a plurality of circumferentially spaced ports extending therethrough, each of said ports communicating with said chamber,

(b) a sealing member mounted within said casing, said sealing member having two angularly disposed legs, one of said legs being mounted in sealing relationship with said casing between a first one of said ports and a second one of said ports, the other of said legs being mounted in sealing relationship with said casing between said first one of said ports and a third one of said ports, each of said legs having an aperture therethrough to provide a sealing frame and to provide fluid-flow communication between said first one of said ports and said second and third ones of said ports, respectively, and

(c) a valve member including

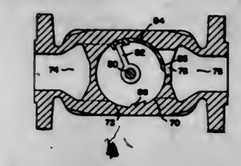
(i) a rotatable shaft concentrically mounted within said casing and sealingly engaging each of said legs, and

(ii) a vane drivingly attached to said shaft and extending diametrically across said chamber, the tips of said vane being adjacent said casing, said valve member being pivotable between

(aa) a first position wherein said vane sealingly abuts said one of said legs to interrupt said communication between said first and said second ones of said ports, and

(bb) a second position wherein said vane sealingly abuts said other of said legs to interrupt said communication between said first and said third ones of said ports.

3,269,415
VALVE
Joseph S. Wapner, Levittown, Pa., assignor to Fischer & Porter Company, Warminster, Pa., a corporation of Pennsylvania
Filed Aug. 10, 1964, Ser. No. 388,471
10 Claims. (Cl. 137—625.28)

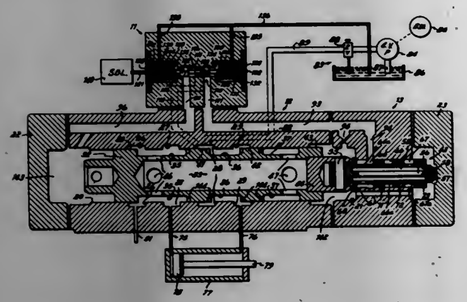


1. A valve comprising a housing having a bore provided with a cylindrical seating surface having at least one fluid outlet port, a conduit for inlet flow to said bore, a rotatable valve assembly in said bore, said assembly comprising a rotary support, and a valve element in the form of a stiff but flexible sheet extending normally at least approximately along said cylindrical surface, having one end associated with said support to rotate substantially therewith and having its other end free for movement relative to said support, and a stop engageable by the last mentioned end to be arrested thereby as the support rotates to effect outward flexure of the valve element towards said cylindrical surface to effect closure of the outlet port.

3,269,416
CONTROL VALVE MECHANISM WITH MEANS FOR REDUCING HYDRAULIC SHOCK
Cecil E. Adams, Columbus, Ohio, assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed May 25, 1964, Ser. No. 369,891
13 Claims. (Cl. 137—625.63)

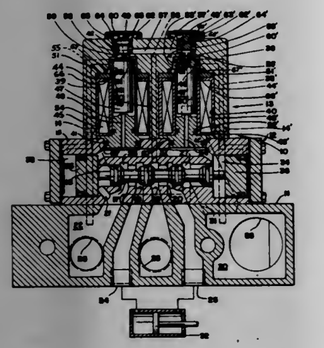
1. A hydraulically operated valve for controlling the flow of hydraulic liquid under pressure therethrough, said valve including means forming a main pressure inlet port and a main outlet port, a movable main valve means between said main ports for controlling the flow of hydraulic liquid through one of them, means responsive to hydraulic pressure for moving said main valve means to control the flow of hydraulic liquid through one of said main ports, control valve means movable with said main

valve means, and separate control port means for hydraulic liquid under pressure, said control valve means cooperating with said control port to cause hydraulic liquid which controls said pressure responsive means to



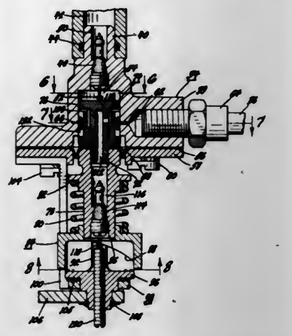
flow at different rates for different main valve means positions, whereby said main valve means will be moved slowly during a critical period of restriction of one of said main ports and rapidly during non-critical periods thereof.

3,269,417
SOLENOID OPERATED VALVE
Zdenek J. Lansky, Winnetka, and Kurt W. Leibfritz, Norridge, Ill., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 16, 1963, Ser. No. 316,722
13 Claims. (Cl. 137—625.64)



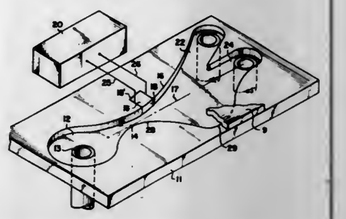
1. A solenoid operated valve assembly comprising a main valve housing having a plurality of main fluid flow passages and a fluid pressure operated valve member controlling flow of fluid between said main passages, a pilot valve housing attached to the main housing, pilot passages in said housings alternately admitting and exhausting fluid under pressure to and from opposite ends of said main valve member for moving said main valve member, a pair of solenoids in said pilot valve housing, each solenoid in operative relation with a separate pilot valve each said separate pilot valve defining means for controlling flow of fluid through said pilot passages, means establishing a path for flux between the ends of each solenoid when the solenoid is energized said pilot valve housing having a portion thereof between the solenoids providing a portion of said flux path that is common to the two solenoids.

3,269,418
FLUID CONTROL VALVE
George W. Jackson and Paul J. Long, Jr., Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 11, 1963, Ser. No. 294,343
9 Claims. (Cl. 137—627.5)



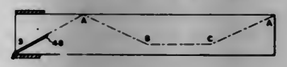
1. In a fluid control device the combination of, valve body means forming first and second passageway means and a pressure chamber communicating therewith, first valve means for controlling communication between said first passageway means and said pressure chamber, second valve means for controlling communication between said second passageway means and said pressure chamber, pressure responsive means including a piston member for actuating said first and second valve means, said second valve means including an annular seal supported within said piston member for movement therewith, means for unbalancing said pressure responsive means to open said first and second valve means, said pressure responsive means being balanced upon the occurrence of a predetermined pressure in said pressure chamber to close said first and second valve means so as to block communication between said pressure chamber and said first and second passageway means, said piston member including a passageway therethrough communicating said pressure chamber with the exterior of said valve body means.

3,269,419
FLUID AMPLIFIERS
Edwin M. Dexter, Silver Spring, Md., assignor to General Electric Company, a corporation of New York
Filed June 3, 1963, Ser. No. 284,996
3 Claims. (Cl. 137—81.5)



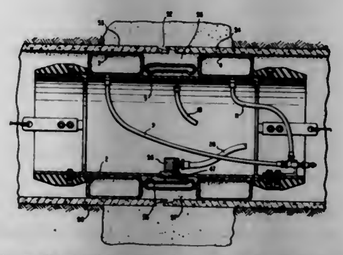
1. A fluid amplifier comprising: means for generating a laminar fluid power jet including a passage from whence said jet issues; first and second fluid receivers spaced from said passage, said first fluid receiver being axially aligned with said passage and said second receiver angularly displaced from the axis of said passage; said fluid amplifier having a side wall on each of two opposite sides of said laminar jet with one of said side walls spaced more closely to the axis of said passage than the other; and means disposed in said one of said side walls for changing the laminar flow of said jet to turbulent flow so that the jet latches to said one of said side walls when the jet is turbulent and does not latch when the jet is laminar, thereby causing the jet to flow to said first receiver when said jet is laminar and causing the jet to flow to said second receiver when said jet is turbulent.

3,269,420
TURBULATOR FOR FLUID CONDUIT
George V. Woodling, 22077 W. Lake Road, Rocky River 16, Ohio
Filed Aug. 13, 1963, Ser. No. 301,815
8 Claims. (Cl. 138—38)



1. A turbulator for an elongated fluid conduit having substantially a cylindrical inner wall, said turbulator being insertable generally longitudinally within said conduit and comprising a strip of metal including a plurality of generally zig-zag deflecting means against which the fluid flows, said means having end portions joined together to form a corner portion between the respective joined means, the joined means at the respective corner portions having side edges defining an obtuse included angle therebetween, the joined means at the respective corner portions meeting to define a transverse axis disposed at an oblique angle with respect to a perpendicular to the side edges of the strip, said strip having a plurality of corner portions including at least three corner portions defining generally a circle viewed from the end of the conduit, said corner portions disposed longitudinally apart from each other and positioned annularly around the inner wall of the conduit.

3,269,421
PACKER FOR GROUTING CONDUITS
E. B. Telford, Kettering, Ohio, and Severo L. Villalon, Jr., Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Feb. 11, 1964, Ser. No. 344,018
9 Claims. (Cl. 138—97)



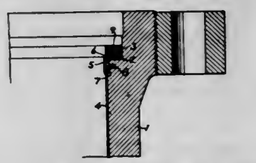
1. A method of injecting grouting fluid into an opening in a conduit wall, said method comprising:
confining an annular zone adjacent an opening in a conduit wall into which grouting fluid is to be injected;
discharging grouting fluid into said confined annular zone for transmittal to and injection through said opening;
displacing grouting fluid, substantially as an annular mass, in a radially outward direction from said annular zone and covering said opening; and
allowing the viscosity of grouting fluid injected into said opening to increase while said opening remains covered.

3,269,422
COMPOSITE TUBING PRODUCT AND APPARATUS AND METHOD FOR MANUFACTURING THE SAME
Richard A. Matthews, Chagrin Falls, and Hans A. Johansen, Mantua, Ohio, assignors to Samuel Moore and Company, Mantua, Ohio, a corporation of Ohio
Filed Jan. 9, 1963, Ser. No. 250,390
12 Claims. (Cl. 138—111)



1. A deformable, composite tubing product of indeterminate continuous length adapted to be severed into determinate lengths at the place of application for use as a fluid sampling device in transferring fluid from a point of sampling to a point of use comprising flexible, metallic, tubular heat conductive sampling line means, metallic, tubular heat conductive heating line means disposed in contiguous heat transferring engagement with said sampling line means, a flexible filler material disposed about said line means, a flexible thermo-barrier layer disposed in circumferential relationship around said filler material to provide a thermo-barrier covering for said tubular line means, and a flexible sheath of polymeric material disposed around said thermo-barrier layer to provide a unitary structure.

3,269,423
LINING STRUCTURE
Asahiko Goto, Nada-ku, Kobe, Japan, assignor to Kobe Steel Works, Ltd., Kobe, Japan
Filed Aug. 5, 1963, Ser. No. 300,015
Claims priority, application Japan Aug. 15, 1962, 37/46,758
4 Claims. (Cl. 138—140)

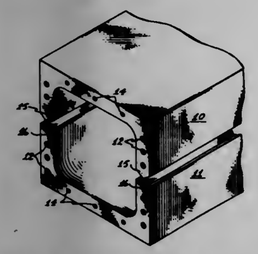


1. A structure of the class described comprising:
(a) a hollow body having an open end,
(b) a liner of corrosion resistant metal, and
(c) means for securing said liner to the inner face of said hollow body,
(d) said hollow body having an annular recess in its inner face adjacent its open end,
(e) said means comprising an annular member of said corrosion resistant metal,
(f) said annular member being closely fitted in said recess,
(g) said liner having an annular end portion overlapping and juxtaposed to the inner surface of said annular member,
(h) said annular end portion being joined to the inner surface of said annular member by a fluid tight weld.

3,269,424
PRESTRESSED CONCRETE CONDUIT AND METHOD
John F. Fisher, P.O. Box 6497, Phoenix 5, Ariz.
Filed July 30, 1963, Ser. No. 298,749
5 Claims. (Cl. 138—176)

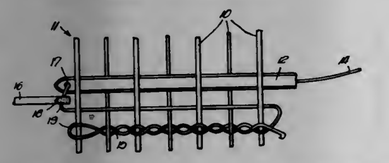
3. A conduit comprising
(a) a pair of concrete members with opposed edges shaped, when said edges are brought together to form a section of conduit,

(b) concrete prestressing cables extending substantially longitudinally through the two conduit members and normally holding the said members in curved condition and with edges of the members having opposite curvilinear relation, and



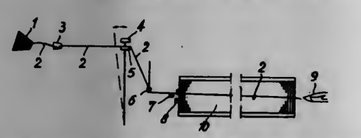
(c) means for clamping said members together at a plurality of positions along their length to hold said mutually engaging edges of the members in generally rectilinear position with respect to the conduit's radius.

3,269,425
METHOD FOR WEAVING FABRIC ON A NEEDLE-TYPE LOOM
Kenneth C. Brugger, Kenosha, Wis., assignor to Cooper's Incorporated, Kenosha, Wis., a corporation of Wisconsin
Filed July 13, 1964, Ser. No. 382,290
1 Claim. (Cl. 139—116)



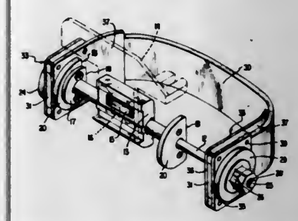
A process for weaving improved elastic tape fabric on a needle-type loom, including the steps of:
forming an open warp shed of elastic warp threads,
forming a looped pair of filler threads within said open warp shed, said looped pair of filler threads having substantially the same width as said warp shed,
twisting said looped pair of filler threads continuously about one another within said open warp shed, said twisting being continued until said looped pair of filler threads have substantially increased in bulk,
reversing said open warp shed only after said twisting is completed,
and repeating said steps to form said fabric.

3,269,426
WEFT BRAKING AND POSITIONING DEVICE FOR SHUTTLELESS LOOMS
José Lladó Lladó, Calle Jorge Girona Salgado 12, Barcelona, Spain
Filed May 27, 1964, Ser. No. 370,502
Claims priority, application Spain, May 30, 1963, 288,908
1 Claim. (Cl. 139—122)



In a shuttleless loom having weft thread supply means, weft cutting means, means forming a shed of warp threads, weft gripping and inserting means pulling said weft thread through said shed, and a weft clamping and positioning device disposed between said weft thread supply means and said shed and acting to locate the weft threads in a desired position with respect to said cutting means and to the marginal warps of said shed, said weft clamping and positioning device comprising a pair of jaws, a rocking lever supporting said pair of jaws for reciprocating movement, one of said jaws being movable against the other jaw for clamping said weft yarn, lever means actuating said movable jaw, cam means reciprocating said rocking lever, cam means actuating said lever means for said movable jaw, and a common shaft carrying both said cam means for rotation, said cam means being so arranged as to close the jaws when said weft gripping and inserting means releases the weft at the end of its travel and simultaneously to move the closed jaws with the clamped weft thread to position the free end of said weft relative to the marginal warp of the shed.

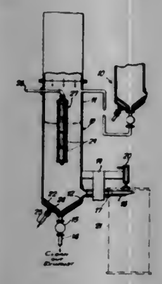
3,269,427
PICKER STICK CHECK FOR LOOMS
John C. Crocker, Box 102, Ware Shoals, S.C.
Filed Sept. 29, 1964, Ser. No. 399,988
2 Claims. (Cl. 139—165)



1. A picker stick checking device for a loom comprising an elongated substantially rigid guide member adapted to be fixedly secured to a bracket on the lay of the loom and extending substantially horizontally during use, a rod of considerably greater length than said guide member freely slidably engaging the guide member substantially without friction and being freely reciprocable longitudinally on the guide member in opposite directions and adapted to project alternately beyond opposite ends of the guide member during reciprocation, a check strap for the picker stick extending as an elongated loop upon one side of the guide member and rod and having end transverse portions disposed in the path of movement of the picker stick to check the movement of the picker stick, said end transverse portions of the check strap having openings receiving said rod, and means on said rod near the opposite ends thereof for securing said end transverse portions to the rod, whereby the check strap is bodily carried by the rod and moves therewith bodily during said free reciprocation of the rod in response to movement of the picker stick so as to cause smooth and uniform checking of the picker stick at all times during loom operation.

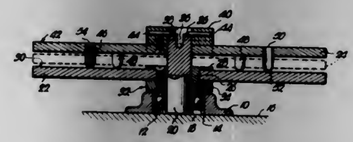
3,269,428
METHOD FOR PACKAGING DRY DIVIDED SOLID MATERIALS
Ivar H. Stockel, New City, N.Y., and Oliver R. Titchenal, Rumford, R.I., assignors to St. Regis Paper Company, New York, N.Y., a corporation of New York
Filed Oct. 10, 1961, Ser. No. 144,142
Claims priority, application Belgium, Oct. 24, 1960, 474,115, Patent 596,334
14 Claims. (Cl. 141—10)

1. A method for packaging dry divided solid material comprising: introducing material to be packaged into bin means having a material discharge outlet, introducing air under pressure into said bin means in the region of said discharge outlet to fluidize the material in said bin means, opening said material discharge outlet while shutting off said fluidizing air, and admitting air under pressure into said bin means in a region above said first mentioned region in an amount greater than is required for fluidizing,



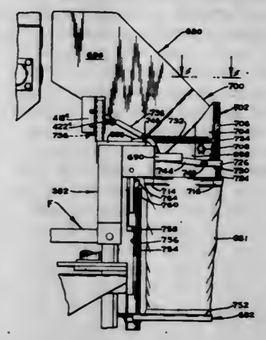
the surplus air effecting compression of the material at the discharge outlet without prejudicing the flowability of said material out of said bin means through said material discharge outlet.

3,269,429
CAPSULE FILLING DEVICE
Ralph M. Fritts, 6401 W. 69th St., Overland Park, Kans.
Filed Apr. 27, 1964, Ser. No. 362,895
4 Claims. (Cl. 141—133)



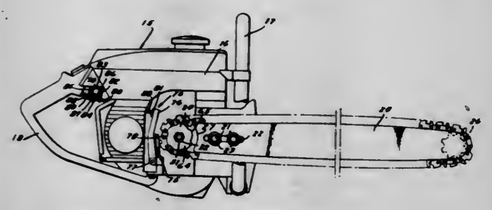
1. A device for use in filling capsules with a powdery material wherein said capsules have open tops and closed bottoms, said device comprising:
a spindle having an upright axis;
means supporting the spindle for rotation about said axis;
a bottom plate surrounding the spindle and provided with a horizontal uppermost surface;
means securing said plate to the spindle for rotation therewith;
a top plate surrounding the spindle for rotation with respect thereto about said axis, and having a horizontal, powder-receiving uppermost surface; and
structure on the top plate, engaging the upper end of the spindle, and normally supporting the top plate above the bottom plate in vertically spaced relationship thereto,
said top plate having a plurality of holes for receiving the capsules with their open tops flush with said surface of the top plate and their closed bottoms resting on said surface of the bottom plate,
said spindle having means clearing said structure upon rotation of the top plate relative to the spindle for descent of the top plate along the spindle, placing said surface of the top plate below the tops of the capsules.

3,269,430
BAG SECURING APPARATUS
Wilber C. Belk, Lakeland, Fla., assignor to FMC Corporation, a corporation of Delaware
Application May 4, 1962, Ser. No. 192,534, which is a division of application Ser. No. 666,018, June 17, 1957, now Patent No. 3,072,207, dated Jan. 8, 1963. Divided and this application May 13, 1965, Ser. No. 473,256
5 Claims. (Cl. 141—315)



1. In an article receiving hopper, an elongate floor, opposite side wall portions on said floor projecting longitudinally of said floor beyond one end thereof, said one end of said floor and the projecting side wall portions defining three sides of a throat in said hopper to accommodate articles moving therefrom, first bag engaging means projecting downward at one side of said throat adjacent said one end of said floor, pivot means extending across said throat opposite said one end of said floor and having an axis of rotation extending transversely of said hopper, second bag engaging means projecting downward from said pivot means, and resilient means urging said pivot means to rotate about the axis thereof to swing said second bag engaging means away from said first bag engaging means to retain the mouth of a bag disposed about said first and second bag engaging means in open condition beneath said throat.

3,269,431
CHAIN SAW SHARPENING MECHANISM
Jack W. Ehlen, Torrance, Calif., assignor to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin
Filed Apr. 3, 1963, Ser. No. 270,444
11 Claims. (Cl. 143—32)



1. A chain saw, including:
(A) an engine;
(B) a saw bar having its rear end secured to said engine, said saw bar extending forwardly of the engine and having a peripheral groove therein;
(C) a sprocket operably mounted on said engine and driven thereby, said sprocket being operably aligned with said bar and located adjacent the rear end

thereof, said sprocket having side plates with annularly spaced peripherally arranged cam surfaces thereon, the trailing ends of said cam surfaces being further from the axis of the sprocket than the leading ends thereof;

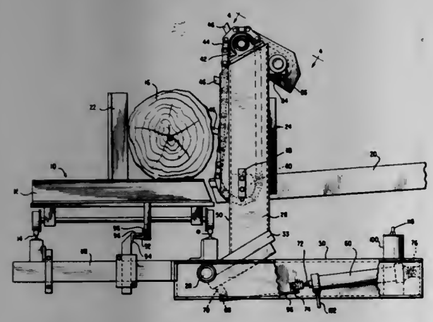
(D) sprocket driving teeth disposed between said side plates of the sprocket, said driving teeth being annularly spaced apart;

(E) an articulate saw chain operably mounted on said bar and said sprocket, said chain having center links and side links pivotally connected to said center links, said center links having sprocket drive lugs operably receivable in the spaces between the sprocket driving teeth, certain respective selected side links having right and left hand side cutting elements and other of said side links having center cutting elements thereon, said cutting elements having cutting edges at the leading sides and tops, said cutting elements having upper surfaces which curve inwardly from the leading to the following ends, said top cutting edges being positioned forwardly of the midpoints of lines joining the centers of pivots for the respective cutter links, depth gauges on said cutter links, said depth gauges being spaced forwardly of the cutting elements of cutter carrying links, said side links seating on the cam surfaces of the sprocket when disposed on said sprocket, said cutting elements being moved by said sprocket in an arcuate path when disposed on said sprocket;

(F) sharpening means for removing material from the top surface of the cutting elements and depth gauges, said sharpening means including an abrasive sharpening element positioned adjacent the sprocket;
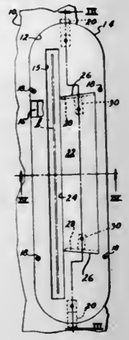
(G) and supporting means for said abrasive sharpening element, said supporting means being movable from a position whereat said sharpening element is spaced from the arcuate path of movement of the outer surfaces of said cutting elements and said depth gauges toward said path of movement and into engagement with said cutting elements and depth gauges as the links carrying same are moved through said arcuate path of movement by said sprocket and while said links are disposed on said sprocket.

3,269,432
LOG TURNER
John S. Mellott and Hayes R. Mellott, both of Rte. 1, Box 97, Mercersburg, Pa.
Filed Oct. 7, 1963, Ser. No. 314,389
8 Claims. (Cl. 143—99)



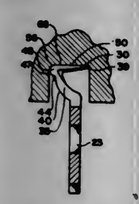
1. In a saw mill having a log carriage movably mounted on a horizontal track and a loading ramp to facilitate loading logs on said carriage, a log loader comprising an elongated beam having a base portion extending beneath said carriage and pivotally mounting said beam for rotation between a substantially vertical log turning position at one side of the carriage and a substantially horizontal retracted position beneath said ramp, a pair of sprockets mounted on said beam, an endless chain carried by said sprockets and extending along the face of said beam adjacent said carriage when said beam is in said log turning position, means driving said sprockets in a direction to move said chain upwardly along said face, said chain having a plurality of teeth for engaging and turning a log positioned on said carriage, and actuating means including a motor for moving said turner from said retracted position to said log turning position and urging said chain into contact with a log on the carriage, said actuating means further including means for limiting the lateral force exerted by said turner on said log while permitting limited pivotal movement of said turner during the turning operation, said pivotal mounting of said base portion of said beam being positioned below said carriage at a point spaced laterally from said one side beneath said carriage a distance sufficient for the line of action of the reaction force exerted on said turner by a log being turned to pass outboard of said pivotal mounting whereby said reaction force will produce a turning moment in a direction urging said turner for rotation away from said carriage against the action of said actuating means.

3,269,433
MULTI-PURPOSE WOODWORKING TOOLS
Alfred R. Packard and William H. Cunningham, Springfield, Mass., assignors to Toolkraft Corporation, Springfield, Mass., a corporation of Massachusetts
Filed Sept. 2, 1964, Ser. No. 393,973
3 Claims. (Cl. 143—132)



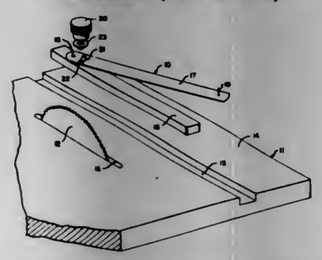
3. In combination with a circular saw, or the like, having a powered spindle, a table overlying said spindle for supporting workpieces which are to be advanced past cutters mounted on the spindle, said table having an opening therein providing access to said spindle to facilitate mounting of different cutters thereon, a compositely formed insert plate removably mounted in said opening and having a narrow elongated slot through which a narrow cutter, as a saw blade projects, the upper surface of said insert plate being at the same level as the upper surface of said table to properly support workpieces closely adjacent the cutter, said insert plate further having a secondary insert plate defining the central portion of one side of said slot and having a length less than that of said slot, said secondary insert plate being removable to provide a wider slot for cutters of greater width and lesser diameter, the ends of said secondary insert plate being divergent from the slot defining portion thereof and cooperating means on said insert plate engaging said divergent ends and laterally positioning said secondary insert plate.

3,269,434
SAW CHAIN CUTTER TOOTH
Maurice Fitzgerald Cooper, 645 Smith Road, New Westminster, British Columbia, Canada
Filed June 29, 1964, Ser. No. 378,633
Claims priority, application Canada, July 20, 1963, 880,586, Patent 700,203
11 Claims. (Cl. 143—135)



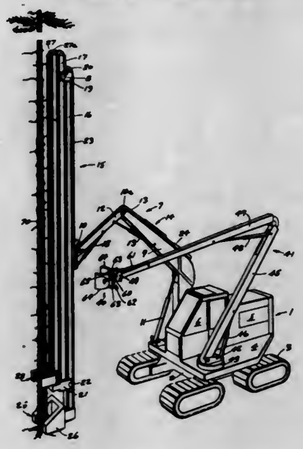
1. A saw chain cutter tooth comprising a flat body adapted to fit into and form part of a saw chain, a shank integral with the body and inclined generally outwardly and laterally to one side therefrom, a toe portion integrally connected to an outer edge of said shank and extending transversely across the plane of the body and terminating in an edge extending generally longitudinally of the body on the side of the latter remote from the shank, a rib formed at a juncture of the toe portion and the shank and extending longitudinally of the body, said rib in cross section projecting laterally from the shank farther than any other portion of the tooth to form a longitudinal air passage beneath the rib and extending along side the shank, said rib being thin in vertical cross section and having an edge facing towards the body and which extends abruptly inwardly towards said shank, an undercut transverse cutting edge formed on a forward edge of the toe portion with reference to the direction of movement of the tooth during use and extending across the plane of the body, and a side cutting edge along a forward edge of said rib extending generally towards the body and extending from said transverse cutting edge approximately to said shank, said forward edge of the rib being undercut inwardly of the rib at said side cutting edge.

3,269,435
DISC-CUTTING GUIDE FOR TABLE SAWS
William R. Houston, Jr., 107 Rodgers St., Monongahela, Pa.
Filed July 2, 1964, Ser. No. 379,902
5 Claims. (Cl. 143—171)



1. A disc-cutting guide for use with a table saw having a table, a saw blade extending through said table and at least one miter guage slot in the table top arranged in parallel spaced relation with said saw blade, said guide comprising a support means slidable in said miter guage slot, a guide arm member swingably mounted on said support means such that the lower face of said arm member rests flat on said table top and swings in a plane adjacent and parallel to said table top, said guide arm member having an upstanding workpiece engaging pin therein, said arm member being of relatively thin flat stock such that a workpiece engaged by said pin and resting on said arm member is only very slightly raised from said table top and releasable locking means operable to hold said swingable arm at a selected position relative to said support means.

3,269,436
TREE HARVESTER
Lawrence A. Moore, Beloit, Wis., assignor to Beloit Corporation, a corporation of Wisconsin
Filed July 10, 1963, Ser. No. 294,071
16 Claims. (Cl. 144—3)

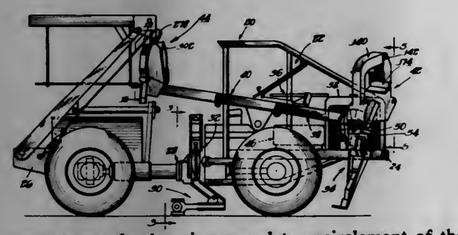


1. A tree processing apparatus comprising a mobile carriage, a tree cutting means, means supporting said tree cutting means on said carriage for movement into cutting relationship with a standing tree, and means on said carriage for supporting said tree during cutting thereof and for handling said tree thereafter, said supporting and handling means including an adjustable boom means mounted at one of its ends on said carriage separately and independently of said tree cutting means, said boom means having first and second elongated boom sections with one end of said first boom section pivotally mounted to said carriage for movement in a vertical plane about a horizontal first axis, a first pivot means provided at the other end of said first boom section for pivotally mounting one end of said second boom section for movement thereof in a vertical plane about a horizontal second axis, tree gripping means having a pair of coacting jaws, second pivot means mounting said tree gripping means at the other end of said second boom section for movement in a vertical plane about a horizontal third axis, said jaws being mounted for movement toward and away from each other in a generally horizontal direction into and out of clamping engagement with said standing tree, and power means connected to said jaws for actuating them in their clamping action.

3,269,437
TIMBER HARVESTING APPARATUS
Thomas N. Busch, Daphne, Ala., assignor to Timberline Equipment Company, Dallas, Tex., a corporation of Texas
Filed Oct. 28, 1963, Ser. No. 319,373
18 Claims. (Cl. 144—34)

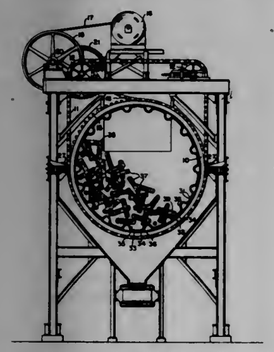
16. In an apparatus for processing trees and removing limbs from trees, a first frame structure, an arm member pivotally connected to said frame structure and movable between an opened position extending generally away from said frame structure and a closed position in which

the arm member and frame structure combine to define an opening through which a tree to be processed may extend, a flexible blade structure having one end secured to said frame structure and an opposite end connected with an outer end of said arm member, said flexible blade structure being adapted to be wrapped substantially around a tree to be processed with the opposite ends of the blade structure adjacent each other when said arm member is in said closed position, a blade member disposed for substantially traversing said opposite ends of the blade structure when the blade structure is wrapped



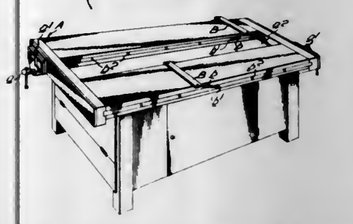
around a tree for insuring complete encirclement of the tree, means mounting said blade member on said frame structure for movement between a retracted position and a tree-engaging position, fluid pressure operated cylinder means connected between said frame structure and arm member for actuating said arm member between its opened and closed positions, and means connecting said blade member and said cylinder means for actuating said blade member toward its tree-engaging position only after said arm member has been moved substantially from its opened position toward its closed position.

3,269,438
BARKING DRUM
Herbert W. Guettler, 2901 Vallejo St., San Francisco 23, Calif.
Filed Oct. 21, 1963, Ser. No. 317,587
11 Claims. (Cl. 144—208)



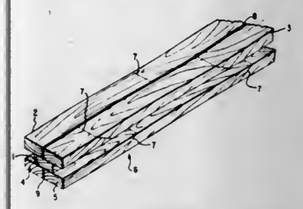
1. In a barking drum having a rotary cylinder, the improvement wherein said cylinder comprises a plurality of longitudinally spaced rings having radially inner and outer cylindrical surfaces and a plurality of integral plate segments with a maximum of six segments so that each segment covers at least about 60° of arc, each segment having inner and outer surfaces and several longitudinal integral corrugations with bark outlet slots between adjacent corrugations, each segment having two longitudinal edges, each edge being welded to the inner cylindrical surfaces of supporting rings, the plate segments being spaced apart from each other to provide additional bark outlet spaces.

3,269,439
WOOD-WORKING BENCHES
Geoffrey W. Thomas, 7 Shaftesbury Ave., Cheadle Hulme, England
Filed Sept. 23, 1964, Ser. No. 398,603
8 Claims. (Cl. 144—286)



1. A wood-working bench comprising a bench top, a vise mounted on one end of the bench, a planing stop extending upwards from the vise, a transverse bar extending transversely of the bench, arms on which the transverse bar is mounted and pivot pins on the arms for engaging holes in the sides of the bench; wood to be planed being clamped between the planing stop on the vise and the transverse bar.

3,269,440
METHOD OF FABRICATING WOODEN GUTTERS
William P. Duncan, 11309 2nd Ave. NW., Seattle, Wash., and Paul G. Ericson, 13702 8th Ave. E., Sumner, Wash.
Filed Mar. 15, 1965, Ser. No. 439,615
9 Claims. (Cl. 144—316)

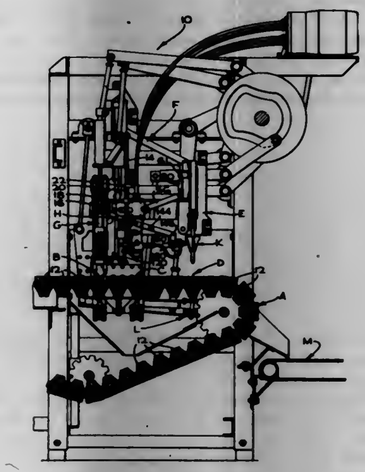


1. A method of fabricating a pair of wooden gutters comprising the steps of bonding together a plurality of elongated pieces of lumber of rectangular cross section to form a three-layer assembly of H-shaped cross section comprising a relatively narrow web layer sandwiched centrally between two outer flange layers of mutually equal greater width, then cutting the assembly lengthwise centrally of the three layers to divide the assembly into two identical blanks of U-shaped cross section, each blank being a channel having a bottom formed of half of the web layer of the original assembly and having front and rear flanges each formed of half of one of the flange layers of the original assembly, and then milling said blanks to desired gutter shape.

3,269,441
FRUIT CORING AND CALYX TRIMMING APPARATUS
Gerald R. Anderson, Campbell, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Dec. 26, 1963, Ser. No. 333,391
11 Claims. (Cl. 146—52)

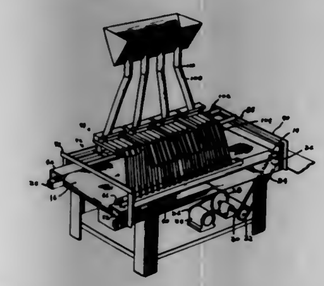
1. In a fruit processing apparatus, means for supporting a fruit with its stem-calyx axis in predetermined orientation, a coring head movable toward said fruit support means along a path in substantial alignment with the stem-calyx axis of the fruit, a rotatable coring knife projecting from said coring head for insertion in the

fruit as said head approaches said fruit support means, and means operatively associated with said coring head and responsive to movement of said coring head toward



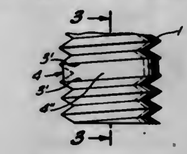
said fruit support means for varying the penetration of the fruit by said coring knife in accordance with the stem-calyx dimension of the fruit.

3,269,442
PROCESS FOR BLANCHING NUTS
James W. Gardner, Tyrone, Pa., assignor to Seabrook Blanching Corporation, Edenton, N.C., a corporation of North Carolina
Original application Aug. 6, 1962, Ser. No. 215,005, now Patent No. 3,196,914, dated July 27, 1965. Divided and this application Dec. 30, 1964, Ser. No. 422,350
4 Claims. (Cl. 146—226)



1. A process for removing skins from shelled nuts comprising the consecutive steps of:
(1) first mechanically slitting said skins from end to end of the nuts,
(2) passing the slitted nuts through a drying chamber in which flows a stream of dehumidified air having an elevated temperature below that which would alter the oil structure in said nuts,
(3) gradually dry cooling said nuts and thereby causing said skins to commence peeling away from said nuts along said slits, said skins forming curls on each side of said slit line and
(4) finally rolling said nuts in a dry condition between lightly abrasive surfaces to remove said skins entirely from said nuts, said curls serving as a purchase for said abrasive surfaces.

3,269,443
BURR FREE SELF-LOCKING SCREW
Jan R. Coyle, San Dimas, Calif., assignor, by mesne assignments, to Threadline Fastener Corporation, Covina, Calif., a corporation of California
Filed Apr. 2, 1965, Ser. No. 445,097
10 Claims. (Cl. 151—7)



1. In a screw having an externally threaded body portion: a chordal slot extending into said body portion; said slot being formed along the line of the thread helix between the threads of said screw; said slot being aligned with the root of the thread; said slot comprising side walls extending from the periphery of said screw inwardly to a juncture with a base wall extending chordally of said body; said base wall being between said periphery and the screw axis and said slot extending to and opening through opposite sides of said screw; said side walls extending parallel to the crest of said thread; a resilient plastic insert being fitted into said slot; said insert being generally complementary in shape to the configuration of said slot but having a chordal base wall with a central depression and having an outer portion extending outwardly of the root of the thread for locking engagement with a mating female screw thread; the outer portion thereof conforming to the thread contour of the said body.

3,269,444
TIRE BEAD CONSTRUCTION COMPRISING TERPOLYMERS
James M. Willis, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio.
Filed Apr. 27, 1964, Ser. No. 362,863
5 Claims. (Cl. 152—362)



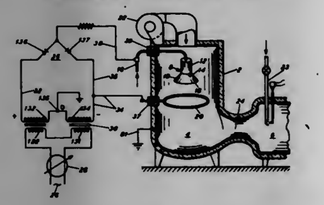
1. In a pneumatic tire bead grommet comprising a plurality of layers of a single ribbon of rubber insulated wire having end portions, said ribbon being wound flat upon itself in several convolutions forming a bundle thereof, the improvement which comprises a rubber composition including polymer units derived from ethylene, propylene, and a non-conjugated diene, the propylene being used in amounts from about 30 to 70 mole percent, the rubber having an adhesion to bare wire of between about 10 and 100 pounds per inch at 73° F. and between about 10 and 100 pounds per inch at 212° F.

3,269,445
SEALING MATERIAL
Ivan L. Marra, Butler, Pa., assignor to Fre-Mar Industries, Butler, Pa., a corporation of Pennsylvania
Filed Jan. 11, 1965, Ser. No. 424,708
5 Claims. (Cl. 152—370)



1. A tire repair product comprising a loosely knitted sleeve and a permanently malleable extrudible plastic material combined with said sleeve and carried into the injury of a tire, said plastic material including rubbery butadiene-acrylonitrile polymer.

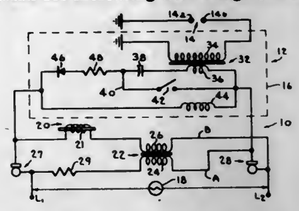
3,269,446
ELECTROSTATIC ATOMIZATION OF LIQUID FUEL
Floyd E. Luther, Berkeley, Calif., assignor to Chevron Research Company, a corporation of Delaware
Filed May 19, 1965, Ser. No. 467,801
10 Claims. (Cl. 158—4)



7. A fuel burner comprising a furnace chamber, a discharge head for a liquid fuel in said furnace chamber, said discharge head having an external conical liquid flow surface terminating in a lower edge at the maximum diameter of said conical surface, means forming flow ports adapted to distribute a liquid fuel around said conical surface to flow to said lower edge, said flow surface being of electrically conductive material, conduit means for delivering liquid fuel to said flow ports, a source of direct current potential connected to said conical surface to maintain said surface continuously at a direct current potential, an electrode ring spaced below and adjacent to said lower edge, a source of alternating current potential connected to said electrode ring, the potential difference between said edge and said ring cyclically varying an amount sufficient to cause said liquid to be drawn in atomized form from said edge during alternate half cycles of the alternating current potential of said ring, and means for directing a current of air through said chamber.

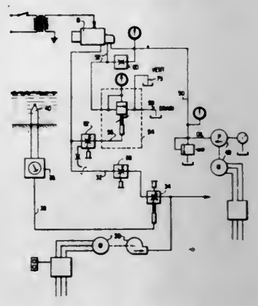
3,269,447
FUEL CONTROL AND IGNITION SYSTEM
Lourdes V. McCarty, Lawrence Queever, and Clifford Hotchkiss, all of Milwaukee, Wis., assignors to Controls Company of America, Melrose Park, Ill., a corporation of Delaware
Filed Jan. 16, 1964, Ser. No. 338,250
9 Claims. (Cl. 158—28)

1. An ignition and fuel control system comprising, in combination,
electrically operated fuel flow control means characterized by having an operating voltage at which opening occurs to initiate fuel flow and a lower holding voltage at which said fuel flow control means remains open,
means for connecting said control means to an electrical source,
said fuel flow control means further characterized by said operating voltage being greater than the voltage available from said source,
means in circuit with said source and said fuel flow control means for increasing the voltage on said control means to said operating voltage to effect opening of said fuel flow control means,



means for igniting fuel,
and heat sensitive means connected in circuit with said means for increasing the voltage on said fuel flow control means and operative, in response to the flame produced by said ignition means, to remove said voltage increasing means from the circuit of said fuel flow control means to thereby reduce the voltage on said fuel flow control means below its operating voltage to said lower holding voltage.

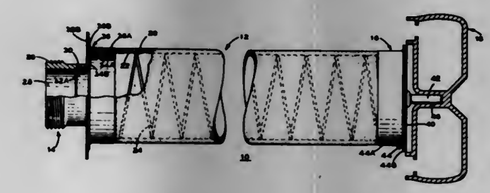
3,269,448
AUTOMATIC LIQUID FUEL BURNER CONTROL
John Martin, Monterrey, Nuevo Leon, Mexico, assignor to Fabricacion de Maquinas, Monterrey, Nuevo Leon, Mexico, a corporation of Mexico
Filed Dec. 2, 1965, Ser. No. 511,167
2 Claims. (Cl. 158—28)



1. In a liquid fuel burning system of the type which includes a return fuel flow burner, an automatic air fuel feed control apparatus comprising in combination:
a source of liquid fuel under pressure and a main line connecting said source to the burner;
a source of primary combustion air under pressure also connected to the burner;
means for controlling the amount of air fed to said burner in accordance with the temperature of a substance to be heated thereby;
modulating fuel valve means mechanically biased toward closed position;
means connecting said source of air to urge said valve toward closed position;
means connecting the return liquid fuel line from said burner to said valve in a direction to urge said valve to open position;

means connected to the opposite side of said valve for returning liquid fuel passing therethrough to said source of liquid fuel under pressure;
and means defining an orifice sized to create a predetermined pressure drop connected between said main liquid fuel line and said return line on the burner side of said valve; whereby the back pressure in the fuel return line is controlled inversely as the combustion air pressure and a positive fuel flow is maintained for all rates of combustion of the burner.

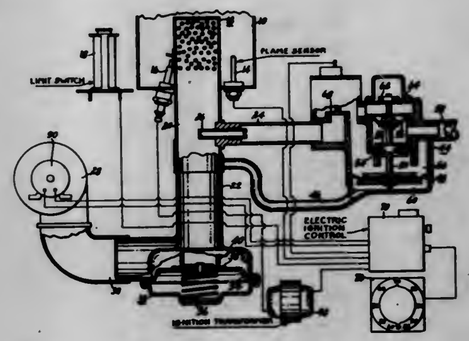
3,269,449
BURNER APPARATUS
Wilson J. Witten, Jr., Louisville, Ky., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 21, 1964, Ser. No. 397,804
17 Claims. (Cl. 158—99)



1. A surface combustion burner apparatus comprising: a hollow cylinder of fabric porously woven of heat resistant fibres, said hollow cylinder of fabric including inner and outer surface portions and first and second end portions; a member of rigid material within said hollow cylinder of fabric to prevent the collapse of said hollow cylinder; inlet coupling means including a hollow coupling member for receiving a combustible mixture of gas, said hollow coupling member including inner and outer wall portions and first and second end portions, and a setback portion in the inner wall portion adjacent the first end portion of said coupling member, an inlet flange means including a sleeve portion and a flange portion extending radially outward from said sleeve portion, said sleeve portion being fixedly fitted in the setback portion of said coupling member, an inner retaining ring including a sleeve and a radially inwardly extending flange, the flange of said inner retaining ring being fixed to the flange portion of said inlet flange means, the sleeve of said inner retaining ring being positioned within the first end portion of said hollow cylinder of fabric; and end closure means for closing off the second end portion of said hollow cylinder, and means for urging the first end portion of said hollow cylinders in tight fitting relationship with the sleeve of said inner retaining ring.

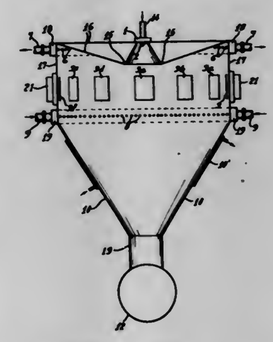
3,269,450
GAS FURNACE CONTROL SYSTEM
Joseph P. Licata, Lawrence J. McLaughlin, and Harold J. Warner, all of Rochester, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 12, 1963, Ser. No. 330,170
3 Claims. (Cl. 158—126)

1. A control system in a pressurized gaseous fuel burner wherein combustion air is supplied under pressure and mixed with gaseous fuel to form a combustible mixing including a blower for supplying combustion air under pressure, a conduit connecting said blower and said burner, a fuel shut-off valve, pressure regulating means for the gaseous fuel having a connection with said conduit and including a throttling valve and means responsive to pressure of the gaseous fuel and combustion air for controlling said throttling valve to maintain a substantially constant fuel-gas ratio with variations in the pressure of combustion air, said throttling valve comprising a valve disc and a cooperable seat, said valve disc being attached to a valve stem, a safety magnet attached to said valve stem and magnetizable means coacting with said safety magnet to move said valve disc into engagement



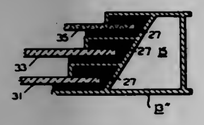
with its seat upon a loss of combustion air pressure, ignition means for said combustible mixture, means operable to energize said blower in response to a demand for heat to purge the burner of combustible mixture, means operable after a predetermined time delay to energize the ignition means and open the fuel shut-off valve, and means operable to deenergize the ignition means upon successful establishment of combustion.

3,269,451
SPRAY DRYING PROCESS AND APPARATUS THEREFOR
Walter Mehlo, Wiesbaden-Biebrich, and Manfred Hohmann, Wiesbaden-Schierstein, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany
Filed Oct. 10, 1963, Ser. No. 315,291
Claims priority, application Germany, Oct. 12, 1962, K 47,951
12 Claims. (Cl. 159—4)



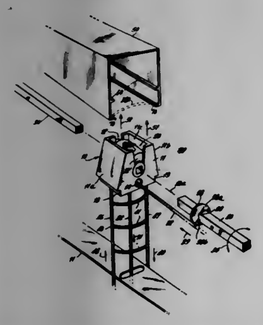
1. A spray-drying process which comprises atomizing a liquid-containing material to be dried and flowing downwardly, subjecting the atomized material to radiant heat in a heating zone to form a mixture of vapors and solid particles, and contacting the mixture downstream from the heating zone with a gas current, a minor portion of which flows upwardly with the vapors and a major portion of which flows downwardly with the solid particles.

3,269,452
EXTRUDED COMBINATION DOOR OR WINDOW
Americo Pirozzi, 984 E. 24th St., Paterson, N.J.
Filed June 10, 1963, Ser. No. 286,797
3 Claims. (Cl. 160—90)



1. A storm door comprising in combination a four section perimetral framing member cut from a common extrusion and mitered together in box-like rectangular configuration; said framing member having four walls enclosing a hollow, one of said walls being inclined relative to the wall opposed thereto; said framing member including triple track forming flanges integral with the inclined wall, in spaced apart relation therealong and extending inwardly of the box-like configuration at least along a major portion of the member, said flanges having their outer ends substantially normal thereto to receive and retain weather stripping adjacent to each flange; said flanges being also mitered together; and a pair of glasses each approximately equal to one-half of the area enclosed by said member slidably disposed within adjacent tracks and a screening member of generally the same size as the glasses disposed within and slidable along another track.

3,269,453
VENETIAN BLIND STRUCTURE
Francis Vecchiarelli, River Edge, N.J., and Cornell E. Kopsco, Fairfield, Conn., assignors, by mesne assignments, to Alcan Aluminum Corporation, New York, N.Y., a corporation of New York
Filed Oct. 17, 1962, Ser. No. 231,083
5 Claims. (Cl. 160—176)



1. An assembly for use in Venetian blind structures having a housing with a pair of spaced generally vertical walls defining a downwardly facing opening for the Venetian blind operating mechanisms, and ladder means for supporting Venetian blind slats, comprising:

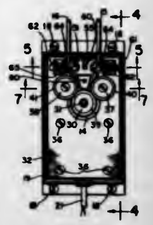
(a) snap-in means slidably retained in said housing for supporting and controlling said ladder means, including

(i) a body portion defining an interior cavity, a pair of opposed walls of said body portion having lower parallel portions and upper converging portions, and detent means associated with each of said lower body wall portions and extending the length thereof,

(ii) roller means retained for rotation within said interior cavity and connected to said ladder means, rotation of said roller means being adapted to wind and unwind opposed sides of said ladder means, thereby to cause selective tilting thereof;

(b) a pair of inwardly directed flanges extending along opposed lower portions of said housing vertical walls, said flanges being proportioned and spaced apart sufficient to be spread apart by said upper converging portions of said body portion and to enter and be slidably retained within said detent means in said lower parallel body wall portions.

3,269,454
DRAPERY ACTUATOR
Robert A. Gill, 615 SW. Country Club Road, Lake Oswego, Oreg., and Larry D. Campbell, Lake Oswego, and Robert V. Sickler, Portland, Oreg.; said Campbell and said Sickler assignors to said Gill
Continuation of application Ser. No. 129,844, Aug. 7, 1961. This application Nov. 14, 1963, Ser. No. 324,605
6 Claims. (Cl. 160—331)



6. In an actuator for opening and closing draperies or other closure members,

a reversible electric motor,

a drive roller rotatable on a first axis and driven by the motor,

a highly flexible pull cord extending around and engaging at least one half of the periphery of the drive roller,

a pair of pressure rollers mounted rotatably on axes parallel to and on opposite sides of said first axis in positions in which the pressure rollers continuously press portions of the pull cord adjacent spaced portions of the periphery of the drive roller directly against said spaced portions of the drive roller,

and guide means positioned between the pressure rollers and adjacent the upper portion of the periphery of the drive roller for stripping the pull cord from the drive roller and guiding the two reaches of the cord to and from the drive roller between the guide means and the pressure rollers.

3,269,455
VEHICLE INSECT SCREEN
Joseph A. Gillotti, 1964 Indianola Road, Des Moines, Iowa
Filed Oct. 28, 1963, Ser. No. 319,205
1 Claim. (Cl. 160—369)

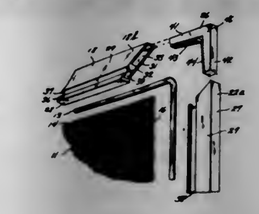
A bug screen assembly adapted for attachment to the front of a vehicle comprising in combination:

a screen adapted to be held taut;

a pair of side frames each having a hollow portion at each end, and each having a longitudinal groove formed therein;

a pair of end frames each having a hollow portion at each end, and each having a longitudinal groove formed therein;

a plurality of right angular braces each of which is inserted into a side frame hollow portion and an end frame hollow portion adjacent thereto for holding said respective side and end frames together, each right angular brace comprising a pair of solid, substantially rigid legs the outer faces of which extend from an outer apex at right angles from each other, and which outer faces the full length of which are smooth for frictional engagement with the inner surfaces of the outer walls of the side and end frames within said hollow portions, the inner faces of said legs of which extend from an inner apex at right angles from each other and having an inner portion and an outer portion, said inner portion extended parallel to a respective outer face, each outer portion having a face progressively converging relative to a respective outer face toward an end of said leg, and a row of teeth formed on each outer portion, said teeth of identical depth the direction of which ex-



tends at right angles to the plane of a respective outer face, said teeth frictionally engaging the inner surfaces of the inner walls of the side and end frames within said hollow portions;

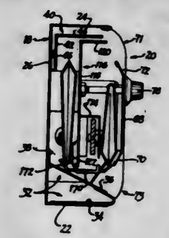
said screen having edges extended into said side frame and end frame grooves;

a spline inserted into said side frame and end frame grooves for holding said screen edges therein whereby said screen is held taut; and

yieldable means secured to said frame members for releasable attachment to the front of a vehicle, said yieldable means including an elongated retaining clip reciprocally inserted through a frame member and with the inserted end thereof bent at an angle to the remainder, and including further a spring secured between the end opposite to the inserted end and the respective frame member, and with the outer end of said spring formed for finger manipulation for rotating both spring and clip simultaneously.

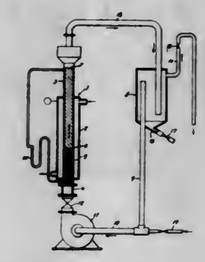
3,269,456
METHOD OF SPACE HEATING
Russel A. Welch, Sr., St. Clair Shores, Mich, assignor of forty-five percent to Eugene A. Casaroll, Grosse Pointe, Mich., and five percent to Paul G. Hogue, Mount Clemens, Mich.
Original application Nov. 24, 1961, Ser. No. 154,721. Divided and this application June 24, 1965, Ser. No. 472,386
2 Claims. (Cl. 165—1)

1. A method of space heating comprising initially energizing a radiant heating element, passing air over the heating element to heat the air, simultaneously directing radiant heat energy from the heating element into an enclosed first body of liquid to heat the liquid, heat exchanging the liquid of the first body of liquid with a second body of liquid by moving the liquid in a continuous flow path successively from the first body through the second body and back to the first body, shielding said second body of liquid from direct radiation from the heating element, passing air in heat exchange relationship with said bodies of liquid to heat the air, de-energizing the heating element when the temperature of the space being heated is at a desired point, continuing to pass air in heat exchange relationship with the thus heated bodies of liquid to heat the air to maintain the tempera-



ture of the space being heated at a desired level, and repeating the cycle when the temperature of the space being heated falls below a desired point.

3,269,457
METHOD AND APPARATUS FOR PREVENTING DEPOSIT FORMATION ON A HEAT EXCHANGE SURFACE
Reuel Shinnar, Princeton, N.J., assignor to The Technion Research and Development Foundation, Haifa, Israel, a corporation of Israel
Continuation of application Ser. No. 213,970, Aug. 1, 1962. This application June 21, 1965, Ser. No. 473,883
7 Claims. (Cl. 165—1)



1. A method of heating a liquid containing a substantial amount of scale-forming material comprising heating said liquid by heat exchange introducing into said liquid a bed of solid granular material which is inert to said liquid, passing said liquid upwardly thru a substantially vertical duct at a sufficient velocity to fluidized said bed, causing scale-forming material to deposit on said granular material as a soft coating, removing said liquid containing said material as a sludge from the upper end of said duct, thereby separating said granular material from said liquid, said granular material remaining in said duct as a fluidized body, and thereafter removing said deposit from said liquid.

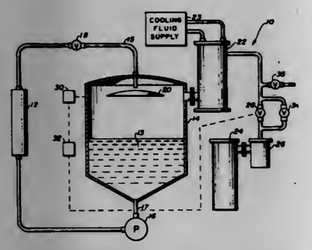
3,269,458
METHOD AND APPARATUS FOR ACCURATE AND CONTROLLED COOLING
Gail C. Rogers, Los Altos, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 14, 1963, Ser. No. 316,194
10 Claims. (Cl. 165—2)

6. A method for cooling and maintaining the temperature of a heat-emitting object at a predetermined temperature, comprising the steps of:

filling a portion of a closed vessel with a liquid coolant having said predetermined temperature and filling the remainder of the vessel with vapors of said coolant at a predetermined pressure;

circulating said liquid coolant under pressurized condition from the liquid-filled portion of said vessel into heat-transfer relationship with said object to absorb heat therefrom and back to the vapor-filled portion of said vessel;

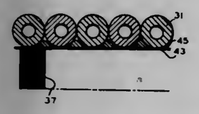
scattering said heated liquid coolant throughout the vapor-filled portion of said vessel so that vapor is



evolved therefrom to carry off an amount of heat equivalent to the heat absorbed by the coolant from the object; and

maintaining the vapor-pressure of the coolant in the vessel substantially fixed at a level at which the boiling point of the coolant corresponds to said predetermined pressure.

3,269,459
EXTENSIVE SURFACE HEAT EXCHANGER
Dragolyoub Popovitch, North Tarrytown, N.Y. (37 Myers Ave., Denville, N.J. 07834)
Filed Mar. 12, 1963, Ser. No. 264,516
18 Claims. (Cl. 165—140)

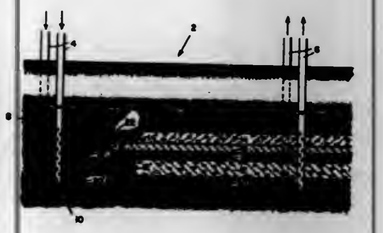


1. An extensive surface heat exchanger comprising in combination a plurality of small diameter contiguous tubes disposed in spaced-apart alined rows to convey high pressure gaseous flow; means sandwiching the tubes in each row to provide substantially flat surfaces on opposite sides thereof; a plurality of radiating fins affixed in spaced-apart relation on each of the surfaces and extending lengthwise of the tubes to guide low pressure gaseous flow and to provide extensive heat exchange surfaces; and means for introducing low pressure gaseous flow between the spaced fins for flow therealong to effect heat transfer with the first-mentioned flow; said tubes being capable of conveying high pressure gaseous flow without rupture and said fins guiding said low pressure gaseous flow in substantially turbulence-free manner.

3,269,460
SECONDARY RECOVERY OF PETROLEUM
William C. Hardy and Billy W. McArthur, Richardson, Tex., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Aug. 12, 1963, Ser. No. 301,298
2 Claims. (Cl. 166—10)

1. The secondary recovery method for petroleum-containing fluid from a reservoir containing said fluid in layered formations of varying permeabilities which includes:

introducing through at least one injection well into said reservoir a solution of a gas in a liquid, said introduction being at a pressure exceeding the bubble point of the solution, to produce downstream in said reservoir in a region of reduced pressure less than the bubble point of said solution a slug in the form of a liquid containing liberated bubbles of the gas, the slug having a higher effective viscosity due to Jamin effect than the petroleum-containing fluid



in the reservoir and than the injected solution, and said slug varying in penetration into said formations; and

then providing a fluid drive through said injection well to advance said bubble-containing slug to drive before it the petroleum-containing fluid towards at least one producing well.

3,269,461
SAND CONTROL IN A WELL
Lloyd K. Strange, Grand Prairie, and David S. Koons, Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Sept. 18, 1963, Ser. No. 309,893
10 Claims. (Cl. 166—33)

1. In a process of treating a well productive of solid material from a formation along with fluid into said well, the steps comprising:

(a) placing an unsaturated fatty acid material in said formation adjacent to said well,

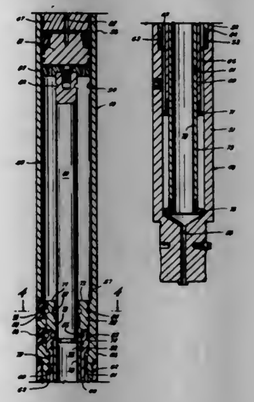
(b) thereafter passing into said formation through said well an oxygen-containing gas to contact and to effect resinification of said unsaturated fatty acid material in said formation, and

(c) maintaining conditions of passage into said formation of said oxygen-containing gas such that the temperature within said formation does not exceed the ignition point of said unsaturated fatty acid material.

3,269,462
SELECTIVE HYDRAULIC PRESSURE BOOSTER FOR BOREHOLE APPARATUS
Ulrich E. Voetter, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Mar. 17, 1964, Ser. No. 352,515
6 Claims. (Cl. 166—100)

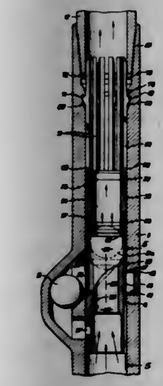
6. In a well tool for use in well bore, said tool having hydraulically operated means; a hydraulic actuating system for applying hydraulic pressure to said hydraulically operated means; said system including: a housing having a cylinder forming a bore, said cylinder having fluid inlet and outlet means; piston means slidably and sealingly received in said bore intermediate of said inlet and outlet means; said inlet means serving to admit fluid under pressure to one side of said piston means; said outlet means serving to discharge fluid from said cylinder to said hydraulically operated means; said piston means and cylinder having portions of different effective cross-sectional area

sized for creating a pressure differential between said inlet and outlet means; and means for selectively changing the



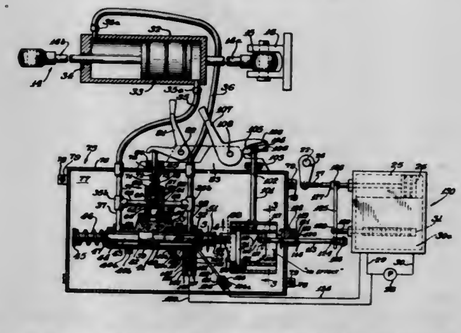
effective cross-sectional area of said portions between said cylinder and piston means.

3,269,463
WELL PRESSURE RESPONSIVE VALVE
John S. Page, Jr., 1450 El Mirador, Long Beach, Calif.
Filed May 31, 1963, Ser. No. 284,629
18 Claims. (Cl. 166—224)



1. An assembly operable to control the upward flow of fluid in well tubing, comprising a tubular valve body having a bore, a generally tubular insert receivable within said bore, a generally annular seat carried by said insert, a plug carried within the body for bodily movement between a down position in which the plug is offset from said seat and an up position in which the plug engages the seat to block upward flow therethrough, the assembly having passage structure located to pass the well fluid openly and upwardly past the plug in said down position and also to communicate the flow pressure to said plug in said down position, sufficient pressure application to the plug acting to effect upward movement thereof to seat the plug, the insert having an operating position relative to the valve body and the insert being movable axially within said valve body bore into and out of said operating position.

3,269,464
IMPLEMENT CONTROL MEANS FOR TRACTOR OPERATED AGRICULTURAL IMPLEMENTS
Glen E. Smelcer, Hinsdale, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Original application July 24, 1963, Ser. No. 297,296. Divided and this application June 23, 1965, Ser. No. 466,179
9 Claims. (Cl. 172—10)



1. In a vehicle and ground-working implement arrangement with each having a supporting framework, and hitch means connecting said frameworks in draft-receiving and transmitting relation, the combination of draft sensing means telescopingly mounted on said hitch means and including an auxiliary piston and cylinder operative for creating pressure differentials between opposite ends thereof in response to draft-produced changes in stress in the hitch means, said hitch means including a linkage member pivotally connected at a forward end thereof to the vehicle framework for movement in a horizontal plane and pivotally connected at a rearward end thereof to the implement framework thereby to accommodate vertical movement of the implement relative to the linkage member, a hydraulic actuator mounted on one of said supporting frameworks and operative for raising and lowering the associated implement, said actuator including control valve means actuable for controlling the operation thereof, draft-signaling means mounted on one of said frameworks, conduit means communicatively interconnecting said draft-sensing and said draft-signaling means and including hydraulic fluid therein, said draft signaling means having means therein variably positionable in accordance with the pressure differentials created between opposite ends of said auxiliary cylinder as a result of variations in draft load imposed on the tractor by the attached implement, and movement-transmitting means interconnected between said draft-signaling means and said actuator control valve means and operatively responsive to movements of said variably positionable means for actuating said actuator control valve means to selectively effect a raising and lowering of the attached implement and thereby to maintain a substantially constant draft thereon.

3,269,465
PROCESS HEATER
Salvatore A. Guerrieri, Rowayton, Conn., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Aug. 3, 1964, Ser. No. 386,847
5 Claims. (Cl. 122—356)

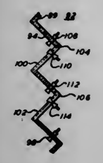
3. A process heater comprising,

a housing having a heating chamber therein;

process tubes positioned within said chamber;

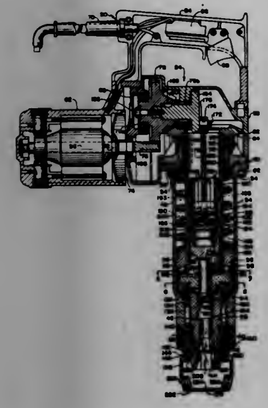
said housing having a substantially vertical heat radiating wall within said chamber; said wall including

a first vertically extending section disposed at an angle with respect to the vertical plane of said wall;
a second vertically extending section disposed at an angle with respect to the vertical plane of said wall; and



heating means comprising a row of burners positioned near the edge furthest from said process tubes in each of said first and second sections, said burners in each section being positioned to direct flames over the surface of said other section.

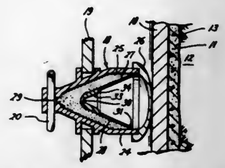
3,269,466
IMPACT TOOL
Walter G. Mitchell, Pitcairn, Pa., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 17, 1964, Ser. No. 383,291
17 Claims. (Cl. 173—93.6)



11. In a power driven hammer drill or the like:
(a) a rotatably mounted anvil;
(b) means for imparting successive and repeated axial hammer blows to a tool bit mounted in said anvil;
(c) means for continuously rotating said anvil when rotation restraining torque exerted on said anvil is below a predetermined magnitude; and
(d) means for imparting rotary hammer blows to said anvil when said restraining torque exerted on said anvil exceeds said predetermined magnitude.

3,269,467
SHAPED CHARGE APPARATUS
William T. Bell, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed June 11, 1964, Ser. No. 374,480
3 Claims. (Cl. 175—4.51)

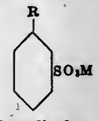
1. A method for perforating earth formations traversed by a cased well bore comprising the steps of: positioning a shaped charge in proximate contact with the wall of a casing; generating a perforating jet with a pilot portion to penetrate the wall of the casing and initially form an



opening therein and a punch portion to produce a full size entry opening without forming a burr on the casing.

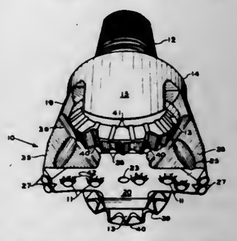
3,269,468
FOAMING AGENTS FOR USE IN AIR DRILLING OF WELLS
Achyut K. Phansalkar and Jack L. Brown, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed July 20, 1962, Ser. No. 211,263
2 Claims. (Cl. 175—71)

1. In the method of removing cuttings and formation fluids from the bore of a well being drilled utilizing a gaseous circulation medium wherein said formation fluids are utilized to form a foam within the well bore, which foam is swept from the well bore with said gaseous circulating medium so as to carry with it said cuttings, the improvement which comprises adding to said fluids
(a) a foaming agent having the structural formula



where R is an alkyl radical containing from 4 to 12 carbon atoms, and M is selected from the group consisting of an ammonium radical, amino radicals, and metals selected from the group consisting of alkali and alkaline earth metals, and
(b) a foam stabilizer selected from the group consisting of alkanol amides of fatty acids and tertiary amine oxides.

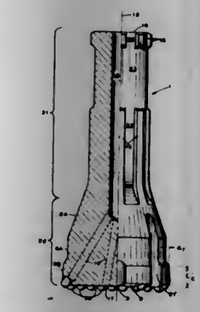
3,269,469
SOLID HEAD ROTARY-PERCUSSION BIT WITH ROLLING CUTTERS
Joseph L. Kelly, Jr., Houston, Tex., assignor to Hughes Tool Company, Houston, Tex., a corporation of Delaware
Filed Jan. 10, 1964, Ser. No. 336,942
1 Claim. (Cl. 175—336)



In a rotary-percussion bit of the type having a solid massive body with an upper end adapted to be connected to a drill string member and a lower end extending diametrically substantially the full width of a borehole to be cut, there being fixed percussive cutting elements secured in and protruding downwardly from said lower end and disposed to cut a full borehole while the bit is

rotated and subject to percussion during drilling, the improvement comprising at least one bearing spindle secured to said bit body and extending upwardly and outwardly therefrom with its outer end terminating unsecured in cantilever fashion, a rolling cutter rotatably mounted on said bearing spindle, said cutter being disposed to assist said percussive cutting elements. In cutting the outer portion of the borehole formed by said elements during drilling, and a ring member secured to the bit body above said bearing spindle, said ring having a downwardly extending skirt which confronts the unsupported end of the bearing spindle to retain the cutter thereon.

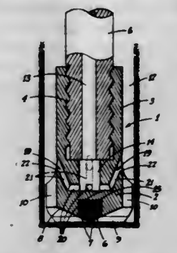
3,269,470
ROTARY-PERCUSSION DRILL BIT WITH ANTI-WEDGING GAGE STRUCTURE
Joseph L. Kelly, Jr., Dallas, Tex., assignor to Hughes Tool Company, Houston, Tex., a corporation of Delaware
Filed Nov. 15, 1965, Ser. No. 514,739
8 Claims. (Cl. 175—410)



1. In a rotary-percussion bit of the type using wear resistant inserts for cutting structure, such inserts having bases at one end and cutting tips opposed thereto, such bit having an upper steel shank adapted for connection to a percussion tool and a lower steel body terminating in a blunt bottom surface and having a circumferential gage surface intersecting said bottom surface, such inserts being disposed with their bases secured in said body and their cutting tips protruding from the bottom surface of said body and distributed in concentric rows in spaced apart relation, the inserts of the outermost or heel row being angularly disposed with their cutting tips protruding at said intersection and their bases secured in the body above and radially inwardly from their cutting tips while the inserts of the inner rows are disposed with their bases generally directly above their cutting tips, *the improvement comprising* said circumferential gage surface having a net area less than the product of the number of heel inserts, the average cross sectional dimension of such heel inserts, and the bit diameter.

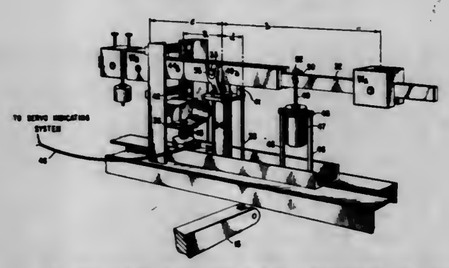
3,269,471
ROCK DRILLING BIT
Robert T. Alexander, P.O. Box 3, Columbia, Calif.
Filed Nov. 26, 1963, Ser. No. 325,930
2 Claims. (Cl. 175—418)

1. A percussion type rock drilling bit comprising a generally cylindrical body having an upwardly projecting relatively small diameter shank adapted for connection with a tubular drill shaft having air under pressure therein, a full width transversely extending cutting edge member mounted on and depending from the bottom of the body, a well in the body in communication with the drill shaft at the lower end thereof, relatively small air passages extending in the body from the bottom of the well to the bottom of the body at the sides of and adjacent the cutting edge member, other similar sized air passages in the body leading from the side wall of the well adjacent the bottom thereof, said other passages having outer portions disposed at a steep upward slope and



terminating at the periphery of the shank on opposite sides of the corresponding ends of the cutting edge member, and vertical open-ended flutes in the side of the body and alined with the peripheral terminations of said other passages.

3,269,472
VIBRATION ISOLATION MECHANISM FOR ELECTRICAL WEIGHING SCALE
Robert E. Bell, Toledo, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Sept. 16, 1963, Ser. No. 309,000
7 Claims. (Cl. 177—188)

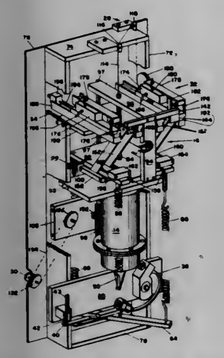


1. An electronic weighing scale comprising, in combination, a stationarily mounted dashpot, an output member, a load cell whose electrical output is indicative of load upon the scale having a relatively high spring rate and a full load deflection less than the movement required to drive the dashpot effectively, a lever connected to the output member, and resilient means having a relatively low spring rate connecting the lever to the load cell for increasing movement of the lever from said movement less than that required to drive the dashpot effectively to movement capable of driving the dashpot effectively, the dashpot being connected to the lever for shunting shock forces away from the load cell.

3,269,473
WEIGHING APPARATUS
Malcolm C. Tate, Stamford, Conn., assignor to A. H. Emery Company, New Canaan, Conn.
Filed Dec. 30, 1963, Ser. No. 334,233
24 Claims. (Cl. 177—208)

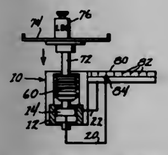
13. A weighing apparatus comprising
A. a load receiving surface
B. a Bourdon tube
C. means subjecting said tube to a pressure proportional to the magnitude of a load received on said surface, whereby to move its free end away from a given position by an amount proportional to the magnitude of said load,

D. a resiliently extensible element connected at one end to the free end of said tube,
E. a member connected to the other end of said element,
F. means operative in response to movement of said free end away from its said given position to move said member from its rest position in a direction and to an extent to restore said free end substantially to said given position, said resiliently extensible element having a substantially straight line stress-strain relation so that the restoring movement of said member is proportional to the magnitude of said load,
G. display means moved by, and in response to movement of, said member through a distance proportional to the distance through which said member



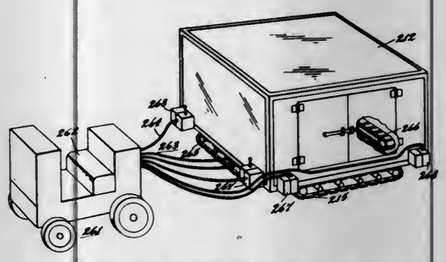
is moved, whereby to display the magnitude of said load variation,
H. a control device operable when actuated to generate a control signal,
I. pneumatic pressure sensing means operative in response to movement of said member through a predetermined distance from said rest position to actuate said control device,
J. adjusting means for selectively varying the magnitude of said predetermined distance, whereby to vary the position of said display means at which said signal is generated,
K. and means visually indicating, for any position of adjustment of said adjusting means, the position of said display means, and thereby the load magnitude, at which said signal will be generated.

3,269,474
PIEZOELECTRIC WEIGHING DEVICE
Stanley Ostrow, Silver Spring, Md., assignor, by mesne assignments, to Sensonics, Inc., Washington, D.C., a corporation of Delaware
Filed Aug. 30, 1960, Ser. No. 52,942
3 Claims. (Cl. 177—211)



1. A pressure measuring device comprising a piezo electric crystal supported in a crystal mount with one face of said crystal upwardly exposed, an electrical indicating device in circuit with the output current of said crystal, measuring the output current produced by said crystal responsive to pressure applied to said exposed face, a pressure transfer means resiliently contacting the pressure responsive exposed face of said crystal at its lower end, a pan fastened upon the upper end of said pressure transfer means upon which objects to be weighed are placed said electrical indicating device having a dial calibrated in terms of units of weight whereby the weight of various bodies placed on said pan is measured.

3,269,475
TRANSPORTATION SYSTEM HAVING TWO PAIRS OF ENDLESS TRACKS
Walter D. Voelker, Philadelphia, Pa., assignor to Duramobile Company, Southampton, Pa., a corporation of Pennsylvania
Filed Nov. 19, 1963, Ser. No. 324,767
1 Claim. (Cl. 180—2)

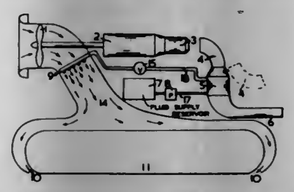


In a transportation system in which cargo-containing devices carry cargo on long-haul transportation, and in which endless track devices are employed for short-distance shifting of such cargo containing devices, the improvement which consists of the combination of:
(A) an endless track device having two pairs of endless tracks at right angles to each other and arranged in a generally rectangular relationship; hydraulically operated means in the endless track device for lowering or raising at least one pair of tracks into and from operative cargo carrying relationship; two pairs of cooperating members adapted to receive power from an auxiliary apparatus for revolving the endless tracks; and
(B) auxiliary apparatus comprising: a motor; two pairs of attachable-detachable companion members energized by the motor transmitting hydraulic power to the cooperating members in the endless track device for transmitting hydraulic power revolving the endless tracks; control means actuating the hydraulically operated means to lower a pair of endless tracks for supporting the cargo; and steering control means permitting the control of the power transmitted to each of the supporting pair of tracks, whereby the cargo-carrying device may be steered during its shifting, there being more flexibility of control of said steering by reason of the availability of the alternately used pairs of rectangularly arranged endless tracks.

3,269,476
METHOD TO ENABLE A GROUND EFFECT MACHINE TO LEAP OVER OBSTACLES
Derek Jones, Beaconsfield, Quebec, Canada, assignor to Canadair Limited, St. Laurent, Montreal, Quebec, Canada, a corporation of Canada
Filed Dec. 2, 1963, Ser. No. 327,177
7 Claims. (Cl. 180—7)

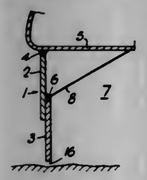
1. In a ground effect machine having a primary power supply that produces hot gases and directs them into one channel means and that produces air flow in another channel means having an air outlet substantially beneath the machine, and adapted to hover over a surface such as land or water on a cushion of air retained by a fluid curtain at least partly supplied through said air outlet,

the improvement comprising: a heat exchanger, a water supply communicating through input ducting with said heat exchanger, means for pumping water from said water supply through said input ducting to said chamber, a scoop mounted on said ground effects machine and adapted to selectively direct the hot exhaust gases from said primary power supply to said heat exchanger to convert a predetermined quantity of said water into high pressure steam by being constructed and arranged to be alternatively disposed in an operative mode and an inoperative mode, in only the former of which said hot gases are both captured by said scoop and pass through said scoop to said heat exchanger, an output ducting from



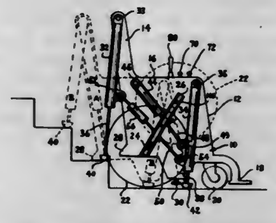
said heat exchanger communicated therewith so as to receive said high pressure steam, said output ducting terminating in at least one nozzle interposed in said other channel means, an on-off valve interposed in the fluid path defined in said input ducting and output ducting, whereby said steam under pressure is delivered through said nozzle, other channel means and air outlet to said air cushion only when said scoop is in said operative mode and said on-off valve is on, and whereby the distance separating the bottom of the said machine from said surface is suddenly and temporarily increased for the duration of the delivery of steam under pressure to said air cushion.

3,269,477
VEHICLES FOR TRAVELLING OVER A SURFACE
Kenneth Hall, Hythe, Southampton, England, assignor to Hovercraft Development Limited, London, England, a British company
Filed Mar. 6, 1964, Ser. No. 349,833
Claims priority, application Great Britain, Mar. 6, 1963, 8,961/63
11 Claims. (Cl. 180—7)



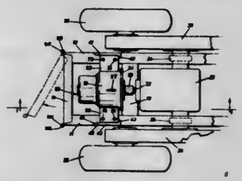
1. A vehicle for travelling over a surface and which is supported above that surface, at least in part, by a cushion of pressurised gas formed and contained in a space beneath the vehicle, wherein the cushion is contained for at least part of its periphery by a deflectable wall structure, including an upper wall member depending below and flexibly connected to the bottom of the vehicle, and a lower wall member depending below the upper wall member and having its upper end pivotally attached to said upper wall member for movement about a horizontal axis, the upper part of the lower wall member below said axis overlapping the lower part of the upper wall member on that side of the upper wall member nearest to the cushion, whereby the cushion pressure acting on the lower wall member tends to resist deflection of said lower wall member.

3,269,478
STAIR CLIMBING WHEEL CHAIR
Donald E. Joslyn, 252 Skiff St., Hamden, Conn.
Filed Dec. 6, 1965, Ser. No. 511,741
9 Claims. (Cl. 180—8)



1. A wheel chair comprising in combination,
(A) a pair of wheels rotatably and retractably mounted on the chair for supporting the same when traveling on substantially level ground,
(B) front and rear rests on said chair for supporting said chair in a substantially normal position on a walking surface, such as stairs, when said wheels are retracted,
(C) a pair of front legs pivotally mounted adjacent the front of said chair,
(D) a pair of rear legs pivotally mounted adjacent the rear of said chair,
(E) each of said legs being mounted to swing fore-and-aft of the chair and being extendible lengthwise for engagement of its free end with said walking surface,
(F) drive means connected between said chair and at least one of said legs for pivoting the same,
(G) power means for extending said legs and for actuating said drive means such that said chair can be raised off said front and rear rests and moved forward or back, and
(H) means for controlling said power means such that the occupant of the chair can sequentially raise the chair on said legs, move it forward or back while supported on said legs, and lower the chair onto said rests.

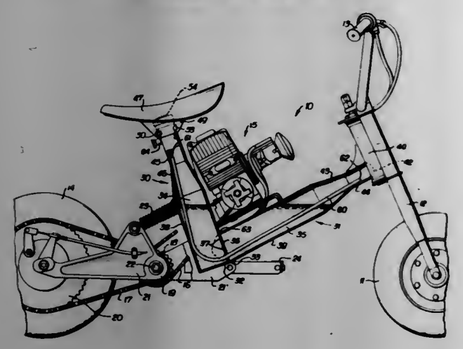
3,269,479
MEANS FOR MOUNTING TRANSMISSIONS ON TANDEM-WHEELED ROAD GRADERS
John Graham Macdonald, Goderich, Ontario, Canada, assignor to The Dominion Road Machinery Co., Limited, Goderich, Ontario, Canada
Filed Jan. 19, 1965, Ser. No. 426,543
2 Claims. (Cl. 180—22)



1. In a road grader, the combination comprising a frame including a rear portion extending substantially horizontally, said rear portion comprising a pair of longitudinal channel members in spaced apart parallel relation to each other, a final drive gear unit secured to the underside of said channel members, a pair of wheel supporting tandem drive units pivoted on said final drive gear unit, a splined shaft extending rearwardly from said final drive gear unit, said splined shaft being generally parallel to said channel members, an engine to drive said grader, said engine being disposed above said final drive

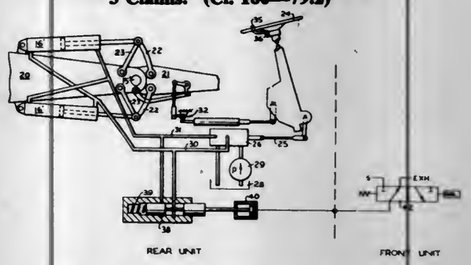
gear unit and support members on said engine secured to an upper portion of said channel members, said engine having a splined shaft extending rearwardly therefrom and generally parallel to said channel members, a power transmission unit having upper and lower shaft members extending forwardly therefrom, a laterally extending flange on each side of said power transmission unit, said flanges being so positioned in relation to said channel members that when said power transmission unit is moved forwardly along said channel members, the weight of said power transmission unit will be supported on said channel members, and said upper and lower shaft members on said power transmission unit will be slidably engaged with the splined shaft on said engine and the splined shaft of said final drive gear unit, at least one cross member extending between said channel members in front of said power transmission unit, and channel members extending rearwardly of said power transmission unit, and a cross-member extending and secured between the rearward ends of said channel members, at least one end of said cross-member being detachably secured to provide an opening between said channel members to facilitate removal or installation of said transmission.

3,269,480
FUEL TANK FOR MOTOR BIKE
Edward J. Kirby, Manhattan Beach, Calif., assignor to Microsound Inc., Los Angeles, Calif., a corporation of California
Filed Apr. 20, 1964, Ser. No. 361,035
2 Claims. (Cl. 180—35)



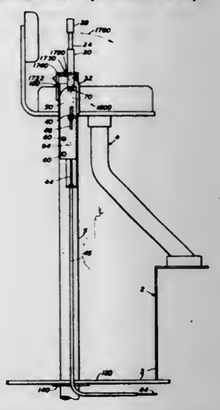
1. In a fuel tank for a motor bike including a frame having a tubular seat post section, a tubular base section joined at a rearward end thereof to a lower end of said seat post section, and a seat mounted on the upper end of said seat post section, the combination comprising the hollow interiors of said sections, a perforated baffle including a plurality of flow apertures extending through said lower end of the seat post section at said rearward end of the base section and within the region defined by the junction of said sections, the upper end of said seat post section comprising a filler neck for the tank, a removable cap for said neck, a vent relief valve operatively mounted on said filler neck near said movable cap whereby to admit air as the fuel stored in the tank is drawn therefrom by said engine, and a pivot connection between said seat and said seat post section whereby said seat is tiltable from a position overlying said cap to a position clear of said cap when the tank is to be filled, and a vent tube extending through the seat post section from a location adjacent said vent relief valve thence through the base section to a location at the forward end of said base section whereby to vent trapped air and gases during filling of said tank.

3,269,481
STEERING CONTROLS FOR VEHICLES OPERATING IN TANDEM
Robert A. Peterson, San Leandro, Calif., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Dec. 2, 1964, Ser. No. 415,526
3 Claims. (Cl. 180—79.2)



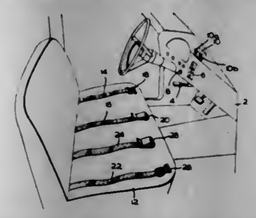
1. In tandem operating earthmoving scrapers wherein a rear scraper comprises a tractor unit articulately connected to a scraper unit and wherein steering means includes hydraulic jacks extending between said units on opposite sides and a steering wheel controlling flow of fluid under pressure to and from opposite ends of the jacks on opposite sides through a circuit including a pressure source, the improvement which comprises means including a valve in said circuit to provide communication between opposite ends of said jacks on opposite sides and free articulation between the tractor and scraper units independently of the steering wheel control.

3,269,482
SAFETY BELT LOCK
Charles L. McCarthy, Jr., 8529 Parker St., Omaha, Nebr.
Filed July 20, 1964, Ser. No. 383,721
2 Claims. (Cl. 180—82)



1. In combination: a vehicle having an engine, a key, a belt for attachment about a driver's waist, means attaching said key to said belt, a lock in said vehicle, said lock having a keyhole for receiving said key, said lock having a latch movably mounted therein, said lock, latch and key having operably correlated parts such that at certain times when said key is in said keyhole said key is held in said kehole by said latch, means for anchoring said lock to said vehicle whereby when said key is held in said lock said driver is prevented by said belt and key anchoring means from being ejected from said vehicle, a device having a movable element, said movable element having a first position for vehicle operation and a second position for interfering with vehicle operation, said movable element being so operably correlated with said vehicle that when said movable element is in said second position said vehicle is restrained from normal operation, and means operably correlated with said movable element and said key whereby when said key is in said lock said movable element is permitted to move to said first position for vehicle operation and whereby when said key is not in said lock then said movable element is retained in said second position for interfering with vehicle operation, means operably correlated with said lock and latch for causing said latch to release said key when said movable element is in said second position for interfering with vehicle operation, humanly physically controllable means attached to said movable element for facilitating movement of said movable element between said first and second positions, whereby said driver has an incentive to insert said key into said lock and to operate said humanly physically controllable means in order to place his vehicle in normal operational condition.

3,269,483
SEAT BELT SAFETY SYSTEM FOR MOTOR VEHICLES
Clarke Garner, Jr., Charlotte, N.C., assignor of forty-nine percent to Henry P. Cassidy, Adelphi, Md.
Filed Aug. 7, 1964, Ser. No. 388,221
8 Claims. (Cl. 180—82)



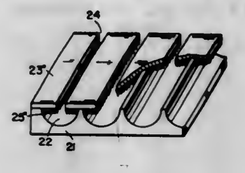
1. Safety means adapted for use with a motor vehicle having an ignition system, transmission means including gear selector means shiftable between an engine starting position and at least one drive position, and safety seat belt means including a pair of separable buckle elements for securing the operator to the driver's seat of the vehicle, comprising

means normally locking the transmission gear selector means in the engine starting position; and

normally de-energized solenoid means connected with the ignition system and operable in response to the connection of said buckle elements for releasing said locking means.

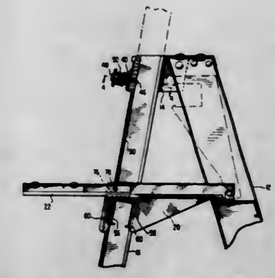
3,269,484
ACOUSTIC ABSORBING STRUCTURE
Stephen Lighter, 3522 Lake Mendota Drive, Madison, Wis.
Continuation of application Ser. No. 178,090, Mar. 7, 1962. This application Sept. 24, 1963, Ser. No. 311,253
14 Claims. (Cl. 181—33)

1. An acoustic absorbing structure comprising in combination a backing panel and a facing panel, said backing panel having a plurality of cavities extending thereinto from one surface thereof, said cavities having a shape corresponding to that generated by movement of a regular geometric member which is a conic section, said movement selected from revolution of the section about its axis and linear translatory movement parallel to said surface, said facing panel abutting said surface of said backing panel and being provided with an apertured disposed centrally over each of said cavities in said backing panel, said aperture being of lesser cross-sectional maximum dimension than the maximum parallel adjacent cross-sectional dimension of said cavity, each of said cavities comprising surfaces which converge as a function of the distance of said surfaces from said facing panel, at least one of the surfaces of said cavity and the abutting



side of said facing panel being provided with a plurality of projections to provide at the surface to which said projections are affixed means for diffusing and absorbing acoustic energy within said cavity.

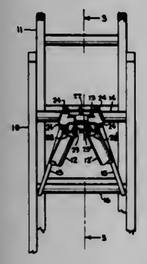
3,269,485
CONVERTIBLE LADDER
Clayton E. Larson, 80 Moultrie St., Brooklyn, N.Y.
Filed Oct. 21, 1964, Ser. No. 405,407
4 Claims. (Cl. 182—26)



1. A combination step, stair well and extension ladder including a front step section comprising vertically extending side rails joined together by a plurality of vertically spaced rungs, guide means pivotally mounted to said step section proximate the end thereof, a prop section comprising side rails connected together by a plurality of vertically spaced rungs, said guide means slidably engaging said prop section to provide pivotal connection between said sections, a first means mounted on said guide means to selectively engage said prop section at points along the length thereof to block sliding movement thereof, said first means comprising a pin reciprocably mounted in said guide member proximate each of the side rails of said prop section, the side rails of said prop section having a plurality of horizontally corresponding sets of holes disposed therein, each of said sets of holes being disposed when the set is vertically aligned with said pins to receive said pins therein and block sliding movement of said prop section with respect to said guide member, means to bias said pins into said holes, and a cross connecting member between said pins to provide simultaneous movement thereof, a second means pivotally mounted on said step section, said second means being adapted to engage a horizontally adjacent rung on said prop section to rigidly connect said sections when said sections are angularly disposed with respect to one another to restrain further angular movement therebetween, and a third means mounted on said step section to slidably engage the side rails of said prop section when said sections are in parallel relationship to one another to pro-

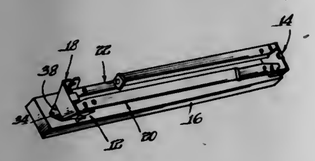
vide for parallel movement between said sections while blocking angular movement therebetween.

3,269,486
LADDER HOLDER
James F. Machen, 2495 Robinwood Ave., Toledo, Ohio
Filed July 27, 1964, Ser. No. 385,321
1 Claim. (Cl. 182—170)



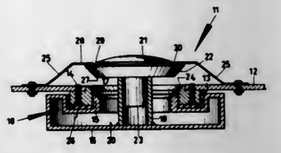
A ladder supporting device comprising:
a fitting engageable in fixed alignment with said ladder;
fastening means for said fitting also engageable with said ladder;
two legs;
two terminals fastened to said fitting; offset portions on said terminals; gear teeth on said offset portions;
said terminals rotatable about fixed axes with respect to said fitting;
a geared interconnection between said terminals through said gear teeth;
hinges connecting said legs respectively and independently with said terminals.

3,269,487
SAW HORSE STRUCTURE
Charles O. Larson, Sterling, Ill., assignor to Chas. O. Larson Co., Sterling, Ill., a corporation of Illinois
Filed Nov. 9, 1964, Ser. No. 409,817
8 Claims. (Cl. 182—155)



1. A support structure of the type described comprising a generally horizontally extending transverse member, first and second brackets secured to an under side of said member adjacent opposite ends thereof, and first and second pairs of first and second legs respectively connected to said brackets, each of said brackets including an end wall disposed transversely with respect to and depending from said member, each of said brackets including first and second opposite side walls extending from opposite and generally upstanding end edges of said end wall, said end edges and said side walls being oppositely inclined downwardly and outwardly from said transverse member, said side walls and the adjacent end walls providing corners defining a predetermined angle, said legs respectively having upper end portions disposed in said corners and against said side walls so that first and second legs of each of said pairs are inclined downwardly and outwardly away from each other, releasably interlocking tab and notch means between lower margins of said side walls and said legs for restraining the legs against shifting relative to the brackets, each of said brackets including elements extending between upper portions of said side walls and spaced from said end wall, said elements engaging and releasably restraining upper ends of said legs, said brackets including tab means projecting inwardly from lower portions of said end walls for engaging between the legs of said pairs, generally L-shaped slot means in each of said side walls, said slot means including upstanding portions extending along and spaced a predetermined distance from adjacent inclined end edges of said end walls, said slot means having lower end portions extending away from said adjacent edges, and releasable fastening means extending through said slot means and connected to said legs at locations spaced below upper terminal ends of the legs distances substantially equal to said predetermined distance whereby, upon loosening of said fastening means, said legs may be shifted between the aforesaid downwardly and outwardly extending inclined positions and folded positions by manipulating the legs to shift said fastening means between said upstanding and lower end portions of the slot means.

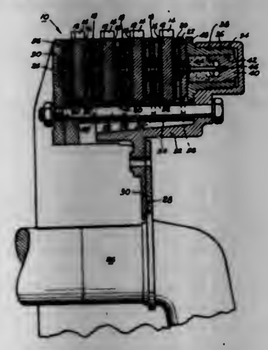
3,269,488
OIL SLUDGE COLLECTOR
Karl Steeb, 149 Harlem Ave., Buffalo, N.Y. 14224
Filed Mar. 2, 1964, Ser. No. 348,539
5 Claims. (Cl. 184—106)



1. An oil sludge collector adapted to be secured to the bottom of an oil pan of an internal combustion engine thereby to remove carbon and other sludge from the lubricating oil therein, and comprising a ring defining a threaded bore therethrough and secured about a hole in said pan thereby to define an egress for said oil sludge; a collector body including an annular collar secured thereto, said collar being threadably secured within said ring; a pipe secured concentrically within said body and projecting upwardly therefrom to a position above said oil pan bottom; a valve disc removably secured onto the top of said pipe, said valve disc thereby being supported above said ring; a valve seat formed about the upper periphery of said bore, thereby to provide sealing means for said valve disc; spring means secured to said pan bottom and positioned to bear on said valve disc to bias same onto said pipe; and a seating face formed about the lower periphery of said valve disc, whereby upon said body being unthreaded from said ring, said disc, biased downwardly by said spring means, will seat on said valve seat on said ring to seal said oil egress.

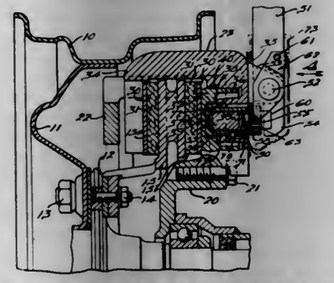
3,269,489
FRICTION PAIR
Douglas J. Roth, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Oct. 19, 1964, Ser. No. 404,653
3 Claims. (Cl. 188—71)

1. A friction pair comprising a first nickel base metal-ceramic surface containing at least 10% by volume of nickel, a second opposing surface containing from 30% to 90% by volume metal oxide dispersed in a metal phase, said metal oxide selected from the group consisting of spinels, oxides which readily form spinels or mixtures thereof having a melting point in excess of 2500° F., and



said metal phase is a metal or mixture of metals whose oxides readily form a spinel and have a melting point in excess of 2500° F.

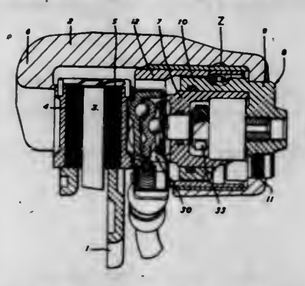
3,269,490
COMBINED HYDRAULIC AND MECHANICAL BRAKE
Harvey C. Swift, Birmingham, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed July 9, 1964, Ser. No. 381,456
4 Claims. (Cl. 188—73)



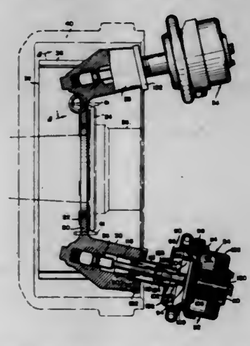
1. A disk brake for wheels comprising, a brake disk rotatable with the wheel, a stationary torque member, a pair of brake shoes supported by said torque member for movement toward and from said brake disk, a piston for actuating one of said brake shoes, extensible means including a rotatable part within and engaging said piston, ratchet means associated with said extensible means and positioned outside said piston, pivotal lever means having a pawl mounted thereon and engageable with said ratchet means, whereby substantial pivotal movement of said lever extends said extensible means.

3,269,491
WEAR ADJUSTING MEANS FOR A SPOT TYPE DISC BRAKE
Juan Belart, Walldorf, Fritz Ostwald, Buchschlag, and Karl Schlör, Biebesheim, Germany, assignors to Dunlop Rubber Company Limited, London, England, a corporation of Great Britain
Filed Mar. 1, 1965, Ser. No. 435,789
6 Claims. (Cl. 188—73)

1. A disc brake comprising a rotatable disc and a caliper non-rotatably and axially slidably mounted on a fixed support with a pair of limbs straddling a periphery of the disc, the caliper having a friction element fixed to one limb on one side of the disc and a friction element axially movable relative to the caliper and into engagement with the opposite side of the disc, a brake-applying mechanism arranged to effect axial movement of the movable friction element, and a retraction and centralising device comprising a friction member which is axially slidable in frictional engagement with the fixed support, a stop member on the caliper, and non-planar deformable resilient means associated with the caliper and the friction member to urge the caliper towards a position in which the stop member contacts the friction member, whereby the resilient means acts to move the caliper to retract the friction element fixed thereto to a predetermined distance from the disc following a brake application.



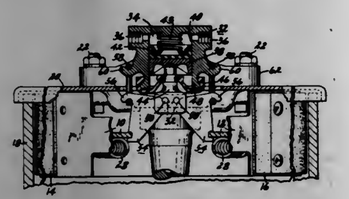
3,269,492
GUIDE AND CENTERING MEANS FOR A BRAKE ACTUATING ROD
Frank T. Cox and William J. Williams, Ashtabula, Ohio, assignors, by mesne assignments, to Rockwell-Standard Corporation, a corporation of Delaware
Filed June 6, 1963, Ser. No. 286,038
2 Claims. (Cl. 188—152)



1. A brake assembly comprising a pair of brake shoes adapted to engage a surrounding brake drum, an actuator assembly in an actuator housing for selectively urging said shoes toward said drum, a fixed elongated tubular member detachably secured at one end to said actuator housing, a service chamber housing carried by the opposite end of said elongated tubular member, the diameter of said service chamber being substantially greater than the diameter of said elongated tubular member, a flexible diaphragm peripherally clamped in said housing to define with said housing a pair of chambers, the chamber at the side of said diaphragm remote from said tubular member being connectable to a source of actuating air under pressure, means venting the other chamber, an actuator rod operatively connected to said actuator assembly and extending therefrom into said tubular member, a pushrod operatively connected to the central portion of said diaphragm and extending into said tubular member and having a recess for the reception of the end of said actuator

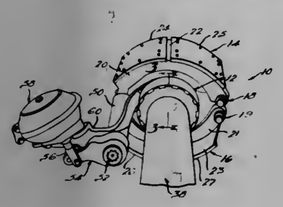
rod, there being a substantial clearance between said actuator rod and said pushrod and the surrounding tubular member, and a guide carried by said pushrod and slidably engageable with the interior of said tubular member to maintain said pushrod centered therein, said guide also having a portion guiding the end of said actuator rod into the recess in the end of said pushrod during assembly.

3,269,493
EXTERNAL WHEEL CYLINDER
Von D. Polhemus, Franklin, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 8, 1964, Ser. No. 381,172
7 Claims. (Cl. 188—152)



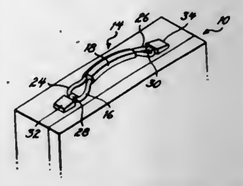
1. Brake actuating mechanism for a vehicle, said mechanism comprising: fluid operable means carried by a fixed portion of the vehicle and mounted external to a vehicle brake drum; friction means carried by a fixed portion of the vehicle and adapted to frictionally engage a rotatable portion of the vehicle in order to provide a braking action therefor; lever means engaging said friction means; output means from said fluid operable means being adapted to move translationally in response to a pressure build-up in the fluid operable means; and means mechanically engaging said output means and said lever means for connecting a portion of the lever means and the fluid operable means thereby providing a non-rigid connection therebetween; said lever means being adapted to pivot on said last named means in response to translational movement of the output means thereby driving the friction means into frictional engagement with the rotatable portion of the vehicle to effect a braking action thereon.

3,269,494
BRAKE MOUNTING PLATE
Keith W. Tantlinger, Grosse Pointe Shores, George Chieger, Birmingham, and Eugene Chosy, Grosse Pointe Farms, Mich., assignors to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 25, 1964, Ser. No. 391,981
2 Claims. (Cl. 188—206)



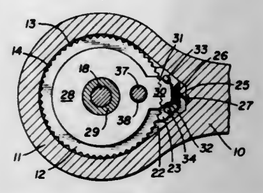
1. A removable brake assembly for a heavy duty over-the-road vehicle having an axle, said brake assembly comprising
a mounting plate having a circular aperture therein,
a plurality of splines on said plate spaced circumferentially of the aperture therein,
a plurality of grooves on an axle of the vehicle complementary to the splines on said mounting plate,
said mounting plate being positionable relative to said axle in circumferentially spaced increments dictated by the spacing of said splines,
a brake actuating shaft bearing supported by said plate,
a brake actuating shaft in said bearing,
a fluid actuator supported by said mounting plate,
means for connecting the cylinder of said actuator with said actuator shaft, and
a pair of brake shoes pivotally supported by said mounting plate and movable by said actuating shaft.

3,269,495
PLASTIC HEAT-SEALED LUGGAGE HANDLE WITH HANDGRIP AND END LOOPS
George W. Bush, Haddonfield, N.J., assignor to Philadelphia Handle Company, Inc., Camden, N.J., a corporation of New Jersey
Filed Apr. 26, 1965, Ser. No. 450,642
4 Claims. (Cl. 190—57)



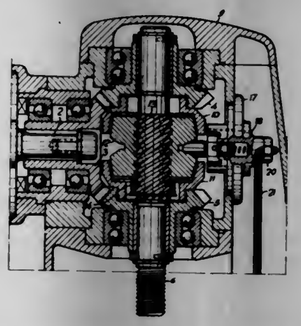
1. A handle comprising a continuous bail including a pair of flights joined at their ends by webs, a unitary elongated handgrip including a central solid core with vertically spaced surfaces and longitudinal grooves in opposite sides thereof, walls spreadably connected to said core adjacent one of said vertically spaced surfaces and having free ends adapted to abut said core adjacent the other vertically spaced surface, said walls cooperating with said grooves to form longitudinal channels, said flights being received in said channels through the opening formed between the free ends of said walls and said core when said walls are spread apart, said free ends of said walls being fused to said core and to said flights to secure said flights in said channels and form said webs into loops for attachment to luggage, carrying cases and the like.

3,269,496
REVERSIBLE ONE WAY CLUTCH FOR WRENCH
Luther E. Kilness, 211 E. Philadelphia St., Rapid City, S. Dak.
Filed June 22, 1964, Ser. No. 377,028
4 Claims. (Cl. 192—43.2)



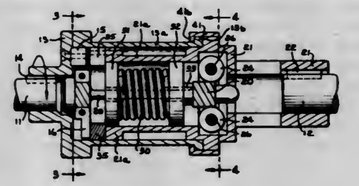
1. In a reversible ratchet wrench, the combination of a handle having a head member provided with a circular opening therein, a rotatable member journaled in the opening of said head member, one of said members having a circular series of radially extending ratchet teeth, the other of said members having a recess communicating with said ratchet teeth, a pawl carried in the recess, said recess having two bearing surfaces inclined toward each other in a direction away from said ratchet teeth, said pawl having an arcuate side having a series of teeth adapted to concurrent and reversible driving engagement with said ratchet teeth, said pawl having two generally inclined sides extending from the ends of said arcuate side converging toward each other in a direction away from said arcuate side, the inclined sides of the pawl being adapted to the bearing surfaces of said recess for transmitting the thrust of the pawl in both directions of driving, and control means for bringing the pawl into reversible ratcheting engagement with said ratchet teeth, said control means including a spring acting between the pawl and said other member, said other member having an emplacement for engaging said spring, said spring having one end retained by said emplacement on said other member so that movement of the pawl from one bearing surface of the recess to the other bearing surface of the recess reverses the direction of action of the spring to urge the pawl against either selected bearing surface of the recess, the maximum length of said spring in any operative position in the recess being less than the radial dimension of the pawl through the center of the pawl from the crests of the pawl teeth to the back of the pawl, whereby the reversal of the spring action may be effected with a minimum of motion of said spring.

3,269,497
CLUTCH MECHANISM
Karl Abdon Bergstedt, Goteborg, Sweden, assignor to Aktiebolaget Volvo Penta, Goteborg, Sweden, a corporation of Sweden
Filed Oct. 5, 1964, Ser. No. 401,469
Claims priority, application Sweden, Oct. 14, 1963, 11,272/63
11 Claims. (Cl. 192—51)



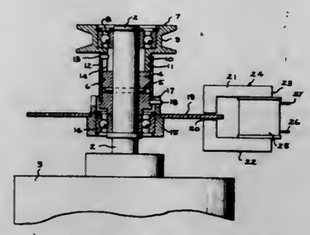
1. In a clutch mechanism comprising a first clutch member, a cooperative second clutch member, means mounting said first clutch member for rotation about its axis in fixed position longitudinally of said axis, means mounting said second clutch member for rotation about and for sliding longitudinally of said axis in a first direction into engagement with said first clutch member and in an opposite second direction out of engagement therewith, an output shaft, means for rotatably driving one of said clutch members, and means connecting the other of said clutch members for driving said output shaft, means for selectively sliding said second clutch member axially into and out of engagement with said first clutch member, wherein said selectively sliding means comprises peripheral walls on said second clutch member eccentric with said axis, said walls defining an exposed eccentric groove, a sliding pin having a wedge-shaped portion disposed in said groove, one of said walls facing generally in said first direction and the other of said walls facing generally in said second direction, and control means to move said pin selectively in said first and second directions.

3,269,498
TORQUE LIMITING CLUTCH
Gerhard E. Hoenig, Lawrence, and Arden L. Van Nest, Indianapolis, Ind., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 5, 1964, Ser. No. 387,584
8 Claims. (Cl. 192—56)



1. A torque-limiting clutch comprising:
a rotatable driving member;
a rotatable driven member axially aligned with said driving member;
a torsion bar axially positioned and axially aligned with respect to said driving and driven members and drivingly engageable at one end with one of said members and at its other end with the other of said members, said torsion bar being longitudinally movable with respect to said members to disengage from at least one of said members;
means tending to resiliently urge said bar longitudinally out of engagement with said one member;
said bar having an element protruding radially therefrom near one end of said bar;
the member which is drivingly engageable with the other end of said bar having a restraining portion which is normally axially aligned and engaged with said element to maintain driving engagement of said bar with said one member, said element and said restraining portion being relatively angularly movable out of axial alignment by twisting of said bar such that said urging means may disengage said bar from said one member upon the application of a predetermined torque to said bar.

3,269,499
SPEED RESPONSIVE COIL CLUTCH WITH EDDY CURRENT PILOT BRAKE
Winston L. Shelton, Jeffersontown, Ky., assignor to General Electric Company, a corporation of New York
Filed Oct. 21, 1964, Ser. No. 405,395
1 Claim. (Cl. 192—81)



A variable speed clutch mechanism including:
(a) an elongated, rotary input shaft,
(b) an elongated driving hub mounted intermediate the ends of said shaft for movement therewith, said hub having a generally cylindrical outer surface,
(c) an output structure mounted around said shaft for rotational movement relative thereto, said output structure having a generally cylindrical outer surface disposed adjacent one end of said outer surface of said hub,

(d) a wound-spring clutch secured to said output structure and engaging said outer surface of said output structure and said outer surface of said hub to effect an operative connection between said hub and said output structure at speeds up to a predetermined speed of said output member, at which speed said spring clutch will slip relative to said hub,

(e) a control structure mounted around said shaft adjacent the other end of said hub for rotational movement relative thereto, one end of said spring clutch being connected to said control structure for movement therewith,

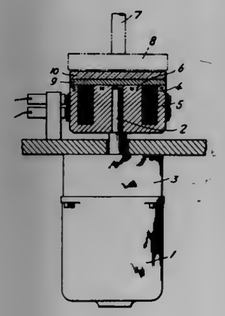
(f) said control structure including a flat plate portion of electrically conductive material extending radially outwardly,

(g) an electro-magnet including a C-shaped core having a base, a pair of spaced opposed legs forming an air gap, and a coil mounted on said base,

(h) said plate portion being received in said air gap with said legs on opposite sides of said plate so that said electro-magnetic induces an eddy current in said plate portion, and

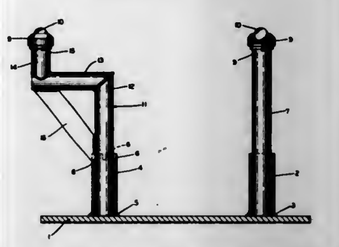
(i) an electrical circuit including a variable resistance connecting said coil to a source of electrical energy to vary the value of the eddy current induced in said plate portion for altering the speed at which said spring clutch slips relative to said outer surface of said hub.

3,269,500
ELECTRO-MAGNETIC CLUTCH
Sizuo Imai, 323 2-chome, Sakasai, Edogawa-ku, Tokyo, Japan, and Kaoru Yunokuchi, 10 Kobuke-cho, Chiba, Japan
Filed Apr. 27, 1964, Ser. No. 362,896
Claims priority, application Japan, Sept. 20, 1963, 38/49,515
1 Claim. (Cl. 192—84)



In an electro-magnetic clutch, a driving member, a driven member, an electromagnet fixedly mounted on said driving member with its pole faces in a plane substantially perpendicular to the axis of said driving member, a relatively thin magnetic lamina of relatively small magnetic permeance mounted parallel to the plane of said pole faces and close thereto, a layer of magnetically insulating non-magnetic material mounted adjacent to said lamina, a magnetic armature clutch plate fixedly mounted on said driven member and parallel to said lamina and said layer of magnetic insulting material, and said layer of magnetic insulating material being mounted between said lamina and said clutch plate, whereby upon electric deenergization of said electromagnet, the magnetic coupling flux from said electromagnet to said armature clutch plate is immediately extinguished by the short-circuiting magnetic path through said lamina.

3,269,501
STEEL PLATE TRANSFER DEVICE
June H. Reighart, 1991 Lee Road, Cleveland, Ohio
Filed Aug. 21, 1964, Ser. No. 391,261
6 Claims. (Cl. 193—35)



1. A transfer device of the character described comprising base means, spaced upright tubular base members fixed to said base means, upright transfer ball standards having their lower ends detachably mounted in said tubular base members, transfer balls rotatably mounted upon the upper ends of said standards, certain of said standards having angular arms intermediate their upper and lower ends, and means for holding said angular arms in adjusted position relative to the corresponding tubular base members.

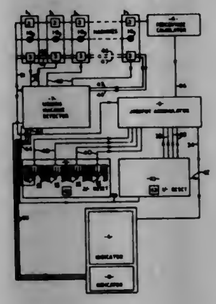
3,269,502
CANTILEVER ROLLER CONFIGURATION FOR CONVEYOR ROLLERWAY
Andrew T. Kornylak, Hamilton, Ohio, assignor to Kornylak Corporation, Hamilton, Ohio
Filed Sept. 9, 1964, Ser. No. 395,252
5 Claims. (Cl. 193—35)



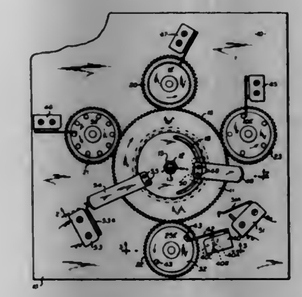
1. A rollerway for a roller conveyor comprising a tubular rail having a substantially equilateral triangular cross section and having a bottom and two sides, a plurality of keyhole slots formed in a longitudinal series in at least one side, rollers mounted on axles having small outer heads and large inner heads, annular grooves in said larger heads engaging the narrow portion of said keyhole slots to retain the rollers in position exteriorly of the rail whereby to form a cantilever support for said rollers.

3,269,503
JACKPOT ARRANGEMENT FOR POKER MACHINES
Colin E. Foster, Kings Cross, New South Wales, Australia (4 Jetty Road, Putney Point, Sydney, New South Wales, Australia)
Filed Dec. 22, 1964, Ser. No. 420,408
Claims priority, application Australia, Dec. 24, 1963, 39,181/63
13 Claims. (Cl. 194—1)

1. Apparatus for deriving an accumulative jackpot for plural poker, fruit and other like gaming machines, said apparatus comprising means for generating signals representative of the value of coins and tokens invested in the machines, an accumulating device for totalling and recording the values signalled thereto, a relaying unit receiving said signals and having means for transmitting to said accumulating device signals representing a total value which is a predetermined proportion of the total value of said received signals, means for generating and connecting to the accumulating device a reset signal in response to a function connected with a jackpot winning combination on any one of the gaming machines, and means for cancelling the recorded total value in the accumulating device upon receipt of the reset signal.

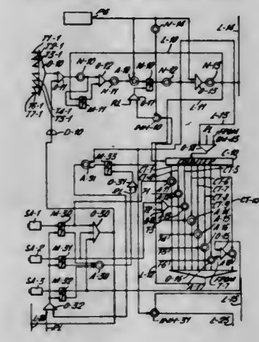


3,269,504
TOTALIZING COUNTER SYSTEM
Harry Greenwald, Whitestone, N.Y., assignor of one-third each to Louis Wolff and Harry Silberglait, both of Brooklyn, N.Y.
Filed Feb. 1, 1965, Ser. No. 429,242
11 Claims. (Cl. 194—1)



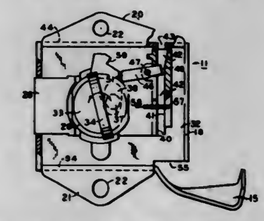
1. In a totalizing counter system for use with as associated vending machine, the combination including a frame; a totalizing gear rotatably mounted on said frame, said totalizing gear normally being in a first position; a plurality of pinions rotatably mounted on said frame and in meshing engagement with said totalizing gear; a plurality of driving means equal in number to said plurality of pinions, each of said plurality of driving means operatively associated with a different one of said plurality of pinions for rotating the associated pinion; controlling means connected to said plurality of driving means responsive to the insertion of respective coins of different denominations for controlling the energization of respective different ones of said plurality of driving means to rotate the associated pinion to thereby rotate said totalizing gear; switch means adapted to control the operation of an associated vending machine; and operating means movably mounted on said totalizing gear and positoned to operate said switch means when said totalizing gear has been rotated through a predetermined angle from said first position whereby said totalizing system will cause the operation of the associated vending machine upon the deposit of a preselected amount of money.

3,269,505
CONTROL SYSTEM FOR VENDING MACHINES
Akira Abe, Kyoto, and Kenji Konishi, Osaka, Japan, assignors to Tateisi Electronics Co., Kyoto, Japan, a corporation of Japan
Filed July 16, 1964, Ser. No. 383,563
Claims priority, application Japan, July 17, 1963, 38/38,667
11 Claims. (Cl. 194—10)



1. An electronic control system for vending machines, comprising a reversible pulse counter having first and second control inputs and a plurality of outputs and having a separate pulse input for receiving different series of pulses representative of price of purchases selected and of value of coins deposited by a purchaser, means response to purchase selection for energizing said first control input and applying to said pulse input price pulses corresponding in number to the price of a purchase selected, means responsive to coin deposit for energizing said second control input and applying to said pulse input coin value pulses corresponding in number to the value of a coin deposited, said counter including means responsive to one of said control inputs to register applied pulses and means responsive to the other of said control input for deregistering applied pulses whereby the pulse total registered represents the difference between said numbers of applied pulses.

3,269,506
COIN OPERATED LOCK
Joseph A. Smith, Loudonville, Ohio, and Richard H. Jordan, Fort Myers, Fla., assignors to Sentinel Frechek Locks, Incorporated, a corporation of Illinois
Filed Mar. 3, 1964, Ser. No. 348,947
18 Claims. (Cl. 194—32)



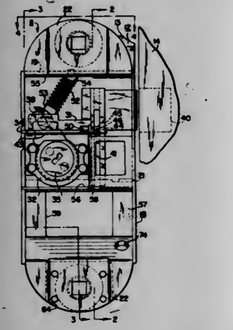
1. A coin operated lock mechanism, comprising in combination, a lock case,

a lock bolt movable in said lock case between first and second positions,

manual means connected to move said lock bolt between said first and second positions upon movement of said manual means through first and second consecutive paths,

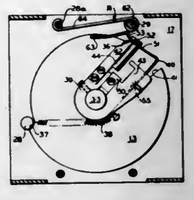
a surface connected to and movable with said lock bolt defining at least part of a coin chute,
latch means mounted on said lock bolt for movement relative to said case and having first and second portions and movable between engaged and released positions,
means separate from said lock bolt to retain a coin in said coin chute,
means to establish said second portion to said latch means urged toward said engaged position for establishing abutment means between said lock bolt and said case upon attempted movement of said lock bolt to said second position,
said first portion extendable into said coin chute for engagement between a coin and said first portion,
and the initial presence of a coin in said coin chute effecting engagement of a face of the coin and said first portion and establishing said latch means out of the engaged position thereof to permit movement of said lock bolt to said second position.

3,269,507
COIN OPERATED LOCK
Joseph A. Smith, Loudonville, Ohio, and Richard H. Jordan, Fort Myers, Fla., assignors to Sentinel Frechek Locks, Incorporated, a corporation of Illinois
Filed Mar. 3, 1964, Ser. No. 348,944
12 Claims. (Cl. 194—59)



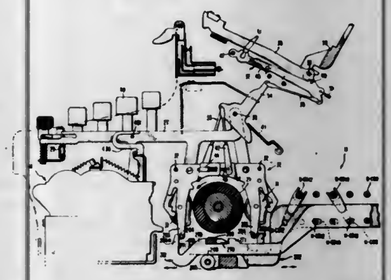
1. A coin operated lock mechanism comprising in combination, a lock case,
a lock bolt movable in said lock case between first and second positions,
means connected to move said lock bolt through first and second consecutive ranges of movement,
surfaces defining a coin chute in said lock bolt,
a latch shoulder on said lock bolt,
a cam abutment,
means urging said cam abutment toward a position in said coin chute above the bottom thereof and in the path of movement of said latch shoulder to prevent movement of said lock bolt beyond said first range of movement,
surface means carried relative to said case,
movement of said lock bolt through said first range of movement with a coin in said coin chute supported on said abutment above the bottom of said coin chute moving said coin between said cam abutment and said surface means to thus cam said cam abutment to an unlatched position out of the path of said latch shoulder on said lock bolt to thus permit said lock bolt to be moved through said second range of movement and to move said coin out of engagement with said cam abutment to have same moved to another position still within said coin chute and moved therewith.

3,269,508
COIN ACTUATED MECHANISM
William A. Eckes, San Francisco, Calif., assignor to Service Distributors, Inc., San Francisco, Calif.
Filed Jan. 19, 1965, Ser. No. 426,599
8 Claims. (Cl. 194—84)



1. In a coin mechanism, a turntable, means for turning said turntable in a substantially horizontal plane about a vertical axis from a first position to a second position angularly remote from said first position, means biasing said turntable for rotation about said axis toward first position, said turntable formed with a coin receiving aperture extending radially of said turntable, means defining an upper coin slot above said turntable in vertical alignment with said coin aperture when said turntable is in first position, means defining a lower coin slot below said turntable in vertical alignment with said coin aperture when said turntable is in second position, an arm mounted on said turntable inside said coin aperture extending generally vertical and normal to a radius from said axis to said coin aperture, a rest on the lower end of said arm extending approximately radially and displaced from said coin aperture a slight distance in the direction of movement of said turntable from first toward second position, a probe depending from the bottom of said turntable from the side of said coin aperture opposite said rest in a direction toward said rest and terminating at an elevation spaced above said rest and below approximately the mid-point of said aperture, a coin gauging spring fixed at one end to said turntable and extending outward and then generally tangentially below said turntable, whereby a coin extending through said coin aperture and contacting both said rest and said probe is suspended by said spring.

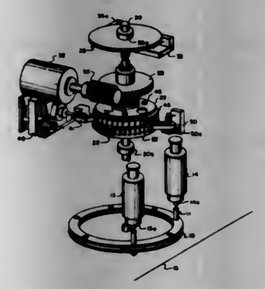
3,269,509
EASILY REMOVABLE AND ADJUSTABLE CODE SELECTOR LINKAGE MEANS
Henry E. Smith, Brockport, N.Y., assignor to Friden Inc., a corporation of Delaware
Filed Oct. 30, 1964, Ser. No. 407,752
12 Claims. (Cl. 197—19)



1. Coding apparatus, comprising a slide arranged for back and forth motion, a plurality of code selective bails positioned transversely with respect to the slide each in preselected relation to an individual location on said slide,

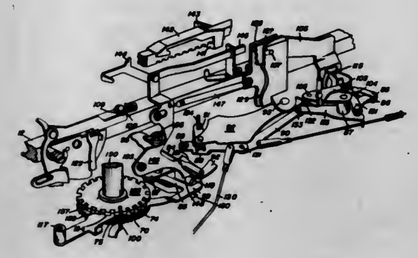
each of said bails being mounted for movement toward and away from said slide, and a link having means pivotally and disconnectably coupling said link to said slide at any one of said locations on said slide and having means pivotally and disconnectably coupling said link to the associated bail having said predetermined relation to the location on said slide to which the link is pivotally coupled to effect movement of said associated bail upon movement of said slide in the direction of its elongation.

3,269,510
SYMBOL PRINTER WITH MEANS TO PRINT IN TWO DIRECTIONS
Kenneth D. Peters, Navesink, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey
Filed Apr. 17, 1964, Ser. No. 360,496
3 Claims. (Cl. 197—53)



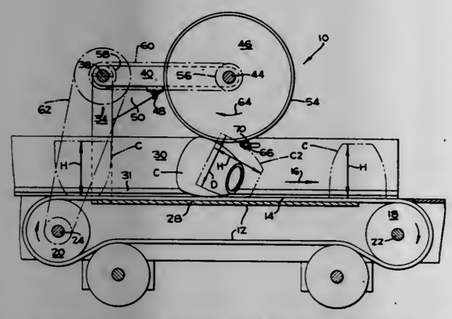
1. Printing apparatus having a rotatable symbol wheel secured to a drive shaft comprising
a drive wheel rotatably mounted on said shaft,
a resilient member connected between said drive wheel and said shaft,
drive means for rotating said drive wheel thereby to rotate said shaft and said symbol wheel,
control means for (1) stopping the rotation of said symbol wheel at a desired symbol printing position whereby said drive wheel continues to be rotated for storing energy in said resilient member in the form of potential energy until the force stored in said resilient member equals the driving force of said drive means and (2) releasing said symbol wheel for releasing said potential energy which imparts an instantaneous force on said symbol wheel causing its immediate rotation,
means for operating said symbol wheel including first and second solenoid means separated a predetermined distance whereby upon actuation of said first solenoid means a symbol is printed in a first direction and upon actuation of said second solenoid means a symbol is printed in a second direction,
first and second code pickup means connected to said symbol wheel for producing character codes corresponding to the position of said symbol wheel with respect to the position of said first solenoid means when said first solenoid means is to be actuated and for producing character codes corresponding to the position of said symbol wheel with respect to the position of said second solenoid means when said second solenoid means is to be actuated, and
means connected to said first and second code pickup means and to said stopping means for actuating said control means to stop the rotation of said symbol wheel at a desired symbol printing position with respect to either said first or said second solenoid means and to then actuate the respective solenoid means to print a desired symbol.

3,269,511
TYPEWRITER CARRIAGE POSITIONING MECHANISM
James F. Smathers, P.O. Box 1060, Poughkeepsie, N.Y.
Filed Aug. 12, 1963, Ser. No. 301,477
3 Claims. (Cl. 197—94)



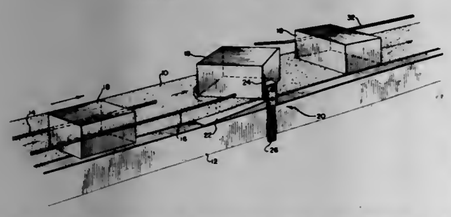
1. In a typewriter having a plurality of character keys, a tabulating key, a carriage return key and a carriage movable in a letter-space direction relative to a typing position and in a return direction to a margin position, said carriage including a plurality of tabulating stops arranged thereon and movable selectively to a stop position for arresting uninterrupted travel of said carriage in said letter-space direction and an adjustable margin stop for arresting movement of said carriage in said return direction, drive means adapted to be coupled to said carriage for moving the latter in said letter-space direction, power means adapted to be coupled to said carriage for moving the latter in said return direction, an escapement mechanism including a ratchet and pawl and actuated by movement of one of said character keys for coupling said drive means to said carriage and for controlling the movement of said carriage in said letter-space direction in accordance with the character key that is actuated, a tabulating mechanism including a stop member and actuated by movement of said tabulating key for enabling said escapement mechanism to couple said drive means to said carriage for uninterrupted movement thereof in said letter-space direction, and a carriage return mechanism including a return stop member and actuated by movement of said carriage return key for coupling said power means to said carriage for movement thereof in said return direction, the combination comprising:
a disc provided with equiangularly spaced, peripheral notches and slidably mounted for coaxial movement into cooperating relationship with said ratchet in response to actuation of said tabulating mechanism and of said carriage return mechanism for controlling the return of said escapement mechanism to an operative condition to establish the position of said carriage relative to said typing position, the lands between successive notches serving to hold said pawl out of engagement with said ratchet until movement of said carriage in either of said letter-space direction or said return direction has been arrested;
means movable in response to engagement of said stop member and one of said tabulating stops in said stop position with uninterrupted movement of said carriage in said letter-space direction and of said return stop member and said margin stop with movement of said carriage in a return direction for holding said disc in cooperating relationship with said ratchet; and
means responsive to actuation of the first character key after movement of said carriage has been arrested for releasing said holding means to re-establish control of the movement of said carriage by said escapement mechanism.

3,269,512
CUP ORIENTING MECHANISM
Frank S. Chytil, Santa Clara, Calif., assignor to FMC Corporation, a corporation of Delaware
Filed Nov. 27, 1964, Ser. No. 414,135
7 Claims. (Cl. 198—33)



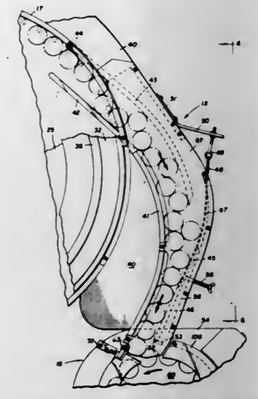
1. Apparatus for turning moving cups having an outside diameter greater than their height from a position wherein the cups are lying on their sides and with their bases leading to a vertical position wherein the cups stand on their rims, said apparatus comprising a frame, an endless conveyor mounted in said frame, said conveyor having an elongate conveying flight adapted to support a lane of randomly oriented cups, an upright side wall mounted on said frame and projecting upward at each side of said conveying flight, the interspacing of said side walls being slightly greater than the major dimension of said cups, a roller mounted centrally over said conveying flight, said roller being movable upward from a position wherein its lowermost surface is spaced from said flight a distance slightly greater than the height of a cup but slightly less than the diameter of a cup, and power means for driving said roller and said conveyor such that the confronting surfaces of the roller and conveying flight move in opposite directions, said confronting conveyor and roller surfaces thereby turning said cups into a vertical position standing on their rims while said side walls maintain the cups centered beneath said roller.

3,269,513
CONVEYING AND TURNING MECHANISM
Victor Del Rosso, Ithaca, N.Y., assignor to Hi-Speed Checkweigher Co., Inc., Ithaca, N.Y.
Filed Mar. 10, 1964, Ser. No. 350,834
3 Claims. (Cl. 198—33)



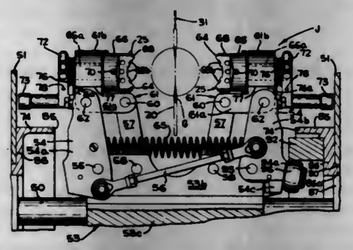
1. In a conveying and repositioning mechanism for square-shouldered boxes comprising, an endless platform type conveyor for carrying the boxes, and means for rotating said boxes relative to said conveyor through a 90 degree attitude turn, said means for rotating said boxes comprising a stationary cam device located alongside said conveyor, said cam device including an inclined ramp portion having its upper surface at one end disposed at an elevation below that of the top surface of said conveyor and inclining upwardly therefrom toward the opposite end of the ramp portion to an elevation substantially above said conveyor and an upstanding abutment portion at said opposite end of the ramp portion, said ramp portion having a length which is a substantial portion of a box dimension providing at least a line contact therewith, means guiding the boxes to travel with said conveyor while extending at their edges to overhang said conveyor and to move in directional alignment with said ramp and abutment portions, said ramp portion maintaining the outer edge of each said boxes in elevated and inclined relation as they ride thereupon in frictional-dragging relation whereby only the inner trailing corner portion of the box remains in frictionally driven and vertically supported relation with said conveyor and said box is thereby caused to start to rotate as seen in plan view and whereby when the trailing outside corner portion of said box moves into bearing relation against said abutment portion the latter forces said box to complete a 90 degree turning operation and to thereupon fall flatly upon said conveyor.

3,269,514
APPARATUS FOR FEEDING CLOSURE CAPS
Ben G. Daniels, Elmhurst, and Helmuth E. Raatz, Jr., Mount Prospect, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed May 7, 1964, Ser. No. 365,713
16 Claims. (Cl. 198—33)



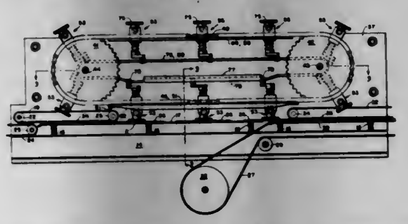
1. An apparatus for handling closure caps which comprises a hopper for receiving a supply of the caps in miscellaneous array, means in the hopper for arranging the caps in a single plane and for delivering the caps to a discharge area in a continuous stream, a cap chute having an upper end positioned to receive the continuous stream of caps from the cap delivering means and a lower cap discharge end for delivering the caps in a single line to a rotary cap orienting device, said chute having inner and outer side walls normally spaced to permit the caps to pass through the chute in a single line, said outer side wall having a pivotally mounted section with an outwardly flexible portion the upper end and resilient means normally holding said section spaced approximately the diameter of a cap from the inner side wall and permitting limited outward movement of said flexible portion under pressure of the caps when the flow of the caps is interrupted at the discharge end of the chute, and a cap orienting device at the cap discharge end of the chute which orienting device has a turret plate with peripheral pockets for receiving the caps from the chute, means co-operating with the turret plate for sensing the attitude of each cap and for revolving upside down caps while they are advancing in the pockets of the turret plate to a discharge station, means at said discharge station for removing successive caps from the pockets in the turret plate and means for rendering said cap removing means inoperative and for retaining the caps in the pockets of the turret plate when the flow of caps is blocked at said discharge station.

3,269,515
FRUIT PROCESSING APPARATUS
Lindsay Greig Hill, Melbourne, Victoria, Australia, assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Jan. 21, 1965, Ser. No. 426,876
9 Claims. (Cl. 198—33)



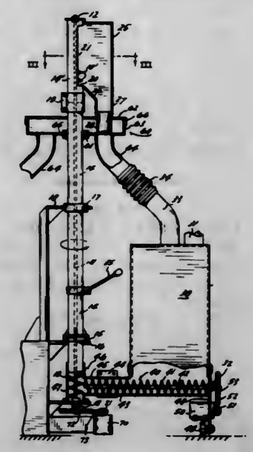
1. Apparatus for transferring fruit from a conveyor to an elevated processing machine, comprising a turret rotatable about a horizontal axis, a pair of gripper support members pivotally mounted on said turrent for pivoting movement in a plane generally parallel to said axis, a gripper head mounted in the end of each support member for rotation about an axis parallel to said horizontal axis, the head on each arm being disposed opposite a gripper head on the other arm, first actuating means for swinging said arms toward each other at a first angular position of said turret during rotation thereof to cause said gripper heads to close on and grip a fruit on the conveyor, second actuating means for swinging said arms away from each other to separate said gripper head at a second angular position of said turret, and third actuating means for rotating each gripper head about said parallel axis through a predetermined angular distance during movement of said turret between said first and second angular positions.

3,269,516
SHEET TURNING MECHANISM
Malcolm B. Lucas, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Apr. 13, 1965, Ser. No. 447,680
5 Claims. (Cl. 198—33)



1. Apparatus for turning a moving sheet received from a delivery source, said apparatus comprising a polished dead plate onto which said sheets are delivered, a conveyor, a journal block mounted on said conveyor, a turning member supported in said block for rotative movement about its axis and limited axial movement relative to said block, said turning member having at one end a flat surface with a high coefficient of friction compared to said polished plate, means normally urging said member to position said one end proximate said block, means maintaining the portion of said conveyor extending over said polished dead plate a distance such that said flat surface is spaced from said plate when normally urged to said position proximate said block, means positively moving said turning member axially toward said plate to cause said flat surface to engage any sheet thereon as said turning member reaches said plate and for subsequently releasing the member for return to normal position, and means for rotating said flat surface a predetermined number of degrees while in engagement with said sheet.

3,269,517
FREE DISCHARGE HEAD FOR A VERTICAL AUGER
Robert F. Skelton, Bluffton, Ind., assignor to Mix-Mill, Inc., Bluffton, Ind., a corporation of Indiana
Filed Nov. 30, 1964, Ser. No. 414,600
5 Claims. (Cl. 198—64)

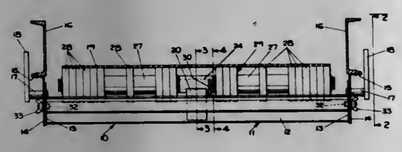


1. A vertical auger conveyor having a free discharge head, comprising a substantially vertical auger shaft provided with auger flights, an auger tube concentric with said shaft, and a discharge head, said head comprising a container secured to the upper portion of said tube and a first discharge spout opening from the bottom of said container, said tube having a discharge opening wholly within said container, and extending substantially to the top of the container, said opening extending axially down said tube past at least one full turn of said auger flights, an intermediate portion of said opening extending past a flightless space extending upwardly and axially from the end of said flights, said space being at least as long as one full turn of said flights.

3,269,518
REVERSIBLE TRAINING IDLER
Walter C. Steinmetz, Columbus, Ohio, assignor to Jeffrey Galion Manufacturing Company, a corporation of Ohio
Filed July 6, 1964, Ser. No. 380,218
3 Claims. (Cl. 198—202)

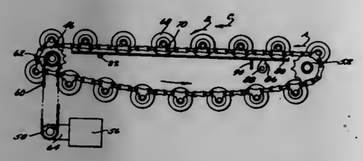
1. A reversible training idler for a belt adapted to travel along a longitudinally extending path comprising, a transversely disposed frame, an idler roll disposed transversely of the belt and being rotatable about a transverse axis to support said belt as it travels over said idler roll, means for supporting said idler roll on said frame including an upright pivot for swinging movement of said idler roll to train said belt to a longitudinally centered

position, a bracket at each end of said frame for mounting said reversible training idler on a supporting structure, pivot means connecting said frame to said brackets, said pivot means being disposed on a transverse axis that is (i) above said transversely disposed frame (ii) relatively close to the transverse axis of said idler roll and (iii) below the transverse axis of said idler roll, said transversely disposed frame and said idler roll being oppositely located with respect to said pivot means transverse



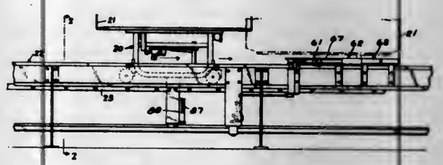
axis to facilitate swinging said laterally disposed frame and said idler roll in opposite directions about the transverse axis of said pivot means in the longitudinal direction of travel of said belt, means for swinging said frame and said idler roll on said pivot means to move said idler roll from a first position in which said upright pivot is inclined in one direction of travel of said belt to a second position in which said upright pivot is inclined in the reverse direction of travel of said belt.

3,269,519
HIGH SPEED TAKE-OFF
Maynard J. De Good and Clyde L. Bowman, Grand Rapids, Mich., assignors to The Rapids-Standard Company, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Dec. 15, 1964, Ser. No. 418,477
5 Claims. (Cl. 198—127)



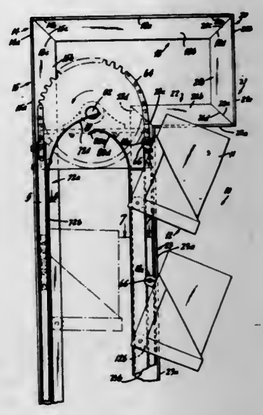
1. A conveyor apparatus with power diverting means comprising: means forming a main article conveying surface, and a branch article conveying surface at an angle to said main surface; article diverting means oriented along said branch surface and overlapping both surfaces; said diverting means having a plurality of rotatable elements, and having circuitous, endless, flexible drive means drivingly and rotatably mounting said rotatable elements in a forward path portion overlapping said main surface and said branch surface and oriented along said branch surface and a return path portion below the level of said main surface and branch surface; an elongated vertically shiftable support track underlying said rotatable elements in said forward path portion, being vertically shiftable between elevated and lowered positions, and causing, when in said elevated position, said rotatable elements to project above the level of said main and branch surfaces while rolling along said support track; power operating means connected to said flexible drive means to drive said rolling elements along said support track to divert articles from said main surface to said branch surface; and means to raise and lower said support track and rolling elements with respect to said main surface for selective diverting.

3,269,520
TILTING TRAY SORTING CONVEYOR
Leonard J. Bishop, Birmingham, and Paul Klamp, St. Clair Shores, Mich., assignors to Mechanical Handling Systems, Inc., Warren, Mich., a corporation of Michigan
Filed Dec. 2, 1964, Ser. No. 415,445
19 Claims. (Cl. 198—155)



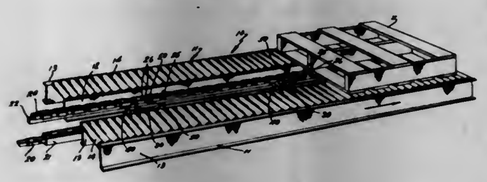
1. In a tilting tray sorting conveyor, the combination comprising
a track,
a plurality of carriers on said track,
a chain interconnecting said carriers and adapted to be driven to move said carriers along said track,
each said carrier having a tray pivotally mounted thereon about an axis generally parallel to said track,
each said carrier having a tilting yoke pivoted thereto about an axis generally normal to the direction of movement of said carrier,
means connecting said yoke to said tray whereby when said yoke is pivoted in one direction said tray is swung to one side and when said yoke is pivoted in the opposite direction said tray is swung to the opposite side of the track,
a pair of latch means on said carrier engaging said tilting yoke,
each said latch means preventing movement of said yoke to a side of said track,
and cam means mounted along each side of said track and adapted to engage one of said latch means for disengaging said latch means and moving said tray as the carrier moves along said track to tilt said tray to one side of said track.

3,269,521
DISPLAY DEVICES
Anton Briglia, Queens, N.Y., assignor to Dechar Corporation, Brooklyn, N.Y., a corporation of New York
Filed Sept. 1, 1964, Ser. No. 393,642
1 Claim. (Cl. 198—158)



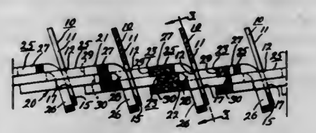
In combination, a pair of similar coaxial wheels, a second pair of similar coaxial wheels, a pair of spaced belts connecting said first pair of wheels to said second pair of wheels, means to support said wheels for rotation, means to rotate one pair of wheels whereby to rotate said other pair of wheels, containers mounted on said belts for pivotal movement about parallel spaced axis, and means to cause tilting of said containers as said wheels rotate said means comprising complementary rear and front members disposed between said belts, said rear members having forwardly inclined portions at their upper and lower ends, and said front members having rearwardly inclined upper and lower ends forming passages with said upper and lower ends of said rear members, and rollers on said containers to contact said members and said rollers being movable through said passages, said upper ends of said members and the passages therebetween being disposed below the upper ends of said first pair of wheels, and the lower ends of said members and the passages therebetween being located below said second pair of wheels, said belts having front and rear runs, said members being located between the front and rear runs of said belts, and the front members being spaced rearwardly of the front runs of said belts, a greater distance than the rear members are spaced forwardly of the rear runs of said belts.

3,269,522
HEAVY DUTY ACCUMULATOR
Daniel A. Fogg, White Cloud, and Norman C. Poel, Grand Rapids, Mich., assignors to The Rapids-Standard Company, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Oct. 23, 1964, Ser. No. 405,916
8 Claims. (Cl. 198—160)



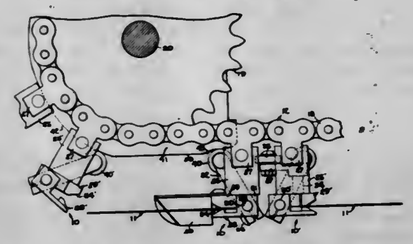
1. An article accumulator conveyor characterized by an article supporting track and a powered, continuously operating propelling member having article engaging dogs at spaced intervals at least equal to the article length plus the spacing to be maintained between articles when accumulated; a sectionalized propelling member support and a plurality of support means of variable height supporting each individual section, said support means in raised position holding the dogs of said propelling member in article engaging position and in lowered position holding said propelling member and dogs in position to pass beneath the articles without engagement; each of said support means constituting a station; a sentry arm at each of said support means mounted for pivotal movement between a raised and lowered position, an initiator means at the discharge end of said conveyor connected to the support means and sentry arm of the adjacent first station; a plurality of connecting links each operatively connecting the sentry arm of one station to the support means and sentry arm of the next adjacent station upstream of said conveyor; said initiator means upon being contacted by a first article shifting said support means at the first station to lowered position and shifting the sentry arm at said first station to raised article engaging position, said sentry arm at said first station upon being contacted and depressed by a second article shifting the support means at the second station to lowered position and the sentry arm at the second station to raised position; said shifting of said support means and said sentry arm being repeated at each station progressively upstream of the conveyor as more articles accumulate thereon.

3,269,523
LINK BELT RIDERS
Clifford A. Creswell, Lancaster, Pa., assignor to The Arbee Corporation, Manheim, Pa., a corporation of Pennsylvania
Filed Jan. 19, 1965, Ser. No. 426,495
17 Claims. (Cl. 198—176)



1. In a link belt having an upper and lower surface and comprising a plurality of stiff yet resilient links connected together to form said belt, at least some of said lengths having an aperture therein extending from the upper surface through said belt to said lower surface; at least one rider for connection to said belt in one of said apertures, said rider having a body portion and a toe portion connected to said body by a neck portion, said neck having a width equal to or less than the width of said aperture and an axial length equal to or greater than the thickness of said belt, said toe portion having an outwardly extending, rearwardly facing shoulder extending from either side of said neck portion and adjacent thereto, said toe having a width less than the cross sectional width of said links at said apertures, said toe tapering forwardly away from said neck and toward the central axis of said neck whereby upon insertion of said toe into said aperture said shoulders engage said lower surface of said belt and said body portion engages the upper surface of said belt.

3,269,524
BAG CLAMP
Allen B. Canfield, Rockford, Ill., assignor to Bartelt Engineering Company, Inc., Rockford, Ill., a corporation of Delaware
Filed Oct. 24, 1963, Ser. No. 318,623
3 Claims. (Cl. 198—180)

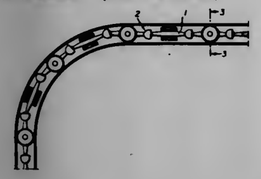


2. For use in a packaging machine, a bag clamp comprising a carrier, a rotatable shaft journaled on said carrier, a movable clamp jaw fast on and projecting laterally from said shaft, a fixed clamp jaw on said carrier in opposed relation with said movable jaw, the latter being swingable toward and away from said fixed jaw during back and forth rotation of said shaft to close and open the clamp, a spring wound helically around said shaft with its opposite ends secured to the shaft and the carrier respectively, said spring being stressed to rotate said shaft in a direction to press said movable jaw tightly against said fixed jaw, and an operator secured at one end to said shaft and projecting laterally therefrom in a predetermined angular relation with said movable jaw, said operator being movable in one direction to turn said shaft in opposition to the force of said spring to open the clamp and condition the same for closing upon reverse

movement of the operator, and also being angularly adjustable about said shaft for precise selection of said predetermined angular relation.

3. A clamp as defined in claim 2 further including a support for said clamp, a second shaft journaled on said support and fast on said carrier thereby pivotally mounting said carrier on said support, and a second operator fast on and projecting laterally from said second shaft in a predetermined angular relation therewith whereby movement of said second operator rocks said clamp relative to said support.

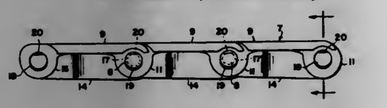
3,269,525
BALL-JOINTED LINK CHAIN
Karl-Heinz Paulski, Nievern (Lahn), Germany, assignor to Drahtwerk C. S. Schmidt Aktiengesellschaft, Niederlahnstein (Rhine), Germany
Filed July 14, 1964, Ser. No. 382,604
2 Claims. (Cl. 198—189)



1. In a conveyor link chain, a plurality of links, one end of each of said links being formed as a hemispherical member, the other end having a bore extending axially therein, the diameter at the bore inlet corresponding to the diameter of the hemispherical member, said bore extending as a conical widened portion to a diameter greater than that at the bore inlet, said bore having an inwardly extending circular shoulder at said greater diameter having a diameter equal to that of the bore inlet, said bore extending further in cylindrical form a predetermined distance from said shoulder into said other end, a ball mounting in said conical widened portion, the external wall of said ball mounting corresponding to said conical widened portion, the internal wall of said mounting conforming to said hemispherical member, said ball mounting having a diagonally extending slot thereacross.

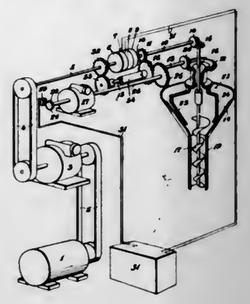
2. In a link chain according to claim 1, wherein the central portion of each of said links is provided with a reinforcement and supporting wheels mounted on each of said links intermediate the ends thereof.

3,269,526
CHAIN LINK WITH IMPROVED PIN SECUREMENT
Philip J. Imse, Wauwatosa, James W. Leege, Greendale, and Jerome F. Sheldon, Milwaukee, Wis., assignors to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 28, 1964, Ser. No. 392,765
9 Claims. (Cl. 198—189)



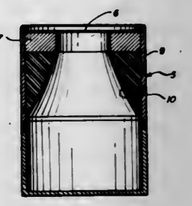
1. In a link for a chain, said link having a pin and two or more spaced knuckles provided with aligned bores for said pin, one of the outer knuckles having a projection extending radially into the bore thereof around a portion of the circumference of said bore for a distance substantially less than the said entire circumference and having connection to the body of the link allowing said one knuckle to be angularly deflectable with respect to the body of the link, said last named bore being dimensioned and said projection being located to allow insertion of said pin in said bores when said one knuckle is angularly deflected, and a recess in the circumference of said pin disposed to register with said radial projection upon insertion of the pin and to secure the pin in the aligned bores upon return of the knuckle to its undeflected position.

3,269,527
MATERIAL FEEDING APPARATUS
Derek Malcolm Denham, Shirley, Solihull, England, assignor to Southall & Smith Limited, Birmingham, England, a British company
Filed Oct. 20, 1964, Ser. No. 405,209
Claims priority, application Great Britain, Oct. 23, 1963, 41,723/63
3 Claims. (Cl. 198—213)



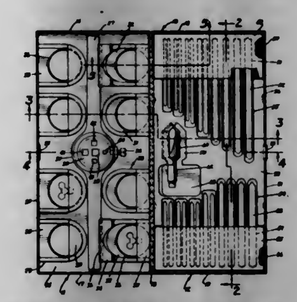
1. A material feeding apparatus comprising:
(1) rotatable driving means,
(2) a rotatable feed auger screw,
(3) an electromagnetically operated clutch/brake mechanism connected between said driving means and said feed auger screw to control drive to the latter,
(4) an electrical control circuit connected to effect electromagnetic operation of said electromagnetically operated clutch/brake mechanism,
(5) a three phase alternating current supply,
(6) three full wave rectifier units respectively connected to full wave rectify each of the three individual phases of said supply, and
(7) means connecting the outputs of said full wave rectifiers together to feed a resultant substantially smooth direct current to energize said electrical control circuit.

3,269,528
DISPENSING CONTAINER
Robert M. Leedy, Short Hills, N.J., assignor, by direct and mesne assignments, to Leedy & Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 24, 1964, Ser. No. 391,616
4 Claims. (Cl. 206—1)



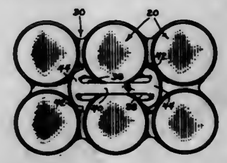
1. A dispensing container for magnetizable articles comprising:
(a) a hollow container for enclosing magnetizable articles and provided with an opening therein,
(b) a magnet forming a part of said container and disposed adjacent the opening therein,
(c) and said container having an inner surface of predetermined curvature in a direction away from said opening to cause the lines of force from said magnet to cross said curved surface at a desired angle for controlling the relation between the force of gravity and the strength of the magnetic field to allow individual dispensing of said magnetizable articles from said container.

3,269,529
TOOL CASE
Andrew A. Hume, 135 W. Rustic Lodge Ave., Minneapolis, Minn.
Filed Mar. 26, 1964, Ser. No. 354,856
9 Claims. (Cl. 206—16)



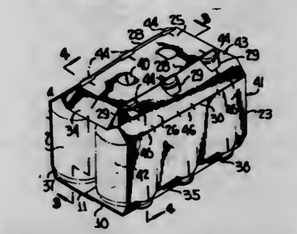
5. A compact portable kit of machine screw tools comprising a case having a pair of matched case halves joined together along a hinged spine and foldable upon one another in abutting face-to-face contact, one of said case halves being provided with a plurality of recesses disposed in a pair of spaced apart rows, each recess adapted to receive a die, each of said die receiving recesses being fitted with a die of different size and provided with means for retaining each die therein against dislodgment upon tilting of the case, said same case half being provided with a die stock recess disposed between two rows of die recesses, said die stock recess being fitted with a die stock and provided with means for retaining said die stock therein against dislodgment upon tilting of the case, the other of said case halves being provided with a first pivotally mounted bar having a plurality of elongated parallel channels each adapted to receive the shank of a tap, and a further pivotally mounted bar having a plurality of elongated parallel channels each adapted to receive the shank of a drill, said pivotally mounted bars being disposed in opposite ends of said other case half for pivotal movement about parallel axes, a fixed center block disposed between said pivotally mounted bars, a plurality of elongated open-topped channels in said center block, each of said last named channels being in longitudinal alignment with a channel in one of said pivotally mounted bars, said aligned channels being of graduated varying sizes and adapted to retain taps and drills of corresponding varying sizes, the first of said pivotally mounted bars being fitted with a plurality of taps of different sized taps and the other of said pivotally mounted bars being fitted with a plurality of different sized drills, said pivotally mounted bars when tilted being adapted to lift one end of said taps and drills retained therein out of the aligned open-topped channels for ready access, a further recess in said fixed center block disposed between the shorter of said open-topped channels and adapted to receive a countersink tool, said last named recess being fitted with a countersink tool and provided with means for retaining said countersink tool therein against dislodgment upon tilting of the case.

3,269,530
UNIT PACKAGE WITH HANDLE DEVICE
Herbert J. Wanderer, Elmhurst, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Aug. 30, 1965, Ser. No. 486,592
14 Claims. (Cl. 206—65)



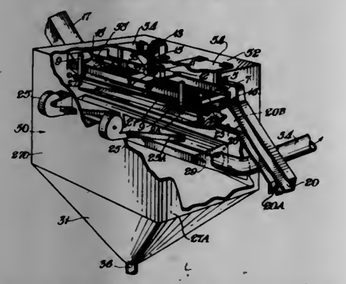
1. A carrier package comprising a plurality of containers or the like, and a resilient, elastic and deformable sheet of plastic material having at least a pair of oppositely arranged, elliptically-shaped sockets provided therein, said sockets being longitudinally arranged on said carrier with the major axes thereof being substantially parallel to each other, the material adjacent each of the sockets having a peripheral measurement less than that of the corresponding container associated therewith whereby upon the insertion of containers axially into the sockets, the aforementioned material is caused to stretch and deform to the shape of the containers for gripping and resiliently engaging the containers to resist container withdrawal, and handle means provided intermediate the opposed sockets and being longitudinally arranged on the carrier by a pair of longitudinally extending spaced slit means permitting the intermediate web portion therebetween to become said handle means, the distance between material portions of the opposed, elliptically-shaped sockets in the vicinity of said handle means being less than the transverse measurement of said handle means, said carrier being assembled to said containers enabling the handle means to be positioned and retained in overlying relationship relative to the containers received within the opposed sockets and facilitate grasping thereof by a user for transporting the containers.

3,269,531
CARTON
Arthur J. Weiss, Bergenfield, N.J., assignor to Continental Can Company, New York, N.Y., a corporation of New York
Filed Apr. 17, 1964, Ser. No. 360,597
14 Claims. (Cl. 206—65)



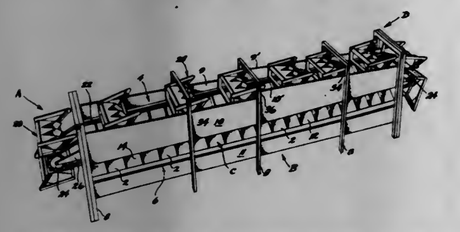
13. In a package comprising a plurality of containers of the type having an upper shoulder and an upstanding neck and a package forming carton wrapped around said containers with panels of said carton joined along a fold line defining a corner snugly engaging said container shoulders, an expansion formation disposed along said fold line and being generally H-shaped in outline, said expansion formation including a pair of upright cuts and a cross bar, said cross bar extending along said fold line and being in the form of closely spaced notches separated by rupturable bridging portions.

3,269,532
SCREEN AND PNEUMATIC SEPARATOR
Ralph W. Moore, Hagerstown, Md., assignor to The Pangborn Corporation, Hagerstown, Md., a corporation of Delaware
Filed Mar. 29, 1962, Ser. No. 183,586
7 Claims. (Cl. 209—33)



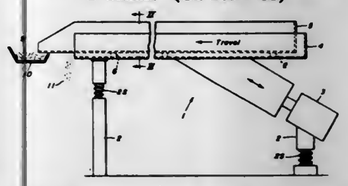
1. A device for separating small particles from a stream containing these particles and also containing elongated foreign bodies having diameters close to those of the particles, said apparatus having a substantially horizontal screen with a mesh size suitable for passing the desired particles, vibrating means connected to the screen for vibrating it, supply structure connected to deliver the stream to the screen so that it flows over the screen as the screen vibrates, said supply structure including feed means for delivering the stream in a flat shallow layer, said screen having an attached apron for receiving the particles and feeding them onto the screen, said apron being arranged in a substantially horizontal position causing elongated foreign bodies deposited thereon to approach the horizontal and pass over said screen without falling through it, while the particles pass through as screened particles, pouring means below said screen connected to pour two parallel elongated narrow curtain type streams of said screened particles down through an open space, blower structure connected to blow air horizontally in said open space and across stream, said blower structure including a plurality of blowers facing each other the blown air moving from outside both streams to the zone between these streams, suction means having a suction inlet in said zone for exhausting the blown air, a pair of separator partitions below said open space to split the falling streams into lighter particles that are deflected into said zone by blown air, heavier particles that are not so deflected, a collector for collecting the deflected particles of both streams, and a collector for separately collecting the undeflected particles of both streams.

3,269,533
SORTING METHOD AND APPARATUS UTILIZING TRIANGULAR OPENINGS
Ernest R. Sandmeyer, 101 Park Ave., Yakima, Wash.
Filed Nov. 1, 1963, Ser. No. 320,701
14 Claims. (Cl. 209—83)



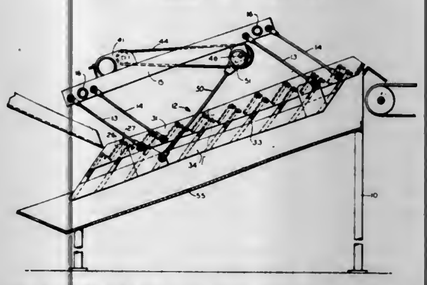
1. In a sorting device for sorting out an article of a particular size from among articles of diverse sizes having the same or a dissimilar description, a movable carrier unit for the article having means operatively defining a downwardly facing opening which is bounded at least in part by three straight edges which coincide with the sides of a substantially equilateral triangle and which approach the vertices of the triangle to such an extent that the distances between mutually adjacent ends of the edges are less than the smallest dimension across the article to be sorted out, said means being adjustable to vary the area of the opening by relative movement in the plane of the triangle between at least one of the edges and the other two of the edges in directions normal to said one edge.

3,269,534
COMBINED NAIL CONVEYOR AND CLEANER
Arthur C. Clark, 244 Alves Lane, and Peter S. Magna, 154 Sierra Drive, both of Pittsburg, Calif.
Filed Aug. 11, 1964, Ser. No. 388,798
1 Claim. (Cl. 209—85)



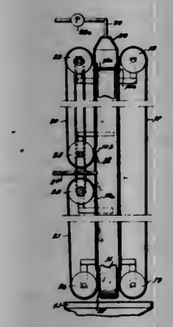
A vibrating nail-conveyor which incorporates means for separating nails from whiskers, sawdust, and other small particles of foreign matter, said conveyor comprising rigidly connected lower and upper troughs and means for high speed vibration thereof, said vibration being characterized by a movement of the troughs sharply down and back, and a subsequent return of the troughs upward and forward to their original position, whereby the nails are advanced, said lower trough having a continuous surface and said upper trough being provided with a plurality of perforations to permit the aforementioned foreign matter to pass therethrough, while excluding the nails, each of said perforations comprising a lateral slit, said slit having arcuate fore and aft depressions based thereon, which depressions gradually taper upwardly from said slit to depression apexes, said aft depressions being a small fraction of the size of said fore depression.

3,269,535
SHUFFLE FEED SORTING STRUCTURE
Ralph K. Daugherty, San Jose, Calif., assignor of one-half to Genevieve I. Magnuson and one-half to Genevieve I. Magnuson, Robert Magnuson, and Lois J. Fox as trustees of the estate of Roy M. Magnuson
Filed Sept. 29, 1964, Ser. No. 399,916
9 Claims. (Cl. 209—98)



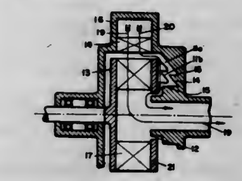
1. A shuffle feed sorting structure comprising a frame a first set of transversely disposed shuffle members carried by said frame, a second set of transversely disposed shuffle members interposed between the shuffle members of said first set in alternating relation therewith, means mounting at least one set of said shuffle members for reciprocation longitudinally of the structure in parallel relation with respect to the other set of said shuffle members to provide a valley-to-valley progressing action for a row of articles supported by the shuffle feed structure, said shuffle feed structure being divided into at least two groups or sections of shuffle members from the feed to the discharge end thereof, means providing a spacing between adjacent shuffle members of said respective sets in said first group of a narrow character to prevent movement of an article between said shuffle members, and means providing a larger spacing between adjacent pairs of said shuffle members of said respective sets in said second group to provide for separation of narrow articles of a row by moving between said adjacent pairs of shuffle members and for progressing thicker or wider articles of a row thereover, said shuffle members in said first group serving to align said elongated articles for progression thereover transversely of their length, and said shuffle members of said second group providing for sorting of said narrower articles from said thicker articles.

3,269,536
MOVING WALL ELUTRIATOR
Arlin K. Postma, Corvallis, Oreg., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed June 11, 1963, Ser. No. 287,162
1 Claim. (Cl. 209—138)



A moving wall elutriator having a vertical square-cornered tube having upper and lower horizontal slots across its front wall adjacent its mid-level, belt pulleys at both ends of the side walls, back wall and front wall of the tube, said pulleys being offset a slight distance outwardly from the tube, upper and lower belt pulleys adjacent the slots across the front of the tube and offset a slight distance outwardly from the tube, three belts with their taut sides running uward in contact with the entire length of the inside of the back wall and the inside of the side walls of the tube and over the pulleys at the ends of respective walls, the slack sides of said belts being outside the tube, a belt with its taut side running upward in contact with the inside of the upper portion of the inside of the front wall of the tube through the upper horizontal slot across the front of the tube, over the pulley at the upper end of front wall of the tube and the upper pulley adjacent said horizontal slots, a belt with its taut side running upward in contact with the inside of the lower portion of the inside of the front wall of said tube through the lower horizontal slot, over the pulley at the lower end of the front wall and the lower pulley adjacent said horizontal slots, all said belts substantially covering the width of the walls with which they run in contact, means for introducing finely divided material into the tube between said horizontal slots in said front wall, a capping means over the tube, means for producing an upward current of fluid within the tube, and means for driving the taut sides of said belts inside of the walls upwardly at a velocity approximately equal to the velocity of said current of fluid.

3,269,537
RADIAL FLOW SOLIDS SEPARATOR WITH SEAL
Fritz Kaiser, Hammel, near Augsburg, Germany, assignor to Alpine Aktiengesellschaft Maschinenfabrik und Eisengiesserei, a German company
Filed July 9, 1962, Ser. No. 208,323
Claims priority, application Germany, July 12, 1961, A 37,858
4 Claims. (Cl. 209—144)



1. In a separator for finely-divided solid materials, a first fluid flow separation chamber comprising a separation rotor rotating within a stationary housing, inlet means for admitting the material to be separated and the fluid medium to the periphery of said separation rotor, a stationary outlet pipe communicating with said separation chamber substantially at the axis of said rotor and defining a predetermined circumferential clearance therebetween, and an additional separation chamber including a second rotor and defined at least in part by said separation rotor and said stationary housing, said additional chamber communicating substantially at the periphery of said rotor with said inlet means and communicating with said outlet pipe substantially only through said clearance between said outlet pipe and the first-mentioned rotor to thereby define a flow path for said fluid medium from said inlet means through said additional separation chamber and said clearance into said outlet pipe, said second rotor including blades which are so disposed on said rotor relative to its direction of rotation to permit only particles of said materials which are finer than a predetermined size to travel along said flow path with said fluid medium, said additional separation chamber including means for so restricting the flow of said fluid medium therethrough that those particles traveling under the influence of said fluid medium to the center of said second rotor and through said clearance into said outlet pipe are smaller than the particles which pass into said outlet pipe from said first separation chamber.

3,269,538
CONCENTRATING TABLE FOR MINERAL RECOVERY
Joseph Stephan, Bakersfield, Calif. (P.O. Box 695, Apache Junction, Ariz. 85220)
Filed May 7, 1963, Ser. No. 278,679
5 Claims. (Cl. 209—441)
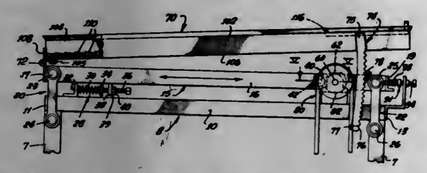
1. A concentrating table for mineral recovery comprising:

a pan table having a generally rectangular floor and a wall extending upwardly from the floor along one side thereof;

a bed on said floor spaced from said wall to define a channel extending longitudinally of the table floor adjacent said wall, said bed providing a series of surfaces substantially perpendicular to the table floor,

extending generally transversely thereof and facing one end of the table floor, said surfaces being spaced apart longitudinally of the table floor by smooth surfaces slightly inclined relative to the table floor and extending between the bottom of each of said perpendicular surfaces and the top of the perpendicular surface next closer to said table floor end;

said perpendicular surfaces being inclined slightly to the perpendicular to the longitudinal table axis

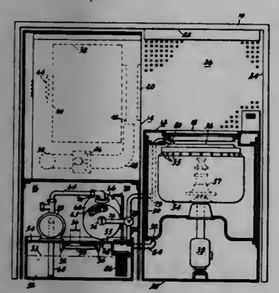


whereby the ends of said perpendicular surfaces adjacent said channel are closer to said one table floor end than are opposite ends thereof, said one table floor end being horizontal;

means for supporting said table with its floor inclined at a selected angle upwardly from said one table floor end;

and means for imparting longitudinal vibratory motion to said table.

3,269,539
APPARATUS AND METHOD FOR CONDITIONING DRY CLEANING SOLVENT
Byron L. Brucken and Victor A. Williamitis, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 19, 1964, Ser. No. 345,986
10 Claims. (Cl. 210—70)



10. The method of conditioning dry cleaning solvent for use in a cleaner comprising the steps of conveying the solvent from a source of said solvent to the cleaner, periodically removing particulate contaminants from said solvent before it is conveyed to said cleaner, and continuously irradiating said solvent before it is conveyed to said cleaner, thereby to alter dissolved contaminants to colorless products.

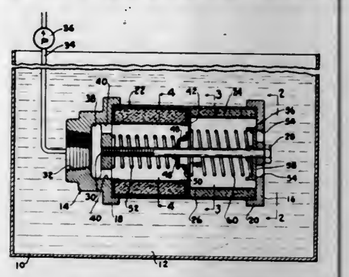
3,269,540
MULTIPLE FILTER DEVICES
Nils O. Rossaen, Bloomfield Hills, Mich. (1776 E. Nine Mile Road, Hazel Park, Mich.)
Filed Apr. 22, 1963, Ser. No. 274,705
15 Claims. (Cl. 210—132)

1. A filter device adapted to be connected to an outlet pipe and to be submerged in a fluid reservoir, said device comprising

(a) a filter carrier structure submerged in said reservoir and having an outlet adapted for connection to said outlet pipe,

(b) said carrier structure comprising a first annular member and a second annular member and a first filter element and a second filter element carried by said structure intermediate said annular members and each having an inlet side exposed to the fluid in said reservoir and an outlet side communicating with said outlet,

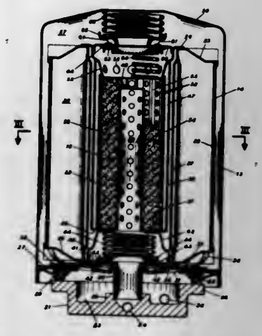
(c) a normally closed valve means carried by said structure intermediate the outlet sides of said filter elements and operable to regulate fluid flow from the outlet side of said second filter element to the



outlet side of said first filter element in response to changes in the pressure differential between the outlet sides of said filter elements, and

(d) said valve means comprising a rod carried by said carrier structure and securing said annular members together and said filter elements therebetween, a wall carried by said carrier structure intermediate said first filter element and said second filter element and having an opening therein, and a valve plate slidably carried on said rod and biasing means urging said valve plate toward a position closing said opening.

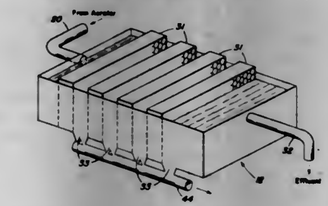
3,269,541
DUAL ELEMENT, DUAL VALVE FILTER ASSEMBLY
George L. Neely, Berkeley, Calif., assignor to Chevron Research Corporation, a corporation of Delaware
Continuation of application Ser. No. 228,912, Oct. 8, 1962. This application Apr. 1, 1965, Ser. No. 446,679
6 Claims. (Cl. 210—132)



1. A filter unit for an engine lubricating system comprising a casing having a single inlet opening and a single outlet opening concentric to said inlet opening for the lubricant being filtered, means forming a bypass directly between said single inlet and said single outlet, a valve in said bypass adapted to open at a predetermined pressure differential, an annular body of fine filtering medium in said casing, a central bore of coarse filtering medium within said annular body, impervious tubular means

sealed between one end of said core and the corresponding end of said annular body, said tubular means forming separate passageways for conveying filtered lubricant from said annular body and said central core to said single outlet, means forming a passageway from said casing to a surface of said central core through said sealed end of said tubular means, and another valve for controlling passage of lubricant through said passageway to said central core, said other valve being adapted to open at a lower pressure differential than said bypass valve, whereby lubricant is admitted to said coarse filter medium from said inlet only after said fine filtering medium imposes a predetermined pressure differential to the flow of lubricant therethrough.

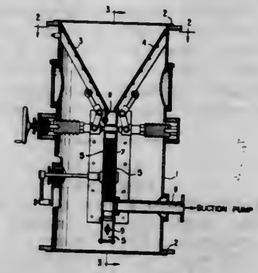
3,269,542
APPARATUS FOR TREATING LIQUID WASTE
Peter N. Renzi, Mountainside, and Charles Hsu, Edison, N.J., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 21, 1964, Ser. No. 346,563
4 Claims. (Cl. 210—151)



1. Apparatus for treating liquid waste comprising an aerator, a spray distributor positioned above said aerator, means for supplying liquid waste to said spray distributor, packing positioned in said aerator, means to carry the aerated liquid waste from said aerator to a settling tank, at least one cellular core in said settling tank, each said core having an entrance face and an exit face with the cells thereof in a substantially horizontal plane, the bottom portion of said settling tank adjacent the exit face of each core having means terminating in a discharge for removal of accumulation, and an effluent outlet on said settling tank arranged to receive effluent from the exit face of each said core.

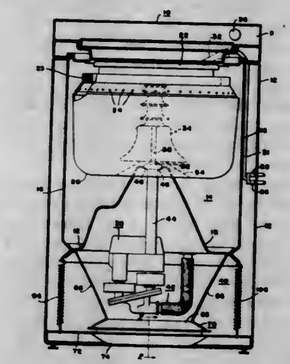
3,269,543
SIEVE ASSEMBLY FOR SELF-CLEANING SYSTEMS OF HEAT EXCHANGER
Friedrich-Wilhelm Treplin, Angermund, Bezirk Duesseldorf, Germany, assignor to Ludwig Taprogge-Reinigungsanlagen für Rohren-Warmeaustauscher, Duesseldorf, Germany
Filed Feb. 28, 1963, Ser. No. 261,697
Claims priority, application Germany, Mar. 1, 1962, T 21,682
4 Claims. (Cl. 210—316)

1. In a self-cleaning tube-type heat exchanger, especially a condenser, a sieve installation comprising sieve pipe means, a pair of upper sieves mounted across said sieve pipe means at an inclination to the direction of flow therethrough and forming between adjacent edges thereof a by-pass opening, sieve box means within said sieve pipe means for separating the flow through said sieve pipe means into two streams, said sieve box means having closed side walls and open ends defining an inlet and an outlet therein and a discharge opening intermediate the ends in a side wall thereof, the inlet of said sieve box means communicating only with the by-pass opening formed by said upper sieves to divert part of the flow around said upper sieves and through said sieve box means, and said outlet communicating with said sieve pipe means downstream from said upper sieves, a lower sieve mounted entirely across said sieve box means between said discharge opening and said outlet of said sieve box means and having portions inclined to the direction of flow therethrough, discharge pipe means connected to



said discharge opening in said sieve box means and extending out of said sieve pipe means, and throttling means within said sieve box means for controlling the proportionate amount of flow into said sieve box means as compared to the amounts passing through said upper sieves and around said sieve box means.

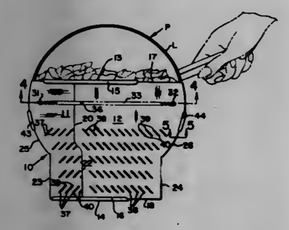
3,269,544
DOMESTIC APPLIANCE
Byron L. Brucken, Dayton, and James W. Light, Greenville, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 30, 1963, Ser. No. 305,641
10 Claims. (Cl. 210—364)



1. A system comprising a fixed support, a movable mass including a rotatable component producing a predetermined vibrational movement in said movable mass, means for supporting said movable mass on said fixed support including, a first pair of relatively movable engaging spherical surfaces, a second pair of relatively movable engaging spherical surfaces, both of said pairs of said surfaces being located below the center of gravity of said movable mass, said first pair of engaging surfaces having a predetermined curvature serving to guidingly support the movable mass on the fixed support without restraining vertical and lateral vibrational movement of the mass when the movable mass is subjected to a first predetermined resultant disturbing force, means interconnecting one of said pair of surfaces with respect

to the other of said pair of surfaces to allow controlled lateral and vertical relative movement therebetween during rotation of said movable mass, said second pair of engaging surfaces having a predetermined curvature opposite to that of said first pair of engaging surfaces serving to guidingly support the movable mass on said fixed support without restraining its vibrational movement when the movable mass is subjected to a second predetermined resultant disturbing force causing said mass to move about a nodal point shifted to the opposite side of the center of gravity of the movable mass from the nodal point about which the mass moves when subjected to the first predetermined resultant disturbing force.

3,269,545
STRAINER
Philip J. Udell, Castro Valley, Calif., assignor to Dell-Carr-Wing Corporation of America, Castro Valley, Calif., a corporation of California
Filed May 21, 1963, Ser. No. 281,936
1 Claim. (Cl. 210—469)



A strainer for use as with pots and pans having a circular upper edge with an outwardly turned lip thereon, said strainer comprising

a pair of superimposed overlapping metal sheets, each of which has parallel straight forward and rear edges and two side edges, one side edge of each having an arcuate portion and lying on the opposite side from the arcuate edge of the other said sheet, the forward and rear edges of one said sheet each having a continuous, folded marginal portion, with the forward and rear edges of the other said sheet fitting slidably therein,

an extension spring secured between two lugs, one on each said sheet, on a line parallel to said forward and rear edges and radial with respect to both said arcuate edges, so that when said strainer is installed on the pot said spring lies along the diametral line thereof to extent a force tending to urge said sheets to their maximum overlapping,

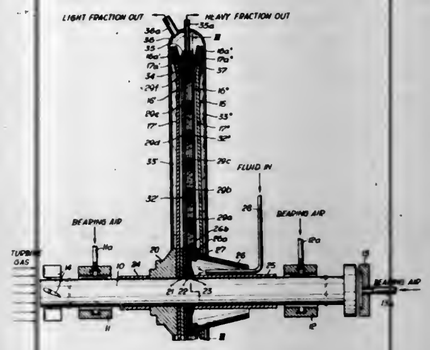
a closed slot on one said sheet in line with said spring and stud means on the other said sheet engaging said slot, said spring overlying said slot and being somewhat longer,

a pair of flanges along each said arcuate edge bent down and flanged inwardly for engagement of a said pot lip, one said flange being entirely on one side of the diametral line of said spring, the other intersecting said line but mostly on the other side,

an upwardly bent finger grip between the flanges of each said pair of flanges, each said grip having a heat insulating coating thereon, and

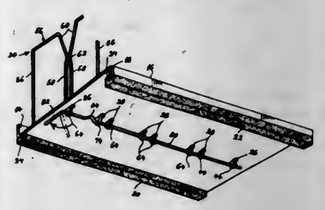
a series of 45°-angle slots on each said sheet, those on one sheet lying in the opposite direction from those in the other sheet, said slots lying in a plurality of rows parallel to said forward and rear edges and all forward of said spring, the successive slots of each line having their rear end terminating approximately in alignment with the forward end of the succeeding slot.

3,269,546
APPARATUS FOR FRACTIONATING FLUIDS
Anton Kainz, Vienna, Austria, assignor to International Research Establishment, Vaduz, Liechtenstein
Filed May 24, 1963, Ser. No. 283,111
9 Claims. (Cl. 210—377)



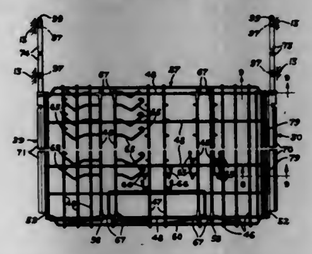
1. An apparatus for separating fractions of different specific weight in a fluid, comprising a carrier rotatable about an axis; discharge means on said carrier in the region of said axis, said discharge means being connectable to a source of fluid to be fractionated and being provided with at least one outlet directed radially away from said axis; a plurality of nozzles on said carrier positioned at increasing distances from said axis for successively receiving particles of fluid from said outlet, each of said nozzles being provided with an arcuate elongated slot extending in generally peripheral direction over a substantial arc length across the path of fluid issuing from said outlet, the slots of all said nozzles lying in a common plane transverse to said axis and having flared inlets converging in a radially outward direction; and drive means for rotating said carrier about said axis at a speed giving rise to a centrifugal force sufficient to drive fluid particles of a predetermined minimum specific weight from said outlet through all said nozzles in cascade.

3,269,547
SECTIONAL DESK ORGANIZER
Coleman R. Chamberlin, Thompson Ridge, N.Y. (P.O. Box 1266, New Windsor, Newburgh, N.Y.)
Filed Dec. 14, 1964, Ser. No. 418,138
1 Claim. (Cl. 211—11)



In a device of the kind described, a rectangular shaped base having a series of spaced slots centrally thereof, a series of upstanding wire rack units arranged in spaced relation to the base, said rack units defining pockets open at the top and sides, one of said rack units having a U-shaped body including spaced pairs of inverted U-shaped frames with adjacent juxtaposed legs, said juxtaposed legs terminating in loops at the free ends thereof, a rectangular subframe interposed between the juxtaposed legs and being welded thereto, said loops protruding through adjacent slots at one end of the base, the remainder of the rack units each comprising a pair of inverted U-shaped frames, with adjacent juxtaposed legs, terminating in a loop at the free ends thereof, an integral U-shaped frame extending horizontally from the bottom ends of the other legs of the inverted U-shaped frame, and a rectangular shaped subframe interposed between the bight of said horizontal U-shaped frame and the bottom of the juxtaposed legs and welded to said legs and bight, one long side of the subframe being formed with a bend midway its ends, said loop and said bend extending through adjacent slots in the base and extending below the base, and means associated with said loops and bends for releasably locking the rack units to the base, said locking means comprising a removable wire bar removably extending through the loops and bends, said bar having a bend intermediate its ends movable into pressing engagement with the base and clamping the rack units securely to the base.

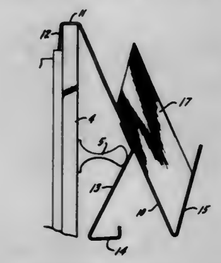
3,269,548
RACK CONSTRUCTION FOR DISHWASHING MACHINE
Russell C. Geiger, Troy, and Paul B. Geiger, Piqua, Ohio, assignors to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio
Filed Nov. 20, 1964, Ser. No. 412,721
8 Claims. (Cl. 211—41)



1. An improved upper rack system for a dishwashing machine having a tank defining a cleansing chamber and adapted to accommodate a large capacity of tableware articles as well as large articles such as deep bowls, pots and pans and tall glasses, said rack system comprising a rack having an open mesh bottom and frame through which a cleansing spray can pass, said rack including a series of generally parallel spaced longitudinal members extending from front to back and having connected thereto a series of generally parallel spaced lateral members extending across said longitudinal members, a means connected to a plurality of said members to define a support for the tableware articles, a track spaced between each side of said frame and side walls of a tank, means adapted to mount said tracks to the side walls of a tank at a predetermined elevation providing for horizontal movement into and out of the chamber, and means on said tracks for supporting said frame at different elevations for accommodating the large articles.

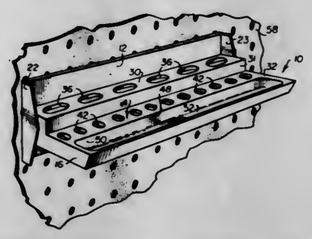
3,269,549
CHECK DISPENSER
La Vergne W. Gillette, Muskegon, Mich., assignor to The Shaw-Walker Co., Muskegon, Mich., a corporation of Michigan
Filed Dec. 16, 1964, Ser. No. 418,640
1 Claim. (Cl. 211—50)

A check dispenser including a forwardly and upwardly inclined two-part front wall, a rearwardly and upwardly inclined rear wall, the walls intersecting at their respective lower edges, a strut plate of width substantially equal to the rear wall, rearwardly and downwardly inclined therefrom intermediate the top and bottom edges of the wall, a foot extending forwardly from the bottom edge of the strut along the entire width of the back wall and lying in a generally horizontal plane passing through the intersection of the front and rear walls, the upper edge of the rear wall being located in a plane perpendicular to the plane of the foot, the rear wall decreasing in width upwardly from a point above the upper edge of the front wall, a hanger strip, the length of which is the same as the decreased width of the rear wall extending rearwardly from the upper edge of the rear wall in a plane parallel to the plane of the foot, a flange, shorter than the hanger



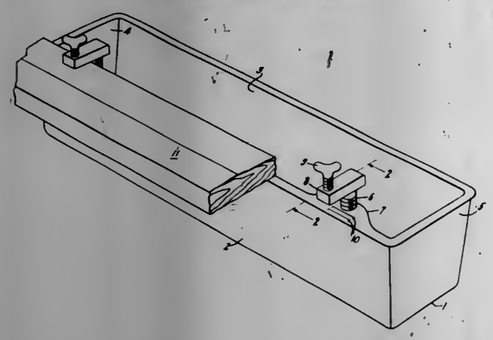
strip, extending downwardly from the rear edge of the strip, inclined outwardly therefrom and decreasing in width downwardly therefrom, the two-part front wall including spaced apart right and left hand sections of equal height, the left hand section being of substantially greater width than the right hand section to define a window through which the lower portion of the rear wall is exposed, the vertical central axis of the window being to the right of the vertical central axis of the rear wall, the right and left hand boundaries of the two front wall sections being respectively in line with the right and left hand boundaries of the rear wall.

3,269,550
RACK
William Marcus, 2528 Mayfield Road, Cleveland 6, Ohio
Filed June 4, 1965, Ser. No. 461,422
17 Claims. (Cl. 211—87)



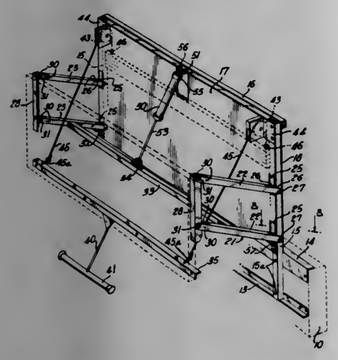
11. A molded plastic rack adapted to support tools upon an apertured board, which comprises an upstanding back wall, a forwardly extending surface formed in a plurality of levels, apertures through said surface in one of said levels and a container formed in said surface at another of said levels, reinforcing members extending forwardly from said back wall, transversely of said forwardly extending surface and connected between said back wall and said forwardly extending surface, a first plurality of projections extending rearwardly and upwardly from said back wall adjacent an upper edge of the back wall, and a second plurality of projections extending rearwardly from said back wall and spaced below said first plurality and out of vertical alignment therewith.

3,269,551
WINDOW FLOWER BOX
Richard R. Hertzel, 19 Bruen Court, Clinton Heights, Rensselaer, N.Y.
Filed May 20, 1964, Ser. No. 369,022
3 Claims. (Cl. 211—88)



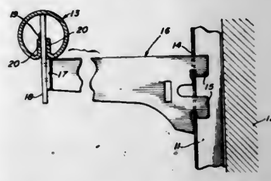
1. A window flower box formed as one unitary article from any suitable material comprising a bottom, front, back and sides to provide thereby a receptacle for the arrangement of real or artificial flowers, said back having an inwardly extending flange with a vertical threaded hole accommodating an adjusting and locking means for securement to a window sill, said adjusting means comprised of an adjusting screw with an integrally formed arm extending at a right angle from the uppermost point of the adjusting screw with a provision for accommodating a locking device.

3,269,552
MERCHANDISE DISPLAY AND DISPENSER RACK
Charles W. Townsend, Camden, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed June 11, 1964, Ser. No. 374,357
4 Claims. (Cl. 211—103)



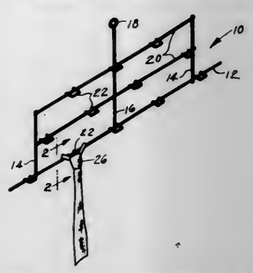
3. A merchandise display and dispenser rack comprising a frame structure, a substantially vertical display and dispenser panel for removably supporting items of merchandise, parallel motion linkages connected to said frame structure and to said display panel for movably supporting said display panel, said linkages and said display panel being arranged in relation to said frame structure to cause said display panel to move from a rearward elevated position in front of said frame structure to a position in front of and below said elevated position upon operation of said linkage, and means yieldably urging said display panel into said elevated position and comprising a counterweight movable vertically up and down, a pair of sheaves supported on said frame structure, and cables connected at one end to said counterweight, passing over said sheaves and connected at the other end to points rigid with said parallel motion linkages.

3,269,553
HANG ROD ASSEMBLY
Richard R. Ruhnke, Skokie, Ill., assignor to Garcy Corporation, a corporation of Illinois
Filed Oct. 20, 1964, Ser. No. 405,219
4 Claims. (Cl. 211—105.1)



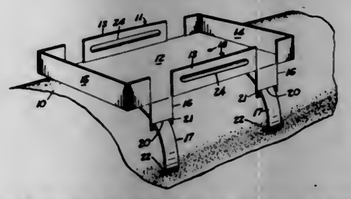
1. A hang rod assembly comprising a support bracket and a tubular hang rod mounted on said support bracket, said support bracket having a flat plate section at one end thereof and mounting means on the other end, said flat plate section having an embossment projecting from one surface thereof in spaced relationship to its lower edge, said tubular hang rod having two resilient wall sections terminating within said hang rod and spaced to fit in tight frictional engagement with opposite surfaces of said flat plate section, the upper edge of the wall section adjacent said one surface engaging said embossment to hold said hang rod against movement transverse to the upper edge of said flat plate section in a direction to separate said hang rod from said flat plate section.

3,269,554
TIE HOLDER
Ray A. Jay, 309 W. State St., Trenton, Ohio
Filed Oct. 23, 1964, Ser. No. 406,043
2 Claims. (Cl. 211—119)



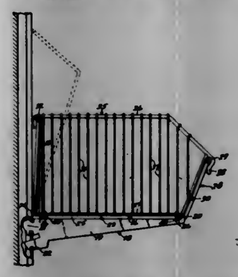
1. A tie holder for supporting wing type ties, having a hook member, comprising an elongated base bar providing supporting means for a plurality of said wing type ties, a pair of vertical and parallel, spaced apart bars, said base bar secured to said vertical bars for providing support means in conjunction with a central vertically disposed bar, an eyelet member for receiving a wall fastener, secured to said central bar, a pair of parallel, spaced apart upper horizontal bars secured to said vertically disposed bars, and a plurality of U-shaped members firmly affixed to said base and said upper horizontal bars thereby providing means for receiving wing type ties, and said U-shaped members being positioned in a staggered relationship to each other to prevent a plurality of ties from interfering with each other.

3,269,555
ARTICLE HOLDER
Harold P. Henderson, 271 Northwood Drive, Tonawanda, N.Y.
Filed Mar. 27, 1964, Ser. No. 355,388
7 Claims. (Cl. 211—126)



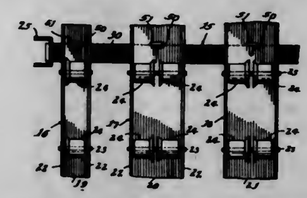
1. An article holder for a vehicle body having a linearly extending tunnel hump, said article holder comprising a bottom wall and side and end walls cooperating to form an article receiving tray, a pair of laterally extending arched leg members of resilient material pivoted to the under side of said bottom wall at each side of said holder whereby said leg members may be pivoted and flattened to extend longitudinally of and substantially parallel to said bottom wall in non-use position, said laterally extending arched leg members being bowed downwardly to embrace the side walls of said hump in use position, and means for releasably retaining said leg members in laterally extending position.

3,269,556
COLLAPSIBLE SUPPORT STRUCTURE
Edward C. Streater, Spring Park, Minn., assignor, by mesne assignments, to Streater Industries, Inc., Minneapolis, Minn., a corporation of Delaware
Filed May 6, 1964, Ser. No. 365,429
5 Claims. (Cl. 211—132)



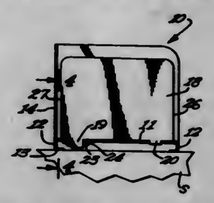
1. A shelf device comprising an elongate collapsible receptacle type shelf structure including an elongate normally horizontally oriented lower support member,
- a vertical support member hingedly connected adjacent its lower edge to one longitudinal edge of said lower support member and being pivotal relative to the latter between an inoperative collapsed position wherein said vertical support member is disposed substantially horizontally upon said lower support member, and an operative erect position,
- a vertically disposed transverse support member extending transversely of and releasably interconnected with said lower support member and said vertical support member and retaining the latter in an erect operative position,
- a plurality of self-supporting brackets releasably connected to apertured upstanding bracket-mounting members, each bracket including an inner portion and an outer portion and being flexible in the direction of the length of the shelf structure, each bracket having hook means at the inner portion thereof releasably engageable with one of the bracket-mounting members, and each bracket having abutment means at the outer end thereof resiliently engaging the longitudinal edge of the shelf structure to releasably lock the same in supported relation on said brackets.

3,269,557
ADJUSTABLE STORAGE RACK AND CONVEYER
John F. Wahl, Sterling, Ill., assignor to Mallard Plastics, Inc., Sterling, Ill., a corporation of Illinois
Filed May 13, 1964, Ser. No. 367,103
4 Claims. (Cl. 211—151)



1. In a storage rack and conveyer having longitudinally spaced transverse supporting members and transversely spaced longitudinal roller-carrying members supported thereby, the combination thereof with means adjustably connecting said supporting and roller-carrying members and providing lateral stability of the latter, comprising:
- friction material secured to the upper surface of said supporting members, said friction material having upwardly facing alternate ribs and grooves extending in longitudinal direction; and
- friction material secured to the lower surface of said roller-carrying members in the regions registering with said supporting members, said last friction material having alternate ribs and grooves interfitting with the ribs and grooves of the friction material on said supporting members.

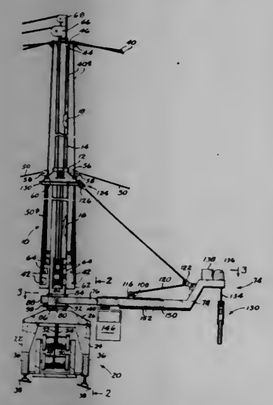
3,269,558
COMPARTMENTED SHELF DEVICE
Elmer J. Hess, 4701 Linnea Lane, Hopkins, Minn.
Filed July 27, 1964, Ser. No. 385,359
4 Claims. (Cl. 211—184)



4. An adjustable compartmented shelf device for use in supporting papers, books, office supplies and the like, said device comprising a substantially flat, horizontal oriented, elongate base panel member, said base panel member having a row of longitudinally spaced-apart transversely extending slots therein adjacent one longitudinal edge thereof, and having another row of longitudinally space-apart transversely extending slots therein adjacent the other longitudinal edge thereof, each slot in one row being disposed in substantially transverse alignment with the slots in the other row, a plurality of generally rectangular, flat compartment defining plates each having a pair of spaced-apart longitudinally aligned attachment tabs affixed thereto and projecting from one edge thereof, said tabs of each plate extending into a pair of transversely aligned slots of said row to orient each plate in generally upright transversely extending relation

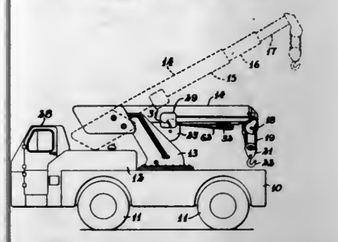
with respect to said base panel member, and to space each plate laterally from the next adjacent plate to define a filing space therebetween, said engagement tabs of each plate being shaped and sized with respect to the associated pair of slots to permit limited sidewise wobbling movement of each plate relative to said panel member whereby adjacent of said plates define a compartment of adjustable width, and slotted locking means positioned below one of said rows of slots and being releasably engageable with the larger tab of each plate to lock the same in substantially rigid upright right angular transversely extending relation with respect to said base panel member only when a plate is removed from the base panel member and turned end-for-end from said first upright position and the tabs thereof are inserted into a pair of transversely aligned slots in said rows of said panel member, the filing space defined between an adjacent pair of said plates being substantially vertically unobstructed to permit access to the filing space from above and between adjacent vertical edges of a pair of plates.

3,269,559
LOAD-HANDLING SPAR
George E. Shroyer, Jr., Rte. 2, Box 99, Philomath, Oreg.
Filed June 12, 1964, Ser. No. 374,584
7 Claims. (Cl. 212—7)



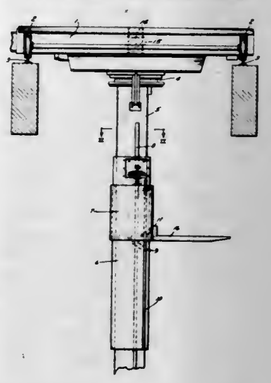
1. Material-handling apparatus comprising
an elongated upstanding nonrevolving spar having a passage extending along the inside thereof and longitudinally of the spar,
a hauling line and multiple guy lines, each of said guy lines and said hauling lines including a reach extending vertically along the spar, and means for paying out and drawing in the lines mounted at a location fixed with respect to the spar,
a laterally outwardly extending boom having an inner end adjacent the bottom end of the spar and means mounting said inner end on the spar accommodating travel of such end about the spar,
support means for the boom connected to the boom and extending from adjacent the outer end thereof upwardly to the spar to a point intermediate the ends of the spar,
traveling anchoring means anchoring the upper end of said support means on the spar, and
means supporting said anchoring means on the spar with said anchoring means being movable in a path extending about the spar and the vertical reaches of the hauling and guy lines which extend along the spar.

3,269,560
SAFETY CONTROL FOR CRANES
Sidney G. Knight, Schofield, Wis., assignor to Drott Manufacturing Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 28, 1964, Ser. No. 421,396
5 Claims. (Cl. 212—39)



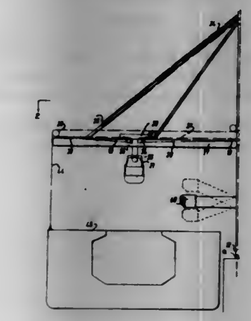
1. Safety control means for cranes in combination with a crane having an extensible and vertically swingable boom, power means to extend the boom, second power means to swing the boom vertically, and means at the outer end of the boom to engage and lift a load, the safety control means comprising a first movable member mounted on the boom, means responsive to extension of the boom to adjust the position of the first movable member, a cam movably mounted on the first movable member, gravity responsive means to maintain the cam in a predetermined position relative to vertical, a second movable control member, means to maintain the second control member in engagement with the cam, a third movable control member, means responsive to the load on the boom to move the third control member toward and away from the second control member, and means operated by engagement of the third control member with the second control member to prevent operation of the power means to extend or elevate the boom.

3,269,561
LATCHING MECHANISM FOR TELESCOPING MEMBERS
John De Ligt, Muskegon, Mich., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Nov. 27, 1964, Ser. No. 414,109
14 Claims. (Cl. 212—128)



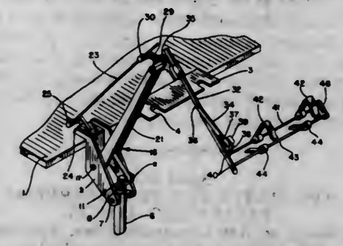
1. In load lifting apparatus having three adjacent members, two of which members are movable relatively to each other and to the third member, supporting means comprising
movable holding means carried by the intermediate of the three members engageable with a second of said members on one side thereof to be supported thereby, and
cam means carried by said second member to automatically move said holding means into engagement with the third of said members to be supported thereby when said second member has moved a predetermined distance relatively to the third member in one direction.

3,269,562
PROGRAMMED HANDLING APPARATUS
Frank Richmond Holmes, Darlington, and Armstrong Lincoln Stoddart, Sunderland, England, assignors to Ashmore, Benson, Pease and Company Limited, Stockton-on-Tees, County Durham, England
Filed Mar. 30, 1964, Ser. No. 355,793
Claims priority, application Great Britain, Mar. 30, 1963, 12,714/63
17 Claims. (Cl. 214—14)



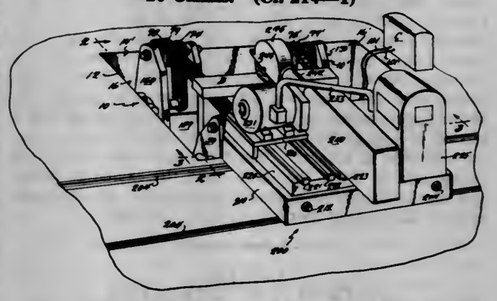
1. A control system for automatically operating a material handling device, such as an ore unloader, for unloading material from a ship's hold, having a trolley-supporting track, a trolley displaceable along said track, a grab suspended from said trolley, a first hoist for hoisting and lowering said grab, a second hoist for closing and opening said grab, a cross traverse drive for moving the trolley along the trolley-supporting track in a shipward direction to a position above a hold of a ship and in a landward direction to a discharge position, comprising cross traverse position means responsive to the position of the trolley along the trolley supporting track, selector switch means for selecting inner and outer limit positions of the trolley in a shipward direction, increment selector switch means for selecting increments of cross traverse for the trolley, cyclic control means for operating said first and second hoists and said cross traverse drive in a succession of cycles, each cycle comprising operating said second hoist to close the grab, operating said first hoist to hoist the grab, operating the cross traverse drive to move the trolley in a landward direction to bring the trolley to said discharge position, operating said second hoist to open the grab, operating the cross traverse drive to move the trolley in a shipward direction into a position above the hold of the ship, and operating the first hoist to lower the grab, limit control means responsive to the cross traverse position means for arresting the cross traverse drive means in the shipward direction, and programme control means responsive to said limit selector switch means and to said cyclic control means and to said increment selector switch means for controlling said limit control means to automatically determine a succession of positions of the trolley at which said cross traverse drive means is arrested during shipward movement of the trolley whereby to enable the grab to dig material automatically a preselected number of times at each of the positions so determined between said inner and outer limit positions.

3,269,563
MATERIAL HANDLING DEVICE
Malcom Spinrad and Leslie W. Gibson, Jr., Reading, Pa. assignors to American Safety Table Co., Inc., a corporation of Pennsylvania
Filed May 28, 1964, Ser. No. 370,986
7 Claims. (Cl. 214—1)



1. Apparatus for removing flexible sheets from a work table and depositing them at a holding station, comprising:
an operating arm pivoted adjacent its upper end for rotation within a substantially vertical plane;
a first and a second generally parallel and horizontally disposed jaw bar shafts mounted at one of their ends adjacent the lower end of said operating arm, said first jaw bar shaft being mounted for rotation in said operating arm and said second jaw bar shaft being fixedly positioned in said operating arm;
at least two pairs of jaw means mounted on said jaw bar shafts with one jaw of each pair mounted on said first jaw bar shaft and the other jaw of each pair cooperatively mounted on said second jaw bar shaft;
first motor means adapted to rotate said first jaw bar shaft;
means to rotate said operating arm within said plane and simultaneously cause the lower end of said operating arm to move in a predominantly horizontal plane;
said means to rotate and move said operating arm comprising a four bar linkage.

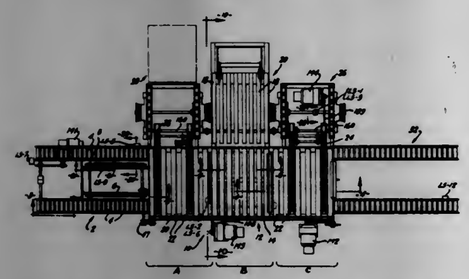
3,269,564
INGOT TURNING MACHINE
John A. Doherty, Baltimore, Md., assignor to Eastern Stainless Steel Corporation, Baltimore, Md., a corporation of Maryland
Filed June 30, 1964, Ser. No. 379,188
20 Claims. (Cl. 214—1)



1. An ingot turning machine for rotating a workpiece such as an ingot or the like comprising: a movably mounted carriage member, said carriage member having a pair of upstanding opposed ingot turning housing assemblies mounted thereon, each of said housing assemblies being independently pivotally mounted about the lower end thereof for pivotal movement in a plane perpendicular

to the plane and direction of movement of said carriage member, each housing assembly comprising a pair of substantially parallel housing members fixedly secured together, means for independently pivoting each housing assembly, a plurality of continuous ingot handling chains, each ingot handling chain being mounted on a suitable sprocket carried at the upper end of each of said housing assemblies such that each chain is movable on a sprocket of each housing assembly to support a portion of the workpiece between the opposed housing assemblies, and driving means mounted on each housing assembly for driving each chain handling sprocket thereon independently of the other housing assembly.

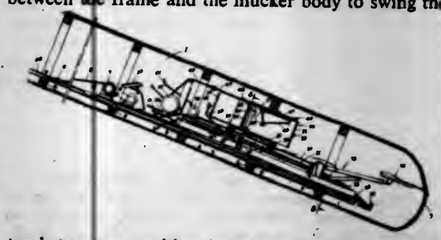
3,269,565
APPARATUS FOR TRANSFERRING PALLETIZED LOADS
John H. Kemp, Jr., 140 Greenoaks Drive, Atherton, Calif.
Filed July 23, 1965, Ser. No. 474,350
19 Claims. (Cl. 214—2)



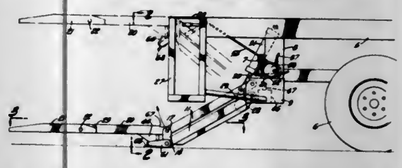
1. In a machine for exchanging pallets whereby an exchange pallet is substituted for an incoming loaded pallet, the pallets being characterized by openings extending vertically through the same conveying means forming three aligned conveyor sections, each adapted to support a loaded pallet for movement over the same, a first one of said sections serving as an incoming conveyor for a loaded incoming pallet and also as an incoming conveyor for an exchange pallet, the second one of said sections forming a pallet exchange station, and the third one of said sections forming an outgoing conveyor for an outgoing loaded pallet and also as an outgoing conveyor for an incoming pallet, load-elevating means at the exchange station operable through said openings to elevate the load to a position spaced above an incoming pallet below the same, means operable to engage and support the load in such elevated position while the elevating means returns to a lowered position, means operable to shift the incoming pallet from a position underlying the load to the outgoing conveyor section, means operable to shift an exchange pallet onto the incoming conveyor section, means for shifting such exchange pallet from the incoming conveyor section to said exchange station, said elevating means being operable to take the load from said load supporting means and to lower the same upon the exchange pallet, and means thereafter operable to discharge the exchange pallet with the load thereon from the machine.

3,269,566
MUCKER AND SKIP LOADER
Lewis L. Huelsdonk, P.O. Box 177, Downieville, Calif.
Filed Jan. 13, 1964, Ser. No. 337,328
15 Claims. (Cl. 214—41)

1. A mucker and skip loader to remove muck from the face end of an inclined shaft comprising a frame extending lengthwise of the floor of the shaft, a mucker including a body having a digging scoop at one and an initially closed discharge gate at the other end, means mounting the mucker body in connection with the frame for swinging movement about an upstanding axis, and control means between the frame and the mucker body to swing the latter between a position in which the scoop extends forwardly for digging and a reversed position in which the gate is disposed forwardly and when open discharges into a skip located alongside said frame.



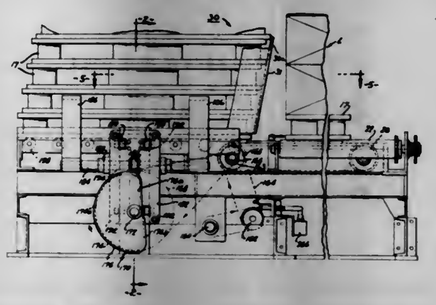
3,269,567
VEHICLE LOADERS AND REINFORCING MECHANISM FOR VEHICLE BED PLATES
Max J. Lugash, Los Angeles, Calif., assignor to Maxon Industries, Inc., Vernon, Calif., a corporation of California
Filed Nov. 23, 1964, Ser. No. 413,086
9 Claims. (Cl. 214—77)



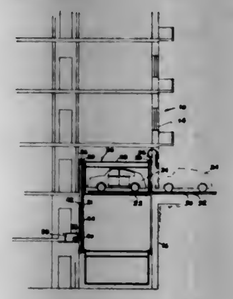
1. In a loader for vehicles, the combination of a frame depending from the rear of a vehicle, said vehicle having a rectangular bed plate extension from the rear of said vehicle, a platform adapted to be raised to the surface of said bed plate extension, lowered to the ground and folded under said bed plate extension, means associated with said platform for supporting the under surface of the outer edge portion of said bed plate extension when said platform is raised to the surface of said bed plate extension and means attached to said platform to support the entire length of the outer edge of said extension when said platform is folded under said bed plate extension.

3,269,568
APPARATUS FOR UNSTACKING PALLETS
John H. Kemp, Jr., 140 Greenoak Drive, Atherton, Calif.
Original application Aug. 10, 1962, Ser. No. 216,100. Divided and this application Aug. 23, 1965, Ser. No. 481,854
3 Claims. (Cl. 214—8.5)

3. A pallet supply mechanism comprising: a magazine including a pair of opposing upright sides adapted to accommodate a stack of pallets therebetween, a conveyor extending into the lower portion of the magazine and adapted to move pallets away from said magazine, a pair of carriages, each mounted for vertical movement on one side of said magazine, at least one pallet-supporting arm pivotally mounted on each of said carriages, said arms being movable to engage or disengage opposite sides of a lower pallet of a stack of pallets, and first and second pairs of cams rotatable together to operate said carriages and said arms, respectively, the first pair of said cams being formed to lower said carriages with said arms in engagement with the bottom pallet to deposit said stack on said conveyor, the second pair of cams being formed to pivotaly move said arms outwardly out of engagement with said lower pallet after the stack has been deposited, said first pair of cams also thereafter serving to elevate said carriages with said arms out of engagement with the pallets to the level of the second pallet from the bottom of said stack, the second pair of cams then serving to pivot said arms inwardly to engage said second pallet, the first pair of cams thereafter serving to raise said carriages with said arms upwardly to raise the second pallet to those above the same whereby the bottom pallet is free for removal from the magazine by the conveyor.

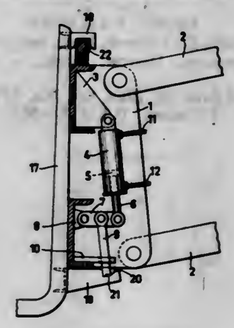


3,269,569
ROTARY VEHICLE PARKING APPARATUS
Shlomo Brauner, 46 Yahalom St., Ramat-Gan, Israel
Filed Apr. 20, 1964, Ser. No. 360,812
Claims priority, application Israel, Nov. 27, 1963, 20,339
1 Claim. (Cl. 214—16.1)



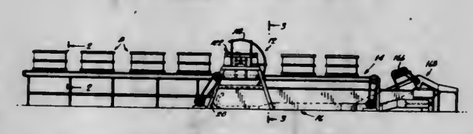
Vehicle parking apparatus, comprising: a pair of circular tracks fixedly mounted in spaced relationship with respect to each other; a plurality of platforms each adapted to support a vehicle; and means for rotatably mounting said platforms to said circular tracks; said mounting means including a rigid frame structure rotatably mounted between said pair of circular tracks, a drive for rotating said rigid frame structure, a pair of rollers for each platform carried by said rigid frame structure each received in one of said circular tracks, and a pivotable mounting between each platform and its respective pair of rollers for supporting the platform in suspension therefrom such that the platform always assumes a horizontal position by gravity, said rigid frame structure including radially extending braces, and a horizontal beam connected between each pair of rollers, each of said platforms being pivotably mounted in suspension to one of said beams.

3,269,570
DEVICE FOR FASTENING WORKING TOOLS ON LIFTING LEVERS OF LOADING TRUCKS
Karl Erik Wallberg, Bergnaset, Sweden, assignor to Kewacos Forsaljnings Aktiebolag, Lulea, Sweden
Filed Mar. 12, 1965, Ser. No. 439,377
Claims priority, application Norway, Mar. 14, 1964, 152,440
4 Claims. (Cl. 214—131)



1. A device for fastening a working tool having at least one down hitch adjacent to the upper end thereof and at least one hook having a notch adjacent to the lower end thereof to the lifting levers of a loading machine comprising a frame articulated to said lifting levers, means on said frame adapted to engage the hitch on said working tool and secure said tool against movement downwardly or laterally relative to said frame, a first cylinder connected at its upper end to said frame, a double acting piston in said first cylinder, a piston rod connected to said piston and extending downwardly beyond the lower end of said first cylinder, means for introducing pressure fluid into the opposite ends of said first cylinder to move said piston upwardly and downwardly, a latching pin connected at its upper end to said piston rod and extending downwardly toward said hook, a guide for said latching pin rigidly secured to said frame, the downward and upward movement of said piston being sufficient to engage and disengage said latching pin with and from said notch respectively.

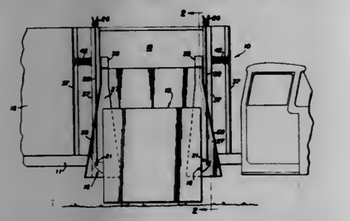
3,269,571
BULK PRODUCE BOX DUMPING DEVICE
Herbert M. McLearn, Maitland, and Frank P. Skipper, Orlando, Fla., assignor to American Machinery Corporation, Orlando, Fla., a corporation of Delaware
Filed Nov. 18, 1963, Ser. No. 324,484
11 Claims. (Cl. 214—302)



1. In container-dumping apparatus, product receiving and conveying unit a dumping cradle adapted to support a container to be dumped, a lid structure associated with said cradle adapted to close the open top of a container within said cradle, lid control means for raising said lid to receive a container into said cradle and for lowering said lid into container-clamping position over the open top of a container within said cradle, means for rotatably supporting said cradle and said associated lid at an elevation over said conveying unit, means for rotating said cradle and said lid as a unit whereby a container within said cradle is inverted therewith into product discharge position, a product discharge aperture in said lid, a cover

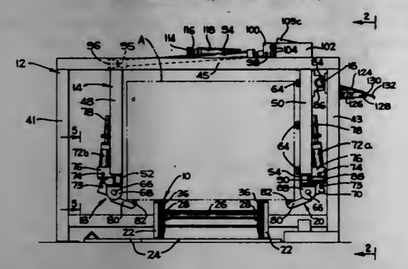
for said aperture, and cover holding means operatively associated with said cover effective to hold said cover closed until said cradle is rotated into product discharge position, said cover holding means comprising arcuate guide means and a guide follower carried by said cover in contact with said arcuate guide means.

3,269,572
VEHICLE LOADER
Wallace M. Felts, Fort Worth, Tex., assignor to Fruehauf Trailer Company, Detroit, Mich., a corporation of Michigan
Filed June 26, 1964, Ser. No. 378,205
3 Claims. (Cl. 214—302)



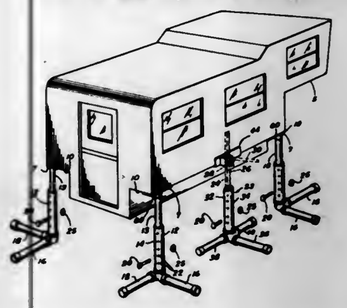
1. In combination with a vehicle having a vertical wall and an opening at the top thereof, rotatable axially aligned pivot blocks mounted on said wall at opposite sides of said opening, said pivot blocks having pin receiving openings in the sides thereof, a container separate from said vehicle, pivot pins on a side of said container positioned to engage said pin receiving openings in said pivot blocks and wherein said pin receiving openings are cylindrical at their axis of rotation and are slotted laterally thereof, and wherein said pivot pins are cylindrical and of a size to rotate in said pin receiving openings and are flat on opposite sides and of a dimension therebetween to be slidably received in said slots, and means raising and tilting said container.

3,269,573
CONTAINER DUMPING APPARATUS
Francis J. Thornton and David E. Westerling, Riverside, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Dec. 10, 1963, Ser. No. 329,416
10 Claims. (Cl. 214—307)



1. In a container dumping apparatus, the combination of: an invertible frame for overlying an open-topped container; a conveyor for moving the container in underlying relationship to said frame; wall means on said frame for extending over the top of the container; power operated devices underlying opposite sides of the bottom of the container for lifting the container from said conveyor and holding it against said wall means, and a hinged door in said wall means providing an opening through which the contents of the container are discharged when said frame is inverted.

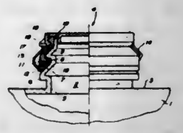
3,269,574
THRIFTY CAMPER LIFT ASSEMBLY
Winton J. Bennett, Box 213, Tensleep, Wyo.
Filed Aug. 19, 1964, Ser. No. 390,764
1 Claim. (Cl. 214—515)



The combination of a coach body and lifting apparatus for mounting and de-mounting said coach body from the bed of a transport vehicle, comprising:

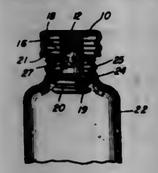
(a) a pedestal having spaced apart feet adapted for carrying a vertical load without tipping or bending;
(b) a jack having a shaft received on said pedestal and including a plurality of spaced notches therein to form a rack, pawl means operatively combined with said spaced notches to effect upward and downward movements, and a toe connected to said jack and disposed toward said coach body to be lifted;
(c) adapter means including angular means having a horizontal flange and a vertical flange which receive the edge of said coach body near its center of gravity for lifting thereof, a pin fastened to said vertical flange and received on said toe to provide a pivotal support of said adapter means, whereby said adapter means tend to pivot downwardly and away from the supported coach body;
(d) means including said vertical flange to form an abutment between said adapter means and said jack to limit such pivotal movement and thereby provide vertical support for said coach body by said toe of said jack and said adapter means;
(e) and means for vertically adjusting said jack shaft on said pedestal.

3,269,575
MULTIPART CLOSURE FOR FILLING AND DISCHARGING OPENINGS FOR CONTAINERS
Wilhelm Hammes, Talstrasse 17, 5203 Much, Germany
Filed Feb. 17, 1965, Ser. No. 449,347
Claims priority, application Germany, June 19, 1964, M 61,423
3 Claims. (Cl. 215—41)



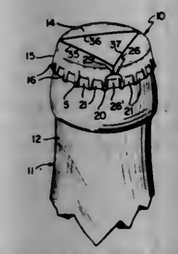
1. A multi-part closure of synthetic material for a neck providing a filler and discharge opening for a container, comprising an annular collar for attachment on the neck and engageable with a groove behind an annular projection on the neck, a lid, a hinge strip connected to the outside of the collar and to the lid so that the lid can be swung to engage the collar and close the neck, a safety ring constituting a seal for the lid, a second strip extending from the side of the lid opposite the hinge stripe connected to the safety ring whereby said ring can be swung to engage the neck, and complemental locking surfaces on the lower end of the collar and upper end of the ring, respectively, engageable when the ring has been swung to engage the neck.

3,269,576
SAFETY CLOSURE FOR CONTAINERS
William J. H. Law, 86 Betsy Brown Road, Port Chester, N.Y.
Filed Mar. 2, 1965, Ser. No. 436,476
6 Claims. (Cl. 215—43)



1. In a container structure, in combination, a container vessel having an opening-defining neck portion bearing on its outer surface an external screw thread of one rotational sense and bearing on its inner surface an internal screw thread of opposite rotational sense; and a closure device comprising a screw cap dimensioned to fit over said neck portion for closure thereof and bearing an internal screw thread of said one rotational sense for meshing with said external screw thread of said neck portion, and a plug dimensioned to pass through the opening defined by said neck portion and having a surface portion bearing an external screw thread of said opposite rotational sense for meshing with said internal screw thread of said neck portion; said plug being secured to said cap and projecting therefrom so as to extend through said opening when said cap is in position closing said neck portion; said internal thread of said cap and said external thread of said plug being relatively positioned to engage said external and internal neck threads respectively as said closure device is moved between a first position in which said cap fully closes said neck portion and a second position in which said closure device is fully disengaged from said neck portion, and to prevent simultaneous engagement of said cap thread and said plug thread with said external and internal neck threads respectively as said closure device is moved between said first and second positions.

3,269,577
CAP
Robert Stuart, Chicago, Ill., assignor to National Can Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 17, 1964, Ser. No. 352,619
8 Claims. (Cl. 215—46)



1. A closure comprising: a generally circular top portion, an annular flange extending generally downwardly from said top portion and having a continuous free edge, at least two cuts in said flange, each of said cuts being continuous to form a tab, each tab terminating at one end below the lower surface of said top portion and at its opposite end short of said edge, means defining a weakened line of flexing extending generally along a chord of said top portion between adjacent tabs and terminating at its opposite ends substantially in the region of juncture of said top and flange, and means defining imperforate weakening lines extending from each of the ends of the line of flexing and downwardly along the flange to the tabs and forming angles with said line of flexing, the tabs being operable to rupture the parts of the flange extending therefrom to said edge so that subsequent application of force to said edge between the ruptured parts of the flange and in a direction toward said top portion will fracture said weakening lines and facilitate bending a sector of the cap relative to the remainder of the cap about said line of flexing.

3,269,578
DISPLAY DEVICE
Robert B. Lewis, P.O. Box 262, Aspen, Colo.
Filed Mar. 25, 1964, Ser. No. 354,567
7 Claims. (Cl. 220—4)



6. A display device for living specimens, said display device comprising first and second transparent members disposed in vertical opposing relationship, each of said first and second transparent members being formed as a segment of a sphere no greater than a hemisphere in arcuate extent and terminating in a lateral, outwardly-extending flange and a support member for said pair of transparent members, said support member having a lateral, horizontally-disposed inwardly-extending flange defining a central opening in said support member and supporting the lateral, outwardly-extending flanges of said first and second transparent members, said support member further having a vertically-disposed portion abutting against said lateral, outwardly-extending flanges of said pair of transparent members so as to restrain said pair of transparent members against lateral movement relative to said support member, said first transparent member being disposed in an inverted position as a receptacle having a spherical portion extending downwardly through said central opening in said support member and having its said lateral, outwardly-extending flange resting directly on said inwardly-extending flange of said support member by gravitational force without other securement against relative movement in a vertical direction, said second transparent member being disposed in an upright position as an enclosing dome and having its outwardly-extending flange resting directly on said outwardly-extending flange of said first transparent member by gravitational force without other securement against relative movement in a vertical direction.

3,269,579
TOTE TRAY
Edward C. Moerke, Caledonia, Wis., assignor to Moerke Displays and Mfg. Co., Union Grove, Wis., a copartnership
Filed Aug. 3, 1964, Ser. No. 387,119
2 Claims. (Cl. 220—21)

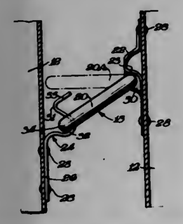
1. A tote tray of the character described comprising, a flat base, upturned sides and ends connected to said base, a support shelf carried by one of said ends, a first grid having a plurality of feet formed thereon supporting the grid above and parallel to said base, said grid having a plurality of openings therethrough adapted to receive the lower ends of objects to be carred in said tray, a second grid sloping

upwardly relative to said first grid and supported between said first grid and said shelf, said second grid having a plurality of openings there through registering with the



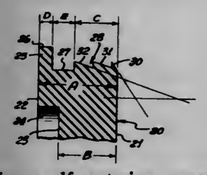
openings in the said first named grid, a bale attached to the upturned ends on said base, and means on said bale to retain both grids in the tray.

3,269,580
TRANSPORTABLE CONTAINER
Ralph D. Tolbert, Jr., Kennett Square, Pa., assignor to NVF Company, a corporation of Delaware
Filed Oct. 14, 1965, Ser. No. 496,086
5 Claims. (Cl. 220—23.4)



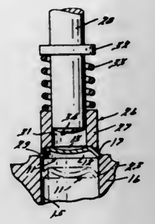
1. A transportable container comprising a container portion having opposed substantially vertical sides and ground-engaging anti-friction means secured to the base of the container to facilitate the movability of the container, a vertically shiftable handle externally secured to one side of the container at a predetermined height, handle catch means externally secured to the opposed side of the container at a predetermined height relative to the handle, the catch means having an upwardly projecting resilient member, the member being substantially S-shaped whereby a handle from a similar container may slide downwardly behind the resilient member and be trapped by the catch means for coupling together successive containers for movability as a group.

3,269,581
PIPE STOPPER PLUG
William G. Calder, Los Angeles, Calif., assignor to Joints, Inc., Culver City, Calif., a corporation of California
Filed Apr. 5, 1965, Ser. No. 445,521
5 Claims. (Cl. 220—24)



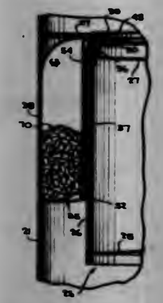
1. A self-aligning, self-centering, pressure resistant stopper plug readily insertable into and removable from the open end of a pipe, comprising: a cylindrical plug of resilient material, said plug having a circular internal virtually planar pressure receptive front face, a rear face including a central recessed portion, the diameter of said rear face being greater than of the pressure receptive face and including a radially extending lip, and a circumferential edge including a lip surface on said lip, a relief surface and a sealing surface terminating in said front pressure receptive face; the thickness of the plug at its central recessed portion being at least equal to the width of the sealing surface but not exceeding the combined width of the sealing and relief surfaces; the thickness of said lip being less than the depth of the recess in said rear face; said relief surface cooperating with said rear recess to allow said lip to be rearwardly flexed during removal of a plug from a pipe.

3,269,582
CLOSURE PLUG
Louis T. Knocke, 5578 Putnam, Birmingham, Mich.
Filed Sept. 22, 1965, Ser. No. 489,370
3 Claims. (Cl. 220—24.5)



1. A closure plug for an opening adapted to be provided with an outwardly flared entrance, said closure plug comprising a unitary circular member fabricated of resilient material and having a continuous inwardly facing surface adapted to face the interior of said opening and a continuous outwardly facing surface adapted to face said entrance when said plug is installed, both of said surfaces being smooth unribbed surfaces of revolution, said member having a central inner zone, an intermediate zone surrounding said inner zone, and an outer zone surrounding said intermediate zone, said inner zone being entirely on the side toward the interior of said opening of an imaginary radial plane intersecting said outwardly facing surface at the juncture of said inner and intermediate zones, said inwardly facing surface having an annular portion in said outer zone, an annular edge surface portion extending continuously between and connecting the outer edges of said inwardly and outwardly facing surfaces, said outer zone being so inclined that one of said two last-mentioned annular surface portions has substantially the same inclination as and is adapted to engage a substantial area of said flared entrance when said plug is disposed at said entrance, said intermediate zone being curved to connect said inner and said outer zones in a continuous manner, whereby pressure applied to the center of said plug in a direction toward the interior of said opening when said plug is disposed at said entrance will cause contraction of said outer zone, said contraction being equal and unvarying around the entire periphery of said outer zone due to the smooth unribbed nature of said inwardly and outwardly facing surfaces, and will also cause sliding of said one surface portion through said flared entrance into said opening, and engagement of one of said two outer edges with the wall of said opening, said one outer edge being relatively sharp and having an included angle sufficiently great to prevent substantial deformation thereof by engagement with said opening wall, the radially outward force with which said one outer edge engages said opening wall being equal and unvarying around the entire periphery of said one outer edge due to the smooth unribbed nature of said inwardly and outwardly facing surfaces.

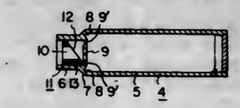
3,269,583
FLOATING ROOF SEAL
Alexander F. Fino, Warren, Pa., assignor to Dorcon Incorporated, Warren, Pa., a corporation of Delaware
Filed Dec. 19, 1962, Ser. No. 245,719
4 Claims. (Cl. 220—26)



1. A liquid storage tank including a substantially cylindrical side wall and a bottom and having a floating roof movably disposed therewithin and adapted to rise and fall within the tank in accordance with the liquid level in the tank, said roof having a smaller diameter than the inside of the tank to provide an annular space between the roof and the tank, sealing means for sealing said annular space, said sealing means including a wearing band means comprising a number of separate overlapping sections which cooperate to define an annular enclosed area, said wearing band means being formed of deformable wear resistant material adapted to engage the inside of the tank, hold-down means supported by said roof and disposed within said annular enclosed area and engaging the lower portion of the wearing band means for limiting upward movement thereof, said hold-down means comprising a plurality of segments which are separate and individual units, said hold-down means being removably supported by said roof, an annular weather shield means supported at the upper portion of said roof in overlying relationship to said sealing means and adapted to engage the inside of the tank to protect the sealing means from the weather, a plurality of clamping means for retaining the weather shield means and the wearing band means in operative position, means for removably retaining said clamping means in operative position, a plurality of hermetically sealed units disposed within said annular enclosed area within the wearing band means, each of said hermetically sealed units being deformable and being substantially filled with a plurality of discrete portions of a sponge-like material capable of retaining air therewithin and releasing such air when compressed, each of said hermetically sealed units being provided with valve means for selectively controlling the amount of gas in said units.

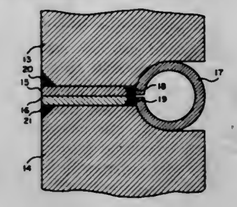
3,269,584
INK CARTRIDGE FOR FOUNTAIN PENS
Hajime Ishida and Hirokazu Toma, Hiratsuka-shi, Japan, assignors to Pilot Man-Nen-Hitsu Kabushiki Kaisha, Tokyo-to, Japan
Filed June 29, 1964, Ser. No. 378,515
Claims priority, application Japan, Nov. 2, 1963 (utility model), 38/82,775
7 Claims. (Cl. 220—27)

1. An ink cartridge for fountain pens comprising an ink reservoir of relatively large diameter, a hollow neck of relatively small diameter and connected to said reservoir by a shoulder having an annular groove on its inner surface, a sealing diaphragm contiguous to and spanning across said annular groove and provided with one or more thin portions and a piercing member slidably contained in said hollow neck and provided with a sharp edge adapted to break said diaphragm at said thin portion



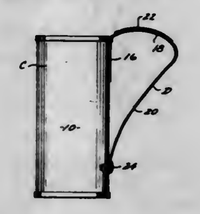
or portions when the cartridge is installed in a fountain pen.

3,269,585
PRESSURE VESSEL CLOSURE
Axel Christensen, Stamford, Conn., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 20, 1964, Ser. No. 338,674
2 Claims. (Cl. 220—46)



1. A pressure vessel which comprises a vessel body, a cover for said body, the interface surfaces between said body and said cover being provided with opposed curved recesses at their inner perimeters, a sealing ring disposed in the interface between said body and said cover, said sealing ring consisting of outer opposed disc members extending to an inner toroid ring member disposed in said recesses, the outer edges of said disc members being welded to said vessel body and said cover, the inner edges of said disc members being welded to said toroid ring member, said toroid ring member being split at the interface between said disc members and being structurally rigid, whereby deformation of said toroid ring member due to pressure differential between internal atmospheric pressure within said toroid ring member and elevated fluid pressure within the pressure vessel is substantially prevented, and means to compress said cover against said vessel body.

3,269,586
OPENER AND HANDLE FOR A BEVERAGE CONTAINER
Terry Y. Quimby, 846 S. Basetdale, La Puente, Calif., and Richard B. Wells, 3713 Locust, Long Beach, Calif.
Filed Aug. 3, 1964, Ser. No. 386,826
5 Claims. (Cl. 220—54)



1. In a beverage container having a vertical side wall and a horizontal lid formed with an opening, a combined opener and handle, that includes, a generally elongated strip having a first vertical portion secured to the upper part of said side wall, a horizontal portion contiguous

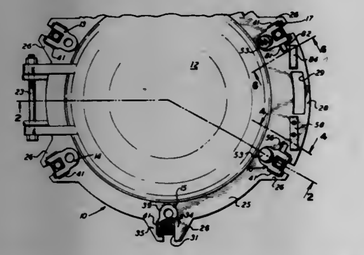
with the upper end of said first vertical portion and sealingly extending across the opening in said lid, and a second vertical portion contiguous with the end of said horizontal portion opposite said first vertical portion, said second vertical portion initially extending downwardly along said side wall opposite said first vertical portion, with the lower end of the second vertical portion of said strip being movable from its initial position upwardly and over the side of said container to remove the horizontal portion of said strip from said lid opening, and the free end of said second vertical portion being thereafter bent downwardly whereby said second vertical portion and said horizontal portion cooperate to define a handle for said container.

3,269,587

SAFETY CLAMP FOR PRESSURE VESSEL COVERS

Bert N. Svenson, 10747 Spry St., Norwalk, Calif.

Filed July 6, 1965, Ser. No. 469,664
11 Claims. (Cl. 220—55.3)



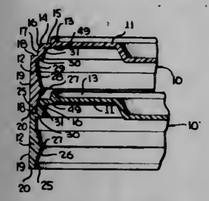
1. A pressure vessel comprising a pressure chamber, a cover, a cover rim, a plurality of over-center cam clamps each pivotally mounted to the vessel wall at intervals thereabout and adapted to bear selectively on the cover rim to seal the cover against the vessel, and limit means on a cam clamp adapted to pivot outwardly with the cam clamps and engage the cover rim adjacent the clamp so as to limit the outward swing of the cam clamp beyond that position inhibiting removal of the cover until the cover is displaced with respect to the vessel opening to disengage the limit means from the cover rim.

3,269,588

PLASTIC OVERCAP

Herbert S. Ruekberg, Highland Park, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Jan. 10, 1964, Ser. No. 337,029
8 Claims. (Cl. 220—60)



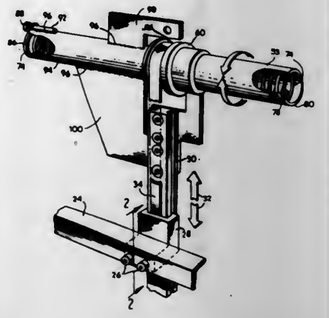
1. A flexible overcap comprising an end wall and an integral peripheral skirt depending to form a side wall portion, said side wall portion being provided with an inner shoulder spaced from said end wall, and a tapered portion extending inwardly and upwardly from said inner shoulder, said inner shoulder providing means for normally engaging the topmost portion of a container seam, said tapered portion having a diameter which is smaller than the outside diameter of said container seam.

3,269,589

STORAGE CABINET

Lawrence D. Orser, Cedar Falls, Iowa, assignor to Lincoln Manufacturing Company, Inc., Fort Wayne, Ind., a corporation of Indiana

Filed Mar. 6, 1964, Ser. No. 349,910
4 Claims. (Cl. 220—93)



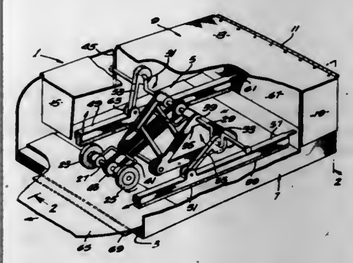
1. Apparatus for storing and serving materials, comprising: a cabinet, a vertically movable tray support for receiving and supporting materials which are stored within the cabinet and raised for serving as required, guide means one at each of opposite sides of said tray support for defining the vertical movements of said tray support and including a track having spaced guideways and a slide with bearing surfaces proportioned to move slidingly within said guideways to provide the vertical movements of said tray support, cage means mounted within the upper portion and on opposite sides of the cabinet, said cage means including a tubular stationary member and a rotatable tubular member, resilient means mounted within said tubular members and connected at the outer end of the stationary member and the outer end of the rotatable member, a pulley operatively driven and carried by said rotatable member, bearing means for supporting said rotatable member within the cabinet, and elongated force transmitting means connected between said pulley and tray support for raising and lowering the tray support.

3,269,590

PAPER DISPENSER WITH PUSHER FEET

William W. Harter, Los Angeles, Calif.
(6381 Pickett Ave., Garden Grove, Calif. 92641)

Filed Dec. 3, 1964, Ser. No. 415,629
5 Claims. (Cl. 221—23)



1. Means for dispensing flat objects from the top of a stack thereof comprising, in combination:
(a) roller means adapted to make dynamic frictional contact with a flat surface;

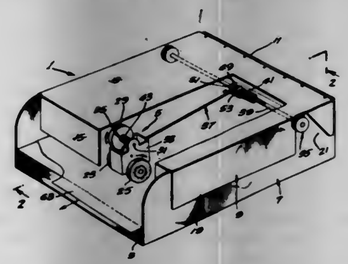
(b) means maintaining said roller means in frictional contact with the top of a stack of said flat objects whereby as the top one of said objects is pulled out from under it the movement of the object causes roller actuation of said roller means;
(c) pusher foot means adapted to make frictional contact with a flat surface;
(d) support and movement control means for said pusher foot means whereby driving actuation of the latter causes at least one pusher foot to travel through alternate cycles of forwardly pushing contact with the top of a stack of said flat objects to effect a shearing action on said stack and cause forward movement of a top one of said objects, and rearward movement, of nonadverse effect on said forward movement of a top one of said objects, to a position from whence it can begin its forwardly pushing movement again; and
(e) means drivingly connecting said roller means with said pusher foot means whereby actuation of the former in position atop the stack of said flat objects by pulling the top one of the objects out from under it causes the roller means to drive said pusher-foot means and thereby partially push the second one of the flat objects in the stack to a position from whence its forward edge can be easily grasped for subsequent removal from said stack.

3,269,591

PAPER DISPENSER WITH FLYWHEEL

William W. Harter, Los Angeles, Calif.
(6381 Pickett Ave., Garden Grove, Calif. 92641)

Filed Dec. 3, 1964, Ser. No. 415,630
4 Claims. (Cl. 221—23)



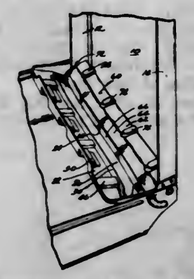
1. Means for dispensing flat objects from the top of a stack thereof comprising, in combination:
(a) roller means adapted to make dynamic frictional contact with a flat surface;
(b) means maintaining said roller means in frictional contact with the top of the stack of said flat objects whereby as the top one of said objects is pulled out from under it the movement of the object causes roller actuation of said roller means;
(c) flywheel means;
(d) means rotatably supporting said flywheel means; and
(e) means drivingly connecting said roller means with said flywheel means whereby roller actuation of the former in position atop the stack of said flat objects by pulling the top one of the objects out from under it causes the roller means to drive the flywheel means thus imparting kinetic energy thereto which, in turn, causes continued actuation of said roller means in frictional contact with the second one of the flat objects in the stack whereby that object is pushed forward to a position from whence its forward edge can be easily grasped for subsequent removal from said stack.

3,269,592

UNIVERSAL TOWEL DISPENSER

Norman J. Slye, Bernard E. Blanchard, and Archie S. Krueger, Green Bay, Wis., assignors to Alwin Manufacturing Company, Green Bay, Wis., a corporation of Wisconsin

Filed Sept. 26, 1963, Ser. No. 311,793
10 Claims. (Cl. 221—44)



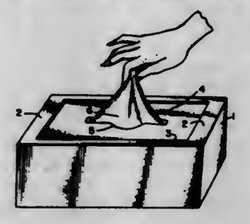
1. A towel dispenser or the like adapted to handle products of a number of different types and folds, said dispenser comprising a tray for supporting a stack of the products to be dispensed and comprising a bottom having a rearwardly downwardly inclined forward portion and a generally horizontal rearward portion, the respective portions having a dispensing slot which extends into both of said portions, the first mentioned portion having a product supporting rib along the forward margin of said slot and having laterally spaced easer ribs extending fore and aft and projecting rearwardly to said first mentioned rib, the forward margin of the dispensing slot curving forwardly at its ends and the product supporting rib having terminal hooks which include forward offsets and rearwardly extending ends encircling the forwardly curving ends of the slot, the said dispensing slot following the outline of said offsets and hooks.

3,269,593

TISSUE DISPENSING DEVICES

Madeleine Lodewick and Mildred Lodewick, both of 156 E. 52nd St., New York 22, N.Y.

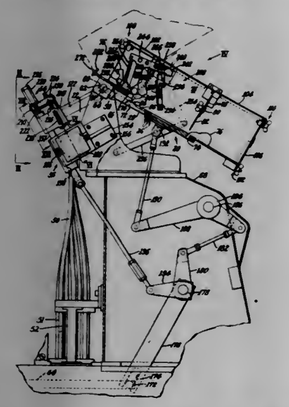
Filed May 28, 1963, Ser. No. 283,804
2 Claims. (Cl. 221—63)



1. A tissue dispensing device comprising a box-like container adapted to contain a stack of tissues, said container having opposed side walls and end walls, being open at the top, a cover loosely positioned within said container for free vertical movement therein, said cover extending into relatively close proximity to said side and end walls and being adapted to rest on the stack of tissues in said container and move downwardly as the stack is depleted, a small dispensing aperture in said cover through which the tissues may be withdrawn one at a time, a narrow ledge extending in normal position across the open top of the container, adjacent each end wall and extending inwardly therefrom to engage and prevent withdrawal of the cover from the container as a tissue is being drawn through said small dispensing aperture, each

of said ledges extending over the upper edges of said side walls and terminating in downwardly extending tabs pivoted to said side walls so that said ledges may be swung outwardly over said end walls to permit removal of said cover and refilling of said container with tissues.

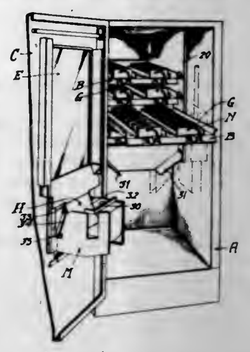
3,269,594
NAIL DISTRIBUTORS
Fred T. MacKenzie, Beverly, Frank C. Mattern, Jr., Wenham, and Joseph F. Schuster, Beverly, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Jan. 28, 1963, Ser. No. 254,297
13 Claims. (Cl. 221—68)



1. In a nail distributor, a hopper tiltable about an axis and having a floor which is provided with a plurality of nailways extending lengthwise of said hopper at approximately right angles to said axis, means for moving the hopper about said axis between elevated and lowered positions respectively in which the nailways are arranged above and below a horizontal plane including said axis, a nailway clearer, means for moving the nailway clearer toward said axis to a projected position as the hopper is moved to its elevated position and for moving the nailway clearer away from said axis to a retracted position as the hopper is moved to its lowered position, means for causing the nailway clearer in moving from its projected to its retracted position to be forced against a portion of the floor of the hopper whereby to remove nails, which are on said portion of the floor and are not hanging by their heads in the nailways, rearwardly away from said nailways, and means for causing the nailway clearer to be retained a substantial distance from the floor of the hopper in moving from its retracted to its projected position whereby to insure that the clearer shall not interfere with nails on said floor portion during such movement.

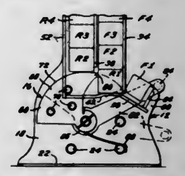
3,269,595
ARTICLE VENDING MACHINE
Merrill Krakauer, 57 Falcon Road, Livingston, N.J., and Henry E. Verbeke, Tanners Brook Road, Chester, N.J.
Filed Oct. 2, 1964, Ser. No. 400,983
13 Claims. (Cl. 221—75)

1. An article vending machine comprising a casing, a shelf in said casing, a discharge chute below one end of the shelf, a helical feeder coil rotatably mounted on said shelf to receive articles between its convolutions with the articles slidably supported by said shelf and with one end of said coil approximately coincident with said one end of the shelf for moving the articles toward and off said end of the shelf, a window in said casing adjacent said one end of the shelf for viewing the article next to be dispensed, an electric drive mechanism mounted on the other end of said shelf and having a rotatable output shaft connected to the other end of said feeder coil, an electric circuit for controlling the drive mechanism, and



means mounting said shelf in said casing for horizontal sliding movement with respect thereto, to enable the partial withdrawal of said shelf, together with said helical feeder coil and said drive mechanism, from said casing.

3,269,596
ARTICLE DISPENSER
Joseph Di Domenico and Frank Mellion, Providence, R.I., assignors to Jo-Dee Corp., Warwick, R.I., a corporation of Rhode Island
Filed Oct. 12, 1964, Ser. No. 403,080
3 Claims. (Cl. 221—107)



1. In a device for dispensing small articles therefrom, a base including an article receiving station and a dispensing station located adjacent to said article receiving station, a magazine assembly joined to said base above said article receiving station and projecting upwardly with respect thereto, said magazine assembly being defined by a forward section and a rear section, each of said sections receiving a single stack of articles therein, the lowermost article in each stack being received on said article receiving station, means for separating said magazine sections except at the lowermost ends thereof, wherein a space is defined at said article receiving station that provides for transfer of the lowermost article in said rear section to said forward section, and means for engaging said lowermost article in said rear section for movement thereof to said forward section and simultaneously moving the article in said forward section to said dispensing station, wherein the articles in said forward section are maintained at a constant level until all of the articles in said rear section are dispensed therefrom, said dispensing station including a forward stop against which the article moved into the dispensing station is engaged, said stop locating the article engaged therewith such that it is readily accessible for removal from said device and further locating the article engaged therewith such that the article next moved to the lowermost position in the forward section is disposed in engagement therewith, thereby preventing further dispensing of said articles until the article located at said dispensing station is removed therefrom.

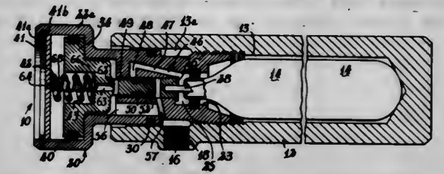
3,269,597
ARTICLE DISPENSING DEVICE HAVING A MOVABLY MOUNTED SUPPLY CONTAINER
Lawrence Passavanti, 133 Van Nostrand Ave., Englewood, N.J.
Filed Oct. 13, 1964, Ser. No. 403,491
5 Claims. (Cl. 221—186)



1. An article dispensing device comprising a pair of elongated members in telescopic, slidable relation to each other, the inner member having an elongated hollow portion for carrying a stack of articles to be dispensed, spring means for maintaining said members in a given longitudinal displaced relation, said inner member having a dispensing opening in a wall portion thereof in communication with the hollow portion thereof, said outer member having a dispensing opening in a wall portion thereof located to be in offset relation to the dispensing opening of said inner member when said members in said displaced relation and in registered relation to the dispensing opening of said inner member when said inner member is moved relative to said outer member against the action of said spring means, whereby the lowermost article of said stack of articles will be dispensed through said registering dispensing openings, and means for supporting said stack of articles while said lowermost article is being dispensed, said supporting means comprising an elongated thin strip anchored at one end to said outer member, said inner member being formed with a longitudinally extending guide slot for receiving therein said thin strip in its entirety when said inner member is in its normally longitudinally displaced relation to said outer member, said inner member having arcuate guide slot portions in aligned relation on opposite sides thereof for receiving therein side edge portions of said thin strip at the free end thereof whereby the free end thereof is operative to deflect from the plane of said strip toward the longitudinal axis of said inner member in response to the relative slidable movement of said inner member to said outer member for bringing their dispensing openings into registry, the deflected free end of said strip being then in a position to engage the bottom of said stack of articles to support the same while the bottommost article is being dispensed.

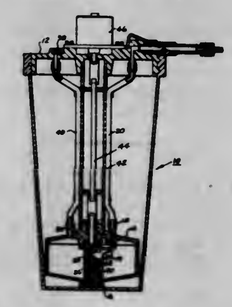
3,269,598
PRESSURE REGULATOR
Lamont C. Butters, Lowell, and John S. Colter, Topsfield, Mass., assignors to Watts Regulator Company, a corporation of Massachusetts
Filed Jan. 13, 1965, Ser. No. 425,147
10 Claims. (Cl. 222—5)

8. For use in a dispenser for ebullient liquid wherein gas pressure is supplied to the dispenser from a puncturable cartridge of compressed gas, a self-contained pressure regulator comprising a valving and cartridge piercing assembly adapted to be detachably connected to the dispenser, said assembly including a body having a socket at one end adapted to sealingly receive therein the pierceable end of the puncturable cartridge, a piercing pin on said body projecting within said socket, a discharge flow channel in said body, valve means movable within said body between open and closed positions for regulating the flow of compressed gas from said puncturable cartridge to



said flow channel, and means responsive to pressure of the compressed gas in the body operatively connected to the valve means for actuating same.

3,269,599
BEVERAGE DISPENSER
Leonard E. Austin, 512 S. Cortez St., Prescott, Ariz.
Filed Oct. 29, 1964, Ser. No. 407,386
9 Claims. (Cl. 222—63)

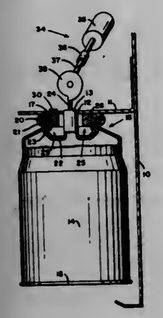


1. A beverage dispenser having a source of liquid comprising:
a measuring chamber having a predetermined volume,
an inlet and an outlet for said chamber,
means adapted to connect said inlet to said source,
conduit means connected at one end to said outlet,
a first electrically insulated coupling connected to the other end of said conduit means,
an electrically conducting tube connected at one end to said first coupling to be in flow communication with said conduit means,
a second electrically insulated coupling connected to the other end of said tube,
a discharge nozzle connected to said second coupling,
electric circuit means operatively connected to said tube for causing an electric current to flow therethrough,
a normally open switch in said circuit responsive to the pressure in said conduit means to move to closed position, and
pumping means energizable to discharge the liquid from said chamber.

3,269,600
PERIODICALLY OPERATED AEROSOL DISPENSER
Robert L. Weber III, New Canaan, Conn., assignor to Time-Mist Inc., a corporation of Delaware
Filed Sept. 24, 1964, Ser. No. 398,916
8 Claims. (Cl. 222—70)

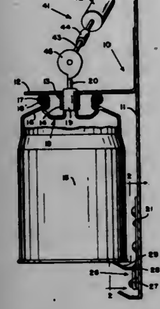
1. In combination, an aerosol container having a cup-shaped top including a re-entrant angular portion forming an annular shoulder, said cup-shaped top having an upstanding housing at substantially the center thereof which latter communicates with the interior of said container; valve actuating means in said housing; a bracket

having a hole therethrough and passage means therethrough arranged angularly about said hole; a connector for attaching said container to said bracket, said connector having a body portion; expanded skirt means at the bottom of said body portion for engaging the top of said



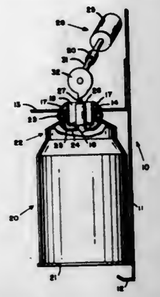
container; means at the top of said body portion adapted to cooperate with said angularly related passage means and engage the same for holding said container to said bracket; and periodically energized means for operating said valve actuating means.

3,269,601
PERIODICALLY OPERATED AEROSOL DISPENSER
Robert L. Weber III, New Canaan, Conn., assignor to Time-Mist Inc., a corporation of Delaware
Filed Sept. 24, 1964, Ser. No. 398,917
8 Claims. (Cl. 222—70)



1. Apparatus comprising in combination, a bracket including a vertical plate adapted to be attached to a wall; a horizontal plate fixed to said vertical plate, said horizontal plate including a hole therethrough surrounded by a wall depending downwardly from said plate; an aerosol can including a cup-shaped cap having a centrally disposed upstanding housing in which a valve mechanism is located that communicates with the interior of said can and a valve actuating stem extending upwardly from said upstanding housing; means attached to said bracket including means for contacting the bottom of said can to hold it in a vertical position where the valve actuating stem extends through the wall depending downwardly from said plate and through the hole in said horizontal plate and to a point thereabove; and motor-operated means ofr periodically actuating said valve stem for dispensing a predetermined quantity of active ingredient within said can.

3,269,602
PERIODICALLY OPERATED AEROSOL DISPENSER
Robert L. Weber III, New Canaan, Conn., assignor to Time-Mist Inc., a corporation of Delaware
Filed Sept. 24, 1964, Ser. No. 398,932
6 Claims. (Cl. 222—70)



1. In combination, an aerosol container having a cup-shaped top including a re-entrant angular portion forming an annular shoulder, said cup-shaped top having an upstanding protuberance at substantially the center thereof which latter communicates with the interior of said container; valve actuating means in said protuberance; a horizontal bracket having a hole therethrough; a connector for attaching said container to said horizontal bracket, said connector having a tubular body portion; outwardly directed tab means at the top of said body portion extending beyond the diameter of said hole; and inwardly directed tab means at the bottom of said body portion adapted to engage said protuberance, said inwardly directed tab means including tooth means thereon at their inner surface for gripping said upstanding protuberance.

3,269,603
FLOW CONTROL DEVICE FOR FLEXIBLE TUBES OF LIQUID EMBROIDERY PAINT
Joseph S. Reimann, West Orange, N.J., assignor to Tri-Chem, Inc., Belleville, N.J., a corporation of Delaware
Filed Aug. 31, 1964, Ser. No. 393,211
3 Claims. (Cl. 222—103)



1. In combination with a collapsible tube of liquid embroidery paint having a flattened crimped form at one end and a circular head at the other end provided with a ball point discharge orifice, a flow control device for said tube comprising a sheet metal strip folded on itself into a substantially U-shape, said device embracing said tube from the flattened end thereof partially along the length of the tube and having a rounded apex end portion for receiving the flattened end of the collapsible tube along the full width thereof, the extending side members of said device being substantially narrower than the corresponding dimensions of said tube, and said side members having transverse corrugations and being of a spring material

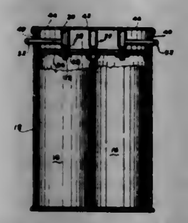
to exert pressure on the tube and to indent the corrugated side members into the walls of the tube for retaining the flow control device firmly in interlocking engagement with the flexible sidewalls of the tube, said corrugated side members providing a gripping surface for holding the flow control device firmly in the hand to enable the ball point to be directed accurately along an embroidery line.

3,269,604
PROTECTIVE SHIELD FOR COLLAPSIBLE PASTE TUBES
John Serry, 130 Bregman Ave., New Hyde Park, N.Y.
Filed Feb. 5, 1965, Ser. No. 440,031
8 Claims. (Cl. 222—105)



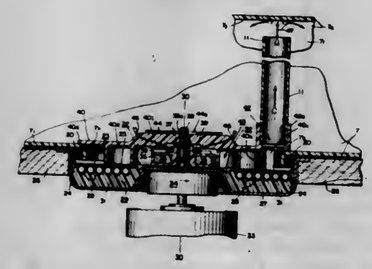
1. A protective device for enclosing a collaspible paste tube, comprising a pliable plastic tubular shield having a reduced opening in the top thereof through which the threaded discharge neck of a collapsible tube mounted in the device is adapted to project, the shield having substantially the conformation of a collapsible paste tube and having a wide opening at the bottom thereof through which the paste tube is adapted to be inserted into or withdrawn from the shield, and releasable means for closing said last-named opening.

3,269,605
PRESSURIZED DISPENSER ASSEMBLY HAVING A PLURALITY OF INDIVIDUAL CHAMBERS
Albert E. Silver, Bellmore, N.Y., assignor of one-third to Aaron S. Tesler, Brooklyn, and one-third to Seymour Boyers, Queens, N.Y.
Filed Aug. 3, 1965, Ser. No. 476,909
4 Claims. (Cl. 222—135)



1. A pressurized dispenser assembly of the character described, said dispenser assembly comprising an outer container having at least two individual pressurized chambers disposed therewithin, each of said chambers having a dispensable material under pressure stored therein, a separate valve attached to the top of each chamber, an opening formed in the outer container adjacent each said valve, each valve having an actuating push button extending upwardly therefrom and a discharge nozzle projecting laterally therefrom through said opening in the outer container, resilient means normally urging said push button in an upward direction, and a cover formed of a flexible sheet material secured to the upper rim of said container, said cover being positioned immediately above said push buttons, whereby manual downward pressure upon said cover above a selected push button will flex the cover in downward direction and cause said push button to move downwardly against said resilient means to actuate the selected valve for dispensing of said material contained within the chamber to which said valve is connected.

3,269,606
LIQUID CHILLER AND DISPENSER
Alfred Armstrong, Norwood, Mass., assignor to Crathco, Inc., Canton, Mass., a corporation of Massachusetts
Filed Mar. 3, 1964, Ser. No. 348,937
16 Claims. (Cl. 222—146)



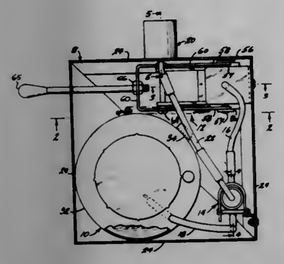
1. Liquid-processing apparatus, comprising a container for a quantity of a liquid, a heat-transfer plate having at least a substantially flat annular portion, a centrifugal impeller mounted for rotation in close proximity with and about an axis substantially normal to one side of said heat-transfer plate centrally of and coaxially with said annular portion, motive means on the other side of said heat-transfer plate coupled with and rotating said impeller, substantially flat annular refrigeration means mounted in intimate heat-exchange relationship with said other side of said annular portion of said heat-transfer plate, shallow pump means having a substantially spiral liquid flow passageway coaxially about and communicating with said impeller and exposed along one side for substantially its full length to said one side of said annular portion of said heat-transfer plate, means admitting liquid from said container to said impeller near said axis, and means for discharging accelerated liquid from said passageway into said container.

3,269,607
ACID DISPENSER
Glenn V. Anderson, Box 8, Welch, Minn.
Filed Oct. 7, 1964, Ser. No. 402,309
2 Claims. (Cl. 222—173)

1. A device for dispensing a predetermined quantity of corrosive liquid such as acid, comprising in combination:
a housing,
an acid supply source mounted within said housing,
a valve assembly having a normally closed upper check valve and a normally closed lower check valve and a fluid supporting interior chamber therebetween,
spigot assembly mounted to the exterior of said housing for discharging the predetermined quantity of acid,
an acid pump assembly having a cylindrical and piston slidably mounted therein defining an upper sealed chamber,
said pump assembly including linkage means for actuating said piston within said cylinder and thereby vary the fluid pressure of acting on the acid within said upper chamber, said linkage means including a U-shaped bar having lever ends adapted to straddle said cylinder,

first conduit means connecting said acid supply source with said valve assembly, said first conduit means being in fluid-communicating relation with said interior chamber of said valve assembly when said valve assembly and said linkage means are in their rest positions,

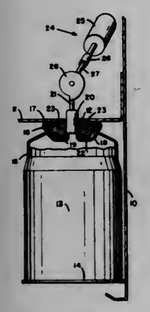
a second conduit means interconnecting said upper chamber of said pump assembly with said interior



chamber of said valve assembly, and in fluid-communicating relation therewith,

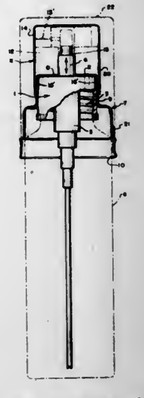
third conduit means interconnecting said valve assembly with said spigot assembly, said third conduit means being in fluid-communicating relation with said interior chamber of said valve assembly when said valve assembly and said linkage means are in their opened positions.

3,269,608
AEROSOL DISPENSER WITH MAGNETIC SUPPORT
Robert L. Weber III, New Canaan, Conn., assignor to Time-Mist Inc., a corporation of Delaware
Filed Sept. 24, 1964, Ser. No. 398,931
3 Claims. (Cl. 222—180)



1. In combination, an aerosol container having a cup-shaped top including a rolled outer edge and an upstanding housing member at substantially the center thereof which latter communicates with the interior of said container; valve actuating means in said housing member; bracket means including a horizontal plate having a hole therethrough adapted to receive said valve actuating means; and annular-shaped magnetic means attached to the underside of said horizontal plate and concentric with said hole for holding said container to said horizontal plate with said valve actuating means extending above said horizontal plate said magnetic means extending into the space between said upstanding housing member and the walls of the cup-shaped cap.

3,269,609
COMPOSITE CONTAINER CAP AND OUTER COLLAR
Warren S. Ahrens, Milford, Conn., assignor to The Bridgeport Metal Goods Mfg. Co., Bridgeport, Conn., a corporation of Connecticut
Filed Dec. 31, 1964, Ser. No. 422,773
8 Claims. (Cl. 222—182)



1. A composite cap structure for connection to a threaded open portion of a container adapted to hold a product comprising:

(a) a deformable cup-shaped primary cap having a top and threaded cylindrical skirt portion adapted to be threaded onto the threaded portion of said container;

(b) a cup-shaped rigid collar member having a cylindrical skirt portion slidably and telescopically received over said primary cap, and

(c) a plurality of locking elements on the inner surface of the skirt portion of said collar member with each element terminating in a radially inwardly extending locking edge facing circumferentially of the skirt portion of said collar member with at least one of said edges facing in a direction opposite to that of the remaining edges for locking said skirt portions together against relative rotation.

3,269,610
WALL HOLDER FOR SPRAY DISPENSER
Jack M. Fuls, P.O. Box 508, Bend, Oreg.
Filed Jan. 28, 1965, Ser. No. 428,632
12 Claims. (Cl. 222—183)

1. Apparatus for spraying a treating substance into a room and like spaces where such substance is carried in a container having a supply of treating substance therein with such container equipped with a valve-controlled nozzle means for regulating the discharge of the substance from the container, comprising:

a hollow container housing, said container housing including front and rear housing sections which are separable from each other to expose the interior of the housing;

one of said housing sections including a shelf for supporting the base of the container and means above said shelf for snugly encompassing the sides of a container resting on said shelf;

said front housing section including an aperture registering with the nozzle means of a container which is mounted on said shelf and within said encompassing means;

means for mounting the rear housing section on a wall;

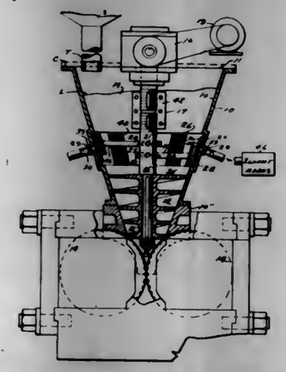
means exposed to the front of such a wall detachably securing the housing sections together; and

a manually-operated activator positioned outside and adjacent the top of the housing, in front of such



a wall mounting the housing, for actuating the valve-controlled nozzle means of a container within the housing.

3,269,611
FEEDING MECHANISM
Karl R. Komarek, Chicago, Ill., assignor to Komarek-Greaves and Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 4, 1964, Ser. No. 342,390
15 Claims. (Cl. 222—189)



1. A feeding instrumentality for finely divided material comprising a hopper, a recess in the hopper wall intermediate the top and bottom thereof, a filter in said recess having its inner surface substantially flush with the inner wall surface of the hopper, exhaust means for withdrawing air from said hopper through said filter so as to remove air from said material to thereby increase the bulk density of said material, means for scraping off material which becomes deposited upon said filter, whereby air may be continued to be withdrawn through said filter, and means for delivering said material from which air has been removed from said hopper.

3,269,612
MEASURING AND DISPENSING DEVICE
Charles H. Bode, Warrington, Pa., assignor of fifty percent to Russell O'Brien, Princeton, N.J., and fifty percent to T. Lawrence Johnson, Birmingham, Ala.
Filed Dec. 31, 1964, Ser. No. 422,658
3 Claims. (Cl. 222—197)

1. In a measuring and dispensing device,

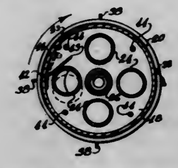
(a) a body having a portion disposed for attachment to a container having therein a supply of the material to be dispensed,

(b) inner and outer spaced apart walls carried by said body,

(c) a rotatable dispensing member mounted for rotation between said inner and outer walls,

(d) there being a material inlet opening through said inner wall and a material discharge opening through said outer wall, the inlet and discharge openings being spaced substantially equidistant from the center of said dispensing member and being spaced angularly from each other,

(e) compartments carried by an positioned equidistant from the center of said dispensing member and spaced angularly equidistant from each other to position successive compartments in alignment with said inlet opening upon movement of successive compartments into alignment with said discharge opening with the ends of said compartments being open and disposed to slide substantially material



tight against the adjacent surfaces of said inner and outer walls,

(f) means to rotate said dispensing member while said body is in dispensing position to align said compartments successively with said material inlet opening and said material discharge opening whereby said material is introduced into the compartment in alignment with said inlet opening and said material is discharged from the compartment in alignment with said discharge opening,

(g) a resilient member carried by said body and urged toward a position to engage a compartment as it moves into alignment with said material discharge opening, and

(h) means carried by said rotatable dispensing member in position to engage said resilient member and move the same away from said compartments and then release said resilient member whereby it strikes said compartment which is in alignment with said discharge opening.

3,269,613
DISPOSABLE DISPENSING CONTAINER
Georgene Nickas, 3046 N. Francisco Ave., Chicago, Ill.
Filed Feb. 24, 1965, Ser. No. 434,907
3 Claims. (Cl. 222—392)



1. A dispensing receptacle, comprising:

(a) an open ended sleeve-like container;

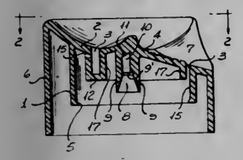
(b) a plunger head of cross-sectional shape conforming to that of the container snugly and slidably received within the same and normally positioned adjacent one of its open ends;

(c) a substantially stiff though pliable bar connected to the plunger head extended longitudinally of said container;

(d) a closure cap having flanges of cross-sectional shape conforming to that of the container connected to the free end of said bar engageable, at times, over the remaining end of the container, and

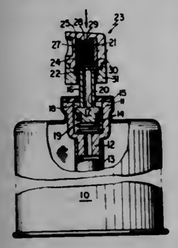
(e) the combined length of the plunger head, the bar, and the closure cap being greater than the length of the container.

3,269,614
DISPENSING CAP FOR AN AEROSOL CONTAINER
Robert Henry Abplanalp, 10 Hewitt Ave., Bronxville, N.Y.
Filed July 30, 1963, Ser. No. 298,660
11 Claims. (Cl. 222—394)



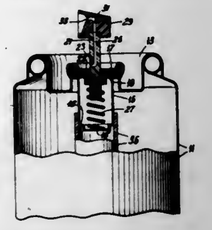
1. A one-piece injection-molded cap for an aerosol dispenser comprising: a cap body having a top opening defined by a flange which extends downwardly from the top surface of the cap, a valve operating tab positioned within said top opening and having a valve stem receiving socket therein, and a flexible hinge element having a displaceable axis of rotation comprising a relatively narrow, relatively thin strip of resilient material connecting said flange to said valve operating tab to allow said valve operating tab limited freedom of motion in any direction relative to said cap body.

3,269,615
AEROSOL CONTAINER WITH METERING VALVE
Royal T. Ferry, Jr., 276 Taintor Drive, Southport, Conn.
Filed May 27, 1964, Ser. No. 370,587
7 Claims. (Cl. 222—394)



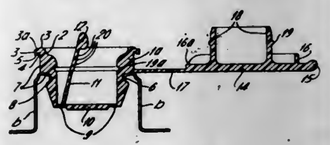
1. A metering outlet valve for a pressurized container having an opening at one end thereof, including in combination a hollow depressible stem and valve in said opening; spring means normally holding said valve in closed position; a cylindrical member having chamber means therein, mounted on said stem and including a circumferential sealing surface adjacent to the upper end thereof, as well as at the upper end thereof; head means slidably mounted on said cylindrical member and having a circumferential sealing surface slidably mating with said circumferential sealing surface on said cylindrical member adjacent to said upper end thereof, and a seat adapted to cooperate with the sealing surface at the end of said cylindrical member, said head means having an outlet aperture therein at a location to be opened and closed by the sealing surface and seat on said head means; and spring means having a force value substantially less than that of said valve spring, urging said head means upwardly relative to said cylindrical member so that the chamber means therein is placed in communication with said outlet aperture, said sealing surfaces engaging each other to seal off said outlet aperture when said head means is depressed relative to said cylindrical member and before said stem is depressed, further movement of said head means opening said valve to fill said chamber means.

3,269,616
VALVE STEM AND BUTTON STRUCTURE FOR DISPENSING AEROSOL FORMULATIONS
Robert D. West, Charlotte, N.C., assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 24, 1964, Ser. No. 421,051
3 Claims. (Cl. 222—394)



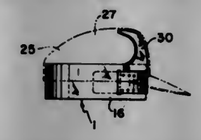
3. In an aerosol dispensing valve structure wherein interior passages in a valve chamber, a valve stem and a valve dispensing head are comprised in a flow path through which an aerosol formulation passes outward from an aerosol container interior to a dispensing nozzle in said valve dispensing head, the improvement consisting of the total flow path having respective incremental cross-sectional areas along the outward flow direction such that any single cross-sectional area available for flow of aerosol formulation therethrough is at the most equal to the immediately preceding incremental cross-sectional area.

3,269,617
DRIP-PROOF AND TAMPER-PROOF POURING DEVICES
Imre Goth, 147 Talgarth Road, London W. 14, England
Filed Aug. 26, 1964, Ser. No. 392,142
Claims priority, application Great Britain, Sept. 3, 1963, 34,838/63
10 Claims. (Cl. 222—541)



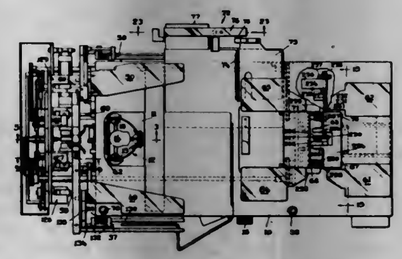
1. A spout-type container closure device for closing the neck portion of a container, said device comprising, in combination, a generally tubular pouring spout of resiliently flexible material fittable into the container neck to be closed, said spout having at its pouring end an outwardly expanding recess constituting a first pouring surface and a second pouring surface contiguous to said recess, said second pouring surface having a generally annular first part extending radially outwardly in reference to the center axis of the spout, a generally cylindrical second part depending from the outer rim of said first part, a generally cylindrical third part extending upwardly in reference to said first part and being disposed radially intermediate said second part and the outer wall of said spout, and a generally annular fourth part joining said second and third parts, the area of said fourth part constituting an area at which the capillary action of said recess upon a liquid poured out through said spout is effective to impede dripping due to a formation of residual drops, a sealing disk having a weakened peripheral portion sealed to said spout adjacent the inner end thereof to close said spout for preventing tampering with the contents of a container to the neck of which the device is fitted, and a pull tab secured to said disk to forcibly remove the same from the spout.

3,269,618
ADJUSTABLE FORM FOR WORK CAPS AND THE LIKE
Robert A. R. Humalainen, 884 Mill St., Conneaut, Ohio
Filed Dec. 10, 1964, Ser. No. 417,383
5 Claims. (Cl. 223—25)



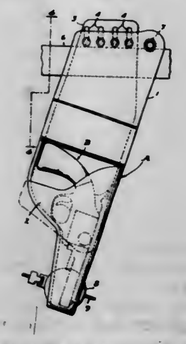
1. An adjustable form for maintaining a cap in proper shape during the drying thereof comprising a flat elongated plastic strip of uniform thickness formed in the shape of a circular band, said strip being of a uniform height from one end for a substantial portion of its length, said strip having a pair of longitudinally spaced laterally extending slots therethrough adjacent said one end, and a pair of laterally spaced outwardly projecting buttons between said slots, the other end of said strip being narrower than said slots for insertion therethrough, and a plurality of pairs of longitudinally spaced apertures in said other end in longitudinal alignment with said pair of buttons, said buttons being adapted to be pressed into any one of said pairs of apertures for adjusting the size of said band.

3,269,619
FOLDING DEVICE
David A. Freeman, Evanston, Ill., assignor to Kleindienst and Co., Maschinenfabrik, Augsburg, Germany, a company of Germany
Original application Feb. 10, 1961, Ser. No. 88,445, now Patent No. 3,231,157, dated Jan. 25, 1966. Divided and this application Apr. 2, 1964, Ser. No. 356,774
7 Claims. (Cl. 223—37)



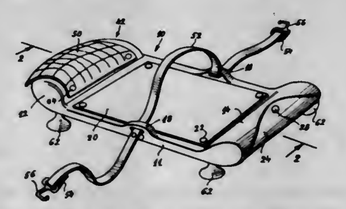
1. A folding device for planar flexible material comprising a frame with a top working surface, means for clamping one portion of said material to said top working surface, a series of folding arms pivotally connected to said top working surface, said folding arms being operative successively in predetermined fashion to fold portions of said material inwardly onto other portions of the material and means to successively operate said arms to fold said material, said last mentioned means comprising a cam wheel affixed to a common powered axle extending longitudinally with said frame, a series of cam followers actuated by said cam wheel and operatively connected to pivot mechanisms for individually pivoting the folding arms, and said cam wheel actuating a plurality of cam followers each operatively connected to a crank, and each crank operatively connected to a rack-pinion mechanism, the pinion of each said mechanism operatively connected to means for pivotable movement of a folding arm.

3,269,620
GUN HOLSTERS AND OTHER CARRYING CASES
Kenneth W. Du Bois, 295 S. Rocky River Drive, Berea, Ohio
Filed Oct. 1, 1964, Ser. No. 400,769
6 Claims. (Cl. 224—2)



5. In combination, a hand-gun bolster which may be carried on the body by a suspension member, comprising an open-ended, hand-gun-receiving body portion, a cover flap having a rearward end attached to said body portion and a forward end, said cover flap having an upwardly extending open position and a closed position wherein said cover flap extends across the open end of said body portion, and a strap extending between the forward end and the rearward end of said cover flap, said suspension member being slidably received between said strap and said cover flap whereby said suspension member supports said holster from the rearward end of said cover flap when said cover flap is closed to provide a high secure position and from the forward end of said cover flap when said cover flap is open to provide a slow-slung position, and a retractable spring loaded tension reel member mounted on the bottom of said body portion and having a flexible line therein adapted to be looped around a leg of the holster wearer to secure said holster to the body when in its low-slung position.

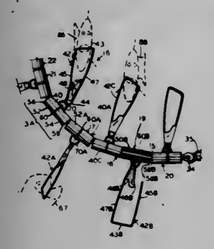
3,269,621
BABY CRADLE-LIKE CARRIER
Harry S. Dishart, 137 Prospect Park SW., Brooklyn 18, N.Y.
Filed Sept. 9, 1965, Ser. No. 486,150
9 Claims. (Cl. 224—6)



1. A baby carrier of the kind described comprising a rectangular shaped thin body having opposed slotted lugs projecting upwardly of the top surface at the sides of the body, and a flexible strap extending through the slots in

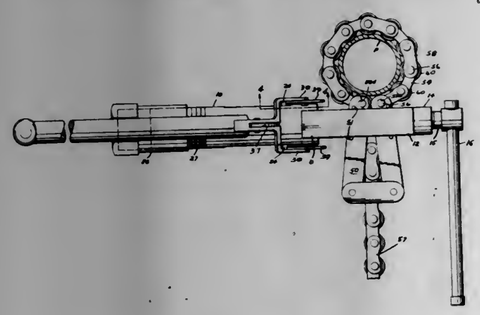
the lugs and therebeyond for fastening a baby on the body and for fastening the body with baby to the back of an adult.

3,269,622
FISH STRINGER
Thomas C. Wood, 301 McCarthy, Borger, Tex.
Filed Apr. 8, 1965, Ser. No. 446,575
6 Claims. (Cl. 224—7)



1. A fish stringer comprising, in combination, a flexible string member and a plurality of sleeves each completely encircling and permanently secured to said string, each said sleeve having a smooth inner surface with a minimum inner diameter greater than the maximum outer diameter of said string, a pivot support member completely encircling and firmly affixed to said sleeve member approximately one-half way between the ends of said sleeve member, said pivot support member being provided with a member projecting radially from the surface of said sleeve member, a swivel member rotatably attached to said pivot support member, and a hook member rotatably attached to said swivel member at a point spaced apart from the point of attachment of said swivel member to said pivot support member.

3,269,623
CHAIN TYPE PIPE BREAKER
Anton J. Janik, Elyria, Ohio, assignor to The Ridge Tool Company, Elyria, Ohio, a corporation of Ohio
Original application Aug. 18, 1961, Ser. No. 132,380, now Patent No. 3,187,969, dated June 8, 1965. Divided and this application Nov. 25, 1964, Ser. No. 424,870
4 Claims. (Cl. 225—1)



1. The method of fracturing frangible pipe which comprises subjecting said pipe to pressure around its periphery at spaced points in a sharply defined circumferential line and then imparting to said pipe at said points around its periphery shock compressive forces of a sudden and short duration.

3,269,624
VENEER BREAKERS
Herbert Vonhof and Ivan G. Myers, Shelton, Wash., assignors to Simpson Timber Company, Seattle, Wash., a corporation of Washington
Filed May 12, 1965, Ser. No. 455,084
9 Claims. (Cl. 225—97)



1. In combination with a veneer breaker having a plurality of breaker arms fixed to a rotatable shaft for movement into the path of a moving veneer ribbon, actuating means comprising: a crank arm on said shaft, a double acting fluid cylinder having an extensible piston rod, means to actuate said cylinder, and over-center toggle linkage means for connecting said rod to said crank arm, whereby a single stroke of said rod causes rotation of said shaft alternately in both directions to operate and return said breaker arms.

3,269,625
FRONT PANEL CONTROL FOR PRESSURE ROLLER SLIDE MECHANISM
Paul J. Nieland, South St. Paul, and Wayne E. Schober, Minneapolis, Minn., assignors to Viking of Minneapolis, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 3, 1964, Ser. No. 394,231
5 Claims. (Cl. 226—90)

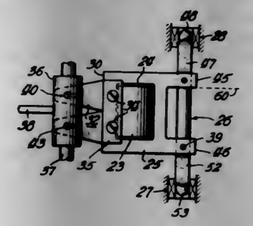


1. In a tape handling machine of the type having a housing defining a top panel for supporting a coil of tape and a front control panel and also having a tape drive including capstan, a pressure roller mechanism mounted on an oscillatory shaft for arcuate swinging movements toward and away from said capstan, a crank arm secured to said shaft, and a slide for imparting said swinging movements to the pressure roller mechanism upon generally fore and aft directed sliding movements of said slide, the improvement of a control mechanism disposed at least partially in said front housing panel for imparting said sliding movements to the slide, said control mechanism comprising:

(1) a first lever element mounted for pivotal movements about an axis generally parallel to the axis of said oscillatory shaft, said first lever element having a handle portion disposed outwardly of said front housing panel and movable in a generally vertical direction generally perpendicular to the direction of sliding movement of said slide, and

(2) a second lever element connected between said first lever element and said slide.

3,269,626
ADJUSTABLE SUPPORT FOR PRESSURE FIXING ROLLERS
Otto J. Albrecht, Trenton, N.J., assignor to Omnitronics, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Mar. 27, 1964, Ser. No. 355,400
10 Claims. (Cl. 226—177)



8. In an electrostatic printing system in which a flexible tape having conductive particles adhering to individually charged areas is displaced along a given path, a pressure-fixing arrangement comprising:

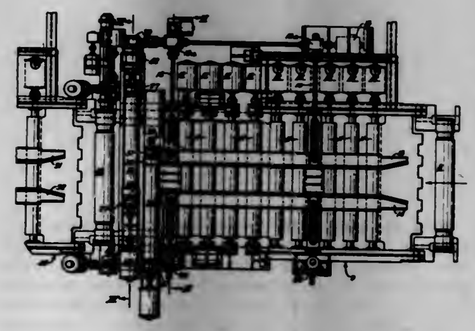
a first roller positioned to one side of the tape path;

a second roller positioned to the other side of the tape path;

means for supporting one of said rollers for movement relative to the other of said rollers, to provide a compressive force along a lateral area between the rollers; and

a single resilient biasing assembly comprising at least two integral elements, one of said elements being individually adjustable to regulate the compressive force only across a first portion of the lateral area and the other of said elements being individually adjustable to regulate the compressive force only across the remaining portion of said lateral area, thereby to provide a uniform fixing pressure for tapes of different widths.

3,269,627
STRIP GUIDING APPARATUS
Jeremiah Wagner O'Brien, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 13, 1964, Ser. No. 359,351
Claims priority, application Great Britain, Apr. 17, 1963, 15,024/63
8 Claims. (Cl. 226—179)



1. An apparatus for guiding strip-like material during its travel along a given path comprising:

a first group of rollers for supporting the material during its travel,

at least two other rollers,

a disk-like material guiding member carried by and rotatably projecting from each of said other rollers and having guiding surfaces adapted to engage and confine the opposite edges of the material, respectively,

said members arranged in a staggered relationship relative to each other in the direction of the path of travel of the material,

two longitudinal extending material guiding members arranged in guiding relationship above said table having material guiding surfaces in guiding alignment with the guiding surfaces of said disks and adapted to engage and confine the opposite edges of the material, respectively,

means for moving at least one of said disk-guiding members transversely of said first group of rollers to place its guiding surface in a preselected guiding position relative to first group of rollers, and means for moving at least one of said longitudinal guiding members transversely of said first group of rollers to place its guiding surface in the same preselected guiding position of said disk-guiding member.

3,269,628
TAPE GUIDE POST
Carl R. Tarver, Canoga Park, Calif., assignor to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed Nov. 23, 1964, Ser. No. 413,026
12 Claims. (Cl. 226—199)



1. In an adjustable guide post which has a main support adapted to be coupled to a panel and a housing with clips fastened thereto for coupling to a first end of said main support, the arrangement comprising:

a guide ring rotatably mounted on said main support at a second end thereof; and

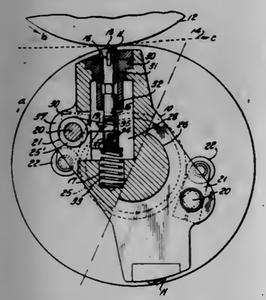
adjustable means including a shaft and a rotatable roller mounted thereon adapted to have at least a portion thereof coupled to said housing through said main support.

3,269,629
ROTARY STAPLING APPARATUS
Rudolf Fischer, Ludwigshafen-Oggersheim, Germany, assignor to Schnellpressenfabrik Frankenthal Albert & Cie, Aktiengesellschaft, Postfach, Germany
Filed May 27, 1965, Ser. No. 459,315
8 Claims. (Cl. 227—81)

1. Apparatus for the stapling of webs of varying thickness comprising in combination:

(1) a rotary stapling member having a peripheral staple-carrying die,

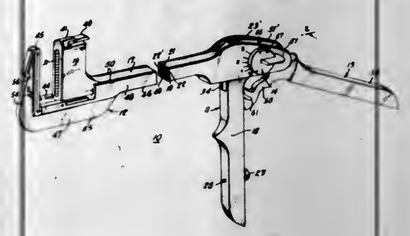
(2) a rotary die member having a peripheral staple-clinching die and rotating in a direction opposite to and about an axis spaced by a fixed distance from and parallel to the axis of said stapling member,
(3) the web to be stapled passing between said members,
(4) a staple-driving plunger slidably mounted upon said stapling member with its outer end surface forming the bottom of said staple carrying die, and
(5) operating means to intermittently propel said plunger during the periods of registry of said staple-carrying and staple-clinching dies comprising:
(a) a compression spring upon said stapling member to urge said plunger in the outward staple-driving direction,
(b) motion-transmitting mechanism upon said stapling member including a first lever arm engaging said plunger and a second lever arm terminating in a cam follower,
(c) a normally stationary control eccentric coaxial with said stapling member and engaged by said follower,



(d) said eccentric having a section of constant radius, to normally restrain said plunger from movement by said spring, and a first cam section having a radius changing gradually from said constant radius to a second radius and followed by a second cam section changing from said second to said constant radius, and said follower being structurally related to said first cam section, to release the same and to thereby gradually propel, during engagement of said follower by said first cam section, said plunger by said spring in the staple-driving direction to a predetermined position beyond the periphery of said stapling member, and to return said plunger against the action of said spring during engagement of said follower with said second cam section, and
(e) means to adjust the angular position of said eccentric within a fixed operating range corresponding to the length of said first cam section, thereby to cause varying instantaneous plunger positions during its forward movement to coincide with the central registry position of said staple-driving and staple-clinching dies.

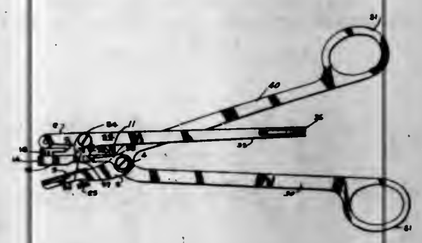
3,269,630
STAPLING INSTRUMENT
Harry Fleischer, 700 Park Ave., New York, N.Y.
Filed Apr. 30, 1964, Ser. No. 363,803
19 Claims. (Cl. 227—107)

1. A stapling instrument for performing surgical operations, comprising:
(a) a handle assembly, including a frame member, a staple magazine and a staple drive means;
(b) a coupling means comprising a drive axle extending through said frame member;
(c) an elongated anvil assembly pivotally coupled by said drive axle to said frame member and extending in alignment with a portion thereof;
(d) a drive handle means positioned partially within and pivotally coupled by said drive axle to said frame member and said anvil assembly, said drive handle means comprising a drive anvil having a first aperture through which said drive axle extends,



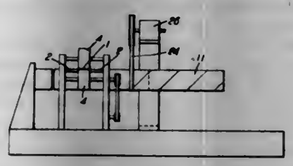
an elongated curved aperture, one end of which is in close proximity to said first aperture, and a side wall, a portion of which protrudes away from a portion of said elongated curved aperture remote from said first aperture;
said drive handle means being adapted to move said drive axle and said anvil assembly a predetermined longitudinal distance upon the angular rotation of said handle means, and to extend said staple drive means into said staple magazine upon the continuance of the rotation of said handle means.

3,269,631
SURGICAL STAPLER
Timothy Takaro, Asheville, N.C., assignor to the United States of America as represented by the Secretary of the Army
Filed June 19, 1964, Ser. No. 376,598
4 Claims. (Cl. 227—144)



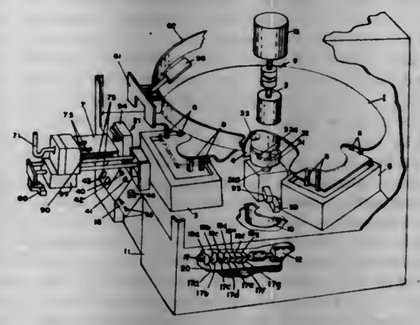
1. A surgical stapler for driving and clinching a plurality of staples simultaneously, comprising a staple-driving lever and a staple-clinching lever, said levers being pivotally connected and having handle portions at one end from said pivot and jaw portions at the opposite end, a multiple staple-clinching anvil mounted on the jaw portion of said staple-clinching lever, a multiple staple-housing unit independently pivotally mounted to said pivotal connection and extending between said staple-driving and staple-clinching jaws, and a multiple staple-driver independently seated within and movable relative to said housing unit by said driving jaw.

3,269,632
APPARATUS FOR MAKING HELICALLY WOUND PIPES OR TUBES
John Creed Groves and James Ronald Penrose, Watford, England, and John Humphrey Millar, 6 Chelsea Lodge, Tite St., London SW. 3, England; said Groves and said Penrose assignors to said Millar
Filed May 27, 1963, Ser. No. 283,284
Claims priority, application Great Britain, May 29, 1962, 20,712/62
4 Claims. (Cl. 228—15)



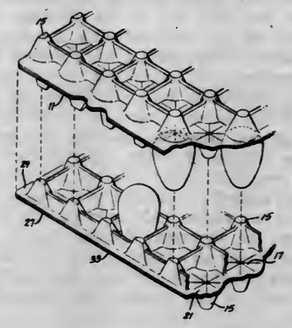
1. A machine for forming helically welded pipes or tubes of strip material comprising a mandrel having a rotatable portion around which the strip is fed, a raised shoulder fixed in position around a portion of the mandrel and extending for one helical turn, welding means positioned to butt-weld the leading edge of the strip to a previously formed tube at the point where it contacts the trailing edge of the tube, and drive means continuously to rotate the tube in the direction to tend to cause the helical turns to tighten and to advance the tube through the machine; said drive means comprising a friction belt surrounding the tube and a driving pulley for the belt, the angle between the pulley axis and the tube axis being adjustable so that the amount by which the tube is fed forward for each rotation of the belt can be altered.

3,269,633
AUTOMATIC SPIN SOLDERING MACHINE
Edgar R. Bernier, Nashua, N.H., and Paul F. Hayner, Lexington, Mass., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Nov. 4, 1964, Ser. No. 408,927
20 Claims. (Cl. 228—36)



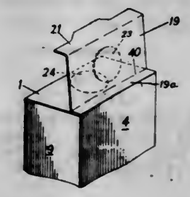
1. In a spin soldering machine, in combination, a frame, a turntable mounted on said frame for rotational and vertical movement, containers holding flux, solder, and cleaner respectively, positioned under said turntable, means for mounting circuit boards under said turntable, means for indexing said turntable to sequentially position said boards at each of said containers, means for raising and lowering said turntable to thereby immerse and remove said circuit boards from each of said containers, and means for spinning said turntable after immersion in each of said tanks whereby excess material is removed from said boards.

3,269,634
EGG CONTAINER
Herman Mers, 31 Jayson Ave., Great Neck, N.Y.
Filed Feb. 12, 1965, Ser. No. 432,236
9 Claims. (Cl. 229—2.5)



1. An egg container structure, comprising in combination, a thin plastic sheet defining a plane having shaped therein a plurality of flat resilient egg supporting means regularly spaced in rows and, a plurality of hollow conical egg receiving sections transverse to said defined plane, in alternate rows between the rows of egg supporting means, the egg receiving sections being offset from the egg supporting means, so that when two said sheets are juxtapositioned in back to back relationship said egg supporting means will be disposed over said hollow conical egg receiving means forming said structure, and when two said structures are placed in face to face relationship, eggs will be resiliently supported within said two structure arrangements in the conical egg receiving sections of each structure by the egg supporting means each of said structures appearing as a flat piece with a plurality of hollow raised and depressed cones thereon, resilient egg supporting means between each four rectangularly adjacent cones, and a wall between adjacent cones to give the structure some rigidity.

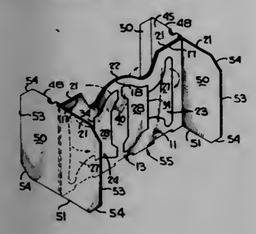
3,269,635
CANISTER TYPE PAPERBOARD CARTONS
Robert M. Bergstein, Wyoming, and Robert W. Nerenberg, Middletown, Ohio, assignors to Bergstein Packaging Trust, Middletown, Ohio, a trust composed of Robert M. Bergstein and Frank D. Bergstein, trustees
Filed Jan. 4, 1965, Ser. No. 425,108
6 Claims. (Cl. 229—14)



1. A canister type container formed from a one-piece flat-folded carton blank having four body walls in edge to edge articulation defining, in the order named, the top, front, bottom and rear walls of said container, closure flaps projecting outwardly from the opposite side edges of said carton body walls, said closure flaps, when juxtaposed and adhesively sealed together, defining the opposite side walls of said container, a dispensing opening formed in the top wall of said carton body, a tubular liner disposed within said carton body with its opposite ends projecting freely outwardly beyond the opposite side

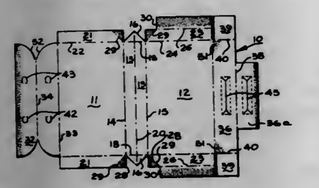
edges of said carton body walls, said liner being adhesively secured to said carton body walls so that said liner will be erected together with said body walls whereby to provide a container which, upon erection, is adapted to be filled and sealed through its opposite side walls, whereupon the filled and sealed container is uprighted for use with the top wall containing the dispensing opening uppermost, a removable cover member for said dispensing opening, said removable cover member being of a size to completely cover said dispensing opening and having portions thereof projecting outwardly beyond the periphery of said dispensing opening, said extending portions being juxtaposed to the upper surface of said top wall, said removable cover member comprising a liftable closure flap hingedly connected to the upper edge of the rear wall of said carton body and of a size to overlie said top wall and the dispensing opening therein, said liftable closure flap having an attachment tab hingedly connected thereto, said attachment tab being detachably secured to the front wall of said carton body adjacent its uppermost end.

3,269,636
PARTITION WITH END PANELS
George S. Holmes, Middlesex, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 22, 1963, Ser. No. 317,878
7 Claims. (Cl. 229—15)



1. A separator for use in a bottle carrier, said separator including an upstanding central panel, a connecting panel joined to said central panel at each end portion thereof along a first line, an end flange joined to said connecting panel along a second line, said connecting panel and end flange being substantially parallel to each other and substantially normal to said central panel, said first and second lines being angularly disposed fold lines, said connecting panel being positioned wholly to one side of said central panel and said end flange projecting substantially beyond said one side and terminating at a side of said central panel opposite said one side.

3,269,637
CONTAINER
Alvin Whittaker, Sierra Madre, Calif. (2708 Leonis Blvd., Vernon, Calif.)
Filed Sept. 22, 1964, Ser. No. 398,840
19 Claims. (Cl. 229—16)



1. A collapsible, rectangular container comprising: a pair of spaced, parallel side walls;

a bottom wall joined to each of said side walls along one of two fold lines located one at each of two opposite sides of said bottom wall;

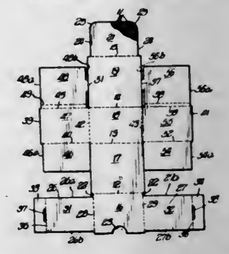
a rectangular flap joined to a side wall at each of two opposite ends of each side wall, the flaps joined to one side wall being wider than the flaps joined to the other side wall;

pairs of said flaps being fastened together in overlapping relation to form end walls of the container;

said bottom and end walls having aligned median fold lines whereby the bottom and end walls can be folded to collapse the container;

and top flaps joined to each side wall along the remaining side thereof, said flaps being flat and including an integral portion on one flap forming a pocket receiving a portion of the other flap and interlocking the top flaps in overlapping relation to form a top wall holding the side walls apart.

3,269,638
BOX
Norman C. Forbes, Glenview, Ill., assignor to Merchants Paper Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 23, 1965, Ser. No. 441,963
7 Claims. (Cl. 229—16)

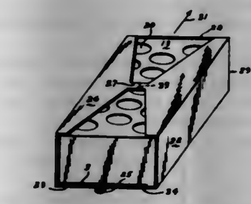


1. In a corrugated paper box having a body portion including at least a front wall panel, a bottom wall panel, and a rear wall panel, a side wall and locking structure comprising: a first side panel depending from each side of said front wall panel and foldable into a position normal to said rear wall panel; a rear flap depending from the end of each of said first side panels and foldable into a position inwardly adjacent said rear wall panel, each of said rear flaps being provided with an elongate aperture adjacent and parallel to the intersection of said rear flap and the associated first side wall panel; a second side panel depending from each side of said rear wall panel and foldable into a position adjacent the outer surface of a corresponding one of said first side panels; and a locking panel depending from the top of each of said second side panels and foldable over the top of a corresponding one of said first side panels and into a position inwardly adjacent of said corresponding one of said first side panels, each of said locking panels being provided with a locking tab adapted to be engaged in a corresponding one of said rear flap apertures so as to retain said box in assembled condition.

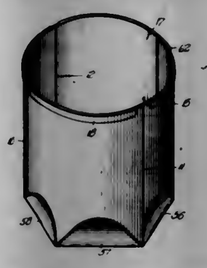
3,269,639
RADAR REFLECTOR CONTAINER
Burns A. Cash, Madison, Wis., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 22, 1965, Ser. No. 441,940
2 Claims. (Cl. 229—23)

1. A container, adapted to have radar reflective material packaged therein, comprising of two substantially identical portions, each of said portions having means for supporting the other in adjoining relation and having a

plurality of openings therein; a retaining means for holding said two portions in adjoining relation, said retaining means comprising of a panel, surrounding said two portions, having two broad members connected by a severable narrow neck; said broad members being joined together on the side opposite said severable narrow neck, by means of crimping; and an end portion enclosing one end of said retainer.

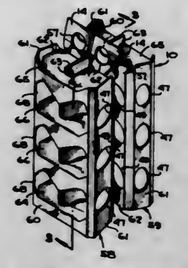


3,269,640
CONTAINER
Edwin L. Arneson, Morris, Ill., assignor to Federal Paper Board Company, Inc., Bogota, N.J., a corporation of New York
Filed Apr. 1, 1965, Ser. No. 444,626
10 Claims. (Cl. 229—21)



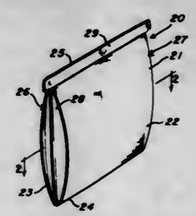
1. A collapsible cylindrical container comprising, in erected condition, two side wall forming panels integrally connected to each other on vertically extending hinge forming crease lines so as to define a tubular body of generally cylindrical form, an inner bottom wall forming panel having six straight edges of equal length on the perimeter thereof and with a maximum dimension across its inside face somewhat greater than the diameter of the tubular body, said inner bottom wall forming panel being hinged along one straight edge thereof to the bottom edge of a web section which extends upwardly in the lower margin of the body side wall and which is defined by an upwardly bowed, semi-circular fold line and a chord-like bottom straight edge, said web section having a substantially flat surface adjacent the bottom edge thereof and merging into the curved surface of the body side wall along the upper edge thereof, pairs of bottom wall forming flaps integrally connected along straight edges thereof to the straight bottom edges of like web sections in the bottom margin of the side wall at opposite sides of the hinged connection between said inner bottom wall forming panel and said side wall, the flaps of said respective pairs being hinged to each other by a glue tab which is flexibly connected to one thereof so as to assume horizontal coplanar relation when said container is erected, and a further bottom wall forming panel integrally hinged to the bottom edge of a web section disposed in the bottom margin of said side wall opposite the first mentioned web section, said further bottom wall forming panel having a glue flap integrally hinged thereto, which glue flap is secured to the outside face of said inner bottom wall panel and acts to swing the latter toward said first mentioned flaps as they approach said coplanar relation.

3,269,641
CARTON FOR FRUITS, VEGETABLES AND THE LIKE
Arthur J. Weiss, Bergenfield, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 12, 1962, Ser. No. 179,046
18 Claims. (Cl. 229—28)



1. A carton for articles of fruit, vegetables and the like, said carton being formed from an integral one-piece sheet material blank separated into two substantially tubular sections, and at least one connecting strap projecting axially from and connecting together said sections and being adapted to serve as a handle for carrying said carton, said connecting strap being folded upon itself and defining an integral extension of said two sections.

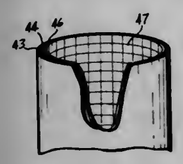
3,269,642
CONTAINER CONSTRUCTION
Daniel S. Cvacho, Chesterfield County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Virginia
Filed Sept. 25, 1964, Ser. No. 399,183
12 Claims. (Cl. 229—53)



1. A container comprising a substantially rectangular single sheet of relatively rigid wall means having opposed longitudinal edges, said sheet being transversely folded and defining opposed side wall means, bottom wall means and top wall means of said container whereby said folded sheet defines opposed open end wall means each having the edge thereof defined by one of said longitudinal edges of said sheet, and relatively flexible and narrow tape-like means closing said opened end wall means whereby said container has a product-receiving compartment defined by said wall means and said tape-like means, said tape-like means being secured to itself to provide longitudinal seams along said end wall means, said tape-like means comprising two strips of substantially rectangular material each having opposed longitudinal edges equal in length to the longitudinal edges of said sheet, each strip

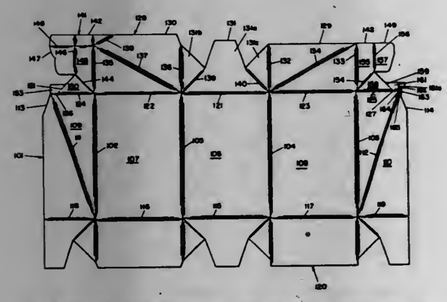
having one longitudinal edge thereof secured to a longitudinal edge of said sheet in aligned superimposed relation and having the other longitudinal edge thereof folded upon itself and secured to itself throughout the height of said container to define one of said seams of said container.

3,269,643
MULTI-WALL BAG
Robert Cecil McDowell, Monroe, La., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Mar. 4, 1964, Ser. No. 349,214
2 Claims. (Cl. 229—55)



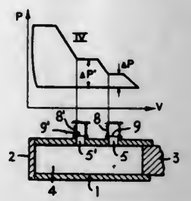
1. In a multi-wall bag of the type having a plurality of layers of kraft paper and at least one discrete layer of plastic film, the improvement comprising adhesive means for releasably adhering the plastic layer to one of said kraft layers in accordance with a uniform, clearly discernible pattern or network, said network extending throughout the inner face between the plastic layer and the kraft layer, said adhesive pattern defining a relatively large total area which is free of adhesive means and a relatively small total area which is coated with adhesive means, said adhesive pattern further defining spaced, substantially continuous lines of adhesive means sandwiched between said one kraft layer and the plastic layer, the width of the lines of adhesive means and the spacing thereof relative to one another being so selected and arranged that the lines of adhesive means cover no more than about five percent of each unit area of kraft paper and plastic film between which the lines of adhesive means are sandwiched.

3,269,644
FLAT TOP CONTAINER WITH EXTENDABLE POUR SPOUT
Edward L. Bump, Madison, Wis., assignor to Industrial Research and Development Corp., Madison, Wis., a corporation of Wisconsin
Filed Aug. 9, 1965, Ser. No. 479,697
13 Claims. (Cl. 229—66)



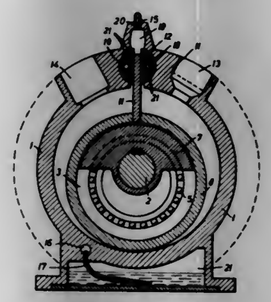
1. A flat-top container of paperboard material or the like with an extendable pour spout comprising:
(a) a tubular body having a plurality of connected side panels,
(b) a bottom section connected to said panels,
(c) a top section connected to all but one of said panels in closed relation,
(d) a spout section having a first section pivotably connected to the remaining one of said panels and a second section pivotably connected to said top section,
(e) said second section having at least one detachable sealing tab,
(f) said sealing tab being sealed to said first section,
(g) said spout section being sealed substantially flush against said top section to substantially prevent communication between the interior of said container and the atmosphere,
(h) said spout section being pivotable to an extended position, thereby breaking the seal between said spout section and said top section, and
(i) said sealing tab being detachable from said second section to permit said first and second sections to be partially separated to provide a spout opening for said container.

3,269,645
REFRIGERATION COMPRESSOR CAPACITY AND LOADING CONTROL MEANS
Knud V. Valbjørn, Nordborg, Denmark, assignor to Danfoss ved Ing. M. Clausen, Nordborg, Denmark, a company of Denmark
Filed Dec. 16, 1963, Ser. No. 330,970
Claims priority, application Germany, Dec. 20, 1962, D 40,560
3 Claims. (Cl. 230—22)



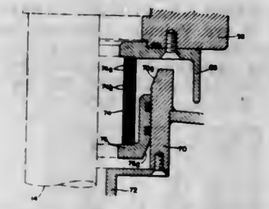
1. In a refrigeration compressor comprising a cylinder and a piston for sucking a gaseous refrigerant into the cylinder and compressing the gaseous refrigerant in the cylinder, compressor capacity and loading control means comprising means defining a first bypass port of constant area for bypassing refrigerant under pressure from interiorly of said compressor to exteriorly thereof, the pressure exteriorly of the compressor being the suction pressure, a first valve for opening and closing said first port, first resilient means constantly applying a biasing force on said first valve in a direction for closing said port and biasing said first valve against internal gaseous pressure in said compressor, said biasing force being less than the maximum opposing force exerted on said first valve by the pressure of the compressed gaseous refrigerant during a compression stroke of the compressor and greater than an initial suction pressure, said first port communicating between the interior and the exterior of the cylinder at a point which is on the compression side of the piston when the compression stroke has advanced to a point at which the opposing force exerted on said first valve by the pressure of the compressed gaseous refrigerant first exceeds said biasing force and at which said first valve therefore opens said first port, said point of the compression stroke being before the end of the compression stroke, a second means defining a second bypass port of constant area for bypassing refrigerant under pressure from interiorly of said compressor to exteriorly thereof, said second port being disposed downstream of said first port, a second valve for opening and closing said second port, second resilient means constantly applying a biasing force on said second valve in a direction for closing said second port and biasing said second valve against internal gaseous pressure in said compressor, said biasing force of said second resilient means being less than the maximum opposing force exerted on said second valve by the pressure of the compressed gaseous refrigerant during a compression stroke of the compressor and greater than the opposing force exerted on said second valve by the pressure of the compressed gaseous refrigerant when the compression stroke has advanced to a point at which the compression side of the piston begin immediately adjacent to said first port, said second port communicating between the interior and the exterior of the cylinder at a point which is on the compression side of the piston when the compression stroke has advanced to a point at which the compression side of the piston is beyond said first port, whereby during a first stage of the compression stroke gaseous refrigerant escapes from the interior of the cylinder through only said first port, during a second stage of the compression stroke the escape of gaseous refrigerant through said first port is terminated and during a third stage of the compression stroke the escape of gaseous refrigerant through said first port remains terminated while gaseous refrigerant escapes from the interior of the cylinder through said second port.

3,269,646
ROTARY COMPRESSOR
Paul August, Capellades 1, Barcelona 6, Spain
Filed Mar. 8, 1965, Ser. No. 437,956
Claims priority, application Germany, Mar. 11, 1964, J 25,422
14 Claims. (Cl. 230—147)



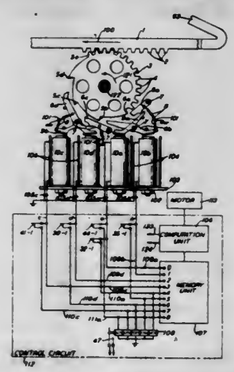
1. A rotary compressor, comprising a cylindrical casing, a central driving shaft rotatively mounted in the end walls of said casing, an eccentric fixed on said shaft in said casing, at least one cavity formed in said eccentric in its portion of larger extension, bearing means arranged on said eccentric for a cylindrical displacer, at least one annular cavity formed by said eccentric, and within said displacer a flywheel mass on said shaft in a portion of said annular cavity diametrically opposite said first-mentioned cavity for substantially balancing said portion of larger extension of the eccentric, a rib member radially projecting from said displacer into a recess provided in said casing, this recess forming near the inner wall of said casing a pair of opposite semi-cylindrical grooves for containing corresponding rotary guide members between which said rib member projects into a compression chamber formed by said recess beyond said grooves, said rib member acting as a pump piston in said compression chamber, air conducting means connecting said compression chamber with an oil supply means and duct means from said oil supply means to an oil spray distribution system for producing a lubricating, sealing and distancing oil film under pressure between component parts of the compressor.

3,269,647
CENTRIFUGE HAVING A SEALED HOUSING
Leonard Shapiro, Upper Darby, Pa., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania
Filed Nov. 18, 1963, Ser. No. 324,545
9 Claims. (Cl. 233—1)



1. A centrifuge for separating components of feed mixture in an isolated atmosphere and comprising a centrifuge bowl and a centrifuge drive means spaced from each other but operatively connected by a drive shaft, a pressure-tight casing enclosing the centrifuge bowl, the casing being provided with an opening receiving the drive shaft, a first collar element surrounding the opening and secured to the casing, the drive shaft being supported externally of the casing by support means, a second collar element surrounding the shaft and secured to the support means in pressure-tight relation to the shaft, a laterally resilient tubular sealing conduit surrounding the shaft and secured at one end to one of the collar elements, the other end carrying a sealing ring sealingly engaging in sliding fit the other collar element on a surface parallel to the axis of the shaft, the conduit comprising generally radial laminae including at least two laminae of elastomer and one of rigid material, the rigid lamina being disposed intermediate the elastomer laminae, contiguous faces of the laminae being bonded together to prevent relative movement thereof.

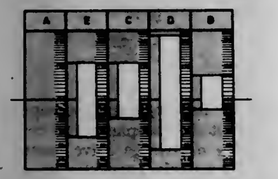
3,269,648
FUNCTION CONVERTING MECHANISM
Takeo Kagitani, 244 Aokinakahamacho Honjo-cho, Higashinada-ku, Kobe, Japan
Filed Oct. 28, 1964, Ser. No. 407,114
Claims priority, application Japan, Dec. 27, 1963, 38/70,418
7 Claims. (Cl. 235—61)



1. A function converting mechanism comprising a gear which is rotatable about an axis and having a first set of teeth and a second set of teeth, a rack which is engageable with said first set of teeth for rotating said gear, a set of arms each disposed adjacent a corresponding one of said second set of teeth, a set of relays for operating said arms, and control means for selectively operating

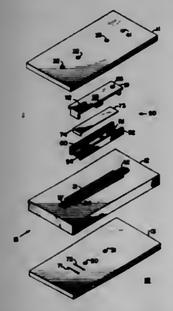
said relays to cause said arms to be inserted into corresponding ones and non-corresponding ones of said second set of teeth to cause said gear to stop at particular rotational positions.

3,269,649
NUMERO-GRAPHICAL TABLES
Louis Abel, 18 Ave. Valmont, Lausanne, Switzerland
Filed June 8, 1964, Ser. No. 373,349
Claims priority, application Switzerland, June 6, 1963, 7,115/63; Jan. 28, 1964, 981/64
2 Claims. (Cl. 235—89)



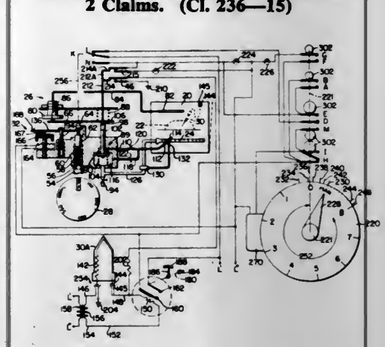
1. Numerographic apparatus for the systematic determination of the relationship between a plurality of co-related variables comprising a fixed table having a plurality of fixed parallel graduated logarithmic scales of the same modulus, each one of said scales being assigned to one of said co-related variables, said scales being so positioned with respect to one another that a line perpendicular to the scales intersects each scale at a level corresponding to a specific value of the variable assigned to that scale which specific value is co-related to the intersected specific values of the other scales, a light permeable screen disposed over said table, said screen having a plurality of pairs of fixed limit marks, each pair of said limit marks corresponding to a maximum value and a minimum value on a different one of said scales relative to said specific value on said scale, and a plurality of reading windows on said screen, each of said reading windows being aligned with and extending between said maximum value and said minimum value of a different one of said scales.

3,269,650
FLUID MEMORY APPARATUS
Bernard M. Gale, Clearwater, Fla., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Nov. 27, 1964, Ser. No. 414,338
5 Claims. (Cl. 235—201)



4. A fluid memory element comprising:
means forming a channel;
an enable passage in communication with said channel;
interrogate passage in communication with said channel;
a vent passage in communication with said channel;
a sensing passage in communication with said channel;
shuttle means positioned within said channel, said shuttle means being slidable from a first position to a second position within said channel, said shuttle means being effective in said first position and in said second position to provide communication between said enable means passage and said vent passage, said shuttle means being effective in said first position to prevent communication between said interrogate passage and said sensing passage, said shuttle means being effective in said second position to provide communication between said interrogate passage and said sensing passage;
locking means, said locking means effective to lock said shuttle means in said first position and to lock said shuttle means in said second position, said locking means being disabled in response to fluid flow through said enable passage, said locking means allowing fluid flow from said interrogate passage through said sensing passage and preventing fluid flow from said sensing passage through said interrogate passage;
a first input passage in communication with said channel, the unlocked shuttle being placed in said first position in response to fluid flow through said first input passage; and
a second input passage in communication with said channel, the unlocked shuttle being placed in said second position in response to fluid flow through said second input passage.

3,269,651
PROBE COOKING APPARATUS
James Robert Willson, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed July 6, 1962, Ser. No. 207,912
2 Claims. (Cl. 236—15)

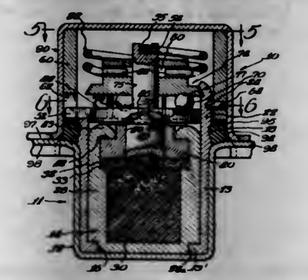


2. In combination: an oven to receive an article to be cooked in said oven; heating means for said oven; an oven thermostat controlling the operation of said heating means to maintain a first temperature in said oven; and a probe having means automatically responsive to a change in the internal temperature of said article automatically to change the operation of said oven thermostat to maintain a heating second temperature in said oven; and a timer responsive to said change of the operation of said thermostat indicating substantially when said oven thermostat has been changed by said probe to maintain said second temperature.

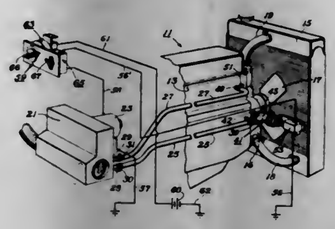
3,269,652
THERMALLY OPERATED MEANS FOR OPERATING VALVES AND OTHER OBJECTS
John G. Warhol, Oak Park, Mich., assignor to Nelmor Corporation, a corporation of Illinois
Filed Aug. 4, 1964, Ser. No. 387,309
9 Claims. (Cl. 236—34)

1. A structure of the character described comprising, a stationary member and a rotatable member, a thermally expansible material supported within one of said members, a centrally positioned pin axially movable by said

expansible material when expanded, a first member in engagement with said centrally positioned pin and axially movable by said pin, a stem extending outwardly of said first member, a second member cooperating with said first member and rotatable about said stem, rollers positioned between said first and second members so that said second member rotates with the axial movement of the first member, means connecting said rotatable member with said second member so that said rotatable member is rotated with said second member.

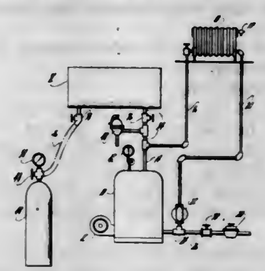


3,269,653
VEHICLE HEATING SYSTEM
Eishmuel W. Howard, 8613 Triton Lane, Dallas, Tex.
Filed May 28, 1964, Ser. No. 371,001
6 Claims. (Cl. 237—12.3)



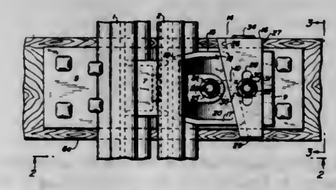
2. In a vehicle heater system wherein a liquid-cooled engine having a block with coolant passages therein and a main coolant pump having a casing with a coolant passage therein in communication with a coolant passage in said block cooperate with a heater to provide heat for the interior of said vehicle when said engine is operating to drive said main pump, said vehicle heater including air-blower means, liquid-air heater transfer surfaces, and a pair of fluid flow lines for circulating hot coolant through said heater from said liquid-cooled engine and returning said coolant thereto, the combination with said system of an auxiliary system for providing heater operation when said engine is dormant, but while hot coolant remains therein, said auxiliary system comprising:
(a) fluid conduit means having a pair of openings and a shaft-receiving means in a wall thereof;
(b) a rigid fluid conveying fitting connecting one of said openings in said conduit means to a coolant passage in said engine;
(c) said other opening in said conduit means being connected to one of said pair of fluid flow lines;
(d) impeller means disposed in said conduit means for driving fluid therethrough on the rotation thereof;
(e) a drive shaft connected to said impeller means and passing through said shaft-receiving means in said fluid conduit;
(f) a motor connected to said drive shaft for rotation thereof; and
(g) sealing and bearing means to provide lateral support for said drive shaft while permitting its rotation and maintaining a fluid seal to prevent substantial fluid loss through said shaft-receiving means.

3,269,654
METHOD OF SERVICING EXPANSION TANKS ON HOT WATER HEATING SYSTEMS
Edward Wood, 418 Maple St., Wethersfield, Conn.
Filed Sept. 8, 1964, Ser. No. 394,693
6 Claims. (Cl. 237—81)



2. A process for servicing an expansion tank on a hot water heating system, said process comprising, isolating said expansion tank from said system, opening said tank near the bottom thereof to allow the water therein to drain therefrom, until said tank is empty of water, adding gas under pressure to said tank during said draining step and when the pressure falls below atmospheric pressure, thereafter introducing gas into said tank to fill said tank with a gas at a pressure equal to the pressure in said heating system, and then returning said expansion tank to said system while filled with said pressurized gas.

3,269,655
ADJUSTABLE RAIL BRACE APPARATUS
Russel M. Frey, Marysville, Pa., assignor, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware
Filed Apr. 13, 1964, Ser. No. 359,304
5 Claims. (Cl. 238—292)



1. Apparatus for bracing a rail, comprising:
(a) a tie plate supporting said rail,
(b) a vertical wedging face spaced from said rail and fixedly positioned relative to said tie plate,
(c) a first slot in said tie plate adjacent one side of said rail between said rail and said vertical wedging face, said first slot being horizontally elongated perpendicularly to said rail and having a first end and a second end,
(d) a clear aperture in the center of said first slot,
(e) shoulders in the upper portion of said first slot extending from both ends of said first slot towards the clear aperture and restricting the width of said

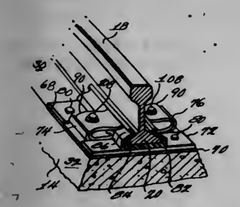
first slot, said shoulders defining internal abutments in said first slot,
(f) a brace element adapted to engage said rail,
(g) a second slot in said brace element, said second slot being horizontally elongated,
(h) a first bolt,
(i) a first head on said first bolt adapted to be inserted through said clear aperture and shifted toward said first end of said first slot to underlie said internal abutments,
(j) said first bolt extending through said second slot to slidably mount said brace element to said tie plate,
(k) a wedge element adapted to be inserted between said brace element and said vertical wedging face to force said brace element into engagement with said rail,
(l) a third slot in said wedge element, said third slot being horizontally elongated,
(m) a second bolt,
(n) a second head on said second bolt adapted to be inserted through said clear aperture and shifted toward said second end of said first slot to underlie said internal abutments,
(o) said second bolt extending through said third slot to slidably mount said wedge element to said tie plate,
(p) first and second nuts adapted to be screwed down on said first and second bolts respectively to draw up said first and second heads respectively to engagement with said internal abutments to secure said brace element and said wedge element respectively to said tie plate.

3,269,656
SPRING CLIP FOR RAILROAD TRACK STRUCTURES OR THE LIKE

Nelson K. Moses, Ashtabula, Ohio, and Robert A. McClung, West Palm Beach, Fla., assignors to Railroad Permanent Way Products Corp., Ashtabula, Ohio, a corporation of Ohio

Original application Apr. 15, 1963, Ser. No. 273,135. Divided and this application Mar. 1, 1965, Ser. No. 460,881

6 Claims. (Cl. 238—349)

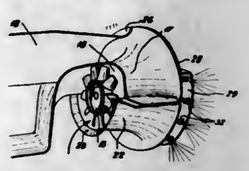


1. A spring steel rail clip for use in anchoring a traction rail having a base flange to a supporting structure, said clip, having a lip portion for operatively engaging the base flange of the traction rail, an upper body portion having a bolt hole therein and connected to the lip portion, a curved portion extending downwardly and reversely from and connected to the upper body portion, a flat base portion connected to said curved portion and having a hole therein aligned with the hole in the upper body portion, an upwardly extending portion connected to the end of the flat base portion, said upwardly extending portion having an inwardly extending flange thereon, said flange having a length sufficient to abut the shank of a bolt extending through said bolt holes when said clip has its lip portion and upper body portion bolted down from a free state.

3,269,657
SPRAYER ASSEMBLY FOR THE SPRAY TREATMENT OF CROPS AND THE LIKE

Vincent P. M. Ballu, Epernay, Marne, France, assignor to Societe Pour la Diffusion de Techniques Nouvelles et de Machinisme Agricole par Abreviation "Tecnoma," Epernay, Marne, France, a company of France

Filed July 14, 1964, Ser. No. 382,542
Claims priority, application France, July 15, 1963, 941,477
3 Claims. (Cl. 239—77)

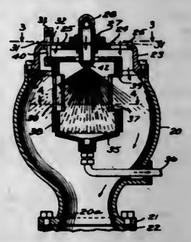


2. A sprayer assembly for the spray treatment of farming crops and the like, which comprises in combination a frame; a tank for treating liquid supported on the frame; means supported on the frame defining a tunnel in the general form of a surface of revolution having a flanged funnel-like outlet section; air blower means supported from said frame and mounted in said tunnel for discharging an airstream therethrough and out of said outlet section; and a diffusor member connectable to said tunnel outlet section, said diffusor member comprising: a flange engageable with the flange of said outlet section in any one of a range of angular positions with respect thereto about the axis of revolution of said tunnel; means engageable with said flanges for securing the diffusor member in a selected angular position; means defining arcuate slot-like lateral outlet means from said diffusor member for discharging said airstream; and spray nozzles supported from said diffusor member including means connecting the nozzles with said tank to feed liquid to said nozzles, said nozzles being directed to discharge liquid into the airstream issuing from said diffusor outlet means, said tunnel defining means comprising an upper part-circumferential wall section and a lower part-circumferential wall section which together participate in defining a substantially continuous circumferential tunnel wall, said blower means comprising a fan rotatably supported between said wall sections coaxially with said circumferential wall, said lower wall section being formed with air intake aperture means therein adjacent an intake side of said fan, and said upper wall section being coextensive with part of the under wall of said liquid tank.

3,269,658
METERING DEVICE

Arthur S. Gerquest, Lucas Point, Old Greenwich, Conn.

Continuation of application Ser. No. 188,088, Apr. 17, 1962. This application May 28, 1965, Ser. No. 471,766
9 Claims. (Cl. 239—124)



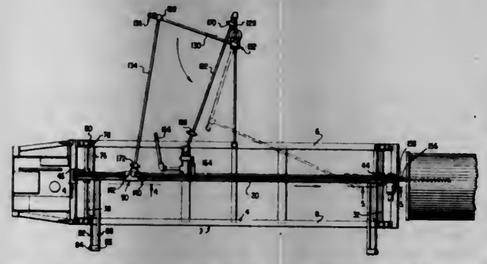
1. Apparatus for metering the flow of liquids which comprises a housing having a bottom liquid discharge opening, a spray head in said housing connected to inject liquid into said housing in the form of a uniform spray,

a member having a wall disposed to intercept a portion of said spray, said wall having openings for the passage of non-intercepted spray into said housing for discharge through said bottom opening, adjustable means to vary the effective area of said openings, means collecting and discharging the intercepted spray separately from the non-intercepted spray, said intercepting wall being in the form of a cylinder having a cylindrical sleeve mounted to turn therearound, said cylinder and said sleeve having registering openings for the passage of said spray.

3,269,659
APPARATUS FOR CLEANING THE INSIDE OF BUNDLED TUBES

Robert Q. Shelton and Forrest C. Pittman, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Dec. 18, 1964, Ser. No. 419,380
11 Claims. (Cl. 239—187)



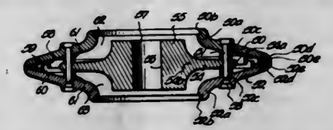
1. An apparatus for cleaning the internal surfaces of tubes of a tube bundle comprising:
frame means;
track means;
mounting means supporting said track means on said frame means for vertical and horizontal reciprocation thereon;
means for vertically reciprocating said track means;
means for transversely reciprocating said track means;
a fluid spraying assembly including lance means and nozzle means;
mounting means supporting said spraying assembly on said track means for longitudinal reciprocation therealong;
means for reciprocally moving said spraying assembly along said track means;
an outrigger assembly connected with and adapted to extend outwardly from said frame means; and
conduit means comprising a plurality of rigid conduit sections interconnected by swivel joint means, with one end of said conduit means being connected to said fluid spraying assembly and another end of said conduit means being mounted on said outrigger assembly and adapted to be connected to a source of fluid pressure.

3,269,660
MIXING ATOMIZING ROTOR

Ward A. Graham, Kansas City, Mo., assignor to Stratford Engineering Corporation, Kansas City, Mo., a corporation of Delaware

Continuation of application Ser. No. 366,217, Apr. 30, 1964. This application Oct. 12, 1965, Ser. No. 505,093
10 Claims. (Cl. 239—224)

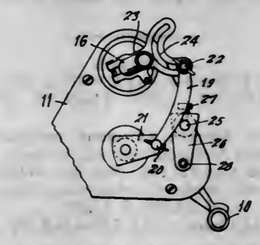
7. An atomizing rotor comprising, in combination, a hollow centered upper shrouding ring, a hollow centered lower accelerating ring, said upper and lower rings positioned in axially oriented, facing relationship whereby to enclose a zone therebetween and also define an atomizing orifice between the periphery of one of said rings and a portion of said other ring, means for feeding a first fluid substantially centrally of the upper ring into said zone, means for feeding a second fluid substantially centrally of the lower ring into said zone, plate means dividing a central portion of said zone between the upper and lower rings into two separate, centrally noncommunicating fluid receiving spaces, each said space communicating substantially centrally thereof with a feed means to one said ring, said spaces communicating with one another peripherally of said plate and inwardly of the ring peripheries to provide a mixing zone internally of said rings and the atomizing orifice formed therebetween, means coupled to one of said rings operative to drive same in rotation.



3,269,661
OSCILLATORY LAWN SPRINKLER

Seth W. Thompson, 9 Gordon Road, Essex Fells, N.J.

Filed Jan. 14, 1965, Ser. No. 425,475
6 Claims. (Cl. 239—242)



2. A lawn sprinkler assembly comprising, in combination, a support, a water discharge pipe mounted thereon for oscillation on an axis longitudinal with respect to the pipe, means for supply water to the pipe, a motor on the support operative by water supplied to the pipe, a mechanical driving connection between the motor and the pipe operative to oscillate the pipe by operation of the motor, said driving connection including a plurality of interconnected parts, one of said parts being shiftable selectively into different positions in one of which it is an active component of the driving connection and in another of which it is disconnected from the motor while remaining connected to the water discharge pipe, a fixed element in the assembly immovable therein, an arm pivoted on said element for angular movement in a plane perpendicular to the axis of oscillation of the water discharge pipe, said arm being pivotally connectible with said shiftable part of the driving connection when it is disconnected from the motor, and securing means coactive with said arm and with said fixed element operative to anchor said arm in a selected angular position of adjustment against movement relative to said fixed element.

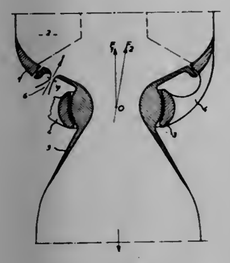
3,269,662
JET PROPULSION UNIT WITH MOVABLE NOZZLE

Louis Mary Michard, Fontenay-aux-Roses, France, assignor to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France

Filed Apr. 30, 1964, Ser. No. 363,913
Claims priority, application France, May 6, 1963, 933,886
9 Claims. (Cl. 239—265.25)

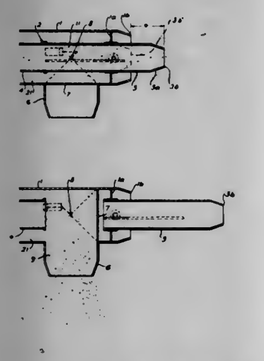
1. A jet propulsion unit having a body, a main nozzle which is mounted for orientating movement relatively to said body, about a center or axis of rotation, auxiliary

nozzles which are rigid with the main nozzle and are radially spaced from the center or axis of rotation and which are adapted to discharge jets of gas in a direction substantially normal to the radial direction relatively to said center or axis of rotation and means for supplying



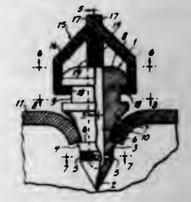
gas to said auxiliary nozzles selectively, whereby when gas is supplied to any one of said auxiliary nozzles, discharge of gas from said one nozzle produces an auxiliary thrust exerting an orientating moment on said main nozzle.

3,269,663
BYPASS GAS TURBINE JET ENGINE THRUST TUBE ARRANGEMENT AND THRUST DIVERTING MEANS
Heinrich Strobl, Munich, Germany, assignor to Junkers Flugzeug- und Motorenwerk AG, Munich, Germany
Filed Aug. 15, 1963, Ser. No. 302,262
Claims priority, application Germany, Aug. 16, 1962, J 22,260, J 22,261
14 Claims. (Cl. 239—265.29)



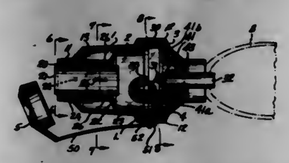
13. In a by pass gas turbine jet engine for supersonic flight, in combination, an inner thrust tube having a first outlet opening for the discharge of a primary fluid stream; an outer tube surrounding said inner thrust tube and defining with the same an annular passage having an annular second outlet opening for a secondary fluid stream, said outer tube having forwardly of said second outlet opening a downwardly projecting discharge nozzle; and means mounted in said outer tube for movement between a first position closing said discharge nozzle so that said primary and secondary fluid streams are separately discharged from said first and second outlet openings, and a second position for closing said first and second outlet openings and for forming in said outer tube a mixing chamber connecting said inner tube and said annular passage with said discharge nozzle so that said primary and secondary fluid streams mix in said mixing chamber whereby a mixture of said primary and secondary fluid streams is discharged through said downwardly projecting discharge nozzle for producing a lifting force.

3,269,664
AIR DISCHARGE NOZZLE
Charles M. Lamb, 511 Glenbrook Road, and Homer B. Meyer, Diamond Crest Lane, both of Stamford, Conn.
Filed Nov. 13, 1962, Ser. No. 237,277
1 Claim. (Cl. 239—272)



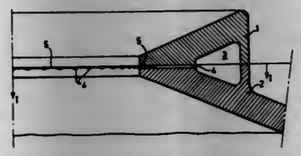
A discharge nozzle for water de-icing apparatus comprising a nozzle body for insertion in a flexible conduit wall structure having an inner end portion formed with a substantially conical terminal section with the inner extremity substantially pointed, the portion of said inner end adjacent said terminal section having an air filter section of reduced diameter extending therefrom and cooperating to form a shoulder, the opposite end of said air filter section terminating in an annular retaining flange of larger diameter than said reduced diameter of said filter section, a band of screen wire mounted between said shoulder and retaining flange in spaced relation to said section of reduced diameter, said nozzle body being formed with a longitudinal air passage having the inner opening in said air filter section of reduced diameter within said band of screen wire for preventing foreign matter from entering said passage, said nozzle body having an intermediate section extending outwardly from said retaining flange and having a smaller size than said retaining flange adjacent thereto to form an outwardly facing locking shoulder, said intermediate section having an annular curved surface extending outwardly from said retaining flange and locking shoulder in substantially frustoconical relation and terminating in an outer head portion of larger diameter than the inner end portion of said body, said head portion being formed with an inwardly extending annular groove, and a bubble cap formed of resilient material having a recess in the inner end receiving the outer end of said head portion and an inwardly extending annular flange engaged in said inwardly extending annular groove in said head portion for retaining said bubble cap mounted on said nozzle body in fluid-tight relation, and a pair of lip portions formed at the outer end of said bubble cap resiliently engaging each other to maintain a passage through said bubble cap communicating with said nozzle body passage closed against passage of fluid, and said lip portions being movable apart by predetermined pressure applied through said nozzle body passage which will cause said lips to vibrate and divide compressed fluid into fine bubbles upon leaving said lip portions, said nozzle body having said inner end portion insertable, through a smaller aperture in said flexible conduit wall structure for enlarging said aperture bending said wall structure inwardly and movement through said conduit wall structure until the edge of said wall structure engages said outwardly facing locking shoulder on said retaining flange for retaining said nozzle body interlocked in fluid-tight relation in said wall structure with the inwardly bent portion of said wall structure engaging said annular curved surface for holding said nozzle body in transverse position in said wall structure.

3,269,665
NEBULIZER
Ralph G. Chaney, 4239 24th Ave. W., Seattle, Wash. 98199
Filed Nov. 2, 1964, Ser. No. 408,284
10 Claims. (Cl. 239—338)



1. A nebulizer comprising an outer shell formed with an inwardly directed sleeve at one end, an inner shell formed with a tube fitting within and spaced from the inner end of said sleeve to define a secondary air inlet, and constituting an outer nozzle, said inner shell flaring at the inner end of its tube to direct the inflowing secondary air along the interior wall of the outer shell, a base removably secured to the outer shell, at its end opposite the sleeve, to define within that shell a liquid space, an inner nozzle carried by said base in alignment with and directed through said tube, said inner nozzle being arranged, exteriorly of the base, for connection to a source of primary air, and means, including an eduction passage communicating at one end with the liquid space, located intermediate the inner and outer nozzles, for discharging a mist of such liquid, with a vehicle of primary and secondary air, through the outer nozzle.

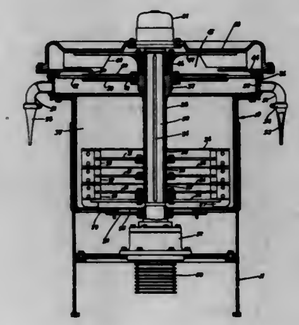
3,269,666
GAS BURNER
Gerrit de Leeuw, Leerdam, Netherlands, assignor to N.V. Vereenigde Glasfabrieken (United Glassworks), Shiedam, Netherlands, a limited-liability company
Filed July 20, 1964, Ser. No. 383,873
Claims priority, application Netherlands, July 23, 1963, 295,682
2 Claims. (Cl. 239—545)



1. A gas burner, which is provided with a plurality of gas canals, arranged in a row, and having connection with a main gas supply especially a circular burner, which burner has a continuous cavity, which is connected with the gas canals near the outlet opening of these gas canals, the said cavity having a width which is smaller and a length which is several times greater than the width of the gas canals.

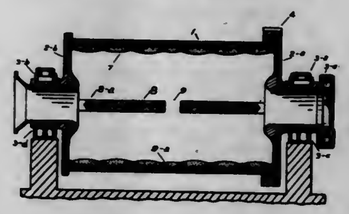
3,269,667
EXTRACTION METHOD
William H. Lykken, Springfield, Ohio, assignor to The Microcyclomat Co., Minneapolis, Minn., a corporation of Delaware
Original application Apr. 29, 1963, Ser. No. 276,457, now Patent No. 3,221,998, dated Dec. 7, 1965. Divided and this application Mar. 26, 1965, Ser. No. 462,462
2 Claims. (Cl. 241—5)

1. A method of upgrading the quality of non-metallic solid materials by the separation and extraction therefrom of coarse and dense impurities and contaminants which are more difficult to grind than the solid materials containing the impurities and contaminants, said method comprising introducing said impure and contaminated solid material into the side of a vertically disposed relatively narrow cylindrical annular grinding and dispersing zone adjacent the bottom end thereof, entraining said impure and contaminated solid material in an air stream in a rising vortex in said zone, subjecting said impure and contaminated material in its ascent in said vortex simultaneously to air attrition in a plurality of stacked smaller vortices spaced around the inner periphery of said zone to reduce said impure and contaminated solid material and to physically separate contained impurities and contaminants from said solid material, further dispersing said



separated solid material and impurities and contaminants in air by releasing the same upwardly into an immediately adjacent open cylindrical expansion zone, passing the resulting dispersed mixture of separated solid material and impurities and contaminants upwardly into a cylindrical classification zone, subjecting the mixture of separated solid material and impurities and contaminants in that zone to opposed centripetal and centrifugal forces whereby coarser and denser impure and contaminating particles are thrown centrifugally outwardly and extracted from the mixture and the finer and lighter particles of solid material freed from extracted impurities and contaminants are drawn centripetally inwardly and upwardly and discharged to a recovery zone.

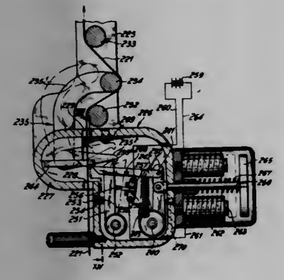
3,269,668
BALL MILL WITH TENSIONAL AND WEAR-RESISTANT LININGS
Newton L. Hall, P.O. Box 83, Zone 10, Salt Lake City, Utah
Filed Nov. 27, 1963, Ser. No. 326,486
2 Claims. (Cl. 241—137)



1. In a grinding mill, the combination with a rotary drum comprising; a cylindrical drum with an imperforate casing with open trunnion bearings having open casing heads positioned at each end of said drum, said casing provided with an interior structural steel channel lining

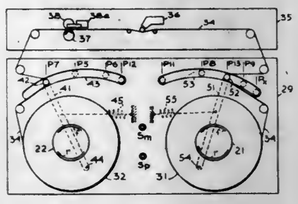
of high tensile strength with abrasion-resistant elements placed in the open spaces between flanges of said lining channels, said interior lining having a plurality of circular lining members forming a composite ring or crescent lining curved to an inner circular radius of said casing, with the outer web surface of said channels facing and protecting the adjacent portion of said mill casing from vagrant loads and penetrating mill wear, said composite lining members supporting a composite diametral wall formed of structural beams of high tensile strength with the open spaces between flanges being filled with abrasion-resistant filling elements for wear protection, said wall and lining being mutual in support and independent of attachment to said casing, said wall being positioned in mill diametral and axial alignment and dividing said drum interior into two semicylindrical compartments extending along each side of said wall, said composite wall having a plurality of similar wall lengths with open spaces intervening the composite lengths, said spaces providing free access by gravity between said parallel compartments for ingress or egress of portions of said load during successive rotations of said grinding mill.

3,269,669
THREAD CUTTER FOR THREAD REELING OR SPOOLING APPARATUS
Wilhelm Sigel, Vordere Strasse 57, Bissingen, Teck, Germany
Filed Mar. 12, 1964, Ser. No. 351,341
Claims priority, application Germany, Mar. 22, 1963, S 84,314
19 Claims. (Cl. 242—19)



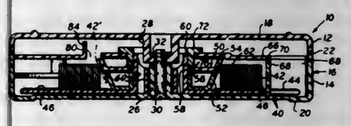
1. In thread reeling apparatus, a thread cutter comprising, in combination, a feeler engaged with a thread being reeled and movable from a rest position in a direction substantially normal to the thread course responsive to a pre-settable tension in the thread, and movable back to the rest position; a stationary thread cutter knife blade having a recess through which the thread passes defined by a first cutting edge perpendicular to the direction of thread movement, said stationary blade having a guide surface extending beyond said first cutting edge and the thread; a relatively elongated movable thread cutter knife blade having a second cutting edge and continuously engaged with and movable along said guide surface across said recess towards said first cutting edge to sever the thread between said cutting edges; a movably mounted support lever; said movable knife blade being pivotally mounted adjacent its opposite end on said support lever; driving means operable to pivot said support lever in a direction to move said movable knife blade along said guide surface across said recess to sever a thread between said cutting edges; and an element connected to said feeler and operatively associated with said driving means to activate said driving means responsive to such movement of said feeler from the rest position.

3,269,670
TAPE TRANSPORTING APPARATUS
Weaver T. Brian, Jr., Thousand Oaks, and Gary R. Wood and Carl R. Tarver, Canoga Park, Los Angeles, Calif., assignors, by mesne assignments, to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed May 4, 1964, Ser. No. 364,643
14 Claims. (Cl. 242—55.12)



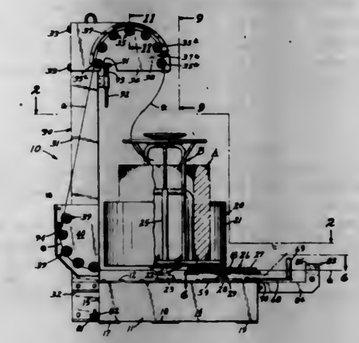
1. An apparatus for supplying and taking up tape comprising:
first rotatable means including a first reel adapted to have a web material wound thereon for unwinding said material from said first reel as said first rotatable means are rotated;
second rotatable means including a second reel adapted to have web material wound thereon as said second rotatable means are rotated;
switching means including a pair of biased arms adapted to operate as a function of the length of web material between said first and second reels for controlling the rotation of said first and second rotatable means;
mode control means for reversing the direction of rotation of said first and second rotatable means; and
braking means including time dependent means responsive to said mode control means for stopping said first and second rotating means for a predetermined time period and then releasing them to rotate in a reversed direction.

3,269,671
TAPE CARTRIDGE WITH REGULATED TENSION
Howard W. Cole, Jr., Mountain Lakes, N.J., assignor to Torque Industries, Inc., Newark, N.J., a corporation of New Jersey
Filed Oct. 15, 1963, Ser. No. 316,299
8 Claims. (Cl. 242—55.19



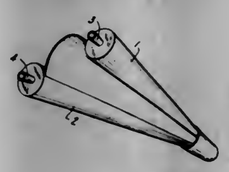
1. An endless tape holder assembly including a flange for contact with one side of a coil of tape, a frusto conical hub in position to be within the inner convolution of the coil of tape, the hub being in two parts including a first frustrum that turns as a unit with the flange, and a second frustrum at the larger diameter end of the first frustrum, and means mounting the second frustrum for rotation independently of the first frustrum, and guide means across which the tape is pulled from the inner convolution along a course that pulls the inner convolution into contact with both parts of the hub.

3,269,672
PAY-OFF REEL FOR WIRE AND THE LIKE
Clarence I. Steinbeck, Minneapolis, Minn., assignor to Acrometal Products, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 6, 1965, Ser. No. 423,749
10 Claims. (Cl. 242—128)



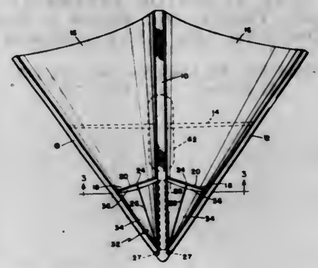
1. In a pay-off reel for wire or the like,
(a) a base,
(b) a capstan rotatably mounted on said base,
(c) a basket rotatably mounted on said base in radially spaced relation to said capstan and adapted to fixedly support a coiled bundle of wire substantially coaxial therewith,
(d) means for receiving and guiding said wire generally axially from said basket and to said capstan for passage therearound,
(e) independent transmission means connecting said basket to said capstan for rotation therewith responsive to lineal passage of said wire around said capstan,
(f) means for varying the rate of rotation of said basket and bundle with respect to said capstan, and
(g) adjustable means for retarding rotation of said basket and bundle and operative responsive to tension of wire being pulled from said bundle as same leaves said capstan.

3,269,673
FLYING CRAFT, PARTICULARLY SPACE CRAFT
Kurt Reiniger, Grobenzell, Germany, assignor to Junkers Flugzeug- und Motorenwerke Aktiengesellschaft, Munich, Germany
Filed Jan. 28, 1964, Ser. No. 340,755
Claims priority, application Germany, Jan. 29, 1963, J 23,067; Jan. 30, 1963, J 23,083
20 Claims. (Cl. 244—43)



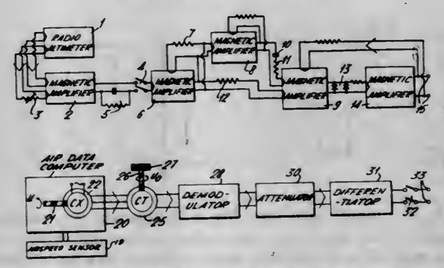
1. A flying craft having the shape of an arrowhead, and comprising two elongated body shells, capsule means including a cockpit and arranged in the region of the front ends of said body shells; mounting means for mounting the front ends of said two body shells for angular turning movement toward and away from each other; a wing located between said body shells and having lateral edge portions defining an angle with each other and being respectively secured to said body shells, said wing being constructed and arranged to permit angular movement of said body shells toward and away from each other; and propulsion means in the region of the respective rear ends of said body shells for propelling said craft in a selected path.

3,269,674
FLEXIBLE WING WITH PITCH STABILIZING MEANS
Peter F. Girard, La Mesa, Calif., assignor to The Ryan Aeronautical Co., San Diego, Calif.
Filed June 26, 1964, Ser. No. 378,213
5 Claims. (Cl. 244—48)



1. A flexible wing, comprising:
a rigid longitudinal keel;
leading edge members extending angularly rearwardly from the forward end of said keel on opposite sides thereof;
flexible lifting panels secured to and between said keel and said leading edge members;
the forward portions of said lifting panels being separated therefrom and constituting a fore plane, with slots between the fore plane portions and the respective lifting panels extending from opposite sides of said keel to said leading edge members;
said fore plane having a positive angle of incidence relative to the major portion of the wing.

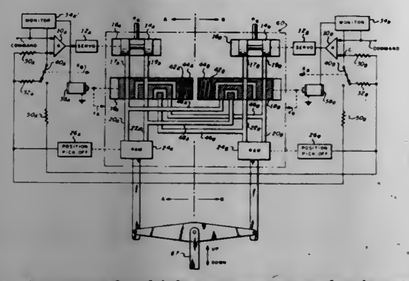
3,269,675
AUTOMATIC FLIGHT CONTROL SYSTEMS FOR AIRCRAFT
Heinz Pollak, Cheltenham, and John Lionel Weston, Churchdown, England, assignors to S. Smith & Sons (England) Limited, Cricklewood, London, England, a British company
Filed Jan. 16, 1964, Ser. No. 338,152
Claims priority, application Great Britain, Jan. 18, 1963, 2,216/63
8 Claims. (Cl. 244—77)



1. An automatic flight control system for an aircraft, comprising first means for providing a first signal that varies according to variation of height of the aircraft;

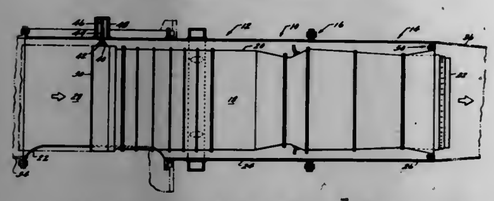
second means for providing a second signal that varies according to variation of airspeed of the aircraft; third means for differentiating said second signal with respect to time to derive a third signal dependent upon the rate of change of said aircraft airspeed; and fourth means for providing a demand for manoeuvre of the aircraft in pitch, said fourth means comprising means responsive to said first signal for providing in said demand a first component that is dependent upon a predetermined function of said height, and means responsive to said third signal for providing in said demand a second component that is dependent upon said rate of change of airspeed in a sense tending to compensate for change in airspeed by change in the opposite sense of pitch attitude.

3,269,676
VALVE ACTUATOR APPARATUS
Frank Hopkins, Phoenix, Ariz., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Apr. 30, 1965, Ser. No. 452,147
11 Claims. (Cl. 244—78)



1. Apparatus for driving an output member in response to command signals comprising first and second power actuator means coupled to drive simultaneously the output member, first and second control actuator means responsive to said command signals for applying fluid under pressure to drive respectively said first and second power actuator means, means for coupling the fluid applied by said first control actuator means to drive both said power actuator means when said second control actuator means is unresponsive to the command signals, and means for coupling the fluid applied by said second control actuator means to drive both said power actuator means when said first control actuator means is unresponsive to the command signals.

3,269,677
SELF-ALIGNING MOUNTING STRUCTURE
Eugene E. Stoeckly, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Dec. 30, 1963, Ser. No. 334,179
5 Claims. (Cl. 248—2)



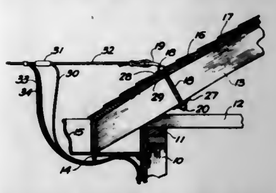
1. A support structure for a lightweight gas turbine engine, said structure comprising, in combination:
a generally cylindrical, rigid container having an inlet end and an outlet end;
adjustable engine support means adjacent said container inlet end;
and a self-aligning engine mounting assembly adjacent said container outlet end, said mounting assembly including a radially-extending flange, a first annular member supported by said flange, and a second annular member adapted for support by the said engine, said first and second annular members having opposed, matching spherically-curved seating surfaces in abutment to permit universal relative movement between said annular members of said assembly to minimize undue support-induced stress concentrations in said lightweight gas turbine engine when supported thereby.

3,269,678
ELECTRIC MIXER
Ivar Jepson, South Duxbury, Mass., and Worthy L. Chambers, Wilmette, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Application Sept. 20, 1962, Ser. No. 224,947, now Patent No. 3,198,490, dated Aug. 3, 1965, which is a division of application Ser. No. 756,853, Aug. 25, 1958, now Patent No. 3,077,340, dated Feb. 12, 1963. Divided and this application May 10, 1965, Ser. No. 454,399
6 Claims. (Cl. 248—13)



1. Support means for a household food mixer of the type including a power unit drivingly connected to beater elements depending therefrom, comprising, a base, an elongated upright member extending from said base, means for securing said upright member to said base, a movable member mounted for pivotal movement to the upper end of said upright member and having a projection for supporting said power unit, said projection comprising a thin flat member of varying width, and hinge means interconnecting said upright member and said movable member.

3,269,679
WIRE SUPPORT BRACKET
James A. Grappo, East Palestine, Ohio, assignor to The M. & W. Electric Manufacturing Company, Incorporated, East Palestine, Ohio, a corporation of Ohio
Filed June 18, 1964, Ser. No. 376,190
4 Claims. (Cl. 248—72)



1. A wire support bracket for securing a wire to a roof construction having an elongated rafter-like member therebeneath and comprising an apertured plate engageable with the upper surface of said roof construction and a secondary apertured plate engageable with the lower

surface of said rafter-like member, an elongated inverted U-shaped body member having two angularly related substantially planar positions positioned through said apertured plates so that the legs thereof are positioned one on each side of said rafter-like member, fasteners on said elongated U-shaped body member positioned on the opposite outer sides of said apertured plates arranged to hold said plates on one of said two angularly related substantially planar portions and against said rafter-like member and roof construction, the interconnecting portion of said inverted U-shaped member and the other of said two angularly related substantially planar portions of said U-shaped body member being spaced above said roof construction and forming attachment means for a power line or the like above said roof construction.

3,269,680
ADJUSTABLE CLAMP
Richard E. Bryant, Sepulveda, Calif., assignor to The Hartwell Corporation, Los Angeles, Calif., a corporation of California
Filed May 10, 1965, Ser. No. 454,333
5 Claims. (Cl. 248—73)



1. A clamp for detachably securing a cable to a structure having a clamp receiving aperture therein, the clamp comprising:
(a) a lock member having a channel therethrough and an expander aperture therethrough perpendicular to and intersecting with said channel;
(b) a strap member attached at one end to said lock member, an intermediate portion of said strap member having such cross-sectional dimensions that said portion is insertable in said channel said portion having at least one aperture therein of substantially the same dimensions as said expander aperture and located transversely of said strap member to be in register with said expander aperture when said portion is inserted in said channel;
(c) a plurality of fingers fixed to said lock member about the periphery of the expander aperture and extending away from the lock member, the normal external dimensions of said fingers being such that said fingers are freely insertable into a clamp receiving aperture; and
(d) an expander member having an elongated portion, the cross-sectional and longitudinal dimensions of said portion being such that said portion is insertable through said expander aperture to expand said fingers.

3,269,681
ADJUSTABLE SUPPORT APPARATUS
Wakeem R. Azim, 422 S. Oliver, Wichita, Kans.
Filed Jan. 27, 1965, Ser. No. 428,302
5 Claims. (Cl. 248—123)

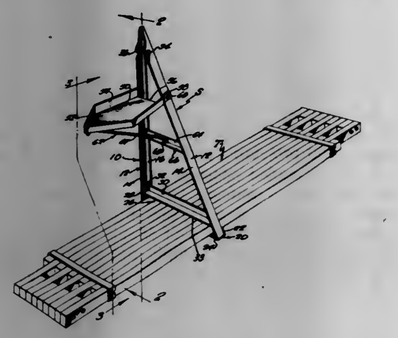
1. A camera support stand comprising, an upright elongated tubular column, a base connected to the lower end of said column having a plurality of generally horizontal radiating legs, upwardly projecting end portions having top flat support surfaces on the projecting ends of at least two of said legs, a support surface on said base adjacent said column positioned at the same vertical height as said support surfaces on said legs, casters mounted on the projecting end portions of said legs, a camera support slidably and rotatably mounted on said column having a sleeve slidably disposed on said column, a projecting arm, an annular clamp means on the projecting end of said arm, a means mounted on said sleeve to lock said camera support relative to said column positioned opposite said projecting arm, and an adjustable roller means on the top portion of said sleeve mounted opposite said projecting arm, said means to lock comprising, a first threaded aperture in said sleeve opposite said projecting arm, a plunger having a threaded portion in threaded engagement with said first threaded aperture, a handle on the extending end of said plunger, a follower block on the inwardly extending end of said plunger, and a shoe on said follower block adapted to selectively engage said column, said adjustable roller means comprising, a recess in said sleeve, a second threaded aperture in said sleeve in vertical spaced relation to said recess, and a roller arm having a centrally disposed aperture, a detent on one end of said roller arm disposed in said recess, a bifurcated portion on the opposite end of said arm, a roller rotatably mounted in said bifurcated portion, and a bolt disposed in said central aperture of said roller arm and threadedly engaged in said second threaded aperture in said sleeve, a spring balance rotatably mounted on the top of said column having a collar disposed on the top of said column, two flat and spaced upright elements, a pulley mounted between said elements and a coil spring having one end anchored relative said elements and the other end secured to said pulley, and a cable having a portion wound in said pulley and having an end secured to said camera support, said camera support stand adapted to support a camera while providing a roller adjustment to provide ease of movement of said sleeve relative to said column.



3,269,682
PAINTER'S SCAFFOLD AND STAND
Harry A. Alpine, Cleveland, Ohio
(26571 Sprague Road, Columbia Station, Ohio 44038)
Filed Aug. 7, 1964, Ser. No. 388,104
3 Claims. (Cl. 248—226)

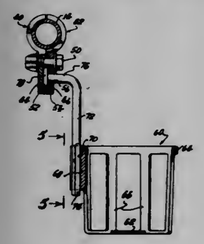
1. The combination with a normally horizontal painter's platform having first and second ends, of an upstanding stand, said stand comprising an upwardly-tapered frame having a relatively narrow upper end and a lower end wider than the platform, said frame comprising side members joined together at their upper ends, a lower cross-member extending between and fixed to the lower ends of the side members, an upper cross-member extending between and fixed at the side members, said upper cross-member being located near to and spaced upwardly from the lower cross-member at a distance greater than

the thickness of the platform, the platform being engaged between said upper and lower cross-members, the stand being tilted toward the first end of the platform with the cross-members supportably and retainably-engaged



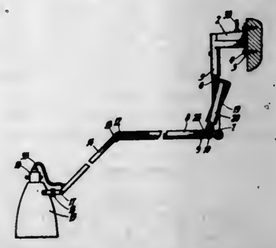
with related surfaces of the platform, and pain container-supporting means on the stand frame at a location above the upper cross-member, said supporting means comprising a paint can shelf extending toward said first end of the platform.

3,269,683
CARRIER ATTACHMENT FOR OPEN-TOP CONTAINERS
Lawrence P. Shinaver, 1706 S. Conlon Ave., West Covina, Calif.
Filed May 21, 1965, Ser. No. 457,781
4 Claims. (Cl. 248—230)



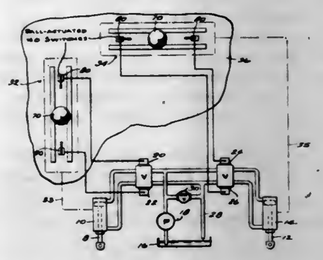
1. A carrier for open-top liquid containers, comprising
mounting bracket means adapted to be secured to a support member,
said bracket means having a cylindrical cavity defined therein,
said bracket means having a slot extending from an edge thereof to the center of said cavity,
support stem means having an upper normally horizontal arm portion adapted for insertion through said slot,
a disc at the end of said horizontal arm portion of the stem and adapted to fit pivotally within said cylindrical cavity,
and receptacle means attached at the opposite end of the support stem and configurated to hold an open-top liquid container such as a glass or bottle,
whereby the mounting bracket means are secured to the support member with the receptacle suspended therefrom in position to pivot about the center of said disc,
whereby the open-top liquid container is maintained by gravity in an upright position despite movement and changes in orientation of the support member.

3,269,684
COUNTERPOISING AND EQUIPOISING MECHANISM
William Palmer Iggulden, 713–717 Nepean Highway East Brighton, Victoria, Australia
Filed Oct. 19, 1964, Ser. No. 404,606
6 Claims. (Cl. 248—280)



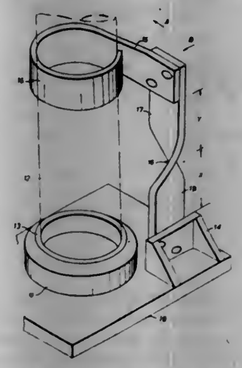
1. Counterpoising or equipoising mechanism comprising a main supporting member, a first supporting arm of channel shape pivoted at one end by a first pivot pin to one end of said main supporting member to swing in the same plane, a second supporting arm of lesser width and telescoping longitudinally in the channel of the first arm, said second arm being pivoted to swing in said plane and slightly away from the first arm by a second pin which is supported pivotally from said first pivot pin by a short link, a single pair only of counterbalancing coiled springs each enclosed in a tubular casing and disposed one on either side of said main supporting member, means securing said casings directly to and beside the main supporting member, one end of each spring being seated on a closed bottom of its casing, the other end of each spring being seated on a plunger adjustable along the inner end of a rod which slideably extends out of the casing through an aperture in said bottom, the outer end of one of said rods being pivoted to a third pivot spaced from said first pivot on the first supporting arm, and the other end of the other rod being pivoted to said second pin.

3,269,685
LEVELING CONTROL FOR ELECTRICALLY OPERATING HYDRAULIC LEVELING MEANS
John M. Wallace, Kewaunee, Wis., assignor to Frank Hamachek Machine Company, Inc., Kewaunee, Wis., a corporation of Wisconsin
Filed May 28, 1965, Ser. No. 459,672
13 Claims. (Cl. 248—346)



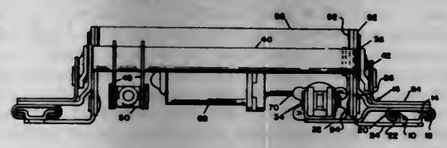
1. A control for a leveling device comprising the combination with a track providing a normally horizontal ball path, of a ball mounted to roll on the track and reciprocable upon said path, and ball-actuated switching means disposed at points spaced longitudinally of the track and to which the ball is movable by gravity without substantial opposing bias.

3,269,686
MINE ROOF AND LIKE SUPPORTS
Archelaius Dawson Allen, Leyland, England, assignor to Gullick Limited, Lancashire, England, a British company
Filed Dec. 3, 1965, Ser. No. 511,892
Claims priority, application Great Britain, Dec. 23, 1964, 52,305/64
11 Claims. (Cl. 248—354)



1. A mine roof support including a pivotally mounted prop member held by a leaf-spring having at least two parts in transverse planes whereby said leaf-spring device will hold the prop resiliently against movement in at least two transverse directions.

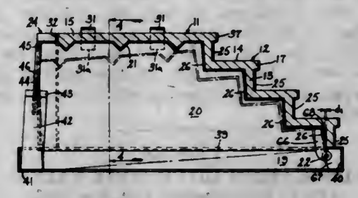
3,269,687
ADJUSTABLE SEAT CONSTRUCTION
Joseph Pickles, Dearborn, Mich., assignor to Ferro Manufacturing Corporation, a corporation of Michigan
Filed Sept. 28, 1964, Ser. No. 399,570
5 Claims. (Cl. 248—397)



1. Adjustable seat supporting structure for a bucket seat comprising a pair of tracks adapted to be attached to the floor of a vehicle to underlie an individual bucket seat at opposite sides thereof, elongated slides movable longitudinally on said tracks, said slides being of generally L-shaped cross-section and comprising horizontal flanges closely adjacent the upper portion of said track and vertically extending flanges at the inner edges of said horizontal flanges, seat frame supporting bars of generally L-shaped cross-section comprising horizontal flanges adapted in lowered position to engage the horizontal flanges of said slides and including at their inner edges vertically extending flanges, pivot means interconnecting the vertically extending flanges of said slides and frame bars adjacent the rear ends thereof.

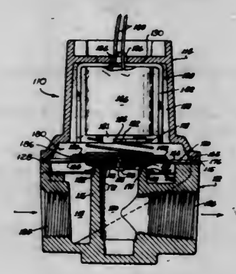
3,269,688
STOOP FORM WITH PIVOTAL CORE
John C. Hulicki, Wallingford, Conn., assignor to The United Step of Wallingford Inc., Wallingford, Conn.
Filed June 16, 1964, Ser. No. 375,577
10 Claims. (Cl. 249—14)

1. A concrete form comprising a base member providing a bottom form closure surface in an elevated horizontal plane, said base member having spaced apart side sills and at least one end sill, a core member, said core member being pivotally mounted at one end thereof to said base member at said end sill and being pivotal through said plane within said side sills, means at the other end of said core member for moving said core



about said pivotal mounting between a molding position and a lowered position which allows removal of said core from a molded object and outer sidewall means carried by said base member and cooperating with said core to define the form.

3,269,689
ELECTRO-MAGNETIC DIAPHRAGM VALVE
Walter S. Lee, % Major Control Co., P.O. Box 537, Corona, Calif.
Filed July 1, 1964, Ser. No. 379,597
7 Claims. (Cl. 251—52)



1. In a valve for controlling the flow of fluid, the combination of:
a housing;
a wall within the housing dividing it into an inlet chamber and an outlet chamber;
an inlet opening into the inlet chamber;
an outlet opening from the outlet chamber;
an aperture in said wall for providing communication between the inlet chamber and the outlet chamber with the surface around said aperture providing a valve seat;
a diaphragm within the inlet chamber adjacent to the valve seat partitioning the inlet chamber and providing a buffer chamber on the side of the diaphragm removed from the valve seat;
a valve member and an armature carried by said diaphragm,
the diaphragm being movable between an open position in which the valve member is spaced from the valve seat and a closed position in which the valve member is in sealing engagement with the valve seat;
restricted passage means interconnecting the buffer chamber and the inlet chamber which is in communication with the inlet opening;
yieldable means urging the diaphragm toward the closed position; and

electro-magnetic motor means including a core member in the buffer chamber for co-operation with the armature to move the diaphragm toward the core member from the closed to the open position whereby the valve member is moved away from the valve seat and fluid which is in the buffer chamber is caused to flow therefrom through the restricted passage means to the inlet chamber, said passage means controlling the rate of flow of fluid from the buffer chamber to limit the rate of movement of the diaphragm from the closed position toward the core member.

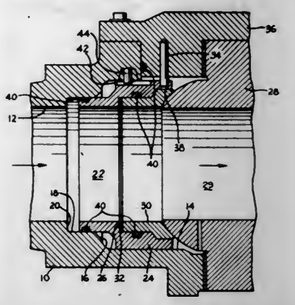
3,269,690
IRRIGATION DITCH GATE VALVE
Ellis F. Rothenberger, P.O. Box 2002, Fullerton, Calif.
Filed Mar. 2, 1964, Ser. No. 348,565
1 Claim. (Cl. 251—147)



An irrigation ditch gate valve comprising in combination:

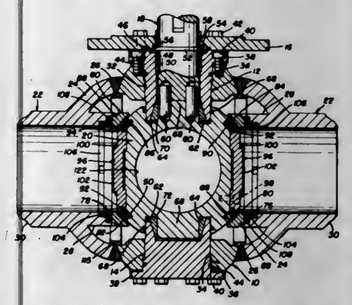
(a) a frame adapted to be secured in the lining of an irrigation ditch including,
(b) a valve seat ring having a valve seat,
(c) parallel spaced guide rails to receive said valve gate joined rigidly to diametrically opposite sides of said ring,
(d) and a guide leg fixed to and extending radially upwardly from said ring having a forward edge lying in the plane of said valve seat,
(e) a valve gate having a down stream surface slidingly engaging said valve ring seat and forward edge of said guide leg,
(f) a manipulating rod rotatably journaled on said valve gate including a radially disposed handle fixed at its upper end,
(g) a control spring normally tensioned to apply pressure to said valve gate to maintain it in operative contact with said valve seat while allowing adjustment of the amount of opening of said valve ring,
(h) means on said valve gate adapted to support said control spring midway its ends so that its free outer ends lightly yieldingly slidingly engage said guide rails,
(i) and means on said valve gate actuable by said single handle control device to increase the tension in said control spring to lock said valve gate in any desired position against relative movement on said frame,
(j) said last mentioned means including a cam piece on said manipulating rod adapted to be moved by rotation of said manipulating rod by said handle to one position to release said spring to normal sliding tension, to a second position to increase tension to lock said valve against adjustment, and a third position of spring tension release whereby said handle and rod may be withdrawn from said valve gate to permit disassembly of said gate from said frame to facilitate installation, maintenance and servicing of the valve.

3,269,691
BALL VALVE SEAL SUPPORT
Robert J. Meima, Oakland, and James D. Aitken, Whippany, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Sept. 20, 1963, Ser. No. 310,399
1 Claim. (Cl. 251—159)



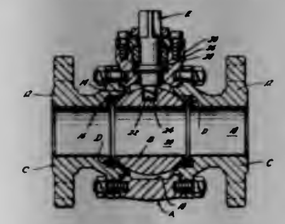
A valve comprising, in combination, a casing having a central bore terminating in shoulders defining axially outer reduced bores which terminate in shoulders defining inlet and outlet ports communicating with said bores; a ball including a flow passage rotatably mounted in said central bore; valve seats slidably and rotatably mounted in said reduced bores and having enlarged portions terminating in shoulders; a ball engaging valve seal slidably mounted in each of said portions; said valve seats and said portions containing said seals being movable from an operative ball engaging position to a ball clearance position against said bore and port defining shoulders; a cam slot formed in the outer periphery of said seats; pins fixed to said casing and projecting into said slots to effect axial movement of said seats between said positions upon rotation of said seats; spring means acting between said enlarged portion shoulders and said seals to urge said seals against said ball in operative position; said valve casing including a removable cover for the insertion of said ball, a recess formed in the outer peripheries of said valve seats, and retaining pins projecting from said cover and into said recesses to limit the movement of said valve seats toward said ball to limit the pressure of said seals against said ball and retain said valve seats in operative position.

3,269,692
BALL VALVE CONSTRUCTION
Homer J. Shafer, 2300 Park Ave. W. Mansfield, Ohio
Filed May 25, 1965, Ser. No. 458,600
6 Claims. (Cl. 251—172)



1. In a trunnion-mounted ball valve having a housing forming a cavity laterally around the ball and flow tubes longitudinally of the valve, seating rings adjustable longitudinally between the ball and the flow tubes, and resilient seals between the seating rings and the ball, the improvement comprising means for utilizing the cavity pressure to force the seating ring on the downstream side of the ball to seal against the ball radially outwardly of the resilient seal, said means comprising a seating ring construction having a greater area exposed to cavity pressure acting toward the ball than its area exposed to cavity pressure acting away from the ball.

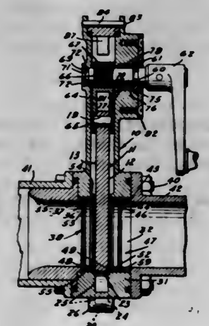
3,269,693
BALL VALVE SEAT
Ronald A. Gulick, Sugar Land, Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 256,006, Feb. 4, 1963. This application May 24, 1965, Ser. No. 461,597
4 Claims. (Cl. 251—172)



1. In a spherical plug valve comprising a valve body having a valve chamber formed therein and flow passages in communication with the valve chamber, a rotatable plug member of generally spheroid form disposed within said valve chamber and having a passage formed therein for registry with said flow passages in the open position of said valve, means for imparting rotation to said plug member, a pair of opposed seat pockets formed in said valve body and each having a pair of radially spaced cylindrical walls formed concentrically with the flow passage and a planar bottom wall disposed in normal relation with the flow passage, a seat member disposed in each of said pockets, each of said seat members in the free condition thereof having a cylindrical inner wall defining the internal periphery thereof and a frusto-conical sealing face intersecting said cylindrical inner wall, the included angle of said frusto-conical sealing surface being such relative to the dimension of said plug that initial engagement between the plug and said frusto-conical surface will occur at the radially outer portion of the frusto-conical surface, each of said seat members having a back wall having an inner peripheral portion thereof in engagement with said bottom wall of said seat pocket and outer peripheral portion thereof in radially outwardly diverging relation with said bottom wall, said seat members each having an outer wall thereof in diverging relation with the outer wall of said seat pocket.

3,269,694
GATE VALVE HAVING BIASED SEALING MEANS
Artson P. Hardison, Glendora, Calif., assignor to Schulz Tool and Manufacturing Co., San Gabriel, Calif., a corporation of California
Filed May 13, 1963, Ser. No. 279,792
12 Claims. (Cl. 251—174)

1. A gate valve comprising:
(a) an elongated body;
(b) a flow passage extending transversely through said body adjacent one end thereof,
(c) said flow passage having an inlet and an outlet;
(d) an elongated gate having substantially parallel opposite flat sides and being slidably engaged to move longitudinally in a path in said body;
(e) a portion of said opposite flat sides adjacent one end of said gate being adapted to be moved from an open position into a closing position across said passage between said inlet and outlet to shut off the flow therethrough;
(f) a semicircular recess extending inwardly in said one end of said gate and having its center line in a direction perpendicular to said opposite sides,
(g) said semicircular recess being in alignment with said flow passage when said gate is open;
(h) surfaces of said opposite sides extending around said semicircular recess;
(i) a rotatable shaft extending into said body;
(j) a lever connected to said shaft and to said gate to move said gate to its open and closed positions when said shaft is rotated;
(k) seal means in respective annular recesses in said inlet and outlet on each side of said gate forming a seal on the gate at the flow passage when the gate is closed;

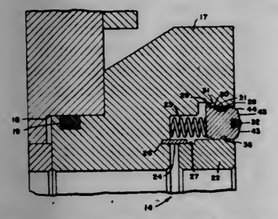


(l) each of said seal means comprising a flexible sealing ring adapted to abut one of the respective opposite sides when the gate is closed;
(m) a back-up ring axially outwardly of each sealing ring;
(n) spring means axially outwardly of each back-up ring to bias said back-up rings into abutment with said sealing rings and said sealing rings into abutment with said respective opposite sides to form said seal; and
(o) means on said back-up rings to urge said sealing rings radially outwardly in said annular recesses when said last rings are biased into abutment with said gate,
(p) said sealing rings being in abutment with said surfaces of said opposite sides around said semicircular recess when said valve is open.

3,269,695
VALVE CONSTRUCTION
Marvin H. Grove, 340 Hillside Ave., Piedmont, Calif.
Filed May 5, 1965, Ser. No. 453,403
6 Claims. (Cl. 251—174)

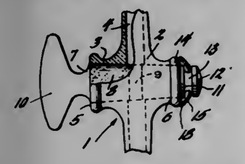
1. In a valve construction, a body part having flow passages therethrough, a valve part disposed within the body part and movable between open and closed positions, the valve part having a valve working surface, and annular sealing means surrounding one of the body passages and carried by the body part, said sealing means including an annular seal member of relatively hard resilient nylon carried by the body, one end portion of said seal member normally contacting said valve working surface, a recess formed in said one end of the seal member, said recess being defined by outer and inner sides and a

bottom surface, said seal member having concentric annular portions formed integral therewith and located at the inner and outer sides of said recess and forming said end portion of the annular seal member, and an insert of softer resilient non-metallic material of durometer



hardness of from 60–80 contained within the space of the recess, said insert being bonded to said outer and inner sides and bottom surface that define the recess, said insert presenting an annular area disposed between the free edges of said integral annular portions and which serves to form contact with the valve working surface.

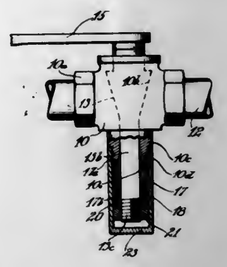
3,269,696
STOPCOCK AND PLUG RETAINER THEREFOR
Robert W. Norton, Landisville, N.J., assignor to Kontes Glass Company, Vineland, N.J., a corporation of New Jersey
Filed May 8, 1964, Ser. No. 365,929
5 Claims. (Cl. 251—181)



1. In combination, a stopcock comprising a valve body of glass having a tapered bore extending therethrough, a tapered valve member of glass having a correspondingly formed mating surface seated in said bore for rotation and in surface contact with the walls of said bore, said valve body and said valve member being provided with complemental duct means which provide flow through the valve when the parts are in one position and the continuity of which duct means is broken when the parts are in a second position, the small end of the valve member projecting from the valve body and being provided with an annular shoulder disposed thereon in spaced relation to the valve body, and a generally dome shaped resilient retainer washer having an axially disposed aperture dimensioned to snap over said annular shoulder engaged under compression between said annular shoulder and the body member and tending to draw the valve member into said tapered bore to maintain the mating surfaces of the valve member and said valve body in sealing engagement, said resilient retainer being made of non-marring plastic and constituting the sole means for retaining the valve member in operative relation within said tapered bore.

3,269,697
PLUG VALVES
John C. Engstrand, Chicago, Ill.
(439 Gordon St., Calumet City, Ill.)
Filed Dec. 9, 1963, Ser. No. 329,135
1 Claim. (Cl. 251—183)

In a plug valve for controlling the flow of fluids and including a housing having a passage therethrough, and a plug journaled in said housing in intersecting relation to said passage for controlling fluid-flow therethrough, the improvement comprising: an elongated stem projecting axially from the axis of rotation of said plug; said housing including an integral annular extension depending from said housing and circumposed about an intermediate portion of said stem, said extension terminating in a lower, annular, beveled seat diverging from the inner to the outer surface of said extension; a sleeve circumposed about said stem and having an end portion complementary to and rotatably and sealingly engaged on said beveled seat, said sleeve including an annular pocket at the other end thereof and disposed intermediately of said stem, said annular pocket converging from the outer to the inner surface of said sleeve and terminating at the outer surface of said stem; a yieldable ring circumposed about said stem and having at one end an annular tapered nose portion complementary to said annular pocket and snugly received therein; a washer element cir-

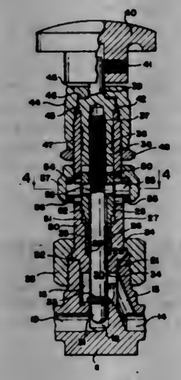


cumposed about said stem and engaging the other end of said yieldable ring; a fastener element adjustably secured on said stem and clampingly engaging said washer and applying axial force to said resilient ring, said sleeve, and said plug; said ring and sleeve being rotatable as a unit with said stem and the resilient ring automatically compensating for wear, the sleeve end portion providing a sealing bearing at said beveled seat of said extension, said extension comprising a lower nipple portion; an elongated cap removably engaged on said nipple portion and sealingly enclosing said sleeve, yieldable ring, washer and fastening element and having an intermediate inner surface portion sealingly engaged by an outer peripheral surface of said yieldable ring, whereby compression of said yieldable ring concentrates axial pressure at said tapered nose portion and urges the same into sealed relation about the outer surface of said stem.

3,269,698
VALVE
Ulrich H. Koch, Pinole, Calif., assignor to Whitey Research Tool Co., Oakland, Calif., a corporation of California
Filed Sept. 27, 1963, Ser. No. 312,115
9 Claims. (Cl. 251—214)

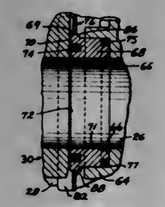
1. In a valve having a body,
a valve stem,
a bonnet secured to said body and supporting said valve stem for longitudinal movement therein,
packing material in said bonnet and surrounding a portion of said stem,
an adjustable packing assembly comprising a gland slidably mounted on said stem and adapted to engage said packing material to exert a compressive force thereagainst,
radially projecting pin means associated with said gland and projecting outwardly through slots in the walls of said bonnet,
an adjustment nut encircling said bonnet and being threadedly secured thereto,

ring means received in a groove in said adjustment nut with the radially outer ends of said pin means being secured to said ring means and the radially inner



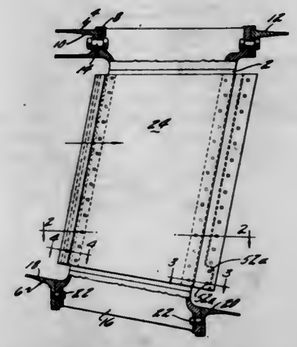
ends of said pin means extending inwardly of said gland and being received in longitudinal groove means on said stem.

3,269,699
GATE VALVE SEAT SKIRT
Jerry B. Tomlin, Houston, Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Dec. 2, 1963, Ser. No. 327,354
7 Claims. (Cl. 251—327)



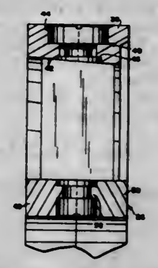
6. A gate valve comprising a valve body having a valve chamber formed therein, flow passages formed in said valve body and intersecting said valve chamber, a valve gate member having planar sealing surfaces and movably disposed within said valve chamber, said gate member having a through passage formed therein and being movable between an open position where said through passage is aligned with said flow passages and a closed position where said gate blocks said flow passages, seat means carried by the valve body and adapted to sealingly engage the planar sealing surfaces of the gate in angular areas surrounding the through passage, each of said seat means having an annular flange formed thereon, valve guide means carried by said seating means, said guide means including a generally planar body portion having a generally annular opening therein, said annular opening receiving said flange of said seat means, said guide means having vertically disposed valve guide flanges for preventing excessive lateral movement of said gate, said guide flanges engaging said seat means for preventing movement of said guide member in one axial direction relative to said seat means, tab means on said planar body portion engaging said annular flange for preventing movement of the lower portion of said guide member in the other axial direction relative to said seat member.

3,269,700
HEAT SHIELD FOR TURBINE STRUT
Myron Shaines, Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 7, 1964, Ser. No. 416,387
11 Claims. (Cl. 253—39.1)



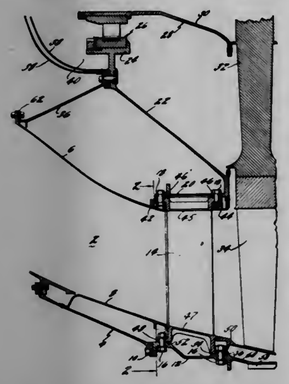
1. A turbine strut having an operative portion of airfoil cross section and end shroud elements for the support of the vane, and a heat shield surrounding at least a part of the operative portion of the airfoil in spaced relation thereto, said shield being airfoil shape in cross section and having means at leading and trailing edges engaging with the vane to hold the shield in spaced relation to the vane, said means comprising in part a grooved element extending lengthwise of the leading edge of the vane and a projecting element internally of the shield and lengthwise thereof at the leading edge to engage the grooved element.

3,269,701
STATOR BLADE SUPPORT
Arthur J. Miller, Irwin, and James R. Anderson, Latrobe, Pa., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Oct. 17, 1963, Ser. No. 316,969
3 Claims. (Cl. 253—78)



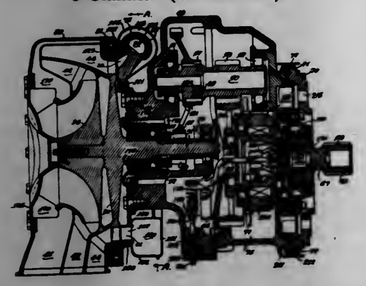
3. In a fluid machine including stator blade support means having at least one opening formed therein; a stator blade including a body portion, a first end portion providing a first extension having a predetermined configuration including sections of varying width, and a second end portion, a first attachment member having an externally threaded surface and an opening extending therethrough with the opening having a shape complementary to the shape of the first extension, assembled over the first extension and fixedly secured thereto, said first extension and said permanently assembled attachment member projecting into the opening in said support; and an internally threaded fastening element detachably securing the blade and attachment member to the support.

3,269,702
NOZZLE VANE ASSEMBLY
Arnold D. Nichols, Newington, and Emil E. Werstler, Manchester, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Jan. 13, 1964, Ser. No. 337,407
11 Claims. (Cl. 253—78)



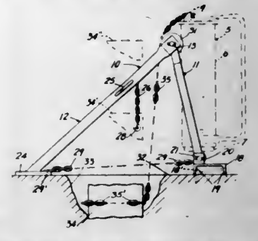
1. A vane attachment including spaced concentric inner and outer supporting rings, the inner ring having axially spaced outer cylindrical surfaces and the outer ring having axially spaced inner cylindrical surfaces, a plurality of circumferentially spaced vanes extending radially between and attached to said rings, each vane having individual inner and outer shroud elements integral therewith, one for each vane, the inner shroud on each vane having axially spaced locating surfaces to engage with the outer cylindrical surfaces on the inner supporting ring, bolts extending substantially radially through said inner ring and said inner shroud for holding said shroud securely and removably against said inner ring and means for attaching the outer shroud elements releasably to the outer ring whereby each vane may be individually removed axially from the rings.

3,269,703
GAS TURBINE ENGINE STARTER
Augustus C. Durdin, Rockton, Bernard W. Kittle and Stephen S. Baits, Rockford, Ill., and Donald F. Swenski, Arvada, Colo., assignors to Sundstrand Corporation, a corporation of Illinois
Original application Aug. 30, 1960, Ser. No. 52,845. Divided and this application Dec. 18, 1964, Ser. No. 419,433
8 Claims. (Cl. 253—78)



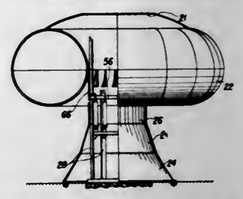
1. In an engine starter for producing self-sustaining engine rotation; a drive mechanism including, a main shaft, a turbine mounted on said main shaft for rotation thereof, an output shaft driven by said main shaft and adapted to be connected to an engine to be started; a first housing member surrounding a portion of said drive mechanism, additional means connected to said first housing having a generally arcuate mounting surface, a manifold separate from said housing for supplying gases to said turbine releasably engaging a portion of said first housing member, said manifold having a generally arcuate mounting surface, a second housing member surrounding a portion of said drive mechanism and having means engaging both said additional means mounting surface and said manifold mounting surface, and means for releasably clamping said mounting surfaces to said engaging means whereby the housing may be assembled or disassembled along with the manifold by unclamping the second housing member.

3,269,704
HYDRAULIC PULLER SUPPORTING FRAME USED IN PULLING POLES, STUMPS AND BUTTS
George M. Pfundt, 87 Bustleton Pike, Churchville, Pa.
Filed May 12, 1965, Ser. No. 455,168
15 Claims. (Cl. 254—30)



1. A supporting frame assemblage of the character defined comprising two sections, each section having a pair of diverging members with upper parallel pivot ends, a pivot pin coupling said ends, a cradle on said pivot pin intermediate the pivot ends of said members, lower ends of the members of a first section being pivoted to an anchor plate spacing said lower ends, said plate having a bearing block on its upper surface, and lower ends of the members of a second section being coupled together and to said plate by flexible means checking spreading of said last named lower ends and movement thereof with respect to said plate.

3,269,705
APPARATUS FOR ELEVATING TOWER STRUCTURE
Ralph L. Heathcote, Lansing, Ill., and Hans C. Bell, Hammond, Ind., assignors to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Original application Aug. 7, 1961, Ser. No. 129,581, now Patent No. 3,235,956, dated Feb. 22, 1966. Divided and this application Aug. 9, 1965, Ser. No. 486,252
7 Claims. (Cl. 254—89)



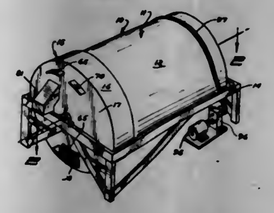
1. An apparatus for erecting a tower of the type including a supported structure, comprising: a system of supporting columns adapted to disengageably support the structure, a plurality of lifting jacks including relatively movable first and second members, said first members having means for securing to said structure and having means for disengageable connection to said system of supporting columns, said second members having mounting means for disengageable connection to said system of supporting columns, whereby vertical extension of said first members relative to said second members with said securing means connector means disengaged from said system of supporting columns and said mounting means connected to said system is effective to raise said structure relative to said system, while subsequent engagement of said connector means with said system and then retraction of said second members relative to said first members with said mounting means disengaged from said system is effective to reposition said lifting jacks for lifting said structure further while holding said structure in its initially raised position.

3,269,706
WIRE SPREADER
Richard E. Walker, 223 Overlook Drive, Neptune, N.J.
Filed Dec. 30, 1964, Ser. No. 422,170
16 Claims. (Cl. 254—104)



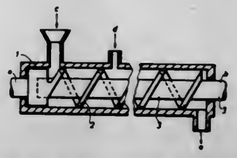
1. A wire spreader for separating a conductor to be tapped from the other conductors of a twisted cable comprising an elongated board of insulating material with a point at one end for insertion crosswise between the conductor to be tapped and the other conductors of the cable to separate the conductor to be tapped, said board having an upper surface, laterally spaced wedge shaped sides of insulating material outstanding from the upper surface of the board, said sides having steps of progressive height above the upper surface of the board for preventing slippage of the separated conductor, said board having longitudinally spaced sockets presented to its upper surface, a pry bar having one end selectively received in any one of the sockets and projecting above the upper surface of the board and engaging the separated conductor for forcing the separated conductor up the steps, the space between the steps and the upper surface of the board providing access for tools for making a tap to the separated conductor.

3,269,707
PARTICULATE MATERIAL MIXING MACHINE
Charles E. Phillips, Box 65, Downsville, Wis.
Filed Jan. 27, 1964, Ser. No. 340,378
11 Claims. (Cl. 259—3)



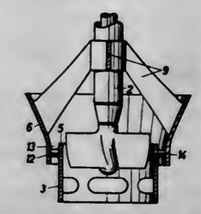
1. In a machine for mixing particulate material, a frame, a generally horizontal shaft mounted on said frame, a drum having a tubular wall and a rear end wall mounted on said shaft to revolve about the shaft axis, means for rotating the drum in a given direction, a stationary hood having an end wall at the opposite axial end of said tubular wall to enclose the opposite end of said tubular wall, hood and drum cooperating generally annular means, in part mounted by said hood, and in part by said drum to rotate therewith, for elevating material from a vertically lower position as the drum is rotated, and selectively discharging the elevated material exteriorly of said hood and alternately positively conveying the elevated material toward the drum rear wall as the drum is rotating and means connected to said hood for feeding material into the hood under the flow of gravity to a lower angular portion of the drum cooperating means.

3,269,708
CONTINUOUSLY OPERATING MACHINE FOR MIXING AND/OR REACTING MATERIALS
Karl Leister, Krefeld-Bockum, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Nov. 16, 1964, Ser. No. 411,235
Claims priority, application Germany, Nov. 23, 1963, F 41,346
5 Claims. (Cl. 259—6)



1. A mixing apparatus which comprises a housing having an inlet for introducing materials to be subjected to mixing treatment and an outlet for discharging mixed materials, a worm thread member disposed within said housing for rotation relative thereto for conveying materials mixed therein from the inlet to the outlet thereof, and a worm core member disposed within said housing for rotation relative thereto, and disposed within said worm thread member for coaxial rotation relative thereto for mixing materials conveyed by said worm thread member, said worm core member having an external diameter substantially equal to the internal diameter of the worm thread member for wiping engagement therewith whereby materials progressively mixed by the rotation of the worm core member are conveyed from the inlet to the outlet by the worm thread member substantially without intermixing of materials conveyed by adjoining convolutions of the worm thread member to maintain a uniform mixing residence time of the mixed material product discharged at the outlet.

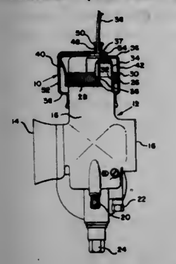
3,269,709
MIXING HEAD
Roland Karg, Stuttgart, Germany, assignor to Dr. Karg G.m.b.H., Stuttgart, Germany
Filed Nov. 12, 1964, Ser. No. 410,429
Claims priority, application Germany, Nov. 22, 1963, K 51,431
1 Claim. (Cl. 259—97)



A mixing head comprising an impeller arranged in a guide ring through which the material to be mixed flows, drive means connected to said impeller, and a funnel disposed on the inflow side of said guide ring and serving to introduce the material to be mixed to the guide ring, the height of said funnel being substantially equal to the

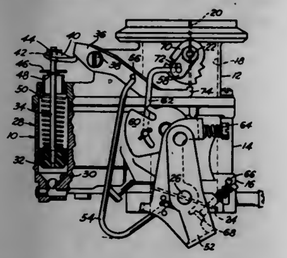
height of the guide ring, said funnel being provided at its lower end with a cylindrical extension, which is radially spaced around the upper portion of the guide ring, and the said guide ring being secured to said extension.

3,269,710
CARBURETOR HAVING A PROTECTIVE COVER
Nickolas G. Ramus, 261 Fairmont Ave., Apt. 21, Oakland, Calif.
Filed Jan. 20, 1964, Ser. No. 338,718
8 Claims. (Cl. 261—1)



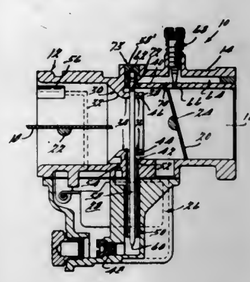
1. A carburetor having a body portion, a top cap portion threadedly attached on said body portion, at least one conduit opening into said cap portion, and a protective covering comprising:
- a cup-like member of resilient material having a closed upper end and a depending skirt portion terminating in an open bottom,
- the peripheral length of said open bottom being normally no larger than the girth of the body portion of said carburetor,
- the length of said skirt portion being greater than the distance from the top of the cap portion of said carburetor to its threaded connection with said body portion, and
- at least one tubular extension being positioned on said upper end in accordance with the position of said conduit on the cap portion of said carburetor,
- the circumference of said tubular extension being normally no larger than the circumference of said conduit.

3,269,711
CARBURETOR
Walton B. Baldwin, Elmira, N.Y., assignor to The Bendix Corporation, Elmira, N.Y., a corporation of Delaware
Filed Nov. 29, 1963, Ser. No. 326,922
2 Claims. (Cl. 261—34)



1. In a carburetor having an induction passage with a choke valve and throttle valve respectively mounted on a choke shaft and throttle shaft therein:
- an accelerating pump,
- lever means connected to said throttle shaft and having a one way connection with said pump for moving said pump in an intake stroke direction as said throttle is moved in a closing direction,
- spring means urging said pump in a discharge stroke direction,
- an accelerating pump cam rotatably mounted on said choke shaft and adapted to engage said lever means at times to determine the limit of the discharge stroke of said pump.

3,269,712
CARBURETOR
Robert W. Sutton, Grosse Pointe Farms, Mich., assignor to The Bendix Corporation, Zenith Carburetor Division, Detroit, Mich., a corporation of Delaware
Filed Jan. 10, 1964, Ser. No. 337,093
2 Claims. (Cl. 261—41)



1. A carburetor for an internal combustion engine comprising:
- a source of fuel,
- an induction passage,
- a throttle valve mounted in said passage,
- a flow nozzle mounted in said passage upstream of said throttle valve and having a discharge skirt portion extending therefrom in spaced relation to the walls of said passage,
- a pair of diametrically opposed ports formed in said skirt,
- a fuel discharge jet connected to said source of fuel and extending into one of said ports,
- an idle tube projecting from said jet through said ports to traverse the flow path through said flow nozzle,
- an air bleed in said tube opening into the space between said skirt portion and the wall of said passage, and
- means connecting said idle tube to said passage downstream of said throttle valve.

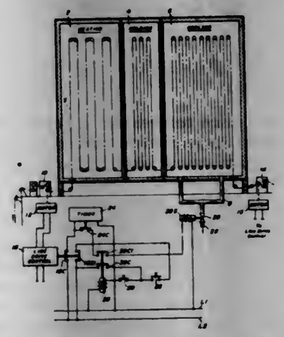
3,269,713
CARBURETOR HAVING AN IDLE GOVERNOR
Niels J. Beck, Miraleste, Calif., assignor to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin
Filed Feb. 15, 1965, Ser. No. 433,261
4 Claims. (Cl. 261—41)



3. A careburetor for an internal combustion engine, comprising:
- (A) a carburetor body having an induction passage therethrough;
- (B) a rotatable throttle shaft extending through said induction passage;

- (C) an offset throttle valve disc in said induction passage carried by said shaft and having the greater area of said valve extending upstream in the induction passage, when said valve is in an open position;
- (D) a disc member secured to said throttle shaft exteriorly of said carburetor body, said disc having,
  - (a) a radially extending idle adjustment arm,
  - (b) and a radially extending lever in angularly spaced relationship to said arm;
- (E) a spring for urging said shaft in a valve opening direction, said spring having one end fixed and its other end variably connectable with said disc to change the effective spring force;
- (F) an idle adjustment screw cooperable with the idle adjustment arm of the disc for limiting closing movement of the throttle valve;
- (G) accelerator means including a movably adjustable part disposed in the angular space between said arm and said lever; and
- (H) main and idling fuel jets for discharging fuel into said induction passage.

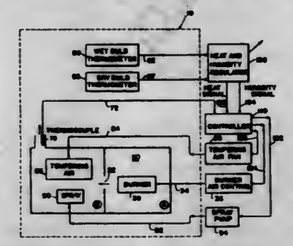
3,269,714
CONTINUOUS HEAT TREATING APPARATUS
Robert T. McKle, Bessemer, Mich., assignor to United States Steel Corporation, a corporation of Delaware
Filed Feb. 17, 1964, Ser. No. 345,435
5 Claims. (Cl. 263—3)



1. Apparatus for continuously heat treating a moving elongated object which comprises a heating zone for said strip, a cooling chamber for said strip, means including a conduit for delivering a protective atmosphere to said cooling chamber, a normally closed valve in said conduit for controlling flow of protective atmosphere to said cooling chamber, means for moving said object successively through said heating zone and said cooling chamber, and means for automatically opening said valve when movement of said object through said cooling chamber begins to stop to admit protective atmosphere.

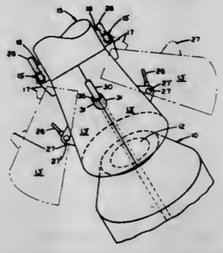
3,269,715
KILN FURNACE CONTROLLER
Walker L. Wellford, Jr., 135 St. Albans, Memphis, Tenn.
Filed Apr. 2, 1964, Ser. No. 356,859
4 Claims. (Cl. 263—19)

1. In a kiln system, the combination comprising
- (a) a kiln chamber for drying and conditioning material,
- (b) a kiln furnace of the type having a first region containing a gas burner for combusting hot gases, and a second region containing means for spraying water into said combusted gases prior to circulation through said kiln chamber,
- (c) a first sensor located in said kiln for measuring the dry bulb temperature of circulating kiln gases,
- (d) a second sensor located in said kiln for measuring the wet bulb temperature of said kiln gases,
- (e) a regulator means connected to receive signals from said first and second sensors and generating a pair of "heat" and "humidity" output signals indicating, respectively, the instantaneous heat and humidity requirements of said circulating kiln gases as determined by comparison of said sensor signals with predetermined settings of said regulator, and



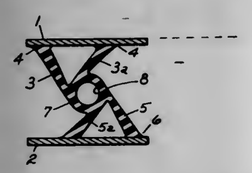
- (f) a controller connected to said regulator containing means which, in a first mode of operation, regulates the combustion rate of said furnace burner in response to the "heat" signal received from said regulator, and, in a second mode of operation, actuates said furnace spray means and regulates the combustion rate of said furnace burner in response to a signal which is a composite of the amplitudes of the respective "heat" and "humidity" signals received from said regulator.

3,269,716
STEEL CONVERSION VESSEL
John Walker, Walnut Creek, Calif., assignor to Kaiser Industries Corporation, Oakland, Calif., a corporation of Nevada
Filed Nov. 26, 1962, Ser. No. 261,243
(Filed under Rule 47(b) and 35 U.S.C. 118)
9 Claims. (Cl. 266—35)



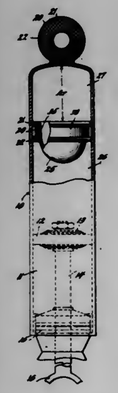
1. An apparatus for oxygen conversion of steel which comprises a conversion vessel pivotally mounted to move from a normal converting position to a tilted pouring position, said vessel being provided with a mouth opening upwardly when said vessel is in its normal converting position, a vent means adapted to carry gas away from said vessel, said vent means being offset from the vertical axis of said vessel when the vessel is in its normal converting position, a hood extendable from said vent means to a gas-collecting position with respect to the mouth of said vessel when the latter is in its normal converting position, said hood including a pair of separable segments that are retractable from said gas-collecting position, each segment having means which, when the segments are joined, cooperate to form a lance-receiving opening for receiving a lance movable into and out of said vessel and extendable through said lance-receiving opening.

3,269,717
RESILIENT MOUNTING
Merrill G. Beck, Erie, Pa., assignor to Lord Manufacturing Company, Erie, Pa., a corporation of Pennsylvania
Filed July 20, 1964, Ser. No. 383,583
6 Claims. (Cl. 267—1)



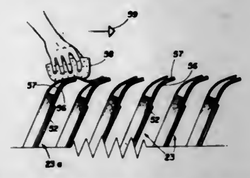
1. A mounting comprising supporting and supported members arranged one above the other, a body of elastomer having a core between said members, a pair of generally vertical struts of elastomer extending respectively upward and downward from the core and with adjacent ends of the struts laterally offset from each other and integral with opposite sides of the core and with remote ends united respectively to one and the other of said members.

3,269,718
SHOCK ABSORBERS
Christian M. L. L. Bourcier de Carbon, 64 Blvd. Maurice-Barres, Neuilly-sur-Seine, France
Filed Aug. 26, 1964, Ser. No. 392,218
2 Claims. (Cl. 267—64)



1. A direct-acting piston-and-cylinder hydro-pneumatic shock absorber for damping the relative compression and rebound movements between two members, namely, the body and the wheel suspension of a motor vehicle, said shock absorber comprising, in combination, a cylinder adapted to be connected with one of said members and containing a body of damping liquid, a piston reciprocable within the body of damping fluid in the cylinder, a piston rod rigidly connected with said piston and extending through a packed opening in one end of said cylinder and adapted to be connected with the other of said members; the opposite end portion of said cylinder being closed and containing a body of compressed gaseous fluid, a floating flexible diaphragm member extending transversely across the interior of said cylinder and constituting the boundary between said body of damping liquid and said body of gaseous fluid, the peripheral margin of said diaphragm member being sufficiently rigid to be self-sustaining and disposed in sliding air-tight and liquid-tight sealing contact with the inner wall of said cylinder, and a central portion of said diaphragm member being flexible to yield in either direction upon variations in displacement of damping liquid by entry and departure of portions of the piston rod under limited movements of the piston as in the case of smooth boulevard riding, the diaphragm member being capable of sliding bodily along said cylinder wall upon the occurrence of greater movements of said piston and means provided for ensuring a sufficient degree of rigidity of said marginal portion so that the periphery of the diaphragm member possesses sufficient frictional resistance to movement along the cylinder wall to give rise to flexing of the diaphragm member without bodily movement of the diaphragm member during such limited movement of the piston, and in which said central portion of the diaphragm member has sufficient strength to resist rupture during periods of bodily movement thereof when subjected to increased piston movements.

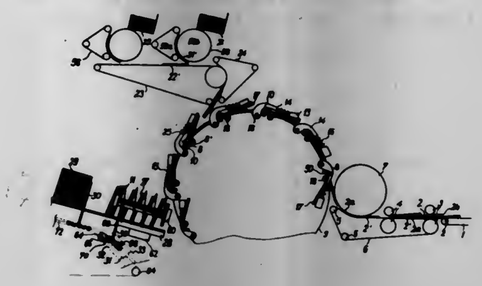
3,269,719
COLLATING DEVICE
Wally Charles Hoff, 15 Anewen Drive, Toronto, Ontario, Canada
Filed July 8, 1964, Ser. No. 381,617
4 Claims. (Cl. 270—54)



1. A collating device comprising: a supporting frame; a plurality of paper trays dimensioned to receive pads of sheet paper therein comprising a back plate having a top edge and an upwardly formed lip on a lower edge of said plate, said trays removably secured to said frame in spaced parallel relation; a pair of side members adjustably secured to said back plate to accommodate varying widths of sheet paper; a bar mounted on said frame for reciprocal movement beneath said trays; resilient fingers secured to said bar and biased against respective said trays; means for operating said bar thereby to move said fingers over said trays; paper guide members for each said tray extending upwardly from said top edge of said back plate supporting sheets of said material during upward removal from respective said trays, rearwardly upwardly angled slide means supporting said guide members for up and down reciprocal movement on said back plates of respective said trays in spaced parallel relation to one another and aligned in registration one behind the other and rearwardly curved upper ends on said guide members above said top edges of said back plates and terminating in a common plane parallel with and spaced above a plane intersecting said top edges whereby to support individual paper sheets from said trays in overlapping relation.

3,269,720
METHOD AND APPARATUS FOR ADDING INSERTS TO FOLDED SHEETS
Wilhelm Schluckebier, Koblenz, Germany, and Paul Heimlicher, Bollingen, Switzerland, assignors to Winkler, Fallert & Co., Ltd., Bern, Switzerland
Filed Nov. 20, 1964, Ser. No. 418,941
Claims priority, application Sweden, Nov. 20, 1963, 12,828/63
10 Claims. (Cl. 270—57)

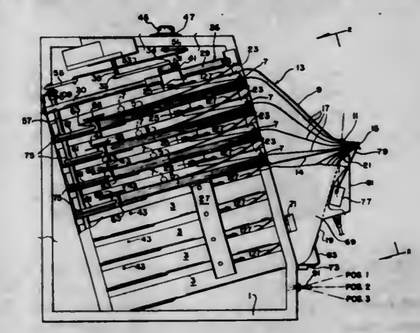
1. A method of adding inserts, supplements and the like to folded sheets, such as newspapers, having a folded edge and an opposite open edge from a series of overlapped sheets of newspapers, using an endless conveyor having a plurality of circumferentially spaced stops and grippers comprising separating each folded sheet in succession from the series and feeding the folded end of each sheet in succession against a respective stop, gripping the folded edge of each folded sheet and moving it through a first feed path in a substantially vertical plane, opening the folded sheet by gripping one of the outer ends remote from the folded edge and by moving it away from the feed path as the folded sheet is being fed by the conveyor through a substantially vertical orbit, advancing an insert through a second feed path to intercept the first feed path from a location above the opened folded sheet as the sheet is being moved downwardly, dropping an insert into the opened folded sheet, and closing the folded sheet over the insert.



9. An apparatus for adding inserts, supplements and the like to folding sheets such as newspapers having a folded edge and an open edge, comprising an endless conveyor carrying a plurality of spaced sheet supporting and gripping elements, said elements being carried in an orbit which is substantially vertically arranged, said gripping elements each comprising front edge aligning means for positioning a folded front edge of a folded sheet, means for feeding a folded edge of a series of sheets in succession against the respective aligning means, said gripper elements further including a pivotal means for clamping said sheets on said endless conveyor, each of said supporting elements comprising openable means for separating the unclamped ends of said sheets and maintaining them in open condition, means cooperating with said elements when the clamped edge of the sheets are being moved downwardly to feed an insert into each open sheet, and means for depositing said sheets after the insert has been positioned therein.

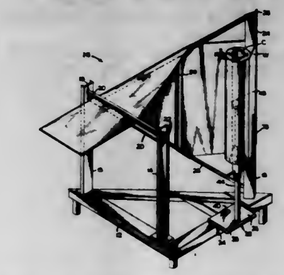
3,269,721
COLLATOR
Robert B. Taylor, 1009 W. Berry St.; Robert G. Walker, 4217 Buell Drive; and Stanley D. Payne, 2401 Charlotte Ave., all of Fort Wayne, Ind.
Filed Nov. 26, 1963, Ser. No. 326,082
8 Claims. (Cl. 270—58)

1. Apparatus for collating pages comprising the combination of:
(a) a plurality of storage means adapted to receive and store therein stacks of pages which stacks are separated according to a preferred sequence of assembly,
(b) elongated pusher means coacting with said storage means and having a friction member at the end thereof engaging with the uppermost page in the storage means to effect translating effort thereon, means supporting said pusher means for free vertical movement,
(c) an actuating device for simultaneously effecting displacement of said pusher means whereby pages are displaced from the plurality of pages in said storage means and in a preferred sequential order, and,
(d) means spaced at preferred locations along the line of travel of said pusher means effective to control the descent of said pusher means to bring the friction member of the pusher means into frictional engagement with the uppermost page at a preferred



point of longitudinal travel of said pusher means and dispense such pages from said storage means by differential amounts adjusted to bring the projecting ends of the pages from the respective storage means into substantial alignment.

3,269,722
PORTABLE WEB CENTERFOLDER
Knox W. Ramsey, Waynesboro, Va., assignor to McCamsey Machine Company, Incorporated, Waynesboro, Va., a corporation of Virginia
Filed Oct. 14, 1964, Ser. No. 403,785
21 Claims. (Cl. 270—86)

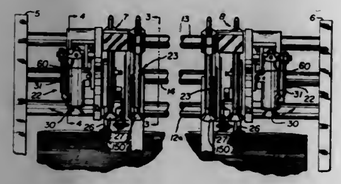


1. A device for longitudinally folding a web of flexible material comprising
a base,
a mandrel upstanding from said base and having means thereon for vertically rotatably mounting a supply roll of said web material,
a web guide standard upstanding from said base and disposed rearwardly of said mandrel and having vertical surfaces thereon about which said web material is trained,
a pair of folder arms respectively secured to and extending forwardly in converging relation from vertically spaced points on said guide standard and being connected at their apex over which said web is trained to be folded longitudinally thereby,
and a pair of vertically spaced rollers rotatably carried by said base forwardly of said apex and extending transversely thereof in a horizontal plane between which said folded web is fed to thereby draw opposing margins of said web into horizontal parallelism as said web passes toward said folder arms apex.

3,269,723
SHEET STRETCHING AND SEPARATING APPARATUS

Alfred J. Staines, Shaker Heights, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Dec. 23, 1963, Ser. No. 332,596
11 Claims. (Cl. 271—27)

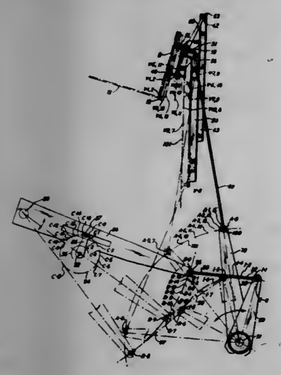


1. A sheet separating mechanism comprising a sheet raising means including a sheet gripper member movable relative to a pile of sheets and operable to grip the topmost sheet of a pile and separate the sheet from the pile, first linkage means providing for movement of said gripper member to effect raising movement thereof, second linkage means providing for movement of said sheet gripper member in a direction transverse to said separating direction while said gripper member is moving in said separating direction so that said sheet gripper member moves along a path which is the resultant of the effect of operation of said first and second linkage means, and a single cam member operatively associated with said first and second linkage means to effect operation of said first and second linkage means in timed relation.

3,269,724
BLANK FEEDING DEVICES

Frank M. Lefief, Palo Alto, Calif., assignor, by mesne assignments, to Kliklok Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 10, 1964, Ser. No. 410,179
15 Claims. (Cl. 271—27)



1. A blank feeding mechanism for positively transporting a box blank from a pickup station at one level to a delivery station at a lower level, the mechanism comprising

means forming a track comprising a substantially vertically extending lower portion, and an upper portion curved toward the pickup station;

a carriage movable along said track;

a vacuum element mounted on said carriage for movement in a direction substantially transverse to the direction of said lower portion;

means operative upon entry of said carriage into said curved portion for moving said element relatively to said carriage;

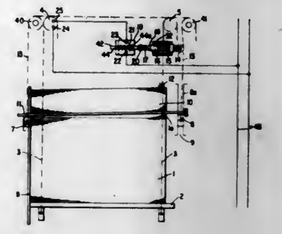
drive means for moving said carriage up and down along said track;

and means operating in timed relationship with said drive means for applying vacuum to and relieving vacuum at, said vacuum element.

3,269,725
SAFETY DEVICE FOR A SHEET-FEEDING DEVICE

Adolf Schwebel, Offenbach-am-Main, Germany, assignor to Mabeg Maschinenbau G.m.b.H., Nachf. Hense. & Pleines G.m.b.H. & Co, Offenbach-am-Main, Germany, a company of Germany

Filed July 16, 1964, Ser No. 383,141
Claims priority, application Germany, July 20, 1963, M 57,570
8 Claims. (Cl. 271—62)



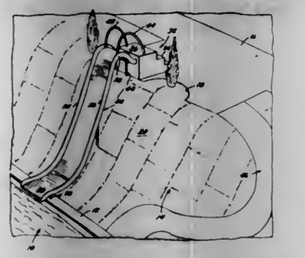
1. A safety device for a sheet-feeding device of the kind having a frame structure, a power-driven main lifting means for lifting a full stack of sheets and an auxiliary lifting means for lifting a depleted stack of sheets disposed above said full stack, said auxiliary means including a bendable portion tensioned by the weight of the depleted stack, said safety device comprising a switch for cutting off the power drive for the main lifting means, said switch including yieldable means urging the switch into its open position; and a probe mounted on said frame structure for probing said auxiliary lifting means, said probe including a movable switch control member urged by said yieldable means toward and into engagement with the bendable portion of the auxiliary lifting means, said control member being movable between a position closing said switch against the action of said yieldable means and a position freeing the yieldable means for opening the switch, said bendable portion in a tensioned condition retaining said control member in its switch-closing position and in a slack condition due to lifting of the depleted stack freeing said control member for movement into its switch-opening position.

3,269,726
COMBINED POOL, SLIDEWAY, AND PATIO CONSTRUCTION

Alice E. Lavell, 17744 Gemini St., La Puente, Calif.

Filed Mar. 27, 1964, Ser. No. 355,205
2 Claims. (Cl. 272—56.5)

1. A pool slideway construction associated with a pool having an edge coping, the pool having a side portion adjacent to an elevated earth formation, said earth formation having a flattened top portion and having a relatively steep slope adjacent to said pool side portion, a concrete platform providing a patio area atop said elevated earth formation, a pool slideway of curved conformation extending downwardly from said patio along said slope and having a lower end portion adjacent to and over the edge of the pool, means supporting said lower end portion of the slideway, a concrete block formed on said patio and having the upper end portion of said slideway secured thereto, said concrete block having steps defined therein on one side thereof to provide access to the upper end portion of the slideway, and a

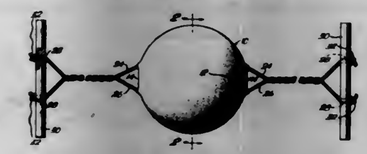


paved pathway along a slope of said earth formation to provide access from the edge of the pool to said patio area.

3,269,727
SPINNING EXERCISE DEVICE

Chester J. Samuel, 378 N. Royal Poinciana, Miami, Fla.

Filed Nov. 12, 1963, Ser. No. 322,713
8 Claims. (Cl. 272—79)

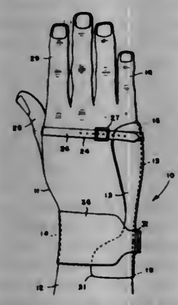


1. A spinning device comprising an inflatable body with opposite openings, a flexible tube secured in said body, in air sealing relationship, and with its open ends communicating with said openings, a torque block received in said tube and having a pair of oppositely disposed, longitudinal grooves, the tube being adapted to overlay the grooves, cords received in said grooves and normally urged in place by the tube, and handles anchoring said cords in spaced apart relationship.

3,269,728
BOWLER'S WRIST BRACE

Henry K. Blough, 943 High St., Akron, Pa.

Filed Apr. 5, 1963, Ser. No. 270,991
4 Claims. (Cl. 273—54)

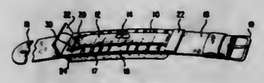


1. A wrist brace for use by bowlers and other sportsmen where movement of the wrist is undesirable comprising an elongated rigid member curved substantially throughout its length about its longitudinal axis and positionable to surround the side of the wrist to be braced and having such a length that one end engages the side of the hand in close proximity to the inner end of the small finger and the opposite end engages the side of the forearm, the degree of curvature being such that said member substantially engages the front and back of the hand, a hand strap connected to said one end of said member and having a first section to extend across the palm of the hand adjacent the knuckles and a second section to extend across the back of the hand for connection to the first section, said hand strap adapted to pass between the thumb and the forefinger, and a wrist strap adapted to be wrapped around the opposite end of said member and around the wrist, said rigid member when securely strapped to the wearer preventing lateral movement of the hand relative to the forearm.

3,269,729
POSITION CONTROL APPARATUS WITH FLEXIBLE LEVEL INDICATOR AND MOUNTING STRAP

Tom R. Morrison, 1721 Lansing Road, Glen Burnie, Md.

Filed Feb. 24, 1964, Ser. No. 346,744
19 Claims. (Cl. 273—54)

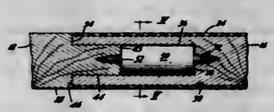


1. A position control apparatus adapted to be worn on the limb of a user comprising a flexible strap, and a flexible bubble indicator means connected to said strap, whereby the combination of said flexible strap and said flexible bubble indicator means are conformable to the contour of the limb of the user.

3,269,730
SECTIONAL BILLIARD CUE WITH WEIGHTED HANDLE

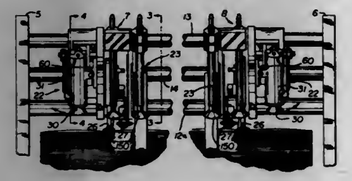
Raphael W. Miller, 1406 W. Franklin St., Jackson, Mich., and Harold J. Worst, 4331 Curwood St., Grand Rapids, Mich.

Filed June 7, 1963, Ser. No. 286,323
2 Claims. (Cl. 273—68)



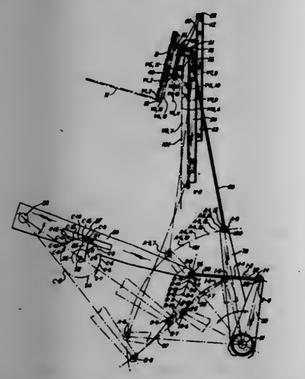
2. A billiard cue comprising, in combination, a rear butt portion comprising a handle and a forward shaft portion having a cue tip at its free end, ends defined on said portions abuttingly engaging, an axially extending cylindrical socket defined in said rear butt portion adjacent to and intersecting said end defined on said rear butt portion, an axially extending projection defined on said end of said forward shaft portion closely received within said socket, the axial length of said socket being greater than that of said projection, a cylindrical bodied weight within said socket, said weight body having a diameter substantially equal to the diameter of said socket and projection, said weight being of an elongated configuration having ends, a screw permanently affixed to and projecting from each end of said weight, the body of said weight being of substantially greater diameter than the maximum diameter of said screws, one of said screws being threaded into said rear butt portion and the other screw being threaded into said forward shaft portion, said weight and screws forming an integral fastening member maintaining said ends of said rear and forward portions in abutting engagement.

3,269,723
SHEET STRETCHING AND SEPARATING APPARATUS
Alfred J. Staines, Shaker Heights, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Dec. 23, 1963, Ser. No. 332,596
11 Claims. (Cl. 271—27)



1. A sheet separating mechanism comprising a sheet raising means including a sheet gripper member movable relative to a pile of sheets and operable to grip the topmost sheet of a pile and separate the sheet from the pile, first linkage means providing for movement of said gripper member to effect raising movement thereof, second linkage means providing for movement of said sheet gripper member in a direction transverse to said separating direction while said gripper member is moving in said separating direction so that said sheet gripper member moves along a path which is the resultant of the effect of operation of said first and second linkage means, and a single cam member operatively associated with said first and second linkage means to effect operation of said first and second linkage means in timed relation.

3,269,724
BLANK FEEDING DEVICES
Frank M. Lefief, Palo Alto, Calif., assignor, by mesne assignments, to Kliklok Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 10, 1964, Ser. No. 410,179
15 Claims. (Cl. 271—27)



1. A blank feeding mechanism for positively transporting a box blank from a pickup station at one level to a delivery station at a lower level, the mechanism comprising

means forming a track comprising a substantially vertically extending lower portion, and an upper portion curved toward the pickup station;

a carriage movable along said track;

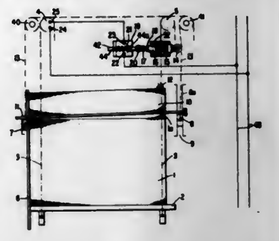
a vacuum element mounted on said carriage for movement in a direction substantially transverse to the direction of said lower portion;

means operative upon entry of said carriage into said curved portion for moving said element relatively to said carriage;

drive means for moving said carriage up and down along said track;

and means operating in timed relationship with said drive means for applying vacuum to and relieving vacuum at, said vacuum element.

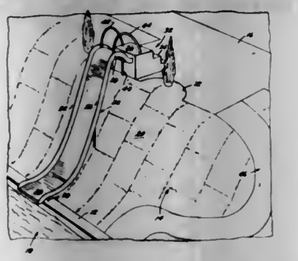
3,269,725
SAFETY DEVICE FOR A SHEET-FEEDING DEVICE
Adolf Schwebel, Offenbach-am-Main, Germany, assignor to Mabeg Maschinenbau G.m.b.H., Nachf. Hense. & Pleines G.m.b.H. & Co, Offenbach-am-Main, Germany, a company of Germany
Filed July 16, 1964, Ser No. 383,141
Claims priority, application Germany, July 20, 1963, M 57,570
8 Claims. (Cl. 271—62)



1. A safety device for a sheet-feeding device of the kind having a frame structure, a power-driven main lifting means for lifting a full stack of sheets and an auxiliary lifting means for lifting a depleted stack of sheets disposed above said full stack, said auxiliary means including a bendable portion tensioned by the weight of the depleted stack, said safety device comprising a switch for cutting off the power drive for the main lifting means, said switch including yieldable means urging the switch into its open position; and a probe mounted on said frame structure for probing said auxiliary lifting means, said probe including a movable switch control member urged by said yieldable means toward and into engagement with the bendable portion of the auxiliary lifting means, said control member being movable between a position closing said switch against the action of said yieldable means and a position freeing the yieldable means for opening the switch, said bendable portion in a tensioned condition retaining said control member in its switch-closing position and in a slack condition due to lifting of the depleted stack freeing said control member for movement into its switch-opening position.

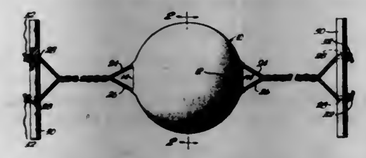
3,269,726
COMBINED POOL, SLIDEWAY, AND PATIO CONSTRUCTION
Alice E. Lavell, 17744 Gemini St., La Puente, Calif.
Filed Mar. 27, 1964, Ser. No. 355,205
2 Claims. (Cl. 272—56.5)

1. A pool slideway construction associated with a pool having an edge coping, the pool having a side portion adjacent to an elevated earth formation, said earth formation having a flattened top portion and having a relatively steep slope adjacent to said pool side portion, a concrete platform providing a patio area atop said elevated earth formation, a pool slideway of curved conformation extending downwardly from said patio along said slope and having a lower end portion adjacent to and over the edge of the pool, means supporting said lower end portion of the slideway, a concrete block formed on said patio and having the upper end portion of said slideway secured thereto, said concrete block having steps defined therein on one side thereof to provide access to the upper end portion of the slideway, and a



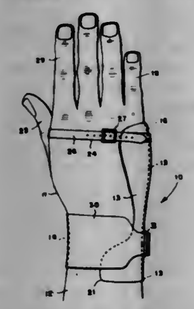
paved pathway along a slope of said earth formation to provide access from the edge of the pool to said patio area.

3,269,727
SPINNING EXERCISE DEVICE
Chester J. Samuel, 378 N. Royal Poinciana, Miami, Fla.
Filed Nov. 12, 1963, Ser. No. 322,713
8 Claims. (Cl. 272—79)



1. A spinning device comprising an inflatable body with opposite openings, a flexible tube secured in said body, in air sealing relationship, and with its open ends communicating with said openings, a torque block received in said tube and having a pair of oppositely disposed, longitudinal grooves, the tube being adapted to overlay the grooves, cords received in said grooves and normally urged in place by the tube, and handles anchoring said cords in spaced apart relationship.

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BOWLER'S WRIST BRACE
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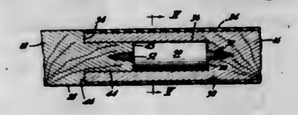
1. A wrist brace for use by bowlers and other sportsmen where movement of the wrist is undesirable comprising an elongated rigid member curved substantially throughout its length about its longitudinal axis and positionable to surround the side of the wrist to be braced and having such a length that one end engages the side of the hand in close proximity to the inner end of the small finger and the opposite end engages the side of the forearm, the degree of curvature being such that said member substantially engages the front and back of the hand, a hand strap connected to said one end of said member and having a first section to extend across the palm of the hand adjacent the knuckles and a second section to extend across the back of the hand for connection to the first section, said hand strap adapted to pass between the thumb and the forefinger, and a wrist strap adapted to be wrapped around the opposite end of said member and around the wrist, said rigid member when securely strapped to the wearer preventing lateral movement of the hand relative to the forearm.

3,269,729
POSITION CONTROL APPARATUS WITH FLEXIBLE LEVEL INDICATOR AND MOUNTING STRAP
Tom R. Morrison, 1721 Lansing Road, Glen Burnie, Md.
Filed Feb. 24, 1964, Ser. No. 346,744
19 Claims. (Cl. 273—54)



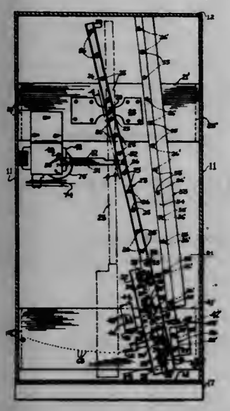
1. A position control apparatus adapted to be worn on the limb of a user comprising a flexible strap, and a flexible bubble indicator means connected to said strap, whereby the combination of said flexible strap and said flexible bubble indicator means are conformable to the contour of the limb of the user.

3,269,730
SECTIONAL BILLIARD CUE WITH WEIGHTED HANDLE
Raphael W. Miller, 1406 W. Franklin St., Jackson, Mich., and Harold J. Worst, 4331 Curwood St., Grand Rapids, Mich.
Filed June 7, 1963, Ser. No. 286,323
2 Claims. (Cl. 273—68)



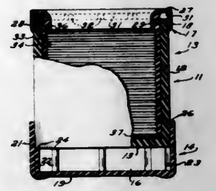
2. A billiard cue comprising, in combination, a rear butt portion comprising a handle and a forward shaft portion having a cue tip at its free end, ends defined on said portions abuttingly engaging, an axially extending cylindrical socket defined in said rear butt portion adjacent to and intersecting said end defined on said rear butt portion, an axially extending projection defined on said end of said forward shaft portion closely received within said socket, the axial length of said socket being greater than that of said projection, a cylindrical bodied weight within said socket, said weight body having a diameter substantially equal to the diameter of said socket and projection, said weight being of an elongated configuration having ends, a screw permanently affixed to and projecting from each end of said weight, the body of said weight being of substantially greater diameter than the maximum diameter of said screws, one of said screws being threaded into said rear butt portion and the other screw being threaded into said forward shaft portion, said weight and screws forming an integral fastening member maintaining said ends of said rear and forward portions in abutting engagement.

3,269,731
BOWLING GAME WITH SEQUENTIALLY ILLUMINATED BULBS SIMULATING BOWLER AND BALL MOVEMENTS
Jerry C. Koci, Barrington, and Albert Schlapa, Hinsdale, Ill., assignors to Chicago Dynamic Industries, Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 2, 1963, Ser. No. 299,628
5 Claims. (Cl. 273—85)



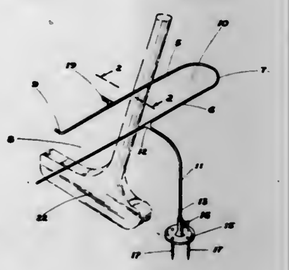
1. An amusement bowling game apparatus comprising
(a) a cabinet having arranged therein in a horizontal plane a translucent panel on the surface of which is a representation of a simulated ball return trough,
(b) an elongated stationary member within said cabinet beneath and in parallel relation with respect to said simulated trough and having a plurality of openings formed therein in spaced relation with respect to each other,
(c) electric bulbs beneath the openings of said stationary member,
(d) a movable elongated member arranged in said cabinet beneath said panel and having a plurality of equally spaced openings therein and having at one end thereof spaced cut-out portions defining figures of a bowler in various bowling positions to progressively depict running and throwing of a ball, the arm of certain of the figures extending into certain of the openings adjacent thereto,
(e) means for mounting said movable member in said cabinet for oscillatory movement in a horizontal plane,
(f) electric bulbs supported by said movable member beneath said openings thereof and beneath said cut-out portions and when energized presenting successive silhouettes of said bowler and said openings of said movable member upon the translucent panel,
(g) means for oscillating said movable member,
(h) means for successively energizing said electric bulbs in both of said elongated members to produce on said panel said silhouettes in progressive movement,
(i) means controlled by said oscillating means for holding energized the electric bulb beneath and at the end of said simulated trough, and
(j) means actuated by said means for successively energizing said electric bulbs for energizing the first of said electric bulbs on said movable member when said last-mentioned electric bulb is deenergized by said oscillating means whereby to simulate the picking up of the simulated ball from the end of the trough by the simulated bowler defined by the first cut-out portion of said movable member.

3,269,732
DICE CUP
John G. MacPherson, Castro Valley, Calif. (% Western Tool & Supply Co., 4541 Oakport St., Oakland, Calif.)
Filed Nov. 29, 1963, Ser. No. 326,786
7 Claims. (Cl. 273—145)



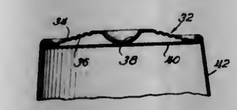
1. A device of the type described comprising a tubular member having a bottom wall closing one end thereof, flexible resilient wall means defining a closed chamber subjacent said bottom wall, said chamber being resiliently deformable in response to force applied to the exterior of said wall means, a generally annular shaped lip member formed of flexible resilient material overlying the upper edge of said tubular member and secured thereto to define an annular chamber disposed intermediate said lip member and the upper edge of said tubular member.

3,269,733
GOLF PUTTER GUIDE
Julius J. Taddie, 2004 Espanola Way, Melbourne, Fla., and Charles Welser, 413 N. Neptune Drive, East Gallie, Fla.
Filed Nov. 18, 1963, Ser. No. 324,394
4 Claims. (Cl. 273—183)



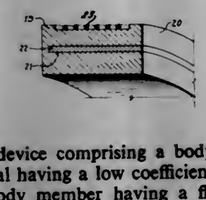
2. A golf putter guide of the character described that embodies a guide frame that is formed of relatively heavy rods and with the rods spaced apart to form an elongated guide socket, the rods being connected together at one end and open at a discharge end, a supporting rod that is fixed to one of the rods of the guide and that is bent downwardly to form a right angle leg portion, the last named rod constituting a supporting means to position the guide at a predetermined elevation above the ground, the last named rod at its free end engaged and clamped into a socket, the socket being carried by a relatively wide circular plate and with the plate upon its underside being provided with a plurality of piercing prongs whereby the plate may be supported upon the ground to maintain the guide in a predetermined position against movement, and a pointer extending outwardly from the rod that forms the outer side of the frame and with the pointer being adjustable along the rod whereby the pointer may be adjusted in accordance with the desired movement of a putter club that is engaged in the frame and to determine the driving arc of the putter.

3,269,734
PHONOGRAPHIC DEVICES
Ladis H. Ottofy, 4447 Irving Park Blvd., Chicago, Ill.
Filed Nov. 29, 1963, Ser. No. 326,871
2 Claims. (Cl. 274—42)



1. In a portable phonographic device actuated by a relatively manually movable stylus, the combination with a resonant cup receptacle comprising a bottom and sides connected with an outside bottom flange, of a flexible plastic disk having a continuous sound reproducing groove at one side within and separate from the outer peripheral edge thereof, and means in the edge for removably attaching the disk to the outside bottom flange against the bottom with the groove outermost, adapted to reproduce and magnify sounds from the groove when the stylus is moved thereover, the grooved disk leaving a central domed projection from the side opposite the groove to bear against said bottom when it is attached by said means.

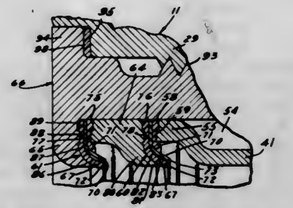
3,269,735
HIGH PRESSURE SEALING DEVICE
Stanley J. Whittaker, Deep River, Ontario, Canada, assignor to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation of Canada
Filed Nov. 16, 1964, Ser. No. 411,405
4 Claims. (Cl. 277—22)



1. A sealing device comprising a body member composed of material having a low coefficient of thermal expansion, said body member having a flat seal-applying surface lying in a single plane and a recess in said surface, and a body of ductile seal material having a high coefficient of thermal expansion seated in said recess and being normally disposed substantially wholly within said recess, said ductile seal body being expansible to extrude a portion thereof outwardly beyond the plane of said surface on application of a predetermined degree of heat thereto and a heating device mounted on said body member for applying said predetermined degree of heat thereto.

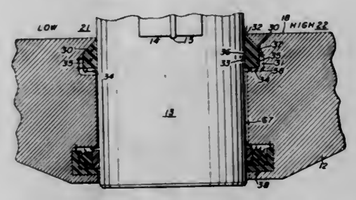
3,269,736
DYNAMIC SEAL FOR CRYOGENIC USE
Ellsworth E. Hieber, Glendale, and Donald G. Lawell, Hacienda Heights, Calif., assignors to Schulz Tool and Manufacturing Co., San Gabriel, Calif., a corporation of California
Filed Mar. 25, 1963, Ser. No. 267,692
12 Claims. (Cl. 277—26)

1. An annular seal for slidably engageable annular members for use in extreme variations of temperature, said seal comprising:
(a) a first ring of polytetrafluoroethylene;
(b) a second ring of resilient material of one of the group consisting of polyethylene terephthalate and poly (1,4-cyclohexylene-dimethyl terephthalate) and being relatively stiffer than said first ring material and being substantially unaffected in resiliency by extreme temperatures;
(c) a third ring of polytetrafluoroethylene,
(d) said first ring having a lateral face in abutment with a lateral face of said second ring and said second ring having its other lateral face in abutment with a lateral face of said third ring; and
(e) metal means axially, compressingly retaining said rings on a first member along an annular surface thereof which is slidably engageable along an annular surface of a second member, said rings to form a seal in an annular space between said members,



(f) said rings being compressingly arranged so that a lip of said first ring is adapted to make a sealing contact with said annular surface of said second member;
(g) a lip of said second ring biasing said first ring away from said first member and said lip of said first ring being radially between the lip of said second ring and said second member,
(h) said lips of said first and second rings being generally radially between said third ring and said second member.

3,269,737
UNBALANCED PRESSURE SHAFT SEAL
Evans Glenn Freese, Hutchinson, Kans., assignor to The Cessna Aircraft Company, Wichita, Kans., a corporation of Kansas
Filed Nov. 12, 1963, Ser. No. 322,794
9 Claims. (Cl. 277—59)



1. In a structure in which a rotatable shaft is journaled in a housing wall under operating conditions which subject different circumferential portions of the shaft journal to differential pressures from within the housing,
an annular seal assembly for sealing between the shaft journaling surface of the housing wall and the adjacent surface of the shaft to prevent fluid from traveling from a higher pressure region in the housing through the bearing clearance space and into a lower pressure region in the housing,
said seal assembly comprising:
an annular groove recessed into the shaft journaling portion of the housing wall near the inner surface thereof, said groove having a conical inner end wall surrounding the shaft, the apex of which, if the wall was extended, would lie on the longitudinal axis of the shaft at a location inside the housing, the inner edge of said conical end wall of the groove defining a circular opening closely encircling said shaft in a plane common to the plane of the inner surface of the shaft journaling housing wall; and

an annular seal of flexible, resilient material seated in said groove,

the cross sectional shape of said seal being loosely complemental to the cross sectional shape of said groove,

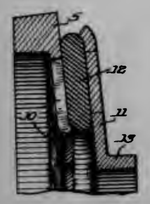
and including a generally wedge shaped inner end defined by

(a) an axially extending cylindrical surface which is in continuous encircling contact with said shaft, and

(b) an adjoining conical surface which is inclined toward the shaft axis at substantially the same angle as the conical end wall of said groove, and lies adjacent to and cooperates therewith,

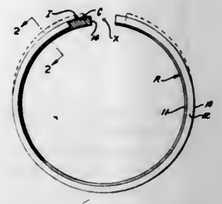
whereby fluid from a higher pressure region within the housing forces it way into that circumferential portion of the seal groove which is coextensive with the high pressure region, into the space between the seal and the walls of the seal groove, travels around the groove and shaft in that space, and exerts an axial inward pressure against that circumferential portion of the seal which is coextensive with and adjacent to a lower pressure region in the housing, and urges the wedge shaped inner end of the last mentioned portion of the seal into wedging engagement with the cooperating conical wall of the seal groove and with the adjoining surface of the shaft, thereby blocking communication between higher and lower pressure regions in the housing through the minute bearing clearance space surrounding the shaft.

3,269,738
GLIDE RING SEAL FOR ROTARY PISTON MOTORS
Hermann Bäumler and Paul Vossieck, Burscheid, Cologne, Germany, assignors to Goetzewerke Friedrich Goetze Aktiengesellschaft, Burscheid, Cologne, Germany, a corporation of Germany
Filed Aug. 15, 1962, Ser. No. 224,268
Claims priority, application Germany, Aug. 16, 1961, G 32,937
5 Claims. (Cl. 277—81)



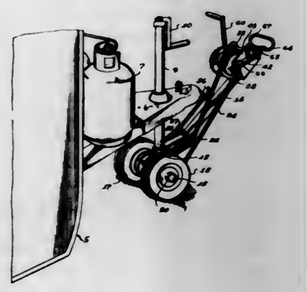
1. A glide ring seal arrangement for sealing between first and second relatively rotating radially spaced machine parts and adapted for insertion as a single integral unit between said machine parts, said seal arrangement comprising; resilient annular disk-like spring means having inner and outer marginal regions, a metal glide ring fixedly connected to one side of said spring means at one of said inner or outer marginal regions and projecting axially therefrom, said glide ring having an annular face on the side facing away from said spring means operable for slidingly sealingly engaging a radial surface on one of said machine parts, the other of said marginal regions being radially spaced from the other of said machine parts, a second ring at said other of said marginal regions forming a part of said seal arrangement and adapted for sealing engagement with a radial surface of the other of said machine parts and also operable for tensioning said spring means to hold said glide ring in pressure engagement with said one machine part, and means maintaining a seal between said second ring and said glide ring.

3,269,739
PISTON RING CONSTRUCTION
Harry M. Bramberry, Northridge, Calif. (241 N. Westmoreland Ave., Los Angeles, Calif.)
Filed July 1, 1963, Ser. No. 291,829
3 Claims. (Cl. 277—151)



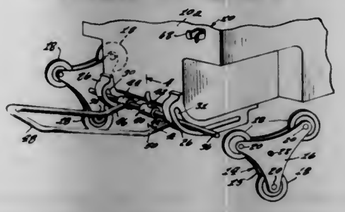
1. A cast-iron piston ring with flat axially disposed top and bottom surfaces, a radially inwardly disposed inner surface and a radially outwardly disposed outer sealing surface, said ring being split to define opposing ends and normally set out of round and with its ends in spaced relationship and defining a free gap, said ring having a radially outwardly opening channel in its outer surface intermediate the sides thereof, a wear receiving insert coextensive with and fixed in the channel, said insert having a flat radially outwardly disposed wear receiving surface flush with said sealing surface, said insert occurring radially outward of the central cross-sectional axis of the ring whereby said insert is tensioned when the ring is compressed to close the free gap and serves to yieldingly urge the ring open towards its set position, said insert being established of molybdenum wire stock having greater tensile strength and elasticity than cast iron.

3,269,740
VEHICLE MOVING MECHANISM
Elmer R. Hutchinson, 11616 Burbank Blvd., North Hollywood, Calif.
Filed Sept. 2, 1964, Ser. No. 394,014
8 Claims. (Cl. 280—3)



1. A dolly having wheels adapted to support the front end of a trailer, a tongue extending upwardly from said wheels, a winch having a plurality of gears, a chain driving sprocket attached to said gears, a sprocket on the axle of said wheels, a chain between said axle sprocket and said chain driving sprocket, and means for activating said gears, said wheels being a pair of wheels and a clutch is provided for connecting and disconnecting one of said wheels from said axle sprocket.

3,269,741
STEERABLE STAIR-CLIMBING VEHICLE
Raphael Porcello, Knickerbocker Station, Box 286, New York 2, N.Y.
Filed Nov. 15, 1965, Ser. No. 507,922
7 Claims. (Cl. 280—5.26)



1. A vehicle comprising:

(a) a body having end walls, side walls and a bottom wall,

(b) a pair of brackets at each end of the vehicle and each secured to an associated end wall and an adjacent portion of the bottom wall,

(c) said brackets of each pair lying in transverse horizontal alignment,

(d) corresponding like slots in each bracket providing a forward upstanding arcuate portion and a rearward straight horizontal portion,

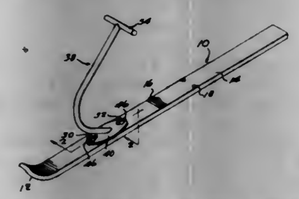
(e) an axle extending through the slots in each said pair of brackets,

(f) a wheeled structure rotatably mounted on the end of each axle, and

(g) a handle member secured to each axle and movable with said axle from a raised inoperative position to a lowered operative position to pull said vehicle,

whereby one said handle when in said lowered pulling position will on a pull thereon move said axle into the arcuate portion of said slots so as to retain the same in fixed transverse relation to said body and on a rearward push of said handle relative to said body said axle will be moved into the straight horizontal portion of said slots to permit steering of said axle.

3,269,742
CONVERTIBLE SKI
Steve J. Funyak and Robert F. Funyak, both of 1202 1st St., Nanty-Glo, Pa.
Filed Feb. 7, 1964, Ser. No. 343,279
3 Claims. (Cl. 280—11.13)



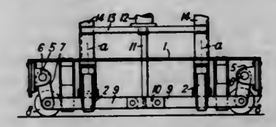
1. A device of the character described comprising a ski runner having forward and rear ends, and an upstanding handle fixed to the runner and spaced from the ends thereof, said runner having a mid-length point and said handle being located between the forward end of the runner and said mid-length point, and ski-boot fastening means on the runner at a location behind said mid-length point, said ski runner having an upper surface and an underside, the underside of the runner being formed with a recess spaced from the ends of the runner, an anchor plate secured in and conforming to said recess, said anchor plate having an underside flush with the underside of the runner, longitudinally spaced upstanding bolts fixed to the base plate and extending upwardly through and above the runner, a base plate bearing upon the upper surface of the runner and formed with holes receiving the bolts, nuts on the bolts bearing down upon the base plate, and said upstanding handle fixed to the base plate.

3,269,743
SKI POLE SHAFTS
Henry J. Barreca, 925 Prospect Place, Brooklyn 13, N.Y.
Filed Apr. 7, 1964, Ser. No. 357,982
7 Claims. (Cl. 280—11.37)



4. In a ski pole having a snow ring, a shaft divided into at least an upper portion and a lower portion connected thereto, both of said portions being located above said snow ring, said upper portion being of an aluminum alloy and said lower portion of a steel alloy whereby said lower portion will be more resistant to damage from external blows.

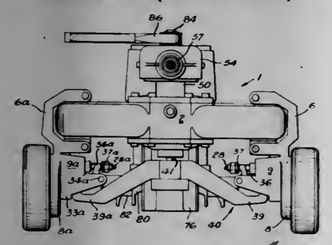
3,269,744
TRUCKS
Peter V. Dobson, 1 Wentworth Road, Leicester, England
Filed Mar. 12, 1963, Ser. No. 264,670
Claims priority, application Great Britain, Mar. 15, 1962, 9,915/62
13 Claims. (Cl. 280—43.17)



1. A truck comprising a chassis; a set of main wheels fitted to said chassis; spaced axle bearings mounted on the chassis at opposite sides thereof; two axles mounted at opposite sides of said chassis and mounted to turn in said bearings; a set of wheel arms rigidly secured to each of the said two axles such that the wheel arms of each set are turnable in unison with the axle to which they are rigidly secured, at least one of said sets comprising more than one wheel arm, an auxiliary wheel mounted on each of said wheel arms, said auxiliary wheels being disposed with their axes at an angle with respect to the axes of the main wheels; a first pressure arm articulated to a wheel arm on a first side of the chassis and extending inwardly from said wheel arm, a second pressure arm articulated to a wheel arm on the opposite side of the chassis and extending inwardly from said wheel arm, a coupling means for connecting together the inner ends of said first and second pressure arms, and a means for applying a single force to said coupling means whereby as a consequence of the appropriate application of said

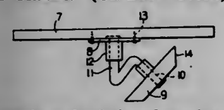
single force the said axles are turned so that all the wheel arms are simultaneously swung downwardly to lower the auxiliary wheels into contact with the ground and automatically lift the chassis to raise the main wheels off the ground, and whereby the application of the said single force in the reverse direction causes the axles to be turned in the opposite direction and all the wheel arms to be swung upwardly simultaneously to raise the auxiliary wheels clear of the ground and at the same time lower the main wheels to the ground.

3,269,745
NORMALLY APPLIED DRAWBAR RELEASED VEHICLE BRAKING SYSTEM
George Keith Mulholland and Edwin O. Klemm, Saginaw, Mich., assignors to Saginaw Products Corporation, Saginaw, Mich., a corporation of Michigan
Filed Aug. 21, 1963, Ser. No. 303,534
19 Claims. (Cl. 280—47.11)



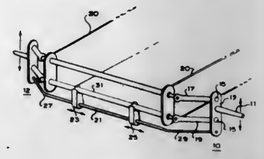
1. Brake actuating mechanism for a vehicle having a frame on which is journaled at least one wheel for rotation about an axis, said mechanism comprising first brake means mounted on said wheel for rotation therewith about said axis; second brake means mounted on said frame adjacent said first brake means for movement in a direction generally parallel to said axis into engagement therewith; brake operating means mounted on said frame for movement in a direction generally parallel to said axis; force applying means acting on said operating means and constantly urging the latter for movement in a direction generally parallel to said axis to engage said first and second brake means; motion transmission means operable to move said operating means in a direction to disable said force applying means; and manually operable means connected with said motion transmission means and movable from an inactive position to an operative position to actuate said engageable means and effect disabling of said force applying means, said force applying means acting on said motion transmission means when said manual operating means is in said operative position to urge said manual operating means to said inactive position.

3,269,746
BALANCING AND EXERCISING DEVICE
Ruth A. Jonker, 1032 S. Howard St., Tacoma, Wash.
Filed Oct. 7, 1964, Ser. No. 402,304
2 Claims. (Cl. 280—87.04)



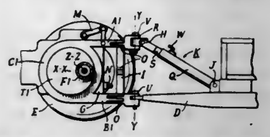
1. A balancing board of the class described, comprising a flat board to the underside of which is secured the top plate of a caster type of wheel that has a beveled periphery, the said wheel supporting the said flat board by means of a Z-shaped member having an angularly disposed axle extending through the center of the said wheel and a vertical portion swivelably mounted through the center of a vertical member that is integral with the center of the said top plate.

3,269,747
AUTOMOTIVE SUSPENSION SYSTEM
Charles O. Forge, 20691 Homestead Road, Cupertino, Calif.
Continuation of application Ser. No. 368,816, May 20, 1964. This application Mar. 9, 1966, Ser. No. 536,556
3 Claims. (Cl. 280—124)



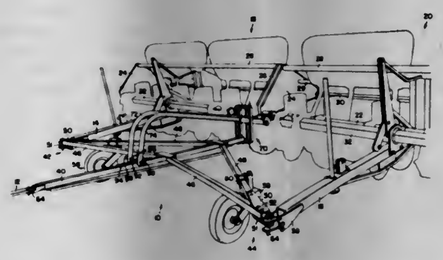
1. In a motor vehicle having a member which traverses at least a portion of the width of the vehicle and a pair of road wheel axles disposed at opposite sides of the vehicle, sway correction apparatus comprising:
a pair of upper and lower support arms for each of said axles, each of said arms having forward and rearward ends;
means rotatably supporting the forward ends of each of the support arms about upper and lower transversely extending axes which are separated a selected distance in a plane defined by the axes;
axle carrier means supporting each of the axles on the rearward ends of upper and lower support arms at pivot points thereon which are separated by said selected distance for maintaining a parallel relationship between the plane defined by said axes and a line passing through the pivot points;
a bar disposed within said plane a predetermined distance away from one of the upper and lower axes and having longitudinal flexibility over a portion of its length near the ends thereof;
lever arms attached to the bar near each of the ends thereof and having other ends pivotally attached to the axle carrier means at said predetermined distance away from said one of upper and lower pivot points and at a point along the line passing through said pivot points for maintaining said support arms and lever arm parallel as the axle undergoes substantially vertical movement; and
a pair of pivot blocks selectively positionable along said member adjacent the end portions of said bar having longitudinal flexibility to rotatably support said bar for producing in the end portions thereof a selected amount of longitudinal flexure within said plane defined by said axes in response only to differential vertical movement of said axles.

3,269,748
LOAD ADJUSTING AND ARTICULATING VEHICLE HITCHING DEVICE
Yves Bertrand Gilbert Mazery, 5 Wellington Ave., Quatre Bornes, Mauritius
Filed Sept. 4, 1963, Ser. No. 306,501
Claims priority, application France, Sept. 4, 1962, 24A; June 26, 1963, 939,438; Great Britain, Aug. 1, 1963, 30,573/63
5 Claims. (Cl. 280—405)



1. A device for hitching a trailer or the like to a tractor or similar vehicle having a rear axle, said device comprising a rigid frame structure, frame mounting means on which said frame is pivotally mounted, said frame mounting means being adapted to be mounted on the tractor with the pivotal axis of said frame structure parallel to and forward of the rear axle of the tractor, said frame structure having two vertically spaced coaxial hinge points thereon, said hinge points being to the rear of the rear axle of the tractor when the frame structure is mounted on the tractor, the lower of said hinge points comprising means for hitching at least one trailer drawbar to the frame structure for pivotal movement about a vertical axis, and at least one length-adjustable link having one end pivotally connected to the upper of said hinge points for universal pivotal movement, the other end of said length-adjustable link having means thereon for pivotally connecting the link to the trailer, and frame structure rocking means connected to said frame structure and adapted to be coupled to the tractor for rocking said frame about the pivotal axis of the frame structure.

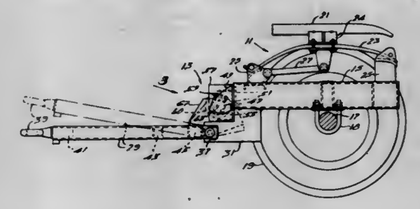
3,269,749
WHEELED HITCH DEVICE FOR TOWING A PAIR OF TRAILING UNITS
Donald R. Hartwig, Rock Island, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Oct. 2, 1964, Ser. No. 401,205
6 Claims. (Cl. 280—411)



1. A hitch device for interconnecting a tractor drawbar with two transversely extending ground-engaging devices each having a forwardly extending drawbar, the hitch device being adapted to maintain the ground-engaging devices a fixed transverse distance apart from each other while permitting independent up and down movement, said hitch device comprising: a longitudinally extending main frame member, outwardly and forwardly extending right- and left-hand frame bars rigidly secured of their inner ends to an intermediate portion of said main frame member, outer wheel assemblies mounted on and supporting the outer end portions of said right- and lef-hand frame bars, means mounted on the outer ends of said right- and left-hand frame bars to which the drawbars of the ground-engaging devices may be secured, a guide assembly carried on the rear end portion of said main frame member, right- and left-hand draft means passing through said assembly, the forward end of said draft means being secured to said main frame member about transversely extending pivot means, and means carried by the rear ends of said draft means and adapted to be secured to said ground-engaging device.

3,269,750
PIVOTED DRAW-BAR WITH LOCK
Keith W. Tantlinger, Grosse Pointe Shores, Mich., assignor to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 15, 1964, Ser. No. 404,040
4 Claims. (Cl. 280—474)

1. A locking device for a vehicle drawbar having one end pivotally carried by a trailer frame and the other end adapted to be removably connected to a vehicle tractor, said locking device comprising friction means carried by said trailer frame,
plate means fixed to said drawbar adjacent said one end thereof and adapted for engagement by said friction means in a variety of drawbar pivotal positions,
means for actuating said friction means into frictional engagement with said plate means,



said actuating means being operable in response to a braking device for said trailer
whereby said drawbar is locked against pivotal movement when said tractor is detached therefrom.

3,269,751
ADJUSTABLE HITCH
Vernard J. Whattoff, Ames, Iowa, assignor to Whattoff Motor Co., a partnership, Ames, Iowa
Filed Feb. 11, 1964, Ser. No. 344,129
6 Claims. (Cl. 280—482)

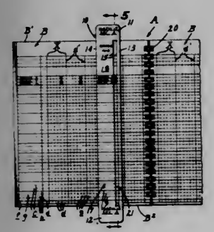


1. A hitch for effecting a connection between a trailer and a truck tractor having a pair of longitudinal frame members comprising:
(a) first tubular means positioned longitudinally of and secured to the rear portions of the frame members,
(b) second tubular means slidably positioned in the first tubular means,
(c) means for locking the second tubular means in selected longitudinal positions relative to the first tubular means,
(d) transverse beam means having an upright wall secured to said second tubular means and movable therewith to selected longitudinal positions,
(e) a pair of upright angle members having longitudinal flanges and transverse flanges, said angle members positioned in a spaced substantially parallel side-by-side relation with the longitudinal flanges secured to the upright wall and the transverse flanges facing each other,
(f) a plurality of teeth means secured to the transverse flanges, said teeth being spaced along the length of the transverse flanges and projected toward the upright wall,
(g) block means having lateral ears selectively positionable between pairs of teeth on the transverse flanges to adjust the elevation of the block means and

a table carrying a tow ball projected between said transverse flanges, and

(h) wedge means positionable between said upright wall and block means for holding the block means in engagement with the transverse flanges.

3,269,752
VISUAL GUIDE FOR RECORD SHEETS
Robert E. Lindaman, 776 Highland Road, Windom, Minn.
Filed Dec. 9, 1963, Ser. No. 329,142
1 Claim. (Cl. 283—65)



A visual guide for record sheets having thereon an area of spaced parallel horizontal lines and uniformly spaced parallel vertical lines which intersect said horizontal lines, said guide comprising:

(a) an elongated strip-like body, the longitudinal dimension of which is greater than the vertical dimension of the sheet in conjunction with which said guide is adapted to be used,

(b) said body intermediate its longitudinal edges having longitudinally extended closely spaced parallel slits each of which extends for a distance corresponding substantially to the vertical dimension of said sheet and which terminate in longitudinally spaced relation to the opposite ends thereof and define therebetween an anchoring band engageable with the underside of said sheet when extending transversely through said slits,

(c) opposite ends of said body providing grasping tabs for facilitating sliding movements to said body transversely of said sheet,

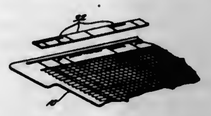
(d) said body having on one face thereof horizontal lines which are spaced apart distances corresponding to the spacings between the horizontal lines on said sheet and which become aligned therewith when said body is operatively slidably mounted on said sheet,

(e) the space between said slits being substantially equal to the space between any two adjacent vertical lines on said sheet whereby to define a vertically elongated aperture which is adapted to completely expose the space between any given two adjacent vertical lines as said guide is slidably moved transversely of said sheet,

(f) said slits being closely spaced to one of the longitudinal edges of said body whereby to provide adjacent the opposite longitudinal edge a relatively wide surface area for the recording of legendary material corresponding to that normally contained on the extreme outer edge of said sheet, and

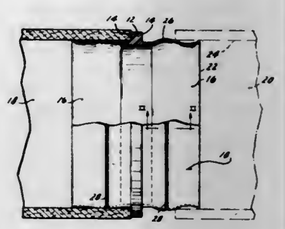
(g) said body on the other face thereof being lined similarly to that of said one face whereby to enable said body to be reversed so as to position said elongated aperture alternatively adjacent the right or left side of said body for the accommodation of either right or left-handed writers.

3,269,753
BOOKKEEPING UNIT
David P. de Rham and Robert W. Hincks, Farmington, Conn., assignors to Data Management, Incorporated, Farmington, Conn., a corporation of Connecticut
Filed Aug. 31, 1964, Ser. No. 393,818
3 Claims. (Cl. 283—66)



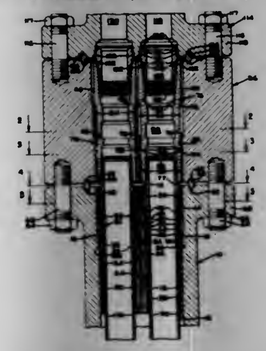
1. In a bookkeeping unit for recording a plurality of entries in segregated accounts of the type including a base sheet having a plurality of columnar headings designating said segregated accounts, and a plurality of separate overlying sheets having vertical columns aligned with the column heading designations of said base sheet, said overlying sheets being transversely lined for recording said plurality of entries and being of lesser height than said base sheet to expose said columnar headings, the first lines of said overlying sheets appearing immediately below said columnar headings, the combination therewith of column heading blanks providing said columnar headings and comprising strips of flexible sheet material having imprinted upon one surface thereof the desired indicia for said columnar headings, a coating of pressure-sensitive adhesive on the other surface thereof and a strip of release paper covering said adhesive coating.

3,269,754
INTERNAL PLASTIC COUPLING
Ronald J. Bertling, Grafton, and Mike P. Crivello, St. Francis, Wis., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Mar. 2, 1964, Ser. No. 348,620
2 Claims. (Cl. 285—109)



1. An internal coupling for interconnecting unthreaded conduit sections formed of a single piece of resilient plastic material comprising a cylindrical central portion having a radially outwardly extending annulus presenting radial abutment surfaces; axially extending end portions of generally circular cross section and substantially constant thickness having axial undulations, each such end portion terminating at its distal end in a diverging portion with the maximum peripheral diameter thereof less than the inside diameter of said conduit sections with a diverging converging section adjacent said distal portion and intermediate said distal portion and said central portion presenting a peripheral ridge surface having a maximum diameter greater than said inside diameter of said conduit sections whereby as said conduit sections are respectively extended over said end portions toward abutment with said radial surfaces of said annulus the distal ends freely enter said respective conduit section and are thereafter forced radially outwardly into compressive contact with the interior surfaces of said conduit sections as said respective conduit sections force said diverging converging portions radially inwardly and annular serrations formed in said peripheral ridge surface.

3,269,755
WELL INSTALLATION
John R. Yancey, Houston, Tex., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware
Continuation of application Ser. No. 697,195, Nov. 18, 1957. This application Jan. 24, 1961, Ser. No. 85,954
5 Claims. (Cl. 285—137)



1. In a well apparatus, a head member providing a lower bore, a support member mounted on said head member and having a plurality of upper bores communicating with said lower bore, said support member providing annular seats individually surrounding said upper bores, tubular hangers individually received in said upper bores, said hangers having annular shoulders spaced above their respective seats, each hanger having a maximum outside diameter less than the minimum inside diameter of its upper bore for free movement of the hangers through the upper bores, tubing strings individually connected to the hangers and projecting down therefrom, means for preventing the upward flow of fluid between the strings and between the head member and the strings while allowing the strings to slide up and down with respect to the head member, means on the head member for supporting said hangers in a lower position, and rings individually fitted around said hangers and respectively positioned between said seats and shoulders so that the strings are supported on said seats in a position above said lower position, said rings having portions adjacent to each other.

3,269,756
CONNECTOR FOR TUBING
Leslie C. Bloom, Portland, Oreg., assignor, by direct and mesne assignments, to Bloomco., Inc., Portland, Oreg., a corporation of Oregon
Filed May 17, 1963, Ser. No. 281,249
3 Claims. (Cl. 285—247)

1. A connector for attachment to the end of a flexible tubing of synethetic plastic or like material and of constant predetermined inner and outer diameters comprising:

a male member including an externally threaded body portion of substantially larger diameter than the tubing to be attached to said connector,

said male member also including a stem portion extending coaxially from said body portion,

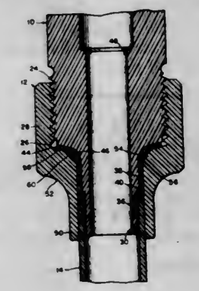
said stem portion comprising a smooth surfaced first cylindrical part adjacent said body portion having a diameter greater than the inner diameter of said tubing but less than the outer diameter of said tubing,

said stem portion having a tapering shoulder on the end of said first cylindrical part remote from said body portion to facilitate the insertion of said stem portion into a tubing,

said male member having an outwardly flaring neck portion extending from said first part to the periphery of said body portion, said neck portion being concavely curved adjacent to said stem portion and being tangential to said stem portion and defining a circumferential clamping surface on the outer edge of said neck portion,

said connector comprising a female member including a body portion having internal threads for cooperative engagement with the threads of said male member body portion and a sleeve portion extending coaxially from said female body portion and adapted to surround said stem portion,

said sleeve portion having an inner diameter substantially equal to the outer diameter of said tubing so as snugly to receive said tubing,



said female member having a throat extending between the inner surface of said sleeve portion and said female body portion including a clamping surface substantially complementary to the said clamping surface of said neck, said sleeve portion having, at the end thereof adjacent said throat, an abrupt tubing engaging edge defined by said inner surface of said sleeve portion and an annular surface extending substantially perpendicularly to said inner surface, said edge being adapted to engage a tubing advanced onto said male member stem portion and, as said female member is threaded onto said male member, to force said tubing toward and over said male member neck portion thus causing the end portion of said tubing to flare over said neck portion clamping surface whereby said tubing portion may be clamped between said neck portion clamping surface and said female body portion clamping surface.

3,269,757
BALL AND SOCKET JOINT
Gottfried Maxeiner, Dusseldorf, Germany, assignor to A. Ehrenreich & Cie, Dusseldorf-Oberkassel, Germany
Filed Jan. 28, 1964, Ser. No. 340,726
Claims priority, application Germany, Jan. 29, 1963, E 24,250
9 Claims. (Cl. 287—87)

1. A ball and socket joint comprising:

a hollow housing having a bore extending therethrough,

said housing having an inturned segmental spherical wall portion at one end of said bore defining a restricted opening,

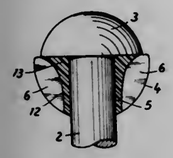
closure means at the other end of said bore,

a first ball part of segmental spherical form having a flat side and a bore extending therethrough,

said segmental spherical form of said ball part engaging said segmental spherical wall portion of said housing,

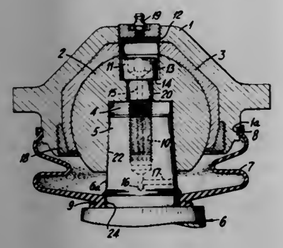
a joint stud having a shaft extending through said bore of said ball part,

a second segmental spherical ball part at the end of said joint stud and having a flat side for engaging said flat side of said first ball part, and



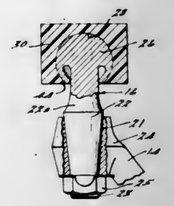
a plurality of slots extending radially into said first ball part, each of said slots being closed at one end thereof by a portion of said ball, said portion being relatively small in a radial direction as compared to the overall radial length of said slots and closing said slots from adjacent said flat side to the opposite end of said first ball part.

3,269,758
BALL JOINT DEVICE
Jürgen Ulderup and Georg Kindel, Lemforde, Hannover, Germany, assignors to Lemforder Metallwaren AG Lemforde, Hannover, Germany
Filed Dec. 28, 1964, Ser. No. 421,382
Claims priority, application Germany, Jan. 29, 1964, L 46,908
4 Claims. (Cl. 287—87)



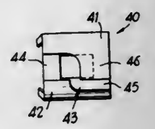
1. A ball joint construction particularly for the connection of wheel guide members to the axle spindle bolt of steering wheels of motor vehicles, comprising a housing having a lining with a substantially spherical bearing surface, a ball joint member having a substantially spherical exterior surface in sliding engagement with said bearing surface and having a bore defined therethrough, an axle spindle bolt inserted into one end of the bore of said ball joint, said spindle bolt having a threaded bore defined in an end thereof, a securing screw extending into the bore of said ball joint member from the end opposite to said axle spindle bolt and threaded into the bore of said axle spindle bolt and holding said ball joint member to said axle spindle bolt, seal means connected between said housing and said spindle bolt, said housing being pivotal on said ball joint member and having an access opening alignable with the securing screw for insertion and removal thereof, said securing screw having a bore defined therethrough for inserting lubricant from said access opening through said bore, said axle spindle being provided with a lubricating passage connected to said bore of said securing screw and to the space around said axle spindle between said axle spindle and said housing within said seal means for distributing the lubrication.

3,269,759
GREASELESS BALL JOINT
Robert E. Poirier, Ferndale, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Original application Mar. 3, 1961, Ser. No. 93,118, now Patent No. 3,126,612, dated Mar. 31, 1964. Divided and this application June 7, 1963, Ser. No. 286,281
3 Claims. (Cl. 287—87)



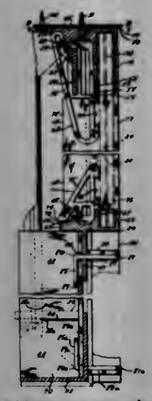
1. A shaft having a ball end adapted to be pivotally confined in a greaseless socket of plastic material, said ball end and shaft being a unitary piece and having a spherical bearing surface coaxial with said shaft and defining one end thereof said spherical bearing surface having a base skirt portion contiguous therewith and spaced from and extending coaxially around said shaft and terminating in an annular rounded edge coaxial with and adjacent said shaft at the side of said ball end closest to said shaft, said bearing surface and its base portion cooperating to define a continuous outer spherical surface for said ball end, said outer spherical surface extending endwise from said annular rounded edge.

3,269,760
FASTENERS
Clifford Alexander Seckerson, Iver Heath, England, assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Sept. 19, 1963, Ser. No. 310,077
Claims priority, application Great Britain, Sept. 21, 1962, 36,040/62
1 Claim. (Cl. 287—90)



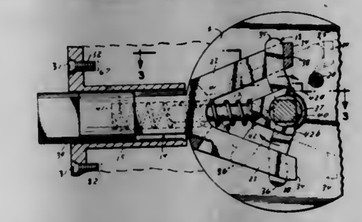
A resilient fastener for securing a ball-ended lever to an externally grooved and recessed cylindrical rod, in which the fastener is formed from a single strip of material in the shape of a split annular cylinder comprising a curved web and two curved arms, each of said arms having an end and said ends being spaced from each other, to define an open mouth, having a wider portion and a narrower portion which is axially offset therefrom and connected to said wider portion and in which the fastener has at least one lug extending forwardly and radially inwardly at one end of the cylinder, whereby the ball may be located in the recess and the fastener snap-engaged around the rod with the lug engaged in the groove in the rod, the lever extending through the open mouth and the ball held in the recess by the arms of the fastener in which a pair of tongues are sheared partly from the web and bent radially outwardly of the fastener, whereby compression of the tongues toward each other would open the said mouth of said fastener.

3,269,761
KITCHEN CABINETS
Nat Levenberg, 2 Windsor Place, Lynbrook, N.Y.
Original application June 29, 1964, Ser. No. 386,808. Divided and this application June 11, 1965, Ser. No. 477,994
2 Claims. (Cl. 287—189.36)



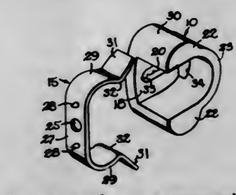
1. In a metallic cabinet construction, including a horizontal element, a vertical element, said horizontal element being disposed at a distance from an end of said vertical element, the improvement comprising: said horizontal and vertical elements each having aligned slot openings therethrough, one of said horizontal and vertical elements having an additional opening therein; an L-shaped interconnecting member having a pin on one right angle portion, thereof, said interconnecting member being insertable through said aligned slot openings, and pivotally movable to bring into engagement said pin with said last mentioned opening.

3,269,762
DOOR LATCH
Robert S. Lint, Seattle, Wash., assignor to Avia-Marine Company, Inc., Seattle, Wash., a corporation of Washington
Original application Aug. 21, 1961, Ser. No. 132,825, now Patent No. 3,179,459, dated Apr. 20, 1965. Divided and this application Mar. 29, 1965, Ser. No. 443,256
2 Claims. (Cl. 292—169)



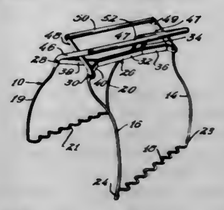
1. A door latch comprising, a slide bolt having a shank with a striking face at one end and a fork at the other end, the arms of said fork diverging and having inwardly facing coplanar slots passing through the arms and terminating by abutments at the free ends of the arms, and said shank having a longitudinal bore exposed between said fork arms, a retractor having a hub with a pair of central coplanar rollbacks projecting oppositely therefrom into said slots, an elongated guide slidably received by one of its ends in said bore and having an enlarged head at its other end presenting a pair of spaced forks interfitting with said hub at opposite sides of said rollbacks, and a compression spring sleeved on said guide and seated against said slide bolt at the foot of said bore and against the head of the guide for yieldingly urging said abutments against said rollbacks, the interfit between said hub and said head of the guide being such as to permit turning of said retractor relative to said head whereby one of said rollbacks wipes against its respective abutment while the other rollback swings away from the other of said abutments.

3,269,763
CATCH
Axel W. Ahlgren, Rockford, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Illinois
Filed June 1, 1964, Ser. No. 371,683
4 Claims. (Cl. 292—341.18)



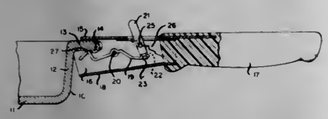
4. In a catch mountable on a supporting member by means of a headed fastener, the combination of, a bottom wall adapted to be positioned against said member and having a slot therethrough closed at its front end and opening rearwardly through said bottom wall, side walls joined to and projecting outwardly from the edges of said bottom wall on opposite sides of said slot, means on said side walls adjacent the front end of said catch for engaging a strike, and a rear wall connecting the rear edges of said side walls to reinforce the latter and having an opening therein overlying the rear end of said slot and sized and positioned to admit the head of the fastener through said rear wall as said catch is moved rearwardly along said member to slide said bottom wall under said head.

3,269,764
TONGS
Lawrence J. Coleman, 938 Arkwright, St. Paul, Minn.
Filed June 30, 1964, Ser. No. 379,096
5 Claims. (Cl. 294—16)



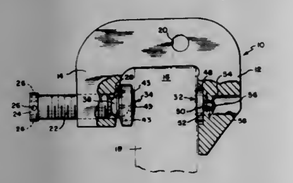
1. A tongs including:
(a) a pair of opposed, generally U-shaped members,
(b) each U-shaped member including a bar end and a pair of generally parallel outwardly bowed arms extending from opposite ends thereof,
(c) a brace extending between both pairs of arms intermediate the ends thereof,
(d) pivot means connecting each pair of arms to said brace, said pivot means being in spaced parallel relation,
(e) said arms having end portions extending upwardly and inwardly beyond said pivots to be in crossed relation,
(f) elongated handle means secured to the end portions of said arms, and
(g) said bar end extending upwardly and inwardly from the lower ends of the arms of each pair.

3,269,765
DETACHABLE HANDLES
Vaughn K. Pryce, 417 4th St., Derry, Pa.
Filed Nov. 3, 1964, Ser. No. 408,560
7 Claims. (Cl. 294—31)



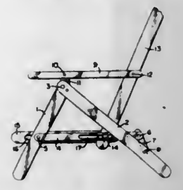
1. A detachable handle for cooking utensils having a projecting lug comprising a hand gripping portion, a fixed gripping jaw integral with the hand gripping portion, said fixed jaw having depending spaced flanges at opposite sides thereof, a movable gripping jaw pivoted intermediate its ends in the depending flanges of said fixed jaw, a stepped cam depending from the fixed jaw adjacent the hand gripping portion, and lever means pivoted in the end of the movable gripping jaw adjacent the hand gripping portion and having cam engaging means adapted to ride on said stepped cam, said lever means extending through an opening in the fixed gripping jaw and adapted to be moved vertically and horizontally therein to move the end of the movable jaw remote from the lever toward and away from the end of the fixed jaw remote from the hand gripping portion.

3,269,766
SCREW CLAMP WITH A HEAD HAVING A REVERSE-ACTING AND RENEWABLE GRIPPING SURFACE
Edward Merrill Gardner, Flushing, N.Y., assignor to Merrill Brothers, Maspeth, N.Y., a corporation of New York
Filed Oct. 5, 1964, Ser. No. 401,562
12 Claims. (Cl. 294—101)



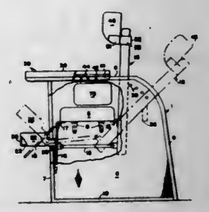
1. In a screw clamp of the type used for lifting steel plates including a body having spaced opposed projecting jaws defining a U-shaped structure and providing a plate-receiving space between the jaws open at the projecting ends of the jaws, said space being adapted for receiving a steel plate to be gripped by the clamp and lifted, a screw threaded through one of said jaws toward the other jaw, and a gripping pad carried by said other jaw and having a gripping surface facing said screw across said space, the improvement including a gripping head having a serrated convex plate-gripping surface and being pivotally mounted by a ball and socket joint on the inner end of said screw with its convex gripping surface facing toward the gripping surface of the pad, the gripping head being symmetrical about its center so that its gripping functions are effective equally well by a motion of the plate inwardly or outwardly and with the first serrations at a sufficiently low angle as measured through the center of the ball to the surface of the plate so that a slipping of the plate will cause rotation of the head off center and a gradual increase in succeeding teeth in the distance from the center of the ball to their contact point to effect further rotation of the head with further penetration of teeth until the desired point is reached where rotation of the head is stopped by rapidly increased distances of the contact points of the teeth to the center of the ball at which point jamming of the gripping head with positive gripping of the plate takes place.

3,269,767
FOLDING-FRAME CHAIR
Lorenzo Marzocchi, Via Bellinzona 38/2, Bologna, Italy
Filed Oct. 18, 1963, Ser. No. 317,224
1 Claim. (Cl. 297—29)



An improved folding-frame chair which comprises in combination:
(a) front and rear legs arranged substantially into an overturned V, forming the side of the chair;
(b) a pair of arm rests connected to the apex of said overturned V by means of hinged connectors and to the back of said chair at an intermediate height thereof by means of pins;
(c) a seat supported by said legs at an intermediate height thereof and horizontally slidably adjustable to and fro on notchless and arresterless planes by the friction caused against said planes by the weight of the person sitting in said seat;
(d) a tiltable back pivotably connected at an intermediate height to said arm rests and at the lower extremity to said seat by a pin; and
(e) a pair of spacers coplanar with said seat, pivotably connected to said front legs and hinged to said rear legs, and having a slot along part of the long axis thereof, along which slot supportedly slides the pin connecting said seat to said lower extremity of said back, said spacers keeping said legs fixedly apart when said overturned V-frame is in open position.

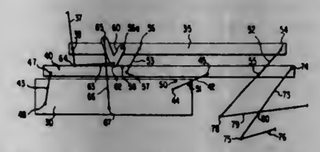
3,269,768
INVALID'S CHAIR
John C. Kinney, 1411 SE. 30th Ave., Portland, Oreg.
Filed Sept. 14, 1964, Ser. No. 396,299
1 Claim. (Cl. 297—68)



An invalid's chair comprising in combination,
a vertically disposed frame made of two spaced apart plywood panels,
a seat fixedly secured within the frame and maintaining said panels in said spaced apart relation,
a backrest and a foot rest,
means hingedly attaching said backrest to the seat whereby the backrest extends above and below said seat,

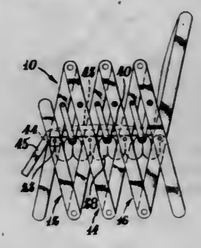
cooperating adjustable detent means carried by the backrest and said frame panels for regulating the angulation of said backrest relative to said seat,
means hingedly depending said footrest from said seat,
means interconnecting said backrest and footrest for imparting alternate upward and downward swinging movement to the footrest,
a tray, and
means adjustably mounting said tray forwardly and rearwardly on the top of said frame.

3,269,769
TV LOUNGER RECLINING CHAIR FIXTURE
Ned W. Mizelle, High Point, N.C., assignor to General Steel Products, Inc., High Point, N.C., a corporation of North Carolina
Filed May 13, 1965, Ser. No. 455,562
15 Claims. (Cl. 297—85)



1. A fixture for movably supporting the seat, back and leg rest on the base of a reclining chair for relative movement thereon between a normal position in which the seat and back are angularly disposed to define an upright seating angle with the seat generally horizontal and the leg rest retracted under the seat, a fully reclined position in which the back and seat define a substantially greater angle than said upright seating angle and the seat is tilted from the horizontal and moved rearwardly with the leg rest extended ahead of and generally in line with the seat in a leg supporting position, and in intermediate position in which the seat and back are angularly disposed to define said normal seating angle and the seat is tilted and positioned rearwardly on the base to a lesser degree than in said fully reclined position with the leg rest extended in said leg supporting position, said fixture comprising:
a base member adapted to be affixed to the base,
a seat link adapted to be affixed to the seat,
an intermediate member,
seat support linkage means for pivotally interconnecting between pivotal connections on the forward portions and on the rear portions, respectively, of said seat link and said intermediate member for rotational and translational motion of said seat link relative to both said intermediate and base members in moving said seat link between said normal and intermediate chair positions,
first stop means for preventing motion of said seat link relative to said intermediate member rearwardly of said intermediate chair position,
leg rests supporting linkage means adapted to be affixed to the leg rest and pivotally connecting the leg rest to said seat support linkage means and said intermediate member for movement of the leg rest between said retracted and forward leg supporting positions upon movement of said seat link between said normal and intermediate chair positions,
a back link adapted to be affixed to the back and pivotally mounted on the rear of said seat link,
intermediate member support linkage means for pivotally interconnecting between the forward portions and the rear portions, respectively, of said intermediate member and said base member for swinging motion of said link and said intermediate member relative to said base member in moving between said intermediate and fully reclined chair positions,
second stop means for preventing motion of said intermediate member relative to said base member forward of said intermediate chair position, and
extensible linkage means pivotally interconnecting said back link, said seat link and said base member to pivot said back link about said seat link concurrently with motion of said seat link and intermediate member relative to said base member on said intermediate support linkage means in moving between said intermediate and fully reclined chair positions.

3,269,770
COMBINATION CHAIR-COT
Alice E. Pellicane, 172 Kathleen Drive, Park Ridge, Ill.
Filed Jan. 4, 1965, Ser. No. 423,161
2 Claims. (Cl. 297—106)

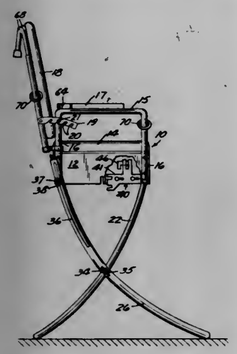


1. A combination chair-cot comprising a plurality of extensible and contractable parallelograms each having four legs, at least some of said legs being common in part with one or more parallelograms, pivot means securing said legs of said parallelograms together for permitting extension and contraction thereof, at least some of said pivot means being in one common plane, and other of said pivot means being in at least another common plane parallel to said one plane, leg portions of some of said legs adjacent one of said planes providing support for said combination chair-cot, transverse support means in alignment with pivot means in the other of said common planes spaced above said leg portions, yieldable means forming a support surface supported by said transverse support means, said yieldable means and said transverse support means being extensible and contractable with said parallelograms, and a rotatable seat part mounted upon a pair of spaced apart pivots and supported by the pivots upon one of said transverse support means, the seat part having a body being arranged to overlie said support surface and having an extension portion disposed at an angle to the seat part body and acting as a leg support for the seat part, the extension portion of the seat part being disposed to engage the underside of said support surface while retaining the body of the seat part in a predetermined angular position with respect to the support surface.

3,269,771
CONVERTIBLE CHAIR
Edmund Erdos, 1463 Portland Ave., St. Paul, Minn. 55104
Filed July 1, 1965, Ser. No. 468,781
4 Claims. (Cl. 297—132)

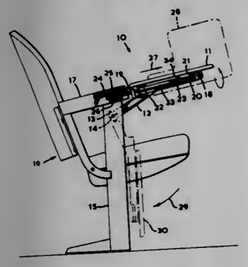
1. A convertible chair comprising a seat, a first pair of laterally opposed arcuate leg members detachably affixed one on each side adjacent to the front of said seat, a second pair of laterally opposed arcuate leg members slidably affixed along the length thereof one to each side adjacent the rear of said seat, the arcuate leg members on the same side of said seat being pivotally interconnected generally centrally thereof, said interconnected arcuate members, upon disconnection of each of said first leg members and upon sliding the seat along and toward the

center of each rear connecting leg member, collapsing to assume a generally superposed relation defining opposed rocking surfaces centrally supporting said seat, said first



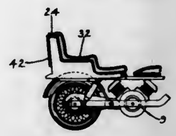
leg members upon disconnection being pivotable about said point of interconnection and invertible to support said seat centrally thereof on its ends in a low chair position.

3,269,772
TABLET ARM ASSEMBLY
Joseph H. Brunskole, Rexdale, Ontario, Canada, assignor to Canadian Seating Company Limited, Toronto, Ontario, Canada, a company of Canada
Filed June 25, 1965, Ser. No. 466,926
4 Claims. (Cl. 297—162)



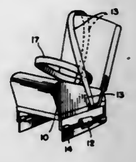
1. A collapsible writing tablet assembly in combination with a chair having a fixed arm rest which comprises an upright stationary arm-supporting member, a chair arm rest supported at the front end thereof by said arm-supporting member, a tablet supporting arm pivotally attached at the rear end thereof to said arm-supporting member, a front support bearing and a rear support bearing integral with and projecting outwardly from said tablet supporting arm, said front and rear bearings being axially aligned, a hinge rod rotatably journalled in said front and rear support bearings and movably axially therein, front and rear support brackets attached to and integral with said hinge rod, a writing tablet attached to said support brackets, said brackets and writing tablet being adapted to rotatably and axially move with said hinge rod and said hinge rod having a free inner end with the writing tablet in a collapsed position, a hinge rod receiving hole, lined with wear-resistant bearing material, located in the fixed arm rest and adapted to receive the inner end of and support said hinge rod in substantial alignment with said chair arm, and a coil spring located on said hinge rod with a projecting end portion thereon adapted to bias said writing tablet to a flat position.

3,269,773
CYCLE SEATS
Pete O'Connor, New Orleans, La. (2029 Metairie Road, Apt. B, Metairie, La.)
Filed Dec. 23, 1964, Ser. No. 420,758
1 Claim. (Cl. 297—214)



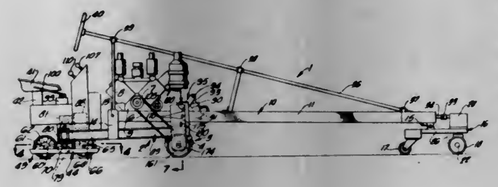
An improved tandem double seat for cycles comprising: an approximately horizontal base member having respective upper and lower surfaces, said upper surface defining tandem forward and rear seat mounts, with said rear seat mount stepped above said forward seat mount, and said lower surface defining means for mounting said base member on a cycle; an upright member, contiguous with said base member and extending upwardly from the rear thereof, said upright member having forward and rear surfaces, said forward surface defining a back rest mount for said rear seat, and said rear surface defining means for mounting a rear light above the rest of said cycle; and an upholstering strip shaped to conform to said stepped tandem seat mounts and back rest mount, one side of said strip defining means for securing said strip to said seat and back mounts and the other side being padded and upholstered.

3,269,774
MOVABLE SEAT INCLUDING SHOCK-ABSORBING MEANS AND SAFETY BELT
Friedrich Hildebrandt, Wuppertal-Elberfeld, and Friedhelm Belthle, Dremmen, Germany, assignors to Vereinigte Glanzstoff-Fabriken AG., Wuppertal-Elberfeld, Germany
Filed Mar. 30, 1964, Ser. No. 355,767
Claims priority, application Germany, Apr. 4, 1963, V 23,894
2 Claims. (Cl. 297—386)



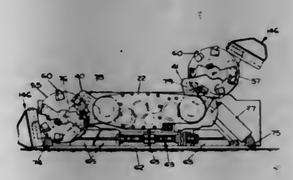
1. A safety device for occupants of vehicles which comprises in combination: a base plate fixedly mounted on the floor of said vehicle; braking means including a cylinder mounted on said base plate; a seat structure movably mounted on said base plate, said seat structure including two base flanges in the form of piston rods; guide means on said base plate; said base flanges of said seat structure being mounted within said guide means for passage through said cylinder; a piston mounted on said base flanges for movement within said cylinder; said braking means including means for ever increasing the damping effect produced by the movement of said piston as said piston moves in a forward direction within said cylinder; spring means within said cylinder for returning said piston and said seat structure to their rest positions, and holding means attached to said seat structure for maintaining a passenger in said seat.

3,269,775
MACHINE FOR CUTTING GROOVES OF CONSTANT DEPTH IN PAVEMENT
Cecil W. Hatcher, West Covina, Calif., assignor to Concut, Inc., El Monte, Calif., a corporation of California
Filed June 6, 1963, Ser. No. 286,032
8 Claims. (Cl. 299—39)



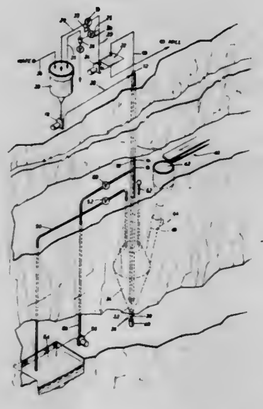
7. In a pavement grooving machine, the combination of:
(a) a frame;
(b) two wheel means supporting said frame for movement over pavement to be grooved;
(c) each of said wheel means including components spaced apart transversely of the direction of movement of said frame;
(d) two independently adjustable connecting means spaced apart transversely of the direction of movement of said frame for vertically adjusting the positions of said transversely spaced components of one of said wheel means relative to said frame;
(e) rotary grooving means carried by said frame and spaced longitudinally from said one wheel means in the direction of movement of said frame and rotatable about an axis extending transversely of said frame;
(f) said transversely spaced components of the other of said wheel means being connected to said frame and being rotatable about an effective transverse axis substantially in the same transverse vertical plane as the axis of rotation of said rotary grooving means; and
(g) means on said frame for driving said one wheel means and said rotary grooving means.

3,269,776
MINING APPARATUS
Fay E. Munger, Upper Arlington, Ohio, assignor to Jeffrey Galion Manufacturing Company, a corporation of Ohio
Filed Dec. 20, 1961, Ser. No. 160,783
12 Claims. (Cl. 299—57)



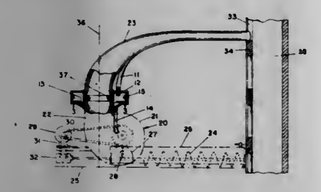
1. Mining apparatus comprising a main frame, said main frame being formed with a bed plate having portions thereof extending forwardly and laterally to the sides of said mining apparatus to form a loading area on the bed plate, said bed plate being disposed at the bottom of said main frame to be placed on a ground surface for loading mined material from the ground surface onto said loading area of the bed plate, a mining mechanism for cutting and breaking material out of a mine seam, said mining mechanism extending forwardly of said main frame for movement of the mining mechanism through the mine seam, means for supporting said mining mechanism on the main frame for operation, said supporting means including relatively adjustable elements for adjustment of the position of said mining mechanism, and power means for adjusting the position of said mining mechanism, said power means being disposed between the bed plate and the supporting means for said mining mechanism, and means for connecting said power means to said supporting means for said mining mechanism and to a part of said bed plate that is spaced from said loading area thereof and is disposed at a side of the mining apparatus.

3,269,777
HYDRAULIC HOISTING
James A. MacLellan, Lynn Lake, Manitoba, Canada, assignor to Sherritt Gordon Mines Limited, Toronto, Ontario, Canada, a company of Canada
Filed May 17, 1965, Ser. No. 456,430
20 Claims. (Cl. 302—14)



1. A hoist for discrete solids comprising, in combination: two vertical water columns arranged concentric with each other defining an upwardly moving central column and a downwardly moving annular column extending from substantially the same level at an upper delivery point to a level at a lower charge point so as to produce a static balance of the water in one column with the water in the other column; a pump in proximity to the upper delivery point adapted to discharge water to the downwardly moving annular column operable to impart a velocity to said annular column; a chamber formed in proximity to said water columns at the lower level having the chamber bottom extending below the central column; conduit means having a lower end in communication with said chamber and an upper end in communication with a feed hopper adapted to receive discrete solids at atmospheric pressure; first valve means formed in said conduit for isolating said chamber from the atmosphere; and second valve means formed in the bottom of said chamber adapted to isolate said water columns from said chamber while permitting circulation of water from the annular column to the central column and maintenance of the static balance.

3,269,778
SILO UNLOADERS
Orrin I. Berge, Madison, Wis., assignor to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin
Filed July 6, 1965, Ser. No. 469,785
4 Claims. (Cl. 302—20)



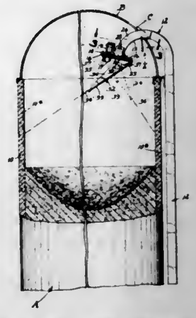
1. An improvement in silo unloaders having a rotatable silage blower for impelling silage into a silage discharge chute, said improvement comprising:
(a) a trough fixedly mounted on said silage blower for rotation therewith,
(b) means for conveying fluid to said trough, and
(c) means for discharging the fluid from said trough into said silage blower for dissolving deposits of silage juices in said blower.

3,269,779
RAILWAY CAR
Dallas W. Rollins, St. Charles, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Nov. 2, 1964, Ser. No. 408,002
11 Claims. (Cl. 302—52)



1. A railway covered hopper car for pneumatically unloading finely-divided material and adapted to withstand a positive internal pressure, comprising an end stub center sill adjacent each end of the car, a side sill extending along each side of the car for substantially the entire length thereof, an intermediate chord member on each outer side of the car extending generally the length of the car in a direction generally parallel to the adjacent side sill, each of the chord members being spaced above the adjacent side sill, a plurality of transverse partitions spaced along the length of the car and dividing the car transversely into a plurality of hopper compartments, a lower side sheet on each side of the car extending between and secured to the adjacent side sill and the adjacent intermediate chord member, each lower side sheet being flat and sloping inwardly from the adjacent chord member to the adjacent side sill to provide a relatively smooth sloping inner surface along which the finely-divided material may flow for unloading, a bottom hopper outlet structure for each hopper compartment secured between the side sills generally centrally of the width of the car into which the finely-divided material flows for unloading, said bottom outlet structure having opposed side outlet slope sheets secured to the adjacent side sills and forming a continuation of the superjacent lower side sheets, and an upper shell having spaced lower edges secured to the respective adjacent intermediate chord members adjacent the upper edges of the respective adjacent lower side sheets, said upper shell being arcuate with the lower side sheets positioned substantially tangentially to the radius of the shell adjacent the side sheets whereby forces are transmitted from the upper shell to the adjacent lower side sheets, and a pneumatic conduit connected to the bottom outlet structures for pneumatically unloading finely-divided material from the railway car.

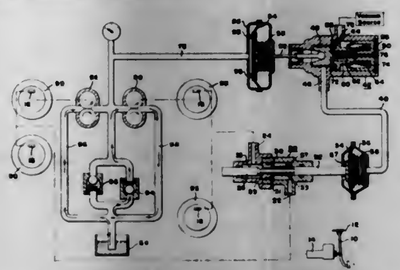
3,269,780
ENSILAGE DISTRIBUTOR
Newell B. Hanson, Lake Lillian, Minn., assignor to Hanson Silo Company, Lake Lillian, Minn., a corporation of Minnesota
Continuation of application Ser. No. 318,634, Oct. 24, 1963. This application Mar. 8, 1965, Ser. No. 446,451
5 Claims. (Cl. 302—60)



1. In a device of the class described,
(a) a generally horizontally disposed mounting plate defining a central opening,
(b) a plurality of circumferentially spaced roller elements carried by said plate for rotation in a common plane underlying same and parallel thereto,
(c) an annular mounting ring formed to define a circumferentially extended substantially unbroken radially outwardly opening guide-channel receiving said roller elements for rotation of said ring with respect to said plate,
(d) a motor-driven gear reduction unit carried by said plate in radially spaced relation to said central opening and terminating in a roller-equipped power output shaft in driving engagement with said ring,
(e) upstanding bracket means carried by said plate for securing same to the delivery end of an arcuate downwardly directed silage delivery chute with said delivery end in alignment with said central opening, and
(f) a normally downwardly and radially outwardly projecting distributor spout carried by said ring in underlying relation to said central opening in said plate.

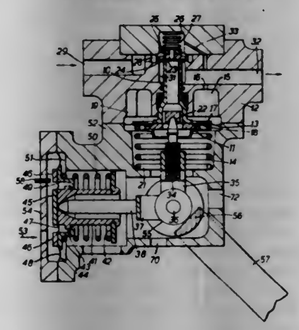
3,269,781
BRAKE ANTI-SKID DEVICE
Robert M. Van House, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 24, 1964, Ser. No. 391,606
2 Claims. (Cl. 303—6)

1. A brake control system for a vehicle having front wheels and rear wheels and hydraulic pressure actuated brakes for said wheels and means for generating hydraulic pressure and first hydraulic conduit means connecting said front wheel brakes with said pressure generating means and second hydraulic conduit means connecting said rear wheel brakes with said pressure generating means, said system comprising: a first fluid pressure pump driven by said front wheels and having an intake and an output; a second fluid pressure pump driven by said rear wheels and having an intake and an output; a fluid reservoir; first conduit means fluid interconnecting said first pump intake with said reservoir and said second pump output; second conduit means fluid interconecting said first pump output and said second pump intake; third conduit means having two parallel flow branches interconnected at the ends thereof to form a directional flow control pressure loop therein and fluid interconnecting said first and second conduit means; a normally closed, fluid pressure opened, check valve in each of said flow branches acting to permit and prevent fluid flow under pressure in opposite directions; fourth conduit means fluid connected with said second conduit means; hydraulic pressure control valve



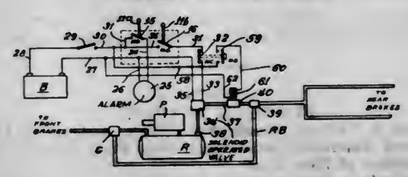
means in the second hydraulic conduit means intermediate the rear wheel brakes and the pressure generating means for cutting off and reducing the hydraulic pressure applied to the rear wheel brakes and simultaneously applying an additional hydraulic pressure to the front wheel brakes, said additional hydraulic pressure being proportional to the reduction in hydraulic pressure in the rear wheel brakes, and fluid pressure sensitive control means responsive to fluid pressure in said fourth conduit means and operatively connected to said hydraulic control valve means to regulate the hydraulic pressure applied respectively to the front and rear wheels in proportion to a shift in wheel loading as indicated by a predetermined fluid pressure generated in said fourth conduit means by the relative pumping action of said pumps.

3,269,782
AIR BRAKE VALVE MODIFIED INPUT
Ian A. Jolly, Tyseley, Birmingham, England, assignor to Girling Limited
Filed Feb. 15, 1966, Ser. No. 527,464
Claims priority, application Great Britain, Feb. 23, 1965, 7,763/65
7 Claims. (Cl. 303—6)



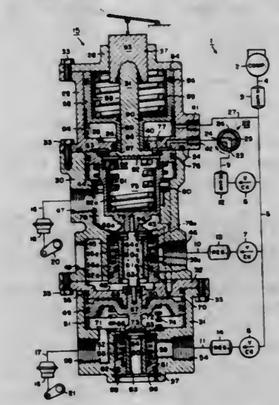
1. A brake control means comprising a valve assembly which is controllable by a member actuated by signal pressure and acting through an inclined plane of which the inclination is variable and which assembly is subject to another pressure, normally the pressure of the brake actuators, acting in the opposite sense, the member actuated by signal pressure having a first area exposed to signal pressure for actuation of the member up to a predetermined signal pressure and a second reduced area for actuation of the member above that pressure.

3,269,783
OVERHEAD CLEARANCE DETECTOR FOR VEHICLES
Jack Jerome Kriz, 9351 Tripp Ave., Skokie, Ill.
Filed July 13, 1965, Ser. No. 480,221
9 Claims. (Cl. 303—18)



1. An overhead clearance sensing device for trucks and other vehicles comprising, in combination a pair of antennae of unequal height adapted for mounting on the truck or vehicle so as to protrude above the high point thereof, a warning device operably connected to the taller antenna so as to be actuated when said taller antenna is contacted by an overhead structure beneath which the truck or other vehicle on which the device is mounted is attempted to be driven, brake setting means connectable to the brake operating mechanism of said truck or other vehicle, said means being operably connected to the shorter antenna so as to be energized whereby the brakes will be actuated when the shorter antenna is contacted by the overhead structure and means for deenergizing the brake setting means to release the brakes.

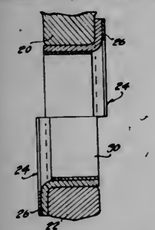
3,269,784
CONTROL VALVE WITH MULTIPLE ACTUATORS
Richard C. Bueler, Glendale, Mo., assignor to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware
Filed Mar. 3, 1965, Ser. No. 436,738
20 Claims. (Cl. 303—52)



1. A control valve comprising a housing having a pressure fluid flow passage therethrough, application means movable in said housing and controlling said flow passage, said application means defining with said housing an expansible fluid pressure chamber for selective subjection to

the atmosphere and fluid pressure, force applying means for said application means, said application means movable in response to the operation of said force applying means toward an actuated position in said flow passage establishing pressure fluid flow therethrough when said chamber is connected to the atmosphere and said application means being movable independently of the operation of said force applying means toward its actuated position in response to fluid pressure in said chamber upon the subjection thereof to fluid pressure, and resiliently urged means movable in said housing for driving engagement with said application means and defining with said housing another expansible fluid pressure chamber, said resiliently urged means being movable in response to fluid pressure in said other chamber less than a predetermined value to drive said application means toward its actuated position.

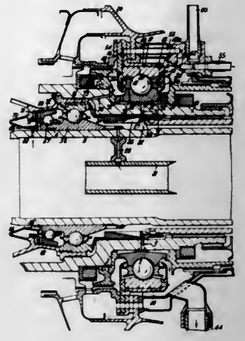
3,269,785
FLANGED BEARING
George R. Lefevre, Birmingham, Mich., assignor to Universal American Corporation, New York, N.Y., a corporation of New York
Original application Oct. 29, 1962, Ser. No. 233,546. Divided and this application Nov. 10, 1964, Ser. No. 410,206
1 Claim. (Cl. 308—36)



A bearing assembly comprising a pair of substantially semi-cylindrical journal bearing portions assembled together to form a cylindrical journal bearing, one of said journal bearing portions having at one end only thereof a flat radially extending flange portion constituting a segmental thrust bearing, and the other of said journal bearing portions having at the end thereof remote from said flange portion a flat radially extending flange portion constituting a segmental thrust bearing facing in the opposite direction from the other thrust bearing, said flange portions each having an area sufficient to constitute an effective thrust bearing.

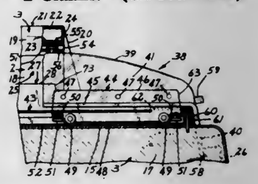
3,269,786
BEARING ASSEMBLY
Bernard Diver and Norman Robert Robinson, Derby, and Wilfred Henry Wilkinson, Turnditch, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed Dec. 27, 1963, Ser. No. 333,892
Claims priority, application Great Britain, Jan. 9, 1963, 1,087/63; Oct. 15, 1963, 40,552/63
10 Claims. (Cl. 308—187)

1. A bearing assembly comprising a fixed annular outer race, a rotatable annular inner race which is mounted concentrically within said outer race and which is spaced therefrom, rolling elements which are in rolling contact with said inner and outer races, rotatable shafting which is mounted in and secured to said inner race, an annular member having an inner circumferential surface, said annular member being mounted securely within the shafting and being provided with a plurality of angularly spaced apart pockets each of which communicates with the inner circumferential surface, means for supplying the said inner circumferential surface with lubricant, and lubricant passages which are formed in said shafting and inner race and which lead from at least some of the pockets to the rolling elements, the said some pockets in



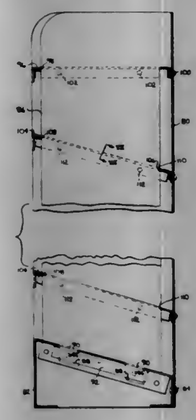
operation both retaining a quantity of lubricant therein and also directing a supply of lubricant into the lubricant passages and so to the rolling elements.

3,269,787
REFRIGERATION CABINET
Donald G. Harter, Edina, Minn., assignor to Studebaker Corporation, South Bend, Ind., a corporation of Michigan
Filed Oct. 15, 1963, Ser. No. 316,412
2 Claims. (Cl. 312—116)



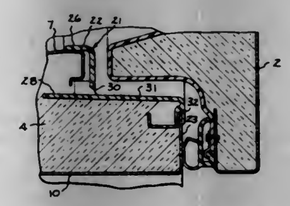
1. A refrigerated display cabinet including means for cooling the interior thereof and further comprising:
(a) spaced end walls and front and rear walls defining an open-top food case,
(1) said rear wall being of greater height than the end walls, and
(2) the rear portions of the end walls having upwardly directed extensions,
(b) a top wall extending between the upper portions of said end wall extensions and defining with the rear wall a forwardly opening housing overlying the rear portion of said food case,
(c) a slidable cover overlying the open top of said food case, said cover having an elongated top wall, front wall and opposed end walls,
(d) the top wall, front wall and end walls of said cover being formed from a generally transparent plastic material and being molded as an integral one-piece unit,
(e) means mounting said cover for sliding movements on the cabinet end walls between an inoperative storage position within said housing and an operative position forwardly of said housing and covering the open top of said food case, and
(f) center guide means positioned generally intermediate the opposite ends of said cover, said center guide means comprising:
(1) an elongated generally horizontal center rail carried by said cabinet top wall, and
(2) an upstanding guide element mounted on the top wall of said cover adjacent the rear thereof and cooperating with the center guide rail during movement of said cover between its inoperative and operative positions.

3,269,788
APPARATUS AND METHOD FOR SORTING NUMBERED MEDIA
William M. Kneer, 301 Castlewood Ave., Dayton, Ohio
Filed Aug. 21, 1964, Ser. No. 391,174
6 Claims. (Cl. 312—200)



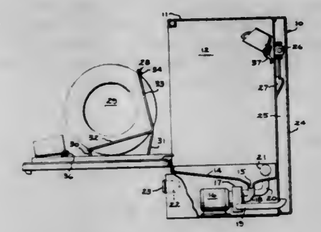
1. A cabinet structure having a plurality of compartments therein and especially adapted for use in sorting numbered cards, said cabinet comprising a plurality of laterally extending shelves, said shelves being provided with slot-like pierced openings extending in the front to back direction in the shelves, plate-like partition members extending vertically through said pierced openings whereby the shelves and partition members define the aforesaid compartments, said partition members being formed with notches in the front and back edges which engage the shelves at the front and back ends of the said openings therein, a wrapper extending along the sides and across the back of the assembled unit of the shelves and partition members, and means fixing the wrapper to the ends and backs of said shelves to form an integral unit, the lowermost one of said shelves having means dependant from the front and back edges thereof forming a supporting base for said cabinet structure.

3,269,789
REFRIGERATOR CABINET CONSTRUCTION
William P. Crowe, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed June 21, 1965, Ser. No. 465,264
4 Claims. (Cl. 312—229)



1. A refrigerator cabinet comprising a liner including a bottom wall having a forward edge,
an outer shell spaced from said liner and including a forward edge below and spaced from said liner forward edge,
a breaker strip bridging the space between said edges and including an upper portion overlying the top surface of said forward edge of said bottom wall and a lower portion overlying the front surface of the forward edge of said shell,
said breaker strip including a flange portion extending rearwardly therefrom into the space between said liner bottom wall and outer shell and forming a trough for collecting liquid overflowing the forward edge of said liner beneath said upper portion of said breaker strip,
said breaker strip including means for discharging the liquid collected by said trough onto the front surface of said breaker strip.

3,269,790
RACK STRUCTURE FOR DISHWASHER
Donald S. Cushing, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Aug. 3, 1964, Ser. No. 387,042
4 Claims. (Cl. 312—328)

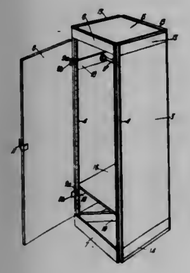


1. An automatic dishwasher comprising:
(a) a cabinet,
(b) a wash chamber within said cabinet,
(c) a door in one wall of said cabinet to provide access to said wash chamber, and
(d) a dish supporting rack carried by said door and extending into said wash chamber when said door is closed,
(e) said dish supporting rack including a U-shaped leg rigidly secured to said door, a first member extending generally away from said door and secured to said leg and a second member generally parallel to said door secured to said first member adjacent the end of said first member most remote from said door.

3,269,791
CONSTRUCTION OF WARDROBES AND OTHER FURNITURE
Ronald Joseph Tallon, Tara, Newtownpark Ave., Blackrock, Dublin County, Ireland
Filed Mar. 27, 1964, Ser. No. 355,283
Claims priority, application Ireland, Apr. 5, 1963, 298/63
5 Claims. (Cl. 312—257)

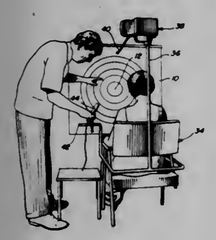
1. An article of furniture comprising rectangular panels and vertical strip-like members connected together, said strip-like mmebers being of cruciform cross-section providing four longitudinal flanges with rectangular recesses extending longitudinally between each pair of adjacent flanges, two diagonally opposite said recesses respectively receiving the marginal portions of two of said panels disposed perpendicular to each other, each with an end

surface in abutting relation to one flange and with an adjacent plane surface in juxtaposed relation to another flange, and fastening means inserted through the last men-



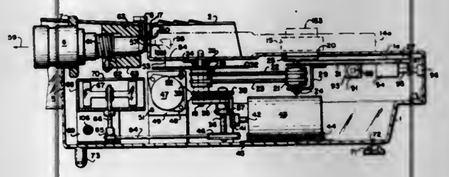
tioned flange and into the juxtaposed plane surface of the panel and extending into the panel a distance less than the thickness of the panel.

3,269,792
APPARATUS FOR PHOTOGRAPHICALLY PLOTTING AN OCULAR FIELD
David Mirsky, 5924 Madison, Morton Grove, Ill.
Filed Dec. 5, 1961, Ser. No. 157,183
3 Claims. (Cl. 351—23)



1. A system for charting the visual field and producing a permanent record, comprising in combination:
- a screen having indicia comprising polar coordinates including two normal blind spots, a central fixation spot and a plurality of concentric circles about said central fixation spot, at least an outermost circle being of a color different from that of an inner circle so that the inner circle can be made imperceptible to a patient viewing the polar coordinates to facilitate patient-focusing on the polar coordinates, said indicia being scaled for observation by the patient positoned at a predetermined distance;
- a patient-positioning means spaced from said screen for orienting the patient's eyes at the distance from said screen for which said indicia is scaled;
- light-projector means for directing a spot of light onto said screen, said light projector means including means movably mounting said projector means so that a spot of light may be swept over the area of the screen whereby the limit of the patient's visual perception is acertained;
- camera means having a lens focused on said screen; and
- exposure-operating means for operating the camera means when a limit of a patient's visual perception is ascertained by a spot of light projected onto the screen for recording on a single film-frame, one-by-one, as the spots are projected onto said screen so that the recorded spots provide a record of the patient's visual field.

3,269,793
HORIZONTAL FORMAT SOUND MOTION PICTURE MAGAZINE PROJECTOR
Floyd E. White, Jr., 526 W. Center St., Placentia, Calif.
Filed Aug. 23, 1963, Ser. No. 304,023
7 Claims. (Cl. 352—29)

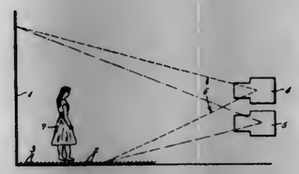


1. A motion picture projector for use with an interchangeable self-contained film magazine of the type having an intermittent film advancement mechanism and a positive-drive film take-up spool contained therein, comprising:
- a stationary housing having an aperture in a wall thereof;
- continuously rotating drive means contained within said housing;
- rotary motion transmission means contained within said housing having an input drivingly connected to said continuously rotating drive means and an output, and having a degree of permissible slippage between said input and output;
- intermittent light source means located within said housing adjacent said aperture for cyclically illuminating a portion of the film within said magazine;
- a projection lens carried by said housing and adapted to focus the image of said cyclically illuminated portion of said film onto a screen;
- a first releasable drive connection between said drive means and said intermittent mechanism within said magazine for imparting a positive continuous rotary motion to said intermittent mechanism; and
- a second releasable drive connection between the output of said transmission means and the spool within said magazine, and adapted to impart a positive rotary drive to said spool.

3,269,794
EQUIPMENT FOR EXTENDING THE EFFECTIVE PROJECTION AREA IN A BACKGROUND PROJECTION SYSTEM FOR PRODUCING COMPOSITE PHOTOGRAPHIC PICTURES
Eduard Renner, Feuerbach Strasse 12, Frankfurt am Main, Germany
Filed Aug. 26, 1963, Ser. No. 304,477
Claims priority, application Germany, Aug. 27, 1962, E 23,434
4 Claims. (Cl. 352—89)

1. Equipment for extending the effective projection area in a background projection system for producing composite photographic pictures comprising a projection screen and a platform adapted to support the subject being photographed, positioned in front of and adjacent the lower position of said projection screen, said platform comprising at least one panel, each said panel including a reflective surface parallel to said screen for reflecting a

part of the incident light beam of said background projection system away from said screen, and an inclined surface extending downwardly from the top of said re-



flective surface toward said screen, the angle of inclination being arranged so that none of the incident light beam reaches said inclined surface.

3,269,795
AUTOMATIC EXCITER LAMP CHANGER
Bjorn F. Floden, Palmyra, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 11, 1964, Ser. No. 366,436
8 Claims. (Cl. 352—198)

1. A lamp changer comprising
- (a) a rotatably mounted support plate, said plate being rotatable between two positions,
- (b) means for mounting a pair of lamps on said plate, one of said lamps to be normally energized and so mounted on said plate as to be at an illuminating position when said plate is in the first of said two positions, and the other of said lamps to be normally un-energized and so mounted on said plate as to be the second of said two positions,

at said illuminating position when said plate is at
- (c) spring means for resiliently holding said support plate in the first of said two positions,
- (d) power means responsive to the failure of said one lamp at said illuminating position for rotating said

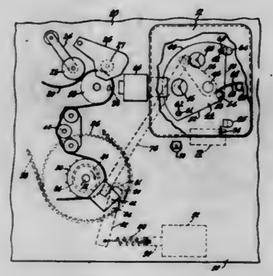


plate from said first position towards the other of said two positions, and
- (e) means for applying lighting energy to said other lamp and for uncoupling said power means from said plate in response to rotation of said plate through the greater portion of the angle between its said two positions.

CHEMICAL

3,269,796
PROCESS OF IMPARTING WASH-WEAR PROPERTIES AND FIXING CREASES IN CELLULOSIC FABRICS BY NITROGEN DIOXIDE TREATMENT
Russell M. H. Kullman, Metairie, and Terrence W. Fenner and Robert M. Reinhardt, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Jan. 16, 1963, Ser. No. 251,986
5 Claims. (Cl. 8—116)

1. A process for treating a cellulosic fabric to achieve "wash-wear" properties as manifested by smooth drying areas and permanent creases, which comprises creasing by hot pressing a cellulosic fabric selected from the group consisting of cotton, mercerized cotton, carboxymethylated cotton, and hydroxyethylated cotton; exposing the thus-creased cellulosic fabric at a temperature of about from 20° to 30° C. and at the particular room equilibrated moisture content of the respective cellulosic fabric for a period of about 1 hour to an atmosphere saturated with nitrogen dioxide; then freeing the fabric from all N_2O_4.

3,269,797
DIETHANOL SULFONE-FORMALDEHYDE MODIFICATION OF CELLULOSE CATALYZED BY A LEWIS ACID SALT
Kurt H. Tauss, Mobile, Ala., assignor to Courtaulds North America Inc., New York, N.Y., a corporation of Alabama
No Drawing. Filed Mar. 25, 1963, Ser. No. 267,834
19 Claims. (Cl. 8—116.4)

1. A process for improving the properties of cellulose which comprises impregnating cellulose with diethanol sulfone, with formaldehyde and with a metallic salt which is a Lewis acid in the solid state and curing the impregnated cellulose.

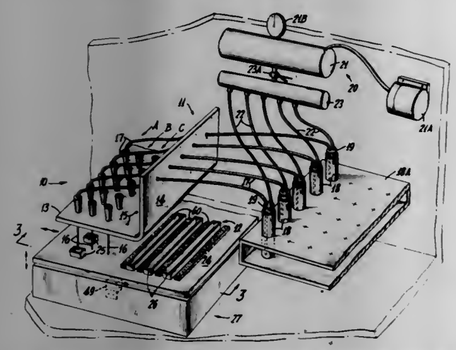
3,269,798
STABILIZED PHOSPHORIC ACID
John Miles Preston, Box 292, Gilman, Ill.
No Drawing. Original application Jan. 26, 1962, Ser. No. 169,126. Divided and this application Aug. 20, 1964, Ser. No. 397,057
7 Claims. (Cl. 23—165)

1. As a composition of matter, a concentrated phosphoric acid solution of minimally 76% P_2O_5 in admixture with, as a low temperature stabilizing agent, 0.05% to 7% by weight of said acid of a sugar selected from the group consisting of sucrose, lactose, maltose and glucose.

3,269,799
TREATMENT OF PIGMENTARY SILICA
Elton F. Gunn, Jr., Monroe, La., assignor to Columbian Carbon Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 10, 1965, Ser. No. 454,704
6 Claims. (Cl. 23—182)

5. Method for treating particulate, amorphous silicon dioxide having an acidic halogen content which comprises contacting the particulate halogen-containing silicon dioxide in a substantially dry state with ammonia vapor in the substantial absence of water in the liquid phase and at a temperature below that at which the halogen content of the silicon dioxide is substantially removed, the amount of ammonia vapor caused to contact said silicon dioxide and said contacting temperature being such that said ammonia is combined with said silicon dioxide in an amount significantly less than that required to completely neutralize the acidity due to said halogen content, whereby the physical and chemical properties of the silicon dioxide are altered without sintering and accretion of the particles.

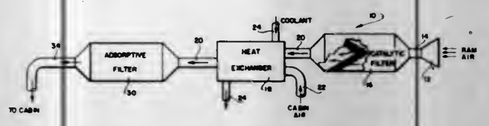
3,269,800
APPARATUS FOR AUTOMATICALLY PERFORMING CHEMICAL ANALYSES
Aron Lukrec, 434 Howard Ave., Staten Island, N.Y.
Filed Feb. 5, 1963, Ser. No. 256,465
8 Claims. (Cl. 23—259)



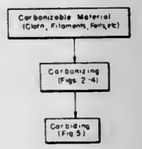
1. Analyzing apparatus comprising a pair of vertically spaced, substantially opposed support members, a plurality of pipetting elements mounted on the upper support member in predetermined spaced relation to each other, a plurality of reaction containers, flexible tubing connecting each pipetting element with an associated reaction container, a plurality of individual open top test specimen containers on the lower support member and in a spaced arrangement to dispose said specimen containers in opposed relation to the respective pipetting elements when said support members are in one relative position, at least one open top reagent container on said lower support member and located to dispose each of said pipetting elements in opposed relation to said reagent container when said support members are in another relative position, aspirating means connected to each of said reaction containers, first drive means for moving said lower support member horizontally and first control means for said first drive means operative to locate said lower support member in a position in which selected reagent, specimen and reaction containers are in vertical alignment with selected pipetting elements, second drive means for moving said lower support member vertically and second control means for said second drive means for raising and lowering said lower support member to bring said selected reagent, specimen and reaction containers into operative relation to said vertically aligned pipetting elements, said first and second control means being operable in a predetermined sequence and time pattern to effect successive insertion and withdrawal of said selected pipetting elements relative to said selected reagent, specimen and reaction containers and with concomitant operation of said aspirating means to successively transfer measured amounts of the contents of said specimen and reagent containers to the respective reaction containers.

3,269,801
SYSTEMS FOR REMOVING OZONE
John E. Boberg, Northridge, and Myron Levine, Los Angeles, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Original application Oct. 20, 1961, Ser. No. 146,525. Divided and this application July 23, 1965, Ser. No. 482,977
9 Claims. (Cl. 23—288)

1. An apparatus for removing ozone from air entering an aircraft cabin comprising: means for admitting ram air; means for catalytically decomposing the ozone in said air connected to the ram air admitting means; heat exchanger means for cooling air connected to said means for catalytically decomposing ozone; means for ducting recycled cabin air into the heat exchanger means; and means for adsorbing ozone from air connected to said heat exchanger means so as to receive air from said heat exchanger means.



3,269,802
PREPARATION OF CARBIDE STRUCTURES
Eugene Wainer, Shaker Heights, and Mark S. Vukasovich, Parma, Ohio, assignors to Horizons Incorporated, a corporation of New Jersey
Filed Dec. 10, 1962, Ser. No. 243,277
5 Claims. (Cl. 23—349)



1. A method of preparing carbide products which comprises:
carbonization of a carbonizable organic material selected from the group consisting of carbonizable filaments and products consisting of woven, nonwoven or felted carbonizable filaments by heating said material to a temperature between 400° F. and 2800° F. and in a non-oxidizing atmosphere to distill off noncarbonaceous residue from said carbonizable material while said carbonizable material is supported in a manner such that the physical shape and structure of the original material are retained;
and then converting the resulting carbonized product to carbide of at least one element selected from the group consisting of boron, silicon, titanium, zirconium, hafnium, thorium, vanadium, niobium, tantalum, chromium, molybdenum, tungsten and uranium by heating the carbonized material in an atmosphere containing as vapor a compound selected from the group consisting of halides and carbonyls of said carbide forming element in an amount sufficient to provide a vapor pressure of at least 10 mm. Hg in said atmosphere.

3,269,803
DECABORANE DERIVATIVES
Daniel Grafstein, Morristown, and Jack Bobinski, Rockaway, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
No Drawing. Filed May 7, 1963, Ser. No. 278,785
8 Claims. (Cl. 23—358)

1. A solid compound of the formula

$$(N_2H_5)_2N_2H_4B_{10}H_{10}$$

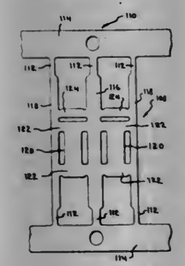
2. A process for the removal of up to two molar parts of hydrazine from one molar part of tetrahydrazine decaborane which comprises dissolving the tetrahydrazine decaborane in an inert solvent medium, reacting therewith a molar quantity of a strong acid corresponding to the molar amount of hydrazine sought to be removed therefrom, and recovering the solid product of the reaction.

3,269,804
DISPENSER CATHODE AND METHOD FOR THE PRODUCTION THEREOF
John H. Affleck III, Schenectady, and James J. Paley, Albany, N.Y., assignors to General Electric Company, a corporation of New York
Filed Nov. 1, 1963, Ser. No. 320,724
11 Claims. (Cl. 29—182.5)

1. An integral cohesive thermionic dispenser cathode comprising a hot pressed fused mixture of
(a) at least about 8 weight percent Ba_2SiO_4,
(b) less than about 1 weight percent $CaCO_3$,
(c) the balance of said cathode being a refractory metal as a porous matrix which constitutes a substantial major proportion of the weight of said cathode,
(d) said Ba_2SiO_4 and $CaCO_3$ being dispersed throughout the refractory metal matrix.

5. A method of producing a thermionic dispenser cathode comprising in combination
(a) intimately mixing a refractory metal, a barium compound, and less than about 1.0 weight percent $CaCO_3$,
(b) providing a reducing atmosphere in a heating and pressing apparatus,
(c) compressing said mixture to above about 800–2000 pounds per square inch, and
(d) simultaneously heating said mixture in the range of about 1000° to 2000° C. to provide a sintered cohesive integral thermionic dispenser.

3,269,805
BLANKED STRIP FROM WHICH FEMALE CONTACTS ARE TO BE FORMED FOR ELECTRICAL CONNECTING SYSTEM
William R. Evans, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Original application Aug. 16, 1963, Ser. No. 302,653. Divided and this application Nov. 1, 1965, Ser. No. 505,806
10 Claims. (Cl. 29—190)



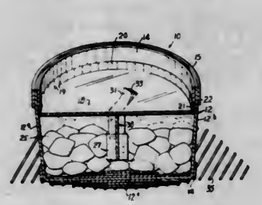
9. A blanked strip from which female contacts are to be formed having a longitudinal socket passage therethrough from end to end, said blanked strip comprising a plurality of contact unit blanks joined together by a strip of resilient metal, each said contact unit blank comprising a series of three long parallel transverse portions, the intermediate portion being substantially twice as wide as the outermost portions of each series, and a pair of shorter transverse portions parallel to said other transverse portions and interposed respectively between said intermediate and outermost transverse portions and connected thereto by short hinge sections constituting the corners of said socket when said contact unit blanks are severed from said strips and bent into tubular configuration.

3,269,806
SINTERED RESISTANCE BODY, PREFERABLY FOR USE AS HEATING ELEMENT
Erich Fitzer, Karlsruhe, and Ottmar Rubisch, Meitingen uber Augsburg, Germany, assignors to Siemens-Planiawerke Aktiengesellschaft für Kohlefabrikate, Meitingen uber Augsburg, Germany, a corporation of Germany
Filed Nov. 6, 1962, Ser. No. 235,640
Claims priority, application Germany, Nov. 9, 1961, S 76,629
20 Claims. (Cl. 29—191)



1. A sintered electric resistance body having a high-temperature portion suitable for operating temperatures above 1300° C. and end portions for temperatures below 1300° C., said body consisting essentially of molybdenum silicide and containing in said entire end portions 0.1 to 20% by weight of additional oxide substance that is a mixture of oxides selected from the group consisting of oxides of Li, Na, K, Be, Ca, Ba, Al, B and Si and having a melting point below 1400° C., said oxide substance being in the form of a coating on the silicide particles in the pores and at the surface of the sintered body.

3,269,807
FUEL PACKAGES
Hobart Key, Jr., 303 Perry Drive, Marshall, Tex.
Filed Sept. 18, 1963, Ser. No. 309,835
10 Claims. (Cl. 44—40)



1. A fuel package comprising: an open topped combustible container having a bottom and an annular wall extending upwardly from outer edges of the bottom, said bottom and annular walls having a plurality of apertures providing for flow of air therethrough into the container: a mass of fuel in said container, individual pieces of said fuel being larger than the apertures of said container; an igniter disposed in said container having lower portions thereof embedded in said mass of fuel and held thereby out of contact with the container; and a combustible lid closing said container and spaced above said fuel, said lid having a removable portion disposed above said igniter to provide an aperture in the lid through which access may be had to the upper end of said igniter for lighting said igniter, said igniter when ignited causing ignition and burning of said lid outwardly from said aperture thereof to cause a draft of air to be established through said apertures of said container to facilitate ignition of the fuel by said igniter.

3,269,808
THERMALLY STABLE FUELS AND STABILIZING AGENTS THEREFOR

Arthur V. Churchill, Oakmont, Arvid Ek, Shaler Township, Allegheny County, and Elizabeth L. Fareri, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Aug. 7, 1961, Ser. No. 129,554
4 Claims. (Cl. 44—62)

1. A fuel composition comprising a major amount of a normally thermally unstable, normally liquid hydrocarbon mixture boiling in the aviation turbine fuel range and a small amount, sufficient to improve the thermal stability of said fuel composition of a combination of (I) N,N'-disalicylidene-1,2-propylenediamine, and (II) an oil-soluble sulfur-containing 1:9 weight ratio copolymer of monomeric beta-ethylmercaptoethyl methacrylate and lauryl methacrylate, said small amount corresponding to at least 2.5 pounds of each of said N,N'-disalicylidene-1,2-propylenediamine and said oil-soluble sulfur-containing copolymer per thousand barrels of fuel.

3,269,809
DISTILLATE FUELS

John E. Engelhart, Westfield, Leonard Berkowitz, Elizabeth, and Darrell W. Brownawell, Scotch Plains, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Apr. 17, 1963, Ser. No. 273,577
7 Claims. (Cl. 44—62)

1. A petroleum distillate fuel comprising a major proportion of a petroleum distillate fuel boiling in the range of between 70° F. and about 750° F. and a minor amount sufficient to decrease the pour point of said fuel of a terpolymer of from 75 to 15 wt. percent of a vinyl ester of a short chain fatty acid from 20 to 80% of a normal C_{12} to C_{14} alkyl fumarate and from 1 to 30% of a long chain saturated aliphatic alcohol-chloropropyleneoxy mixed ester of an unsaturated conjugated dibasic acid, said acid having from 4 to 5 carbon atoms per molecule; said terpolymer having a molecular weight of between 3,000 and about 100,000.

3,269,810
ANTIOXIDANTS FOR CRACKED PETROLEUM DISTILLATES, ESPECIALLY GASOLINE

Walter M. Chamot, Brookfield, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Sept. 19, 1963, Ser. No. 310,133
7 Claims. (Cl. 44—62)

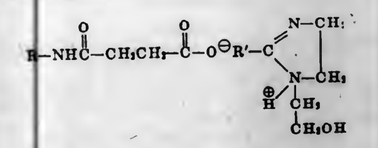
1. Cracked gasoline subject to oxidation containing small, antioxidant amounts of substantially linear condensation polymers formed by the condensation reaction of phenol, alkylene polyamines having reactive hydrogens on at least two amino nitrogens, and lower aliphatic aldehydes selected from the group consisting of formaldehyde and acetaldehyde, the mol ratio of phenol to said alkylene polyamines being in the range of 1:0.5–1, respectively, the mols of said aldehyde being 0.9–1.1 times the total mols of phenol and said alkylene polyamines, and the amount of aldehyde in mols being from 1.5–2.05 times the mols of phenol.

3,269,811
CHEMICAL COMPOSITION AND GASOLINE CONTAINING SAME

John H. Udelhofen, Calumet City, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Original application Apr. 28, 1961, Ser. No. 106,195. Divided and this application May 22, 1963, Ser. No. 287,456
3 Claims. (Cl. 44—63)

1. A fuel composition comprising a major amount of a liquid hydrocarbon fuel and an amount sufficient to inhibit corrosion of a salt of 1,2-disubstituted imidazoline and succinamic acid, said salt corresponding to the structural formula:



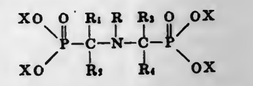
wherein R and R' are each open chain hydrocarbon radicals of 8 to 20 carbon atoms.

3,269,812
ORGANIC PHOSPHORUS COMPOUNDS

Riyad R. Irani, Florissant, and Kurt Moedritzer, Webster Grove, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Original application Dec. 3, 1962, Ser. No. 241,562. Divided and this application Aug. 27, 1965, Ser. No. 493,300
6 Claims. (Cl. 44—72)

1. A gasoline composition containing an ester of an organo-amino-di-alkylene phosphonic acid in amounts of from 0.005 to 0.1% by weight of said composition, said ester having the formula



wherein R is selected from a class consisting of aliphatic hydrocarbyl groups containing from 4 to 30 carbon atoms, alicyclic groups containing from 4 to 6 carbon atoms, aryl groups containing from 6 to 10 carbon atoms, alkaryl groups containing from 7 to 30 carbon atoms and aralkyl groups containing from 7 to 30 carbon atoms; R_1, R_2, R_3 and R_4 are selected from the class consisting of hydrogen, aliphatic hydrocarbyl groups containing from 1 to 30 carbon atoms, alicyclic groups containing from 4 to 6 carbon atoms, aryl groups containing from 6 to 10 carbon atoms, alkaryl groups containing from 7 to 30 carbon atoms and aralkyl groups containing from 7 to 30 carbon atoms; and X is selected from the group consisting of alkyl groups of from 1 to 30 carbon atoms, phenyl, benzyl and phenylethyl.

3,269,813
ABRASIVE ARTICLE CONTAINING ZIRCONIUM TETRAFLUORIDE FILLER

Harry S. Kibbey, Morrow, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed June 18, 1963, Ser. No. 288,627
7 Claims. (Cl. 51—298)

1. In an abrasive article essentially composed of abrasive grains bonded with a synthetic resin bond having a filler dispersed therethrough, the improvement which comprises utilizing a filler containing zirconium tetrafluoride.

3,269,814
DENTIFRICE POLISHING AGENTS

Lowell E. Netherton, Park Forest, and Reginald E. Vanstrom, Crete, Ill., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

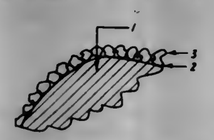
No Drawing. Filed Feb. 26, 1962, Ser. No. 175,785
7 Claims. (Cl. 51—307)

7. As a dentifrice polishing agent an intraparticulate mixture of condensed phosphates resulting from substantially complete molecular dehydration of a finely divided feed consisting of a physical admixture of between 90% and 99.67% of a dibasic alkaline earth metal orthophosphate and between 0.33% and 10% of at least one compound selected from the group consisting of monocalcium orthophosphate, calcium metaphosphate, monomagnesium orthophosphate, monoammonium orthophosphate, monosodium orthophosphate, orthophosphoric acid, pyrophosphoric acid, urea phosphate, tetraammonium pyrophosphate, sodium acid pyrophosphate, monopotassium orthophosphate, monolithium orthophosphate, sodium ammnium phosphate, sodium metaphosphate, magnesium metatphosphate and potassium metaphosphate.

3,269,815
COATED ABRASIVE GRAIN

Peter Koopman, Lewiston, N.Y., assignor to General Abrasive Company, Inc., a corporation of New York

Filed Oct. 4, 1963, Ser. No. 313,825
6 Claims. (Cl. 51—308)

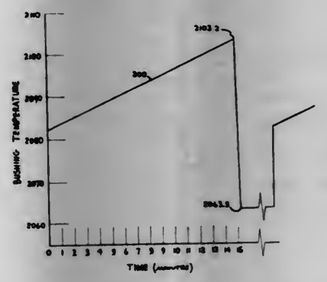


1. Abrasive grain; selected from the group consisting of alumina and silicon carbide coated with a glass film having a melting point below that of the grain and finely divided particles cemented to said grain by said film, said particles being selected from the group consisting of silicon carbide, and silicon nitride.

3,269,816
METHOD FOR PRODUCING GLASS FIBERS

Clarence H. Helbing, Shelbyville, Ind., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 31, 1964, Ser. No. 393,265
4 Claims. (Cl. 65—2)



1. In a method of producing glass fibers characterized by extruding molten glass from a heated bushing having a predetermined startup temperature at which temperature the glass extruding from the bushing is suitable for fiberizing, collecting said fibers on a winding package of ever increasing diameter, said winding package being adapted to wind for only a finite period of time, the improvement comprising, increasing the temperature of said bushing from its startup temperature throughout the winding operation, sensing a stop in the winding operation, and in response thereto, rapidly reducing the temperature of the bushing 10° F. to 30° F. below the startup temperature at which temperature the viscosity of the glass at the bushing is greater than that at which the glass is capable of being fiberized.

3,269,817
MANUFACTURE OF HELIUM SEPARATION APPARATUS

Ralph J. Bondley, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Dec. 26, 1963, Ser. No. 333,453
4 Claims. (Cl. 65—4)

1. A method of manufacturing helium separation apparatus comprising the steps of grouping a multiplicity of hollow vitreous tubes into a closely packed sheaf, closing both ends of said tubes trapping gas therein, heating one end of said sheaf of tubes to a softened condition while restraining radial and axial expansion of said tubes as a group causing the gas within said tubes to expand said tubes toward one another to form a compact therebetween filling the space between said tubes, and then opening ends of said tubes where said tubes are compacted together.

3,269,818
DEVITRIFYING A GLASS ABOUT GLASS FIBERS ON A CONDUCTOR

Ralph L. Tiede, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Original application Aug. 23, 1960, Ser. No. 51,351, now Patent No. 3,179,739, dated Apr. 20, 1965. Divided and this application Oct. 29, 1964, Ser. No. 407,429
4 Claims. (Cl. 65—43)



1. A method of applying a high temperature glass insulation to an electrical conductor which comprises coating the conductor with two layers of glass, one of said layers being of fibrous glass in strand form wrapped around the conductor, the other layer being of glass particles, the composition of the fibrous glass in strand form being fusible at a higher temperature than the composition of the glass particles, the composition of the glass particles being devitrifiable by a continued application of heat after the glass composition is fused, submitting the coated conductor to heat at a temperature high enough to fuse the glass particles into a continuous coating and continuing the application of heat to devitrify the glass particles at a temperature below that at which the fibrous glass in strand form is fused.

3,269,819
METHOD OF ASSEMBLING A GLASS BEAD ON A WIRE

David I. Cropp, 501 Chesnut St., Meadville, Pa., Chalmer C. Jordan, Perry Highway, Saegertown, Pa., and Robert W. Lingo, 901 Leslie Road, Meadville, Pa.

Filed Apr. 13, 1964, Ser. No. 359,174
1 Claim. (Cl. 65—59)

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

A method of assembling glass beads on wires comprising

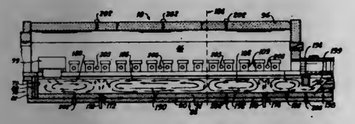
holding a wire in a support with a part of said wire extending above said support,

placing a bead over said part of said wire that extends above said support with said bead disposed entirely above said support and in engagement with said support,

rotating said wire with said bead thereon,

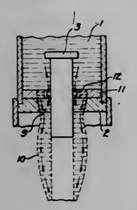
heating said bead and thereby causing said bead to adhere to said wire and continuing to rotate said wire,
lifting said wire with said bead thereon a predetermined amount to move said bead to a position spaced from said support,
continuing rotation of said bead and said wire,
and immediately applying a flame to said bead and thereby hermetically sealing said bead to said wire.

3,269,820
METHOD, SYSTEM AND APPARATUS FOR PROCESSING FILAMENT-FORMING MINERAL MATERIALS
Frank Day, Granville, and Magnus L. Froberg, Newark, Ohio, and Jerry B. Holschlag, Greenwood, S.C., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Continuation of application Ser. No. 113,526, May 29, 1961. This application June 14, 1965, Ser. No. 463,541
4 Claims. (Cl. 65—136)



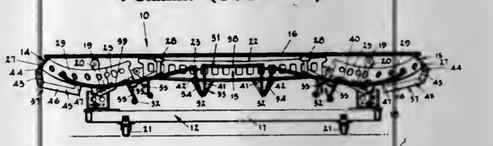
1. The method of processing heat-softenable material including feeding batch material into an elongated chamber adjacent one end of the chamber, applying heat to the chamber to melt the batch material in the chamber, regulating the heat to establish a zone of highest temperature in the chamber intermediate its ends, agitating the molten material at a region spaced from the zone of highest temperature to effect flow of the molten material in opposing directions substantially at the zone of highest temperature to refine the material, and continuously flowing a stream of the refined molten material through a passage at the other end of the chamber.

3,269,821
FURNACE FOR THE CONTINUOUS DRAWING OF QUARTZ TUBING
Karl Vatterodt, Berlin-Spandau, Germany, assignor to Patent-Treuhand-Gesellschaft für elektrische Gluhlampen m.b.H.
Filed May 22, 1963, Ser. No. 282,482
Claims priority, application Germany, June 1, 1962, P 29,532
5 Claims. (Cl. 65—187)



1. An electric furnace for quartz tube drawing comprising an elongated crucible, a nozzle including an annular nozzle plate and a cylindrical mandrel mounted in the bottom of said crucible with the mandrel mounted axially in the circular aperture in said plate and defining with said plate an annular nozzle slot for the melt in the crucible, the said mandrel being substantially greater in length than the thickness of said plate, extending a substantial distance below the plate and offering greater resistance to the flow of the melt out of the crucible than the nozzle plate and means including horizontally extending teeth projecting into the flow path of the melt in the region of plate and terminating short of the mandrel for increasing the resistance to flow of the melt in the region of the plate whereby ovality of the tubing drawn from the melt is substantially reduced.

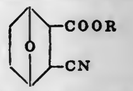
3,269,822
BENDING MOLD FOR BENDING GLASS SHEETS WITH HEAT DISTRIBUTOR
Frank J. Carson and David M. Wampler, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Nov. 3, 1961, Ser. No. 150,019
4 Claims. (Cl. 65—288)



1. In apparatus for bending glass sheets, a mold comprising a plurality of movable mold sections disposed end to end, means supporting said mold sections for movement relative to each other between open and closed positions, each of said mold sections comprising spaced shaping rails having shaping surfaces formed on an upwardly directed edge thereof, said shaping surfaces conforming to the margin of a glass sheet bent thereon when said mold is in said closed position, a plurality of elongated bridging members extending across said mold and disposed below said shaping rails, means attaching said bridging members to said shaping rails, heat distributing means disposed between said shaping surfaces and said bridging members, means pivotally mounting portions of said heat distributing means on said shaping rails to move between a first position adjacent said shaping surfaces when said mold is in said closed position to a second position removed downwardly from said shaping surfaces when said mold is in said open position.

3,269,823
PROCESS OF REGULATING PLANT GROWTH
Herbert Q. Smith, Trenton, N.J.
(540 Stevens Drive, King of Prussia, Pa. 19406)
No Drawing. Original application Feb. 22, 1963, Ser. No. 253,069. Divided and this application June 18, 1965, Ser. No. 477,999
6 Claims. (Cl. 71—2.5)

1. The process of contacting plants with a phytotoxic amount of a compound of the structure



wherein R is a hydrocarbon containing from 1 to 10 carbon atoms selected from the group consisting of alkyl and aryl.

3,269,824
WASTE PAPER SOIL CONDITIONING AND FERTILIZING PELLET
James R. Aswell, 59 E. Taylor Run Parkway, Alexandria, Va.
Filed Oct. 25, 1962, Ser. No. 233,052
9 Claims. (Cl. 71—64)

1. A soil conditioning pellet consisting essentially of a carrier of repulped and compressed waste paper fiber and a predetermined mixture of soil fertilizing ingredients absorbed therein, wherein said pellet has the properties of expanding when moistened to release a portion of the said ingredients, and contracting when dry to retain the remaining ingredients, said expanding and contracting properties acting to aerate the soil.

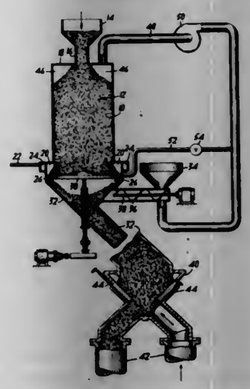
3,269,825
METHOD OF PRODUCING HOMOGENEOUS ALLOYS CONTAINING REFRACTORY METALS
Milton B. Vordahl, Beaver, Pa., assignor to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey
Filed June 18, 1963, Ser. No. 288,686
20 Claims. (Cl. 75—10)

1. A method of producing substantially homogeneous alloys containing effective quantities of molybdenum, comprising admixing the molybdenum in powdered form with powdered tin in an amount effective as a binder for the molybdenum, rolling the mixture to the form of flakes, mixing the flakes with a particulate material selected from the group consisting of titanium, zirconium and base alloys thereof, forming the flake-particulate mixture into a compacted consumable electrode, and vacuum arc melting the electrode.

3,269,826
COMPACTION OF FINELY DIVIDED METALS
Walter F. Bumgarner, Timonium, Md., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 8, 1963, Ser. No. 314,610
7 Claims. (Cl. 75—10)

7. A process for compacting metal particles and melting the compacted product which comprises completely confining said metal particles within a thin-walled 1–10 mils thick metal receptacle as an enclosure therefor, enveloping said receptacle within a thin, high strength polymeric plastic material, enclosing the resulting package within a strong, flexible liquid-tight container, subjecting the resulting assembly to hydrostatic pressure compaction, recovering the resulting compacted product with said thin metal receptacle forming an integral part thereof and subjecting the recovered product to arc melting.

3,269,827
PROCESS FOR PREHEATING THE CHARGE TO AN ELECTRIC SMELTING FURNACE
Arne Georg Arnesen and Toralv Båsen, Vagsbygd, pr. Kristiansand S., Norway, assignors to Elektrokemisk A/S., Oslo, Norway, a corporation of Norway
Filed Mar. 5, 1963, Ser. No. 263,041
Claims priority, application Norway, Mar. 8, 1962, 143,561
7 Claims. (Cl. 75—11)

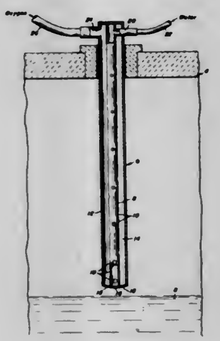


1. The method of preheating the charge to an electric smelting furnace in a preheating shaft of the type having an annular combustion space that surrounds the charge therein and communicates directly with interiorly exposed surface portions of the charge in said shaft which comprises the steps of feeding a solid particulate charge free of solid carbonaceous reducing agent into the top of the shaft, supplying furnace reaction gas into the annular combustion space, combusting the gas in such space to produce hot combustion gas adjacent said interiorly exposed surface portions of the charge and passing said hot combustion gas into said interiorly exposed surface portions and upwardly through the descending charge in the shaft to preheat the charge.

3,269,828
COMPOSITION AND METHOD FOR MAKING DEOXIDIZED STEEL
Paul Frederick Hale, Chester Springs, Pa., assignor to Foote Mineral Company, Exton, Pa., a corporation of Pennsylvania
No Drawing. Filed Dec. 5, 1963, Ser. No. 328,207
14 Claims. (Cl. 75—58)

1. In the manufacture of deoxidized carbon steel the improvement, whereby inclusions resulting from incorporation of the deoxidizing agent are reduced, which comprises the step of adding to the molten deoxidized steel, in an amount between about 0.1 and about 1 pound per ton of steel, a flux composition consisting essentially of from about 75 to about 90% of calcium fluoride, from about 3 to about 8% of sodium fluoride and from about 2 to about 20% of lithium fluoride, said proportions being by weight based on the combined weight of the said three materials.

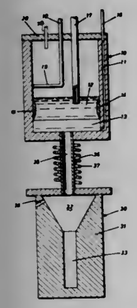
3,269,829
METHOD AND APPARATUS FOR INTRODUCING STEAM AND OXYGEN INTO A BATH OF MOLTEN STEEL
Jacob Belkin, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Sept. 24, 1963, Ser. No. 311,177
4 Claims. (Cl. 75—60)



4. A method of introducing steam and oxygen into a bath of molten metal which comprises providing a lance having a first tube, means closing the forward end of said first tube, a second tube having an inner diameter greater than the outer diameter of said first tube surrounding said first tube and providing a passageway therearound, said first tube having holes in the wall thereof spaced apart radially and circumferentially throughout its length and means closing the forward end of said second tube, said last named means having holes therein communicating with said passageway, introducing water into said first tube adjacent its rearward end, introducing oxygen into said

second tube adjacent its rearward end, and regulating the flow of water so that it will absorb sufficient heat from the second tube to maintain it at a safe temperature.

3,269,830
PRODUCTION OF NIOBIUM FROM NIOBIUM PENTACHLORIDE
Charles A. Sutherland, Trail, British Columbia, Canada, assignor to The Consolidated Mining and Smelting Company of Canada Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed Apr. 6, 1962, Ser. No. 185,642
2 Claims. (Cl. 75—84.5)



2. In a method for the production of niobium which comprises the steps of: feeding niobium pentachloride into a fused sodium chloride-potassium chloride salt mixture contained in a reaction zone which contains an alkali metal fluoride in amount sufficient to combine with the niobium content of the niobium pentachloride as potassium niobium fluoride double salt; maintaining a non-oxidizing atmosphere in the reaction zone; providing a bath of molten zinc below said fused salt mixture, said bath containing zinc in excess of the amount required for formation of $NbZn_3$; and collecting $NbZn_3$ in solid form on the wall of the reaction zone; the improvement which comprises scraping $NbZn_3$ from the wall of the reaction zone to settle in the bath of molten zinc; intermittently passing molten zinc and collected $NbZn_3$ to a settling zone, said settling zone communicating intermittently with said reaction zone, by means of a passageway extending therebetween, the intermittent communication being provided by alternately melting and freezing zinc in the passageway between said reaction zone and said settling zone; collecting $NbZn_3$ in the lower part of said settling zone; recycling zinc from the upper part of said settling zone to said reaction zone; cooling $NbZn_3$ and molten zinc in the lower part of said settling zone to form an ingot; and recovering niobium in elemental form from said ingot.

3,269,831
PROCESS FOR THE RECOVERY OF CERTAIN CONSTITUENTS OF WASTE SLAG FROM REVERBERATORY REFINING OF COPPER PYRITIC-TYPE ORES
Harold W. Wilson, El Paso, Tex., assignor of fifty percent to Wilson Laboratories, Inc., El Paso, Tex., a corporation of Texas, ten percent to Jack W. Flowers, Waco, Tex., ten percent to James H. Maxey, Fresno, Calif., and ten percent to David C. Casey, ten percent to Weseley D. Rogers, Jr., and ten percent to Vernon E. Thompson, all of Lubbock, Tex.
Filed Mar. 10, 1964, Ser. No. 350,777
11 Claims. (Cl. 75—108)

1. A wet process for the separation, isolation and recovery of the acid-soluble metallic and non-metallic values in waste slag resulting from the reverberatory refining of copper pyritic type ores which comprises:

crushing the slag;

adding a warm solution of at least one mineral acid selected from the group consisting of HCl and H_2SO_4 to said crushed slag, said solution having a normality of between 3.0 and 4.5 at the time it is added to the slag;

mixing the slag and acid for at least about 8 minutes under conditions such that the two are not permitted to reach a temperature exceeding 175° F., whereby the formation of silica gel is avoided;

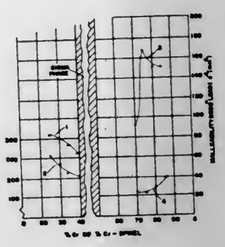
separating the solid insoluble residue from the solution of silicic acid and the acid salts of the acid soluble iron, aluminum, copper, zinc and calcium originally present in said slag;

recovering the iron, copper, calcium, silicon, zinc and aluminum values from said solution, after adding a hydroxide to said solution to raise the pH of said solution to at least about 2.8 and not more than about 6.5.

3,269,832
PROCESS OF FORMING AGGREGATES OF METAL BEARING ORES FOLLOWED BY QUIESCENT SUBMERGENCE IN A SOLVENT
Leo M. Abell, Morenci, Ariz., Robert C. Emmett, Jr., Barrington, Ill., and Robert B. Thompson, Salt Lake City, Utah, assignors to The Elmco Corporation, Salt Lake City, Utah, a corporation of Delaware
Filed Apr. 2, 1962, Ser. No. 184,054
6 Claims. (Cl. 75—117)

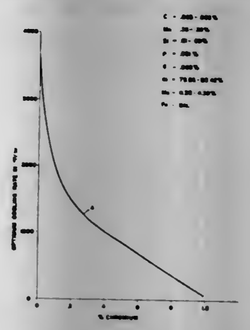
1. A process for recovering metal values from finely-divided ore, comprising the steps of uniformly moistening said ore with an aqueous solution of leach solvent in amount sufficient to yield soluble metal salts while providing moisture in quantity sufficient to form from fine and coarse ore particles a mass of aggregates, and recovering soluble metal salts from said mass of aggregates by subjecting the same to quiescent submergence in a solvent wash solution for said salts then separating said solution with said salts dissolved therein from said mass solely by gravity drainage from the bottom thereof.

3,269,833
CHROMIUM-IRON ALLOY
David M. Scruggs, Southfield, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Mar. 26, 1965, Ser. No. 442,993
5 Claims. (Cl. 75—126)



1. A chromium-iron alloy having a continuous phase consisting of chromium, iron, and a spinel-like oxide dispersed therein; said spinel-like oxide comprising less than about 10% by weight relative to the chromium content; and the combined chromium and spinel-like oxide content comprising greater than 25% by weight of the continuous phase.

3,269,834
MAGNETIC ALLOYS
Armand A. Lykens, Shillington, and William Kent Kise, Jr., Reading, Pa., assignors to The Carpenter Steel Company, Reading, Pa., a corporation of New Jersey
Filed Sept. 28, 1962, Ser. No. 226,921
20 Claims. (Cl. 75—170)



1. A magnetic alloy consisting essentially of about 75% to 85% nickel, about 3% to 5% molybdenum, up to about 0.1% carbon, up to about .01% phosphorus, up to about .01% sulfur, up to about 1% manganese, up to about 1% silicon, from about 0.2% to 1% of an element selected from the group consisting of chromium, columbium and titanium, and the balance essentially of iron.

3,269,835
PHOTOGRAPHIC MASKING SYSTEM UTILIZING A SPHERICALLY SYMMETRICAL LIGHT SCATTERING MASK
Clarence M. Flint, 77 Jerusalem Road, Cohasset, Mass.
Filed Feb. 12, 1964, Ser. No. 344,362
3 Claims. (Cl. 96—5)

1. A method of making color separation negatives for any predetermined color from a color transparency comprising the step of making a color correction mask from said transparency carrying light scattering centers for scattering light in a spherically symmetrical pattern; mounting a color transparency adjacent to said mask; mounting a filter for said color adjacent to said color transparency; transmitting light from a diffuse light source only through said filter, color transparency and mask onto a photosensitive film; and varying the distance between said mask and said diffuse light source to obtain variations in density in said mask.

3,269,836
NOVEL LITHOGRAPHIC PLATEMAKING PROCESS
Paul W. Greubel, Great Neck, N.Y., and Frank A. Illari, Washington, D.C., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio
No Drawing. Filed Sept. 17, 1962, Ser. No. 224,221
11 Claims. (Cl. 96—33)

1. A method of making a lithographic plate which comprises coating a metal surface with an alkali dichromate light-sensitive coating, exposing said coating to light through a transparency, developing the coating by applying to said coating a developer selected from the group consisting of water and dilute ammonium hydroxide to remove the unexposed portions of the coating, overcoating the developed surface with a member selected from the group consisting of non-blinding "deep-etch" lacquers and polysiloxane resins and applying an aqueous alkali solution to the overcoated surface to remove the exposed light-sensitive coating together with the overcoating in areas where said overcoating lacquer covers said exposed light-sensitive coating.

3,269,837
LIGHT-SENSITIVE SALTS OF o-NAPHTHOQUINONE DIAZIDE SULFONIC ACID WITH AN AMINE AND THE PREPARATION OF PRINTING PLATES THEREFROM
Oskar Süs, Wiesbaden-Biebrich, Germany, assignor, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J.
No Drawing. Filed Oct. 1, 1964, Ser. No. 400,936
Claims priority, application Germany, Oct. 3, 1963, K 50,993
18 Claims. (Cl. 96—33)

10. A process for making a printing plate which comprises exposing a supported light-sensitive layer to light under a master and developing the resulting image with an aqueous alkaline developing solution, the layer comprising a salt, which is at most sparingly soluble in water, of an o-naphthoquinone diazide sulfonic acid with an amine, the latter containing at least six linked carbon atoms but no heterocyclic nitrogen atom.

3,269,838
METHOD OF MAKING LUMINESCENT SCREENS FOR CATHODE RAY TUBES
Theodore A. Saulnier, Lancaster, Pa., assignor to Radio Corporation of America, a corporation of Delaware
No Drawing. Filed Mar. 18, 1963, Ser. No. 266,020
16 Claims. (Cl. 96—36.1)

3. The method of laying down a mosaic pattern of elemental phosphor areas on a faceplate panel comprising the steps of:

(a) depositing on said faceplate panel a layer comprising phosphor, polyvinyl alcohol, a photosensitizer, and water in which the weight ratio of polyvinyl alcohol/phosphor is 0.09–0.17 and the polyvinyl alcohol has a molecular weight of about 170,000–220,000,

(b) drying said layer,

(c) exposing said dried layer to a desired pattern of actinic rays, and

(d) developing the exposed layer to remove the unexposed portions thereof.

7. The method of laying down a mosiac pattern of elemental phosphor areas on a faceplate panel comprising the steps of:

(a) depositing on said faceplate panel a layer comprising phosphor, polyvinyl alcohol, photosensitizer, nondichromatizable resin, and water, in which the slurry weight ratio of polyvinyl alcohol/phosphor is 0.09–0.17 and the polyvinyl alcohol has a molecular weight of 170,000–220,000, said nondichromatizable resin consisting essentially of at least one of polyvinyl acetate, alkyl acrylate and alkyl methacrylate, and wherein the weight ratio of resin/polyvinyl alcohol is up to 3.0,

(b) drying said layer,

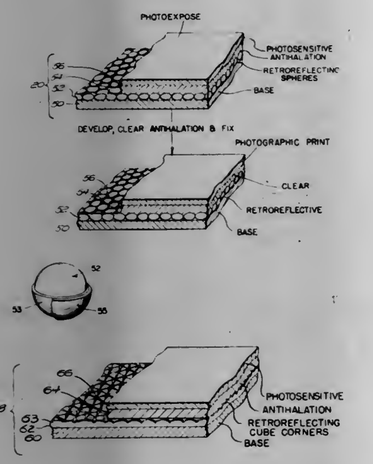
(c) exposing said dried layer to a desired pattern of actinic rays, and

(d) thereafter developing the said layer to remove the unexposed portions thereof.

3,269,839
PHOTOGRAPHIC PRODUCT FOR DIRECT VIEWING AND DIRECTIVE IMAGING
Gerald Altman, 41 Westminster Road, Newton Center, Mass.
Filed Jan. 4, 1963, Ser. No. 249,351
21 Claims. (Cl. 96—75)

4. A photographic product comprising a stratum of photosensitive composition and a stratum of minute opti-

cal spheres, said photosensitive composition being characterized by reception of a latent image when photoexposed for development to a visible print, certain portions of said optical spheres constituting lens means, and mirror means in contiguity with other portions of said optical spheres, said optical spheres acquiring and redirecting radiation illuminating said print.



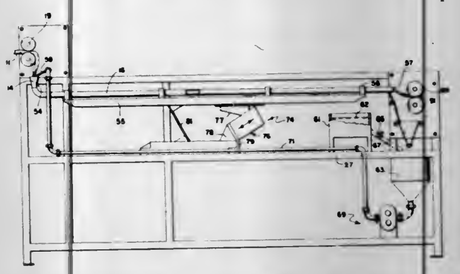
15. The photographic product of claim 4 wherein said photosensitive composition is selected from the class consisting of silver halide material, ferric material, diazo material, bichromated material, photopolymerizable material, photothermographic material and phototropic material.

3,269,840
METHOD AND MATERIAL FOR SURFACE BRIGHTENING LAYERS CONTAINING GELATIN AS THE BINDING AGENT USING ANIONIC WATER-SOLUBLE DIAMINOSTILBENE FLUORESCENT COMPOUNDS
Hendrik Adolf Pattyn and Willem Karel Koerber, both of Wilrijk-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a Belgian company
No Drawing. Filed Mar. 27, 1964, Ser. No. 355,446
Claims priority, application Great Britain, May 19, 1959, 16,820/59
17 Claims. (Cl. 96—82)

1. A photographic material comprising a support bearing a layer of a baryta coating containing gelatin as the essential binding agent and at least one gelatin silver halide emulsion layer containing gelatin as the essential binding agent, said material being characterized in that at least one of said layers has homogeneously distributed through the gelatin thereof an anionic water-soluble 4,4'-diaminostilbene fluorescent compound adapted for optically brightening said material, said fluorescent compound being incorporated in said gelatin in the dissolved state and one of said layers has homogeneously distributed throughout the gelatin thereof a water-soluble vinyl polymer selected from the group consisting of polyvinyl pyrrolidone, polyvinyl-2-oxazolidone, and a vinyl pyrrolidone-vinyl acetate copolymer, said polymer being incorporated in said gelatin in the dissolved state whereby the brightness of said material is enhanced.

ERRATUM
For Class 96—87 see:
Patent No. 3,269,252

3,269,841
METHOD FOR PROCESSING PROTEIN FIBER
Robert C. Dechaine and Robert W. Callaghan, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware
Filed Feb. 5, 1963, Ser. No. 256,467
9 Claims. (Cl. 99—14)



1. A method of treating a fibrous protein product in the form of a tow which comprises forming a bath of treating fluid, immersing said tow in said bath, and then simultaneously impregnating said tow with said treating fluid and conveying said tow into, through and out of said bath by vibration of said bath and tow.

3,269,842
METHOD FOR PRODUCING SOFT PLASTIC YOGURT
Bromley M. Mayer, Pasadena, and Milton E. Powell, Glendale, Calif., assignors to Knudsen Creamery Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Sept. 20, 1965, Ser. No. 489,801
11 Claims. (Cl. 99—59)

1. A process of preparing a stable soft plastic yogurt composition having an improved resistance to whey separation which comprises culturing a milk product with a yogurt producing culture in a bulk container, maintaining the temperature of the inoculated product in the range of about 110° F. to 115° F. for a period of time sufficient to develop acidity in an amount to lower the pH of the said inoculated product in the range from 4.5 to 3.5, chilling the said resulting low pH product to a non-freezing temperature below 50° F., agitating the product so produced to a consistency similar to that obtained by forcing a like product through a screen having a mesh size in the range of 15 to 30 placed in the discharge from a two inch No. 55 Waukesha positive pressure pump operating at about 60 r.p.m., which treatment does not destroy the gel structure of the yogurt, and thereafter filling retail containers with the yogurt composition so produced.

3,269,843
FOOD COMPOSITIONS CONTAINING UNDENATURED WATER-SOLUBLE LACTALBUMIN PHOSPHATES
Jean I. McKee, Homewood, and James W. Tucker, Flossmoor, Ill., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 30, 1963, Ser. No. 319,978
11 Claims. (Cl. 99—94)

1. A food composition selected from the group consisting of comminuted meats and flour-containing mixes comprising as an active ingredient an undenatured water-soluble lactalbumin phosphate.

3,269,844
SAFFLOWER OIL COMPOSITION
Roy Erickson, Deerfield, Ill., assignor to A. C. Grace Company, Northfield, Ill., a corporation of Illinois
No Drawing. Filed Oct. 11, 1965, Ser. No. 494,862
5 Claims. (Cl. 99—118)

1. A composition consisting essentially of safflower oil, 1.2 to 1.5 percent by weight of a compound selected from the group consisting of glycerol monooleate and glycerol dioleate and 1.2 to 1.5 percent by weight of a polyoxyethylene monooleate in which the glyceride of oleic acid and the polyoxyethylene monooleate are present in the ratio of 40–60 parts by weight of one to 60–40 parts by weight of the other.

3,269,845
METHOD OF MAKING COLORED TABLE SALT
John P. Pomeroy, 306 W. Harry Ave., Hazel Park, Mich.
No Drawing. Filed July 20, 1964, Ser. No. 383,923
1 Claim. (Cl. 99—143)

A method of making colored granulated table salt from a white granualted table salt consisting of agitating said white granulated salt with a number of drops less than about 20 drops per pound of said salt of a solution comprising 0.1 to 6% by weight of U.S. certified color, 0.1 to 3% by weight of tartaric acid (50% solution), 15 to 25% by weight of propylene glycol and 66.0% to 84.8% by weight of distilled water for a time sufficient to uniformly coat the surfaces of substantially all of the granules of said salt with said solution, the proportions of the ingredients of said solution, the amount of said solution utilized and the degree of agitation also being sufficient to produce surface deliquescence of said granules of salt but substantially less than that which will produce complete deliquescence of a significant number of said granules of salt.

3,269,846
PACKAGING OF COMESTIBLES
Claude J. Wattenbarger, Dolton, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 27, 1961, Ser. No. 98,315
5 Claims. (Cl. 99—174)

1. A method of packaging comestibles which comprises: placing a mass of shapable comestible between two layers of transparent film packaging material, sealing said two layers about said mass and spaced from said mass to form a substantially sealed envelope containing said mass, said envelope having at least one minute orifice on the periphery thereof, and compressing said mass to substantially conform the surface area of said mass to the surface area of said envelope.

3,269,847
PHOTOTROPIC GLASS AND METHODS
Alvin J. Cohen, Pittsburgh, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 3, 1962, Ser. No. 207,363
5 Claims. (Cl. 106—52)

1. A strongly reduced phototropic glass composition consisting essentially of a glass base composition selected from the group consisting of soda-silica and soda-lime-silica glass compositions of high purity containing up to about 3440 parts by weight of europium per million parts by weight of said europium-containing glass base composition, said europium being in the form of europous (Eu^{+2}) ion and containing a substantial quantity of incipient metastable color centers which exhibit an absorption band at about 5750 angstroms in the visible range.

4. A process for the production of a phototropic glass which comprises heating a glass composition consisting essentially of a glass base composition selected from the group consisting of soda-silica and soda-lime-silica glass compositions of high purity containing up to about 3440 parts by weight of europium per million parts by weight of said europium-containing glass base composition to a temperature above the melting point of said glass base composition in the substantial absence of oxygen and in the presence of carbon until a cooled portion of said heated molten glass composition contains a substantial quantity of incipient metastable color centers which exhibit an absorption band at about 5750 angstroms in the visible range, and in which a proportion of the europium is present in the form of europic (Eu^{+3}) ions, cooling said heated molten glass composition in the substantial absence of oxygen and thereafter irradiating the cooled glass with X-ray irradiation to ionize europic (Eu^{+3}) ions to ($Eu^{+3}+e^{-}$) ions in the glass.

3,269,848
CALCIUM ALUMINATE SHAPES
Eldon D. Miller, Jr., Bridgeville, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Jan. 3, 1964, Ser. No. 335,667
4 Claims. (Cl. 106—64)

1. A method of making a refactory shape comprising forming a mixture of 100 parts of dry ingredients which yield alpha alumina and calcia on about a 6 to 1 molar oxide basis at a temperature below 2000° F. and in the form of intimately admixed particles substantially all of which are −150 mesh with the major portion thereof being finer than 325 mesh, said materials at 2000° F. analyzing at least about 99% Al_2O_3+CaO, by weight, on an oxide basis, mixing said dry ingredients with about 8 to 50 parts, by weight, of water, based on the weight of the dry ingredients, forming the resulting wet mixture into self-sustaining shapes, firing said shapes to a temperature in the range 2100 to no more than 3300° F., maintaining said temperature until equilibrium conditions exist, cooling the shapes, crushing them to provide a calcium hexaluminate refractory grain, mixing said grain with sufficient calcium aluminate cement to bond the grain, tempering the calcium hexaluminate grain and calcium aluminate cement mixture with about 8–20%, by weight, of water and forming the resulting mixture into a shape.

3,269,849
FIBROUS REFRACTORY
Mario J. Caprio and Rudolf F. Krisleit, New Kensington, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Dec. 11, 1964, Ser. No. 417,780
5 Claims. (Cl. 106—64)

1. A ceramically bonded fibrous heat insulating refractory composition consisting essentially of 40 to 60% by weight of asbestos fiber; 25 to 20% by weight of calcium aluminate cement; 5 to 2.5% by weight of cryolite; 30 to 20% by weight of a fibrous material selected from the group consisting of fibrous alumina-silica which is refractory and substantially inert toward molten aluminum and fibrous potassium titanate, having a thermal conductivity of about 2–4 B.t.u./hr./ft.^{2}/° F./in.

3,269,850
ALUMINA REFRACTORIES
Eldon D. Miller, Jr., Bridgeville, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 17, 1965, Ser. No. 440,619
5 Claims. (Cl. 106—65)

1. A fired, high alumina refractory body made from a batch consisting essentially of, by weight, from 1 to 10% of volatilized silica, from 0 to 10% of crystalline silica, the remainder being high alumina refractory material

which analyses at least about 50%, by weight, Al_2O_3 on an oxide basis, said high alumina refractory material including hollow spherical particles of alumina, said spherical particles of alumina constituting from 15 to 30%, by weight, of the batch and substantially all being −4 +65 mesh, there being a −65 mesh fraction including the volatilized silica, the crystalline silica, and the remaining high alumina material, said fired shape being characterized by a substantially continuous skeletal network of fine crystalline mullite encapsulating separate and discontinuous spherical voids, said voids in number and size being substantially identical to the spherical particles of alumina, in the batch from which the body is made.

3,269,851

GELATIN-BONDED OPEN-FIBERED COLLAGENOUS MASSES AND METHODS OF MAKING

Shu-tung Tu, Ipswich, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey

No Drawing. Filed Nov. 29, 1963, Ser. No. 327,094
8 Claims. (Cl. 106—125)

8. A leather-like sheet material comprising an open-fibered collageneous mass comprising collagen fibers with gelatin distributed on the surface of said fibers, said gelatin being present to the extent of about 2% to about 20% by weight based on the weight of said fibers, said fibers being held in stable relation to each other by the cooperative action of said gelatin and a tanning agent bonding said fibers and molecules of said gelatin, said chromium tanning agent being present to the extent of at least from about 1% to about 4% by weight calculated as Cr_2O_3 based on the weight of the gelatin and fibers.

3,269,852

CELLULOSIC PRODUCT OF IMPROVED STRENGTH AND PROCESS THEREFOR

Peter Jochen Borchert, Willard Lee Kaser, and John Mirza, Elkhart, Ind., assignors to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Feb. 1, 1963, Ser. No. 255,700
4 Claims. (Cl. 106—213)

1. A process for improving the physical properties of cellulosic materials which comprises reacting an aqueous dispersion of a dialdehyde polysaccharide containing from about 1 to about 30 weight percent of the dialdehyde polysaccharide with a water-soluble polymeric nitrogen-containing cationizing agent selected from the class consisting of water-soluble polyamides derived from polyalkylene polyamines and dicarboxylic acids and dicyandiamide-formaldehyde polycondensation products at a pH of from about 3.0 to about 4.0 and a temperature of from about 60° C. to about 90° C. for a period of from about 1 minute to about 10 minutes, said cationizing agent being employed in an amount of from about 1 to about 50 weight percent based on the weight of the dialdehyde polysaccharide and adding the resulting cationized dialdehyde polysaccharide to an aqueous slurry of cellulosic fibers.

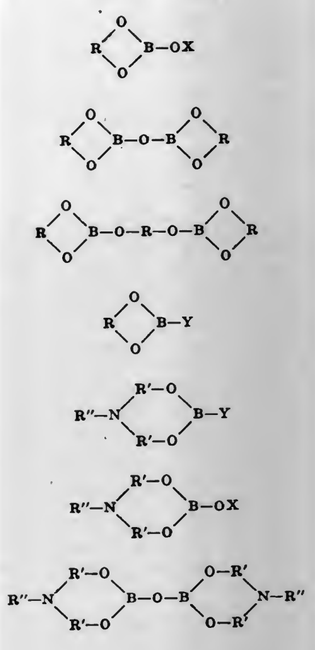
3,269,853

CURED POLYEPOXIDE RESIN COMPOSITIONS

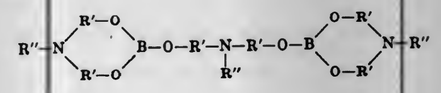
William David English, Garden Grove, Irving S. Bengelsdorf, Costa Mesa, and George W. Willcockson, Anaheim, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed Dec. 16, 1960, Ser. No. 76,160
16 Claims. (Cl. 106—243)

1. A composition comprising a reactive polyepoxide having more than one epoxy group per molecule and from about 2% to about 50%, based on the weight of said reactive polyepoxide, of a boron ester curing agent as the sole curing agent, said boron ester curing agent consisting of a compound of the formula selected from the group consisting of



and



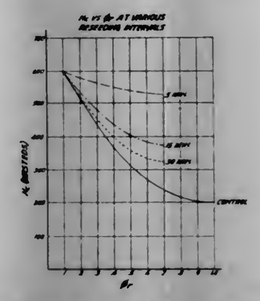
where R is a radical selected from the group consisting of unsubstituted aliphatic hydrocarbon radicals having from 1 to 12 carbon atoms, substituted aliphatic hydrocarbon radicals of from 1 to 12 carbon atoms having aromatic hydrocarbon substituents, unsubstituted aromatic hydrocarbon radicals and substituted aromatic hydrocarbon radicals having unsubstituted aliphatic hydrocarbon substituents of from 1 to 12 carbon atoms, R′ is an unsubstituted aliphatic hydrocarbon radical having from 1 to 8 carbon atoms, R″ is a radical selected from the group consisting of hydrogen, unsubstituted aliphatic hydrocarbon radicals having from 1 to 8 carbon atoms and phenyl, X is selected from the group consisting of hydrogen, the alkali metals, the alkaline earth metals, unsubstituted aliphatic hydrocarbon radicals having from 1 to 8 carbon atoms and phenyl and Y is a radical selected from the group consisting of unsubstituted aliphatic hydrocarbon radicals having from 1 to 12 carbon atoms, substituted aliphatic hydrocarbon radicals of from 1 to 12 carbon atoms having halogen substituents, unsubstituted aromatic hydrocarbon radicals, substituted aromatic hydrocarbon radicals having aliphatic hydrocarbon substituents of from 1 to 12 carbon atoms, substituted aliphatic hydrocarbon radicals of from 1 to 12 carbon atoms having aromatic hydrocarbon substituents, substituted aromatic hydrocarbon radicals having halogen substituents and heterocyclic hydrocarbon radicals.

3,269,854

PROCESS OF RENDERING SUBSTRATES CATALYTIC TO ELECTROLESS COBALT DEPOSITION AND ARTICLE PRODUCED

Jacob D. Hei, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed May 16, 1963, Ser. No. 280,940
9 Claims. (Cl. 117—47)



1. A magnetic information storage medium comprising a substrate having a thin, continuous, metallic cobalt magnetic layer bonded to one surface thereof, microscopic grains of a metal catalytic to an electroless cobalt plating solution at the interface between said substrate and said cobalt layer, and at least one strata of microscopic grains of a metal catalytic to an electroless cobalt plating solution in said cobalt layer.

3,269,855

METHOD OF PRODUCING AN AMYLACEOUS FILM UPON THE SURFACE OF A BASE MATERIAL

Geert Moes, Hoogezand, and Antonius Hendrik Zijderveld, Veendam, Netherlands, assignors to W. A. Scholten's Chemische Fabrieken N.V., Groningen, Netherlands, a corporation of the Netherlands

No Drawing. Filed May 31, 1962, Ser. No. 198,703
Claims priority, application Netherlands, June 6, 1961, 265,605
10 Claims. (Cl. 117—62.2)

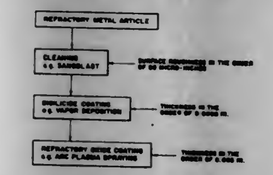
1. A method of producing a water resistant amylaceous film upon the surface of paper, comprising applying an aqueous dispersion of a water soluble starch phosphate ester and an aqueous solution of a polyvalent metal salt, selected from the group consisting of water soluble aluminum, chromic, ferric, zirconium and stannic salts, to the surface of the said paper, thus forming an insoluble film in situ, and subsequently drying the paper.

3,269,856

COATING FOR REFRACTORY METAL

Francis L. Jones, Atlanta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Filed June 7, 1962, Ser. No. 200,835
4 Claims. (Cl. 117—70)



1. The method of forming coated refractory metal articles impact resistant and resistant to oxidation at elevated temperatures comprising the steps of coating the refractory metal with a thickness in the order of 0.0005 inch of the disilicide of said refractory metal by vapor deposition, and overcoating said disilicide coating with a thickness in the order of 0.005 inch of a refractory oxide by arc plasma spraying.

3,269,857

COMBUSTION CHAMBER LINER AND METHOD FOR MAKING SAME

James A. Stavrolakis, Pittsburgh, Pa., and William E. Blodgett, Louisville, Ky., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 24, 1962, Ser. No. 225,934
8 Claims. (Cl. 117—95)

1. A refractory fibrous liner for combustion chambers having at least on the external surfaces thereof a protective coating consisting essentially of aluminum dihydrogen phosphate.

3,269,858

PROCESS FOR TREATING LEATHER

Italo Victor Mattei, Philadelphia, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Sept. 5, 1962, Ser. No. 221,439
15 Claims. (Cl. 117—142)

1. A process for treating leather which comprises applying to the leather, fully tanned and fat-liquored and in air-dry condition, on one side only an aqueous dispersion having a pH of 2 to 5 and containing at least about 5% by weight but not over 20% by weight of a water-insoluble linear addition polymer of monoethylenically unsaturated molecules and 0.5 to 8% by weight of a surface-active agent, the polymer having a T_1 value not over 30° C. and the dispersed particles of the polymer having a surface average radius between 250 and 1300 angstroms, the amount of pigment, if any, not being in excess of 3 parts per 100 parts by weight of the dispersion the impregnation being effected to distribute at least 90% of the polymer through at least 15% but not over 40% of the thickness of the leather.

3,269,859

COMPOSITION FOR IMPREGNATION OF LEATHER AND RESULTING PRODUCTS

Italo V. Mattei, Philadelphia, Frank J. Glavis, Elkins Park, and John A. Lowell, Philadelphia, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed May 9, 1963, Ser. No. 279,318
17 Claims. (Cl. 117—142)

1. A process for treating leather which comprises applying to the leather, fully tanned and fat-liquored and in air-dry condition, on one side only an aqueous composition having a pH of about 4 to 9, and containing at least about 5% by weight up to about 25% by weight of a mixture of (1) a water-soluble polymer of monoethylenically unsaturated molecules comprising at least about 3% by weight of at least one monomer containing a hydrophilic group, and (2) a water-insoluble linear addition polymer of monoethylenically unsaturated molecules, the dispersed particles of the insoluble polymer having a surface average radius between about 250 and about 2200 angstroms, the weight ratio of the soluble polymer to the insoluble polymer being from 15:85 to 85:15, the impregnation being effected to distribute at least 90% of the polymer material deposited in the leather through at least about 15% but not over about 45% of the thickness of the leather, and the amount of polymer deposited being from about 0.7% to 12% by weight, based on the weight of air-dry leather.

3,269,860
TREATMENT OF PAPER WITH LATEX COMPOSITION

Spencer M. Richardson, Green Acres, Pa., and Richard C. Hoch, Wayland, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

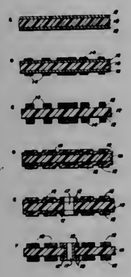
No Drawing. Filed Apr. 3, 1963, Ser. No. 270,151
8 Claims. (Cl. 117—155)

1. A method for improving the physical properties of porous cellulosic paper when the paper is impregnated therewith which comprises impregnating the paper with a composition consisting essentially of a rubber latex and a thermally decomposable adduct of an isocyanate, said adduct being present at a level of about 0.05 to 10 parts by weight per 99.45 to 89.5 parts by weight of said rubber latex, solids basis, substantially drying the paper at temperatures below the decomposition temperature of said adduct, and heating the paper to at least the decomposition temperature of said adduct.

3,269,861
METHOD FOR ELECTROLESS COPPER PLATING

Frederick W. Schneble, Jr., Oyster Bay, Rudolph John Zeblisky, Hauppauge, John Francis McCormack, Roslyn Heights, and John Duff Williamson, Miller Place, N.Y., assignors to Day Company, N.V., a Curacao corporation

Filed June 21, 1963, Ser. No. 289,633
The portion of the term of the patent subsequent to June 25, 1980, has been disclaimed
29 Claims. (Cl. 117—212)



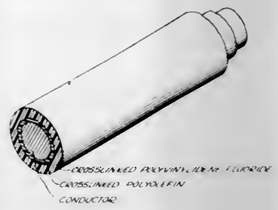
1. A method of making conductive passageways in an insulating member which comprises providing apertures in the member; sensitizing the lateral walls of the member surrounding the apertures to the reception of electrolessly deposited copper; and electrolessly depositing copper on the lateral walls surrounding the apertures by immersion in an electroless copper plating bath consisting essentially of: water; a water soluble copper salt, from about 0.002 to 0.15 mole per liter; a copper complexing agent for cupric ion, from about 0.5 to 2.5 times the moles of copper salt, an alkali metal hydroxide, sufficient to give a pH of between about 10.5 to 14; formaldehyde, from about 0.06 to 3.4 moles per liter; and a complexing agent for cuprous ion from about 0.00002 to 0.06 mole per liter.

3,269,862
CROSSLINKED POLYVINYLIDENE FLUORIDE OVER A CROSSLINKED POLYOLEFIN

Vincent L. Lanza and Edward C. Stivers, Atherton, Calif., assignors to Raychem Corporation, Redwood City, Calif., a corporation of California

Filed Oct. 22, 1964, Ser. No. 405,848
9 Claims. (Cl. 117—218)

4. An article comprising an electrical conductor and an insulating material surrounding at least a portion of said conductor, said insulating material comprising an inner layer comprising a crosslinked polyolefin and an

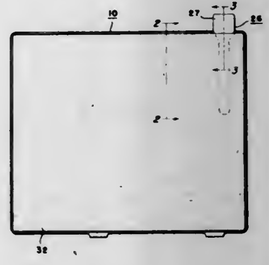


outer layer comprising crosslinked polyvinylidene fluoride, each of said layers being crosslinked throughout.

3,269,863
STORAGE BATTERY PLATE

Jerry L. Helms, Muncie, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 2, 1965, Ser. No. 469,101
3 Claims. (Cl. 136—36)



1. In a battery plate structure the combination of, a sheet of molded non-porous plastic having a plurality of grid openings through a first predetermined part of the planar extent thereof, said sheet including a second predetermined portion thereof running from the edge of the sheet interiorly hereof that is unperforated by grid openings, said second predetermined portion of said sheet having a groove formed therein extending to the edge of the sheet, said second predetermined portion of said sheet having a plurality of aligned connector openings therein directed therethrough, said sheet having opposite faces therein, a metallic coating coextensive with the faces of said sheet, said coating extending across said second predetermined portion throughout the extent of the groove therein, a terminal element of electrically conductive material having a stem portion thereof disposed on said second predetermined portion of said sheet and having side portions thereof fitted into said groove, said terminal element having a plurality of integral projections thereon located on said stem at spaced apart points therealong, said projections being directed through said spaced apart connector openings in said second predetermined portion of said sheet of plastic material, each of said projections having a head portion thereon overlying the face on said sheet opposite to said grooved surface portion for securing said terminal against relative movement with respect to said plastic grid and for holding said terminal stem in good electrical contact with said metallic coating covering said grooved portion of said sheet.

3,269,864
ELECTRODES FOR ALKALINE STORAGE BATTERIES

Karl Ackermann, Mannheim, and Leo Schlecht, Ludwigshafen (Rhine), Germany, assignors, by mesne assignments, to Societe des Accumulateurs Fixeset de Traction (Societe Anonyme), Pont de la Folie, Romainville, Seine, France, a French company

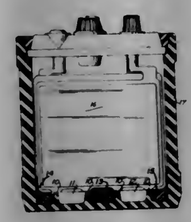
No Drawing. Filed Mar. 21, 1963, Ser. No. 266,794
Claims priority, application Germany, Mar. 23, 1962, B 66,487
7 Claims. (Cl. 136—78)

1. A process for the production of electrodes for alkaline storage batteries which comprises: impregnating a porous, at least partly metallic electrode grid which is inactive to the electrolyte contained in said alkaline storage battery with an aqueous solution containing ammonium ions, and exposing the impregnated grid to an atmosphere of ammonia, water vapor, and oxygen, whereby an active composition obtained from said grid and comprising oxidic compounds of the metal contained in said grid is formed in the pores of said grid.

3,269,865
BATTERY ELEMENTS ANCHORED WITH URETHANE FOAM

Frank O. Swanson, Toledo, Ohio, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed May 20, 1963, Ser. No. 281,413
7 Claims. (Cl. 136—80)



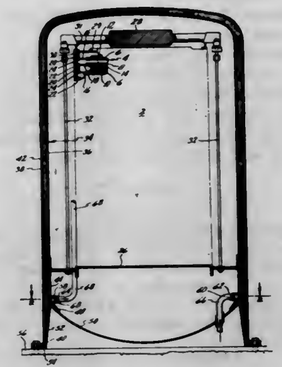
1. The process of manufacturing a storage battery comprising supporting a battery element above the bottom of a battery case, placing a measured thin layer of a foamable, sulphuric acid resistant resin in the space between the battery element and the bottom of the battery case and then causing the resin to foam and expand and fill the space between the bottom of the battery element and the bottom of the battery case whereby the battery element is firmly secured to the battery case and is rendered resistant to vibration, the measured amount of resin being such that the bulk of the space within the battery case and not occupied by the battery element is not filled with the foamed plastic.

3,269,866
LOW LOSS HEAT MOUNTING SYSTEM

Robert W. Dixon, Glastonbury, and Rex A. Horrocks, Marlborough, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Feb. 28, 1962, Ser. No. 176,507
2 Claims. (Cl. 136—86)

1. The combination with a container having closely spaced inner and outer walls with insulation therebetween, a base plate attached to the inner wall and forming an end wall of the container, said inner and outer walls having extensions thereof adjacent one another and projecting beyond the base plate to form a mounting attachment and a flange on the end of the extensions remote from the base plate for attachment to a support, of a fuel cell module located within the container and to which operating fluids are supplied, a fluid passage in the extension of the inner wall, said passage being located between and in spaced relation to the base plate and to the flange,



and means for directing one of the operating fluids for the module through said fuel passage and thence to the module thereby to limit the heat transfer along said inner wall extension between the base plate and the mounting flange.

3,269,867
FUEL CELL

Arthur J. Fabel, Maspeth, and Edwin F. Rissman, Brooklyn, N.Y., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts

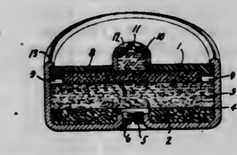
No Drawing. Filed July 11, 1962, Ser. No. 209,266
3 Claims. (Cl. 136—86)

1. A fuel cell for the direct generation of electrical current from a fuel and oxidant comprising a housing, a fuel electrode, an oxidizing electrode, an electrolyte in contact with said electrodes, and means for feeding fuel and oxidant respectively to said electrodes, at least the oxidizing electrode being a structure composed of silver and 20 to 40 percent by weight indium.

3,269,868
RESERVE PRIMARY CELL

William N. Carson, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Apr. 22, 1963, Ser. No. 274,646
1 Claim. (Cl. 136—114)



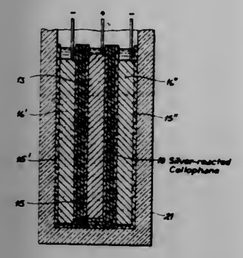
The combination comprising
a first cup-shaped container having an end wall and a cooperating side wall, said end wall having a centrally positioned opening,
a closure means mounted within said opening,
an annular mercuric oxide cathode lying in contact with said end wall and spaced from said opening,
a disk of liquid absorbent filler mounted in said container and contiguously overlying said cathode,
a pressed zinc powder pellet contiguously overlying said filler disk, said pellet lying within said first container and spaced from said side wall,

a second cup-shaped metal container having an end wall means and a cooperating side wall means, said end wall means having a centrally positioned opening, said side wall means having a rim portion contacting said pellet, and said end wall means, said side wall means, and said zinc pellet cooperating to form an enclosure,

a gas-porous, liquid impervious plug means filling said enclosure, and

an electrically insulative disk lying in said first container having a central opening, said opening receiving said side wall means of said second container, said insulating disk sealingly cooperating with the side wall means of said second container and with the side wall of said first container.

3,269,869
INTER-ELECTRODE SEPARATOR
Meyer Mendelsohn, New York, N.Y., assignor, by mesne assignments, to Yardney International Corp., New York, N.Y., a corporation of New York
Original application Jan. 7, 1958, Ser. No. 707,618. Divided and this application June 21, 1963, Ser. No. 301,223
4 Claims. (Cl. 136—146)



1. An electrochemical cell having a positive electrode, a negative electrode and an electrolyte in contact with said electrodes, the combination therewith of a separator intermediate said electrodes and comprising a sheet of a thermoplastic material selected from the group which consists of polyvinyl alcohol and nylon incorporating a metal chemically bound to said material, said metal being selected from the group which consists of silver, lithium, lead, bismuth, vanadium, molybdenum, tungsten, cerium, platinum, iron, nickel and cobalt.

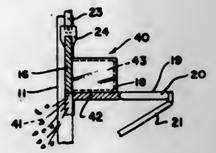
3,269,870
METHOD OF REMOVING LEAD PLATES FROM BATTERIES
Jack Abramson, 13535 Helen, Detroit 12, Mich.
Filed Apr. 15, 1964, Ser. No. 359,972
1 Claim. (Cl. 136—174)

A method for simultaneously removing lead plates and terminals from a wet cell, automotive type battery formed of a box-like case made of hard plastic sides, bottom and top cover through which terminals project, comprising the steps of:

(a) placing the case upon its side so that the top cover is arranged in a vertical plane, then

(b) positioning a flat, vertically arranged blade having a lower, blunt, horizontal edge of about the same thickness of said top cover and formed with a plurality of inverted spaced apart V-shaped notches, above and in the same vertical plane as said top cover, and

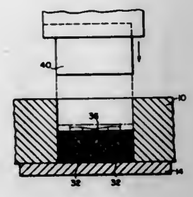
(c) forcefully moving said blade vertically downwardly in said plane against said top cover for the full height of said vertically arranged top cover to thereby incrementally fragment and disintegrate said top cover to thus remove said cover from the case



while simultaneously separating the terminals from the cover, and finally,

(d) turning the case upside down so that the plates fall out of the open top by gravity.

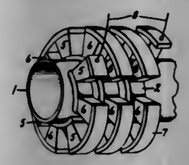
3,269,871
MULTIPLE JUNCTION UNITARY THERMOELECTRIC DEVICE
Gerald R. Kilp, Penn Hills, and Paul M. Bergstrom, Irwin, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 14, 1960, Ser. No. 69,083
14 Claims. (Cl. 136—203)



1. In the method of preparing a thermoelectric device the steps comprising compacting under pressure a quantity of an electrically and thermally insulating material into a compact of a desired density and having upper and lower substantially flat end surfaces, a plurality of perforations extending between the upper and lower end surfaces and a plurality of interconnecting indentations in at least one of the end surfaces disposed between pairs of perforations, placing a quantity of compactible thermoelectric material in each of the perforations in the compact and an electrically conductive material in the interconnecting indentations, compressing the applied thermoelectric material to fill the perforations so as to provide a high density thermoelectric member in each perforation, and also compressing the electrically conductive material in the indentations so as to provide an electrical conductor between the compacted thermoelectric material filling the paired perforations.

10. A sintered thermoelectric device comprising a shaped body of compacted electrically and thermally insulating material having a plurality of perforations extending between the upper and lower end surfaces of the body, a plurality of thermoelectric members comprising material compacted within the perforations so as to conform intimately to the walls of the perforation and being supported thereby, said material having been compacted while in the perforation, and electrically conductive materials contacting ends of pairs of thermoelectric members and being flush with the end surfaces of the body to provide a thermoelectric conductor therebetween.

3,269,872
THERMOELECTRIC DEVICE AND METHOD OF MANUFACTURE
Robert L. Thompson, Ballston Lake, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 19, 1962, Ser. No. 180,562
11 Claims. (Cl. 136—208)



1. A thermoelectric device comprising, a thermally conductive tubular member, a first electrical conductor means helically disposed on an outer surface of said tubular member and electrically insulated therefrom, a second electrical conductor means spaced radially outward from said first electrical conductor means and disposed in a helical path parallel thereto, and a plurality of spaced apart thermoelectrical semi-conductor means disposed between said first and second electrical conductor means to form a helical series array of alternately connected thermoelectric elements wherein both said electrical conductor means form junctions between said alternately connected thermoelectric elements, said thermo electric elements adapted to co-act with said junctions to result in a heat transfer from junctions formed by one electrical conductor means to junctions formed by the other electrical conductor means when a direct electrical current flows though the device.

7. In a method for constructing a thermoelectric device that consists of a plurality of radially spaced-apart discrete electrical conductor strips positioned around a tubular member to form a helical series array of alternately connected thermoelectric elements positioned between the conductor strips, the method comprising the steps of,

adhesively positioning an electrical conductor around a tubular member,

severing the electrical conductor to form rows of strips,

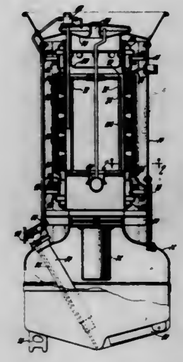
positioning two bars of dissimilar thermoelectric semiconductor material in spaced-apart parallel relation on each row of conductor strips,

positioning another electrical conductor around the thermoelectrical bars, soldering the thermoelectric bars to the electrical conductors, and

cutting a helical path in the axial direction of the tubular member to sever at least the thermoelectric bars.

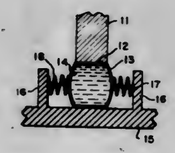
3,269,873
THERMOELECTRIC GENERATOR ASSEMBLY
Eugene Dent, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 29, 1962, Ser. No. 220,258
6 Claims. (Cl. 136—208)

1. In combination with a thermoelectric generator of the type including a heat source surrounded by a firewall, means for supporting and maintaining a thermoelectric element in thermal contact with the firewall, the means including a hollow flexible support member which surrounds the heat source and firewall, the flexible support member having an opening therein exposing a portion of the firewall, a thermoelectric element having a heat transfer terminal and a heat absorbing terminal, a mesh member mounted in thermal contact with a heat absorbing terminal, a heat sink mounted in thermal contact with the heat transfer terminal, the heat sink being mounted on the flexible support member at the opening therein whereby the thermoelectric element is directed inwardly through the opening so that the mesh member on the heat absorbing terminal thermally engages the exposed portion of the firewall, electrical means connected with each terminal of the thermoelectric element for obtaining electrical energy



therefrom, and an insulating retaining band in compressive engagement with the heat sink of the thermoelectric element about at least a portion of the flexible support member so as to urge the thermoelectric element inwardly toward the firewall to thereby maintain thermal contact therebetween.

3,269,874
THERMOELECTRIC GENERATOR WITH FLEXIBLE FLUID CONFINING TUBE EXPANSION RELIEF MEANS
Kurt G. F. Moeller, R.F.D. 3, Annapolis, Md.
Filed Mar. 20, 1962, Ser. No. 181,211
6 Claims. (Cl. 136—211)



1. In a thermoelectric battery comprising heating means, cooling means, and a thermoelectric element interposed between said heating means and said cooling means for developing a voltage thereacross, the improvement comprising;

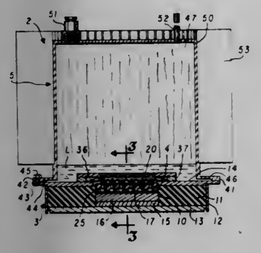
a heat-exchanging tube interposed between one end of said thermoelectric element and said cooling means to assure positive thermal contact between said thermoelectric element and said heating means and said cooling means, said heat exchanging tube having a pair of resilient opposing side walls curved outwardly and being filled with a heat exchange fluid under pressure for forcibly pressing said heat exchange tube in a direction against the end of said thermoelectric element facing said cooling means when a force is placed against said side walls of said heat exchange tube;

resilient means pressing said pair of opposing side walls of said heat exchanging tube inwardly.

3,269,875
THERMOELECTRIC ASSEMBLY WITH HEAT SINK

Arlton H. White, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed June 2, 1961, Ser. No. 114,565
5 Claims. (Cl. 136—212)



1. An apparatus for generating electrical power comprising
   (a) means including an array of thermoelectric elements foming an electrical circuit for generating electrical power when a temperature differential is established across the lengths of said elements,
   (b) a first thermal conducting means in thermal contact with one side of said array,
   (c) a thin, flexible electrically insulating layer having one surface thereof abutting the other side of said array in good thermal contact therewith,
   (d) a thin, metallic diaphragm abutting the other surface of said insulating layer opposite said one surface,
   (e) said diaphragm being corrugated at regular intervals in each of two mutually perpendicular directions, and
   (f) means for compressing said insulating layer into good thermal contact with said other side of said array and said diaphragm.

3,269,876
GLASS-COATED STEEL ARTICLE

Carl G. Strobach, Clarendon Hills, Ill., and James S. Roden, Hammond, Ind., assignors to Rheem Manufacturing Company, Chicago, Ill., a corporation of California

No Drawing. Filed Dec. 13, 1962, Ser. No. 244,246
1 Claim. (Cl. 148—6.15)

A glass-coated steel base having an intermediate bonding coat comprising a zinc-nickel phosphate chemically combined with the steel and a surface coating of a low-alkali glass fused thereto.

3,269,877
PHOSPHATE COATING COMPOSITION

Louis Schlossberg, Oak Park, and Paul J. Carrier, Detroit, Mich., assignors to Detrex Chemical Industries, Inc., Detroit, Mich., a corporation of Michigan

No Drawing. Filed Apr. 3, 1964, Ser. No. 357,266
1 Claim. (Cl. 148—6.15)

An aqueous phosphate coating composition consisting essentially of a water solution containing a phosphate ion-producing agent, a nitrate ion-producing agent, a zinc ion-producing agent, a cobalt ion-producing agent, and a ferrous ion-producing agent, wherein the amount of effective cobalt ion is in the range of about 0.0003% by weight to about 0.09% by weight of the total solution, and said ferrous ion concentration is within the range of from about 0.06% by weight to about 0.5% by weight of the total solution.

3,269,878
METHOD OF PRODUCING III-V SEMICONDUCTOR COMPOUNDS IN CRYSTALLINE FORM

Federico Edwardo Wenzel, Hamburg-Bergedorf, and Hans Merkel, Erlangen, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Dec. 5, 1963, Ser. No. 334,961
Claims priority, application Germany, Mar. 29, 1962, S 78,719; Dec. 12, 1962, S 82,828
21 Claims. (Cl. 148—175)

1. The method of producing phosphides, arsenides and antimonides of boron, aluminum, gallium and indium of the type $A^{III}B^{V}$ in purified and crystalline constitution, which comprises passing a vapor current consisting of the B^{V} element of said compound over a starting material selected from the group consisting of the $A^{III}B^{V}$ compound and the A^{III} element thereof, in a high-temperature zone of a reaction system free of other reaction participants so that the B^{V} element comes into contact with the starting material and enters into a physical-chemical reaction therewith, and then passing the vapors to a low-temperature zone and precipitating therein the compound in crystalline form, the temperature in the high-temperature zone being above the vaporization minimum of said starting material, and the minimum of temperature difference between said two zones being about 10 to 30° C.

3,269,879
AMMONIUM SALT LATTICE WITH ISOMORPHOUSLY SUBSTITUTED INORGANIC SALTS

Manfred Stammler, Carmichael, and Wilfred G. Schmidt, Sacramento, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Apr. 13, 1964, Ser. No. 359,511
16 Claims. (Cl. 149—2)

1. A novel composition of matter comprising an ammonium perchlorate lattice, and isomorphously substituted therein an inorganic salt selected from the group consisting of those having the formula:

$$M_aX_b$$

wherein M is a cation selected from the group consisting of alkali metals, alkaline earth metals and the ammonium group, X is an anion selected from the group consisting of chromate, iodate, periodate and permanganate, and a and b are small whole numbers of from 1 to about 3; and those having the formula:

$$M'_cX'_d$$

wherein M' is a cation selected from the group consisting of thallium, silver and copper, X' is an anion selected from the group consisting of perchlorate, chromate, iodate, periodate and permanganate, and c and d are small whole numbers of from 1 to about 3.

3,269,880
HEAT RESISTANT BUTADIENE-ACRYLONITRILE PROPELLANTS

Martin Visnov, Philadelphia, Pa., and James H. Godsey, Wilmington, Del., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Jan. 13, 1965, Ser. No. 425,360
10 Claims. (Cl. 149—2)

1. A method for manufacturing granulated propellants capable of withstanding elevated temperatures for extended periods comprising the steps of
   mixing about 12.3 to 29.6% of a copolymer binder comprising about 60% butadiene and 40% acrylonitrile with solvent in a mixer,
   mixing thereinto about 0.2 to 0.4% of a catalyst comprising benzoyl peroxide and tricresyl phosphate,
   adding thereinto about 70.0 to 87.5% of HMX in a plurality of increments in the presence of a volatile solvent therefor to form a mixture,
   solvent extruding said mixture,
   cutting the extruded propellant mixture into granules of desired geometry,
   drying the propellant granules at elevated temperature, and
   curing the propellant granules at a temperature above the boiling point of the volatile solvent.

3,269,881
HYDROGEN PEROXIDE ETCHING OF COPPER IN MANUFACTURE OF PRINTED CIRCUITS

Carmelo L. Alderuccio, Camillus, Lawrence P. Gould, Syracuse, and Harold F. Jones, Marcellus, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

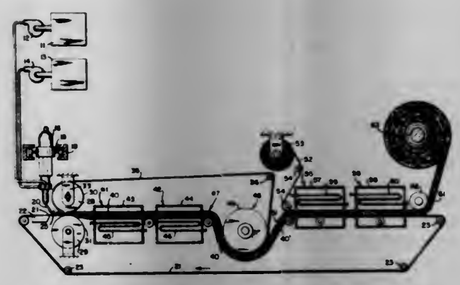
No Drawing. Filed Dec. 30, 1963, Ser. No. 334,549
5 Claims. (Cl. 156—3)

1. The method of chemically treating copper which comprising contacting the copper for a period of time between about ¼ to 60 minutes at a temperature within the range of about 40–65° C. with a solution of 2–12% by weight hydrogen peroxide and 2–23% by weight sulfuric acid in water having a total free chloride and bromide ion content less than 2 parts per million.

3,269,882
MANUFACTURE OF FOAM PRODUCTS

John Willy, Attleboro, Mass., assignor to Specialty Converters, Incorporated, a corporation of Delaware

Filed July 8, 1965, Ser. No. 473,899
26 Claims. (Cl. 156—78)

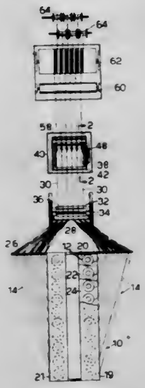


3. A method of making foam products which comprises:
   (a) forming a liquid foaming mixture,
   (b) spreading said mixture over a carrier surface,
   (c) disposing a covering surface over said mixture,
   (d) allowing substantially complete gas generation and expansion of said mixture to form a substantially self-supporting foamed sheet which possesses sufficient tackiness such that it substantially prevents complete removal from the carrier and covering surfaces,
   (e) chilling said sheet immediately after said expansion while it possesses said tackiness until said sheet substantially solidifies and loses its tackiness with repect to the adjoining of said surfaces,
   (f) stripping at least one of said carrier and said covering surfaces from said sheet to expose at least one chilled face thereof,
   (g) applying a layer of material on said exposed face,
   (h) warming the sheet from its chilled temperature after stripping from the surface to return the sheet to its tacky state again, and
   (i) fully curing said sheet such that said material adheres thereto.

3,269,883
METHOD FOR PRODUCING ELECTRICALLY-CONDUCTIVE ELEMENTS

William Shulver, Fairlawn Heights, Salesville, William H. Miller, Chepachet, Thomas L. Atteridge, Woonsocket, and Alfred Marzocchi, Cumberland, R.I., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Feb. 10, 1961, Ser. No. 88,542
16 Claims. (Cl. 156—166)

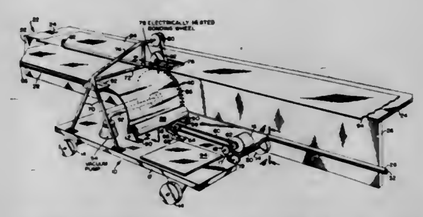


1. A method of applying an electrically-conductive coating to a bundle of substantially aligned glass fibers comprising coating the outer surface of the elongated bundle of glass fibers with particles of carbonaceous electrically-conductive material; and then heating the bundle of coated fibers to cause the particles to adhere to the fibers and to interconnect the fibers one to another.

3,269,884
FLEXIBLE SHEET SEALING APPARATUS

Richard J. Slater, Northfield, Minn., assignor to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota

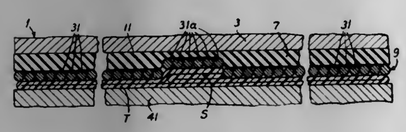
Filed Sept. 15, 1961, Ser. No. 138,517
9 Claims. (Cl. 156—545)



5. Sealing apparatus for joining together two sheets of plastic material comprising a stationary table for supporting one of the sheets, a guide track fixedly disposed with respect to said table, a dolly adapted to be advanced along the floor relative said table, means carried by said dolly slidably engaged with said track for causing said dolly to be guided by said track, a wheel element rotatably mounted on said platform having a perforated periphery, vacuum means connected to said wheel so as to draw air into said wheel via the perforations in its periphery for temporarily holding marginal portions of the sheets to be joined, means for rotating said wheel element at a rate such as to produce a peripheral speed corresponding to the rate of advancement of said dolly,

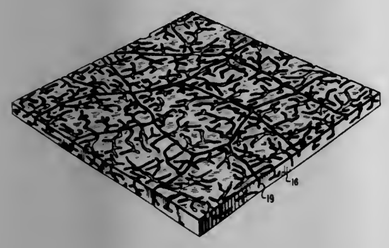
a supply of heat sealable tape, and a heated bonding wheel element carried by said dolly and surmounting said first wheel element for applying said tape to said abutting marginal portions of said sheets while said portions are temporarily held by said first wheel element.

3,269,885
HEAT-SEALING HEAD
Arthur Cianci, Somerville, Mass., assignor to Packaging Frontiers, Inc., Waltham, Mass., a corporation of Delaware
Filed Sept. 25, 1963, Ser. No. 311,410
14 Claims. (Cl. 156—583)



1. A heat-sealing head comprising a body having relatively high heat conductivity, said body being adapted to be heated for generation of heat for sealing work to be heat-sealed, a layer of resilient material of relatively low heat conductivity on the body, and a work-engaging deformable facing of relatively high heat conductivity on said resilient layer, said resilient layer constituting a resilient yieldable backing for said deformable facing and said facing being adapted for localized regional deformation into said resilient layer to accommodate unevenness of work to be heat-sealed, and said facing being in heat transfer relation to said body for substantially direct passage of heat from the body to the work via the facing by-passing the resilient layer.

3,269,886
ARTISTIC MASONRY ITEM AND METHOD OF MAKING
Ernest A. Dellenbaugh, Edmond, Okla., assignor of one-half to R. J. Purtell, Brownfield, Tex.
Filed June 17, 1964, Ser. No. 376,312
19 Claims. (Cl. 161—117)



1. The method of producing an artistic surface design on a molded article comprising:
(a) facing a mold with a relatively thin dry solvent swellable polyvinyl alcohol film,
(b) applying within said mold on said film a flowable settable plastic material having incorporated therein said film swellable solvent,
(c) maintaining said film in contact with said plastic material for a period of time sufficient to cause said solvent to be transferred from said plastic material to said film thereby swelling said film and creating therein wrinkles in the form of nonuniform ridges and valleys, said ridges displacing said plastic material until said plastic sets and said solvent no longer reacts with said film whereby the wrinkles in said film are thereby reproduced in said plastic material, and
(d) removing said film from the face of said set plastic material.

18. A product produced by the process defined in claim 1.

3,269,887
SETTABLE, FLEXIBLE, FOAMED RESINS
Leo J. Windecker, Midland, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 7, 1963, Ser. No. 300,642
12 Claims. (Cl. 161—160)

5. A laminated structure capable of forming a rigid member comprising a flexible open-celled foam having the open cells coated with a thin film of a settable resin and a curing agent therefor, the quantity of said resin being sufficient to produce a cellular resinous structure within said open cells and insufficient to fill said open cells, together with a fiber-reinforced resin bonded to at least one side of said coated foam.

3,269,888
METHOD OF APPLYING SILICATE TO WET ASBESTOS-SLAG CEMENT SHEETS AFTER FORMATION BUT PRIOR TO CONSOLIDATION OF SUCH SHEETS
Julie Chi-Sun Yang, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Dec. 24, 1963, Ser. No. 332,998
7 Claims. (Cl. 162—119)

1. The method of manufacturing asbestos-slag cement products comprising, dispersing an asbestos-hydraulic slag cement stock furnish in water forming a dilute aqueous slurry of the solids thereof, said hydraulic slag cement component of the stock furnish comprising at least approximately 50% by weight of hydraulic setting slag cement, forming a thin wet sheet of the slurry solids comprising the hydraulic cement upon a porous member, applying an aqueous solution of sodium silicate to the thin wet sheet of slurry solids in amount of approximately 0.125% to 5.0% by weight of sodium silicate solids based upon the asbestos-hydraulic slag cement stock furnish solids content of the wet sheet, said application of sodium silicate solids being prior to consolidation of the said thin wet sheet whereby the sodium silicate solution is distributed throughout the same, superimposing layers of the wet sodium silicate containing sheet of slurry solids into a laminated structure and consolidating the laminated structure integrating the layers thereof.

3,269,889
ASBESTOS PAPER CONTAINING CARBON AND METHOD OF MAKING IT
Marsden C. Hutchins, Bound Brook, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Jan. 2, 1963, Ser. No. 248,864
20 Claims. (Cl. 162—155)

1. A high bulk asbestos paper product consisting essentially of at least about 15% by weight of harsh asbestos fiber having a Schopper-Riegler freeness value of about 180 to 560 ml., approximately 2 to 10% by weight of resin size, and approximately 35 to 80% by weight of particulate carbon.

11. The method of producing high bulk density asbestos paper containing major amounts of particulate graphite, said method comprising forming a dilute aqueous suspension consisting essentially of at least approximately 15% by weight of refined harsh asbestos fiber having a Schopper-Riegler freeness value of about 180 to 560 ml., approximately 2 to 10% by weight of resin size, and approximately 35 to 80% by weight of particulate graphite, then forming therefrom a water-laid sheet of paper.

3,269,890
METHOD OF FORMING SIZED PAPER CONTAINING AN EPIHALOHYDRIN PREPOLYMER AND PAPER THEREOF
Van R. Gaertner, Ballwin, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Sept. 10, 1962, Ser. No. 222,679
11 Claims. (Cl. 162—164)

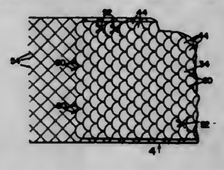
1. A sized cellulosic paper comprising cellulose-containing paper impregnated with a minor amount sufficient to give sizing of a prepolymer which is the reaction product of (*a*) an essentially monomeric adduct of at least two molar proportions of an epihalohydrin per molar proportion of an amine having at least 1 primary amino nitrogen and from 2 to 8 amino hydrogens, and (*b*) an amine having at least 2 amino hydrogens, said adduct (*a*) having at least 2 haloalkanol groups per mole of amine, at least one of said adduct (*a*) and said amine (*b*) having at least 3 reactive groups, the molar proportions of said adduct (*a*) to said amine (*b*) being such that the adduct (*a*) provides at least 3 haloalkanol equivalents and the adduct (*a*) and amine (*b*) provide at least 3 amino hydrogens for each combined total of from 6 to 14 haloalkanol and amino hydrogen equivalents, at least one of said adduct (*a*) and amine (*b*) reactants containing a group selected from the class consisting of alkyl and alkenyl radicals having at least 10 carbon atoms, said prepolymer being characterized by the fact that when said prepolymer is contacted with an aqueous medium having a pH greater than 5 said prepolymer is converted to an insoluble cross-linked polymer.

3,269,891
FIXING DRY STRENGTH RESIN ON FIBERS BY ALUM IN THE PRESENCE OF A BUFFER
Walter Florus Reynolds and William Finan Linke, both of Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Aug. 31, 1965, Ser. No. 486,598
7 Claims. (Cl. 162—169)

1. A process for the manufacture of paper of improved dry strength which comprises first forming an aqueous suspension of cellulose papermaking fibers having a dissolved content of a non-chelating acid having an ionization constant between 10^{-4} and 10^{-6} and a dissolved salt of said acid with a strong base as buffer, and alum, then adding a water-soluble anionic dry strength resin, and finally sheeting said suspension to form paper; the amount of said resin being sufficient to form strengthening bonds between said fibers when dry, the amount of said alum being sufficient to fix at least a substantial part of said resin on said fibers, and the amount of said dissolved buffer being sufficient to buffer the pH of the suspension above 4.8 during deposition of a preponderant proportion of said resin.

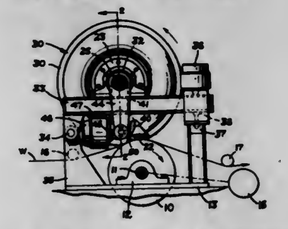
3,269,892
PULP FLOW APRON FOR PAPER MAKING MACHINE
William N. Bennett, Fitchburg, Mass., assignor to Fitchburg Paper Company, Fitchburg, Mass., a corporation of Delaware
Filed Aug. 2, 1963, Ser. No. 299,659
12 Claims. (Cl. 162—343)

1. Apparatus for the uniform distribution of the fibers in the paper pulp stock of a paper making machine comprising a member having a surface over which the stock flows, said surface being provided with a repetitive pattern of overlapping rows of protuberances, the protuberances of each row being staggered with respect to the protuberances of the adjacent row and each protuberance providing a separate drop-off edge facing the downstream



direction of flow of the stock, each drop-off edge having portions thereof generally at relative angles to the direction of flow of the stock to direct the latter into a series of crossing streams and thus uniformly distribute the fibers of the paper pulp stock.

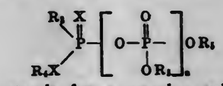
3,269,893
MACHINE FOR MAKING EXTENSIBLE PAPER
Walter E. Rojecki, Watertown, N.Y., assignor to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed Dec. 17, 1963, Ser. No. 331,268
10 Claims. (Cl. 162—361)



1. A press assembly for use in the preparation of extensible paper, comprising a press roll, an inflatable roll of substantially the same length as said press roll having a circumferential outer face portion of resilient material forming a blanket of substantial thickness, means mounting said rolls with the axes thereof in predetermined parallel and closely spaced relation causing said press roll to deform a portion of said blanket into lapping relation with a corresponding area of the surface of said first roll, means within said inflatable roll for compressing one end of said deformed blanket portion thereof against said press roll to form a pressure nip, and means for causing said rolls to rotate in the direction to cause a paper web to travel through said nip and then between said deformed blanket portion and said press roll.

3,269,894
SYNERGISTIC ORGANO-PHOSPHATE INSECTICIDES
Uwe Fetzer, Ivar Ugi, and Heinrich Jarczyk, Leverkusen, Wolfgang Behrenz, Wuppertal-Elberfeld, and Günter Unterstenhöfer, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed Oct. 28, 1963, Ser. No. 319,579
Claims priority, application Germany, Aug. 26, 1963, F 38,185
14 Claims. (Cl. 167—22)

2. A composition containing a phosphorus-containing insecticide and as a synergistic agent a compound of the formula



in which R_3 stands for a member selected from the

group consisting of lower alkyl having up to 4 carbon atoms, hydroxy-substituted lower alkyl having up to 4 carbon atoms, halogen-substituted lower alkyl having up to 4 carbon atoms, amino-substituted lower alkyl having up to 4 carbon atoms, lower alkoxy having up to 4 carbon atoms, lower alkylmercapto having up to 4 carbon atoms and phenylmercapto and in which R_4 and R_5 stand for members selected from the group consisting of chloro-substituted phenyl and lower alkyl substituted phenyl the lower alkyl of which having up to 4 carbon atoms and in which X stands for a member selected from the group consisting of oxygen and sulfur and *n* stands for a member selected from the group consisting of zero and a whole number from 1 to 10 in a ratio from 1:0.02 to 1:10.

3,269,895

CONTROL OF NEMATODES WITH ARSINE OXIDES

Arthur Schwerdle, Vineland, N.J., assignor to Vineland Chemical Company, Vineland, N.J., a partnership composed of Arthur Schwerdle and Miriam Schwerdle

No Drawing. Filed Aug. 10, 1964, Ser. No. 388,696
3 Claims. (Cl. 167—22)

1. The method of controlling nematodes which comprises applying to soil containing nematodes an aqueous solution of at least one arsine oxide compound selected from the group consisting of alkyl arsine oxides containing from one to six carbon atoms and phenyl arsine oxide in an amount toxic to the nematodes.

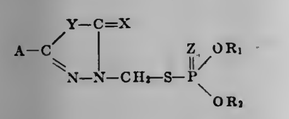
3,269,896

METHOD AND COMPOSITIONS FOR CONTROLLING PESTS

Kurt Rüfenacht, Basel, Switzerland, assignor to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Filed Apr. 6, 1961, Ser. No. 101,082
Claims priority, application Switzerland, Apr. 29, 1960, 3,911/60
14 Claims. (Cl. 167—33)

1. Method for controlling pests which comprises contacting the pests with a compound of the formula



wherein

X, Y and Z are independently selected from the group consisting of sulphur and oxygen,

R_1 and R_2 independently are lower alkyl groups having 1 to 3 carbon atoms,

A is a member selected from the group consisting of hydrogen, lower alkyl, lower alkoxy-lower alkyl, lower alkylmercapto-lower alkyl, phenyl, benzyl, chlorophenyl, pyridyl and furyl.

3,269,897

ENDRIN STABILIZED WITH TRIBENZYLAMINE

Arthur W. Carlson, Crystal Lake, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Feb. 20, 1963, Ser. No. 260,050
9 Claims. (Cl. 167—33)

1. A stabilized endrin composition which contains endrin and a stabilizing amount of tribenzylamine.

3,269,898

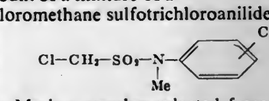
AGENTS FOR PROTECTING MATERIALS AGAINST TEXTILE PESTS

Klaus Langheinrich, Leverkusen, Herbert Klesper, Cologne-Flittard, and Josef Hilger and Friedrich Muth, Leverkusen-Bayerwerk, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Aug. 22, 1962, Ser. No. 218,507
Claims priority, application Germany, Aug. 25, 1961, F 34,774
3 Claims. (Cl. 167—38.6)

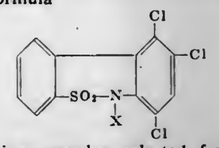
2. A composition for protecting textile materials against moths and beetles, consisting essentially of an active amount of a mixture of a

(A) chloromethane sulfotrichloroanilide of the formula



wherein Me is a member selected from the group consisting of alkali metal, lower alkylammonium and lower alkanol ammonium; and

(B) 7,9,10-trichloro-6-dibenzo-(c,e)-o-thiazine-5-dioxide having the formula



wherein X is a member selected from the group consisting of sodium and potassium, the ratio by weight of A to B being about 5 to at least 3.

3,269,899

SULFURYL CHLOROFLUORIDE FUMIGANT

George T. Parker, Boonton Township, Morris County, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed June 11, 1964, Ser. No. 374,280
2 Claims. (Cl. 167—39)

1. A method for combatting insects which comprises subjecting said insects to the action of an effective amount of sulfuryl chlorofluoride.

3,269,900

POLYURETHANE NON-VOLATILE PESTICIDAL COMPOSITIONS

Martin Rubin, 3218 Pauline Drive, Chevy Chase, Md.

No Drawing. Filed June 9, 1964, Ser. No. 373,848
3 Claims. (Cl. 167—42)

1. A pesticide composition adapted to slowly release pesticide throughout a growing season of a plant consisting essentially of a polyurethane foam containing dispersed therein an organic non-volatile pesticide in an amount ranging from 25% to 75% by weight of the composition, the polyurethane forming a protective coating around the pesticide.

3,269,901

RODENT REPELLENT COMPOSITIONS COMPRISING PENTACHLOROBENZYL - ISOTHIOURONIUM CHLORIDE

Hermann Schnell, Krefeld-Urdingen, Gustav Buchwald and Werner Daum, Krefeld-Bockum, and Günther Hermann, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 12, 1963, Ser. No. 257,885
Claims priority, application Germany, June 21, 1960, F 31,722
4 Claims. (Cl. 167—46)

1. A composition for repelling rodents comprising pentachlorobenzyl-isothiouronium chloride in admixture with a rodent foodstuff.

3,269,902

CATTLE REPELLENT

Lyle D. Goodhue and Roger F. Kleinschmidt, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Aug. 31, 1964, Ser. No. 393,423
16 Claims. (Cl. 167—46)

1. A method for protecting objects and materials attractive to the taste of a bovine animal which comprises applying to said objects and materials, in an amount sufficient to effectively repel said animals, the compound N,N,1,1-tetramethyl-2-butynylamine.

3,269,903

LIQUID PLASTIC DRESSING WHICH ABSORBS ULTRAVIOLET LIGHT

Bror Holger Fredrik Von Fieandt, Upplands-Vasby, and Bo Thuresson af Ekenstam, Bofors, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden, a corporation of Sweden

No Drawing. Filed May 27, 1963, Ser. No. 283,598
Claims priority, application Sweden, Feb. 24, 1956 1,776/56
16 Claims. (Cl. 167—58)

11. The method of covering the skin with a permeable, flexible film which comprises applying thereto a solution of an effective amount of a member of the group consisting of polymeric-2-ethoxyethyl-methacrylate and polymeric-2-methoxyethyl-methacrylate dissolved in ethyl acetate.

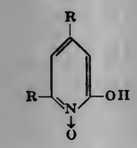
3,269,904

HYDROXY-PYRIDINE OXIDES IN AN ANTIFUNGAL METHOD

Jack Bernstein, New Brunswick, James Ling Chen, East Brunswick, and Gilman Norman Cyr, New Brunswick, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 11, 1965, Ser. No. 479,005
6 Claims. (Cl. 167—58)

1. A method of treating animals for fungal conditions amenable to topical therapy which comprises topically applying a composition comprising from about 0.01 to about 10.0% of a principal active ingredient selected from the group consisting of compounds of the formula



and the zinc and higher alkyl amine salts thereof having more than nine carbons; wherein each R is selected from the group consisting of hydrogen and lower alkyl, intimately dispersed in a substantial amount of a suitable topically administrable pharmaceutically acceptable extending agent.

3,269,905

DRY STRATIFORM PRODUCTS AND METHODS OF PRODUCING SAME

Charles W. Damaskus, 708 S. Madison St., La Grange, Ill., and James E. Alder, Grayslake, Ill., assignors, by mesne assignments, to said Charles W. Damaskus

No Drawing. Continuation of application Ser. No. 491,768, Mar. 2, 1955. This application Sept. 14, 1965, Ser. No. 487,109
19 Claims. (Cl. 167—58)

5. A pharmaceutical package, comprising a container having received therein at least two strata of lyophilized matter in stacked relation, wherein each of said strata is a substantially coherent mass, wherein said strata are equally lyophilized and at least two of said strata consist essentially of a physiological factor, and wherein the physiological factor of at least one of said strata is incompatible with that of another of said strata.

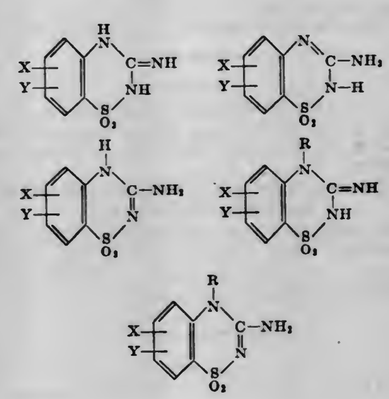
3,269,906

3-IMINO-3,4-DIHYDRO-1,2,4-BENZOTHIADIAZINE-1,1-DIOXIDES

John Gordon Topliss, East Orange, and Nathan Sperber, North Caldwell, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

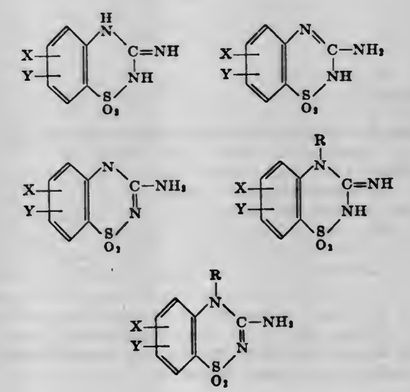
No Drawing. Filed Feb. 21, 1961, Ser. No. 90,631
12 Claims. (Cl. 167—65)

1. A compound selected from the group consisting of 3 - imino-3,4-dihydro-1,2,4-benzothiadiazine-1,1-dioxides having the formulae:



and the non toxic alkali metal salts thereof wherein R is a lower alkyl group, X is a member of the group consisting of hydrogen, trifluoromethyl, halogen and lower alkyl, and Y is a member of the group consisting of trifluoromethyl, and halogen.

10. A method of treating hypertension in mammals which comprises administering to a mammal a pharmaceutical preparation comprising a therapeutically effective dose of a 3-imino-3,4-dihydro-1,2,4-benzothiadiazine-1,1-dioxide having the formulae:



and the non toxic alkali metal salts thereof wherein R is a lower alkyl group, X is a member of the group consisting of hydrogen, trifluoromethyl, halogen and lower alkyl, and Y is a member of the group consisting of trifluoromethyl, and halogen.

3,269,907

PROCESS FOR CRYSTALLIZING ACTINOSPECTACIN FREE BASE

Heinz K. Jahnke, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed July 31, 1962, Ser. No. 213,622
2 Claims. (Cl. 167—65)

1. The process for the conversion of actinospectacin sulfate to the free base which comprises adding an alkali metal hydroxide to an aqueous solution of actinospectacin sulfate, adding a water-miscible organic solvent to precipitate inorganic sulfate salts thus formed, filtering, and crystallizing the actinospectacin free base from the filtrate.

3,269,908

ANTIBIOTIC COMPOSITIONS

John E. Fahey, Gales Ferry, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 5, 1963, Ser. No. 293,167
14 Claims. (Cl. 167—65)

1. An antibiotic composition comprising a tetracycline-type antibiotic and a compound selected from the group consisting of 2,2′-oxodisuccinic acid, 2,2′-thiooxodisuccinic acid and 2,2′-iminodisuccinic acid.

3,269,909

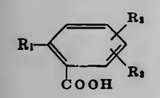
ANALGESIC METHODS AND COMPOSITIONS OF BENZOIC ACID DERIVATIVES

Frederick Leonard, Yonkers, N.Y., assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 21, 1963, Ser. No. 303,682
8 Claims. (Cl. 167—65)

1. The method of effecting analgesia which comprises orally administering to a patient suffering with pain a therapeutic dose of a compound selected from the group consisting of

(a) an acid of the formula:



wherein:

R_1 is a member selected from the group consisting of (lower)alkoxy, phenoxy and halogeno,

R_2 is a member selected from the group consisting of (lower)alkyl and hydrogen,

R_3 is a member selected from the group consisting of (lower)alkoxymethyl, carbomethomethyl, (lower)alkenoxymethyl, (lower)alkynoxymethyl, cycloalkoxymethyl, halo(lower)alkoxymethyl, hydroxy (lower)alkyl, hydroxy(lower)alkoxymethyl, phenyl (lower)alkoxymethyl, (lower)alkylmercaptomethyl and (lower)alkylsulfonylmethyl; and

(b) the addition salts thereof with pharmaceutically acceptable non-toxic bases.

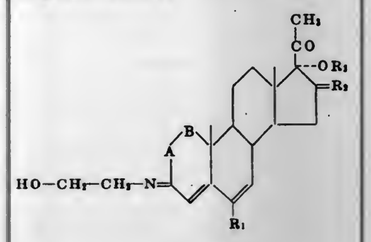
3,269,910

3(β-HYDROXYETHYL)-IMINOSTEROIDS OF THE PREGNANE SERIES AND METHODS OF ADMINISTRATION

Klaus Irmscher, Darmstadt, Germany, assignor to E. Merck Aktiengesellschaft, Darmstadt, Germany

No Drawing. Filed July 29, 1963, Ser. No. 298,412
13 Claims. (Cl. 167—74)

1. 3-β-hydroxyethylimino steroids of the pregnane series having the Formula I



I

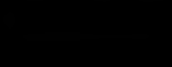
wherein:

R_1 is a member of the group consisting of hydrogen, methyl, fluorine and chlorine;

R_2 is a member of the group consisting of H, H α—H, β—CH_3; β—H, α—CH_3; and CH_2;

R_3 means an aliphatic acyl residue containing from 2 to 11 carbon atoms; and

A–B designates a member of the group consisting of —CH_2—CH_2—; —CH=CH—; and



13. A method of effecting gestagenic activity in mammals which comprises administering to said mammals an effective amount of a compound of Formula I as shown and defined in claim 1.

3,269,911

RESTORATION OF BLOOD TO BIOCHEMICAL NORMALCY BY TREATMENT WITH ION EXCHANGE RESINS

John H. Gibbon, Jr., Media, Thomas F. Nealon, Jr., Wynnewood, Jerome L. Sandler, Drexel Hill, and Robert Kunin, Yardley, Pa.; said Gibbon, Nealon, and Sandler assignors to Jefferson Medical College, Philadelphia, Pa., and said Kunin assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed June 14, 1962, Ser. No. 202,386
8 Claims. (Cl. 167—78)

1. The method of restoring stored whole blood to biochemical normalcy, comprising, contacting the blood with a mixture of a strongly acidic cation exchanger and a strongly basic anion exchanger, at least about 39.5% but no more than 80% by weight of which is the cation exchanger and at least about 10% by weight of which is the anion exchanger, from 0 to about 10% exchange capacity of the cation exchanger being in the potassium form with the remainder in the sodium form, and at least about half of the exchange capacity of the anion exchanger being in the chloride form.

3,269,912

ALUMINUM OXIDE DEPOT VACCINES

Alfred Grafe, Weinheim, Germany, assignor to C. F. Boehringer & Soehne Gesellschaft mit beschrankter Haftung, Mannheim-Waldhof, Germany

No Drawing. Filed Apr. 8, 1963, Ser. No. 271,448
13 Claims. (Cl. 167—78)

1. A depot vaccine comprising a finely divided aluminum oxide selected from the group consisting of β-aluminum oxide and aluminum oxide aerosol having a particle

size of 25 to 1,000 A. having adsorbed thereon at least one antigen derived from a virus in an at least minimum vaccine effective amount, dispersed in an aqueous medium, 3–20 ml. of water being present for each gram of aluminum oxide.

3,269,913

STAPHYLOCOCCAL-IMMUNIZING PRODUCTS AND METHODS FOR THEIR PRODUCTION

Henry B. Devlin, Grosse Pointe Park, Theodore H. Haskell, Ann Arbor, and Myron W. Fisher, Birmingham, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

Filed May 10, 1963, Ser. No. 279,577
Claims priority, application Philippines, May 11, 1962, 4,165; Canada, May 14, 1962, 849,093
23 Claims. (Cl. 167—78)

1. Process for the production of a staphylococcal vaccine product which comprises extracting the intact cells of a strain of *Staphylococcus aureus* selected from the class consisting of the UC76, Smith, NRRL B–2469, NRRL B–2471, NRRL B–2472, NRRL B–2473, NRRL B–2474, NRRL B–2475, NRRL B–2476, and NRRL B–2477 strains and identifiable by the property of forming loosely cohesive, diffuse, semi-opaque colonies when grown in a semi-solid or soft agar culture medium containing plasma, serum or protein components thereof; with phenol containing up to 30 percent water and an aqueous solvent to obtain immiscible phenolic and aqueous solutions, and separating the phenolic solution and insoluble solid material from the aqueous solution; said aqueous solution being capable of stimulating the production of a protective antibody against *Staphylococcus aureus*.

3,269,914

METHOD AND COMPOSITION FOR BLOOD SUGAR TESTING

Jack Ralph Leonards, Cleveland Heights, Ohio, assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

Filed July 15, 1963, Ser. No. 295,201
4 Claims. (Cl. 167—84.5)

2. A method for blood sugar testing which comprises administering to human patients a blood sugar test meal comprising a carbonated cola-flavored aqueous solution in unit dosage form of a partially hydrolyzed starch product consisting essentially of about 5–30 percent dextrose, about 14–52 percent maltose, about 11–18 percent maltotriose, about 23–55 percent higher saccharides, having a Dextrose Equivalent of about 42–54 percent and having a viscosity at 100° F. of about 70–145 poises, and wherein the unit dosage is equivalent to from about 50 to about 100 grams of pure glucose, and measuring the blood sugar level of said patients at timed intervals thereafter.

3,269,915

NEUTRON IRRADIATION PROCESS FOR PRODUCING RADIOISOTOPES WHEREIN TARGET ISOTOPE IS SHIELDED FROM THERMAL NEUTRONS

Jackson A. Ransohoff and Phillip M. Wood, Washington, D.C., assignors to Neutron Products, Inc., Washington, D.C., a corporation of Delaware

Filed July 5, 1963, Ser. No. 292,917
8 Claims. (Cl. 176—16)

1. A process for producing in good yield, a product radioisotope, which is the result of one neutron absorption capture in a target radioisotope having a thermal neutron cross section lower than that of the product isotope, which comprises:

(a) Incorporating the target isotope in an irradiation device wherein the surface density of said target isotope is at least 0.1 gram per $cm.^2$;

(b) Shielding of said target isotope from exposure to thermal neutrons by incorporating, peripheral to said target isotope, nuclide material having a high thermal neutron cross section by virtue of a neutron interaction resonance peaking at a neutron energy below 0.3 e.v.;

(c) Irradiating said target isotope in a neutrol environment wherein the neutron flux between 0.3 e.v. and 100 e.v. is in excess of 2.5×10^{12} neutrons per $cm.^2$-sec.; and

(d) Separating and recovering of target and product isotopes by chemical processing.

3,269,916

FERMENTATION PROCESS FOR PRODUCING GUANOSINE 5′-PHOSPHATES

Arnold L. Demain, Westfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed June 21, 1963, Ser. No. 289,748
6 Claims. (Cl. 195—28)

1. A process for producing guanosine 5′-phosphates which comprises growing *B. subtilis* NRRL B–2911 in an aqueous nutrient medium containing assimilable sources of nitrogen and carbon for sufficient time to accumulate said phosphates in the fermentation broth and recovering said phosphates from the resulting fermentation broth.

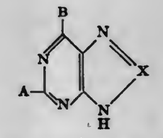
3,269,917

PROCESS FOR PRODUCING PURINE-NUCLEOSIDES

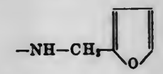
Akira Imada, Nishinomiya, and Seizi Igarasi, Ashiya, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Filed Mar. 16, 1964, Ser. No. 352,332
Claims priority, application Japan, Mar. 18, 1963, 38/14,634, 38/14,635
13 Claims. (Cl. 195—28)

1. A process for producing artificial purine-nucleosides, which comprises bringing a purine base represented by the formula:



wherein A stands for a member selected from the group consisting of H, —OH and —NH_2, B stands for a member selected from the group consisting of H, a halogen, —SH, —NR_2, —NH-(lower alkyl),



and —NH-acyl, X stands for a member selected from the group consisting of CH and N with the proviso that X is not CH when A and B are H and —NH_2, respectively, the lower alkyl having up to six carbon atoms, and the acyl being a lower carboxylic acid acyl having up to seven carbon atoms, into contact with a pentosyl group donor selected from the group consisting of naturally occurring purine-nucleosides, naturally occurring purine-nucleotides, pyrimidine-deoxyribonucleosides, pyrimidine-deoxyribonucleotides, pyrimidine-ribonucleosides and pyrimidine-ribonucleotides in an aqueous medium of pH between 4 and 10 at a temperature between 20° and 50° C. in the presence of inorganic phosphate and a pentosyl transferring enzyme system of an aerobic bacteria and recovering the objective purine-nucleosides thus accumulated in the reaction medium.

3,269,918
PROCESS FOR THE PRODUCTION OF PURIFIED GLUCOSE OXIDASE

Richard Russell Barton, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

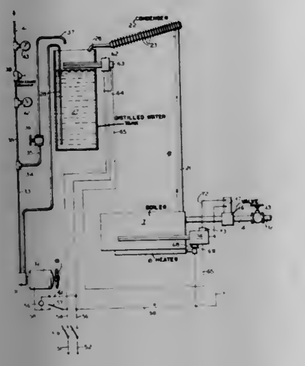
No Drawing. Filed Apr. 20, 1964, Ser. No. 361,251
10 Claims. (Cl. 195—66)

1. A process for the production of purified glucose oxidase which consists essentially of mixing aqueous mycelium material containing glucose oxidase and impurities including catalase with ammonium sulfate to precipitate the glucose oxidase, said ammonium sulfate being added to the aqueous mycelium material in an amount of at least about 85 percent of saturation, separating the glucose oxidase precipitate from the remainder of the aqueous mycelium material, dissolving the glucose oxidase precipitate in water, adjusting the pH of a weak anionic ion-exchange material to about 4.5, contacting the aqueous glucose oxidase solution with said weak anionic ion-exchange material wherein the glucose oxidase and impurities are adsorbed by the weak anionic ion-exchange material, washing the weak anionic ion-exchange material containing the glucose oxidase and impurities with a buffer having a molar strength of about 0.07 to about 0.09 and a pH of about 4.3 to about 4.7 to remove adsorbed catalase and other impurities from the weak anionic ion-exchange material and then washing the weak anionic ion-exchange material with a buffer having a molar strength of about 0.095 to about 0.11 and a pH of about 3.5 to about 3.8 to remove purified glucose oxidase from the weak anionic ion-exchange material.

3,269,919
AUTOMATIC STILL

Jack H. Baily, North Hollywood, and Eli Sterling, Van Nuys, Calif., assignors to Steam Sales & Service Co., a corporation of California

Filed June 11, 1963, Ser. No. 287,100
4 Claims. (Cl. 202—160)

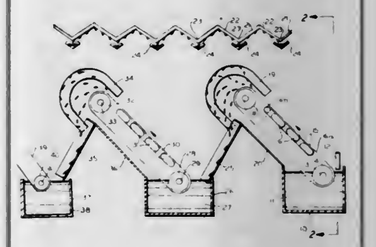


1. An automatic still for producing distilled water from raw water which comprises a frame, a boiler on said frame, an electric heater in thermal conducting relationship with said boiler for heating the same, means comprising an inlet conduit connected to said boiler for conducting raw water to said boiler from a raw water source, an electrically actuated valve in said inlet conduit for regulating the flow of raw water to the boiler, means comprising an electric switch for controlling the operation of said valve in the inlet conduit, said electric switch comprising a thermostat which is operable responsive to the level of water in said boiler for actuating said switch which operates said valve, a vertically inclined tube condenser disposed at the upper end of said frame, said tube condenser comprising a plurality of radiating fins and having an inlet at its upper end and an outlet at its lower and opposite end, conduit means connecting said boiler to the inlet of said condenser for conducting vapor from the boiler into the condenser where said vapor is condensed to distilled water and flows by gravity downwardly of the inclined condenser tube to the outlet thereof, a distilled water tank on said frame and disposed adjacent the outlet of said condenser for receiving and storing distilled water, means comprising a thermostat-controlled electric switch which is electrically connected to said heater, said thermostat-controlled switch being actuated responsive to the level of distilled water in said tank, said electric heater being de-energized by said thermostat-controlled electric switch when the level of distilled water in said tank reaches a sufficiently high level, said thermostat-controlled switch being energized to actuate said heater when the level of the distilled water in said tank falls to a low level, a distilled water outlet conduit in communication with said tank and extending substantially to the bottom thereof, a pump connected to said water outlet conduit, a discharge pipe for conveying distilled water and which is connected to said pump, an electric motor driving said pump for withdrawing distilled water from said tank and discharging the same under pressure through said discharge pipe to a point of use, a fan driven by said motor for circulating air over said condenser radiating fins to cool the same, said distilled water discharge pipe comprising a T with a branch line leading back to said tank for returning distilled water to the tank, valve means in said branch line, a pressure reducer in said distilled water discharge pipe for regulating the water pressure therein, and pressure gauge means in said discharge pipe in advance of said pressure reducer and a second pressure gauge in said discharge pipe located beyond said pressure reducer.

3,269,920
APPARATUS FOR PRODUCING POTABLE WATER FROM SALINE WATER

George E. Merrill, 5616 Croydon Ave., San Jose 24, Calif.

Filed Apr. 15, 1963, Ser. No. 272,968
3 Claims. (Cl. 202—173)



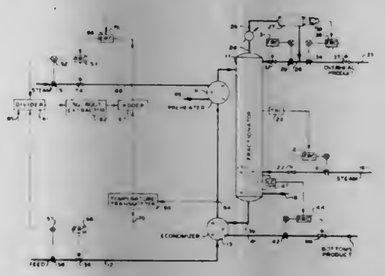
1. In an apparatus for purifying saline water by distillation of saline distilland and recovering of distillate, the combination comprising a plurality of water vaporizing stages, each of said stages comprising a foraminated conveyor, roller means for supporting said conveyor in an inclined position so that the conveyor has an upper web moving upward and a lower web positioned below said upper web, means for driving said roller means for moving said conveyor so that said upper web moves in the upward direction, heating means positioned underneath said upper web, means for supplying saline water

to the lower ends of the conveyor so that saline water is picked up in the foramina of the conveyor and moved over said heating means, some of said saline water being evaporated as the conveyor passes over said heating means, said driving means moving said conveyor at a speed such that some of the saline water remaining thereon after passing over said heating means is jettisoned at the upper end of said conveyor where the direction of motion of the conveyor is abruptly changed and means at the upper end of said conveyor for collecting said jettisoned saline water and passing it to the next one of said stages, and means positioned above said conveyor for condensing and collecting the vaporized water.

3,269,921
COMPUTING AND CONTROLLING THE ENTHALPY OF A PROCESS STREAM

Minor W. Oglesby and Dale E. Lupfer, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed July 3, 1961, Ser. No. 125,025
5 Claims. (Cl. 203—2)

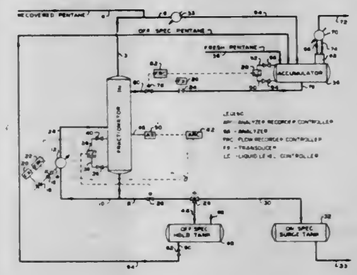


1. In a fractionation process where a liquid process stream is first indirectly heat exchanged with bottoms product from a fractionation step, the resulting heated liquid process stream is then indirectly heat exchanged with steam in a second indirect heat exchange step, and the resulting partially vaporized process stream is passed as feed to said fractionation step, the method of computing and controlling the enthalpy, relative to a predetermined base reference temperature, of said feed, comprising the steps of measuring the flow rate of said process stream in its liquid state and producing, responsive thereto, a first signal proportional to the flow rate of the process stream, measuring the flow rate of said steam and producing, responsive thereto, a signal proportional to the flow rate of said steam, automatically dividing said second signal by said first signal and multiplying the resulting quotient by a signal proportional to the difference betwen the enthalpy of said steam and the enthalpy of the resulting liquid condensate of said steam, and thereby producing, responsive thereto, a third signal proportional to the enthalpy given by said steam to said process stream in said second heat exchange step, measuring the temperature of said heated liquid process stream and producing, responsive thereto, a fourth signal proportional to the temperature of said liquid process stream, automatically subtracting from said fourth signal a signal proportional to said predetermined base reference temperature, automatically multiplying the resulting remainder by a signal proportional to the average specific heat of the initial process stream, and thereby producing, responsive thereto, a fifth signal proportional to the enthalpy, relative to said predetermined base temperature, of said process stream after it has been heat exchanged with said bottoms product, automatically adding said third and fifth signals to produce, responsive thereto, a sixth signal proportional to the enthalpy, relative to said predetermined base temperature, of the thus heated process stream, automatically comparing said sixth signal with a seventh signal proportional to a predetermined enthalpy value relative to said predetermined base temperature, for said feed, and accordingly controlling the rate of flow of said steam to maintain the enthalpy of said feed equal to said predetermined enthalpy value.

3,269,922
FRACTIONAL DISTILLATION SYSTEM WITH FLUID PRODUCT DISCHARGE CONTROL

Lowell T. Price and Jack S. Scoggin, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 9, 1963, Ser. No. 307,705
2 Claims. (Cl. 203—3)



1. A process for the recovery of pentane from a mixture containing n-pentane, butenes, lighter boiling hydrocarbons, air and carbon dioxide comprising introducing said mixture into a fractionation zone, heating said fractionation zone with a heat exchange fluid by indirect heat exchange, removing the butenes, lighter boiling hydrocarbons, air and carbon dioxide overhead from said zone along with a minor amount of n-pentane, passing said overhead through a cooling zone to condense said n-pentane without condensing the butenes, passing the resultant condensate and remaining vapors to a storage zone, removing vapors therefrom, refluxing said condensed n-pentane to said fractionation zone, withdrawing a substantially pure n-pentane fraction from a lower portion of said zone, passing said n-pentane fraction to a product recovery zone, measuring the amount of butene in said n-pentane fraction and when the amount of butene exceeds 5 weight parts per million increasing the amount of heat applied to said fractionation zone by said heat exchange fluid and diverting said n-pentane fraction from said product recovery zone, said increase of heat and diversion continuing until the butene content is lowered to said value, and recycling said diverted n-pentane fraction to said storage zone.

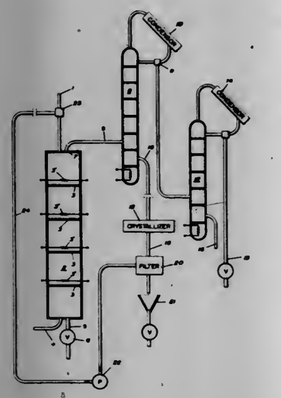
3,269,923
STEAM DISTILLATION OF CARBAMATE AND ALCOHOL MIXTURES

Andre Eugene Noel Roche, Toulouse, Jean Louis Emile Pomot, Neuilly-sur-Seine, and Emmanuel Jean Francois Luzarreta and Gilbert Guy Justin Cousserans, Toulouse, France, assignors to Office National Industriel de l'Azote, Toulouse, France, a corporation of France

Filed Dec. 28, 1962, Ser. No. 248,118
Claims priority, application France, Jan. 2, 1962, 4,762
8 Claims. (Cl. 203—48)

1. A continuous process for the separation of carbamic acid ester from the crude alcoholic solution thereof obtained by reaction between (a) a member selected from the group consisting of urea and salts thereof and

(b) a member selected from the group consisting of the aliphatic, cycloaliphatic and araliphatic monohydric alcohols, said process comprising subjecting the said crude alcoholic solution to distillation with steam, whereby the totality of impurities present in the crude solution is separated, and thereafter recovering the resultant impurity-free alcohol, water and carbamic acid ester by rectification, the ester being obtained in the form of a concentrated aqueous solution thereof.

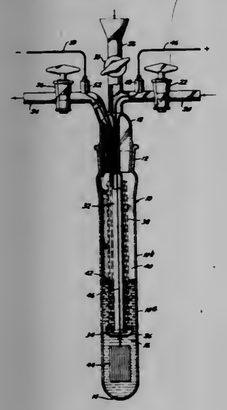


3,269,924

GALVANIC CELL AND METHOD FOR MEASURING OXYGEN TRACES IN GASES

Friedrich Nessler, Wiesbaden, Germany, assignor to Hans J. Zimmer Verfahrenstechnik, Frankfurt am Main, Germany

Filed Mar. 16, 1961, Ser. No. 96,281
4 Claims. (Cl. 204—1)



1. In a method for measuring oxygen traces in a gas, in a galvanic cell including a liquid electrolyte, a gas chamber thereabove, a partly immersed cathode, and a completely immersed anode, the improvement which comprises introducing the gas into the electrolyte below the cathode and above the anode, whereby said gas is maintained out of contact with said anode and rises through said electrolyte past said cathode, and maintaining at substantially constant length, despite changes in electrolyte level, the line of contact at which the electrolyte, the gas phase, and the cathode meet.

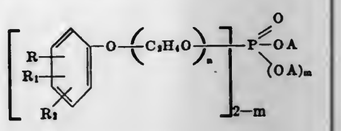
3,269,925

ELECTRODEPOSITION OF COPPER FROM A CYANIDE BATH

Arthur H. Du Rose, Euclid, Ohio, assignor to The Harshaw Chemical Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 24, 1964, Ser. No. 339,867
17 Claims. (Cl. 204—32)

7. In a method of electrodepositing copper on an electroconductive substrate wherein said substrate is subjected to the action of a cleaner in advance of plating said substrate with copper from a bath comprising an aqueous solution of copper cyanide and at least one alkali metal cyanide, the improvement which comprises adding an effective amount of at least one compound defined by the following general formula:



where *m* represents an integer from 0 to 1 inclusive, *n* represents an integer ranging from 8 to 30 inclusive, A represents a member selected from the group consisting of hydrogen, and an ion capable of rendering the phosphoric acid ester water soluble, R represents an alkyl group having from 4 to 14 carbon atoms, and R_1 and R_2 represent a member selected from the group consisting of hydrogen and a lower alkyl radical having from 1 to 3 carbon atoms.

3,269,926

PROCESS FOR THE ELECTROLYTIC PRODUCTION OF ALKALI METAL PHOSPHATES

Joseph Cremer, Hermulheim, near Cologne, and Harri Kribbe, Knapsack, near Cologne, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

No Drawing. Filed Oct. 16, 1962, Ser. No. 231,008
Claims priority, application Germany, Oct. 18, 1961, K 44,956
12 Claims. (Cl. 204—90)

1. In a process for the electrolytic production of alkali metal phosphates from phosphoric acid and alkali metal chlorides, the improvement which comprises electrolyzing a suspension of an alkali metal chloride in aqueous phosphoric acid having an initial concentration of at least 50% by weight, crystallizing the resulting phosphate, and separating mother liquid and phosphate from one another.

3,269,927

PROCESS OF ELECTROLYTICALLY IMPROVING THE CLARITY OF SULFONIC ACIDS

Howard W. Bost, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Oct. 1, 1962, Ser. No. 227,533
5 Claims. (Cl. 204—131)

1. A process for improving the color of alkanesulfonic acids having from 1 to 20, inclusive, carbon atoms per molecule which comprises subjecting same in an electrolytic cell to a direct current electrical field having a current density of each electrode ranging from 10–120 amps. per square decimeter for a period of time sufficient to substantially decolorize said acid.

3,269,928

PERFLUOROAROMATIC COMPOUNDS

Robert N. Haszeldine, Disley, and John M. Birchall, Manchester, England, assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 5, 1962, Ser. No. 185,221
Claims priority, application Great Britain, Apr. 19, 1961, 14,200/61
5 Claims. (Cl. 204—158)

1. The process of preparing a fluorinated aryl substituted fluorosilane which comprises reacting in the presence of a free radical initiator, a highly fluorinated aromatic compound containing 6 to 12 carbon atoms and containing at least 4 fluorine atoms attached to the nucleus of the aromatic ring with a silane having the structure $SiHCl_{3-n}R_n$ where R is a member of the group consisting of hydrogen, fluorine, alkyl, aryl, fluoroalkyl and fluoroaryl radicals and *n* is a number from 0 to 2.

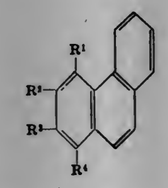
3,269,929

PROCESS FOR THE PHOTOOXYGENATION OF ANHYDROTETRACYCLINES

Manfred Schach von Wittenau, Gales Ferry, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 12, 1962, Ser. No. 230,252
6 Claims. (Cl. 204—158)

1. In the process for photooxygenation of an anhydrotetracycline to the corresponding 6-deoxy-6-hydroperoxy dehydrotetracycline in a reaction-inert solvent by introduction of molecular oxygen during irradiation with light of wavelength between 300 and 450 mμ, the improvement which comprises conducting said oxygenation in the presence of at least about 0.0005% w./v. of a dissolved additive in said solvent, said additive being selected from the group consisting of 1,2- and 3,4-benzpyrene; cholanthrene; 18-, 19-, and 20-monomethylcholanthrene; 1,2,5,6-dibenzanthracene; and phenanthrenes of the formula



wherein at least one adjacent pair of said R^1, R^2, R^3 and R^4 substituents completes a fused ring selected from the group consisting of benz- and monomethylbenz-, and, where only one R substituent pair completes a fused ring, one of the two remaining R substituents is methyl, the other being selected from the group consisting of hydrogen and methyl.

3,269,930

POLYMERIZATION OF TRIBUTYLVINYLPHOSPHONIUM HALIDES BY IONIZING RADIATION

Catherine Shuihua Hsia Chen, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 20, 1963, Ser. No. 310,482
5 Claims. (Cl. 204—159.22)

1. A method for the production of a high molecular weight polymer of a vinyl phosphonium halide which comprises contacting a solid state monomer having the formula

$$(CH_3CH_2CH_2CH_2)_3\overset{+}{P}-CH=CH_2\ X^-$$

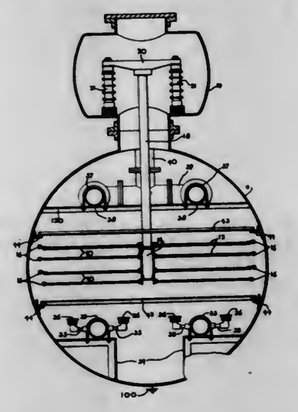
wherein X is selected from the group consisting of chlorine, bromine and iodine, with ionizing radiation.

3,269,931

METHOD AND APPARATUS FOR REDUCING THE HAZE NUMBER OF A MINERAL OIL

Kenneth Darby, Oldbury, and Harry Burton, Birmingham, England, assignors to Lodge-Cottrell Limited, Birmingham, England, a British company

Filed Mar. 8, 1965, Ser. No. 437,738
Claims priority, application Great Britain, Jan. 15, 1958, 1,489/58
4 Claims. (Cl. 204—188)



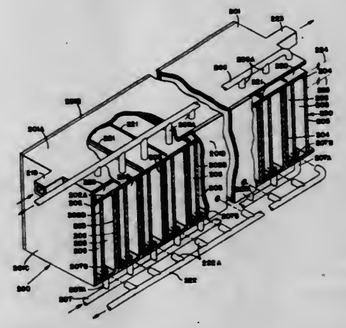
2. A method of reducing the haze number of a mineral oil comprising the steps of (a) passing the oil through a grounded planar foraminous electrode, (b) then through a charged electrode structure consisting of a plurality of planar foraminous electrodes each parallel with said grounded electrode and all charged to the same high tension direct current potential, the oil passing through each electrode of said structure and the electrodes of said structure comprising edge portions spaced from adjacent grounded electrode means, and (c) then through a further grounded planar foraminous electrode parallel with said first mentioned grounded electrode.

3,269,932

MULTI-CELL REACTOR IN PARALLEL

Charles H. Worsham, Fanwood, and John V. Clarke, Jr., Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Sept. 1, 1961, Ser. No. 135,672
5 Claims. (Cl. 204—270)



1. A multi-cell electrochemical reactor comprising an anodic element, a cathodic element, insulation and enclosure means associated with said elements so as to

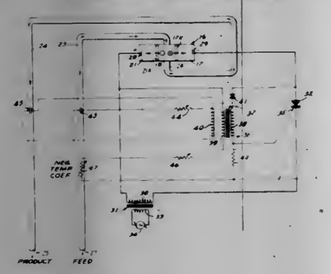
sealingly form therewith adjacent, watertight, reaction chambers, a plurality of conduit means communicating with said chambers and conduction means external to said reaction chambers establishing electrical connection between said anodic element and said cathodic element, wherein said anodic element and said cathodic element each comprise an L-shaped trunk plate with a plurality of electrode plates rigidly associated therewith and extending parallel to one leaf thereof, and wherein said anodic element and said cathodic element are positioned so that said trunk plates are connected by insulative means so that said electrode plates interfit in staggered and parallel relationship and each such electrode is connected by insulative sealing means to the nearest electrode of opposite polarity so as to form a plurality of rectangular channels in parallel electrical connection, said channels in cooperation with said enclosure means forming said reaction chambers.

3,269,933

ELECTRODIALYSIS APPARATUS FOR DESALINIZATION OF FLUIDS HAVING AUTOMATIC CURRENT CONTROL MEANS

William J. Mahoney, Darien, and Nanjundiah N. Murthy, Cos Cob, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed Mar. 17, 1961, Ser. No. 96,453
11 Claims. (Cl. 204—301)



10. An electrodialysis apparatus for removing ions from an electrolyte solvent comprising, an electrodialysis cell having positive and negative electrodes, a magnetic core, an alternating current load circuit connectable to a source of A.C. and comprising a load winding operatively associated with said core, said load circuit being connected to said electrodes, and including means for translating alternating current into direct current to apply a D.C. potential to said electrodes, a control winding operatively associated with said core and in which alternating currents are induced, and a conductivity cell disposed to be in contact with said electrolyte, said conductivity cell being connected across said control winding to control the magnitude of alternating current in said control winding and to thereby control the magnitude of D.C. current applied to said electrodes.

3,269,934

HYDROCRACKING PROCESS WITH THE USE OF A Y TYPE CRYSTALLINE ZEOLITE AND A NITROGEN CONTAINING HYDROCARBON OIL

Rowland C. Hansford, Yorba Linda, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Dec. 24, 1963, Ser. No. 333,188
8 Claims. (Cl. 208—111)

1. A process for the low-temperature catalytic hydrocracking of nitrogen-contaminated mineral oil feedstocks over long periods of time without catalyst regeneration, which comprises contacting a mixture of hydrogen and a mineral oil feedstock containing aromatic hydrocarbons and between about 1 and 2,000 parts per million of organic nitrogen with a fixed bed of granular hydrocracking catalyst comprising a minor proportion of a Group VIII metal hydrogenating component deposited upon a crystalline, zeolitic, alumino-silicate molecular sieve cracking base having a SiO_2/Al_2O_3 mole-ratio greater than about 3, a relatively uniform crystal pore diameter between about 6 and 14 A., and wherein at least about 20 percent of the ion-exchange capacity of said molecular sieve cracking base is satisfied by hydrogen ions; said contacting being initiated and continued without catalyst regeneration for a run length of at least about 3 months at temperatures between about 500° and 750° F., pressures between about 500 and 3,000 p.s.i.g., liquid hourly space velocities between about 0.7 and 6.0, and in the presence of between about 1,000 and 20,000 s.c.f. of hydrogen per barrel of feed, said conditions being further correlated so as to give between about 30 and 80 volume-percent conversion per pass to products boiling below the initial boiling point of the feedstock while periodically raising the hydrocracking temperatures to maintain the desired conversion level and compensate for catalyst deactivation, and terminating said hydrocracking run at a temperature below about 850° F.

3,269,935

EMULSION BREAKING IN AN ADDUCT SEPARATION PROCESS

Rudolf J. Maas and Gerhard G. Baijle, Amsterdam, Netherlands, assignors, by mesne assignments, to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 6, 1963, Ser. No. 285,864
Claims priority, application Netherlands, June 14, 1962, 279,702
17 Claims. (Cl. 208—25)

1. In a process for the fractionation of a mixture of hydrocarbons comprising at least one compound capable of forming solid adducts by

(a) bringing the mixture into contact with a substantially aqueous solution of an adduct forming agent selected from the group consisting of urea and thiourea whereby adducts are formed between at least one compound of the mixture and the adduct forming agent,

(b) separating said adducts from the rest of the mixture, and,

(c) decomposing said adduct in the presence of water into a mixture of adduct forming agent and the compounds capable of forming said adducts and wherein an emulsion tends to form from the adduct forming compound and the solution of adduct former, the improvement comprising,

(d) adding an organic liquid having a dielectric constant of 4–6.5 at 25° C. to the mixture of step (c) whereby the tendency of said mixture to form an emulsion is substantially reduced and whereby any of said emulsion formed is broken after separation of the non-emulsified compounds.

3,269,936

HYDROCRACKING OF HYDROCARBONS WITH THE USE OF A NICKEL-TUNGSTEN SULFIDE CATALYST ON A SILICEOUS CARRIER ACTIVATED WITH A HALOGEN

Richard G. Goldthwait, Penn Hills Township, Allegheny County, and Stanley J. Kwolek, New Kensington, Pa., and Theodore Rice, Beaumont, Tex., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Sept. 25, 1962, Ser. No. 226,148
9 Claims. (Cl. 208—111)

2. A hydrocracking process providing extended catalyst life which comprises subjecting a feed which is predominantly composed of hydrocarbons boiling in the range between about 350° and 800° F. which is substantially free of asphaltic materials and which contains less than about 25 p.p.m. nitrogen to treatment with hydrogen at a temperature between about 400° and 750°F. at a pressure between about 400 and 3000 p.s.i. while in the presence of a nickel-tungsten sulfide catalyst composited with a silica-alumina carrier having an activity index greater than 40, said composite containing above about 0.1 percent combined halogen, and adding halogen during the treatment.

3,269,937

HYDROISOMERIZATION PROCESS

Maxwell Nager, Pasadena, John W. Jenkins, La Porte, and Lawrence W. Maas, Pasadena, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 26, 1962, Ser. No. 247,327
1 Claim. (Cl. 208—135)

In the hydroisomerization of a normal olefin-containing gasoline fraction which comprises contacting said gasoline fraction in the presence of hydrogen at a temperature of about 200° to 400° C. and a pressure of about 40 to 120 atmospheres with an olefin hydroisomerization catalyst comprising from about 1% to 10% by weight sulfided nickel on silica-alumina cracking catalyst, the improvement which comprises conducting the contacting in the presence of ammonia in an amount to provide from about 50 to 300 p.p.m. nitrogen basis gasoline.

3,269,938

HYDROGENATION PROCESS AND CATALYST THEREFOR

Philip A. Lefrancois, Cranford, N.J., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

No Drawing. Filed June 1, 1964, Ser. No. 371,760
11 Claims. (Cl. 208—142)

1. A process for the treatment of hydrocarbons wherein non-destructive hydrogenation is the principal hydrocarbon conversion reaction which consists essentially of hydrogenating an unsaturated hydrocarbon in the presence of added hydrogen and a catalyst consisting of a compound of nickel selected from the group consisting of an oxide and sulfide thereof and between about 5 and about 30 weight percent of a compound of molybdenum, expressed as molybdenum trioxide, selected from the group consisting of an oxide and sulfide thereof, supported on a carrier consisting of silica and magnesia in an amount between about 10 and about 50 weight percent based on the weight of the carrier, said compound of nickel being present in an amount to provide an atom ratio of molybdenum to nickel of between about 1 and about 4.5, under hydrogenation conditions including a temperature between about 200° F. and about 850° F. such that hydrogen is consumed.

3,269,939

PROCESS FOR THE REDUCTION OF THE AROMATIC CONTENT OF PETROLEUM DISTILLATES

Joseph E. M. Marechal, Watermael-Boitsfort, Henri R. Debus, Meise, and Raymond M. Caben, Brussels, Belgium, assignors to Labofina S.A., Brussels, Belgium

No Drawing. Filed Apr. 3, 1964, Ser. No. 357,317
Claims priority, application Great Britain, Apr. 11, 1963, 14,713/63
8 Claims. (Cl. 208—143)

1. A continuous process for reducing the aromatic hydrocarbon content of a petroleum fraction boiling in the range of about 60° C. to 350° C. having a substantial sulphur content not higher than 300 parts per million by weight, which process comprises hydrogenating said fraction to obtain a substantial hydrogenation of aromatics at a temperature of about 100 to 400° C., at a pressure of about 70 to 1,000 p.s.i.g., in the presence of about 500 to 17,000 s.c.f. of hydrogen per barrel of liquid feed in contact with a catalyst comprising 0.1 to 1.0% by weight of platinum supported on an active silica-alumina carrier containing from 75 to 90% by weight of silica and at a space velocity of about 0.1 to 20 v./v./hr.

3,269,940

BACTERIA ACTIVATOR FOR USE IN SEPTIC TANKS

Everett P. Attaway, Joliet, Ill., assignor of one-half to Mabel C. Attaway, Joliet, Ill.

No Drawing. Filed Apr. 16, 1963, Ser. No. 273,315
2 Claims. (Cl. 210—11)

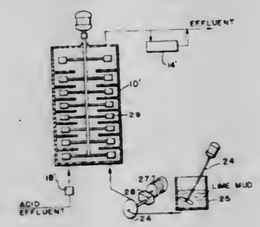
1. The method of treating raw and solid sewage in a 500 gal. septic tank consisting of introducing into the sewage in the tank of bacteria activator consisting of: 6 oz. partially refined sugar, 18 oz. white corn mean, 6 oz. dry active yeast, 2 oz. yeast food containing flour, calcium sulfate, salt, ammonium chloride, and potassium bromate, mixed with approximately 5 gal. water.

3,269,941

METHOD OF NEUTRALIZING ACID BLEACHERY EFFLUENT

Archie R. Le Compte and John W. Davis, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Mar. 23, 1964, Ser. No. 353,954
1 Claim. (Cl. 210—59)



In the treatment of acid bleachery effluent to increase the pH of the effluent to an upper limit of 4.3 by reaction of the acid effluent with calcium carbonate, the steps of flowing the acid effluent through a reaction zone from an inlet of the zone toward an outlet of the zone, fluidizing and agitating in the said acid effluent for reaction with the acid effluent in said zone lime mud produced in a kraft pulpmaking liquor recovery process by causticizing unclarified green liquor and clarifying the resultant reaction product to obtain white liquor and the lime mud, said lime mud having a pH in the range of about 11 to 13 and containing finely divided solid particles of calcium carbonate substantially all of which have a maximum equivalent diameter of about thirty microns, and withdrawing the effluent from said zone at a pH in the range of at least 3 to about 4.3, said effluent from said zone being substantially free of solid particles of suspended calcium carbonate.

3,269,942

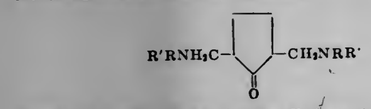
METHOD FOR PROTECTING AQUEOUS MEDIA AGAINST MICROORGANISMS WITH CYCLOPENTANONES

Louis P. Wilks, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Apr. 10, 1963, Ser. No. 271,865
5 Claims. (Cl. 210—64)

1. The method for the protection of aqueous media against slime-producing microorganisms which comprises adding to the aqueous media a compound selected from

the group consisting of a 2,5-bis(N,N-dialkylaminomethyl)cyclopentanone of the formula



wherein R and R′ are lower alkyl, and water soluble salts thereof.

3,269,943
MULTI-LAYER LUBRICATION UTILIZING ENCAPSULATING COATING

David E. Armstrong, Doylestown, and Gerald P. Roeser, Lahaska, Pa., assignors to Horace T. Potts, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application June 12, 1961, Ser. No. 116,527, now Patent No. 3,191,286, dated June 29, 1965. Divided and this application June 17, 1965, Ser. No. 464,849

5 Claims. (Cl. 252—12)

1. A volatile solvent dispersion of a solid film-forming lubricant adapted to adhere as an encapsulating lubricating film to a clean metal base, said solution consisting of a mixture of (1) a hard, tough polymer selected from the group consisting of chlorinated rubber, a tripolymer of 87–95% vinyl chloride, 12–5% vinyl acetate and 0.5–2.5% of unsaturated carboxylic acid and copolymer of 60–85% vinyl chloride with 40–15% vinylidene chloride; (2) an organic lubricant material having a melting point in the range of 37–110° C. and a coefficient of friction between said polymer and steel of 0.01–0.02, said lubricant material selected from the group consisting of oleic acid amide, mixed polyethylene-propylene glycol, polyethylene of molecular weight 400–16,000, and atactic linear polypropylene of molecular weight 400–16,000, the ratio of said lubricant material to said polymer varying from about 3:1 to about 1:3; and (3) the remainder being volatile solvent containing a minor proportion of a chlorinated hydrocarbon and a major proportion of a non-polar liquid selected from the group consisting of aromatic hydrocarbons and aliphatic hydrocarbons whereby upon coating a 25% solids solution of said dispersion upon a metal base there is deposited the lubricant material as a surface film.

3,269,944
GREASE COMPOSITION

John F. Hedenburg, Cheswick, and Chester S. Tempalski, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Nov. 7, 1963, Ser. No. 322,041

4 Claims. (Cl. 252—28)

1. A lubricating composition comprising a dispersion in a major amount of a synthetic lubricating oil selected from the group consisting of liquid polyorgano siloxanes having diphenylmethylsilyl end groups and polyaryl ethers of a sufficient amount to thicken the lubricating oil to a grease consistency of terephthaloguanamine.

3. A lubricating composition comprising a dispersion in a major amount of a liquid polyorgano siloxane having diphenylmethylsilyl end groups of about 10 to about 40 percent by weight of terephthaloguanamine and about 0.5 to about 3 percent by weight of finely-divided silica.

3,269,945
GREASE COMPOSITION

John F. Hedenburg, Cheswick, and Chester S. Tempalski, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Nov. 7, 1963, Ser. No. 322,045

4 Claims. (Cl. 252—28)

1. A lubricating composition comprising a dispersion in a major amount of a synthetic lubricating oil selected from the group consisting of liquid polyorgano siloxanes having diphenylmethylsilyl end groups and polyaryl ethers of a sufficient amount to thicken the lubricating oil to a grease consistency of malonoguanamine which prior to being incorporated into the oil has been heated to a temperature of about 450° to about 600° F. for a time sufficient to reduce the weight of the malonoguanamine by about 20 to about 25 percent.

3. A lubricating composition comprising a dispersion in a major amount of a liquid polyorgano siloxane having diphenylmethylsilyl end groups of about 10 to about 40 percent by weight of malonoguanamine which prior to being incorporated into the liquid polyorgano siloxane has been heated to a temperature of about 450° to about 600° F. for a time sufficient to reduce the weight of the malonoguanamine by about 20 to about 25 percent and about 0.5 to about 3 percent by weight of finely-divided silica.

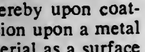
3,269,946
STABLE WATER-IN-OIL EMULSIONS

Herbert F. Wiese, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Mar. 16, 1965, Ser. No. 440,300

14 Claims. (Cl. 252—32.5)

1. A stable water-in-oil emulsion suitable for use as a lubricant and a hydraulic fluid comprising from about 1 to 80 parts of water, from about 20 to 99 parts of mineral oil, and from about 0.2 to 10 parts of a derivative of a hydrocarbon-substituted succinic acid having at least about 50 aliphatic carbon atoms in the substituent, said derivative is selected from the class consisting of (I) alkali metal salts, (II) alkaline earth metal salts, (III) esters of hydroxy-alkyl amines having less than about 6 carbon atoms in the alkyl radical and (IV) amides, imides, amidines, and salt of a nitrogen compound selected from the class consisting of ammonia, hydroxy-alkyl amines having less than about 6 carbon atoms in the alkyl radical, and alkylene polyamines having the structural formula



wherein *n* is less than about 10, A is a hydrocarbon or hydrogen radical and R′ is a lower alkylene radical having up to about 8 carbon atoms.

5. The emulson of claim 1 characterized further in that it contains from about 0.01 to 5 parts of a phosphatide.

3,269,947
LUBRICANT GREASE

Reuben A. Swenson, Whiting, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Apr. 25, 1962, Ser. No. 189,953

3 Claims. (Cl. 252—33.2)

1. A lubricant grease composition comprising a major proportion of a mineral lubricating oil, from about 5 to about 10 weight percent of an aluminum soap of a fatty acid having about 10 to 30 carbon atoms per molecule and from about 0.05 to about 1 weight percent of an alkaline earth metal salt of a preferentially oil-soluble petroleum sulfonic acid having a molecular weight of from about 350 to about 525.

3,269,948
AMINE SALTS OF PERHALOGENATED MONOBASIC CARBOXYLIC ACIDS

Michael J. Furey, Berkeley Heights, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Aug. 30, 1963, Ser. No. 305,805

14 Claims. (Cl. 252—33.6)

1. A liquid composition comprising a major proportion of a liquid selected from the group consisting of

mineral lubricating oils, synthetic lubricaing oils and distillate fuels boiling in the range from about 50° F. to 750° F., and about 0.01 to 5 wt. percent, based on the total weight of the composition, of an amine salt of an unsubstituted aliphatic mono amine containing in the range of 3 to 30 carbon carbon atoms per molecule and a halogen-containing C_2 to C_{12} monobasic carboxylic acid wherein the number of halogen atoms exceeds the number of carbon atoms and the halogen is selected from the group consisting of chlorine and fluorine.

3,269,949
GREASE COMPOSITION

Arthur C. Borg, Chicago, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Aug. 30, 1963, Ser. No. 305,832

5 Claims. (Cl. 252—42.1)

1. The lubricating grease composition consisting essentially of (A) a hydrocarbon lubricating oil; (B) about 5–25 weight percent of a fatty acid metal soap thickening agent; and (C) about 0.25–10 weight percent of a methyl hydrogen silicone fluid in the lubricating oil viscosity range.

2. The grease composition of claim 1 wherein said lubricating oil is petroleum lubricating oil.

3. The grease composition of claim 2 wherein said metal soap is a lithium soap.

3,269,950
LUBRICATING COMPOSITION CONTAINING AMIDE, IMIDE AND THIOCYANATE COMPLEXES OF ZINC AND TIN

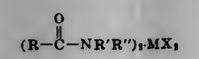
Frederic C. McCoy, Beacon, and Edwin C. Knowles, Poughkeepsie, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 20, 1964, Ser. No. 369,011

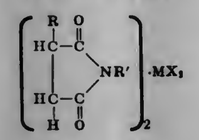
7 Claims. (Cl. 252—46.4)

1. A lubricating composition comprising a major proportion of a lubricating oil and 0.05 to 10 percent by weight of an oil-soluble adduct represented by a formula selected from the group consisting of

(1)



(2)



in which R, R′ and R″ each represent a member selected from the class consisting of hydrogen and a hydrocarbyl radical having from 1 to 30 carbon atoms, the sum of the carbon atoms in R, R′ and R″ being at least 12, M is a divalent cation selection from the class consisting of zinc and tin and X is an anion selected from the group consisting of chloride and thiocyanate ions.

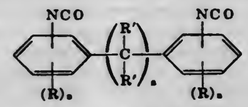
3,269,951
HIGH TEMPERATURE GREASE

Thornton P. Traise, Chicago Heights, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

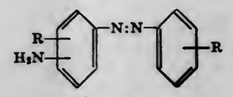
No Drawing. Filed Feb. 3, 1964, Ser. No. 342,273

12 Claims. (Cl. 252—49.6)

8. A lubricant grease comprising an oleaginous vehicle thickened with an amount of from about 5 to about 70 percent by weight of the product of reacting an aromatic diisocyanate having the following structural formula:



wherein *n* is an integer of 0–4, R is selected from the group consisting of an alkyl group of 1 to 18 carbon atoms, a phenyl group, halogen, and mixtures thereof; and R′ is selected from the group consisting of an alkyl group of 1–4 carbon atoms and hydrogen; and a phenyl azoaniline compound having the following structural formula:



wherein R is selected from the group consisting of hydrogen, an alkyl group of 1–18 carbon atoms, a phenyl group, halogen, and mixtures thereof, in the ratio of from about 1 to about 2 moles of phenyl azoaniline compound per mole of aromatic diisocyanate.

9. The lubricant grease of claim 8 wherein the oleaginous lubricant vehicle comprises a silicone polymer oil in the lubricating oil viscosity range.

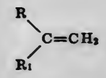
3,269,952
LUBRICANT COMPOSITIONS

Cecil G. Brannen, Highland, and James A. Wuellner, Gary, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Original application June 28, 1962, Ser. No. 205,863. Divided and this application Dec. 18, 1964, Ser. No. 438,806

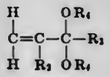
6 Claims. (Cl. 252—52)

1. A lubricating oil containing an amount, sufficient to increase the viscosity index of said oil, of an oil-soluble copolymer obtained by polymerizing a polymerizable mixture consisting of (A) from about 90 to about 99.9 mole percent of a C_{2-20} alkene hydrocarbon monomer having the formula



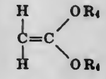
wherein R is hydrogen or methyl and R_1 is hydrogen or C_{1-17} alkyl; (B) from about 0.1 to about 10 mole percent of a monomer selected from the group consisting of unsaturated compounds represented by the following general formulas:

(I)



and

(II)



wherein R_2 is hydrogen or methyl, R_3 is hydrogen, alkyl or aryl, and R_4 is alkyl or aryl; and (C) from about 1 to 20 weight percent, based upon the total amount of said monomers A and B, of a cationic polymerization catalyst; under cationic polymerization conditions to form a

copolymer of said monomers A and B, said copolymer having a molecular weight of from about 2,000 to about 120,000.

3,269,953
STABILIZED SOLVENT
Eleanor Boothman, Widnes, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Apr. 23, 1964, Ser. No. 362,190
Claims priority, application Great Britain, May 6, 1963, 17,880/63
5 Claims. (Cl. 252—153)

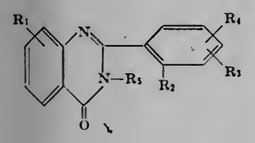
1. Stabilized trichloroethylene consisting essentially of trichloroethylene and, as the essential stabilizing components therefor, (1) from 0.05% to 1.0% by weight of an alkoxyalkanol of the formula $RO(CH_2)_xOH$ wherein x has a value of 2 to 4, and R is selected from the group consisting of alkyl and alkoxyalkyl such that the total number of carbon atoms in the molecule is not greater than 6; (2) from 0.01% to 0.1% by weight of N-methylpyrrole; and (3) from 0.1% to 0.5% by weight of epoxide selected from the group consisting of epichlorohydrin, butene oxide and mixtures thereof.

3,269,954
PROCESS FOR PREPARING A NITROSATING ACID
Abraham H. de Rooij, Geleen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands
Filed Feb. 28, 1963, Ser. No. 261,729
Claims priority, application Netherlands, Mar. 2, 1962, 275,510
9 Claims. (Cl. 252—182)

1. A process for preparing a nitrosating acid which comprises providing an absorbent at a temperature between about 0° and about 40° C., said absorbent comprising a solution of nitrosyl sulfuric acid in sulfuric acid, absorbing nitrous gases obtained by combustion of ammonia in said absorbent, said nitrous gases having a degree of oxidation of at least about 0.5, adding SO_3 to said absorbent to produce said nitrosating acid.

3,269,955
METHOD FOR EMITTING FLUORESCENT LIGHT USING FLUORESCENT QUINAZOLONES
John Leo Rodgers, Somerville, and Jerry Peter Milionis, Franklin Township, Somerset County, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Original application May 10, 1963, Ser. No. 279,631, now Patent No. 3,169,129, dated Feb. 9, 1965. Divided and this application June 11, 1964, Ser. No. 374,292
13 Claims. (Cl. 252—301.2)

1. A surface adapted to fluoresce during exposure to radiation from a source of ultraviolet light; said surface having as its fluorescent component a 4(3)-quinazolone of the formula:



wherein R_1, R_2, R_3 and R_4 are selected from the group consisting of hydrogen, hydroxyl, halogen and 1–4 carbon alkyl and alkoxy; R_5 is selected from the group consisting of hydrogen and alkyl of 1–4 carbons; said quinazolone being further characterized by having substantially no visible self-color in daylight and having in the solid state a high stability when exposed to ultraviolet light for long periods.

3,269,956
METHOD FOR PREPARING RARE EARTH ACTIVATED ZINC SULFIDE PHOSPHORS AND PRODUCTS THEREOF
Simon Larach and Perry N. Yocom, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed May 20, 1963, Ser. No. 281,392
11 Claims. (Cl. 252—301.6)

1. A method for preparing a luminescent material comprising reacting a host material selected from the group consisting of single and mixed chalcogenides of zinc, cadmium, and zinc-cadmium with 0.001 to 5.0 mol percent of at least one rare earth element, as a halide thereof, and 0.00 to 1.0 mol percent copper as a halide thereof, in an oxygen-free non-oxidizing ambient atmosphere at temperatures between 700 and 1400° C. for 0.1 to 10 hours.

9. A luminescent material consisting essentially of zinc sulfide activated with 0.001 to 5.0 mol percent gadolinium.

10. A luminescent material consisting essentially of zinc sulfide activated with 0.001 to 5.0 mol percent terbium.

11. A luminescent material consisting essentially of zinc sulfide activated with 0.001 to 5.0 mol percent holmium.

3,269,957
STABILIZED ANTIMONY-TIN OXIDE CATALYSTS
James Robert Bethell, Epsom Downs, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company
No Drawing. Filed May 15, 1963, Ser. No. 280,721
Claims priority, application Great Britain, May 23, 1962, 19,749/62
3 Claims. (Cl. 252—437)

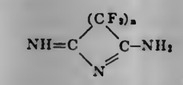
1. A catalytic composition suitable for catalyzing the vapor phase oxidation of hydrocarbons consisting essentially of a material selected from the group consisting of antimony tetroxide admixed with stannic oxide and a composition constituted by antimony, tin and oxygen, said material being stabilized by the addition of an oxide of bismuth, the amount of the oxide being present in an effective amount up to about 2% on a molar basis substantially to reduce loss of catalyst activity and thereby increase the life of the catalyst.

3,269,958
HYDROREFINING OF PETROLEUM CRUDE OIL AND CATALYST THEREFOR
John G. Gatsis, Des Plaines, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Jan. 2, 1964, Ser. No. 335,353
11 Claims. (Cl. 252—439)

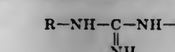
1. A method of preparing a hydrorefining catalyst which comprises the steps of:
(a) initially forming a refractory inorganic oxide carrier material, and calcining said carrier material at a temperature above about 300° C.;
(b) impregnating the calcined carrier material with a decomposable organo-metallic complex of a metal selected from the group consisting of the metals of Groups V–B, VI–B and VIII of the Periodic Table;
(c) drying the impregnated carrier at a temperature below about 150° C., and at which temperature the decomposition of said complex is avoided;
(d) thereafter decomposing said complex in the presence of a hydrocarbon.

3,269,959
CROSS-LINKED POLYMERS FROM FLUORINATED HETEROCYCLIC COMPOUNDS AND GUANIDINE CARBONATES OR PHOSPHORUS OXYTRIAMIDE
Ehrenfried H. Kober and Rudi F. W. Rätz, Hamden, and Henri Ulrich, New Haven, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Sept. 12, 1960, Ser. No. 55,121
4 Claims. (Cl. 260—2)

1. A method for the production of a fluorine-containing, cross-linked polymer which comprises heating a compound of the formula:



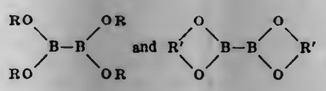
wherein n is an integer of from 2 to 3 inclusive, with from about 5 to about 20 mole percent based on the number of moles of the said compound of a cross-linking agent at a temperature of from 160° C. to about 450° C., said cross-linking agent being selected from the group consisting of (A) guanidine compounds of the formula:



wherein R is selected from the group consisting of hydrogen and amino groups, and (B) phosphorus oxytriamide.

3,269,960
CURING A POLYEPOXIDE RESIN WITH AN ORGANODIBORON COMPOUND
William David English, Orange, and Irving S. Bengelsdorf, Tustin, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada
No Drawing. Filed Dec. 14, 1964, Ser. No. 418,275
13 Claims. (Cl. 260—2)

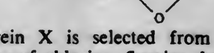
1. In the process for curing and hardening a reactive 1,2-epoxy compound having more than one epoxy group per molecule wherein said reactive 1,2-epoxy compound is mixed and reacted with a curing agent to form a hard, cured resin, the improvement which consists of employing as said curing agent from about 2% to about 50%, based on the weight of said reactive 1,2-epoxy compound, of a boron compound selected from the group consisting of



where R is selected from the group consisting of hydrogen, unsubstituted saturated aliphatic hydrocarbon radicals of from 1 to 20 carbon atoms, unsubstituted saturated cycloaliphatic hydrocarbon radicals of from 6 to about 7 carbon atoms, substituted saturated aliphatic hydrocarbon radicals of from 1 to 6 carbon atoms having aromatic hydrocarbon substituents, unsubstituted aromatic hydrocarbon radicals and substituted aromatic hydrocarbon radicals having unsubstituted saturated aliphatic hydrocarbon substituents of from 1 to 12 carbon atoms and R′ is selected from the group consisting of unsubstituted alkylene radicals of from 2 to 3 carbon atoms in length, substituted alkylene radicals of from 2 to 3 carbon atoms in length having aliphatic hydrocarbon substituents, substituted alkylene radicals of from 2 to 3 carbon atoms in length having aromatic substituents, unsubstituted o-phenylene radical and substituted o-phenylene radical having aliphatic hydrocarbon substituents.

3,269,961
POLYURETHANE FOAM PREPARED FROM A HALOGEN CONTAINING POLYETHER
Herman A. Bruson, North Haven, and James S. Rose, Mount Carmel, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Original application July 13, 1961, Ser. No. 123,616. Divided and this application Oct. 30, 1962, Ser. No. 240,190
6 Claims. (Cl. 260—2.5)

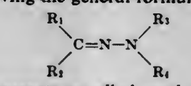
1. A polyurethane foam prepared by the process which comprises reacting together
(1) a halogen-containing adduct obtained by the process which comprises reacting
(a) at least one mole of a halogen-containing epoxide having the structural formula



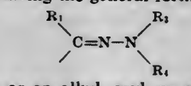
wherein X is selected from the group consisting of chlorine, fluorine, bromine, and mixtures thereof and n is an integer from 0 to 5, per mole of
(b) a compound selected from the group consisting of ethylene glycol, glycerol, propylene glycol, 1,4-butanediol, diethylene glycol, dipropylene glycol, hexanetriol, butanetriol, trimethylol propane, trimethylol ethane, pentaerythritol, dipentaerythritol, erythritol, mannitol, sorbitol, 2-butene-1,4-diol, 2-butyne-1,4-diol, p,p′ - isopropylidenediphenol, resorcinol, catechol, hydroquinone, alkyl glucosides, and 4,4′-dihydroxybenzophenone,
(c) in the presence of a catalytic amount of a Lewis acid catalyst
(2) an organic polyisocyanate in an amount of at least 0.7 NCO groups based on the number of hydroxyl groups present,
(3) a foaming agent and
(4) a reaction catalyst.

3,269,962
SELF-EXTINGUISHING POLYMER COMPOSITION CONTAINING A HALIDE AND A HYDRAZONE
Jacob Eichhorn, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 1, 1963, Ser. No. 269,735
9 Claims. (Cl. 260—2.5)

1. A self-extinguishing polymer selected from the group consisting of homopolymers and copolymers of styrene, α-methylstyrene, ethyl styrene, isopropyl styrene, tert.-butyl styrene, vinyl toluene, vinyl xylene and chlorostyrene and such homopolymers and copolymers containing about 2 to 20 weight percent of an elastomer selected from the group consisting of polybutadiene, polyisoprene, and butadiene-styrene copolymers, containing a halide selected from the group consisting of ammonium bromide, organic chlorides and organic bromides together with about 0.5 to 3 parts per hundred parts of said polymer of a hydrazone having the general formula:



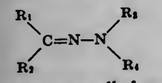
wherein R_1 represents an alkyl, aryl, or aralkyl radical; R_2 represents an alkyl, aryl, or aralkyl radical or a hydrazone group having the general formula:



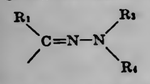
R_3 is hydrogen or an alkyl, aryl, or aralkyl radical; and R_4 is an aryl, aralkyl, or a halogenated aryl radical.

7. A method for producing a foamable self-extinguishing alkenyl aromatic resin comprising:
dispersing granules of a resin selected from the group

consisting of homopolymers and copolymers of styrene, α-methylstyrene, ethyl styrene, isopropyl styrene, tert.-butyl styrene, vinyl toluene, vinyl xylene and chlorostyrene and such homopolymers and copolymers containing about 2 to 20 weight percent of an elastomer selected from the group consisting of polybutadiene, polyisoprene, and butadiene-styrene copolymers, in an aqueous solution together with a blowing agent, a flameproofing halide selected from the group consisting of ammonium bromide, organic chlorides and organic bromides and about 0.5 to 3 parts per hundred parts resin of a hydrazone according to the general formula



wherein R_1 represents an alkyl, aryl, or aralkyl radical; R_2 represents an alkyl, aryl, or aralkyl radical or a hydrazone group having the general formula:



R_3 is hydrogen or an alkyl, aryl, or aralkyl radical; and R_4 is an aryl, aralkyl, or a halogenated aryl radical,

agitating the resulting dispersion while gradually increasing the temperature thereof to a level in the range 90–130° C.,

continuing the agitation of said dispersion while maintaining said temperature level for a period of time up to about four hours, then

gradually decreasing the temperature of said dispersion to approximately room temperature and recovering said resin granules therefrom.

3,269,963

SELF-EXTINGUISHING STYRENE POLYMER COMPOSITIONS

Rudolf Ilgemann, Rolf Dieter Rauschenbach, and Guenter Foerster, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Sept. 21, 1964, Ser. No. 398,066
Claims priority, application Germany, Sept. 25, 1963, B 73,644
7 Claims. (Cl. 260—2.5)

1. A self-extinguishing plastic composition comprising a styrene polymer, a difficultly volatile organic chlorine compound containing at least four carbon atoms and having a chlorine content of from 40 to 75% by weight in such an amount that the chlorine content of the composition is 2 to 15% by weight, 0.05 to 5% by weight, with reference to the composition, of an organometallic compound having the general formula $MeAr_2$ in which Me denotes a transition metal of groups VI–B, VII–B and VIII of the Periodic System and Ar denotes an aromatic system, and 0.01 to 3% by weight, with reference to the composition, of at least one organic phosphine oxide of the general formula



in which R denotes a radical containing from 4 to 9 carbon atoms selected from the group consisting of aliphatic, cycloaliphatic, aromatic and heterocyclic radicals.

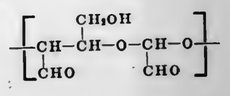
3,269,964

WATER DISPERSIBLE FORM OF DIALDEHYDE POLYSACCHARIDES AND PROCESS THEREFOR

James Huey Curtis, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Oct. 26, 1964, Ser. No. 406,220
10 Claims. (Cl. 260—17.3)

1. A composition dispersible in water at room temperature comprising the finely-divided solidified reaction product of about 15–30 parts by weight of a condensation product of dicyandiamide and formaldehyde and about 70–85 parts by weight dialdehyde polysaccharides wherein from about 0.5 to about 100 units out of 100 of the original anhydroglucose units of the original polysaccharides have been oxidized to dialdehyde units represented by the formula:



5. A process for preparing a composition dispersible in water at room temperature which comprises mixing in water about 70–85 parts by weight dialdehyde polysaccharides with about 15–30 parts by weight condensation product of dicyandiamide and formaldehyde to form a slurry containing about 20–30 weight percent solids, reacting the non-aqueous constituents of the slurry with each other by heating the slurry with stirring to about 70°–100° C., maintaining the slurry at about 70°–100° C. with stirring for about 10–15 minutes until the dispersion of the solid material is complete, cooling the dispersion to about 70° C., adjusting the pH of the dispersion to about 4–5.5 and then drying the dispersion and collecting the finely-divided dried solidified product.

3,269,965

COPOLYMERS OF EPOXY FATTY ESTERS AND/OR FATTY ALCOHOLS WITH C_4–C_6 LACTAMS

Robert J. Johnson, Chicago, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Feb. 14, 1962, Ser. No. 173,148
13 Claims. (Cl. 260—18)

13. A method for preparing a hard resinous composition comprising: forming a mixture of an oxirane substituted higher fatty composition selected from the group consisting of esters of epoxy fatty acids and epoxy fatty alcohols and mixtures thereof and an amount of a lactam of 4–6 carbons sufficient to react with some, but not all of the epoxide groups of said oxirane substituted fatty compositions, at a temperature of about 50–400° C. to form a copolymer and further reacting said copolymer with an epoxy curing agent.

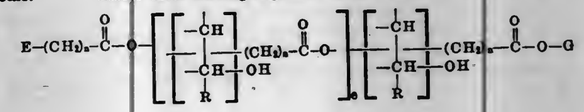
3,269,966

COATING COMPOSITION

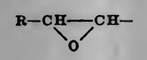
Karl Brack, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 28, 1963, Ser. No. 268,559
The portion of the term of the patent subsequent to May 18, 1982, has been disclaimed
8 Claims. (Cl. 260—21)

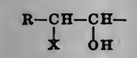
1. A protective coating composition comprising a mixture of from about 10% to about 80% of a linear polymeric ester having a general formula:



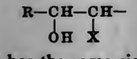
in which R is a substituent of the group consisting of hydrogen and alkyl radicals; n is a whole number from 0 to 20, inclusive; e is at least 1; G is a substituent of the group consisting of hydrogen, hydroxyalkyl radicals and halohydroxyalkyl radicals; and E is a substituent of the group consisting of



radicals;



radicals, and



radicals, in which R has the same significance as set forth above, X is a substituent of the group consisting of hydrogen, halogen and —OH, and from about 90% to about 20% of a formaldehyde resin selected from the group consisting of melamine-formaldehyde and urea-formaldehyde resins.

3,269,967

WATER EMULSION ALKYD RESIN COMPOSITION COMPRISING WATER SOLUBLE ALKANOLAMINE AND POLYETHENOXY ETHER OF ALKYLPHENOL

Ronald L. Broadhead, Park Forest, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed May 27, 1960, Ser. No. 32,127
8 Claims. (Cl. 260—22)

1. A water-emulsion-type, alkyd resin surface coating composition which emulsion consists essentially of (a) water vehicle, (b) oil-modified alkyd resin, in an amount of not more than 45 weight percent based on water plus resin present, which resin is the polyesterification-condensation reaction product of polyhydric alcohol, unsaturated fatty acid having at least ten carbon atoms and at least two olefinic bonds and benzene polycarboxylic acid containing 2–4 carboxyl groups, said resin having an acid number of not more than about 20, and wherein resins derived from benzene dicarboxylic acid have an oil-length of at least about 50% and resins derived from said other polycarboxylic acids having more than two carboxyl groups have an oil-length of at least about 70%, (c) water soluble alkanolamine of the type $R_2NC_nH_{2n}OH$ where n is an integer equal to 2–4 and R is selected from the class consisting of hydrogen, methyl and ethyl, said alkanolamine being present in about the amount needed to neutralize the acidity of said resin, and (d) polyethenoxy ether of alkylphenol wherein alkyl contains 4–12 carbon atoms and 2–10 ethenoxy groups are present, said ether being present in an amount of about 1–5 weight percent, based on said resin, said alkanolamine and said ether acting as emulsifying agents for said resin, whereby a storage stable water-emulsion-type surface coating composition is formed.

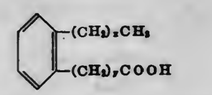
3,269,968

POLYMERIZATION OF UNSATURATED COMPOUNDS WITH AROMATIZED LINOLEIC ACID

Malcolm E. Hannah, Jr., Pensacola, Fla., assignor, by mesne assignments, to Tenneco Chemicals Inc., a corporation of Delaware

No Drawing. Filed May 21, 1962, Ser. No. 196,435
20 Claims. (Cl. 260—23.7)

1. In the production of linear polymers by polymerization of a water insoluble, unsaturated organic compound containing a $CH_2{=}C<$ group while dispersed in an aqueous medium in the presence of an emulsifying agent under polymerization conditions, the improvement which comprises incorporating in said aqueous medium prior to polymerization as an emulsifying agent an alkali metal salt of aromatized linoleic acid, said alkali metal being selected from the group consisting of sodium and potassium, and said aromatized linoleic acid being represented by the formula:



wherein y represents a whole number of at least 5 and less than 8 and x is equal to $10-y$.

3,269,969

DISPERSING AGENTS FORMED BY THE HEAT TREATMENT OF INTERPOLYMERS CONTAINING ACRYLAMIDE AND METHACRYLAMIDE

Hans Fikentscher, Bad Durkheim, Hans Wilhelm, Ludwigshafen (Rhine), Heinrich Wirth, Frankenthal, Pfalz, and Karl Dachs, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Dec. 21, 1962, Ser. No. 246,344
Claims priority, application Germany, July 12, 1955, B 36,446
11 Claims. (Cl. 260—29.6)

1. A process for preparing improved dispersing agents which comprises heating a water-containing solution of a copolymer from a mixture of at least two monomers selected from the group consisting of acrylamide, methacrylamide, vinyl pyrrolidone, vinyl caprolactam, vinyl chloride, vinyl methyl ether, vinyl propyl ether, vinyl acetate, vinyl propionate, and vinyl imidazole, at least 15% by weight of said mixture being monomers selected from the group consisting of acrylamide, methacrylamide, and mixtures thereof, said copolymer having a K-value of from about 20 to about 100 units, to a temperature of at least about 50° C. for a sufficient period of time to increase the K-value of the copolymer by from about 40 to about 150 units above the original K-value of the copolymer.

3,269,970

SPINNING FILAMENTS FROM SOLUTION IN CONCENTRATED SULFURIC ACID OF A POLYAMIDE AND SALT

Martin E. Epstein, Warren Township, Somerset County, and Arthur W. Greenstreet, Union, N.J., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Original application Mar. 29, 1962, Ser. No. 183,362, now Patent No. 3,154,613, dated Oct. 27, 1964. Divided and this application June 22, 1964, Ser. No. 382,431
6 Claims. (Cl. 260—30.8)

1. A solution in concentrated sulfuric acid of at least 75% by weight acid concentration of a fiber-forming condensation polymer having repeating amide groups as an integral part of the polymer chain and at least 1% based on the weight of the solvent of a salt which is dissolved in said sulfuric acid and yields ions in solution which have an affinity for protons at least equal to that of bisulfate ions, said solution being suitable for formation into shaped articles.

3,269,971

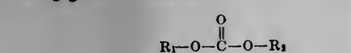
POLYCARBONATE FLOW EXTENDERS

Kenneth B. Goldblum, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Apr. 8, 1965, Ser. No. 446,732
10 Claims. (Cl. 260—31.4)

1. A plasticized polycarbonate resin composition consisting of a polycarbonate resin selected from the group consisting of polymers of dihydric phenols and copoly-

mers thereof and a carbonate ester plasticizer having the following general formula:



wherein R_1 and R_2 are monovalent hydrocarbon radicals having 7–25 carbon atoms.

3,269,972

BUTYL RUBBER COMPOSITIONS COMPRISING METHYL HYDROXY STEARATE

Sholom A. Banks, Roselle Park, David R. Hammel, Colonia, and Conrad J. Jankowski, Metuchen, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Oct. 5, 1960, Ser. No. 60,580
5 Claims. (Cl. 260—32.2)

1. A composition comprising a rubbery copolymer of 85 to 99.5 wt. percent of a C_4 to C_8 isomonoolefin and 15 to 0.5 wt. percent of a C_4 to C_{14} conjugated diolefin, and 0.05 to 25.0 wt. percent based on rubbery copolymer of methyl hydroxy stearate.

3,269,973

THERMOSET RESINS FROM POLY(METHYLOL)-DIAROMATIC ETHER COMPOUNDS

James D. Doedens, Midland, and Earl H. Rosenbrock, Auburn, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 26, 1961, Ser. No. 112,771
8 Claims. (Cl. 260—37)

1. A thermoset composition of matter obtained by heating a composition comprising poly(methylol)diaromatic ether composition above its melting point in the presence of a small but effective amount of a dehydrating catalyst, said poly(methylol)diaromatic ether composition being characterized by the general formula:



wherein R is selected from the group consisting of alkyl, aryl, alkoxy and halogen radicals, the alkyls containing from 1 to 4 carbon atoms and the aryls containing from 6 to 10 carbon atoms, *m* is an integer from 0 to 2 and *n* is a number from about 1.3 up to and inclusive of 4.

3,269,974

POWDERED EPOXY RESIN COMPOSITIONS

William I. Childs, Portville, N.Y., assignor to Hysol Corporation, Olean, N.Y., a corporation of New York

No Drawing. Filed June 25, 1963, Ser. No. 290,304
6 Claims. (Cl. 260—37)

1. A resin composition for producing coatings which retain high physical strength at elevated temperatures, said composition being in the form of a free-flowing powder adapted for fluidized bed and dry spray application to heated objects to coat such objects, said powder having a particle size primarily within the range of 5 to 400 microns and comprising a mixture of Bisphenol A based epoxy resin, which is a reaction product of Bisphenol A and epichlorohydrin having more than 1 epoxy group per molecule, a molecular weight within the range of about 900 to 10,000 and a softening point within the range of about 60° to 140° C., and novolac based epoxy resin, having a molecular weight within the range of about 500 to 1500, a functionality of about 3 to 7, and a softening point within the range of about 30° to 120° C., in proportions by weight within the range of 1:1 to 20:1 and such as to provide, for a fused mixture thereof, a softening point above about 70° C., a hardener selected from the group consisting of ethylene glycol bis trimellitate anhydride, glycerol bis trimellitate anhydried, glycerol tris trimellitate anhydride, benzophenone dianhydride, and trimellitic anhydride in the proportion of about 0.5 to 1.25 equivalents of anhydride per epoxy equivalent of said resins and filler components in the proportion of 0 to 70% of said composition.

3,269,975

TETRACARBOXYLIC ACID HARDENERS FOR EPOXY RESINS AND POWDERED EPOXY RESIN COMPOSITIONS INCLUDING SUCH HARDENERS

Max M. Lee, Fort Wayne, Ind., assignor to Hysol Corporation, Olean, N.Y., a corporation of New York

No Drawing. Filed July 9, 1963, Ser. No. 293,901
10 Claims. (Cl. 260—37)

1. A resin composition for producing coatings of enhanced toughness and flexibility, said composition being in the form of a free flowing powder adapted for fluidized bed and dry spray application to heated objects to coat such objects, said powder having a particle size primarily within the range of 5 to 400 microns and comprising a mixture of particles of a fusible solid reaction product of epichlorohydrin with dihydric phenol having an epoxide equivalent greater than 1.0, and having a melting point within the range of about 65–130° C. and particles of a hardener in the proportions of about 0.1 to 0.35 part of hardener per part by weight of resin, said hardener consisting of the solid tetracarboxylic reaction product of two mols of trimellitic anhydride and one mol of a dihydric alcohol selected from the group consisting of diethylene to pentaethylene glycols, dipropylene to tripropylene glycols, and C_5 to C_8 alkane diols.

3,269,976

BRAKE LINING FROM GRAPHITE AND METAL PARTICLES IN A THERMOSETTING BINDER

Yoshitaka Ueda, 956 Takakura-cho-2-chome, Miyakojima-ku, Osaka, Japan

No Drawing. Filed Oct. 11, 1965, Ser. No. 494,962
Claims priority, application Japan, Oct. 31, 1960, 35/44,040
3 Claims. (Cl. 260—38)

1. A vehicle wheel brake shoe lining, the coefficient of friction of which remains practically unchanged at wheel speeds between 120 kilometers per hour and 260 kilometers per hour and remains essentially unimpaired with increase in temperatures up to 450° C., which consists essentially of a heat-and-pressure molded substantially uniform admixture of graphite granules with metal granules selected from the group consisting of copper, aluminum and lead and with, as binding agent, a thermoset synthetic resin selected from the group consisting of phenol-formaldehyde and melamine-formaldehyde resins, the said graphite granules being of a size within the range of 60 to 500 mesh and constituting 50 to 70% by weight of the mixture, the said metal granules being of a size within the range of 10 to 100 mesh and constituting 5 to 30% by weight of the mixture, and the resinous binding agent constituting 20 to 50% by weight of the mixture.

3,269,977

MOLDING COMPOSITION FROM A POLYESTER RESIN CONTAINING ANTHRACENE

Karlheinz Andres, Cologne-Flittard, and Günther Nischk, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Aug. 22, 1961, Ser. No. 133,035
Claims priority, application Germany, Sept. 3, 1960, F 32,044
10 Claims. (Cl. 260—40)

1. A storage-stable polymerizable mixture comprising (1) a polymerizable linear polyester resin, comprised of the reaction product of (a) an α,β-olefinically unsaturated dicarboxylic acid with (b) an aliphatic dihydric alcohol containing from 1 to 3 ether groups, and with (c) anthracene, the molar ratio between anthracene and α,β-unsaturated dicarboxylic acid being within 1:20 and 1:8, (2) a copolymerizable vinylidene monomer, (3) a metal oxide selected from the group consisting of magnesium oxide and beryllium oxide in an amount of from 0.3 to 10% by weight, based on the total amount of polymerizable linear polyester resin and vinylidene monomer, and (4) an organic peroxide polymerization catalyst.

3,269,978

DIENE POLYMERS CONTAINING BOTH TERMINAL EPOXY AND HYDROXY GROUPS

James N. Short and Robert P. Zelinski, both of Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed May 22, 1961, Ser. No. 111,491
20 Claims. (Cl. 260—41.5)

1. A process for producing polymers having both terminal epoxy and hydroxy groups which comprises reacting a polymer of a conjugated diene having from 4 to 12 carbon atoms per molecule, said polymer containing at least one terminal alkali metal atom per molecule with a compound selected from the group consisting of epoxy aldehydes, epoxy ketones, and epoxy esters, and replacing the lithium atoms in the resulting polymer with hydrogen atoms, said compound being present in an amount of from 1 to 40 gram mols of carbonyl group per gram atom alkali metal in said polymerizate.

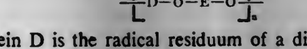
3,269,979

WEATHERING RESISTANT THERMOPLASTIC POLYHYDROXYETHER

Robert H. Snedeker, New Brunswick, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 4, 1962, Ser. No. 242,108
7 Claims. (Cl. 260—45.85)

1. Thermoplastic polyhydroxyether composition exhibiting improved resistance to yellowing by weathering and comprising thermoplastic polyhydroxyether having the general formula:



wherein D is the radical residuum of a dihydric phenol, E is an hydroxyl containing radical residuum of an epoxide, and *n* represents the degree of polymerization and is at least 30, and a small but effective amount, sufficient to retard yellowing by weathering, of the combination of a 2-hydroxy-4-alkoxybenzophenone and at least one member selected from the group consisting of calcium ethyl acetoacetate acetate, phenanthrene, dilauryl thiodipropionate, di-t-butyl-p-cresol, bis(2-hydroxy-3-t-butyl-5-ethylphenyl)methane, trialkyl phosphites and dialkyl monoaryl phosphites.

3,269,980

STABILIZATION OF POLYOLEFINS WITH SULFIDES AND TERPENE REACTION PRODUCTS OF TERPENES AND PHENOLS

Claus Heuck, Hofheim, Taunus, Otto Mauz, Frankfurt am Main, Jakob Winter, Hofheim, Taunus, and Felix Schülde, Neuenhain, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Aug. 2, 1960. Ser. No. 46,895
Claims priority, application Germany, Aug. 6, 1959, F 29,113
6 Claims. (Cl. 260—45.95)

1. A composition of matter comprising

(a) a member selected from the group consisting of a mixture of 60% of diisobornyl-o-cresol and 40% of o-mono-isobornyl-o-cresol, a mixture of 60% of diisobornyl-o-cresol and 40% of p - mono - isobornyl-o-cresol, o - isobornyl - 1,2,4 - xylenol, o-diisobornyl-1,2,4-xylenol, and 2,6-di-tertiary-butyl - p - cresol,

(b) a solid polymer prepared by reacting a member of the group consisting of ethylene, propylene, butylene, and mixtures thereof in the presence of a catalyst prepared from a mixture of an organo metallic compound and a compound of a heavy metal selected from the group of IVB to VIB of the Periodic Table, and

(c) orogano polysulfides having the formula

$$R—S_n—R$$

wherein R is a radical selected from the group consisting of alkyl radicals, arylalkyl radicals and aryl radicals, the radicals containing 4 to 25 carbon atoms, and *n* is a whole number from 2 to 4, said phenol and sulfide compounds being present in an amount of 0.001 to 5% by weight of the composition in a ratio of 5:1 to 1:5 parts by weight.

3,269,981

ORGANOTRICHLOROSILANE USAGE

John C. Goossens, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Dec. 20, 1963, Ser. No. 332,244
6 Claims. (Cl. 260—46.5)

1. A room temperature curing organopolysiloxane composition stable under anhydrous conditions and curable to the solid, elastic state upon exposure to moisture comprising a liquid silanol chain-stopped polydiorganosiloxane having the formula:

$$HO[(R')_2SiO]_nH$$

and a silane selected from the class consisting of an organotrichlorosilane having the formula:

$$RSiCl_3$$

and a mixture of said organotrichlorosilane and silicon tetrachloride, where R and R′ are members selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals and cyanoalkyl radicals and *n* has a value of at least 10, said silane being present in an amount sufficient to provide from 0.3 to 1.2 mole of said silane per mole of silicon-bonded hydroxyl groups in said polydiorganosiloxane and with said silane consisting of at least 50 percent by weight of said organotrichlorosilane based on the weight of said mixture of organotrichlorosilane and silicon tetrachloride.

3,269,982

ISOTHIOCYANATE USAGE

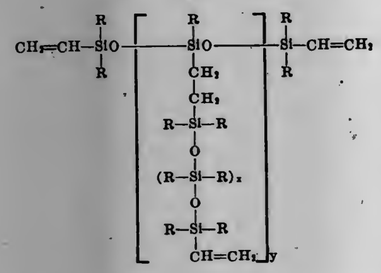
Robert N. Meals, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Dec. 20, 1963, Ser. No. 332,291
4 Claims. (Cl. 260—46.5)

1. A composition protected from moisture and curable upon exposure to atmospheric moisture to the solid, elastic state consisting essentially of a liquid silanol chain-stopped diorganopolysiloxane having a viscosity of from about 100 centipoise to 50,000 centipoise when measured at 25° C. and an organo tri-isothiocyanatosilane, the organo groups of both said diorganopolysiloxane and said silane being members selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals and cyanoalkyl radicals.

3,269,983
SOLVENTLESS SILICONE RESINS
George W. Holbrook, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Aug. 14, 1964, Ser. No. 389,769
13 Claims. (Cl. 260—46.5)

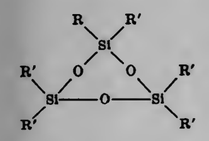
1. A silicone polymer of the general formula



wherein R is a monovalent organic radical selected from the group consisting of alkyl radicals, aryl radicals, cycloalkyl radicals and $R_fCH_2CH_2$— radicals where R_f is a perfluoroalkyl group having from 1 to 10 carbon atoms, x has an average value of at least 3 and y has an average value of at least 3.

3,269,984
POLYMERIZATION OF HEXAORGANOCYCLOTRISILOXANES
Howard A. Vaughn, Jr., Scotia, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Dec. 16, 1963, Ser. No. 330,570
6 Claims. (Cl. 260—46.5)

1. The process for preparing a high molecular weight polydiorganosiloxane which comprises forming a reaction mixture of (a) a cyclotrisiloxane having the formula:



where R is a lower alkyl radical and R' is a member selected from the class consisting of monovalent hydrocarbon radicals free of aliphatic unsaturation and halogenated monovalent hydrocarbon radicals free of aliphatic unsaturation, (b) iodine and (c) aqueous hydriodic acid, maintaining the components of said reaction mixture in contact with each other until said cyclotrisiloxane has been converted to a high molecular weight polydiorganosiloxane and recovering said high molecular weight polydiorganosiloxane.

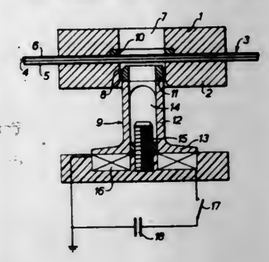
3,269,985
PREPARATION OF ORGANIC POLYCARBONATES FROM A BISCHLOROFORMATE AND WATER
Donald F. Loncrini, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Oct. 19, 1961, Ser. No. 146,343
6 Claims. (Cl. 260—47)

1. The process for preparing a linear polycarbonate resin which comprises reacting together, in the presence of a tertiary amine, and as the sole reactive ingredients, water and at least one compound selected from the group consisting of bishaloformates of dihydric alcohols and bishaloformates of dihydric phenols, in which compound the haloformate groups are the sole reactive groups.

3,269,986
LINEAR RESINOUS POLYCARBONATES OF DIHYDROXY POLYSULFONES
Eugene P. Goldberg, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Oct. 4, 1956, Ser. No. 613,817
3 Claims. (Cl. 260—49)

1. A high molecular weight, linear, resinous polycarbonate of (1) a dihydroxy polysulfone selected from the class consisting of bis-(4-hydroxyphenyl) biphenyl disulfone and p,p'-dihydroxytriphenyl disulfone, and (2) carbonic acid.

3,269,987
ELECTRIC SWITCH WITH FRANGIBLE AND EXPENDABLE ELECTRODES
Liviu Leonard Alston, Abingdon, and Patrick Joseph Rogers, Oxford, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Oct. 14, 1964, Ser. No. 403,891
Claims priority, application Great Britain, Oct. 17, 1963, 41,035/63; June 9, 1964, 23,794/64
5 Claims. (Cl. 200—61.08)



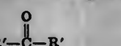
1. An electric switch comprising a layer of electrically-insulating material sandwiched between two expendable electrodes, two main electrodes between which the sandwich is held such that the two main electrodes contact the two expendable electrodes respectively, the electric supply to be switched being arranged to be connected across the main electrodes, a pair of aligned apertures in the main electrodes normal to the general plane of the sandwich, a plunger, and means operated when the switch is to be closed to force the plunger into the apertures such that the sandwich is pierced and deformed portions of the expendable electrode first pierced contact the other expendable electrode and complete the electric path between the main electrodes.

3,269,988
CHEMICAL PROCESS FOR POLYMERIZING TRIOXANE
George L. Braude, North Linthicum, Md., and Melvin C. Molstad, Moylan, Pa., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Filed Mar. 13, 1963, Ser. No. 264,916
5 Claims. (Cl. 260—67)

1. In the process for polymerizing molten trioxane in the presence of a Lewis acid trioxane polymerization catalyst to obtain a high molecular weight polyoxymethylene polymer the improvement which comprises: carrying the polymerization to from about 5 to about 50% conversion of said trioxane to polymer; substantially terminating the polymerization by the addition of a polymerization inhibitor composition comprising (1) a compound selected from the group consisting of

RNH_2 and R_2NH

wherein R is selected from the group consisting of alkyl and alkenyl having 1 to 18 carbon atoms, cycloalkyl having 4 to 6 carbon atoms, phenyl and alkylphenyl wherein the alkyl substituent possesses 1 to 12 carbon atoms and (2) a compound selected from the group comprising



and

R'OH

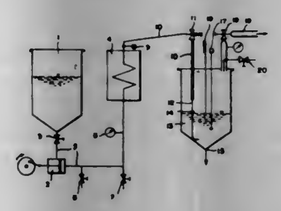
wherein R' represents lower alkyl; and recovering high-molecular-weight polyoxymethene polymer from the non-polymerized trioxane.

3,269,989
INTUMESCENT COATINGS BASED UPON POLYESTERS OF ALIPHATIC DIYNE-DIOLS
Eric T. Rayner, David A. Yeadon, Lucien L. Hopper, Jr., Harold P. Dupuy, and Frank G. Dollear, all of New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Mar. 14, 1962, Ser. No. 179,818
17 Claims. (Cl. 260—75)

1. A polyester prepared by refluxing, until the theoretical amount of water is produced, a mixture of substantially equimolar proportions of 2,4-hexadiyne-1,6-diol and a dibasic acid selected from the group consisting of oxalic, maleic, succinic, adipic, sebacic, and butynedioic acids.

17. A polyester prepared by refluxing, until the theoretical amount of water is produced, a mixture of substantially equimolar proportions of a conjugated diynediol in which the hydroxyl groups are primary and a dibasic acid selected from the group consisting of oxalic, maleic, succinic, adipic, sebacic, and butynedioic acids.

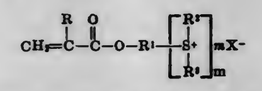
3,269,990
PROCESS FOR THE CONTINUOUS POLYCONDENSATION OF DICARBOXYLIC ACIDS AND DIAMINES OR THEIR SALTS
Fritz Wiloth, Klingenberg (Main), and Hans-Martin Koepp, Obernburg (Main), Germany, assignors to Vereinigte Glanzstoff-Fabriken AG., Wuppertal-Elberfeld, Germany
Filed Apr. 25, 1962, Ser. No. 197,810
Claims priority, application Germany, Apr. 26, 1961, V 20,564
4 Claims. (Cl. 260—78)



1. A process for the continuous production of polyamides by the polycondensation of a member selected from the group consisting of (a) a mixture of an aliphatic dicarboxylic acid having 4 to 12 carbon atoms and an aliphatic diamine having 4 to 10 carbon atoms and (b) a salt of an aliphatic dicarboxylic acid having 4 to 12 carbon atoms and an aliphatic diamine having 4 to 10 carbon atoms which comprises heating an aqueous solution of said member to a temperature within 10° C. of the boiling temperature of said solution under a vapor pressure of said solution in the range of 18 to 50 atmospheres gauge pressure, introducing said heated solution under maintenance of said temperature and pressure into a body of polyamide melt containing about 5–10% water beneath the surface thereof in the form of continuous, fine jet streams of said solution with velocities at the points of introduction thereof into said body of at least 40 cm. per second, said body of polyamide melt being maintained at a pressure of 18 atmospheres gauge and a temperature of 245–255° C., withdrawing from said body the water vapor formed through vaporization of the water of said solution in said body, and withdrawing from the lower portion of said body of polyamide melt a part of said melt containing about 5–10% water.

3,269,991
ETHYLENICALLY UNSATURATED SULFINES AND POLYMERS THEREOF
Edward M. La Combe, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Nov. 29, 1963, Ser. No. 327,063
21 Claims. (Cl. 260—79.7)

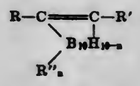
1. The alpha-ethylenically unsaturated sulfine of the formula:



wherein R is a member selected from the group consisting of hydrogen and methyl, R^1 is a saturated aliphatic hydrocarbon radical of from 1 to 4 carbon atoms, R^2 is alkyl of from 1 to 4 carbon atoms, R^3 is a member selected from the group consisting of methyl and carboxymethyl, X is a member selected from the group consisting of methylsulfate, bromine, iodine and chlorine, such that X is chlorine when R^3 is carboxymethyl, and m is an integer of from 1 to 2.

3,269,992
ORGANOBORON POLYMERS AND METHOD OF PREPARATION
Joseph Green and Nathan Mayes, Dover, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
No Drawing. Filed Nov. 29, 1960, Ser. No. 72,527
8 Claims. (Cl. 260—80)

1. A method for the preparation of organoboron polymers which comprises polymerizing while in admixture with a catalytic amount of a Lewis acid selected from the group consisting of aluminum trichloride, aluminum tribromide, boron trifluoride, boron trichloride, ferric chloride, ferric bromide, zinc chloride, stannic chloride, antimony pentachloride and titanium tetrachloride a compound of the class



wherein R and R' are each selected from the class consisting of hydrogen, alkyl radicals and alkenyl radicals, at least one of R and R' being an alkenyl radical and the total number of carbon atoms in R and R' being from 2 to 8, R'' is a lower alkyl radical and n varies from 0 to 4.

3,269,993
ANTIFOAMANTS OF ISOTACTIC ALKYL METHACRYLATE POLYMERS
Joseph E. Fields and Edward H. Mottus, Dayton, Ohio, assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Dec. 30, 1960, Ser. No. 79,499
7 Claims. (Cl. 260—86.1)

1. An isotactic alkyl polymethacrylate with antifoamant properties having an average in the range of 3

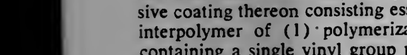
to about 14 carbon atoms in the alkyl group and a specific viscosity at 25° C. and 1% concentration in benzene in the range of 0.2 to 10.0.

3,269,994
SOLVENT-RESISTANT PRESSURE-SENSITIVE ADHESIVE COATING AND METHOD OF PRODUCING THE SAME

Milton B. Horn, Warren Township, Somerset County, and Vincent P. Capone, Seabright, N.J., assignors to Catalin Corporation of America, a corporation of Delaware

No Drawing. Filed Sept. 30, 1963, Ser. No. 312,317
8 Claims. (Cl. 260—86.1)

1. An article of manufacture comprising a flexible substrate and a normally tacky, pressure-sensitive adhesive coating thereon consisting essentially of heat-modified interpolymer of (1) polymerizable organic compounds containing a single vinyl group per molecule of which at least about 50% by weight comprises acrylic acid ester of non-tertiary aliphatic alcohols having a carbon-to-carbon chain length of from 4 to 20 carbon atoms and (2) a copolymerizable compound having the formula:



in which X is selected from the group consisting of hydrogen and methyl radical, and R is an alkyl radical having from 1 to 6 carbon atoms, the relative weight proportions of compounds (1) and (2) in said interpolymer being from about 70% to about 97% of compound (1) and correspondingly from about 30% to about 3% of compound (2), said compounds (1) and (2) and the proportions thereof being further selected to yield an interpolymer which is capable of developing the aforementioned attributes of pressure-sensitive adhesiveness in said coating upon simple heat treatment of the interpolymer alone in the absence of curing agents.

3,269,995
ISOTACTIC POLYMERS AND METHOD OF PRODUCING SAME

Kiyoshi Fujii, Kurashiki, Japan, assignor to Kurashiki Rayon Co., Ltd., Kurashiki-shi, Japan, a corporation of Japan

No Drawing. Continuation of application Ser. No. 118,498, June 21, 1961. This application July 8, 1964, Ser. No. 381,249
Claims priority, application Japan, May 27, 1961, 36/18,655
14 Claims. (Cl. 260—89.1)

1. Isotactic polyvinyl esters of lower alkyl carboxylic acids convertible by saponification to isotactic polyvinyl alcohol where said isotactic polyvinyl alcohol has a high resistance to boiling water, said isotactic polyvinyl alcohol being convertible to polyvinyl formate where said polyvinyl formate is insoluble in hot acetonitrile and dimethylformamide, and where said polyvinyl formate has an identity period of 6.55 A. as shown by its X-ray diagram.

2. Isotactic polyvinyl alcohol having a high resistance to boiling water, said isotactic polyvinyl alcohol being convertible to polyvinyl formate where said polyvinyl formate is insoluble in hot acetonitrile and dimethylformamide, and where said polyvinyl formate has an identity period of 6.55 A. as shown by its X-ray diagram.

3. A process of producing an isotactic polyvinyl ester of a lower alkyl carboxylic acid which comprises reacting a polyvinyl hydrocarbon ether having an isotactic structure with an anhydride of a lower alkyl monocarboxylic acid in the presence of a Lewis acid catalyst.

3,269,996
THREE-COMPONENT POLYMERIZATION CATALYSTS CONTAINING COORDINATION COMPLEXES

Arthur W. Langer, Jr., Watchung, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Sept. 18, 1962, Ser. No. 224,547
10 Claims. (Cl. 260—93.7)

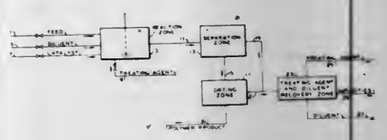
1. A three-component polymerization catalyst consisting essentially of:
(a) a first component selected from the group consisting of metals, metal hydrides, alkyl metal compounds and aryl metal compounds wherein the metal is selected from Groups I–III and the alkyl or aryl radicals contain 1–8 carbon atoms;
(b) a second component comprising a Group IV–VIII transition metal compound;
(c) a third component selected from the group consisting of aluminum halide coordination complexes of amines, amides, ethers, phosphates, thiophenes and phosphine oxides, the molar ratio of the first component to the second component being in the range of 0.1:1 to 10:1 and the molar ratio of the second component to the third component being in the range of 0.2:1 to 5:1.

6. In a process for polymerizing α-monoolefinic hydrocarbons containing from 2–8 carbon atoms to form solid crystalline polymers, the improvement which comprises catalyzing the polymerization with the catalyst system of claim 1.

3,269,997
PROCESS FOR PRODUCTION AND RECOVERY OF POLYMERS

Harold D. Lyons and Gene Nowlin, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Apr. 6, 1955, Ser. No. 499,650
6 Claims. (Cl. 260—94.9)



1. The process for the low pressure polymerization of an olefin in a hydrocarbon diluent containing a catalytic amount of a catalyst comprising an alkyl aluminum compound and a salt of a metal of subgroup IV of the periodic table, the improvement comprising removing the catalyst residues from the polyolefin by adding an alkaline compound to the suspension of the polyolefin in said hydrocarbon diluent, stirring the resulting mixture, and then separating the solid polyolefin from said mixture.

3,269,998
MODIFIED ROSINS AND PROCESS

Jacob C. Minor, Walter H. Schuller, and Ray V. Lawrence, Lake City, Fla., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Apr. 2, 1964, Ser. No. 356,989
9 Claims. (Cl. 260—99)

1. A process for modifying a rosin material selected from the group consisting of an unmodified rosin and a polyester of an unmodified rosin comprising the following steps:
(a) charging to a reaction vessel a physical mix containing about from 98 to 60 percent of said rosin material and about from 2 to 40 percent of photosensitized-oxidized pine gum, said percentages being weight percent of the total mix;
(b) blanketing the physical mix of step (a) with an inert gas;
(c) heating the thus-blanketed physical mix of step (b) above its melting point;
(d) maintaining a period of dwell of the molten product of step (c) for at least two hours and not more than about six hours under the blanket of inert gas with mechanical stirring until the maximum softening point has been obtained; and
(e) thereafter recovering the resulting modified product.

3,269,999
CORROSION INHIBITORS FROM AMINE RESIDUE

Howard V. Moore and Norman B. Godfrey, Austin, Tex., assignors to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed Feb. 27, 1962, Ser. No. 176,099
11 Claims. (Cl. 260—102)

1. A method for preparing a polyamine composition which comprises reacting an amine residue defined hereinbelow with an aliphatic hydrocarbyl carboxylic acid at a temperature in the range of 120° to 130° C. to form an amine residue-acid condensation product, said amine residue being obtained by reacting monoethanolamine with ammonia at a temperature in the range of 150° to 400° C. and a pressure of 30 to 400 atmospheres in the presence of hydrogen and a hydrogenation catalyst selected from the group consisting of the metals and oxides of copper, nickel and cobalt and chromium oxide to form a reaction product and subjecting said reaction product to distillation at about 150° C. under 50 mm. of mercury pressure absolute to remove the low-boiling products and recover a high-boiling amine composition as said amine residue.

3,270,000
PROTECTED AMINO ACID DERIVATIVES OF 7-AMINOCEPHALOSPORANIC ACID

Josef Fried and Eugene E. Galantay, Princeton, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 29, 1962, Ser. No. 233,880
9 Claims. (Cl. 260—112.5)

5. A salt of 7-(benzyloxycarbonylglycylamino)cephalosporanic acid with a non-toxic base.

8. A salt of 7-(benzyloxycarbonyltriglycylamino)cephalosporanic acid with a non-toxic base.

3,270,001
PROCESS OF TREATING LIGNIN-CONTAINING AQUEOUS LIQUOR

Tatsuo Morimoto, Befu-cho, Kakogawa, Japan, assignor to Taki Fertilizer Manufacturing Co., Ltd.

No Drawing. Filed July 22, 1963, Ser. No. 296,501
8 Claims. (Cl. 260—124)

1. A method for separating lignin from a lignin-containing aqueous solution resulting, as waste liquor, from the manufacture of pulp by the sulphite process, alkali process or semi-chemical process, which comprises adding to the solution a basic salt of the formula:

$$M_n(OH)_mX_{3n-m} \quad (I)$$

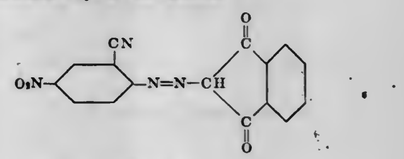
wherein M is a metal selected from Al and trivalent Fe, n is a number of from 1 to 20 inclusive, X is a monovalent anion selected from the group consisting of Cl, Br, I, NO_3 and CH_3COO, $3n>m$ and the chemical equivalent ratio M/X is from 1.5 to 200, thereby converting water-soluble lignin material in said aqueous solution into water-insoluble precipitate, and recovering the latter.

3,270,002
MONOAZO INDANDIONE CONTAINING DYESTUFFS

Ernest Merian, Bottmingen, Basel-Land, and Otto Senn, Arlesheim, Basel-Land, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz AG.), Basel, Switzerland

No Drawing. Filed Aug. 3, 1962, Ser. No. 214,524
Claims priority, application Switzerland, June 22, 1959, 75,044; Nov. 18, 1959, 80,755
1 Claim. (Cl. 260—193)

The indandione dye of the formula



3,270,003
IRON COMPLEXED SULFONATED POLYFLAVONOIDS AND THEIR PREPARATION

Lloyd Eugene Van Blaricom and Frederic Alan Johnston, Shelton, Wash., assignors to Rayonier Incorporated, Shelton, Wash., a corporation of Delaware

Filed Aug. 7, 1964, Ser. No. 388,038
2 Claims. (Cl. 260—236.5)

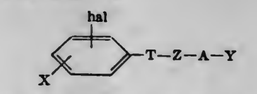
1. The ferrous complexed water-soluble sulfonated polyflavonoid product produced by digesting a coniferous bark or quebracho in an aqueous solution of sodium sulfite or potassium sulfite or sodium bisulfite or potassium bisulfite in an amount sufficient to supply from 0.03 to 0.2 part of SO_2 per part of bone dry bark or quebracho, said digestion being at a temperature of from 105° to 200° C. for from 15 to 240 minutes to form a soluble sulfonated polyflavonoid, and reacting the sulfonated polyflavonoid in an aqueous solution with sufficient ferrous sulfate to supply from 2.0 to 14% of iron based on the total weight of sulfonated polyflavonoid forming the ferrous complexed polyflavonoid product.

3,270,004
DISUBSTITUTED PIPERAZINES USEFUL AS SCHISTOSOMIASIS AGENTS

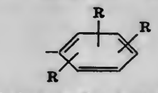
Arthur Alter, Waukegan, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Filed Dec. 26, 1962, Ser. No. 247,352
17 Claims. (Cl. 260—239)

1. A compound selected from the group consisting of a compound of the formula



and non-toxic, acid-addition salts thereof wherein X is lower alkyl, T is selected from the group consisting of piperazine, methylpiperazine, homopiperazine and methylhomopiperazine, Z is selected from the group consisting of straight and branched alkenylene of from 1 to 12 carbon atoms and alkenylene radicals of from 2 to 12 carbon atoms, A is selected from the group consisting of oxygen and sulfur, and Y is selected from the group consisting of naphthyl, halonaphthyl and



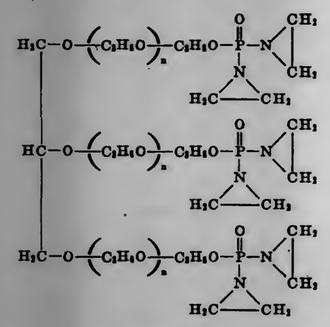
wherein each R is independently selected from the group consisting of hydrogen, halogen, nitro, amino, loweralkylamino, diloweralkylamino, alkyl of from 1 to 12 carbon atoms, loweralkoxy, alkenyl of from 2 to 12 carbon atoms, cyclohexyl and benzyl.

3,270,005
PHOSPHINIC ACID DERIVATIVES

Arthur P. Ingram, Jr., Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

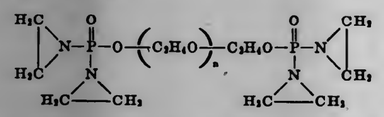
No Drawing. Filed July 15, 1963, Ser. No. 295,198
2 Claims. (Cl. 260—239)

1. A compound of the formula



wherein each *n* is an integer from 1 to about 150.

2. The compound



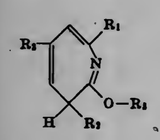
wherein *n* is a number such that the molecular weight of $HO(C_2H_4O)_nC_2H_4OH$ is approximately 20,000.

3,270,006
CERTAIN 3H-AZEPINE COMPOUNDS AND THEIR PREPARATION

Leo A. Paquette, Portage Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Inc., Kalamazoo, Mich., a corporation of Delaware

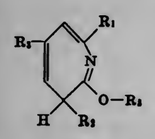
No Drawing. Original application Aug. 30, 1963, Ser. No. 305,850, now Patent No. 3,213,098, dated Oct. 19, 1965. Divided and this application June 21, 1965, Ser. No. 479,026
6 Claims. (Cl. 260—239)

1. A compound of the formula:

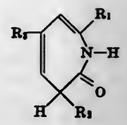


wherein R_1, R_2, and R_5 are alkyl of 1 to 4 carbon atoms, inclusive, and wherein R_3 is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, inclusive.

3. A process for producing a 3H-azepine of the formula:

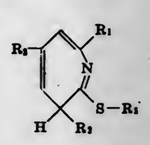


wherein R_1, R_2, and R_5 are alkyl of 1 to 4 carbon atoms, inclusive, and wherein R_3 is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, inclusive, which comprises the steps, (1) mixing a compound of the formula:



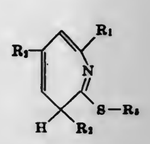
wherein R_1, R_2, and R_3 are as given above, with a trialkyloxonium fluoroborate wherein the alkyls each contain 1 to 4 carbon atoms, inclusive, and (2) mixing the reaction mixture from step (1) with a base, to form said 3H-azepine.

4. A compound of the formula:

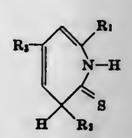


wherein R_1, R_2, and R_5 are alkyl of 1 to 4 carbon atoms, inclusive, and wherein R_3 is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, inclusive.

6. A process for producing a 3H-azepine of the formula:



wherein R_1, R_2, and R_5 are alkyl of 1 to 4 carbon atoms, inclusive, and wherein R_3 is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, inclusive, which comprises the steps, (1) mixing a compound of the formula:



wherein R_1, R_2, and R_3 are as given above, with a trialkyloxonium fluoroborate wherein the alkyls each contain 1 to 4 carbon atoms, inclusive, and (2) mixing the reaction mixture from step (1) with a base, to form said 3H-azepine.

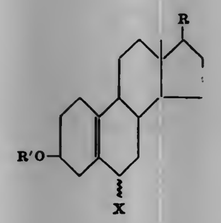
3,270,007
PROCESS FOR CYCLOPENTANOPHENANTHRENE COMPOUNDS

Francisco Alvarez, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Aug. 31, 1964, Ser. No. 393,392
Claims priority, application Mexico, Oct. 29, 1963, 74,437
6 Claims. (Cl. 260—239.55)

1. In the process for preparing a compound selected from the group consisting of 17α-ethinyl-$\Delta^{5(10)}$-19-nor-androsten-17β-ol-3-one and 17α-ethinyl-19-nor-testosterone, the step which comprises the elimination of the

substituent at C–6 in a compound of the following formula:



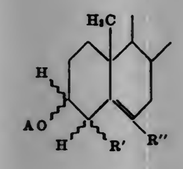
wherein R is selected from the group consisting of keto and ethylenedioxy; R^1 is selected from the group consisting of hydrogen and an acyl group of less than 12 carbon atoms and X is selected from the group consisting of chlorine, bromine and an acyloxy group of less than 12 carbon atoms, by hydrogenolysis.

3,270,008
NOVEL PROCESS FOR 3-OXO-$\Delta^{4,6}$ STEROIDS

Hugh L. Dryden, Jr., Chicago, and Max J. Kalm, Wilmette, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Sept. 30, 1964, Ser. No. 400,560
Claims priority, application Great Britain, Oct. 1, 1963, 38,682/63
20 Claims. (Cl. 260—239.55)

1. In a process for preparing 3-oxo-$\Delta^{4,6}$ steroids, the step which comprises contacting a 3-oxy-Δ^5 steroid of the formula in rings A and B



with at least about 4 gram-atoms of bromine per mole of the 3-oxy steroid and a hydrogen bromide acceptor selected from the group consisting of magnesium oxide, alkali and alkaline earth carbonates, pyridine, and quinoline in the presence of an inert, solvent medium, A in the formula being selected from the group consisting of hydrogen and the radicals, alkanoyl and alkyl, and R′ and R″ each being selected from the group consisting of hydrogen and the methyl radical.

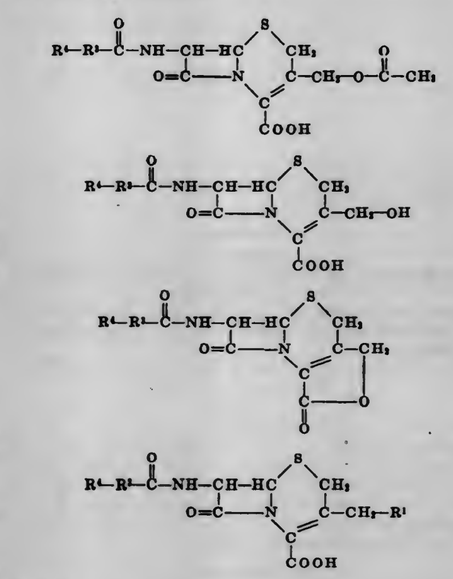
15. In a process for preparing 22β-spirosta-4,6-dien-3-one, the step which comprises heating 22β-spirost-5-en-3β-ol with at least 4 gram-atoms of bromine per mole of the 3-hydroxy steroid in the presence of a hydrogen bromide acceptor selected from the group consisting of magnesium oxide, lithium carbonate, and calcium carbonate; an inorganic bromide salt; and an inert solvent selected from the group consisting of N,N-dimethylformamide, N,N-dimethylacetamide, N,N-diethylacetamide, N-methyl-2-pyrrolidone, N-formylpiperidine, and mixtures thereof optionally including dioxane.

3,270,009
CARBOCYCLIC-SUBSTITUTED ALIPHATIC CEPHALOSPORINS

Edwin H. Flynn, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Aug. 23, 1961, Ser. No. 133,308
7 Claims. (Cl. 260—243)

1. An antibiotic substance of the class represented by the following formulas:



wherein

R^1 is a member of the class consisting of N-pyridyl and N-pyridyl having at least one substituent, said substituent being selected from the class consisting of carboxy, carbamyl, amino, methyl, hydroxymethyl, and hydroxy;

R^3 is a member of the class consisting of C_1–C_4 alkylene, C_2–C_4 alkenylene, and C_2–C_4 alkynylene;

when R^3 is C_1–C_4 alkylene, R^4 is a member of the class consisting of naphthyl, C_4–C_8 cycloalkyl, and adamantyl, and the substitution products thereof having at least one substituent, said substituent being a member of the class consisting of halogen, nitro, trifluoromethyl, C_1–C_4 alkyl, and C_1–C_2 alkoxy;

when R^3 is a member of the groups consisting of C_2–C_4 alkenylene and C_2–C_4 alkynylene, R^4 is a member of the class consisting of benzyl, naphthyl, C_4–C_8 cycloalkyl, and adamantyl, and the substitution products thereof having at least one substituent, said substituent being a member of the class consisting of halogen, nitro, trifluoromethyl, C_1–C_4 alkyl, and C_1–C_2 alkoxy; and

the salts thereof with pharmaceutically acceptable cations and anions.

3,270,010
4(3-DIMETHYLAMINOPROPYL)-2-PHENYL-2H-1,4-BENZOTHIAZIN-3(4H)-ONE

Herman E. Faith, Indianapolis, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 19, 1963, Ser. No. 310,143
4 Claims. (Cl. 260—243)

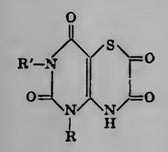
1. A salt of 4(3 - dimethylaminopropyl) - 2-phenyl-2H-1,4-benzothiazin-3(4H)-one and an equimolar proportion of a dicarboxylic acid selected from the group consisting of oxalic acid, maleic acid and succinic acid.

3,270,011
5,7-DISUBSTITUTED-2,3,6,8-TETRAKETO-PYRIMIDO[5,4-b]1,4-THIAZINES

Elmer F. Schroeder, Chicago, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Oct. 5, 1964, Ser. No. 401,705
6 Claims. (Cl. 260—243)

1. A compound of the formula



wherein R is a member of the class consisting of lower alkyl, lower alkenyl, and p-chlorophenyl radicals, and R' is a lower alkyl radical.

3,270,012
METHOD FOR PREPARING CEPHALOSPORIN C_A ANTIBIOTICS

Harvey M. Higgins, Jr., Danville, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Mar. 5, 1965, Ser. No. 437,552
3 Claims. (Cl. 260—243)

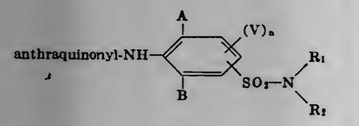
1. In a method for preparing a 7-acylamido-3-pyridino-methyl-3-cephem-4-carboxylic acid, which method comprises reacting a 7-α-acylamidocephalosporanic acid with a pyridine in an aqueous medium, the improvement which comprises carrying out said reaction in the presence of an at least equimolar proportion, based on said 7-acylamidocephalosporanic acid, of ions of the class consisting of thiocyanate and iodide.

3,270,013
1-PHENYLAMINO-ANTHRAQUINONE COMPOUNDS

Peter Hindermann, Bottmingen, Basel-Land, and Hans Peter Kolliker, Munchenstein, Basel-Land, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Division of application Ser. No. 164,414, Jan. 4, 1962. Continuation of application Ser. No. 446,457, Mar. 12, 1965. This application Oct. 18, 1965, Ser. No. 497,495
Claims priority, application Switzerland, Jan. 5, 1961, 93/61, 94/61
6 Claims. (Cl. 260—247.1)

1. An anthraquinone dyestuff of the formula



wherein

A is a member selected from the group consisting of lower alkyl and lower alkoxy,

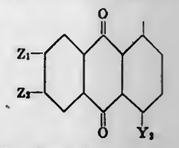
B is a member selected from the group consisting of halogen, lower alkyl and lower alkoxy,

each of R_1 and R_2, taken independently of each other, is a member selected from the group consisting of hydrogen, lower alkyl, lower hydroxyalkyl, and lower alkoxyalkyl,

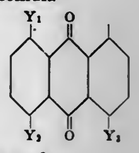
R_1 and R_2, taken together with the nitrogen atom to which both are bonded, is a member selected from the group consisting of piperidino and morpholino,

V is a member selected from the group consisting of lower alkyl and lower alkoxy,

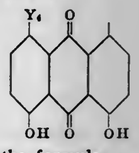
n is an integer from 0 to 2, inclusive, and anthraquinonyl- is a member selected from the group consisting of a radical of the formula



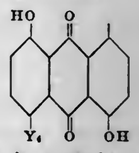
a radical of the formula



a radical of the formula



and a radical of the formula

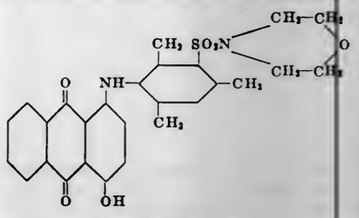


each of Y_1 and Y_2 is a member selected from the group consisting of hydrogen and hydroxy, and one of Z_1 and Z_2 is halogen and the other is a member selected from the group consisting of hydrogen and halogen;

Y_3 is a member selected from the group consisting of hydroxy, amino and monomethylamino, and

Y_4 is a member selected from the group consisting of amino, monomethylamino and nitro.

4. The anthraquinone dyestuff of the formula

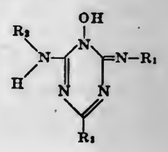


3,270,014
1,2-DIHYDRO-1-HYDROXY-1,3,5-TRIAZINES

Joseph J. Ursprung and Gerald R. Zins, Portage, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

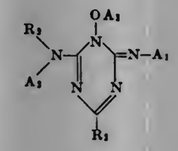
No Drawing. Filed July 1, 1965, Ser. No. 468,940
31 Claims. (Cl. 260—247.5)

1. A compound selected from the group consisting of the free base form and acid addition salts of a compound of the formula:



wherein R_1 and R_2 are selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, inclusive, and wherein R_3 is selected from the group consisting of di-lower-alkylamino and the hetertocyclic moieties, aziridinyl, azetidinyl, pyrrolidinyl, piperidino, hexahydroazepinyl, heptamethylenimino, octamethylenimino, and morpholino, each of said heterocyclic moieties having attached as substituents on carbon atoms thereof zero to 3 alkyls, inclusive, each substituent alkyl being of 1 to 8 carbon atoms, inclusive, the nitrogen atom of R_3 being the point of attachment of R_2 to the ring in said formula.

25. A compound of the formula:



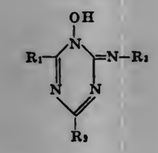
wherein R_2 is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, inclusive, wherein R_3 is selected from the group consisting of di-lower-alkylamino and the heterocyclic moieties, aziridinyl, azetidinyl, pyrrolidinyl, piperidino, hexahydroazepinyl, heptamethylenimino, octamethylenimino, and morpholino, each of said heterocyclic moieties having attached as substituents on carbon atoms thereof zero to 3 alkyls, inclusive, each substituent alkyl being of 1 to 8 carbon atoms, inclusive, the nitrogen atom of R_3 being the point of attachment of R_3 to the ring in said formula, wherein A_1 is selected from the group consisting of hydrogen, alkyl of 1 to 4 carbon atoms, inclusive, and carboxyacyl, and wherein A_2 and A_3 are each selected from the group consisting of hydrogen and carboxyacyl, with the proviso that at least one of A_1 and A_2 is carboxyacyl.

3,270,015
1,2-DIHYDRO-1-HYDROXY-1,3,5-TRIAZINES

Joseph J. Ursprung, Portage, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

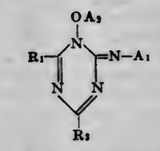
No Drawing. Filed July 1, 1965, Ser. No. 468,945
29 Claims. (Cl. 260—247.5)

1. A compound selected from the group consisting of the free base form and acid addition salts of a compound of the formula:



wherein R_1 is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, lower alkoxyalkyl, lower cycloalkyl, lower aryl, lower alkaryl, lower aralkyl, lower alkaralkyl, lower alkoxyaralkyl, and lower haloaralkyl; wherein R_2 is selected from the group consisting of di-lower-alkylamino, di-lower-alkenylamino, N-lower-alkyl-lower-alkenylamino, and the heterocyclic moieties, aziridinyl, azetidinyl, pyrrolidinyl, piperidino, hexahydroazepinyl, heptamethylenimino, octamethylenimino, and morpholino, each of said heterocyclic moieties having attached as substituents on carbon atoms thereof zero to 3 lower alkyls, inclusive, the nitrogen atom of R_2 being the point of attachment of R_2 to the ring in said formula; and wherein R_3 is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, lower cycloalkyl, lower aryl, and lower aralkyl.

27. A compound of the formula:



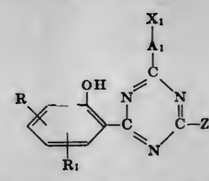
wherein R_1 is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, lower alkoxyalkyl, lower cycloalkyl, lower aryl, lower alkaryl, lower aralkyl, lower alkaralkyl, lower alkoxyaralkyl, and lower haloaralkyl; wherein R_2 is selected from the group consisting of di-lower-alkylamino, di-lower-alkenylamino, N-lower-alkyl-lower-alkenylamino, and the heterocyclic moieties, aziridinyl, azetidinyl, pyrrolidinyl, piperidino, hexahydroazepinyl, heptamethylenimino, octamethylenimino, and morpholino, each of said heterocyclic moieties having attached as substituents on carbon atoms thereof zero to 3 lower alkyls, inclusive, the nitrogen atom of R_2 being the point of attachment of R_2 to the ring in said formula; wherein A_1 is carboxyacyl, and wherein A_2 is selected from the group consisting of hydrogen and carboxyacyl.

3,270,016
ARYL-1,3,5-TRIAZINES

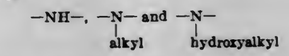
Max Duennenberger, Frenkendorf, Basel-Land, Hans Rudolf Biland, Basel, and Christian Luethi, Munchenstein, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed Jan. 17, 1964, Ser. No. 340,117
Claims priority, application Switzerland, Jan. 25, 1963, 932/63
3 Claims. (Cl. 260—248)

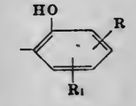
2. An aryl-1:3:5-triazine of the formula



where A_1 stands for a member selected from the group consisting of



X_1 is selected from the group consisting of (1) alkyl, (2) hydroxyalkyl, (3) a benzene radical bound through a cyclic carbon atom to A_1 and (H) if A_1=—NH—, a hydrogen atom, R represents a member selected from the group consisting of hydrogen, hydroxyl and etherified hydroxyl having from 1 to 8 carbon atoms, R_1 stands for a member selected from the group consisting of hydrogen and lower alkyl, and Z_1 is selected from the group consisting of chlorine and a hydroxybenzene radical of the formula



where R and R_1 have the above meanings.

3,270,017
METHOD FOR PRODUCING STABLE SALTS OF DICHLOROISOCYANURIC ACID

Stephen J. Kovalsky, Scotch Plains, and Raymond A. Olson, Westfield, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 17, 1964, Ser. No. 375,934
11 Claims. (Cl. 260—248)

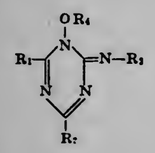
1. In the process of producing a salt of dichloroisocyanuric acid selected from the group consisting of sodium dichloroisocyanurate and potassium dichloroisocyanurate wherein dichloroisocyanuric acid and an alkali metal hydroxide selected from the group consisting of sodium hydroxide and potassium hydroxide are reacted together as a slurry in an aqueous medium maintained at a pH of from about 6 to about 7 and at a temperature of from about 5 to about 65° C. to produce a dichloroisocyanuric acid salt product, the reaction mixture is separated into a substantially solid product stream and a substantially liquid effluent stream, said liquid effluent stream is recycled for use as an aqueous reaction medium in the make-up of additional slurries of said dichloroisocyanuric acid and an alkali metal hydroxide, and said solid product stream is dried to obtain said dichloroisocyanuric acid salt product in a substantially anhydrous state, the improvement which comprises chlorinating said aqueous reaction medium with an equivalent amount of chlorine required to bring the pH of said aqueous reaction medium down to a value of 4 in the absence of any added reactants, whereby said aqueous reaction medium is freed of impurities which affect the thermal stability of the dichloroisocyanuric acid salt crystals produced therein, and recovering from said reaction mixture a dichloroisocyanuric acid salt product having a high thermal stability.

3,270,018
1,3,5-TRIAZINE ETHERS

Joseph J. Ursprung, Portage, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Feb. 13, 1964, Ser. No. 344,547
4 Claims. (Cl. 260—249.9)

1. A compound selected from the group consisting of the free base form and acid addition salts of a compound of the formula:



wherein R_1 is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, lower alkoxyalkyl, lower cycloalkyl, lower aryl, lower alkaryl, lower aralkyl, lower alkaralkyl, lower alkoxyaralkyl, and lower haloaralkyl; wherein R_2 is selected from the group consisting of di-lower-alkylamino, di-lower-alkenylamino, N-lower-alkyl-lower-alkenylamino, and the heterocyclic moieties, aziridinyl, azetidinyl, pyrrolidinyl, piperidino, hexahydroazepinyl, heptamethylenimino, octamethylenimino, and morpholino, each of said heterocyclic moieties having attached as substitutents on carbon atoms thereof zero to 3 lower alkyls, inclusive, the nitrogen atom of R_2 being the point of attachment of R_2 to the ring in said formula; wherein R_3 is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, lower cycloalkyl, lower aryl, and lower aralkyl; and wherein R_4 is selected from the group consisting of lower alkyl, lower alkenyl, lower lakynyl, lower cycloalkyl, lower aralkyl, lower alkaralkyl, lower alkoxyaralkyl, and lower haloaralkyl.

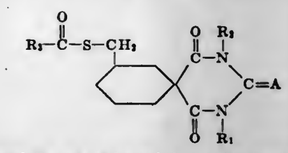
3,270,019
THIAALKYL-SUBSTITUTED SPIRO (CYCLOHEXANE-1',5-BARBITURATES)

William S. Friedlander, Hudson, Wis., and John R. Mattson, Maplewood, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

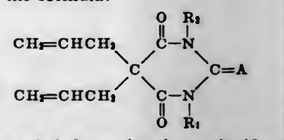
No Drawing. Filed Dec. 5, 1960, Ser. No. 73,540
3 Claims. (Cl. 260—257)

1. Spiro[3' - acetylymercaptomethyl - cyclohexane-1',5-(barbituric acid)].

3. In a process for preparing a compound of the formula:



where R_1 and R_2 are selected from the group consisting of hydrogen, lower alkyl and lower alkenyl, R_3 is lower alkyl and A is a member of the group consisting of oxygen and sulfur, the step of reacting, in the presence of a radical initiator in an inert liquid hydrocarbon diluent, a compound of the formula:



where R_1, R_2 and A have the above significance with a compound of the formula:



where R_3 has the above significance.

3,270,020
1-CYANOETHYL 9,10 DIHYDRO ERGOCORNINE

Albert Hofmann and Franz Troxler, both of Bottmingen, Basel-Land, Switzerland, assignors, by mesne assignments, to Fidelity Union Trust Company, executive trustee

No Drawing. Original application Nov. 5, 1962, Ser. No. 235,559, now Patent No. 3,190,884, dated June 22, 1965. Divided and this application Nov. 19, 1964, Ser. No. 412,313
2 Claims. (Cl. 260—285.5)

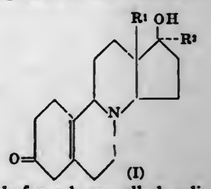
1. 1-cyanoethyl-9,10-dihydro-ergocornine.

3,270,021
(±)-8-AZAOESTR- AND -8-AZAGONA-5-(10)-en-17β-ol-3-ONE AND ACID ADDITION SALTS THEREOF

Richard Clarkson, Macclesfield, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Apr. 21, 1964, Ser. No. 361,554
Claims priority, application Great Britain, May 10, 1963, 18,624/63
5 Claims. (Cl. 260—286)

1. A heterocyclic compound selected from the group consisting of compounds of the formula:



(I)

wherein R^1 stands for a lower alkyl radical selected from the group consisting of methyl, ethyl and n-propyl and R^2 stands for a member of the group consisting of hydrogen and lower alkyl; $N<Z$ is selected from the group consisting of X-pyrrolidino, X-piperidino, X-hexamethyleneimino, X-morpholino, X-thiomorpholino, X-octamethyleneimino, wherein X is selected from the group consisting of hydrogen, lower alkyl, hydroxy and acetyl; and R_3 and R_4 are selected from the group consisting of hydrogen, lower alkyl, amino, mono- and di-lower alkylamino, mono- and di-(lower alkyl) amino-lower alkyl, and amino-lower alkyl; and the nontoxic acid addition salts and quaternary ammonium salts thereof.

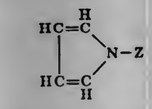
5. An acid addition salt according to claim 1 wherein the acid is selected from the group consisting of hydrochloric acid and oxalic acid.

3,270,022
QUATERNARY AMMONIUM SALTS OF PYRROLE

Reginald L. Wakeman, Philadelphia, Pa., Edward Griffin Shay, Belle Mead, N.J., and Samuel Steinberger, Brooklyn, N.Y., assignors, by mesne assignments, to Millmaster Onyx Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed June 29, 1964, Ser. No. 379,034
4 Claims. (Cl. 260—286)

1. A quaternary ammonium compound having the structure:



wherein Z is the cation derived from a quaternary ammonium compound of phenol coefficient of at least 100 with respect to both *Staphylococcus aureus* and *Salmonella typhosa* at 20° C. and having at least one alkyl of from 8 to 22 carbon atoms on the quaternary nitrogen.

4. Alkyl isoquinolinium salt of pyrrole.

3,270,023
QUATERNARY AMMONIUM SALTS OF INDOLE DERIVED ACIDS

Edward Griffin Shay, Belle Mead, N.J., and Reginald L. Wakeman, Philadelphia, Pa., assignors to Millmaster Onyx Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 12, 1965, Ser. No. 479,274
18 Claims. (Cl. 260—286)

1. The quaternary ammonium salt of an indole derived acid selected from the group of isatic acid, isatoic acid, the 5- and 7-chloro isatic and isatoic acids and the 5-nitroisatic and isatoic acids, the quaternary cation thereof being derived from a quaternary ammonium compound having a phenol coefficient of at least 100 with respect to both *Staphylococcus aureus* and *Salmonella typhosa* at 20° C. and having an alkyl of from 8 to 22 carbon atoms.

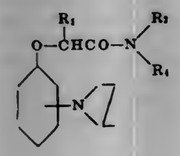
9. Lauryl isoquinolinium 5-chloroisatate.

3,270,024
HETEROCYCLIC AMINO PHENOXYACETIC ACID AMIDES, ACID ADDITION SALTS, AND QUATERNARY AMMONIUM SALTS THEREOF

Seymour L. Shapiro, deceased, late of Hastings on Hudson, N.Y., by Florence M. Shapiro, executrix, Hastings on Hudson, N.Y., and Louis Freedman, Bronxville, and Harold Soloway, New Rochelle, N.Y., assignors to U. S. Vitamin & Pharmaceutical Corporation, New York, N.Y., a corporation of New York

No Drawing. Original application Feb. 18, 1963, Ser. No. 259,460, now Patent No. 3,218,328, dated Nov. 16, 1965. Divided and this application July 23, 1965, Ser. No. 489,774
4 Claims. (Cl. 260—294)

1. A compound selected from the group consisting of those having the formula



wherein R_1 is selected from the group consisting of hydrogen and lower alkyl; $N<Z$ is selected from the group consisting of X-pyrrolidino, X-piperidino, X-hexamethyleneimino, X-morpholino, X-thiomorpholino, X-octamethyleneimino, wherein X is selected from the group consisting of hydrogen, lower alkyl, hydroxy and acetyl; and R_2 is selected from the group consisting of lower alkyl, cycloalkyl having from five to seven carbon atoms and alkylamino of the formula



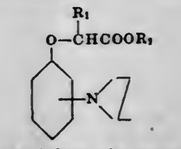
wherein R_3 and R_4 are selected from the group consisting of hydrogen, lower alkyl, mono- and di-(lower alkyl) amino-lower alkyl and amino-lower alkyl; and the nontoxic acid addition salts and quaternary ammonium salts thereof.

3,270,025
HETEROCYCLIC AMINO PHENOXYACETIC ESTERS; ACID ADDITION SALTS, AND QUATERNARY AMMONIUM SALTS THEREOF

Seymour L. Shapiro, deceased, late of Hastings on Hudson, N.Y., by Florence M. Shapiro, executrix, Hastings on Hudson, N.Y., and Louis Freedman, Bronxville, and Harold Soloway, New Rochelle, N.Y., assignors to U. S. Vitamin & Pharmaceutical Corporation, New York, N.Y., a corporation of New York

No Drawing. Original application Feb. 18, 1963, Ser. No. 259,460, now Patent No. 3,218,328, dated Nov. 16, 1965. Divided and this application July 23, 1965, Ser. No. 489,773
4 Claims. (Cl. 260—294.3)

1. A compound selected from the group consisting of those having the formula



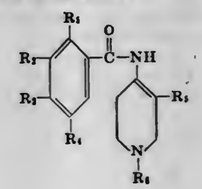
wherein R_1 is selected from the group consisting of hydrogen and lower alkyl; $N<Z$ is selected from the group consisting of X-pyrrolidino, X-piperidino, X-hexamethyleneimino, X-morpholino, X-thiomorpholino, X-octamethyleneimino, wherein X is selected from the group consisting of hydrogen, lower alkyl, hydroxy and acetyl; and R_2 and R_4 are selected from the group consisting of hydrogen, lower alkyl, mono- and di-(lower alkyl) amino-lower alkyl and amino-lower alkyl; and the non-toxic acid addition salts and quaternary ammonium salts thereof.

3,270,026
SUBSTITUTED BENZAMIDOTETRAHYDROPYRIDINES AND PROCESSES

Leo Berger and John Lee, Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed July 3, 1963, Ser. No. 292,749
10 Claims. (Cl. 260—295)

1. A compound selected from the group consisting of (a) a compound of the formula



wherein:

R_1, R_2 and R_4 are each independently selected from the group consisting of hydrogen, halogen, lower alkyl, lower alkoxy, trifluoromethyl and nitro;

R_3 is selected from the group consisting of hydrogen, halogen, lower alkyl, lower alkoxy, trifluoromethyl, nitro, lower alkylamino and phenyl lower alkylamino;

R_5 is selected from the group consisting of lower alkyl and benzyl and

R_6 is selected from the group consisting of lower alkyl, phenyl lower alkyl and cyclohexyl

and (b) an acid addition salt thereof with a pharmaceutically acceptable acid.

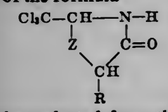
3,270,027

2-TRICHLOROMETHYL-4-THIAZOLIDONES

Alexander R. Surrey, Albany, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 15, 1963, Ser. No. 316,470
4 Claims. (Cl. 260—301)

1. A compound of the formula



where R is a member selected from the group consisting of hydrogen and lower-alkyl, and Z is a member selected from the group consisting of —S—, >SO and $>SO_2$.

3,270,028

CERTAIN 3-ARYL-1,2,4-OXADIAZOLES

Giuseppe Palazzo, Rome, Italy, assignor to Aziende Chimiche Riunite Angelini Francesco

No Drawing. Filed Jan. 2, 1964, Ser. No. 335,369
Claims priority, application Italy, May 8, 1963, 9,649/63
2 Claims. (Cl. 260—307)

1. 3 - para - aminophenyl - 5 - hydroxymethyl - 1,2,4-oxadiazole.

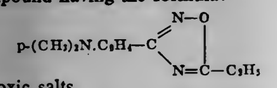
3,270,029

CERTAIN 3 - PHENYL - 5 - ALKYL-1,2,4-OXADIAZOLES, SUBSTITUTED IN THE PHENYL RING

Giuseppe Palazzo, Rome, Italy, assignor to Aziende Chimiche Riunite Angelini Francesco, Rome, Italy

No Drawing. Filed Jan. 2, 1964, Ser. No. 335,402
Claims priority, application Italy, Jan. 7, 1963, 193/63
15 Claims. (Cl. 260—307)

1. A compound having the formula:



or its non-toxic salts.

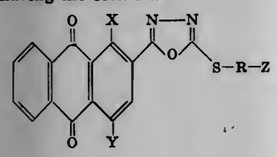
3,270,030

CERTAIN ALKYLTHIOOXADIAZOLYL-ANTHRAQUINONE DYES

Hans Weidinger, Limburgerhof, Pfalz, and Heinz Eilingsfeld and Leander Moebius, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed July 13, 1965, Ser. No. 471,705
Claims priority, application Germany, July 21, 1964, B 77,769; Apr. 17, 1965, B 81,512, B 81,513
4 Claims. (Cl. 260—307.5)

1. Dyes having the formula



in which X denotes an amino or a methylamino group, Y denotes an amino or an alkylamino group with up to 4 carbon atoms, R denotes a linear or branched alkyl radical with up to 8 carbon atoms and Z denotes a hydrogen atom, a cyano group, a methoxy group or carbalkoxy group.

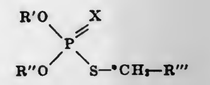
3,270,031

CERTAIN TETRAZOLYLMETHYL PHOSPHOROTHIOATES

Edward Sherlock, Bracknell, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Original application Apr. 11, 1960, Ser. No. 21,133, now Patent No. 3,185,699, dated May 25, 1965. Divided and this application Feb. 10, 1965, Ser. No. 431,726
Claims priority, application Great Britain, Apr. 23, 1959, 13,940/59
13 Claims. (Cl. 260—308)

1. A compound selected from the group consisting of compounds having the formula



in which R' and R'' are alkyl radicals having up to four carbon atoms, X is an atom selected from the group consisting of oxygen and sulfur, and R''' is selected from the group consisting of unsubstituted tetrazole rings attached to the carbon atom designated by an asterisk through a carbon atom of said ring and tetrazole rings attached to the carbon atom designated by an asterisk through a carbon atom in said ring and substituted by a member of the group consisting of cyclohexyl, phenyl, benzyl, p-nitrophenyl and alkyl of up to four carbons and acid addition salts of said compounds.

3,270,032

FOAM STABILIZER OIL

William E. Erner, Wilmington, Del., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed July 25, 1963, Ser. No. 297,672
4 Claims. (Cl. 260—326.5)

2. A foam stabilizer oil prepared by the exhaustive catalytic co-polymerization of a precursor composition consisting essentially of from 65 to 99 mol percent of a monomeric mixture consisting of a plurality of monomers, from 17 mol percent to 67 mol percent of the monomers being compounds selected from the group consisting of vinyl pyrrolidone, methyl allyl urethane, and 3 sulfolene, from 17 mol percent to 67 mol percent of the monomers being plasticizing compounds having groups of at least 4 carbon atoms extending from polymerizable ethylenic groups, said plasticizing compounds being selected from the group consisting of dibutyl maleate, vinyl butyl ether, vinyl isooctylether, and butyl acrylate, and from 17 mol percent to 67 mol percent of the monomers being vinyl acetate, said precursor composition containing from 1 to 35 mol percent of chain transfer component selected from the group consisting of nonylphenylpolyoxyethyleneethanol and dodecyl mercaptan, said chain transfer component being adapted to modify the copolymerization reaction sufficiently that the foam stabilizer has a viscosity greater than 2000 centipoises but to prevent development of a viscosity greater than 200,000 centipoises.

3. The foam stabilizer of claim 2 in which the monomer in the 65 to 99 mol percent monomeric mixture is vinylpyrrolidone.

3,270,033

N-OLEOYLPYRROLIDINE

Evald L. Skau, Robert R. Mod and Frank C. Magne, all of New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Application Apr. 2, 1964, Ser. No. 361,925, which is a division of application Ser. No. 260,923, Feb. 25, 1963, now Patent No. 3,219,612, dated Nov. 23, 1965. Divided and this application Sept. 10, 1965, Ser. No. 509,448
1 Claim. (Cl. 260—326.5)

N-oleoylpyrrolidine.

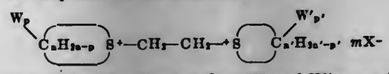
3,270,034

ETHYLENEBIS-SULFONIUM SALTS

Sheldon B. Greenbaum, Tonawanda, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York.

No Drawing. Filed July 14, 1965, Ser. No. 472,061
11 Claims. (Cl. 260—327)

1. A compound of the formula:



wherein n and n' are four to five; W and W' are selected from the group consisting of chloro, bromo, alkyl, alkoxy, and carboalkoxy ring substituents, the alkyl, alkoxy, and carboalkoxy substituents containing 1 to 18 carbon atoms; p and p' are from zero to five; X^- is an anion; and m, the coefficient of X, is up to two.

3,270,035

PREPARATION OF CARBOXYLATED DERIVATIVES OF LONG CHAIN UNSATURATED COMPOUNDS

Edward T. Roe, Chalfont, and Daniel Swern, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application June 20, 1960, Ser. No. 37,533. Divided and this application Jan. 22, 1962, Ser. No. 176,474
2 Claims. (Cl. 260—343.5)

1. A process comprising dispersing carbon monoxide at substantially atmospheric pressure in sulfuric acid containing about from 2 to 7% water, combining calculated amounts of methyl ricinoleate and said sulfuric acid to provide a liquid phase having a ratio of at least about 3 moles of water to 1 mole of methyl ricinoleate and, at a temperature of about from 10 to 20° C., contacting the methyl ricinoleate in liquid phase with carbon monoxide at substantially atmospheric pressure to introduce a carboxyl group at the double bond, separating derivatives of methyl ricinoleate from the reaction mixture, and distilling said derivatives.

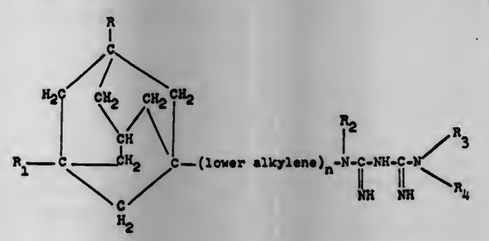
3,270,036

ADAMANTYLBIGUANIDES

Jack Bernstein, New Brunswick, and Edward Joseph Pribyl, Metuchen, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 7, 1965, Ser. No. 493,899
9 Claims. (Cl. 260—343.7)

1. A compound of the formula



wherein

R and R_1 each is hydrogen, halogen, lower alkyl, phenyl or lower alkoxy,

R_2, R_3 and R_4 each is hydrogen, lower alkyl or phenyl-lower alkyl, and

n is 0 r 1,

and acid-addition salts thereof.

3,270,037

6α-METHYL-3-OXO-Δ^4-STEROIDS OF THE ANDROSTANE AND PREGNANE SERIES

Winifred June Adams, Bernard Ellis, Vladimir Petrow, and Isobel Ann Stuart-Webb, London, England, assignors to The British Drug Houses Limited, London, England, a British company

No Drawing. Filed June 19, 1956, Ser. No. 592,243
Claims priority, application Great Britain, June 22, 1955, 18,118/55
7 Claims. (Cl. 260—397.3)

3. 6α-methylprogesterone.

3,270,038

SULPHONATION OF ORGANIC COMPOUNDS

Philip Marshall, Timperley, and John M. Blakeway, Bowdon, England, assignors to Colgate-Palmolive Company, a corporation of Delaware

Filed May 24, 1962, Ser. No. 197,508
Claims priority, application Great Britain, May 26, 1961, 19,157/61
10 Claims. (Cl. 260—400)

1. A process for sulfonating a sulfonatable organic compound selected from the group consisting of alcohols, fatty acids, olefins, aromatic hydrocarbons, alkylated aromatic hydrocarbons, fatty acid alkanolamides, ethoxylated alkyl phenols, ethoxylated fatty alcohols, ethoxylated fatty acids and ethoxylated fatty acid alkanolamides, with a gaseous mixture of sulfur trioxide and an inert gas which comprises flowing said sulfonatable compound in the liquid phase in a zone of relatively high pressure in a range of 10 p.s.i. absolute to 300 p.s.i.g. restricting the flow of said liquid phase and sufficient to form a free annular jet of said sulfonatable liquid at a velocity in a range of 5 feet per second to 500 feet per second in a zone of relatively low pressure in a range of about 5 p.s.i. absolute to 10 p.s.i.g. and sufficient to create a zone of turbulence in said liquid, injecting a gaseous mixture of sulfur trioxide and inert gas into the center of said free annular jet in said low pressure zone at a velocity in the range of 50 feet per second to sonic velocity and sufficient to result in uniform mixing of said sulfur trioxide and sulfonatable organic compound in the zone of turbulence, and maintaining said uniform mixture of sulfur trioxide and sulfonatable material in said low pressure zone until absorption of the sulfur trioxide is substantially complete.

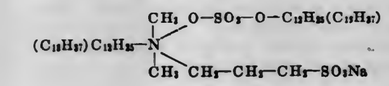
3,270,039

ADDITION COMPOUNDS OF SURFACE ACTIVE SULFURIC ACID SEMIESTER SALTS AND SULFOBETAINES AND THE PRODUCTION THEREOF

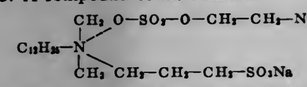
Wolfgang Gündel, Dusseldorf-Oberkassel, Germany, assignor to Henkel & Cie. G.m.b.H., a corporation of Germany

No Drawing. Filed Apr. 10, 1963, Ser. No. 271,868
Claims priority, application Germany, Apr. 14, 1962, H 45,485
7 Claims. (Cl. 260—401)

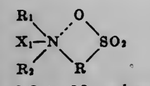
1. A compound of the formula



3. A compound of the formula



5. The process of preparing surface-active compounds, which comprises reacting a surface-active sulfuric acid semi-ester with a surface-active sulfo-betaine having the formula:



wherein X_1 is alkyl of 8 to 22 carbon atoms, R_1 and R_2 are each alkyl of 1 to 22 carbon atoms, and R is a member selected from the group consisting of propylene and butylene, wherein R_2 and X_1 together contain not more than 22 carbon atoms in a liquid medium constituting an inert solvent selected from the group consisting of alcohols, ketones, ethers, and hydrocarbons, said reactants being present in an amount of 2 weight percent of the mixture of the reaction components and said liquid medium.

3,270,040
PROCESS OF PREPARING STABLE TRIGLYCERIDES OF FAT FORMING ACIDS

Betty L. Bradshaw, Reuben O. Feuge, and Norman V. Lovegren, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

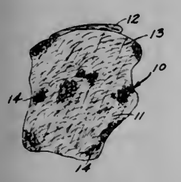
No Drawing. Filed June 27, 1963, Ser. No. 291,214
7 Claims. (Cl. 260—410.7)

1. A process for converting a liquid mixture of fatty acid triglycerides in which mixture at least 20 weight percent of the triglycerides have an average chain length of the fatty acid groups of at least 12 carbon atoms, to the thermodynamically stable crystalline form which process comprises subjecting the said liquid mixture of fatty acid triglycerides to extraordinary physical stress while maintaining the temperature of the said liquid mixture of fatty acid triglycerides within a temperature range defined by a lower limit which is the melting point of the alpha crystalline form of the fatty acid triglycerides and an upper limit which is the melting point of the highest melting form.

3,270,041
LOW-TEMPERATURE RENDERING OF ANIMAL FATTY TISSUE

Orhan G. Artar, Chicago, Chester J. Filipowicz, Lockport, and Joseph C. Wilcox, Park Forest, Ill., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware

Filed Mar. 7, 1963, Ser. No. 263,556
1 Claim. (Cl. 260—412.6)



A low temperature rendering process for recovering substantially protein-free fat and highly stable protein-rich fat from animal tissue, comprising the steps of decreasing the particle size of said tissue and providing a flowable mass having a temperature between about 65 and 80° F., mechanically dislocating the fat from the proteinaceous material of said tissue by grinding said tissue between blunt surfaces to cause a temperature rise of no greater than about 10° F. and no less than about 3° F., while maintaining the temperature of said tissue between about 79 and 85° F., decreasing the viscosity of the ground mass of fat and protein by heating, and centrifuging to obtain a substantially protein-free fat fraction and a protein-rich fat fraction having improved storage life while maintaining the temperature in the range of about 92° F. to 100° F.

3,270,042
PROCESS FOR PURIFYING TETRAMETHYL LEAD

Herman E. Collier, Jr., Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 28, 1963, Ser. No. 283,714
5 Claims. (Cl. 260—437)

1. The process for purifying a composition which consists essentially of

(I) about 95% to about 35% by weight of tetramethyl lead containing a soluble bismuth impurity in an amount such that it normally tends to form haze and insoluble sludge during storage, and

(II) about 5% to about 65% by weight of a normally liquid ozonization medium which is an inert solvent for the tetramethyl lead and at least part of which is a stabilizing amount of a stabilizer for tetramethyl lead,

which process comprises

(A) intimately contacting said composition in the liquid phase

(B) at a temperature of from about 0° C. to about 80° C.

(C) with ozone in an inert carrier gas until the soluble bismuth impurity has been decreased to the desired extent, and

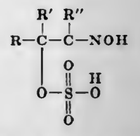
(D) then separating the bismuth reaction product from the reaction mixture.

3,270,043
ALIPHATIC AND ALICYCLIC OXIMINO SULFATES AND THEIR PREPARATION

Herbert K. Wiese, Cranford, and Paul E. Burton, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

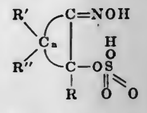
No Drawing. Filed Feb. 25, 1965, Ser. No. 435,361
25 Claims. (Cl. 260—458)

1. An internal oximino sulfate salt having the general formula:



wherein R, R′ and R″ are each selected from the group consisting of a hydrogen atom, alkyl groups containing 1 to 20 carbon atoms and an unsubstituted monocyclic aryl group.

8. An internal oximino sulfate salt having the general formula:



wherein R, R′ and R″ are each selected from the group consisting of a hydrogen atom, alkyl groups containing 1 to 20 carbon atoms and an unsubstituted monocyclic aryl group and wherein n is from 1 to 20.

11. The process for the preparation of an oximino sulfate compound which comprises reacting an olefin selected from the group consisting of unsubstituted and chlorine substituted olefinic compounds with nitrosylsulfuric acid.

3,270,044
PROCESS FOR THE MANUFACTURE OF GAMMA-KETOCARBOXYLIC ACID NITRILES

Karl Schmitt, Herne, Westphalia, Josef Disteldorf, Wanne-Eickel, Werner Hubel, Herne, Westphalia, and Klaus Rindtorff, Recklinghausen, Germany, assignors to Hibernia-Chemie Gesellschaft mit beschrankter Haftung, Gelsenkirchen-Buer, Germany, a corporation of Germany

No Drawing. Filed Oct. 4, 1962, Ser. No. 228,514
Claims priority, application Germany, Oct. 9, 1961, H 43,837
6 Claims. (Cl. 260—464)

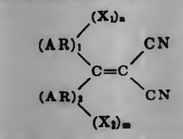
1. Process for the manufacture of γ-keto carboxylic acid nitriles comprising the step of contacting a mixture of an α-β-unsaturated ketone selected from the group consisting of isophorone, mesityl oxide, 2-methyl-cyclopentenyl - methyl - ketone, 2 - ethyl-cyclo-hexenyl-benzyl-ketone and 2-butyl-cyclo-hexenyl-phenyl-ketone, and hydrocyanic acid, with an alkaline catalyst selected from the group consisting of alkali metal hydroxides, alkaline earth metal hydroxides, alkali metal cyanides, alkaline earth metal cyanides, alkali metal oxides, alkaline earth metal oxides, alkali metal alcoholates derived from alkanols having from 1–4 carbon atoms, alkaline earth metal alcoholates derived from alkanols having from 1–4 carbon atoms, alkali metal peroxides, alkaline earth metal peroxides, and alkali metal carbonates supported on a solid carrier selected from the group consisting of clay bodies, γ-aluminum oxide and silica, said mixture having a hydrocyanic acid content of from approximately 5 wt. percent and not exceeding approximately 10 wt. percent of the total mixture at a temperature of between 50 and 350° C.

3,270,045
DIPHENYL METHYLENE-MALONONITRILE COMPOUNDS

Albert F. Strobel, Delmar, and Sigmund C. Catino, Castleton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 23, 1961, Ser. No. 97,754
13 Claims. (Cl. 260—465)

1. A compound of the formula:



wherein $(AR)_1$ and $(AR)_2$ are benzene nuclei devoid of nitro substituents and nuclear bonded amino groups and wherein X_1 and X_2 are radicals selected from the group consisting of halogen, cyano, hydroxy, alkoxy, hydroxyalkoxy, carboxyl, carbonamido, carbaloxy, acyloxy, sulfonamido and phenyl, and n and m are integers from 0 to 5, and $n+m$ is at least 1.

3,270,046
PREPARATION OF ARYL HYDROXYBENZOATES

Dale E. Keeler, Sanford, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 13, 1963, Ser. No. 264,768
2 Claims. (Cl. 260—474)

1. A process for making a phenyl hydroxybenzoate which comprises the steps:

(1) contacting a hydroxybenzoic acid with a phenyl lower alkanoate at 110–200° C. in the presence of an acidic esterfication catalyst;

(2) subjecting the thereby formed reaction mixture to fractional distillation, thereby obtaining a distilled phenyl hydroxybenzoate fraction and a distillation residue; and

(3) recycling at least a substantial part of said residue to the first step.

3,270,047
ORGANOBORON URETHANES

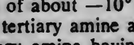
Theodore L. Heying, North Haven, Conn., Joyce Ann Reid, Highland Park, N.J., and Samuel I. Trotz, Orange, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Dec. 1, 1964, Ser. No. 415,864
2 Claims. (Cl. 260—482)

1. A urethane of the formula:

$$B_{10}H_{10}(CR^bCR^k)$$

wherein R^b and R^k are selected from the group consisting of hydrogen and



wherein R^d is alkyl of from 1 to 10 carbon atoms and with the proviso that at least one of R^b and R^k is



3,270,048
PROCESS FOR THE PREPARATION OF TRIS (N-METHYLARYLAMINO)BORINES FROM ARYL ISOCYANATES, ISOTHIOCYANATES AND ISOCYANATE GENERATORS

Charles H. Mack and Samuel E. Ellzey, Jr., New Orleans, La., assignors to The United States of America as represented by the Secretary of Agriculture

No Drawing. Filed July 30, 1963, Ser. No. 298,793
9 Claims. (Cl. 260—551)

1. A process for preparing tris(N-methyl-arylamino) borines which comprises reacting sodium borohydride with a reagent from the group consisting of an aryl isocyanate, an aryl isocyanate dimer, a triaryl isocyanurate, and N-formyl-N,N′-diarylurea, and an aryl isothiocyanate, wherein the aryl moiety of said reagent is a member of the group consisting of phenyl, tolyl, and anisyl, under anhydrous conditions and at a temperature of about from 150° to 200° C.

3,270,049
N-(TRICHLOROMETHYLTHIO)HEPTASULFURIMIDE AND PROCESS THEREFOR

John J. Kohler, Branford, and Louis A. Ross, New Haven, Conn., assignors to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia

No Drawing. Filed Apr. 29, 1964, Ser. No. 363,595
5 Claims. (Cl. 260—551)

2. A process for the preparation of N-(trichloromethylthio)heptasulfurimide which comprises reacting heptasulfurimide with trichloromethyl sulfenyl chloride at a temperature range of about —10° C. to about 30° C. in the presence of a tertiary amine and in an inert organic solvent, said tertiary amine having less than 13 carbon atoms and being utilized in at least an equimolar amount based on molar amount of heptasulfurimide reactant.

3,270,050
COMPLETE RECYCLE UREA SYNTHESIS PROCESS

Ivo Mavrovic, New York, N.Y., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware

Filed July 24, 1962, Ser. No. 211,961
6 Claims. (Cl. 260—555)

1. In a complete recycle urea synthesis process wherein ammonia, carbon dioxide and recycled ammonium carbamate solution are reacted at elevated pressure in an autoclave, unconverted ammonium carbamate in the autoclave effluent stream is decomposed to generate first and second off-gas streams at first and second successively lower pressure levels, said off-gas streams containing ammonia, carbon dioxide and water vapor, the residual liquid stream comprising aqueous urea solution is heated to remove excess water as generated steam, the first off-gas stream is passed to a first absorber, the second off-gas stream and said generated steam are passed to a second absorber, said absorbers serving to partially condense said gaseous streams by contact with circulating aqueous ammonium carbamate solution whereby streams of pure ammonia gas are withdrawn overhead from said absorbers and recycled to urea synthesis, excess concentrated aqueous ammonium carbamate solution is withdrawn as first absorber bottoms and recycled to urea synthesis, and excess dilute aqueous ammonium carbamate solution is withdrawn as second absorber bottoms and passed to said first absorber, a method for maintaining constant stiochiometric urea production rate and process water balance comprising maintaining the concentrated aqueous ammonium carbamate solution in said first absorber at a constant level by regulating the rate of withdrawal of second absorber bottoms in response to change in said level, maintaining the dilute aqueous ammonium carbamate solution in said second absorber at a constant level by regulating the rate of steam generation in response to change in said level, and maintaining the concentrated aqueous ammonium carbamate solution at a substantially constant concentration by modifying the rate of recycle of first absorber bottoms to urea synthesis as a direct function of process variation in bottoms solution concentration.

3,270,051
DUAL STEP UREA PRODUCTION

Wilhelm Braun, Lucerne, Switzerland, assignor to Inventa A.G. für Forschung und Patentverwertung, Zurich, Switzerland

Filed Aug. 14, 1962, Ser. No. 218,208
1 Claim. (Cl. 260—555)

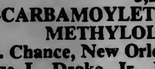
In a process for the manufacture of urea wherein ammonium carbamate is produced in a first reaction zone from stoichiometrical amounts of CO_2 and NH_3 at pressures of 100 to 300 atmospheres and at temperatures of 153 to 170° C., and said carbamate is converted to urea with an excess NH_3 in a second reaction zone at substantially like pressures and at temperatures of 170 to 200° C., the improvement which consists of supplying said excess NH_3 by partial recirculation of residual NH_3 from said first into said second reaction zone while in hypercritical state, and partly from residual NH_3 from said second reaction zone.

3,270,052
TRIS(2-CARBAMOYLETHYL)-PHOSPHINE AND ITS METHYLOL DERIVATIVES

Leon H. Chance, New Orleans, and Wilson A. Reeves and George L. Drake, Jr., Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Feb. 8, 1963, Ser. No. 257,342
3 Claims. (Cl. 260—561)

1. Tris(2-carbamoylethyl)phosphine,

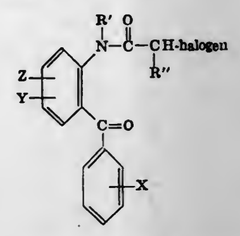


3,270,053
2-(α-HALO-LOWER ALKANOYLAMINO)-BENZOPHENONES

Earl Reeder, Nutley, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 20, 1961, Ser. No. 154,926
Claims priority, application Switzerland, Dec. 2, 1960, 13,492/60, 13,494/60
8 Claims. (Cl. 260—562)

1. A compound of the formula



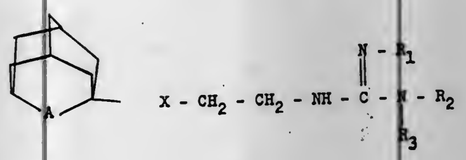
wherein R″ is chosen from the group consisting of hydrogen and lower alkyl; R′ is chosen from the group consisting of hydrogen, lower alkyl, lower alkenyl and phenyl-lower alkyl; and X, Y and Z are chosen from the group consisting of hydrogen lower alkyl and halogen.

3,270,054
ADAMANT-1-YL- AND HOMOADAMANT-1-YL-OXY-, -THIO- AND AMINO GUANIDINE DERIVATIVES

Andre R. Gagneux and Franz Hafliger, Basel, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed July 22, 1965, Ser. No. 474,177
Claims priority, application Switzerland, July 31, 1964, 10,072/64
6 Claims. (Cl. 260—564)

1. A compound selected from those of the formula



wherein
A represents methylene or ethylene,
X represents oxygen, sulfur, imino or lower alkylimino,
R_1, R_2 and R_3 represent hydrogen or at most two of these three symbols represent lower alkyl and non-toxic acid addition salts thereof.

3,270,055
5-AMINOALKOXY ETHERS OF 5-HYDROXYIMINO-10,11-DIHYDRO-5H-DIBENZO(a,d)CYCLOHEPTA(1,4)DIENES

Hermann Engelhard, Planckstr. 6A; Norbert Engelhard, Stauffenbergring 12; and Brigitte Werth, Am Steinsgraben 42, all of Gottingen, Germany

No Drawing. Filed Sept. 8, 1964, Ser. No. 395,018
Claims priority, application Germany, Sept. 11, 1963, E 25,493
3 Claims. (Cl. 260—566)

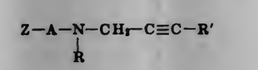
1. As a composition of matter, 10,11-dihydro-5H-dibenzo(a,d)-cycloheptadiene (1,4) - 5 - hydroxyimino - O-ether-β-diethylamino ether.

3,270,056
N-ALKYNYL-NAPHTHYLALKYLAMINES

William Brady Martin and Leo Ralph Swett, Waukegan, Ill., assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Original application Oct. 27, 1961, Ser. No. 148,041, now Patent No. 3,211,741, dated Oct. 12, 1965. Divided and this application Jan. 5, 1965, Ser. No. 423,601
4 Claims. (Cl. 260—570.8)

1. A compound selected from the group consisting of cyclic propynylamines of the formula



and their non-toxic, acid-addition salts in which Z is naphthyl, A is a member of the group consisting of methylene and ethylene, R is a member of the group consisting of hydrogen and methyl and R′ is a member of the group consisting of hydrogen, and benzyl.

3,270,057
CATALYTIC HYDROGENATION OF NITRO AROMATIC COMPOUNDS TO PRODUCE THE CORRESPONDING AMINO COMPOUNDS

Edward Vincent Cooke and Harry John Thurlow, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Oct. 5, 1964, Ser. No. 401,643
Claims priority, application Great Britain, Sept. 24, 1962, 36,191/62
19 Claims. (Cl. 260—580)

1. In a continuous process for the production of a primary monoamino mononuclear aromatic compound selected from the group consisting of aniline, toluidines and xylidenes by the liquid phase catalytic hydrogenation of the corresponding mononitro mononuclear aromatic hydrocarbon, the improvement which comprises providing a liquid reaction medium containing at least 95% by weight of said monoamino compound and having the hydrogenation catalyst suspended therein, introducing said mononitro hydrocarbon and hydrogen into said reaction medium to hydrogenate said mononitro hydrocarbon and form said monoamino compound while maintaining said medium at substantially the boiling point thereof and at a pressure in the range of atmospheric up to 10 atmospheres, removing at least part of the heat of reaction by allowing vaporization of the reaction mixture, maintaining the weight percent of monoamino compound present in said reaction medium at not less than 95%, and withdrawing from the system an amount of monoamino compound corresponding essentially to an amount equivalent to the moles of mononitro hydrocarbon introduced into the reaction medium.

3,270,058
RECOVERY OF AROMATIC AMINES FROM AROMATIC ORTHO-DIAMINES BY DISTILLATION IN THE PRESENCE OF A COMPOUND OF BORON

David Sutcliffe, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed June 26, 1963, Ser. No. 290,590
Claims priority, application Great Britain, July 2, 1962, 25,218/62
7 Claims. (Cl. 260—582)

1. Process for the purification of aromatic amines comprising the removal of aromatic ortho-diamines from said aromatic amines by distilling said aromatic amines in the presence of a compound of boron selected from the group consisting of boric acids, boronic acids and esters and anhydrides of boric and boronic acids.

3,270,059
PRODUCTION OF DIAMINOALKANES

Siegfried Winderl, Erich Haarer, Hubert Corr, and Paul Hornberger, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine) Germany

No Drawing. Filed Feb. 15, 1963, Ser. No. 258,905
Claims priority, application Germany, Feb. 21, 1962, B 66,040
3 Claims. (Cl. 260—583)

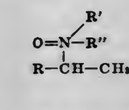
1. A process for the production of diaminoalkanes which comprises passing at least one compound selected from the group consisting of alkanediols of 2 to 12 carbon atoms, alkanolamines of 2 to 8 carbon atoms, alkylene oxides of 2 to 6 carbon atoms and alkylenimines of 2 to 6 carbon atoms, and a member selected from the group consisting of ammonia and an alkylamine of 1 to 8 carbon atoms, in the presence of hydrogen at a temperature of from 150° to 300° C. and at a pressure of at least 10 atmospheres over a catalyst which contains at least one metal selected from the group consisting of cobalt and nickel, which catalyst is obtained from the oxygen compounds of the said metals by sintering at a temperature of from 700° C. up to a temperature 20° C. below the melting point of the metal compounds and then reducing the sintered metal compound by treatment with hydrogen.

3,270,060
AMINE OXIDES

Reginald L. Wakeman, Philadelphia, Pa., and Zdzislaw W. Dudzinski, Hasbrouck Heights, N.J., assignors, by mesne assignments, to Millmaster Onyx Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 22, 1963, Ser. No. 274,800
8 Claims. (Cl. 260—583)

1. A tertiary open-chain aliphatic amine oxide having the formula:



wherein R is an alkyl radical having 6 to 32 carbon atoms, and R′ and R″ are alkyl radicals each having 1 to 34 carbon atoms.

3,270,061
OXYGEN-CONTAINING DICYCLODIENE DERIVATIVES

Saul Chodroff and Joseph Linsk, Brooklyn, N.Y., and Aaron Zale, Colonia, N.J., assignors to Norda Essential Oil & Chemical Co., Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 16, 1964, Ser. No. 360,412
3 Claims. (Cl. 260—586)

1. A compound corresponding to the formula



wherein Y is a radical selected from the group consisting of —CH:CH.COR′ and —CH_2.CH_2.COR′, R′ being an alkyl radical of 1 to 5 carbon atoms.

3,270,062
PURIFICATION OF CRUDE AQUEOUS GLYOXAL SOLUTIONS

Wolfgang Merz, Ludwigshafen (Rhine), Erich Nebe, Heidelberg, and Herbert Toussaint, Frankenthal, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Jan. 31, 1963, Ser. No. 255,223
Claims priority, application Germany, Feb. 3, 1962, B 65,803
4 Claims. (Cl. 260—601)

1. A process for the purification of crude, colored, aqueous solutions of glyoxal produced by the oxidation of acetaldehyde with aqueous nitric acid which comprises contacting said solutions with an anion exchanger resin the ion exchanging groups of which are selected from at least one member of the class consisting of tertiary amino group and quaternary ammonium groups, said groups being in the bicarbonate salt form at a temperature between the setting point of said solution and the maximum working temperature of said resin and below the decomposition temperature of said solution for a period of time sufficient to decolorize said solution.

3,270,063
METHODS OF MAKING PRIMARY MERCAPTANS

Joseph Fath, Barrington, R.I., and John M. Kolyer, Seekonk, Mass., assignors to Thompson Chemical Company, a corporation of Rhode Island

No Drawing. Filed May 2, 1963, Ser. No. 277,493
13 Claims. (Cl. 260—609)

1. The method of forming primary mercaptans by reacting an olefinic unsaturated compound of the general formula $R—CH=CH_2$ wherein R is a hydrocarbon with a thio acid of the general formula



wherein R′ is a hydrocarbon radical of 1 to 6 carbon atoms, said reaction being carried out in the presence of a catalyst consisting of an azo compound which has an azo group (—N=N—) bonded to unlike hydrocarbons selected from the group consisting of aliphatic and cycloaliphatic carbons, at least one of which is tertiary and has attached through carbon, a negative radical consisting of a carbon atom, three of whose valences are satisfied by an element selected from the group consisting of nitrogen and oxygen, to form the corresponding thiol ester and, thereafter, hydrolyzing said ester to form a primary mercaptan.

3,270,064
METHOD FOR PREPARATION OF I-INOSITOL

Yanosuke Inaba, Fujisawa, Kanagawa Prefecture, Goro Kimura, Kamakura, Kanagawa Prefecture, and Shiro Otani, Omuta, Fukuoka Prefecture, Japan, assignors to Toyo Koatsu Industries, Inc., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Jan. 19, 1962, Ser. No. 167,428
Claims priority, application Japan, Jan. 26, 1961, 36/1,997
6 Claims. (Cl. 260—631)

1. A process for manufacturing i-inositol from grains containing i-inositol phosphate salts, comprising: extracting said grains with 0.2 to 10 weight percent of an inorganic acidic aqueous solution, at a temperature of 5–70° C. for a period of time of 1–100 minutes to provide an acidic extract, separating said extract and precipitating i-inositol phosphate salts contained thereby by raising the pH to at least 7 with the addition of an alkaline substance, separating said precipitate and subjecting it to a temperature of from 100 to 300° C. and pressure in the presence of an alkaline earth metal carbonate for at least one hour to hydrolyze the i-inositol phosphate salts contained thereby and form a hydrolyzate liquor having a pH between 7 and 9, thereafter desalting said hydrolyzate liquor to form insoluble inorganic phosphates, separating said insoluble inorganic phosphates and concentrating the resulting liquor to obtain i-inositol.

3,270,065
RECOVERY FROM METAL-FREE OXYGENATED ALCOHOL PRODUCTS ARISING DURING MODIFIED OXIDATION OF ALUMINUM ALKYLS

Adolph A. Austin, Colonia, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed July 6, 1961, Ser. No. 122,102
4 Claims. (Cl. 260—632)

1. A process for preparing an alcohol from a mixture of normally liquid aluminum trialkyls contaminated with hydrocarbon which comprises oxidizing a trialkyl aluminum in which each alkyl group contains from 2 to 20 carbon atoms with molecular oxygen until about 0.7 to 1 mole of oxygen per mole of aluminum trialkyl has reacted, stripping the hydrocarbon contaminant from the partially oxidized aluminum trialkyl at reduced pressure and temperatures of below 400° C., subjecting said partially oxidized aluminum trialkyl to a further rapid oxidation at a temperature of 50° to 100° C. with a 10 to 100% molar excess of molecular oxygen per mole of unoxidized aluminum trialkyl thereby forming an alcoholate having the formula: $Al(OR)_3$ wherein each R is a C_2 to C_{20} alkyl group, hydrolyzing said alcoholate and byproduct esters, subjecting the alcoholate and byproduct esters to hydrolysis thereby forming a mixture of alcohols and esters, reacting said mixture with a material selected from the group consisting of hydrogenation agents and saponification agents to convert at least a part of the esters to alcohols and recovering the alcohols formed as a result of said hydrolysis and conversion.

3,270,066
SUBSTITUTED POLYHALOCYCLOPENTADIENES AND PROCESSES FOR THEIR PRODUCTION

Hanswilli von Brachel, Cologne-Sulz, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Sept. 20, 1960, Ser. No. 57,147
Claims priority, application Germany, Sept. 22, 1959, F 29,434; Sept. 30, 1959, F 29,495; Jan. 16, 1960, F 30,319
5 Claims. (Cl. 260—648)

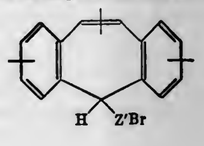
1. A process for the production of a lower-alkyl-substituted pentachlorocyclopentadiene together with a dialkyl phosphate which comprises reacting together hexachlorocyclopentadiene and a tris (low alkyl) phosphite in approximately equimolecular proportions and subsequently hydrolyzing the resulting reaction mixture by heating the same with an excess of water at a temperature not in excess of 150° C. for such a period as to convert the dialkyl phosphoryl chloride in the reaction mixture into a dialkyl phosphate; separating the organic phase and recovering both the dialkyl phosphate and the lower-alkyl-substituted pentachlorocyclopentadiene.

3,270,067
CHEMICAL PROCESS AND PRODUCTS PRODUCED THEREBY

Norman L. Wendler, Summit, and David Taub, Metuchen, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed July 12, 1962, Ser. No. 209,311
2 Claims. (Cl. 260—649)

1. A compound having the structural formula



wherein Z′ is selected from the group consisting of propyl and lower alkyl substituted propyl.

2. 5 - (γ - bromopropyl) - 5H - dibenzo - [a,d] - cycloheptene.

3,270,068
DIMERIZATION OF β-HALOSTYRENES

John J. van Venrooy, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Nov. 8, 1963, Ser. No. 322,496
7 Claims. (Cl. 260—649)

1. Method of preparing a halostyrene dimer which comprises contacting a halostyrene selected from the group consisting of β-chlorostyrene and β-bromostyrene with $BF_3 \cdot H_3PO_4$ catalyst at a temperature in the range of 0–150° C. and thereafter recovering halostyrene dimer from the reaction mixture.

6. 1-chloromethyl-2-chloro-3-phenyl indane.

7. 1-bromomethyl-2-bromo-3-phenyl indane.

3,270,069
METHOD FOR PREPARING AROMATIC FLUORIDES

George Andrew Olah, Sarnia, Ontario, Canada, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 28, 1961, Ser. No. 134,126
5 Claims. (Cl. 260—650)

1. A method for preparing aromatic fluorides which comprises thermally decomposing an aromatic thiolfluoroformate of the benzene selected from the group consisting of phenyl, alkylphenyl, and halo substituted phenylthiolfluoroformates series at a temperature of from about 100° C. to about 200° C. and removing the COS of reaction.

3,270,070
PROCESS FOR THE PRODUCTION OF HYDROFLUOROAROMATIC COMPOUNDS

Robert N. Haszeldine, Disley, and John M. Birchall, Manchester, England, assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application Apr. 5, 1962, Ser. No. 185,221. Divided and this application Sept. 1, 1964, Ser. No. 399,126
Claims priority, application Great Britain, Apr. 19, 1961, 14,200/61
5 Claims. (Cl. 260—650)

1. A process for the preparation of a monohydroperfluoroaromatic compound when x is 1 or a dihydroperfluoro aromatic compound when x is 2, x being defined below, which comprises hydrolyzing with the aid of strong alkali in admixture with water a compound having the structure $Ar_f(SiFCl_{2-n}R_n)_x$ where Ar_f is a perfluoroaryl radical selected from the group consisting of perfluorophenyl, perfluoronaphthyl and perfluoropyridyl, R is a radical selected from the group of hydrogen, fluorine, alkyl, aryl, fluoroalkyl and fluoroaryl radicals, n is a number from 0 to 2, and x is a number from 1 to 2.

3,270,071
PRODUCTION OF OLIGOMERS OF BUTADIENE-(1,3)

Herbert Mueller, Frankenthal, Pfalz, Emil Scharf, Ludwigshafen (Rhine), and Dietmar Wittenberg, Mannheim, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Dec. 20, 1963, Ser. No. 332,261
Claims priority, application Germany, Dec. 22, 1962, B 70,118
7 Claims. (Cl. 260—666)

1. A process for the oligomerization of butadiene which comprises preparing an oligomerization catalyst by the interaction of nickel tetracarbonyl with a compound selected from the group consisting of polyenes and acetylene compounds, said interaction releasing carbon monoxide from said nickel tetracarbonyl, keeping the displaced carbon monoxide content of the catalyst interaction mixture low by removing said carbon monoxide from the catalyst interaction mixture, and oligomerizing butadiene in the presence of said catalyst of low carbon monoxide content at a concentration of said catalyst at 0.001% to 5% with reference to the butadiene.

3,270,072
INHIBITED CUMENE

Joseph Pesacreta, Jr., Fishkill, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 9, 1965, Ser. No. 486,198
6 Claims. (Cl. 260—666.5)

1. A process for inhibiting the autooxidation of cumene which comprises

adding phenol to a quantity of cumene wherein the concentration of cumene hydroperoxide in said cumene is less than 75 p.p.m. and wherein the concentration of said phenol in the resulting mixture is between about 20 p.p.m. and about 100 p.p.m.

3,270,073
SELECTIVE EXTRACTION OF AROMATIC HYDROCARBONS WITH POLYESTERS

Earl F. Carlston, El Cerrito, and William G. Toland, San Rafael, Calif., assignors to Chevron Research Company, a corporation of Delaware

No Drawing. Filed Oct. 19, 1962, Ser. No. 231,839
2 Claims. (Cl. 260—674)

1. A method of separating a hydrocarbon mixture containing aromatic and aliphatic hydrocarbons into an aromatic hydrocarbon enriched phase and in aliphatic hydrocarbon enriched phase, which comprises treating the hydrocarbon mixture with a polyester of average molecular weight of from about 300 to 2,000, prepared from dibasic hydrocarbon acids of from 4 to 10 carbons and glycols selected from the group consisting of ethylene glycol and diethylene glycol, wherein the weight ratio of the polyester to the hydrocarbon mixture is in the range of about 1–10:1, separating the raffinate from the polyester phase, and recovering the aromatic hydrocarbon enriched phase from the polyester.

3,270,074
PROCESS FOR THE PRODUCTION OF PURE METHYLNAPHTHALENE

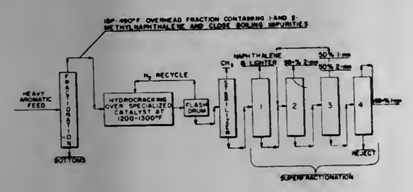
Thorwell H. Paulsen, Breezemont, Ashland, Ky., assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

Filed Feb. 5, 1963, Ser. No. 256,451
8 Claims. (Cl. 260—674)

1. The process of preparing alpha- and beta-methylnaphthalene in purities of at least 99.0 percent which comprises,

fractionating to an end boiling point between about 490° and 500° F. a hydrocarbon feed containing said methylnaphthalenes in admixture with contaminants of the alkylbenzene and paraffin types having boiling points close to the boiling points of said methylnaphthalenes, components of said feed having boiling points substantially higher than said methylnaphthalenes thereby being removed from said feed, subjecting the fractionated feed to hydrocracking in the presence of hydrogen over a catalyst which comprises 5 to 25% by weight chromia deposited on a support, said support comprising a high purity low sodium content gamma type alumina, at a temperature of about 1200–1300° F., the contaminants in said fractionated stock having boiling points close to the boiling points of said methylnaphthalenes

thereby being hydrocracked to compounds having boiling points no higher than about 440° F., said methylnaphthalenes being hydrocracked at a substantially lower rate than said contaminants, whereby



said methylnaphthalenes are isolated in their boiling range,

and superfractionating alpha- and beta-methylnaphthalene from the hydrocracked stock in a fractionating system having at least 150 theoretical trays.

3,270,075

CATALYTIC TERPENE ISOMERIZATION PROCESS

John M. Derfer, Jacksonville, and Carl Bordenca, Ponte Vedra Beach, Fla., assignors to The Glidden Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 16, 1965, Ser. No. 433,172
13 Claims. (Cl. 260—675.5)

1. In an isomerization reaction process wherein a liquid terpene hydrocarbon selected from the group consisting of α-pinene, β-pinene and mixtures thereof is contacted with a zeolitic metal aluminosilicate catalyst in a reaction zone, the improvement for directing the isomerization reaction to the production of limonene which comprises: contacting said liquid hydrocarbon under liquid phase conditions with said catalyst in said reaction zone at a temperature in the range of from about 65° C. to about 110° C.

3,270,076

PROPYLENE CRACKING

John Happel, Hastings on Hudson, N.Y., and Charles J. Marsel, deceased, late of Bronx, N.Y., by Elizabeth Hug, administratrix, Yonkers, N.Y., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 28, 1965, Ser. No. 505,576
5 Claims. (Cl. 260—678)

1. The process which consists of cracking a mixture of propylene and more than 34.0 mole percent of steam and having at least 100 mm. Hg partial pressure of propylene, at a temperature between 900° and 1200° C. at contact times less than 0.01 second, and at least 1 atmosphere total pressure, shock quenching the resulting gaseous mixture, and separating and recovering unsaturated hydrocarbons including methyl acetylene and allene, therefrom.

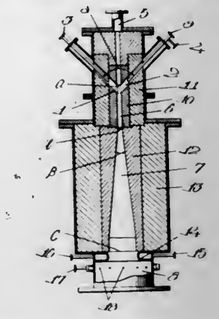
3,270,077

PROCESS FOR THE PRODUCTION OF ACETYLENE AND ETHYLENE-CONTAINING GASES BY THE INCOMPLETE COMBUSTION OF LIQUID HYDROCARBONS

Shigeru Tsutsumi, Hirakata-shi, Osaka-fu, Shiro Nagao, Sakai-shi, Osaka-fu, and Kumao Ohashi, Higashi-ku, Nagoya-shi, Japan; said Tsutsumi assignor to Toa Kagaku Kogyo Kabushiki Kaisha, Tokyo, Japan

Filed Jan. 2, 1963, Ser. No. 249,014
Claims priority, application Japan, Jan. 8, 1962, 37/256, 37/257; Feb. 27, 1962, 37/6,941, 37/6,942
7 Claims. (Cl. 260—679)

1. A process of the class described, comprising the steps of: vaporizing and preheating a mixture of normally liquid hydrocarbons to form a supply of a first gaseous reactant; providing substantially pure oxygen to form a supply of a second gaseous reactant; separately introducing said supplies of reactants into a first combustion zone; igniting said supplies of reactants within said first zone to form a sustained flame therein; confining said reactants in a generally cylindrical configuration open at its lower end and having a vertical axis, said configuration preventing upward and lateral movement of said reactants out of said first zone; maintaining a temperature in the upper portion of said first zone which is of the order of 2,000° C. and of the order from 1,000° C. to 1,500° C. in the lower portion thereof; guiding said reactants downwardly directly from said first zone into a second combustion zone; confining said reactants laterally in said second zone in a downwardly divergent frusto-conical configuration open at both ends



and coaxial with said cylindrical configuration, said frusto-conical configuration having an apex angle in the range from 6 to 20 degrees, the upper base of said frusto-conical configuration being coextensive with the bottom of said cylindrical configuration; introducing said reactants into said first zone at a flow rate providing a total retention time for said reactants in said two zones of from 20 to 200 milliseconds; maintaining a temperature in the central portion of said second zone in the range from 600° C. to 1,000° C.; maintaining a pressure in said second zone in the range from 200 to 400 millimeters of mercury, absolute; withdrawing the combustion products from the bottom of said second zone; cooling said combustion products; and obtaining from the cooled combustion products a gaseous mixture containing acetylene and ethylene.

3,270,078

PROCESS AND REGENERATIVE FURNACE SYSTEM FOR THE PYROLYSIS OF HYDROCARBONS

Marcel J. P. Bogart, London, England, assignor to The Lummus Company, New York, N.Y., a corporation of Delaware

Filed Apr. 29, 1963, Ser. No. 276,240
7 Claims. (Cl. 260—679)

1. A method for improving the thermal efficiency of a regenerative furnace system for the pyrolysis of a hydrocarbon feed and including a pair of regenerative furnaces having a pyrolysis and preheat phase which comprises:

(a) preheating said hydrocarbon feed by indirect heat exchange in a combustion chamber;

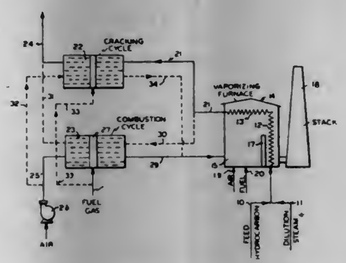
(b) introducing said preheated hydrocarbon feed into a regenerative furnace during the pyrolysis phase;

(c) withdrawing pyrolysis gases from the regenerative furnace of step (b);

(d) simultaneously with step (b) introducing fuel and a combustion supporting medium to a second regenerative furnace during the preheat phase thereof;

(e) withdrawing products of combustion from the regenerative furnace of step (d);

(f) admixing the products of combustion of step (e) with a combustion supporting medium in said combustion chamber; and



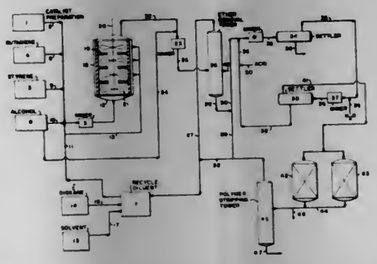
(g) thereafter reversing the phases of said regenerative furnaces.

3,270,079

REMOVAL OF ALKALI METAL FROM LIQUID HYDROCARBON POLYMERS

Ralph H. Schatz, Westfield, John F. Johnson, Plainfield, and Augustus B. Small, Westfield, N.J., and Harry Edwin Robson, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Sept. 10, 1962, Ser. No. 222,580
13 Claims. (Cl. 260—680)



1. In a process for polymerizing a conjugated diolefin in the presence of a hydrocarbon solvent for the polymer, boiling −150 C.–200° C., dioxane, and an alkali metal catalyst, the improvement which comprises recovering a solution of polymer in a mixture of solvent and dioxane containing alkali metal impurities; neutralizing the alkali metal with an aliphatic alcohol containing 1 to 4 carbon atoms; separating the dioxane from the polymer solution; washing the dioxane-free solution with 0.1 to 1 volume of acidified water per volume of polymer solution to remove the alkali metal; and withdrawing a solution of polymer in hydrocarbon solvent free of dioxane and alkali metal.

3,270,080

PRODUCTION OF UNSATURATED COMPOUNDS

Harold F. Christmann, Houston, Tex., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Filed June 22, 1964, Ser. No. 377,091
11 Claims. (Cl. 260—680)

1. A process for the dehydrogenation of organic compounds having at least four carbon atoms which comprises contacting in the vapor phase at a temperature of greater than 250° C. a mixture of the said organic compound to be dehydrogenated and from 0.2 to 2.5 mols of oxygen per mole of the said organic compound with a catalyst for the dehydrogenation comprising iron, phosphorus and a metal selected from the group consisting of magnesium, zinc, cobalt, nickel and mixtures thereof wherein the phosphorus is present in an amount of from .002 to 0.25 atom of phosphorus per atom of iron and the atoms of magnesium, zinc, cobalt and nickel are present in a total amount of from .05 to 2 atoms per atom of iron.

3,270,081

ISOPRENE PRODUCTION BY PYROLYSIS OF C_6 ALKYL ETHER

Joseph A. Verdol, Dolton, and Byron W. Turnquest, Chicago, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 95,521, Mar. 14, 1961. This application Dec. 22, 1964, Ser. No. 420,426
10 Claims. (Cl. 260—681)

1. A process for the production of isoprene which comprises subjecting a tertiary C_6 alkyl ether having the structural formula:

$$R—O—R'$$

wherein R is a tertiary C_5 radical and R' is a lower alkyl radical, to thermal pyrolysis in the absence of a catalyst at a temperature of about 1000 to 1600° F. and in the presence of an inert gaseous diluent to produce isoprene.

3,270,082

PRODUCTION OF HIGH PURITY ISOPRENE

Daniel Lumbroso, Le Vesinet, Fernand Coussemant, Paris, and Michel Hellin, Rueil-Malmaison, France, assignors to Institut Français du Petrole, des Carburants et Lubrifiants, Rueil-Malmaison, France

No Drawing. Filed May 11, 1965, Ser. No. 455,000
Claims priority, application France, May 12, 1964, 974,247
26 Claims. (Cl. 260—681)

1. In a process for the production of isoprene by the steps of reacting an isobutene-containing olefinic C_4 cut with formaldehyde to produce crude 4,4-dimethyl-1,3-dioxane, and then catalytically cracking the resultant dioxane to obtain isoprene, the improvement which comprises the intermediate step of hydrogenating the crude 4,4-dimethyl-1,3-dioxane before it is subjected to the catalytic cracking step.

3,270,083

EXTRACTION OF 1,3-BUTADIENE

Ernst Peukert, Schloss Born, Taunus, Germany, assignor to Bunawerke Huls G.m.b.H., Marl, Germany

No Drawing. Filed Sept. 13, 1965, Ser. No. 487,072
Claims priority, application Germany, Sept. 18, 1964, B 78,587
8 Claims. (Cl. 260—681.5)

1. In a process for the separation of butadiene from butenes which comprises the steps of (A) passing a mixture of 1,3-butadiene and butenes into a solution of cuprous ammonium acetate to selectively absorb said 1,3-butadiene, and (B) desorbing said solution to separate said 1,3-butadiene, the improvement comprising conducting said desorbing at above 40° C. under sufficient pressure to separate said 1,3-butadiene in the liquid phase.

3,270,084

METHOD OF ISOMERIZING OLEFINS

Alan Schriesheim, Berkeley Heights, N.J., Charles A. Rowe, Jr., Brooklyn, N.Y., and William Bartok, Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 19, 1961, Ser. No. 111,173
5 Claims. (Cl. 260—683.2)

1. An improved method for effecting the isomerization of monoolefin hydrocarbons in a carbanion reaction which comprises contacting said monoolefinic hydrocarbons with

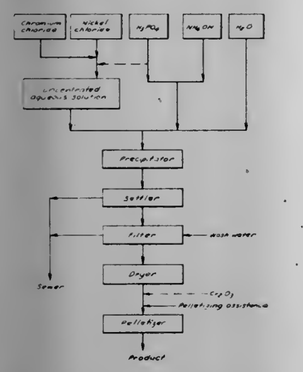
a solvent-base system, which consists essentially of hexamethyl phosphoramide and a base selected from the group consisting of alkali metal hydrides, alkali metal inorganic amides, alkali metal and alkaline earth metal organic amides, alkali metal alkoxides, alkali metal and alkaline earth metal hydroxides and alkali metal alkyls in an amount and for a period sufficient to form a carbanion intermediate which rapidly leads to the shift in the position of the double bond in said monoolefinic hydrocarbon.

3,270,085

METHOD FOR ISOMERIZING ALPHA OLEFINS TO BETA OLEFINS WITH CHROMIUM NICKEL PHOSPHATE

Charles R. Noddings, Midland, and Ronald G. Gates, Breckenridge, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Jan. 6, 1964, Ser. No. 335,830
2 Claims. (Cl. 260—683.2)



1. The method which comprises isomerizing alpha olefinic hydrocarbons having at least 4 carbon atoms to their corresponding beta isomers which comprises passing the hydrocarbon at a temperature between 100° and 300° C. in contact with a catalyst composed of a metal phosphate material consisting essentially of phosphate radicals chemically combined with chromium and nickel in the relative proportions of between 6 and 12 atoms of chromium per atom of nickel which metal phosphate material is preparable by mixing a solution of soluble salts of chromium and nickel with a solution of a soluble orthophosphate and precipitating said metal phosphate material from the mixture at a pH of between about 4 to 10.

3,270,086

OXIDATIVE DEHYDROGENATION OF PARAFFINIC HYDROCARBONS

Robert B. Regier, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed July 29, 1965, Ser. No. 475,852
5 Claims. (Cl. 260—683.3)

1. A process which comprises contacting a vaporous paraffinic hydrocarbon having at least 4 carbon atoms per molecule in a dehydrogenation zone with a molten salt medium in the presence of an oxygen-containing gas, said molten salt medium selected from the group consisting of lithium carbonate, cesium carbonate, and mixtures of at least two of the carbonates of lithium, sodium, potassium, rubidium and cesium, and maintaining the temperature in said dehydrogenation zone in the range from about 400 to about 700° C.

3,270,087

HYDROGENATION PROCESS

Richard F. Heck, McDaniel Crest, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 16, 1964, Ser. No. 375,651
8 Claims. (Cl. 260—683.9)

1. A process for the catalytic hydrogenation of an α-olefin in a homogeneous reaction medium which comprises contacting the α-olefin with hydrogen in the presence of a catalyst formed by the reaction of an alkali metal borohydride with a compound of the formula $(R_3P)_3MX_2$ wherein any of the R's is selected from the group consisting of alkyl and aryl groups, M is a metal selected from the group consisting of cobalt, nickel and palladium, and X is a halogen selected from the group consisting of chlorine, bromine and iodine.

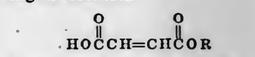
3,270,088

ALKYL, HYDROXYALKYL MALEATE MONOMERS AND COPOLYMERS THEREOF

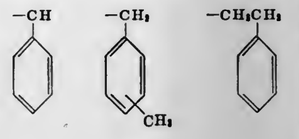
Darrell D. Hicks, Louisville, Ky., assignor, by mesne assignments, to Devoe & Raynolds Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 21, 1964, Ser. No. 361,572
9 Claims. (Cl. 260—851)

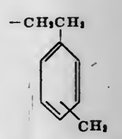
1. A hydroxy monomer comprising the addition product of (a) a monoepoxide and (b) a maleic anhydride half ester having the formula



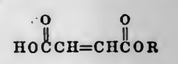
in which R is a member of the group consisting of an alkyl group of 1–10 carbon atoms,



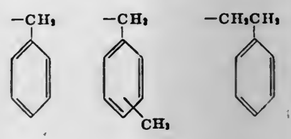
and



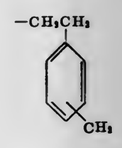
4. A copolymer of (a) the addition product of (1) a monoepoxide and (2) a maleic anhydride half ester having the formula



in which R is a member of the group consisting of an alkyl group of 1–10 carbon atoms,



and



and (b) at least one different ethylenically unsaturated monomer copolymerizable with said addition product.

3,270,089

FLAME-RETARDANT COMPOUNDS AS CROSS-LINKING MONOMERS

James C. Wygant, Creve Coeur, and Richard M. Anderson, St. Louis, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed June 11, 1963, Ser. No. 286,939
19 Claims. (Cl. 260—869)

1. A process for cross-linking polyesters which comprises curing a poly condensation unsaturated polyester of a polybasic compound and a polyhydric alcohol, with at least one of said polybasic compound and polyhydric alcohol having carbon-to-carbon unsaturation with a (1,2,3,4,7,7 - hexahalobicyclo-[2.2.1]-2-heptenyl-5) vinyl ether.

3,270,090

METHOD FOR MAKING GRAFT COPOLYMERS OF POLYOLEFINS AND ACRYLIC AND METHACRYLIC ACID

Robert M. Nowak, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 22, 1963, Ser. No. 274,807
8 Claims. (Cl. 260—877)

1. A method for making a graft copolymer which comprises malaxating at heat-plastifying temperatures between 130° and 250° C., a normally solid resinous thermoplastic polymer selected from the group consisting of (a) homopolymers of aliphatic olefins containing from 2 to 3 carbon atoms in the molecule and (b) copolymers of said olefins, which polymer has been irradiated with high energy ionizing radiation in an oxygen containing atmosphere while in the form of fine particles not greater than 1000 microns and in a field having an intensity of at least 10,000 rads per hour for a dose of from 0.1 to 10 megarads, while contacting the heat-softened polymer with a monomer selected from the group consisting of acrylic acid and methacrylic acid.

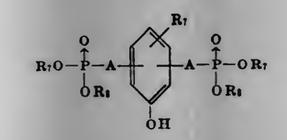
3,270,091

HYDROXYPHENYLALKANE PHOSPHONIC ACIDS AND ESTERS THEREOF

John D. Spivack, Spring Valley, N.Y., assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed May 5, 1965, Ser. No. 453,467
14 Claims. (Cl. 260—932)

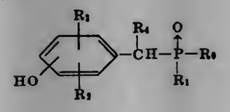
1. A compound of the formula



wherein

A is lower alkylene,
R_2 is alkyl of from 1 to 18 carbon atoms, and
each of R_7 and R_8 is alkyl of from 1 to 24 carbon atoms.

4. A compound of the formula:



wherein

R_0 is hydroxy, alkylthio of from 1 to 24 carbon atoms, alkylthioalkoxy of from 3 to 40 carbon atoms, alkoxy of from 1 to 24 carbon atoms, alkylthioalkylthio of from 3 to 40 carbon atoms or alkylthioalkylthioalkoxy of from 3 to 40 carbon atoms;
R_1 is hydroxy, alkylthio of from 1 to 24 carbon atoms, alkylthioalkoxy of from 3 to 40 carbon atoms, phenyl, alkylthioalkylthio of from 3 to 40 carbon atoms or alkylthioalkylthioalkoxy of from 3 to 40 carbon atoms;
R_2 is alkyl of from 1 to 18 carbon atoms;
R_3 is alkyl of from 1 to 18 carbon atoms or hydrogen; and
R_4 is alkyl having from 1 to 6 carbon atoms or hydrogen.

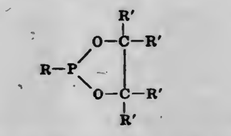
3,270,092

CYCLIC PHOSPHONITES

Harold James Harwood, Cuyahoga Falls, Ohio, assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Nov. 7, 1960, Ser. No. 67,505
7 Claims. (Cl. 260—937)

1. Compounds of the formula

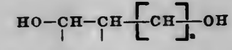


wherein R is aryl having from 6 to 8 carbon atoms, and each R' is selected from the group consisting of hydrogen and alkyl having from 1 to 6 carbon atoms.

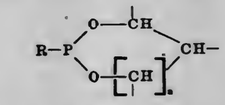
4. The method which comprises reacting a compound of the formula

$$RPX_2$$

wherein R is a hydrocarbyl radical free form non-benzenoid unsaturation and containing from 1 to 8 carbon atoms, and X is selected from the group consisting of bromine, chlorine, and iodine, with a saturated aliphatic dihydric alcohol having the formula



wherein each of the indicated free valences of the carbon atoms is satisfied by a radical free from non-benzenoid unsaturation containing only hydrogen, less than 7 carbon atoms, and less than 2 oxygen atoms, and n is a whole number of from 0 to 1, and recovering from the resulting reaction mixture, a compound having the formula



wherein R and n are as defined above, and the indicated free valences of the carbon atoms are satisfied as described above.

3,270,093

O,O-NEOPENTYLENE-N-DIETHYLPHOSPHOROAMIDOTHIOATE

Marcel A. Gradsten, Demarest, N.J., assignor, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Apr. 19, 1963, Ser. No. 274,336
1 Claim. (Cl. 260—937)

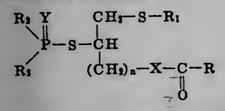
O,O-neopentylene-N-diethylphosphoroamidothioate.

3,270,094
THIOPHOSPHORIC, -PHOSPHONIC AND -PHOSPHINIC ACID ESTERS

Hans-Gerd Schicke, Wuppertal-Elberfeld, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Apr. 9, 1963, Ser. No. 271,568
Claims priority, application Germany, Apr. 18, 1962, F 36,581
11 Claims. (Cl. 260—944)

1. A compound of the formula



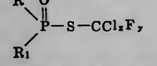
wherein R and R_1 stand for lower alkyl having up to 4 carbon atoms, R_2 and R_3 stand independently for members selected from the group consisting of lower alkyl having up to 4 carbon atoms and lower alkoxy having up to 4 carbon atoms, X stands for a member selected from the group consisting of oxygen and imino, Y stands for oxygen or sulfur and *n* is an integer of from 0 to 1.

3,270,095
FLUORO-CHLORO SUBSTITUTED PHOSPHORUS CONTAINING ESTERS

Hugo Malz, Leverkusen-Wiesdorf, Hans Kükenthal, Leverkusen-Bayerwerk, Wolfgang Behrenz, Wuppertal-Elberfeld, Erich Klauke, Cologne-Flittard, and Engelbert Kühle, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed May 22, 1963, Ser. No. 282,215
Claims priority, application Germany, May 26, 1962, F 36,913
20 Claims. (Cl. 260—955)

1. A compound of the formula



in which R and R_1 stand for members selected from the group consisting of lower alkyl, lower alkoxy, phenyl and lower dialkylamino, said lower alkyl and lower alkoxy having up to 4 carbon atoms and wherein *x* stands for an integer of from zero to two and *y* stands for an integer of from one to three, the sum of *x* and *y* being three.

3,270,096
PROCESS FOR PRODUCTION OF PHOSPHORUS DIESTERS

William M. Lanham, Charleston, and Percy L. Smith, Dunbar, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Feb. 8, 1963, Ser. No. 257,106
7 Claims. (Cl. 260—976)

1. A process which comprises contacting a tri(haloalkyl) phosphite, a saturated monohydroxyl compound free from substitution other than halogen substitution, and a phosphorus trihalide, wherein all the said halogen substituents are selected from the group of chlorine and bromine to produce a di(haloalkyl phospite).

3,270,097
METHOD OF LINING A ROTARY KILN

Stanley R. Pavlica, Brackenridge, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 20, 1964, Ser. No. 353,540
6 Claims. (Cl. 263—52)

5. A method for forming an unburned, nonwettable, high temperature refractory lining in a rotary kiln containing an outer metal shell and having a high temperature zone and at least one other temperature zone, comprising forming a batch consisting essentially of, by weight, from about 60 to 65% of calcined South American bauxite and the balance substantially all flint fire clay, mixing the batch with concentrated phosphoric acid in an amount to provide P_2O_5 equivalent to that provided by about 3 to



5% of 85% phosphoric acid, compressing the batch to form self-sustaining refractory shapes, curing the resulting shapes at a temperature of about 450 to 600° F. and disposing the shapes along the inner periphery of the metal shell within at least a portion of said other zone immediately adjacent the high temperature zone.

3,270,098
METHOD OF MAKING HOLLOW, SPHERICAL UO_2 PARTICLES

Harold N. Barr and Lennart A. Sundquist, Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

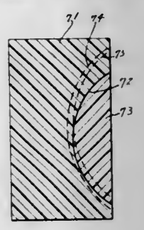
Filed Mar. 8, 1965, Ser. No. 438,139
4 Claims. (Cl. 264—.5)

1. The method of producing spherical, hollow, ceramic, refractory UO_2 particles, comprising oxidizing UO_2 particles, mixing these oxidized particles with a small amount of CaO–TiO_2 powder, granulating the mixture, spheroidizing the sintered granulated material in a high temperature flame, cooling the spheroidized material and finishing the particles by reduction in hydrogen at high temperatures.

3,270,099
A METHOD FOR MAKING MULTI-FOCAL LENGTH CONTACT LENSES

Richard N. Camp, 8119 Glenalta, Houston, Tex.

Filed Dec. 7, 1964, Ser. No. 418,588
2 Claims. (Cl. 264—1)



1. The method of producing a multifocal lens comprising the steps of,

providing a curved optical surface on a cured block of polymerized artificial resinous material having a selected index of refraction,

molding a polymerizable mass of artificial resinous material which when cured has a selected different index of refraction from said cured block by polymerization onto the curved optical surface of said cured block to form an integral bond between the resinous materials of the formable mass and the cured block at the curved optical surface,

curing the formable mass of resinous material to form a monolithic mass,

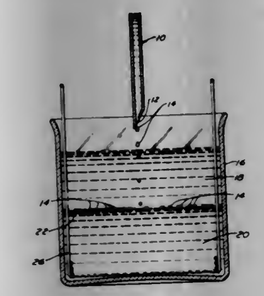
forming from a portion of said monolithic mass a lens having anterior and posterior optical surfaces of the desired lens optical characteristics having the same general curvature as said cured optical surface with the curved optical surface intersecting at least one of the anterior and posterior surfaces,

the portion of the lens containing said three surfaces providing a different focal length than the remainder of the lens.

3,270,100
METHOD FOR MAKING CAPSULES BY INTERFACIAL POLYMERIZATION

Robert M. Jolkovski, Awbrey Charles Laws, and Donald H. Powers, Boston, Mass., assignors, by mesne assignments, of fifty percent to Delavan Manufacturing Company, West Des Moines, Iowa, a corporation of Iowa, and fifty percent to The Aro Corporation, Bryan, Ohio, a corporation of Ohio

Filed Aug. 1, 1962, Ser. No. 214,093
7 Claims. (Cl. 264—4)



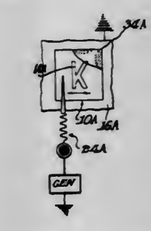
1. Method for encapsulating a liquid bifunctional reactant capable of reacting with a second bifunctional reactant to form a polymer which method comprises (1) discharging drops of said liquid bifunctional reactant into a multi-layer bath with which said liquid bifunctional reactant is immiscible, and bath comprising solutions of said second bifunctional reactant including a first layer having a first specific gravity and a second layer having a second specific gravity greater than said first specific gravity, said liquid bifunctional reactant having a specific gravity greater than said first specific gravity and equal to or less than said second specific gravity, and (2) causing said drops to pass through said first layer and come to rest in a boundary layer between said first and second layers, whereby the external surface of said drops is converted to a polymerized protective shell.

3,270,101
METHOD OF USING STATIC CHARGE TO DECORATE MOLDED THERMOPLASTIC ARTICLES

Philip R. Jardine, Wilmington, Del., Robert N. Pim, Media, and Winthrop S. Lawrence, Chester, Pa., and Walter L. Hochner, Wilmington, Del., assignors to Kaumagraph Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 1, 1963, Ser. No. 269,819
6 Claims. (Cl. 264—22)

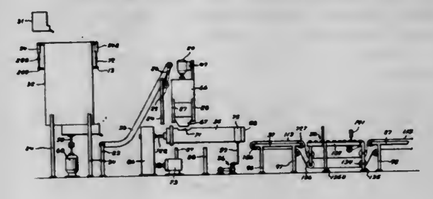
1. A method of decorating a resinous thermoplastic injection molded article comprising adhering a thin, flexible thermoplastic film at least one side of which carries a decoration to a wall of an injection mold by electrostatic attraction, such film having a thickness between 3 and 11 mils and being of a composition compatible with a resinous thermoplastic mass injected into the mold and injecting said resinous thermoplastic mass into the mold whereby the thin flexible thermoplastic film is maintained in intimate contact with the wall of the mold, in the desired position and in an effective heat exchange relationship with the wall predominately by electrostatic attraction and is intimately and interfacially fused with the thermosplastic mass without distortion of the decoration.



3,270,102
METHOD AND APPARATUS FOR THE PRODUCTION OF HARDENED CLAY PRODUCTS

Joseph Phillip Aiken, Toronto, Ontario, Canada, assignor to Ken-Mar Clay Products Limited, Toronto, Ontario, Canada, a company of Canada

Filed Dec. 23, 1964, Ser. No. 420,643
18 Claims. (Cl. 264—27)



1. An apparatus for producing hardened clay products which comprises a closed extruder means, means for delivering a clay mix to the extruder, said extruder means being provided with means for heating the mix, an extruder orifice and means for extruding the heated mix under pressure through said orifice, cutter means adjacent said extruder for receiving the mix from said extruder and for cutting said extruded clay mix into shaped modules, an infra-red heater for drying and preheating said shaped modules, means for delivering shaped modules from said cutter to said infra-red heater, means for passing modules through the infra-red heater, a dielectric heater, means for delivering shaped modules from the infra-red heater to said dielectric heater, an endless electro-conductive conveyor belt forming a pass to and through said dielectric heater, said belt forming a lower electrode within the dielectric heater and a conveying means for modules, an upper electrode comprising a flat metallic plate mounted in said dielectric heater in spaced relation with said belt to allow passage therethrough of modules as a dielectric on said belt and between the belt and the upper electrode, means for variably spacing said upper electrode from said lower electrode, a variable frequency oscillator circuit connected to and forming a high frequency dielectric heating circuit with said upper and lower electrodes, means for continuously sensing changing conditions in the dielectric passing through said dielectric heater, means for continuously changing the inductance of the dielectric circuit in re-

sponse to changes in the dielectric passing through the dielectric heater, radio frequency shielding means enclosing said dielectric heater and means for withdrawing baked clay products from the dielectric heater.

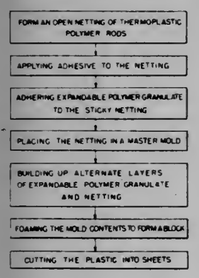
13. A process for producing hardened clay products which comprises feeding the clay product ingredients to a two compartment mixing apparatus, mixing the ingredients in the first compartment thereof, feeding the first compartment mix to the second compartment of the mixer and further mixing the ingredients to form an intimate mixture therein, continuously feeding said intimate mixture to a closed extruder means adapted to heat and compress said intimate mixture, heating and compressing the intimate mixture in said extruder, continuously extruding the intimate mixture through an orifice of desired cross section on said extruder in a continuous ribbon and in a compressed, heated state to allow substantial drying thereof, continuously feeding said extruded ribbon of desired cross section to a continuous cutting device, cutting said ribbon into raw, shaped, clay modules, continuously feeding said raw, substantially dry modules to an infra-red heater, continuously passing said modules through the infra-red heater to completely dry and preheat the same, continuously feeding said dry and preheated modules from said infra-red heater on a continuous electro-conductive conveyor belt to a dielectric heater, said conveyor belt being adapted to pass through and forming a lower electrode within the dielectric heater and said dielectric heater having an upper electrode therein mounted in spaced relationship from said modules and connected with said lower electrode to a variable frequency oscillator circuit to form a high frequency dielectric heating circuit therewith, continuously passing said modules as a dielectric on said belt under said upper electrode, directing a high frequency dielectric heating current through the modules, continuously sensing changes in the make-up and conditions of the dielectric modules passing through the dielectric heater, continuously changing the inductance of the dielectric heating circuit in response to said changes in the dielectric modules passing through the dielectric heater and removing the modules from the dielectric heater as a substantially uniform, hardened clay product.

3,270,103

PRODUCTION OF SHOCKPROOF EXPANDED PLASTIC SHEETS

Adolf Kurtz, Fussgonheim, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed Mar. 27, 1963, Ser. No. 268,364
Claims priority, application Germany, Mar. 31, 1962, B 66,627
6 Claims. (Cl. 264—45)



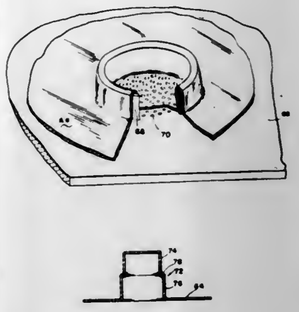
1. A process for the production of shockproof plastic expanded sheets useful as sheeting for walls, ceilings, panelled walls or insulating layers for walls, floors and ceilings which are resistant to pressure, tension and shrinkage which comprises preparing a reinforcing, open netting of thermoplastic polymer rods dimensioned to correspond to the size of the sheet, providing said netting with adhesive, uniting the resultant sticky netting with expandable plastic granulate, placing the resultant product in a master mold partly filled with expandable plastic granulate, adding a further layer of expandable plastic granulate, heating said filled master mold and thus expanding its contents into an expanded plastic sheet, allowing said master mold to cool and removing the expanded sheet therefrom.

3,270,104

VACUUM FORMING OF PLASTIC MATERIAL

Robert L. Dreyfus, Arlington, and John W. Harrison and Robert D. Lowry, Winchester, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Original application May 21, 1959, Ser. No. 814,801, now Patent No. 3,022,614, dated Feb. 27, 1962. Divided and this application Dec. 12, 1961, Ser. No. 158,752
3 Claims. (Cl. 264—92)



1. A process comprising heating an orientable plastic film, positioning the film across the core of a hollow mold, applying vacuum to biaxially stretch orient the film on both the inside and outside of said core and applying pressure to the film formed inside said core to position said inside film above said outside film.

3,270,105

APPARATUS AND METHOD FOR MAKING A LEAK-DETECTING ELECTRICAL CONDUCTOR

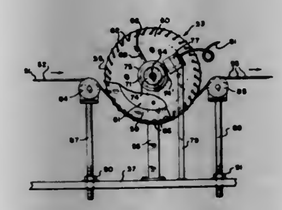
Bjorn Jore, Hastings on Hudson, Ralph G. D'Ascoli, Yonkers, and John W. Olson, Dobbs Ferry, N.Y., assignors to Anaconda Wire and Cable Company, New York, N.Y., a corporation of Delaware

Filed May 14, 1965, Ser. No. 455,932
9 Claims. (Cl. 264—139)

2. Apparatus for forming closely spaced openings along the length of a layer of thermoplastic dielectric material covering an electrical conductor comprising a rotatably mounted wheel, a multiplicity of heat-conductive cutting blades radially displosed about the peripheral portion of said wheel, said cutting blades each having a radially projecting cutting edge formed thereon, a stationary heating torch for directing a flame against said cutting blades to elevate them to a temperature above the softening temperature of said thermoplastic material, and means for directing a moving length of the covered conductor into engagement with the circumference of said wheel and

forcibly against the cutting edges of said cutting blade.

6. A method for making leak-detecting electrical conductors which comprises directing an insulated electrical conductor to a perforation station, said insulated conductor comprising a metallic wire and at least one layer of thermoplastic insulated covering thereon, pressing in said station a plurality of closely spaced heated elements



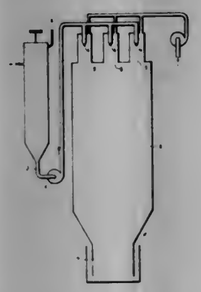
having a temperature above the softening point of said thermoplastic covering against said insulated conductor at a pressure sufficient to deform thermally said plastic covering to provide closely spaced openings along the insulated conductor exposing the metallic conductor, and withdrawing the perforated conductor from said station.

3,270,106

PROCESS FOR THE PRODUCTION OF A ROD-FORM SOLID FROM MOLTEN LOW MOLECULAR WEIGHT RIGID MATERIALS

Rolf Germerdonk, Schildgen, and Gerhard Paulig, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Dec. 10, 1964, Ser. No. 417,464
Claims priority, application Germany, Dec. 17, 1963, F 41,563
2 Claims. (Cl. 264—143)



1. A process for the production of a rod-form, dust-free solid in a dropping shaft, from molten low molecular weight rigid materials that form a melt which solidifies only slowly but is viscous wherein the melt is pressed through nozzles and the resulting, suspended melt filaments of large diameter are superficially solidified in a first cooling section by means of a coolant flowing parallel to the filaments at a slightly different speed, so that they no longer coalesce into drops under the effect of surface tension, and the filaments thus stabilized are internally solidified in a second cooling section by a random flow of coolant and, finally, are broken into pieces.

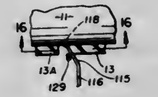
3,270,107

METHOD FOR REMOVING ELASTOMERIC STOCK FROM THE WORK ROLL OF A MILL OR THE LIKE

Harold G. Bailey and Andrew Hale, Akron, Ohio, assignors, by mesne assignments, to The Akron Standard Mold Company, Akron, Ohio, a corporation of Ohio

Original application June 29, 1962, Ser. No. 206,298, now Patent No. 3,221,364, dated Dec. 7, 1965. Divided and this application May 3, 1965, Ser. No. 459,977
5 Claims. (Cl. 264—147)

3. A method of removing a ribbon of elastomeric stock from a rotating work roll comprising the steps of, forming a furrow through the stock on said rotating work roll, positioning a knife means having a cutting edge in said furrow and against said work roll such that the cutting edge of said knife means lies in a plane parallel to the axis of rotation of said work roll and is inclined at an angle of less than 90° with respect to a line parallel to said axis and located in said plane, incising a lead thread of stock from the side of said furrow at the radially outer surface of said stock with said cutting edge by lateral separation of said furrow and knife means, further separating said furrow and knife means to incise the stock from the radially outer surface of said stock to the surface of said work roll to form a ribbon, and regulating the distance between the furrow and the incision of said stock to control the width of the ribbon removed thereby.

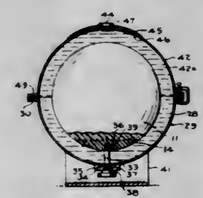


3,270,108

METHOD FOR MAKING BOWLING BALLS

John L. Randolph, 1728 Liberty Drive, Akron, Ohio

Filed July 5, 1962, Ser. No. 207,702
5 Claims. (Cl. 264—162)



1. A method of making a bowling ball comprising the steps of:

(a) placing a pre-determined quantity of self-polymerizing synthetic resin in the bottom of a hollow spherical core mold to form a hard segment of a sphere;

(b) filling the remainder of said hollow spherical core mold with a fluid mixture of a synthetic resin and a density control medium, at least a substantial portion of which is composed of hollow synthetic resin particles;

(c) causing said mixture to polymerize and integrally bond to said segment to form a hardened substantially spherical core in said core mold;

(d) removably affixing said core in a hollow shell mold having a spherical article-forming surface substantially concentrically spaced with respect to said core

to define a shell-forming space, said shell mold having a top-filling opening;

(e) filling said shell-forming space with synthetic resin through said filling opening;

(f) said shell mold being proportioned to provide a slight excess of said synthetic resin shell material not protruding substantially outwardly beyond said spherical article-forming surface and being of broad lateral extent greater than said filling opening to provide a slight bump on the upper portion of the same sufficient to compensate for settling of said shell material tending to be caused in the area of said filling opening by upward migration and venting of air bubbles through said shell material in said area during polymerization of said shell material;

(g) causing said shell material to polymerize and integrally bond to said core;

(h) removing the resultant ball from said shell mold; and

(i) reducing said ball to pre-determined finished spherical size.

3,270,109

PREPARATION OF INORGANIC OXIDE MONOFILAMENTS

Robert H. Kelsey, Chagrin Falls, Ohio, assignor to Horizons Incorporated, Cleveland, Ohio, a corporation of New Jersey

No Drawing. Filed Mar. 15, 1963, Ser. No. 265,361
4 Claims. (Cl. 264—178)

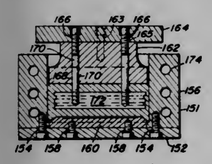
1. In a process for preparing inorganic oxide filaments which comprises preparing a dilute aqueous solution of an oxygen containing organic salt of a metal selected from the group consisting of aluminum, titanium, vanadium, chromium, manganese, iron, cobalt, nickel, yttrium zirconium, the lanthanide rare earths, and hafnium; concentrating said solution to a viscosity of at least about 50,000 centipoises and then forming said viscous liquid into filaments, and thereafter heating said filaments to a temperature sufficient to convert the same to said metal oxide, the improvement which comprises extruding said liquid through an orifice and directly into a liquid comprising an alcohol selected from the group consisting of straight chain and branched chain aliphatic alcohols with not less than 3 and not more than 6 carbon atoms.

3,270,110

METHOD OF MAKING A DETERGENT PRESS DIE MEMBER

John Arthur Downie, Scarborough, Ontario, and William Boyd, Toronto, Ontario, Canada, assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

Original application Aug. 7, 1959, Ser. No. 832,279. Divided and this application Apr. 22, 1963, Ser. No. 285,165
3 Claims. (Cl. 264—219)



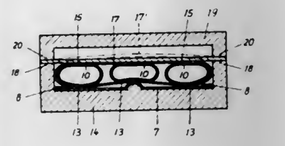
1. A method of making a precision molded detergent press die member of soft, flexible, resilient, polymeric synthetic organic plastic material, which plastic material is normally subject to shrinkage during molding, which comprises filling with such a plastic material in liquid form a mold cavity having substantially parallel vertical walls and a removably affixed bottom which is substantially lower at the sides of the mold than in the interior, the bottom being figured and shaped to mold a figured or reverse lettered die face with a raised thin edge; maintaining said plastic material in a liquid state; applying pressure to the plastic material, to force it against the bottom and sides of the mold, by lowering into the mold a piston member having removably attached thereto by attaching means a rigid member of transverse cross-sectional area which is a substantial part of the corresponding mold cavity cross-sectional area; positioning the rigid member in the molten plastic material substantially parallel to the bottom of the mold by means of adjusting means and the piston, said adjusting means contacting the attaching means removably attached to the rigid member to permit adjustment of the rigid member in a downward direction, said attaching means corresponding to the attaching and holding means of the pressing member to be affixed to the die during detergent pressing; cooling the plastic material while holding it under pressure until it is solidified and lowered to a temperature below that at which it will shrink appreciably, the rigid member thereby becoming embedded in the plastic die sufficiently near the detergent pressing surface thereof to significantly assist in maintaining the shaped and figured die working surface undistorted by shrinking during the cooling operation and undistorted during high speed pressing of detergent by the die; removing the mold bottom from the mold; releasing the die member having the rigid member embedded therein from the piston and ejecting the die member with attaching means attached from the mold.

3,270,111

METHOD OF PRODUCING A HOLLOW ARTICLE

Gaston Haldemann, Geneva, Switzerland, assignor to Haldemann S.A., Geneva, Switzerland

Filed Sept. 29, 1961, Ser. No. 141,892
Claims priority, application Switzerland, May 3, 1961, 5,199/61
2 Claims. (Cl. 264—231)



1. A method of producing a hollow article consisting of the steps of providing inflatable air chambers, inflating said chambers, winding about each of said chambers a strip of glass fiber impregnated with thermosetting material to obtain a slug while arranging for the longitudinal fibers of said fabric to extend parallel to the axis of the air chambers, wrapping said slugs with a tape of glass fiber fabric also impregnated with a thermosetting material while arranging for the longitudinal fibers of said fabric to run parallel to the axis of the slugs, deflating the inflated chambers of the wrapped slugs and inserting the assembly into a mold and strongly compressing them at the position where they enter the mold, inflating the air chambers of the slugs after the same have been inserted into the mold to provide an inner force for the slugs and urge the same into contact with the mold inner wall and to pre-stretch said longitudinal fibers during molding, the wrapped slugs that have been deflated and inserted in the mold are also compressed at a position adjacent their tip end, and finally heating the mold for hardening the thermosetting material.

3,270,112

METHOD OF MAKING SHOES

Horst Lachmayr, York, Pa., assignor to International Vulcanizing Corporation, Boston, Mass., a corporation of Massachusetts

Filed Feb. 20, 1963, Ser. No. 259,951
4 Claims. (Cl. 264—244)



1. The method of forming a moldable outsole at the bottom of a lasted upper comprising the steps of: providing a mold containing a mold cavity of a shape to form the tread surface and peripheral edge of the outsole to be formed; lining the bottom and side surface of the mold cavity with a porous sheet; placing a sole blank of moldable material in the cavity on the lining sheet; mounting a lasted upper on the mold over the cavity; and subjecting the sole blank, while confined between the bottom of the lasted upper and the porous lining sheet, to heat and pressure.

3,270,113

PRODUCTION OF DECORATIVE TILES AND WALL AND FLOOR SURFACES

Enrico Longinotti, Viale Donato Giannotti 75, Florence, Italy

Filed Feb. 11, 1964, Ser. No. 343,985
Claims priority, application Italy, Feb. 13, 1963, 3,184/63
4 Claims. (Cl. 264—245)

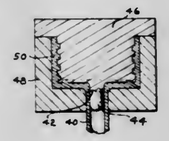
1. The method of forming a cementitious tile which comprises the steps of: adjusting the relative positions of a die having an upper flat surface and a frame member having a flat upper surface, said frame member having an aperture formed therein which cooperates with said die to define a molding chamber, said adjusting step defining a chamber having a first depth; filling said chamber with a charge of a first cementitious powdered material level with said upper surface of said frame member; yieldingly pressing the upper surface of said charge to render the density of said charge substantially uniform throughout the charge, the thickness of said charge varying in accordance with its initial density distribution; readjusting the relative positions of said die and said frame member to reduce the depth of said chamber to a second depth not exceeding the minimum thickness of said charge after said yieldingly pressing step; scraping the upper surface of said charge to produce a layer of said first material which is of uniform thickness; readjusting the relative positions of said die and said frame member to increase the depth of said chamber to a third depth greater than said first depth; filling the space in said chamber above said first material with a charge of a second powdered cementitious material level with the upper surface of said frame member; yieldingly pressing the upper surface of said charge of second material to render the density of said charge substantially uniform throughout the charge, the thickness of said second charge varying in accordance with its initial density distribution; again readjusting the relative positions of said die and said frame member to reduce the depth of said chamber to a fourth depth not exceeding the combined minimum thicknesses of said first and second materials after the second of said yieldingly pressing steps; scraping the upper surface of said charge of said second material to produce a uniform combined thickness for said first and second materials; and applying pressure to the upper surface of said charge of second material to compress both of said materials simultaneously, said last named pressure applying step utilizing a rigid flat surface cooperating with said flat upper surface of said die.

3,270,114

METHOD OF MOLDING MATERIAL TO ONE END OF A PREFORMED THERMOPLASTIC TUBE

Edward B. Westlake, Jr., 307 Lincoln Ave., Havertown, Pa.

Filed Jan. 8, 1962, Ser. No. 164,935
5 Claims. (Cl. 264—263)



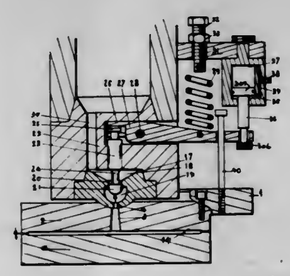
1. The method of securing to one end of a preformed thermoplastic tube a flange portion utilizing a mold having a cylindrical projection and a complementary apertured mold member, the diameter of the projection being substantially equal to the inner diameter of the tube, and the diameter of the aperture being sufficiently larger to extend around the outer diameter of the tube, the two mold members cooperating to form a mold cavity surrounding the end of the tube when inserted upon the projection, said method including the steps of inserting one end of the plastic tube upon the projection, inserting the tube through the aperture in the apertured mold member, closing the mold members to form a cavity surrounding the end of the tube, injecting a plastic molding material that is compatible with the thermoplastic of the tube to form a flange portion integral with the end of the tube.

3,270,115

METHOD AND APPARATUS FOR MOLDING

Robert Nouel, Villejuif, France, assignor, by mesne assignments, to Inventions Finance Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 14, 1961, Ser. No. 89,254
Claims priority, application France, Feb. 23, 1960, 819,321
7 Claims. (Cl. 264—328)

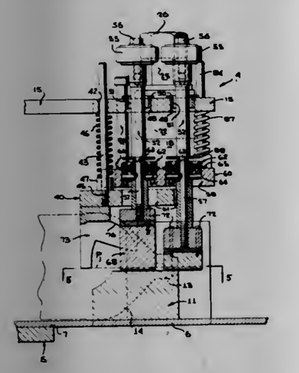


1. In a method of molding plastic articles, the steps of injecting material in condition to be molded under an injection pressure into a mold having a cavity through

a passageway thereto, closing said passageway with controlled movement to provide a slight excess of material in said mold, and then compressing the material in said mold.

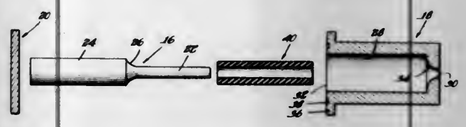
4. In an injection molding machine having an injection chamber, and an injection passageway communicating said chamber with a mold cavity, the combination comprising: a regulator member movable to close said passageway, and means normally biasing said member to a position opening said passageway, said member having multiple separate pressure faces presented to material in said passageway, whereby material in said passageway acts on at least one of said pressure faces to move said member to close said passageway in response to material filling said cavity, and thereafter acts on other of said pressure faces to maintain said member closing said passageway until the force of material applied to said member by material in said cavity decreases below the force applied to said member by said biasing means.

3,270,116
DEBURRING METHOD AND APPARATUS
Herbert S. Ruekberg, Highland Park, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 30, 1963, Ser. No. 276,850
20 Claims. (Cl. 264—69)



11. A method of finishing a molded plastic article comprising removing the mold parting line burr by contacting the burred surface of the plastic article with a heated anvil contoured to the general configuration of said surface, vibrating the anvil against said surface, heating the burr to a temperature sufficient to soften the plastic material and fusing the burr against the surface of the plastic article.

3,270,117
APPARATUS AND METHOD FOR PRODUCING A PRECISION RUBBER TUBE
Carroll D. Hobson, Goshen, Ind., assignor to Goshen Rubber Co., Inc., Goshen, Ind., a corporation of Indiana
Filed Aug. 17, 1964, Ser. No. 391,067
6 Claims. (Cl. 264—320)



1. Apparatus for resizing a tubular element to predetermined inside and outside dimensions without substantial alteration of the length of the tubular element, and comprising a male die member including a first portion of predetermined length and having a substantially uniform transverse dimension on which the tubular element is telescopically supported prior to assembly of said male die member with a female die member, said male die member further including a second portion of substantially the same said predetermined length and of a greater substantially uniform transverse dimension than said first portion and corresponding to the predetermined inside dimension of the finished tubular element, the first and second portions of the male die member being joined by a gradual transfer portion to permit the tubular element to be bodily transferred from the first portion to the second portion upon assembly of the male die member with a female die member, a female die member having a cavity of a length substantially equal to the said predetermined length of said second portion of the male die member and of greater substantially uniform transverse dimension than the second portion of the male die member to freely receive the first portion of the male die member with the tubular element assembled thereon, the wall of said cavity corresponding to the predetermined outer dimension of the finished tubular element, said female die member further having an abutment surface for the tubular element at one end thereof coaxial with said cavity and extending toward the adjacent cavity wall surface, causing bodily transfer of the tubular element over said transfer portion to the second portion of the male die member as the second portion of the male die member is telescoped into the female die cavity with resultant sizing of the outer surface of the tubular element by the cavity wall of the female die member and of the inner surface of the tubular element by the surface of second portion of the male die member, and means closing the opposite end of the female die cavity when the second portion of the male die member is housed within the female die cavity, and means relatively telescoping the second portion of said male die member into the cavity of said female die member.

ELECTRICAL

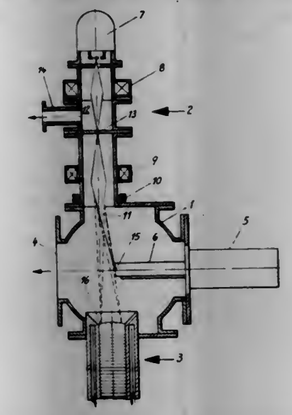
3,270,118
PROCESS FOR THE VACUUM MELTING OF METALS BY MEANS OF ELECTRON BEAM
Francois Gaydou, Balzers, Liechtenstein, assignor to Bendix Balzers Vacuum Inc., Rochester, N.Y., a corporation of Delaware
Filed July 8, 1963, Ser. No. 293,355
Claims priority, application Austria, July 10, 1962, A 5,541/62
1 Claim. (Cl. 13—34)

A method for the vacuum melting of metals with an electron beam wherein the melt stock is drip melted into a mold which is disposed below the melt stock comprising the steps of:

axially aligning and focusing the electron beam on the melt in said mold adjacent the radial outward edge thereof and radially spaced from the end of the melt stock,

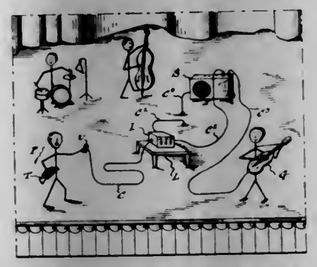
deflecting said beam to scan the surface of the melt in said mold for a controlled time duration,

alternately deflecting said focused beam to strike the melt stock for a controlled time duration whereby the respective quantities of heat supplied to the melt stock and to the melt in the mold are controlled by



regulating the first and second mentioned time durations.

3,270,119
ELECTRIC MUSICAL INSTRUMENT FOR PRODUCING PERCUSSION TYPE SOUND EFFECTS
Errol R. Griffith, Reading, Pa., assignor to Allen Organ Company, Macungie, Pa., a corporation of Pennsylvania
Filed Mar. 4, 1964, Ser. No. 349,317
4 Claims. (Cl. 84—1.01)



4. An electrical musical instrument of the character described comprising, an electric circuitry which includes a source of electric energy, a plurality of circuits for producing different sound effects including one which is similar to that normally producible with castanets which circuits are connected to and energized by said source of electric energy, an electric audio system connected to said circuits, and an elongated switch control unit that is adapted to be held in lengthwise extending order along the palm of one hand of the musical instrument player and includes a plurality of individually operable switches that are arranged to control said plurality of circuits and are selectively actuatable by the exertion thereon of different hand member movements.

3,270,120
COVER FOR ELECTRICAL INSULATORS AND METHOD OF REMOVING SAME
Joseph M. Van Name, Stonybrook Drive, Blue Bell, Pa. 19422, and William G. Mullen, 1818 Sterigere St., Jeffersonville, Pa. 19401
Filed Sept. 29, 1965, Ser. No. 491,243
11 Claims. (Cl. 174—1)

1. A protective cover for electrical insulators on support structures comprising

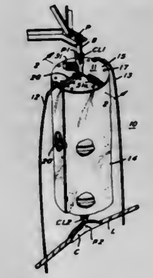
a relatively rigid plate member having a central insulator mounting element receiving opening and a slot extending from said opening to the periphery of the plate member,

a cylindrical insulator protective skirt of flexible material secured at one end to said plate member and extending from said plate member,

said skirt having a longitudinal opening communicating into said slot,

a releasable latching member carried on said plate member contiguous to said opening and releasably retaining the insulator support in said opening, and

position controlling cords connected to said plate member for removing the cover from an insulator.



11. The method of removing from around and over an insulator aerially spacing electric transmission structures having a substantially horizontal component below and adjacent to said insulator and at a substantial elevation above ground a stripable cover having means for detachably engaging said insulator and two position controlling cords, one of which is a release cord operable to actuate said means for detaching said cover from engagement with said insulator, which comprises

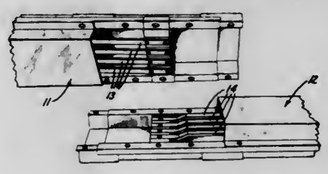
disposing said cords pendantly on respective sides of said component,

pulling said release cord to release said cover and strip it from said insulator,

permitting said cover to fall freely to a position below said component where it is pendant therefrom and restrained by the one of said cords which is looped over said component, and

then easing said cover down to ground from said position by use of at least said one of said cords.

3,270,121
ELECTRIC POWER DISTRIBUTION ASSEMBLY EMPLOYING A JOINT COMPOUND
Heinz G. Pfeiffer, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Apr. 27, 1964, Ser. No. 362,804
5 Claims. (Cl. 174—88)



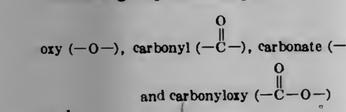
1. An electrical power distribution assembly comprising:

(a) a plurality of electrical power bus bars,

(1) said bus bars being disposed relative to each other with portions of the ends thereof in overlapping relationship,

(b) a layer of a joint compound disposed between said bus bars in each area of overlap stabilizing the resistance in each area of overlap at a value below about 1600 ohms/sq. in.,

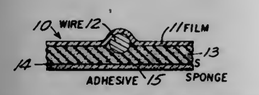
(1) said joint compound comprising a substantial quantity of a mixture of an α-olefin and a compound containing a divalent radical selected from the group consisting of



and

(c) means for continuously biasing said overlapping ends into effective electrical contact.

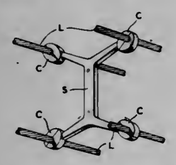
3,270,122
ADHERENT CONDUCTOR
Paul H. Binek, Mendota Heights, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Sept. 24, 1965, Ser. No. 495,015
14 Claims. (Cl. 174—117)



1. A thin narrow elongate adherent conductive longitudinally uniform flat cable capable of being permanently adherently affixed to structural surfaces and comprising at least one elongate conductor member supported on a major surface of a thin tough resilient compressible sponge layer and covered by a thin tough flexible plastic film firmly bonded to said sponge, and a strongly adherent and eucohesive normally tacky and pressure-sensitive adhesive layer on the other major surface of said sponge layer.

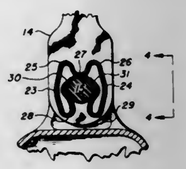
13. Method of making a flat cable structure comprising: placing a plastic resinous mass containing an expandable vapor uniformly distributed therethrough under high pressure at an elevated temperature; extruding said mass in a thin continuous ribbon into a zone of lower pressure to permit expansion of said ribbon into a uniformly cellular sponge-like structure; attenuating the expanded ribbon to substantially reduced thickness; and pressing the attenuated ribbon against a thin dense plastic film, and around a conductor carried thereby, under a pressure and at a temperature sufficient to produce unifying bonding between said film and said sponge.

3,270,123
BUNDLE CONDUCTOR SYSTEM WITH IMPROVED SPACER
Herbert Douglass Short, Newmarket, Ontario, Canada, assignor to Line and Cable Accessories Limited, Newmarket, Ontario, Canada
Filed June 18, 1964, Ser. No. 376,186
2 Claims. (Cl. 174—128)



1. In an electrical transmission system wherein a plurality of conductors are supported in a bracket in parallel spaced relation by means of a conductor spacer bracket to carry the currents in the same sense and direction, the improvement in said conductor spacer bracket wherein said conductor spacer bracket has a plurality of conductor clamps, one for each of said conductors, support means for each of said conductor clamps, each of said conductor clamps having gripping surfaces adapted to support one of said conductors along a portion of its length, said clamps each having a gripping longitudinal axis that extends between and in parallel relation to said gripping surfaces adapted to align with the direction of its respective conductor, the gripping longitudinal axes of said clamps being parallel to each other, said support means supporting said clamps as aforesaid in a plane transverse to the gripping longitudinal axes of said clamps, said conductors being arranged substantially symmetrically about a point, said clamps each having a cross section with an outline taken transverse to their gripping longitudinal axes that is substantially in conformity with an equipotential surface of the current carrying conductor clamped therein.

3,270,124
ELECTRICAL CONNECTOR FOR SUSPENSION APPARATUS
James A. Rawls, Richmond, Va., and John J. Taylor, Medina, Ohio, assignors to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey
Filed Jan. 4, 1965, Ser. No. 423,152
6 Claims. (Cl. 174—144)



3. An electrical connector clip comprising a unitary wire body formed in two parts laterally symmetric about a line axis perpendicular to the plane of the body and comprising two elongate laterally opposed exterior parts, a yoke part joining the said two exterior parts at one extremity of the body, and arcuately re-entrant parts at the remaining extremity of the body, and two interiorly convergent parts extending from the re-entrant parts along the interior of the exterior parts, the said interiorly convergent parts being normally divergent from the plane of the body in opposite directions therefrom for elastic deformation thereof generally to the plane of the body.

3,270,125
COLOR KINESCOPE OPERATING AND TESTING ARRANGEMENTS
Gordon E. Kelly and Paul E. Crookshanks, Indianapolis, Ind., assignors to Radio Corporation of America, a corporation of Delaware
Filed Jan. 15, 1963, Ser. No. 251,644
3 Claims. (Cl. 178—5.4)

1. In a color television receiver including a color kinescope having a plurality of electron guns each including cathode, control grid and screen grid electrodes, the combination comprising:

a luminance signal source;

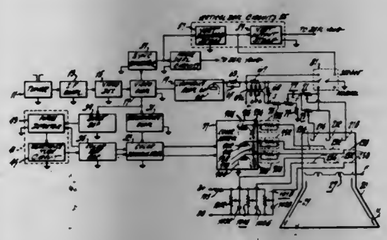
a plurality of respectively different color difference signal sources;

means providing substantially complete direct current coupling between each of said color difference signal sources and a respectively different one of said control grid electrodes;

means for applying an individually adjustable unidirectional potential to each of said screen grid electrodes;

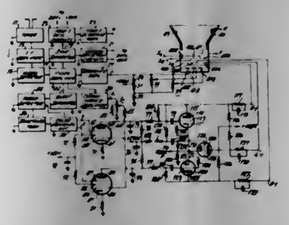
means for coupling said luminance signal source to said cathode electrodes, said last-named coupling means including means for individually adjusting the amplitude of the luminance signal delivered by said coupling means to two of said cathode electrodes;

switching means permitting selective disruption of the luminance signal coupling to said cathode electrodes;



and means independent of said luminance signal source for applying an adjustable unidirectional potential in common to each of said cathode electrodes via said luminance signal amplitude adjusting means in such manner that the magnitude of said unidirectional potential applied to each of said cathode electrodes is substantially independent of the settings of said luminance signal amplitude adjusting means when said luminance signal coupling is selectably disrupted.

3,270,126
COLOR MATRIX INCLUDING NEGATIVE FEEDBACK AND A CROSS-FEED CONNECTION
Paul E. Crookshanks and Thornley C. Jobe, Indianapolis, Ind., assignors to Radio Corporation of America, a corporation of Delaware
Filed Mar. 18, 1963, Ser. No. 265,951
7 Claims. (Cl. 178—5.4)



1. In a color television receiver including a source of a first color difference signal, and a source of a second color difference signal, matrixing apparatus comprising the combination of

a trio of amplifying devices, each including an input electrode, an output electrode and a common electrode;

an impedance;

means for utilizing said impedance for returning the common electrodes of all of said amplifying devices, in common, to a point of reference potential;

respective means associated with the output electrodes of said devices for providing each amplifying device with a separate output circuit;

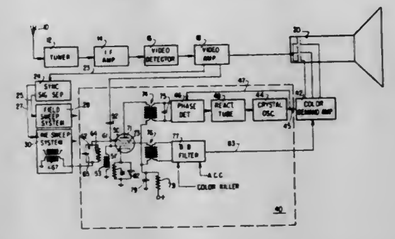
means for coupling the input electrode of a first one of said trio of amplifying devices to said first color difference signal source;

means for coupling the input electrode of a second one of said amplifying devices to said second color difference signal source;

means for returning the input electrode of the remaining one of said amplifying devices to said point of reference potential;

and means for coupling signals from the output electrode of said first amplifying device to the input electrode of said remaining device.

3,270,127
COLOR TELEVISION RECEIVER INCLUDING A COMBINED CHROMA AMPLIFIER AND BURST SEPARATOR
Robert B. Hansen, Arlington Heights, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Mar. 21, 1963, Ser. No. 266,904
1 Claim. (Cl. 178—5.4)

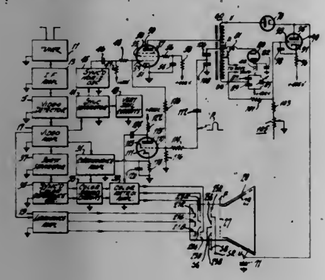


In a color television receiver for utilizing a color television signal, which receiver includes means for translating a detected composite video signal derived from the color television signal, color signal demodulation means, a reference signal source coupled to the color signal demodulation means, and a deflection system for the receiver including a line sweep circuit, the combination including, an electron control device having first and second electrodes providing a current path therebetween, said electron control device further having third, fourth and fifth electrodes disposed in the order named between said first and second electrodes, means for coupling the composite video signal to said third electrode from the means for translating the detected signal, said composite video signal including chroma modulation components and a color burst reference signal component, a first output circuit coupled between the reference signal source and said second electrode of said electron control device for deriving the color burst reference signal component and controlling the reference signal source thereby, a second output circuit coupled between the color signal demodulation means and said fourth electrode of said electron control device for deriving at least the chroma modulation components and applying the same to the color signal demodulation means, a coupling circuit connected between said fifth electrode and the line sweep circuit of the receiver for applying keying pulses in time coincidence with the color burst reference signal component to said electron control device, said coupling circuit including a time constant bias network to provide conduction in said electron control device to said second electrode only during the occurrence of the keying pulse, said time constant network providing a bias to prevent such conduction in the absence of the keying pulses, and said second output circuit developing at least the chroma modulation components with said second electrode nonconductive, whereby the color burst reference signal component is developed at said second electrode in a form substantially uncontaminated by the chroma modulation components for control of the reference signal source.

3,270,128
POWER SUPPLY PROTECTION ARRANGEMENT

John Stark, Jr., Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware

Filed July 17, 1963, Ser. No. 295,695
6 Claims. (Cl. 178—5.4)



1. In a color television receiver including a color image reproducing device having an electrode requiring a high unidirectional energizing potential, means for developing periodically recurring voltage pulses and including an electron discharge device having an input electrode, high voltage rectifying means responsive to said periodically recurring pulses for developing and supplying said high unidirectional energizing potential to said reproducing device electrode, and high voltage regulator circuitry for maintaining, when operative, substantially constant loading on said high voltage rectifying means;

the combination comprising:

means responsive to said periodically recurring pulses for developing a substantially invariant bias voltage when said regulator circuitry is operative, and for developing a variable bias voltage, the magnitude of which varies directly with variations in said high unidirectional energizing potential, whenever said regulator circuitry is undesirably disabled;

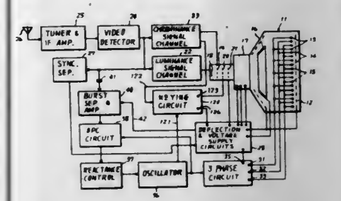
and means for coupling said discharge device input electrode to said bias voltage developing means so that the bias upon said discharge device input electrode is maintained substantially invariant at some desired operating point when said regulator circuitry is in operative condition, and varies, when said regulator circuitry is undesirably disabled, in a direction to reduce the magnitude of said periodically recurring pulses should the high unidirectional potential increase under such regulator circuitry disability conditions.

3,270,129
COLOR TELEVISION REPRODUCTION SYSTEM

Satoshi Shimada, Ohta-ku, Tokyo, Tetsuo Tokita, Shinagawa-ku, Tokyo, and Yasunori Takahashi, Musashino-shi, Tokyo, Japan, assignors to Sony Corporation, Shinagawa-ku, Tokyo, Japan, a corporation of Japan

Filed Oct. 25, 1963, Ser. No. 319,056
Claims priority, application Japan, Oct. 31, 1962, 37/49,112
9 Claims. (Cl. 178—5.4)

1. In a color television reproducing system, a cathode ray tube including an electron gun for producing an electron beam, means for deflecting said beam, color control grids each having spaced parallel elements in interleaved relation to the elements of the other grids, and a screen adjacent said grids having red, green and blue phosphor strips in parallel relation to said grid elements, a white color being produced from a balanced excitation of the strips of all three colors, means for applying a three phase color control signal to said grids, said grid elements and phosphor strips being arranged to produce colors in the sequence red-white-green-white-blue-white-

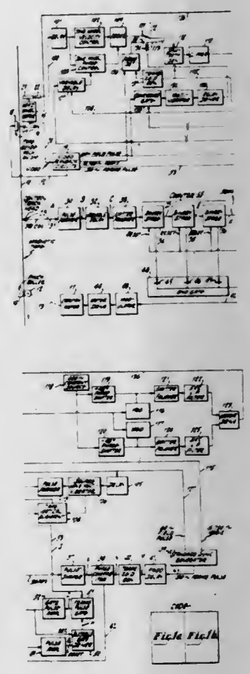


red-white-green-white-blue-white . . . as said three phase color signal is applied.

3,270,130
SERVO SYSTEM WITH PLURAL REFERENCE SIGNALS

Robert N. Hurst, Haddonfield, and Robert A. Dischert, Burlington Township, Burlington County, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Mar. 27, 1962, Ser. No. 182,798
11 Claims. (Cl. 178—6.6)



11. A system for comparing a control signal with first and second reference signals, said reference signals having frequencies lower than the frequency of said control signal comprising,

(a) means for dividing the frequency of said control signal to form a second control signal having a frequency approximately equal to the frequencies of said reference signals,

(b) means for comparing the phase of said first reference signal with the phase of said second control signal and for generating an error signal related to the phase difference, and

(c) means responsive to said second reference signal for controlling said first mentioned means such that the phase of said second control signal is approximately the same as the phase of said second reference signal.

3,270,131
TELEVISION RECEIVER AND VIDEO SIGNAL GENERATOR CONNECTIBLE FOR USE THEREWITH

Konrad Dinter, Ulm (Danube), Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany

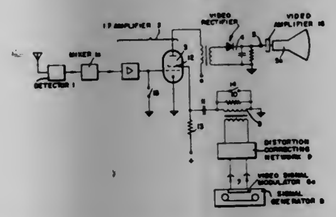
Filed Jan. 25, 1963, Ser. No. 253,906
Claims priority, application Germany, Jan. 26, 1962, T 21,485
15 Claims. (Cl. 178—6.8)

1. A circuit arrangement comprising, in combination:

(a) a video signal generator incorporating means for modulating the video signal onto a carrier;

(b) a television receiver having a picture tube, video rectifier means for receiving a broadcast video signal, said receiving means including an IF circuit having a multiple stage IF amplifier whose last stage is connected to said video rectifier means, at least one of said components (a) and (b) being a component having a chassis which serves as a "ground" to which one terminal of a power supply is connected; and

(c) reactive coupling means for establishing a non-grounded connection between the output of said modulating means of said signal generator and said receiver, said coupling means being connected to said receiver at a point thereof which is no further from



said picture tube than said last stage of said IF amplifier, whereby said television receiver is capable of receiving a broadcast video signal when said television receiver is disconnected from and used independently of said video signal generator.

3,270,132
OPTICAL SCANNING DEVICE UTILIZING OPTICAL FIBERS DISPOSED IN A HELICAL ARRAY

James D. Richey, Whippany, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 1, 1964, Ser. No. 371,845
12 Claims. (Cl. 178—7.6)

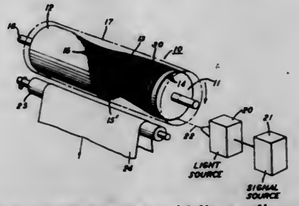
1. A device for optically scanning a medium which is linear in one dimension and which is capable of being advanced in a direction perpendicular to the linear dimension comprising:

an array of optical fibers located adjacent the medium;

first ends of the fibers being arranged along a circular path;

second ends of the fibers being arranged along a helical path;

the circular and helical paths having a common axis



which is parallel to the said linear dimension of the medium;

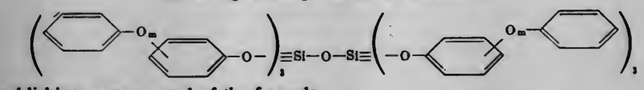
and means for rotating the array of fibers, whereby the second ends of the optical fibers scan the medium.

3,270,133
PROJECTION SYSTEM WITH IMPROVED DEFORMABLE MEDIUM

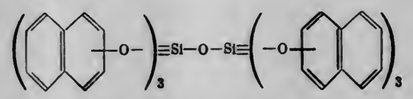
Fred F. Holub, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 24, 1964, Ser. No. 339,930
11 Claims. (Cl. 178—7.87)

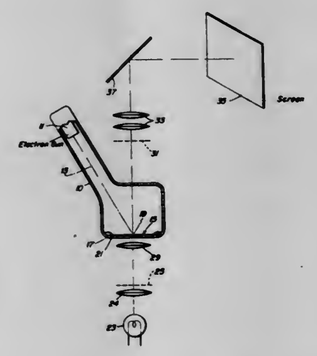
1. A projection system comprising a container having a conducting interior, a deformable medium in said container comprising a composition selected from the class consisting of compounds of the formula



and of the formula



and mixtures of the aforesaid compositions, where m is a whole number of from 0 to 1, an electron beam means for

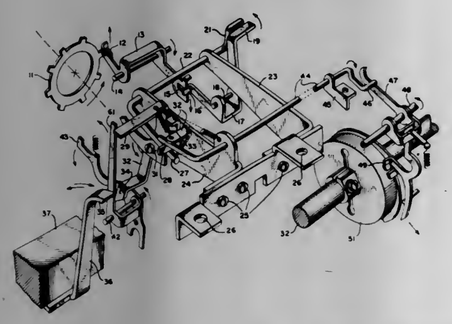


producing an electrical charge on the surface of said deformable medium as a function of an applied electrical signal and cooperating with said conducting interior to subject the medium to a deforming force to produce deformations on the surface of said medium, and a light and optical system for projecting light as a function of the deformations on the surface of said medium.

3,270,134
AUTOMATIC CARRIAGE RETURN AND LINE FEED MECHANISM

James J. Krakusky, Ridgewood, N.Y., assignor to The Western Union Telegraph Company, New York, N.Y., a corporation of New York

Filed Dec. 7, 1962, Ser. No. 242,985
6 Claims. (Cl. 178—25)

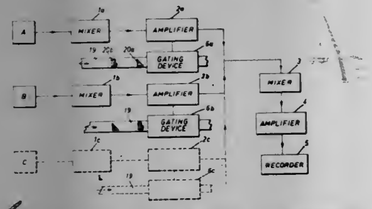


1. In a teletypewriter having a linewise advanceable record sheet on a returnable carriage, and provided with a space suppression ring lug engageable with a spacing cutout transfer bail to move a spacing cutout bail, and further provided with a line feed clutch trip lever, a carriage-return lever, and an actuating bail, positioning rod means having a tail engageable for rotation by the spacing cutout bail, carriage return-line feed lever means mounted for engagement with said positioning rod means resiliently returnable and having a portion adapted for engagement with the carriage return lever, carriage return line-feed actuating lever means mounted coaxially with said last-named element engageable thereby for movement into the path of travel of the actuating bail said carriage return line-feed actuating lever means having a first tail portion thereon operative to effect carriage return lever rotation by rotating said carriage return-line feed lever means upon actuating bail engagement, said carriage return line feed actuating lever means having a second tail portion thereon, and line feed trip rod means rotatably mounted for line feed clutch trip lever engagement and having a crank portion located for engagement with and rotation by said second tail portion.

3,270,135
CONTROL MEANS FOR CONTROLLING ELECTRO-MECHANICAL PHENOMENA

Myron Schaeffer, Toronto, Ontario, Canada, and Kurt Boll, Griessen, Baden, Germany, assignors to The Governors of the University of Toronto, Toronto, Ontario, Canada

Filed June 21, 1962, Ser. No. 204,178
11 Claims. (Cl. 179—1)

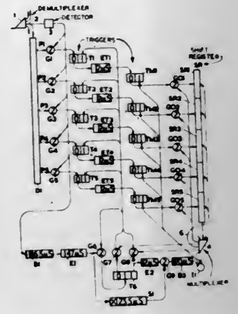


6. In combination with a plurality of electronic sound sources for producing audio frequency signals and amplifying means for transmitting signals from said sources to a point of collection for collecting said signals into a composite sound organization of a plurality of gating means for controlling the point in time and degree of amplification of sounds transmitted by said amplifying means according to a predetermined pattern, each of the said gating means comprising a planar storing non-conductive element with a control pattern formed of response creating areas removably applied thereto corresponding to said predetermined pattern and a sensing device responsive to said control pattern in response to relative movement of said storing element and said sensing device and arranged to govern sound transmitted through the respective amplifying means and means to effect relative movement of said storing element and sensing device.

3,270,136
DIGITAL SPEECH TRANSFER SYSTEM INCLUDING FOR EXAMPLE A SYNCHRONIZING ARRANGEMENT FOR TIME DIVISION MULTIPLEX SIGNALLING SYSTEM OF SAME NOMINAL FREQUENCY

Peter Heaton, Highcliffe, Christchurch, England, assignor to National Research Development Corporation, London, England

Filed June 22, 1962, Ser. No. 204,476
Claims priority, application Great Britain, June 28, 1961, 23,381/61
17 Claims. (Cl. 179—15)



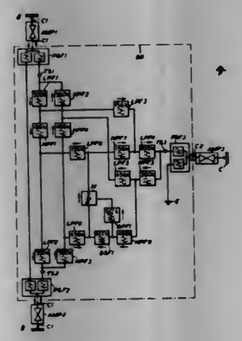
1. A digital speech transfer system including receiving means, transmitting means operating at the same nominal digit frequency as the receiving means, a store, means for interrogating the store connected between said receiving and transmitting means by interrogation signals related in time to the digit of the transmitting means and control means for controlling variably the relative timing of the interrogation signals and the times of receipt of incoming digital signals into the store so that the interrogation signals do not occur during the times of receipt of the incoming digital signals into the store.

3,270,137
BRANCHING DEVICE FOR TWO-WIRE CARRIER MULTICHANNEL COMMUNICATION SYSTEMS

Reginald John Halsey, Radlett, England, assignor to Her Majesty's Postmaster General, of The General Post Office, London, England

Filed Jan. 14, 1963, Ser. No. 251,149
Claims priority, application Great Britain, Jan. 19, 1962, 2,101/62
24 Claims. (Cl. 179—15)

1. A branching device for a two-wire carrier multichannel communication system, the branching device having three terminal points, means providing transmission paths in opposite directions within first and second frequency groups respectively between first and second of the terminal points, means providing transmission paths in opposite directions within third and fourth frequency groups respectively between the first and third of the terminal points, means including a frequency changer arrangement interconnecting the second and the third terminal points providing respective opposite direction transmission paths, the transmission path from the second to the third terminal point including means defining one of

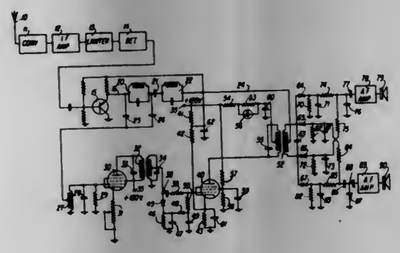


the third and fourth frequency groups connected to an input of the frequency changer arrangement and means defining one of the first and second frequency groups connected to an output of the frequency changer arrangement, and the transmission path from the third terminal point to the second terminal point including means defining the other one of the first and second frequency groups connected to an input of the frequency changer arrangement and means defining the other one of the third and fourth frequency groups connected to an output of the frequency changer arrangement.

3,270,138
F.M. STEREOPHONIC RECEIVER HAVING NOISE PREVENTION MEANS IN THE PILOT CIRCUIT

Leslie P. Golonski, Hanover Park, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed Mar. 22, 1963, Ser. No. 267,077
7 Claims. (Cl. 179—15)

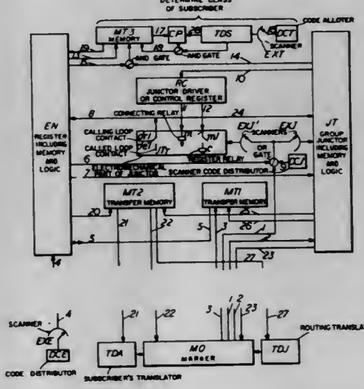


4. In a radio receiving system for receiving monophonic and stereophonic sound, and wherein the received carrier wave for stereophonic reception is frequency modulated by a composite signal including a stereo sum signal, a suppressed carrier wave amplitude modulated by a stereo difference signal, and a pilot signal having a frequency one half that of the suppressed carrier wave, and wherein noise having components of the frequency of the pilot signal may be present in the absence of the composite signal, the combination including, a frequency selective system for deriving the pilot signal from the composite wave, a frequency doubler circuit responsive to the pilot signal for producing a wave having twice the frequency of the pilot signal, said frequency doubling circuit including an electron device biased to be normally non-conducting, rectifier means coupled to said selective system and responsive to the pilot signal for selectively rendering said electron device conducting, said rectifier means including a first rectifier element and load means across which the rectified pilot signal and noise components are developed, a capacitor, a second rectifier element connecting said capacitor to said load means for charging said capacitor therefrom, said second rectifier element being constructed and poled to have a high impedance to current flow for charging said capacitor from said load means so that the voltage across said capacitor rises slowly to approach the voltage across said load means, said second rectifier element having a low impedance to current flow for discharging said capacitor so that said capacitor discharges rapidly to the voltage across said load, and means coupling said capacitor to said electron device for applying the voltage across said capacitor thereto to control the conductivity of said electron device.

3,270,139
PENTACONTA SEMI-ELECTRONIC SYSTEM

Henri Benmussa, Meudon, and Pierre René Louis Marty and Stanislas Kobus, Paris, France, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 27, 1962, Ser. No. 240,269
Claims priority, application France, Nov. 30, 1961, 880,491, Patent 81,352
9 Claims. (Cl. 179—18)

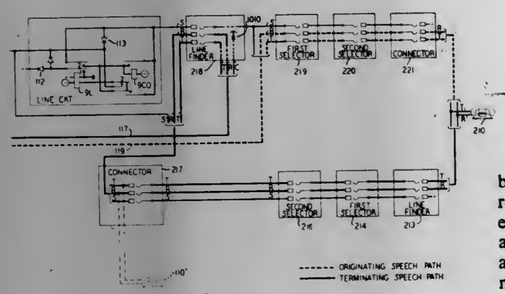


1. In an automatic telephone switching system for extending connections between calling and called lines through a plurality of switching stages interconnected by junctor means, each of said switching stages comprising two-wire transmission paths, control means operable responsive to directive signals from any said calling line for marking said calling line and any called line, means for operating said switching stages to complete a connection over said two-wire transmission path from the said calling line to said called line, holding means in said switching stages for maintaining said established connection independently of holding control, and release means responsive to the termination of said connection for controlling said holding means over said two-wire transmission path for releasing said switching stages.

3,270,140
LINE CONCENTRATOR SYSTEM FOR STEP-BY-STEP OFFICES

Chester E. Brooks, Montvale, George B. Crofutt, Jr., Verona, and William C. Sand, Chatham, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 3, 1963, Ser. No. 277,926
15 Claims. (Cl. 179—18)

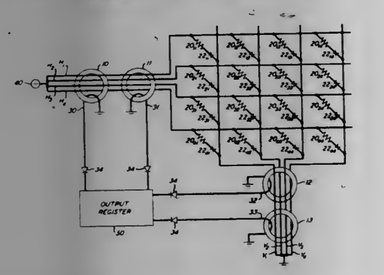


1. A remote telephone line concentrator system including a telephone central office, a plurality of trunks extending from said office, a plurality of remote substation lines, remote switching means for connecting said lines to said trunks under control of said office, a plurality of terminals in said office individual to said lines, line finder means and connector means at said office, and means at said office effective upon a terminating call to one of said lines for simultaneously coupling said line finder means and said connector means to said terminals individual to said line to extend a connection to said called line.

3,270,141
TRANSLATOR CIRCUIT HAVING LINEAR FERROMAGNETIC CORES

Wesley T. Wichman, Rumson, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 28, 1963, Ser. No. 305,094
12 Claims. (Cl. 179—18)

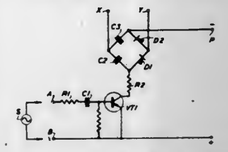


1. In combination, a first and second set of ferromagnetic cores, a first and second plurality of windings, each winding including a first and second terminal, each of said first plurality of windings and each of said second plurality of windings being selectively coupled to cores included in said first and second sets, respectively, an energy source connected to said first terminal of each of said first plurality of windings, a common ground terminal connected to said second terminal of said second plurality of windings, and a plurality of switching means connecting said second terminal of each of said first plurality of windings to said first terminal of each of said second plurality of windings.

3,270,142
VARIABLE IMPEDANCE ELECTRICAL CIRCUITS

Frederick Arthur Wilson, Colindale, London, England, assignor to Her Majesty's Postmaster General, London, England

Filed May 13, 1963, Ser. No. 279,966
Claims priority, application Great Britain, May 14, 1962, 18,523/62
12 Claims. (Cl. 179—81)

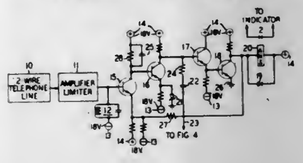


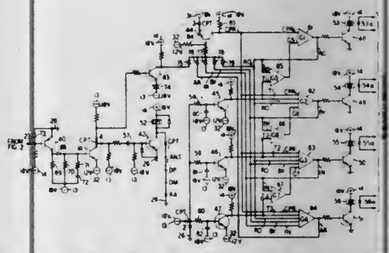
1. An electrical circuit including a transistor having a base-emitter circuit arranged for operation as a half-wave rectifier, a pair of input terminals connected to the base-emitter circuit for the supply of A.C. input signals thereto, a pair of output terminals, a current controllable impedance network bridging the output terminals, means connecting the collector of the transistor to the impedance network to supply collector current thereto for controlling the impedance of the said network.

3,270,143
CALL-PROGRESS SIGNAL DETECTOR

Paul J. Germond, Wall, Jesse C. Laswell, Neptune, and Douglas T. Seward, Union Beach, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 24, 1963, Ser. No. 282,926
6 Claims. (Cl. 179—84)





1. In a circuit for detecting telephone call-progress signals which can be either a steady tone of a first frequency or a tone interval of alternating pulses of the first frequency and a second frequency and a no-tone interval longer than a cycle in the alternating tone interval, the combination of

a tuned detector responsive to said first frequency,

first means driven by said tuned detector generating an output signal responsive to the steady persistence of said first frequency for a predetermined minimum time interval,

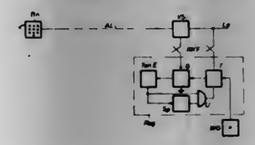
second means driven by said tuned detector responsive first to the end of an initial alternating tone interval and then to the beginning of a second alternating tone interval thereby furnishing output signals corresponding to the beginning and end of a no-tone interval, and

timing means responsive to the respective output signals from said second means producing discrete outputs according to the length of a given tone-off interval.

3,270,144
DIAL SIGNAL RECEIVING FACILITIES

Georg Vogel, Schwieberdingen, Hilmar Schönemeyer, Ditzingen, and Lorenz Gasser, Gerlingen, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 1, 1964, Ser. No. 415,052
Claims priority, application Germany, Dec. 4, 1963, St 21,410
6 Claims. (Cl. 179—84)

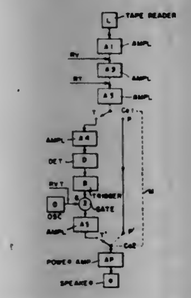


1. A circuit arrangement using a dial signal receiving facility for receiving voice frequency dial signals originating at subscriber stations, connecting links for connecting said subscriber stations to extending lines through said dial signal receiving facility, said dial signal receiving facility comprising hybrid means having a two wire primary side and first and second secondary sides, switching means responsive to the initiation of a call at one of said subscriber sets for coupling said connecting link to the two wire side of said hybrid, tone receiver means for receiving said dial signals connected to said first secondary side, gate means connected to said second secondary side, dial tone generator means connected to said gate means for transmitting dial tone to the subscriber station initiating a call through said hybrid means responsive to the operation of said switching means, and control means for operating said gate to block said dial tone responsive to the receipt of said dial signals.

3,270,145
ELECTRONIC TAPE READER

Daniel Gauban, Paris, France, assignor, by mesne assignments, to Inventions Finance Corporation, a corporation of Delaware

Filed Nov. 21, 1960, Ser. No. 70,747
3 Claims. (Cl. 179—100.2)

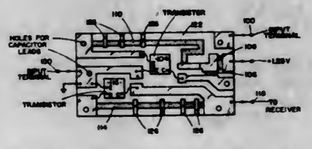


1. Record reproducing apparatus for signal records of either voice modulation or code modulation type, comprising adjustable-speed drive means for moving a signal record past a recording head, signal amplifying means having its input coupled to said head and having a signal output terminal, first and second signal processing channels adapted respectively to process amplified signals of code character and of voice character, and ganged switch means for selectively connecting said signal output terminal to the inputs of said two channels, and for concomitantly connecting the outputs of said channels selectively to a sound reproducer.

3,270,146
HEARING AID

Everett Eberhard, Phoenix, Ariz., and Richard T. Martin, Minneapolis, Minn., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed Mar. 14, 1963, Ser. No. 265,125
3 Claims. (Cl. 179—107)

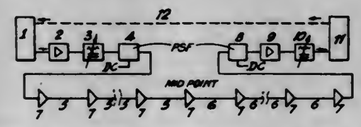


1. In a hearing aid unit which includes a microphone and a receiver means, an amplifier section electronically coupling said microphone to said receiver means and including in combination: a panel-like substrate member formed of insulating material; at least one transistor mounted on said substrate member; a plurality of resistances mounted on said substrate member as film-like deposits; a plurality of conductors interconnecting said transistor and said resistances and mounted on said substrate member as film-like deposits; and a plurality of electrically conductive tabs formed over at least one of said resistances at spaced points therealong and adjacent to at least one of said conductors, said tabs being adapted to be selectively coupled to the adjacent conductor to adjust to the value of such resistance.

3,270,147
REPEATERED TELEPHONE SYSTEMS

Thomas Oswald, Longfield, Dartford, Kent, England, assignor to Submarine Cables Limited, London, England, a corporation of the United Kingdom

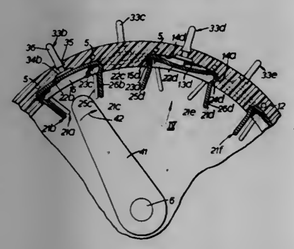
Filed Mar. 10, 1966, Ser. No. 533,200
Claims priority, application Great Britain, Oct. 6, 1961, 36,093/61
8 Claims. (Cl. 179—170)



1. A repeatered cable system comprising a line transmission path having, in the direction of transmission, a first and a second half, the path having a certain median value of overall gain or loss, the maximum expected systematic time variation about the said median value being $\pm 2Y$ nepers, the said variation as well as the repeater gains and the repeater section losses being substantially proportional to the square root of the frequency of operation; two terminal stations connected to respective ends of the said path; and a plurality of repeaters, and of repeater section interposed therebetween, disposed along each half of the path, there being a total of N repeaters in the two halves of the path, each repeater having a certain median gain and each repeater section having a certain median loss, the median values of the gains of the repeaters of the first half of the path being systematically set and the lengths of the interposed repeater sections being systematically dimensioned so that the average of the median gains of the repeaters of the said first half exceeds by $2Y/N$ nepers the average of the median losses of the

repeater sections in that half, the respective said parameters of the repeaters and of the repeater sections of the second half of the path being so systematically dimensioned that the average of the median gains of the repeaters of the said second half is less by $2N/Y$ nepers than the average of the median losses of that half; the relative input levels of repeaters in the middle region of the line path being maintained in use substantially constant, despite the aforesaid variations, by adjustments made at the terminal stations.

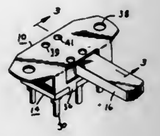
3,270,148
ELECTRIC SWITCH WITH FLEXIBLE SNAP ACTION CONTACT ELEMENTS
Robert Frederick Oxley, Priory Park, Ulverston, Lancashire, England
Filed Sept. 18, 1964, Ser. No. 397,477
Claims priority, application Great Britain, Sept. 19, 1963, 36,963/63; May 28, 1964, 22,151/64
12 Claims. (Cl. 200—14)



11. A multi contact electric switch comprising a body, a first series of switch elements mounted in a circle on said body about an axis, a second series of switch elements mounted in a circle on said body about said axis and axially spaced from said first series, each switch element having a bowed flexing portion having two positions of stability and a pair of trigger members projecting generally in the same direction from the flexing portion, a plurality of fixed electrical contacts mounted on said body each positioned to be engaged by one of said flexing portions when said flexing portion is in one of its two said positions of stability, and an operating element mounted on said body for rotation about said axis, said operating element having a first engaging portion for engaging the trigger members of the switch elements of said first series and a second engaging portion for engaging the trigger members of the switch elements of said second series to successively engage the two trigger members of each switch element in turn to cause the flexing portions of said switch elements to successively snap from one position of stability to the other and back again, the relative positions of the switch elements of the first series and the first engaging portion and the switch elements of the second series and the second engaging portion being staggered.

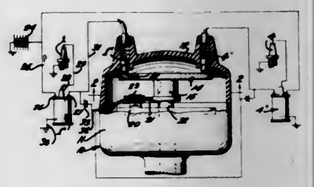
3,270,149
SLIDE SWITCH CONSTRUCTION INCLUDING LATERAL ARM AND DETENT STRUCTURE
William F. O'Shea, Willow Grove, and Joseph M. Vananzi, Meadowbrook, Pa., assignors to Continental-Wirt Electronics Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 25, 1966, Ser. No. 530,210
8 Claims. (Cl. 200—16)

1. A slide switch, comprising in combination, a contact assembly including an insulating base member and a plurality of electrically conductive contact elements carried by said base member, a slider element overlying said contact assembly having a body portion made of electrical insulating material and an actuating arm extending laterally therefrom with at least one electrically conductive contact bridge held captive to the underpart of said slider body so as to move with and mechanically engage a pair of contact elements of said contact assembly, a case enclosing said slider element and having a top wall and depending front and rear walls, said case top wall overlying said slider body and said case front and rear walls extending downward immediately in front of and behind said slider element body to the insulating base member of said contact assembly and being locked to the latter by locking ears carried by said case front and rear walls, and a detent pressure plate overlying said



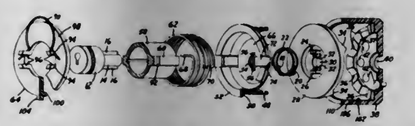
slider body and disposed between said slider body and said case top wall, said case front wall being apertured and having projected therethrough said slider element actuating arm, said actuating arm being narrower than said case front wall aperture so that said arm and the slider body may be shifted laterally with respect to said contact assembly and case for a distance determined by the length of said case front wall aperture between at least two detented positions to thereby shift the switch from one contact condition to another, the length of said actuating arm being sufficiently long to project completely through and be operable from one side of a panel when the remainder of the switch structure is disposed on the opposite side of the panel.

3,270,150
DISTRIBUTOR FOR INTERNAL COMBUSTION ENGINES
Robert A. Stevens, 1217 W. Thomas St., South Bend, Ind.
Filed Mar. 25, 1964, Ser. No. 366,931
1 Claim. (Cl. 200—24)



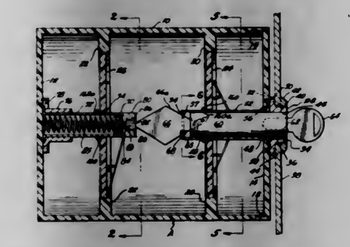
An internal combustion engine distributor for multiplying the dwell angle and providing an almost uninterrupted charge directly to spark plugs, comprising a housing having a shaft therein, a cap in said housing, a rotor disc of conductive material mounted in said housing transversely to said shaft, and said rotor mounted integral with a sleeve portion dependingly affixed to and keyed to rotate with said shaft, a single recess formed in a peripheral part of said rotor disc having a non-conductive filling therein, a base formed in said housing, a brush mounted on said base for electrically engaging the sleeve portion of said rotor, a plurality of terminals mounted in said cap having brushes engaging said rotor, said filling located in the path of said terminal brushes, and said recess being of a size which is larger than the terminal brush cross sectional area and in which the filling contacts no more than one terminal brush at a time.

3,270,151
TAIL GATE SWITCH
Robert G. Godette, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 10, 1963, Ser. No. 286,671
3 Claims. (Cl. 200—44)



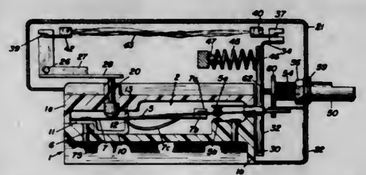
2. The combination of an electrical switch and a lock cylinder having a shaft extending therefrom arranged to turn in response to key rotation, said lock cylinder being rotatably mounted within a sleeve member fixed to a support member, a first biasing means engageable with said sleeve member and a member rotatable with said driver lug to urge said lock cylinder toward a predetermined neutral position and a driver lug carried by said shaft, said electrical switch comprising a rotatable control plate in face opposing biased engagement with a switch base, said rotatable control plate having a conductive portion disposed in opposition to contacts carried on the switch base, said rotatable control plate including a series of cam lobes carried on one surface disposed in opposed relationship to a series of cam grooves carried on said switch base, and second biasing means for urging said conductive portion toward said contacts and providing a torsional connection between said lug and said control plate, said control plate having a portion in the center thereof which provides an oversized opening to restrict the rotational movement of said driver lug, said driver lug being in torsional connection with said control plate through said second biasing means thereby effecting a delayed but sudden separation of said opposed conductive area and contacts as the key is rotated in said lock cylinder.

3,270,152
AUTOMOTIVE ELECTRIC SWITCH
Kenneth E. Carmichael, 107 E. 60th St., Long Beach, Calif.
Filed May 26, 1964, Ser. No. 370,152
7 Claims. (Cl. 200—44)



1. In combination with an automotive vehicle having a light circuit and an ignition circuit, an electric switch that permits said ignition circuit to be placed in an open condition only after said light circuit has been broken, which switch includes:
(a) a housing;
(b) first and second coaxially aligned discs rotably supported in said housing;
(c) first and second arcuate electrical conductors mounted on said first and second discs;
(d) a first plurality of electrical contacts forming a part of said ignition circuit disposed in said housing and capable of being engaged by said first conductor to complete said ignition circuit;
(e) a second plurality of electrical contacts forming a part of said light circuit disposed in said housing and capable of being engaged by said second conductor to complete said light circuit; and
(f) rotatably and longitudinally movable means in said housing that is manually operable for rotating said first disc and first conductor in a direction to complete said ignition circuit when said movable means is in a first longitudinal position, with said movable means when moved to a second longitudinal position capable of being actuated to rotate said second disc and second conductor without moving said first disc and first conductor to a position to complete said light circuit, and with said movable means incapable of being moved from said second to said first longitudinal position until after said second disc and second conductor have been rotated to a position where said second conductor is out of engagement with said second contacts.

3,270,153
HUMIDITY ACTUATED SWITCH
John D. Buchanan, 2123 Eastridge Road, Timonium, Md.
Filed July 25, 1963, Ser. No. 297,590
7 Claims. (Cl. 200—61.06)



1. An electrical switch unit including a resilient contact strip provided with an electrical contact on one side thereof; a stationary electrical contact for cooperation with the electrical contact on said resilient contact strip; said resilient contact strip being prestressed sufficiently to cause its electrical contact to normally engage said stationary electrical contact; a prestressed spring strip anchored at one end; said prestressed spring strip being capable of snap action to strike said resilient contact strip and drive it out of its aforementioned normal position; and means for engaging said prestressed spring strip and moving it into snap action; said prestressed spring strip underlying said resilient contact strip and provided with an integrally-formed downwardly-bowed tongue; said tongue being prestressed and with its outer end secured against movement with respect to said prestressed spring strip.

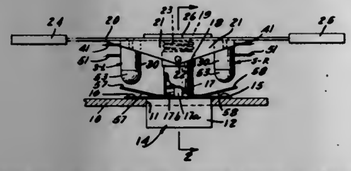
ERRATUM

For Class 200—61.08 see:
Patent No. 3,269,987

3,270,154
DIMMER AND TURN SIGNAL CONTROL MECHANISM
Cleo C. Stratton, 1732 Mallory St., San Bernardino, Calif.
Filed Dec. 26, 1963, Ser. No. 333,555
5 Claims. (Cl. 200—61.29)

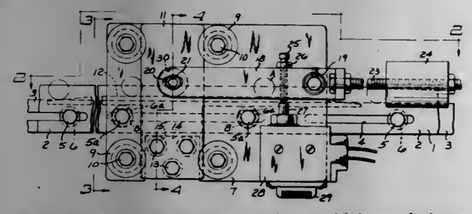
4. In a switch mechanism:
(A) a dimmer switch having a movable switch actuating member;
(B) a beam pivoted to said switch actuating member adjacent the longitudinal center of said beam and having see-saw movement thereon and engageable at either end for operation;

(C) yielding means normally positioning said beam in a neutral position;
(D) a normally open directional switch secured to the beam at each side of its pivot;
(E) and yielding means for closing respective switches upon pivotal movement of said beam in respective



directions, said yielding means being in the path of movement of the directional switches, said dimmer switch being closed upon actuation of said beam by pressure in the region of its pivotal connection with said movable switch actuating member.

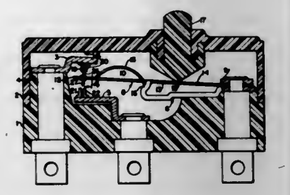
3,270,155
SWITCH ACTUATING MECHANISM FOR CHUTING
John G. Kay, Detroit, Mich., assignor to F. Jos. Lamb Company, Detroit, Mich., a corporation of Michigan
Filed Jan. 19, 1965, Ser. No. 426,597
11 Claims. (Cl. 200—61.41)



1. In combination a runway along which workpieces are adapted to travel, a switch actuating mechanism comprising a supporting plate attached to the runway, an arm pivoted on the supporting plate, at least one operating rail normally projecting through and only slightly above the surface of the runway along which workpieces are adapted to travel so as to not interfere with the travel of workpieces thereover when in said raised position, means mounted on the supporting plate interposed between the operating rail and the arm whereby movement of either the rail or the arm imparts movement to the other, means connected to the arm for retaining the operating rail in its raised position until a predetermined plurality of workpieces accumulates thereon whereupon said rail is depressed into substantial alignment with the runway, and a switch actuating member associated with the arm for operating a switch mounted in fixed relation to the supporting plate, said interposed means including means whereby the upper surface of the operating rail is maintained at all times parallel throughout the major portion of its length with said surface of the runway.

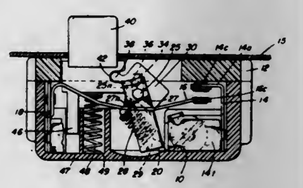
3,270,156
SWITCHING DEVICES WITH CONTACT MEANS WHICH INHIBIT CONTACT BOUNCE
Richard E. Stewart, Hartsdale, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Mar. 23, 1964, Ser. No. 353,724
11 Claims. (Cl. 200—67)

1. A switching device characterized by at least substantial freedom from contact bounce, comprising in combination
a contact carrying blade member free to move at one end thereof;
a fixed contact support;
actuating means operatively associated with said blade member to actuate the free end thereof toward and away from said support to make and break an electrical connection;
first contact means fixedly attached to the free end of said blade member; and
second contact means fixedly attached to said support, one of said first and second contact means comprising two generally U-shaped electrically conductive spring wire contact elements arranged side-by-side and substantially parallel with the



leg portions of the U's thereof projecting away from said other contact means and being fixed to the corresponding one of said blade member and said support,
the other of said first and second contact means comprising a single contact element fixed to the other of said blade members and said support and projecting therefrom in such position as to enter between and substantially parallel to said generally U-shaped contact elements and wipe along at least one thereof to cause sliding frictional forces and resilient deformation of said at least one generally U-shaped element as said free end of said blade is actuated toward said support.

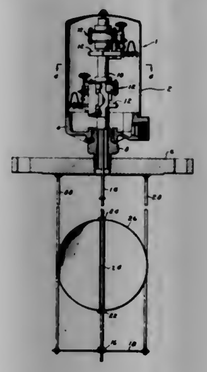
3,270,157
SNAP MECHANISM FOR SLOW-BREAK ELECTRIC SWITCHES
David W. Johnson, Newington, Conn., assignor to The Arrow-Hart & Hegeman Electric Company, Hartford, Conn., a corporation of Connecticut
Filed Sept. 24, 1964, Ser. No. 398,999
2 Claims. (Cl. 200—67)



1. In an electric switch, a housing, fixed contact means mounted in said housing, a flexible metallic strip forming movable contact means engageable with and disengageable from said fixed contact means, a pivoted yoke member, an operating member, overcenter-spring means engaged with said yoke member and said operating member to swing said yoke member between two at-rest positions with a snap action as said operating member is moved, cam means on said yoke engaging said movable contact strip and causing movement of said movable contact strip as said yoke member swings, final movement

of the contact means into said at-rest positions being free of control by said operating member, said cam means being formed to move said movable contact means at a slower rate of speed than said yoke, so as to provide a slow break contact-separating movement.

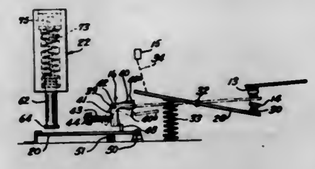
3,270,158
LIQUID LEVEL CONTROL WITH MEANS TO PREVENT SHORT CYCLING OF THE RELAY
Louis M. Puster, Knoxville, Tenn., assignor to Robertshaw Controls Company, a corporation of Delaware
Filed Oct. 31, 1961, Ser. No. 148,922
1 Claim. (Cl. 200—84)



In a liquid level control device for actuating electrical and pneumatic circuits, the combination comprising a housing, a tube mounted within said housing, a magnetic relay adjustably mounted on said tube, said relay including a permanent magnet, first and second pole shoes mounted on the magnet, non-magnetic spacer means mounted between the first pole shoe and said magnet to prevent short cycling of said relay, an armature pivotally connected to the second pole shoe adapted to actuate switch means for opening and closing an associated external circuit, a float adapted to move in response to liquid level variations, a stem having one end portion connected to the float, shunt means mounted on the other end portion of the stem opposite the float, said shunt being slidable within the tube into and out of the magnetic relay in response to movement of the float, a bimetallic return spring operatively connected to the armature to compensate for change in magnetic pull on the armature due to variation in the ambient temperature, said spring being so formed that its force varies with temperature in the same direction and by substantially the same degree that the magnetic pull on the armature varies with temperature, whereby a proper force-balance is maintained over a wide range of temperature, and adjusting screw means carried by said armature and operatively connected to said bimetallic return spring for adjusting the biasing force acting on said armature.

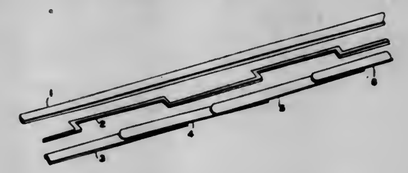
3,270,159
SHOCK RESPONSIVE CIRCUIT BREAKER
Steven W. Soos, Brecksville, Ohio, assignor to The Controllix Corporation, Bedford, Ohio, a corporation of Ohio
Filed Apr. 5, 1962, Ser. No. 185,361
8 Claims. (Cl. 200—85)

1. A circuit breaker mechanism adapted to be actuated when a shock force is applied thereto comprising a pair of electrical contacts biased to an open position, latching means for holding said contacts closed including a trip which when moved in a first direction releases said latching means, and means for moving said trip in said first direction including a body, means for holding said body in an elevated position above said trip and operable to



release said body when a shock force of a predetermined magnitude is applied thereto, said body when released falling through the influence of gravity and striking said trip and the force of said falling body moving said trip in said first direction to open said contacts.

3,270,160
TAPE SWITCH HAVING ZIG ZAG INSULATOR MEANS
Robert H. Koenig, Cambria Heights, N.Y., assignor to Tapeswitch Corporation of America, Elmont, N.Y.
Filed July 19, 1965, Ser. No. 472,925
6 Claims. (Cl. 200—86)

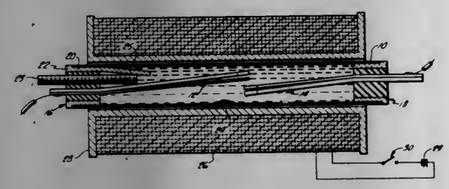


1. A tape switch comprising a first top conductor of uniform width,
insulating strip means mounted on said first conductor, said strip means having substantially less width than said uniform width and having alternate sections mounted along opposite edges of said first conductor,
a second conductor member mounted on the bottom of said insulating strip,
said second conductor having a plurality of elongated overlapping conductive leaves,
and a cover of insulating material surrounding said assembly of said first and second conductor and insulating strip.

3,270,161
HIGH SPEED MAGNETIC REED SWITCH
Wheeler M. Turner, 765 Riven Rock Road, Santa Barbara, Calif.
Filed Dec. 23, 1963, Ser. No. 334,077
5 Claims. (Cl. 335—151)

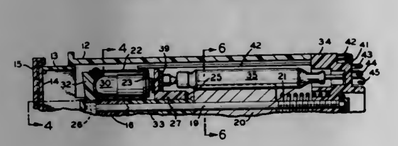
1. A high speed switch comprising a tubular housing, sulfate wood turpentine fluid filling the housing, fine nickel particles in the housing and movable through the fluid, first and second cantilever members, each member being supported at one end from the housing with the other end within the housing, said other end being free to move, the free ends being held in overlapping spaced

relationship, each member including a pair of laminations of unequal thickness with the thinner laminations of both members being adjacent each other in the overlapping region, the two laminations of each member being held in contact with each other only at the supported ends thereof, the free length of the two members being unequal, and means applying a magnetic field having lines of force passing through the members and across



the space between the free ends of the members, the magnetic field strength applied by said means being insufficient to move the members into contact with each other, an electrical circuit being completed through the two members by the nickel particles pressed in contact with each other and the free ends of the two members and bridging the overlapping space between the members.

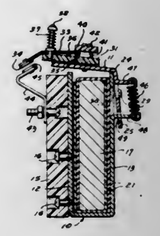
3,270,162
ILLUMINATING MAGNETICALLY ACTUATED PUSHBUTTON REED SWITCH
Norman Alpert, Scarsdale, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Feb. 1, 1965, Ser. No. 429,368
2 Claims. (Cl. 335—153)



1. In a pushbutton electrical switch comprising an illuminated display, the combination including a longitudinal switch housing and a pushbutton reciprocal with respect to said housing, a light bulb positioned in said pushbutton and illuminated by an electrical impulse from a source other than the impulse provided by said switch, said light bulb being spring-mounted in said pushbutton so as to be relatively stationary as said pushbutton is reciprocated relative to said housing, at least one reed switch secured in said housing, a permanent magnet mounted so as to reciprocate with respect to said reed switch and to actuate the contacts of the switch as the magnet is brought into proximity to the contacts of said reed switch said pushbutton being removably attached to said housing and interconnected with said magnet in a manner such that movement of the pushbutton provides movement of the magnet, said pushbutton being at least partially insertable in one end of said housing, spring means positioned in said housing to return said magnet and pushbutton after it has been depressed and released, electrical contacts for said switch and said light bulb secured at the other end of said housing, and cooperating means on said housing and pushbutton for retaining them in operative relationship.

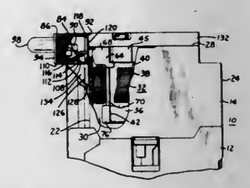
3,270,163
COIL-LESS RELAY FOR USE ON BUS BARS
René Castenschiold, New Vernon, N.J., assignor to Automatic Switch Company, Florham Park, N.J., a corporation of New York
Filed May 19, 1965, Ser. No. 456,917
4 Claims. (Cl. 335—204)

1. A relay responsive to current flow in a bus bar, comprising a U-shaped metal core adapted to straddle a bus bar, an armature pivotally arranged at the free end of one arm of said core and extending over the free end of the other arm of said core, resilient means tending to pivot said armature away from the free end of said other arm, a pair of spaced apart electrical contacts mounted for relative movement into engagement with each other when the current in the bus bar rises to a sufficient value to cause said armature to pivot against the force of said resilient means into engagement with the upper end of said other arm of said core, a pair of upstanding shoulders at the free end of said one arm of said core, said shoulders being



transversely spaced-apart and defining an armature seat between them, said armature having a tongue extending between said shoulders and engaging said seat whereby said seat serves as a fulcrum about which said armature pivots, a portion of said armature located between said core arms being wider than the spacing between said shoulders whereby said shoulders prevent sliding movement of said armature in its own plane with respect to said seat, and means limiting the movement of said armature away from said seat to a distance less than the length of said shoulders whereby said armature cannot be lifted off said seat a distance sufficient to clear said shoulders.

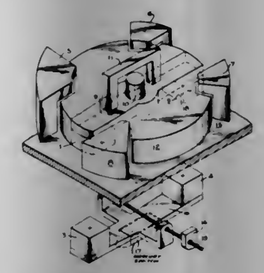
3,270,164
PILOT LIGHT STRUCTURE FOR ELECTRO-MAGNETIC SWITCH
Allin W. Schubring, Milwaukee, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed July 20, 1965, Ser. No. 473,294
6 Claims. (Cl. 335—103)



1. An electromagnetic switch assembly comprising: a housing having an open cavity extending downwardly from an exposed top edge toward a base of the housing, a pair of spaced notches in a front wall of the housing extending downwardly from the top edge, a magnet motor positioned in the cavity, said magnet motor having: a

magnet coil having a flat end facing the front wall portion of the cavity and a passage extending therethrough perpendicular to the flat end along an axis parallel to the top edge and perpendicular to the front wall, a magnet pole member having a base portion positioned between the coil and front wall and a portion projecting from the base portion into the passage, and an armature positioned at an end of the coil remote from the front wall and being in magnetic attractive relation to the magnet pole when the magnet coil is energized, a pilot light assembly comprising: a pilot coil structure and a pilot light structure, said pilot coil structure being a unitary structure having: a base portion resting on the base portion of the magnet pole member, a thin wafer-like coil portion extending from the base portion positioned between the flat wall of the magnet coil and the base portion of the magnet pole, a passage in the wafer portion receiving the projection on the base portion of the magnet pole, a pair of spaced projections on the base portion of the pilot coil structure received in the notches and a pair of terminal pins electrically connected to the windings of the coil and projecting outwardly from the projections externally of the front wall, said pilot light structure being a unitary structure having: an enclosure providing a cavity extending from a rear edge of the enclosure, means on the rear edge of the enclosure and the front wall of the housing providing a mortise and tenon-like connection for detachably mounting the pilot light structure on the front wall of the switch, a lamp socket extending from a front wall of the enclosure into the cavity, a pair of resilient connectors within the enclosure cavity electrically connected to a pair of terminals of the lamp socket, said connectors being engageable with the pins when the enclosure is mounted on the front wall of the switch and a cover for the housing of the switch, said cover being engageable with portions of the magnet coil for positioning the magnet motor and the pilot coil structure in the switch cavity.

3,270,165
MAGNETICALLY OPERATED MERCURY SWITCH WITH IMPROVED SLIDABLE AND ROTATABLE MAGNETIC ACTUATORS
George A. Gariepy, Springfield, and Otis R. Pannell, Alexandria, Va., assignors to the United States of America as represented by the Secretary of the Army
Filed Feb. 21, 1963, Ser. No. 260,338
11 Claims. (Cl. 335—54)



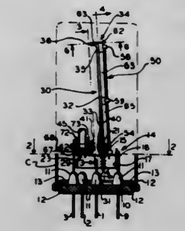
2. An electrical switch comprising:
(a) A mercury filled vial with two electrodes sealed in one end of the vial, said vial being mounted on one side of a non-magnetic supporting wall through tiltable supporting means;
(b) A removable circular disc rotatably mounted on the opposite side of said wall by means of a center post normal to the wall, said disc having orientation and guide means for its removal; and
(c) Magnets within said circular disc and vial supporting means capable of magnetically coupling the rotating disc to said tilting vial support means.

3,270,166
FUSE HAVING SEPARATE TELESCOPING SMALL CURRENT AND LARGE CURRENT ARCING CHAMBERS
Russell E. Frink, Forest Hills, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 30, 1963, Ser. No. 312,727
5 Claims. (Cl. 200—120)



1. In combination, an elongated insulating fuse tube having a pair of spaced terminals disposed adjacent opposite ends thereof, interrupting means disposed interiorly of said fuse tube including means forming a stationary annular gas-evolving fuse bore, conducting means disposed within the fuse tube electrically interconnecting said terminals and including a movable tubular arcing rod having an arcing portion at one end thereof, means biasing said movable tubular arcing rod along the annular gas-evolving fuse bore, means holding the arcing rod in its intact connecting position including fusible means connecting the arcing end of the arcing rod to one of said spaced fuse terminals, a stationary tubular filler rod extending within the movable tubular arcing rod, means securing the last-named rod in position so that relative movement of said rods will occur, and separable low-current conducting means disposed interiorly of the stationary filler rod and arranged to separate subsequent to initial opening movement of the tubular arcing rod.

3,270,167
THERMAL RELAY WITH IMPROVED HEATER ARRANGEMENT
William C. Broekhuysen, New York, N.Y., assignor to G-V Controls Inc., Essex County, NJ., a corporation of New Jersey
Continuation of application Ser. No. 250,447, Jan. 9, 1963. This application July 13, 1965, Ser. No. 475,310
14 Claims. (Cl. 200—122)



1. In combination in a thermal relay: a bimetallic arm having a supported end, said arm being bowable in response to applied heat, an elongated heater member, means for retaining a first end of the heater member adjacent said supported end of the bimetallic arm, and means independent of the bimetallic arm for retaining the second end of the heater member, the heater member comprising a first portion extending from said first end

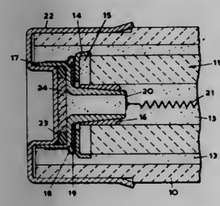
along a longitudinally substantial portion of the bimetallic arm and further comprising a flexible portion beyond said first portion, the regions of said first portion of the heater member removed from said first end being biased toward the bimetallic arm whereby to maintain said first portion in mechanical adjacency and close thermal coupling to said portion of the bimetallic arm as that arm bows in greater and less degree.

3,270,168

HIGH VOLTAGE FUSE LINKS HAVING FLEXIBLY MOUNTED FUSE SUPPORT

Eric Jacks, John Feenan, and George William Ollerton, Liverpool, England, assignors to The English Electric Company Limited, London, England, a British company

Filed May 14, 1964, Ser. No. 367,527
Claims priority, application Great Britain, May 20, 1963, 19,881/63
7 Claims. (Cl. 200—132)



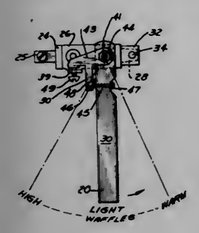
1. A high voltage fuse link comprising
a tubular fuse body having a first pair of terminal caps secured to opposite ends thereof,
an insulating core member having a second pair of terminal caps secured to opposite ends thereof,
a fuse element supported by the core and connected between said second terminal caps,
a pair of conductive sleeves,
first resilient means mounting the opposite ends of the core on said sleeves, and
second resilient means respectively connecting the sleeves to said second terminal caps, the first terminal caps lying in engagement with said sleeves whereby to support the core within the tubular fuse body.

3,270,169

CONTROLLABLE THERMOSTAT HAVING VERNIER CONTROL OVER A PORTION OF THE TEMPERATURE RANGE

Arthur D. Altemiller, St. Louis, Mo., assignor to Knapp-Monarch Company, St. Louis, Mo., a corporation of Delaware

Filed Apr. 13, 1964, Ser. No. 359,074
6 Claims. (Cl. 200—138)



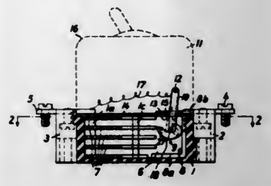
1. A thermostat controlled switch comprising, in combination, a pair of contact arms having contacts thereon, support means for mounting said contact arms to permit relative motion of said contacts between an open and a closed position, a first one of said contact arms being biased toward one of said contact positions, a thermostatically controlled member positioned to engage with and move said first contact arm against said bias to the other contact position, an annular adjustment screw having screwed engagement with a fixed threaded support, an elongated adjustment screw having a central portion thereof in screwed engagement in said annular adjustment screw and having both ends thereof extending axially outwardly of the annular adjustment screw, one end of said elongated adjustment screw engaging the other contact arm to vary and thereby adjust the position of the contact thereon, a first control arm connected with said annular adjustment screws to move the same through a predetermined range of travel, means for causing said elongated screw to rotate with said annular screw through a first portion of said range of travel, and means for preventing mutual rotation of said screws through a remaining portion of said range of travel.

3,270,170

COMPACT SWITCH HAVING A SIMPLE BREAKING CONTACT AND ASSOCIATED ARC EXTINCTION MEANS

Alfred Fehrenbach, Alexander Dörries, and Heinrich Frantz, all of Hameln, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany

Filed Dec. 4, 1961, Ser. No. 156,690
Claims priority, application Germany, Dec. 7, 1960, L 37,692
1 Claim. (Cl. 200—144)



A switch, comprising, in combination:
(a) a switch housing having a first section and a second section defining a rectangular arc extinguishing chamber having a rectangular bottom wall;
(b) a switching mechanism in said first section;
(c) arc extinguishing means in said arc extinguishing chamber and including a plurality of parallel arc extinguishing baffles spaced from each throughout the entire height of said chamber and occupying the major portion of said chamber; and
(d) a contact assembly in said arc extinguishing chamber and including
(1) a movable contact having a movable contact element thereon and mounted to open in the direction of the baffles, said movable contact being mounted for pivoting movement, and
(2) a stationary contact, said contacts being disposed adjacent the ends of the baffles and at one end of said rectangular arc extinguishing chamber so that contact separation occurs at this end, the stationary contact together with its current lead forming in cooperation with the movable contact and its carrier a U-shaped blow-out loop, said loop being oriented perpendicularly to the planes of said baffles, and the place of contact separation being located at the place where the loop changes direction said stationary contact being disposed on one side of the chamber, in the plane of the narrow dimension thereof at a right angle to the planes of the baffles, and generally parallel to said

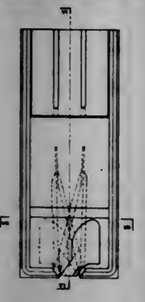
movable contact when said contacts are in contact, said stationary contact extending for at least the entire height of the plurality of baffles and having a lower portion extending parallel to said bottom wall of said chamber, the elements in said chamber completely filling the chamber and the ends of said second section being thickened to provide sockets for holding the switch terminals and for mounting the switch, said baffles being disposed parallel to said bottom wall of said chamber.

3,270,171

EXTINGUISHING DEVICE FOR ELECTRICAL ARCS

André Latour, Grenoble, France, assignor to Etablissements Merlin & Gerin, Société Anonyme, Grenoble, France

Filed Mar. 22, 1965, Ser. No. 441,819
Claims priority, application France, July 1, 1960, 4,265, Patent 1,269,359
5 Claims. (Cl. 200—144)



1. An arc extinction chamber for extinguishing an electric arc drawn between two separable contacts, comprising a plurality of parallel plates of insulating material and having an axis of symmetry disposed transversely of the direction of separation of said contact members and each of said plates being furnished with an open-ended conductive element straddling the bottom part of the plates and extending along the faces of the corresponding plate in opposite directions relatively to said axis of symmetry, in which said plurality includes at least a set of two furnished plates, said set having a plane of symmetry containing said axis of symmetry of the plates and including at least two unfurnished plates disposed intermediate between two furnished plates, each of said unfurnished plates having a notched portion of substantially triangular configuration extending upwardly from the lower edge of said unfurnished plates, the apex of said triangular notches being displaced at a distance apart to each other and offset in opposite direction relatively to said plane of symmetry whereby an arc loop is formed between each said plate.

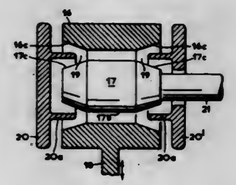
3,270,172

SWITCH HAVING AN ARC STABILIZING ELECTRODE

John N. Chubb, Didcot, England, assignor to The English Electric Company Limited, London, England, a British company

Filed Apr. 19, 1965, Ser. No. 449,246
Claims priority, application Great Britain, June 30, 1961, 23,647/61
2 Claims. (Cl. 200—144)

1. In a vacuum electric switch,
a cylindrical inner electrode,
a cylindrical outer electrode surrounding said inner electrode,
said inner electrode having an outer surface comprising a first surface portion of constant diameter along its length and second and third surface portions extending from opposite ends of said first surface portions and each having, at all positions along its length, a diameter less than that of the first portion,
said outer electrode having an inner surface comprising a first surface portion of constant diameter along its length and disposed opposite the first surface portion of the inner electrode, and second and third surface portions, extending from opposite ends of the first surface portion, each having, at all positions along its length, a diameter greater than that of the first portion, said second and third surface portions lying opposite the second and third surface portions respectively of the inner electrode,



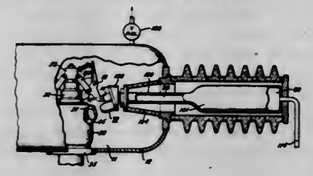
a first cylindrical stabilising electrode lying between, but spaced from, the second surface portions of the inner and outer switch electrodes,
a second cylindrical stabilising electrode lying between, but spaced from, the third surface portions of the inner and outer switch electrodes,
said stabilising electrodes being made of a material satisfying the condition that the voltages of the line of sight discharge between the portions of constant diameters shall be less than the voltage across any series connection of discharge paths including either stabilising electrode, and means for moving one said switch electrode into and out of contact with the other switch electrode.

3,270,173

GAS BLAST CIRCUIT BREAKER OF THE AXIAL BLAST TYPE WITH MEANS FOR INJECTING A HIGH VELOCITY GAS JET

Philip Barkan, Lima, Pa., assignor to General Electric Company, a corporation of New York

Filed Nov. 21, 1963, Ser. No. 325,236
9 Claims. (Cl. 200—148)



1. A gas blast circuit breaker comprising:
(a) a chamber containing a gas at a first pressure,
(b) an upstream electrode and a downstream electrode located within said chamber,
(c) an orifice having an opening positioned between said electrodes,
(d) means for establishing an arc between said electrodes that extends through said orifice opening,
(e) blast valve means downstream from said orifice and operative when said arc is established for causing a blast of gas from said chamber to flow through

said orifice opening via paths that extend along the external surface of said upstream electrode and generally axially of said arc adjacent said upstream electrode,

(f) said upstream electrode having a downstream surface constituting a portion of said external surface and facing said orifice opening when an arc is present between said electrodes,

(g) a reservoir containing high pressure gas at a pressure substantially higher than said first pressure,

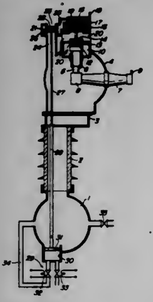
(h) a passageway leading from said reservoir through said downstream surface of the upstream electrode and directed toward said orifice opening,

(i) a normally closed auxiliary valve between said reservoir and said passageway,

(j) and means for opening said auxiliary valve upon establishment of said arc to force a jet of said high pressure gas through said passageway into said blast and toward said orifice opening,

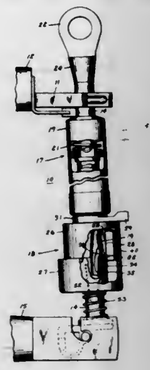
(k) said jet having a velocity as it enters the orifice opening that is substantially higher than the velocity of said blast surrounding the jet so that high shear stresses are present at the jet periphery to produce intense turbulence.

3,270,174
OPERATING MECHANISMS OF AIR-FILLED AIR-BREAK CIRCUIT BREAKERS
Zenichi Nakano, Hitachi-shi, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Oct. 7, 1964, Ser. No. 402,154
1 Claim. (Cl. 200—148)



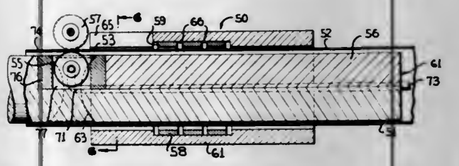
An operating mechanism of air-filled air-break circuit breaker, comprising relatively movable contact devices disposed in a chamber normally filled with high pressure air and insulated from the ground, and a driving device disposed adjacent to said contact devices for actuating the same to open and close by charging and exhausting of high-pressure air to said driving device, characterized by further comprising a receiver valve arranged adjacent to said driving device and having a valve element which makes charging of air under pressure to said driving device at one position and exhausting of air therefrom at the other position, a high-pressure air reservoir at the ground potential, a transmitter piston device associated with said air reservoir and controlled by an electromagnetic valve, an air feed tube for supplying air under pressure to said driving device from said chamber of high pressure air, a hollow insulator connecting said chamber with said air reservoir, and an operating means of insulating material mechanically connecting said receiver valve element to said transmitter piston device, and extending through said air feed tube, said chamber of high pressure air, said hollow insulator and said air reservoir, said operating means being always under tensile stress during both circuit opening and closing operations.

3,270,175
FAULT INDICATOR
Harvey W. Mikulecky, Racine, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Apr. 8, 1965, Ser. No. 446,603
12 Claims. (Cl. 200—167)



1. The combination of, elongate conductive means, indicating means including an insulating housing mounted adjacent said elongate conductive means, magnetic means mounted within said housing and inductively coupled to said elongate conductive means, latch means operatively associated with said magnetic means, an indicator movably mounted within said housing, resilient means urging said indicator for movement within said housing and from a non-indicating position to an indicating position, said latch means normally engaging said indicator to prevent movement thereof to its indicating position, said magnetic means operative upon the occurrence of an abnormal circuit condition in said elongate conductive means to move said latch means out of engagement with said indicator to free the latter for movement to its indicating position, and means associated with said elongate conductive means for resetting said indicating means on said latch means upon movement of said housing longitudinally of said elongate conductive means.

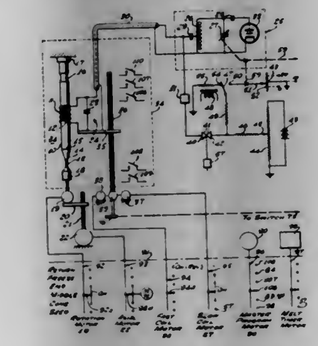
3,270,176
IMPEDER DEVICE FOR IMPROVING RADIO-FREQUENCY INDUCTION WELDING
Roger M. O'Neill, Oaklawn, Ill., and Glenn R. Mohr, Linthicum, Md., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 18, 1964, Ser. No. 390,785
46 Claims. (Cl. 219—8.5)



1. In a radio-frequency welding apparatus having an induction coil and a horn about which opposite edge portions of continuous strip material are positioned for welding one to another and for supporting the first of a pair

of forging rolls, the improvement comprising a housing for said first forging roll constructed of a material having a high magnetic permeability and low electrical conductivity.

3,270,177
MEANS AND METHOD FOR AUTOMATIC ZONE REFINING A WORK PIECE
Fred R. Prediger, Westfield, and Michael Kniazuk, Mountainside, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
Continuation of abandoned application Ser. No. 3,614, Jan. 20, 1960. This application Nov. 26, 1963, Ser. No. 327,869
26 Claims. (Cl. 219—10.77)



4. In induction heating apparatus for treating a rod-like specimen of conducting material, wherein energy is furnished by an RF generator to an induction heating work tank circuit including a capacitance in parallel resonance with an inductance coiled about said specimen, the combination comprising,

means for moving said inductance coil along said specimen for inducing current flow in said specimen for heating said specimen whereby sections of said specimen successively overlapped by said coil convert to a molten state,

said RF generator having a resonant tank circuit defined by parallel connected capacitor and coil inductance elements oscillating at a frequency different from the frequency of the work tank circuit, one of said elements being adjustably variable,

operator means for regulating the variable one of said oscillator elements,

a first circuit providing a voltage corresponding to the setting of the variable one of said oscillator elements, while the inductance coil, in moving along said specimen, converts successive sections thereof to the molten state,

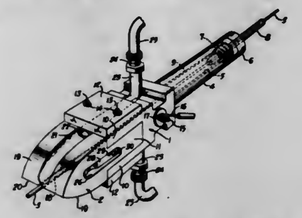
a second circuit providing a reference voltage,

means for matching said voltages and providing a regulating signal in response to the unbalance of said voltages,

means for controlling the geometry of said specimen in response to said regulating signal, and

means effective while the inductance coil, in moving along said specimen, converts successive sections thereof to the molten state, for sensing the RF voltage across said work tank circuit and for regulating said operator means as a function of the gauged RF voltage, whereby said variable oscillator elment setting is adjusted while the inductance coil, in moving along said specimen, converts successive sections thereof to the molten state.

3,270,178
WELDING NOZZLE
Robert J. Keller, Milwaukee, Wis., assignor, by mesne assignments, to Harnischfeger Corporation, West Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 3, 1965, Ser. No. 477,673
6 Claims. (Cl. 219—74)



1. In an arc welding apparatus, a welding nozzle having an end and being formed with a passage terminating at said end and adapted to conduct an electrode to an arc, said nozzle having a peripheral groove extending generally longitudinally of the nozzle and said groove being curved longitudinally and terminating at said end adjacent said passage, and means for supplying a shielding gas to the groove with the gas flowing within the groove and following the curved contour of the groove to the arc.

3,270,179
WELDING NOZZLE HAVING DUAL AND CONCENTRIC GAS SHIELDING
John A. Russell, Milwaukee, Wis., assignor to Harnischfeger Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 10, 1965, Ser. No. 507,209
4 Claims. (Cl. 219—74)



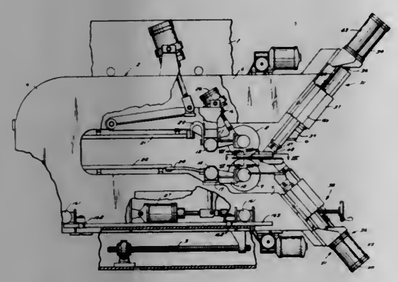
1. An arc welding nozzle having a nose, said nose having an outer end and also having a passage extending therethrough so that an electrode can pass through said nose and extend from said nose end for being consumed by an arc, said nose being tapered so as to converge toward said end, a contact tube extending through said passage and extending axially beyond said nose end, and means defining a pair of concentric gas openings around said tube for directing shielding gas toward said nose end, the radially outer opening also being spaced axially a distance farther from said nose end than the inner opening, said inner opening being defined by a space between said tube and said nose, and said tube being adapted to receive said electrode for movement therethrough.

3,270,180
METHOD AND APPARATUS FOR STRIP WELDING
John D. Morley and John F. Nystrom, Bay City, and William L. Ward, Essexville, Mich., assignors to National Electric Welding Machines Company, Bay City, Mich., a corporation of Michigan
Filed Nov. 13, 1963, Ser. No. 323,534
16 Claims. (Cl. 219—81)

2. In a machine for welding together overlapped, adjacent ends of strips, said machine having rolling welding electrodes adapted for travelling transversely of said strips

and cutters following said electrodes for trimming the unwanted portions of said overlapped strips, means for facilitating the holding of said strips appropriately for action thereon by said elecrodes and said cutters, comprising in combination:

a first pair of clamps for engaging said strips before they reach the zone travelled by said welding electrodes and a second pair of clamps for engaging said strips after they leave said zone;

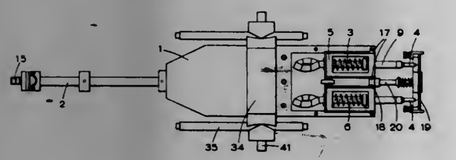


a plate interposed between said first pair of clamps and means movable with said clamps for spacing said plate away from said clamps when said clamps are open and for permitting said plate to move toward one of said clamps when said clamps close;

means supporting one strip for passing between said plate and the upper one of said first pair of clamps and thence between said second pair of clamps; and

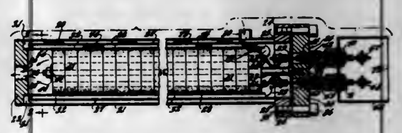
other means for supporting the second strip for passing between said plate and the lower one of said first pair of clamps and thence between said second pair of clamps.

3,270,181
MARKING APPARATUS
Friedrich Hermann Paul Wendler, 17 Isher Wood Close, Newton Aycliffe, England
Filed Apr. 27, 1964, Ser. No. 362,601
Claims priority, application Great Britain, Apr. 30, 1963, 17,056/63
8 Claims. (Cl. 219—86)



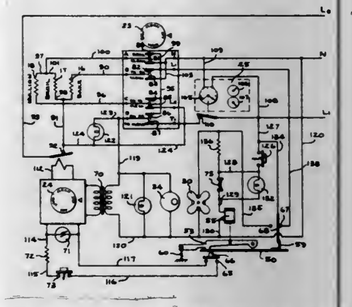
1. In marking apparatus for securing an identification label to a randomly disposed piece of metal, a spot welding machine comprising positive and negative independently resiliently mounted welding electrodes, resiliently mounted holding means for said identification label to be secured to said metal piece, and a transformer connected to said welding electrodes, said spot welding machine being resiliently mounted on a movable support, and remotely operable positioning means being provided for controlling the vertical and transverse position of said spot welding machine, each of said movable support and said positioning means being automatically operable, whereby said label may be welded to said metal piece in any randomly disposed position.

3,270,182
HIGH TEMPERATURE FLUID HEATER
Lee P. Hynes, Haddonfield, N.J., assignor to Hynes Electric Heating Company, Kenilworth, N.J., a corporation of New Jersey
Filed Mar. 26, 1964, Ser. No. 355,034
5 Claims. (Cl. 219—382)



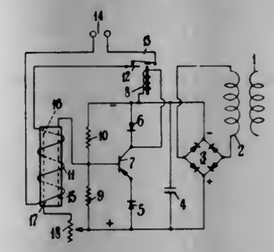
1. In a heater for high temperature fluids, a longitudinally extending outer closed shell having a fluid inlet and a fluid outlet, a series of insulators having a plurality of apertures extending through each insulator arranged in longitudinally abutting and aligned relationship along the length of the heater within the shell to form a plurality of orifices having inner walls extending through the insulators, a tubular resistor having substantially continuous inner and outer surfaces extending longitudinally through each orifice, peripherally spaced projections extending inwardly from and longitudinally along the inner walls of the orifices for centrally supporting a resistor within each orifice and for spacing the resistor apart from the inner walls of the orifice so as to form inner and outer passageways with respect to the resistor through each orifice and external electrical connection to said resistors whereby fluid flowing through these orifices is heated by contact with both surfaces of the resistor and the walls of the orifice.

3,270,183
CIRCUITRY FOR ELECTRIC OVEN
Samuel C. Jordan, Lyndon, Ky., assignor to General Electric Company, a corporation of New York
Filed Nov. 14, 1963, Ser. No. 323,810
10 Claims. (Cl. 219—398)



1. An oven comprising an oven liner and an access door defining a cooking compartment, a three wire source of electrical power supply, at least three heating elements provided for said compartment including a lower baking element, an upper broiling element, and a mullion heater adjacent the door, terminals for connection with high and low voltage power sources, circuit control means connected with said terminals and said heating elements selectively operable to effect baking, broiling and high temperature heat cleaning operations for said oven, wherein for the baking operation said baking element is connected to said high voltage power source and said mullion element and broiling element are connected in series with each other and in parallel with said baking element across said high voltage power source, for said broiling operation said broiling element is connected to said high voltage power source, and for said heat cleaning operation all three of said heating elements are connected to said power source to effect a relatively gradual temperature rise in said oven to a relatively high heat cleaning temperature, whereby only two of the power supply wires are used during any particular cooking or heat cleaning operation, a sequence timing means connected with said circuit control means for timing said baking and heat cleaning operations, and temperature control switch means for controlling said heating elements when connected to establish said baking and broiling operations respectively to hold selected baking temperatures and a broiling temperature and also to control said three heating elements when connected to establish said heat cleaning operation to limit the temperature rise in said oven to a maximum ranging from 750° F. to 950° F.

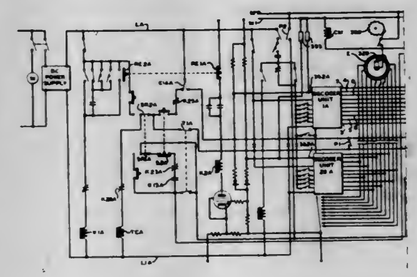
3,270,184
TEMPERATURE SENSITIVE CONTROL WIRES PROVIDED WITH TRANSISTORS FOR ELECTRICALLY HEATED PADS, BLANKETS AND THE LIKE
Antonio Negromanti, Via Fratelli Lorenzetti 6, Milan, Italy
Filed Dec. 26, 1963, Ser. No. 333,388
Claims priority, application Great Britain, Jan. 9, 1963, 1,049/63
4 Claims. (Cl. 219—501)



1. An electronically controlled electrically heated blanket operable from a mains voltage source comprising a heating element adapted to be operated at mains voltage, a heat sensor comprising a pair of wires positioned in close proximity to one another throughout their length; a heat sensitive electrical conductor of relatively high electrical resistance at normal room temperatures in comparison with the resistance of said wires embedding the wires, and of negative co-efficient of electrical resistance, the heat sensor being substantially the same length as, and located at least in close proximity to the heating element throughout its length, a relay having contacts which are in circuit with the heating element, a source of D.C. potential of approximately 22 volts; and a transistor amplifier the input of which is connected to the pair of wires and the source of D.C. potential and the output of which is connected to the relay, the circuit connected to the D.C. source being electrically isolated from the circuit of the heating element.

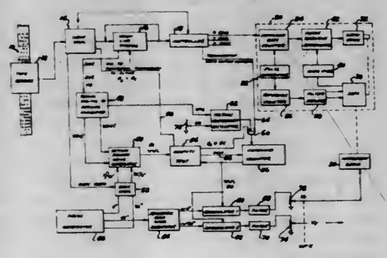
3,270,185
DATA CONVERSION SYSTEM
William C. Farley, Yonkers, N.Y., assignor to Kimball Systems, Inc., a corporation of New York
Filed Mar. 30, 1962, Ser. No. 183,875
4 Claims. (Cl. 235—61.7)

1. A data handling apparatus for selectively storing upon a first information medium information read simultaneously from at least a second and a third information medium, comprising: recording means having a plurality of selectable recording elements selectively operable for recording information upon said first information medium; first reading means including a single reading station for reading information contained on said second information medium and producing first outputs capable of selecting certain of said selectable recording elements of said recording means; second reading means including a single reading station for reading information contained on third information medium and producing second outputs capable of selecting others of said selectable recording elements of said recording means; first coupling means coupling said first and second outputs of said first and second reading means to said selectable recording elements of said recording means; to permit the selection of said selectable recording elements in accordance with said first and second outputs of said first and second reading means; cyclically operable control means operated by said record-



ing means to selectively operate said selectable recording elements in accordance with the selections made by the simultaneous first and second outputs of said first and second reading means to cause the recording of information upon said first information medium; said first and second reading means each containing an error checking means for checking the accuracy of the outputs of its associated reading means and to produce an error signal in the event the outputs of said first or second reading means is not accurate; and second coupling means to couple the error checking means of said first and second reading means to said recording means to prevent the operation of said recording means and prevent the recording of any information upon said first information medium.

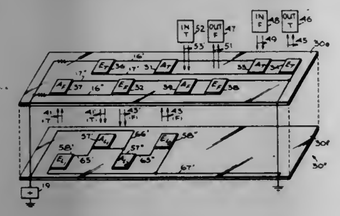
3,270,186
CUTTER RADIUS OFFSET SYSTEM FOR NUMERICALLY CONTROLLED MACHINES
Ronald M. Centner, Royal Oak, Mich., assignor to The Bendix Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 20, 1962, Ser. No. 217,880
8 Claims. (Cl. 235—151.11)



2. An electronic system operative to receive a record and to control the motion of an output device, comprising: means for generating a series of first signals in accordance with information contained on the record, said

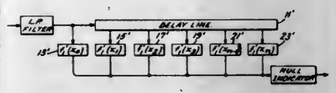
series of signals being capable of commanding the output device through a motion defining a first path;
means for introducing offset information;
means for generating an analog offset signal from the offset information for each of said series of signals;
means for modifying said offset signals at a rate which is a function of information contained on the record following the termination of each of the first signals and prior to the initiation of the next of said first signals;
means for combining said offset signals with said series of first signals in order to create a series of second signals; and servo means, connected to receive said second signals, and operative to move the output device through a second path; whereby the second signal occurring following the termination of one of the first signals and prior to the initiation of the succeeding of said first signals, solely constitutes an offset signal undergoing modification.

3,270,187
ELECTRO-OPTICAL COMPUTING SYSTEM
Sergei M. Fomenko, Los Angeles, Calif., assignor to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed Dec. 30, 1963, Ser. No. 334,368
19 Claims. (Cl. 235—152)



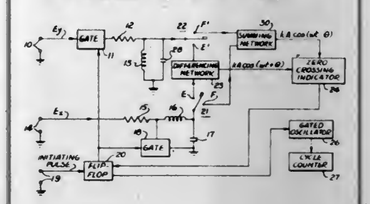
6. An electro-optical system comprising:
first and second layers of electrically substantially non-conductive material:
first and second pairs of electrical conductors positioned on said first and second layers, respectively;
a source of potential coupled to said first and second pairs of conductors;
a plurality of electro-optical elements coupled between said first and second pairs of conductors including at least one electroluminescent element and at least one photoconductive element coupled between said first pair of conductors, and at least one electroluminescent element coupled between said second pair of conductors and positioned with respect to said photoconductive element coupled between said first pair of conductors so that light from said electroluminescent element coupled between said second pair of conductors causes said photoconductive element coupled between said first pair of conductors to be illuminated, and at least one photoconductive element coupled between said second pair of conductors and positioned with respect to said electroluminescent element coupled between said first pair of conductors so that light from said electroluminescent element coupled between said first pair of conductors causes said photoconductive element coupled between said second pair of conductors to be illuminated; and
means coupled to said first pair of conductors for inhibiting light from said electroluminescent element coupled therebetween so that said electroluminescent element coupled between said second pair of conductors emits light.

3,270,188
CORRELATION SYSTEM
Manuel Ares, Ithaca, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 28, 1959, Ser. No. 862,414
7 Claims. (Cl. 235—181)



1. A correlation system for comparing a stored function with a replica of the stored function comprising delay line means having a plurality of weighted taps, means for storing the function in said plurality of taps, means for applying the replica of the stored function to said delay line, and summing means for summing the weighted outputs of said taps for obtaining a voltage signal indicating the time of maximum correlation between the stored function and the replica of the stored function in such a manner that said weighted outputs are algebraically summed to produce said voltage signal which traverses zero at said maximum correlation.

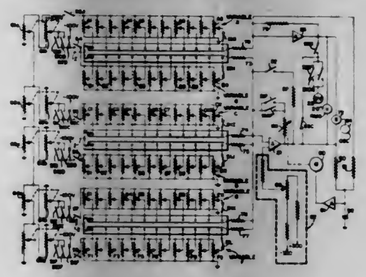
3,270,189
DEVICE FOR DETERMINING AN ANGLE FROM A SET OF ORTHOGONAL COMPONENTS
Herbert D. Cook, Arlington, Va., assignor to the United States of America as represented by the Secretary of Commerce
Filed July 7, 1961, Ser. No. 122,600
4 Claims. (Cl. 235—189)



1. In a device for measuring the angle of a radius vector, a first input terminal, a first parallel resonant circuit, a normally-closed gate connected between said first terminal and said first resonant circuit, a second parallel resonant circuit comprising an inductor, a capacitor and a normally-open gate connected in a loop, a second input terminal connected to said second resonant circuit, a differencing network connected between said first and second resonant circuit and phase measuring means connected to the output of said differencing network.

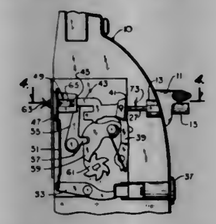
3,270,190
SECURITIES EVALUATOR
John M. Lambert, Northport, N.Y., assignor to Electronic Stock Evaluator Corp., Northport, N.Y., a corporation of New York
Filed Oct. 1, 1962, Ser. No. 227,250
11 Claims. (Cl. 235—194)

1. A stock share price computer comprising:
a source of potential;
a plurality of price data storage potentiometers each provided with a pair of fixed terminals and a variable terminal, said potentiometers having their fixed terminals connected across said source of potential;
sampling switch means arranged to sequentially sample each of said variable terminals to provide a first signal;
a first amplifier arranged to amplify said first signal and provide a first output signal;
a plurality of networks, each of said networks including a plurality of potentiometers having fixed terminals connected in common and a variable terminal connected to said sampling switch;
first potential varying means connecting said networks to a source of potential, said first potential varying means being adapted to vary the potential applied to its associated network, at least some of said networks having a second potential varying means interposed in series between said first potential varying means and source of potential;
whereby as a first potential varying means is adjusted in a direction tending to reduce the potential applied to its associated network the said second potential adjusting means coupled thereto is varied in



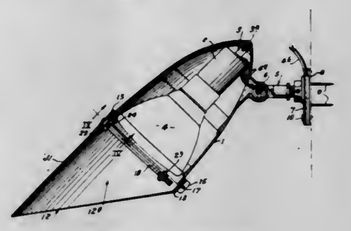
a direction tending to increase the potential applied to its said associated networks;
means for summing the outputs of the adjustable potentiometers for a given time period to provide a summed signal;
adjustable amplifying means for multiplying the summed signal and providing a second output signal;
means for continuously comparing the first output signal with said second output signal and providing a control signal;
means responsive to said control signal for adjusting said adjustable amplifying means in a direction tending to adjust said second output signal to the same level as said first output signal; and
means for measuring said second output signal.

3,270,191
VEHICLE DOOR LIGHT DEVICE
Floyd T. Hilliard, 1709 45th St., Des Moines, Iowa
Filed Dec. 16, 1963, Ser. No. 330,666
10 Claims. (Cl. 240—2.13)



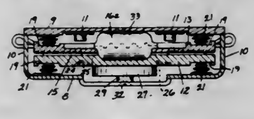
1. In a vehicle door light device, comprising in combination,
a vehicle door,
a handle secured to the outside surface of said door,
a push button slidably extending inwardly through said handle for opening said door,
said push button having an aperture in its outer bottom side,
a light bulb in said push button,
a normally open electrical switch secured to said door,
an electrical wire extending from said electrical switch to said light bulb,
said electrical switch operatively connected to a source of electrical energy,
and locking means on said door, said locking means including a linkage means movable between locked and unlocked positions,
said linkage means adapted to engage and close said electrical switch when said door and said linkage means are in their locked positions and said push button is in an inwardly extending position thereby activating said light bulb,
said linkage means being inoperative to close said electrical switch when said door and said linkage means are in their unlocked positions.

3,270,192
LIGHT REFLECTOR AND SHIELD COMBINATION
John R. Watson, 2517 Carlisle, Dallas, Tex.
Filed Sept. 20, 1963, Ser. No. 310,225
3 Claims. (Cl. 240—3.1)



1. In a device of the class described,
a housing
having an opening in the outer end thereof;
a hollow shield in the shape of an ungula of a cylinder;
the base of the shield being divided to provide separable edges
and being positionable about the open outer end of the housing;
expansible and contractible joinder means to draw the separable edges together to cause the base to grippingly engage the housing;
a plurality of aligned brackets spacedly mounted about the inner side of the base;
each said bracket having a pair of oppositely disposed wings thereon to provide aligned channels on the outer sides thereof;
and a lens assembly
having a rim thereabout positionable in the aligned channels in the brackets.

3,270,193
AIRCRAFT WING LIGHT
Robert R. Peterson, Erie, Pa., assignor to Lord Corporation, a corporation of Pennsylvania
Filed Feb. 17, 1964, Ser. No. 345,139
14 Claims. (Cl. 240—7.7)



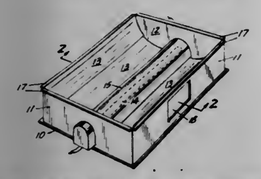
5. A light comprising a frame having upper and lower walls, a rectangular lamp carrying assembly between the upper and lower walls of the frame, a lamp supported by the assembly at the front of the frame, coil springs arranged between the front and back corners of the assembly and the upper and lower walls of the frames, the

center of gravity of the assembly being to the rear of the front springs and the front springs being stiffer than the back springs whereby at frequencies below resonance the assembly has greater movement at the rear than at the front, and damping means for resisting relative movement between the assembly and frame.

3,270,194
LIGHT EXPOSURE APPARATUS

Pui Kum Lee, White Bear Lake Township, Ramsey County, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed June 24, 1964, Ser. No. 377,750
7 Claims. (Cl. 240—20)



1. A compact source of uniform intense wide-area illumination adapted for exposure of light-sensitive sheet material in contact with a graphic original at an exposure area and comprising: a line source of high intensity light extending between two opposed reflectors adjacent the ends of said exposure area, said line source being centrally disposed beneath the exposure area at a short distance such that the angle of direct illumination is not greater than about 140 degrees; an at least partially light-transmissive shield closely overlying said line source and spaced therefrom to provide a narrow space around said lamp for controlled passage of air; and a pair of generally arcuate reflectors each extending from just beneath said line source to the corresponding side edge of said exposure area and each being generally centered on a point lying on the perpendicular bisector of a line connecting said line source and said side edge; the said exposure source being further characterized as substantially fulfilling the requirement indicated by the equation $E_d+E_i=K$, where E_d and E_i represent intensity of illumination by direct rays and indirect or reflected rays respectively, and K is a constant.

3,270,195
ANTI-DAZZLE AUTOMOBILE HEADLIGHT

Rolf Mickley, Elisabethstr. 8, Munich, Germany

Filed July 23, 1963, Ser. No. 297,033
Claims priority, application Germany, July 24, 1962, M 53,680
4 Claims. (Cl. 240—41.35)

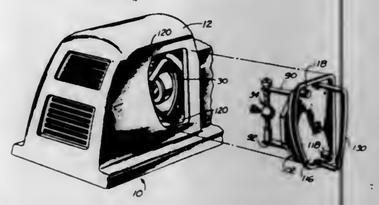


1. In a non-dazzling incandescent lamp constructed as a headlight with a paraboloid reflector comprising two incandescent filaments for high and low beams, the improved anti-dazzling construction comprising a high beam filament having a portion thereof extending slightly beyond the focal point of said reflector in the direction of radiation, a low beam filament symmetrically positioned with respect to the high beam filament and extending entirely back of the focal point of said reflector in the horizontal plane of the axis of said reflector, the improvement comprising a single anti-dazzle shield extending over those portions of said filaments lying back of the focal point of said reflector in the horizontal plane of the axis of said reflector, said anti-dazzle shield being constructed in the form of a halved paraboloid reflector with an internal mirrored surface whose optical axis coincides with that of the main paraboloid reflector, those portions of the filaments extending into the space behind the focal point of the main paraboloid reflector extending at the utmost to the limit defined by the vertical plane through the focal point of the halved paraboloid anti-dazzle shield.

3,270,196
ILLUMINATING DEVICE

William E. Foley, Buffalo, N.Y., assignor to American Optical Company, Southbridge, Mass.

Filed Dec. 9, 1963, Ser. No. 329,157
3 Claims. (Cl. 240—44.2)



1. In an illuminator including a housing and an optical system associated therewith,

a light source housing within the first housing and having an opening receiving a portion of said optical system,

said light source housing and said first housing having aligned open wall portions and a cover member for each such open wall portion,

said cover members being rigidly interconnected and there being means for detachably securing that cover member associated with said first housing to such first housing whereby both cover members are operatively positioned thereby,

the other cover member having a guide member on its inner face,

a carrier member vertically and laterally positionable in said guide member,

a light source fixed to said carrier member,

and means carried by the cover member associated with said first housing and connected to said carrier member for imparting vertical and lateral adjustments thereto.

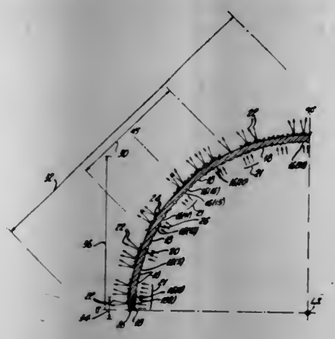
3,270,197
REFRACTOR

Herbert A. Fouke, Newark, Ohio, assignor to Holophane Company, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 24, 1964, Ser. No. 346,913
7 Claims. (Cl. 240—106)

1. The combination of a refractor and a point light source, said refractor including a portion curved outwardly from said source in horizontal planes, a plurality of vertically arrayed prisms spaced at intervals on the interior surface of said curved portion, and a plurality of light-spreading flutes between said prisms, said prisms including convex active surfaces, some of said prisms at least toward one end of said curved portion, including intermediate inactive surfaces from the inner edge of which extend the convex active surfaces of others of said prisms, disposing the latter at angles for refracting the light from said source at greater lateral angles than the

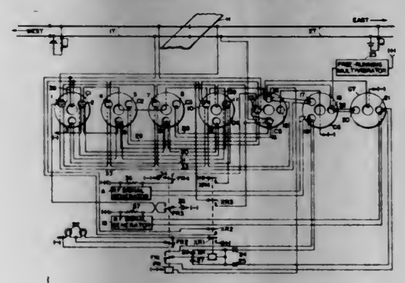
light refracted by said vertical prisms toward the center of said curved portion, the refracting power of said prisms varying from the ends of said curved portion toward the center thereof, said prisms constituting means for distributing light from said source toward a predetermined beam direction substantially centrally of said curved portion, said flutes constituting means for receiving light from said source and for laterally diffusing the same for increasing the width of the lighted area of the refractor.



3,270,198
HIGHWAY CROSSING SYSTEMS

Willis R. Smith, Rochester, N.Y., assignor to General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed Mar. 28, 1963, Ser. No. 268,722
17 Claims. (Cl. 246—126)



1. A highway crossing protection system comprising means for generating a pair of signals responsive to presence of a train on either side of a highway crossing, a network of apertured magnetic cores, means utilizing the signals for altering remanent magnetic states of the cores, pulse producing means providing signals for reading out pulses from the network, relay means for actuating warning means at the highway crossing upon deenergization, and safety core means coupling output of the network to the relay means and requiring output from more than one core of the network in order to energize the relay means.

3,270,199
SPEED CONTROL SYSTEM FOR VEHICLES

Joseph Harvey Smith, Rochester, N.Y., assignor to General Signal Corporation, a corporation of New York

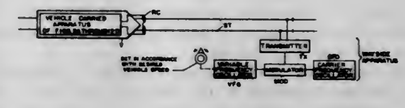
Filed Sept. 14, 1962, Ser. No. 223,662
13 Claims. (Cl. 246—182)

3. A speed control system for a vehicle desired to operate at a predetermined speed comprising,

(a) means for generating a D.C. voltage signal whose magnitude is proportional to said desired vehicle speed,

(b) means controlled in accordance with the actual speed of said vehicle for generating a second signal whose frequency is proportional to said actual vehicle speed,

(c) means controlled by said second signal for generating a first series of voltage pulses, one of said pulses being generated for each cycle of said second generated signal,



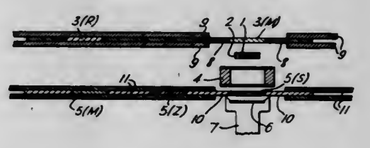
(d) means controlled by said first series of pulses for generating a second series of ramp voltage pulses, each of said ramp voltage pulses occurring between adjacent pulses of said first series of pulses and attaining a magnitude which is proportional to the time between said adjacent pulses, whereby the magnitude of said ramp voltage is proportional to the actual vehicle speed, and

(e) means operably connected to compare the magnitude of said ramp voltage pulses to the magnitude of said D.C. voltage signal for adjusting the actual vehicle speed to bring the magnitude of said ramp voltage pulses substantially into agreement with the magnitude of said D.C. voltage signal.

3,270,200
METHOD AND APPARATUS FOR MEASURING THE CONCENTRATION OF AN ELEMENT IN A MIXTURE BY AN X-RAY ABSORPTION ANALYSIS TECHNIQUE

John Rathbone Rhodes, Wallingford, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed June 17, 1963, Ser. No. 288,189
Claims priority, application Great Britain, June 20, 1962, 23,704/62
10 Claims. (Cl. 250—43.5)

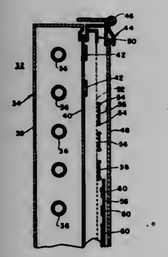


1. A process for measuring the concentration of a required element in a mixture by an X-ray absorption analysis technique comprising the steps of selectively directing X-rays having a continuous spectrum onto a first one of two selected targets, whereof said first one of said targets has characteristic fluorescent X-rays of energy just below an absorption edge of the said required element, and the second of said targets has characteristic fluorescent X-rays of energy just above the said absorption edge of the required element, thereby to excite said fluorescent X-rays of the first target, passing such fluorescent X-rays through the said mixture, through one filter of a pair of differential filters, of which one filter is selected to have an absorption edge slightly below the energy of the fluorescent X-rays of the first target and the other filter

is selected to have an absorption edge slightly above the energy of the fluorescent X-rays of the first target, the pair of filters having essentially the same absorption characteristics outside the energy band between the absorption edges of the filters, measuring the intensity of the filtered X-rays, passing the fluorescent X-rays from the first target through the said mixture and through the other filter of the said pair of differential filters, measuring the intensity of the filtered X-rays, determining the difference between the two measured intensities, repeating the whole of such process using the second of said targets and a different pair of differential filters to obtain a second difference between two measured intensities, determining the ratio of said differences and comparing such ratio with a suitable calibration curve to determine the concentration of the said required element.

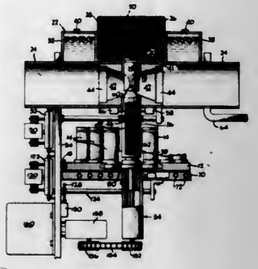
3. Apparatus for use in determining the concentration of a required element in a mixture, comprising a radioactive continuous spectrum source of X-rays, two targets constituted by elements having respectively different characteristic fluorescent X-ray energies in a band within 5% below an absorption edge of said required element and in a band within 5% above said absorption edge, said targets being located so that one selectively receives X-rays from said source, X-ray detection means located to measure the intensity of the fluorescent X-rays from the target receiving X-rays from the source, means for containing and locating a sample of the mixture between said targets and said detection means, a pair of differential filters for association with each target, located between the X-ray detection means and the means for containing the said sample of the mixture, one filter of each pair being selected to have an absorption edge slightly below the energy of the fluorescent X-rays of its associated target and the other filter of each pair being selected to have an absorption edge slightly above the energy of the fluorescent X-rays of its associated target, the absorption characteristics of the filters being essentially the same at energies outside the energy band between the absorption edges of the said filters.

3,270,201
PHOTO-LUMINESCENT DISPLAY MEANS
George K. C. Hardesty, Box 155, Mayo, Md.
Filed Mar. 3, 1964, Ser. No. 349,025
26 Claims. (Cl. 250—71)



1. Means providing backlighted back field illumination of objects comprising a photo-exciting source, first transmittance means transmitting a first spectral bandwidth from said source, second transmittance means transmitting a second spectral bandwidth other than said first spectral bandwidth, said first transmittance means being intermediate said source and said second transmittance means, and object means of photo-luminescent material intermediate said first and second transmittance means, said first and second transmittance means in combination, being substantially completely opaque to visible light whereby said object means appear individually illuminated against a black field.

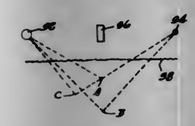
3,270,202
LIQUID SCINTILLATION SPECTROMETER DETECTION CHAMBER AND REMOVABLE TRAY FOR SUPPORTING A PLURALITY OF SAMPLE CONTAINERS
Michael J. Long, Chicago, John W. Dawson, Clarendon Hills, and Charles E. Soderquist, Chicago, Ill., assignors to Vanguard Instrument Corporation, Berwyn, Ill., a corporation of Illinois
Filed Apr. 16, 1963, Ser. No. 273,500
3 Claims. (Cl. 250—71.5)



1. Apparatus for detecting the radioactivity of a series of samples each disposed within a light-transmitting container having therein a liquid scintillating medium, comprising a massive radiation shield having therein a vertical well and lateral passages extending into said shield intersecting said well, each said passage being adapted to receive a photodetector instrument in optical communication with said well, a tubular hood reciprocable in said well from a shielding position therein isolating said passages from light-communication with said well to a downwardly extended position exposing said well to said passages, a support beneath said shield adapted to carry thereon a series of sample containers, indexing means for presenting said samples one by one into alignment with and beneath said well in position to be encompassed by said tubular hood when extended, and elevating means for lifting the aligned sample container from said support into said well with the extended hood serving as a guide to direct the sample from said support into said well.

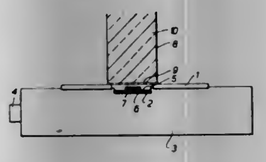
2. Apparatus for detecting the radioactivity of a series of samples each disposed within a light-transmitting container having therein a liquid scintillating medium, comprising a support, means mounted on said support and defining a detection chamber optically coupled to a photosensitive detector, drive means also mounted on said support, a tray with means to receive a plurality of sample containers, propelling means mounted on said tray for simultaneously moving said samples on said tray one after the other through a predetermined path, said predetermined path forming a closed, substantially planar loop, means for removably mounting said tray on said support with said drive means in releasable engagement with said propelling means for actuation thereof and with said predetermined path passing a predetermined station, indexing means mounted on said support for indexing the operation of said drive means to propel said sample containers through said path in discrete increments for successive presentation of said containers at said station in registration therewith, and means on said support for moving a sample container between said station and said detection chamber.

3,270,203
INDUSTRIAL-PROCESS-TYPE MEASUREMENTS EMPLOYING GAMMA-RAY BACKSCATTERING
Jack G. Crump, Arlington Heights, Ill., assignor to Nuclear-Chicago Corporation, Des Plaines, Ill., a corporation of Delaware
Filed Oct. 8, 1962, Ser. No. 228,985
12 Claims. (Cl. 250—83.3)



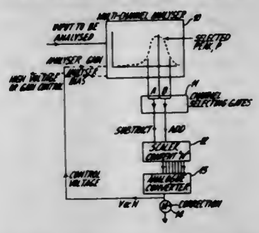
1. In the control of industrial processing and the like, the method of producing an indication of the density of a material comprising exposing a portion of the external surface of the material to a source of gamma rays and exposing a gamma ray detector to the gamma ray emissions from another portion of tthe surface spaced from the first portion, at least one of said portions being of substantial area, the source and the detector being shielded from each other in a manner forming a maximum included angle of single scattered gammas to which the detector is exposed of substantially less than 90 degrees, and said angle being formed at a depth within the material sufficiently close to the surface to produce substantial response of the detector to the singly scattered gammas, and producing an indication of substantially the total response of the detector to gamma rays of all energies while spacing the source and detector from the surface by a distance producing a maximum of such response as a function of the spacing thereof from the surface to render the indication relatively independent of variations in said distance.

3,270,204
DETERMINATION OF THE ASH CONTENT OF COAL BY MEANS OF X-RAYS
John Rathbone Rhodes, Wallingford, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Jan. 30, 1963, Ser. No. 254,860
Claims priority, application Great Britain, Feb. 12, 1962, 5,223/62
8 Claims. (Cl. 250—83.3)



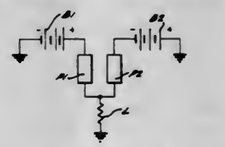
1. Apparatus for the determination of the ash content of coal by the backscattering of X-rays which comprises a sample holder positioned to contain a sample of coal of sufficient thickness to cause saturation backscattering, an X-ray source providing X-rays in the range 7.11 kev. to 20 kev., means to measure the intensity of backscattered X-rays and iron K fluorescent X-rays from the sample, and filter means placed between said sample holder and said radiation measuring means for reducing the intensity of iron K fluorescent X-rays relative to the reduction in intensity of backscattered X-rays so as to prevent variations in the total intensity of the measured X-rays due to variable iron content in the sample.

3,270,205
DIGITAL SPECTRUM STABILIZER FOR PULSE ANALYSING SYSTEM
James A. Ladd and James M. Kennedy, Deep River, Ontario, Canada, assignors to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation
Filed Feb. 13, 1963, Ser. No. 258,243
6 Claims. (Cl. 250—83.3)



6. In a method of analysing a pulse height spectrum of nuclear radiations, the method of stabilizing said analysis comprising, selecting a pair of groups of adjacent channels straddling a selected naturally occurring feature of the pulse height spectrum to be analysed, counting pulses occurring in each of said groups of channels, providing an output proportional to the difference in the number of counts in said groups of channels, and varying a control variable of said system in accordance with said output.

3,270,206
PHOTOSENSITIVE RAPID SWITCHING CIRCUIT
Benjamin Kazan, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Sept. 29, 1960, Ser. No. 59,345
6 Claims. (Cl. 250—209)

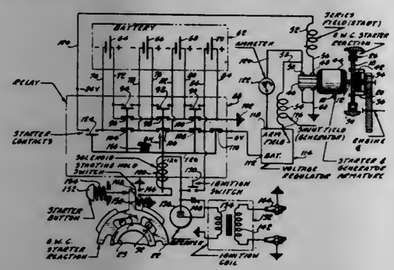


1. An electrical switching circuit, comprising: an electrical load; respective oppositely poled power supply circuits connected to said electrical load; respective conductivity modulated elements connected to said power supply circuits to individually control said power supply circuits; a source of radiant energy; and means coupled to said source of radiant energy for coupling said source of radiant energy to said conductivity modulated elements at different times.

3,270,207
COMBINED ENGINE STARTER AND VOLTAGE GENERATOR SYSTEM
Thomas R. Stockton, Northville, Mich., assignor to The Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed June 25, 1964, Ser. No. 377,983
3 Claims. (Cl. 290—31)

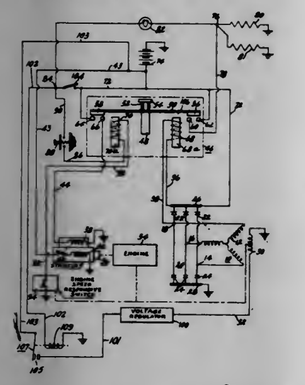
1. In a combined electric starter motor and voltage generator unit for an internal combustion vehicle engine, a wound armature including an armature shaft, gearing including a reaction element drivably connecting said armature shaft and the crankshaft of said engine to establish a torque delivery path that augments the driving torque of said armature shaft, shunt field windings arranged in parallel relationship with respect to the windings of said armature, series field windings arranged in series relationship with respect to the windings of said

armature, a battery having cells with positive and negative terminals, electrical circuitry connecting said battery with each of said windings including multiple switch means adapted to assume either one of two positions, said switch means being adapted to connect said cell terminals in parallel when they assume one position and to connect them in series when they assume the other position, said switch means including also a generator switch adapted to interrupt the circuit for said shunt field when said switches assume said other position and a starter switch adapted to interrupt the circuit for said series



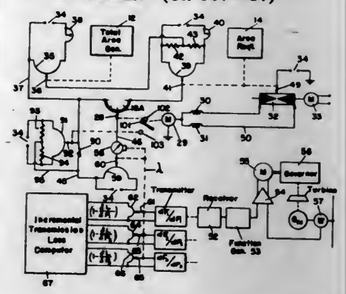
field when said switches assume said one position, solenoid actuator means including solenoid windings for actuating said switch means, and a personally operable starter switch adapted to open and close the circuit for said solenoid windings, one side of the latter being connected to one of said cells, said personally operable starter switch including a reaction member connected to the reaction element of said gearing and movable in response to the torque reaction of said gearing during torque delivery from said sun gear to said carrier thereby maintaining said personally operable starter switch closed as long as said torque reaction continues.

3,270,208
MOTOR VEHICLE ELECTRICAL LOAD CONTROL AND STARTING SYSTEM
Richard A. Carlson, Pontiac, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 5, 1963, Ser. No. 306,809
8 Claims. (Cl. 290—36)



1. An electrical system for a motor vehicle having an engine comprising, an electric cranking motor for cranking said engine, a control relay having an armature and first and second coil windings, a switch means responsive to engine speed, a source of direct current potential, a generator driven by said engine, first and second switch means controlled by movement of the armature of said control relay, a circuit for energizing said electric starting motor from said battery including said first switch means of said control relay, a circuit controlled by said second switch means of said control relay for supplying an external electrical load from said source of direct current potential, a circuit for energizing said first coil winding of said control relay including a manually operable switch and said engine speed responsive switch means, and means connecting said second coil winding of said control relay in circuit with said generator, the output voltage of said generator being insufficient to move said common armature of said control relay when said first coil winding of said control relay is energized.

3,270,209
ECONOMIC LOADING OF POWER SYSTEMS
Nathan Cohn, Jenkintown, Pa., assignor to Leeds and Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 17, 1962, Ser. No. 244,973
17 Claims. (Cl. 307—57)



1. In a system for determining the incremental cost of generation for each generation source of a group connected to a common distribution system and required to maintain a group schedule with most economic operation of said group, the combination of

means for producing total group generation signals representative of the total generation required of said group to maintain said group schedule,

means responsive to said total generation signals for producing output signals varying approximately as the incremental cost required of said group for most economic operation of said group, and

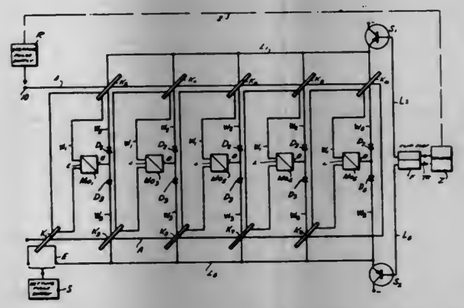
means for generating area requirement signals, and

means responsive to said area requirement signals for varying said output signals representative of said incremental cost for establishment of a more exact economic operation of said group at levels representative of said total required generation.

3,270,210
ELECTRONIC STEPPING SWITCH ARRANGEMENT
Georg Mueller, Schwabach, Germany, assignor to Max Grundig, Furth, Bavaria, Germany
Filed Apr. 15, 1963, Ser. No. 273,173
Claims priority, application Germany, Apr. 18, 1962, G 34,764
20 Claims. (Cl. 307—88)

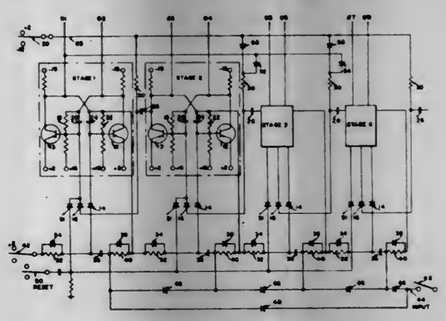
1. Electronic stepping switch arrangement, comprising, in combination, a series of magnet core means changeable between a first and a second magnetized condition by application of electric pulses; a plurality of monostable circuit means serving as stepping control stages and each being operatively connected with a different group of said magnetic core means for being triggered by an input pulse

generated by one of said magnetic core means of such group when the magnetized condition of said core means thereof is changed, and for changing, in response to being so triggered, by application of an output pulse the magnetized condition of another one of said magnetic core means of such group; read-out means for applying stepping impulses to said plurality of magnetic core means for causing generation of said input pulses; electronic switching means operatively connected with all of said



monostable circuit means and changeable between two alternate switching conditions for consecutively causing, depending upon said switching condition thereof, the output pulses of the individual monostable circuit means to be applied to alternatingly different ones of said magnetic core means of the respective group thereof; and actuating means for sequentially actuating said electronic switching means so as to change between said alternate switching conditions alternatingly with the application of said stepping pulses.

3,270,211
BINARY-CODED DECADE COUNTER
William J. Clifford, Middletown, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey
Filed Oct. 5, 1962, Ser. No. 228,560
8 Claims. (Cl. 307—88.5)



1. A counter comprising a plurality of bistable devices, each including a pair of transistors which are triggerable to a particular condition of conduction upon application of a trigger pulse to one transistor of the pair,

first means coupling one transistor of a pair to the other transistor of the same pair and to said one transistor in the next succeeding bistable device,

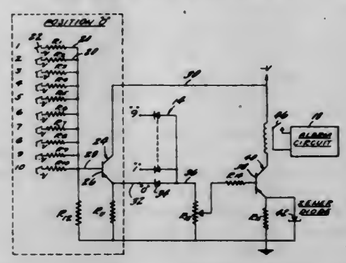
second means coupling said other transistor of each bistable device to said other transistor in the next succeeding bistable device,

means applying an enabling potential of predetermined polarity and amplitude to one of said first coupling means, and

means including an individual diode for each of said bistable devices with said diodes being connected in series circuit relation and with a connection between each of said bistable devices and its respective diode for controlling the application of electrical trigger pulses to be counted by said bistable devices,

one end of said series circuit of diodes being connected to a trigger pulse source whereby said plurality of bistable devices are successively triggered in response to successive trigger pulses and each of said diodes are rendered ineffective for applying further trigger pulses to a corresponding bistable device upon said bistable device having been once triggered.

3,270,212
ELECTRICAL INTERLOCK
Louis J. Daigle and Donald P. Cornell, Manchester, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 13, 1963, Ser. No. 264,966
1 Claim. (Cl. 307—88.5)



An electrical monitoring circuit for a system having a plurality of input signals, said circuit being responsive to the presence of more than a predetermined number of input signals, comprising

a plurality of summing networks, each summing network having a plurality of input circuits,

each said input circuit comprising a source of D.C. voltage, a switch and a resistor connected in series whereby an input signal of substantially equal amplitude is produced by each input circuit only when said switch is closed,

means including an emitter follower connected to the output of each summing network for combining the input signals from the input circuits of each said summing network to produce an output signal whereby each said summing network produces an output signal having an amplitude proportional to the number of input circuits in the respective summing network whose switches are closed,

an OR circuit having a plurality of inputs, the output signal from each said emitter follower being connected to one of said OR circuit inputs,

said OR circuit having a diode for each of said summing networks, said diodes being poled whereby only the output signal having the greatest magnitude is passed through said OR circuit to the output thereof,

an amplifier including an electronic discharge device having input, output and reference terminals,

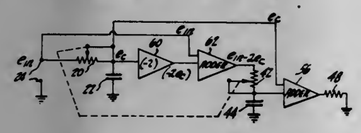
an indicator connected to the output terminal of said electronic discharge device,

means connecting the output from said OR circuit to the input terminal of said electronic discharge device,

and a Zener diode connected to the reference terminal of said electronic discharge device to provide a reference voltage for said electronic discharge device,

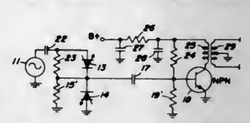
said electronic discharge device producing an output signal sufficient to actuate said indicator only when the amplitude of the output signal passed by said OR circuit is indicative of the closing or more than a predetermined number of switches in the input circuits of one of said summing networks.

3,270,213
FREQUENCY RESPONSIVE NETWORK
James W. Brault, Princeton, N.J., assignor to Princeton Applied Research Corporation, a corporation of New Jersey
Filed Oct. 21, 1963, Ser. No. 317,718
11 Claims. (Cl. 307—88.5)



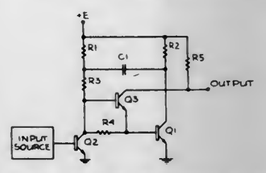
7. A frequency selective network comprising:
means providing a signal input terminal and a common terminal connected to a point of reference potential for said network;
input circuit means coupling a resistive circuit element in series with a reactive circuit element across said signal input and common terminals;
amplifier means coupled to one of the elements of said input circuit means;
first signal combining means having a first input circuit coupled to said amplifier means, a second input circuit coupled to said signal input terminal, and an output terminal,
said first signal combining means providing impedance isolation between said output terminal and said first and second input terminals;
the amplification provided by said amplifier means and the relative phases of the signals applied to the first and second input circuits of said first combining means being such as to provide an output signal at the output terminal of said first signal combining means which is proportional to the difference between the voltage applied between said input and common terminals and two times the voltage developed across said one of the elements of said signal input circuit means;
summing circuit means including a resistive element and a reactive element connected in series between said output terminal and said point of reference potential for said network, the time constant of said summing circuit being substantially equal to the time constant of said input circuit means;
second signal combining means including a first input circuit coupled to the junction of the resistive and reactive circuit elements of said summing circuit means, a second input circuit coupled to said one of the elements of said signal input circuit means, and an output terminal, the relative amplitudes and phases of the signals applied to the first and second input circuits being such as to produce an output signal proportional to the sum of the voltages appearing at the junction of the elements of said summing circuit and across said one of the elements of said input circuit means, said second signal combining means providing impedance isolation between said first signal input circuit and respectively said second signal input circuit and said output terminal;
output circuit means coupled between the output terminal of said second signal combining means and said point of reference potential; and
means for adjusting one of the elements of said summing circuit means to tune said network.

3,270,214
HIGH FREQUENCY SHORT PULSE TRIGGER GENERATOR EMPLOYING TWO VOLTAGE VARIABLE SEMICONDUCTIVE CAPACITORS
Samuel L. Broadhead, Jr., Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 16, 1963, Ser. No. 330,947
10 Claims. (Cl. 307—88.5)



1. In a pulse generator, a reference frequency source; at least two like multielement solid state devices each having at least a first electrode and a second electrode, and including a P-N junction which, when forwardly biased, permits the passage of current, and having the characteristic, when reverse biased, of blocking the flow of current; and with the P-N junction of each exhibiting capacitance as an inverse function of the reverse bias; one of said solid state devices having a first electrode connected for receiving the reference frequency from said reference frequency source, and having a second electrode connected in common with the corresponding second electrode of the other multielement solid state device; said other multielement solid state device having the first electrode connected to a voltage potential reference source; first D.-C. path means parallel to one of said multielement solid state devices, and a second D.-C. path means parallel to said other multielement solid state device; means coupling the common junction of said multielement solid state devices to an amplifying device having multiple electrodes including an output electrode; and means biasing said amplifying device to conduct predetermined portions of a waveform developed at the common junction of said multielement solid state devices and coupled to said amplifying device.

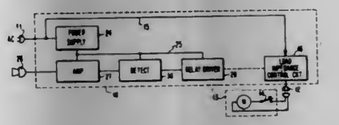
3,270,215
TIMING CIRCUIT
Robert N. Mellott and Paul F. Smitha, Los Angeles, Calif., assignors to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Delaware
Filed Sept. 10, 1964, Ser. No. 395,447
7 Claims. (Cl. 307—88.5)



1. A circuit arrangement responsive to an input signal for providing an output pulse at the end of a fixed time interval, said circuit arrangement comprising:
a first transistor including a base, a collector, and an emitter;
means connecting said emitter to a first reference potential;
a first circuit branch having first and second terminals and including a capacitor;
means connecting said first circuit branch first terminal to said collector;
a second circuit branch having first and second terminals;
means connecting said second circuit branch first terminal to said base;
means for forward biasing said transistor;

current source means responsive to said transistor being forward biased for applying a substantially constant total current to said first and second circuit branches whereby a major portion of said current will initially be directed into said first circuit branch to charge said capacitor to a terminal value;
said current source means being responsive to said capacitor being charged to said terminal value for diverting a major portion of said current through said second circuit branch; and
means responsive to said major portion of said current being diverted through said second circuit branch for providing said output pulse.

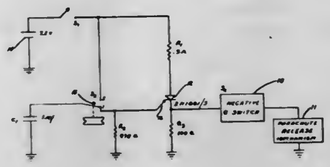
3,270,216
VOICE OPERATED SAFETY CONTROL UNIT
William C. Dersch, Los Gatos, Calif., assignor to Voice Systems, Inc., Campbell, Calif., a corporation of California
Filed Mar. 11, 1963, Ser. No. 264,227
8 Claims. (Cl. 307—117)



1. A voice operated control unit for inactivating electrically energized equipment incorporating a master control switch, said unit being formed as a self-contained device adapted to be interposed between a power outlet and the controlled equipment, said unit comprising circuit means adapted to form a portion of the load circuit of said equipment, said circuit means having a normally inactive branch including an impedance element, means for detecting the occurrence of voiced sound and for distinguishing same from unvoiced sound, the last named means serving to generate an electrical signal in response thereto, means responsive to said signal serving to couple said impedance element in series with the electrical load of said equipment, the impedance of said element being sufficiently large to reduce the potential across the load to a level insufficient to activate the equipment, and means operatively responsive to opening of said master control switch to de-couple said impedance element from the load circuit of the equipment and simultaneously therewith to restore and maintain said branch in its said normally inactive condition until activated by another of said signals derived from voiced sound, whereby reclosing the switch serves to reactivate the equipment.

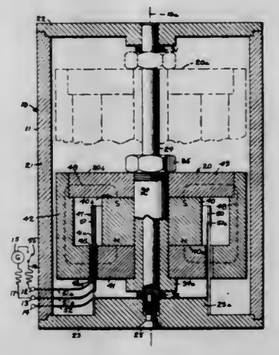
3,270,217
SWITCHING SYSTEM
David S. Willard, High Rolls, N. Mex., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Nov. 4, 1963, Ser. No. 321,376
3 Claims. (Cl. 307—118)

3. A switching system for operating a parachute release mechanism, comprising: a controlled rectifier having a cathode, an anode and a gate electrode; a D.C. power supply; means for connecting said D.C. power supply across the anode-cathode circuit of said controlled rectifier; a condenser; aneroid switch means for connecting said condenser to said power supply above a predetermined altitude and to said gate electrode below said predetermined altitude, whereby said condenser is charged when the device ascends above said altitude and said condenser charge is applied to said gate electrode when the device descends below said altitude; a current limiting resistor connected in the cathode circuit of said controlled rectifier; a parachute release mechanism load connected in the anode circuit of said controlled rectifier; a negative-G



switch connected between said anode and said load; and means connected in the anode circuit of said controlled rectifier, for maintaining conduction in said controlled rectifier until said switch is operated.

3,270,218
FLUXMETER-GALVANOMETER CALIBRATION TEST DEVICE
Gerald T. Barta, Valparaiso, Ind., assignor to Indiana General Corporation, Valparaiso, Ind., a corporation of Indiana
Filed Aug. 27, 1963, Ser. No. 304,876
12 Claims. (Cl. 310—14)

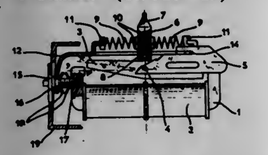


6. A calibration device comprising a cylindrical housing of magnetic material, an electric coil of annular configuration having its axis coinciding with the axis of said housing, said coil being secured in place at one axial end of said housing, a magnetic core of cylindrical configuration having its axis coinciding with the axis of said housing and slidably mounted in said housing for movement from a first position adjacent the opposite axial end of said housing to a second position adjacent said one axial end of said housing, said magnetic core having an annular air gap at the side thereof proximate said one axial end of said housing and of diameter to receive said electric coil as said magnetic core moves from said first position to said second position, and said magnetic core having a permanent magnet producing a magnetic field directed radially across said annular air gap for inducing a predetermined calibration voltage as said core moves between said first and second positions, said magnetic core being movable between said first and second positions under the action of gravity in response to successive inversions of the housing.

3,270,219
VARIABLE-STROKE ELECTROMAGNETIC VIBRATORS

Maurice Marie-Achille Trouilhet, Bron, France, assignor to Calor Appareils Electro-Domestiques, Lyon, Rhone, France, a corporation of France

Filed Oct. 15, 1963, Ser. No. 316,361
Claims priority, application France, Apr. 18, 1963, 93,917
8 Claims. (Cl. 310—29)

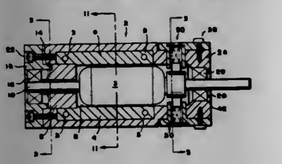


1. An electromagnetic vibrator device comprising an armature extending between pole faces of a stator for energization by an alternating current, said armature being pivotally mounted for oscillatory motion about an axis intermediate its length and being engaged by a pair of springs each of which engages said armature on opposite sides of its point of pivotal mounting and so as to tend to rotate the armature in opposite directions about said axis, wherein said springs extending substantially parallel to the imaginary line joining the opposite poles of said stator, are supported on a slider member which is capable of translation adjustment in a direction perpendicular to said axis for adjustment of the return force exerted by said springs, a control device being provided for fixing said sliding member against translation movement in any position of adjustment thereof.

3,270,220
MINIATURE D.C. MOTOR

Milton S. Isaacson, Trotwood, Ohio, assignor to Globe Industries, Inc., Dayton, Ohio, a corporation of Ohio

Continuation of application Ser. No. 786,326, Jan. 12, 1959. This application Nov. 30, 1964, Ser. No. 416,957
5 Claims. (Cl. 310—40)



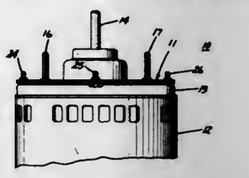
1. A motor comprising a stator and an armature; said stator comprising a casting consisting of opposed pole pieces encapsulated by non-magnetic material extending on all surfaces thereof except a bore therethrough, said bore consisting of a series of three passages coaxially arranged in progressively decreasing diameter to provide openings for receiving a magnet, an armature and a bearing, respectively, and a cap member mounted to said stator to close said series of passages and to provide bearing means coaxial with said stator, said stator as viewed in transverse cross-section having a long and a short dimension, said pole pieces extending in the direction of said long dimension and said short dimension being only slightly larger than said armature.

3,270,221
MOTOR VIBRATION SUPPRESSION MOUNTING

Paul B. Shaffer, 201 Delcy Drive, De Kalb, Ill.

Continuation of application Ser. No. 243,902, Dec. 11, 1962. This application May 28, 1965, Ser. No. 467,162
6 Claims. (Cl. 310—51)

1. In an arrangement for mounting an electric motor on an apparatus, an electric motor, a vibration isolating base member, and motor vibration transmissibility controlling means for holding a ratio of forcing frequency f of the motor to natural frequency f_n of the vibration isolating member within predetermined limits to control transmissibility of vibrations produced by the motor to the apparatus below a preselected value, said transmissibility controlling means comprising an attaching means adapted for securing said vibration isolating base member to the apparatus, said attaching means dividing said vibration isolating base member into a preselected plurality of deflectable beam portion means, said attaching means being adapted for providing a fixed support at each end for said deflectable beam portion means, securing means for attaching said motor at an intermediate position on each of said deflectable beam portion means to provide a deflectable support for said motor, said deflectable beam portion means having predetermined proportions for holding the ratio of the forcing frequency of the



motor to the natural frequency of the vibration isolating member within said predetermined limits, said predetermined proportions of the beam portion means being determined in accordance with the expression

$$d=\frac{Pl^3}{192EI}$$

where

d is the deflection of the beam portion means in inches,
P is the concentrated load of the motor being supported in pounds,
l is the length of the beam portion means in inches,
192 is a numerical constant,
E is the modulus of elasticity in pounds per square inch for the beam portion means, and
I is the moment of inertia in inches to the fourth power,

whereby the transmissibility of the vibrations produced by the motor to the apparatus is effectively controlled.

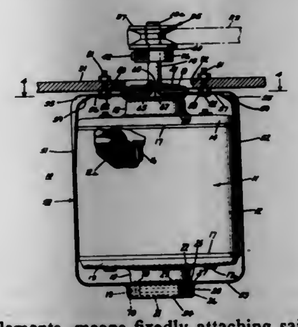
3,270,222
VIBRATION AND NOISE ISOLATION SUPPORT AND DRIVE

Paul B. Shaffer, De Kalb, Ill., assignor to General Electric Company, a corporation of New York

Filed Apr. 17, 1963, Ser. No. 273,769
6 Claims. (Cl. 310—51)

1. In an arrangement for controlling the transmission of vibration and noise producing excitation forces from a dynamoelectric machine to its supporting structure; said dynamoelectric machine including a rotatable member having a shaft, a stationary member carrying a resilient machine mount at each of its ends; a base for attaching said machine to a supporting structure, said base being formed from sheet material and having a generally U-shaped configuration including opposite spaced apart leg sections and a bight section joining said leg sections together at one end, said bight section being formed with a recess mounting one of said resilient mounts, the free ends of said leg sections remote from said bight sections projecting toward each other to form a pair of movable cooperating clamping sections, said leg sections being flexible relative to said bight section allowing movement of said clamping sections toward and away from each other to permit installation of the other resilient mount therebetween, and means securing said clamping sections

firmly to said other resilient mount whereby said machine is firmly supported by said base and the transmission of vibration and noise producing forces originating in said stationary member is controlled; and a driving connection unit carried on said shaft for transferring power therethrough and for controlling the transmission of vibration and noise producing forces of said rotatable member, said unit comprising a pair of axially separated driving

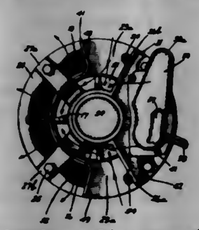


and hub elements, means fixedly attaching said hub element to said shaft for rotation therewith and resilient means disposed therebetween and joining said elements together in power transferring relation while permitting limited relative angular movement of said elements, whereby said driving element is furnished with limited angular movement relative to said shaft while rotating therewith.

3,270,223
DYNAMOELECTRIC MACHINE

Richard E. Seely, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

Filed Dec. 26, 1962, Ser. No. 247,153
8 Claims. (Cl. 310—62)

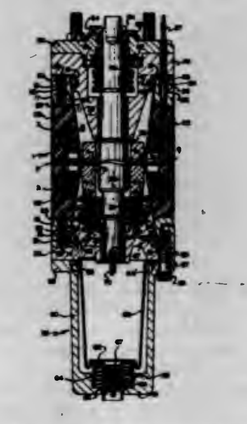


1. A dynamoelectric machine comprising a stator, a rotor fixedly secured to a shaft, fan means rotatable with the shaft, and frame means for mounting bearing means to support the shaft for rotation relative to said stator and for directing the flow of air from the surrounding ambient of the machine into contact with said fan means and for discharging the air to the ambient, said frame means comprising at least one end frame member formed in one piece with an outer section, a central section for carrying said bearing formed nearer to the axis of the machine than said outer section, first and second partitions formed intermediate said outer and central sections, said first partition projecting from one side of end frame member axially away from the interior of said machine and terminating in a pair of angularly spaced apart ends in the vicinity of said outer section at locations spaced substantially less than 360°, said second partition projecting from the other side of said end frame member toward said fan means, air intake openings formed through said one piece member radially between said central section and both partitions for an angular length greater than 180° in communication with said fan means for introducing cooling air thereto, said end member including angularly spaced apart solid walls extending from said outer section to said air intake openings next to the first partition terminations for directing air from the ambient to said openings, air exhaust openings formed through said member radially between said outer section and both partitions spaced radially outwardly from said air intake openings and adjacent said partition terminations for discharging the air from said machine, and cover means mounted in spaced relation to said solid walls over the side of said end frame member adjacent said first partition to form radially divided channels for the respective intake and exhaust openings to provide radially separated air intake and exhaust flow paths repectively through the air intake and exhaust openings of the end frame member.

3,270,224
PROTECTIVE CHAMBER PUNCTURE MEANS FOR A SUBMERSIBLE MOTOR

James R. Turk, Solon, Ohio, assignor to Vincent K. Smith, Gates Mills, Ohio

Filed Sept. 13, 1963, Ser. No. 308,738
11 Claims. (Cl. 310—87)

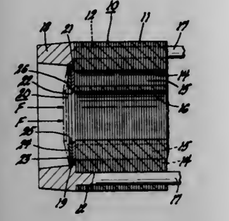


1. A submersible electric motor comprising a tubular shell, a stator assembly contained within the said shell, a liner disposed within said stator assembly, said shell and liner extending beyond the ends of the stator assembly, ring members inserted between the ends of said shell and liner, taper rings inserted within said ring members so that the ends of said liner are securely held between the ring members and taper rings, means for providing a waterproof seal between said ring members and said shell and liner, a rotor and rotor shaft assembly disposed in said liner, end caps positioned adjacent said ring members and taper rings, said end caps having bearings in which said rotor shaft is journalled, a piercing means projecting from one end of said rotor shaft, an oil injector secured to the end cap adjacent said piercing means, said oil injector including a cup-shaped housing secured at its open end to the adjacent end cap, a wall member enclosing the other end, a flexible diaphragm within said housing, said diaphragm being filled with a lubricating oil, means within said housing for applying pressure to said diaphragm to force the same toward said piercing means, thus forcing the oil contained within said diaphragm into that part of the motor disposed within said liner, and an opening in the wall member of said housing to allow water to enter and thus occupy the space between the diaphragm and the housing.

3,270,225
ROTOR STRUCTURE

Michael C. Alexinas, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 17, 1964, Ser. No. 375,875
11 Claims. (Cl. 310—89)

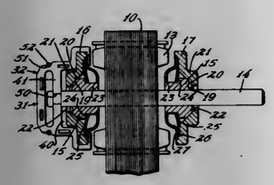


1. Dynamoelectric machine rotor structure, comprising, a slotted magnetic core having a central shaft bore and substantially longitudinal passages radially outwardly from said bore, a cast metal winding portion having conductor means extending substantially longitudinally of said slotted core and having end ring means joined therewith, end ring means possessing inwardly facing peripheries subject to inclusion of press-fit-formed recessing along an inner periphery thereof, a flat washer sealing member fitted against said magnetic core blocking said passages, and a retainer means having an outer edging intimately engaging said inwardly facing end ring peripheries and having an inner edging deformed against said sealing member.

3,270,226
CLAMP FOR AXIAL ADJUSTMENT OF A SMALL MOTOR SHAFT

Malcolm D. McMillan, Jr., St. Paul, Minn., assignor to McMillan Manufacturing Company, St. Paul, Minn., a corporation of Minnesota

Filed Mar. 20, 1964, Ser. No. 353,446
8 Claims. (Cl. 310—90)



1. In combination with an electrical motor including a motor body, a rotor rotatable within said body, a rotor shaft supporting said rotor, motor brackets on opposite sides of said motor body and including bearings supporting said shaft, a means of holding said shaft from axial movement including,

a cap secured to one said motor bracket,

a wall in said cap encircling one end of said shaft, and

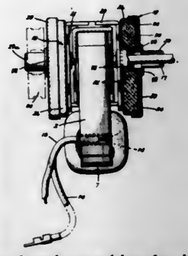
a groove in said shaft into which said wall extends to hold said shaft from endwise movement,

said wall being of substantially equal width to said groove and secured from movement axially of said shaft.

3,270,227
BEARING AND BEARING HOUSING FOR A DYNAMOELECTRIC MACHINE

Hugo C. Kaeding, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

Original application Sept. 28, 1960, Ser. No. 58,954, now Patent No. 3,196,297. Divided and this application Aug. 17, 1964, Ser. No. 390,158
6 Claims. (Cl. 310—90)

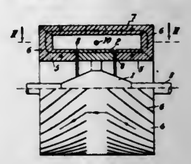


1. In a dynamoelectric machine having a rotor and a shaft mounting said rotor, a bearing assembly for mounting said shaft comprising a bearing member journaling said shaft, a pad of lubricant impregnated material disposed adjacent said bearing member for feeding lubricant thereto, and a substantially imperforate casing enclosing said pad except for the region of contact between said bearing member and said pad, one of the walls of said casing having a breather opening for maintaining atmospheric pressure around said pad, at least one inwardly protruding rib for spacing said pad from said one wall to provide a passageway therebetween for enabling any drops of lubricant on the adjacent surface of an oversaturated portion of said pad to flow to a less saturated portion and be reabsorbed and to allow the free passage of air to and from said breather opening, and an interior flange surrounding said breather opening to prevent the escape of lubricant through said opening.

3,270,228
MACHINES AND METHODS FOR PRODUCING VERY HIGH INTENSITY ELECTRIC CURRENTS

Christian Paul Gilbert Rioux, Epinay-sur-Seine, France, assignor to Centre National de la Recherche Scientifique, Paris, Seine, France, a French government administration

Filed Mar. 15, 1963, Ser. No. 265,494
Claims priority, application France, Mar. 19, 1962, 891,483
20 Claims. (Cl. 310—178)

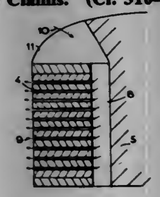


1. A machine for generating high intensity electric surges which comprises, in combination, a high inertia rotor including an electricity conducting mass, said electricity conducting mass having two surfaces of revolution about the axis of said rotor, a stator comprising an electricity conducting mass shaped to have two surfaces of revolution each opposite one of said surfaces of revolution of said rotor, respectively, each of said stator surfaces being separated from the corresponding rotor surface located opposite it by a narrow gap, said electricity conducting mass of said stator being laminated by means of cuts provided therein so as to form slices between said cuts, means for gradually driving said rotor up to a high speed of revolution and means for injecting an electricity conducting liquid into said gaps when said rotor is rotating freely at said high speed, said cuts being shaped to produce in every slice, when the rotor is rotating, in response to the passage of current through said stator mass, a force having a component perpendicular to the axis of said rotor and passing at a distance therefrom, which exerts a braking torque on said rotor.

3,270,229
COOLING ARRANGEMENTS FOR ELECTRIC MACHINES

Gilbert Ruelle and Marcel Peter, Belfort, France, assignors to Societe Generale de Constructions Electriques et Mecaniques (Alsthom), Paris, France, a French body corporate

Filed Dec. 12, 1963, Ser. No. 330,183
Claims priority, application France, Dec. 29, 1962, 2,380, Patent, 1,358,411
14 Claims. (Cl. 310—180)

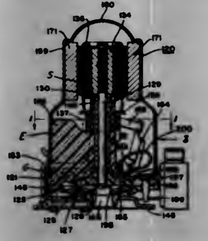


1. Cooling arrangement for the field magnets of a salient pole synchronous electric machines, the coils of which are formed by winding a conductor lengthwise, wherein said conductor is a splined conductor having, along substantially its entire length, consecutive raised portions and recessed portions on at least one of the faces which are to be adjacent subsequent to winding, whereby to provide transverse vents in said coils distributed over substantially the entire length of said coils.

3,270,230
PIVOTAL BRUSH MOUNTING

Werner F. Schultz, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application June 11, 1962, Ser. No. 201,616, now Patent No. 3,168,868, dated Feb. 9, 1965. Divided and this application Feb. 27, 1964, Ser. No. 347,946
2 Claims. (Cl. 310—239)

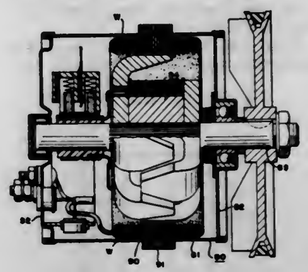


1. Brush means for use in an electric motor having a centrally located hub-like body portion of insulating material, a metal support strip with an elbow-like end and an anchored end held by a terminal pin means pressed therethrough into engagement with said hub-like body portion and having an externally engageable prong end, a metal brush holder having an indented L-shaped end to engage said elbow-like end of said metal support strip, and a looped spring means to straddle said metal brush holder and elbow-like end of said support strip.

3,270,231
DYNAMOELECTRIC MACHINE MEANS

John B. Wiley, London, Ontario, Canada, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application July 29, 1964, Ser. No. 385,940, now Patent No. 3,225,424, dated Dec. 28, 1965. Divided and this application Sept. 1, 1965, Ser. No. 484,357
5 Claims. (Cl. 310—259)

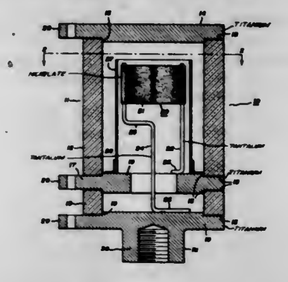


1. A stator assembly for a dynamoelectric machine on which a thick and heavy frame is eliminated, comprising, a thin metal annular housing portion having ends secured thereto for journaling a rotor centrally thereof, a spiral radially inner slotted stator portion having winding means carried thereby and located radially intermediate the rotor and said thin metal annular housing portion, and an annular yoke portion complementary magnetically to said spiral stator portion, said yoke portion being entirely outside and spaced from said spiral stator portion though radially in alignment therewith.

3,270,232
GASEOUS DISCHARGE DEVICE WITH SHIELD FOR DIRECTLY HEATED CATHODE

Ward E. Bailey, Jr., Pittsfield, Mass., and William J. Kearns, Scotia, N.Y., assignors to General Electric Company, a corporation of New York

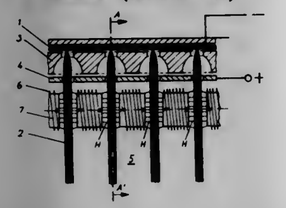
Filed July 10, 1961, Ser. No. 123,024
7 Claims. (Cl. 313—38)



1. A ceramic and metal gaseous discharge device comprising an envelope including a pair of coaxial ceramic insulators, a pair of disk-like contact members sealed across the outer ends of said insulators, one of said disk-like members comprising an anode and the other a cathode contact, an annular contact member sealed between said insulators and including an inner rim portion disposed concentrically in said envelope, a tubular open-ended metallic shield supported on said inner rim portion of said annular member and extending concentrically in said envelope to a point adjacent said anode, a directly heated cathode disposed in said shield, a discrete first lead supporting one side of said cathode and mounted on and conductively connected to said rim portion of said annular contact member, and a discrete second

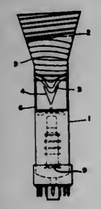
lead supporting the other side of said cathode and extending through said annular contact member and mounted on the inner surface of the disk-like member comprising a cathode contact.

3,270,233
PLURAL BEAM ELECTRON GUN
Walter Dietrich, Hanau am Main, Germany, assignor to W. C. Heraeus G.m.b.H., Hanau am Main, Germany, a corporation of Germany
Filed Aug. 21, 1962, Ser. No. 218,283
Claims priority, application Germany, Sept. 5, 1961, H 43,568
4 Claims. (Cl. 313—69)



1. In an electron gun comprising a hot cathode, an anode having a plurality of apertures laterally adjacent but spaced from each other at one side of said hot cathode, a focusing electrode interposed between said hot cathode and said anode, said electrode having a plurality of apertures substantially in axial alignment with the corresponding apertures in said anode for passing separate electron beams from said hot cathode through the different aligned apertures, and a plurality of electromagnets at the other side of said anode each having a coil and a ferromagnetic core, the opposite ends of adjacent cores being spaced from each other to form gaps substantially in alignment with said apertures for forming magnetic fields for independently deflecting each of said electron beams passing through said apertures in said focusing electrode and anode and then through said gaps.

3,270,234
CATHODE RAY TUBE HAVING SPIRAL ACCELERATION ANODE
Klaus Schaffernicht, Ulm (Danube), and Günther Knabe, Pfuhl, Germany, assignors to Telefunken Aktiengesellschaft, Berlin, Germany
Filed July 22, 1960, Ser. No. 44,726
Claims priority, application Germany, July 30, 1959, T 17,022
1 Claim. (Cl. 313—83)



A cathode ray tube having a cathode and a screen, comprising, in combination:

(a) an envelope having a tubular neck portion of substantially constant diameter and a flaring conical portion joining said neck portion;

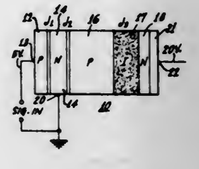
(b) at least two pairs of deflection plates located between the cathode and screen, said pairs being arranged one after the other with respect to the direction of the beam emanating from the cathode so that the plates of one of said pairs constitute screen-side deflection plates, said screen-side deflection plates being located entirely within said neck portion; and

(c) an electrode for producing an after acceleration field between said screen-side deflection plates and the screen, said electrode consisting of a conductive coating applied to the inner surface of said envelope and located partly in said conical portion and partly in said neck portion, said coating being in the shape of a spiral of changing pitch and being made of a material having substantially the same resistance per unit length, the distribution of said coating being, in dependence on the configuration of said inner surface of said envelope, such that said electrode is a means for producing in the region of said screen-side deflection plates, an after acceleration field which, considered in the direction of the beam, is substantially homogeneous, i.e.,

$$\frac{\delta \mathscr{E}}{\delta z}=0$$

where $\mathscr{E}$ is the electric field and z is the distance measured along the axis of said envelope.

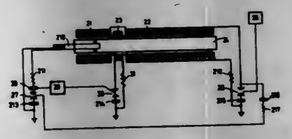
3,270,235
MULTI-LAYER SEMICONDUCTOR ELECTRO-LUMINESCENT OUTPUT DEVICE
Egon E. Loebner, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 21, 1961, Ser. No. 161,124
7 Claims. (Cl. 313—108)



1. An electroluminescent device of the type which produces a modulated electroluminescent light output in response to a modulating electrical input, said device comprising a four layer structure forming a p-n-p-n transistor having two outer junctions and an inner junction therebetween, one layer between said inner junction and one of said outer junctions having a high density of radiative recombination centers, means for biasing said outer junctions in the forward direction and means for biasing said inner junction in the reverse direction.

3,270,236
ELECTRODELESS APPARATUS FOR PRODUCING OR ACCELERATING PLASMOIDS
Alois Koller, Alfred Michel, and Heinrich Schindler, Erlangen, Germany, assignors to Siemens-Schuckertwerke, Aktiengesellschaft, Berlin-Siemensstadt and Erlangen, Germany, a corporation of Germany
Filed Mar. 6, 1964, Ser. No. 349,996
Claims priority, application Germany, Mar. 8, 1963, S 84,063
8 Claims. (Cl. 313—153)

1. Apparatus for electromagnetic control of plasmoids, comprising a tubular vessel of electrically insulating material which contains gas when in operation, two magnetic field coils magnetically opposed to each other and surrounding said tubular vessel in coaxial relation thereto and mutually spaced axially for producing between each other a magnetic field having a radial component, a low-induction winding coaxially surrounding said tubular vessel between said two field coils, electric energizing means connected to said field coils, and periodic electric energizing means connected to said inductance winding for causing the periodic magnetic field of said inductance



winding to produce in the vessel a circular electric field, whereby the electric field generates plasma and therein a ring-flow of current in the radial magnetic field resulting in axially directed acceleration of the plasma.

3,270,237
ELECTRIC LAMP WITH SINGLE ENDED PINCH SEAL
George K. Danko, Chesterland, Ohio, assignor to General Electric Company, a corporation of New York
Filed June 26, 1963, Ser. No. 290,755
2 Claims. (Cl. 313—220)



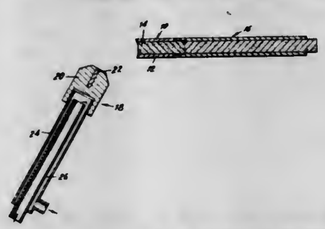
1. An electric lamp comprising a glass envelope containing a light source and having its end closed by a flattened pinch seal, a pair of lead-in conductors extending longitudinally through said seal from said light source, and a residue of glass exhaust tubing sealed in and extending longitudinally through said pinch seal and defining a passage to the interior of said envelope, the walls of said passage being collapsed and sealed at a localized area remote from the outer end of said pinch seal and closely contiguous to the interior of said envelope.

3,270,238
ELECTRIC LAMP FILAMENT SUPPORT
Fred A. Mosby, Cleveland, Ohio, assignor to General Electric Company, a corporation of New York
Filed Feb. 7, 1963, Ser. No. 257,027
5 Claims. (Cl. 313—279)



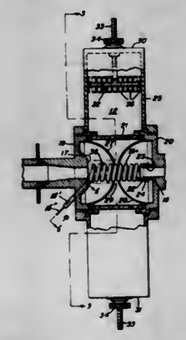
1. An electric incandescent lamp comprising an envelope of vitreous material having a pinch seal at one end, a lead-in conductor extending through said pinch seal, a filament in said envelope connected to said conductor, and a support member for said filament separate and distinct from said lead-in conductor and comprising a generally U-shaped wire having end portions of its legs embedded in and terminating within said pinch seal in spaced relation to and electrically insulated from said conductor, the bend of said U-shaped wire having therein a loop supporting the filament at a location spaced from its connection to said conductor.

3,270,239
SOLAR SIMULATION APPARATUS
William W. Lozier, Rocky River, and Myron R. Null, Berea, Ohio, and Richard C. Eschenbach, Indianapolis, Ind., assignors to Union Carbide Corporation, a corporation of New York
Filed Sept. 20, 1963, Ser. No. 310,338
4 Claims. (Cl. 314—45)



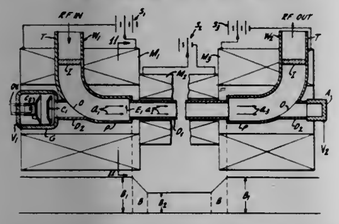
1. An arc lamp suitable for simulating solar radiation, said arc lamp comprising in arcing relationship a positive carbon electrode and a negative nonconsumable electrode comprising a body having a high heat conductivity and imbedded in said body an insert of at least one material of the class consisting of zirconium, thorium, lanthanum, and strontium, said nonconsumable electrode being surrounded by an oxygen-yielding gas thereby causing the exposed portion of said insert to oxidize under the action of an arc to form an electron-emitting material thereon.

3,270,240
EXTENDED INTERACTION RESONANT ELECTRIC DISCHARGE SYSTEM
Norman T. Lavoo, Watervliet, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 13, 1961, Ser. No. 159,004
5 Claims. (Cl. 315—3)



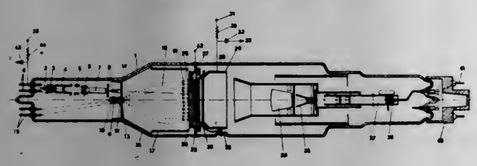
1. An electrical discharge device comprising means for establishing an electron beam along a predetermined path and a resonant structure along said path for interacting with said beam including an elongated helical slow wave structure surrounding said path and a hollow conductive structure surrounding and cooperating with said helical slow wave structure to provide a structure resonant at an operating frequency, said conductive structure including means shielding the interior of said hollow conductive structure from the longitudinal electric field associated with said helical slow wave structure except for a limited length thereof in a region of high longitudinal electric field at the operating frequency and means coupled to the exterior of said helical slow wave structure and spaced longitudinally from said limited length thereof at a region of low longitudinal electric field at said operating frequency to enhance the dissipation of energy at frequencies other than said operating frequency.

3,270,241
CYCLOTRON WAVE DOUBLE-STREAM DEVICES
Bayram Vural, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 8, 1965, Ser. No. 485,802
20 Claims. (Cl. 315—3)



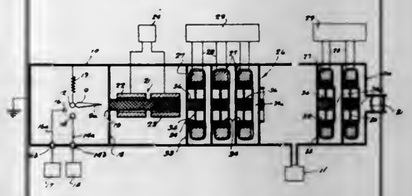
1. A growing wave tube for operation at a given frequency comprising:
(a) means for producing an electron space charge in a given region;
(b) means for establishing a magnetic field in a given direction in said region;
(c) means for coupling a fast wave transmission line to the space charge in a first portion of said region to excite a fast cyclotron wave on said space charge parallel to said magnetic field;
(d) the intensity of said magnetic field in said portion being such that the phase velocity of said fast cyclotron wave therein is substantially equal to the phase velocity of waves along said coupling means at said given frequency; and
(e) means for projecting a stream of electrons through at least a second portion of said region in a direction substantially parallel to said given directions;
(f) the phase velocity of said fast cyclotron wave having a value in said second portion substantially equal to the phase velocity of a slow wave on said stream at said given frequency, for growing wave interaction with said slow wave.

3,270,242
STORAGE TUBE
Daniel R. Charles, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie Sans Fil, Paris, France
Filed May 16, 1963, Ser. No. 280,819
Claims priority, application France, June 7, 1962, 899,998
8 Claims. (Cl. 315—10)



1. An electron discharge device comprising:
a target having induced conductivity properties including a metal layer and an insulating layer of a material providing induced conductivity properties,
two electron sources on the side of said metal layer,
a grid having at least an insulating coating located between said sources and said metal layer,
the first of said sources being provided with means for flooding said grid with a relatively slow and substantially uniform electron beam, and the second of said sources being provided with means for impacting said grid with a relatively fast signal-carrying electron beam,
a third electron source on the side of said insulating layer,
means for sweeping said insulating layer with an electron beam emitted from said third source thereby producing an output current responsive to said signal,
and output means for collecting said output current.

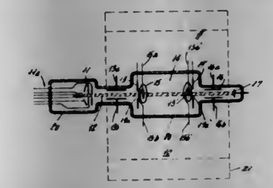
3,270,243
APPARATUS FOR THE ESTABLISHMENT AND ACCELERATION OF A NARROW HIGH CURRENT BEAM
Donald W. Kerst, San Diego, Calif., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 21, 1961, Ser. No. 97,232
6 Claims. (Cl. 315—15)



1. Apparatus for providing and accelerating an intense narrow beam of electrons which comprises an elongated closed cylindrical housing having a foil target mounted at one extremity thereof adjacent the longitudinal axis thereof, a cold emission cathode mounted within said housing adjacent the other extremity thereof, said cathode having an elongated cone-shaped tip directed along the longitudinal axis of said housing toward said foil target, beam focusing means positioned within said housing in coaxial relation with the longitudinal axis thereof and in spaced relation to the cone-shaped tip of said cathode, means interposed between said cathode and said focusing means for effecting a high field emission of electrons from the tip of said cathode and for directing the emitted electrons to said beam focusing means, a plurality of spaced-apart ring-type cores mounted within said housing in concentric relation with the longitudinal axis thereof, said cores being disposed transversely of the longitudinal axis of said housing and spaced between said focusing means and said foil target, and means for selectively energizing said cores so as to establish a glow discharge within said housing adjacent the longitudinal axis thereof and create an accelerating field in the direction of the outlet extremity of said housing, said glow discharge functioning to neutralize the focused beam of electrons emanating from said focusing means and being accelerated toward said target along the longitudinal axis of said housing so that the beam of electrons is maintained in a narrow configuration.

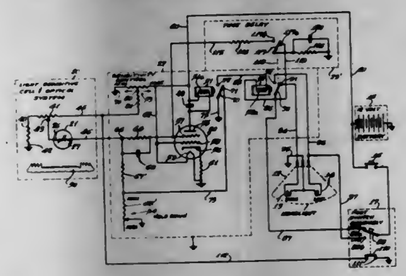
3,270,244
MICRO-WAVE AMPLIFIER UTILIZING THE INTERACTION BETWEEN AN ELECTRON BEAM AND A PLASMA STREAM
Kazuo Ayaki, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan
Filed Jan. 23, 1964, Ser. No. 339,773
Claims priority, application Japan, Jan. 29, 1963, 38/3,976
6 Claims. (Cl. 315—39)

4. Micro-wave amplifying means comprising air-tight housing means; electron gun means mounted interior of said housing means near one end thereof for generating an electron beam directed toward the opposite end of said housing means; first means located adjacent said electron gun means for transversely modulating said electron beam; second means for generating plasma located intermediate said first means and said housing means opposite end; third means for generating a magnetic field in the same direction as said electron beam whereby said electron beam and said plasma interact with each other in said magnetic field causing high frequency components of said modulated electron beam to become amplified; fourth means located near said housing means second end and substantially surrounding said electron beam for transversely demodulating said modulated elec-



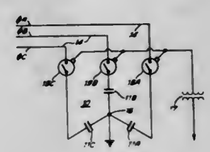
tron beam and thereby inducing signals in said fourth means representing the high frequency components of said modulated electron beam; said first means comprising means for generating high frequency electric fields substantially perpendicular to the direction of travel of said electron; said first means and said fourth means being Cuccia type coupler means.

3,270,245
AUTOMATIC HEADLIGHT DIMMER SYSTEM
William C. Keeran, Evanston, Ill., assignor to Vapor Corporation, Chicago, Ill., a corporation of Delaware
Original application June 6, 1960, Ser. No. 34,318, now Patent No. 3,177,397, dated Apr. 6, 1965. Divided and this application Feb. 1, 1965, Ser. No. 429,335
5 Claims. (Cl. 315—83)



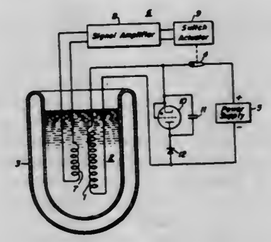
1. In a headlight dimming system for vehicles having a headlight with a high beam filament, a low beam filament and a source of electric energy for energizing said filaments, the combination of a light sensitive element responsive to illumination impinging thereon, an electron discharge valve having electrodes including a grid, said light sensitive element being coupled to the grid of said valve for placing said valve in a first condition of operation when the level of incident light is low and for placing said valve in a second condition of operation in response to an increase in the light level, relay means responsive to the condition of the valve for energizing the high beam filament in the first condition of the valve and for energizing the low beam filament in the second condition of the valve, and time delay means for maintaining energization of the low beam filament for a predetermined time after an increase in the light level regardless of the subsequent light level, said time delay means comprising a capacitor, means for charging said capacitor when the high beam filament is energized, means for coupling said charged capacitor to the grid upon energization of the low beam filament for maintaining said valve in the second condition, and means including a bleed resistor for discharging said capacitor to allow said valve to return to the first condition in response to a decrease in the light level after a predetermined time, said coupling means including a resistor substantially larger than said bleed resistor.

3,270,246
SHUNT CAPACITOR BANK
Donald J. Lemens, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Jan. 11, 1963, Ser. No. 250,818
16 Claims. (Cl. 317—12)



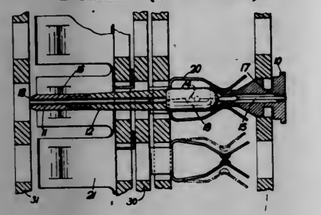
5. In a shunt capacitor bank having a plurality of capacitor units each of which is provided with a metal tank enclosing capacitor sections and having a pair of insulating bushings on said tank each of which has conductor means extending therethrough connected to said capacitor sections, the improvement comprising means connected to one of said conductor means of all of said capacitor units for connecting said capacitor units in Y and for grounding the neutral thereof, a metallic framework supporting and electrically commoned with said tanks, and insulators for isolating said metallic framework from ground, whereby the capacitances between said one conductor means and said tank of all of said units are in parallel and said paralleled capacitances are in series with the capacitance between said tank and the other conductor means of each said unit to provide a path to ground for an impulse appearing on said other conductor means and the impulse insulation level of said capacitor bank is raised.

3,270,247
PROTECTIVE CIRCUIT FOR REMOVING ENERGY FROM SUPERCONDUCTING COILS
Carl H. Rosner, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 1, 1964, Ser. No. 400,718
5 Claims. (Cl. 317—13)



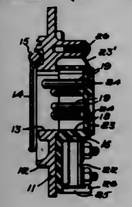
1. Apparatus for protecting a superconducting coil disposed in an operating circuit and subject to transitions to a state of normal conduction comprising sensing means responsive to the occurrence of a potential gradient within said coil for detecting a transition; switching means responsive to said sensing means for disconnecting said coil from said operating circuit; and voltage limiting energy transfer means responsive to a potential gradient within said coil connected to said coil for limiting the potential gradient across said coil while removing energy therefrom.

3,270,248
ELECTRICAL JACK PLUGS
Stanley Thomas Deakin, Walton-on-Thames, Surrey, England, assignor to Sealectro Corporation, Mamaroneck, N.Y., a corporation of New York
Filed Mar. 14, 1963, Ser. No. 265,286
Claims priority, application Great Britain, Mar. 15, 1962, 9,950/62
1 Claim. (Cl. 317—99)



An electrical jack plug comprising two tubular metallic contacts arranged co-axially and, between the contacts, a sealed glass bulb, an insulating sleeve aligned with the contacts, the glass bulb being secured, at one end thereof, by adhesive to one contact and, at the other end thereof, to one end of the sleeve and the other end of the sleeve being secured to and supporting the other contact and, within the glass bulb, an electrical component having two lead wires which pass out through opposed walls of the bulb, the wires passing through the contacts and secured to the ends of the contacts remote from the glass bulb.

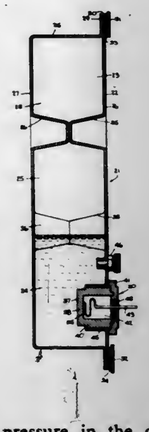
3,270,249
MULTI-POLE TRAILER SOCKET
Thomas Unsworth, Wellesley, Mass., assignor to Cole-Hersee Company, South Boston, Mass., a corporation of Massachusetts
Filed May 21, 1964, Ser. No. 369,150
3 Claims. (Cl. 317—99)



1. A trailer socket of the type described, comprising a base plate having an insulating block secured to the rear side thereof, the plate having a generally circular opening therethrough and the block having a generally circular boss with a recess for receiving a cable plug carrying a plurality of electric circuits, said recess being concentrically aligned with said opening, pole-like conductors mounted in said recess and adapted to be engaged by said cable plug, a plurality of circuit breakers removably mounted on the rear of said block and disposed around said boss, and bar conductors connecting said circuit breakers to the respective pole-like conductors.

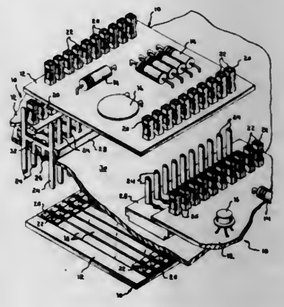
3,270,250
LIQUID VAPOR COOLING OF ELECTRICAL COMPONENTS
Ariel R. Davis, 3687 South St., Salt Lake City 15, Utah
Filed Feb. 6, 1963, Ser. No. 256,752
1 Claim. (Cl. 317—100)

A heat dissipating mounting for a junction type semiconductor comprising a first wall having sides extending laterally thereto, a second wall attached to said sides to form a liquid and vapor sealed chamber, said second wall having a flange extending inwardly into said chamber, a semiconductor fitting in said flange and having a wafer supporting wall in said chamber and between said walls, reinforcing means extending between said walls, a coolant partially filling said chamber to form a vapor space thereabout and immersing said semiconductor with said wafer supporting wall in contact with said coolant, said coolant



having a low vapor pressure in the desired operating range of the semiconductor and good wetting qualities to form small vapor bubbles on said wafer supporting wall and said flange to extract heat therefrom and rapidly detaching to disperse in said vapor space for condensation on said walls to maintain the operating temperature of the wafer supporting wall a few degrees above the temperature of the chamber forming walls.

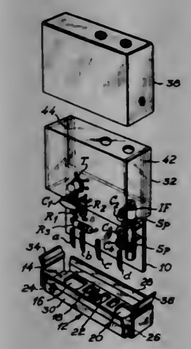
3,270,251
ELECTRICAL CONNECTING SYSTEM AND PARTS
William R. Evans, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Aug. 16, 1963, Ser. No. 302,653
16 Claims. (Cl. 317—101)



8. Electrical connecting means for connecting one or more electrical modules having electrical components thereon to circuit means and comprising in combination, a module circuit board having electrical conductors fixed to one surface thereof for connection to electrical components to be connected to another surface and supported by said module board, female contacts supported by said module board and having a socket passage extending longitudinally therethrough, said female contacts being disposed externally of said module board on the same surface of said module board as said electrical components,

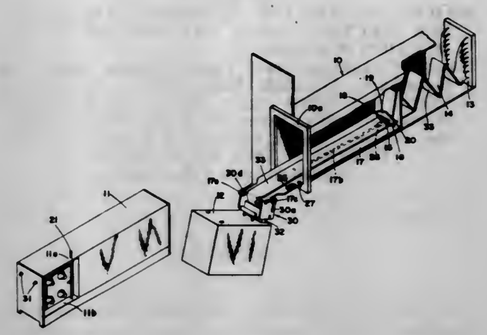
a plurality of tines extending from each said female contact and extending through openings in said module board for connection to said conductors thereon, opposed spring-like tongues on opposite sides of said contacts having contact surfaces thereon urged toward each other, ears extending from said female contacts and overlying said tongues adjacent the outer ends thereof to limit the outward deflection of said tongues, circuit means to which said module board is detachably connected, said circuit means including male contact tabs insertable longitudinally through the passages of said female contacts and frictionally engaged by said tongues thereof for electrical engagement therewith, said tabs being fixed to an insulating base member and extending perpendicularly therefrom.

3,270,252
APPARATUSES COMPRISING A TUNED CIRCUIT NETWORK
Peter Valdemar Iversen, Hareskoven, Denmark, assignor to Produktionsaktieselskabet Torotor, Copenhagen-Charlottenlund, Denmark, a corporation of Denmark
Filed Oct. 7, 1963, Ser. No. 314,322
Claims priority, application Great Britain, Oct. 8, 1962, 38,009/62
2 Claims. (Cl. 317—101)



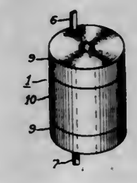
1. In an apparatus for use as a shielded building block of a main electronic circuit in combination: a carrier having at least one edge, a plurality of electronic components, means supporting said components on said carrier, a plurality of terminals on said carrier extending from said one edge thereof, means for electrically connecting said components and said terminals to effectively provide a sub-circuit of said main circuit, an electrically conductive supporting member, an exterior housing structure of electrically conductive material having one open side and operable to enclose and shield said carrier with said components, an interior housing structure of electrically insulating material having an open side and arranged inside said conductive structure with said open sides coinciding, means for detachably connecting both of said housing structures with said supporting member to close the open sides of said housing structures by means of said supporting member and effect an electrical connection between said supporting member and said exterior housing structure, said supporting member having a plurality of apertures therein in alignment with said terminals, said terminals passing through said apertures to effectively provide plug pins extending from said building block, at least one of said terminals contacting said supporting member so as to provide an electrical connection between said supporting member and said sub-circuit.

3,270,253
AUTOMATIC INTERLOCK SYSTEM
Paul B. Binder, North Wales, and Richard B. Garvin, Feasterville, Pa., assignors to Leeds and Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 3, 1964, Ser. No. 394,260
10 Claims. (Cl. 317—120)



2. An automatic interlock system for assuring proper electrical connection between mating electrical connectors prior to insertion of a chassis into a case comprising a chassis having a first electrical connector mounted at the rear end thereof, a slide having a second electrical connector mounted at the rear end thereof and adapted to mate with said first electrical connector, movable locking structure carried by said chassis at a predetermined distance from said first electrical connector for engagement with the case, and cam structure carried by said slide at a corresponding distance from said second electrical connector for engagement with said locking structure, said locking structure positioned with respect to said cam structure so that movement of said chassis relative to said slide in the direction of the case will move the locking structure into engagement with the case and thereby prevent entry of said chassis into the case until said electrical connectors have been moved into mating relation after which said cam structure allows said locking structure automatically to move out of engagement with the case and into locking relation with said slide to permit the chassis and slide to move into the case.

3,270,254
ELECTRICAL CAPACITORS AND METHOD OF MAKING THE SAME
Hans Cohn, Columbia, S.C., assignor to General Electric Company, a corporation of New York
Filed Apr. 16, 1962, Ser. No. 187,574
5 Claims. (Cl. 317—230)



1. A solid electrolyte capacitor comprising a convolutely wound assembly of a superimposed pair of foil electrodes at least one of which is composed of a film-forming metal having a dielectric oxide film formed thereon, said foil electrodes being separated by spacer material comprising a thermally resistant, porous absorbent sheet

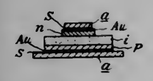
material impregnated with an in situ heat-produced semiconductive oxide material and arranged in contact with said dielectric oxide film, and a covering on said wound assembly comprising thermally resistant non-absorbent porous sheet material.

3,270,255

SILICON RECTIFYING JUNCTION STRUCTURES FOR ELECTRIC POWER AND PROCESS OF PRODUCTION THEREOF

Takeshi Nakatogawa and Takuzo Ogawa, Hitachi-shi, Ibaragi-ken, Masatoshi Hara, Morino, Machida-shi, Tokyo, and Sadao Okano, Hitachi-shi, Ibaragi-ken, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan

Filed Oct. 17, 1962, Ser. No. 231,226
2 Claims. (Cl. 317—234)



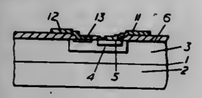
1. A high capacity silicon rectifying device for power use comprised of a basic circular intrinsic monocrystalline silicon wafer, a diffused impurity region of one conductivity, the radius of which is smaller than that of said wafer by an amount corresponding to the thickness of said wafer, adjacent to and concentric with said intrinsic region on one side of said wafer, another diffused impurity region of opposite conductivity adjacent to and coextensive with said intrinsic region disposed on the opposite side of said wafer, wherein the thickness of said wafer is uniform and is smaller than its radius, the depth of said impurity regions being substantially ⅓ or less of the intrinsic region, and conductive contact means to said different impurity regions.

3,270,256

CONTINUOUSLY GRADED ELECTRODE OF TWO METALS FOR SEMICONDUCTOR DEVICES

Bernard Douglas Mills and Roland Francis Payne, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 1, 1963, Ser. No. 312,930
Claims priority, application Great Britain, Oct. 19, 1962, 39,650/62
9 Claims. (Cl. 317—234)



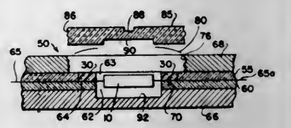
1. A semiconductor device, comprising:
a die of semiconductor material containing a barrier layer, having a region of one conductivity type extending to a given surface of said die;
a layer of insulating material on said given surface having an aperture therein exposing a surface portion of said region;
an electrode overlying and in ohmic contact with said exposed surface portion; and
a metallic film overlying said insulating layer and making electrical contact to said electrode, said film including a continuously graded layer of a composite of two metals,
one of said metals being adhesive to said electrode and to said insulating layer,
the other of said metals being soft solderable, the grading of said layer being such that the relative proportion of said adhesive metal in the region of said film adjacent to said electrode and to said insulatig layer is substantially greater than said proportion in the region of said film furtherest removed from said electrode and insulating layer.

3,270,257

DISPOSABLE DIODE HOLDER

Martin Rabinowitz, Ardsley, N.Y., assignor to Premier Microwave Corporation, Port Chester, N.Y., a corporation of New York

Filed Feb. 19, 1964, Ser. No. 345,958
2 Claims. (Cl. 317—234)



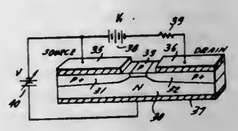
1. A microwave assembly including stripline circuitry and a diode, comprising
a bottom housing plate of conducting material;
a lower dielectric board superposed on said housing plate and having a cavity formed in the upper surface of said board;
two stripline electrical conductors disposed on the upper surface of said dielectric board each having an end terminating respectively at a border area of said cavity on opposite sides of said cavity;
a dielectric annulus having a central bore and seated on said dielectric board with said central bore coaxially aligned with said cavity, said annulus also having two diametrically opposite areas metallized to be seated on and to electrically conductively engage the respective terminating ends of said stripline conductors;
a solid state diode having a body and two end terminals, with said end terminals electrically secured to said respective opposite metallized areas and with the body of the diode suspended from its two terminals in free space within the central bore of the annulus and the cavity of the lower dielectric board;
an upper dielectric board seated on the lower dielectric board to provide an insulating layer on said stripline conductors, said upper dielectric board having a hole therein to accommodate the annulus;
and means including an upper housing plate for compressing the upper and the lower dielectric boards to the lower housing plate, and for clamping the annulus in operative position against undesired physical displacement.

3,270,258

FIELD EFFECT TRANSISTOR

John M. Gault, Manhattan Beach, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed July 5, 1963, Ser. No. 292,987
8 Claims. (Cl. 317—235)



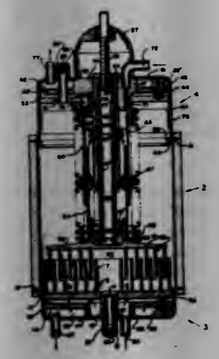
1. A field effect transistor comprising a wafer of N type conductivity semiconductor material having a first and second spaced P+ conductivity region extending into one surface thereof, and a P type conductivity region extending into said one surface thereof and being interposed between said first and second P+ regions.

3,270,259

VACUUM VARIABLE CAPACITOR

Joseph E. Oeschger, Palo Alto, Calif., assignor to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of Delaware

Filed Feb. 3, 1965, Ser. No. 430,002
13 Claims. (Cl. 317—243)



1. A fluid-cooled vacuum variable capacitor comprising,
a tubular dielectric envelope portion,
a fixed end cap assembly closing one end of the dielectric envelope portion,
a set of fixed capacitor plates supported on said fixed end cap assembly,
a mobile end cap assembly closing the other end of the dielectric envelope portion,
a set of mobile capacitor plates supported on said mobile end cap assembly and movable relative to said set of fixed capacitor plates, and
means in said mobile end cap assembly including an inlet port and an outlet port and forming a passageway therethrough for the circulation of a coolant fluid.

10. In an envelope for high voltage electronic components, which envelope includes adjacent dielectric and metallic portions united to form a vacuum tight seal, the combination comprising a metallic sealing ring having a radially extending annular seal flange bonded adjacent its outer periphery to the dielectric portion of the envelope and adjacent its inner periphery bonded to said metallic envelope portion, and a corona shield portion secured to the inner periphery of the seal flange to shield the union of said seal flange with the dielectric portion against corona discharges.

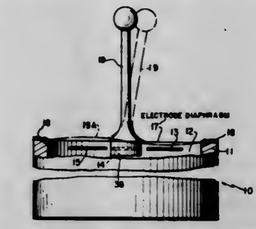
3,270,260

STICK-OPERATED DIAPHRAGM CONTROL

Morton H. Mehr, Norwalk, Conn., assignor to Measurement Systems, Inc., South Norwalk, Conn., a corporation of Connecticut

Filed Nov. 18, 1963, Ser. No. 324,523
3 Claims. (Cl. 317—255)

1. In a hand control for controlling a plurality of variables, a housing having a mounting surface; a relatively rigid diaphragm on said mounting surface having a substantially planar configuration; a signal producing arrangement including spaced opposing pairs of pick-up means, pick-up means adjacent to said diaphragm; and a stick secured to and solely supported by said diaphragm at a point thereon near the intersection of the axes along which said pick-up means are located, so that movement of said stick from its rest position will apply a torque to



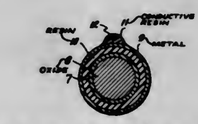
and move a portion of said diaphragm close to one of said pick-up means and away from another of said pick-up means to produce an unbalance signal therebetween.

3,270,261

DRY OXIDE CAPACITOR

Donald Mohler, Saratoga Spa., and Robert A. West, Hudson Falls, N.Y., assignors to General Electric Company, a corporation of New York

Filed May 3, 1965, Ser. No. 452,839
12 Claims. (Cl. 317—258)



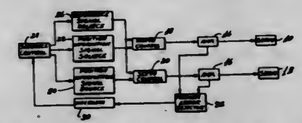
1. An improved dry anodic oxide capacitor comprising,
(1) an electrically conductive metal base electrode having a dielectric layer of anodically formed oxide thereon;
(2) an electrically conductive counter-electrode deposited over said dielectric layer;
(3) an interposed band of electrically non-conductive resinous material interposed between only a portion of said dielectric layer and said counter-electrode; and
(4) a lead directly overlying and attached to said counter-electrode with an electrically conductive resinous material substantially free of oxidizing agents;
said interposed band being located beneath the area of said counter-electrode where said lead is attached.

3,270,262

MAXIMUM ERROR SIGNAL DETECTOR FOR A SERVO CONTROL AND A CIRCUIT OVERRIDE RESPONSIVE THERETO

Veljko Milenkovic, Norridge, and Carl Zaander, Clarendon Hills, Ill., assignors to American Machine & Foundry Company, a corporation of New Jersey

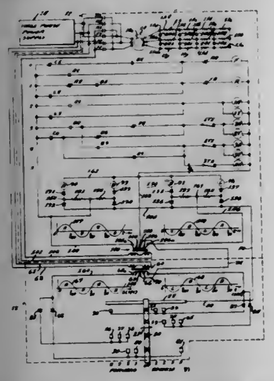
Filed Dec. 19, 1962, Ser. No. 245,823
9 Claims. (Cl. 318—19)



1. In a program controlled machine having a plurality of movable members, the position of each member being controlled by a servo unit responsive to electrical signals, and a plurality of control units for furnishing the electrical signals to said servo units, each servo unit being responsive to signals from a different one of said control

units, the combination comprising a plurality of threshold means for sensing said electrical signals to produce an output signal if any such signal exceeds a predetermined threshold level, each said threshold means sensing a different one of said signals, each said threshold means comprising a normally nonconducting transistor having a collector electrode and a control electrode; means for applying one of said electrical signals to the control electrode of each of said transistors; means connecting the collector electrodes of all said transistors in common; impedance means connected between a source of potential and said collector terminals, whereby said output signal is produced at said impedance means when any of said transistors is driven into conduction by its respective electrical signal; and inhibiting means connected to the common connection of said collector electrodes, said inhibiting means being operative to inhibit further operation of said program controlled machine in response to conduction of any of said transistors.

3,270,263
ELECTRICAL CONTROL SIGNAL TRANSMISSION SYSTEM
Norman A. Eiserloh, Muskegon, Mich., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Apr. 26, 1962, Ser. No. 190,432
15 Claims. (Cl. 318—202)



15. A control system comprising common power supply means for supplying alternating current power of an output frequency,

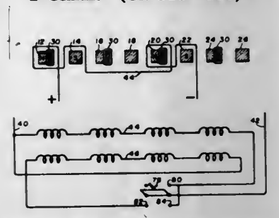
pulse producing means connected with said common power supply means and comprising at least three two terminal rectifier elements, each having two and only two terminals, for supplying respective trains of unidirectional partial wave pulses differing in phase and polarity and each train of pulses being synchronized with said common power supply means and having a repetition frequency equal to the output frequency of said common power supply means,

transmitting means coupled to said pulse producing means for selectively transmitting each of said trains of pulses individually and for selectively transmitting different combinations of said trains of pulses simultaneously,

receiving means operating entirely at said output frequency of said common power supply means and coupled to said transmitting means for receiving said trains of pulses therefrom,

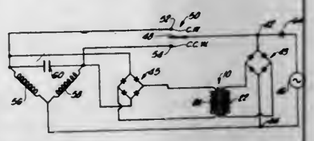
said receiving means having phase sensitive means differentially responsive to the respective trains of pulses and the respective combinations of trains of pulses to provide respective different outputs therefrom, and means operating entirely at said output frequency of said common power supply means for synchronizing said phase sensitive means of said receiving means with said common power supply means.

3,270,264
CONSEQUENT POLE SHADED POLE MOTOR
Robert G. Miner, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis.
Filed Feb. 27, 1963, Ser. No. 261,328
1 Claim. (Cl. 318—223)



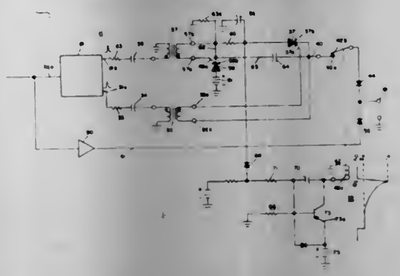
A single phase alternating current shaded pole motor comprising a plurality of stator poles, a first winding on some of said stator poles, a second winding on the other of said stator poles, means for energizing only said first winding to effect a first number of magnetic poles, means for energizing said first windings and said second windings to reverse the polarity of some of said stator poles and to effect a lesser number of magnetic poles for operation at a second speed, and shading poles on only the stator poles which comprise the trailing portions of said magnetic poles during operation at said lesser number of magnetic poles.

3,270,265
ELECTROMAGNETIC FRICTION BRAKING ARRANGEMENT
John F. McNulty, Glendale, Calif., assignor, by mesne assignments, to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed June 3, 1963, Ser. No. 285,010
9 Claims. (Cl. 318—372)



1. A magnetic brake for a motor driven rotatable element including a fixed core structure having a pair of oppositely poled windings thereon for generating a magnetic flux in said core structure; a motor for rotating said motor driven element; a brake member on said driven element including biasing means normally maintaining said brake member out of locking engagement with said core structure, said brake member being positioned in flux-linking relationship with said core structure and movable into locking engagement therewith responsive to the said generation of magnetic flux to lock said driven member in any rotated position; selectively operable means for energizing one of said windings to move said brake member into locking engagement with said core structure, for concurrently energizing said motor and both of said windings for releasing said brake member from locking engagement with said core structure, and for energizing said motor to drive said unlocked driven member; and said biasing means on said brake member responsive to de-energization of both of said windings moving said brake member out of locking engagement with said core structure.

3,270,266
CONTROL SYSTEM
Joseph F. Bryan, Oceanport, and Michael A. Mulshine, Jr., Oakhurst, N.J., assignors to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey
Filed Apr. 17, 1964, Ser. No. 360,499
2 Claims. (Cl. 320—1)



1. A pulse generating system comprising

first and second controlled semiconductor devices cross-connected with an electrode of said first device being connected to a similar electrode of said second device whereby in a first state said first device is nonconductive and said second device is conductive and in a second state said first device is conductive and said second device is nonconductive,

electrical storage means comprising a capacitor,

means including a source of supply connecting said second device to said capacitor for providing a charging circuit for said capacitor only when said second device is conductive,

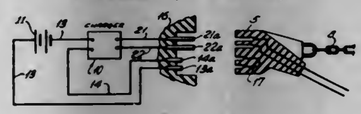
means for switching the state of said devices between said first and said second states,

means connecting said first device between output means and said capacitor to provide a discharge circuit for said capacitor through said output means only when said first device is conductive,

a coincidence circuit having applied thereto two sets of input data for producing a signal upon agreement of said two sets of data, and

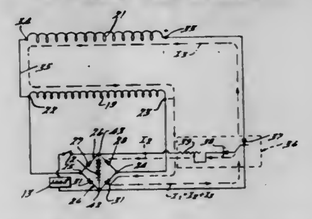
means for applying said signal to said switching means for changing the state of said devices from said first to said second state.

3,270,267
BATTERY CHARGING DEVICE
Filed July 12, 1965, Ser. No. 473,907
Albert C. Nolte, Jr., Oyster Bay Cove, N.Y., assignor to Elton Industries, Inc., New York, N.Y., a corporation of New York
9 Claims. (Cl. 320—56)



1. In an automobile having a battery, a battery charging device including a trickle charger, first connecting means adapted to engage said charger to a power source, said first connecting means including a power cord, a female plug on said power cord, a recessed casing in the grill work of said automobile and a male plug mounted in said recessed casing adapted to be engaged by said female plug and two terminals in said male plug connected by lead wires to said charger, disconnecting means adapted to automatically disengage said male plug from said female plug, said disconnecting means including a bracket, said bracket fixedly mounted in proximity to a power source, a chain having one end mounted on said bracket, the other end of said chain fixedly attached to said female plug so that when the chain is extended it is shorter in length than the extended length of the power cord between the female plug and the bracket, and cover means to automatically cover said recessed casing when the female plug is disengaged by said disconnecting means, said cover means including a cover member framed by a rotatable section of grill work, and a spring mounted on said recessed casing, said spring adapted to reposition the cover as part of the grill work when said female plug is disengaged from said male plug, and second connecting means including at least one lead wire from said charger to said battery, at least one lead wire from said battery to a first terminal in said male plug, at least one lead wire from said charger to a second terminal in said male plug and a connector bar in said female plug adapted to engage said first and second terminals to close the circuit between the charger and the battery when said male plug is engaged by said female plug.

3,270,268
ALTERNATOR WITH SILICON CONTROLLED RECTIFIER REGULATOR FOR BATTERY CHARGING
Thomas F. Carmichael, Drayton Plains, Richard J. Maier, Pontiac, and Edward A. Schilling, Drayton Plains, Mich., assignors to Synchro Corporation, Oxford, Mich., a corporation of Michigan
Filed June 4, 1962, Ser. No. 199,811
14 Claims. (Cl. 320—61)



1. In a regulated system for supplying power to a battery, a generator including a load winding for connection to said battery and a regulating winding in series with said load winding, a nonconductive voltage-responsive one-way switching device in series with said load and regulating windings, and means responsive to the magnitude of voltage across the battery being supplied across said load winding for causing said switching device to be conductive whereby said load and regulating windings will be short circuited around said battery during at least alternate half cycles, said switching device being shiftable to its nonconductive state upon the attainment of a predetermined polarity in said regulating winding and a decrease in the magnitude of said battery voltage.

3,270,269
D.C. CONTROL AND AMPLIFYING CIRCUITS
Sol Low, Bronx, N.Y., assignor, by mesne assignments, to Avion Electronics, Incorporated, Wilmington, Del., a corporation of Delaware
Filed Nov. 23, 1962, Ser. No. 239,457
11 Claims. (Cl. 321—2)

1. A voltage regulator comprising

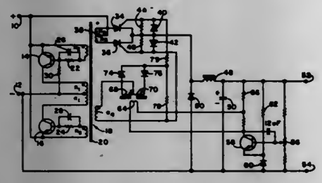
(a) a power supply circuit including a pair of terminals for receiving an unregulated D.C. voltage,

(b) a square wave oscillator connected to said terminals for energization by said unregulated D.C. voltage,

(c) a pair of silicon controlled rectifiers connected in parallel to one of said terminals,

(d) an output circuit connected between the other of said pair of terminals and said silicon controlled rectifiers,

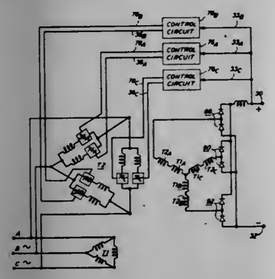
(e) control means connected to the output of said square wave oscillator for generating triggering pulses and applying the same to the gate electrodes of said silicon controlled rectifiers,



(f) means for controlling the timing of said triggering pulses in response to variations of the voltage across said output circuit,

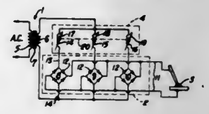
(g) and means for impressing the output of the square wave oscillator on the anodes of the silicon controlled rectifiers in pushpull relationship and in series with the unregulated D.C. voltage.

3,270,270
REGULATED POWER SUPPLY
Osman M. Yenisey, Belleville, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 21, 1962, Ser. No. 204,263
3 Claims. (Cl. 321—18)



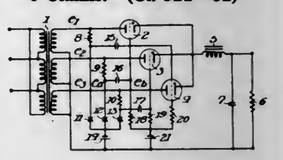
1. A power supply comprising a first transformer having a first and second primary winding and a secondary winding, said first and second primary windings being adapted to induce voltages of opposite polarities in said secondary winding, a second transformer having a primary and secondary winding, a pair of controlled circuits having high and low states of conduction, rectifying means having a first and second pair of terminals, a source of alternating-current power, a load, means for serially connecting said alternating-current source, one of said controlled circuits and said first primary winding, means for serially connecting said alternating-current source, the other of said controlled circuits and said second primary winding of said first transformer, means for connecting the primary winding of said second transformer to said alternating-current source, means for serially connecting the secondary winding of said first transformer, the secondary winding of said second transformer and the first pair of terminals of said rectifying means, means for connecting said load to the second pair of terminals of said rectifying means, and means for alternatively actuating said controlled circuits into a high state of conduction responsive to the conditions at said second pair of terminals.

3,270,271
DIRECT CURRENT POWER SOURCES WITH MEANS FOR CONTROLLING THE CURRENT BALANCE THROUGH RECTIFIERS
Robert L. Stuefen, Fontana, Wis., assignor, by mesne assignments, to Harnischfeger Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Mar. 21, 1963, Ser. No. 266,966
7 Claims. (Cl. 321—25)



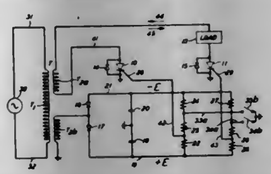
1. In a direct current source,
(a) an alternating current input,
(b) a plurality of parallel connected diode rectifiers defining simultaneously parallel conducting circuits, and
(c) a variable reactor means connecting said diode rectifiers to said alternating current input, said reactor including separate current control windings, means to adjust the reactance of the several separate windings to the same reactance, said windings being connected with a common alternating current input terminal, one each being connected in series with each of the diode rectifiers such that the current through a diode rectifier is essentially determined by the corresponding control winding.

3,270,272
RECTIFYING APPARATUS FOR PRODUCING CONSTANT VOLTAGE
Toshio Kurimura, Setagaya-ku, Tokyo, Japan, assignor to Kokusai Denshin Denwa Kabushiki Kaisha, Chiyoda-ku, Tokyo, Japan, a joint-stock company of Japan
Filed June 7, 1962, Ser. No. 200,880
Claims priority, application Japan, June 24, 1961, 36/21,980
6 Claims. (Cl. 321—32)



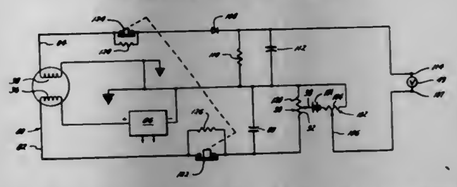
1. A rectifying apparatus for producing a substantially constant direct-current voltage, comprising an alternating-current supply source connected in a three-phase star configuration and having terminals, three controlled rectifiers respectively connected in the same sense to said terminals of said source, ignition means comprising three resistors, three rectifier elements, three capacitors and a reference direct-current source, said resistors being respectively connected to said alternating current source and connected in common to said reference direct-current source respectively through said rectifier elements, connections connecting said reference direct-current source to a neutral point of said alternating current source, ignition signals for each controlled rectifier from said capacitors and a connection junction between a resistance and a rectifying element connected to a respective phase terminal of said alternating current source, whereby in operation said controlled rectifiers are successively rendered conductive in operation to supply rectified current to a load, and a choke coil connected to receive said rectified current and connections to apply the rectified current from said choke coil to said load.

3,270,273
REVERSIBLE CURRENT SUPPLY
John K. Mills, Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 21, 1962, Ser. No. 196,157
2 Claims. (Cl. 321—47)



1. A bilateral switching circuit comprising a pair of controlled rectifiers each having an anode, cathode, and control electrode and each being capable of being switched between a high and a low impedance state, means joining said cathode electrodes together, an asymmetrically conducting device connected to bypass oppositely directed current about each of said controlled rectifiers, means connecting each of said asymmetrically conducting devices individually to the anode and cathode electrodes of a different one of said controlled rectifiers, a first series circuit comprising a load and a low-pass filter, a source of alternating potential, means connecting said source and said first series circuit in series to form a second series circuit, means connecting said second series circuit between the anode electrodes of said controlled rectifiers, and means connected to the control electrodes of each of said controlled rectifiers and adapted to control conduction of said controlled rectifiers.

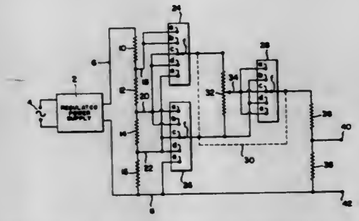
3,270,274
TEMPERATURE COMPENSATING CIRCUIT
William B. Banks, Houston, Tex., assignor to Automation Products, Inc., Houston, Tex., a corporation of Texas
Filed Feb. 15, 1965, Ser. No. 432,689
10 Claims. (Cl. 323—68)



1. In an apparatus having first and second coil circuits, the voltage in the second coil circuit being a function of the current in the first coil circuit, the improvement in a temperature compensating means comprising,
electrical means connected to the first coil circuit for measuring a change in the current in said first circuit due to temperature changes in said first circuit,
means in said first circuit converting the change in current to a voltage signal, and
means for vectorially adding the voltage signal to the voltage in the second coil circuit thereby compensating for said temperature changes.

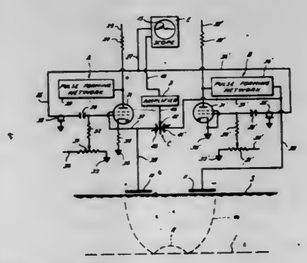
3,270,275
ADJUSTABLE RANGE REFERENCE SIGNAL CIRCUIT
Harry L. Latham, Jr., Philadelphia, Pa., assignor to Honeywell Inc., a corporation of Delaware
Filed Dec. 21, 1962, Ser. No. 246,579
8 Claims. (Cl. 323—79)

1. An adjustable reference signal circuit comprising a power supply circuit having a pair of output leads, a plurality of range determining resistors connected in series between said leads, an adjustable potentiometer having a slidewire resistor and a slider, first switch means for selectively connecting said slidewire resistor across a selected one of said range determining resistors and having a plurality of pairs of switch positions each of which pairs is individual to a different signal range, an output circuit, a further switch means connected between said first switch means and said output circuit, said further switch means including two sets of fixed contacts arranged alternately, one set of said fixed contacts being connected to said slider, the other set of said fixed contacts being connected to said first switch means whereby to by-pass said potentiometer when said further switch means is closed on



said other set of fixed contacts on alternate positions of said further switch means, and means for ganging said further switch means to said first switch means to cause said further switch means to close on a contact of said one set when said first switch means has one of the positions of each of said pairs of positions, and to close on a contact of said other set when said first switch means has the other of the positions of each of said pairs of positions, said alternate positions of said further switch means at which the latter is closed on said other set of contacts comprising hold positions between range changes whereat said slider may be returned to a starting position on said slidewire resistor without affecting an output signal on said output circuit.

3,270,276
GEOPHYSICAL APPARATUS FOR INDICATING STRATA BENEATH THE EARTH'S SURFACE INCLUDING MEANS FOR PREVENTING TRANSIENTS FROM REACHING THE INDICATING MEANS
Charles A. Donaldson, Arlington, Tex., assignor of fifty percent to J. D. Cavaness, Grapevine, Tex.
Continuation of application Ser. No. 166,077, Jan. 15, 1962. This application Apr. 13, 1965, Ser. No. 449,385
6 Claims. (Cl. 324—6)

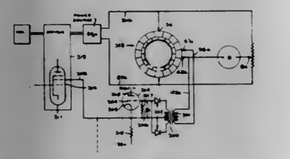


1. A geophysical apparatus, comprising:
(a) a first means for generating negative pulses with respect to ground,
(b) a second means for generating positive pulses with respect to ground,

(c) means connected to said first and second means for simultaneously directing said negative pulses and said positive pulses to underground surfaces for obtaining pulse reflections therefrom,
(d) plate means for picking up said pulse reflections,
(e) means electrically connected to said plate means for forming indications in response to said pulse reflections which are picked up and which represent geophysical strata beneath the earth's surface, and
(f) means connected to the indicator means for balancing out the generated negative and positive pulses to avoid indicating any transients arising from the generated pulses in the indications which represent geophysical strata beneath the earth's surface as indicated on said indicator means.

3,270,277
MEANS FOR SELECTIVELY SUPPRESSING TEST VOLTAGES IN MOTOR COMPONENT TEST EQUIPMENT

Delbert J. Ward, 1001 E. 1st St., Beaumont, Calif.
Filed May 28, 1964, Ser. No. 371,138
9 Claims. (Cl. 324—57)

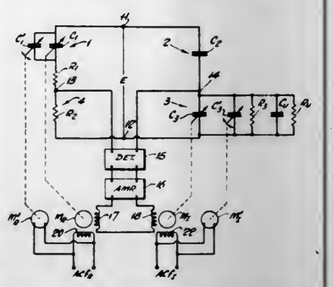


1. In apparatus for testing commutator-type armatures in a jig having a first pair of brushes for applying alternating current test voltages of opposite polarity at diametrically opposite locations on the commutator of the armature under test, and having a second pair of brushes each adapted at intervals during the rotation of the armature to engage one of two neighboring segments of said armature for completing a test circuit between said segment and one of said first pair of brushes, the said alternating current voltages being produced by an electronic power system employing a driver tube having a screen grid, instrumentalities for suppressing said test voltages during predetermined portions of the cycle of rotation of the armature under test, said instrumentalities including: a step-up transformer having (a) a secondary and (b) a primary whose terminals are each connected to a different one of said second pair of brushes; a triode; a full-wave rectifier interposed between said secondary and the grid of said triode to give said grid a negative charge, the cathode of said triode being connected to the screen grid of said driver tube whereby said driver is so screen-modulated that said test voltages will drop when there is a decrease in the voltage applied to the grid of said triode by said secondary.

3,270,278
HIGH FREQUENCY A.C. BRIDGE WITH LOW FREQUENCY MODULATION

Edward Clayton Smith, Ramsey, N.J., assignor to The United States Rubber Company, Wayne, N.J., a corporation of New Jersey
Filed Aug. 20, 1962, Ser. No. 217,841
3 Claims. (Cl. 324—57)

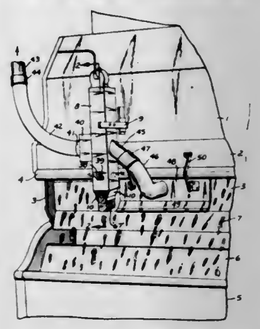
1. An apparatus for balancing a complex bridge which operates at a relatively high frequency comprising
means for supplying a relatively high frequency signal,
means for supplying first and second relatively low frequency modulating signals,
means for modulating said high frequency signal in said bridge in response to said low frequency modulating signals,
means for detecting the low frequency modulation components of said high frequency signal at the output terminals of said bridge,
and means for adjusting the value of first and second parameters of said bridge in response to said detected



modulation signal components to produce real and imaginary balance of the bridge, including phase-responsive means for developing signals representative of the relative phases of said modulating signals and said detected modulation signal components.

3,270,279
METHOD AND APPARATUS FOR DETERMINING THE MOISTURE CONTENT OF COTTON BY SAMPLING WITH A SUCTION

Samuel G. Jackson and Ocia W. Pond, Lubbock, Tex., assignors to Samuel Jackson Manufacturing Corp., Lubbock, Tex., a corporation of Texas
Filed Feb. 7, 1964, Ser. No. 343,394
8 Claims. (Cl. 324—61)



1. In the art of determining the specific moisture content of the cotton being processed, simultaneously and continuously conducting the operation of sucking a limited amount of cotton by vacuum from the flow of cotton being processed, extruding the removed cotton through a restricted space, measuring a specific electrical property of the removed cotton while being extruded, and translating the measured electrical property into terms of specific moisture content.

3,270,280
COAXIAL TRANSMISSION LINE TERMINATION

Goro R. Tahara, Sunnyvale, and Guy K. Patterson, Menlo Park, Calif., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Oct. 18, 1962, Ser. No. 231,455
5 Claims. (Cl. 324—95)

1. A microwave load for use in energy dissipating or measuring apparatus including an inner conductor structure comprising a pair of elongated resistors electrically

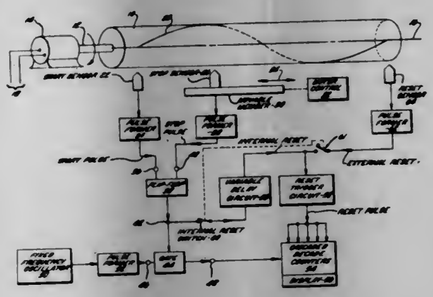
connected in parallel, an outer conductor structure comprising a pair of convergent slab lines disposed on opposite sides of said resistors, said resistors extending in a divergent manner from the divergent to the convergent ends of the slab lines, means connecting the convergent



ends of said slab lines to one interconnection of the said resistors, and means at the divergent ends of said slab lines for connection of a source of microwave energy between said slab lines and the other interconnection of said resistors.

3,270,281
APPARATUS FOR MEASURING AND DIGITALLY INDICATING LINEAR DISPLACEMENT BETWEEN TWO RELATIVELY MOVABLE MEMBERS

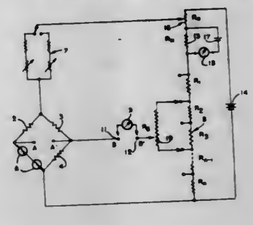
John B. Mandle, 1766 Vistillas Road, Altadena, Calif.
Filed Dec. 3, 1962, Ser. No. 241,696
5 Claims. (Cl. 324—68)



1. A displacement transducer for detecting displacement of a movable member relative to a reference position, comprising:
a rotating member including means defining a single helical line extending around and along the axis of rotation of the rotating member;
means for rotating the rotating member at a constant velocity about its axis of rotation;
a first detector positioned to define a reference position for the movable member, the first detector being arranged to produce a first electrical signal when a portion of the helical line defining means passes the first detector;
a second detector mounted on the movable member for movement therewith parallel to the axis of rotation of the rotating member, the second detector being arranged to produce a second electrical signal when a portion of the helical line defining means passes the second detector;
digital counting means;
means for pulsing the counting means a predetermined rate;
and means receiving the first and second signals for initiating counting of the digital counting means in response to the first signal and stopping the counting of said digital counting means in response to the second signal to provide a digital indication of the time between the first and second signals.

3,270,282
PRECISION DIRECT CURRENT SUBSTITUTION BRIDGE FOR MEASURING R.F. VALUES

Bruno O. Weinschel, Bethesda, Md., assignor to Weinschel Engineering Co., Inc., Kensington, Md., a corporation of Delaware
Filed June 8, 1962, Ser. No. 201,109
5 Claims. (Cl. 324—106)



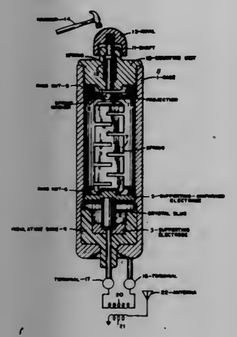
3. Apparatus for measuring R.F. power comprising a bridge circuit, one arm of which includes a bolometric resistor having a substantial temperature coefficient of resistivity; means for supplying D.-C. bias power to said bridge from an adjustable D.-C. source including means for adjusting the voltage from said source applied to said bridge to bring the bridge into balance; a potentiometer having an adjustable output tap; means for opposing the output of said potentiometer to the voltage drop across one arm of said bridge and means for adjusting said tap until the potentiometer output equals said voltage drop; means for supplying R.F. power to be measured to said bolometric resistor and thereby unbalancing the bridge; said means for adjusting the voltage applied from said adjustable D.-C. source being further adjustable, without changing the output of the potentiometer, to bring the bridge into rebalance; means for accurately measuring the difference in potential across said arm of the bridge and said potentiometer; a further fixed resistor equal in value to the bolometric resistor during balance; first switching means for substituting said further resistor in the bridge for the bolometric resistor during the measurement, and further means for maintaining the current through said bolometric resistor at the operating level during said substitution, to maintain the thermal stability of the bolometric resistor constant during the entire measurement.

3,270,283
MECHANICALLY-ACTUATED RADIO TRANSMITTER

Kurt Ikrath, Elberon, Wilhelm A. Schneider, Fair Haven, and Gottfried F. Vogt, Lincroft, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Oct. 4, 1963, Ser. No. 314,071
3 Claims. (Cl. 325—101)

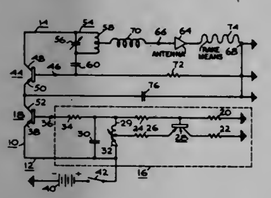
1. A mechanically-actuated radio transmitter, comprising a rigid, tubular, supporting case; an elongated spring positioned within said case; a piezo-electric slug positioned within said case adjacent to one end of said spring; a movable striking pin extending through one end of said case, said pin having one end, inside of said case, positioned adjacent to the other end of said spring; means for striking the other end of said pin, outside of said case; an antenna positioned outside of said case; and means for coupling said antenna to said piezo-electric slug, through the other end of said case; whereby said pin, when struck,

sets up vibrations in said spring to repeatedly hit said piezo-electric slug to maintain said slug in a state of



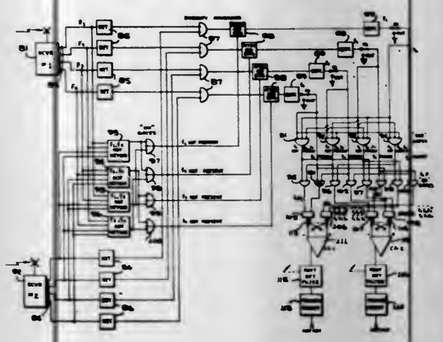
oscillation, which generates radio frequency signals, which are applied to said antenna.

3,270,284
RADIO FREQUENCY SIGNAL TRANSMITTER ARRANGEMENT
William A. Schanbacher, 7200 W. 90th St., Los Angeles, Calif.
Filed Jan. 13, 1964, Ser. No. 337,354
11 Claims. (Cl. 325—105)



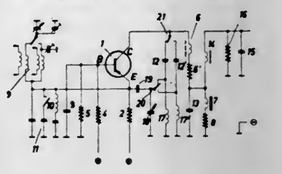
9. In combination:
an audio frequency oscillator;
an audio frequency switching transistor having base, emitter and collector electrodes and said audio frequency oscillator coupled between said base and said emitter electrodes of said audio frequency switching transistor for generating an audio frequency signal between said emitter electrode and said collector electrode of said audio frequency switching transistor;
and an RF generating and transmitting circuit comprising a power RF oscillator transistor having base, emitter and collector electrodes and said emitter electrode of said power RF oscillator transistor connected to said collector electrode of said audio frequency switching transistor for receiving said audio frequency signal therein, and means connected between said base electrode and said collector electrode of said power RF oscillator transistor for providing an RF signal between said emitter electrode and said collector electrode of said power RF oscillator transistor whereby said audio frequency signal square wave current amplitude modulates said RF signal, and means for radiating said amplitude modulated RF signal.

3,270,285
INFORMATION REINSERTION TELEGRAPHY RECEIVERS
Elmer Thomas, Adelphi, Md., assignor to Page Communications Engineers, Inc., Washington, D.C., a corporation of Delaware
Filed July 23, 1962, Ser. No. 211,777
14 Claims. (Cl. 325—320)



14. In a multiple channel frequency shift keying receiver, wherein frequencies are received one at a time, wherein fading may occur as to only one frequency at a time, and wherein the fading rate is far slower than the keying rate, a computer system responsive during said fading to the non-fading frequencies for generating signals timed to coincide with the fading signals, and wherein said computer system includes means for deriving pulses representative of non-reception of each of said non-fading frequencies and pulses representative of reception of each of said non-fading signals, further includes logic circuitry responsive to said pulses to generate said last named signals, means for sensing long term absence of a pair of said frequencies implying an idling condition on one of said channels, means for generating a D.C. signal indication of said absence and means for inserting said D.C. signal into said logic circuitry.

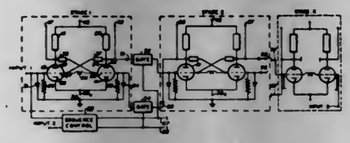
3,270,286
TRANSISTOR SELF-HETERODYNING MIXER
Rolf Bosse, Benthe, Hannover, Germany, assignor to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany
Filed Nov. 30, 1964, Ser. No. 414,769
Claims priority, application Germany, Dec. 7, 1963, T 25,216
7 Claims. (Cl. 325—440)



1. For use in a television receiver capable of operating in a lower and a higher frequency band, a self-heterodyning transistor mixer stage in which the receiving, oscillator and intermediate frequencies are all close to one another, said stage comprising, in combination:
(a) a transistor having a base, collector and emitter;
(b) means for capacitatively grounding said base for the receiving, oscillator and intermediate frequencies;
(c) means for applying the received signal to said emitter;

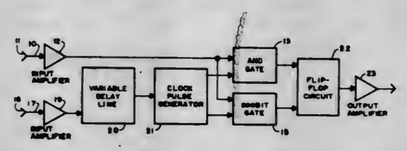
(d) an intermediate frequency circuit connected to said collector, said intermediate frequency circuit having means forming a capacitative branch and a frequency-determining circuit component;
(e) an oscillator circuit having switchable coil means and tuning capacitor means, said oscillator circuit being connected to said capacitative branch of said intermediate frequency circuit;
(f) means for providing a capacitative feedback connection from said oscillator circuit to said emitter;
(g) said coil means and tuning capacitor means of said oscillator circuit acting inductively for the intermediate frequency in said lower band and being dimensioned to impart to said oscillator circuit an impedance which is very small as compared to the capacitance of said capacitative branch of said intermediate frequency circuit and which, even when the capacitance of said tuning capacitor means is varied, detunes said intermediate frequency circuit but slightly, said oscillator circuit being tuned to a channel which is in the middle of the entire frequency band;
(h) means for switching said coil means of said oscillator circuit for switching said oscillator circuit to respective channels of said lower frequency band; and
(i) means for switching said frequency determining circuit component of said intermediate frequency circuit, when said oscillator circuit is switched, to a value which compensates for a frequency variation of said intermediate frequency circuit that is due to the switching of said oscillator circuit.

3,270,287
TIME-SPACED MULTIPLE GENERATOR
Louis W. Ducote, Castro Valley, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed May 17, 1963, Ser. No. 281,376
8 Claims. (Cl. 328—62)



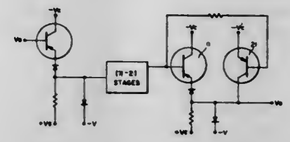
1. In a pulse generator for converting a single input pulse into a sequence of time-spaced identical output pulses, the combination comprising;
a first gate circuit having an input terminal and an output terminal,
a second gate circuit having an input terminal and an output terminal,
a π connected bilateral RL integrating network including an inductor series element and first and second resistor shunt elements, the time constant of the selected values of which inductor series and shunt resistor elements determine the sequential time spacing of said output pulses, said inductor element serially electrically connected between the input of said first gate circuit and the input of said second gate circuit whereby upon the introduction of a single input pulse to one of said gate circuits an integrated form of said input pulse is transmitted to the input of the remaining gate circuit,
each of said gate circuits responsive to said input pulse selectively introduced at the input of said gate circuits by issuing an output pulse, and
energy source means electrically connected to said first and second gate circuits to provide unidirectional operating power.

3,270,288
SYSTEM FOR RESHAPING AND RETIMING A DIGITAL SIGNAL
Kenneth R. Hackett, Boulder, Colo., assignor to Ball Brothers Research Corporation, Boulder, Colo., a corporation of Colorado
Filed Sept. 18, 1963, Ser. No. 309,752
4 Claims. (Cl. 328—63)



1. A reclocking system comprising means for inverting an incoming digital signal, an AND gate and an INHIBIT gate each arranged to receive the inverted digital signal, a sinewave signal source, means for amplifying the sinewave signal of the sinewave signal source, a variable delay line connected to the amplifying means for changing the timing of the sinewave signal, a clock pulse generator connected to the output of the variable delay line for generating reference clock pulses having a period independent of the amplitude of the sinewave signal, means for supplying reference clock pulses substantially simultaneously to the AND gate and the INHIBIT gate for selectively gating information pulses from the inverted digital signal through either the AND gate or the INHIBIT gate, a flip-flop circuit having two stable states connected to the outputs of the AND gate and of the INHIBIT gate and arranged for switching into either of its stable states by the gated information pulses, and means for inverting the output signal from the flip-flop circuit.

3,270,289
OSCILLATION REDUCER FOR EMITTER FOLLOWERS INCLUDING CLAMPING MEANS
David A. Citrin, Dalton, Mass., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Continuation of application Ser. No. 140,074, Sept. 22, 1961. This application May 5, 1965, Ser. No. 457,244
9 Claims. (Cl. 330—29)



9. The combination comprising: first current-valve means having an input terminal and an output terminal, for providing an output voltage on said output terminal when receiving an input voltage on said input terminal; and second current-valve means which saturates at a lower value of input voltage than that required to saturate said first current-valve means, having a first electrode electrically connected to said input terminal, having a second electrode electrically connected to said output terminal, and having a third electrode electrically connected to a reference potential, for providing a low resistance between said second and third electrodes when receiving said input voltage on said first electrode and for providing a high resistance between said second and third electrodes when receiving no such said input voltage on said first electrode; whereby said output voltage is clamped to a value substantially equal to said reference potential on said third

electrode when said input voltage is applied to said input terminal and causes said first and second current-valve means to conduct.

3,270,290
NEODYMIUM GLASS LASER HAVING AN OUTPUT AT ABOUT 9180 A.

Robert D. Maurer, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Oct. 19, 1962, Ser. No. 231,790
5 Claims. (Cl. 331—94.5)

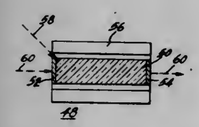


1. Means for producing amplification of electromagnetic radiations having wavelengths of approximately 9180 A., which comprises an active component comprising a glass containing trivalent neodymium ions, means for irradiating said component, said component being provided with a reflecting coating, said coating having a substantially lower reflectivity for radiations around 10,600 A. than for radiations around 9180 A.

3,270,291
LASER CONTROL DEVICE USING A SATURABLE ABSORBER

Walter F. Kosonocky, Iselin, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Oct. 22, 1962, Ser. No. 231,919
9 Claims. (Cl. 331—94.5)

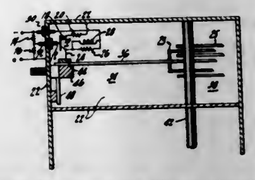


1. In combination
(a) a cavity resonant at a given frequency,
(b) a material positioned within said cavity for absorbing energy at said frequency,
(c) a material positioned within said cavity for emitting energy at said frequency; means for establishing a population inversion, corresponding to said frequency, in said second mentioned material for producing said emitted energy, the quantity of said second mentioned material in its excited state being such that the maximum population inversion, corresponding to said frequency, of said second mentioned material is greater than the population of the lower of the two states involved in absorption by said first mentioned material,
(d) said materials being positioned such that energy sustained by said cavity passes through both materials and such that said first mentioned material can absorb energy emitted by said second mentioned material, and
(e) the characteristics of said first and second mentioned materials being such that the strength of interaction between particles of said first mentioned material and an electromagnetic wave at said frequency is greater than the strength of interaction between particles of said second mentioned material and the same wave.

3,270,292
ULTRA HIGH FREQUENCY TRANSISTOR OSCILLATOR

Leopold A. Harwood, Cherry Hill, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Nov. 15, 1963, Ser. No. 324,023
9 Claims. (Cl. 331—97)

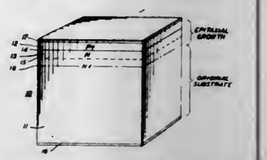


3. An ultra high frequency oscillator circuit comprising in combination:
a transistor having base, emitter and collector electrodes;
a frequency determining network including a tunable transmission line having first and second transmission line conductors;
means for connecting said base, emitter, and collector electrodes of said transistor to cooperate with said frequency determining network to establish self oscillation in said circuit, said means including means connected between said transistor collector electrode and said frequency determining network for coupling sufficient energy between said frequency determining network and said transistor to sustain oscillations, said coupling means exhibiting an impedance at said ultra high frequencies which is large relative to the output impedance of said transistor whereby variations in the output impedance of said transistor are substantially isolated from said frequency determining network; and
a capacitor coupled across one end of said transmission line to adjust the minimum frequency of oscillation of said oscillator circuit, the combination of said capacitor and said one end of said transmission line providing a low inductance capacitor having an inductance value sufficiently small to prevent oscillation at frequencies not primarily determined by said frequency determining network.

3,270,293
TWO TERMINAL SEMICONDUCTOR HIGH FREQUENCY OSCILLATOR

Bernard C. De Loach, Jr., Murray Hill, and Ralph L. Johnston, South Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 16, 1965, Ser. No. 433,088
10 Claims. (Cl. 331—107)



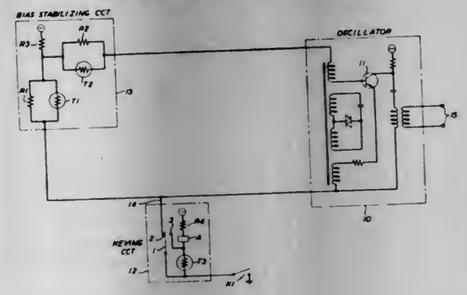
1. In a high frequency generator a semiconductor diode comprising a semiconductor body having a pair of terminal zones of relatively high conductivity and of opposite conductivity-type and an intermediate zone of relatively moderate conductivity, in which the intermediate zone and the terminal zone opposite in conductivity-type to said intermediate zone define therebetween a P-N junction and both are included within an epitaxially grown layer on the other terminal zone, and the intermediate zone and said other terminal zone define therebetween a junction

between two zones of like conductivity type but different conductivities, a cavity housing the diode resonant at a frequency related to the transmit time of electrons across the intermediate zone of the diode, and means for applying a voltage to the diode for biasing the P-N junction beyond avalanche breakdown for the generation of electrons in the intermediate zone and the establishing of oscillations in the cavity at a resonant frequency.

3,270,294
THERMISTOR BIASING CIRCUIT

Paul A. Freeland, Naperville, and Charles S. Nelson, Chicago, Ill., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 12, 1965, Ser. No. 439,350
6 Claims. (Cl. 331—108)



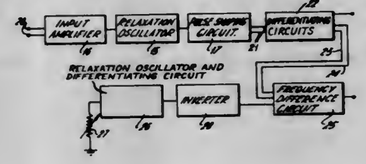
1. In combination with a transistor having a fixed operating point, a biasing circuit including a direct-current source of supply for stabilizing said operating point over a range of ambient temperature variation comprising means connected to said source for obtaining a voltage for driving said transistor towards cutoff with increasing ambient temperature including a resistive voltage divider having an arm consisting of the parallel combination of a first temperature sensitive resistor exhibiting substantial variation in value over said ambient temperature range and a resistor having a value comparable to the resistance of said temperature sensitive resistor at a temperature in the lower region of said range and means included in the base circuit of said transistor and connected to said voltage divider for preventing the cutoff of said transistor with increasing temperature including the parallel combination of a second temperature sensitive resistor having a negative temperature characteristic over said range of ambient variation and a resistor having a value comparable to the resistance of said temperature sensitive resistor at a point in the upper portion of said characteristic.

3,270,295
ELECTRIC PULSE GENERATORS

Alan J. Ramsay, Glasgow, and William Kelvin Bottomley, Hamilton, Scotland, assignors to Honeywell Inc., a corporation of Delaware

Filed May 6, 1964, Ser. No. 365,380
Claims priority, application Great Britain, May 17, 1963, 19,628/63
6 Claims. (Cl. 331—111)

1. An electric pulse generator comprising first and second relaxation oscillators the circuit of each including a capacitor, a first current path for enabling the charge on the capacitor to be changed in one sense, said first current path including the base-collector circuit of a transistor connected as an amplifier in a common base configuration such that the magnitude of the emitter potential of the transistor controls the magnitude of the current flowing in the first current path, and a second current path for enabling the charge on the capacitor to be changed in the opposite sense, said second path including a Shockley diode and being arranged to pass a comparatively large current whenever the charge on the capacitor has changed by a predetermined amount in said one sense from a datum value, the pulse generator further comprising means for applying an electric signal potential to the emitter of the

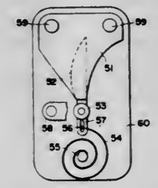


transistor in the first oscillator to vary the current in the first path thereof in accordance with the magnitude of the signal potential, means for applying an adjustable potential to the emitter of the transistor in the second oscillator to enable the magnitude of the current in the first path thereof to be preset, and means responsive to pulse trains generated by the two oscillators to produce an output pulse train having a recurrence frequency equal to the difference between the recurrence frequencies of the two oscillator pulse trains.

3,270,296
TEMPERATURE COMPENSATING DEVICE FOR A CRYSTAL OSCILLATOR

Susumu Aizawa, Suwa-gun, Nagano-ken, and Kinji Fujita, Suwa-shi, Japan, assignors to Kabushiki Kaisha Suwa Seikosha, Chuo-ku, Tokyo-to, Japan, a joint-stock company of Japan

Substituted for abandoned application Ser. No. 256,379, Feb. 5, 1963. This application Sept. 18, 1964, Ser. No. 397,524
Claims priority, application Japan, Aug. 24, 1962, 37/35,028
2 Claims. (Cl. 331—116)



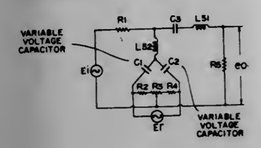
1. In a temperature compensating device for a crystal oscillator of the type in which variation of a capacitance is utilized to vary oscillation frequency, the oscillator having an oscillation transistor and a two-terminal crystal vibrator connected between the collector and base of said oscillation transistor, the improvement which comprises a capacitor to vary the capacitance of the capacitor between the emitter and base of said transistor to compensate error due to temperature variation of the crystal oscillator, said capacitor comprising a stator of spiral form, a bimetal fixed to the center of said spiral, a rotor mounted for rotation by deformation of said bimetal, and means pivotally mounting said rotor, whereby said rotor of the capacitor is rotated by the deformation of the bimetal induced by temperature variations, and the capacitance determined by the extent of the overlapped area of

the stator and rotor at any given temperature compensates said temperature error of the crystal oscillator at said given temperature.

3,270,297
VARIABLE CAPACITANCE MODULATION CIRCUIT

Zenmon Abe, Kokubunji-machi, Kitatama-gun, Tokyo-to, and Nobuhiko Aoki, Hachioji-shi, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan

Filed Oct. 16, 1963, Ser. No. 316,704
Claims priority, application Japan, Oct. 18, 1962, 37/45,218
2 Claims. (Cl. 332—47)

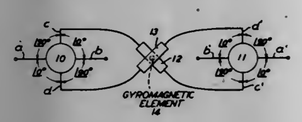


1. A variable capacitance diode modulator comprising, in combination, first and second interconnected resonating inductance elements; a four-arm bridge circuit having a variable capacitance diode in at least one arm; an input resistor connected to said second resonating inductance element and to one junction of said bridge circuit; a first pair of opposed junctions including said one junction of said bridge circuit being connected to a modulating signal source; a second pair of opposed junctions being connected to a carrier signal source; a coupling capacitor connected to both said resonating inductance elements, said first pair of opposed junctions being connected to a load; the circuit formed by said bridge circuit and modulating signal source and the circuit formed by said bridge circuit and load as viewed from the modulating signal source respectively being in resonance with the carrier frequency.

3,270,298
FOUR PORT CIRCULATOR HAVING MUTUALLY COUPLED RESONANT CAVITIES

Harold Seidel, Fanwood, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 31, 1963, Ser. No. 320,292
7 Claims. (Cl. 333—1.1)

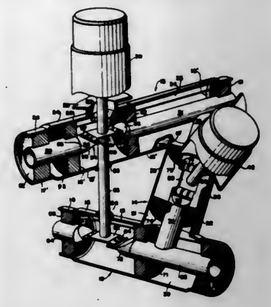


1. A four port circulator comprising:
two 3 db quadrature hybrids each having two pairs of conjugate branches;
a pair of transmission line resonant members supportive of electromagnetic wave energy connecting one pair of conjugate branches of one of said hybrids to one pair of conjugate branches of the other of said hybrids;
said resonant members being physically oriented with respect to each other to produce when energized a region of orthogonally intersecting magnetic fields;
and an element of magnetically biased gyromagnetic material located within said region.

3,270,299
COAXIAL SWITCHING APPARATUS FOR CONNECTING SELECTED SOURCES TO SELECTED LOADS

William E. Stapf, Alexandria, Va., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Jan. 8, 1964, Ser. No. 336,596
9 Claims. (Cl. 333—7)



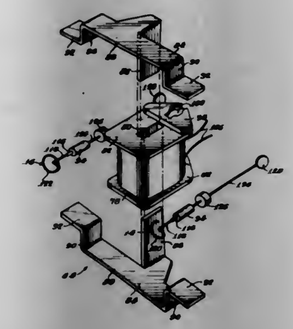
1. In a module for a switching matrix, the combination comprising
a first coaxial line section having input and output ends;
a second coaxial line section having input and output ends, said second section being spaced from and orthogonal with said first section;
a bridging coaxial line section connecting said first and second sections;
each of said line sections including a substantially straight inner conductor, and an outer conductor concentric with said inner conductor and comprised of a plurality of removable shell sections;
each of said inner conductors being discontinuous and defining a pair of spaced contacts thereby;
electrically insulating spacer means disposed between said inner and outer conductors of each of said line sections for maintaining their coaxial relationship; and
each of said line sections including switching means, each of said switching means comprising:
actuating means disposed externally of said outer conductor thereof;
a switching member disposed within said outer conductor thereof for connecting and disconnecting one of said contact pairs of said inner conductor;
linkage means extending through one of said shell sections and being connected between said actuating means and said switching member for positioning said switching member to connect or disconnect said contact pairs in response to said actuating means;
said contact member, actuating means, and mechanical linkage for each of said line sections being removable as a unit by removing selected ones of said shell sections in which openings are located, whereby replacement of selected ones of said switching means is facilitated.

3,270,300
REVERBERATION UNIT MAGNETIC ASSEMBLY

Johan van Leer, Chicago, Ill., assignor to Hammond Organ Company, Chicago, Ill., a corporation of Delaware

Filed Apr. 26, 1962, Ser. No. 190,439
4 Claims. (Cl. 333—30)

3. A pole piece structure, two of which used together provide a pair of aligned spaced apart magnetic gaps having substantially identical characteristics, comprising a narrow rectangular sheet metal core strip adapted to extend into a core passage of a coil, said core strip having an integral tab at one end extending at right angles to the plane of the core strip, said tab being integrally edge joined to an offset transversely extending strip having offset ends, said transverse strip being tangential to said core strip, the offset at both ends of the transverse strip being in the direction of the integral core strip, said offset ends forming pole pieces, and said pole pieces being equally spaced from one of the faces of the core strip.



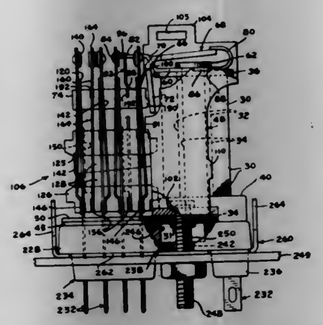
ERRATUM

For Class 335—103 see:
Patent No. 3,270,164

3,270,301
PLUG-IN TYPE MINIATURE RELAY WITH TRANSPARENT COVER

Bertil S. Bengtsson, Scituate, Mass., assignor to Sigma Instruments Inc., a corporation of Massachusetts

Filed June 13, 1963, Ser. No. 287,675
13 Claims. (Cl. 335—129)



6. An electric relay comprising a motor assembly having a U-shaped frame, the transverse portion of said frame having a hole therethrough, a magnetic core mounted in said frame having an end passing through said hole and forming a driving fit therewith, a plastic bobbin mounted on the core, a coil on the bobbin, a non-magnetic armature pivot plate having a hole therein through which the magnetic core passes, the outer end of the core having a head bearing against the pivot plate and holding the pivot plate and bobbin in position when the inner end of the core is driven through the hole in the frame.

ERRATA

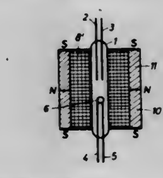
For Class 335—151 see:
Patent No. 3,270,161

For Class 335—153 see:
Patent No. 3,270,162

3,270,302
RELAY WITH REED CONTACTS

Gerhard Wessel, Kornwestheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 2, 1964, Ser. No. 393,923
Claims priority, application Germany, Sept. 14, 1963, St 16,372
3 Claims. (Cl. 335—154)

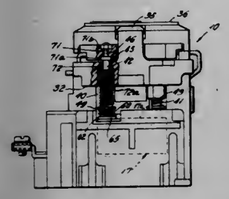


1. A relay comprising:
a container having a substantially cylindrical wall closed at both ends,
reeds aligned along the central axis of the cylindrical wall for conducting electrical current,
said reeds being positioned with respect to said container to extend through the ends of the container and to each have a terminal outside one end of the container and a separate terminal contact within the container,
a ball shaped movable armature within said container proportioned to be movable along said central axis within the cylindrical wall, and to bridge a gap across two terminal contacts associated with reeds extending through one end of said container,
said ball shaped movable armature being capable, by bridging said gap, of completing an electrical circuit through said contacts,
a cylindrical coil having a substantially cylindrical outer edge aligned coaxially to said central axis for generating an electromagnetic field to pass through said armature and to control the position of said armature in accordance with the polarity of said field,
a permanent magnet positioned outside the cylindrical outer edge of said cylindrical coil and oriented to have an axis through its poles parallel to said central axis,
said permanent magnet producing a permanent magnetic field coextensive, in the vicinity of the armature, with the electromagnetic field,
said permanent magnetic field being poled to aid the electromagnetic field in one orientation and to oppose it when the direction of the electromagnetic field is reversed,
said permanent magnetic field causing the armature to remain closed across two recently closed terminal contacts in the absence of an electromagnetic field, and
said permanent magnet permitting said armature to move along the central axis away from contact with said two terminal contacts in the presence of an electromagnetic field of a polarity opposing that of the permanent magnet.

3,270,303
HOLD-DOWN MEANS FOR CONTACTOR MAGNET COIL

Bernard Di Marco, Lincoln Park, and Robert W. Thomas, St. Clair Shores, Mich., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Nov. 23, 1964, Ser. No. 412,984
8 Claims. (Cl. 335—202)



1. A contactor, including a base having a cavity, a subassembly removably mounted to said base; said subassembly including cooperating contacts operable between a first position in which they are engaged and a second position in which they are disengaged,

first and second spring means mounted to said subassembly such that removal of said subassembly from said base removes said first and said second spring means therefrom;

said first spring means urging said contacts to one of said positions;

an electro-magnet for operating said contacts to the other of said positions, said electro-magnet including an operating coil means; said coil means being disposed within said cavity in said base;

said second spring means urging said coil away from said cooperating contacts and into firm seating engagement in said cavity in said base.

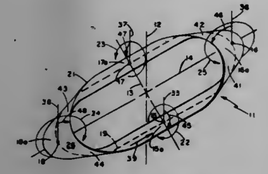
ERRATUM

For Class 335—204 see:
Patent No. 3,270,165

3,270,304
FORM FOR SUPPORTING SADDLE-SHAPED ELECTRICAL COILS

Lyle O. Hopple, Watertown, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Nov. 1, 1963, Ser. No. 320,911
10 Claims. (Cl. 335—216)



1. A substantially smooth strip of material for supporting a saddle-shaped electrical coil,

(a) said strip being closed on itself, having a length large with respect to its width, and having bends in substantially only single curvature;

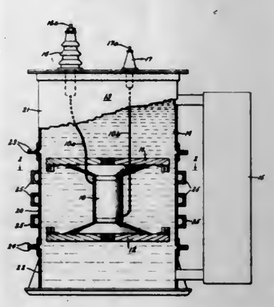
(b) said strip having first, second, third and fourth portions respectively extending across its width, said portions being successively and equally spaced one from another; and

(c) said first and third portions being inclined toward one another and disposed at least in part above said second and fourth portions when viewed from a first direction along a line surrounded by said strip and substantially equally spaced from said first and third portions and said second and fourth portions.

3,270,305
SHIELDED HOUSING WITH VIBRATION CONTROL

Andrew Glassanos, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

Filed Mar. 18, 1965, Ser. No. 440,799
6 Claims. (Cl. 336—84)

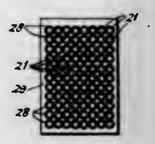


1. An alternating current electric induction apparatus comprising a three-part tubular housing including closed end sections of magnetizable material and an intermediate section formed of non-magnetic low resistance electric conducting material, said sections including cooperating pairs of circumferential connecting flanges adjacent axially opposite ends of said intermediate section, said flanges acting to stiffen said intermediate section and restrain its vibration, and a current-carrying coil coaxially mounted in said housing between axially opposite ends of said intermediate section, said coil when energized establishing an alternating magnetic flux which is in major part confined within said housing by the electromagnetic shielding action of said intermediate housing section.

3,270,306
COMMUTATING BRUSH

Leonard J. G. Burski, deceased, late of Bristol, Conn., by Dorothy Mae Schlemmer Burski, executrix, Bristol, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut

Filed July 17, 1963, Ser. No. 295,850
2 Claims. (Cl. 336—148)



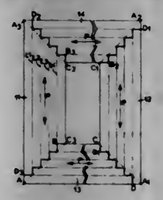
1. In combination with an adjustable voltage autotransformer having a commutator surface formed of a plurality of separate commutating segments with a spacing between adjacent segments and with an electrical potential existing between adjacent segments, the improvement comprising a commutating brush formed of a substantial number of separate electrical conducting wires, each wire having a first end and a first terminal portion and a second end and a covering of electrical insulating material with the ends being free of insulating material,

means for maintaining the terminal portions of the wires substantially rigid to have the first ends form a substantially planar electrically conducting surface free of insulation, means for electrically connecting together the second ends of the wires to a common connector, means for mounting the brush on the autotransformer to have the planar surface slidable on and in electrical engagement with the commutator surface, said planar surface being of a width to span at least two segments with the first end of each wire having a width less than the width of the spacing, said wires being dimensioned and formed of electrical resistance material to have the resistance of the wires between the ends substantially larger than the contact resistance between the first ends and the commutating surface whereby the passage of current through the wires generates substantially more heat along the length of the wires than at the engagement between the first ends and the commutating surface.

3,270,307
LAMINATED MAGNETIC CORE JOINT STRUCTURE

Laurent Albert Jean, deceased, late of Dun-sur-Auron, Cher, France, by Maxime Louis Emile Jean, 32 Rue de la Republique, Saint-Germain-en-Laye, France, and Michel Marcel Jean, 12 Rue Dupetit-Thouars, Paris, France, administrators

Filed Nov. 12, 1963, Ser. No. 323,168
Claims priority, application France, Nov. 10, 1962, 915,006
13 Claims. (Cl. 336—217)



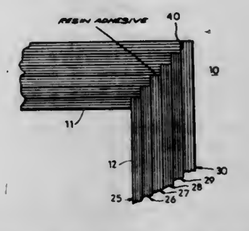
1. A laminated magnetic circuit for electrical devices, such as transformers, comprising at least one polygonal frame member having a plurality of branches each defining one side of said member, each of said branches being composed of a plurality of stacked sheets, each having a short inner longitudinal edge, a long outer longitudinal edge, and two lateral edges, with each said sheet in each said branch being coplanar with a corresponding sheet in every other one of said branches, and with each lateral edge of each said sheet abutting against the adjacent lateral edge of the corresponding sheet in a respective adjacent one of said branches to form a joint, each said lateral edge defining said joint having a staircase configuration defined by a plurality of successive straight edge sections, with every other one of said sections extending parallel to the longitudinal dimension of one of the sheets whose lateral edge defines said joint and the remaining ones of said sections extending parallel to the longitudinal dimension of the other one of said sheets whose lateral edge defines said joint.

3,270,308
PREFORMED MAGNETIC CORE STRUCTURE

Armin F. Mittermaier, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

Filed May 26, 1965, Ser. No. 461,602
8 Claims. (Cl. 336—217)

1. In a core structure for electrical inductive apparatus, a core member comprising a plurality of successively superposed laminate layer groups, each of said laminate layer groups including at least one essentially rectangular laminate layer and each of said laminate layers formed of a pair of preformed laminates, each laminate having a pair of leg portions formed of a bent strip of magnetic material having the most favorable magnetic direction lengthwise of the strip, each leg portion of the laminates in a successive layer of a laminate layer group having a length that differs by one thickness of the magnetic material from the length of the adjacent leg portion of the laminate in the preceding layer, and each leg portion of

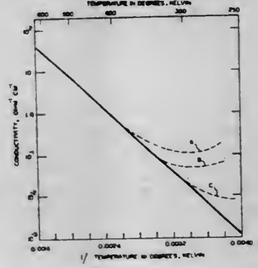


the laminates of the first layer of a successive laminate layer group having a length that differs from the length of the adjacent leg portion of the laminates in the last laminate layer of the preceding laminate layer group by an amount substantially equal to the number of layers in said successive laminate group multiplied by the thickness of the magnetic material plus one additional thickness.

3,270,309
TEMPERATURE SENSITIVE DEVICE

Milton C. Vanik, Brookville, Moises G. Sanchez, Severna Park, and Jose E. Herrera, Jessup, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Filed Jan. 29, 1964, Ser. No. 341,077
6 Claims. (Cl. 338—22)



1. A stable temperature sensitive device consisting of a single crystal of high purity germanium exhibiting an absolute resistivity response to temperature of at least two percent per degree at 160° C. and operable in the temperature range of 60 to 300° C., said crystal having two gold leads alloyed with said germanium body.

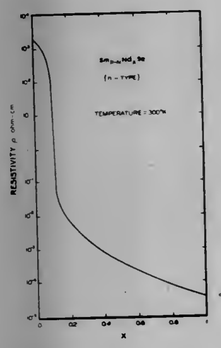
3,270,310
RESISTANCE DEVICES

Lyle K. Matson, Francis J. Reid, and James F. Miller, all of Columbus, Ohio, assignors to Battelle Memorial Institute, Columbus, Ohio, a corporation of Ohio

Filed Jan. 17, 1964, Ser. No. 338,388
6 Claims. (Cl. 338—20)

1. A resistance device comprising a crystalline body and electrical connecting means in contact therewith, said body consisting essentially of at least one material of the group

consisting of the monotellurides, monoselenides, monosulfides, and monoxides of scandium, yttrium, lanthanum, cerium, praseodymium, neodymium, gadolinium, terbium, holmium, dysprosium, erbium, thulium, and lutetium; and at least one material of the group consisting of the monotellurides, monoselendies, monosulfides, and monoxides of samarium, europium, and ytterbium.



3,270,311
CONNECTOR FOR INTERCONNECTING PRINTED CIRCUIT BOARDS
Leon L. Deer and Robert B. Whorton III, Huntsville, Ala., assignors to The Brown Engineering Company, Inc., Huntsville, Ala., a corporation of Alabama
Filed July 12, 1962, Ser. No. 209,378
6 Claims. (Cl. 339—17)



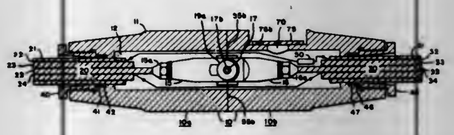
3. In a circuit board connector comprising a plurality of connector members mounted each within a channel transversely formed within adjacent faces of an elongated insulator block to provide lands between said channels forming two circuit board-receiving faces along the block, each said channel in one said face meeting a corresponding channel of the other face and being thereat joined to a ledged perforation through said block, each said member comprising

a U-shaped element extending along one said channel to include a resiliently positioned contact point on one arm of the U portion held normally exteriorly of said channel by a second arm of the U portion resting oppositely at the bottom of said channel,

a U-shaped metallic element extending along said channel of the second face to include a resiliently positioned contact point on one arm of the U portion held normally exteriorly of said channel by a second arm of the U portion resting oppositely at the bottom of said channel,

a bifurcated retaining member comprising a first metallic portion extending through said ledged perforation and electrically joining first and second said elements and a second metallic portion joined thereto including a latch urged against an opposite wall of said perforation and in position to engage the ledge thereof when said elements are fully inserted in said channels.

3,270,312
CABLE SPLICE
Robert I. Olsen, Newport, R.I., assignor to Hazeltine Research Inc., a corporation of Illinois
Filed Mar. 31, 1964, Ser. No. 356,295
6 Claims. (Cl. 339—94)



1. A water-pressure-proof junction for use with non-armored coaxial cable having a strength member in the center of the cable comprising:

first clevis-socket type coupling means for structurally terminating the central strength member of a cable;

second eye-socket type coupling means for structurally terminating the central strength member of a cable;

third means including a shell for encompassing said first and second means and providing a water-pressure-proof chamber with provision for permitting access to external electrical circuitry and within which the conductors of two cables may be electrically interconnected and electrical circuitry may be installed;

fourth means structurally secured within said third means for structurally joining said first and second means and preventing axial and twisting movement of a cable;

and fifth means including tapered bushings for terminating said third means and structurally sealing the fittings between two cables and said third means and thereby maintaining said chamber water-pressure-proof.

3,270,313
CONNECTOR FOR PRINTED CIRCUIT PLATES
Robert Séverin Sautois, Drogenbos, Belgium, assignor to Ateliers de Constructions Electriques de Charleroi (ACEC) Société Anonyme, Brussels, Belgium
Filed Apr. 3, 1964, Ser. No. 357,060
Claims priority, application Belgium, Apr. 24, 1963, 505,487, Patent 631,447
5 Claims. (Cl. 339—176)



1. In a connector for printed circuit plates including a strip member housing spring clamps adapted to establish an electric contact with conducting lines on said printed plates, the combination comprising:

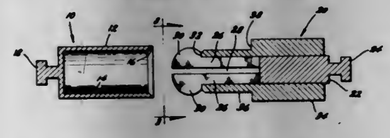
(a) such a strip member provided with a longitudinal slot for the insertion of a printed circuit plate and a a plurality of dorsal transverse slots; said strip member having upward extensions at each end thereof, normal to said longitudinal slot, adapted for guiding said printed circuit plate in the said longitudinal slot;

(b) a retaining resilient leaf mounted at one end of said strip member to extend above the adjacent guiding extension and having a bent extremity adapted to be housed in a notch formed along one edge of the printed plate;

(c) spring clamps inserted in said slots in spaced alignment along said strip member; said clamps each having a fin projecting out of said strip member and slots;

(d) a base plate over which said strip member and clamps are secured with said clamps housed in said slots, said base plate including a plurality of compartments spaced therealong so as to contain said fins to form electrical terminals.

3,270,314
SPLIT PIN CONTACT WITH PROTECTIVE SHROUD
Dennis G. Kohanek and Richard B. Chess, Minneapolis, Minn., assignors, by mesne assignments, to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Aug. 3, 1964, Ser. No. 386,851
4 Claims. (Cl. 339—252)



1. An electrical connector comprising:

(a) a socket contact having a cylindrical bore of one diameter;

(b) a split pin contact including a rounded head of a somewhat larger diameter than said one diameter,

(c) said head having a plurality of slots forming individual segments,

(d) a plurality of resilient shank elements each having an end connected to one of said segments,

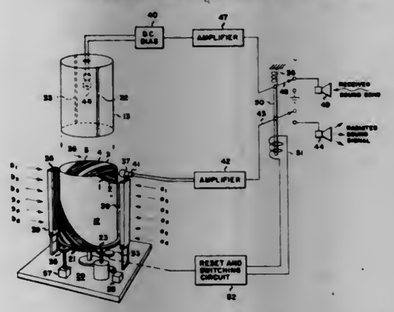
(e) said slots extending between said shank elements,

(f) the difference in said diameters being less than the width of each slot, and

(g) a shroud member encircling said shank elements and restraining said shank elements from being deflected outwardly with respect to each other but allowing said shank elements to be deflected inwardly with respect to each other,

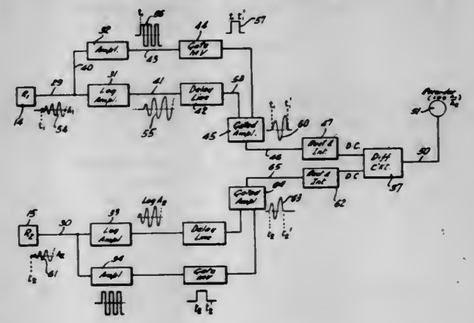
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3,270,315
CORRELATION DEVICE
Jerry K. Parks, Los Altos, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Feb. 19, 1965, Ser. No. 438,176
15 Claims. (Cl. 340—3)



11. A device for correlating a reference signal with a received signal having about the same wave form comprising means having permanently recorded sloping reference bands of predetermined light transmitting characteristics, means responsive to light transmitted through said first mentioned means for transmitting a signal, means for receiving the transmitted signal, a source of light modulated by the received signal from said last mentioned means, the modulated light being transmitted through said first mentioned means, means for integrating as a function of time the modulated light being transmitted through said first means.

3,270,316
ACOUSTIC ATTENUATION LOGGING SYSTEM
Hugh O. Walker, Jr., and Kerry D. Savage, Houston, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 7, 1963, Ser. No. 256,898
13 Claims. (Cl. 340—18)

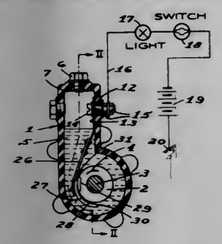


7. In an acoustic logging system for use in a borehole; the combination comprising means for developing a first electrical signal in response to acoustic energy in the borehole, said electrical signal having a series of alternations; means for developing a second electrical signal in response to acoustic energy at a location in the borehole spaced longitudinally from said first electrical signal means, said second electrical signal having a series of alternations; means for producing a further first and second signal whose amplitude is a logarithmic function of the amplitude of said respective first and second electrical signals; gating means for passing a corresponding portion of each of said further first and second signals, and difference measuring means for measuring the amplitude difference of said gated portions of said further first and second signals, said difference signal being indicative of attenuation in decibels.

3,270,317
BRAKE LIGHT SWITCH
Johann Edelblut, Frankfurt am Main, Seckbach, Germany, assignor to Alfred Fetz, Detroit, Mich.
Filed Nov. 6, 1963, Ser. No. 321,973
8 Claims. (Cl. 340—71)

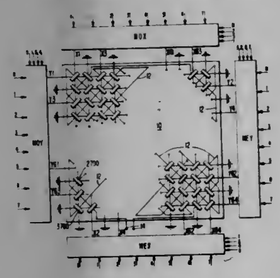
8. A device for use on a motor vehicle comprising a liquid filled housing, a rotor journalled in said housing, means for driving the rotor in accordance with the speed of the vehicle, an arcuate contact shoe biased against the peripheral surface of the rotor, said contact shoe having a diameter slightly greater than the diameter of the rotor so that there is only localized contact between the shoe and the peripheral surface of the rotor, the arcuate portion of the shoe out of contact with the rotor forming with the periphery of the rotor an inlet slot extending to the contacting portions of the shoe and rotor, the arrangement being such that when the rotor is rotated above a predetermined speed, the liquid in the housing is forced into said inlet slot to shift the shoe out of contact with

the rotor, an electrically actuated device, a source of electric current and means forming a circuit including said electrically actuated device, current source, rotor and shoe



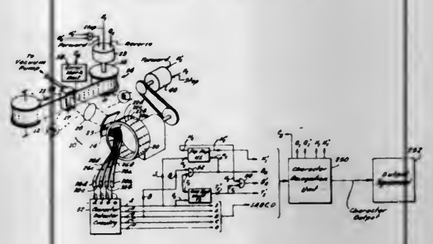
for operating said electrically actuated device in response to the making and breaking of contact between the shoe and rotor.

3,270,318
ADDRESS CHECKING DEVICE
George B. Strawbridge, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 27, 1961, Ser. No. 98,597
18 Claims. (Cl. 340—146.1)



18. The combination comprising:
an addressable memory stack having a plurality of planes, each of said planes having a plurality of rows and columns of magnetic cores,
first addressing means for selectively producing a first plurality of selection signals at a first plurality of outputs;
second addressing means for selectively producing a second plurality of selection signals at a second plurality of outputs;
a plurality of column drive line means, each of said column drive line means threading the cores in a corresponding column in each of said planes and responsive to one of said first plurality of outputs;
a plurality of row drive line means, each of said row drive line means threading the cores in a corresponding row in each of said planes and responsive to one of said second plurality of outputs, whereby a word register having a unique address is comprised of the correspondingly positioned core in each plane;
output winding means coupled to all the cores in one of said planes, said winding means being coupled in one sense to those cores in addresses having odd parity and in the opposite sense to those cores in addresses having an even parity;
address register means for applying addressing signals to said first and second addressing means;
means for indicating the parity of the address represented by said addressing signals;
and error indicating means responsive to said parity indicating means and said output winding means.

3,270,319
CHARACTER RECOGNITION SYSTEM HAVING ERROR DETECTION MEANS
Frank R. Schmid, Gardena, Calif., assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Nov. 19, 1962, Ser. No. 238,371
8 Claims. (Cl. 340—146.3)

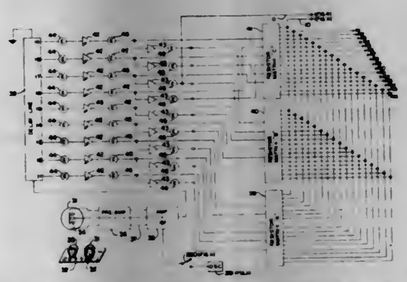


1. In apparatus for optically translating a character recorded on a record medium;
said character being stylized to have upper and lower spaced portions, each portion having character segments in predetermined position locations;
optical scanning means for scanning said record medium and said character a plurality of times in a direction so as to traverse said segments;
optical detecting means coupled to said optical scanning means for producing position modulated output signals in response to the sensing by said sensing means of the presence or absence of a segment in each position of said portions, said scanning means and detecting means also producing output signals in response to said signals;
means for recording and reproducing said position modulated signals whereby corresponding signals from at least two different scans are produced approximately coincident in time;
means for comparing said signals produced in different scans and detecting spurious signals produced by extraneous marks during said different scans which are not approximately coincident in time to produce an error signal; and
means responsive to said error signal for automatically initiating a re-scan of said character by said scanning means.

3,270,320
CHARACTER IDENTIFICATION SYSTEMS WITH TWO POSITION DETECTION CIRCUITS
John B. Christie, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Dec. 5, 1963, Ser. No. 328,396
14 Claims. (Cl. 340—146.3)

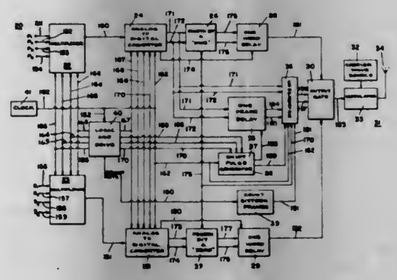
1. In a system for providing an electrical identification of recorded symbols, apparatus comprising:
means for generating an electrical wave shape characteristic of a symbol to be identified;
a plurality of summing networks, one for each different symbol to be identified;
a delay line for receiving said wave shape and having a plurality of taps therealong for delivering a plurality of discrete signal samples of said wave shape to all of said summing networks; and
means for detecting which of said summing networks has the greatest output signal during a time said wave shape occupies a reference position in said delay line defined when the leading edge of said wave shape is adjacent to a sampling reference tap of said delay line and providing an output electrically identifying said symbol,

said means for detecting and providing including a plurality of means for detecting and storing the peak amplitude of a voltage applied thereto, each of which is coupled to receive the output of a different one of said summing networks,
a plurality of gate means, a different one of which is coupled to a different one of said means for detecting and storing,
means responsive to the leading edge of said wave shape for developing a first signal indicating that the leading edge of said wave shape is at a position in said delay line at a timing reference tap prior to said sampling reference tap,
means responsive to both the leading edge of said wave shape and signal samples of said wave shape delivered thereto from all taps of said delay line prior



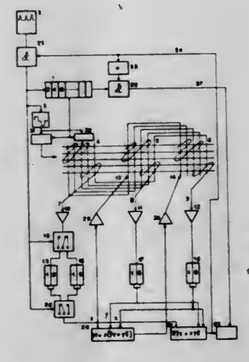
to said timing and sampling reference taps for developing a second signal indicating that the signal sample delivered from said timing reference tap exceeds a predetermined amount of the magnitude of the greatest signal sample delivered from any of the taps of said delay line prior to said timing and sampling reference taps, and
means responsive to both said first and said second signals for developing and delivering a gating signal to all of said gate means during said time said wave shape occupies said reference position in said delay line whereby the one of said gate means coupled to the means for detecting and storing which is coupled to the summing network which has the greatest output signal provides said output electrically identifying said symbol.

3,270,321
SELECTIVE DATA SAMPLING SYSTEM
Milton Berkowitz, King of Prussia, Pa., assignor to General Electric Company, a corporation of New York
Filed Feb. 2, 1962, Ser. No. 170,591
8 Claims. (Cl. 340—147)



1. In a data-sampling system,
(a) a timing means,
(b) a first source of digital data signals,
(c) a second source of digital data signals,
(d) each of said sources comprising,
(1) a plurality of transducers,
(2) an analog to digital converter, and
(3) a multiplexer means connected to said timing means and to said transducers and said converter and controlled by said timing means to periodically and sequentially apply the output signals of said transducers to said converter,
(e) a data signal utilizing means,
(f) a selective gating means connected to said first and second sources and operative to normally connect said second source to said utilizing means,
(g) comparator and storage means connected to said first source and to said gating means to detect a change in the data signal output of said first source from the value thereof last transmitted to said utilizing means by said selective gating means and to control said gating means so as to disconnect said second source from said utilizing means and connect said first source to said utilizing means when a detected said change in the data signal output of said first source exceeds a predetermined amount, and
(h) control signal generating means connected to said timing means and to said comparator means and adapted to cause the comparator means to control said gating means to periodically disconnect said second source and connect said first source to said utilizing means.

3,270,322
CORE MATRIX SYSTEM FOR MONITORING A PLURALITY OF CONTACTS
Jean-Francois Ledoux, Paris, and André Feyzeau, St.-Maur, France, assignors to CIT Compagnie Industrielle des Telecommunications, Paris, France
Filed Jan. 22, 1963, Ser. No. 253,214
2 Claims. (Cl. 340—166)



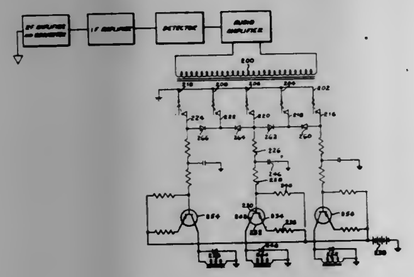
1. Device for triggering one of two electric signals when a contact forming part of an assembly comprising a large number of contacts closes or opens, and having means for performing a recurrent scrutiny by means of coincident current pulses applied to a matrix of toroidal magnetic cores having a rectangular hysteresis loop, two pulses of opposite polarities being applied successively to the same core in the course of one scrutiny, and the ordinal numbers of the pulses being indicated by a counter, said device including three core matrices, of which the vertical and horizontal wires are respectively in series between the three matrices, each core of the first matrix comprising a winding whose ends are connected to the two points of a contact to be checked, two binary flip-flops associated

with the cores of odd and even rank, respectively, of the first matrix in order to copy the state of the said cores at the second scrutinising time, a third and a fourth binary flip-flop for copying, respectively, the state of the cores of the second and third matrices, means for utilising the state of each flip-flop during the first succeeding scrutinising time, in combination with the states of two cores of the other two matrices, respectively, and for transferring the state of the position core $(n-1)$ from the first matrix to a position core n in the second and third matrices, the state of the pulse counter supplying the reference number "n" of a contact which is in fact situated at the position $(n-1)$, a first logical circuit governing the registration in the second and third matrices, at the second scrutinising time, as a function of the state of the three copying binary flip-flops of the matrices at the first scrutinising time, a second logical circuit emitting a signal if the state of the copying flip-flops at the first scrutinising time corresponds to the confirmed closing notation, i.e. 0 0 1, and another signal if the said state corresponds to the confirmed opening notation, i.e. 1 1 0, the signal emitted by the second logical circuit preventing the state of the counter from changing and producing the writing of the indicated number in the store of the computer.

3,270,323
CONTROL SYSTEM FOR SEPARATE AS WELL AS SIMULTANEOUS OPERATION OF REMOTE WORKING ELEMENTS

George Papaiconomou, Dayton, Ohio, assignor to Ledex, Inc., Dayton, Ohio, a corporation of Ohio

Filed Sept. 4, 1962, Ser. No. 221,178
4 Claims. (Cl. 340—171)

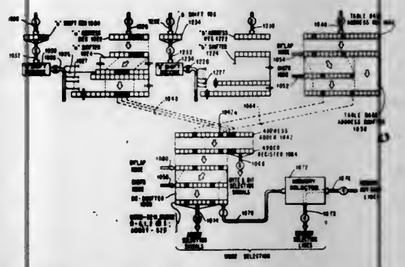


1. A decoder for translating coded information in the form of frequency signals, said decoder comprising a solenoid coil, receiver means connected with said solenoid coil adapted to receive and impress said frequency signals on said coil, first and second vibratory reeds positioned for interaction with the magnetic field of said coil, said first and second reeds being tuned to vibrate at different first and second signal frequencies, first and second work elements corresponding to said first and second reeds, a first circuit completed by said first reed upon vibration thereof for operating the work element corresponding to said first reed, a second circuit completed by said second reed upon vibration thereof for operating said second work element, a third vibratory reed positioned for interaction with the magnetic field of said coil and tuned to vibrate in response to a third frequency signal different than said first and second frequency signals, and means connected between said first and second circuits and responsive to vibration of said third reed to simultaneously complete said first and second circuits and thereby simultaneously operate said first and second work elements.

3,270,324
MEANS OF ADDRESS DISTRIBUTION

Robert M. Meade, Wassaic, and Kenneth W. Borror, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Jan. 7, 1963, Ser. No. 249,761
11 Claims. (Cl. 340—172.5)



1. In a computer, a memory address distribution means, comprising:

first address registering means for providing a designation of a selected area of a memory;

second address registering means for providing a designation of a selected portion of said area;

means for dividing said area designation by an even power of two and for providing a resultant new designation;

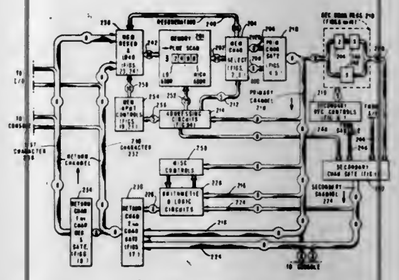
means for numerically adding said portion designation and said new designation and for providing a resultant total designation;

and means for multiplying said resultant total designation by said even power of two, whereby said total designation equals a final address which includes a multiplied portion component and an effectively unmultiplied area component due to the effect of first, dividing only said area component, combined with the effect of multiplying said total designation.

3,270,325
PARALLEL MEMORY, MULTIPLE PROCESSING, VARIABLE WORD LENGTH COMPUTER

Richard S. Carter and Walter W. Welz, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 23, 1963, Ser. No. 332,648
46 Claims. (Cl. 340—172.5)



1. In a data processing system having memory means which will deliver a plurality of data bit groups upon each access; each group being specifically addressable by the data processing system; at least a first part of a word to be handled by processing means of said processing system being manifested by at least one of said groups in dependence upon the address of the first group in comparison with the addresses of all the data bits groups

delivered by said memory means in the same access thereof; a word being at least one group; said data processing system having a processing capacity in excess of a single group; said data processing system being capable of generating and responding to successive cycle signals so as to perform successive cycles of operation as will access successive memory group sets in said memory means; said memory group sets each containing as many groups as the lesser of the number of groups related to said first group and the capacity of said system; a boundary adjusting means comprising:

addressing means for generating, in a first cycle, manifestations of an address within said memory wherein the first group of said first word is stored, said addressing means exercising control over said memory means so as to cause said memory to deliver a plurality of groups, including the group related to the address specified by said addressing means, in one access of said memory; said addressing means also capable of generating the address of a group other than said first group;

analyzing means responsive to said addressing means for determining a maximum number of groups related to said first group which are delivered by said memory means at each access thereof;
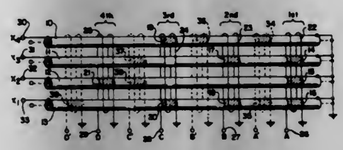
external storage means responsive to the groups delivered by said memory means for storing a plurality of groups related to groups specified by said addressing means;

and means responsive to said analyzing means for causing an initial access response, of one or more initial memory accesses, to occur, as necessary, so as to provide sufficient groups to said external storage means to utilize the processing capacity of said system during a processing cycle first following said initial access response, said processing means processing at least said first group after said initial memory response.

3,270,326
THIN FILM MAGNETIC STORAGE DEVICE

Sidney J. Schwartz and William F. Chenoweth, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Nov. 1, 1960, Ser. No. 66,610
15 Claims. (Cl. 340—174)

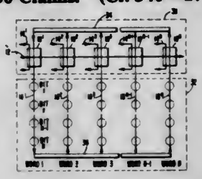


1. A logical device comprising: a supporting substrate structure having a surface area which is effectively divided into a coordinately arranged matrix of locations; a plurality of discrete areas of magnetizable material, the total number of which is appreciably less than the total number of said locations, individually disposed on said substrate at different ones of said locations and collectively providing a predetermined pattern of vacant and non-vacant locations throughout the matrix thereof conforming to a predetermined code, each of the magnetizable areas being magnetically separated from the others and having a preferred direction of magnetization; means for selectively applying a magnetizing force to each of said magnetizable areas at an angle with respect to the preferred direction of magnetization thereof; and means for providing an output signal indicative of a magnetic flux change within said magnetizable areas.

3,270,327
WORD SELECTION MATRIX

William W. Davis, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 7, 1961, Ser. No. 87,575
30 Claims. (Cl. 340—174)

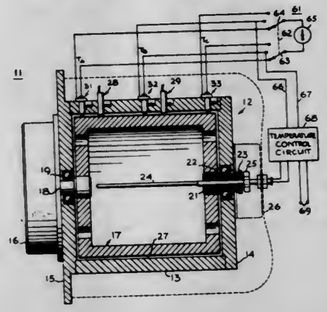


1. The combination comprising: a magnetic drive element of the type having an easy axis and a hard axis of magnetization and wherein the magnetization may be rotated to different direction in response to magnetic fields; means for generating a transverse bias field for holding the magnetization of said drive element to the hard axis; means for generating a longitudinal bias field; means operative during the presence of said longitudinal bias field for rendering said transverse bias means inoperative to control the magnetization of said drive element; magnetic memory means; and means for driving said memory means; said driving means comprising an electrical conductor for sensing the flux change at said drive element when said third means renders said first means inoperative.

3,270,328
METHOD AND APPARATUS FOR THERMALLY SETTING AND CONTROLLING THE GAPS OF NON-CONTACT READOUT ELEMENTS

Harold J. McCreary, Canoga Park, Calif., assignor, by mesne assignments, to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware

Filed Aug. 14, 1962, Ser. No. 217,188
23 Claims. (Cl. 340—174.1)



1. In a magnetic recording apparatus having a rotatable recording medium support, at least one magnetic transducing head and means for adjustably supporting said transducing head relative to a surface of said recording medium, the method for locating said transducing head in spaced relationship to said surface of said recording medium comprising:

(A) thermally producing and maintaining a negative dimensional change in a distance between said surface of said recording medium and said supporting means for said transducing head;

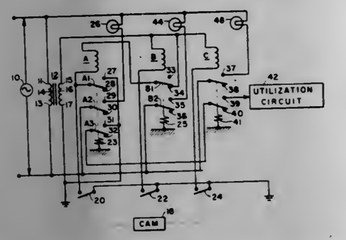
(B) adjustably positioning and securing said head in contact with said surface of said recording medium; and

(C) terminating maintenance of said thermally reduced dimensional change to permit a positive dimensional change in said distance.

3,270,329
OVERLOAD DETECTOR FOR AUTOMATIC EQUIPMENT

Solomon S. Schnell, New York, N.Y.
(225—20 Menton Ave., Laurelton, N.Y.)

Filed Dec. 24, 1963, Ser. No. 333,092
5 Claims. (Cl. 340—223)



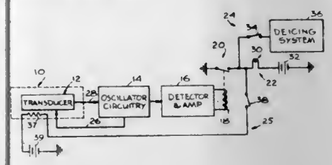
1. A system adapted to be connected to a potential source for halting the operation of an electrically powered machine, whose operation is dependent upon the state of an element capable of being in an electrically energized or in a de-energized state, in response to an overload in said machine comprising a rotatable cam, first and third switches associated with said cam, each of said switches having one of their terminals grounded at said machine, said switches being adapted to be sequentially closed in each cycle of revolution of said cam, a second switch associated with said machine being closed only in the absence of said overload, first, second and third electromagnetic relays having one of their terminals connected to the other terminal of said first, second and third switches respectively, a first plurality of ganged contacts associated with said first relay, a second plurality of ganged contacts associated with said second relay, a third plurality of ganged contacts associated with said third relay, one of the contacts of each of said first and third pluralities respectively being connected together, first, second and third lamps, means for applying potentials from said source to said relays, the closing of said first switch during the rotation of the cam causing the energization of said first relay to switch the positions of its contacts to illuminate said first lamp, to lock said first relay and said first lamp in circuit with said source and to connect said one contact of said first plurality to ground, the closing of said second switch causing the energization of said second relay to switch the positions of its contacts to illuminate said second lamp and to concurrently disconnect said first relay and said first lamp from said source, the closing of said third switch causing the energization of said third relay to switch its contacts to illuminate said third lamp, the failure to close of said second switch due to said overload preventing the energization of said second relay whereby said second lamp is not illuminated and said first relay and first lamp remain locked in circuit with said source, said ground potential being applied through said one contact of said first and third pluralities to said machine to switch the state of said element and thereby to halt the operation of said machine.

3,270,330
ICE DETECTING APPARATUS

Norman L. Weinberg, Haifa, Israel, assignor to Stanley Weinberg, Los Angeles, Calif.

Filed Nov. 4, 1963, Ser. No. 321,064
7 Claims. (Cl. 340—234)

1. Apparatus for monitoring a structure for detecting the formation of ice thereon, said apparatus comprising:
a transducer;
means for physically vibrating said transducer;
means for mounting said transducer proximate to said structure;
said means for mounting said transducer including a cup having a wall;
means centrally mounting said transducer in said cup spaced from said wall;

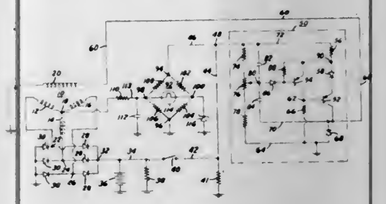


annular channel means disposed contiguously between said transducer and said wall for collecting water whereby ice formed from said collected water will physically lock said transducer to said wall; and detector means responsive to a cessation of said transducer vibration for providing an output signal.

3,270,331
FAULT INDICATOR CIRCUIT FOR DIODE-RECTIFIED GENERATOR

Thomas E. Kirk and William D. Worrell, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 27, 1963, Ser. No. 291,078
11 Claims. (Cl. 340—248)



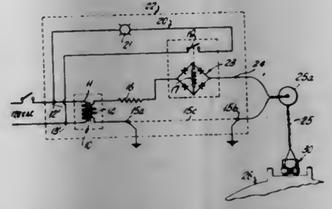
1. In combination, an alternating current generator having a three phase Y-connected output winding, a three phase full wave bridge rectifier network having D.C. output terminals connected with said three phase output winding, a bridge indicating network having first, second, third and fourth terminals, means connecting the first and third terminals of said bridge indicating network across the D.C. output terminals of said bridge rectifier network, means connecting the neutral point of said three phase output winding with the fourth terminal of said bridge indicating network, and an electrically energizable means connected across the second and fourth terminals of said bridge indicating network.

3,270,332
APPARATUS INCLUDING A MAGNET CLAMP FOR INDICATING AN ELECTRICALLY GROUNDED CONDITION

Carl Z. Walsh, Warwick, R.I., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Continuation of application Ser. No 88,937, Feb. 13, 1961. This application Mar. 10, 1964, Ser. No. 351,886
8 Claims. (Cl. 340—255)

1. A device for use in electrically grounding a charged body comprising, in combination, a series circuit through said charged body to ground including a source of electrical energy, a relay control means, and magnetic clamping means with a ground connection for attachment to said charged body for completing said series circuit there-



through to ground, and means, connected across said source of electrical energy, for indicating that said series circuit has been grounded electrically including a switch responsive to said relay control means.

3,270,333
PORTABLE CLOSURE ALARM HAVING COMPENSATING SUPPORT BRACKET

Joseph A. La Barber, 1313 Maenpah Circle, Las Vegas, Nev.

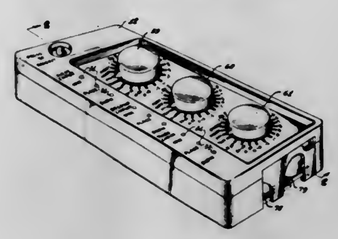
Substituted for abandoned application Ser. No. 330,915, Dec. 16, 1963. This application Nov. 9, 1965, Ser. No. 507,021
2 Claims. (Cl. 340—274)

1. In a device for signaling the unauthorized movement of a closure means away from its mating surface the combination comprising, a housing; a signal means positioned within said housing; an energy source also contained within said housing; an electrical circuit interconnecting said energy source and said signal means, said circuit having a pressure operated switch carried by said housing to operatively engage and disengage said electrical source and said signal means, said switch extending outside of said housing and when in the operative position engaging the mating surface of the closure means to disengage said energy source and said signal means; a substantially L-shaped bracket attached on a hinge means to said housing, said bracket securing said housing to said closure means, said hinge means allowing relative movement between said bracket and said housing, and tension means positioned on said hinged attachment between said housing and said bracket, said tension means acting to restrain said housing against limited movement relative to said bracket thereby forcing said switch means into the mating surface of said closure means to disconnect the circuit between said energy source and said signal means when said housing is on said closure means and said closure means and its mating surface are in close proximity to each other.

3,270,334
PERFORMANCE RECORD HAVING POSITION CODE AND PRESENT DATA COMPARISON-TYPE INDICATOR

Harry M. Steele, Jr., 3355 Via Golondrina, Tucson, Ariz. 85711

Filed Jan. 13, 1964, Ser. No. 337,490
14 Claims. (Cl. 340—323)

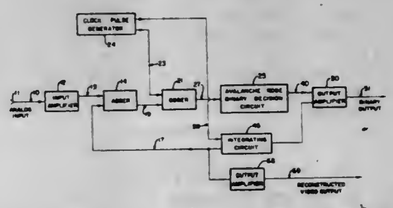


1. A device for indicating an interpretation of present data from a record of past performance which comprises: a punch-coded record of a performance pattern associated with variable data; means settable to a plurality of positions corresponding to and indicative of different values of said variable data; a plurality of multiple choice control contacts at one face of said record positioned by said settable means with respect to the coded openings therein; a plurality of contacts on the opposite face of said record individually engageable by a cooperating multiple choice contact when the latter is positioned at and projects through a record opening; a plurality of multiple choice indicators; and circuit means controlled by contact engagement for energizing the appropriate indicator for the choice selection dictated by the positions of the choice control contacts and the record openings.

3,270,335
HIGH SPEED DELTA ENCODER

Kenneth R. Hackett, Boulder, Colo., assignor to Ball Brothers Research Corporation, Boulder, Colo., a corporation of Colorado

Filed Sept. 18, 1963, Ser. No. 309,758
6 Claims. (Cl. 340—347)

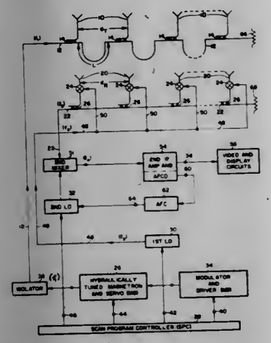


1. A high speed delta encoder comprising an input amplifier circuit, an adder circuit connected to receive the output from said input amplifier circuit, an avalanche mode binary decision circuit including a silicon transistor operating in the avalanche mode connected to receive the output from said adder circuit, an integrating circuit connected to receive the output from said binary decision circuit and connected to supply an output to said adder circuit to establish a feedback loop, clock pulse generator means connected to said binary decision circuit and to said integrating circuit, and an output amplifier circuit connected to receive the output from said binary decision circuit for transmitting therefrom a digital output converted from an analog input fed to said input amplifier circuit.

3,270,336
ELIMINATING MULTIPLE RESPONSES IN A GRATING LOBE ANTENNA ARRAY

Warren A. Birge, Winter Park, Fla., assignor to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland

Filed June 25, 1963, Ser. No. 290,453
23 Claims. (Cl. 343—5)



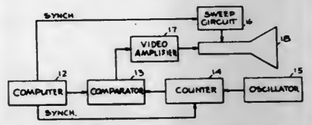
1. An antenna scanning arrangement for use with transmit and receive antenna arrays comprising:
(a) a transmit and receive array each having a plurality of antenna elements thereon;
(b) said elements on each array benig predeterminedly positioned so as to create a transmit pattern having a single main lobe and a receive pattern having a plurality of spaced grating lobes;
(c) first steering means for steering said main lobe of said transmit pattern over a total angular area to be scanned;
(d) second steering means for steering each of said grating lobes of said receive pattern over an angular sector which is substantially smaller than said total area, said grating lobes spanning an angular area which is substantially equal to said total area;
(e) control means for controlling said first and second steering means so that the point of maximum amplitude of said main lobe of said transmit pattern may be selectively aligned with the point of maximum amplitude of any one grating lobe of said receive pattern so as to produce an unambiguous product pattern having a single reinforced lobe; and
(f) said control means including means for coordinating the movement of said aligned main and grating lobes so that said angular sector may be continuously scanned.

3,270,337
RANGE DISPLAY

Roy A. Howard, Woodland Hills, Calif., assignor, by mesne assignments, to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware

Filed July 25, 1963, Ser. No. 297,499
20 Claims. (Cl. 343—5)

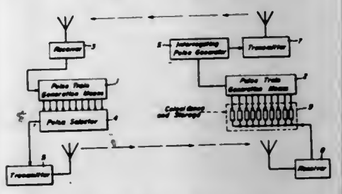
1. The method of displaying numerical digital information representing range of a radar target comprising the steps of:
numerically comparing said digital information with digital information represented by a train of pulses generated at a predetermined rate by a pulse generator;
generating a first analog signal whose amplitude varies as a substantially linear function of time;
generating a second analog signal only when said digital information and the information represented by said train of pulses are numerically substantially equal; and
energizing display means with said first and second analog signals for displaying on a surface of said display means said radar target as a point, the distance of said point from predetermined references on said surface being a function of said radar target digital information.



3,270,338
IDENTIFICATION SYSTEM

Robert L. Watters, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Mar. 24, 1961, Ser. No. 98,098
7 Claims. (Cl. 343—6.5)



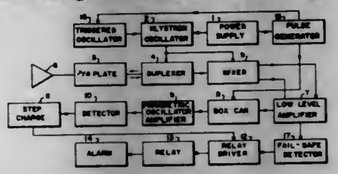
1. In combination, an unpowered coded station; an interrogating station; means associated with said interrogating station for transmitting an interrogating signal carrying sufficient power to completely operate said unpowered coded station, said unpowered coded station including,
(a) receiver means for receiving said interrogating signal,
(b) pulse train generation means for developing a predetermined number of pulses spaced in time in response to the application of said received interrogating signal,
(c) pulse selection means for arranging said pulses to form a coded group of time spaced pulses representative of said coded station,
(d) and transmitter means for transmitting said coded pulse group, said coded station being energized and rendered operative upon receipt of and only from the power in said interrogating signal;
receiver means associated with said interrogating station for receiving said coded group of time spaced pulses; means for producing a time-synchronized reference group of time spaced pulses; and means also associated with said interrogating station for coincidence-gating said received coded pulse group with said time synchronized reference group of time spaced pulses.

3,270,339
INTRUDER ALARM SYSTEM

Albert H. McEuen, Saratoga, Richard M. Whitehorn, Menlo Park, Robert E. Dye, Campbell, and Edward J. Murphy, Los Altos Hills, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Jan. 8, 1962, Ser. No. 164,892
15 Claims. (Cl. 343—7)

1. In a high frequency electromagnetic wave energy intruder alarm system; means for generating electromagnetic wave energy; means for simultaneously radiating and receiving reflected wave energy; means for coupling wave energy from said wave energy generating means to said radiating means; said radiating and receiving means radiating the wave energy into a region of space to be monitored and receiving reflected wave energy therefrom; said radiating and receiving means including, a mixer-duplexer assembly for mixing the generated wave energy with said reflected wave energy to detect any difference frequency between the radiated frequency and the reflected wave energy thereby to produce an audio beat frequency output signal; and an intruder alarm device actuated by said output signal to announce the presence of an intruder in the monitored region, wherein said coupling means for coupling wave energy from said wave generating means to said radiating means includes a hollow waveguide having a central longitudinal axis

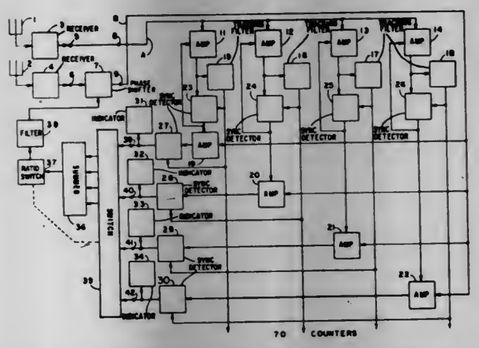


disposed between said generating means and said radiating means; said mixer-duplexer assembly comprising an electrically conductive member disposed in said waveguide in a plane normal to the polarity of the electric field of the wave energy output from said generating means, and a pair of diode rectifiers having a common terminal and outer terminals collinearly mounted on said conductive member and being disposed perpendicular to the polarity of the electric field and being located within said hollow waveguide such that a straight-line interconnecting said diodes passes off the central longitudinal axis of said hollow guide to permit coupling of a portion of the output from said generating means as a local oscillator signal.

3,270,340
METHOD OF ECHO GROUPING

Calvin M. Hammack, P.O. Box 304, Saratoga, Calif.

Filed Sept. 30, 1963, Ser. No. 312,598
16 Claims. (Cl. 343—7)

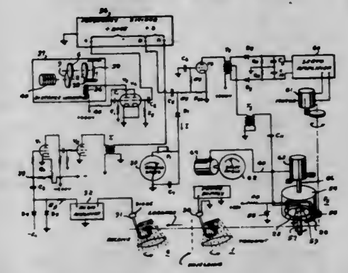


1. In a multistatic system for the simultaneous determination of the positions of a plurality of reflecting targets located in a given surveillance space, a method of associating the various echoes to form proper groups of echoes, each group containing echo signals resultant only from a single target comprising the following steps:
(1) identifying the echoes of each transmitter at each receiver;
(2) separating the various echo signals by directional multiple aperture means;
(3) grouping together those signals evidencing the same directional characteristics.

3,270,341
AIRCRAFT NAVIGATIONAL APPARATUS USING SCANNED BEAM DOPPLER RADAR TO DETERMINE GROUND SPEED, DRIFT ANGLE AND DISTANCE FLOWN

Janis A. Sirons, Springfield, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

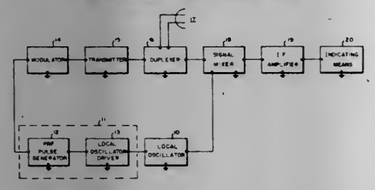
Filed Nov. 6, 1964, Ser. No. 409,619
4 Claims. (Cl. 343—9)



1. Navigational apparatus for aircraft comprising: a transmitting antenna and a receiving antenna, said antennas having similar directional patterns centered on directional axes; means maintaining the directional axes of said antennas always parallel and pointing downward at the same fixed acute angle with the vertical; means for rotating said directional axes at constant speed about the vertical; means for applying continuous high frequency energy to said transmitting antenna; a crystal detector network coupled directly to said receiving antenna for converting the transmitted energy received by reflection from the ground and by leakage from the transmitting antenna into an output signal having a frequency equal to the difference between the leakage and reflected energies; means for converting the output signal of said detector into a substantially rectangular wave of the same frequency; a differentiating network receiving said rectangular wave and producing therefrom a series of sharp pulses alternating in polarity and coincident with the leading and trailing edges of said rectangular wave, whereby in each set of pulses of the same polarity there is one pulse for each cycle of the detector output signal; a pulse generating network responsive to pulses of a single polarity at its input to provide pulses of constant magnitude and duration at its output having a repetition rate proportional to the repetition rate of the unipolar pulses at its input; means for applying the pulses produced by said differentiating network to the input of said pulse generating network; an indicating electromechanical pulse counter; a frequency divider connected between said electro-mechanical pulse counter and the output of said pulse generator for applying to said counter pulses having a repetition rate proportional to the rate at the output of said pulse generator and within the counting rate capability of said counter, said counter indicator being calibrated to read distance flown; a pair of terminals having two parallel paths therebetween, one path containing a unidirectional device and a direct current meter in series and the other path being resistive; means for applying the alternating current component of the pulse output of said pulse generator across said pair of terminals, said meter indicating the average current passed by said unidirectional device and being calibrated to read ground speed; a phase comparison circuit; means including a time constant circuit coupled between said resistive path and said phase comparison circuit for applying thereto a first voltage wave varying in amplitude directly with the pulse repetition frequency of the output of said pulse generator; wave generating means coupled

to the said directional axes rotating means for generating a second voltage wave having a period equal to one half the rotational period of said directional axes and variable in phase relative to the rotational cycle of said directional axes; means for applying said second voltage wave to said phase comparison circuit, said circuit operating to produce a direct error voltage that is zero when said first and second voltage waves have a predetermined fixed phase relation and is greater than zero when the phase relation departs in either direction from said predetermined relation, the polarity of the error voltage indicating the direction of the departure; servo means responsive to said error signal and coupled to said second voltage wave generating means for changing the phase of said second voltage wave relative to the rotational cycle of said directional axes in the direction indicated by the error signal polarity; and means calibrated to read drift angle for indicating the phase of said second voltage wave relative to the rotational cycle of the said directional axes.

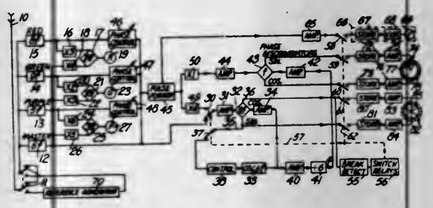
3,270,342
PULSED LOCAL OSCILLATOR
Clarence P. Stemmer, Old Bethpage, N.Y., assignor to Hazeltine Research, Inc., a corporation of Illinois
Continuation of application Ser. No. 22,458, Apr. 15, 1960. This application Dec. 15, 1964, Ser. No. 420,248
4 Claims. (Cl. 343—13)



1. In radar equipment wherein the available power is limited and wherein pulses periodically propagated toward possible targets are spaced by time intervals sufficiently long to permit reception of a reflected pulse from a target before propagation of the next pulse, a local oscillator circuit comprising:
a local oscillator;
and means for supplying power to said oscillator for causing it to draw power and oscillate only during time periods shorter than, but within said time intervals, each time period being substantially longer than the duration of each pulse propagated for permitting the processing of reflected pulses from targets within an appreciable range of distances from the radar equipment;
whereby the amount of power consumed by the local oscillator is reduced compared to the power which would be consumed if the oscillator were permitted to draw power or oscillate for the full duration of said time intervals.

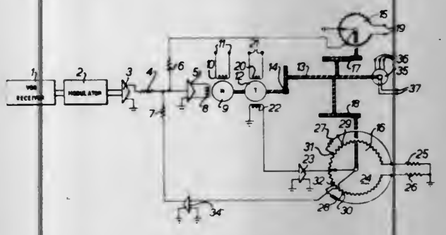
3,270,343
RECEIVER FOR RECEIVING MULTIPLE FREQUENCIES TRANSMITTED SIMULTANEOUSLY BY A PHASE COMPARISON NAVIGATIONAL SYSTEM
Donald Edward Bridges, London, England, assignor to Decca Limited, London, England, a British company
Filed July 15, 1963, Ser. No. 295,166
Claims priority, application Great Britain, July 17, 1962, 27,429/62
12 Claims. (Cl. 343—105)

1. A receiver for a phase comparison navigation system of the kind in which signals of three or more different but harmonically related frequencies are radiated in fixed phase relationship simultaneously from one station and subsequently from another station such that the simultaneous radiations from each station in combination give a pulse output signal at a frequency lower than that of any of the radiated signals, wherein there are provided, at the receiver, means for receiving all the radiated frequencies, adding means for additively combining the received signals, an oscillator phase locked to at least one



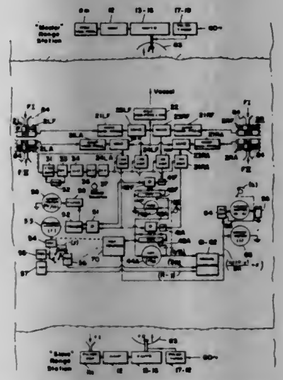
received signal from one station to provide an output of said lower frequency locked in phase to a received signal, phase measuring means for determining the phase relationship between the output of said oscillator and the output of said adding means, and means for applying a reference signal having components of all said frequencies in fixed phase relation to said receiving means in place of the received radiated signals.

3,270,344
RADIO NAVIGATION APPARATUS AND FILTERS FOR USE THEREIN
David William Righton, Cheltenham, England, assignor to S. Smith & Sons (England) Limited, London, England
Filed May 31, 1963, Ser. No. 284,522
Claims priority, application Great Britain, June 1, 1962, 21,122/62
10 Claims. (Cl. 343—106)



1. In navigation apparatus for a craft, the combination of means for deriving a signal in accordance with displacement σ of the craft from a predetermined path, and a filter responsive to said signal to provide an output representation of the value of a variable σ_t substantially according to: $\sigma_t=\sigma/(1+k_\tau D)$ where D is an operator representative of differentiation with respect to time, and k_τ which has the dimension of time, is a positive-valued function of σ_t, the rate of change of k_τ with the modulus of σ_t being negative throughout a predetermined range of values of the modulus of σ_t extending from zero and being substantially zero beyond this range, said filter including means to provide a representation of the rate of change of the output representation of the variable σ_t, feedback means for providing in said filter negative rate-feedback in accordance with said representation of the rate of change of the variable σ_t, said feedback means being controllable to vary selectively the degree of negative rate-feedback, and means operatively coupled to the feedback means to control the degree of negative rate-feedback in accordance with the magnitude of said output representation.

3,270,345
ELECTRONIC CHANNEL GUIDANCE SYSTEM
Peter P. Schauffler, 101 W. Springfield Ave., Philadelphia 18, Pa.
Filed Nov. 5, 1963, Ser. No. 321,477
23 Claims. (Cl. 343—112)

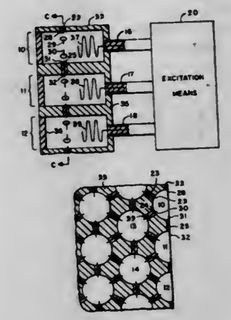


2. A method of determining on board a vehicle the simultaneous relative bearings of fore and aft range stations which comprises
radiating from said range stations signals having a time-locked characteristic, and
comparing the time-relationship of said signals as received at laterally spaced points between or on opposite sides of the vehicle to determine the relative bearing of each of said range stations.

3. A method of determining on board a vehicle its lateral offset with respect to the base line between fore and aft range stations which comprises
radiating from said range stations signals having a time-locked characteristic,
comparing the time relationship of the signals from said range stations as received at laterally spaced points between or on opposite sides of said vehicle to provide relative bearing information with respect to each of said stations,
counting the successive occurrences of a predetermined time-relationship between the signals of said stations as received on the vehicle to provide distance information, and
combining the distance information and the algebraic sum of the bearing information for each of said stations to determine the lateral offset of the vehicle from said base line.

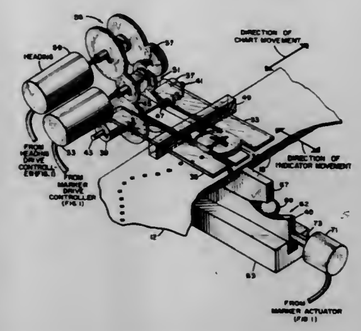
3,270,346
POLARIZATION-SELECTIVE CONNECTING CIRCUITS FOR IMPEDANCE MATCHING OF ARRAY ANTENNAS
David S. Lerner, Flushing, N.Y., assignor to Hazeltine Research, Inc., a corporation of Illinois
Filed Oct. 25, 1963, Ser. No. 318,969
8 Claims. (Cl. 343—777)

1. An array antenna having closer impedance matching comprising:
a plurality of radiating elements;
a plurality of branch transmission lines connecting to said radiating elements;
means for exciting said elements through said lines in a plurality of conditions;
and polarization selective means for providing intercoupling paths between said branch transmission



lines for energy of predetermined polarizations so that closer impedance matching results for at least one condition of excitation.

3,270,347
DISPLAY MARKING APPARATUS
Leon G. Wilde, Andover, Mass., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed May 11, 1964, Ser. No. 366,376
6 Claims. (Cl. 346—8)

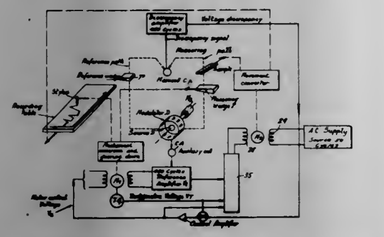


1. Apparatus for plotting the position of a vehicle on a chart, comprising:
(a) a platen over which a chart to be marked may be movably disposed, the platen having a transverse opening formed therein;
(b) a bar disposed in the transverse opening and movably mounted to project beyond the surface of the platen adjacent to the chart;
(c) an inked ribbon overlying the chart;
(d) a marker overlying the inked ribbon at a substantially fixed distance above the surface of the platen underlying the chart;
(e) means for moving the chart and the marker with respect to each other to position the marker over the chart in accordance with the position of the vehicle; and
(f) means for periodically moving the bar beyond the surface of the platen to cause the marker to transfer ink from the inked ribbon to the chart to mark the position of the vehicle.

3,270,348
DEVICE FOR CONTROLLING THE DISPLACEMENT SPEED OF A SAMPLE TO BE SCANNED, PARTICULARLY FOR A RECORDING MICRODENSITOMETER

Daniel Lesage, Paris, Roger Marie Arthur Monnot, Montrouge, and Pierre Vialet, Chalon-sur-Saone, France, assignors to Compagnie des Compteurs, Paris, France, a company of France

Filed Mar. 4, 1964, Ser. No. 349,400
Claims priority, application France, Mar. 5, 1963, 926,853, Patent 1,358,547
6 Claims. (Cl. 346—33)



1. In a microdensitometer device having two optical systems traversed by two luminous beams and a photoelectric cell for comparing said luminous beams so that a discrepancy signal can be produced by said cell, one of said optical systems including a movable optical wedge having a variable optical density according to a known function, the other optical system being adapted for the displaceable support of a sample to be analyzed in the path of the respective liminous beam, a first electric motor coupled to said wedge to move the same, so that said discrepancy signal becomes zero according to the position of the sample to be analysed, said sample having a variable optical density gradient which is to be determined, the combination comprising a second electric motor coupled to said sample to move the same, a tachometer generator driven by said first motor and supplying a voltage V_T while said first motor is coupled to said cell to be supplied with a voltage V_c which is a function of said discrepancy signal issued from said cell, a detecting, amplifying and rectifying unit coupled to said generator and to said first motor for receiving said voltages V_T and V_c and for placing said voltages V_T and V_c in a 180° phase-displacement relationship whereby a resulting D.C. voltage is produced, a modulator device and a reference voltage generator for supplying said modulator device with an A.C. voltage, said modulator device being coupled to said detecting, amplifying and rectifying unit for being controlled by said resulting D.C. voltage whereby an A.C. voltage V_o is produced by said modulator device dependent upon said resulting voltage, and an amplifier device coupled to said second motor to apply an amplified value of voltage V_o to said second motor so that the sample driven thereby is moved at a speed which varies in inverse ratio to the gradient value of the density of said sample.

3,270,349
GRAPHIC RECORDING APPARATUS

Gerald G. Murphy, 153 Rock Hill Road, Clifton, N.J.

Filed Feb. 10, 1964, Ser. No. 343,596
10 Claims. (Cl. 346—46)

1. Continuous-type recording apparatus for graphically recording on a record medium in response to received electrical marking signals, comprising

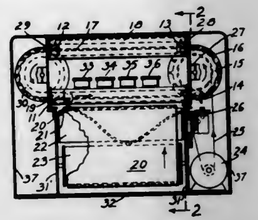
marking means including at least one marking element having a marking end,

means for supplying a quantity of liquid marking material to said element for application of said material to said record medium by said marking end,

means for supporting said record medium at a recording line which extends transversely substantially across said medium,

means including motor means for progressively advancing said record medium past a said recording line,

means operating automatically and independently of the received electrical signals for periodically linearly sweeping said marking end of said element along said recording line in spaced relation with respect to said line and said medium,

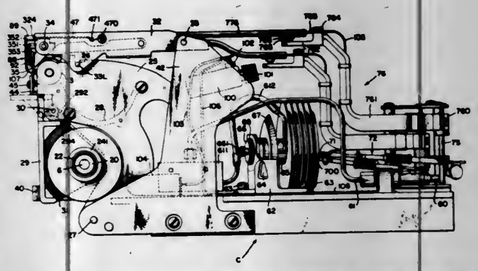


and means responsive to said received marking signals during at least certain of said periodic sweeps for advancing the marking end of said element into physical engagement with said record medium along said line to mark said medium and for subsequently withdrawing said marking end from physical engagement with said record medium and from contact with said medium to cease marking said medium.

3,270,350
RECORDER

Carl R. Brandt, Oreland, Pa., Robert A. Jankowicz, Trenton, N.J., and Robert B. Watrons, Philadelphia, Pa., assignors to Honeywell Inc., a corporation of Delaware

Original application July 17, 1961, Ser. No. 124,512, now Patent No. 3,216,022, dated Nov. 2, 1965. Divided and this application Oct. 5, 1964, Ser. No. 407,949
5 Claims. (Cl. 346—136)



1. In a strip chart recorder, a chassis, a pivot on said chassis, two spaced-apart plates, each of the plates being mounted at one of their end portions on said pivot for pivotal movement from a normal position to a loading position and vice versa, a trough fixedly connected to and extending between a portion of the two plates, a timing roller mounted on another of the end portions of the plates and adapted to have a chart applied thereto, a second pivot mounted on said plates at a position that is adjacent their last-mentioned end portions, a support member mounted on the second pivot, a take-up roller rotatably mounted on said support member for joint arcuate movement therewith about the second pivot from a normal position to a loading position thereon that is angularly displaced from the last-mentioned normal position and vice versa and the support member being adapted to have a take-up roll of chart placed thereon.

DESIGNS

AUGUST 30, 1966

205,609
SHOE HEEL

Mattheus Johannes Snyman, Kempton Park, Transvaal, Republic of South Africa, assignor to Parvitak (Proprietary) Limited, Pretoria, Transvaal, Republic of South Africa, a corporation of the Republic of South Africa

Filed Jan. 19, 1966, Ser. No. 685
Term of patent 14 years
(Cl. D7—5)



205,610
HEAD FOR A VACUUM CLEANER

Eberhard Rother, Wuppertal-Cronenberg, Germany, assignor to Vorwerk & Co., Wuppertal-Barmen, Germany

Filed Feb. 21, 1966, Ser. No. 1,146
Term of patent 14 years
(Cl. D9—2)



205,611
PULL FOR DOORS, DRAWERS AND THE LIKE

Alfred H. Bottom, 5801 Lawnview St. NW., Canton, Ohio

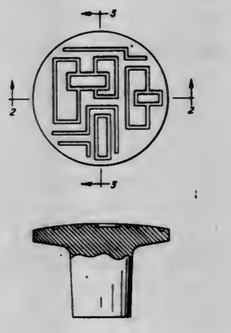
Filed Jan. 17, 1966, Ser. No. 633
Term of patent 14 years
(Cl. D10—8)



205,612
KNOB FOR DOORS, DRAWERS AND THE LIKE

Alfred H. Bottom, 5801 Lawnview St. NW., Canton, Ohio

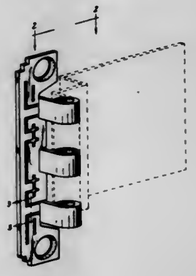
Filed Jan. 17, 1966, Ser. No. 634
Term of patent 14 years
(Cl. D10—8)



205,613
HINGE

Alfred H. Bottom, 5801 Lawnview St. NW., Canton, Ohio

Filed Jan. 17, 1966, Ser. No. 636
Term of patent 14 years
(Cl. D10—9)



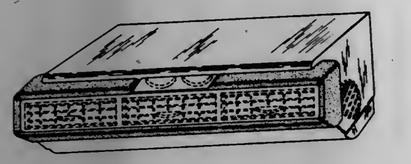
205,614
HINGE SUPPORT PLATE

Alfred H. Bottom, 5801 Lawnview St. NW., and Richard C. Henson, 1323 12th St. NW., both of Canton, Ohio

Filed Jan. 20, 1966, Ser. No. 693
Term of patent 14 years
(Cl. D10—9)



205,615
AIR CONDITIONING UNIT FOR AUTOMOTIVE VEHICLES
Harold E. Kunkel, 15570 Charles R. St., East Detroit, Mich.
Filed Aug. 4, 1965, Ser. No. 86,439
Term of Patent 14 years
(Cl. D14—6)



205,616
ARM CHAIR
Merle C. Melchior, Los Angeles, Calif., assignor of one-half to Sidney Galper, Los Angeles, Calif.
Original design application Sept. 29, 1964, Ser. No. 81,924, now Patent No. 203,437, dated Jan. 11, 1966. Divided and this application July 19, 1965, Ser. No. 86,445
Term of patent 14 years
(Cl. D15—1)



205,617
DECORATIVE ATTACHMENT FOR A BELT
Harry Rosenblatt, Brooklyn, N.Y., assignor to Ross Belts Inc., New York, N.Y., a corporation of New York
Filed July 20, 1965, Ser. No. 86,216
Term of patent 14 years
(Cl. D17—1)



205,618
DECORATIVE HANGING ELEMENT
William W. Williams, West Hollywood, Calif. (954 19th St. W., Costa Mesa, Calif.)
Filed June 17, 1965, Ser. No. 85,779
Term of patent 14 years
(Cl. D29—1)



205,619
DECORATIVE HANGING ELEMENT
William W. Williams, West Hollywood, Calif. (954 19th St. W., Costa Mesa, Calif.)
Filed June 17, 1965, Ser. No. 85,780
Term of patent 14 years
(Cl. D29—1)



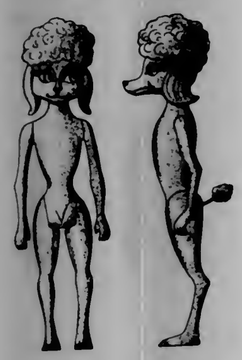
205,620
CHEST OR SIMILAR ARTICLE
Bert J. Klein and Andre Bus, Altavista, and John B. Thorn, Lynchburg, Va., assignors to The Lane Company, Inc., Altavista, Va., a corporation of Virginia
Filed Apr. 19, 1965, Ser. No. 84,863
Term of patent 14 years
(Cl. D33—6)



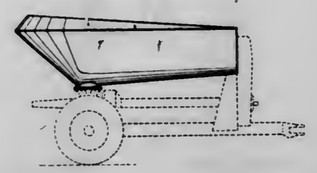
205,621
SUPPORT STAND FOR AN OFFICE MACHINE
Wayne W. Good, Sturgis, Mich., assignor to Harter Corporation, Sturgis, Mich., a corporation of Michigan
Filed May 20, 1965, Ser. No. 85,369
Term of patent 14 years
(Cl. D33—14)

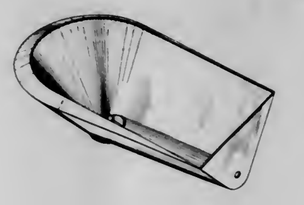


205,622
POODLE DOLL
George Lerner, Freeport, and Julius Ellman, Brooklyn, N.Y., assignors to Hassenfeld Bros. Inc., Pawtucket, R.I., a corporation of Rhode Island
Filed Feb. 9, 1966, Ser. No. 971
Term of patent 14 years
(Cl. D34—2)

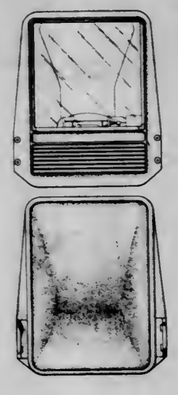


205,623
STORAGE HOPPER FOR USE IN AN APPARATUS FOR SPREADING OR SOWING GRANULAR OR POWDERED MATERIALS
Herbert Vissers, Nieuw Vennep, Netherlands, assignor to Landbouwwerktuigen en Machinefabriek H. Vissers N.V., Nieuw Vennep, Netherlands, a company of the Netherlands
Filed May 14, 1965, Ser. No. 85,277
Term of patent 14 years
(Cl. D35—2)





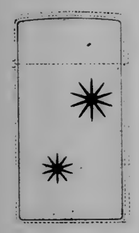
205,624
FLOODLIGHT
John C. Pritchett, Montreal, Quebec, Canada, assignor to Crouse-Hinds Company, Syracuse, N.Y., a corporation of New York
Filed Mar. 3, 1965, Ser. No. 84,059
Term of patent 14 years
(Cl. D48—20)



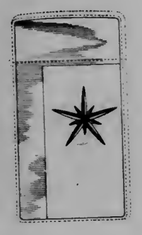
205,625
ELECTRIC BICYCLE LAMP
Eric T. New, 117—01 Park Lane S., Kew Gardens, N.Y.
Filed Oct. 29, 1965, Ser. No. 87,953
Term of patent 3½ years
(Cl. D48—24)



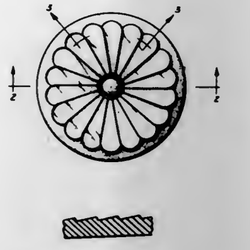
205,626
CASING FOR A CIGARETTE LIGHTER
Charles K. Lovejoy, Atlanta, and Frank H. Stephens, Jr., Dunwoody, Ga., assignors to Scripto, Inc., a corporation of Georgia
Filed Sept. 27, 1965, Ser. No. 87,195
Term of patent 14 years
(Cl. D48—27)



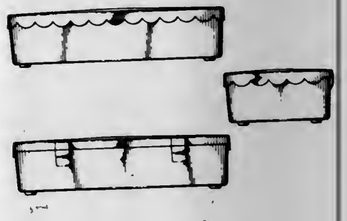
205,627
CASING FOR A CIGARETTE LIGHTER
Charles K. Lovejoy, Atlanta, and Frank H. Stephens, Jr., Dunwoody, Ga., assignors to Scripto, Inc., a corporation of Georgia
Filed Sept. 27, 1965, Ser. No. 87,196
Term of patent 14 years
(Cl. D48—27)



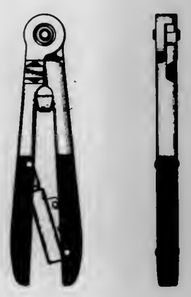
205,628
KNOB FOR DOORS, DRAWERS AND THE LIKE
Alfred H. Bottom, 5801 Lawnview St. NW., and Richard C. Henson, 1323 12th St. NW., both of Canton, Ohio
Filed Jan. 17, 1966, Ser. No. 632
Term of patent 14 years
(Cl. D50—3)



205,629
TISSUE HOLDER
Robert L. Hartley, Indianapolis, Ind., assignor to Harper J. Ransburg Co., Inc., Indianapolis, Ind., a corporation of Indiana
Filed Sept. 15, 1965, Ser. No. 87,012
Term of patent 14 years
(Cl. D52—2)



205,630
TOOL FOR APPLYING CLIPS
Ward Joseph Kremkau, Jr., Mechanicsburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed May 18, 1965, Ser. No. 85,341
Term of patent 14 years
(Cl. D54—13)



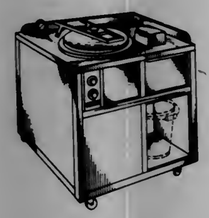
205,631
PORTABLE BATTERY-OPERATED TOOL
Marnie C. Averitt, Timonium, James E. Dickson, Towson, and Marshall B. Johnson, Fallston, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Nov. 10, 1965, Ser. No. 88,059
Term of patent 14 years
(Cl. D54—14)



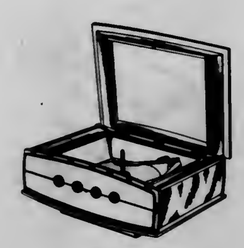
205,632
CONVECTIONAL COOLING COVER FOR MECHANICAL SPEED CHANGERS AND THE LIKE
Walter R. Woodward, Carlisle, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Jan. 11, 1965, Ser. No. 83,377
Term of patent 14 years
(Cl. D55—1)



205,633
MARINATING UNIT FOR PREPARING POULTRY AND THE LIKE
Thomas C. Payne, Rte. 1, Rockton, Ill.
Filed Mar. 9, 1965, Ser. No. 84,154
Term of patent 14 years
(Cl. D55—1)



205,634
PHONOGRAPH
John C. Wistrand, New Canaan, Conn., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Oct. 20, 1964, Ser. No. 82,255
Claims priority, application Great Britain May 22, 1964
Term of patent 14 years
(Cl. D56—4)



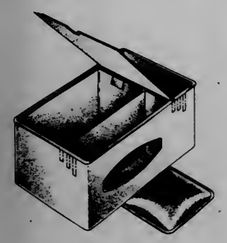
205,635
DISPENSING CONTAINER WITH FLEXIBLE WALLS
Arthur P. Corella, 8166 Vancog Ave., North Hollywood, Calif., and William S. Schneider, 1765 Rohr Ave., Glendale, Calif.
Filed June 4, 1965, Ser. No. 85,575
Term of patent 14 years
(Cl. D58—2)



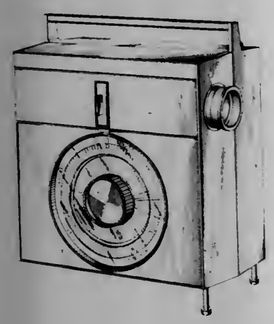
205,636
BOTTLE
James L. Linn, Jr., Maumee, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Oct. 23, 1965, Ser. No. 87,838
Term of patent 14 years
(Cl. D58—7)



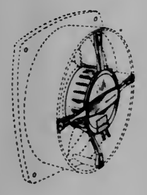
205,637
COMBINED TISSUE DISPENSER, AND LITTER AND ACCESSORY CONTAINER, FOR AUTOMOBILES
Warren Wilson, 4633 Roxbury Road, Corona del Mar, Calif.
Filed Sept. 23, 1965, Ser. No. 87,124
Term of patent 14 years
(Cl. D58—12.6)



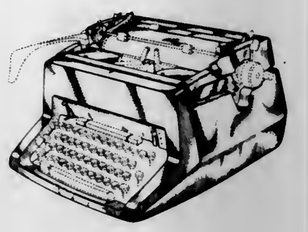
205,638
PHOTOGRAPHIC PROJECTOR
Wallace A. Monson, Golden Valley, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 16, 1965, Ser. No. 86,598
Term of patent 14 years
(Cl. D61—1)



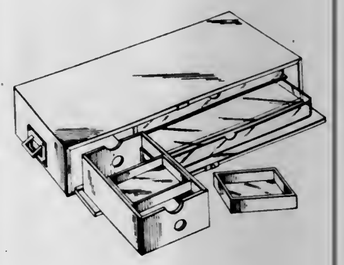
205,639
FAN
Peter P. Grad, Woodstock, N.Y., assignor to Rotron Manufacturing Company, Inc., Woodstock, N.Y., a corporation of New York
Filed Feb. 3, 1965, Ser. No. 83,678
Term of patent 14 years
(Cl. D62—4)



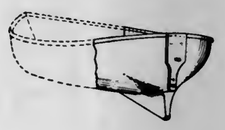
205,640
TYPEWRITER
John Cuccio, Westport, Conn., assignor to Olivetti Underwood Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 12, 1965, Ser. No. 84,236
Term of patent 14 years
(Cl. D64—11)



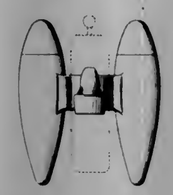
205,641
SAFE DEPOSIT BOX
Arthur T. Roth, Rockville Centre, N.Y., assignor to Franklin National Bank, Mineola, N.Y., a national banking association
Filed Nov. 2, 1965, Ser. No. 87,986
Term of patent 14 years
(Cl. D69—1)



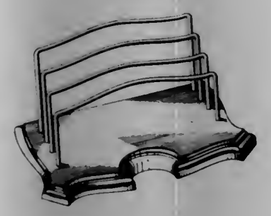
205,642
BOAT
John Lindsay, 16 Harbor St., Manchester, Mass.
Filed Mar. 3, 1965, Ser. No. 84,070
Term of patent 14 years
(Cl. D71—1)



205,643
MOTOR-PROPELLED UNDERWATER BREATHING AND DIVING APPARATUS
John Gary Strader, St. Louis, Mo., assignor to The Gary Aqua-Peller Corporation, New York, N.Y.
Filed Nov. 24, 1965, Ser. No. 88,203
Term of patent 14 years
(Cl. D71—1)



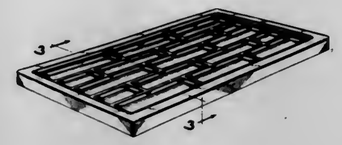
205,644
LETTER HOLDER
William Macowski, Montclair, N.J., assignor to Ketcham & McDougall, Inc., Roseland, N.J., a corporation of New Jersey
Filed Nov. 16, 1965, Ser. No. 88,121
Term of patent 14 years
(Cl. D74—9)



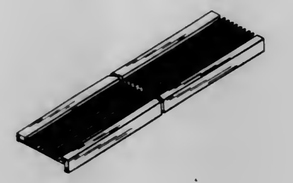
205,645
WRITING INSTRUMENT
Charles K. Lovejoy, Atlanta, Ga., assignor to Scripto, Inc., a corporation of Georgia
Filed June 10, 1965, Ser. No. 85,652
Term of patent 14 years
(Cl. D74—17)



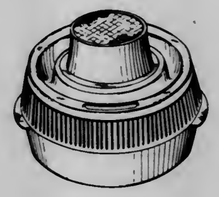
205,646
DISPLAY PANEL FOR MASONRY PRODUCTS
William J. Olson, 65 Cretin Ave., St. Paul, Minn.
Filed Oct. 29, 1964, Ser. No. 82,374
Term of patent 14 years
(Cl. D80—9)



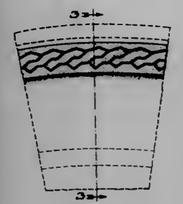
205,647
COVER PLATE FOR RADIATORS
Robert H. Sand, Canton, Conn., assignor to The Vulcan Radiator Company, Hartford, Conn., a corporation of Connecticut
Filed June 16, 1964, Ser. No. 80,426
Term of patent 14 years
(Cl. D81—21)



205,648
HUMIDIFIER OR THE LIKE
Lawrence Katzman and Edward Briggin, New York, N.Y., assignors to Kaz Manufacturing Co., Inc., New York, N.Y., a corporation of New York
Filed Oct. 19, 1965, Ser. No. 87,605
Term of patent 14 years
(Cl. D83—1)



205,649
TIRE
Clarence H. Vizina, Jr., Ferndale, Mich., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 3, 1965, Ser. No. 36
Term of patent 14 years
(Cl. D90—20)



205,650
BONNET FOR A WATER CONDITIONING TANK
Robert J. King, Brookfield, Wis., assignor to Mermaid, Inc., Butler, Wis., a corporation of Wisconsin
Filed May 3, 1965, Ser. No. 85,071
Term of patent 14 years
(Cl. D91—1)



LIST OF PLANT PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 30TH DAY OF AUGUST, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Walker, Don, and A. Walker. Gladiolus plant. 2,666, 8–30–66, Cl. 85.

Walker, Audrey: *See*—
Walker, D. and A. 2,666.

LIST OF DESIGN PATENTEES

AMP Inc.: *See*—
Kremkau, Ward J., Jr. 205,630.
Averitt, Marnie C., J. E. Dickson, and M. B. Johnson, to The Black and Decker Mfg. Co. Portable battery-operated tool. 205,631, 8–30–66, Cl. D54—14.
Black and Decker Mfg. Co., The: *See*—
Averitt, Marnie C., Dickson, and Johnson. 205,631.
Bottom, Alfred H. Pull for doors, drawers and the like. 205,611, 8–30–66, Cl. D10—8.
Bottom, Alfred H. Knob for doors, drawers and the like. 205,612, 8–30–66, Cl. D10—8.
Bottom, Alfred H. Hinge. 205,613, 8–30–66, Cl. D10—9.
Bottom, Alfred H., and R. C. Henson. Hinge support plate. 205,614, 8–30–66, Cl. D10—9.
Bottom, Alfred H., and R. C. Henson. Knob for doors, drawers and the like. 205,628, 8–30–66, Cl. D50—3.
Briggin, Edward: *See*—
Katzman, Lawrence, and Briggin. 205,648.
Bus, Andre: *See*—
Klein, Bert J., Bus, and Thorn. 205,620.
Columbia Broadcasting System, Inc.: *See*—
Wistrand, John C. 205,634.
Corella, Arthur P., and W. S. Schneider. Dispensing container with flexible walls. 205,635, 8–30–66, Cl. D58—2.
Crouse-Hinds Co.: *See*—
Pritchett, John C. 205,624.
Cuccio, John, to Olivetti Underwood Corp. Typewriter. 205,640, 8–30–66, Cl. D64—11.
Dickson, James E.: *See*—
Averitt, Marnie C., Dickson, and Johnson. 205,631.
Ellman, Julius: *See*—
Lerner, George, and Ellman. 205,622.
Franklin National Bank: *See*—
Roth, Arthur T. 205,641.
Galper, Sidney: *See*—
Melchior, Merle C. 205,616.
Gary Aqua-Peller Corp., The: *See*—
Strader, John G. 205,643.
Good, Wayne W., to Harter Corp. Support stand for an office machine. 205,621, 8–30–66, Cl. D33—14.
Grad, Peter P., to Rotron Mfg. Co., Inc. Fan. 205,639, 8–30–66, Cl. D62—4.
Hansburg, Harper, J., Co., Inc.: *See*—
Hartley, Robert L. 205,629.
Harter Corp.: *See*—
Good, Wayne W. 205,621.
Hartley, Robert L., to J Harper Hansburg Co., Inc. Tissue holder. 205,629, 8–30–66, Cl. D52—2.
Hassenfeld Bros., Inc.: *See*—
Lerner, George, and Ellman. 205,622.
Henson, Richard C.: *See*—
Bottom, Alfred H., and Henson. 205,614.
Bottom, Alfred H., and Henson. 205,628.
Honeywell Inc.: *See*—
Monson, Wallace A. 205,638.
Johnson, Marshall B.: *See*—
Averitt, Marnie C., Dickson, and Johnson. 205,631.
Katzman, Lawrence, and E. Briggin, to Kaz Mfg. Co., Inc. Humidifier or the like. 205,648, 8–30–66, Cl. D83—1.
Kaz Mfg. Co., Inc.: *See*—
Katzman, Lawrence, and Briggin. 205,648.
King, Robert J., to Mermaid, Inc. Bonnet for a water conditioning tank. 205,650. 8–30–66, Cl. D91—1.
Klein, Bert J., A. Bus, and J. B. Thorn, to The Lane Co., Inc. Chest or similar article. 205,620, 8–30–66, Cl. D33—6.
Kremkau, Ward J., Jr., to AMP Inc. Tool for applying clips. 205,630. 8–30–66, Cl. D54—13.
Kunkel, Harold E. Air conditioning unit for automotive vehicles. 205,615, 8–30–66, Cl. D14—6.
Landbouwwerktuigen en Machinefabriek H. Vissers N.V.: *See*—
Vissers, Herbert. 205,623.
Lane Co., Inc., The: *See*—
Klein Bert J., Bus, and Thorn. 205,620.
Lerner, George, and J. Ellman, to Hassenfeld Bros., Inc. Poodle doll. 205,622, 8–30–66, Cl. D34—2.
Lindsay, John. Boat. 205,642, 8–30–66, Cl. D71—1.
Linn, James L., Jr., to Owens-Illinois, Inc. Bottle. 205,636, 8–30–66, Cl. D58—7.
Lovejoy, Charles K., and F. H. Stephens, Jr., to Scripto, Inc. Casing for a cigarette lighter. 205,626, 8–30–66, Cl. D48—27.
Lovejoy, Charles K., and F. H. Stephens, Jr., to Scripto, Inc. Casing for a cigarette lighter. 205,627, 8–30–66, Cl. D48—27.
Lovejoy, Charles K., to Scripto, Inc. Writing instrument. 205,645, 8–30–66, Cl. D74—17.
Macowski, William, to Ketcham L. McDougall, Inc. Letter holder. 205,644, 8–30–66, Cl. D74—9.
McDougall, Ketcham L., Inc.: *See*—
Macowski, William. 205,644.
Melchior, Merle C., ½ to S. Galper. Arm chair. 205,616, 8–30–66, Cl. D15—1.
Mermaid, Inc.: *See*—
King, Robert J. 205,650.
Monson, Wallace A., to Honeywell Inc. Photographic projector. 205,638, 8–30–66, Cl. D61—1.
New, Eric T. Electric bicycle lamp. 205,625, 8–30–66, Cl. D48—24.
Olivetti Underwood Corp.: *See*—
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Olson, William J. Display panel for masonry products. 205,646, 8–30–66, Cl. D80—9.
Owens-Illinois, Inc.: *See*—
Linn, James L., Jr. 205,636.
Parvitak (Proprietary) Ltd.: *See*—
Snyman, Mattheus. 205,609.
Payne, Thomas C. Marinating unit for preparing poultry and the like. 205,633, 8–30–66, Cl. D55—1.
Pritchett, John C., to Crouse-Hinds Co. Floodlight. 205,624, 8–30–66, Cl. D48—20.
Rosenblatt, Harry, to Ross Belts Inc. Decorative attachment for a belt. 205,617, 8–30–66, Cl. D17—1.
Ross Belts Inc.: *See*—
Rosenblatt, Harry. 205,617.
Roth, Arthur T., to Franklin National Bank. Safe deposit box. 205,641, 8–30–66, Cl. D69—1.
Rother, Eberhard, to Vorwerk & Co. Head for a vacuum cleaner. 205,610, 8–30–66, Cl. D9—2.
Rotron Mfg. Co., Inc.: *See*—
Grad, Peter P. 205,639.
Sand, Robert H., to The Vulcon Radiator Co. Cover plate for radiators. 205,647, 8–30–66, Cl. D81—21.
Schneider, William S.: *See*—
Corella, Arthur P., and Schneider. 205,635.
Scripto, Inc.: *See*—
Lovejoy, Charles K., and Stephens. 205,626.
Lovejoy, Charles K., and Stephens. 205,627.
Lovejoy, Charles K. 205,645.
Snyman, Mattheus, to Parvitak (Proprietary) Ltd. Shoe heel. 205,609, 8–30–66, Cl. D7—5.
Stephens, Frank H., Jr.: *See*—
Lovejoy, Charles K., and Stephens. 205,626.
Lovejoy, Charles K., and Stephens. 205,627.
Strader, John G., to The Gary Aqua-Peller Corp. Motor-propelled underwater breathing and diving apparatus. 205,643, 8–30–66, Cl. D71—1.
Thorn, John B.: *See*—
Klein, Bert J., Bus, and Thorn. 205,620.
United Shoe Machinery Corp.: *See*—
Woodward, Walter R. 205,632.
United States Rubber Co.: *See*—
Vizina, Clarence H., Jr. 205,649.
Vissers, Herbert, to Landbouwwerktuigen en Machinefabriek H. Vissers N.V. Storage hopper for use in an apparatus for spreading or sowing granular or powdered materials. 205,623, 8–30–66, Cl. D35—2.
Vizina, Clarence H., Jr., to United States Rubber Co. Tire. 205,649. 8–30–66, Cl. D90—20.
Vorwerk & Co.: *See*—
Rother, Eberhard. 205,610.
Vulcan Radiator Co., The: *See*—
Sand, Robert H. 205,647.
Williams, William W. Decorative hanging element. 205,618, 8–30–66, Cl. D29—1.
Williams, William W. Decorative hanging element. 205,619, 8–30–66, Cl. D29—1.
Wilson, Warren. Combined tissue dispenser, and litter and accessory container, for automobiles. 205,637, 8–30–66, Cl. D58—12.6.
Wistrand, John C., to Columbia Broadcasting System, Inc. Phonograph. 205,634, 8–30–66, Cl. D56—4.
Woodward, Walter R., to United Shoe Machinery Corp. Convectional cooling cover for mechanical speed changer and the like. 205,632, 8–30–66, Cl. D55—1.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 30TH DAY OF AUGUST, 1966

NOTE —Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries, Inc.: *See*—
Gulick, Ronald A. 3,269,693.
Rollins, Dallas W. 3,269,779.
Tomlin, Jerry B. 3,269,699.

AMP Inc.: *See*—
Beinnaur, Ernest L. 3,268,991.
Evans, William R. 3,269,805.
Evans, William R. 3,270,251.

Abbott Laboratories: *See*—
Alter, Arthur. 3,270,004.
Martin, William B., and Swett. 3,270,056.

Abe, Akira, and K. Konishi, to Tateisi Electronics Co. Control system for vending machines. 3,269,505, 8–30–66, Cl. 194—10.

Abe, Zenmon, and N. Aoki, to Kabushiki Kaisha Hitachi Seisakusho. Variable capacitance modulation circuit. 3,270,297, 8–30–66, Cl. 332—47.

Abel, Louis. Numero-graphical tables. 3,269,649, 8–30–66, Cl. 235—89.

Abel, Ursula E. Inside slipper foot cover. 3,269,038, 8–30–66, Cl. 36—10.

Abell, Leo M., R. C. Emmett, Jr., and R. B. Thompson, to The Elmco Corp. Process of forming aggregates of metal bearing ores followed by quiescent submergence in a solvent. 3,269,832, 8–30–66, Cl. 75—117.

Abolins, Andrew: *See*—
Schmidt, George A., Abolins, and Seng. 3,269,334.

Abplanalp, Robert H. Dispensing cap for an aerosol container. 3,269,614, 8–30–66, Cl. 222—394.

Abrams, Abraham, and R. L. Tetrault, to Uniware, Inc. Cleaning apparatus for knitting machines. 3,269,151, 8–30–66, Cl. 66—168.

Abramson, Jack. Method of removing lead plates from batteries. 3,269,870, 8–30–66, Cl. 136—174.

Ackermann, Hans-Peter, to Hauni-Werke Korber & Co. Method of making cigar fillers. 3,269,393, 8–30–66, Cl. 131—20.

Ackermann, Karl, and L. Schlecht, to Societe des Accumulateurs Fixeset de Traction (Societe Anonyme). Electrodes for alkaline storage batteries. 3,269,864, 8–30–66, Cl. 136—78.

Acrometal Products, Inc.: *See*—
Steinback, Clarence I. 3,269,672.

Adams, Cecil E., to American Brake Shoe Co. Control valve mechanism with means for reducing hydraulic shock. 3,269,416, 8–30–66, Cl. 137—625.63.

Adams, Edmond, and W. M. Hubbard. Method of making transducer head cores. 3,268,987, 8–30–66, Cl. 29—155.5.

Adams, William N., to Combustion Engineering, Inc. Integrated drainable economizer with boiler bank. 3,269,360, 8–30–66, Cl. 122—7.

Adams, Winifred J., B. Ellis, V. Petrow, and I. A. Stuart-Webb, to The British Drug Houses Ltd. 6a-methyl-3-oxo-Δ^4-steroids of the androstane and pregnane series. 3,270,037, 8–30–66, Cl. 260—397.3.

Adelt, Carl W. Fireplace damper assembly. 3,269,384, 8–30–66, Cl. 126—288.

Adler, Orville E., to National-Standard Co. Method of making filters. 3,268,990, 8–30–66, Cl. 29—163.5.

Aerojet-General Corp.: *See*—
Crews, John P., and Shookhoff. 3,269,113.
Stammler, Manfred, and Schmidt. 3,269,879.

Af Ekenstam, Bo T.: *See*—
Von Fleandt, Bror H. F., and Af Ekenstam. 3,269,903.

Affleck, John H., III, and J. J. Paley, to General Electric Co. Dispenser cathode and method for the production thereof. 3,269,804, 8–30–66, Cl. 29—182.5.

Agfa Aktiengesellschaft: *See*—
Kiper, Gerd. 3,269,293.
Kiper, Gerd. 3,269,294.

Ahlgren, Axel W., to Amerock Corp. Catch. 3,269,763, 8–30–66, Cl. 292—341.18.

Ahrens, Warren S., to The Bridgeport Metal Goods Mfg. Co. Composite container cap and outer collar. 3,269,609, 8–30–66, Cl. 222—182.

Aiken, Joseph P., to Ken-Mar Clay Products Ltd. Method and apparatus for the production of hardened clay products. 3,270,102, 8–30–66, Cl. 264—27.

Air Products and Chemical, Inc.: *See*—
Cost, Joe L., and Gaumer. 3,269,130.
Erner, William E. 3,270,032.

Aitken, James D.: *See*—
Meima, Robert J., and Aitken. 3,269,691.

Aizawa, Susumu, and K. Fujita, to Kabushiki Kaisha Suava Seikosha Chuo-ku. Temperature compensating device for a crystal oscillator. 3,270,296, 8–30–66, Cl. 331—116.

Akron Standard Mold Co., The: *See*—
Bailey, Harold G., and Hale. 3,270,107.

Albrecht, Frans: *See*—
De Keyser, Lodewijk F., Albrecht, and Meeussen. 3,269,252.

Albrecht, Otto J., to Omnitronics, Inc. Adjustable support for pressure fixing rollers. 3,269,626, 8–30–66, Cl. 226—177.

Alcan Aluminum Corp.: *See*—
Vecchiarelli, Francis, and Kopsco. 3,269,453.

Alder, James E.: *See*—
Damaskus, Charles W., and Alder. 3,269,905.

Alderuccio, Carmelo L., L. P. Gould, and H. F. Jones, to Allied Chemical Corp. Hydrogen peroxide etching of copper in manufacture of printed circuits. 3,269,881, 8–30–66, Cl. 156—3.

Alexander, Robert T. Rock drilling bit. 3,269,471, 8–30–66, Cl. 175—418.

Alexinas, Michael C., to General Motors Corp. Rotor structure. 3,270,225, 8–30–66, Cl. 310—89.

Allegheny Ludlum Steel Corp.: *See*—
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Allen, Archelaius D., to Gullick Ltd. Mine roof and like supports. 3,269,686, 8–30–66, Cl. 248—354.

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Allied Chemical Corp.: *See*—
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Allis-Chalmers Mfg. Co.: *See*—
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Halter, Allan C., McMath, and Perrault. 3,269,160.

All-State Welding Alloys Co., Inc.: *See*—
Nast, Thomas D., and Wooldridge. 3,269,248.

Alpert, Norman, to American Machine & Foundry Co. Illuminating magnetically actuated pushbutton reed switch. 3,270,162, 8–30–66, Cl. 335—154.

Alpine Aktiengesellschaft Maschinenfabrik und Eisengiesserei: *See*—
Kaiser, Fritz. 3,269,537.

Alpine, Harry A. Painter's scaffold and stand. 3,269,682, 8–30–66, Cl. 248—226.

Alpura A.G.: *See*—
Schmied, Rudolf. 3,269,079.

Alston, Liviu L., and P. J. Rogers, to United Kingdom Atomic Energy Authority. Electric switch with frangible and expendable electrodes. 3,269,987, 8–30–66, Cl. 200—61.08.

Altemiller, Arthur D., to Knapp-Monarch Co. Controllable thermostat having vernier control over a portion of the temperature range. 3,270,169, 8–30–66, Cl. 200—138.

Alter, Arthur, to Abbott Laboratories. Disubstituted piperazines useful as schistosomiasis agents. 3,270,004, 8–30–66, Cl. 260—239.

Altman, Gerald. Photographic product for direct viewing and directive imaging. 3,269,839, 8–30–66, Cl. 96—75.

Aluminum Co. of America: *See*—
Caprio, Mario J., and Krisleit. 3,269,849.

Alvarado, Jose, G. de Maria y Campos Fernandez, and R. Mattiasson. Stopcock or flow valve. 3,269,410, 8–30–66, Cl. 137—612.1.

Alvarez, Francisco, to Syntex Corp. Process for cyclopentanophenanthrene compounds. 3,270,007, 8–30–66, Cl 260—239.55.

Alwin Mfg. Co.: *See*—
Slye, Norman J., Blanchard, and Krueger. 3,269,592.

American Brake Shoe Co.: *See*—
Adams, Cecil E. 3,269,416.

American Cyanamid Co.: *See*—
Chen, Catherine S. H. 3,269,930.
Reynolds, Walter F., and Linke. 3,269,891.
Rodgers, John L., and Millonig. 3,269,955.

American Cystoscope Makers, Inc.: *See*—
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American Machine & Foundry Co.: *See*—
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Hollander, Milton B. 3,269,001.
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Hollander, Milton B., and Von Rosenberg. 3,269,003.
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Mahoney, William J., and Murthy. 3,269,933.
Milenkovic, Veljko, and Zaander. 3,270,262.
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American Optical Co.: *See*—
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American Radiator & Standard Sanitary Corp.: *See*—
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Stavrolakis, James A., and Blodgett. 3,269,857.
Witten, Wilson J., Jr. 3,269,449.

American Safety Table Co., Inc.: *See*—
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Amerock Corp.: *See*—
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Anaconda Wire and Cable Co.: *See*—
Jore, Bjorn, D'Ascoli, and Olson. 3,270,105.

Anderson, Edward A., to The Lamson & Sessions Co. Die apparatus. 3,269,168, 8–30–66, Cl. 72—412.

Anderson, Fred T., 40% to G. W. Niece and 20% to C. D. Hill. Method for forming ports in a sheet metal tube. 3,269,165, 8–30–66, Cl. 72—326.

Anderson, Gerald R., to FMC Corp. Fruit coring and calyx trimming apparatus. 3,269,441, 8–30–66, Cl. 146—52.

Anderson, Glenn V. Acid dispenser. 3,269,607, 8–30–66, Cl. 222—173.

Anderson, James R.: *See*—
Miller, Arthur J., and Anderson. 3,269,701.

Anderson, John E., to Minneapolis-Honeywell Regulator Co. Navigational instruments. 3,269,179, 8–30–66, Cl. 73—178.

Anderson, Kelvin G., to W. R. Grace and Co. Wrapping methods, and apparatus. 3,269,081, 8–30–66, Cl. 53—31.

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Anderson, Poul: *See*—
Smith, George A., Jr., Norton, and Anderson. 3,269,004.

Anderson, Richard M.: *See*—
Wygant, James C., and Anderson. 3,270,089.

Andre, Jean, to Schlage Lock Co. Lock. 3,269,158, 8–30–66, Cl. 70—216.

Andres, Karlheinz, and G. Nischk, to Farbenfabriken Bayer Aktiengesellschaft. Molding composition from a polyester resin containing anthracene. 3,269,977, 8–30–66, Cl. 260—40.

Ansell, Ronald W., to Automotive Products Co. Ltd. Check valve for use with a master cylinder. 3,269,409, 8–30–66, Cl. 137—525.

Anthony, Russel W., to National Broach and Machine Co. Measuring device. 3,269,020, 8–30–66, Cl. 33—172.

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Arbee Corp., The: *See*—
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Arcan Eastern Ltd.: *See*—
Shewell, Earl W. 3,269,338.

Ares, Manuel, to General Electric Co. Correlation system. 3,270,188, 8–30–66, Cl. 235—181.

Armour and Co.: *See*—
Artar, Orhan G., Filipowicz, and Wilcox. 3,270,041.

Armstadt Mfg. Ltd.: *See*—
Darmstadt, Otto J. 3,269,074.

Armstrong, Alfred, to Crathco, Inc. Liquid chiller and dispenser. 3,269,606, 8–30–66, Cl. 222—146.

Armstrong, David E., and G. P. Roeser, to H. T. Potts. Multi-layer lubrication utilizing encapsulating coating. 3,269,943, 8–30–66, Cl. 252—12.

Arnesen, Arne G., and T. Basen, to Elektrokemisk A/S. Process for preheating the charge to an electric smelting furnace. 3,269,827, 8–30–66, Cl. 75—11.

Arneson, Edwin L., to Federal Paper Board Co., Inc. Container. 3,269,640, 8–30–66, Cl. 229—21.

Aro Corp., The: *See*—
German, Dale F. 3,269,097.
Jolkovski, Robert M., Laws, and Dowers. 3,270,100.

Arrow-Hart & Hegeman Electric Co., The: *See*—
Johnson, David W. 3,270,157.

Artar, Orhan G., C. J. Filipowicz, and J. C. Wilcox, to Armour and Co. Low-temperature rendering of animal fatty tissue. 3,270,041, 8–30–66, Cl. 260—412.6.

Arthur, John R., to Lisle Corp. Cable clamp. 3,268,965. 8–30–66, Cl. 24—135.

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Ashley, Jordan H., to Aqua-Air, Inc. Wringer. 3,269,157, 8–30–66, Cl. 68—242.

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Aswell, James R. Waste paper soil conditioning and fertilizing pellet. 3,269,824, 8–30–66, Cl. 71—64.

Ateliers de Constructions Electriques de Charkerol (ACEC) Societe Anonyme: *See*—
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Atomic Energy of Canada Ltd.: *See*—
Ladd, James A., and Kennedy. 3,270,205.
Whittaker, Stanley J. 3,269,735.

Attaway, Everett P., ½ to M. C. Attaway. Bacteria activator for use in septic tanks. 3,269,940, 8–30–66, Cl. 210—11.

Attaway, Mabel C.: *See*—
Attaway, Everett P. 3,269,940.

Atteridge, Thomas L.: *See*—
Shulver, William, Miller, Atteridge, and Marzocchi. 3,269,883.

Aubert, Georges. Meat cutting tool. 3,268,947, 8–30–66, Cl. 17—1.

August, Paul. Rotary compressor. 3,269,646, 8–30–66, Cl. 230—147.

Austin, Adolph A., to Esso Research and Engineering Co. Alcohol recovery from metal-free oxygenated products arising during modified oxidation of aluminum alkyls. 3,270,065, 8–30–66, Cl. 260—632.

Austin, Leonard E. Beverage dispenser. 3,269,599, 8–30–66, Cl. 222—63.

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Avco Corp.: *See*—
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Hopple, Lyle O. 3,270,304.

Aversa, Joseph. Cosmetic devices. 3,268,939, 8–30–66, Cl. 15—184.

Avia-Marine Co., Inc.: *See*—
Lint, Robert S. 3,269,762.

Avion Electronics, Inc.: *See*—
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Ayaki, Kazuo, to Nippon Electric Co. Ltd. Micro-wave amplifier utilizing the interaction between an electron beam and a plasma stream. 3,270,244, 8–30–66, Cl. 315—39.

Azim, Wakeem R. Adjustable support apparatus. 3,269,681, 8–30–66, Cl. 248—123.

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Palazzo, Giuseppe. 3,270,029.

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Babel, Louis, and P. Peytavin, to Societe Civile dite'Etudes de Centrifugation. Method and apparatus for vertical casting of hollow metallic bodies. 3,268,959, 8–30–66, Cl. 22—57.3.

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Mueller, Herbert, Scharf, and Wittenberg. 3,270,071.
Weidinger, Hans, Eilingsfeld, and Moebius. 3,270,030.
Winderl, Siegfried, Haarer, Corr, and Hornberger. 3,270,059.

Badke, Frank C. Multi-position distributing and regulating valve. 3,269,412, 8–30–66, Cl. 137—625.17.

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Bailey, Harold G., and A. Hale, to The Akron Standard Mold Co. Method for removing elastomeric stock from the work roll of a mill or the like. 3,270,107, 8–30–66, Cl. 264—147.

Bailey, John D., to Pullman Inc. Vertically adjustable supporting means for laterally movable doors. 3,269,059, 8–30–66, Cl. 49—219.

Bailey, Ward E., Jr., and W. J. Kearns, to General Electric Co. Gaseous discharge device with shield for directly heated cathode. 3,270,232, 8–30–66, Cl. 313—38.

Baily, Jack H., and E. Sterling, to Steam Sales & Service Co Automatic still. 3,269,919, 8–30–66, Cl. 202—160.

Baits, Stephen S.: *See*—
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Hackett, Kenneth R. 3,270,335.

Ballu, Vincent P. M., to Societe Pour la Diffusion de Techniques Nouvelles et de Machinisme Agricole Par Abreviation Tecnoma. Sprayer assembly for the spray treatment of crops and the like. 3,269,657, 8–30–66, Cl. 239—77.

Bancroft, Joseph & Sons Co.: *See*—
Lockwood, Russell C., Jr. 3,268,971.

Banks, Sholom A., D. R. Hammel, and C. J. Jankowski, to Esso Research and Engineering Co. Butyl rubber compositions comprising methyl hydroxy stearate. 3,269,972, 8–30–66, Cl. 260—32.2.

Banks, William B., to Automation Products, Inc. Temperature compensating circuit. 3,270,274, 8–30–66, Cl. 323—68.

Barber, Esther. Waterproof garment. 3,268,914, 8–30–66, Cl. 2—227.

Barkan, Philip, to General Electric Co. Gas blast circuit breaker of the axial blast-type with means for injecting a high velocity gas jet. 3,270,173, 8–30–66, Cl. 200—148.

Barker, Ronald A. Layout instrument. 3,269,015, 8–30–66, Cl. 33—27.

Barnett, Edward J. Conic tool guide. 3,269,016, 8–30–66, Cl. 33—27.

Barnhart, Clyde S., to United States of America, Army. Disposable rodent bait station. 3,269,052, 8–30–66, Cl. 43—131.

Barr, Harold N., and L. A. Sundquist, to United States of America, United States Atomic Energy Commission. Method of making hollow, spherical UO_2 particles. 3,270,098 8–30–66, Cl. 264—.5.

Barreca, Henry J. Ski pole shafts. 3,269,743, 8–30–66, Cl. 280—11.37.

Barta, Gerald T., to Indiana General Corp. Fluxmeter-galvanometer calibration test device. 3,270,218, 8–30–66, Cl. 310—14.

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Bäumler, Hermann, and F. Bondroit, to Goetzewerke Friedrich Goetze A.-G. Sealing arrangement for a rotary piston-type engine. 3,269,373, 8–30–66, Cl. 123—8.
Bäumler, Hermann, and P. Vossieck, to Goetzewerke Friedrich Goetze Aktiengesellschaft. Glide ring seal for rotary piston motors. 3,269,738, 8–30–66, Cl. 277—81.
Beal, Robert G. Variable valve timing mechanism for internal combustion engines. 3,269,375, 8–30–66, Cl. 123—90.
Beck, Merrill G., to Lord Mfg. Co. Resilient mounting. 3,269,717, 8–30–66, Cl. 267—1.
Beck, Niels J., to McCulloch Corp. Carburetor having an idle governor. 3,269,713, 8–30–66, Cl. 261—41.
Becker, Rudolf, to Gesellschaft fur Linde's Eismashinen Aktiengesellschaft. Rectification of liquid mixtures boiling at low temperatures. 3,269,131, 8–30–66, Cl. 62—30.
Beer, Donald C., to Vortex Products (Hairdressers Sundries) Ltd. Debris collector for fluid receptacle outlets of various sizes. 3,268,920, 8–30–66, Cl. 4—292.
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Fetzer, Uwe, Ugi, Jarczyk, Behrenz, and Unterstenhofer. 3,269,894.
Malz, Hugo, Kukenthal, Behrenz, Klauke, and Kuhle. 3,270,095.
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Bell, John, to Muirhead & Co. Ltd. Passive tank stabilizers for floating bodies. 3,269,346, 8–30–66, Cl. 114—125.
Bell, Robert E., to Toledo Scale Corp. Vibration isolation mechanism for electrical weighing scale. 3,269,472, 8–30–66, Cl. 177—188.
Bell, Robert M., and G. E. Horswood, to Klauder Weldon Giles Machine Co., Inc. Dyeing machine. 3,269,152, 8–30–66, Cl. 68—4.
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Bell, Vincent G., Jr., and D. P. Sheldon, to Dashew Business Machines, Inc. Imprinting machine with reciprocating cylinder. 3,269,307, 8–30–66, Cl. 101—269.
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Centner, Ronald M. 3,270,186.
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Vaughn, David S., and Mendenhall. 3,269,200.
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English, William D., and Bengelsdorf. 3,269,960.
English, William D., Bengelsdorf, and Willcockson. 3,269,853.
Bengtsson, Bertil S., to Sigma Instruments Inc. Plug-in type miniature relay with transparent cover. 3,270,301, 8–30–66, Cl. 335—129.
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Benmussa, Henri, P. R. L. Marty, and S. Kobus, to International Standard Electric Corp. Pentaconta semi-electronic system. 3,270,139, 8–30–66, Cl. 179—18.
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Berge, Orrin I., to Wisconsin Alumni Research Foundation. Silo unloaders. 3,269,778, 8–30–66, Cl. 302—20.
Berger, Leo, and J. Lee, to Hoffmann-La Roche Inc. Substituted benzamidotetrahydropyridines and processes. 3,270,026, 8–30–66, Cl. 260—295.
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Bergstein, Robert M., and Nerenberg. 3,269,635.
Bergstein, Robert M., and R. W. Nerenberg, to Bergstein Packaging Trust, Trust Composed of R. M. and F. D. Bergstein, trustees. Canister-type paperboard cartons. 3,269,-635, 8–30–66, Cl. 229—14.
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Bernstein, Jack, J. L. Chen, and G. N. Cyr, to E. R. Squibb & Sons, Inc. Hydroxy-pyridine oxides in an antifungal method. 3,269,904, 8–30–66, Cl. 167—58.
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Bettcher, Louis A., to Bettcher Industries, Inc. Trimming, slicing and boning device. 3,269,010, 8–30–66, Cl. 30—276.
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Binek, Paul H., to Minnesota Mining and Mfg. Co. Adherent conductor. 3,270,122, 8–30–66, Cl. 174—117.
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Haszeldine, Robert N., and Birchall. 3,270,070.
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Schaeffer, Myron, and Boll. 3,270,135.
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Bondley, Ralph J., to General Electric Co. Manufacture of helium separation apparatus. 3,269,817, 8–30–66, Cl. 65—4.
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Bramberry, Harry M. Piston ring construction. 3,269,739, 8–30–66, Cl. 277—151.
Brandt, Carl R., R. A. Jankowicz, and R. B. Watrons, to Honeywell Inc. Recorder. 3,270,350, 8–30–66, Cl. 346—136.
Brannen, Cecil G., and J. A. Wuellner, to Standard Oil Co. Lubricant compositions. 3,269,952, 8–30–66, Cl. 252—52.
Brannland, Rolf, to Mo Och Domsjo AB. Method of removing chlorine compounds from gases obtained by combustion of waste liquors. 3,269,095, 8–30–66, Cl. 55—71.
Braude, George L., and M. C. Molstad, to W. R. Grace & Co. Chemical process for polymerizing trioxane. 3,269,988, 8–30–66, Cl. 260—67.
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Brault, James W., to Princeton Applied Research Corp. Frequency responsive network. 3,270,213, 8–30–66, Cl. 307—88.5.
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Braun, Wilhelm, to Inventa A.G. für Forschung und Patentverwertung. Dual step urea production. 3,270,051, 8–30–66, Cl. 260—555.
Brauner, Shlomo. Rotary vehicle parking apparatus. 3,269,-569, 8–30–66, Cl. 214—16.1.
Brian, Weaver T., Jr., G. R. Wood, and C. R. Tarver, to The Bunker-Ramo Corp. Tape transporting apparatus. 3,269,670, 8–30–66, Cl. 242—55.12.
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Broadhead, Samuel L., Jr., to Collins Radio Co. High-frequency short pulse trigger generator employing two-voltage variable semiconductive capacitors. 3,270,214, 8–30–66, Cl. 307—88.5.
Broekhuysen, William C., to D-V Controls Inc. Thermal relay with improved heater arrangement. 3,270,167, 8–30–66, Cl. 200—122.
Brooks, Chester E., G. B. Crofutt, and W. C. Sand, to Bell Telephone Laboratories, Inc. Line concentrator system for step-by-step offices. 3,270,140, 8–30–66, Cl. 179—18.
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Kroehle, Thomas P. 3,269,367.
Brown, Jack L.: *See*—
Phanseikar, Achyut K., and Brown. 3,269,468.
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Brucken, Byron L., and V. A. Williamitis, to General Motors Corp. Apparatus and method for conditioning by dry cleaning solvent. 3,269,539, 8–30–66, Cl. 210—70.
Bruckner, Karl G. Mounting and centering device for milling cutters. 3,269,271, 8–30–66, Cl. 90—11.
Brugger, Kenneth C., to Cooper's Inc. Method for weaving fabric on a needle-type loom. 3,269,425, 8–30–66, Cl. 139—116.
Brunskole, Joseph H., to Canadian Seating Co. Ltd. Tablet arm assembly. 3,269,772, 8–30–66, Cl. 297—162.
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Brunson, Herman A., and J. S. Rose, to Olin Mathieson Chemical Corp. Polyurethane foam prepared from a halogen containing polyether. 3,269,961, 8–30–66, Cl. 260—2.5.
Bruss, Herbert K., and A. O. Wist. Apparatus for measuring the viscosity of liquid and plastic materials. 3,269,171, 8–30–66, Cl. 73—60.
Bryan, Joseph F., and M. A. Mulshine, Jr., to Electronic Associates Inc. Control system. 3,270,266, 8–30–66, Cl. 320—1.
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Buchanan, John D. Humidity actuated switch. 3,270,153, 8–30–66, Cl. 200—61.06.
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Bullard, Edward P., III. 3,269,222.
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Bullard, Edward P., III, to The Bullard Co. Retractable boring bar. 3,269,222, 8–30–66, Cl. 77—58.
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Bunger, Dennen J., N. R. Chheda, and J. H. Ferguson, to The Bendix Corp. Pressure regulator for both high and low flow demands. 3,269,408, 8–30–66, Cl. 137—517.
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Howard, Roy A. 3,270,337.
Laman, George M. 3,269,190.
McCreary, Harold J. 3,270,328.
Mellott, Robert N., and Smitha. 3,270,215.
Tarver, Carl R. 3,269,628.
Burling, Elmer R., to Improved Machinery Inc. Extrusion washer. 3,268,923, 8–30–66, Cl. 8—156.
Burlington Industries, Inc.: *See*—
Burnet, Arthur L., and Woods. 3,268,955.
Burnet, Arthur L., and H. J. Woods, to Burlington Industries, Inc. 3,268,955, 8–30–66, Cl. 19—240.

Burnham, Virgil A., to Maremont Corp. Textile carding and drafting apparatus. 3,268,953, 8-30-66, Cl. 19—.25.
Burroughs Corp.: *See*—
Citrin, David A. 3,270,289.
Burski, Dorothy M. S.: *See*—
Burski, Leonard J. G. 3,270,306.
Burski, Leonard J. G., deceased; by D. M. S. Burski, executrix, to The Superior Electric Co. Commutating brush. 3,270,306, 8-30-66, Cl. 336—148.
Burton, Harry: *See*—
Darby, Kenneth, and Burton. 3,269,931.
Burton, Paul E.: *See*—
Wiese, Herbert K., and Burton. 3,270,043.
Busch, Thomas N., to Timberline Equipment Co. Timber harvesting apparatus. 3,269,437, 8-30-66, Cl. 144—34.
Bush, George W., to Philadelphia Handle Co., Inc. Plastic heat-sealed luggage handle with handgrip and end loops. 3,269,495, 8-30-66, Cl. 190—57.
Bushmeyer, Richard W., C. D. Miller, deceased; by J. T. Holmstrom, Jr., special administrator, to J. I. Case Co. Method of forming pellets from hay and like fibrous materials. 3,269,098, 8-30-66, Cl. 56—1.
Butters, Lamont C., and J. S. Colter, to Watts Regulator Co. Pressure regulator. 3,269,598, 8-30-66, Cl. 222—5.
Byrd, Joseph L., and P. G. Andrus, to Brunswick Corp. Means for correcting depth-of-field error in a projection system. 3,269,258, 8-30-66, Cl. 88—24.
Byron Jackson, Inc.: *See*—
Turner, John W., Jr. 3,268,969.
CIT Compagnie Industrielle des Telecommunications: *See*—
Ledoux, Jean-Francois, and Feyzeau. 3,270,322.
C S F-Compagnie Generala de Telegraphie Sans Fil: *See*—
Charles, Daniel R. 3,270,242.
Caddell, Alfred M. Combination exhaust suction and radiator cooling fan. 3,269,110, 8-30-66, Cl. 60—32.
Cahen, Raymond M.: *See*—
Marechal, Joseph E. M., Debus, and Cahen. 3,269,939.
Cahoon, Dick B., and L. B. Romine, to North American Aviation, Inc. Acceleration and rate control for gyro case rotation. 3,269,195, 8-30-66, Cl. 74—5.4.
Calair Diversified, Inc.: *See*—
Pratt, William W. 3,269,031.
Calder, William G., to Joints, Inc. Pipe stopper plug. 3,269,581, 8-30-66, Cl. 220—24.
Calkins, Chauncey L. Micrometer level. 3,269,023, 8-30-66, Cl. 33—209.
Callaghan, Robert W.: *See*—
Dechaine, Robert C., and Callaghan. 3,269,841.
Cal-Meter Co.: *See*—
Granberg, Albert J. 3,269,182.
Cambridge Systems, Inc.: *See*—
Francisco, Charles C. 3,269,185.
Cambron, John R., to Vlier Engineering Corp. Hand toggle pliers. 3,269,230, 8-30-66, Cl. 81—350.
Camp, Richard H. Method for making multi-focal length contact lenses. 3,270,099. 8-30-66, Cl. 264—1.
Campbell, Larry D.: *See*—
Gill, Robert A., Campbell, and Sickler. 3,269,454.
Canadair Ltd.: *See*—
Jones, Derek. 3,269,476.
Canadian Seating Co. Ltd.: *See*—
Brunskole, Joseph H. 3,269,772.
Canfield, Allen B., to Bartelt Engineering Co., Inc. Bag clamp. 3,269,524, 8-30-66, Cl. 198—180.
Capone, Vincent P.: *See*—
Horn, Milton B., and Capone. 3,269,994.
Caprio, Mario J., and R. F. Krisleit, to Aluminum Co. of America. Fibrous refractory. 3,269,849, 8-30-66, Cl. 106—64.
Caracristi, Virginius Z., and E. P. Petit, to Combustion Engineering, Inc. Vapor generator furnace wall dealagger. 3,269,366, 8-30-66, Cl. 122—392.
Carlson, Arthur W., to Velsicol Chemical Corp. Endrin stabilized with tribenzylamine. 3,269,897, 8-30-66, Cl. 167—33.
Carlson, Donald A. Prefabricated building construction. 3,269,069, 8-30-66, Cl. 52—227.
Carlson, Richard A., to General Motors Corp. Motor vehicle electrical load control and starting system. 3,270,208, 8-30-66, Cl. 290—36.
Carlston, Earl F., and W. G. Toland, to Chevron Research Co. Selective extraction of aromatic hydrocarbons with polyesters. 3,270,073, 8-30-66, Cl. 260—674.
Carmichael, Kenneth E. Automotive electric switch. 3,270,152, 8-30-66, Cl. 200—44.
Carmichael, Thomas F., R. J. Maier, and E. A. Schilling, to Syncro Corp. Alternator with silicon controlled rectifier regulator for battey charging. 3,270,268, 8-30-66, Cl. 320—61.
Caron, Fred J., to Pactor Corp. Shock absorbing wheel. 3,269,284, 8-30-66, Cl. 94—50.
Carpenter, Archer W., ½ to M. R. Apeirs. Price tag molding. 3,269,042, 8-30-66, Cl. 40—10.
Carpenter Steel Co., The: *See*—
Lykens, Armand A., and Kise. 3,269,834.
Carr, Earl T., to LeTourneau-Westinghouse Co. Vehicle. 3,269,206, 8-30-66. Cl. 74—472.
Carrier Corp.: *See*—
Erwin, Lee R., Gustavson, and McCallum. 3,268,989.
Miller, Arthur J., and Anderson. 3,269,701.
Carrier, Paul J.: *See*—
Schlossberg, Louis, and Carrier. 3,269,877.
Carson, Frank J., and D. M. Wampler, to Libbey-Owens-Ford Glass Co. Bending mold for bending glass sheets with heat distributor. 3,269,822, 8-30-66, Cl. 65—288.
Carson, William N., Jr., to General Electric Co. Reserve primary cell. 3,269,868, 8-30-66, Cl. 136—114.
Carter, Clarence L. Vehicle tire cooling stations for highways. 3,269,281, 8-30-66, Cl. 94—1.
Carter, Richard S., and W. W. Welz, to International Business Machines Corp. Parallel memory, multiple processing, variable word length computer. 3,270,325, 8-30-66, Cl. 340—172.5.
Casaroll, Eugene A.: *See*—
Welch, Russel A., Sr. 3,269,456.
Case, J. I., Co.: *See*—
Bushmeyer, Richard W., and Miller. 3,269,098.
Case, John S. Gate hinge support clamp device. 3,268,946, 8-30-66, Cl. 16—158.
Cash, Burns A., to United States of America, Air Force. Radar reflector container. 3,269,639, 8-30-66, Cl. 229—23.
Cassidy, Henry P.: *See*—
Garner, Clarke, Jr. 3,269,483.
Castenschield, Rene, to Automatic Switch Co. Cell-less relay for use on bus bars. 3,270,163, 8-30-66, Cl. 335—204.
Catalin Corp. of America: *See*—
Horn, Milton B., and Capone. 3,269,994.
Caterpillar Tractor Co.: *See*—
Peterson, Robert A. 3,269,481.
Catino, Sigmund C.: *See*—
Strobel, Albert F., and Catino. 3,270,045.
Cavaness, J. D.: *See*—
Donaldson, Charles A. 3,270,276.
Celanese Corp. of America: *See*—
Eldridge, Clare W., and Long. 3,269,105.
Epstein, Martin E., and Greenstreet. 3,269,970.
Centner, Ronald M., to The Bendix Corp. Cutter radius offset system for numerically controlled machines. 3,270,186, 8-30-66, Cl. 235—151.11.
Centre Electronique Horloger S.A.: *See*—
Waldburger, Heinz. 3,269,106.
Centre National de la Recherches: *See*—
Rioux, Christian P. G. 3,270,228.
Cessna Aircraft Co., The: *See*—
Freese, Evans G. 3,269,737.
Chamberlin, Coleman R. Sectional desk organizer. 3,269,547, 8-30-66, Cl. 211—11.
Chambers, Worthy L.: *See*—
Jepson, Ivar, and Chambers. 3,269,678.
Chamot, Walter M., to Nalco Chemical Co. Antioxidants for cracked petroleum distillates, especially gasoline. 3,269,810, 8-30-66, Cl. 44—62.
Chance, Leon H., W. A. Reeves, and G. L. Drake, Jr., to United States of America, Agriculture. Tris(2-carbamoylethyl)-phosphine and its methyiol derivatives. 3,270,052, 8-30-66, Cl. 260—561.
Charles, Daniel R., to CSF-Compagnie Generale de Telegraphie Sans Fil. Storage tube. 3,270,242, 8-30-66, Cl. 315—10.
Chase, Jennie A. Diaper rinser. 3,269,156, 8-30-66, Cl. 68—214.
Chemical Construction Corp.: *See*—
Christensen, Axel. 3,269,585.
Mavrovic, Ivo. 3,270,050.
Chen, Catherine S. H., to American Cyanamid Co. Polymerization of tributylvinylphosphonium halides by ionizing radiation. 3,269,930, 8-30-66, Cl. 204—154.
Chen, James L.: *See*—
Bernstein, Jack, Chen, and Cyr. 3,269,904.
Cheney, Ralph G. Nebulizer. 3,269,665, 8-30-66, Cl. 239—338.
Chenoweth, William F.: *See*—
Schwartz, Sidney J., and Chenoweth. 3,270,326.
Chess, Richard B.: *See*—
Kohanek, Dennis G., and Chess. 3,270,314.
Chevron Research Co.: *See*—
Carlston, Earl F., and Toland. 3,270,073.
Luther, Floyd E. 3,269,446.
Neely, George L. 3,269,541.
Tilley, Aubra E., Fredriksson, and Pemberton. 3,269,320.
Chicago Dynomic Industries, Inc.: *See*—
Kocl, Jerry C., and Schlapa. 3,269,731.
Chieger, George: *See*—
Tantlinger, Keith W., Chieger, and Chosy. 3,269,494.
Childs, William I., to Hysol Corp. Powdered epoxy resin compositions. 3,269,974, 8-30-66, Cl. 260—37.
Chodroff, Saul, J. Linsk, and A. Zale, to Norda Essential Oil & Chemical Co., Inc. Oxygen-containing dicyclodiene derivatives. 3,270,061, 8-30-66, Cl. 260—586.
Chosy, Eugene: *See*—
Tantlinger, Keith W., Chieger, and Chosy. 3,269,494.
Christensen, Axel, to Chemical Construction Corp. Pressure vessel closure. 3,269,585, 8-30-66, Cl. 220—46.
Christiansen, Donald W.: *See*—
De Mola, Carlos L., Wakatsuki, Christiansen, and Dreksler. 3,269,142.
Christie, John B., to The National Cash Register Co. Character identification systems with two-position detection circuits. 3,270,320, 8-30-66, Cl. 340—146.3.
Christmann, Harold F., to Petro-Tex Chemical Corp. Production of unsaturated compounds. 3,270,080, 8-30-66, Cl. 260—680.
Chrysler Corp.: *See*—
Poirier, Robert E. 3,269,759.
Chubb, Donald E., and B. S. Givon, to Worthington Corp. Multi-stage heat exchange apparatus and method. 3,269,135, 8-30-66, Cl. 62—98.
Chubb, John N., to The English Electric Co. Ltd. Switch having an arc stabilizing electrode. 3,270,172, 8-30-66, Cl. 200—144.
Churchill, Arthur V., A. Ek, and E. L. Fareri, to Gulf Research & Development Co. Thermally stable fuel and stabilizing agents therefor. 3,269,808, 8-30-66, Cl. 44—62.
Churchward, Jack. Boat anchor. 3,269,348, 8-30-66, Cl. 114—208.
Chytil, Frank S., to FMC Corp. Cup orienting mechanism. 3,269,512, 8-30-66, Cl. 198—33.
Cianci, Arthur, to Packaging Frontiers, Inc. Heat-sealing head. 3,269,885, 8-30-66, Cl. 156—583.
Ciba Ltd.: *See*—
Duennenberger, Max, Biland, and Luethi. 3,270,016.

Cincinnati Milling Machine Co., The: *See*—
Kibbey, Harry S. 3,269,813.
Citrin, David A., to Burroughs Corp. Oscillation reducer for emitter followers including clamping means. 3,270,289, 8-30-66, Cl. 330—29.
Clark, Arthur C., and P. S. Magna. Combined nail conveyor and cleaner. 3,269,534, 8-30-66, Cl. 209—85.
Clark, Kenneth D., to Eaton Mfg. Co. Casting ejector apparatus. 3,268,961, 8-30-66, Cl. 22—94.
Clark Equipment Co.: *See*—
Frost, Barry L. 3,269,203.
Clarke, John V., Jr.: *See*—
Worsham, Charles H., and Clarke. 3,269,932.
Clarkson, Richard, to Imperial Chemical Industries Ltd. (+)-8-azoester- and -8-azagona-5(10)-en-17β-ol-3-one and acid addition salts thereof. 3,270,021, 8-30-66, Cl. 260—286.
Clay, Richard H.: *See*—
Hawley, James W. 3,269,358.
Cleveland Technical Center, Inc.: *See*—
Simmons, Lawrence C. 3,269,191.
Clevite Corp.: *See*—
Sprosty, Clarence F. 3,269,175.
Clifford, William J., to Electronic Associates Inc. Binary-coded decade counter. 3,270,211, 8-30-66, Cl. 307—88.5.
Cloots, Henry R., R. G. Nutting, and R. C. Wagner, to Kimberly-Clark Corp. Machine for entubing articles. 3,269,086, 8-30-66, Cl. 53—180.
Cloud, Charles E., L. M. Husak, and L. N. Krohn, to Cloud Machine Corp. Packaging apparatus. 3,269,087, 8-30-66, Cl. 53—183.
Cloud Machine Corp.: *See*—
Cloud, Charles E., Husak, and Krohn. 3,269,087.
Cocks, George G., to United States Steel Corp. Apparatus for exhibiting coupling-thread contour. 3,269,264, 8-30-66, Cl. 88—24.
Cohen, Alvin J., to Pittsburgh Plate Glass Co. Phototropic glass and methods. 3,269,847, 8-30-66, Cl. 106—52.
Cohn, Hans, to General Electric Co. Electrical capacitors and method of making the same. 3,270,254, 8-30-66, Cl. 317—230.
Cohn, Nathan, to Leeds and Northrup Co. Economic loading of power systems. 3,270,209, 8-30-66, Cl. 307—57.
Cole, Howard W., Jr., to Torque Industries, Inc. Tape cartridge with regulated tension. 3,269,671, 8-30-66, Cl. 242—55.19.
Coleco Industries, Inc.: *See*—
Diemond, Joseph, Gershman, and Vanguness. 3,268,917.
Cole-Hersee Co.: *See*—
Unsworth, Thomas. 3,270,249.
Coleman, Lawrence J. Tongs. 3,269,764, 8-30-66, Cl. 294—16.
Colgate-Palmolive Co.: *See*—
Downie, John A., and Boyd. 3,270,110.
Marshall, Philip, and Blakeway. 3,270,038.
Collander, Wayne M.: *See*—
Redfield, Robert H., and Collander. 3,269,033.
Collier, Herman E., Jr., to E. I. du Pont de Nemours and Co. Process for purifying tetramethyl lead. 3,270,042, 8-30-66, Cl. 260—437.
Collins, George W.: *See*—
Marchant, Francis C. I., Day, and Collins. 3,269,114.
Collins Radio Co.: *See*—
Broadhead, Samuel L., Jr. 3,270,214.
Collins, Robert D., to The National Cash Register Co. Sunglasses with aligned infra-red, photochromic and ultraviolet filters. 3,269,267, 8-30-66, Cl. 88—112.
Color Appareils Electro-Dinestiques: *See*—
Trouilhet, Maurice M.-A. 3,270,219.
Colter, John S.: *See*—
Butters, Lamont C., and Colter. 3,269,598.
Columbian Carbon Co.: *See*—
Gunn, Elton F., Jr. 3,269,799.
Combs, Richard D.: *See*—
Schwed, George, and Combs. 3,269,325.
Combustion Engineering, Inc.: *See*—
Adams, William N. 3,269,360.
Caracristi, Virginius Z., and Petit. 3,269,366.
Kochey, Edward L., Jr. 3,269,365.
Comerford, Ronald W. Shotgun cartridge. 3,269,311, 8-30-66, Cl. 102—42.
Commercial Chemical Co., Inc.: *See*—
Ostrin, Albert, and Berman. 3,269,341.
Compteurs, Compagnie des: *See*—
Lesage, Daniel, Monnot, and Vialet. 3,270,348.
Compagnie des Montres Ardath, Dreyfuss & Cie: *See*—
Mottironi, Enrico. 3,269,108.
Compo Shoe Machinery Corp.: *See*—
Taias, Constantinos. 3,269,234.
Concut, Inc.: *See*—
Hatcoer, Cecil W. 3,269,775.
Conner, Guy O., to Waldes Kohinoor, Inc. Hand tool for radially applying locking rings or the like. 3,268,993, 8-30-66, Cl. 29—212.
Connors, Roy. Musical instrument. 3,269,247, 8-30-66, Cl. 84—267.
Conover, Warren C., to Outboard Marine Corp. Engine. 3,269,374, 8-30-66, Cl. 123—59.
Conrad, Martin B. Stuck-point indicator for well pipe. 3,269,177, 8-30-66, Cl. 73—151.
Consolidated Cigar Corp.: *See*—
Marano, Herbert W. 3,269,083.
Consolidated Mining and Smelting Co. of Canada Ltd., The: *See*—
Sutherland, Charles A. 3,269,830.
Continental Can Co., Inc.: *See*—
Daniels, Ben G., and Raatz. 3,269,514.
Holmes, George S. 3,269,636.
O'Donnell, John E. 3,269,007.
Continental Can Co., Inc.: *See*—Continued
O'Neill, Roger M., and Mohr. 3,270,176.
Ruekberg, Herbert S. 3,269,588.
Ruekberg, Herbert S. 3,270,116.
Weiss, Arthur J. 3,269,531.
Weiss, Arthur J. 3,269,641.
Continental/Moss-Gordin, Inc.: *See*—
Moss, Hoyle G., and Schwartz. 3,269,029.
Continental Oil Co.: *See*—
Phansalkar, Achyut K., and Brown. 3,269,468.
Continental-wirt Electronics Corp.: *See*—
O'Shea, William F., and Vananzi. 3,270,149.
Controllix Corp., The: *See*—
Soos, Steven W. 3,270,159.
Controls Co. of America: *See*—
Maas, John E., and Behrens. 3,269,026.
McCarty, Lourdes V., Queever, and Hotchkiss. 3,269,447.
Cooke, Edward V., and H. J. Thurlow, to Imperial Chemical Industries Ltd. Catalytic hydrogenation of nitro aromatic compounds to produce the corresponding amino compounds. 3,270,057, 8-30-66, Cl. 260—580.
Cook, Herbert D., to United States of America, Commerce. Device for determining an angle from a set of orthogonal components. 3,270,189, 8-30-66, Cl. 235—189.
Cooper, Lawrence, and R. W. Kern, to International Business Machines Corp. Optical apparatus for indicating and measuring the roll angular orientation of a movable body. 3,269,254, 8-30-66, Cl. 88—14.
Cooper, Maurice F. Saw chain cutter tooth. 3,269,434, 8-30-66, Cl. 143—135.
Cooper's Inc.: *See*—
Brugger, Kenneth C. 3,269,425.
Cornell, Donald P.: *See*—
Daigle, Louis J., and Cornell. 3,270,212.
Corning Glass Works: *See*—
Maurer, Robert D. 3,270,290.
Corr, Hubert: *See*—
Winderl, Siegfried, Haarer, Corr, and Hornberger. 3,270,059.
Cosden, Bryan L.: *See*—
Marini, Thomas O. and L. G., and Cosden. 3,269,075.
Cost, Joe L., and L. S. Gaumer, Jr., to Air Products and Chemical, Inc. Separation of gaseous mixtures containing hydrogen and nitrogen. 3,269,130, 8-30-66, Cl. 62—30.
Courtaulds North America Inc.: *See*—
Tausa, Kurt H. 3,269,797.
Coussemant, Fernand: *See*—
Lambroso, Daniel, Coussemant, and Hellin. 3,270,082.
Cousserans, Gilbert G. J.: *See*—
Roche, Andre E. N., Pomot, Luzarreta, and Cousserans. 3,269,923.
Cox, Frank T., and W. J. Williams, to Rockwell-Standard Corp. Guide and centering means for a brake actuating rod. 3,269,492, 8-30-66, Cl. 188—152.
Cox, Wilma W. Combination hat and ventilated protective shell. 3,268,911, 8-30-66, Cl. 2—3.
Coyle, Jan R., to Threadline Fastener Corp. Burr-free self-locking screw. 3,269,443, 8-30-66, Cl. 151—7.
Crathco, Inc.: *See*—
Armstrong, Alfred. 3,269,606.
Crawford, William R., and J. W. Lannert, to Whirlpool Corp. Incinerator. 3,269,340, 8-30-66, Cl. 110—8.
Cremer, Joseph, and H. Kribbe, to Knapsack-Griesheim Aktiengesellschaft. Process for the electrolytic production of alkali metal phosphates. 3,269,926, 8-30-66, Cl. 204—90.
Creswell, Clifford A., to The Arbee Corp. Link belt riders. 3,269,523, 8-30-66, Cl. 198—176.
Crews, John P., and M. W. Shookhoff, to Aerojet-General Corp. Rocket motor having solid fuel insulating means. 3,269,113, 8-30-66. Cl. 60—35.6.
Crickmer, Charles D., to Joy Mfg. Co. Slip handle. 3,268,968, 8-30-66, Cl. 24—263.
Crivello, Mike P.: *See*—
Bertling, Ronald J., and Crivello. 3,269,754.
Crocker, John C. Picker stick check for looms. 3,269,427, 8-30-66, Cl. 139—165.
Crofton Plastics, Inc.: *See*—
Melnyck, Michael. 3,268,943.
Crofutt, George B., Jr.: *See*—
Brooks, Chester E., Crofutt, and Sand. 3,270,140.
Crookshanks, Paul E.: *See*—
Kelly, Gordon E., and Crookshanks. 3,270,125.
Crookshanks, Paul E., and T. C. Jobe, to Radio Corp. of America. Color matrix including negative feed back and a cross-feed connection. 3,270,126, 8-30-66, Cl. 178—5.4.
Cropp, David I., C. C. Jordan, and R. W. Lingo, to Glass-Tite Industries, Inc. Method of assembling a glass bead on a wire. 3,269,819, 8-30-66, Cl. 65—59.
Crouch, Fred P., and W. M. Lockrow, to Hanes Corp. Rotary cutting apparatus. 3,269,235, 8-30-66, Cl. 83—99.
Crowe, William P., to General Electric Co. Refrigerator cabinet construction. 3,269,789, 8-30-66, Cl. 312—229.
Crown Zellerbach Corp.: *See*—
Olstad, Carl P. 3,269,278.
Crucible Steel Co. of America: *See*—
Vordahl, Milton B. 3,269,825.
Crump, Jack G., to Nuclear-Chicago Corp. Industrial-process-type measurements employing gamma-ray backscattering. 3,270,203, 8-30-66, Cl. 250—83.3.
Cryo-Vac., Inc.: *See*—
Hood, Charles B., Jr. 3,269,137.
Culleton, Jack T., and F. V. Flesher, to Pacific Pumping Co. Wellpoint system. 3,269,326, 8-30-66, Cl. 103—113.
Cunningham, William H.: *See*—
Packard, Alfred R. and Cunningham. 3,269,433.
Curtis, James H., to Miles Laboratories, Inc. Water dispersible form of dialdehyde polysaccharides and process therefor. 3,269,964, 8-30-66, Cl. 260—17.3.
Curtis, Joseph A., Jr. Smoking accessory. 3,269,394, 8-30-66, Cl. 131—210.

Curtiss, Lawrence M., to The Thomas & Betts Co. Universal screw head. 3,269,250, 8–30–66, Cl. 85—45.

Curtiss-Wright Corp.: *See*—
Bonner, George A. 3,269,372.
Sabatiuk, Andrew. 3,269,120.

Cushing, Donald S., to General Electric Co. Rack structure for dishwasher. 3,269,790, 8–30–66, Cl. 312—328.

Cutler-Hammer, Inc.: *See*—
Davis, Charles C. 3,269,209.

Cvacho, Daniel S., to Reynolds Metals Co. Container construction. 3,269,642, 8–30–66, Cl. 229—53.

Cyr, Gilman N.: *See*—
Bernstein, Jack, Chen, and Cyr. 3,269,904.

Czajkowski, Paul V. to Package Machinery Co. Wrapper feed mechanism. 3,269,085, 8–30–66, Cl. 53—73.

D-V Controls Inc.: *See*—
Broekhuysen, William C. 3,270,167.

Dachs, Karl: *See*—
Fikentscher, Hans, Wilhelm, Wirth, and Dachs. 3,269,-969.

Dahl, Joseph. Fine focusing device. 3,269,292, 8–30–66, Cl. 95—44.

Daigle, Louis J., and D. P. Cornell, to United Aircraft Corp. Electrical interlock. 3,270,212, 8–30–66, Cl. 307—88.5.

Dailey, Donald R., to Melpar, Inc. Sheet metal tuning fork. 3,269,249, 8–30–66, Cl. 84—457.

Daimler-Benz Aktiengesellschaft: *See*—
Ehrhardt, Richard. 3,269,369.

Daisy Mfg. Co.: *See*—
Braughler, Guy E., and Joyce. 3,269,379.

Damaskus, Charles W., and J. E. Alder, to C. W. Damaskus. Dry stratiform products and methods of producing same. 3,269,905, 8–30–66, Cl. 167—58.

Damaskus, Charles W.: *See*—
Damaskus, Charles W., and Alder. 3,269,905.

Dane, Ernest B., Jr. Sandwiched structural surfaces. 3,268,-924, 8–30–66, Cl. 9—6.

Danfoss ued Ing. M. Clausen: *See*—
Valbjrn, Knud V. 3,269,645.

Daniels, Ben G., and H. E. Raatz, Jr., to Continental Can Co., Inc. Apparatus for feeding closure caps. 3,269,514, 8–30–66, Cl. 198—33.

Danko, George K., to General Electric Co. Electric lamp with single ended pinch seal. 3,270,237, 8–30–66, Cl. 313—220.

Darby, Kenneth, and H. Burton, to Lodge-Cotrell Ltd. Method and apparatus for reducing the haze number of a mineral oil. 3,269,931, 8–30–66, Cl. 204—188.

Dargas, Adam P., to R. P. Scherer Corp. Automatic accumulator actuated pump control means. 3,269,319, 8–30–66, Cl. 103—25.

Darmstadt, Otto J., to Armstadt Mfg. Ltd. Sash and frame for windows and doors. 3,269,074, 8–30–66, Cl. 52—498.

D'Ascoli, Ralph G.: *See*—
Jore, Bjorn, D'Ascoli, and Olson. 3,270,105.

Dashew Business Machines, Inc.: *See*—
Bell, Vincent G., Jr., and Sheldon. 3,269,307.

Data Management, Inc.: *See*—
De Rham, David P., and Hincks. 3,269,753.

Daugherty, Ralph K., ½ to G. I. Magnuson, and ½ to G. I. Magnuson, R. Magnuson, and L. J. Fox, as trustees of the estate of R. M. Magnuson. Shuffle feed sorting structure. 3,269,535, 8–30–66, Cl. 209—98.

Daugirdas, Kristupas: *See*—
Lynn, Robert J., Daugirdas, Wanlund, and Parks. 3,269,-058.

Daum, Werner: *See*—
Schnell, Hermann, Buchwald, Daum, and Hermann. 3,269,901.

Davis, Ariel R. Liquid vapor cooling of electrical components. 3,270,250, 8–30–66, Cl. 317—100.

Davis, Charles C., to Cutler-Hammer, Inc. Pushbutton interlocks. 3,269,209, 8–30–66, Cl. 74—483.

Davis, John W.: *See*—
Le Compte, Archie R., and Davis. 3,269,941.

Davis, Philip C., to Davis Tool Co., Inc. Pattern jack. 3,269,149, 8–30–66, Cl. 66—156.

Davis Tool Co., Inc.: *See*—
Davis, Philip C. 3,269,149.

Davis, William W., to Sperry Rand Corp. Word selection matrix. 3,270,327, 8–30–66, Cl. 340—174.

Davis, Willie T.: *See*—
Rager, Edgar A., Davis, and Regan. 3,269,272.

Dawson, Edwin A., Jr., to Donald F. Duncan Inc. Spinning top with cord receiving groove. 3,269,053, 8–30–66, Cl. 46—67.

Dawson, John W.: *See*—
Long, Michael J., Dawson, and Soderquist. 3,270,202.

Day Co. N.V.: *See*—
Schneble, Frederick W., Jr., Zeblisky, McCormack, and Williamson. 3,269,861.

Day, Frank, M. L. Froberg, and J. B. Holschlag, to Owens-Corning Fiberglas Corp. Method, system and apparatus for processing filament-forming mineral materials. 3,269,820, 8–30–66, Cl. 65—136.

Day, George A.: *See*—
Marchant, Francis C. I., Day, and Collins. 3,269,114.

Deakin, Stanley T., to Sealectro Corp. Electrical jack plugs. 3,270,248, 8–30–66, Cl. 317—99.

Dean, Derek J., to Sangamo Electric Co. Electrically operated visual indicator devices. 3,269,260, 8–30–66, Cl. 88—24.

Deber, AB Kontroll: *See*—
Schreiber, Dag S. 3,269,180.

Debus, Henri R.: *See*—
Marechal, Joseph E. M., Debus, and Cahen. 3,269,939.

Decca Ltd.: *See*—
Bridges, Donald E. 3,270,343.

Dechaine, Robert C., and R. W. Callaghan, to General Mills, Inc. Method for processing protein fiber. 3,269,841, 8–30–66, Cl. 99—14.

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Briglia, Anton. 3,269,521.

Deehan, Leonard W., and P. E. Jacobson, to Sperry Rand Corp. Motion converting mechanism. 3,269,199, 8–30–66, Cl. 74—89.

Deer, Leon L., and R. B. Whorton III, to The Brown Engineering Co., Inc. Connector for interconnecting printed circuit boards. 3,270,311, 8–30–66, Cl. 339—17.

Deere & Co.: *See*—
Hartwig, Donald R. 3,269,749.

De Good, Maynard J., and C. L. Bowman, to The Rapids-Standard Co., Inc. High-speed take-off. 3,269,519, 8–30–66, Cl. 198—127.

Deiss, George J., to Philco Corp. Washing machines. 3,269,-154, 8–30–66, Cl. 68—12.

Dekes, Jan G.: *See*—
Van Heel, Abraham C. S., Beernink, and Doekes. 3,269,-253.

De Keyser, Lodewijk F., F. Albrecht, and L. A. Meeussen, to Gevaert Photo-Producten N.V. Photographic material. 3,269,252, 8–30–66, Cl. 96—87.

De Laval Turbine Inc.: *See*—
Sennet, Morgan B. 3,269,328.

Delavan Mfg. Co.: *See*—
Jolkovski, Robet M., Laws, and Dowers. 3,270,100.

De Leeuw, Gerrit, to N.V. Vereenigde Glasfabrieken (United Glassworks). Gas burner. 3,269,666, 8–30–66, Cl. 239—545.

De Ligt, John, to Dresser Industries, Inc. Latching mechanism for telescoping members. 3,269,561, 8–30–66, Cl. 212—128.

Dell-Carr-Wing Corp. of America: *See*—
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Dellenbaugh, Ernest A., ½ to R. J. Purtell. Artistic masonry item and method of making. 3,269,886, 8–30–66, Cl. 161—117.

Del Rosso, Victor, to Hi-Speed Checkweigher Co., Inc. Conveying and turning mechanism. 3,269,513, 8–30–66, Cl. 198—33.

De Loach, Bernard C., Jr., and R. L. Johnston, to Bell Telephone Laboratories, Inc. Two-terminal semiconductor high-frequency oscillator. 3,270,293, 8–30–66, Cl. 331—107.

Demain, Arnold L., to Merck & Co., Inc. Fermentation process for producing guanosine 5'-phosphates. 3,269,916, 8–30–66, Cl. 195—28.

De Maria y Campos Fernandez, German: *See*—
Alvarado, Jose, de Maria y Campos Fernandez, and Matdasson. 3,269,410.

De Mola, Carlos L., W. J. Wakatsuki, D. W. Christiansen, and M. Y. Dreksler, to Frick Co. Processing apparatus for changing the temperature of articles. 3,269,142, 8–30–66, Cl. 62—381.

Denham, Derek M., to Southall & Smith Ltd. Material feeding apparatus. 3,269,527, 8–30–66, Cl. 198—213.

Denker, Henry B., and G. C. Parker. Guillotine cutter for roll sheeter. 3,269,243, 8–30–66, Cl. 83—155.

Dent, Eugene, to General Motors Corp. Thermoelectric generator assembly. 3,269,873, 8–30–66, Cl. 136—208.

Depetris, Lorenzo, to Smith Europea S.p.A. Book cover manufacturing machine. 3,268,929, 8–30–66, Cl. 11—2.

Derfer, John M., and C. Bordenca, to The Glidden Co. Catalytic terpene isomerization process. 3,270,075, 8–30–66, Cl. 260—675.5.

De Rham, David P., and R. W. Hincks, to Data Management, Inc. Bookkeeping unit. 3,269,753, 8–30–66, Cl. 283—66.

De Rooij, Abraham H., to Stamicarbon N.V. Process for preparing a nitrosating acid. 3,269,954, 8–30–66, Cl. 252—182.

Dersch, William C., to Voice Systems, Inc. Voice operated safety control unit. 3,270,216, 8–30–66, Cl. 307—117.

Desalination Plants (Developers of Zarchin Process) Ltd.: *See*—
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Deschamps, Dipl. Ing. Carl, Delhydraulik Altenerding: *See*—
Gaenger, Hans. 3,269,123.

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Devenco Inc.: *See*—
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De Vincent, Patsy, to General Motors Corp. Twistable tray-type automatic ice maker with detachable tray. 3,269,139, 8–30–66, Cl. 62—137.

Devlin, Henry B., T. H. Haskell, and M. W. Fisher, to Parke, Davis & Co. Staphylococcal-immunizing products and methods for their production. 3,269,913, 8–30–66, Cl. 167—78.

Devoe & Reynolds Co.: *See*—
Hicks, Darrell D. 3,270,088.

Dexter, Edwin M., to General Electric Co. Fluid amplifiers. 3,269,419, 8–30–66, Cl. 137—81.5.

Dickie, William R., to Hi-Shear Corp. Method of producing a separable nut. 3,268,928, 8–30–66, Cl. 10—86.

Di Domenico, Joseph, and F. Mellion, to Jo-Dee Corp. Article dispenser. 3,269,596, 8–30–66, Cl. 221—107.

Diemond, Joseph, M. Y. Gershman, and N. A. Vangsness, to Coleco Industries, Inc. Swimming pool frame assembly. 3,268,917, 8–30–66, Cl. 4—172.

Diemond, LeRoy H. Tool holder and insert. 3,268,977, 8–30–66, Cl. 29—96.

Dietrich, Walter, to W. C. Heraeus G.m.b.H. Plural beam electron gun. 3,270,233, 8–30–66, Cl. 313—69.

Dikoff, Joseph K. Steam iron accessory. 3,269,040, 8–30–66, Cl. 38—97.

Dill, Robert F.: *See*—
Beesley, Robert L., and Dill. 3,269,282.

Di Marco, Bernard, and R. W. Thomas, to I-T-E Circuit Breaker Co. Hold-down means for contactor magnet coil. 3,270,303, 8–30–66, Cl. 335—202.

Dimmitt, Robert E., and C. Kessner, to Dor-West, Inc. Prevention of jamming, in an automatic entrance having sliding door, under a panic condition. 3,269,060, 8–30–66, Cl. 49—264.

Dinter, Konrad, to Telefunken Patentverwertungs-G.m.b.H. Television receiver and video signal generator connectible for use therewith. 3,270,131, 8–30–66, Cl. 178—6.8.

Dischert, Robert A.: *See*—
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Dishart, Harry S. Baby cradle-like carrier. 3,269,621, 8–30–66, Cl. 224—6.

Disko, Harry: *See*—
Glass, Marvin I., Disko, and Verbickas. 3,269,034.

Disteldorf, Josef: *See*—
Schmitt, Karl, Disteldorf, Hubel, and Rindtorff. 3,270,-044.

Distillers Co. Ltd., The: *See*—
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Diver, Bernard, N. R. Robinson, and W. H. Wilkinson, to Rolls-Royce Ltd. Bearing assembly. 3,269,786, 8–30–66, Cl. 308—187.

Dixon, David A., to The Best Fertilizer Co. Apparatus for transporting produce under controlled atmosphere. 3,269,-133, 8–30–66, Cl. 62—51.

Dixon, John J. Grafting machine. 3,269,239, 8–30–66, Cl. 83—140.

Dixon, Robert W., and R. A. Horrocks, to United Aircraft Corp. Low loss heat mounting system. 3,269,866, 8–30–66, Cl. 136—86.

Dobson, Peter V. Trucks. 3,269,744, 8–30–66, Cl. 280—43.17.

Doedens, James D., and E. H. Rosenbrock, to The Dow Chemical Co. Thermoset resins from poly(methylol)diaromatic ether compounds. 3,269,973, 8–30–66, Cl. 260—37.

Doherty, John A., to Eastern Stainless Steel Corp. Ingot turning machine. 3,269,564, 8–30–66, Cl. 214—1.

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Dominion Road Machinery Co., Ltd.: *See*—
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Donaldson, Charles A., 50% to J. D. Cavaness. Geophysical apparatus for indicating strata beneath the earth's surface including means for preventing transients from reaching the indicating means. 3,270,276, 8–30–66, Cl. 324—6.

Dorcon Inc.: *See*—
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Nowak, Robert M. 3,270,090.
Olah, George A. 3,270,069.
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Downie, John A., and W. Boyd, to Colgate-Palmolive Co. Method of making a detergent press die member. 3,270,110, 8–30–66, Cl. 264—219.

Dowty Technical Development Ltd.: *See*—
Lambeth, Dennis E. 3,269,122.

Drake, George L., Jr.: *See*—
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Dreksler, Moshe Y.: *See*—
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Dresser Industries, Inc.: *See*—
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Eiserloh, Norman A. 3,270,263.
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Dreyfus, Robert L., J. W. Harrison, and R. D. Lowry, to W. R. Grace & Co. Vacuum forming of plastic material. 3,270,104. 8–30–66, Cl. 264—92.

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Drott Mfg. Corp.: *See*—
Knight, Sidney G. 3,269,560.

Druskin, Bernard, to Unity Mfg. Corp. Snap clasp for jewelry bands. 3,269,145, 8–30–66, Cl. 63—4.

Dryden, Charles E., W. H. Mink, and H. Nack, to The Battelle Development Corp. Freeze-drying method under high vacuum utilizing a fluidized bed. 3,269,025, 8–30–66, Cl. 34—5.

Dryden, Hugh L., Jr., and M. J. Kalm, to G. D. Searle & Co. Novel process for 3-oxo-$\Delta^{4,6}$ steroids. 3,270,008, 8–30–66, Cl. 260—239.55.

Du Bois, Kenneth W. Gun holsters and other carrying cases. 3,269,620, 8–30–66, Cl. 224—2.

Ducote, Louis, to United States of America, Atomic Energy Commission. Timed-spaced multiple pulse generator. 3,270,287, 8–30–66, Cl. 328—62.

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Duennenberger, Max, H. R. Biland, and C. Luethi, to Ciba Ltd. Aryl-1,3,5-triazines. 3,270,016, 8–30–66, Cl. 260—248.

Dueringer, Erwin G., and C. H. Johnson, to Oscar Mayer & Co. Inc. Apparatus for placing cut sheets in packaging forms. 3,269,277. 8–30–66. Cl. 93—1.

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Duncan, William P., and P. G. Ericson. Method of fabricating wooden gutters. 3,269,440, 8–30–66, Cl. 144—316.

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Du Pont de Nemours, E. I., and Co.: *See*—
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Du Rose, Arthur H., to The Harshaw Chemical Co. Electrodeposition of copper from a cyanide bath. 3,269,925, 8–30–66, Cl. 204—32.

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Eberhard, Everett, and R. T. Martin, to Motorola, Inc. Hearing aid. 3,270,148, 8–30–66, Cl. 179—107.

Eckes, William A., to Service Distributors, Inc. Coin actuated mechanism. 3,269,508, 8–30–66, Cl. 194—84.

Edelblut, Johann, to Alfred Fetz. Brake light switch. 3,270,-317, 8–30–66, Cl. 340—71.

Egitto, John L., and J. A. Mascaro, to Interchemical Corp. Apparatus for measuring the tack of coated surfaces. 3,269,-176, 8–30–66, Cl. 73—150.

Ehlen, Jack W., to McCulloch Corp. Chain saw sharpening mechanism. 3,269,481, 8–30–66, Cl. 143—32.

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Ehrhardt, Richard, to Daimler-Benz Aktiengesellschaft. Seal construction. 3,269,369. 8–30–66, Cl. 123—8.

Eichhorn, Jacob., to The Dow Chemical Co. Self-extinguishing polymer composition containing a halide and a hydrazone. 3,269,962. 8–30–66, Cl. 260—2.5.

Eickmann, Karl. Combustion engine for conveying a hydraulic pressure medium. 3,269,321, 8–30–66, Cl. 103—54.

Eickmann, Karl. Sealing means for vanes of rotary vane machines. 3,269,329. 8–30–66, Cl. 103—136.

Eickmann, Karl. Rotary vane unit. 3,269,371, 8–30–66, Cl. 123—8.

Eifler, Horst, and H. Knapp, to Robert Bosch G.m.b.H. Apparatus in controlling the supply of fuel to a combustion engine. 3,269,378. 8–30–66, Cl. 123—139.

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Engelhard, Hermann. N. Engelhard, and B. Werth. 5-amino-alkoxy ethers of 5-hydroxyimino-10, 11-dihydro-5H-dibenzo (a,d) cyclohepta (1,4) dienes. 3,270,055, 8–30–66, Cl. 260—566.

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Engler, Otto, to Vereinigte Kesselwerke AG. One-through type boiler. 3,269,362, 8–30–66, Cl. 122—235.

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English, William D., I. S. Bengelsdorf, and G. W. Willcockson, to United States Borax & Chemical Corp. Cured polyepoxide resin compositions. 3,269,853, 8–30–66, Cl. 106—243.

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Evans, William R., to AMP Inc. Electrical connecting system and parts. 3,270,251, 8–30–66, Cl. 317—101.

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Fareri, Elizabeth L.: *See*—
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Farley, William C., to Kimball Systems, Inc. Data conversion system. 3,270,185, 8–30–66, Cl. 235—61.7.

Farris, Victor W. Safety valve. 3,269,407, 8–30–66, Cl. 137—489.

Fath, Joseph, and J. M. Kolyer, to Thompson Chemical Co. Methods of making primary mercaptans. 3,270,063, 8–30–66, Cl. 260—609.

Fatscher, Josef: *See*—
Waldura, Walter, and Fatscher. 3,269,220.

Fay, James E., to Fay Pipe and Pile Inc. Spiral pipe machine. 3,269,162, 8–30–66, Cl. 72—145.

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Fehrenbach, Alfred, A. Dorries, and H. Fraatz, to Licentia Patent-Verwaltungs-G.m.b.H. Compact switch having a simple breaking contact and associated arc extinction means. 3,270,170, 8–30–66, Cl. 200—144.

Felsenthal, Robert M., to Exmet Corp. Apparatus for producing expanded metal. 3,268,973, 8–30–66, Cl. 29—6.2.

Felsenthal, Robert M., to Exmet Corp. Apparatus for producing expanded metal. 3,268,974, 8–30–66, Cl. 29—6.2.

Felts, Wallace M., to Fruehauf Trailer Co. Vehicle loader. 3,269,572, 8–30–66, Cl. 214—302.

Fenner, Terrence W.: *See*—
Kullman, Russell M. H., Fenner, and Reinhardt. 3,269,796.

Fenton, George H. A., to British Aircraft Corp. (Operating) Ltd. Aerial vehicles. 3,269,312, 8–30–66, Cl. 102—49.

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Ferrari, Franz. Continuously variable proportional scale. 3,269,018, 8–30–66, Cl. 33—137.

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Ferry, Royal T., Jr. Aerosol container with metering valve. 3,269,615, 8–30–66, Cl. 222—394.

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Fetzer, Uwe, I. Ugi, H. Jarczyk, W. Behrenz, and G. Unterstenhofer, to Farbenfabriken Bayer Aktiengesellschaft. Synergistic organo-phosphate insecticides. 3,269,894, 8–30–66, Cl. 167—22.

Feuge, Reuben O.: *See*—
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Fields, Joseph E., and E. H. Mottus, to Monsanto Co. Antifoamants of isotactic alkyl methacrylate polymers. 3,269,993, 8–30–66, Cl. 260—86.1.

Fikentscher, Hans, H. Wilhelm, H. Wirth, and K. Dache, to Badische Anilin & Soda-Fabrik Aktiengesellschaft. Dispersing agents formed by the heat treatment of interpolymers containing acrylamide and methacrylamide. 3,269,969, 8–30–66, Cl. 260—29.6.

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Firth, Edmund N., J. E. Nezworski, and O. E. Jacobsen. Well water lever indicator. 3,269,183, 8–30–66, Cl. 73—299.

Fischer, John J., and F. M. Pelteson, to North American Aviation, Inc. Method and means for aligning an axis on a gimbaled platform. 3,269,024, 8–30–66, Cl. 33—226.

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Fischer, Rudolph, to Schnellpressenfabrik Frankenthal Albert & Cie. Rotary stapling apparatus. 3,269,629, 8–30–66, Cl. 227—81.

Fisher, Alfred G. Steering mechanisms. 3,269,218, 8–30–66, Cl. 74—720.5.

Fisher, John F. Prestressed concrete conduit and method. 3,269,424, 8–30–66, Cl. 138—176.

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Fleischer, Harry. Stapling instrument. 3,269,630, 8–30–66, Cl. 227—107.

Fleming, Robert L. Anti-smog carburetor for internal combustion engines. 3,269,377, 8–30–66, Cl. 123—119.

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Flint, Clarence M. Photographic masking system utilizing a spherically symmetrical light scattering mask. 3,269,835, 8–30–66, Cl. 96—5.

Floden, Bjorn F., to Radio Corp. of America. Automatic exciter lamp changer. 3,269,795, 8–30–66, Cl. 352—198.

Flori, Joseph, to Textile & Chemical Research Co. Ltd. Stop mechanism for stretching devices. 3,268,972, 8–30–66, Cl. 28—71.4.

Flynn, Edwin H., to Lilly, Eli, and Co. Carbocyclic-substituted aliphatic cephalosporins. 3,270,009, 8–30–66, Cl. 260—243.

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Foley, William E., to American Optical Co. Illuminating device. 3,270,196, 8–30–66, Cl. 240—44.2.

Fomenko, Sergei M., to The Bunker-Ramo Corp. Electro-optical computing system. 3,270,187, 8–30–66, Cl. 235—152.

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Foster, Colin E. Jackpot arrangement for poker machines. 3,269,503, 8–30–66, Cl. 194—1.

Fouke, Herbert A., to Holophane Co., Inc. Refractor. 3,270,197, 8–30–66, Cl. 240—106.

Fowler, Norman W., to The Gleason Works. Gear machine or the like. 3,269,270, 8–30–66, Cl. 90—9.5.

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Francisco, Charles C., to Cambridge Systems, Inc. Dewpoint sensing structure. 3,269,185, 8–30–66, Cl. 73—336.5.

Franzen, Gustav, to Palitex Project Co. G.m.b.H. Device for arresting a multiple twist spindle. 3,269,103, 8–30–66, Cl. 57—88.

Frasca, Thomas, J. Rodin, and J. F. Loftus, to United Aircraft Corp. Centrally supported flameholder. 3,269,116, 8–30–66, Cl. 60—35.6.

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Shapiro, Seymour L., Freedman, and Soloway. 3,270,025.

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Freeman, David A., to Kleindienst and Co. Maschinenfabrik. Folding device. 3,269,619, 8–30–66, Cl. 223—37.

Freeman, Thomas R., Jr. Methods for stabilizing and raising foundation structures. 3,269,126, 8–30–66, Cl. 61—51.

Freese, Evans G., to The Cessna Aircraft Co. Unbalanced pressure shaft seal. 3,269,737, 8–30–66, Cl. 277—59.

Fre-Mar Industries: *See*—
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Fricks, William E. 3,269,012.

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Fricks, William E., deceased, by C. L. Fricks, administrator, to Fricks' Foods, Inc. Plasticizing apparatus for producing uniformly emulsified margarine. 3,269,012, 8–30–66, Cl. 31—35.

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Friderici, Wayne J., to The Standard Products Co. Electrostatic flocking apparatus. 3,269,356, 8–30–66, Cl. 118—640.

Fried, Josef, and E. E. Galantay, to E. R. Squibb & Sons, Inc. Protected amino acid derivatives of 7-amino-cephalosporanic acid. 3,270,000, 8–30–66, Cl. 260—112.5.

Friedlander, William S., and J. R. Mattson, to Minnesota Mining and Mfg. Co. Thiaalkyl-substituted spiro (cyclohexane-1',5-barbiturates). 3,270,019, 8–30–66, Cl. 260—257.

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Fritts, Ralph M. Capsule filling device. 3,269,429, 8–30–66, Cl. 141—133.

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Fuchs, Eli, and R. E. Ostwald. Copy justification apparatus. 3,269,286, 8–30–66, Cl. 95—4.5.

Fuchs, Otto K.G.: *See*—
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Fujii, Kiyoshi, to Kurashiki Rayon Co., Ltd. Isotactic polymers and method of producing. 3,269,995, 8–30–66, Cl. 260—89.1.

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Funyak, Steve J. and R. F. Convertible ski. 3,269,742, 8–30–66, Cl. 280—11.13.

Furey, Michael J., to Esso Research and Engineering Co. Amine salts of perhalogenated monobasic carboxylic acids. 3,269,948, 8–30–66, Cl. 252—33.6.

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Gaenger, Hans, to C. Deschamps, d.b.a. Delhyraulik Altenerding Dipl. Ing. Carl Deschamps. Hydraulic apparatus. 3,269,123, 8–30–66, Cl. 60—54.6.

Gaertner, Van R., to Monsanto Co. Method of forming sized paper containing an epihalohydrin prepolymer and paper thereof. 3,269,890, 8–30–66, Cl. 162—164.

Gagneux, Andre R., and F. Hafliger, to Geigy Chemical Corp. Adamant-1-yl- and homoadamant-1-yl-oxy-, -thio- and -amino. 3,270,054, 8–30–66, Cl. 260—564.

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Gardner, Edward M., to Merrill Brothers. Screw clamp with a head having a reverse-acting and renewable gripping surface. 3,269,766, 8–30–66, Cl. 294—101.

Gardner, James W., to Seabrook Blanching Corp. Process for blanching nuts. 3,269,442, 8–30–66, Cl. 146—226.

Gariepy, George A., and O. R. Pannell, to United States of America, Army. Magnetically operated mercury switch with improved slidable and rotatable magnetic actuators. 3,270,165, 8–30–66, Cl. 335—54.

Garner, Clarke, Jr., 49% to H. P. Cassidy. Seat belt safety system for motor vehicles. 3,269,483, 8–30–66, Cl. 180—82.

Garvin, Richard B.: *See*—
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Gase, Franklin I., deceased; B. M. Pfeffer, executrix. Drafting method and machine. 3,269,014, 8–30–66, Cl. 33—23.

Gasparovich, Mark. Self-contained liquid dispenser. 3,269,143, 8–30–66, Cl. 62—389.

Gasser, Lorenz: *See*—
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Gauban, Daniel, to Inventors Finance Corp. Electronic tape reader. 3,270,145, 8–30–66 Cl. 179—100.2.

Gauld, Godfrey R., to Avco Corp. Explosive primer. 3,269,315, 8–30–66, Cl. 102—70.2.

Gault, John M., to International Rectifier Corp. Field-effect transistor. 3,270,258, 8–30–66, Cl. 317—235.

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Gaydou, Francois, to Bendix Balzer Vacuum Inc. Process for the vacuum melting of metals by means of electron beam. 3,270,118, 8–30–66, Cl. 13—34.

Gehlen, Hermann W. Amphibious vehicle. 3,269,349, 8–30–66, Cl. 115—1.

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Geiger, Russell C. and P. B., to The Hobart Mfg. Co. Rack construction for dishwashing machine. 3,269,548, 8–30–66, Cl. 211—41.

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Germerdonk, Rolf, and G. Paulig, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of a rod-form solid from molten low molecular weight rigid materials. 3,270,106, 8–30–66, Cl. 264—143.

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Gillette, La Vergne W., to The Shaw-Walker Co. Check dispenser. 3,269,549, 8–30–66, Cl. 211—50.

Gilliotti, Joseph A. Vehicle insect screen. 3,269,455, 8–30–66, Cl. 160—369.

Ginter, Emery W. Camera lens shade. 3,269,289, 8–30–66, Cl. 95—11.

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Glassanos, Andrew, to General Electric Co. Shielded housing with vibration control. 3,270,305, 8–30–66, Cl. 336—84.

Glass-Tite Industries, Inc.: *See*—
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Blakesley, Richard C., and Smith. 3,268,980.
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Godette, Robert G., to General Motors Corp. Tail gate switch. 3,270,151, 8–30–66, Cl. 200—44.

Godfrey, Elizabeth A. Embossing machine. 3,269,804, 8–30–66, Cl. 101—23.

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Bäumler, Hermann, and Vossieck. 3,269,738.

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Goldberg, Eugene P., to General Electric Co. Linear resinous polycarbonates of dihydroxy polysulfones. 3,269,986, 8–30–66, Cl. 260—49.

Goldblum, Kenneth B., to General Electric Co. Polycarbonate flow extenders. 3,269,971, 8–30–66, Cl. 260—31.4.

Goldfarb, Kenneth S.: *See*—
Gordon, Al. 3,269,055.

Goldthwait, Richard G., S. J. Kwolek, and T. Rice, to Gulf Research & Development Co. Hydrocracking of hydrocarbon with the use of a nickel-tungsten sulfide catalyst on a siliceous carrier activated with a halogen. 3,269,936, 8–30–66, Cl. 208—111.

Golonski, Leslie P., to Motorola, Inc. F.M. stereophonic receiver having noise prevention means in the pilot circuit. 3,270,138, 8–30–66, Cl. 179—15.

Goodhue, Lyle D., and R. F. Kleinschmidt, to Phillips Petroleum Co. Cattle repellent. 3,269,902, 8–30–66, Cl. 167—46.

Goodrich, B. F., Co., The: *See*—
Talalay, Anselm. 3,268,926.

Goossens, John C., to General Electric Co. Organotrichlorosilane usage. 3,269,981, 8–30–66, Cl. 260—46.5.

Gordon, Al., 25% to N. M. Briskin, 25% to K. S. Goldfarb, and 15% to T. A. Mamalis. Articulated toy for spinning tops. 3,269,055, 8–30–66, Cl. 46—243.

Goshen Rubber Co., Inc.: *See*—
Hobson, Carroll D. 3,270,117.

Goth, Imre. Drip-proof and tamper-proof pouring devices. 3,269,617, 8–30–66, Cl. 222—541.

Goto, Asahiko, to Kobe Steel Works, Ltd. Lining structure. 3,269,423, 8–30–66, Cl. 138—140.

Gould, Bert B. Nested rockets. 3,269,268, 8–30–66, Cl. 89—1.813.

Gould, Lawrence P.: *See*—
Alderuccio, Carmelo L., Gould, and Jones. 3,269,881.

Grace Co., A.C.: *See*—
Erickson, Roy. 3,269,844.

Grace, W. R., and Co.: *See*—
Anderson, Kelvin G. 3,269,081.
Braude, George L., and Molstad. 3,269,988.
Dreyfus, Robert L., Harrison, and Lowry. 3,270,104.
Howe, Milton A., Jr. 3,269,080.
Richardson, Spencer M., and Hoch. 3,269,860.
Vanik, Milton C., Sanchez, and Herrera. 3,270,309.

Gradsten, Marcel A., to Tenneco Chemicals, Inc. O,O-neopentylene-N-diethylphoroamidothioate. 3,270,093, 8–30–66, Cl. 260—937.

Grafe, Alfred, to C. E. Boehringer & Soehne Gesellschaft mit beschraenkter Haftung. Aluminum oxide depot vaccines. 3,269,912, 8–30–66, Cl. 167—78.

Grafstein, Daniel, and J. Bobinski, to Thiokol Chemical Corp. Decaboran derivatives. 3,269,803, 8–30–66, Cl. 23—358.

Graham, Ward A., to Stratford Engineering Corp. Mixing atomizing rotor. 3,269,660, 8–30–66, Cl. 239—224.

Granberg, Albert J., to Cal-Meter Co. Positive displacement liquid meter. 3,269,182, 8–30–66, Cl. 73—259.

Graning Enameling Co.: *See*—
Weaver, Paul J. 3,269,413.

Grappo, James A., to The M. & W. Electric Mfg. Co. Inc. Wire support bracket. 3,269,679, 8–30–66, Cl. 248—72.

Graybeal, John O.: *See*—
Slattery, Robert M. 3,269,047.

Green, Joseph, and N. Mayes, to Thiokol Chemical Corp. Organoboron polymers and method of preparation. 3,269,992, 8–30–66, Cl. 260—80.

Greenbaum, Sheldon B., to Hooker Chemical Corp. Ethylenebis-sulfonium salts for the control of soil borne pathogens and as seed protectants. 3,270,034, 8–30–66, Cl. 260—327.

Greenlee Bros., and Co.: *See*—
Herrstrum, Rudolph E. 3,269,011.

Greenstreet, Arthur W.: *See*—
Epstein, Martin E., and Greenstreet. 3,269,970.

Greenwald, Harry, ⅛ each to L. Wolff, and H. Silberglait. Totalyzing counter system. 3,269,504, 8–30–66, Cl. 194—1.

Gregory Industries, Inc.: *See*—
Kurtz, Joseph J., Webster, and Kurucs. 3,269,000.

Groves: *See*—
Groves, John C., Penrose, and Millar. 3,269,632.

Greis, Howard A., to Kinefac Corp. Die roll forming and finishing machine. 3,269,161, 8–30–66, Cl. 72—98.

Greubel, Paul W., and F. A. Illari, to Interchemical Corp. Novel lithographic platemaking process. 3,269,836, 8–30–66, Cl. 96—33.

Griffith, Errol R., to Allen Organ Co. Electric musical instrument for producing percussion-type sound effects. 3,270,119, 8–30–66, Cl. 84—1.01.

Grose, Ansel B. Valve. 3,269,406, 8–30–66, Cl. 137—436.

Grove, Marvin H. Valve construction. 3,269,695, 8–30–66, Cl. 251—174.

Groves, John C., J. R. Penrose, and J. H. Millar; said Groves and said Penrose. Apparatus for making helically wound pipes or tubes. 3,269,632, 8–30–66, Cl. 228—15.

Grub, Richard. Surface finishing tool. 3,269,283, 8–30–66, Cl. 94—45.

Grundig, Max: *See*—
Mueller, Georg. 3,270,210.

Grundmann, John F. Fluid flow control apparatus. 3,269,298, 8–30–66, Cl. 99—289.

Guerrieri, Salvatore A., to The Lummus Co. Process heater and finned tube therefor. 3,269,363, 8–30–66, Cl. 122—356.

Guerrieri, Salvatore A., to The Lummus Co. Process heater. 3,269,465, 8–30–66, Cl. 122—356.

Guettler, Herbert W. Barking drum. 3,269,438, 8–30–66, Cl. 144—208.

Gulf Research & Development Co.: *See*—
Churchill, Arthur V., Ek, and Fareri. 3,269,808.
Goldthwait, Richard G., Kwolek, and Rice. 3,269,936.
Hedenburg, John F., and Tempalski. 3,269,944.
Hedenburg, John F., and Tempalski. 3,269,945.

Gulick, Ronald A., to ACF Industries, Inc. Ball valve seat. 3,269,893, 8–30–66, Cl. 251—172.

Gullick Ltd.: *See*—
Allen, Archelaus D. 3,269,686.

Gundel, Wolfgang, to Henkel & Cie. G.m.b.H. Addition compounds of surface active sulfuric acid semiester salts and sulfobetaines and the production thereof. 3,270,039, 8–30–66, Cl. 260—401.

Gunn, Elton F., Jr., to Columbian Carbon Co. Treatment of pigmentary silica. 3,269,799, 8–30–66, Cl. 23—182.

Gustavson, Gordon E.: *See*—
Erwin, Lee R., Gustavson, and McCallum. 3,268,989.

Haarer, Erich: *See*—
Winderl, Siegfried, Haarer, Corr, and Hornberger. 3,270,059.

Hackett, James J.: *See*—
Sebring, Edward H., and Hackett. 3,269,170.

Hackett, Kenneth R., to Ball Bros. Research Corp. System for reshaping and retiming a digital signal. 3,270,288, 8–30–66, Cl. 328—63.

Hackett, Kenneth R., to Ball Bros. Research Corp. High-speed delta encoder. 3,270,335, 8–30–66, Cl. 340—347.

Haehnel, Herbert E., to Textile Machine Works. Fabric draw-off means for knitting machines. 3,269,150, 8–30–66, Cl. 66—149.

Hafliger, Frans: *See*—
Gagneux, Andre R. 3,270,054.

Hagerty, Donald O.: *See*—
Ronan, Kenneth M., and Hagerty. 3,269,382.

Hahn, Robert S., and G. H. Lockwood, to The Heald Machine Co. Grinding machine. 3,269,063, 8–30–66, Cl. 51—48.

Haldemann, Gaston, to Haldemann S.A. Method of producing a hollow article. 3,270,111, 8–30–66, Cl. 264—231.

Haldemann S.A.: *See*—
Haldemann, Gaston. 3,270,111.

Hale, Andrew: *See*—
Bailey, Harold G., and Hale. 3,270,107.

Hale, Paul F., to Foote Mineral Co. Composition and method for making deoxidized steel. 3,269,828, 8–30–66, Cl. 75—58.

Hall, Kenneth, to Hovercraft Development Ltd. Vehicles for travelling over a surface. 3,269,477, 8–30–66, Cl. 180—7.

Hall, Newton L. Ball mill with tensional and wear-resistant linings. 3,269,668, 8–30–66, Cl. 241—137.

Halliburton Co.: *See*—
Seay, Orum E. 3,269,181.
Shelton, Robert Q., and Pittman. 3 269,659.
Telford, E. B., and Villalon. 3,269 421.

Halsey, Reginald J., to Her Majesty's Postmaster General, of The General Post Office. Branching device for two-wire carrier multichannel communication systems. 3,270,137, 8–30–66, Cl. 179—15.

Halter, Allan C., P. L. McMath, and R. E. Perrault, to Allis-Chalmers Mfg. Co. Automatic gauge control with update. 3,269,160, 8–30–66, Cl. 72—8.

Hamachek, Frank, Machines Co. Inc.: *See*—
Wallace, John M. 3,269,685.

Hambling, Stewart K., and H. Fineman, to Girling Ltd. Fluid pressure operated boosters. 3,269,273, 8–30–66, Cl. 91—376.

Hammack, Calvin M. Method of echo grouping. 3,270,340, 8–30–66, Cl. 343—7.

Hammel, David R.: *See*—
Banks, Sholom A., Hammel, and Jankowski. 3,269,972.

Hammes, Wilhelm. Multipart closure for filling and discharging openings for containers. 3,269,575, 8–30–66, Cl. 215—41.

Hammond Organ Co.: *See*—
Van Leer, Johan. 3,270,300.

Hanes Corp.: *See*—
Crouch, Fred P., and Lockrow. 3,269,235.

Hanggi, Max. Reciprocal cam drive for sheet metal shears. 3,269,246, 8–30–66, Cl. 83—588.

Hannah, Malcolm E., Jr., to Tenneco Chemicals Inc. Polymerization of unsaturated compounds with aromatized linoleic acid. 3,269,968, 8–30–66, Cl. 260—23.7.

Hansen, Robert B., to Motorola, Inc. Color television receiver including a combined chroma amplifier and burst separator. 3,270,127, 8–30–66, Cl. 178—5.4.

Hansford, Rowland C., to Union Oil Co. of California. Hydrocracking process with the use of a Y-type crystalline zeolite and a nitrogen containing hydrocarbon oil. 3,269,934, 8–30–66, Cl. 208—111.

Hanson, Newell B., to Hanson Silo Co. Ensilage distributor. 3,269,780, 8–30–66, Cl. 302—60.

Hanson Silo Co.: *See*—
Hanson, Newell B. 3,269,780.

Hanson, Theodore L., S. L. Black, and J. F. Ferguson, to The Vendo Co. Ice making apparatus for beverage vending machine. 3,269,138, 8–30–66, Cl. 62—135.

Happel, John, C. J. Marsel, deceased (by E. Hug, administratrix), to National Lead Co. Propylene cracking. 3,270,076, 8–30–66, Cl. 260—678.

Hara, Masatoshi: *See*—
Nakatogawa, Takeshi, Ogawa, Hara, and Okano. 3,270,255.

Harbison, Richard L.: *See*—
Swanson, John N. 3,269,043.

Harbison-Walker Refractories Co.: *See*—
Miller, Eldon D., Jr. 3,269,848.
Miller, Eldon D., Jr. 3,269,850.
Pavlica, Stanley R. 3,270,097.
Stoy, Thomas J. 3,269,070.

Hardesty, George K. C. Photo-luminescent display means. 3,270,201, 8–30–66, Cl. 250—71.

Hardison, Artson P., to Schulz Tool and Mfg. Co. Gate valve having biased sealing means. 3,269,694, 8–30–66, Cl. 251—174.

Hardy, William C., and B. W. McArthur, to Sun Oil Co. Secondary recovery of petroleum. 3,269,460, 8–30–66, Cl. 166—10.

Harnden, John D., Jr., to General Electric Co. Humidity-responsive automatic dryer control system. 3,269,027, 8–30–66, Cl. 34—48.

Harnischfeger Corp.: *See*—
Keller, Robert J. 3,270,178.
Russell, John A. 3,270,179.
Stuefen, Robert L. 3,270,271.

Harris-Intertype Corp.: *See*—
Staines, Alfred J. 3,269,723.

Harrison, John W.: *See*—
Dreyfus, Robert L., Harrison, and Lowry. 3,270,104.

Harshaw Chemical Co., The: *See*—
Du Rose, Arthur H. 3,269,925.

Hart, Bernie D. Clevis for connecting tow chain loop with hitch device. 3,269,109, 8–30–66, Cl. 59—86.

Hart, Chauncy C.: *See*—
Hart, Walter L. 3,269,219.

Hart, Walter L., by C. C. Hart, executor. Planetary transmission for machine tools. 3,269,219, 8–30–66, Cl. 74—781.

Harter, Donald G., to Studebaker Corp. Refrigeration cabinet. 3,269,787, 8–30–66, Cl. 312—116.

Harter, William W. Paper dispenser with pusher feet. 3,269,590, 8–30–66, Cl. 221—23.

Harter, William W. Paper dispenser with flywheel. 3,269,591, 8–30–66, Cl. 221—23.

Hartlove, John J.: *See*—
Bonwit, Willard R., and Hartlove. 3,269,280.

Hartman, Elmer C., to Hartman Metal Fabrication, Inc. Loading dock. 3,268,932, 8–30–66, Cl. 14—71.

Hartman Metal Fabrication, Inc.: *See*—
Hartman, Elmer C. 3,268,932.

Hartwell Corp., The: *See*—
Bryant, Richard E. 3,269,680.

Hartwig, Donald R., to Deere & Co. Wheeled hitch device for towing a pair of trailing units. 3,269,749, 8–30–66, Cl. 280—411.

Harwood Engineering Co.: *See*—
Newhall, Donald H. 3,268,951.

Harwood, Harold J., to Monsanto Co. Cyclic phosphonites. 3,270,092, 8–30–66, Cl. 260—937.

Harwood, Leopold A., to Radio Corp. of America. Ultra high-frequency transistor oscillator. 3,270,292, 8–30–66, Cl. 331—97.

Haskell, Theodore H.: *See*—
Devlin, Henry B., Haskell, and Fisher. 3,269,913.

Hasser, John M. Lariat release device. 3,269,094, 8–30–66, Cl. 54—46.

Haszeldine, Robert N., and J. M. Birchall, to Pennsalt Chemicals Corp. Perfluoroaromatic compounds. 3,269,928, 8–30–66, Cl. 204—158.

Haszeldine, Robert N., and J. M. Birchall, to Pennsalt Chemicals Corp. Process for the production of hydrofluoroaromatic compounds. 3,270,070, 8–30–66, Cl. 260—650.

Hatcher, Cecil W., to Concut, Inc. Machine for cutting grooves of constant depth in pavement. 3,269,775, 8–30–66, Cl. 299—39.

Hauni-Werke Korber & Co.: *See*—
Ackermann, Hans-Peter. 3,269,393.

Hawley, James W., to R. H. Clay. Time operated laboratory animal feeding and housing device. 3,269,358, 8–30–66, Cl. 119—51.12.

Hayner, Paul F.: *See*—
Bernier, Edgar R., and Hayner. 3,269,633.

Haynes Electric Heating Co.: *See*—
Hynes, Lee P. 3,270,182.

Hazeltine Research, Inc.: *See*—
Lerner, David S. 3,270,346.
Olsen, Robert I. 3,270,312.
Stemmer, Clarence P. 3,270,342.

Heald Machine Co., The: *See*—
Hahn, Robert S., and Lockwood. 3,269,063.
Lockwood, George H. 3,269,064.

Healy, Francis P., to Universal American Corp. Dressing assembly for grinding machine. 3,269,381, 8–30–66, Cl. 125—11.

Heaton, Peter, to National Research Development Corp. Digital speech transfer system including, for example, a synchronizing arrangement for time division multiplex signalling system of same nominal frequency. 3,270,136, 8–30–66, Cl. 179—15.

Heathcote, Ralph L., and H. C. Bell, to Union Tank Car Co. Apparatus for elevating tower structure. 3,269,705, 8–30–66, Cl. 254—89.

Hebenstreit, Lester V., to Specialties Development Corp. Temperature compensated pressure indicator. 3,269,186, 8–30–66, Cl. 73—393.

Heck, Richard F., to Hercules Powder Co. Hydrogenation process. 3,270,087, 8–30–66, Cl. 260—683.9.

Heckman, Thomas P. Ash tray. 3,269,395, 8–30–66, Cl. 131—235.

Hedenburg, John F., and C. S. Tempalski, to Gulf Research & Development Co. Grease composition. 3,269,944, 8–30–66, Cl. 252—28.

Hedenburg, John F., and C. S. Tempalski, to Gulf Research & Development Co. Grease composition. 3,269,945, 8–30–66, Cl. 252—28.

Hei, Jacob D., to Minnesota Mining and Mfg. Co. Process of rendering substrates catalytic to electroless cobalt deposition and article produced. 3,269,854, 8–30–66, Cl. 117—47.

Heimlicher, Paul: *See*—
Schluckbier, Wilhelm, and Heimlicher. 3,269,720.

Heineman, Richard W. Method of treating wild rice. 3,269,057, 8–30–66, Cl. 47—58.

Helbing, Clarence H., to Pittsburgh Plate Glass Co. Method for producing glass fibers. 3,269,816, 8–30–66, Cl. 65—2.

Hellin, Michel: *See*—
Lumbroso, Daniel, Coussemant, and Hellin. 3,270,082.

Helms, Jerry L., to General Motors Corp. Storage battery plate. 3,269,863, 8–30–66, Cl. 136—36.

Henderson, Harold P. Article holder. 3,269,555, 8–30–66, Cl. 211—126.

Henkel & Cie. G.m.b.H.: *See*—
Gundel, Wolfgang. 3,270,039.

Henschel-Werke A.G.: *See*—
Kunze, Herbert. 3,269,269.

Heppenstall Co.: *See*—
Sickbert, Adolf H. W. 3,268,958.

Her Majesty's Postmaster General, of The General Post Office: *See*—
Halsey, Reginald J. 3,270,137.

Her Majesty's Postmaster General: *See*—
Wilson, Frederick A. 3,270,142.

Heraeus, W. C., G.m.b.H.: *See*—
Dietrich, Walter. 3,270,233.

Hercules Powder Co.: *See*—
Brack, Karl. 3,269,966.
Heck, Richard F. 3,270,087.

Hermann, Gunther: *See*—
Schnell, Hermann, Buchwald, Daum, and Hermann. 3,269,901.

Herondelle, Guy L. H.: *See*—
Poole, Saxon M., and Herondelle. 3,269,030.

Herrera, Jose E.: *See*—
Vanik, Milton C., Sanchez, and Herrera. 3,270,309.

Herrstrum, Rudolph E., to Greenlee Bros. and Co. Metal punch and die. 3,269,011, 8–30–66, Cl. 30—360.

Hertel, Dr. Heinrich: *See*—
Hertel, Heinrich, and Ruppin. 3,269,167.

Hertel, Heinrich, and D. Ruppin, to Dr. Heinrich Hertel. Forging. 3,269,167, 8–30–66, Cl. 72—377.

Herter's Inc.: *See*—
Mittelsteadt, Glen L. 3,269,044.

Hertzel, Richard R. Window flower box. 3,269,551, 8–30–66, Cl. 211—88.

Hess, Elmer J. Compartmented shelf device. 3,269,558, 8–30–66, Cl. 211—184.

Heuck, Claus, O. Mauz, J. Winter, and F. Schulde, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Stabilization of polyolefins with sulfides and terpene reaction products of terpenes and phenols. 3,269,990, 8–30–66, Cl. 260—45.95.

Heying, Theodore L., J. A. Reid, and S. I. Trotz, to Olin Mathieson Chemical Corp. Organoboron urethenes. 3,270,047, 8–30–66, Cl. 260—482.

Heyman, Albert A., to The Maryland Baking Co. Machine for forming flat top tolled ice cream containers. 3,269,335, 8–30–66, Cl. 107—8.

Heywood, Vincent E., to United States Envelope Co. Machine for banding envelopes. 3,269,089, 8–30–66, Cl. 53—198.

Hibernia-Chemie Gesellschaft mit beschrankter Haftung: *See*—
Schmitt, Karl, Disteldorf, Hubel, and Rindtorff. 3,270,044.

Hicks, Darrell D., to Devoe & Reynolds Co. Alkyl, hydroxyalkyl maleate monomers and copolymers thereof. 3,270,088, 8–30–66, Cl. 260—851.

Hieber, Ellsworth E., and D. G. Lawell, to Schulz Tool and Mfg. Co. Dynamic seal for cryogenic use. 3,269,736, 8–30–66, Cl. 277—26.

Higgins, Bradley C. Automatic adjustable electric control of mineral contents for blowdown in a boiler. 3,269,364, 8–30–66, Cl. 122—379.

Higgins, Harvey M., Jr., to Eli Lilly and Co. Method for preparing cephalosporin C. antibiotics. 3,270,012, 8–30–66, Cl. 260—243.

Hildebrandt, Friedrich, and F. Beithle, to Vereinigte Glanzstoff-Fabriken AG. Moveable seat including shock-absorbing means and safety belt. 3,269,774, 8–30–66, Cl. 297—386.

Hilgeland, Paul H. Apparatus for the manufacture of sausages. 3,269,297, 8–30–66, Cl. 99—234.

Hilger, Josef: *See*—
Langheinrich, Klaus, Klesper, Hilger, and Muth. 3,269,898.

Hill, Lindsay G., to FMC Corp. Fruit processing apparatus. 3,269,515, 8–30–66, Cl. 198—33.

Hill, Clifton D.: *See*—
Anderson, Fred T. 3,269,165.

Hilliard, Floyd T. Vehicle door light device. 3,270,191,

Hindermann, Peter, and H. P. Kolliker, to J. R. Geigy, A.G. Phenylamino anthraquinone compounds. 3,270,015, 8–30–66, Cl. 260—247.1.
8–30–66, Cl. 240—2.13.

Hincks, Robert W.: *See*—
De Rham, David P., and Hincks. 3,269,753.

Hi-Shear Corp.: *See*—
Dickie, William R. 3,268,928.

Hi-Speed Checkweigher Co., Inc.: *See*—
Del Rosso, Victor. 3,269,513.

Hitachi, Ltd.: *See*—
Nakano, Zenichi. 3,270,174.

Hix, William R., Jr. Nursery training device. 3,268,916, 8–30–66, Cl. 4—138.

Hobart Mfg. Co., The: *See*—
Geiger, Russell C. and P. B. 3,269,548.

Hobson, Carroll D., to Goshen Rubber Co, Inc. Apparatus and method for producing a precision rubber tube. 3,270,117, 8–30–66, Cl. 264—320.

Hoch, Richard C.: *See*—
Richardson, Spencer M., and Hoch. 3,269,860.

Hochner, Walter L.: *See*—
Jardine, Philip R., Pim, Lawrence, and Hochner. 3,270,101.

Hockman, Mary E., R. M. Walker, and F. K. Allen, to R. J. and M. Hockman, and R. M. Walker. Swimming doll. 3,269,056, 8–30–66, Cl. 46—247.

Hockman, Raymond J.: *See*—
Hockman, Mary E., Walker, and Allen. 3,269,056.

Hoenig, Gerhard E., and A. L. Van Nest, to Western Electric Co., Inc. Torque limiting clutch. 3,269,498, 8–30–66, Cl. 192—56.

Hoff, Wally C. Collating device. 3,269,719, 8–30–66, Cl. 270—54.

Hoffmann, Gunter: *See*—
Paschke, Hanns-Dieter, and Hoffmann. 3,269,370.

Hoffmann-La Roche Inc.: *See*—
Berger, Leo, and Lee. 3 270,026.
Reeder, Earl, and Sternbach. 3,270,053.

Hofmann, Albert, and F. Troxler, to Fidelity Union Trust Co., Executive Trustee. 1 Cyanoethyl 9 10 dihydro eraocornine. 3,270,020, 8–30–66, Cl. 260—285.5.

Hoglund, Nils. Apparatus for checking cams. 3,269,257, 8–30–66, Cl. 88—24.

Hogue, Paul G.: *See*—
Welch, Russel A., Sr. 3,269,456.

Hohmann, Manfred: *See*—
Mehlo, Walter, and Hohmann. 3,269,451.

Holbitz, Yehuda. Convex tents. 3,269,398, 8–30–66, Cl. 135—3.

Holbrook, George W., to Dow Corning Corp. Solventless silicone resins. 3,269,983, 8–30–66, Cl. 260—46.5.

Hollander, Milton B., to American Machine & Foundry Co. Friction welding. 3,269,001, 8–30–66, Cl. 29—470.3.

Hollander, Milton B., and E. L. Von Rosenberg, to American Machine & Foundry Co. Friction welding. 3,269,002, 8–30–66, Cl. 29—470.3.

Hollander, Milton B., and E. L. Von Rosenberg, to American Machine & Foundry Co. Friction welding. 3,269,003, 8–30–66, Cl. 29—470.3.

Holley Carburetor Co.: *See*—
Locher, Ramuald B., Jr. 3,269,376.

Hollister, Ezra, deceased; by R. A. Hollister, and S. H. Everitt, executors, to United States of America, Atomic Energy Commission. Broach for curved graphite passages. 3,269,976, 8–30–66, Cl. 29—95.1.

Hollister, Robert A.: *See*—
Hollister, Ezra and R. A., and Everitt. 3,269,976.

Holmes, Frank R., and A. L. Stoddart, to Ashmore, Benson, Pease and Co. Ltd. Programmed handling apparatus. 3,269,562, 8–30–66, Cl. 214—14.

Holmes, George S., to Continental Can Co., Inc. Partition with end panels. 3 269,636, 8–30–66, Cl. 229—15.

Holmstrom, John T., Jr.: *See*—
Bushmeyer, Richard W., and Miller. 3,269,098.

Holophane Co., Inc.: *See*—
Fouke, Herbert A. 3,270,197.

Holschlag, Jerry B.: *See*—
Day, Frank, Froberg, and Holschlag. 3,269,820.

Holtan, Maurice O. Transmission-differential unit. 3,269,217, 8–30–66, Cl. 74—705.

Holton, George F., to National Vulcanized Fibre Co. Spiral winding device. 3,269,102, 8–30–66, Cl. 57—13.

Holub, Fred F., to General Electric Co. Projection system with improved deformable medium. 3,270,133, 8–30–66, Cl. 178—7.87.

Honeywell Inc.: *See*—
Brandt, Carl R., Jankowicz, and Watrons. 3,270,350.
Gale, Bernard M. 3,269,650.
Kampf, Richard S. 3,269,262.
Latham, Harry L., Jr. 3,270,275.
Ramsay, Alan J., and Bottomley. 3,270,295.

Hood, Charles B., Jr., to Cryo-Vac, Inc. Dense gas helium refrigerator. 3,269,137, 8–30–66, Cl. 62—127.

Hooker Chemical Corp.: *See*—
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Hynes, Lee P., to Hynes Electric Heating Co. High-temperature fluid heater. 3,270,182, 8–30–66, Cl. 219—382.

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Irmscher, Klaus, to E. Merck Aktiengesellschaft. 3(β-hydroxyethyl)-imimo -steroids of the pregnane series and methods of administration. 3,269,910, 8–30–66, Cl. 167—74.

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Hurst, Robert N., and R. A. Dischert, to Radio Corp. of America. Servo system with plural reference signals. 3,270,130, 8–30–66, Cl. 178—6.6.
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Ilgemann, Rudolf, R. D. Rauschenbach, and G. Foerster, to Badische Anilin- & Soda Fabrik Aktiengesellschaft. Self-extinguishing styrene polymer compositions. 3,269,963, 8–30–66, Cl. 260—2.5.
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Cooke, Edward V., and Thurlow. 3,270,057.
Sherlock, Edward. 3,270,031.
Sutcliffe, David. 3,270,038.
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Burling, Elmer R. 3,268,923.
Imse, Philip J., J. W. Leege, and J. F. Sheldon, to Rex Chainbelt Inc. Chain link with improved pin securement. 3,269,526, 8–30–66, Cl. 198—189.
Inaba, Yanosuke, G. Kimura, and S. Otani, to Toyo Koatsu Industries, Inc. Method for preparation of l-inositol. 3,270,064, 8–30–66, Cl. 260—631.
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Ingram, Arthur P., Jr., to The Dow Chemical Co. Phosphinic acid derivatives. 3,270,005, 8–30–66, Cl. 260—239.
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Iverson, Peter V., to Producktionsaktieselskabet Forotor Copenhagen. Apparatuses comprising a tuned circuit network.
Irmscher, Klaus, to E. Merck Aktiengesellschaft. 3(β-hydroxyethyl)-imimo -steroids of the pregnane series and methods of administration. 3,269,910, 8–30–66, Cl. 167—74.
Isaacson, Milton S., to Globe Industries, Inc. Miniture D.C. motor. 3,270,220, 8–30–66, Cl. 310—40.
Ishida, Hajime, and H. Toma, to Pilot Man-Nen-Hitsu Kabushiki Kaisha Ink cartridge for fountain pens. 3,269,584. 8–30–66, Cl. 220—27.
Iversen, Peter, to Producktionsaktieselskabet Forotor Copenhagen. Apparatuses comprising a tuned circuit network. 3,270,252, 8–30–66, Cl. 317—101.
Jacks, Eric, J. Feenan, and G. W. Ollerton, to English Electric Co. Ltd. High voltage fuse links having flexibly mounted fuse support. 3,270,168. 8–30–66, Cl. 200—132.
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Jardine, Philip R., R. N. Pim, W. S. Lawrence, and W. L. Hochner, to Kaumagraph Co. Method of using static charge to decorate molded thermoplastic articles. 3,270,101, 8–30–66, Cl. 264—22.
Jay, Ray A. Tie holder. 3,269,554, 8–30–66, Cl. 211—119.

Jean, Laurent A., deceased, by M. L. E. and M. M. Jean, administrators. Laminated magnetic core joint structure. 3,270,307, 8–30–66, Cl. 336—217.

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Jean, Laurent A. 3,270,307.

Jefferson Chemical Co. Inc.: *See*—
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Jefferson Medical College: *See*—
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Joa, Curt G. Method for disintegrating wood pulp board into its component fibers and reassembling the fibers as a soft bat. 3,268,954, 8–30–66, Cl. 19—156.3.

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Di Domenico, Joseph, and Mellion. 3,269,596.

Johansen, Hans A.: *See*—
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Johson, Charles H.: *See*—
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Johnson, David W., to The Arrow-Hart & Hegeman Electric Co. Snap mechanism for slow-break electric switches. 3,270,157, 8–30–66, Cl. 200—67.

Johnson, Elemer S., deceased, by L. G. Johnson, executrix, to United States Gypsum Co. Gypsum composition and building construction. 3,269,071, 8–30–66, Cl. 52—338.

Johnson, John F.: *See*—
Schatz, Ralph H., Johnson, Small, and Robson. 3,270,079.

Johnson & Johnson: *See*—
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Johnson, Kenneth R., and C. J. Beert, to Bartelt Engineering Co., Inc. Packaging machine. 3,269,236, 8–30–66, Cl. 83—112.

Johnson, Lucille G.: *See*—
Johnson. Elemer S. 3,269,071.

Johnson, Robert J., to Swift & Co. Copolymers of epoxy fatty esters and/or fatty alcohols with C_4–C_6 lactams. 3,269,965, 8–30–66, Cl. 260—18.

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Van Blaricom, Lloyd E., and Johnston. 3,270,003.

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De Loach, Bernard C., Jr., and Johnston. 3,270,293.

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Jolkovski, Robert M., A. C. Laws, and D. H. Powers: 50% to Delavan Mfg. Co., 50% to The Aro Corp. Method for making capsules by interfacial polymerization. 3,270,100, 8–30–66, Cl. 264—4.

Jolly, Ian A., to Girling Ltd. Air brake valve modified input. 3,269,782, 8–30–66, Cl. 303—6.

Jones, Derek, to Canadair Ltd. Method to enable a ground effect machine to leap over obstacles. 3,269,476, 8–30–66, Cl. 180—7.

Jones, Francis L., to Lockheed Aircraft Corp. Coating for refractory metal. 3,269,856, 8–30–66, Cl. 117—70.

Jones, Harold R.: *See*—
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Jonker, Ruth A. Balancing and exercising device. 3,269,746, 8–30–66, Cl. 280—87.04.

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Jordan, Edgar A. Chair hook attachment. 3,268,967, 8–30–66, Cl. 24—236.

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Smith, Joseph A., and Jordan. 3,269,507.

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Jore, Bjorn, R. G. D'Ascoli, and J. W. Olson, to Anaconda Wire and Cable Co. Apparatus and method for making a leak-detecting electrical conductor. 3,270,105, 8–30–66, Cl. 264—139.

Joslyn, Donald E. Stair climbing wheel chair. 3,269,478, 8–30–66, Cl. 180—8.

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Joyce, Ronald W.: *See*—
Braughler, Guy E., and Joyce. 3,269,379.

Jubb, Charles D. Gripping tool or vise having serrated fulcruming and limiting means. 3,269,229, 8–30–66, Cl. 81—243.

Junkers Flugzeug-und Motorenwerke Aktiengesellschaft: *See*—
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Kaeding, Hugo C., to General Electric Co. Bearing and bearing housing for a dynamoelectric machine. 3,270,227, 8–30–66, Cl. 310—90.

Kagitani, Takeo. Function converting mechanism. 3,269,648, 8–30–66, Cl. 235—61.

Kains, Anton, to International Research Establishment. Apparatus for fractionating fluids. 3,269,546, 8–30–66, Cl. 210—377.

Kaiser, Fritz, to Alpine Aktiengesellschaft Maschinenfabrik und Eisengiesserei. Radial flow solids separator with seal. 3,269,537, 8–30–66, Cl. 209—144.

Kaiser Industries Corp.: *See*—
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Mehlo, Walter, and Hohmann. 3,269,451.

Kalm, Max J.: *See*—
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Karg, Dr., G.m.b.H.: *See*—
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Karg, Roland, to Dr. Karg, G.m.b.H. Mixing head. 3,269,709, 8–30–66, Cl. 259—57.

Kaser, Willard L.: *See*—
Borchert, Peter J., Kaser, and Mirsa. 3,269,852.

Kath, Alfred W., to R. P. Scherer, Corp. Apparatus for making fluid filled capsules. 3,269,088, 8–30–66, Cl. 53—184.

Kaumagraph Co.: *See*—
Jardine, Philip R., Pim, Lawrence, and Hochner. 3,270,101.

Kay, John G., to Joseph F. Lamb Co. Switch actuating mechanism for chuting. 3,270,155, 8–30–66, Cl. 200—61.41.

Kazan, Benjamin, to Hughes Aircraft Co. Photosensitive rapid switching circuit. 3,270,206, 8–30–66, Cl. 250—209.

Kearns, William J.: *See*—
Bailey, Ward E., Jr., and Kearns. 3,270,232.

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Keeran, William C., to Vapor Corp. Automatic headlight dimmer system. 3,270,245, 8–30–66, Cl. 315—83.

Keller, Robert J., to Harnischfeger Corp. Welding nozzle. 3,270,178, 8–30–66, Cl. 219—74.

Kelly, Gordon E., and P. E. Crookshanks, to Radio Corp. of America. Color kinescope operating and testing arrangements. 3,270,125, 8–30–66, Cl. 178—5.4.

Kelly, Joseph L., Jr., to Hughs Tool Co. Solid head rotary-percussion bit with rolling cutter. 3,269,469, 8–30–66, Cl. 175—336.

Kelly, Joseph L., Jr., to Hughs Tool Co. Rotary-percussion drill bit with anti-wedging gage structure. 3,269,470, 8–30–66, Cl. 175—410.

Kelly, William A., and P. J. Petix, to Lever Brothers Co. Apparatus for making multicolored soap bars. 3,268,970, 8–30–66, Cl. 25—8.

Kelsey, Robert H., to Horizons Inc. Preparation of inorganic oxide monofilaments. 3,270,109, 8–30–66, Cl. 264—178

Kelsey-Hayes Co.: *See*—
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Kemenczky Establishment: *See*—
Kemenczky, Miklos. 3,269,112.

Kemenczky, Miklos, to Kemenczky Establishment. Steam actuated jet propulsion engine. 3,269,112, 8–30–66, Cl. 60—35.5.

Kemp, John H., Jr. Apparatus for transferring palletized loads. 3,269,565. 8–30–66, Cl. 214—2.

Kemp, John H., Jr. Apparatus for unstacking pallets. 3,269,568. 8–30–66, Cl. 214—8.5.

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Aiken, Joseph P. 3,270,102.

Kennedy, James M.: *See*—
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Kern, Richard W.: *See*—
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Kettle, Arthur B.: *See*—
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Key, Hobart, Jr. Fuel packages. 3,269,807, 8–30–66, Cl. 44—40.

Kibbey, Harry S., to The Cincinnati Milling Machine Co. Abrasive article containing zirconium tetrafluoride filler. 3,269,813, 8–30–66, Cl. 51—298.

Kiekhaefer Corp.: *See*—
Steele, Owen L., Jr., and Miller. 3,269,210.

Killaly, John S., and A. B. Kettle. Quadrant punch for turret punch presses and the like. 3,269,240, 8–30–66, Cl. 83—140.

Kilness, Luther E. Reversible one-way clutch for wrench. 3,269,496, 8–30–66, Cl. 192—43.2.

Kilp, Gerald R., and P. M. Bergstrom, to Westinghouse Electric Corp. Multiple junction unitary thermoelectric device. 3,269,871, 8–30–66, Cl. 136—205.

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Kimberly-Clark Corp.: *See*—
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King, Donald L., to The Steelcraft Mfg. Co. Base anchor for sectional metal door frames. 3,269,068, 8–30–66, Cl. 52—217.

King, James F., Jr., to The Bahnson Co. Hinged cleaner trunk for floor cleaner. 3,268,941, 8–30–66, Cl. 15—312.

Kinney, John C. Invalids chair. 3,269,768, 8–30–66, Cl. 297—68.

Kiper, Gerd, to Agfa Aktiengesellschaft. Between-the-lens shutter assemblies. 3,269,293, 8–30–66, Cl. 95—60.

Kiper, Gerd, to Agfa Aktiengesellschaft. Between-the-lens shutter assembly. 3,269,294, 8–30–66, Cl. 95—63.

Kirby, Edward J., to Microsound Inc. Fuel tank for motor bike. 3,269,480, 8–30–66, Cl. 180—35.

Kirk, Thomas E., and W. D. Worrell, to General Motors Corp. Fault indicator circuit for diode-rectified generator. 3,270,331. 8–30–66, Cl. 340—248.

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Kittle, Bernard W.: *See*—
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Bell, Robert M., and Horswood. 3,269,152.

Klauke, Erich: *See*—
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Kleeberger, Rudolf, to Georg Schafer Kugelfischer & Co. Fly weight governor, particularly for fuel injection-type internal combustion engines. 3,269,193, 8–30–66, Cl. 73—526.

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Klemm, Edwin O.: *See*—
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Klesper, Herbert: *See*—
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Knapsack-Griesheim Aktiengesellschaft: *See*—
Cremer, Joseph, and Kribbe. 3,269,926.

Kneer, William M. Apparatus and methods for sorting numbered media. 3,269,788, 8–30–66, Cl. 312—200.

Kneiling, John G., to Devenco Inc. Railroad car and drop-floor arrangement therefor. 3,269,832, 8–30–66, Cl. 105—240.

Kniazuk, Michael: *See*—
Prediger, Fred R., and Kniazuk. 3,270,177.

Knight, Sidney G., to Drott Mfg. Corp. Safety control for cranes. 3,269,560, 8–30–66, Cl. 212—39.

Knocke, Louis T. Closure plug. 3,269,582, 8–30–66, Cl. 220—24.5.

Knowles, Edwin C.: *See*—
McCoy, Frederic C., and Knowles. 3,269,950.

Knudsen Creamery Co. of California: *See*—
Mayer, Bromley M., and Powell. 3,269,842.

Knudsen, Hjalmar O. Photographic enlarger. 3,269,263, 8–30–66, Cl. 88—24.

Kobe Steel Works, Ltd.: *See*—
Goto, Asahiko. 3,269,423.

Kober, Ehrenfried H., R. F. W. Ratz, and H. Ulrich, to Olin Mathieson Chemical Corp. Cross-linked polymers from fluorinated heterocyclic compounds and guanidine carbonates or phosphorus oxytriamide. 3,269,959, 8–30–66, Cl. 260—2.

Kobus, Stanislas: *See*—
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Koci, Jerry C., and A. Schlapa, to Chicago Dynamic Industries, Inc. Bowling game with sequentially illuminated bulbs simulating bowler and ball movements. 3,269,731, 8–30–66, Cl. 273—85.

Koch, Ulrich H., to Whitey Research Tool Co. Valve. 3,269,698. 8–30–66, Cl. 251—214.

Kochey, Edward L., Jr., to Combustion Engineering, Inc. Vapor generator furnace wall deslagger. 3,269,365, 8–30–66, Cl. 122—392.

Koehring Co.: *See*—
Thompson, Clarence R. 3,269,331.

Koenig, Francis L. Kick-up rudder for sailboats. 3,269,347, 8–30–66, Cl. 114—162.

Koenigshof, Gerald A., to Timber Engineering Co. Wood siding construction. 3,269,073, 8–30–66, Cl. 52—465.

Koenig, Robert H., to Tapeswitch Corp. of America. Tape switch having zig-zag insulator means. 3,270,160, 8–30–66, Cl. 200—86.

Koepp, Hans-Martin: *See*—
Wiloth, Fritz, and Koepp. 3,269,990.

Koerber, Willem K.: *See*—
Pattyn, Hendrik A., and Koerber. 3,269,840.

Kohanek, Dennis G., and R. B. Chess, to United-Carr Inc. Split pin contact with protective shroud. 3,270,314, 8–30–66, Cl. 339—252.

Kohler, Coating Machinery Corp., The: *See*—
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Kohler, John B., to The Kohler Coating Machinery Corp. Paper machine flaw detecting and marking apparatus. 3,269,178, 8–30–66, Cl. 73—159.

Kohler, John J., and L. A. Ross, to Olin Mathieson Chemical Corp. N-(trichloromethylthio) heptasulfurimide and process therefor. 3,270,049, 8–30–66, Cl. 260—551.

Kokusai Denshin Denwa Kabushiki Kaisha: *See*—
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Koppelmann, Eldo K., to Madison Industries, Inc. Step micrometer adjustment means. 3,269,353, 8–30–66, Cl. 116—124.

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Kosonocky, Walter F., to Radio Corp. of America. Laser control device using a saturable absorber. 3,270,291, 8–30–66, Cl. 331—94.5.

Kovalsky, Stephen J., and R. A. Olson, to FMC Corp. Method for producing stable salts of dichloroisocyanuric acid. 3,270,017, 8–30–66, Cl. 260—248.

Krakauer, Merrill, and H. E. Verbeke. Article vending machine. 3,269,595, 8–30–66, Cl. 221—75.

Krakusky, James J., to The Western Union Telegraph Co. Automatic carriage return and line feed mechanism. 3,270,134, 8–30–66, Cl. 178—25.

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Kroehle, Thomas P., to Brown Fintube Co. Vaporizing apparatus and method. 3,269,367, 8–30–66, Cl. 122—448.

Krohn, Henry W., to Eaton Yale & Towne Inc. Tread depth gauge. 3,269,019. 8–30–66, Cl. 33—169.

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Lacy, Michael J., to General Electric Co. Method of manufacturing dynamoelectric machines. 3,268,986, 8–30–66, Cl. 29—155.5.

Ladd, James A., and J. M. Kennedy, to Atomic Energy of Canada Ltd. Digital spectrum stabilizer for pulse analysing system. 3,270,205, 8–30–66, Cl. 250—83.3.

Laman, George M., to Bunker-Ramo Corp. Position control ball assembly. 3,269,190, 8–30–66, Cl. 74—471.

Lamar, Heber C. Lighter tamper combination. 3,269,396, 8–30–66, Cl. 131—247.

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Lanham, William M., and P. L. Smith, to Union Carbide Corp. Process for production of phosphorus diesters. 3,270,096, 8–30–66, Cl. 260—976.

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Lanza, Vincent L., and E. C. Stivers, to Raychem Corp. Crosslinked polyvinylidene fluoride over a crosslinked polyolefin. 3,269,862, 8–30–66, Cl. 117—218.

Larach, Simon, and P. N. Yocom, to Radio Corp. of America. Method for preparing rare earth activated zinc sulfide phosphors and products thereof. 3,269,956, 8–30–66, Cl. 252—301.6.

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Lattanzio, Frank, and F. W. Reichenbacher, to United Aircraft Corp. Turbopump arrangement. 3,269,317, 8–30–66, Cl. 103—6.

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Lebow, Ralph H., to Parker-Hannifin Corp. Automatic shut-off valve. 3,269,404, 8–30–66, Cl. 137—199.

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Ledoux, Jean-Francois, and A. Feyzeau, to CIT Compagnie Industrielle des Telecommunications. Core matrix system for monitoring a plurality of contacts. 3,270,322, 8–30–66, Cl. 340—166.

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Lee, Max M., to Hysol Corp. Tetracarboxylic acid hardeners for epoxy resins and powdered epoxy resin compositions including such hardeners. 3,269,975, 8–30–66, Cl. 260—37.

Lee, Pui K., to Minnesota Mining and Mfg. Co. Light exposure apparatus. 3,270,194, 8–30–66, Cl. 240—20.

Lee, Walter S. Electro-magnetic diaphragm valve. 3,269,689, 8–30–66, Cl. 251—52.

Leeds, Benjamin L., to United States of America, Army. Fire control gyroscopes. 3,269,196, 8–30–66, Cl. 74—5.4.

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Lynn, Robert J., K. Daugirdas, C. L. Wanlund, and W. W. Parks, to Vapor Corp. Door locking mechanism. 3,269,058, 8–30–66, Cl. 49—14.

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Mahoney, William J., and N. N. Murthy, to American Machine & Foundry Co. Electrodialysis apparatus for desalinization of fluids having automatic current control means. 3,269,933, 8–30–66, Cl. 204—301.

Maier, Richard J.: *See*—
Carmichael, Thomas F., Maier, and Schilling. 3,270,268.

Malik, Fredun A. Apparatus for safeguarding information. 2,269,256, 8–30–66, Cl. 88—24.

Mallard Plastics, Inc.: *See*—
Wahl, John F. 3,269 557.

Mallory, P. R., & Co., Inc.: *See*—
Voland, Elmo W. 3,269,212.

Mallow, Max V., to Ford Motor Co. Slug preparation for a cold extrusion. 3,269,166, 8–30–66, Cl. 72—343.

Malsbary Mfg. Co.: *See*—
Telford, Carlyle O., and Pritchard. 3,269,318.

Malz, Hugo, H. Kukenthal, W. Behrenz, E. Klauke, and E. Kuhle, to Farbenfabriken Bayer Aktiengesellschaft. Fluoro-chloro substituted phosphorus containing esters. 3,270,095, 8–30–66, Cl. 260—955.

Mamalis, Thomas A.: *See*—
Gordon, Al. 3,269,055.

Manaster, Joseph. Poultry treating apparatus. 3,269,302, 8–30–66, Cl. 100—73.

Manchester, Isaac F., Jr., to Manchester Yacht Sails, Inc. Sail. 3,269,343, 8–30–66, Cl. 114—104.

Manchester Yacht Sails, Inc.: *See*—
Manchester, Isaac F., Jr. 3,269,343.

Mandle, John B. Apparatus for measuring and digitally indicating linear displacement between two relatively movable members. 3,270 281, 8–30–66, Cl. 324—68.

Mann, Karl E., to Otto Fuchs, K.G. Casting of metal ingots. 3,268,963, 8–30–66, Cl. 22—212.

Marano, Herbert W., to Consolidated Cigar Corp. Loading apparatus. 3,269,083, 8–30–66, Cl. 53—64.

Marantette, James C., and H. E. Bennett, Jr., to Richfield Oil Corp. Tank cleaning apparatus. 3,268,933, 8–30–66, Cl. 15—1.7.

Marchant, Francis C. I., G. A. Day, and G. W. Collins, to Bristol-Siddely Engines Ltd. Jet propulsion engines. 3,269,114, 8–30–66, Cl. 60—35.6.

Marcus, Morris L. Certificate holder. 3,269,041, 8–30–66, Cl. 40—10.

Marcus, William. Rack. 3,269,550, 8–30–66, Cl. 211—87.

Marechal, Joseph E. M., H. R. Debus, and R. M. Cahen, to Labofina S.A. Process for the reduction of the aromatic content of petroleum distillates. 3,269,939, 8–30–66, Cl. 208—143.

Maremont Corp.: *See*—
Burnham, Virgil A. 3,268,953.

Marini, Louis G.: *See*—
Marini, Thomas O. and L. G., and Cosden. 3,269,075.

Marini, Thomas O., and L. G., and B. L. Cosden; said T. O. and L. G. Marini, assors., to said Cosden. Aluminum shingle. 3,269,075, 8–30–66, Cl. 52—522.

Markowitz, Joel. Skin diver fin. 3,268,927, 8–30–66, Cl. 9—304.

Marra, Ivan L., to Fre-Mar Industries. Sealing material. 3,269,445, 8–30–66, Cl. 152—370.

Marsel, Charles J.: *See*—
Happel, John, and Marsel. 3,270,076.

Marshall, Philip, and J. M. Blakeway, to Colgate-Palmolive Co. Sulphonation of organic compounds. 3,270,038, 8–30–66, Cl. 260—400.

Martin, John, to Fabricacion de Maquinas. Automatic liquid fuel burner control. 3,269,448, 8–30–66, Cl. 158—28.

Martin, Le Roy L., to Bartelt Engineering Co., Inc. Cartoning machine. 3,269,091, 8–30–66, Cl. 53—252.

Martin, Richard T.: *See*—
Eberhard, Everett, and Martin. 3,270,146.
Eberhard, Everett, and Martin. 3,270,148.

Martin, William B., and L. R. Swett, to Abbott Laboratories. N-alkynyl-naphthylalkyl-amines. 3,270,056, 8–30–66, Cl. 260—570.8.

Martin-Marietta Corp.: *See*—
Birge, Warren A. 3,270,336.

Marty, Pierre R. L.: *See*—
Benmussa, Henri, Marty, and Kobus. 3,270,139.

Maryland Baking Co., The: *See*—
Heyman, Albert A. 3,269,335.

Marzocchi, Alfred: *See*—
Shulver, William, Miller, Atteridge, and Marzocchi. 3,269,883.

Marzocchi, Lorenzo. Folding-frame chair. 3,269,767, 8–30–66, Cl. 297—29.

Mascaro, John A.: *See*—
Egitto, Joan L., and Mascaro. 3,269,176.

Massicotte, William. Foam light weight rubber snow shoes. 3,269,037, 8–30–66, Cl. 36—4.5.

Massina, Pierre, to Tubest. Pneumatic jack-operated swinging door and the like. 3,269,061, 8–30–66, Cl. 49—326.

Materials Research Laboratory, Inc.: *See*—
Ripling, Edward J., and Mostovoy. 3,269,163.

Matson, Lyle K., F. J. Reid, and J. F. Miller, to Battelle Memorial Institute. Resistance devices. 3,270,310, 8–30–66, Cl. 338—20.

Mattei, Italo V., to Rohm & Haas Co. Process for treating leather. 3,269,858, 8–30–66, Cl. 117—142.

Mattei, Italo V., F. J. Glavis, and J. A. Lowell, to Rohm & Haas Co. Composition for impregnation of leather and resulting products. 3,269,859, 8–30–66, Cl. 117—142.

Mattern, Frank C., Jr.: *See*—
Mac Kenzie, Fred T., Mattern, and Schuster. 3,269,594.

Matthews, Richard A., and H. A. Johansen, to Samuel Moore and Co. Composite tubing product and apparatus and method for manufacturing the same. 3,269,422, 8–30–66, Cl. 138—111.

Mattiasson, Rolf: *See*—
Alvarado, Jose, de Maria y Campos Fernandez, and Mattiasson. 3,269,410.

Mattson, John R.: *See*—
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Maurer, Robert D., to Corning Glass Works. Neodymium glass laser having an output at about 9180 A. 3,270,290, 8–30–66, Cl. 331—94.5.

Maus, Otto: *See*—
Heuck, Claus, Maus, Winter, and Schulde. 3,269,980.

Mavrovic, Ivo, to Chemical Construction Corp. Complete recycle urea synthesis process. 3,270,050, 8–30–66, Cl. 260—555.

Maxeiner, Gottfried, to A. Ehrenreich & Cie. Ball and socket joint. 3,269,757, 8–30–66, Cl. 287—87.

Maxon Industries, Inc.: *See*—
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Mayer, Bromley M., and M. E. Powell, to Knudsen Creamery Co. of California. Method for producing soft plastic yogurt. 3,269,842, 8–30–66, Cl. 99—59.

Mayer, Oscar & Co. Inc.: *See*—
Dueringer, Erwin G., and Johnson. 3,269,277.

Mayes, Nathan: *See*—
Green, Joseph, and Mayes. 3,269,992.

Mayo, Preston D., to Atlantic Research Corp. Multi-port flow-control valve. 3,269,414, 8–30–66, Cl. 137—625.21.

Mazery, Yves B. G. Load adjusting and articulating vehicle hitching device. 3,269,748, 8–30–66, Cl. 280—405.

McArthur, Billy W.: *See*—
Hardy, William C., and McArthur. 3,269,460.

McCallum, Douglas W.: *See*—
Erwin, Lee R., Gustavson, and McCallum. 3,268,989.

McCally, Richard K., and L. L. Young, to Dresser Industries, Inc. Pressure responsive device. 3,269,188, 8–30–66, Cl. 73—418.

McCamsey Machine Co., Inc.: *See*—
Ramsey, Knox W. 3,269,722.

McCarthy, Charles L., Jr. Safety belt lock. 3,269,482, 8–30–66, Cl. 180—82.

McCarty, Lourdes V. L. Queever, and C. Hotchkiss, to Controls Co. of America. Fuel control and ignition system. 3,269,447, 8–30–66, Cl. 158—28.

McClung, Robert A.: *See*—
Moses, Nelson K., and McClung. 3,269,656.

McCormack, John F.: *See*—
Schneble, Frederick W., Jr., Zeblisky, McCormack, and Williamson. 3,269,861.

McCoy, Frederic C., and E. C. Knowles, to Texaco Inc. Lubricating composition containing amide, imide and thiocyanate complexes of zinc and tin. 3,269,950, 8–30–66, Cl. 252—46.4.

McCoy, William N., and J. D. Bell, to National Steel Corp. Superheater. 3,269,368, 8–30–66, Cl. 122—479.

McCreary, Harold J., to The Bunker-Ramo Corp. Method and apparatus for thermally setting and controlling the gaps of non-contact readout elements. 3,270,328, 8–30–66, Cl. 340—174.1.

McCreary Tire & Rubber Co.: *See*—
Rankin, Floyd C. 3,268,950.

McCulloch Corp.: *See*—
Beck, Niels J. 3,269,713.
Ehlen, Jack W. 3,269,431.

McDaniel, William H.: *See*—
Parker, Mitchell, McDaniel, and Gantt. 3,269,036.

McDonough Power Equipment, Inc.: *See*—
Smith, William R. 3,269,100.

McDowell, Robert C., to Olin Mathieson Chemical Corp. Multiwall bag. 3,269,643, 8–30–66, Cl. 229—55.

McEuen, Albert H., R. M. Whitehorn, R. E. Dye, and E. J. Murphy, to Varian Associates. Intruder alarm system. 3,270,339, 8–30–66, Cl. 343—7.

McGarry, Stephen L., to General Motors Corp. Control knob indicator assembly. 3,269,211, 8–30–66, Cl. 74—504.

McGaughey, Robert E. Revolver with shooting trigger and digitally engageable auxiliary means secured thereto. 3,269,045, 8–30–66, Cl. 42—65.

McGaughey, William C., to Automation Industries, Inc. Apparatus for measuring particles in liquids. 3,269,172, 8–30–66, Cl. 73—61.

McGraw-Edison Co.: *See*—
Bertling, Ronald J., and M. P. Grivello. 3,269,754.
Lemens, Donald J. 3,270,246.
Mikulecky, Haney W. 3,270,175.

McKee, Arthur G. & Co.: *See*—
Schwed, George, and Combs. 3,269,325.

McKee, Jean I., and J. W. Tucker, to Stauffer Chemical Corp. Food compositions containing undenatured water-soluble lactalbumin phosphates. 3,269,843, 8–30–66, Cl. 99—94.

McKie, Robert T., to United States Steel Corp. Continuous heat treating apparatus. 3,269,714, 8–30–66, Cl. 263—3.

McLain, Ann G., to Lockheed Aircraft Corp. Transparent file separator. 3,269,392, 8–30–66, Cl. 129—26.

McLaughlin, Lawrence J.: *See*—
Licata, Joseph P., McLaughlin, and Warner. 3,269,450.

McLearn, Herbert M., and F. P. Skipper, to American Machinery Corp. Bulk produce box dumping device. 3,269,571, 8–30–66, Cl. 214—302.

McMath, Paul L.: *See*—
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McMillan, Malcolm D., Jr., to McMillan Mfg. Co. Clamp for axial adjustment of a small motor shaft. 3,270,226, 8–30–66, Cl. 310—90.

McMillan Mfg. Co.: *See*—
McMillan, Malcolm D., Jr. 3,270,226.

McMullen, John J., Associates, Inc.: *See*—
Lewis, Edward V. 3,269,345.

McNulty, John F., to International Telephone and Telegraph Corp. Electromagnetic friction braking arrangement. 3,270,265, 8–30–66, Cl. 318—372.

Meade, Robert M., and K. W. Borror, to International Business Machines Corp. Means of address distribution. 3,270,324, 8–30–66, Cl. 340—172.5.

Meals, Robert N., to General Electric Co. Isothiocyanate useage. 3,269,982, 8–30–66, Cl. 260—46.5.

Mears, John H., Jr. Thickness adjustable window frame construction. 3,269,062, 8–30–66, Cl. 49—505.

Measurement Systems, Inc.: *See*—
Mehr, Morton H. 3,270,260.

Mechanical Handling Systems Inc.: *See*—
Bishop, Leonard J., and Klamp. 3,269,520.

Meeussen, Louis A.: *See*—
De Keyser, Lodewijk F., Albrecht, and Meeussen. 3,269,252.

Mehlo, Walter, and M. Hohmann, to Kalle Aktiengesellschaft. Spray-drying process and apparatus therefor. 3,269,451, 8–30–66, Cl. 159—4.

Mehr, Morton H., to Measurement Systems, Inc. Stick-operated diaphragm control. 3,270,260, 8–30–66, Cl. 317—255.

Meima, Robert J., and J. D. Aitken, to Thiokol Chemical Corp. Ball valve seal support. 3,269,691, 8–30–66, Cl. 251—159.

Mellion, Frank: *See*—
Di Domenico, Joseph, and Mellion. 3,269,596.

Mellott, Hayes R.: *See*—
Mellott, John S. and H. R. 3,269,432.

Mellott, John S. and H. R. Log turner. 3,269,432, 8–30–66, Cl. 142—99.

Mellott, Robert N., and P. F. Smitha, to The Bunker-Ramo Corp. Timing circuit. 3,270,215, 8–30–66, Cl. 307—88.5.

Melnyck, Michael, to Crofton Plastics, Inc. Paint roller. 3,268,943, 8–30–66, Cl. 15—541.

Melpar, Inc.: *See*—
Dailey, Donald R. 3,269,249.

Mendelsohn, Meyer, to Yardney International Corp. Inter-electrode separator. 3,269,869, 8–30–66, Cl. 136—146.

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Vaughn, David S., and Mendenhall. 3,269,200.

Merchants Paper Corp.: *See*—
Forbes, Norman C. 3,269,638.

Merck & Co., Inc.: *See*—
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Prediger, Fred R., and Kniazuk. 3,270,177.
Wendler, Norman L., and Taub. 3,270,067.

Merian, Ernest, and O. Senn, to Sandoz Ltd. (Aka Sandoz AG.). Monoazo indanidone containing dyestuffs. 3,270,002, 8–30–66, Cl. 260—193.

Merkel, Hans: *See*—
Wenzel, Federico E., and Merkel. 3,269,878.

Merlin & Gerin Etablissements: *See*—
Latour, Andre. 3,270,171.

Merrifield, John D. Aligning machines for bag closing units. 3,269,993, 8–30–66, Cl. 53—393.

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Gardner, Edward M. 3,269,766.

Merrill, George E. Apparatus for producing potable water from saline water. 3,269,920, 8–30–66, Cl. 202—173.

Mers, Herman. Egg container. 3,269,634, 8–30–66, Cl. 229—2.5.

Merz, Wolfgang, E. Nebe, and H. Toussaint, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Purification of crude aqueous glyoxal solutions. 3,270,062, 8–30–66, Cl. 260—601.

Messinger, Werner, and R. Wich, to Braun Aktiengesellschaft. Shaving apparatus head. 3,269,008, 8–30–66, Cl. 30—43.91.

Mesta Machine Co.: *See*—
Lemper, Herbert. 3,268,956.

Metal Containers Ltd.: *See*—
Van Leer, Oscar J. 3,269,182.

Meurer, Bernard L., and W. L. Fisher. Compartmental dispensing container for nose and throat preparations. 3,269,389, 8–30–66, Cl. 128—198.

Meuse, John A.: *See*—
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Michard, Louis M., to Societe Nationale d'Etude et de construction de Moteurs d'Aviation. Jet propulsion unit with movable nozzle. 3,269,662, 8–30–66, Cl. 239—265.25.

Michel, Alfred: *See*—
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Mickley, Rolf. Anti-dazzle automobile headlight. 3,270,195, 8–30–66, Cl. 240—41.35.

Microcyclomat Co., The: *See*—
Lykken, William H. 3,269,667.

Microsound Inc.: *See*—
Kirby, Edward J. 3,269,480.

Midvale-Heppenstall Co., and Heppenstall Co.: *See*—
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Mikulecky, Harvey W., to McGraw-Edison Co. Fault indicator. 3,270,175, 8–30–66, Cl. 200—167.

Milenkovic, Veljko, and C. Zaander, to American Machine & Foundry Co. Maximum error signal detector for a servo control and a circuit override responsive thereto. 3,270,262, 8–30–66, Cl. 318—19.

Miles Laboratories, Inc.: *See*—
Barton, Richard R. 3,269,918.
Borchert, Peter J., Kaser, and Mirsa. 3,269,852.
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Millionis, Jerry P.: *See*—
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Miller, Charles D.: *See*—
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Miller, Eldon D., Jr., to Harbison-Walker Refractories Co. Calcium aluminate shapes. 3,269,848, 8–30–66, Cl. 106—64.

Miller, Eldon D., Jr., to Harbison-Walker Refractories Co. Alumina refractories. 3,269,850, 8–30–66, Cl. 106—65.

Miller, Forbes M., to Wall Colmonoy Corp. Method of making a porous sealing device. 3,268,997, 8–30–66, Cl. 29—420.

Miller, James F.: *See*—
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Miller, Raphael W., and H. J. Worst. Sectional billiard cue with weighted handle. 3,269,730, 8–30–66, Cl. 273—68.

Miller, William H.: *See*—
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Millmaster Onyx Corp.: *See*—
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Wakeman, Reginald L., and Dudsinski. 3,270,060.

Mills, Bernard D., and R. F. Payne, to International Standard Electric Corp. Continuously graded electrode of two metals for semiconductor devices. 3,270,256, 8–30–66, Cl. 317—234.

Mills, John K., to Bell Telephone Laboratories, Inc. Reversible current supply. 3,270,273, 8–30–66, Cl. 321—47.

Miner, Robert G., to The Trane Co. Consequent pole shaded pole motor. 3,270,264, 8–30–66, Cl. 318—223.

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Friedlander, William S., and Mattson. 3,270,019.
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Minor, Jacob C., D. H. Schuller, and R. V. Lawrence, to United States of America, Agriculture. Modified rosins and process. 3,269,998, 8–30–66, Cl. 260—99.

Mirsky, David. Apparatus for photographically plotting an ocular field. 3,269,792, 8–30–66, Cl. 351—23.

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Mittelstaedt, Glen L., to Herter's Inc. Bolt release and ejector mechanism. 3,269,044, 8–30–66, Cl. 42—25.

Mittermaier, Armin F., to General Electric Co. Preformed magnetic core structure. 3,270,308, 8–30–66, Cl. 336—217.

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Moreke, Edward C., to Moreke Displays and Mfg. Co. Tote tray. 3,269,579, 8–30–66, Cl. 220—21.

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Mohler, Donald, and R. A. West, to General Electric Co. Dry oxide capacitor. 3,270,261, 8–30–66, Cl. 317—258.

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Monk, Gaines W., to United States of America, Army. Apparatus and method for elutriating and measuring fine solid particles. 3,269,189, 8–30–66, Cl. 73—432.

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Wygant, James C., and Anderson. 3,270,089.

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Moore, George R. Hillside stabilizing construction. 3,269,125, 8–30–66, Cl. 61—35.

Moore, Howard V., and N. B. Godfrey, to Jefferson Chemical Co. Inc. Corrosion inhibitors from amine residue. 3,269,999, 8–30–66, Cl. 260—102.

Moore, Lawrence A., to Beloit Corp. Tree harvester. 3,269,436, 8–30–66, Cl. 144—3.

Moore, Ralph W., to The Pangborn Corp. Screen and pneumatic separator. 3,269,532, 8–30–66, Cl. 209—33.

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Matthews, Richard A., and Johansen. 3,269,422.

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Morf, Ernest. Winding and hand-setting stem arrangement in a watchcase. 3,269,107, 8–30–66, Cl. 58—73.

Morimoto, Tatsuo, to Taki Fertiliser Mfg. Co., Ltd. Process of treating lignin-containing aqueous liquor. 3,270,001, 8–30–66, Cl. 260—124.

Morita, Hiroshi. Lappet for spinning machine. 3,269,104, 8–30–66 Cl. 57—106.

Morley, John D., J. F. Nystrom, and W. L. Ward, to National Electric Welding Machine Co. Method and apparatus for strip welding. 3,270,180, 8–30–66, Cl. 219—81.

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Morton, Glenn R. Method of and means for producing dense articles from molten materials. 3,268,960, 8–30–66, Cl. 22—68.

Mosby, Fred A., to General Electric Co. Electric lamp filament support. 3,270,238, 8–30–66, Cl. 313—279.

Moses, Nelson K., and R. A. McClung, to Railroad Permanent Way Products Corp. Spring clip for railroad track structures or the like. 3,269,656, 8–30–66, Cl. 238—349.

Mosler Safe Co., The: *See*—
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Moss, Hoyle G., and R. C. Schwartz, to Continental/Moss-Gordin, Inc. Jet spiral drier. 3,269,029, 8–30–66, Cl. 34—182.

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Mulholland, George K., and E. O. Klemm, to Saginaw Products Corp. Normally applied drawbar released vehicle braking system. 3,269,745, 8–30–66, Cl. 280—47.11.

Mullen, William G.: *See*—
Van Name, Joseph M., and Mullen. 3,270,120.

Mulshine, Michael A., Jr.: *See*—
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Munger, Fay E., to Jeffrey Gallon Mfg. Co. Mining apparatus. 3,269,776, 8–30–66, Cl. 299—57.

Munson, Whitney K. Handgrip unit for rubber stamps. 3,269,309, 8–30–66, Cl. 101—406.

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Nager, Maxwell, J. W. Jenkins, and L. W. Maas, to Shell Oil Co. Hydroisomerization process. 3,269,937, 8–30–66, Cl. 208—135.

Nakano, Zenichi, to Hitachi, Ltd. Operating mechanisms of air-filled air-break circuit breakers. 3,270,174, 8–30–66, Cl. 200—148.

Nakatogawa, Takeshi, T. Ogawa, M. Hara, and S. Okano, to Kabushiki Kaisha Hitachi Seisakusho. Silicon rectifying junction structures for electric power and process of production thereof. 3,270,255, 8–30–66, Cl. 317—234.

Nast, Thomas D., and R. G. Wooldridge, to All-State Welding Alloys Co., Inc. Apparatus for processing welding wire. 3,269,248, 8–30–66, Cl. 83—371.

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National Can Corp.: *See*—
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National Cash Register Co., The: *See*—
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National Lead Co.: *See*—
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National Research Development Corp.: *See*—
Heaton, Peter. 3,270,136.

National Standard Co.: *See*—
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Lang, Ernest U. 3,268,957.

National Steel Corp.: *See*—
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National Vulcanized Fibre Co.: *See*—
Holton, George F. 3,269,102.

Naylor, William H., and C. F. Smith. Four-way entry pallet. 3,269,336, 8–30–66, Cl. 108—58.

Nealon, Thomas F., Jr.: *See*—
Gibbon, James H., Jr., Nealon, Sandler, and Kunin. 3,269,911.

Nebe, Erich: *See*—
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Nederlandse Organisatie voor Toegepast-Natuurwetensehappelijk Onderzoek ten Behoeve van de Rijkaverdedigino: *See*—
Van Heel, Abraham C. S., Boernink, and Doekes. 3,269,253.

Neely, George L., to Chevron Research Co. Dual element, dual valve filter assembly. 3,269,541, 8–30–66, Cl. 210—132.

Negromanti, Antonio. Temperature sensitive control wires provided with transistors for electrically heated pads, blankets and the like. 3,270,184, 8–30–66, Cl. 219—501.

Nelmor Corp.: *See*—
Warhol, John G. 3,269,652.

Nelson, Arthur W., Jr., to United Aircraft Corp. Jet engine afterburner continuous splash plate. 3,269,115, 8–30–66, Cl. 60—35.6.

Nelson, Charles S.: *See*—
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Nerenberg, Robert W.: *See*—
Bergstein, Robert M., and Nerenberg. 3,269,635.

Nessler, Friedrich, to Hans J. Zimmer Verfahrenstechnik. Galvanic cell and method for measuring oxygen traces in gases. 3,269,924, 8–30–66, Cl. 204—1.

Netherton, Lowell E., and R. E. Vanstrom, to Stauffer Chemical Co. Dentifrice polishing agents. 3,269,814, 8–30–66, Cl. 51—307.

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Nielsen, Knud B. Apparatus for grilling of chickens. 3,269,299, 8–30–66, Cl. 99—421.

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Nolte, Albert C., Jr., to Elton Industries, Inc. Battery charging device. 3,270,267, 8–30–66, Cl. 320—56.

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Nowak, Robert M., to The Dow Chemical Co. Method for making graft copolymers of polyolefins and acrylic and methacrylic acid. 3,270,090, 8–30–66, Cl. 260—877.

Nowlin, Gene: *See*—
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Null, Myron R.: *See*—
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Nystrom, John F.: *See*—
Morley, John D., Nystrom, and Ward. 3,270,180.

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O'Brien, Russell: *See*—
Bode, Charles H. 3,269,612.

O'Connor, Pete. Cycle seats. 3,269,773, 8–30–66, Cl. 297—214.

O'Connor, Ward F., to The Lummus Co. Apparatus for measuring fluid characteristics. 3,269,184, 8–30–66, Cl. 73—309.

O'Donnell, John E., to Continental Can Co., Inc. Method of restoring ductility to heavily cold worked sheet metal. 3,269,007, 8–30–66, Cl. 29—327.

Oeschger, Joseph E., to Jennings Radio Mfg. Corp. Vacuum variable capacitor. 3,270,259, 8–30–66, Cl. 317—243.

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Ogawa, Takuzo: *See*—
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Oglesby, Minor W., and D. E. Lupfer, to Phillips Petroleum Co. Computing and controlling the enthalpy of a process stream. 3,269,921, 8–30–66, Cl. 203—2.

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Olson, Raymond A.: *See*—
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O'Neill, Roger M., and G. R. Mohr, to Continental Can Co., Inc. Impeder device for improving radio-frequency induction welding. 3,270,176, 8–30–66, Cl. 219—8.5.

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Orser, Lawrence D., to Lincoln Mfg. Co., Inc. Storage cabinet. 3,269,589, 8–30–66, Cl. 220—93.

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Ost, Clarence S. Electronic-mechanical system for integrating radiant energy. 3,269,287, 8–30–66, Cl. 95—10.

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Packaging Frontiers, Inc.: *See*—
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Page, John S., Jr. Well pressure responsive valve. 3,269,463, 8–30–66, Cl. 166—224.

Palazzo, Giuseppe, to Aziende Chimiche Riunite Angelini Francesco. Certain 3-aryl-1,2,4-oxadiazoles. 3,270,028, 8–30–66, Cl. 260—307.

Palazzo, Giuseppe, to Aziende Chimiche Riunite Angelini Francesco. Certain 3-phenyl-5-alkyl-1,2.4-oxadiazoles, substituted in the phenyl ring. 3,270,029, 8–30–66, Cl. 260—307.

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Papaiconomou, George, to Ledex, Inc. Control system for separate as well as simultaneous operation of remote working elements. 3,270,323, 8–30–66, Cl. 340—171.

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Parker, George T., to Allied Chemical Corp. Sulfuryl chlorofluoride fumigant. 3,269,899, 8–30–66, Cl. 167—39.

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Lebow, Ralph H. 3,269,404.

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Passavanti, Lawrence. Article dispensing device having a movably mounted supply container. 3,269,597, 8–30–66, Cl. 221—186.

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Pawloski, James A. Fluid operated hand tool. 3,269,223, 8–30–66, Cl. 81—1.

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Hasseldine, Robert N., and Birchall. 3,270,070.
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Pesacreta, Joseph, Jr., to Texaco Inc. Inhibited cumene. 3,270,072, 8–30–66, Cl. 260—666.5.

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Peterson, Edward C. Table supporting structure. 3,269,337, 8–30–66, Cl. 108—130.

Peterson, Eugene W., and M. J. Nagy, to Santa Barbara Research Center. Temperature sensitive valve arrangement. 3,269,140, 8–30–66, Cl. 62—223.

Peterson, Robert A., to Caterpillar Tractor Co. Steering controls for vehicles operating in tandem. 3,269,481, 8–30–66, Cl. 180—79.2.

Peterson, Robert R., to Lord Corp. Aircraft wing light. 3,270,193, 8–30–66, Cl. 240—7.7.

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Petix, Philip J.: *See*—
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Petrow, Vladimir: *See*—
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Peukert, Ernst, to Bunawerke Huls G.m.b.H. Extraction of 1,3-butadiene. 3,270,083, 8–30–66, Cl. 260—681.5.

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Phillips, Charles E. Particulate material mixing machine. 3,269,707, 8–30–66, Cl. 259—3.

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National Electric Welding Machine Co.: *See*—
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National Lead Co.: *See*—
Haggod, John, and Marsel. 3,270,076.

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Heaton, Peter. 3,270,136.

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Gibbon, James H., Jr., Nealon, Sandler, and Kunin. 3,269,911.

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Merz, Wolfgang, Nebe, and Toussaint. 3,270,062.

Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek ten Behoeve van de Rijksverdedigino: *See*—
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Warhol, John G. 3,269,652.

Nelson, Arthur W., Jr., to United Aircraft Corp. Jet engine afterburner continuous splash plate. 3,269,115, 8–30–66, Cl. 60—35.6.

Nelson, Charles S.: *See*—
Freeland, Paul A., and Nelson. 3,270,294.

Nerenberg, Robert W.: *See*—
Bergstein, Robert M., and Nerenberg. 3,269,635.

Nessler, Friedrich, to Hans J. Zimmer Verfahrenstechnik. Galvanic cell and method for measuring oxygen traces in gases. 3,269,924, 8–30–66, Cl. 204—1.

Netherton, Lowell E., and R. E. Vanstrom, to Stauffer Chemical Co. Dentifrice polishing agents. 3,269,814, 8–30–66, Cl. 51—307.

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Nuclear-Chicago Corp.: *See*—
Crump, Jack G. 3,270,203.

Null, Myron R.: *See*—
Lester, William W., Null, and Eschenbach. 3,270,239.

Nuquip Ltd.: *See*—
Smallpeice, Cosby D. P. 3,269,403.

Nutting, Robert G.: *See*—
Cloots, Henry R., Nutting, and Wagner. 3,269,086.

Nylund, John A., to C. R. Tidland and A. T. Williams. Sanding apparatus. 3,269,065, 8–30–66, Cl. 51—139.

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Morley, John D., Nystrom, and Ward. 3,270,180.

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O'Connor, Ward F., to The Lummus Co. Apparatus for measuring fluid characteristics. 3,269,184, 8–30–66, Cl. 73—309.

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Oeschger, Joseph E., to Jennings Radio Mfg. Corp. Vacuum variable capacitor. 3,270,259, 8–30–66, Cl. 317—243.

Office National Industriel de l'Azote: *See*—
Roche, Andre E. N., Pomot, Luzarreta, and Cousserans. 3,269,923.

Ogawa, Takuzo: *See*—
Nakatogawa, Takeshi, Ogawa, Hara, and Okano. 3,270,255.

Oglesby, Minor W., and D. E. Lupfer, to Phillips Petroleum Co. Computing and controlling the enthalpy of a process stream. 3,269,921, 8–30–66, Cl. 203—2.

Ohashi, Kumao: *See*—
Tsutsumi, Shigeru, Nagao, and Ohashi. 3,270,077.

Ohio Brass Co., The: *See*—
Rawls, James A., and Taylor. 3,270,124.

Okano, Sadao: *See*—
Nakatogawa, Takeshi, Ogawa, Hara, and Okano. 3,270,255.

Olah, George A., to The Dow Chemical Co. Method for preparing aromatic fluorides. 3,270,069, 8–30–66, Cl. 260—650.

Olin Mathieson Chemical Corp.: *See*—
Bruson, Herman A., and Rose. 3,269,961.
Heying, Theodore L., Reid, and Trotz. 3,270,047.
Kober, Ehrenfried H., Ratz, and Ulrich. 3,269,959.
Kohler, John J., and Ross. 3,270,049.
McDowell, Robert C. 3,269,643.

Ollerton, George W.: *See*—
Jacks, Eric, Feenan, and Ollerton. 3,270,168.

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Oxley, Robert F. Electric switch with flexible snap-action contact elements. 3,270,148, 8–30–66, Cl. 200—14.

Pacak, Matthew: *See*—
Getz, Edward T., and Pacak. 3,269,202.

Pacific Pumping Co.: *See*—
Culleton, Jack T., and Fiesher. 3,269,326.

Packard, Alfred R., and W. H. Cunningham, to Toolkraft Corp. Multi-purpose woodworking tools. 3,269,433, 8–30–66, Cl. 143—132.

Package Machinery Co.: *See*—
Czajkowski, Paul V. 3,269,085.

Packaging Frontiers, Inc.: *See*—
Cianci, Arthur. 3,269,885.

Pactor Corp.: *See*—
Caron, Fred J. 3,269,284.

Page Communications Engineers, Inc.: *See*—
Thomas, Elmer. 3,270,285.

Page, John S., Jr. Well pressure responsive valve. 3,269,463, 8–30–66, Cl. 166—224.

Palazzo, Giuseppe, to Aziende Chimiche Riunite Angelini Francesco. Certain 3-aryl-1,2,4-oxadiazoles. 3,270,028, 8–30–66, Cl. 260—307.

Palazzo, Giuseppe, to Aziende Chimiche Riunite Angelini Francesco. Certain 3-phenyl-5-alkyl-1,2,4-oxadiazoles, substituted in the phenyl ring. 3,270,029, 8–30–66, Cl. 260—307.

Palen, Peter H. Pressure control switch. 3,268,988, 8–30–66, Cl. 29—155.5.

Paley, James J.: *See*—
Affleck, John H., III, and Paley. 3,269,804.

Palitex Project-Co. G.m.b.H.: *See*—
Franzen, Gustav. 3,269,103.

Pangborn Corp., The: *See*—
Moore, Ralph W. 3,269,532.

Pannell, Otis R.: *See*—
Garlepy, George A., and Pannell. 3,270,165.

Papaiconomou, George, to Ledex, Inc. Control system for separate as well as simultaneous operation of remote working elements. 3,270,323, 8–30–66, Cl. 340—171.

Paquette, Leo A., to The Upjohn Co. Certain 3H-azepine compounds and their preparation. 3,270,006, 8–30–66, Cl. 260—239.

Parke, Davis & Co.: *See*—
Devlin, Henry B., Haskell, and Fisher. 3,269,913.

Parker, George T., to Allied Chemical Corp. Sulfuryl chlorofluoride fumigant. 3,269,899, 8–30–66, Cl. 167—39.

Parker, Grover C.: *See*—
Denker, Henry B., and Parker. 3,269,243.

Parker, Mitchell, W. H. McDaniel, and J. B. Gantt, to Gator Chaps, Inc. Protective legging. 3,269,036, 8–30–66, Cl. 36—2.

Parker-Hannifin Corp.: *See*—
Lansky, Zdenek J., and Leibfritz. 3,269,417.
Lebow, Ralph H. 3,269,404.

Parks, Jerry K., to Lockheed Aircraft Corp. Correlation device. 3,270,315, 8–30–66, Cl. 340—3.

Paschke, Hanns-Dieter, and G. Hoffmann, to NSU Motorenwerke Aktiengesellschaft and Wankel G.m.b.H. Rotor cooling means for rotary mechanism. 3,269,370, 8–30–66, Cl. 123—8.

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Peter, Eberel: *See*—
Rueile, Gilbert, and Peter. 3,270,

Peters, Kenneth D., to Electronic Associates for [illegible] printer with means to print in two directions. 3,269,
8–30–66, Cl. 197—33.

Peterson, Edward C. Table supporting structure. 3,269,
8–30–66, Cl. 108—139.

Peterson, Eugene W., and M. J. Nagy, to Santa Barbara Research Center. Temperature sensitive valve arrangement. 3,269,140, 8–30–66, Cl. 62—223.

Peterson, Robert A., to Caterpillar Tractor Co. Steering controls for vehicles operating in tandem. 3,269,481, 8–30–66, Cl. 180—79.2.

Peterson, Robert R., to Lord Corp. Aircraft wing light. 3,270,193, 8–30–66, Cl. 240—7.7.

Petit, Elwood P.: *See*—
Caracristi, Virginius Z., and Petit. 3,269,366.

Petix, Philip J.: *See*—
Kelly, William A., and Petix. 3,268,970.

Petro-Tex Chemical Corp.: *See*—
Christmann, Harold F. 3,270,080.

Petrow, Vladimir: *See*—
Adams, Winifred J., Ellis, Petrow, and Stuart-Webb. 3,270,037.

Peukert, Ernst, to Bunawerke Huls G.m.b.H. Extraction of 1,3-butadiene. 3,270,083, 8–30–66, Cl. 260—681.5.

Peytavin, Pierre: *See*—
Babel, Louis, and Peytavin. 3,268,959.

Pfeiffer, Heinz G., to General Electric Co. Electric power distribution assembly employing a joint compound. 3,270,121, 8–30–66, Cl. 174—88.

Pfizer, Chas., & Co., Inc.: *See*—
Fahey, John E. 3,269,908.
Schach von Wittenau, Manfred. 3,269,929.

Pfundt, George M. Hydraulic puller supporting frame used in pulling poles, stumps and butts. 3,269,704, 8–30–66, Cl. 254—30.

Philadelphia Handle Co., Inc.: *See*—
Bush, George W. 3,269,495.

Philco Corp.: *See*—
Deiss, George J. 3,269,154.
Tahara, Goro R., and Patterson. 3,270,280.

Phillips, Charles E. Particulate material mixing machine. 3,269,707, 8–30–66, Cl. 259—3.

Phillips Petroleum Co.: *See*—
Bost, Howard W. 3,269,927.
Goodhue, Lyle D., and Kleinschmidt. 3,269,902.
Lyons, Harold D., and Nowlin. 3,269,997.
Oglesby, Minor W., and Lupfer. 3,269,921.
Price, Lowell T., and Scoggin. 3,269,922.
Regier, Robert B. 3,270,086.
Short, James N., and Zelinski. 3,269,978.

Pickles, Joseph, to Ferro Mfg. Corp. Adjustable seat construction. 3,269,687, 8–30–66, Cl. 248—397.

Pieffer, Bertha M.: *See*—
Gase, Franklin I. 3,269,014.

Pilot Man-Nen-Hitsu Kabushiki Kaisha: *See*—
Ishida, Hajime, and Toma. 3,269,584.

Pim, Robert N.: *See*—
Jardine, Philip R., Pim, Lawrence, and Hochner. 3,270,-101.

Pirozzi, Americo. Extruded combination door or window. 3,269,452, 8–30–66, Cl. 160—90.

Pittman, Forrest C.: *See*—
Shelton, Robert Q., and Pittman. 3,269,659.

Pittsburgh Plate Glass Co.: *See*—
Cohen, Alvin J. 3,269,847.
Helbing, Clarence H. 3,269,816.

Poel, Norman C.: *See*—
Fogg, Daniel A., and Poel. 3,269,522.

Poirier, Robert E., to Chrysler Corp. Greaseless ball joint. 3,269,759, 8–30–66, Cl. 287—87.

Polhemus, Von D., to General Motors Corp. External wheel cylinder. 3,269,493, 8–30–66, Cl. 188—152.

Pollak, Heinz, and J. L. Weston, to S. Smith & Sons (England) Ltd. Automatic flight control systems for aircraft. 3,269,675, 8–30–66, Cl. 244—77.

Polland, Sophia. Process camera film holder and mount therefor. 3,269,265, 8–30–66, Cl. 88—24.

Polland, Sophia. Process camera film holder. 3,269,266, 8–30–66, Cl. 88—24.

Polytron Co.: *See*—
Sobek, Dale W. 3,269,342.

Pomeroy, John P. Method of making colored table salt. 3,269,845, 8–30–66, Cl. 99—143.

Pomot, Jean L. E.: *See*—
Roche, Andre E. N., Pomot, Luzarretta, and Cousserans. 3,269,923.

Pond, Ocia W.: *See*—
Jackson, Samuel G., and Pond. 3,270,279.

Poole, Saxon M., and G. L. H. Herondelle, to International Standard Electric Corp. Flight simulator. 3,269,030, 8–30–66, Cl. 35—12.

Pope, Courtney C. Fitting and tiling frame for wall-mounted, wall-discharge water closet. 3,268,919, 8–30–66, Cl. 4—252.

Popovitch, Dragolyoub. Extensive surface heat exchanger. 3,269,459, 8–30–66, Cl. 165—140.

Porcello, Raphael. Steerable stair-climbing vehicle. 3,269,-741, 8–30–66, Cl. 280—5.26.

Poris, Harry. Double wall tumbler having cooling means therein. 3,269,144, 8–30–66, Cl. 62—457.

Porter & Co., Inc.: *See*—
Porter, Oscar S. 3,269,261.

Porter, Oscar S., to Porter & Co., Inc. Registration method and frame. 3,269,261, 8–30–66, Cl. 88—24.

Postma, Arlin K., to United States of America, Atomic Energy Commission. Moving wall elutriator. 3,269,536, 8–30–66, Cl. 209—138.

Postula, Louis J. and V. A., to Postula Products, Inc. Cleaner for golf club heads and the like. 3,268,934, 8–30–66, Cl. 15—21.

Postula Products, Inc.: *See*—
Postula, Louis J. and V. A. 3,268,934.

Postula, Victor A.: *See*—
Postula, Louis J. and V. A. 3,268,934.

Potts, Horace T.: *See*—
Armstrong, David E., and Roeser. 3,269,943.

Powell, Kenneth J. Drilling and cutting apparatus. 3,269,-221, 8–30–66, Cl. 77—33.5.

Powell, Milton E.: *See*—
Mayer, Bromley M., and Powell. 3,269,842.

Powers, Donald H.: *See*—
Jolkvski, Robert M., Laws, and Powers. 3,270,100.

Pratt, William K., to Calair Diversified, Inc. Device for teaching computer programming. 3,269,031, 8–30–66, Cl. 35—13.

Prediger, Fred R., and M. Kniazuk, to Merck & Co. Means and method for automatic zone refining a work piece. 3,270,177, 8–30–66, Cl. 219—10.77.

Premier Microwave Corp.: *See*—
Rabinowitz, Martin. 3,270,257.

Preston, John M. Stabilized phosphoric acid. 3,269,798, 8–30–66, Cl. 23—165.

Pribyl, Edward J.: *See*—
Bernstein, Jack, and Pribyl. 3,270,036.

Price, Lowell T., and J. S. Scoggin, to Phillips Petroleum Co. Fractional distillation system with fluid product discharge control. 3,269,922, 8–30–66, Cl. 203—3.

Price, Nathan C. Turbo-jet powerplant with toroidal combustion chamber. 3,269,119, 8–30–66, Cl. 60—39.36.

Princeton Applied Research Corp.: *See*—
Brault, James W. 3,270,213.

Pritchard, Clarence L.: *See*—
Telford, Carlyle, and Pritchard. 3,269,318.

Procter & Gamble Co., The: *See*—
Lucas, Malcolm B. 3,269,516.

Produktionsaktieselskabet Forotor Copenhagen: *See*—
Iversen, Peter V. 3,270,252.

Pryce, Vaughn K. Detachable handles. 3,269,765, 8–30–66, Cl. 294—31.

Pullin, John A. Cam shaft rear bearing-removing tool with an impact arbor and having plunger means to engage said bearing. 3,268,995, 8–30–66, Cl. 29—275.

Pullman Inc.: *See*—
Bailey, John D. 3,269,059.
Black, James J. 3,269,072.
Lefrancois, Philip A. 3,269,938.

Purtell, R. J.: *See*—
Dellenbaugh, Ernest A. 3,269,886.

Puster, Louis M., to Robertshaw Controls Co. Liquid-level control with means to prevent short cycling of the relay. 3,270,158, 8–30–66, Cl. 200—84.

Queever, Lawrence: *See*—
McCarty, Lourdes V., Queever, and Hotchkiss. 3,269,447.

Quimby, Terry Y., and R. B. Wells. Opener and handle for a beverage container. 3,269,586, 8–30–66, Cl. 220—54.

Qviller, Olaf. Apparatus for treating fiber masses. 3,269,-303, 8–30–66, Cl. 100—121.

Raatz, Helmuth E., Jr.: *See*—
Daniels, Ben G., and Raatz. 3,269,514.

Rabinowitz, Martin, to Premier Microwave Corp. Disposable diode holder. 3,270,237, 8–30–66, Cl. 317—234.

Rader Pneumatics & Engineering Co., Ltd.: *See*—
Smith, William C. 3,269,096.

Radio Corp. of America: *See*—
Crookshanks, Paul E., and Jobe. 3,270,126.
Floden, Bjorn F. 3,269,795.
Hardwood, Leopold A. 3,270,292.
Hurst, Robert N., and Dischert. 3,270,130.
Kelly, Gordon E., and Crookshanks. 3,270,125.
Kosonocky, Walter F. 3,270,291.
Larach, Simon, and Yocom. 3,269,956.
Loebner, Egon E. 3,270,235.
Sauinier, Theodore A. 3,269,838.
Stark, John, Jr. 3,270,128.
Vural, Bayram. 3,270,241.

Radtke, Otto T., and C. E. Sytz, to Glenoit Mills, Inc. Method and means for knitting pile fabric. 3,269,147, 8–30–66, Cl. 66—9.

Rager, Edgar A., W. T. Davis, and T. D. Regan, to Neway Equipment Co. Remote mounted auxiliary brake applicator. 3,269,272, 8–30–66, Cl. 91—170.

Railroad Permanent Way Products Corp.: *See*—
Moses, Nelson K., and McClung. 3,269,656.

Ramsay, Alan J., and W. K. Bottomley, to Honeywell Inc. Electric pulse generators. 3,270,295, 8–30–66, Cl. 331—111.

Ramsey, Knox W., to McCamsey Machine Co., Inc. Portable web centerfolder. 3,269,722, 8–30–66, Cl. 270—86.

Ramus, Nickolas G. Carburetor having a protective cover. 3,269,710, 8–30–66, Cl. 261—1.

Randolph, John L. Method for making bowling balls. 3,270,-108, 8–30–66, Cl. 264—162.

Rankin, Floyd C., to McCreary Tire & Rubber Co. Adjustable tread rubber extruding die. 3,268,950, 8–30–66, Cl. 18—12.

Ransohoff, Jackson A., and P. M. Wood, to Neutron Products, Inc. Neutron irradiation process for producing radioisotopes wherein target isotope is shielded from thermal neutrons. 3,269,915, 8–30–66, Cl. 176—16.

Rapide-Standard Co., Inc., The: *See*—
De Good, Maynard J., and Bowman. 3,269,519.
Fogg, Daniel A., and Poel. 3,269,522.

Rappold, Hermann, & Co., G.m.b.H.: *See*—
Uerlichs, Johannes. 4,269,405.

Ratz, Rudi F. W.: *See*—
Kober, Ehrenfried H., Ratz, and Ulrich. 3,269,959.

Rauschenbach, Rolf D.: *See*—
Ilgemann, Rudolf, Rauschenbach, and Foerster. 3,269,963.

Rawls, James A., and J. J. Taylor, to The Ohio Brass Co. Electrical connector for suspension apparatus. 3,270,124, 8–30–66, Cl. 174—144.

Raychem Corp.: *See*—
Lanza, Vincent L., and Stivers. 3,269,862.

Rayner, Eric, D. A. Yeadon, L. L. Hopper, Jr., and F. G. Dollear, to United States of America, Agriculture. Intumescent coatings based upon polyesters of aliphatic diynediols. 3,269,989, 8–30–66, Cl. 260—75.

Rayonier Inc.: *See*—
Van Blaricom, Lloyd E., and Johnston. 3,270,003.

Reck, Donald F. Tool holder. 3,268,978, 8–30–66, Cl. 29—96.

Redfield, Robert H., and W. M. Collander. Audio-visual teaching apparatus. 3,269,033, 8–30–66, Cl. 35—35.

Reeder, Earl, and L. H. Sternbach, to Hoffmann-La Roche Inc. 2-(ω-halo-lower alkanoylamino)-benzophenones. 3,270,053, 8–30–66, Cl. 260—562.

Reeves, Wilson A.: *See*—
Chance, Leon H., Reeves, and Drake. 3,270,052.

Regan, Timothy D.: *See*—
Rager, Edgar A., Davis, and Regan. 3,269,272.

Regier, Robert B., to Phillips Petroleum Co. Oxidative dehydrogenation of paraffinic hydrocarbons. 3,270,086, 8–30–66, Cl. 260—683.3.

Reichenbacher, Frank W.: *See*—
Lattanzio, Frank, and Reichenbacher. 3,269,317.

Reid, Francis J.: *See*—
Matson, Lyle K., Reid, and Miller. 3,270,810.

Reid, Jayce A.: *See*—
Heying, Theodore L., Reid, and Trotz. 3,270,047.

Reighart, June H. Steel plate transfer device. 3,269,501, 8–30–66, Cl. 193—35.

Reimann, Joseph S., to Tri-Chem, Inc. Flow control device for flexible tubes of liquid embroidery paint. 3,269,603, 8–30–66, Cl. 222—103.

Reinhardt, Robert M.: *See*—
Kullman, Russell M. H., Fenner, and Reinhardt. 3,269,-796.

Reiniger, Kurt, to Junkers Flugzeug-und Motorenwerke Aktiengesellschaft. Flying craft, particularly space craft. 3,269,673, 8–30–66, Cl. 244—43.

Renner, Eduard. Equipment for extending the effective projection area in a background projection system for producing composite photographic pictures. 3,269,794, 8–30–66, Cl. 352—89.

Renzi, Peter N., and C. Hsu, to American Radiator & Standard Sanitary Corp. Apparatus for treating liquid waste. 3,269,-542, 8–30–66, Cl. 210—151.

Repco Products Corp.: *See*—
Hunt, Benner E. 3,269,361.

Rex Chainbelt Inc.: *See*—
Imse, Philip J., Leege, and Sheldon. 3,269,526.

Reynolds, Edward R., ½ to Miller Bag Co., and ½ to J. Leader, d.b.a. Trojan Products Co. Grass catcher attachment for rotary lawn mower. 3,269,101, 8–30–66, Cl. 56—202.

Reynolds Metals Co.: *See*—
Cvacho, Daniel S. 3,269,642.

Reynolds, Walter F., and W. F. Linke, to American Cyanamid Co. Fixing dry strength resin on fibers by alum in the presence of a buffer. 3,269,891, 8–30–66, Cl. 162—169.

Rezabek, Eugene A. Farrowing enclosure. 3,269,357, 8–30–66, Cl. 119—16.

Rheem Mfg. Co.: *See*—
Strobach, Carl G., and Roden. 3,269,876.

Rhodes, John R., to United Kingdom Atomic Energy Authority. Method and apparatus for X-ray absorption analysis of mixtures using plural sources and detector channels. 3,270,-200, 8–30–66, Cl. 250—43.5.

Rhodes, John R., to United Kingdom Atomic Energy Authority. Determination of the ash content of coal by means of X-rays. 3,270,204, 8–30–66, Cl. 250—83.3.

Rice, Theodore: *See*—
Goldthwait, Richard G., Kwolek, and Rice. 3,269,936.

Richardson, Spencer M., and R. C. Hoch, to W. R. Grace & Co. Treatment of paper with latex composition. 3,269,-860, 8–30–66, Cl. 117—155.

Richey, James D., to Bell Telephone Laboratories, Inc. Optical scanning device utilizing optical fibers disposed in a helical array. 3,270,132, 8–30–66, Cl. 178—7.6.

Richfield Oil Corp.: *See*—
Marantette, James C., and Bennett. 3,268,933.

Ridge Tool Co., The: *See*—
Janik, Anton J. 3,269,623.

Righton, David W., to S. Smith & Sons (England) Ltd. Radio navigation apparatus and filters for use therein. 3,270,344, 8–30–66, Cl. 343—106.

Riley, S. Harold. Fixture for installing sinks and the like. 3,268,994, 8–30–66, Cl. 29—244.

Rindtorff, Klaus: *See*—
Schmitt, Karl, Disteldorf, Hubel, and Rindtorff. 3,270,-044.

Rioux, Christian P. G., to Centre National de la Recherches. Machines and methods for producing very high intensity electric currents. 3,270,228, 8–30–66, Cl. 310—178.

Ripling, Edward J., and S. Mostovoy, to Materials Research Laboratory, Inc. Back-up roll construction. 3,269,163, 8–30–66, Cl. 72—163.

Rissman, Edwin F.: *See*—
Fabel, Arthur J., and Rissman. 3,269,867.

Robertshaw Controls Co.: *See*—
Puster, Louis M. 3,270,156.
Willson, James R. 3,269,651.

Robinson, Norman R.: *See*—
Diver, Bernard, Robinson, and Wilkinson. 3,269,786.

Robson, Harry E.: *See*—
Schatz, Ralph H., Johnson, Small, and Robson. 3,270,079.

Roche, Andre E. N., J. L. E. Pomot, E. J. F. Luzarreta, and G. G. J. Cousserans, to Office National Industriel de l'Azote. Steam distillation of carbamate and alcohol mixtures. 3,269,923, 8–30–66, Cl. 203—48.

Rockwell, Adelbert W., Jr., J. A. Meuse, and A. E. Newton, to United Shoe Machinery Corp. Lasting machines. 3,268,-930, 8–30–66, Cl. 12—12.4.

Rockwell Mfg. Co.: *See*—
Mitchell, Walter G. 3,269,466.

Rockwell-Standard Corp.: *See*—
Cox, Frank T., and Williams. 3,269,492.

Roden, James S.: *See*—
Strobach, Carl G., and Roden. 3,269,876.

Rodgers, John L., and J. P. Millonis, to American Cyanamid Co. Method for emitting fluorescent light using fluorescent quinazolones. 3,269,955, 8–30–66, Cl. 252—301.2.

Rodin, Jack: *See*—
Frasca, Thomas, Rodin, and Loftus. 3,269,116.

Rodriguez Sanchez, Alfonso. Automatic door check and closure device. 3,268,944, 8–30–66, Cl. 16—49.

Roe, Edward T., and D. Swern, to United States of America, Agriculture. Preparation of carboxylated derivatives of long chain unsaturated compounds. 3,270,035, 8–30–66, Cl. 260—343.5.

Roeser, Gerald P.: *See*—
Armstrong, David E., and Roeser. 3,269,943.

Rogers, Gail C., to United States of America, Atomic Energy Commission. Method and apparatus for accurate and controlled cooling. 3,269,458, 8–30–66, Cl. 165—2.

Rogers, Patrick J.: *See*—
Alston, Liviu L., and Rogers. 3,269,987.

Rohm & Haas Co.: *See*—
Gibbon, John H., Jr., Nealon, Sandler, and Kunin. 3,269,-911.
Mattei, Italo V. 3,269,858.
Mattei, Italo V., Glavis, and Lowell. 3,269,859.

Rojecki, Walter E., to The Black Clawson Co. Machine for making extensible paper. 3,269,893, 8–30–66, Cl. 162—361.

Roles, Claude L., to Eaton Yale & Towne Inc. Method of casting. 3,268,962, 8–30–66, Cl. 22—200.

Rollins, Dallas W., to ACF Industries, Inc. Railway car. 3,269,779, 8–30–66, Cl. 302—52.

Rolls-Royce Ltd.: *See*—
Diver, Bernard, Robinson, and Wilkinson. 3,269,786.

Romine, Larry B.: *See*—
Cahoon, Dick B., and Romine. 3,269,195.

Ronan, Kenneth M., and D. O. Hagerty, to Ronan & Kunzl, Inc. Combination water and space heater. 3,269,382, 8–30–66, Cl. 126—101.

Ronan & Kunzl, Inc.: *See*—
Ronan, Kenneth M., and Hagerty. 3,269,382.

Rossen, Nils O. Multiple filter devices. 3,269,540, 8–30–66, Cl. 210—132.

Rose, James S.: *See*—
Bruson, Herman A., and Rose. 3,269,961.

Rosenbrock, Earl H.: *See*—
Doedens, James D., and Rosenbrock. 3,269,973.

Rosner, Carl H., to General Electric Co. Protective circuit for removing energy from superconducting coils. 3,270,247, 8–30–66, Cl. 317—13.

Ross, Louis A.: *See*—
Kohler, John J., and Ross. 3,270,049.

Rossi, Anthony T. Machine for printing upon bottles and similar bodies. 3,269,305, 8–30–66, Cl. 101—35.

Rossman, Michael. Suction cleaning nozzle. 3,268,942, 8–30–66, Cl. 15—346.

Roth, Douglas J., to The Bendix Corp. Friction pair. 3,269,-489, 8–30–66, Cl. 188—71.

Rothenberger, Ellis F. Irrigation ditch gate valve. 3,269,-690, 8–30–66, Cl. 251—147.

Rovoldt, Charles L.: *See*—
Schott, Arthur K., Bartha, and Rovoldt. 3,269,276.

Rowe, Charles A., Jr.: *See*—
Schriesheim, Alan, Rowe, and Bartok. 3,270,084.

Rubin, Martin. Polyurethane non-volatile pesticidal compositions. 3,269,900, 8–30–66, Cl. 167—42.

Rubisch, Ottmar: *See*—
Fitzer, Erich, and Rubisch. 3,269,806.

Ruegg-Naegeli & Cie Aktiengesellschaft: *See*—
Wagner, Heinz R. 3,269,391.

Ruekberg, Herbert S., to Continental Can Co., Inc. Plastic overcap. 3,269,588 8–30–66, Cl. 220—60.

Ruekberg, Herbert S., to Continental Can Co., Inc. Deburring method and apparatus. 3,270,116, 8–30–66, Cl. 264—320.

Ruelle, Gilbert, and M. Peter, to Societe General de Constructions Electriques et Mecaniques (Alsthom). Cooling arrangements for electric machines. 3,270,229, 8–30–66, Cl. 310—180.

Ruppin, Dietrich: *See*—
Hertel, Heinrich, and Ruppin. 3,269,167.

Rutledge, Donald L.: *See*—
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Rufenacht, Kurt, to J. R. Geigy A.G. Method and compositions for controlling pests. 3,269,896, 8–30–66, Cl. 167—33.

Ruhnke, Richard R., to Garcy Corp. Hang rod assembly. 3,269,553, 8–30–66, Cl. 211—105.1.

Rusche, Fredric. Hollow pile driving mandrel. 3,269,127, 8–30–66, Cl. 61—53.72.

Rusche, Fredric. Coupled pile driving mandrel. 3,269,128, 8–30–66, Cl. 61—53.72.

Russell, Jack A., to Brunswick Corp. Projection apparatus for projecting bowling scores. 3,269,259, 8–30–66, Cl. 88—24.

Russell, John A., to Harnischfeger Corp. Welding nozzle having dual and concentric gas shielding. 3,270,179, 8–30–66, Cl. 219—74.

Rutter, Donald P., to Johns-Manville Corp. Method and apparatus for the formation of folds in metal sheets. 3,269,-164, 8–30–66, Cl. 72—294.

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Sabatiuk, Andrew, to Curtiss-Wright Corp. Gas turbine engine with compressor and turbine passages in a single rotor element. 3,269,120, 8–30–66, Cl. 60—39.43.

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Mulholland, George K., and Klemm. 3,269,745.

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Macdonald, Warren E. 3,269,092.
Stockel, Ivar H., and Titchenal. 3,269,428.

Samuel, Chester J. Spinning exercise device. 3,269,727, 8–30–66, Cl. 272—79.

Sanchez, Moises G.: *See*—
Vanik, Milton C., Sanchez, and Herrera. 3,270,309.

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Brooks, Chester E., Crofutt, and Sand. 3,270,140.

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Bernier, Edgar R., and Hayner. 3,269,633.

Sandler, Jerome L.: *See*—
Gibbon, John H., Jr., Nealon, Sandler and Kunin. 3,269,-911.

Sandmeyer, Ernest R. Sorting method and apparatus utilizing triangular openings. 3,269,533, 8–30–66, Cl. 209—83.

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Sandoz Ltd. (Aka Sandox AG.): *See*—
Merian, Ernest, and Senn. 3,270,002.

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Santa Barbara Research Center: *See*—
Peterson, Eugene W., and Nagy. 3,269,140.

Saulnier, Theodore A., to Radio Corp. of America. Method of making luminescent screens for cathode ray tubes. 3,269,-838, 8–30–66, Cl. 96—35.

Saunders, Walter C., Jr. Automatic weight release mechanism for fishing lines. 3,269,051, 8–30–66, Cl. 43—43.12.

Sautois, Robert Severin, to Ateliers de Constructions Electriques de Charkerol (ACEC) Societe Anonyme. Connector for printed circuit plates. 3,270,313, 8–30–66, Cl. 339—176.

Savage, Kerry D.: *See*—
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Schach von Wittgnau, Manfred, to Chas. Pfizer & Co. Process for the photooxygenation of anhydrotetracyclines. 3,269,929, 8–30–66, Cl. 204—158.

Schaefer, Edward E. Trigger shield for firearms. 3,269,046, 8–30–66, Cl. 42—70.

Schaeffer, Myron, and K. Boll, to The Governors of The University of Toronto. Control means for controlling electro-mechanical phenomena. 3,270,135, 8–30–66, Cl. 179—1.

Schafer, Georg, Kugelfischer, & Co.: *See*—
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Schaffernicht, Laus, and G. Knabe, to Telefunken Aktiengesellschaft. Cathode ray tube having spiral acceleration anode. 3,270,234, 8–30–66, Cl. 313—83.

Schanbacher, William A. Radio frequency signal transmitter arrangement. 3,270,284, 8–30–66, Cl. 325—105.

Scharf, Emil: *See*—
Mueller, Herbert, Scharf, and Wittenberg. 3,270,071.

Schatz, Ralph H., J. F. Johnson, A. B. Small, and H. E. Robson, to Esso Research and Engineering Co. Removal of alkali metal from liquid hydrocarbon polymers. 3,270,079, 8–30–66. Cl. 260—680.

Schauffler, Peter P. Electronic channel guidance system. 3,270,345, 8–30–66, Cl. 343—112.

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Schering Corp.: *See*—
Topliss, John G., and Sperber. 3,269,906.

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Schicke, Hans-Gerd, to Farbenfabriken Bayer Aktiengesellschaft. Thiophosphoric, -phosphonic and -phosphinic acid esters. 3,270,094, 8–30–66, Cl. 260—944.

Schilling, Edward A.: *See*—
Carmichael, Thomas F., Maier, and Schilling. 3,270,268.

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Schleicher, Allison R., Jr., to General Electric Co. Gear motors and gearing units therefor. 3,269,204, 8–30–66, Cl. 74—424.5.

Schlor, Karl: *See*—
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Schlossberg, Louis, and P. J. Carrier, to Detrex Chemical Industries, Inc. Phosphate coating composition. 3,269,877, 8–30–66, Cl. 148—6.15.

Schluckbier, Wilhelm, and P. Heimlicher, to Winkler, Fallert & Co., Ltd. Method and apparatus for adding inserts to folded sheets. 3,269,720, 8–30–66, Cl. 270—57.

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Schmidt, George A., to Strick Corp. Railroad car with elastic means to isolate van size container thereon. 3,269,333, 8–30–66, Cl. 105—366.

Schmidt, George A., A. Abolins, and P. J. Seng, to Strick Corp. Turntable. 3,269,334, 8–30–66, Cl. 105—368.

Schmidt, Norwin, and R. P. Fritsch, to Werner & Pfleiderer. Housing for screw extruders. 3,268,949, 8–30–66, Cl. 18—2.

Schmidt, Richard, to Franz Morat G.m.b.H. Variable knitting machine drive. 3,269,216, 8–30–66, Cl. 74—675.

Schmidt, Wilfred G.: *See*—
Stammler, Manfred, and Schmidt. 3,269,879.

Schmied, Joseph M., to M-C-T Enterprises, Inc. Apparatus for field wrapping lettuce with transparent film. 3,269,090, 8–30–66, Cl. 53—221.

Schmied, Rudolf, to Alpura A.G. Method of and apparatus for sterile packaging of sterile consumer goods. 3,269,079, 8–30–66, Cl. 53—28.

Schmitt, Karl, J. Disteldorf, W. Hubel, and K. Rindtorff, to Hibernia-Chemie Gesellschaft mit beschrankter Haftung. Process for the manufacture of gamma-ketocarboxylic acid nitriles. 3,270,044, 8–30–66, Cl. 260—464.

Schneble, Frederick W., Jr., R. J. Zeblisky, J. F. McCormack, and J. D. Williamson, to Day Co. N.Y. Method for electroless copper plating. 3,269,861, 8–30–66, Cl. 117—212.

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Ikrath, Kurt, Schneider, and Vogt. 3,270,283.

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Schnell, Solomon S. Overload detector for automatic equipment. 3,270,329, 8–30–66, Cl. 340—223.

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Schober, Wayne E.: *See*—
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Scholten's, W. A., Chemische Fabrieken N.V.: *See*—
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Schonemeer, Hilmar: *See*—
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Schott, Arthur K., K. J. Bartha, and C. L. Rovoldt, to Houdaille Industries, Inc. Punching machine and structure therefor. 3,269,241, 8–30–66 Cl. 83—144.

Schreiber, Dag S., to Deber, AB Kontroll. Capacitive electrode for flow measurement in open channels. 3,269,180. 8–30–66, Cl. 73—215

Schriesheim, Alan, C. A. Rowe, Jr., and W. Bartok, to Esso Research and Engineering Co. Method of isomerizing olefins. 3,270,084, 8–30–66, Cl. 260—683.2.

Schroeder, Elmer F., to G. D. Searle & Co. 5,7-disubstituted-2,3,6,8-tetraketopyrimido 5,4-1,4-thiazines. 3,270,011, 8–30–66, Cl. 260—243.

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Schultz, Werner F., to General Motors Corp. Pivotal brush mounting. 3,270,230, 8–30–66, Cl. 310—239.

Schulz Tool and Mfg. Co.: *See*—
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Hieber, Ellsworth E., and Lawell. 3,269,736.

Schurle, Darrell W. Crib-table combination. 3,268,921. 8–30–66, Cl. 5—98.

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Moss, Hoyle G., and Schwartz. 3,269,029.

Schwartz, Sidney J., and W. F. Chenoweth, to The National Cash Register Co. Thin film magnetic storage device. 3,270,326, 8–30–66, Cl. 340—174.

Schwed, George, and R. D. Combs, to Arthur G. McKee & Co. Pump. 3,269,325, 8–30–66, Cl. 103—103.

Schwerdle, Arthur, to Vineland Chemical Co., a partnership composed of A. and M. Schwerdle. Control of nematodes with arsine oxides. 3,269,895, 8–30–66, Cl. 167—22.

Schwerdle, Miriam: *See*—
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Sciamanna, Enzo. Window cleaning devices. 3,268,940, 8–30–66, Cl. 15—250.11.

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Scott, Paul R., and R. F. Scheuerman, to Shell Oil Co. Transporting wax-bearing petroleum fluids in pipelines. 3,269,401, 8–30–66, Cl. 137—13.

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Scruggs, David M., to The Bendix Corp. Chromium-iron alloy. 3,269,833, 8–30–66, Cl. 75—126.

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Searle, G. D., & Co.: *See*—
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Schroeder, Elmer F. 3,270,011.

Seay, Orum E., to Halliburton Co. Flow responsive devices. 3,269,181, 8–30–66, Cl. 73—228.

Sebring, Edward H., and J. J. Hackett. Pressure relief valve testing apparatus. 3,269,170, 8–30–66, Cl. 73—4.

Seckerson, Clifford A., to United-Carr Inc. Fasteners. 3,269,760, 8–30–66, Cl. 287—90.

Seely, Richard E., to General Electric Co. Dynamoelectric machine. 3,270,223, 8–30–66, Cl. 310—62.

Seidel, Harold, to Bell Telephone Laboratories, Inc. Four-port circulator having mutually coupled resonant cavities. 3,270,298, 8–30–66, Cl. 333—1.1.

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Schmidt, George A., Abolins, and Seng. 3,269,334.

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Smith, Joseph A., and Jordan. 3,269,507.

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Serry, John. Protective shield for collapsible paste tubes. 3,269,604, 8–30–66, Cl. 222—105.

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Shafer, Homer J. Ball valve construction. 3,269,692, 8–30–66, Cl. 251—172.

Shaffer, Paul B. Motor vibration suppression mounting. 3,270,221, 8–30–66, Cl. 310—51.

Shaffer, Paul B., to General Electric Co. Vibration and noise isolation support and drive. 3,270,222, 8–30–66, Cl. 310—51.

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Shapiro, Seymour L., Freedman, and Soloway. 3,270,025.

Shapiro, Leonard, to Pennsalt Chemicals Corp. Centrifuge having a sealed housing. 3,269,647, 8–30–66, Cl. 233—1.

Shapiro, Seymour L. (deceased, by F. M. Shapiro, executrix), L. Freedman, and H. Soloway, to U.S. Vitamin & Pharmaceutical Corp. Heterocyclic amino phenoxyacetic acid amides-acid addition salts, and quaternary ammonium salts thereof. 3,270,024, 8–30–66, Cl. 260—294.

Shapiro, Seymour L. (deceased, by F. M. Shapiro, executrix), L. Freedman, and H. Soloway, to U.S. Vitamin & Pharmaceutical Corp. Heterocyclic amino phenoxyacetic esters; acid addition salts, and quaternary ammonium salts thereof. 3,270,025, 8–30–66, Cl. 260—294.3.

Shaw, Harry L. Dry cleaning machine and separating device therefor. 3,269,155, 8–30–66, Cl. 68—18.

Shaw, Vincent G., to Latronics Corp. Multi-range temperature measuring apparatus. 3,269,255, 8–30–66, Cl. 88—22.5.

Shaw-Walker Co., The: *See*—
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Shay, Edward G., and R. L. Wakeman, to Millmaster Onyx Corp. Quaternary ammonium salts of indole derived acids. 3,270,023, 8–30–66, Cl. 260—286.

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Shelton, Robert Q., and F. C. Pittman, to Halliburton Co. Apparatus for cleaning the inside of bundled tubes. 3,269,659, 8–30–66, Cl. 239—187.

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Sherlock, Edward, to Imperial Chemical Industries Ltd. Certain tetrazolylmethyl phosphorothioates. 3,270,031, 8–30–66, Cl. 260—306.

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Shinaver, Lawrence P. Carrier attachment for open-top containers. 3,269,683, 8–30–66, Cl. 248—230.

Shinnar, Reuel, to The Technicon Research and Development Foundation. Method and apparatus for preventing deposit formation on a heat exchange surface. 3,269,457, 8–30–66, Cl. 165—1.

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Short, Herbert D., to Line and Cable Accessories Ltd. Bundle conductor system with improved spacer. 3,270,123, 8–30–66, Cl. 174—128.

Short, James N., and R. P. Zelinski, to Phillips Petroleum Co. Diene polymers containing both terminal epoxy and hydroxy groups. 3,269,978, 8–30–66, Cl. 260—41.5.

Shroyer, George E., Jr. Load-handling spar. 3,269,559, 8–30–66, Cl. 212—7.

Shuiver, William, W. H. Miller, T. L. Atteridge, and A. Marzocchi, to Owens-Corning Fiberglas Corp. Method for producing electrically-conductive elements. 3,269,883, 8–30–66, Cl. 156—166.

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Silver, Albert E., ½ each to A. S. Tesler, and S. Boyers. Pressurized dispenser assembly having a plurality of individual chambers. 3,269,605, 8–30–66, Cl. 222—135.

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Sirons, Janis A., to United States of America, Air Force. Aircraft navigational apparatus using scanned beam doppler radar to determine ground speed drift angle and distance flown. 3,270,341, 8–30–66, Cl. 343—9.

Skau, Evald L., R. R. Mod, and F. C. Magne, to United States of America, Agriculture. N-oleoyl-pyrrolidine. 3,270,033, 8–30–66, Cl. 260—326.5.

Skeffington, Donald R., to United Shoe Machinery Corp. Conveyor systems. 3,269,330, 8–30–66, Cl. 104—172.

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Smallpiece, Cosby D. P., ½ to Nuquip Ltd. Float controlled drain valve. 3,269,403, 8–30–66, Cl. 137—192.

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Smelcer, Glen E., to International Harvester Co. Implement control means for tractor operated agricultural implements. 3,269,464, 8–30–66, Cl. 172—10.

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Smith, Alfred A. Combined handle and hand grip for crutches. 3,269,399, 8–30–66, Cl. 135—51.

Smith, Alfred A., and H. C. Lien, said H. C. Lien assor. to A. S. Smith. Crutch pad. 3,269,400, 8–30–66, Cl. 135—52.

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Smith, George A., Jr., J. H. Norton, and P. Anderson, to Allegheny Ludlum Steel Corp. Process of roll bonding stainless steel and aluminum. 3,269,004, 8–30–66, Cl. 29—471.1.

Smith, Henry E., to Friden Inc. Easily removable and adjustable code selector linkage means. 3,269,509, 8–30–66, Cl. 197—19.

Smith, Herbert Q. Process of regulating plant growth. 3,269,823, 8–30–66, Cl. 71—2.5.

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Smith, Joseph A., and R. H. Jordan, to Sentinel Frechek Locks, Inc. Coin operated lock. 3,269,507, 8–30–66, Cl. 194—59.

Smith, Joseph H., to General Signal Corp. Speed control system for vehicles. 3,270,199, 8–30–66, Cl. 246—182.

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Smith, William R., to McDonough Power Equipment, Inc. Height adjustment mechanism for lawn mowers. 3,269,100, 8–30–66, Cl. 56—25.4.

Smith, Willis R., to General Signal Corp. Highway crossing systems. 3,270,198, 8–30–66, Cl. 246—126.

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Societe Nationale d'Etude et de Construction de Moteurs d'Aviation: *See*—
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Societe Pour la Diffusion de Techniques Nouvelles et de Machinisme Agricole Par Abreviation Tecnoma: *See*—
Ballu, Vincent P. M. 3,269,657.

Societe Pour l'Etude et al Construction d'Installations Metallurgiques: *See*—
Elineau Herbert J. 3,269,245.

Soderquist, Charles E., *See*—
Long, Michael J., Dawson, and Soderquist. 3,270,202.

Socolan, Kaloust P. Hydraulic door closer. 3,268,945, 8–30–66, Cl. 16—52.

Soil Mover Co., Inc., The: *See*—
Waite, Richard S. 3,269,275.

Soloway, Harold: *See*—
Shapiro, Seymour L., Freedman, and Soloway. 3,270,024.
Shapiro, Seymour L., Freedman, and Soloway. 3,270,025.

Sony Corp.: *See*—
Shimada, Satoshi, Tokita, and Takahashi. 3,270,129.

Soos, Steven W., to The Controllix Corp. Shock responsive circuit breaker. 3,270,159, 8–30–66, Cl. 200—85.

Southall & Smith Ltd.: *See*—
Denham, Derek M. 3,269,527.

Southworth, Hamilton Jr., and J. C. Stiles, to General Precision Inc. Tuning fork digital accelerometer. 3,269,192, 8–30–66, Cl. 73—517.

Specialities Development Corp.: *See*—
Hebenstreit, Lester V. 3,269,186.
Wismar, William F. 3,269,310.

Specialty Converters, Inc.: *See*—
Willy, John. 3,269,882.

Sperber, Nathan: *See*—
Topliss, John G., and Sperber. 3,269,906.
Sperry Rand Corp.: *See*—
Davis, William W. 3,270,327.
Deehan, Leonard W., and Jacobson. 3,269,199.
Buckley, Charles G. 3,269,194.
Hopkins, Frank. 3,269,676.
Strawbridge, George B. 3,270,318.
Varian, Russell H. 3,269,314.
Spinrad, Malcom, and L. W. Gibson, Jr., to American Safety Table Co., Inc. Material handling device. 3,269,563, 8–30–66, Cl. 214—1.
Spivack, John D., to Geigy Chemical Corp. Hydroxyphenylalkane phosphonic acids and esters thereof. 3,270,091, 8–30–66, Cl. 260—932.
Sprosty, Clarence F., to Clevite Corp. Piezoelectric force measuring device. 3,269,173, 8–30–66, Cl. 73—141.
Square D Co.: *See*—
Schubring, Allin W. 3,270,164.
Squibb, E. R., & Sons, Inc.: *See*—
Bernstein, Jack, Chen, and Cyr. 3,269,904.
Bernstein, Jack, and Pribyl. 3,270,036.
Fried, Josef, and Galantay. 3,270,000.
Staines, Alfred J., to Harris-Intertype Corp. Sheet stretching and separating apparatus. 3,269,723, 8–30–66, Cl. 271—27.
Stamicarbon N.V.: *See*—
De Rooij, Abraham H. 3,269,954.
Stammler, Manfred, and W. G. Schmidt, to Aerojet-General Corp. Ammonium salt lattice with isomorphously substituted inorganic salts. 3,269,879, 8–30–66, Cl. 149—2.
Standard Oil Co. (Indiana): *See*—
Borg, Arthur C. 3,269,949.
Brannen, Cecil G., and Wuellner. 3,269,952.
Broadhead, Ronald L. 3,269,967.
Swenson, Reuben A. 3,269,947.
Traise, Thornton P. 3,269,951.
Udelhofen, John H. 3,269,811.
Standard Products Co., The: *See*—
Frideriel, Wayne J. 3,269,356.
Standish, Lawrence E. Real estate compaartor with lock. 3,269,390, 8–30–66, Cl. 129—16.
Stanley, Max W., to United States of America, Air Force. Lightweight hollow drive shaft assembly. 3,269,146, 8–30–66, Cl. 64—1.
Stapf, William E., to American Machine & Foundry Co. Coaxial switching apparatus for connecting selected sources to selected loads. 3,270,299, 8–30–66, Cl. 333—7.
Stark, John, Jr., to Radio Corp. of America. Power supply protection arrangement. 3,270,128, 8–30–66, Cl. 178—5.4.
Statham Instruments, Inc.: *See*—
Perino, Peter R. 3,269,187.
Stauffer Chemical Co.: *See*—
McKee, Jean I., and Tucker. 3,269,843.
Netherton, Lowell E., and Vanstrom. 3,269,814.
Stavrolakis, James A., and W. E. Blodgett, to American Radiator & Standard Sanitary Corp. Combustion chamber liner and method for making same. 3,269,857, 8–30–66, Cl. 117—95.
Steam Sales & Service Co.: *See*—
Baily, Jack H., and Sterling. 3,269,919.
Steeb, Karl. Oil sludge collector. 3,269,488, 8–30–66, Cl. 184—106.
Steelcraft Mfg. Co., The: *See*—
King, Doanld L. 3,269,068.
Steele, Harry M., Jr. Performance record having position code and present data comparison-type indicator. 3,270,334, 8–30–66, Cl. 340—323.
Steele, Owen L., Jr., and A. F. Miller, to Kiekhaefer Corp. Combined steering wheel and instrument panel mounting for boats. 3,269,210, 8–30–66, Cl. 74—492.
Steinback, Clarence I., to Acrometal Products, Inc. Pay-off reel for wire and the like. 3,269,672, 8–30–66, Cl. 242—128.
Steinberger, Samuel: *See*—
Wakeman, Reginald L., Shay, and Steinberger. 3,270,022.
Steinmetz, Walter C., to Jeffrey Gallon Mfg. Co. Reversible training idler. 3,269,518 8–30–66, Cl. 198—202.
Stemmer, Clarence P., to Hazeltine Research, Inc. Pulsed local oscillator. 3,270,342, 8–30–66, Cl. 343—13.
Stephan, Joseph. Concentrating table for mineral recovery. 3,269,538, 8–30–66, Cl. 209—441.
Sterling Drug Inc.: *See*—
Surrey, Alexander R. 3,270,027.
Sterling, Ell: *See*—
Baily, Jack H., and Sterling. 3,269,919.
Sternbach, Leo H.: *See*—
Reeder, Earl, and Sternbach. 3,270,053.
Stevens, George M. Cross bows. 3,269,380, 8–30–66, Cl. 124—25.
Stevens, Robert A. Distributor for internal combustion engines. 3,270,150, 8–30–66, Cl. 200—24.
Stewart, James W., and O. A. Opperthauser, to Joseph F. Lamb Co. Cutting tool. 3,268,979. 8–30–66, Cl. 29—101.
Stewart, John K. Peaking shadow board. 3,269,017, 8–30–66, Cl. 33—60.
Stewart, Richard E., to American Machine & Foundry Co. Switching devices with contact means which inhibit contact bounce. 3,270,156, 8–30–66, Cl. 200—67.
Stibbe, Paul H., and R. P. Hulsebus, to Outboard Marine Corp. Engine. 3,269,350, 8–30–66, Cl. 115—18.
Stiefel, Harold A., Jr. Container actuated apparatus positioning capped stem within container and cap to fall thereon. 3,269,084, 8–30–66, Cl. 53—68.
Stiles, John C.: *See*—
Southworth, Hamilton Jr., and Stiles. 3,269,192.
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Lanza, Vincent L., and Stivers. 3,269,862.
Stockel, Ivar H., and O. R. Titchenal, to St. Regis Paper Co. Method for packaging dry divided solid materials. 3,269,428, 8–30–66, Cl. 141—10.
Stockton, Thomas R., to The Ford Motor Co. Combined engine starter and voltage generator system. 3,270,207, 8–30–66, Cl. 290—31.
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Stoeckly, Eugene E., to General Electric Co. Self-aligning mounting structure. 3,269,677, 8–30–66, Cl. 248—2.
Stoy, Thomas J., to Harbison-Walker Refractories Co. Refractory liner brick with tongue and compound groove for forming circular tapered furnace stack constructions. 3,269,070, 8–30–66, Cl. 52—249.
Strand, Carl A. Laminated panels for building construction. 3,269,076, 8–30–66, Cl. 52—623.
Strange, Lloyd K., and D. S. Koons, to Mobil Oil Corp. Sand control in a well 3,269,461, 8–30–66, Cl. 166—33.
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Graham, Ward A. 3,269,660.
Stratton, Cleo C. Dimmer and turn signal control mechanism. 3,270,154, 8–30–66, Cl. 200—61.29.
Straub, Frederick A. Method of making low friction spherical bearings. 3,268,983, 8–30–66, Cl. 29—149.5.
Straub, John Clarence, to The Wheelabrator Corp. Method for production of abraded design on work surfaces. 3,269,066, 8–30–66, Cl. 51—319.
Strawbridge, George B., to Sperry Rand Corp. Address checking device. 3,270,318, 8–30–66, Cl. 340—146.1.
Streater, Edward C., to Streater Industries, Inc. Collapsible support structure. 3,269,556, 8–30–66, Cl. 211—132.
Streater Industries, Inc.: *See*—
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Strich, Philippe P. Centrifugal separator. 3,269,028, 8–30–66, Cl. 34—58.
Strick Corp.: *See*—
Schmidt, George A. 3,269,333.
Schmidt, George A., Abolins, and Seng. 3,269,334.
Strobach, Carl G., and J. S. Roden, to Rheem Mfg. Co. Glass-coated steel article. 3,269,876, 8–30–66, Cl. 148—6.15.
Strobel, Albert F., and S. C. Catino, to General Aniline & Film Corp. Diphenyl methylene-malononitrile compounds. 3,270,045, 8–30–66, Cl. 260—465.
Strobl, Heinrich, to Junkers Flugzeug-Und Motorenwerke AG. Bypass gas turbine jet engine thrust tube arrangement and thrust diverting means. 3,269,663, 8–30–66, Cl. 239—625.29.
Stuart, Robert, to National Can Corp. Cap. 3,269,577, 8–30–66, Cl. 215—46.
Stuart-Webb, Isobel A.: *See*—
Adams, Winifred J., Ellis, Petrow, and Stuart-Webb. 3,270,037.
Studebaker Corp.: *See*—
Harter, Donald G. 3,269,787.
Stuefen, Robert L., to Harnischfeger Corp. Direct current power sources with means for controlling the current balance through rectifiers. 3,270,271, 8–30–66, Cl. 321—25.
Submarine Cables Ltd.: *See*—
Oswald, Thomas. 3,270,147.
Sumner, Jason. Textile design kit and method of making textiles therefrom. 3,269,032. 8–30–66, Cl. 35—15.
Sun Oil Co.: *See*—
Hardy, William C., and McArthur. 3,269,460.
Van Venrooy, John J. 3,270,068.
Sunbeam Corp: *See*—
Jepson, Ivar, and Chambers. 3,269,678.
Sundquist, Lennart A.: *See*—
Barr, Harold N., and Sundquist. 3,270,098.
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Surrey, Alexander R., to Sterling Drug Inc. 2-trichloromethyl-4-thiazolidones. 3,270,027, 8–30–66, Cl. 260—301.
Sus, Oskar, to Azoplate Corp. Light-sensitive salts of o-naphthoquinone diazide sulfonic acid with an amine and the preparation of printing plates therefrom. 3,269,837, 8–30–66, Cl. 96—33.
Sutcliffe, David, to Imperial Chemical Industries Ltd. Recovery of aromatic amines from aromatic orthodiamines by distillation in the presence of a compound of boron. 3,270,058, 8–30–66, Cl. 260—582.
Sutherland, Charles A., to The Consolidated Mining and Smelting Co. of Canada Ltd Production of niobium from niobium pentachloride. 3,269,830, 8–30–66. Cl. 75—84.5.
Sutton, Robert W., to The Bendix Corp. Carburetor. 3,269,712, 8–30–66, Cl. 261—41.
Svenson, Bert N. Safety clamp for pressure vessel covers. 3,269,587, 8–30–66, Cl. 220—55.3.
Swanson, Frank O., to Ford Motor Co. Battery elementa anchored with urethane foam. 3,269,865, 8–30–66, Cl. 136—80.
Swanson, John N., 25% to D. L. Rutledge, and 10% to R. L. Harbison. Display device. 3,269,043, 8–30–66, Cl. 40—102.
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Swenson, Reuben A., to Standard Oil Co. Lubricant grease. 3,269,947, 8–30–66, Cl. 252—33.2.
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Bonami, Ernest A. 3,269,082.
Johnson, Robert J. 3,269,965.
Swift, Norman. 3,268,948.
Wattenbarger, Claude J. 3,269,846.
Swift, Harvey C., to Kelsey-Hayes Co. Combined hydraulic and mechanical brake. 3,269,490, 8–30–66, Cl. 188—73.
Swift, Norman, to Swift & Co. Sausage manufacture. 3,268,948, 8–30–66, Cl. 17—32.

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Syntex Corp.: *See*—
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Sytz, Clarence E.: *See*—
Radtke, Otto T., and Sytz. 3,269,147.
TRW Inc.: *See*—
Kupchick, John J. 3,268,984.
Taddie, Julius J., and C. Welser. Golf putter guide. 3,269,733, 8–30–66, Cl. 273—183.
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Lung, Kenneth R. 3,269,323.
Van Atta, Albert D. 3,269,324.
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Takeda Chemical Industries, Ltd.: *See*—
Imada, Akira, and Igarasi. 3,269,917.
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Talalay, Anselm, to The B. F. Goodrich Co. Seat cushion. 3,268,926, 8–30–66, Cl. 9—12.
Talas, Constantinos, to Compo Shoe Machinery Corp. Automatic cutting machine and method for compensation of minor structural misalignment. 3,269,234, 8–30–66, Cl. 83—13.
Tallon, Ronald J. Construction of wardrobes and other furniture. 3,269,791, 8–30–66, Cl. 312—257.
Tantlinger, Keith W., to Fruehauf Corp. Pivoted draw-bar with lock. 3,269,750, 8–30–66, Cl. 280—474.
Tantlinger, Keith W., G. Chieger, and E. Chosy, to Fruehauf Corp. Brake mounting plate. 3,269,494, 8–30–66. Cl. 188—206.
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Tate, Malcolm C., to A. H. Emery Co. Weighing apparatus. 3,269,473, 8–30–66, Cl. 177—208.
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Abe, Akira, and Konishi. 3,269,505.
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Tauss, Kurt H., to Courtaulds North America Inc. Diethanol sulfone-formaldehyde modification of cellulose catalyzed by a Lewis acid salt. 3,269,797, 8–30–66, Cl. 8—116.4.
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Taylor, Marvin C., to Fisher-Price Toys, Inc. Movable acrobatic figure toy. 3,269,054, 8–30–66, Cl. 46—130.
Taylor, Robert B., R. G. Walker, and S. D. Payne. Collator. 3,269,721, 8–30–66, Cl. 270—58.
Technion Research and Development Foundation, The: *See* Shinnar, Reuel. 3,269,457.
Telefunken Aktiengesellschaft: *See*—
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Hedenburg, John F., and Tempalski. 3,269,945.
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Pesacreta, Joseph, Jr. 3,270,072.
Walker, Hugh O., Jr., and Savage. 3,270,316.
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Thomas, Geoffrey W. Wood-working benches. 3,269,439, 8–30–66, Cl. 144—286.
Thomas, Robert W.: *See*—
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Thompson, Clarence R., to Koehring Co. Convertible railway-highway vehicle. 3,269,331, 8–30–66, Cl. 105—215.
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Thompson, Robert L., to General Electric Co. Thermoelectric device and method of manufacture. 3,269,872, 8–30–66, Cl. 136—208.
Thompson, Seth W. Oscillatory lawn sprinkler. 3,269,661, 8–30–66, Cl. 239—242.
Thornton, Francis J., and D. E. Westerling, to FMC Corp. Container dumping apparatus. 3,269,573, 8–30–66, Cl. 214—307.
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Tiede, Ralph L., to Owens-Corning Fiberglas Corp. Devitrifying a glass about glass fibers on a conductor. 3,269,818, 8–30–66, Cl. 65—43.
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Timberline Equipment Co.: *See*—
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Weber, Robert L., III. 3,269,601.
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Toma, Daniel N., to General Electric Co. Vortex-type turbine pump. 3,269,316, 8–30–66, Cl. 103—2.
Toma, Hirokazu: *See*—
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Merz, Wolfgang, Nebe, and Toussaint. 3,270,062.
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Treplin, Friedrich-Wilhelm, to Ludwig Taprogge-Reinigung-sanlagen fur Rohren-Warmeaustauscher. Sieve assembly for self-cleaning systems of heat exchanger. 3,269,543, 8–30–66, Cl. 210—316.
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Reynolds, Edward R. 3,269,101.
Trotz, Samuel I.: *See*—
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Trouilhet, Maurice M.-A., to Color Apparells Electro-Dinestiques. Variable-stroke electromagnetic vibrators. 3,270,219. 8–30–66, Cl. 310—29.
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Tsutsumi, Shigeru, S. Nagao, and K. Ohashi; said Tsutsumi assor. to Toa Kagaku Kogyo Kabushiki Kaisha. Process for the production of acetylene- and ethylene-containing gases by the incomplete combustion of liquid hydrocarbons. 3,270,077, 8–30–66, Cl. 260—679.
Tu, Shu-Tung, to United Shoe Machinery Corp. Gelatin-bonded open-fibered collagenous masses and methods of making. 3,269,851, 8–30–66, Cl. 106—125.
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Turk, James R., to V. K. Smith. Protective chamber puncture means for a submersible motor. 3,270,224, 8–30–66, Cl. 310—87.
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Turner, Wheeler M. High speed magnetic reed switch. 3,270,161, 8–30–66, Cl. 335—103.
Turnquest, Byron W.: *See*—
Verdol, Joseph A., and Turnquest. 3,270,081.
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Ueda, Yoshitaka. Brake lining from graphite and metal particles in a thermosetting binder. 3,269,976, 8–30–66, Cl. 260—38.
Uerlichs, Johannes, to Hermann Rappold & Co. G.m.b.H. Water-cooled hot-gas and hot-blast valve tongue. 3,269,405, 8–30–66, Cl. 137—340.
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Ulderup, Jurgen, and G. Kindel, to Lemforder Metallwaren AG. Ball joint device. 3,269,758, 8–30–66, Cl. 287—87.
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288	3,269,384	343	3,269,892	32	3,269,506	132	3,269,556	235– 61	3,269,648		3,269,960
360	3,269,385	361	3,269,893	59	3,269,507	151	3,269,557	61.7	3,270,185	2.5	3,269,961
128– 2.05	3,269,386	165– 1	3,269,456	84	3,269,508	184	3,269,558	89	3,269,649		3,269,962
6	3,269,387		3,269,457	195– 28	3,269,916	212– 7	3,269,559	151.11	3,270,186		3,269,963
30	3,269,388	2	3,269,458		3,269,917	39	3,269,560	152	3,270,187	17.3	3,269,964
198	3,269,389	140	3,269,459	66	3,269,918	128	3,269,561	181	3,270,188	18	3,269,965
129– 16	3,269,390	166– 10	3,269,460	197– 19	3,269,509	214– 1	3,269,563	189	3,270,189	21	3,269,966
16.7	3,269,391	33	3,269,461	53	3,269,510		3,269,564	194	3,270,190	22	3,269,967
26	3,269,392	100	3,269,462	94	3,269,511	2	3,269,565	201	3,269,650	23.7	3,269,968
131– 20	3,269,393	224	3,269,463	198– 33	3,269,512	8.5	3,269,568	236– 15	3,269,651	29.6	3,269,969
210	3,269,394	167– 22	3,269,894		3,269,513	14	3,269,562	34	3,269,652	30.8	3,269,970
235	3,269,395		3,269,895		3,269,514	16.1	3,269,569	237– 12.3	3,269,653	31.4	3,269,971
247	3,269,396	33	3,269,896		3,269,515	41	3,269,566	81	3,269,654	32.2	3,269,972
134–141	3,269,397		3,269,897		3,269,516	77	3,269,567	238–292	3,269,655	37	3,269,973
135– 3	3,269,398	38.6	3,269,898	64	3,269,517	131	3,269,570	349	3,269,656		3,269,974
51	3,269,399	39	3,269,899	127	3,269,519	302	3,269,571	239– 77	3,269,657		3,269,975
52	3,269,400	42	3,269,900	155	3,269,520		3,269,572	124	3,269,658	38	3,269,976
136– 36	3,269,863	46	3,269,901	158	3,269,521	307	3,269,573	187	3,269,659	40	3,269,977
78	3,269,864		3,269,902	160	3,269,522	515	3,269,574	224	3,269,660	41.5	3,269,978
80	3,269,865	58	3,269,903	176	3,269,523	215– 41	3,269,575	242	3,269,661	45.85	3,269,979
86	3,269,866		3,269,904	180	3,269,524	43	3,269,576	265.25	3,269,662	45.95	3,269,980
	3,269,867		3,269,905	189	3,269,525	46	3,269,577	265.29	3,269,663	46.5	3,269,981
114	3,269,868	65	3,269,906		3,269,526	219– 8.5	3,270,176	272	3,269,664		3,269,982
146	3,269,869		3,269,907	202	3,269,518	10.77	3,270,177	338	3,269,665		3,269,983
174	3,269,870		3,269,908	213	3,269,527	74	3,270,178	545	3,269,666		3,269,984
203	3,269,871		3,269,909	200– 14	3,270,148		3,270,179	240– 2.13	3,270,191	47	3,269,985
208	3,269,872	74	3,269,910	16	3,270,149	81	3,270,180	3.1	3,270,192	49	3,269,986
	3,269,873	78	3,269,911	24	3,270,150	86	3,270,181	7.7	3,270,193	67	3,269,988
211	3,269,874		3,269,912	44	3,270,151	382	3,270,182	20	3,270,194	75	3,269,989
212	3,269,875		3,269,913		3,270,152	398	3,270,183	41.35	3,270,195	78	3,269,990
137– 13	3,269,401	84.5	3,269,914	61.06	3,270,153	501	3,270,184	44.2	3,270,196	79.7	3,269,991
74	3,269,402	172– 10	3,269,464	61.08	3,269,987	220– 4	3,269,578	106	3,270,197	80	3,269,992
81.5	3,269,419	173– 93.6	3,269,466	61.29	3,270,154	21	3,269,579	241– 5	3,269,667	86.1	3,269,993
192	3,269,403	174– 1	3,270,120	61.41	3,270,155	23.4	3,269,580	137	3,269,668		3,269,994
199	3,269,404	88	3,270,121	67	3,270,156	24	3,269,581	242– 19	3,269,669	89.1	3,269,995
340	3,269,405	117	3,270,122		3,270,157	24.5	3,269,582	55.12	3,269,670	93.7	3,269,996
436	3,269,406	128	3,270,123	84	3,270,158	26	3,269,583	55.19	3,269,671	94.9	3,269,997
489	3,269,407	144	3,270,124	85	3,270,159	27	3,269,584	128	3,269,672	99	3,269,998
517	3,269,408	175– 4.51	3,269,467	86	3,270,160	46	3,269,585	244– 43	3,269,673	102	3,269,999
525	3,269,409	71	3,269,468	120	3,270,166	54	3,269,586	48	3,269,674	112.5	3,270,000
612.1	3,269,410	336	3,269,469	122	3,270,167	55.3	3,269,587	77	3,269,675	124	3,270,001
613	3,269,411	410	3,269,470	132	3,270,168	60	3,269,588	78	3,269,676	193	3,270,002
625.17	3,269,412	418	3,269,471	138	3,270,169	93	3,269,589	246–126	3,270,198	236.5	3,270,003
	3,269,413	176– 16	3,269,915	144	3,270,170	221– 23	3,269,590	182	3,270,199	239	3,270,004
625.21	3,269,414	177–188	3,269,472		3,270,171		3,269,591	248– 2	3,269,677		3,270,005
625.28	3,269,415	208	3,269,473		3,270,172	44	3,269,592	13	3,269,678		3,270,006
625.63	3,269,416	211	3,269,474	148	3,270,173	63	3,269,593	72	3,269,679	239.55	3,270,007
625.64	3,269,417	178– 5.4	3,270,125		3,270,174	68	3,269,594	73	3,269,680		3,270,008
627.5	3,269,418		3,270,126	167	3,270,175	75	3,269,595	123	3,269,681	243	3,270,009
138– 38	3,269,420		3,270,127	202–160	3,269,919	107	3,269,596	226	3,269,682		3,270,010
97	3,269,421		3,270,128	173	3,269,920	186	3,269,597	230	3,269,683		3,270,011
111	3,269,422		3,270,129	203– 2	3,269,921	222– 5	3,269,598	280	3,269,684		3,270,012
140	3,269,423	6.6	3,270,130	3	3,269,922	63	3,269,599	346	3,269,685	247.1	3,270,013
176	3,269,424	6.8	3,270,131	48	3,269,923	70	3,269,600	354	3,269,686	247.5	3,270,014
139–116	3,269,425	7.6	3,270,132	204– 1	3,269,924		3,269,601	397	3,269,687		3,270,015
122	3,269,426	7.87	3,270,133	32	3,269,925		3,269,602	249– 14	3,269,688	248	3,270,016
165	3,269,427	25	3,270,134	90	3,269,926	103	3,269,603	250– 43.5	3,270,200		3,270,017
141– 10	3,269,428	179– 1	3,270,135	131	3,269,927	105	3,269,604	71	3,270,201	249.9	3,270,018
133	3,269,429	15	3,270,136	158	3,269,928	135	3,269,605	71.5	3,270,202	257	3,270,019
315	3,269,430		3,270,137		3,269,929	146	3,269,606	83.3	3,270,203	285.5	3,270,020
143– 32	3,269,431		3,270,138	159.22	3,269,930	173	3,269,607		3,270,204	286	3,270,021
99	3,269,432	18	3,270,139	188	3,269,931	180	3,269,608		3,270,205		3,270,022
132	3,269,433		3,270,140	270	3,269,932	182	3,269,609	209	3,270,206		3,270,023
135	3,269,434		3,270,141	301	3,269,933	183	3,269,610	251– 52	3,269,689	294	3,270,024
171	3,269,435	81	3,270,142	206– 1	3,269,528	189	3,269,611	147	3,269,690	294.3	3,270,025
144– 3	3,269,436	84	3,270,143	16	3,269,529	197	3,269,612	159	3,269,691	295	3,270,026
34	3,269,437		3,270,144	65	3,269,530	392	3,269,613	172	3,269,692	301	3,270,027
208	3,269,438	100.2	3,270,145		3,269,531	394	3,269,614		3,269,693	307	3,270,028
286	3,269,439	107	3,270,146	208– 25	3,269,935		3,269,615	174	3,269,694		3,270,029
316	3,269,440	170	3,270,147	111	3,269,934		3,269,616		3,269,695	307.5	3,270,030
146– 52	3,269,441	180– 2	3,269,475		3,269,936	541	3,269,617	181	3,269,696	308	3,270,031
226	3,269,442	7	3,269,476	135	3,269,937	223– 25	3,269,618	183	3,269,697	326.5	3,270,032
148– 6.15	3,269,876		3,269,477	142	3,269,938	37	3,269,619	214	3,269,698		3,270,033
	3,269,877	8	3,269,478	143	3,269,939	224– 2	3,269,620	327	3,269,699	327	3,270,034
175	3,269,878	22	3,269,479	209– 33	3,269,532	6	3,269,621	252– 12	3,269,943	343.5	3,270,035
149– 2	3,269,879	35	3,269,480	83	3,269,533	7	3,269,622	28	3,269,944	343.7	3,270,036
	3,269,880	79.2	3,269,481	85	3,269,534	225– 1	3,269,623		3,269,945	397.5	3,270,037
151– 7	3,269,443	82	3,269,482	98	3,269,535	97	3,269,624	32.5	3,269,946	400	3,270,038
152–362	3,269,444		3,269,483	138	3,269,536	226– 90	3,269,625	33.2	3,269,947	401	3,270,039
370	3,269,445	181– 33	3,269,484	144	3,269,537	177	3,269,626	33.6	3,269,948	410.7	3,270,040
156– 3	3,269,881	182– 26	3,269,485	441	3,269,538	179	3,269,627	42.1	3,269,949	412.6	3,270,041
78	3,269,882	155	3,269,487	210– 11	3,269,940	199	3,269,628	46.4	3,269,950	437	3,270,042
166	3,269,883	170	3,269,486	59	3,269,941	227– 81	3,269,629	49.6	3,269,951	458	3,270,043
545	3,269,884	184–106	3,269,488	64	3,269,942	107	3,269,630	52	3,269,952	464	3,270,044
583	3,269,885	188– 71	3,269,489	70	3,269,539	144	3,269,631	153	3,269,953	465	3,270,045
158– 4	3,269,446	73	3,269,490	132	3,269,540	228– 15	3,269,632	182	3,269,954	474	3,270,046
28	3,269,447		3,269,491		3,269,541	36	3,269,633	301.2	3,269,955	482	3,270,047
	3,269,448	152	3,269,492	151	3,269,542	229– 2.5	3,269,634	301.6	3,269,956	551	3,270,048
99	3,269,449		3,269,493	316	3,269,543	14	3,269,635	437	3,269,957		3,270,049
126	3,269,450	206	3,269,494	364	3,269,544	15	3,269,636	439	3,269,958	555	3,270,050
159– 4	3,269,451	190– 57	3,269,495	377	3,269,546	16	3,269,637	253– 39.1	3,269,700		3,270,051
160– 90	3,269,452	192– 43.2	3,269,496	469	3,269,545		3,269,638	78	3,269,701	561	3,270,052
176	3,269,453	51	3,269,497	211– 11	3,269,547	21	3,269,640		3,269,702	562	3,270,053
331	3,269,454	56	3,269,498	41	3,269,548	23	3,269,639		3,269,703	564	3,270,054
369	3,269,455	81	3,269,499	50	3,269,549	28	3,269,641	254– 30	3,269,704	566	3,270,055
161–117	3,269,886	84	3,269,500	87	3,269,550	53	3,269,642	89	3,269,705	570.8	3,270,056
160	3,269,887	193– 35	3,269,501	88	3,269,551	55	3,269,643	104	3,269,706	580	3,270,057
162–119	3,269,888		3,269,502	103	3,269,552	66	3,269,644	259– 3	3,269,707	582	3,270,058

260–583	3,270,059	264– 27	3,270,102	280–411	3,269,749	310– 14	3,270,218	318– 19	3,270,262	336–148	3,270,306
	3,270,060	45	3,270,103	474	3,269,750	29	3,270,219	202	3,270,263	217	3,270,307
586	3,270,061	69	3,270,116	482	3,269,751	40	3,270,220	223	3,270,264		3,270,308
601	3,270,062	92	3,270,104	283– 65	3,269,752	51	3,270,221	372	3,270,265	338– 20	3,270,310
609	3,270,063	139	3,270,105	66	3,269,753		3,270,222	320– 1	3,270,266	22	3,270,309
631	3,270,064	143	3,270,106	285–109	3,269,754	62	3,270,223	56	3,270,267	339– 17	3,270,311
632	3,270,065	147	3,270,107	137	3,269,755	87	3,270,224	61	3,270,268	94	3,270,312
648	3,270,066	162	3,270,108	247	3,269,756	89	3,270,225	321– 2	3,270,269	176	3,270,313
649	3,270,067	178	3,270,109	287– 87	3,269,757	90	3,270,226	18	3,270,270	252	3,270,314
	3,270,068	219	3,270,110		3,269,758		3,270,227	25	3,270,271	340– 3	3,270,315
650	3,270,069	231	3,270,111		3,269,759	178	3,270,228	32	3,270,272	18	3,270,316
	3,270,070	244	3,270,112	90	3,269,760	180	3,270,229	47	3,270,273	71	3,270,317
666	3,270,071	245	3,270,113	189.36	3,269,761	239	3,270,230	323– 68	3,270,274	146.1	3,270,318
666.5	3,270,072	263	3,270,114	290– 31	3,270,207	259	3,270,231	79	3,270,275	146.3	3,270,319
674	3,270,073	320	3,270,117	36	3,270,208	312–116	3,269,787	324– 6	3,270,276		3,270,320
	3,270,074	328	3,270,115	292–169	3,269,762	200	3,269,788	57	3,270,277	147	3,270,321
675.5	3,270,075	266– 35	3,269,716	341.18	3,269,763	229	3,269,789		3,270,278	166	3,270,322
678	3,270,076	267– 1	3,269,717	294– 16	3,269,764	257	3,269,791	61	3,270,279	171	3,270,323
679	3,270,077	64	3,269,718	31	3,269,765	328	3,269,790	68	3,270,281	172.5	3,270,324
	3,270,078	270– 54	3,269,719	101	3,269,766	313– 38	3,270,232	95	3,270,280		3,270,325
680	3,270,079	57	3,269,720	297– 29	3,269,767	69	3,270,233	106	3,270,282	174	3,270,326
	3,270,080	58	3,269,721	68	3,269,768	83	3,270,234	325–101	3,270,283		3,270,327
681	3,270,081	86	3,269,722	85	3,269,769	108	3,270,235	105	3,270,284	174.1	3,270,328
	3,270,082	271– 27	3,269,723	106	3,269,770	153	3,270,236	320	3,270,285	223	3,270,329
681.5	3,270,083		3,269,724	132	3,269,771	220	3,270,237	440	3,270,286	234	3,270,330
683.2	3,270,084	62	3,269,725	162	3,269,772	279	3,270,238	328– 62	3,270,287	248	3,270,331
	3,270,085	272– 56.5	3,269,726	214	3,269,773	314– 45	3,270,239	63	3,270,288	255	3,270,332
683.3	3,270,086	79	3,269,727	386	3,269,774	315– 3	3,270,240	330– 29	3,270,289	274	3,270,333
683.9	3,270,087	273– 54	3,269,728	299– 39	3,269,775		3,270,241	331– 94.5	3,270,290	323	3,270,334
851	3,270,088		3,269,729	57	3,269,776	10	3,270,242		3,270,291	347	3,270,335
869	3,270,089	68	3,269,730	302– 14	3,269,777	15	3,270,243	97	3,270,292	343– 5	3,270,336
877	3,270,090	85	3,269,731	20	3,269,778	39	3,270,244	107	3,270,293		3,270,337
932	3,270,091	145	3,269,732	52	3,269,779	83	3,270,245	108	3,270,294	6.5	3,270,338
937	3,270,092	183	3,269,733	60	3,269,780	317– 12	3,270,246	111	3,270,295	7	3,270,339
	3,270,093	274– 42	3,269,734	303– 6	3,269,781	13	3,270,247	116	3,270,296		3,270,340
944	3,270,094	277– 22	3,269,735		3,269,782	99	3,270,248	332– 47	3,270,297	9	3,270,341
955	3,270,095	26	3,269,736	18	3,269,783		3,270,249	333– 1.1	3,270,298	13	3,270,342
976	3,270,096	59	3,269,737	52	3,269,784	100	3,270,250	7	3,270,299	105	3,270,343
261– 1	3,269,710	81	3,269,738	307– 57	3,270,209	101	3,270,251	30	3,270,300	106	3,270,344
34	3,269,711	151	3,269,739	88	3,270,210		3,270,252	335– 54	3,270,165	112	3,270,345
41	3,269,712	280– 3	3,269,740	88.5	3,270,211	120	3,270,253	103	3,270,164	777	3,270,346
	3,269,713	5.26	3,269,741		3,270,212	230	3,270,254	129	3,270,301	346– 8	3,270,347
263– 3	3,269,714	11.13	3,269,742		3,270,213	234	3,270,255	151	3,270,161	33	3,270,348
19	3,269,715	11.37	3,269,743		3,270,214		3,270,256	153	3,270,162	46	3,270,349
52	3,270,097	43.17	3,269,744		3,270,215		3,270,257	154	3,270,302	136	3,270,350
264– .5	3,270,098	47.11	3,269,745	117	3,270,216	235	3,270,258	202	3,270,303	351– 23	3,269,792
1	3,270,099	87.04	3,269,746	118	3,270,217	243	3,270,259	204	3,270,163	352– 29	3,269,793
4	3,270,100	124	3,269,747	308– 36	3,269,785	255	3,270,260	216	3,270,304	89	3,269,794
22	3,270,101	405	3,269,748	187	3,269,786	258	3,270,261	336– 84	3,270,305	198	3,269,795

CLASSIFICATION OF DESIGNS

D 7– 5	205,609	D15– 1	205,616	D35– 2	205,623	D54– 13	205,630	D58– 12.6	205,637	D74– 9	205,644
D 9– 2	205,610	D17– 1	205,617	D48– 20	205,624	14	205,631	D61– 1	205,638	17	205,645
D10– 8	205,611	D29– 1	205,618	24	205,625	D55– 1	205,632	D62– 4	205,639	D80– 9	205,646
	205,612		205,619	27	205,626		205,633	D64– 11	205,640	D81– 21	205,647
9	205,613	D33– 6	205,620		205,627	D56– 4	205,634	D69– 1	205,641	D83– 1	205,648
	205,614	14	205,621	D50– 3	205,628	D58– 2	205,635	D71– 1	205,642	D90– 20	205,649
D14– 6	205,615	D34– 2	205,622	D52– 2	205,629	7	205,636		205,643	D91– 1	205,650

CLASSIFICATION OF PLANTS

P. – 85	2,666										

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

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Alabama 1
Alaska 53
Arizona 2
Arkansas 3
California 4
Canal Zone 57
Colorado 5
Connecticut 6
Delaware 7
District of Columbia 8
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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

August 30, 1966 Volume 829 Number 5

TRADEMARKS

NOTICES

Extensions of Time

It is ordinarily desirable that notice of the action taken by the Patent Office on requests for extension of time be communicated to the persons making the requests as soon as is reasonably possible. In order to improve Patent Office service to patent and trademark applicants in this regard, the following procedure is being instituted effective immediately. If a request for extension of time is filed in duplicate and accompanied by a stamped return-addressed envelope, the Office will indicate the action taken on the duplicate and return it promptly in the envelope. Utilization of this procedure is optional on the part of applicant.

EDWARD J. BRENNER,
Commissioner of Patents.

Aug. 3, 1966.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 660,018 (PLAYBOY), HMH Publishing Co., Inc., Monthly magazine; **Reg. No. 645,286**, same, Cuff links; **Reg. No. 652,412**, same, Mechanically grooved phonograph records; **Reg. No. 661,391** (PLAYBOY'S PLAYMATE OF THE MONTH), same, Feature in the magazine "Playboy," published monthly; **Reg. No. 676,726** (PLAYBOY), same, Compilations of stories issued annually, and calendars; **Reg. No. 711,635** (PLAYBOY'S PENTHOUSE), same, Title of a television program; **Reg. No. 719,988** (PLAYBOY LIQUOR CADDY), same, Bottle holder; **Reg. No. 721,987** (PLAYMATE), same, Calendars; **Reg. No. 746,367** (THE PLAYBOY CLUB), same, Operating private social clubs which feature food, drinks, and entertainment; **Reg. No. 749,223** (PLAYMATE), same, Perfume; **Reg. No. 760,702** (PLAYBOY), same, Operation of establishments which feature food, drink and entertainment; **Reg. No. 777,867** (PLAYMATE), same, Bracelets, ankle bracelets, earring sets, pins, etc., **filed June 20, 1966**, D.C., E.D. Pa. (Philadelphia), Doc. 40503, *HMH Publishing Co., Inc.* v. *Sunshine Brewing Co.*

CONDITION OF TRADEMARK APPLICATIONS AS OF JULY 31, 1966

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	28,840
Date of oldest new application	July 15, 1965
Date of oldest amended application (filing date)	July 6, 1962

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF (Acting), Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	7-15-65	2-24-64
(II) F. H. WETHERBEE (Acting), Classes 1, 3, 6, 7, 9, 10, 18, 22, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	9-25-65	7-6-62
Renewals (All Classes)	6-29-66	
Sec. 12(c) Publications (All Classes)	7-7-66	

Applications filed during the month of July—2,057

Registrations Issued 492—No. 813,722 to No. 814,213
Renewals Issued 70

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 206,734. Mandate Manufacturing Limited, Vancouver, British Columbia, Canada. Filed Nov. 23, 1964.

FRENCH MAID

Class 6—Chemicals and Chemical Compositions

For Bleach, Fabric Softener, and Household Ammonia.

Class 52—Detergents and Soaps

For Detergents.

First use January 1963; in commerce May. 30, 1964.

SN 209,572. Canada Dry Bottling Company of Worcester, d.b.a. Dobbs Beverage Company and as Dobbs, Shrewsbury, Mass. Filed Jan. 8, 1965.

DOBBS

Class 45—Soft Drinks and Carbonated Waters

For Soft Drinks and Syrups Therefor, and for Non-Alcoholic Mixes for Use in Preparing Alcoholic Cocktails.
First use April 1940.

Class 46—Foods and Ingredients of Foods

For Milk Base Chocolate Flavored Drink.
First use April 1949.

SN 225,624. Archer-Daniels-Midland Company, Minneapolis, Minn. Filed Aug. 13, 1965.

ADM

Owner of Reg. No. 749,281.

Class 1—Raw or Partly Prepared Materials

For Synthetic Resins, Bentonite, Soybean Flour for General Industrial Use, Oats and Barley for Seed, Vegetable Fibers, Foundry Core Sand Additives, Elastomers, and Synthetic Polymers.
First use on or about Mar. 1, 1962.

Class 5—Adhesives

For Thermosetting Plastic Adhesives, Binders for Core Sands and Mold Sands, Oils for Foundry Purposes, and Cereal Binders for Foundry Practices.
First use on or about Mar. 1, 1962.

Class 6—Chemicals and Chemical Compositions

For Fatty Amines, Fatty Amides, Fatty Nitriles, Fatty Quaternary Ammonium Compounds and Related Fatty Nitrogen Derivatives of Ammonium, Saturated Hydrocarbon Stabilizing Agents, Fatty Alcohols, Surfactants Derived From Fats and Oils, Fatty Acids, Hydrogenated Fatty Acids, Fatty Esters, Fatty Oils, Liquid Plasticizers for Resins, Fish and Marine Oil Vehicles, Polymerized Oils, Soybean Lecithins and Hydrogenated Oils, Such as Hydrogenated Sperm Oils.
First use on or about Mar. 1, 1962.

Class 10—Fertilizers

For Controlled Release Fertilizer.
First use on or about Mar. 1, 1962.

Class 15—Oils and Greases

For Unsaturated Hydrocarbons and Derivatives for Use as Additives in Fuel Oil and Lubricant Compositions, and Combustible Liquid Used in the Foundry Art.
First use on or about July 1, 1962.

Class 16—Protective and Decorative Coatings

For Resin and Oil Vehicles for Paints, Varnishes, Sealers, Primers, and Vinyl Plastic Coatings.
First use on or about July 1, 1962.

Class 38—Prints and Publications

For House Organ.
First use on or about July 1, 1962.

Class 46—Foods and Ingredients of Foods

For Flours, Meals, Grits, Livestock Feeds, Vegetable Proteins, Semolinas, and Offals.
First use on or about July 1, 1962.

Class 100—Miscellaneous

For Sponsored Research Service in the Fields of Chemistry and Food Technology.
First use on or about July 1, 1962.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 210,549. Fibreflex Packing & Manufacturing Company, Inc., Philadelphia, Pa. Filed Jan. 25, 1965.

FIBRE-KORK

For Fibre and Cork Composition Sheet Material Treated To Provide Controlled Absorbency for Use in Manufacturing Various Industrial Articles.
First use Jan. 2, 1948.

SN 232,658. Bees Limited, Sealand, Chester, England. Filed Nov. 15, 1965.

BEES SEEDS THAT GROW

Applicant disclaims the words "Seeds That Grow" apart from the mark as shown. Owner of British Reg. No. 737,087, dated Dec. 10, 1954.
For Seeds for Agricultural and Horticultural Purposes.

SN 234,892. The Fluorocarbon Company, Anaheim, Calif. Filed Dec. 20, 1965.

FLUOROLOY

For Fluorocarbon Resin Sheets, Tubes, and Rods.
First use Dec. 4, 1961.

SN 235,138. Three Springs Fisheries, Lilypons, Md. Filed Dec. 22, 1965.

SILGOL

For Live Goldfish.
First use on or about Nov. 8, 1965.

SN 237,432. Dairyland Seed Company, Inc., Campbellsport, Wis. Filed Jan. 27, 1966.

G-M

For Farm Seeds.
First use on or about Mar. 14, 1960.

SN 237,434. Dairyland Seed Company, Inc., Campbellsport, Wis. Filed Jan. 27, 1966.

V-14

For Farm Seeds.
First use on or about Mar. 14, 1960.

SN 237,435. Dairyland Seed Company, Inc., Campbellsport, Wis. Filed Jan. 27, 1966.

V-12

For Farm Seeds.
First use on or about Mar. 14, 1960.

SN 237,438. Dairyland Seed Company, Inc., Campbellsport, Wis. Filed Jan. 27, 1966.

NU-TIM

For Farm Seeds.
First use on or about Mar. 14, 1960.

SN 238,236. Kentucky Alma Coal Corporation, Drift, Ky. Filed Feb. 7, 1966.

BLACKBERRY

For Coal.
First use Jan. 14, 1966.

SN 238,342. The Cement Marketing Company, Limited, London, England. Filed Feb. 8, 1966.

SNOWCAL

Owner of British Reg. No. 811,566, dated Oct. 5, 1960.
For Whiting (Not Being a Pigment) for Use in Industrial or Manufacturing Processes, and for Use as a Filtering Material.

SN 239,128. Diamond Alkali Company, Cleveland, Ohio. Filed Feb. 18, 1966.

DION

Owner of Reg. Nos. 635,391, 786,240, and others.
For Polymercaptan Resins.
First use Sept. 24, 1965.

Class 2—Receptades

SN 216,954. Illinois Tool Works Inc., Chicago, Ill. Filed Apr. 20, 1965.

DISPOSABLE TABLEWARE By CONEX

The drawing is lined for yellow. Applicant disclaims the words "Disposable Tableware By" apart from the mark as shown. Owner of Reg. Nos. 700,011, 714,563, and 776,827.
For Disposable Tableware—Namely, Cups, Plates, Relatively Small Packaging Receptacles, and Hand Held Eating Implements, All Goods Made of Plastic.
First use on or about Jan. 22, 1965.

SN 220,615. Zucon, Inc., Birmingham, Ala. Filed June 7, 1965.

ZU-CON, Inc.

Applicant disclaims the representation of a pail apart from the mark as shown.
For Steel Pails and Drums.
First use Feb. 5, 1963.

SN 221,279. Kleer-Vu Industries, Inc., New York, N.Y. Filed June 16, 1965.

ECONO SLEEVES

Applicant disclaims "Sleeves" apart from the mark as shown.
For Plastic Packaging and Bags Including Plastic Sleeves Used for Packing and Protection Purposes.
First use Dec. 15, 1964.

SN 221,542. Zucon, Inc., Birmingham, Ala. Filed June 18, 1965.

Applicant disclaims the representation of a pail apart from the mark as shown.
For Steel Pails and Drums.
First use Nov. 17, 1952.

SN 222,488. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed July 1, 1965.

KAISER

Owner of Reg. Nos. 522,385, 594,770, and others.
For Aluminum Foil Containers for Food and Aluminum Containers for Chemicals.
First use at least as early as June 30, 1956.

SN 222,698. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed July 6, 1965.

E-Z KART-N-PAK

Owner of Reg. Nos. 227,085, 725,467, and others.
For Die-Cut Foldable Paperboard Box Blanks.
First use May 31, 1960.

SN 222,834. Diamond National Corporation, New York, N.Y. Filed July 7, 1965.

ROUNDTAINER

For Molded Pulp Trays.
First use June 11, 1965.

SN 223,003. Rocket Jewelry Box, Inc., New York, N.Y. Filed July 9, 1965.

CHAMPAGNE

For Box for Jewelry and the Like.
First use Oct. 20, 1964.

SN 241,208. Weyerhaeuser Company, Tacoma, Wash. Filed Mar. 16, 1966.

WEYERHAEUSER

Owner of Reg. No. 614,708.
For Boxes, Cartons, and Containers Made of Paperboard, Fiberboard, Corrugated Paperboard, Paper Overlaid Wood Veneer, Plastics, and Molded Wood Trays.
First use Nov. 4, 1959.

Class 5 — Adhesives

SN 225,922. Berryman Products, Inc., Dallas, Tex. Filed Aug. 18, 1965.

SEALEX

For Tire Sealant.
First use 1921.

SN 226,143. Gilman Paper Company, New York, N.Y. Filed Aug. 20, 1965.



For Gummed Sealing Tape and Gummed Reinforced Tape.
First use Feb. 17, 1965.

SN 226,987. Archer-Daniels-Midland Company, Minneapolis, Minn. Filed Sept. 2, 1965.

ARCHER

For Liquid Binder Used in the Preparation of Foundry Cores and Molds.
First use in or about March 1954.

Class 6 — Chemicals and Chemical Compositions

SN 224,878. Pilar River Plate Corp., Newark, N.J. Filed Aug. 3, 1965.



The words "Vegetable Tanning Materials" are disclaimed apart from the mark as shown.
For Vegetable Tanning Preparation.
First use June 7, 1965.

SN 228,207. Tenneco Chemicals, Inc., New York, N.Y. Filed Sept. 20, 1965.

MINOL

For Pine Oils.
First use on or about June 3, 1963.
Subj. to Intf. with SN 227,660.

SN 229,397. Miles Laboratories, Inc., Elkhart, Ind., assignee of Ames Lab-Tek, Inc., Billerica, Mass. Filed Oct. 6, 1965.

CRYOSTAIN

For Stains for Preparing Tissue Specimens.
First use on or before Apr. 1, 1962.

SN 235,698. Novo Industri A/S, Copenhagen, Denmark. Filed Jan. 3, 1966.

AQUAZYM

Owner of Danish Reg. No. 500/54, dated Apr. 10, 1954.
For Desizing Preparations for Use in the Textile Industry.

SN 235,811. American Cyanamid Company, Wayne, N.J. Filed Jan. 5, 1966.

CALCOLON

Owner of Reg. Nos. 674,802, 698,376, and 773,049.
For Dyes.
First use Nov. 30, 1965.

SN 237,326. Geigy Chemical Corporation, Ardsley, N.Y. Filed Jan. 26, 1966.

IRGATRIL

Owner of Reg. Nos. 165,426, 799,009, and 618,045.
For Dyestuffs.
First use Jan. 13, 1966.

SN 237,880. The Sinclair Manufacturing Company, d.b.a. Sinclair Manufacturing Company, Toledo, Ohio. Filed Feb. 2, 1966.

CORAL

Owner of Reg. Nos. 782,573 and 787,927.
For Sodium Hypochlorite Solution for Use as Liquid Bleach, Deodorizer, Germicide, and Disinfectant and Fabric Softener Liquid.
First use Apr. 9, 1965.

SN 238,031. Globe Chemical Co., Inc., Decatur, Ga. Filed Feb. 10, 1966.



The phrase "Quality Is Our Most Important Product," is disclaimed apart from the mark as shown. Owner of Reg. No. 769,693.
For Pine Oil Disinfectant, Bowl Disinfectant, Deodorant, Germicide-Disinfectant for Silverware and General Industrial Use, Disinfectant-Fungicide for Institutional Use, and Fly Spray.
First use July 1, 1956.

SN 246,131. Albert Verley & Company, Linden, N.J. Filed May 20, 1966.

EAUDESOL

For Perfuming Oils for Use in Household Chemical Specialties, Toiletries, and Other Industrial Applications.
First use Nov. 29, 1965.

Class 7 — Cordage

SN 222,502. Pacific-Western Materials, Inc., Pico Rivera, Calif. Filed July 1, 1965.

TRX

For Webbing Slings.
First use on or about March 1965.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 223,326. Micro-Precision Co., Omaha, Nebr. Filed July 14, 1965.

SPEEDIES

For Reloading Dies for Rifle and Pistol.
First use Feb. 1, 1964.

SN 226,471. Remington Arms Company, Inc., Bridgeport, Conn. Filed Aug. 25, 1965.

POWER-LOKT

For Ammunition—Namely, Loaded Cartridges and Bullets Therefor.
First use July 22, 1965.

SN 228,523. Emerson Electric Co., St. Louis, Mo. Filed Sept. 24, 1965.

TAT

For Aircraft Armament and Controls Therefor.
First use August 1963.

Class 10 — Fertilizers

SN 223,990. W. R. Grace & Co., New York, N.Y. Filed July 22, 1965.

PURASOL

For Fertilizer.
First use Apr. 19, 1965.

SN 245,547. Sta-Soil Corporation, Van Nuys, Calif. Filed May 13, 1966.

STA-MULCH

For Fertilizing Material for Soil.
First use Apr. 4, 1966.

Class 11 — Inks and Inking Materials

SN 224,445. Pope & Gray, Inc., Clifton, N.J. Filed July 28, 1965.



For Inks and Varnishes Which Are Used in Inks and as Printing Inks.
First use Feb. 27, 1934.

SN 232,044. Manifold Supplies Company, Brooklyn, N.Y. Filed Oct. 20, 1965.

SELECTRAMATIC

For Carbon Paper.
First use Aug. 19, 1957.

Class 12 — Construction Materials

SN 189,515. Vitricon Inc., Woodside, N.Y. Filed Mar. 24, 1964.



Owner of Reg. No. 658,977.
For Vitreous or Glazed Cementitious Surfacing Compositions for Concrete, Brick, Block, Dry Wall, Plaster, and the Like.
First use about the middle of 1959.

SN 213,368. Sohio Chemical Company, Cleveland, Ohio. Filed Mar. 4, 1965.

STRUCTOFORM

For Resin Reinforced Fiberglass Sheets.
First use prior to 1962.

SN 215,836. Poul Cadovius, Aarhus, Denmark. Filed Apr. 6, 1965.



Applicant disclaims the word "Design" apart from the mark as shown. Applicant also disclaims the representation of the goods apart from the mark as shown and without prejudice to its common law rights therein. Priority claimed under Sec. 44(d) on Danish application filed Nov. 9, 1964; Reg. No. 1,340, dated May 22, 1965.
For Metal Tubes and Rods, Jointing Elements, Metal and Wooden Shelving, Adjustable Legs, and Protective Foot Pieces Sold as Units for Constructing Shelves, Scaffolding or Other Structures; Replacement Parts Therefor.

SN 225,820. Shakertown Corporation, Winlock, Wash. Filed Aug. 16, 1965.

E-Z PLY

For Shake Panels.
First use May 20, 1958.

SN 227,190. Textured Coatings of America, Inc., Los Angeles, Calif. Filed Sept. 3, 1965.

TEX-PATCH

For Patching Compound for the Repair of Cracks and Imperfections in Various Types of Building Surfaces.
First use on or about Jan. 1, 1965.

SN 227,191. Textured Coatings of America, Inc., Los Angeles, Calif. Filed Sept. 3, 1965.

TEX-TAPE

For Glass Fiber Mesh Fabric for the Repair of Cracks and Imperfections in Various Types of Building Surfaces.
First use Jan. 1, 1965.

SN 232,500. Abreu & Cia, Lda, Amarante, Portugal. Filed Nov. 12, 1965.



Owner of Portuguese Reg. No. 95,724, dated Jan. 15, 1959.
For Chip Boards.

SN 235,934. Potlatch Forests, Inc., San Francisco, Calif. Filed Jan. 6, 1966.

MASTERPIECE

For Plywood Panels.
First use Oct. 25, 1965.

SN 235,957. Cadence Corporation, Paramount, Calif. Filed Jan. 7, 1966.

CADENCE

For Ceramic Tile Used for Building Purposes.
First use Dec. 28, 1965.

SN 236,353. Baltimore Concrete Plank Corporation, Baltimore, Md. Filed Jan. 13, 1966.

DYNA-FRAME

For Precast Concrete Columns and Beams.
First use June 11, 1965.

SN 236,729. The Euclid Chemical Company, Cleveland, Ohio. Filed Jan. 18, 1966.

DAM-IT

For Cementitious Compound for Sealing Off Leaks or Seepage in Masonry Walls, Floors, Tanks or Sewers and Plugging Construction Holes in New Concrete Surfaces.
First use on or about May 1, 1963.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 212,005. Idealspaten- und Schaufelwalzwerk vorm. Eckardt & Co. G.m.b.H., Herdecke/Ruhr, Germany. Filed Feb. 15, 1965.

IDEAL

For Metallic Traction Shoes for Use on Rubber Tires.
First use July 5, 1962; in commerce July 20, 1962.

SN 232,476. The Powers Regulator Company, Skokie, Ill. Filed Nov. 10, 1965.

KNEE TOUCH

For Fluid Control Valves.
First use Sept. 13, 1965.

SN 233,073. Camelot, Inc., Dallas, Tex. Filed Nov. 22, 1965.

CLASSICWARE

For Metal Cookware—Namely, Pots, Pans, Roasters, Racks, Inserts, Food Covers, Presses, and Mashers.
First use Dec. 9, 1964.

SN 234,336. Crawford Fitting Company, Solon, Ohio. Filed Dec. 10, 1965.



The drawing is lined for blue. The words "Tube Fitting" and the pictorial illustration of the goods are disclaimed apart from the mark as shown. Owner of Reg. No. 595,412.
For Tube Fittings.
First use May 24, 1965.

SN 235,974. General Motors Corporation, Detroit, Mich. Filed Jan. 7, 1966.

INVISALIFT

For Air Casters.
First use Dec. 9, 1965.

SN 235,990. Thomas L. Kalahar, d.b.a. Kalahar & Company and Perf Hook Manufacturing Company, Park Ridge, Ill. Filed Jan. 7, 1966.

PERFIX

For Article Supporting Brackets for Use on Perforated Board.
First use Nov. 4, 1965.

SN 236,022. Sterling Faucet Company, Morgantown, W. Va. Filed Jan. 7, 1966.



For Deck Faucets, Lavatory, Bath, and Shower Fittings.
First use Dec. 4, 1965.

SN 236,241. Crane Co., New York, N.Y. Filed Jan. 12, 1966.



Owner of Reg. No. 766,196.
For Butterfly Valves.
First use Mar. 1, 1965.

SN 236,405. The National Screw & Manufacturing Company, Cleveland, Ohio. Filed Jan. 13, 1966.

NAT

Owner of Reg. Nos. 418,982 and 421,434.
For Bolts, Nuts, Screws, Studs, Rivets, Blind Fasteners, Pipe Plugs, Rods Threaded on One or Both Ends, Nails, Cotter Pins, Spring Keys Used in Slotted Bolts, Screw Machine Products, Metal Sleeves.
First use on or about Jan. 25, 1945.

SN 236,533. Wheel Centre Company, Incorporated, Walnut Creek, Calif. Filed Jan. 14, 1966.

UNI-LUG

For Washers for Adapting Wheels to Various Wheel Bolt Patterns.
First use Oct. 22, 1965.

SN 236,823. Independent Lock Company, Fitchburg, Mass. Filed Jan. 19, 1966.

AIRDRAULIC

For Door Closers.
First use Jan. 25, 1963.

SN 237,155. Research Products Manufacturing Company, Irving, Tex. Filed Jan. 24, 1966.



For Incinerator Type Toilets and Urinals and Combustible Sheet Material Liners for Said Toilets.
First use September 1963.

Class 14—Metals and Metal Castings and Forgings

SN 212,108. Gianini Scientific Corporation, Amityville, N.Y. Filed Feb. 16, 1965.



The drawing is lined for the color orange, but no claim is made to color as an integral feature of the mark. Owner of Reg. No. 794,671.
For Metal and Ceramic Powders Adapted To Be Applied to Substrates by Means of Electric Plasma Jet Spray Torches.
First use in or about 1960.

SN 233,189. National Steel Corporation, Pittsburgh, Pa. Filed Nov. 23, 1965.

WEIRALLOY

For Corrosion-Resistant Sheet Steel.
First use Oct. 5, 1965.

SN 233,283. The Rails Company, Maplewood, N.J. Filed Nov. 24, 1965.

FLEXICLIP

For Device Including a Spring Clip for Holding a Railway Rail on a Railway Tie or Other Supporting Structure.
First use Feb. 19, 1965.

SN 233,842. Sparta Foundry Company, Sparta, Mich. Filed Dec. 2, 1965.

SPARTALOY

For Foundry Castings, Particularly Castings for Piston Rings and Seals.
First use on or about Feb. 24, 1938.

Class 15—Oils and Greases

SN 234,095. Franth Wetherholts, d.b.a. "A World Renown" Products, Chicago, Ill. Filed Dec. 6, 1965.

Dr. ZZING G

For Chemical Compound Used as an Additive to Gasoline.
First use Sept. 25, 1965.

SN 235,125. Sears, Roebuck and Co., Chicago, Ill. Filed Dec. 22, 1965.

CRAFTSMAN

For Lubricating Oil.
First use on or about Nov. 8, 1965.

Class 16—Protective and Decorative Coatings

SN 206,009. Distmark, Inc., San Francisco, Calif. Filed Nov. 12, 1964.

DISTRON 7

For Formulation Incorporated in an Aerosol Dispensed Coating for Ovens and Cooking Utensils To Prevent Sticking and Serving To Enhance the Non-Sticking Characteristics of the Coating.
First use Sept. 17, 1964.

SN 230,302. The Sherwin-Williams Company, Cleveland, Ohio. Filed Oct. 15, 1965.

FLUOROCLAD

Owner of Reg. Nos. 522,715, 723,765, and others.
For Finishes for Precoating Metal Sheet Prior to Forming and Fabricating.
First use Sept. 15, 1965.

SN 230,413. Morton International, Inc., Chicago, Ill. Filed Oct. 18, 1965.

SPARKLON

For Component of Multi-Component Protective and Decorative Coatings—Namely, Gloss Coatings for Films, Paper, and the Like.
First use June 11, 1965.

Class 17—Tobacco Products

SN 240,456. P. Lorillard Company, New York, N.Y. Filed Mar. 8, 1966.

CROWNPOINT

For Cigarettes.
First use Feb. 18, 1966.

SN 240,458. P. Lorillard Company, New York, N.Y. Filed Mar. 8, 1966.

WAVERLY

For Cigarettes.
First use Feb. 18, 1966.

SN 240,459. P. Lorillard Company, New York, N.Y. Filed Mar. 8, 1966.

STOCKTON

For Cigarettes.
First use Feb. 18, 1966.

SN 240,460. P. Lorillard Company, New York, N.Y. Filed Mar. 8, 1966.

RACETON

For Cigarettes.
First use Feb. 18, 1966.

Class 18—Medicines and Pharmaceutical Preparations

SN 224,066. H. C. Burns Company, Inc., d.b.a. H. C. Burns Pharmaceuticals, Oakland, Calif. Filed July 23, 1965.

LINI GEL

For the purposes of registration, no claim is made to the exclusive right to use the word "Gel" apart from the combination "Lini Gel," but the applicant waives none of its common law rights therein.
For Pharmaceutical Preparation in a Jelled Base Designed as a Liniment To Stimulate Capillary Circulation, Promote Vascularity, and Reduce Edema by Massage in Such Disorders as Muscle Cramps, Tendonitis, Rheumatism, Bursitis, Mastitis and Other Local Inflammatory Conditions.
First use Jan. 31, 1964.

SN 225,980. Merck & Co., Inc., Rahway, N.J. Filed Aug. 18, 1965.

BENDOCID

For Medicinal Preparation Useful as an Analgesic, Anti-Inflammatory, Antipyretic, and Uricosuric Agent.
First use Aug. 6, 1965.

SN 226,547. Mi-Con Laboratories, Inc., Wauconda, Ill. Filed Aug. 26, 1965.

AQUA-FILM

For Solution for Use With Contact Lenses.
First use May 10, 1965.

SN 226,794. Charles Ellwood Shiffer, d.b.a. Dr. Shiffer's Laboratories, Cleveland, Ohio. Filed Aug. 30, 1965.

SHIFFER SYSTEM SCALP SERVICE

The words "System," "Service" and "Scalp" are disclaimed apart from the mark as shown, although applicant does not waive any common law right in the mark. Owner of Reg. No. 603,520.
For Medicated Hair and Scalp Preparation.
First use July 20, 1937.

SN 227,766. Merck & Co., Inc., Rahway, N.J. Filed Sept. 14, 1965.

ANTI-INFLAMMATORY · ANTIPYRETIC · ANALGESIC

Applicant disclaims the words "Anti-Inflammatory," "Analgesic," "Antipyretic" apart from the mark as shown.
For Hormonal Preparation for Medicinal and Pharmaceutical Use.
First use June 21, 1965.

SN 234,561. Geigy Chemical Corporation, Ardsley, N.Y. Filed Dec. 14, 1965.

ROTIMOS

For Anti-Infective Preparation.
First use Nov. 30, 1965.

SN 234,562. Geigy Chemical Corporation, Ardsley, N.Y. Filed Dec. 14, 1965.

ORMANTA

For Anti-Depressant Preparation.
First use Nov. 30, 1965.

SN 236,027. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Jan. 7, 1966.

REEF

For Mouthwash and Gargle.
First use Dec. 7, 1965.

SN 236,168. Societe des Usines Chimiques Rhone-Poulenc, Paris, France. Filed Jan. 10, 1966.

MIGRISTENE

Owner of French Reg. No. 521,080, dated Apr. 9, 1964 (Paris); Natl. Inst. No. 223,456.
For Antihistamines.

SN 236,462. The Central Pharmacal Company, Seymour, Ind. Filed Jan. 14, 1966.

CO-XAN

For Preparation for the Treatment of Asthmatic Bronchospastic Conditions.
First use Dec. 30, 1965.

SN 237,851. Mallinckrodt Chemical Works, St. Louis, Mo. Filed Feb. 2, 1966.

NOLOC

For Laxative and Fecal Softener Preparations.
First use Mar. 15, 1957.

SN 238,023. Veterinary Supply Depot Incorporated, Dallas, Tex. Filed Feb. 3, 1966.

THERMO-BRACE

For Liniment for Veterinary Use.
First use Jan. 10, 1966.

SN 238,034. American Home Products Corporation, New York, N.Y. Filed Feb. 4, 1966.

ADMISSORB

For Analgesic Salve.
First use Jan. 19, 1966.

SN 238,035. American Home Products Corporation, New York, N.Y. Filed Feb. 4, 1966.

DRAMISSION

For Analgesic Salve.
First use Jan. 19, 1966.

SN 238,444. Philips Roxane, Inc., New York, N.Y. Filed Feb. 9, 1966.

For Medicated Rectal Cleansing Pads for Use in Treating Hemorrhoids.
First use Sept. 23, 1964.

SN 238,484. B. F. Ascher & Company, Inc., Kansas City, Mo. Filed Feb. 10, 1966.

XYNISONE

For Steroid Tablets.
First use Jan. 5, 1966.

SN 238,564. Richardson-Merrell Inc., Cincinnati, Ohio. Filed Feb. 10, 1966.

DYNOLEN

Owner of Reg. No. 620,253.
For Analgesic Preparations.
First use Jan. 11, 1966.

SN 238,605. The British Oxygen Company Limited, London, England. Filed Feb. 11, 1966.

ENTONOX

Owner of British Reg. No. 869,365, dated Sept. 16, 1964.
For Anaesthetic and Analgesic Gases.

SN 238,720. The Denver Chemical Manufacturing Company, d.b.a. Wampole Laboratories, Stamford, Conn. Filed Feb. 14, 1966.

UROSPAS

For Antispasmodic Preparation.
First use Feb. 4, 1966.

SN 238,864. Geigy Chemical Corporation, Ardsley, N.Y. Filed Feb. 15, 1966.

XEPAN

For Analgesic Preparation.
First use Jan. 28, 1966.

SN 238,865. Geigy Chemical Corporation, Ardsley, N.Y. Filed Feb. 15, 1966.

GLOBALGON

For Analgesic Preparations.
First use Jan. 28, 1966.

SN 243,575. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Apr. 15, 1966.

UNASYN

For Antibiotic Preparation.
First use Mar. 10, 1966.

SN 243,783. International Stock Food Corporation, Waverly, N.Y. Filed Apr. 19, 1966.

KETO-BAN

For Aid in the Prevention and a Treatment for Acetonemia.
First use Feb. 28, 1966.

SN 243,894. The Purdue Frederick Company, Yonkers, N.Y. Filed Apr. 21, 1966.

RESPROMYCIN

For Antibiotic Preparation.
First use Mar. 21, 1966.

SN 243,895. The Purdue Frederick Company, Yonkers, N.Y. Filed Apr. 21, 1966.

RESPIROCYCLINE

For Antibiotic Preparation.
First use Mar. 21, 1966.

Class 19—Vehicles

SN 226,118. B.A.E. Corporation, Los Angeles, Calif. Filed Aug. 20, 1965.

BAE Helipad

For Landing and Transporting Device for Helicopters—Namely, a Wheel-Mounted Platform Useful for the Transportation of Helicopters and the Like Between Landing and Storage Areas.
First use Dec. 28, 1962.

SN 226,601. Aeronca Manufacturing Corporation, Middletown, Ohio. Filed Aug. 27, 1965.

RaiLite

For Hopper Type Railroad Cars.
First use Aug. 17, 1965.

SN 227,144. The Heil Co., Milwaukee, Wis. Filed Sept. 3, 1965.

HEIL HUGE-PAC

Owner of Reg. Nos. 510,903, 671,446, and others.
For Refuse Hauling Vehicle and/or Separable Refuse Container Adapted To Be Transported by Said Vehicle.
First use May 17, 1965.

SN 227,185. Stanray Corporation, Chicago, Ill. Filed Sept. 3, 1965.

DREADNAUGHT

For Ends for Railroad Freight Cars.
First use Aug. 21, 1965.

SN 227,410. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Sept. 8, 1965.

ACCU-LITE

Owner of Reg. No. 698,057.
For Steel Disk Wheels and Rims for Vehicles.
First use June 24, 1965.

SN 227,546. Arnold, Schwinn & Co., Chicago, Ill. Filed Sept. 10, 1965.

Lil' Chik

For Bicycles.
First use Aug. 19, 1965.

SN 228,074. Reflex Corporation of America, Troy, Mich. Filed Sept. 17, 1965.

SAFE-T-FLECTOR

For Automotive Vehicle Reflectors—Namely, Headlight Rings.
First use on or about July 6, 1965.

SN 228,231. White Motor Corporation, Cleveland, Ohio. Filed Sept. 20, 1965.

REO

Owner of Reg. No. 54,722 and others.
For Trucks, Highway Tractors, and Parts Therefor.
First use Aug. 27, 1904.

SN 232,742. United Distributors Service, Inc., d.b.a. United Distributors Service, Roanoke, Va. Filed Nov. 15, 1965.

UDS

Owner of Reg. Nos. 768,348 and 772,186.
For Shock Absorbers for Motor Vehicles.
First use Jan. 15, 1963.

Class 20—Linoleum and Oiled Cloth

SN 236,172. Armstrong Cork Company, Lancaster, Pa. Filed Jan. 11, 1966.

CORONELLE

For Resilient Hard Surface Type Vinyl Covering for Floors, Walls, and Other Surfaces.
First use Oct. 27, 1965.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 207,564. Caswell Electronics Corporation, San Jose, Calif. Filed Dec. 7, 1964.

CASWELL ELECTRONICS

The term "Nulli Secundus" means "second to none." The word "Electronics" is disclaimed apart from the mark as shown.
For Microwave and Coaxial Waveguide and Stripline Components—Namely, Circulators and Parts Thereof, Isolators and Parts Thereof, Attenuators and Parts Thereof, Modulators and Parts Thereof, Microwave Phase Shifters, Harmonic Filters, Ferrite Switches, High Power Loads and Terminations, Mica Pressure Windows, D.C. Blocks, Slide Screw Tuners, Waveguide to Coaxial Adapters, Detector Mounts, Waveguide Mechanical Switches, Waveguide Pressurising Sections, Cross Guide Directional Couplers, Double Stub Tuners, Leaky Wall Harmonic Filters and Ferrite Harmonic Filters.
First use June 29, 1959.

SN 222,873. Roxter Corporation, Long Island City, N.Y. Filed July 7, 1965.

ROXTER

For Electric Lamps, Lamp Bases, Lamp Shades, and Lamp Arms.
First use about 1956.

SN 226,916. Industrial Distributors, Inc., Bridgeport, Conn. Filed Sept. 1, 1965.

Taperline

For Electrical Battery Chargers for Vehicles.
First use 1963.

SN 227,676. General Instrument Corporation, Newark, N.J. Filed Sept. 13, 1965.

MOGISTER

For Semiconductor Shift Registers.
First use June 23, 1965.

SN 233,345. Holiday Inns of America, Inc., d.b.a. Coffee Host, Memphis, Tenn. Filed Nov. 26, 1965.

COFFEE HOST

For Electric Coffee Makers and Parts.
First use June 22, 1965.

SN 237,218. Graybar Electric Company, Inc., New York, N.Y. Filed Jan. 25, 1966.

GRAYCASE

For Splice Closures for Electrical Wires.
First use in or about April 1963.

Class 22—Games, Toys, and Sporting Goods

SN 192,646. Western-Hoegee Co., Los Angeles, Calif. Filed May 4, 1964.

PENGUIN

The drawing is lined for the colors red and gold. No claim to the colors red and gold is made except as shown.
For Fishing Tackle, Comprising Rods, Fishing Line, Fishing Lures, and Related Accessories.
First use September 1962.

SN 201,999. Aluminum Specialty Company, Manitowoc, Wis. Filed Sept. 16, 1964.

AS

For Toy Cooking and Baking Sets and Utensils for Children, Made of Aluminum and/or Like Material.
First use January 1961.

SN 204,084. Ben Pearson, Inc., Pine Bluff, Ark. Filed Oct. 15, 1964.

GOLDEN SOVEREIGN SERIES BEN PEARSON

Applicant disclaims the term "Series." "Ben Pearson" identifies a living individual whose consent is of record.
For Archery Bows, Arrows, and Accessories.
First use Mar. 1, 1961.

SN 217,267. Bronson Specialties, Inc., Bronson, Mich. Filed Apr. 26, 1965.

WILDCAT BRONSON

Owner of Reg. Nos. 618,990, 707,165, and others.
For Fishing Tackle viz: Fishing Reels.
First use Aug. 27, 1964.

SN 220,154. Roddy Recreation Products, Inc., Gardena, Calif. Filed June 1, 1965.

ROD-AC

For Fishing Rods.
First use May 4, 1965.
Subj. to Intf. with SN 223,583.

SN 220,309. Jerry Lucas Pass-Time Games, Inc., Columbus, Ohio. Filed June 3, 1965.

perplexion

For Equipment (or Apparatus) Sold as a Unit for Playing a Board (or Parlor) Game Which Simulates Checkers and Chess.
First use Nov. 17, 1964.

SN 224,664. Viscount Products, Inc., New York, N.Y. Filed July 30, 1965.



BIG DEAL

The pictorial features of the mark, so far as they are in the public domain, are disclaimed.
For Playing Cards.
First use June 18, 1965.

SN 226,619. Clayton John Burnard, Kirkland, Wash. Filed Aug. 27, 1965.

NIK-NOK

For Toy Comprising Cup Device and Ball.
First use May 27, 1965.

SN 229,053. Milton Bradley Company, Springfield, Mass. Filed Oct. 1, 1965.

CALCUFRAME

For Abacus-Type Educational Device and Accessories for Visually Demonstrating and Teaching the Facts of Ten and the Principles of Addition, Multiplication, Subtraction, and Division.
First use Feb. 3, 1964.

SN 229,137. Shakespeare Company, Kalamazoo, Mich. Filed Oct. 1, 1965.

FORMULA-SIX

For Golf Balls.
First use Aug. 23, 1965.

SN 229,138. Shakespeare Company, Kalamazoo, Mich. Filed Oct. 1, 1965.

formula-Six

For Golf Balls.
First use Aug. 23, 1965.

SN 229,156. Bliss & Laughlin Industries, Incorporated, Oak Brook, Ill., assignee of Waco-Porter Corporation, Schiller Park, Ill. Filed Oct. 1, 1965.

PORTER

For Gymnasium and Playground Equipment, Specifically, See-Saws, Swing Sets, Slides, Merry-Go-Rounds, Horizontal Ladders, Horizontal Bars, Basketball and Softball Backstops, Batting Cages, Parallel Bars, Balance Beams, Side Horses, Bucks, Vaulting Boxes, Spring Boards, Trampolines, Climbing Apparatus, Rowing Machines, Chest Weights, and Rings.
First use 1949.

SN 229,340. Deutsche Angelgerate Manufaktur (Dam) Hellmuth Kuntze Gesellschaft mit beschrankter Haftung & Co. Kommanditgesellschaft, Berlin, Germany. Filed Oct. 5, 1965.

D·A·M

Owner of U.S. Reg. No. 600,723.
For Fishing Rods, Fishing Reels, Fishing Lines, Wire Tracers, Fishing Hooks, Artificial Fishing Lures, and Floats.
First use July 1962; in commerce August 1965.

SN 229,350. Hi-Jack, Fort Worth, Tex. Filed Oct. 5, 1965.

HI-JACK

For Model Car Slot Racing Apparatus and Accessories.
First use July 5, 1965.

SN 229,351. Hi-Jack, Fort Worth, Tex. Filed Oct. 5, 1965.



For Model Car Slot Racing Apparatus and Accessories.
First use July 5, 1965.

SN 229,500. Constantine W. Colburn, d.b.a. Con Surf Boards, Santa Monica, Calif. Filed Oct. 7, 1965.



The mark is a stylized showing of the term "Con."
For Surf Boards.
First use June 1, 1961.

SN 229,955. Daisy Manufacturing Company, Rogers, Ark. Filed Oct. 12, 1965.

TARGETEX

Owner of Reg. Nos. 518,535 and 542,616.
For Shooting Targets.
First use Mar. 26, 1965.

SN 229,998. Cadaco, Inc., Chicago, Ill., assignee of Alex D. Palmer, d.b.a. Tek Method Co., Chicago, Ill. Filed Oct. 12, 1965.

FIGMENTS

For Die-Cut Picture Puzzles.
First use on or before Aug. 25, 1965.

SN 231,439. Mattel, Inc., Hawthorne, Calif. Filed Oct. 23, 1965.

BABY CHATTER

Applicant disclaims exclusive rights in the term "Baby" apart from the mark as shown. Owner of Reg. No. 753,254.
For Doll, Doll Clothes, and Doll Accessories.
First use Oct. 12, 1965.

SN 233,621. Model Raceway Distributors, Inc., d.b.a. Model Raceways Ltd., Cambridge, Mass. Filed Nov. 30, 1965.

MR Raceways

For purposes of registration, no claim is made to the exclusive right to use "Raceways," but the applicant waives none of its common law rights therein.
For Model Car Racetracks and Accessories.
First use July 19, 1965.

SN 235,847. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 5, 1966.

MR. PRESIDENT

For Apparatus Sold as a Unit for Playing a Board Game.
First use Oct. 27, 1965.

SN 239,405. "G" Grip Corporation, Fairfield, Conn. Filed Feb. 23, 1966.



The mark consists of a stylized form of the letter "G" with a crown thereover and an arrow head above and below.
For Hand Grips for Athletic Implements.
First use Oct. 15, 1963.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 208,381. Edwin W. O'Neal, Tulsa, Okla. Filed Dec. 17, 1964.

WHITEY'S
CAB-O

For Lapidary Grinding, Faceting, Sanding, and Polishing Apparatus.
First use Dec. 30, 1961.

SN 215,220. Illinois Tool Works Inc., Chicago, Ill. Filed Mar. 29, 1965.

SEMS

Owner of Reg. No. 626,525.
For Apparatus for Pre-Assembling Fastener Components.
First use Mar. 8, 1965.

SN 219,109. Beloit Corporation, Beloit, Wis. Filed May 18, 1965.



BELOIT
ARC-FOILS

Applicant claims no exclusive rights in the words "Arc-Foils" apart from the mark as shown. Owner of Reg. No. 614,351.
For Papermaking Machinery—Namely, Stationary Drainage Control Elements as Used on Fourdriniers.
First use Mar. 8, 1965.

SN 224,561. Stearns Manufacturing Co., Flat Rock, Mich. Filed July 29, 1965.

TransiTread

For Personnel and Material Handling Equipment, Specifically Horizontally and Vertically Moving Passenger Platforms.
First use July 1, 1965.

SN 226,513. Chicken Delight, Inc., Rock Island, Ill. Filed Aug. 26, 1965.

DELIGHT-WARE

For Forks, Knives, and Spoons Made of Plastic.
First use Aug. 1, 1965.

SN 226,924. Elfriede Krusius, d.b.a. Gebr. Krusius, Solingen, Germany. Filed Sept. 1, 1965.

FESTIVAL

Owner of German Reg. No. 691,359, dated May 8, 1954.
For Cutlery and Hand Tools—Namely, Scissors, Shears and Knives for Artistic, Domestic, Sporting, Commercial, Agricultural and Industrial Use; Hollowground and Safety Razors, Blades and Accessories Therefor; Hair Clippers; Cigar Box Openers; Stainless Steel Flat Tableware With Serving Pieces; Kitchen Utensils; Orange Peelers; Nut Crackers and Pickers; Corkscrews; Champagne Cutters and Hooks; Knife Sharpeners; Can Openers; Stilettos; Daggers; Saws; Axes; Hatchets; Hammers; Shovels; Spades; Ladles; Files; Rasp-Files; Planes; Scythes and Sickles.

SN 230,461. Van-Wilson Limited, Burlington, Ontario, Canada. Filed Oct. 18, 1965.

HORNET

Owner of Canadian Reg. No. 141,960, dated Sept. 17, 1965.
For Tractor Front End Loaders.

SN 232,475. Pacific-Western Materials, Inc., Pico Rivera, Calif. Filed Nov. 10, 1965.

SKY SLIDE

For Safety Apparatus Featuring (a) a Control Unit Alone, (b) a Control Unit and a Suspension Line, or (c) a Control Unit, Suspension Line and a Boatswain's Harness or Sling for Movement of Personnel or Cargo.
First use in or about May 1965.

SN 232,743. United Distributors Service, Inc., d.b.a. United Distributors Service, Roanoke, Va. Filed Nov. 15, 1965.

UDS

Owner of Reg. Nos. 768,348 and 772,186.
For Mufflers for Internal Combustion Engines.
First use Jan. 8, 1963.

SN 233,026. Walker Manufacturing Company, Racine, Wis. Filed Nov. 19, 1965.

COMMANDER

For Mufflers for Internal Combustion Engine Exhaust Systems.
First use Oct. 1, 1965.

SN 234,273. Essick Manufacturing Company, Los Angeles, Calif. Filed Dec. 9, 1965.

POWER-TEX

For Machinery for Applying Plaster and Paint Texture to Walls, Ceilings, and Building Exteriors.
First use February 1965.

SN 234,449. Maremont Corporation, Chicago, Ill. Filed Dec. 13, 1965.

MEADOWS

For Textile Machinery—Namely, Twisters.
First use January 1938.

SN 235,973. General Motors Corporation, Detroit, Mich. Filed Jan. 7, 1966.

HYDRASONIC

For Fuel Injection Assemblies for Internal Combustion Engines.
First use Dec. 17, 1965.

SN 236,989. Gray Manufacturing Company, Inc., St. Joseph, Mo. Filed Jan. 21, 1966.

TNT

For Vehicle Lifts.
First use May 20, 1965.

SN 237,056. Van Dorn Company, d.b.a. Van Dorn Plastics Machinery Company, Cleveland, Ohio. Filed Jan. 21, 1966.

VD

For Plastic Molding Machines and Parts and Accessories Therefor.
First use Dec. 20, 1965.

SN 237,307. Certified Metal Products Company, Chicago, Ill. Filed Jan. 26, 1966.

TUF-band

For Price Marker.
First use Sept. 3, 1965.

SN 237,399. Sund-Emba Aktiebolag, Orebro, Narke, Sweden. Filed Jan. 26, 1966.

EMBA

Owner of Swedish Reg. No. 114,169, dated Oct. 19, 1965.
For Packaging Machinery and Machinery for Producing Packings; Parts and Accessories for Such Machinery.

SN 237,440. Dike-O-Seal Incorporated, Chicago, Ill. Filed Jan. 27, 1966.

DIKE-O-STRIKE

Owner of Reg. Nos. 616,797, 703,899, and others.
For Smoothing Tools in the Form of Bars Used for Removing Excess Sand From Filled Sand Molds and the Like.
First use Dec. 17, 1965.

Class 24 — Laundry Appliances and Machines

SN 212,858. Engelhard Hanovia of Canada Limited, d.b.a. Engelhard Hanovia Lamps, Toronto, Ontario, Canada. Filed Feb. 26, 1965.

CLENE

Priority claimed under Sec. 44(d) on British Reg. No. B868,554, dated Aug. 26, 1964.
For Dry Cleaning Machines.

SN 232,551. The Grand Union Company, East Paterson, N.J. Filed Nov. 12, 1965.

GRAND WAY

Owner of Reg. Nos. 723,741, 770,171, and others.
For Ironing Board Pad and Cover Sets, Ironing Board Covers, and Laundry Dampening Bags.
First use in or about January 1963.

SN 233,337. General Electric Company, Schenectady, N.Y. Filed Nov. 26, 1965.



For Clothes Washing Machines.
First use July 29, 1965.

Class 25 — Locks and Safes

SN 231,237. The Safemasters Co., Inc., Washington, D.C. Filed Oct. 22, 1965.

SAFEMASTERS

For Deadlock Extensions for Combination Locks.
First use in or about May 1958.

Class 26 — Measuring and Scientific Appliances

SN 225,464. Atlantic Microfilm Corporation, Spring Valley, N.Y. Filed Aug. 11, 1965.



For Apparatus for Printing, Mounting, and Viewing Microfilm.
First use Apr. 22, 1964.

Class 27 — Horological Instruments

SN 232,972. Morrie Chaitlen, d.b.a. C. & E. Marshall Co., Chicago, Ill. Filed Nov. 19, 1965.

MARSHALLOY

For Mainsprings for Watches.
First use as early as 1915.

SN 233,016. Sunbeam Corporation, Chicago, Ill. Filed Nov. 19, 1965.

AVANT

For Clocks.
First use Sept. 29, 1965.

Class 28 — Jewelry and Precious-Metal Ware

SN 227,524. Fred Seltser Corporation, Lincolnwood, Ill. Filed Sept. 9, 1965.

CHERISHED

For Ladies' Diamond Finger Rings.
First use Aug. 23, 1965.

SN 232,194. Colee, Philadelphia, Pa. Filed Nov. 5, 1965.

COLEE

For Jewelry.
First use Sept. 15, 1963.

SN 233,104. The International Silver Company, Meriden, Conn. Filed Nov. 22, 1965.

Forbes

For Silverplated Holloware, Such as Trays, Vegetable Dishes, Casseroles, Serving Dishes, Bread Trays, Gravy Boats, and Centerpieces.
First use Nov. 5, 1965.

Class 29—Brooms, Brushes, and Dusters

SN 225,664. Paris Presents, Ltd., Chicago, Ill. Filed Aug. 13, 1965.

ROYALTON

For Hair Brushes.
First use July 23, 1965.

SN 232,552. The Grand Union Company, East Paterson, N.J. Filed Nov. 12, 1965.

GRAND WAY

Owner of Reg. No. 703,955.
For Cellulose Sponges.
First use on or about Feb. 15, 1963.

SN 232,714. Charles Offenharts, d.b.a. Duratanned Leather Company, Millburn, N.J. Filed Nov. 15, 1965.

DURASHAM

For Sheepskin Dusting, Polishing, and Washing Material.
First use September 1965.

SN 232,961. American Brush Corporation, Chicago, Ill. Filed Nov. 19, 1965.

SATIN STROKE

For Paint Brushes.
First use on or about Sept. 17, 1965.

SN 233,005. Pro-phy-lac-tic Brush Company, Florence, Mass. Filed Nov. 19, 1965.

PRO

Owner of Reg. Nos. 349,120, 771,176, and others.
For Brushes for Personal Use, Including Hair Brushes, Hand and Nail Brushes, Lint and Cloth Brushes, Bath Brushes, and Complexion Brushes.
First use Jan. 1, 1953.

SN 233,006. Pro-phy-lac-tic Brush Company, Florence, Mass. Filed Nov. 19, 1965.

PRO

Owner of Reg. Nos. 349,120, 350,239, and 562,333.
For Denture Brushes.
First use June 26, 1961.

Class 30—Crockery, Earthenware, and Porcelain

SN 203,779. Louis Madow, d.b.a. Keepsake House and Madow's, New York, N.Y. Filed Oct. 12, 1964.

KEEPSAKE HOUSE

Owner of Reg. No. 663,468.
For Chinaware—Namely, China Dinnerware.
First use Mar. 15, 1955.

Class 31—Filters and Refrigerators

SN 215,834. Mermaid, Inc., Butler, Wis. Filed Apr. 2, 1965.

DURALEX

For Tank To Be Used With Water Softening Equipment.
First use Dec. 9, 1964.

SN 225,407. Crane Co., Chicago, Ill. Filed Aug. 10, 1965.

FILTEREX

For Combination Filter and Ion Exchange Systems for Water Purification.
First use Nov. 29, 1963.

SN 232,718. Reichhold Chemicals, Inc., White Plains, N.Y. Filed Nov. 15, 1965.

RCI

Owner of Reg. Nos. 414,603, 711,220, and others.
For Fibrous Glass Products—Namely, Filter Media Made From Glass Fibers Alone and in Combination With Natural and Synthetic Fibers.
First use Aug. 4, 1964.

SN 236,268. Johns-Manville Corporation, New York, N.Y. Filed Jan. 12, 1966.

FIBRA-CEL

For Fibrous Filter Aid Material.
First use May 13, 1965.

SN 236,627. Executive Products, Inc., Toledo, Ohio. Filed Feb. 11, 1966.

THE EXECUTIVE TWINS

For Liquid Filters.
First use Jan. 17, 1966.

Class 32—Furniture and Upholstery

SN 219,089. Vogel-Peterson Co., Elmhurst, Ill. Filed May 17, 1965.

VP

Owner of Reg. No. 667,424.
For Wardrobe, Closet and Checkroom Equipment—Namely, Hat and Coat Racks, Shelves and Stands, Lockers, Umbrella Racks, Overshoe Racks, Luggage Racks, and Wardrobe Screens; and Parts and Accessories for the Foregoing Goods, the Said Parts and Accessories Being Sold Incorporated With the Foregoing Goods, and the Said Parts and Accessories Being the Following: Chalk Boards and Display Boards, Garment Hangers, Hanger Rails, Clothing Hooks, Hooks for Attaching Clothing Hangers to Hanger Rails, Brackets, and Numbering Checks.
First use February 1963.

SN 236,223. Alma Desk Company, High Point, N.C. Filed Jan. 12, 1966.

ECONOMIZER

For Office Furniture and Particularly Office Desks, Tables, Chairs, Bookcases, Cabinets, and Sofas.
First use at least on Nov. 15, 1965.

SN 236,358. Countess York Ltd., Jersey City, N.J. Filed Jan. 13, 1966.

HIDDEN SECRET

For Pillows and Cushions.
First use Dec. 1, 1965.

SN 236,406. New York Feather Co., Inc., New York, N.Y. Filed Jan. 13, 1966.

ROYAL ROSE

For Pillows and Cushions.
First use September 1965.

SN 236,407. New York Feather Co., Inc., New York, N.Y. Filed Jan. 13, 1966.

BLUE ROSE

For Pillows and Cushions.
First use September 1965.

SN 236,408. New York Feather Co., Inc., New York, N.Y. Filed Jan. 13, 1966.

MIDNIGHT ROSE

For Pillows and Cushions.
First use September 1965.

Class 33—Glassware

SN 232,719. Reichhold Chemicals, Inc., White Plains, N.Y. Filed Nov. 15, 1965.

RCI

Owner of Reg. Nos. 414,603, 711,220, and others.
For Fibrous Glass Products—Namely, Glass Fiber Mats Made of Glass Fiber Alone and in Combination With Natural and Synthetic Fibers.
First use Aug. 4, 1964.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 219,579. International Telephone and Telegraph Corporation, New York, N.Y. Filed May 24, 1965.

Norman

Owner of Reg. Nos. 99,456, 552,847, and others.
For Gas-Fired Heaters, Furnaces, and Parts Therefor.
First use 1946.

SN 221,116. Thermal Dynamics Corporation, Lebanon, N.H. Filed June 14, 1965.

Dual-Flow

For Plasma Forming Electric Arc Torches for Use in Metal Cutting, Welding, Heating, and Spraying of Fused Substances.
First use May 2, 1964.

SN 229,771. David Dalin, Milwaukee, Wis. Filed Oct. 11, 1965.

DAVDAL

For Pin Type Extended Surface Heat Exchangers and Steam and Hot Water Boilers.
First use Oct. 6, 1965.

SN 231,775. Sprague Products Company, North Adams, Mass. Filed Oct. 28, 1965.

KWIKETTE

For Self-Soldering Wire Connectors.
First use Oct. 6, 1965.

SN 236,520. Saunders-Roe and Nuclear Enterprises Limited, Hayes, Middlesex, England. Filed Jan. 14, 1966.

BETALIGHT

For Self Powered Light Sources Consisting of or Including a Sealed Hollow Glass Member Coated Internally With a Phosphor and Filled With Tritium Gas.
First use May 30, 1961.

SN 236,799. The British Oxygen Company Limited, London, England. Filed Jan. 19, 1966.

CONDOR

Owner of British Reg. No. 845,924, dated Mar. 1, 1963.
For Gas Operated Machines for Use in the Cutting and Welding of Metals, and Parts of Such Machines.

SN 237,101. Essick Manufacturing Company, Los Angeles, Calif. Filed Jan. 24, 1966.

TRI-TEMP

For Apparatus for Use in Providing Heated or Cooled Make-Up Air in Commercial and Industrial Buildings.
First use September 1965.

SN 237,369. Mid-States Distributing Company, Inc., St. Paul, Minn. Filed Jan. 26, 1966.

DURA-WELD

For Welding Rods.
First use July 1959.

SN 237,932. Carter-Wallace, Inc., New York, N.Y. Filed Feb. 3, 1966.

rise

Owner of Reg. Nos. 538,626 and 786,531.
For Heater Cap for Heating Instant Lathers.
First use Apr. 8, 1965.

SN 238,599. The Arnold Tackle Corporation, Paw Paw, Mich. Filed Feb. 11, 1966.

CAMPMAID

For Fluid Fuel Heating, Toasting, and Cooking Appliances.
First use Jan. 19, 1966.

SN 245,132. Consarc Corporation, Rancocas, N.J. Filed May 9, 1966.

CONSARC

For Electrode Welders, Electrically Operated Arc Furnaces and Parts Therefor.
First use Oct. 30, 1962.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 199,245. A.P.M.-Hexseal Corporation, Englewood, N.J. Filed Aug. 5, 1964.

SNAPSEELS

For Hermetic Seals for Switches Formed Wholly or Substantially From Silicon Rubber.
First use Dec. 17, 1963.

SN 232,680. Dodge Manufacturing Corporation, Mishawaka, Ind. Filed Nov. 15, 1965.

TACOSEAL

For Shaft and Bearing Gaskets.
First use Aug. 18, 1965.

Class 36 — Musical Instruments and Supplies

SN 216,286. Emil L. Farnlund, Monrovia, Calif. Filed Apr. 12, 1965.



For Musical Drum Holder.
First use Apr. 5, 1965.

SN 222,457. E. K. Blessing Co. Inc., Elkhart, Ind. Filed July 1, 1965.

SCHOLASTIC

For Brass Musical Instruments, Specifically, Trumpets, Cornets, and Trombones.
First use May 21, 1965.

SN 243,251. Lost Nite Records, Inc., Philadelphia, Pa. Filed Apr. 12, 1966.

LOST-NITE

For Grooved Phonograph Records.
First use November 1960.

Class 37 — Paper and Stationery

SN 186,128. Thilmany Pulp and Paper Company, Kaukauna, Wis. Filed Feb. 5, 1964.

THILMANY

For Foil Mounting Papers.
First use Jan. 13, 1964.

SN 231,055. Continental Can Company, Inc., New York, N.Y. Filed Oct. 22, 1965.

OSAGE

Owner of Reg. No. 423,096.
For Kraft Paper.
First use 1938.

SN 231,074. Eberhard Faber Inc., Wilkes-Barre, Pa. Filed Oct. 22, 1965.

JUSTRITE

For Pencils, Ball Pens, and Markers.
First use 1901.

SN 231,130. The Holes-Webway Co., d.b.a. The H-W Co., St. Cloud, Minn. Filed Oct. 22, 1965.

"WILCO"

For Photograph Albums, Photograph Holding Sheets, and Pages for Photographs.
First use Oct. 1, 1965.

SN 231,366. American Radiator & Standard Sanitary Corporation, New York, N.Y. Filed Oct. 23, 1965.

DECOMOLD

For Toilet Seat Covers.
First use Aug. 13, 1964.

SN 231,747. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Oct. 28, 1965.

TYVEK

For Sheeeting of Man-Made Material Suitable for Use as Printing Paper, Bookbinding, Wrapping, and Wall Covering, and for Other Similar Applications.
First use Sept. 27, 1965.

SN 232,489. Westab Inc., Dayton, Ohio. Filed Nov. 10, 1965.

HyToNE

Owner of Reg. Nos. 558,596 and 591,178.
For Paper Tablets; Loose Writing Paper for School or Office Use Put Up in Wrapped Packages, Boxes, or Banded; Papeteries, i.e., Stationery Comprising Mailing and Correspondence Envelopes and/or Paper Either Flat or Folded Put Up in Boxes, Portfolios, or Banded Packages; Correspondence and Mailing Envelopes; Loose Leaf Binders; Paper Packets or Folders for Loose Paper; Index Cards or Guides; and Scrap Books, Photograph or Autograph Albums and Refills Therefor.
First use Jan. 15, 1965; Jan. 1, 1907, in a different form.

SN 242,976. Graham Paper Company, St. Louis, Mo. Filed Apr. 8, 1966.

ENDURANCE BOND

Applicant disclaims the word "Bond."
For Printing or Writing Paper.
First use 1915.

Class 38 — Prints and Publications

SN 200,722. Gulf Publishing Company, Houston, Tex. Filed Aug. 27, 1964.

COMPOSITE CATALOG

For Biennial Publication Containing a Compilation of Oil Field Equipment and Services.
First use 1929.

SN 224,643. Printing Industry Corporation of America, Chicago, Ill. Filed July 30, 1965.

VIP

For Directories Containing Lists of Persons, Business Establishments and the Like in Various Cities, the Contents Being Arranged for Ready Reference, and Such Directories Being Issued Periodically.
First use Mar. 15, 1951.

SN 230,009. Tuesday Publications, Inc., Chicago, Ill. Filed Oct. 12, 1965.

TUESDAY

For Newspaper Magazine Supplement.
First use July 10, 1965.

SN 230,388. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Oct. 18, 1965.



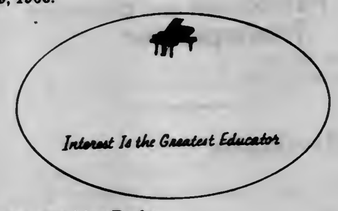
The word "Internationals" is disclaimed apart from the mark as shown.
For Greeting Cards.
First use Apr. 29, 1965.

SN 230,400. Koppel Photo Engraving Co., Inc., Hawthorne, N.J. Filed Oct. 18, 1965.



For Post Cards in Various Sizes, Brochures, Letterheads, Catalog Sheets, Booklets, Bonus Albums, Accordion Folders, Miniature Albums, Calling Cards, Menu Covers.
First use Jan. 15, 1953.

SN 231,835. Montgomery Music Inc., Buffalo, N.Y. Filed Oct. 29, 1965.



For Piano Teaching Books.
First use Oct. 14, 1965.

SN 232,646. Aircraft Radio Corporation, Boonton, N.J. Filed Nov. 15, 1965.

MOBILIZER

For Newsletter Published Periodically.
First use Oct. 12, 1965.

SN 232,794. Scripture Press Publications, Inc., Wheaton, Ill. Filed Nov. 16, 1965.



Owner of Reg. No. 714,425.
For Sunday School and Vacation Bible School Books, Lessons and Materials—Namely, Manuals, Handbooks, and Sunday School Papers.
First use July 20, 1965.

SN 233,129. Publication House, Inc., New York, N.Y. Filed Nov. 22, 1965.



For Entertainment Field Magazine for Teenagers, Published Periodically.
First use on or about Oct. 18, 1965.

SN 233,304. B. F. Ascher & Company, Inc., Kansas City, Mo. Filed Nov. 26, 1965.



For Packets of Prescription Blanks.
First use Sept. 7, 1965.

SN 233,959. Sutherland Publications, Inc., Bethesda, Md. Filed Dec. 3, 1965.

Petroleum and Chemical Transporter

For Trade Magazine.
First use Jan. 2, 1957.

Class 39 — Clothing

SN 155,827. Nali' i Fashions, Ltd., Honolulu, Hawaii. Filed Oct. 24, 1962.

KONA KLOTH

Applicant disclaims the word "Kloth" apart from the mark as shown.
For Capri Pants, Short Shorts, Bermuda Shorts, Pedal Pushers, Slacks, Jackets, and Dresses for Women and Girls.
First use June 12, 1962.

SN 171,255. International Latex Corporation, Dover, Del. Filed June 18, 1963.

SOFT-LINE

For Brassieres.
First use Apr. 23, 1963.

SN 197,620. Spruce Associates, Inc., New York, N.Y. Filed July 10, 1964.

SPRUCE UPS

For Girls' and Misses' Knitted Blouses and Slacks.
First use Mar. 10, 1964.

SN 202,557. Andre Courreges, S.A.R.L., Paris, France. Filed Sept. 24, 1964.

COURREGES

Owner of French Reg. No. 520,817, dated Mar. 27, 1964.
For Dresses, Cloaks, Capes, Skirts, Jackets, Suits, Two-Piece Costumes or Suits, Coats, Sweaters, Bodices, Pullovers, House-Gowns, Combination Underwear, Petticoats, Brassieres, Undershirts, Underwear, Bathing Suits, Jodphurs, Knickers, Stockings, Ties, Scarves, Square Shawls, Hats, Caps, Gloves, and Slippers.
First use August 1961; in commerce August 1961.

SN 217,796. Spats Bros., Inc., New York, N.Y. Filed Apr. 30, 1965.

thunderBall

For Jackets and Raincoats.
First use April 1965.

SN 219,812. Pajama Corporation of America, New York, N.Y. Filed May 26, 1965.

pca

The drawing is lined for blue and gold.
For Men's and Boys' Pajamas and Men's Robes.
First use Mar. 1, 1956.

SN 221,196. Shannon Mfg. Co., North Hollywood, Calif. Filed June 14, 1965.

HIDDEN CIRCLE

For Maternity Girdles.
First use May 5, 1965.

SN 223,400. Gimbel Brothers, Inc., New York, N.Y. Filed July 15, 1965.

Gabrielle

Owner of Reg. No. 274,528.
For Hosiery; Ladies', Misses' and Children's Slips, Petticoats, Panties, Girdles, Bras, Pajamas, Nightgowns, and Gloves.
First use Feb. 1, 1930, on hosiery.

SN 223,401. Gimbel Brothers, Inc., New York, N.Y. Filed July 15, 1965.

Kenridge Park

For Men's and Boys' Suits, Topcoats, Overcoats, Raincoats, Sport Coats, Trousers, Jackets, Sport Shirts, Dress Shirts, and Pajamas.
First use Dec. 23, 1964.

SN 223,794. R. and M. Kaufmann Incorporated, Aurora, Ill. Filed July 20, 1965.

LADY LAURA

For Misses' and Ladies' Dresses.
First use Mar. 1, 1965.

SN 224,164. City Products Corporation, Des Plaines, Ill. Filed July 26, 1965.

HANWAY

Owner of Reg. No. 533,371.
For Men's Handkerchiefs.
First use December 1962.

SN 224,509. Champ Hats, Inc., New York, N.Y. Filed July 29, 1965.

MIRAFIT

For Men's and Boys' Hats and Caps.
First use Apr. 7, 1965.

SN 226,928. Le Voy's, Inc., Salt Lake City, Utah. Filed Sept. 1, 1965.

Le Voy's INC.

For Ladies' Wear—Namely, Night Gowns, Pajamas, Lounging Robes, Jump Suits, Panties, Hold-Down Belts, Slips and Hosiery; Men's and Boys' Pajamas.
First use Sept. 1, 1961.

SN 229,431. Huntley Knitting Mills, Inc., d.b.a. Huntley of York, York, S.C. Filed Oct. 6, 1965.



The mark consists of the stylized letters "TF" enclosed within a circle.
For Men's Shirts, Sweaters, and Walk Shorts.
First use June 25, 1965, on shirts.

SN 230,131. Cape-Heart Fashions, Inc., New York, N.Y. Filed Oct. 14, 1965.

Cape-Heart

For Dresses, Housecoats, and Dusters.
First use on or about Nov. 1, 1949.

SN 230,257. Kiki Undies Corporation, New York, N.Y. Filed Oct. 15, 1965.

KIKI DELUXE

No claim is made to the word "Deluxe" apart from the mark as shown. Owner of Reg. Nos. 709,385, 774,624, and others.
For Ladies' Panties.
First use Sept. 15, 1965.

SN 230,379. Barbara Gayle, Inc., New York, N.Y. Filed Oct. 18, 1965.

Lady T

For Women's and Children's Dresses.
First use Sept. 29, 1965.

SN 232,814. Bulluck Hosiery, Inc., New York, N.Y. Filed Nov. 17, 1965.

Stitch Craft

For Hosiery.
First use Sept. 7, 1965.

SN 233,832. Savada Bros., Inc., New York, N.Y. Filed Dec. 2, 1965.

CasuaLad

For Boys' Shirts and Pajamas.
First use July 8, 1965.

SN 233,911. Junior Accent, Inc., New York, N.Y. Filed Dec. 3, 1965.

CACHET

Owner of Reg. No. 652,078.
For Dresses.
First use Sept. 15, 1965.

SN 233,995. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Dec. 6, 1965.

BRAND X

Owner of Reg. No. 734,210.
For Ladies' Hosiery, Briefs, Girdles, and Tights.
First use Oct. 6, 1961, on hosiery.

SN 234,190. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Dec. 8, 1965.

VISTRAM

Priority claimed under Sec. 44(d) on German application filed June 12, 1965; Reg. No. 814,454, dated Jan. 11, 1966.
For Outerwear for Men, Women, and Children—Namely, Suits, Jackets, Trousers, Shirts and Coats for Men; Dresses, Jackets, Skirts, Sweaters, Vests, Gowns, and Coats for Women; and Shirts, Blouses, Dresses, Skirts, Jackets, Trousers, Suits and Coats for Children.

SN 234,319. Alfred Werber, Inc., St. Louis, Mo. Filed Dec. 9, 1965.

a "Memorized" dress

The word "Dress" is disclaimed apart from the mark as shown.
For Dresses for Women and Girls.
First use Nov. 30, 1965.

SN 234,395. Leonard Decof, Providence, R.I. Filed Dec. 13, 1965.

THE FREUDIAN SLIP

Applicant disclaims the word "Slip" apart from the mark as shown.
For Undergarments—Namely, Slips.
First use on or about Mar. 19, 1962.

SN 234,501. Bay Club Sportswear of California, Inc., Los Angeles, Calif. Filed Dec. 13, 1965.



For Women's and Girls' Swimsuits, Beach Robes, Sunsuits, Playsuits, Shorts, Slacks, Shirts, Pullovers, Sweaters, Blouses, Jackets, Halters, Skirts, and Dresses.
First use Oct. 22, 1965.

SN 236,384. International Nutria Marketing Association, Watonga, Okla. Filed Jan. 13, 1966.

INMA

For Nutria Fur Products—Namely, Coats, Stoles, Capes, Hats, Jackets, and Boas.
First use Aug. 31, 1963.

SN 236,942. The Williams Manufacturing Company, Portsmouth, Ohio. Filed Jan. 20, 1966.

MISSY MATES

For Women's and Children's Shoes.
First use Jan. 18, 1966.

SN 237,041. Ship 'n Shore, Inc., Upland, Pa. Filed Jan. 21, 1966.

GRASS ROOTS

For Blouses and Shirts.
First use Jan. 11, 1966.

SN 237,193. The Alden Mills, Meridian, Miss. Filed Jan. 25, 1966.

MY-T-TUFF

Owner of Reg. No. 503,627.
For Men's, Women's, and Children's Hosiery.
First use 1930.

SN 237,316. Corman & Wasserman Inc., Baltimore, Md. Filed Jan. 26, 1966.

CUTLASS

For Men's, Young Men's, and Boys' Slacks and Trousers.
First use Jan. 12, 1966.

SN 246,019. Blue Bell, Inc., Greensboro, N.C. Filed May 19, 1966.

STUDENT TOURS

For Shorts and Pants.
First use May 9, 1966.

Class 40—Fancy Goods, Furnishings, and Notions

SN 236,383. The Hawie Manufacturing Co., Bridgeport, Conn. Filed Jan. 13, 1966.

AMERICANA

For Garter Grips.
First use Dec. 16, 1965.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 203,157. Celanese Corporation of America, New York, N.Y. Filed Oct. 2, 1964.

STELLASET

Owner of Reg. No. 770,977.
For Fabrics for Making Into Apparel, Lingerie, Home Furnishings, and the Like.
First use Sept. 25, 1964.

SN 203,158. Celanese Corporation of America, New York, N.Y. Filed Oct. 2, 1964.

STELLACEL

Owner of Reg. No. 770,977.
For Fabrics for Making Into Apparel, Lingerie, Home Furnishings, and the Like.
First use Sept. 29, 1964.

SN 216,771. Lynnfield Fabrics Inc., Boston, Mass. Filed Apr. 2, 1965.

FABRIC BY Lynnfield

For Textile Fabrics for Use in the Manufacture of Garments for Men, Women, and Children—Namely, Raincoats, Rain Hats, Jackets, Pants, Slacks, Ski Suits, Skirts, and Footwear.
First use Oct. 24, 1964.

SN 226,134. Erwin Mills, Inc., New York, N.Y. Filed Aug. 20, 1965.

POLLY DEE

For Fabrics in the Piece Composed of Cotton and Synthetic Fibers and Blends Thereof Suitable for Use in Men's, Women's, and Children's Outer Apparel and in Home Furnishings.
First use July 16, 1965.

SN 231,748. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Oct. 28, 1965.

TYVEK

For Fabrics of Man-Made Fibers and Filaments Suitable for Making Into Household Furnishings and Apparel and for Industrial Uses.
First use Oct. 1, 1965.

SN 233,277. Oxite Corporation, Chicago, Ill. Filed Nov. 24, 1965.



Without prejudice to applicant's rights the term "Outdoor/Indoor" is hereby disclaimed apart from its use in the mark as shown.
For Carpeting.
First use Oct. 7, 1965.

SN 233,341. William Heller, Inc., New York, N.Y. Filed Nov. 26, 1965.

"POLYELLA"

For Piece Goods Used in Making Dresses, Jackets, Coats, and the Like.
First use Oct. 29, 1965.

SN 235,806. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Jan. 4, 1966.

FORT SYNOCHLOR

Owner of Reg. No. 505,467 and others.
For Permanent Press Finish With Which the Applicant Has Treated Its Cotton and Synthetic Fabrics To Enhance the Properties Thereof.
First use on or about Dec. 28, 1965.

SN 235,956. C.R. Textiles Corp., New York, N.Y. Filed Jan. 7, 1966.

CROWN ROYAL

For Textile Fabrics, Consisting of Wools, Cottons, Rayons, Nylons, and Blends Thereof.
First use Sept. 3, 1965.

SN 245,886. West Point-Pepperell, Inc., West Point, Ga. Filed May 18, 1966.

MIRALUX

Owner of Reg. No. 593,960.
For Sheets and Blankets.
First use Apr. 17, 1953, on blankets.

Class 43—Thread and Yarn

SN 235,768. Filatures Prouvost & Cie la Lainiere de Roubaix, Roubaix, Nord, France. Filed Jan. 4, 1966.

TYPICO

Owner of French Reg. No. 8,640, dated Dec. 30, 1960 (Roubaix); Natl. Inst. No. 158,504.
For Yarns and Threads Made of Wool, Cotton, Linen, Silk, Rayon, Hemp, Flax, and Synthetic and Artificial Fibers.

SN 235,966. Emile Bernat & Sons Co., Uxbridge, Mass. Filed Jan. 7, 1966.

OPALETTE

For Hand Knitting Yarns.
First use Dec. 8, 1965.

Class 44—Dental, Medical, and Surgical Appliances

SN 185,828. Bernard Trupp and Garrison Trupp (joint owners), d.b.a. Trupp Interdental, Baltimore, Md. Filed Jan. 31, 1964.

INTERJET

For Dental Applicator for Oral Hygiene.
First use Jan. 15, 1964.

SN 221,779. American Steriliser Company, Erie, Pa. Filed June 23, 1965.

SATELIGHT

For Surgical Lights.
First use Mar. 13, 1965.

SN 232,088. The Pioneer Rubber Company, Willard, Ohio. Filed Nov. 8, 1965.

SHEERS

For Surgical Gloves.
First use Mar. 4, 1964.

Class 45—Soft Drinks and Carbonated Waters

SN 226,817. Valley Spring Beverage Co., d.b.a. Desert Dry Beverage Company, Phoenix, Ariz. Filed Aug. 23, 1965.

DESERT DRY

The word "Dry" is disclaimed apart from the mark as shown.
For Carbonated Soft Drinks.
First use Aug. 9, 1965.

SN 230,240. S. M. Flickinger Co. Inc., Buffalo, N.Y. Filed Oct. 15, 1965.

SUPER DUPER

Owner of Reg. Nos. 412,636, 799,187, and others.
For Soft Drinks and Carbonated Drinks.
First use May 20, 1965.

SN 231,282. Sun Drop Sales Corporation of America, St. Louis, Mo. Filed Oct. 22, 1965.

Golden Sun-drop Goodness

Owner of Reg. Nos. 269,655, 399,561, and 782,157.
For Soft Drinks.
First use Sept. 24, 1965.

SN 234,748. Graf's Beverages, Inc., Milwaukee, Wis. Filed Dec. 16, 1965.

WOBBLER

For Non-Alcoholic Beverages, i.e., Soft Drinks.
First use Mar. 29, 1965.

SN 237,661. Clicquot Club Company, Millis, Mass. Filed Feb. 1, 1966.

TROPICAL JOY

For Carbonated Beverages in the Nature of Soft Drinks.
First use Dec. 1, 1965.

SN 237,662. Clicquot Club Company, Millis, Mass. Filed Feb. 1, 1966.

KLEE-KO

Owner of Reg. Nos. 574,267, 654,196, and 668,434.
For Spring Water.
First use Oct. 28, 1965.

SN 237,663. Clicquot Club Company, Millis, Mass. Filed Feb. 1, 1966.



Owner of Reg. Nos. 97,324, 668,434, and others.
For Spring Water.
First use Oct. 28, 1965.

Class 46—Foods and Ingredients of Foods

SN 187,030. Michigan Milk Producers Association, d.b.a. Vacationland Dairy Cooperative, Marquette, Mich. Filed Feb. 19, 1964.

VACATION LAND

For Fluid Milk.
First use Sept. 10, 1957.

SN 188,484. Tobin Packing Company, Inc., Rochester, N.Y. Filed Mar. 11, 1964.

DOUBLE-A

Applicant claims use for the area comprising the States of New York, Pennsylvania, New Jersey, and the New England States.
For Refrigerated Meat Loaf.
First use September 1951.
Subj. to Concurrent Use Proceeding with Reg. No. 667,827.

SN 194,804. Ivey Corporation, d.b.a. Grandma Anderson's Preserving Kitchens, Minneapolis, Minn. Filed June 3, 1964.

GRANDMA ANDERSON'S

The name shown in the drawing does not represent a particular living person.
For Salad Dressings, Preserves, and Candy.
First use June 9, 1952.

SN 197,425. Pevely Dairy Company, St. Louis, Mo. Filed July 8, 1964.

PEVELY
Taffy Crunch

The words "Taffy Crunch" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 303,337, 333,284, and 374,661.
For Frozen Confections in Bar Form.
First use Mar. 23, 1964.

SN 203,531. The Quaker Oats Company, Chicago, Ill. Filed Oct. 7, 1964.

SANDY CUTS

Without waiver of any common law rights applicant disclaims the word "Cuts" apart from the mark as shown.
For Cookies.
First use February 1962.

SN 207,796. Arline K. Cummings, d.b.a. Cummings Studio Candies, Salt Lake City, Utah. Filed Dec. 9, 1964.

Cummings STUDIO CANDIES

The word "Candies" is disclaimed from the mark as shown. Owner of Reg. No. 325,435.
For Candies.
First use September 1920.

SN 208,392. S. Schonfeld Company, Inc., New York, N.Y. Filed Dec. 17, 1964.

GIFT OF NATURE

For Mandarin Oranges, Pineapple, Mushrooms, Bamboo Shoots, Water Chestnuts, Carrots, Pimiento, Artichokes, Apples, Tomatoes, Peaches, Peas, Berries, Asparagus, Pears, Apricots, Cherries, Soups, Cauliflower, and Lemons in Cans.
First use Oct. 15, 1964.

SN 208,569. I. J. Grass Noodle Co., Inc., Chicago, Ill. Filed Dec. 21, 1964.

MRS. GRASS

Owner of Reg. No. 533,118.
For Noodle Soup Mixture With Chicken Fat, Tomato Vegetable Noodle Soup, Beef Noodle Soup, French Style Onion Soup and Noodles.
First use 1955; Feb. 1, 1939, in a different form.

SN 208,928. H. P. Hood & Sons, Inc., d.b.a. H. P. Hood & Sons, Boston, Mass. Filed Dec. 28, 1964.

KOKO-FREEZE

For Frozen Confections in Stick Form.
First use Apr. 26, 1941.

SN 209,988. The Broaster Co., Rockton, Ill. Filed Jan. 15, 1965.

BROASTED Supreme

Applicant disclaims the word "Supreme" apart from the mark as shown. Owner of Reg. Nos. 636,699 and 758,933.
For Prepared Foods—Namely, Cooked Poultry, Shrimp, and Fish.
First use Jan. 8, 1965.

SN 210,799. F. Malatesta Co., d.b.a. F. Malatesta, Boston, Mass. Filed Jan. 27, 1965.

ANGEL



The representation of the human figure is fanciful.
For Olive Oil, Canned Tomato Paste, Soup Bases, Soups, Vegetable Shortenings, Cheese, Macaroni, Jams, Jellies, and Spices.
First use during 1907.

SN 210,808. The Nestle Company, Inc., White Plains, N.Y. Filed Jan. 27, 1965.

NESTLÉ'S

Owner of Reg. Nos. 587,919, 796,828, and others.
For Low Calorie Sugar Substitute.
First use Dec. 23, 1963.

SN 211,362. Hygrade Food Products Corporation, Detroit, Mich. Filed Feb. 4, 1965.

SMOKETEEN CASINGS

Applicant disclaims the word "Casings" apart from the mark as shown.
For Edible Sausage Casings.
First use on or about July 10, 1964.

SN 214,281. National Biscuit Company, New York, N.Y. Filed Mar. 16, 1965.

SPOON SIZE

For Breakfast Cereal.
First use on or before Aug. 1, 1955.

SN 215,055. Derry Products, Inc., New York, N.Y. Filed Mar. 26, 1965.



The letters "EM ES GEE" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 620,061 and 784,107.
For Mono-Sodium Glutamate.
First use Mar. 1, 1964.

SN 216,654. Azalea Meats, Incorporated, Orangeburg, S.C. Filed Apr. 16, 1965.

AZALEA

For Processed Meat Products—Namely, Fresh and Smoked Sausage, Franks, Bologna, Smoked Hams, Picnics, and Bacon, Fresh Pork Sausage, and Sliced Bacon.
First use at least as early as September 1945.

SN 217,457. Filler Products, Inc., Forest Park, Ga. Filed July 29, 1965.

VOLAITAS

For Fried Snack Food Product Made of a Potato Base.
First use on or before Apr. 27, 1965.

SN 218,462. Mogen David Food Products Inc., Chicago, Ill. Filed May 10, 1965.

MOGEN DAVID

Owner of Reg. No. 743,528.
For Fruit Jelly.
First use Feb. 16, 1965.

SN 218,931. The Vitarine Co., Inc., Springfield Gardens, N.Y. Filed May 14, 1965.

VITARINE

For Food Products for Dietary Use—Namely, Concentrated Dextrose in Tablet Form and Protein Tablets.
First use Sept. 25, 1964; 1934 as to "Vitarine."

SN 219,670. Carolina Poultry, Inc., Siler City, N.C. Filed May 25, 1965.



No claim is made to the representation of the map of the State of North Carolina or the words "A Well Dressed Bird" apart from the mark as shown, without waiving any common law rights therein.

For Dressed Poultry and Parts Thereof.

First use on or about Jan. 5, 1963.

SN 220,834. Custom Foods, Inc., Dayton, Ohio. Filed June 10, 1965.

JAXON

For Food Products—Namely, Bottled Barbecue Sauce, Refrigerated Mush, Slaw, Beans, Potato Salad, Macaroni Salad, and Fruit Flavored Salads.

First use Feb. 2, 1935.

SN 221,359. The Dietene Company, d.b.a. The Delmark Company, Minneapolis, Minn. Filed June 17, 1965.

DELMARK FARMS

Owner of Reg. No. 753,774.

For Powder Mix for Making Custards of Baking and Non-Baking Types.

First use Apr. 13, 1965.

SN 222,350. Dodge & Olcott, Inc., New York, N.Y. Filed June 30, 1965.

PEP-OR-SPICE

Owner of Reg. No. 682,649.

For Fluidized Mixture Containing Pepper and Other Spice Extractives in a Vegetable Oil Base for Flavoring Food—for Manufacturing and Professional Use Only.

First use June 4, 1965.

SN 222,480. General Foods Corporation, White Plains, N.Y. Filed July 1, 1965.

HONEYCOMB

For Cereal Breakfast Food, Not Including Those Made Wholly or Partially of Cocoa, Chocolate or Cocoa- or Chocolate Products, or to Which Cocoa, Chocolate, or Chocolate- or Cocoa Products Are Added.

First use May 28, 1965.

SN 223,749. Traveler's Manufacturing & Sales Company, Inc., d.b.a. Animated Pop Co., Boston, Mass. Filed July 19, 1965.

ANIMATED POPS

The word "Pops" is disclaimed apart from the mark as shown.

For Decorated Candy on a Stick.

First use May 28, 1965.

SN 224,468. Savick's Food Products Co., Inc., Milwaukee, Wis. Filed July 28, 1965.



The drawing is lined for red and blue but no claim is made to color.

For Packaged Food Products—Namely, Pickled Herring.

First use June 15, 1965.

SN 224,778. National Biscuit Company, New York, N.Y. Filed Aug. 2, 1965.



The drawing is lined for red, blue, and yellow but color is not claimed as a feature of the mark. The drawing of the girl, shown within the mark, is not known to be that of a living individual and is completely imaginative. Owner of Reg. Nos. 744,151 and 749,868.

For Crackers and Biscuits.

First use June 2, 1965.

SN 225,125. Etablissements Lefevre-Utile, Societe en nom Collectif et en Commandite Simple, Nantes (Loire Atlantique), France. Filed Aug. 6, 1965.

DUCHESSE-ANNE

Owner of French Reg. No. 11,050, dated May 8, 1963 (Nantes); Natl. Inst. No. 205,743.

For Biscuits, Flours, Oat Flakes, Semolina, Bread, Cakes, Pastry, and Edible Ices.

SN 226,063. Edward M. Levy, d.b.a. Convenient Living, Evanston, Ill. Filed Aug. 19, 1965.

CONVENIENT LIVING

For Packaged Individual Table Servings and Portion-Controlled Packets of Jellies, Preserves, Spices, Ketchup, Mustard, Salt, Sugar, Honey, Syrup, Salad Dressings, Dehydrated Soups, Biscuits, Powdered Coffee, Powdered Milk Substitute, and Prepared Kits Containing Assortments of the Foregoing Foods and Food Ingredients.

First use May 1963.

SN 227,062. O'Donnell-Usen Fisheries Corp., Boston, Mass. Filed Sept. 2, 1965.

BOSTON LIGHT

For Frozen Fish Products—Namely, Skinless Cod, Sole, Ocean Perch, Flounder, Skinless Hadock, Fried Fish Sticks, Fried Fish Steaks, Fried Sea Scallops, and Fried Onion Rings.

First use January 1964.

SN 227,181. The Red Wing Company, Inc., Fredonia, N.Y. Filed Sept. 3, 1965.

AMERICAN MAID

Owner of Reg. No. 656,899.

For Peanut Butter.

First use June 15, 1965.

SN 228,023. Ebro Packing Co., Inc., Chicago, Ill. Filed Sept. 17, 1965.

ELEbro

The Spanish words "El Ebro" refer to the "Ebro River" in northeast Spain.

For Fresh Meats, Dry Meats, and Canned Meats.

First use June 1, 1965.

SN 229,837. McCormick & Company, Incorporated, Baltimore, Md. Filed Oct. 11, 1965.

Chef's TOUCH

Owner of Reg. Nos. 787,892 and 789,773.

For Blend of Spices and Flavorings Used for Seasoning Foods.

First use Aug. 4, 1965.

SN 230,470. Allied Mills, Inc., Chicago, Ill. Filed Oct. 18, 1965.

HORSE KRUNCH

The word "Horse" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 590,391 and 791,097.

For Horse Feed.

First use during the first week of 1951.

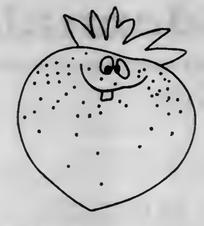
SN 231,208. The Pillsbury Company, Minneapolis, Minn. Filed Oct. 22, 1965.



For Gelatin Dessert Mix.

First use Apr. 22, 1965.

SN 231,209. The Pillsbury Company, Minneapolis, Minn. Filed Oct. 22, 1965.



Owner of Reg. No. 794,157.

For Gelatin Dessert Mix.

First use May 4, 1965.

SN 231,210. The Pillsbury Company, Minneapolis, Minn. Filed Oct. 22, 1965.



For Gelatin Dessert Mix.

First use Apr. 22, 1965.

SN 231,211. The Pillsbury Company, Minneapolis, Minn. Filed Oct. 22, 1965.

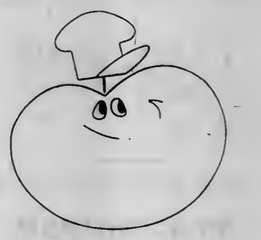


Owner of Reg. No. 794,158.

For Gelatin Dessert Mix.

First use May 4, 1965.

SN 231,215. The Pillsbury Company, Minneapolis, Minn. Filed Oct. 22, 1965.



Owner of Reg. No. 802,344.

For Gelatin Dessert Mix.

First use May 4, 1965.

SN 231,698. Patio Foods, Inc., San Antonio, Tex. Filed Oct. 27, 1965.

Pedernales

The English equivalent of the word "Pedernales" is "flints."
For Canned Chili.
First use Oct. 12, 1965.

SN 231,874. Adams and Brooks, Inc., d.b.a. A. & B. Confections, Los Angeles, Calif. Filed Nov. 1, 1965.

BOOZERS

For Shelled Brown Skinned Peanuts.
First use Oct. 26, 1965.

SN 231,881. Bayou Foods Inc., d.b.a. Nautical Foods Co., Mobile, Ala. Filed Nov. 1, 1965.

SHO-NUFF

For Frozen Deviled Crabs and Frozen Breaded Crab Rolls.
First used 1949.

SN 232,008. National Dairy Products Corporation, New York, N.Y. Filed Nov. 2, 1965.

SU'FLAY

For Margarine.
First use Oct. 14, 1965.

SN 232,040. United Fruit Company, Boston, Mass. Filed Nov. 2, 1965.

RIGHT-AWAY

For Chicken Salad, Crab Salad, Shrimp Salad, and Tuna Salad Mixes in Dry Form.
First use Sept. 28, 1965.

SN 232,229. Perk Foods Company, Chicago, Ill. Filed Nov. 5, 1965.

REQUEST

For Canned Dog Food.
First use Sept. 7, 1965.

SN 232,239. Ripon Foods, Inc., Ripon, Wis. Filed Nov. 5, 1965.

FIRST FAMILY

For Cookies.
First use Oct. 25, 1965.

SN 232,490. Western Grain Company, Birmingham, Ala. Filed Nov. 10, 1965.

CABIN HOME

Owner of Reg. No. 792,343.
For Corn Meal Mix.
First use July 20, 1964.

SN 232,498. Agway, Inc., Syracuse, N.Y. Filed Nov. 12, 1965.

FUL-COURSE

For Dairy Feed.
First use Sept. 22, 1965.

SN 232,499. Agway, Inc., Syracuse, N.Y. Filed Nov. 12, 1965.

EGG-LIFT

For Poultry Feed.
First use Oct. 12, 1965.

SN 234,665. Plochman, Inc., Chicago, Ill. Filed Dec. 15, 1965.

PLOCHMAN

For Mustard.
First use at least as early as November 1960.

SN 235,075. The John Mueller Licorice Co., Cincinnati, Ohio. Filed Dec. 20, 1965.

TIPS

For Licorice Candy.
First use Nov. 1, 1965.

SN 235,076. The John Mueller Licorice Co., Cincinnati, Ohio. Filed Dec. 20, 1965.

SLIMS

For Licorice Candy.
First use Nov. 1, 1965.

SN 235,117. Morgan Packing Company, Inc., Austin, Ind. Filed Dec. 22, 1965.

TALL BOY

For Canned Soups and Canned Pork and Beans.
First use on or about Jan. 1, 1933.

SN 235,457. Fortune Foods Inc., San Francisco, Calif. Filed Dec. 23, 1965.

Fortune



For Canned Seafood, Canned Vegetables, Canned Fruits, Frozen Seafood, Frozen Fruits, and Frozen Vegetables.
First use Nov. 3, 1948, on canned seafood.

SN 241,590. Hickory Valley Farm, Inc., Stroudsburg, Pa. Filed Mar. 22, 1966.

TURKEYBURGETTE

For Food Composition Consisting of Finely Divided Turkey Meat and Seasonings, Pressed Together in Solid Form.
First use on or about Feb. 5, 1966.

SN 243,172. Safeway Stores, Incorporated, Oakland, Calif. Filed Apr. 11, 1966.

PARTY PRIDE

Owner of Reg. Nos. 368,355 and 783,321.
For Non-Dairy Product Confections Frozen on Sticks.
First use Mar. 31, 1966.

SN 243,617. Philadelphia Chewing Gum Corporation, Havertown, Pa. Filed Apr. 18, 1966.

BIG CHOICE

Applicant disclaims sole right to the word "Big" apart from the mark as shown.
For Chewing Gum.
First use July 1, 1957.

Class 47 — Wines

SN 217,568. Sociedad Anonima Vinedos y Bodegas "Jose Orfila" Ltda., Mendoza, Argentina. Filed Apr. 28, 1965.

VIÑAS DE ORFILA

The English translation of "Vinas de Orfila" is "vineyards of Orfila." Owner of Argentine Reg. No. 374,721, dated Dec. 19, 1956.
For Wines.

SN 221,707. Jaime Fernandez Diestro, S.A., Jerez de la Frontera, Cadiz, Spain. Filed June 22, 1965.

José Romero P. Gil

"José Romero P. Gil" is not the name of any particular living individual. Owner of Spanish Reg. No. 23,275, dated Jan. 26, 1914.
For Wines.
First use January 1914; in commerce July 1938.

SN 224,343. Sektkellerei Carstens KG., Neustadt/Weinstrasse, Germany. Filed July 27, 1965.



The word "Natur" is disclaimed apart from the mark as shown. Owner of German Reg. No. 732,643, dated Oct. 27, 1958.
For Sparkling Wines.

SN 230,573. Schenley Distillers, Inc., d.b.a. Weston Winery, New York, N.Y. Filed Oct. 19, 1965.

JEAN-OH

For Wine.
First use Sept. 15, 1965.

SN 230,574. Schenley Distillers, Inc., d.b.a. Weston Winery, New York, N.Y. Filed Oct. 19, 1965.

GENE-O

For Wine.
First use Sept. 15, 1965.

SN 231,681. E. & J. Gallo Winery, d.b.a. Gallo Vineyards, Modesto, Calif. Filed Oct. 27, 1965.

Old Nutcracker Brand

No claim is made to the word "Brand" apart from the mark as shown.
For Wines.
First use Oct. 21, 1965.

SN 232,100. Williams & Humbert Limited, London, England. Filed Nov. 3, 1965.

CARLITO

Owner of British Reg. No. 539,486, dated Feb. 28, 1933.
For Sherry Wines.

Class 48 — Malt Beverages and Liquors

SN 198,065. Metropolis Brewery of N.J., Inc., Trenton, N.J. Filed July 17, 1964.

Bräuhaus

The German word "Brauhaus" may be translated as "brewery."
For Beer.
First use 1939.

SN 224,194. G. Heileman Brewing Company, Inc., La Crosse, Wis. Filed July 26, 1965.

GLUEK

Owner of Reg. No. 419,699.
For Beer.
First use on or about Jan. 1, 1965; on or about July 1, 1857, in a different form.

SN 235,963. De Sammensluttede Bryggerier A/S, Oslo, Norway. Filed Jan. 7, 1966.

NORMALTA

Owner of Norwegian Reg. No. 65,064, dated Nov. 5, 1964.
For Beer.

Class 49 — Distilled Alcoholic Liquors

SN 231,238. Schenley Distillers, Inc., New York, N.Y. Filed Oct. 22, 1965.

CHARTMAN

For Whiskey.
First use Oct. 8, 1965.

SN 231,240. Schenley Distillers, Inc., New York, N.Y. Filed Oct. 22, 1965.

PERSONA GRATA

For Whiskey.
First use Oct. 12, 1965.

SN 231,241. Schenley Distillers, Inc., New York, N.Y. Filed Oct. 22, 1965.

BEGORRA

For Whiskey.
First use Oct. 8, 1965.

SN 232,674. Continental Distilling Corp., d.b.a. Continental Distilling Co., Philadelphia, Pa. Filed Nov. 15, 1965.

STRATFORD

For Blended Whisky.
First use Oct. 27, 1965.

SN 238,667. Puerto Rico Distillers, Inc., d.b.a. Barcelo Marques & Co., Arecibo, Puerto Rico. Filed Feb. 11, 1966.

PALO VIEJO GRANADO

The Spanish words "Palo Viejo" mean "old stick" or "old tree" and the Spanish word "Granado" means "finest." Reserving all common law rights, applicant disclaims exclusive rights in the word "Granado" apart from the mark as shown.
Owner of Reg. Nos. 641,850 and 641,851.
For Alcoholic Beverages—Namely, Rum.
First use Feb. 7, 1966; 1906 on "Palo Viejo."

SN 240,538. Puerto Rico Distillers, Inc., d.b.a. Compania de Bebidas del Oriente, Arecibo, Puerto Rico. Filed Mar. 9, 1966.

KUMQUETTE

For Alcoholic Beverages—Namely, Liqueur.
First use Feb. 15, 1966.

Class 50—Merchandise Not Otherwise Classified

SN 221,802. Design Center, Incorporated, Kansas City, Mo. Filed June 23, 1965.

"DON'T HAVE A PARTY WITHOUT US"

For Invitations and Party Sets, the Sets Including Favors, Place Cards, Centerpieces, Guest Books and Party Hats, All Made of Paper.
First use May 25, 1965.

SN 230,758. Nurthing Vandoorn Bateson, Woodland Hills, Calif. Filed Oct. 21, 1965.

CLITHEROE HOUSE

No registration rights are claimed for the word "House" separate and apart from the composite mark shown in the drawing, but the applicant waives none of his common law rights in the mark as shown.
For Hand-Carved Family Crests.
First use December 1963.

SN 232,791. Precision Dynamics Corporation, Burbank, Calif. Filed Nov. 16, 1965.

Veri Color

Applicant disclaims the word "Color" apart from the mark as shown.
For Hospital Identification Bracelets.
First use June 30, 1962.

SN 236,028. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Jan. 7, 1966.

NITE-GLO

For Luminous Tape Which Is Sold as a Component of Medicinal Containers.
First use Apr. 21, 1965.

SN 238,166. Calfonex, Inc., Englewood, N.J. Filed Feb. 7, 1966.

CALFO-KIT

Owner of Reg. Nos. 722,981, 734,695, and others.
For Set of Assorted Aerosols for Industrial Use and Including Products Designed Individually as a Moisture Removing and Anti-Corrosion Compound, a Compound for Improving Electrical and Mechanical Contacts, a Moisture Absorber and Corrosion Inhibitor, a Graphic Arts Conditioning Compound, a Rust Preventive, a Hard Clear Permanent Coating, a Solvent Cleaner, a Penetrant, and a Lubricating Oil, or Any Selected Plurality of the Foregoing.
First use on or about Jan. 29, 1964.

SN 238,269. Nagel Manufacturing & Supply Co., Inc., Austin, Tex. Filed Feb. 7, 1966.

Capri

For Garment Hanger Covers or Shields Made of Paper, Fabric, or Plastic.
First use Feb. 1, 1962.

Class 51—Cosmetics and Toilet Preparations

SN 158,960. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 12, 1962.

SABRE

Owner of Reg. No. 260,099.
For Shaving Cream.
First use Apr. 23, 1962.

SN 158,961. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 12, 1962.

SABRE SHAVE

Owner of Reg. No. 260,099.
For Shaving Cream.
First use Apr. 23, 1962.

SN 161,437. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 25, 1963.

SABRE

For After Shave Lotion, After Shave Powder, and Hair Dressing.
First use Dec. 7, 1962.

SN 223,008. Carros Corp., New York, N.Y. Filed July 9, 1965.

CARUSET

For Hair Setting Lotion.
First use on or about Jan. 1, 1960.

SN 228,185. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Sept. 20, 1965.

FANTOCHE

For Perfume and Toilet Water.
First use Oct. 12, 1964.

SN 230,839. Johnson Industries, Inc., Menlo Park, N.J. Filed Oct. 21, 1965.



For Skin Lotion of Mineral Oil and Lanolin.
First use Oct. 5, 1965.

SN 232,651. Ashe Laboratories Limited, Leatherhead, Surrey, England. Filed Nov. 15, 1965.

HEADLIGHT

Owner of British Reg. No. 645,825, dated Mar. 13, 1946.
For Tinting and Setting Preparations for the Hair.

SN 235,564. Herald Pharmacal, Inc., Bedford, Va. Filed Dec. 30, 1965.

Aquamed

For Skin Lotion.
First use Nov. 30, 1965.

SN 236,289. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics, Los Angeles, Calif. Filed Jan. 12, 1966.

VANDA

For Colognes, Facial Masks, and Creamy Make-Up.
First use Dec. 28, 1965.

SN 237,031. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics, Los Angeles, Calif. Filed Jan. 21, 1966.

ORCHID PETAL

For Skin Freshener.
First use Jan. 3, 1966.

SN 237,501. John R. Virus, d.b.a. Brandy Harvest, Woodside, N.Y. Filed Jan. 27, 1966.

MUTINY

For Colognes.
First use Apr. 25, 1963.

SN 244,398. Elizabeth of Sweden, Haledon, N.J. Filed Apr. 27, 1966.

SAUNA

For Bath Oil Spray.
First use Nov. 15, 1954.
Subj. to Intf. with SN 202,935.

Class 52—Detergents and Soaps

SN 199,541. Comet Manufacturing Corporation, Atlanta, Ga. Filed Aug. 10, 1964.



For Industrial Cleaning Compounds, Hand Soap, Bowl Cleaners, and Floor Cleaning Preparations.
First use June 25, 1964.

SN 202,935. Indal Oy, Helsinki, Finland. Filed Sept. 29, 1964.

SAUNA

For Hair Shampoo.
First use on or about Mar. 15, 1964; in commerce on or about Mar. 15, 1964.
Subj. to Intf. with SN 244,398.

SN 217,741. S. C. Johnson & Son, Inc., Racine, Wis. Filed Apr. 30, 1965.

TRAIL-BLAZER

For Low Suds Cleaner for Use on Floors.
First use on or about Dec. 30, 1964.

SN 237,429. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 27, 1966.

ARCTIC

Owner of Reg. Nos. 107,777 and 327,288.
For All-Purpose Detergent and Cleaner.
First use Jan. 4, 1966.

SN 243,462. Lever Brothers Company, New York, N.Y. Filed Apr. 14, 1966.

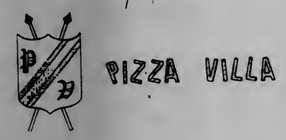
LASTING PROMISE

For Detergent Toilet Bar.
First use Feb. 9, 1966.

SERVICE MARKS

Class 100 — Miscellaneous

SN 202,680. Sam Durkin, Atlanta, Ga. Filed Sept. 25, 1964.



The drawing is lined for the colors red and blue.
For Restaurant Service.
First use September 1946.

SN 209,505. The General Fireproofing Company, Youngstown, Ohio. Filed Jan. 7, 1965.

GF STUDIOS AND PLANNING UNIT

No claim is made to the wording "Studios and Planning Unit" apart from the mark as shown. Owner of Reg. No. 686,478.
For Planning and Designing of Office Interiors.
First use Sept. 8, 1960.

SN 225,995. Pinocchio Associates, Inc., Woodside, N.Y. Filed Aug. 18, 1965.



The drawing is lined for the colors red or pink and violet or purple.
For Drive-In Restaurant Services.
First use Apr. 8, 1965.

SN 228,423. Wayfarer Inns of New York, Inc., Rhinebeck, N.Y. Filed Sept. 22, 1965.



For Hotel Lodging Services.
First use in or about December 1960.

SN 240,867. The Downtowner Corporation, Memphis, Tenn. Filed Mar. 14, 1966.

DOWNTOWNER

Owner of Reg. Nos. 737,345, 766,075, and others.
For Motor Inn Services.
First use Oct. 28, 1958.

Class 101 — Advertising and Business

SN 219,405. Dial Dictation, Inc., New York, N.Y. Filed May 21, 1965.

TELETTER

For Transcribing Letters Called in on the Telephone on Generalized Letterhead and Delivering and/or Transmitting the Same.
First use Jan. 6, 1965.

SN 224,265. Telmark, Inc., Syracuse, N.Y. Filed July 26, 1965.

TELCARD

For Credit Card Charge Service.
First use on or about July 6, 1965.

SN 224,928. Central States Management Consultants, Inc., Appleton, Wis. Filed Aug. 4, 1965.

UnivAtion

For Development of Manufacturing Engineering Computer Programs and Systems for Others.
First use Nov. 1, 1963.

SN 227,900. Weyerhaeuser Company, Tacoma, Wash. Filed Sept. 15, 1965.

WRH

Owner of Reg. No. 614,708.
For Advertising and Business Consultation Services Performed for Dealers in Building Materials and Components for Homes for Their Specific Needs.
First use January 1963.

SN 230,363. Dixie Agencies, Inc., Jacksonville, Fla. Filed Oct. 18, 1965.



No claim is made to the exclusive right to use the words "Employment" or "Agencies" apart from the mark as shown.
For Employment Agency Services.
First use December 1957; Oct. 15, 1954, as to "Dixie Employment."

Class 102 — Insurance and Financial

SN 218,437. Investors Diversified Services, Inc., Minneapolis, Minn. Filed May 10, 1965.



The wording "Founded 1894" and "Diversified Services, Inc." is disclaimed apart from the mark as shown. Owner of Reg. Nos. 715,185, 715,186, and 762,447.
For Investment Services—Namely, Advising Investment Companies and the Brokerage of Investment Securities.
First use Sept. 1, 1955.

SN 221,603. Investors Diversified Services, Inc., Minneapolis, Minn. Filed June 21, 1965.



The wording "Founded in 1894" and "Diversified Services, Inc." is disclaimed apart from the mark as shown. Applicant's wholly owned subsidiary owner of Reg. Nos. 715,185, 715,186, and 762,447.
For Investment Services—Namely, Advising Investment Companies and the Brokerage of Investment Securities.
First use Apr. 21, 1965.

Class 103 — Construction and Repair

SN 203,133. Whirlpool Corporation, Benton Harbor, Mich. Filed Oct. 1, 1964.

TECH-CARE

For Home Product Services Related to the Installation or Repair of Air Heating, Cooling, Purifying, Cleaning, and Conditioning Equipment; Humdifiers; Dehumdifiers; Furnaces; Clothes Washing, Cleaning, and Drying Apparatus; Food Waste Disposers; Refrigerators and Freezers; Ranges, Ovens, and Surface Units; Ice Makers; Vacuum Cleaners and Floor Cleaning and Conditioning Equipment; and Plumbing Fixtures.
First use Mar. 15, 1964.

SN 230,082. The Safemasters Co., Inc., Washington, D.C. Filed Oct. 13, 1965.

SAFEMASTERS

For Repairing and Servicing Safes, Locks, and Locking Devices.
First use February 1941.

SN 233,255. Driv-Thru Car Wash Limited, Toronto, Ontario, Canada. Filed Nov. 24, 1965.

ECONOMAT

Priority claimed under Sec. 44(d) on Canadian application filed Aug. 27, 1965; Reg. No. 143,411, dated Jan. 7, 1966.
For Car Washing Services.

Class 105 — Transportation and Storage

SN 220,310. Mail Delivery Service Co., d.b.a. Data Courier Service, San Francisco, Calif. Filed June 3, 1965.



Owner of Reg. No. 759,385.
For Courier Delivery of Records, Files, and Similar Material.
First use Dec. 5, 1964.

Class 107 — Education and Entertainment

SN 206,952. National Amusements, Inc., Boston, Mass. Filed Nov. 25, 1964.



The word "Cinemas" is disclaimed apart from the mark as shown. The stippling on the drawing is for shading purposes only and is not intended to designate color.
For Entertainment Services Rendered by Showing Motion Pictures in Theaters.
First use Aug. 7, 1964.

SN 207,078. Pitman Manufacturing Company, Grandview, Mo. Filed Nov. 27, 1964.



The drawing is lined for yellow and orange. Applicant disclaims the word "Pitman" apart from the mark as shown.
For Training and Education of Utility Maintenance Personnel.
First use Oct. 30, 1964.

SN 221,193. Adolfo Lorenzo Pego, Hialeah, Fla. Filed June 15, 1965.

LOS DIPLOMATICOS

The translation of the mark "Los Diplomaticos" is "the diplomats."

For Performance of Entertainment Services in the Nature of Band or Orchestral Renditions.

First use 1925.

SN 228,368. Independent Grocers' Alliance Distributing Co., Chicago, Ill. Filed Sept. 22, 1965.

COOK'S TOUR

For Entertainment Services—Namely, the Title of a Television Program Which Takes the Viewer Into the Kitchens of Famous Eating Places.

First use Aug. 13, 1965.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 233,631. Plumbing and Drainage Institute, Oak Park, Ill. Filed Nov. 30, 1965.

The words "Plumbing and Drainage Institute" and "Member" are disclaimed apart from the mark as shown. Owner of Reg. No. 680,934.

For Indicating Membership.

First use 1960.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

813,722. SPONGE-EEZ. Allen Industries, Inc. SN 202,208. Pub. 6–14–66. Filed 9–21–64.

813,723. STRYDE-FOAM. Allen Industries, Inc. SN 202,209. Pub. 6–14–66. Filed 9–21–64.

813,724. PPO. General Electric Company. SN 209,343. Pub. 6–14–66. Filed 1–5–65.

813,725. BONDZALL AND DESIGN. Schramm Fiberglass Products, Inc. MULTIPLE CLASS (Classes 1 and 12). SN 219,749. Pub. 6–14–66. Filed 5–26–65.

813,726. AGWAY. Agway Inc. SN 224,363. Pub. 6–14–66. Filed 7–28–65.

813,727. QULON. Beaunit Corporation. SN 232,654. Pub. 6–14–66. Filed 11–15–65.

Class 2—Receptades

813,728. HI-SHEEN. Waldorf Paper Products Company. SN 198,302. Pub. 6–14–66. Filed 7–21–64.

813,729. DURACOR. The Ceilcote Company, Inc. MULTIPLE CLASS (Classes 2 and 13). SN 203,071. Pub. 6–14–66. Filed 10–1–64.

813,730. FAMOUS FOR STAINLESS. St. John & Co. SN 203,828. Pub. 6–14–66. Filed 10–12–64.

813,731. 3M. Minnesota Mining and Manufacturing Company. SN 205,521. Pub. 6–14–66. Filed 11–4–64.

813,732. SCOTCHPAK. Minnesota Mining and Manufacturing Company. SN 205,522. Pub. 6–14–66. Filed 11–4–64.

813,733. BARBIE. Mattel, Inc. SN 210,889. Pub. 6–14–66. Filed 1–28–65.

813,734. MEAL CADDY. Meal Caddy, Inc. SN 213,591. Pub. 6–14–66. Filed 3–8–65.

813,735. BON-ECON. Crompton & Knowles Corporation. MULTIPLE CLASS (Classes 2, 12, and 13). SN 231,968. Pub. 6–14–66. Filed 11–2–65.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

813,736. DESIGN OF A FISH. Sternco Industries, Inc. SN 185,632. Pub. 6–14–66. Filed 1–29–64.

813,737. GLOBALITE 400 AND DESIGN. United Products Corporation. SN 220,716. Pub. 6–14–66. Filed 6–8–65.

813,738. HUTCH-CLUTCH. Charles Doppelt & Co., Inc. SN 222,916. Pub. 6–14–66. Filed 7–8–65.

813,739. PRIVATE SECRETARY. St. Thomas, Incorporated. SN 226,303. Pub. 6–14–66. Filed 8–23–65.

Class 4—Abrasives and Polishing Materials

813,740. MALCO AND DESIGN. Malco Products Inc. SN 197,597. Pub. 6–14–66. Filed 7–10–64.

813,741. CRYSTAL WHITE. Colgate-Palmolive Company. SN 224,846. Pub. 6–14–66. Filed 8–3–65.

813,742. PRIM-R-SCUFF. Armour and Company. SN 225,002. Pub. 6–14–66. Filed 8–5–65.

813,743. ARMCO AND DESIGN. Armco Steel Corporation. MULTIPLE CLASS (Classes 4, 7, 12, 13, and 14). SN 229,705. Pub. 6–14–66. Filed 10–11–65.

813,744. ARMCO. Armco Steel Corporation. MULTIPLE CLASS (Classes 4, 7, 12, 13, and 14). SN 234,521. Pub. 6–14–66. Filed 12–14–65.

Class 5—Adhesives

813,745. E-SOLDER. Allied Products Corporation, assignee of Joseph Waldman & Sons. SN 208,293. Pub. 6–14–66. Filed 12–16–64.

813,746. ORCON. Orcon Corporation. SN 223,336. Pub. 6–14–66. Filed 7–14–65.

813,747. KEM-KURE. G. E. Smith, Inc. SN 223,591. Pub. 6–14–66. Filed 7–16–65.

Class 6—Chemicals and Chemical Compositions

813,748. SANKYO AND DESIGN. Sankyo Company Limited. SN 170,950. Pub. 6–14–66. Filed 6–13–63.

813,749. MALCO AND DESIGN. Malco Products Inc. SN 197,595. Pub. 6–14–66. Filed 7–10–64.

813,750. NIAGARA NO-FROST. Niagara Blower Company. SN 207,519. Pub. 6–14–66. Filed 12–4–64.

813,751. BOATSWAIN. Coast Pro-Seal & Mfg. Co. MULTIPLE CLASS (Classes 6, 12, and 52). SN 217,010. Pub. 6–14–66. Filed 4–21–65.

813,752. REVCO. Revco D.S., Inc. MULTIPLE CLASS (Classes 6, 18, 23, 44, 51, and 52). SN 217,817. Pub. 6–14–66. Filed 5–3–65.

813,753. REVCO AND DESIGN. Revco D.S., Inc. MULTIPLE CLASS (Classes 6, 18, 23, 44, 51, and 52). SN 217,818. Pub. 6–14–66. Filed 5–3–65.

813,754. MULTILAN. Imperial Chemical Industries Limited. SN 218,008. Pub. 6–14–66. Filed 5–4–65.

813,755. KONTAX. The Birtcher Corporation. SN 218,958. Pub. 6–14–66. Filed 5–17–65.

813,756. HY-G. Marketing Agents, Inc. SN 219,013. Pub. 6–14–66. Filed 5–17–65.

813,757. DALCOPY. Nederlandsche Fotografische Industrie N.V. MULTIPLE CLASS (Classes 6 and 26). SN 223,370. Pub. 6–14–66. Filed 6–9–65.

813,758. DALPRINT. Nederlandsche Fotografische Industrie N.V. MULTIPLE CLASS (Classes 6 and 26). SN 223,371. Pub. 6–14–66. Filed 6–9–65.

813,759. ODOR-CARE. A. Frank Strouse, d.b.a. Care Laboratories. SN 224,037. Pub. 6–14–66. Filed 7–22–65.

813,760. DELMARAGE. John Labatt Limited. SN 224,101. Pub. 6–14–66. Filed 7–23–65.

813,761. CRYSTAL WHITE. Colgate-Palmolive Company. SN 224,847. Pub. 6–14–66. Filed 8–3–65.

813,762. WOODTOX. Wood Treating Chemicals Co. SN 230,218. Pub. 6–14–66. Filed 10–14–65.

813,763. STYRAGEL. Waters Associates, Inc. SN 230,463. Pub. 6–14–66. Filed 10–18–65.

813,764. D/S. Moser Paper Company. SN 231,189. Pub. 6–14–66. Filed 10–22–65.

813,765. RELEASE. Truett Laboratories. SN 231,805. Pub. 6–14–66. Filed 10–22–65.

813,766. ADMOLENE. Archer-Daniels-Midland Company. SN 231,524. Pub. 6–14–66. Filed 10–24–65.

813,767. ALINCO. Archer-Daniels-Midland Company. SN 231,525. Pub. 6–14–66. Filed 10–24–65.

813,768. SCIENTIFIC. Archer-Daniels-Midland Company. SN 231,526. Pub. 6–14–66. Filed 10–24–65.

813,769. FORETELL AND DESIGN. Foretell, Inc. MULTIPLE CLASS (Classes 6, 16, 18, and 52). SN 231,654. Pub. 6–14–66. Filed 10–27–65.

813,770. EVER-DURE. Prusha Specialties, Inc. SN 232,857. Pub. 6–14–66. Filed 11–17–65.

Class 7 — Cordage

813,743. (See Class 4 for this trademark.)

813,744. (See Class 4 for this trademark.)

813,771. C AND DESIGN OF A WILD GOOSE. The Cambridge Wire Cloth Company. MULTIPLE CLASS (Classes 7, 13, and 35). SN 223,762. Pub. 4–12–66. Filed 7–19–65.

Class 8 — Smokers' Articles, Not Including Tobacco Products

813,772. EFKA. Efka-Werke Fritz Kiehn G.m.b.H. SN 220,051. Pub. 6–14–66. Filed 5–21–65.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

813,773. APACHE AND DESIGN. Western-Hoegee Co. MULTIPLE CLASS (Classes 9, 22, and 39). SN 192,649. Pub. 6–14–66. Filed 5–4–64.

813,774. GUARD-U. Marlenn Products Company, Inc. SN 217,126. Pub. 6–14–66. Filed 4–22–65.

Class 10 — Fertilizers

813,775. TREE IN A TRIANGLE (DESIGN). Weyerhaeuser Company. SN 194,939–C. Pub. 6–14–66. Filed 6–4–64.

813,776. NA-CHURS. "Na-Churs" Plant Food Company. SN 214,359. Pub. 6–14–66. Filed 3–17–65.

813,777. NEPTUNE. Sealife Products Company, Inc. SN 219,821. Pub. 6–14–66. Filed 5–26–65.

813,778. CROPMASTER. Plymouth Cordage Company. SN 220,960. Pub. 6–14–66. Filed 6–11–65.

813,779. GROW-TROL. International Minerals & Chemical Corporation. SN 224,201. Pub. 6–14–66. Filed 7–26–65.

813,780. HECALITE. Cutting Pike Investment Corporation, d.b.a. Hammond Equipment Company and The Hecalite Company. SN 226,129. Pub. 6–14–66. Filed 8–20–65.

813,781. MICRO LITE AND DESIGN. Micro-Lite, Inc. SN 227,314. Pub. 6–14–66. Filed 9–7–65.

Class 11 — Inks and Inking Materials

813,782. JOHNSON & JOHNSON. Johnson & Johnson. MULTIPLE CLASS (Classes 11 and 37). SN 223,244. Pub. 6–14–66. Filed 7–13–65.

Class 12 — Construction Materials

813,725. (See Class 1 for this trademark.)

813,735. (See Class 2 for this trademark.)

813,743. (See Class 4 for this trademark.)

813,744. (See Class 4 for this trademark.)

813,751. (See Class 6 for this trademark.)

813,783. LUSTEROCK. Lusterock International, Inc. SN 208,709. Pub. 3–8–66. Filed 12–3–64.

813,784. E-Z PLY. Shakertown Corporation. SN 209,808. Pub. 3–15–66. Filed 1–12–65.

813,785. STANPRO. The Standard Products Company. MULTIPLE CLASS (Classes 12, 19, and 35). SN 211,593. Pub. 6–14–66. Filed 2–8–65.

813,786. AIROTEC. Airotec Inc. SN 212,935. Pub. 9–7–65. Filed 3–1–65.

813,787. PERMA-TITE GASKET EZE NO. 1 AND DESIGN. Durkee-Atwood Company. SN 216,281. Pub. 6–14–66. Filed 4–12–65.

813,788. PERMA-TITE GASKET EZE NO. 2 AND DESIGN. Durkee-Atwood Company. SN 216,282. Pub. 6–14–66. Filed 4–12–65.

813,789. KOMPAK. Stran-Steel Corporation. SN 218,034. Pub. 6–14–66. Filed 5–4–65.

813,790. MCKEE'S MOKUPS. D. R. McKee & Sons. SN 220,397. Pub. 6–14–66. Filed 6–4–65.

813,791. SUPRATECT AND DESIGN. Supradur Manufacturing Corporation. SN 220,977. Pub. 6–14–66. Filed 6–11–65.

813,792. RIVER CEMENT AND DESIGN. Stewart Concrete and Material Company, d.b.a. River Cement Company. SN 225,365. Pub. 6–14–66. Filed 8–9–65.

813,793. AGGRETEX. Fredricks Industries. SN 227,495. Pub. 6–14–66. Filed 9–9–65.

813,794. CRAFTSMAN BLACKTHORN. United States Plywood Corporation. SN 227,727. Pub. 6–14–66. Filed 9–13–65.

813,795. HANDI-WOOD. United States Plywood Corporation. SN 227,728. Pub. 6–14–66. Filed 9–13–65.

813,796. KOLLAR KAP. Kollar Kap Corp. SN 228,161. Pub. 6–14–66. Filed 9–20–65.

813,797. ALAPATCH. Riverside Clay Company. SN 228,405. Pub. 4–26–66. Filed 9–22–65.

813,798. IMPERIAL CREST. Doughboy Industries, Inc. MULTIPLE CLASS (Classes 12 and 22). SN 228,430. Pub. 6–14–66. Filed 9–23–65.

813,799. TILITE AND T DESIGN. Thompson Industries Co., Inc. SN 229,035. Pub. 6–14–66. Filed 9–30–65.

813,800. DURASOTE. Homasote Company. SN 229,094. Pub. 6–14–66. Filed 10–1–65.

813,801. SPACE GRID AND DESIGN. Butler Manufacturing Company. SN 229,197. Pub. 6–14–66. Filed 10–4–65.

813,802. SPACE GRID. Butler Manufacturing Company. SN 229,198. Pub. 6–14–66. Filed 10–4–65.

813,803. TESMIX. Robert P. Hendrick. SN 229,245. Pub. 6–14–66. Filed 10–4–65.

813,804. FRANCISCAN TERRA-FLOOR. International Pipe and Ceramics Corporation. SN 229,357. Pub. 6–14–66. Filed 10–5–65.

813,805. FRANCISCAN PROMENADE. International Pipe and Ceramics Corporation. SN 229,432. Pub. 6–14–66. Filed 10–6–65.

813,806. FOUR SEASONS STRUCTURES AND DESIGN. C. M. Christiansen Co. SN 229,636. Pub. 6–14–66. Filed 10–8–65.

813,807. RIVER VALLEY. Vincent E. Liberatore. SN 230,059. Pub. 6–14–66. Filed 10–13–65.

813,808. ZIAMYTE. The Valtronic Corporation. SN 230,216. Pub. 6–14–66. Filed 10–14–65.

813,809. TROPICAL AND DESIGN. Hendon Construction Company. SN 230,392. Pub. 6–14–66. Filed 10–18–65.

813,810. SUPREME CREST. Doughboy Industries, Inc. MULTIPLE CLASS (Classes 12 and 22). SN 230,472. Pub. 6–14–66. Filed 9–23–65.

813,811. SONOTEX. Sonneborn Building Products, Inc. SN 231,255. Pub. 6–14–66. Filed 10–22–65.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

813,729. (See Class 2 for this trademark.)

813,735. (See Class 2 for this trademark.)

813,743. (See Class 4 for this trademark.)

813,744. (See Class 4 for this trademark.)

813,771. (See Class 7 for this trademark.)

813,812. HARDWICK. Hardwick Stove Company. MULTIPLE CLASS (Classes 13, 21, and 34). SN 224,575. Pub. 6–14–66. Filed 7–30–65.

813,813. H (DESIGN). Huck Manufacturing Company. SN 225,768. Pub. 6–14–66. Filed 8–16–65.

813,814. SPREADMASTER. Otis Engineering Corporation. SN 230,277. Pub. 6–14–66. Filed 10–15–65.

813,815. PILO-PORT. Otis Engineering Corporation. SN 230,278. Pub. 6–14–66. Filed 10–15–65.

813,816. SHERWOOD-SELPAC. Aluminum & Brass Co. Inc. SN 230,751. Pub. 6–14–66. Filed 10–21–65.

813,817. BLACK KNIGHT SILA. Black Knight Sila Ltd. SN 230,762. Pub. 6–14–66. Filed 10–21–65.

813,818. SPRACO PRODUCTS AND DESIGN. Spray Engineering Company. SN 230,942. Pub. 6–14–66. Filed 10–21–65.

813,819. FITZ-ALL. Tops Manufacturing Co., Inc. SN 230,955. Pub. 6–14–66. Filed 10–21–65.

813,820. LOD-RACK. Fred L. Baybars, d.b.a. Lodi Fab Industries. SN 231,023. Pub. 6–14–66. Filed 10–22–65.

813,821. BLEEDSAFE. Fluid Dynamics, Incorporated. SN 231,092. Pub. 6–14–66. Filed 10–22–65.

813,822. SPACE'ANEA. The Logan Manufacturing Company. SN 231,156. Pub. 6–14–66. Filed 10–22–65.

813,823. RELIANCE. The Reliance Rope Attachment Company Limited. SN 231,520. Pub. 6–14–66. Filed 8–23–65.

813,824. SAUNDERS AND DESIGN. Grinnell Corporation SN 240,818. Pub. 6–14–66. Filed 2–2–66.

Class 14 — Metals and Metal Castings and Forgings

813,743. (See Class 4 for this trademark.)

813,744. (See Class 4 for this trademark.)

813,825. INDEBLOK. Independent Scrap Iron & Metal Corp. SN 201,439. Pub. 6–14–66. Filed 9–8–64.

Class 15 — Oils and Greases

813,826. ENJOY TOP PURR-FORMANCE WITH SOUTHLAND. The Southland Company. SN 178,231. Pub. 6–14–66. Filed 10–2–63.

813,827. MALCO AND DESIGN. Malco Products Inc. SN 197,596. Pub. 6–14–66. Filed 7–10–64.

813,828. C-1. Felt Products Mfg. Co. SN 220,289. Pub. 6–14–66. Filed 6–3–65.

813,829. CIMFLO. The Cincinnati Milling Machine Co. SN 222,663. Pub. 6–14–66. Filed 7–6–65.

813,830. MAGIC FLOW. White Stores, Inc. SN 228,232. Pub. 6–14–66. Filed 9–20–65.

813,831. TUBE-O-SEAL. Lub-O-Seal Company, Inc. SN 229,263. Pub. 6–14–66. Filed 10–4–65.

813,832. AO 1. Stewart-Warner Corporation. SN 229,305. Pub. 6–14–66. Filed 10–4–65.

813,833. FATIMA. Candles of Florida, Inc. SN 229,333. Pub. 6–14–66. Filed 10–5–65.

813,834. GT-1. Kendall Refining Company. SN 229,530. Pub. 6–14–66. Filed 10–7–65.

Class 16 — Protective and Decorative Coatings

813,769. (See Class 6 for this trademark).

813,835. WEYERHAEUSER. Weyerhaeuser Company. SN 194,938–D. Pub. 6–14–66. Filed 6–4–64.

813,836. TONE FIX. Deft, Incorporated. SN 195,518. Pub. 3–22–66. Filed 6–12–64.

813,837. ABSO-DULL. Wolverine Porcelain Enameling Co. SN 206,108. Pub. 6–14–66. Filed 11–12–64.

813,838. PALGARD. Pratt & Lambert-Inc. SN 219,455. Pub. 6–14–66. Filed 5–21–65.

Class 17 — Tobacco Products

813,839. PER ASPERA AD ASTRA ETC. AND DESIGN. The American Tobacoo Company. SN 204,539. Pub. 6–14–66. Filed 10–22–64.

Class 18 — Medicines and Pharmaceutical Preparations

813,752. (See Class 6 for this trademark.)

813,753. (See Class 6 for this trademark.)

813,769. (See Class 6 for this trademark).

813,840. CERNITIN. Aktiebolaget Cernelle. SN 204,535. Pub. 6–14–66. Filed 10–22–64.

813,841. C-LEVEL. Charles A. Crete, d.b.a. Pharmaceutical Associates. SN 215,489. Pub. 6–14–66. Filed 4–1–65.

813,842. ASSURANCE. Con-Stan Industries, Inc. SN 223,089. Pub. 6–14–66. Filed 7–12–65.

813,843. HLR. Hoffmann-La Roche Inc. SN 223,790. Pub. 6–14–66. Filed 7–20–65.

Class 19 — Vehicles

813,785. (See Class 12 for this trademark.)

813,844. MISCELLANEOUS DESIGN. The Fisher-Pierce Co., Inc. SN 212,104. Pub. 6–14–66. Filed 2–16–65.

813,845. LAND YACHT. Airstream, Inc. SN 213,926. Pub. 6–14–66. Filed 3–12–65.

813,846. DUMP-O-MATIC AND DESIGN. Barns Lumber & Manufacturing Co. SN 217,262. Pub. 6–14–66. Filed 4–26–65.

813,847. PACAMARAN. Paul John Power. SN 218,313. Pub. 6–14–66. Filed 5–7–65.

813,848. SNORKLE. Bartlett Trailer Corporation. SN 219,950. Pub. 6–14–66. Filed 5–28–65.

813,849. MOUNTAINEER AND DESIGN. Clay Camper Co. SN 223,086. Pub. 6–14–66. Filed 7–12–65.

813,850. KINGFISHER. Master Molders, Inc. SN 223,139. Pub. 6–14–66. Filed 7–12–65.

Class 20—Linoleum and Oiled Cloth

813,851. MISCELLANEOUS DESIGN. Laverne International Ltd. MULTIPLE CLASS (Classes 20, 32, and 42). SN 201,845. Pub. 1–18–66. Filed 9–14–64.

Class 21—Electrical Apparatus, Machines, and Supplies

813,812. (See Class 13 for this trademark.)

813,852. PORTA-LAMP. Crestwood Enterprises, assignee of J & M Enterprises, Inc. SN 185,293. Pub. 5–24–66. Filed 1–24–64.

813,853. MAGIC MAID. National Electronic Filter Company, Inc. SN 197,608. Pub. 6–14–66. Filed 7–10–64.

813,854. REI AND DESIGN. Reeve Electronics, Inc. SN 200,205. Pub. 12–21–65. Filed 8–19–64.

813,855. SUBURBANAIRE. McGraw-Edison Company. SN 209,285. Pub. 6–14–66. Filed 1–4–65.

813,856. KUHNKE AND DESIGN. H. Kuhnke, Elektrotechnische Fabrik. MULTIPLE CLASS (Classes 21 and 23). SN 209,865. Pub. 6–14–66. Filed 1–13–65.

813,857. MARK II. Electro-Tec Corporation. SN 210,109. Pub. 6–14–66. Filed 1–18–65.

813,858. RONDO. Sunbeam Lighting Company. SN 210,169. Pub. 6–14–66. Filed 1–18–65.

813,859. FLUORAC. Lorain Products Corporation. SN 213,585. Pub. 6–14–66. Filed 3–8–65.

813,860. GRIDISTOR. Stanislas Tesaner. SN 215,905. Pub. 6–14–66. Filed 4–6–65.

813,861. ULTIMATE ENCLOSURE. Wabash Magnetics, Inc. SN 217,959. Pub. 6–14–66. Filed 5–3–65.

813,862. UNICON. Anaconda Wire and Cable Company. SN 218,170. Pub. 2–15–66. Filed 5–6–65.

813,863. INSTANT-SAFE. Robert F. Herrling, d.b.a. Iroquois Manufacturing Company. SN 218,550. Pub. 6–14–66. Filed 5–11–65.

813,864. MONTCLAIR. McCrory Corporation. SN 221,402. Pub. 6–14–66. Filed 6–17–65.

813,865. TRIOMATIC. Schaltbau G.m.b.H. SN 221,525. Pub. 6–14–66. Filed 6–18–65.

813,866. REALISTIFONE. Radio Shack Corporation. SN 223,451. Pub. 6–14–66. Filed 7–15–65.

813,867. UNIFORMER. Howard Buschman. SN 224,386. Pub. 6–14–66. Filed 7–28–65.

813,868. CRITESISTOR. Hitachi Ltd. SN 224,532. Pub. 6–14–66. Filed 7–29–65.

813,869. HIWATT. Hotwatt, Inc. SN 224,615. Pub. 6–14–66. Filed 7–30–65.

813,870. BWC BRISTOL AND DESIGN. Bristol Wire Company. SN 224,713. Pub. 6–14–66. Filed 8–2–65.

813,871. ROYAL PRESTIGE. Royal Appliance Manufacturing Company. SN 224,888. Pub. 6–14–66. Filed 8–3–65.

813,872. ROYAL IMPERIAL. Royal Appliance Manufacturing Company. SN 224,889. Pub. 6–14–66. Filed 8–3–65.

813,873. GALAXIE PRESTIGE. Royal Appliance Manufacturing Company. SN 224,890. Pub. 6–14–66. Filed 8–3–65.

813,874. RIG-A-LITE. The Rig-A-Lite Company of Texas, Inc. SN 225,509. Pub. 6–14–66. Filed 8–11–65.

813,875. HOTTEST BRAND GOING. Continental Oil Company. SN 227,257. Pub. 6–14–66. Filed 9–7–65.

813,876. CONOCO. Continental Oil Company. SN 227,258. Pub. 6–14–66. Filed 9–7–65.

813,877. CONOCO AND TRIANGLE DESIGN. Continental Oil Company. SN 227,259. Pub. 6–14–66. Filed 9–7–65.

813,878. GHOST-GUARD. William E. Taylor. SN 227,719. Pub. 6–14–66. Filed 9–13–65.

813,879. TRADESCOPE AND T DESIGN. Trade Unlimited, Inc. SN 227,720. Pub. 6–14–66. Filed 9–13–65.

Class 22—Games, Toys, and Sporting Goods

813,773. (See Class 9 for this trademark.)

813,798. (See Class 12 for this trademark.)

813,810. (See Class 12 for this trademark.)

813,880. SMOKEY. Blazon, Inc. SN 172,043. Pub. 6–14–66. Filed 6–28–63.

813,881. RED BAND AND SQUARES (DESIGN). Parker Brothers, Inc. SN 195,700. Pub. 6–14–66. Filed 6–15–64.

813,882. THREE SPACED CIRCULAR SPOTS (DESIGN). American Machine & Foundry Company. SN 197,528. Pub. 6–14–66. Filed 7–10–64.

813,883. FUN-POOL. H. D. Hudson Manufacturing Company. SN 201,203. Pub. 6–14–66. Filed 9–3–64.

813,884. AMERICAN A COMET AND DESIGN. American Hardware Supply Company. SN 201,351. Pub. 6–14–66. Filed 9–8–64.

813,885. SWING-A-WAY. Schutt Manufacturing Company. SN 201,970. Pub. 6–14–66. Filed 9–15–64.

813,886. CRAZY CLOCK GAME. Ideal Toy Corporation. SN 206,456. Pub. 6–14–66. Filed 11–18–64.

813,887. TUF-FLEX. Golden State Distributors, Inc. SN 213,309. Pub. 6–14–66. Filed 3–4–65.

813,888. SAIL-N-FISH. New York Toy Corp. SN 214,455. Pub. 6–14–66. Filed 3–18–65.

813,889. ISOLOOP. Edward A. Brophy. SN 215,143. Pub. 6–14–66. Filed 3–23–65.

813,890. EGGIE. Marie A. Young. SN 215,810. Pub. 6–14–66. Filed 4–5–65.

813,891. BAIT OF CHAMPIONS. Fred Arbogast Company, Inc. SN 216,126. Pub. 6–14–66. Filed 4–9–65.

813,892. DANTE'S AND DESIGN. Dante Productions, Inc., assignee of Barrett N. Kirkendall. SN 216,512. Pub. 6–14–66. Filed 4–14–65.

813,893. THIRD-ARM. John V. Graebner. SN 217,731. Pub. 6–14–66. Filed 4–30–65.

813,894. "PINKEY" THE CUDDLY BUNNY. Edward L. Mobley, Jr., d.b.a. The Edward Mobley Co. SN 217,762. Pub. 6–7–66. Filed 4–30–65.

813,895. SATELLITE. Stowe-Woodward, Inc. SN 217,949. Pub. 6–14–66. Filed 5–3–65.

813,896. SPRINGBAR. AAA Tent & Awning Company. SN 220,054. Pub. 6–21–66. Filed 6–1–65.

813,897. CONTOURA AND DESIGN. E. Errett Smith Inc. SN 220,691. Pub. 6–14–66. Filed 6–8–65.

813,898. SPIRAL CONFIGURATION (DESIGN). The General Tire & Rubber Company. SN 223,117. Pub. 6–14–66. Filed 7–12–65.

813,899. DART 300. SW Industries, Inc. SN 224,796. Pub. 6–14–66. Filed 8–2–65.

813,900. "SECRET 7" AND DESIGN. Multiple Products Inc. SN 225,183. Pub. 6–14–66. Filed 8–6–65.

813,901. SCOR-MOR. Joseph M. Boulanger, d.b.a. Roll-O-Ball of America. SN 229,193. Pub. 6–14–66. Filed 10–4–65.

813,902. SILLIES. Fun Things, Inc. SN 229,514. Pub. 6–14–66. Filed 10–7–65.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

813,752. (See Class 6 for this trademark.)

813,753. (See Class 6 for this trademark.)

813,856. (See Class 21 for this trademark.)

813,903. TREE IN A TRIANGLE DESIGN. Weyerhaeuser Company. SN 194,939–E. Pub. 6–14–66. Filed 6–4–64.

813,904. THE MAN THE ARC THE WORK AND DESIGN. The Pandjiris Weldment Co. MULTIPLE CLASS (Classes 23 and 34). SN 204,599. Pub. 6–14–66. Filed 10–22–64.

813,905. MISCELLANEOUS DESIGN. Stieber Rollkupplung K.G. SN 209,466. Pub. 6–14–66. Filed 1–6–65.

813,906. BIND-RITE AND DESIGN. Great Western Development Company. SN 210,118. Pub. 6–14–66. Filed 1–18–65.

813,907. PRADINES. R. Deville S.A. SN 210,195. Pub. 6–14–66. Filed 1–19–65.

813,908. TALABOT PRADINES. R. Deville S.A. SN 210,196. Pub. 6–14–66. Filed 1–19–65.

813,909. TRIVAC. E. Leybold's Nachfolger. SN 210,572. Pub. 6–14–66. Filed 1–22–65.

813,910. BIND-ALL. Earle Jennings and Associates Incorporated. SN 210,880. Pub. 6–14–66. Filed 1–28–65.

813,911. SQUEEZ-ETTE. Cook Machinery Co., Inc. SN 210,937. Pub. 6–14–66. Filed 1–29–65.

813,912. CONFOR. Ferdinand Ruesch, d.b.a. Ferd. Ruesch Maschinenfabrik. SN 211,353. Pub. 6–14–66. Filed 2–4–65.

813,913. EBONITE. International Road Seal, Inc. SN 211,528. Pub. 6–14–66. Filed 2–8–65.

813,914. MEGA-MATIC AND DESIGN. Mega, Incorporated. SN 219,035. Pub. 6–14–66. Filed 5–17–65.

813,915. RUN-O-RAMA. Warren Products Ltd. SN 219,090. Pub. 6–14–66. Filed 5–17–65.

813,916. WILKINSON. Wilkinson Sword Limited. SN 222,234. Pub. 6–14–66. Filed 6–28–65.

813,917. QUICKIE AND DESIGN. Ira R. Seltzer, d.b.a. Pasadena Specialty Co. SN 224,469. Pub. 6–14–66. Filed 7–28–65.

813,918. PEG-TAPE. Selfix, Inc. SN 224,800. Pub. 6–14–66. Filed 8–2–65.

813,919. JET DRUM DE-HEADER AND DESIGN. Fort Wayne Truck Parts & Equipment, Inc. SN 225,412. Pub 3–15–66. Filed 8–10–65.

813,920. HOT LINE. Minneapolis-Moline, Inc. SN 225,791. Pub. 6–7–66. Filed 8–16–65.

813,921. KING-LINE. Heimlich Brothers, Inc. SN 226,233. Pub. 6–14–66. Filed 8–23–65.

813,922. TRIM KING. Heimlich Brothers, Inc. SN 226,234. Pub. 6–14–66. Filed 8–23–65.

813,923. WORKING AND DESIGN. Heimlich Brothers, Inc. SN 226,235. Pub. 6–14–66. Filed 8–23–65.

813,924. K AND DESIGN. Heimlich Brothers, Inc. SN 226,236. Pub. 6–14–66. Filed 8–23–65.

813,925. INSERTAJAW. Tesan Tool Manufacturing Company. SN 228,280. Pub. 6–14–66. Filed 9–21–65.

813,926. TREMIX. Tremix Company, Inc. SN 228,769. Pub. 6–14–66. Filed 9–27–65.

813,927. PERMA-TRIEVE. Otis Engineering Corporation. SN 228,929. Pub. 6–14–66. Filed 9–29–65.

813,928. VARI-SET AND DESIGN. The Valeron Corporation. SN 228,958. Pub. 6–14–66. Filed 9–29–65.

813,929. AID AND DESIGN. Aid Stores, Inc. SN 229,713. Pub. 6–14–66. Filed 10–11–65.

813,930. V–7. Sylvester's Welding. SN 230,947. Pub. 6–14–66. Filed 10–21–65.

813,931. FROST-LINE. Bissell Inc. SN 231,028. Pub. 6–14–66. Filed 10–22–65.

813,932. ISARMATIC. Douglas Motors Corporation. SN 231,070. Pub. 6–14–66. Filed 10–22–65.

813,933. HEART-GUARD. The Union Fork and Hoe Company. SN 231,314. Pub. 6–14–66. Filed 10–22–65.

813,934. VIBROMATIC AND DESIGN. Vibromatic Manufacturing Company, Inc. SN 231,319. Pub. 6–14–66. Filed 10–22–65.

813,935. D-SILTER. Bass Brothers Enterprises, Inc. SN 231,636. Pub. 6–14–66. Filed 10–26–65.

813,936. LUB-UNIT. McNeil Corporation. SN 231,765. Pub. 6–14–66. Filed 10–28–65.

813,937. HYDRO-THOMA. Hydro Thoma Limited. SN 231,825. Pub. 6–14–66. Filed 10–29–65.

813,938. DRI-VEYOR AND DESIGN. Newaygo Engineering Company. SN 231,838. Pub. 6–14–66. Filed 10–29–65.

813,939. NUMERIMILL. Giddings & Lewis Machine Tool Company. SN 235,663. Pub. 6–14–66. Filed 1–3–66.

Class 24—Laundry Appliances and Machines

813,940. TURBOCLENE. Engelhard Hanovia of Canada Limited, d.b.a. Engelhard Hanovia Lamps. SN 220,210. Pub. 6–14–66. Filed 6–2–65.

Class 26—Measuring and Scientific Appliances

813,757. (See Class 6 for this trademark.)

813,758. (See Class 6 for this trademark.)

813,941. OMNIFOCAL. All-Site, Inc. SN 190,477. Pub. 6–14–66. Filed 4–7–64.

813,942. DIESELOSCOPE. Societe d'Etudes et de Fabrication de Material Electronique, S.E.F.M.E. SN 205,865. Pub. 6–14–66. Filed 11–9–64.

813,943. SDS. Scientific Data Systems, Inc. SN 206,653. Pub. 6–14–66. Filed 11–20–64.

813,944. FLOROSKOP. Magnus Hubert Bogislav Von Platen. SN 207,509. Pub. 6–14–66. Filed 12–4–64.

813,945. SKIPPER. Mattel, Inc. SN 207,631. Pub. 6–14–66. Filed 12–7–64.

813,946. MINITOR. Robertson Photo-Mechanix, Inc. SN 208,113. Pub. 6–14–66. Filed 12–14–64.

813,947. LIFEMASTER. Casady Engineering Associates. SN 208,990. Pub. 6–14–66. Filed 12–29–64.

813,948. AUTOHELM. The Oakland Corporation. SN 212,233. Pub. 6–14–66. Filed 2–17–65.

813,949. HOWE RICHARDSON AND DESIGN. Howe Richardson Scale Company. SN 212,537. Pub. 6–14–66. Filed 2–23–65.

813,950. FRANKLIN GNO CORPORATION AND DESIGN. Franklin Gno Corporation. SN 215,401. Pub. 6–14–66. Filed 3–31–65.

813,951. FILTRONA. Cigarette Components Limited. SN 217,845. Pub. 6–14–66. Filed 5–3–65.

813,952. EXTRA-CHEF. The Wilcolator Company. SN 218,352. Pub. 6–14–66. Filed 5–7–65.

813,953. PROXITEL. Spiratone, Inc., by change of name and assignment of Spiratone, Inc. SN 218,807. Pub. 6–14–66. Filed 5–13–65.

813,954. PROXIFLEX. Spiratone, Inc., by change of name and assignment of Spiratone, Inc. SN 218,808. Pub. 6–14–66. Filed 5–13–65.

813,955. DUAL-FORM. Robinson-Houchin, Inc. SN 219,464. Pub. 6–14–66. Filed 5–21–65.

813,956. ACCU-METER. Airkem, Inc. SN 219,751. Pub. 6–14–66. Filed 5–26–65.

813,957. SENTRY. Airkem, Inc. SN 219,753. Pub. 6–14–66. Filed 5–26–65.

813,958. GALAXY. Dixson, Inc. SN 224,729. Pub. 6–14–66. Filed 8–2–65.

813,959. MILLI-GLOW. Atchison Electromatic, Inc. SN 225,858. Pub. 6–14–66. Filed 8–17–65.

813,960. CYCLOMIX. The Bollard Company. SN 228,506. Pub. 6–14–66. Filed 9–24–65.

Class 27 — Horological Instruments

813,961. STARGUIDE. Sunbeam Corporation. SN 230,096. Pub. 6–14–66. Filed 10–13–65.

Class 28 — Jewelry and Precious-Metal Ware

813,962. CHALETTE. Delamere Company, Inc. MULTIPLE CLASS (Classes 28, 29, and 40). SN 215,196. Pub. 6–14–66. Filed 3–29–65.

813,963. MODELE, ETC. AND DESIGN. Rodi & Wienenberger Aktiengesellschaft. SN 221,301. Pub. 6–14–66. Filed 6–16–65.

813,964. LANCASTER ROSE. Poole Silver Co., Inc. SN 223,449. Pub. 6–14–66. Filed 7–15–65.

Class 29 — Brooms, Brushes, and Dusters

813,962. (See Class 28 for this trademark.)

813,965. OLD PRO. Rubberset Company. SN 210,601. Pub. 6–8–65. Filed 1–25–65.

813,966. NPD. National Paint Distributors, Inc. SN 220,316. Pub. 6–14–66. Filed 6–3–65.

Class 30 — Crockery, Earthenware, and Porcelain

813,967. NORITAKE N AND DESIGN. Nippon Toki Kabushiki Kaisha (Noritake Co., Limited). SN 170,852. Pub. 6–14–66. Filed 6–12–63.

Class 31 — Filters and Refrigerators

813,968. WR WATER REFINING AND DESIGN. Water Refining Company, Inc. SN 176,336. Pub. 6–14–66. Filed 9–4–63.

813,969. MICRO-CARBON. Industrial Products Company, Inc. SN 202,085. Pub. 3–23–65 Filed 9–17–64.

813,970. MICRO-FINE. Industrial Products Company, Inc. SN 202,086. Pub. 3–23–65. Filed 9–17–64.

813,971. KOLD KEEPER. Crescent Metal Products, Inc. SN 204,141. Pub. 6–14–66. Filed 10–16–64.

813,972. CHEVRON. Standard Oil Company of California. SN 206,306. Pub. 6–14–66. Filed 11–16–64.

813,973. VACU-MAZE. Rockwell - Standard Corporation. SN 208,388. Pub. 6–14–66. Filed 12–17–64.

813,974. FINGERTIP. General Motors Corporation. SN 209,435. Pub. 6–14–66. Filed 1–6–65.

813,975. GENERAL GIANT. Wm. W. Meyer & Sons, Inc. SN 209,793. Pub. 6–14–66. Filed 1–12–65.

813,976. ECONOFLO. Flanders Filters, Inc. SN 209,846. Pub. 6–14–66. Filed 1–13–65.

813,977. CONOGLAS. Continental Air Filters, Inc. SN 223,011. Pub. 6–14–66. Filed 7–9–65.

813,978. WGR. Nalco Chemical Company. SN 224,544. Pub. 6–14–66. Filed 7–29–65.

813,979. MARVELBO-R-5. Marvel Engineering Company. SN 226,453. Pub. 6–14–66. Filed 8–25–65.

813,980. MISTAIR. Eastern Cyclone Industries, Inc. SN 228,349. Pub. 6–14–66. Filed 9–22–65.

813,981. WALL LINE. Westinghouse Electric Corporation. SN 228,585. Pub. 6–14–66. Filed 9–24–65.

Class 32 — Furniture and Upholstery

813,851. (See Class 20 for this trademark.)

813,982. TREE IN A TRIANGLE (DESIGN). Weyerhaeuser Company. SN 194,939–F. Pub. 6–14–66. Filed 6–4–64.

813,983. MODUKARELS. Monroe Industries, Inc. SN 213,594. Pub. 6–14–66. Filed 3–8–65.

813,984. YOUNG SLOANE SHOP. W. & J. Sloane, Inc. SN 218,144. Pub. 6–14–66. Filed 5–5–65.

813,985. RANDATA. Acme Visible Records, Inc. SN 219,657. Pub. 6–14–66. Filed 5–25–65.

813,986. CARPET CENTER. John H. Best & Sons, Inc. SN 229,486. Pub. 6–14–66. Filed 10–7–65.

813,987. DREAMHOUSE. P. J. NEE Company. SN 229,855. Pub. 6–14–66. Filed 10–11–65.

Class 34 — Heating, Lighting, and Ventilating Apparatus

813,812. (See Class 13 for this trademark.)

813,904. (See Class 23 for this trademark.)

813,988. CERAMALOY. Dorothea A. Daman, d.b.a. Daman Industries. SN 207,018. Pub. 6–14–66. Filed 11–27–64.

813,989. CYCLOPAK. The Babcock & Wilcox Company. SN 207,190. Pub. 6–14–66. Filed 12–1–64.

813,990. NIAGARA NO-FROST. Niagara Blower Company. SN 207,520. Pub. 6–14–66. Filed 12–4–64.

813,991. DRIVE IN'S AND DESIGN. Drive-In Theatre Manufacturing Co., Inc. SN 207,579. Pub. 6–14–66. Filed 12–7–64.

813,992. WHIRLPOOL. Whirlpool Corporation. SN 207,846. Pub. 6–14–66. Filed 12–9–64.

813,993. MULTI-WEAVE. Stoody Company. SN 207,916. Pub. 6–14–66. Filed 12–10–64.

813,994. CONTINEX. Continental Carbon Company. SN 208,242. Pub. 6–14–66. Filed 12–16–64.

813,995. UNIBOND. Unitek Corporation. SN 209,741. Pub. 6–14–66. Filed 1–11–65.

813,996. SUPREME-AIRE. Supreme-Aire Mfg. Co., Inc. SN 209,961. Pub. 6–14–66. Filed 1–14–65.

813,997. DATA-AIRE. Supreme-Aire Mfg. Co., Inc. SN 209,962. Pub. 6–14–66. Filed 1–14–65.

813,998. BRING THE SUN INDOORS AND DESIGN. The Bettcher Manufacturing Corporation. SN 212,490. Pub. 6–14–66. Filed 2–23–65.

813,999. YOUNG SLOANE SHOP. W. & J. Sloane, Inc. SN 218,145. Pub. 6–14–66. Filed 5–5–65.

814,000. VENT-O-MATIC. Tuscarora Electric Manufacturing Company, Inc. SN 220,578. Pub. 6–14–66. Filed 6–7–65.

814,001. STERITORT. FMC Corporation. SN 221,484. Pub. 6–14–66. Filed 6–18–65.

814,002. FRICK AND DESIGN. Frick Company. SN 223,883. Pub. 6–14–66. Filed 7–21–65.

814,003. ROKEX. H. E. Fletcher Co. SN 224,407. Pub. 6–14–66. Filed 7–28–65.

814,004. H (DESIGN). Hy-Way Heat Systems, Inc. SN 224,616. Pub. 6–14–66. Filed 7–30–65.

814,005. DEEP RIVER. Kirk Shivell. SN 226,297. Pub. 6–14–66. Filed 8–23–65.

814,006. MISCELLANEOUS DESIGN. H. H. Robertson Company. SN 226,380. Pub. 6–14–66. Filed 8–24–65.

814,007. ARCOSHIELD. Arcos Corporation. SN 226,711. Pub. 6–14–66. Filed 8–30–65.

814,008. DIAMARC. Arcos Corporation. SN 226,712. Pub. 6–14–66. Filed 8–30–65.

814,009. WEAVER. Weld Tooling Corporation. SN 227,089. Pub. 6–14–66. Filed 9–2–65.

814,010. CLAMSHELL. Buffalo Forge Company. SN 227,920. Pub. 6–14–66. Filed 9–16–65.

814,011. CLASSIC. Sears, Roebuck and Co. SN 228,945. Pub. 6–14–66. Filed 9–29–65.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

813,771. (See Class 7 for this trademark.)

813,785. (See Class 12 for this trademark.)

814,012. RIBETS. Tab Manufacturing Co. SN 223,745. Pub. 4–26–66. Filed 7–19–65.

814,013. DESIGN. Superior Bands, Inc. SN 226,099. Pub. 6–14–66. Filed 8–19–65.

814,014. FLUOROWELD. W. S. Shamban & Co. SN 226,948. Pub. 6–14–66. Filed 9–1–65.

814,015. DURA-GRIP. Albany Felt Company. SN 227,113. Pub. 6–14–66. Filed 9–3–65.

814,016. WINTER PATROL. United States Rubber Company. SN 227,456. Pub. 6–14–66. Filed 9–8–65.

814,017. POWER-TRAK. Louis Fishman & Co., Inc., d.b.a. Bearcat Tire Company. SN 228,027. Pub. 6–14–66. Filed 9–17–65.

814,018. ISOFLEX. United States Rubber Company. SN 228,498. Pub. 6–14–66. Filed 9–23–65.

814,019. AID AND DESIGN. Aid Stores, Inc. SN 229,717. Pub. 6–14–66. Filed 10–11–65.

Class 36 — Musical Instruments and Supplies

814,020. V-BROOM! Mattel, Inc. SN 215,760. Pub. 6–14–66. Filed 4–5–65.

814,021. ARTIA. Artia, Podnik Zahranicniho Obchodu Pro Dovoz A Vyvoz Kulturnich Statku. MULTIPLE CLASS (Classes 36 and 38). SN 216,646. Pub. 6–14–66. Filed 4–15–65.

Class 37 — Paper and Stationery

813,782. (See Class 11 for this trademark.)

814,022. PROJECTO-COLOR. L. & C. Hardtmuth, Inc. SN 186,542. Pub. 6–14–66. Filed 2–12–64.

814,023. MAGIC. Taufek H. Ramsey, d.b.a. West Coast Sales. SN 193,044. Pub. 6–14–66. Filed 5–8–64.

814,024. TOPLINE. Penn Card & Paper Co. Inc., d.b.a. Penn Card & Paper Company, Inc., Penn Card and Paper Co., Inc., and Penn Card and Paper Co. SN 215,256. Pub. 6–14–66. Filed 3–29–65.

814,025. CADDYLAK. Caddylak Systems, Inc. SN 215,326. Pub. 6–14–66. Filed 3–30–65.

814,026. MODELE, ETC. AND DESIGN. Rodi & Wienenberger Aktiengesellschaft. SN 221,302. Pub. 6–14–66. Filed 6–16–65.

814,027. OMEGA. Taufek H. Ramsey, d.b.a. West Coast Sales. SN 223,829. Pub. 6–14–66. Filed 7–20–65.

814,028. COAST LINE AND DESIGN. Jomeno Manufacturing Company. SN 223,997. Pub. 6–14–66. Filed 7–22–65.

814,029. MORTARBOARD WITH FLASHING LIGHT BULB (DESIGN). Maine Ventures, Inc., d.b.a. Veribest Systems Co. SN 224,138. Pub. 6–14–66. Filed 7–20–65.

814,030. API AND DESIGN. Curtis 1000 Incorporated. SN 224,176. Pub. 6–14–66. Filed 7–26–65.

814,031. CASTILIAN. Kimberly-Clark Corporation. SN 224,212. Pub. 6–14–66. Filed 7–26–65.

814,032. POLYNIB. Bacon Felt Company. SN 224,374. Pub. 6–14–66. Filed 7–28–65.

814,033. CURRENT. Current, Inc. SN 224,723. Pub. 6–14–66. Filed 8–2–65.

814,034. KLEENEX. Kimberly - Clark Corporation. SN 225,427. Pub. 6–14–66. Filed 8–10–65.

814,035. POLYGUARD. Nee & McNulty, Inc. SN 227,059. Pub. 6–14–66. Filed 9–2–65.

814,036. ARRESTEAR. National Blank Book Company. SN 227,433. Pub. 6–14–66. Filed 9–8–65.

814,037. BLENDWELL. The Joseph Dixon Crucible Company. SN 227,568. Pub. 6–14–66. Filed 9–10–65.

814,038. CRAYOGRAPH. The Joseph Dixon Crucible Company. SN 227,570. Pub. 6–14–66. Filed 9–10–65.

814,039. PRESTAPE AND DESIGN. Prestape, Inc. SN 227,870. Pub. 6–14–66. Filed 9–15–65.

814,040. KROMA. The Joseph Dixon Crucible Company. SN 227,931. Pub. 6–14–66. Filed 9–16–65.

Class 38 — Prints and Publications

814,021. (See Class 36 for this trademark.)

814,041. COLOURPICTURE. Colourpicture Publishers, Inc. SN 189,659. Pub. 6–14–66. Filed 3–26–64.

814,042. SPRINGER. Springer Publishing Company, Inc. SN 204,717. Pub. 12–14–65. Filed 10–23–64.

814,043. VAIL. Vail Associates, Ltd. SN 212,077. Pub. 6–14–66. Filed 2–15–65.

814,044. MISCELLANEOUS DESIGN. Vail Associates, Ltd. SN 212,080. Pub. 6–14–66. Filed 2–15–65.

814,045. VISUAL CONCEPT. William A. Kuhlman, d.b.a. Kuhlman Studios. SN 215,975. Pub. 6–14–66. Filed 4–7–65.

814,046. DIALOGUE. Phi Sigma Tau. SN 216,431. Pub. 6–7–66. Filed 4–13–65.

814,047. VAN O VISION AND DESIGN. A.V.E. Corporation. SN 217,514. Pub. 6–14–66. Filed 4–28–65.

814,048. RESOURCES IN SCIENCE. Educational Development Corporation. SN 217,721. Pub. 6–14–66. Filed 4–30–65.

814,049. ROCKVILLE ARCHIVE AND DESIGN. Nathan Polsky. SN 218,474. Pub. 6–14–66. Filed 5–10–65.

814,050. UNDER THE BUTTONWOOD TREE AND DESIGN. Lowell Holt Securities Co. SN 218,643. Pub. 6–14–66. Filed 5–12–65.

814,051. BRIDE & GROOM AND DESIGN. Eugene L. McPherson, d.b.a. McPherson Thermographers. SN 224,540. Pub. 6–14–66. Filed 7–29–65.

814,052. A NEWSLETTER DEVOTED TO FREE ENTERPRISE AND DESIGN. Thomas Carvel. SN 226,897. Pub. 6–14–66. Filed 9–1–65.

Class 39 — Clothing

813,773. (See Class 9 for this trademark.)

814,053. BLACK IMPERIAL MINK. Coopchik-Forrest, Inc. SN 151,664. Pub. 3–29–66. Filed 8–22–62.

814,054. POMPEII. Hickey-Freeman Co., Inc., assignee of Hickey-Freeman Company. SN 180,094. Pub. 6–14–66. Filed 10–30–63.

814,055. EXQUISETTE. Joseph Bancroft & Sons Company. SN 193,530. Pub. 6–14–66. Filed 5–15–64.

814,056. PLAYSKOOL. Playskool Manufacturing Company. SN 194,417. Pub. 6–14–66. Filed 5–27–64.

814,057. TOWN CAPERS. Wells Lamont Corporation. SN 197,804. Pub. 6–14–66. Filed 7–13–64.

814,058. PURR FECTS. Sherman Underwear Mills, Inc. SN 199,856. Pub. 6–14–66. Filed 8–13–64.

814,059. DECKS BY CAMBRIDGE. Cambridge Rubber Company. SN 200,818. Pub. 6–14–66. Filed 8–28–64.

814,060. MASTER-JAC. Stahl-Urban Company. SN 202,321. Pub. 6–14–66. Filed 9–21–64.

814,061. IMPERIAL WEAR. Imperial Outfitters to Large Men, Inc. SN 205,694. Pub. 6–14–66. Filed 11–6–64.

814,062. CHAVANT. Carter & Holmes. SN 206,347. Pub. 3–1–66. Filed 11–17–64.

814,063. ETERN-L-CREASE. Park Avenue Imports, Inc. SN 210,340. Pub. 6–14–66. Filed 1–21–65.

814,064. ROGERS PEET. Rogers Peet Company. SN 212,352. Pub. 6–14–66. Filed 2–18–65.

814,065. WAIKIKI SURF. Kamehameha Garment Co., Ltd. SN 213,141. Pub. 6–14–66. Filed 3–2–65.

814,066. ORIGINAL ROGG SCHUH MUNCHEN. Hans Rogg. SN 214,374. Pub. 6–14–66. Filed 3–17–65.

814,067. V-RROOM! Mattel, Inc. SN 215,244. Pub. 6–14–66. Filed 3–29–65.

814,068. WOOLRICH AND DESIGN. Woolrich Woolen Mills. SN 215,913. Pub. 4–12–66. Filed 4–6–65.

814,069. XPANDLON. Ainsbrooke Corporation. SN 215,918. Pub. 6–14–66. Filed 4–7–65.

814,070. ROYAL TOPPER. United States Rubber Company. SN 217,422. Pub. 6–14–66. Filed 4–26–65.

814,071. BLACK FANTASY AND DESIGN. Baron-Jackman, Inc. SN 218,174. Pub. 6–14–66. Filed 5–6–65.

814,072. LOVABLE LOVE-EASE. The Lovable Company. SN 219,218. Pub. 6–14–66. Filed 5–19–65.

814,073. BLUE GRASS. Blue Grass Industries, Inc. MULTIPLE CLASS (Classes 39 and 44). SN 219,397. Pub. 6–14–66. Filed 5–21–65.

814,074. A COAT BY CONNIE. Kline Brothers Company. SN 220,305. Pub. 6–14–66. Filed 6–3–65.

814,075. THE REMSEN SHOP AND DESIGN. Federated Department Stores, Inc. SN 220,490. Pub. 6–14–66. Filed 6–7–65.

814,076. CHAVOIR. Rhodia, Inc. SN 221,206. Pub. 4–5–66. Filed 6–15–65.

814,077. BIG BEN AND DESIGN. Blue Bell, Inc. SN 221,786. Pub. 6–14–66. Filed 6–23–65.

814,078. NEW CONCEPT. Lewel Manufacturing Co., Inc. SN 222,172. Pub. 10–26–65. Filed 6–28–65.

814,079. DORSEY AND DESIGN. The Dorsey Company. SN 222,679. Pub. 6–14–66. Filed 7–6–65.

814,080. ARTHUR EDWARDS. Arthur Goldin, Inc. SN 223,118. Pub. 6–14–66. Filed 7–12–65.

814,081. GIAVANTI. Arthur Goldin, Inc. SN 223,119. Pub. 6–14–66. Filed 7–12–65.

814,082. DOMINO DRI. Schachter & Salles, Inc. SN 224,030. Pub. 6–14–66. Filed 7–22–65.

814,083. BOTIQUES BY MUTUAL. Admiral Shoe Corporation, d.b.a. Mutual Shoe Sales Company. SN 224,693. Pub. 6–14–66. Filed 8–2–65.

814,084. ANDANTE. Associated Dry Goods Corporation. SN 224,904. Pub. 5–10–66. Filed 8–4–65.

814,085. GILBERT ORCEL JR. AND DESIGN. Gilbert Orcel. SN 225,197. Pub. 6–14–66. Filed 8–6–65.

814,086. HEADSTART. Irwin Touster, d.b.a. Headstart Co. SN 226,103. Pub. 6–14–66. Filed 8–19–65.

814,087. PEDI VAL. Zayre Corp. SN 226,191. Pub. 6–14–66. Filed 8–20–65.

814,088. ZEEPACA. Somerset Knitting Mills, Inc. SN 226,300. Pub. 6–14–66. Filed 8–23–65.

814,089. DOZI. David Crystal, Inc. SN 226,426. Pub. 6–14–66. Filed 8–25–65.

814,090. PEPPI-PRESS. Atlas Shirt Company, Inc. SN 227,813. Pub. 6–14–66. Filed 9–15–65.

Class 40 — Fancy Goods, Furnishings, and Notions

813,962. (See Class 28 for this trademark.)

814,091. BARBIE. Mattel, Inc. SN 211,372. Pub. 6–14–66. Filed 2–4–65.

814,092. IMPEARLA-R. Adelphia Button Company, Inc., d.b.a. Adelphia Button Co. SN 220,724. Pub. 6–14–66. Filed 6–9–65.

814,093. SSSS. Abbott Tresses, Inc., d.b.a. Abbott Tresses. SN 230,476. Pub. 6–14–66. Filed 10–19–65.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

813,851. (See Class 20 for this trademark.)

814,094. RAMI. Hodges Research & Development Company. SN 191,289. Pub. 6–14–66. Filed 4–16–64.

814,095. CHEVACREPE. Rubin Levine & Co., Inc. SN 191,940. Pub. 12–7–65. Filed 4–24–64.

814,096. GRENTEX. A. J. Greberman & Son, Inc. SN 197,390. Pub. 3–16–65. Filed 7–8–64.

814,097. CONCEPT. Klopman Mills, Inc. SN 216,837. Pub. 10–26–65. Filed 4–19–65.

814,098. CORMAYEUR. Waumbec Mills Incorporated. SN 221,318. Pub. 6–14–66. Filed 6–16–65.

814,099. KUREHA AND DESIGN. Kureha Spinning Company Limited. SN 223,246. Pub. 6–14–66. Filed 7–15–65.

814,100. HEATHERSPUN BY CONCORD. Concord Fabrics Inc. SN 228,336. Pub. 6–14–66. Filed 9–22–65.

814,101. SPACETEX. Hodges Research & Development Company. SN 231,999. Pub. 6–14–66. Filed 11–2–65.

814,102. SESOMA. Sesom Knitting Mills, Inc. SN 232,157. Pub. 6–14–66. Filed 11–4–65.

814,103. CONE POLYTWILL JR. AND DESIGN. Cone Mills Corporation. SN 232,903. Pub. 6–14–66. Filed 11–18–65.

814,104. CONE POLYTWILL SR. AND DESIGN. Cone Mills Corporation. SN 232,904. Pub. 6–14–66. Filed 11–18–65.

814,105. LADY ALMART. Allied Stores Corporation. SN 232,959. Pub. 6–14–66. Filed 11–19–65.

Class 43 — Thread and Yarn

814,106. SOLVEX. Solvex Corporation. SN 222,074. Pub. 6–14–66. Filed 6–25–65.

814,107. 50–50. Emile Bernat & Sons Co. SN 232,274. Pub. 6–14–66. Filed 11–8–65.

814,108. C–M AND DESIGN. Columbia-Minerva Corporation. SN 232,982. Pub. 6–14–66. Filed 11–19–65.

Class 44 — Dental, Medical, and Surgical Appliances

813,752. (See Class 6 for this trademark.)

813,753. (See Class 6 for this trademark.)

814,073. (See Class 39 for this trademark.)

814,109. NATIONAL IN DESIGN. Matsushita Electric Industrial Co., Ltd. SN 136,670. Pub. 4–20–65. Filed 1–26–62.

814,110. ZENITH. Zenith Radio Corporation. SN 211,609. Pub. 6–14–66. Filed 2–8–65.

814,111. MILLION-AIRE AND DESIGN. Boulevard Electronics, Inc. SN 230,767. Pub. 6–14–66. Filed 10–21–65.

Class 46 — Foods and Ingredients of Foods

814,112. LANDSMANN. Kurt Isenberg, d.b.a. Kay's. SN 180,101. Pub. 6–14–66. Filed 10–30–63.

814,113. BETTY CROCKER. General Mills, Inc. SN 187,577. Pub. 6–14–66. Filed 2–27–64.

814,114. G GENERAL MILLS. General Mills, Inc. SN 193,949. Pub. 6–14–66. Filed 5–21–64.

814,115. JOE SCHMID'S. Jos. Schmid Co., d.b.a. Joe Schmid's. SN 196,723. Pub. 6–14–66. Filed 6–29–64.

814,116. BLACKIE'S HOUSE OF BEEF. Ulysses G. Auger, d.b.a. Blackie's House of Beef. SN 198,398. Pub. 6–14–66. Filed 7–23–64.

814,117. GAINES ALL 'ROUND. General Foods Corporation. SN 205,400. Pub. 6–14–66. Filed 11–3–64.

814,118. SILVER KNIGHT AND DESIGN. George A. Lucas & Sons. SN 206,804. Pub. 6–14–66. Filed 11–19–64.

814,119. BEANARONI. American Home Products Corporation. SN 207,695. Pub. 6–14–66. Filed 12–8–64.

814,120. A DOG AND DESIGN. The Big A System, Inc. SN 211,695. Pub. 6–14–66. Filed 2–10–65.

814,121. SOUR TARTIES. Four Star Candy Co., Inc. SN 212,667. Pub. 6–14–66. Filed 2–24–65.

814,122. BINDEX. Harvest Queen Mill & Elevator Company. SN 213,010. Pub. 6–14–66. Filed 3–1–65.

814,123. ISALY'S HARLEQUIN FLAVORS. The Isaly Dairy Company. SN 213,136. Pub. 6–14–66. Filed 3–2–65.

814,124. THOROBRED. Thorobred Company, Inc. SN 213,624. Pub. 6–14–66. Filed 3–8–65.

814,125. SKEENIES. J. Andrew Skeen, d.b.a. Skeenies of West Virginia. SN 213,807. Pub. 6–14–66. Filed 3–10–65.

814,126. ALPHALO. Quality Bakers of American Cooperative, Inc. SN 214,788. Pub. 6–14–66. Filed 3–23–65.

814,127. SOMETHING DIFF'RENT. The Pillsbury Company. SN 215,648. Pub. 6–14–66. Filed 4–2–65.

814,128. ROYAL STAR. Manhattan Coffee Company, assignee, by mesne assignment, of Star Coffee Company. SN 215,659. Pub. 6–14–66. Filed 4–2–65.

814,129. DART AND DESIGN. Superior's Brand Meats Inc. SN 216,349. Pub. 6–14–66. Filed 4–12–65.

814,130. FRANKIES. Superior's Brand Meats Inc. SN 216,352. Pub. 6–14–66. Filed 4–12–65.

814,131. SNO TOP. A. Peltz & Sons, Inc. SN 216,429. Pub. 6–14–66. Filed 4–13–65.

814,132. CLINJEL. Standard Brands Incorporated, d.b.a. Clinton Corn Processing Company. SN 216,881. Pub. 6–14–66. Filed 4–19–65.

814,133. TA NEET TA AND DESIGN. Tanita Farms, Inc., d.b.a. Tanita Farms. SN 216,890. Pub. 6–14–66. Filed 4–19–65.

814,134. BONNEVILLE BRAND AND DESIGN. Acme Poultry and Egg Company, d.b.a. Acme Poultry Company. SN 217,822. Pub. 6–14–66. Filed 5–3–65.

814,135. MOUNTAIN PARK AND DESIGN. Acme Poultry and Egg Company, d.b.a. Acme Poultry Company. SN 217,823. Pub. 6–14–66. Filed 5–3–65.

814,136. IDAHOAN. Clement Bros. SN 217,988. Pub. 6–14–66. Filed 5–4–65.

814,137. IDAHO'S BEST-THE NATION'S FINEST. Clement Bros. SN 217,989. Pub. 6–14–66. Filed 5–4–65.

814,138. MISCELLANEOUS DESIGN. Baxter Laboratories, Inc. SN 221,131. Pub. 6–14–66. Filed 6–2–65.

814,139. NUTRICASE. Foremost Dairies, Inc. SN 222,685. Pub. 6–14–66. Filed 7–6–65.

814,140. BRAZIER AND DESIGN. American Dairy Queen Corporation. SN 222,803. Pub. 6–14–66. Filed 7–7–65.

814,141. C. S. A. Camp Farms Co., d.b.a. S. A. Camp Co. SN 223,078. Pub. 6–14–66. Filed 7–12–65.

814,142. CLIPPER. S. A. Camp Farms Co., d.b.a. S. A. Camp Co. SN 223,080. Pub. 6–14–66. Filed 7–12–65.

814,143. HI-GOAL. Harden Farms, Inc. SN 224,788. Pub. 6–14–66. Filed 8–2–65.

814,144. SPREAD FRIEND. Lever Brothers Company. SN 224,867. Pub. 6–14–66. Filed 8–3–65.

814,145. BEEKMAN HILL. Inter City Fish Supply Co. Inc., d.b.a. Intercity Fish Co., Inc. SN 225,159. Pub. 6–14–66. Filed 9–23–65.

814,146. SURFERS. Los Angeles Nut House, d.b.a. California Peanut Co. SN 228,052. Pub. 6–14–66. Filed 9–17–65.

814,147. MARIE'S. Marie Rooney. SN 230,902. Pub. 6–14–66. Filed 10–21–65.

Class 47 — Wines

814,148. DALIZE-LEROY. Benegas Hermanos y Cia. Ltda., S.A.I. y C. SN 215,379. Pub. 6–14–66. Filed 3–31–65.

Class 49 — Distilled Alcoholic Liquors

814,149. WHITE BAG. Sociedade Lisbonense de Produtos Alimentares, S.A.R.L. SN 212,721. Pub. 6–14–66. Filed 4–14–66.

Class 50 — Merchandise Not Otherwise Classified

814,150. SANDYCOMB AND DESIGN. Sandy, Inc., by change of name from Hal Sandy, Inc. SN 205,857. Pub. 6–14–66. Filed 11–9–64.

814,151. COMET AND DESIGN. Sam'l Bingham's Son Mfg. Co. SN 205,994. Pub. 6–14–66. Filed 11–12–64.

814,152. FLORALEDGE. Ted Separa, d.b.a. C. M. Separa & Co. SN 218,489. Pub. 6–14–66. Filed 5–10–65.

814,153. FLEXOPLATE. Flexoplate, Inc. SN 223,111. Pub. 6–14–66. Filed 7–12–65.

814,154. VICRTEX-T AND DESIGN. L. E. Carpenter & Company. SN 231,044. Pub. 6–14–66. Filed 10–22–65.

814,155. MY TWIN. My Double Company, Inc. SN 231,465. Pub. 6–14–66. Filed 10–23–65.

Class 51 — Cosmetics and Toilet Preparations

813,752. (See Class 6 for this trademark.)

813,753. (See Class 6 for this trademark.)

814,156. LOUIS PHILIPPE. Consortium Mediterraneen de Parfumerie, Societe Anonyme. MULTIPLE CLASS (Classes 51 and 52). SN 191,366. Pub. 6–14–66. Filed 4–17–64.

814,157. HEAD HUNTER. The Head Hunter Beauty Salon, Inc., d.b.a. Head Hunter Coiffures. SN 212,215. Pub. 6–14–66. Filed 2–17–65.

814,158. MADEMOISELLE DU BARRY. Richard Hudnut. SN 215,740. Pub. 6–14–66. Filed 4–5–65.

814,159. KERAMINE H. Eurocosmesi S.p.A. SN 215,959. Pub. 6–14–66. Filed 4–7–65.

814,160. GHOST. Ghost Tonic Corporation. SN 216,295. Pub. 6–14–66. Filed 4–12–65.

814,161. ROYALE PINK. Pelindo Inc. SN 218,467. Pub. 6–14–66. Filed 5–10–65.

814,162. VIBRA DERM. Block Drug Company, Inc. SN 218,530. Pub. 6–14–66. Filed 5–11–65.

814,163. BECKON. The Fuller Brush Company. SN 223,226. Pub. 6–14–66. Filed 7–13–65.

814,164. BATHTUB GIN. Tom Fields, Ltd. SN 225,015. Pub. 6–14–66. Filed 8–5–65.

Class 52 — Detergents and Soaps

813,751. (See Class 6 for this trademark.)

813,752. (See Class 6 for this trademark.)

813,753. (See Class 6 for this trademark.)

813,769. (See Class 6 for this trademark.)

814,156. (See Class 51 for this trademark.)

814,165. MALCO AND DESIGN. Malco Products, Inc. SN 197,594. Pub. 6–14–66. Filed 7–10–64.

814,166. VANGUARD. The Procter & Gamble Company. SN 199,608. Pub. 6–14–66. Filed 8–10–64.

814,167. YALE. The Betco Corporation, d.b.a. "Betco Corp." SN 216,043. Pub. 12–7–65. Filed 4–8–65.

814,168. CITATION. The Mennen Company. SN 216,522. Pub. 6–14–66. Filed 4–14–65.

814,169. PATROL. Alberto-Culver Company. SN 217,689. Pub. 6–14–66. Filed 4–30–65.

814,170. SENTRY. Airkem, Inc. SN 219,752. Pub. 6–14–66. Filed 5–26–65.

814,171. MISCELLANEOUS DESIGN. Baxter Laboratories, Inc. SN 221,133. Pub. 6–14–66. Filed 6–2–65.

814,172. KLEER-SITE MIRACLE DOT AND DESIGN. Kleer-Site Corporation. SN 221,608. Pub. 6–14–66. Filed 6–21–65.

814,173. NUAGE ROUGE. Avon Products, Inc. SN 223,954. Pub. 6–14–66. Filed 7–22–65.

814,174. RYDLYME. Donald E. Ostermeier, d.b.a. Apex Engineering Company. SN 226,559. Pub. 6–14–66. Filed 8–26–65.

814,175. LENSINE. The Murine Company, Inc. SN 231,589. Pub. 6–14–66. Filed 10–24–65.

Service Marks

Class 100 — Miscellaneous

814,176. PUMPORTATION. Gray Company, Inc. MULTIPLE CLASS (Classes 100 and 103). SN 182,175. Pub. 6–14–66. Filed 12–2–63.

814,177. TREE IN A TRIANGLE (DESIGN). Weyerhaeuser Company. SN 194,939–I. Pub. 6–14–66. Filed 6–4–64.

814,178. COWTEL. Modern Dairy Farms, No. 1, Inc. SN 214,543. Pub. 6–14–66. Filed 3–19–65.

814,179. HH AND DESIGN. Hickory House Motel Enterprises, Inc., d.b.a. Hickory House Motor Inns. SN 216,303. Pub. 6–14–66. Filed 4–12–65.

814,180. AMERICAN MUSIC HALL OF FAME. Sinfonia Foundation, Inc. SN 216,875. Pub. 6–14–66. Filed 4–19–65.

814,181. CHARIOT (DESIGN). Pozzolan Products Co., Inc. SN 217,390. Pub. 6–14–66. Filed 4–26–65.

814,182. PRESTIGE. Osborne Photographic Laboratories, Inc. SN 218,790. Pub. 6–14–66. Filed 5–13–65.

814,183. HOSPITAL HOST. Automatic Canteen Company of America. SN 222,810. Pub. 6–14–66. Filed 7–7–65.

814,184. NATIONAL TRAILWAYS BUS SYSTEM AND DESIGN. National Trailways Bus System. SN 227,861. Pub. 5–31–66. Filed 9–15–65.

814,185. TRAILWAYS. National Trailways Bus System. MULTIPLE CLASS (Classes 100 and 105). SN 227,863. Pub. 6–7–66. Filed 9–15–65.

Class 101 — Advertising and Business

814,186. Q YELLOW STAMPS. "Q" Yellow Stamp Co., Inc. SN 198,374. Pub. 6–14–66. Filed 7–22–64.

814,187. SERVICE MEASURED NOT BY GOLD BUT BY THE GOLDEN RULE AND DESIGN. International Order of the Golden Rule Inc. SN 199,068. Pub. 6–14–66. Filed 8–3–64.

814,188. PFY APPROVED AND DESIGN. Profit For You, Inc. SN 224,788. Pub. 6–14–66. Filed 8–2–65.

814,189. AMERICAN CAREER SERVICE. American Girl Service, Inc. SN 228,802. Pub. 6–14–66. Filed 9–28–65.

Class 103 — Construction and Repair

814,176. (See Class 100 for this trademark.)

814,190. WR WATER REFINING AND DESIGN. Water Refining Company, Inc. SN 176,337. Pub. 6–14–66. Filed 9–4–63.

814,191. MILES GLASS CO. AND DESIGN. Miles Glass Co., Inc. SN 194,635. Pub. 6–14–66. Filed 6–1–64.

814,192. EAGER BEAVER. Cities Service Oil Company. SN 197,080. Pub. 6–14–66. Filed 7–6–64.

814,193. THE RESPONSIBLE SYSTEM. Wade, Wenger Servicemaster Co. SN 198,600. Pub. 6–14–66. Filed 7–27–64.

814,194. FEDERAL. Federal Sign and Signal Corporation. SN 200,224. Pub. 6–14–66. Filed 8–18–64.

814,195. LEATHERITE AND DESIGN. Hub Cleaners of Baltimore, Inc., d.b.a. Leatherite Cleaners and Dyers. SN 225,158. Pub. 6–14–66. Filed 8–6–65.

Class 105 — Transportation and Storage

814,185. (See Class 100 for this trademark.)

814,196. TRANSPORTATION ASSOCIATES INC. ETC. AND DESIGN. Transportation Associates Inc. SN 217,504. Pub. 6–14–66. Filed 4–27–65.

814,197. "P–D." All States Freight Inc. SN 225,532. Pub. 6–14–66. Filed 8–12–65.

814,198. NATIONAL TRAILWAYS BUS SYSTEM AND DESIGN. National Trailways Bus System. SN 227,862. Pub. 5–31–66. Filed 9–15–65.

Class 107 — Education and Entertainment

814,199. THE BROTHERS. The Brothers. SN 217,861. Pub. 6–14–66. Filed 5–3–65.

814,200. DIRECTION, INC. AND DESIGN. Direction, Incorporated. SN 223,218. Pub. 6–14–66. Filed 7–13–65.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 12 — Construction Materials

814,201. Century Marble Co., Waco, Tex. SN 207,266. Filed P.R. 12–2–64; Am. S.R. 5–17–66.

FORMULATED

For Artificial Marble Which Is Supplied in Precast Forms and Slabs.
First use Nov. 16, 1964.

Class 16 — Protective and Decorative Coatings

814,202. Barker Chemical Company, Chicago, Ill. SN 236,554. Filed 1–17–66.

THIN ALL

For Thinner for Automotive Finishes.
First use Mar. 12, 1959.

Class 17 — Tobacco Products

814,203. Lane Limited, New York, N.Y. SN 203,666. Filed P.R. 10–9–64; Am. S.R. 6–27–66.

HOUSE BLEND

For Smoking Tobacco.
First use August 1964.

814,204. W. H. Snyder and Sons Incorporated, Windsor, Pa. SN 209,375. Filed P.R. 1–5–65; Am. S.R. 6–27–66.

WINDSOR

For Cigars.
First use Mar. 21, 1961.

Class 19 — Vehicles

814,205. Safety Enterprises, Inc., Atlanta, Ga. SN 209,977. Filed P.R. 12–28–64; Am. S.R. 6–22–66.

SAFTI-STABILIZER

For Spring Mechanisms for Attachment to and for Maintaining the Steerable Wheels of a Vehicle in Alignment.
First use Nov. 19, 1964.

Class 21 — Electrical Apparatus, Machines, and Supplies

814,206. Donald D. Rumpel and Del O. Rumple, d.b.a. Quik-Klip Company, Nampa, Idaho. SN 209,882. Filed P.R. 1–13–65; Am. S.R. 6–30–66.

QUIK-KLIP

For Fasteners for Electrical Conductors.
First use prior to Oct. 30, 1963.

814,207. Beloit Corporation, Beloit, Wis. SN 219,519. Filed P.R. 5–24–65; Am. S.R. 6–23–66.

BELALARM

For Electrically Activated Annunciators Employing Magnetic Rods Which Act as a Circuit-Closing Warning Device for Prediction of Bearing and Gear Failure Such as Used as Warning Devices for Prediction of Bearing and Gear Failure.
First use Apr. 9, 1965.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

814,208. Nutrient Savers Inc., Aberdeen, S. Dak. SN 208,844. Filed P.R. 12–24–64; Am. S.R. 6–21–66.

GAS-LOK

For Silo Unloaders Having Means for Retaining Gases of Fermentation Within the Silo.
First use Aug. 28, 1964.

Class 34 — Heating, Lighting, and Ventilating Apparatus

814,209. The Wickes Corporation, Saginaw, Mich. by mesne assignment and change of name from Ross Builders Supplies, Inc., Greenville, S.C. SN 172,777. Filed P.R. 7–10–63; Am. S.R. 2–3–65.

COOL-HOME

For Attic Fans.
First use Apr. 9, 1963.

Class 37 — Paper and Stationery

814,210. Maxwell Company, Chicago, Ill. SN 223,038. Filed P.R. 7–9–65; Am. S.R. 7–1–66.

SNAP-OFF

For Business Forms.
First use June 24, 1965.

Class 39 — Clothing

814,211. Silvertone Undergarment Co., Inc., New York, N.Y. SN 209,207. Filed P.R. 12–31–64; Am. S.R. 6–23–66.

SOFT-KNIT

For Ladies' Panties.
First use Oct. 23, 1964.

814,212. I. B. Kleinert Rubber Company, New York, N.Y. SN 211,366. Filed P.R. 2-4-65; Am. S.R. 6-24-66.

UNDERCAP

For Adjustable Headband for Keeping the Hair Dry. First use Dec. 8, 1957.

814,213. Wallach's, Inc., Long Island City, N.Y. SN 223,264. Filed P.R. 7-13-65; Am. S.R. 6-24-66.

Gilbert & Lodge

For Men's Suits, Topcoats, Overcoats, Sport Coats, and Slacks. First use June 11, 1965, on men's suits.

TRADEMARK REGISTRATIONS RENEWED

28,277. GLYCERINE AND CUCUMBER AND DESIGN. Cl. 51. 5-19-1896.
53,028. SANATOGEN. Cl. 18. 5-22-06.
54,041. HERSHEY'S. Cl. 46. 6-19-06.
55,304. J WHATMAN. Cl. 37. 8-14-06.
55,827. MOLASSINE. Cl. 46. 8-21-06.
56,070. H. Cl. 23. 8-21-06.
56,594. HYDRONE. Cl. 6. 10-9-06.
56,737. SPALDING. Cl. 22. 10-16-06.
56,738. SPALDING AND DESIGN. Cl. 22. 10-16-06.
56,782. LIQUID VENEER. Cl. 4. 10-16-06.
56,864. SIMON PURE. Cl. 46. 10-23-06.
56,963. MONOTYPE. Cl. 23. 10-30-06.
57,901. SHOFO. Cl. 52. 12-4-06.
58,829. PIONEER MINCED SEA CLAMS AND DESIGN. Cl. 46. 12-25-06.
210,584. TRIMO. Cl. 23. 3-16-26.
210,992. HARROGATE TOFFEE AND DESIGN. Cl. 46. 3-30-26.
211,479. NO-KOLOR DE PUTNAM POLVOS DE BLANQUEAR EL CABALLO AND DESIGN. Cl. 6. 4-13-26.
213,061. BIG HIT. Cl. 46. 5-18-26.
213,062. DISPLAY. Cl. 46. 5-18-26.
213,063. AWARD. Cl. 46. 5-18-26.
215,499. ARMADA. Cl. 46. 7-20-26.
216,070. CHEVROLET. Cl. 19. 8-3-26.
217,122. BULL DOG. Cl. 12. 8-24-26.
217,374. FORGE. Cl. 46. 8-31-26.
217,580. LIBERTY. Cl. 36. 9-7-26.
218,072. ALAMO. Cl. 46. 9-21-26.
218,405. PTCO PHILTOBCO QUALITY AND DESIGN. Cl. 22. 9-28-26.
218,545. BILL-TAINER. Cl. 3. 9-28-26.
218,919. THE TIMES-UNION. Cl. 38. 10-5-26.
219,266. UDYLITE. Cl. 6. 10-12-26.
219,693. STAYCO. Cl. 6. 10-19-26.
219,744. POPSICLE. Cl. 46. 10-26-26.
220,416. MI-EMP. Cl. 33. 11-9-26.
220,496. SUNNY MOUNTAIN BRAND. Cl. 46. 11-9-26.
220,740. RADIATOR REPAIR & CLEANER AND DESIGN. Cl. 6. 11-16-26.
220,939. POWHATAN. Cl. 46. 11-16-26.
221,036. ED PINAUD. Cl. 52. 11-23-26.
221,548. LA FRANCE AND DESIGN. Cl. 46. 12-7-26.
221,599. RAYO. Cl. 46. 12-7-26.
419,238. DANMASTER. Cl. 42. 2-5-46.
419,977. PERSOMNIA. Cl. 18. 3-19-46.
420,302. DANSPORT. Cl. 42. 4-2-46.
420,303. DANTWILL. Cl. 42. 4-2-46.
421,003. PRO-LASS. Cl. 46. 5-14-46.
421,924. JANTZEN. Cl. 39. 6-18-46.
422,062. XL. Cl. 46. 7-2-46.
422,141. GOLD STANDARD. Cl. 21. 7-9-46.
422,459. OXWELD. Cl. 34. 7-23-46.
422,563. LEGULO. Cl. 18. 7-30-46.
422,776. MIDI. Cl. 39. 8-13-46.
423,016. THALIZINE. Cl. 18. 8-20-46.
423,247. LUSTRA. Cl. 1. 8-27-46.
423,565. INTERNATIONAL WEEK. Cl. 38. 9-3-46.
424,160. OXWELD. Cl. 6. 9-24-46.
424,225. WONDERLIP. Cl. 51. 9-24-46.
424,480. Q AND DESIGN. Cl. 23. 10-8-46.
424,918. VITAMATIC. Cl. 23. 10-29-46.
425,020. PURITY. Cl. 46. 10-29-46.
425,262. MAC'S IT DON'T WAX IT. Cl. 16. 11-12-46.
425,553. TOWN AND COUNTRY AND DESIGN. Cl. 3. 11-26-46.
425,638. VALLEY BELT. Cl. 46. 11-26-46.
425,694. AQUASET. Cl. 11. 12-3-46.
425,768. OX-O-DECK AND DESIGN. Cl. 16. 12-3-46.
425,769. OX-O-TRIM AND DESIGN. Cl. 16. 12-3-46.
425,788. TRUPAK. Cl. 46. 12-3-46.
426,127. VAPO. Cl. 26. 12-17-46.
426,241. PERMISET. Cl. 6. 12-24-46.
426,246. BANALG. Cl. 18. 12-24-46.
426,323. TABU. Cl. 51. 12-24-46.
426,818. INDRA. Cl. 52. 1-14-47.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

699,175. CBM. Cl. A. 6-7-60.
706,387. ORLON SAYELLE. Cl. 43. 10-25-60.
802,342. SANTOPZ. Cl. 44. 1-18-66.

Section 8

The following registrations issued July 12, 1960

700,717. B. J. BURNLEY ALWAYS GROWING AND DESIGN. Cl. 1.
700,718. ROLAWN. Cl. 1.
700,724. MIMX. Cl. 1.
700,726. GARRISON. Cl. 1.
700,728. GANDER. Cl. 1.
700,730. ATASKIT. Cl. 1.
700,731. BAMBINO. Cl. 1.
700,733. POLLY DOWN AND DESIGN. Cl. 1.
700,737. JACKSEAL AND DESIGN. Cl. 1.
700,740. ELEPOX. Cl. 1.
700,741. PRESTOVIN. Cl. 1.
700,748. THERMOS. Cl. 6.
700,755. AHIG. Cl. 6.
700,758. TENN-BRITE. Cl. 6.
700,760. CYZATE. Cl. 6.
700,763. SURETY. Cl. 6.
700,768. JAGUAR. Cl. 7.
700,770. AGRISTIM. Cl. 10.
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701,125. MUSICAL TRADEMARK AND DESIGN. Cl. 101.
701,126. HOLDEN RED STAMPS ETC. AND DESIGN. Cl. 101.
701,132. B & O LINKING 13 GREAT STATES WITH THE NATION AND DESIGN. Cl. 105.
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701,138. MIN-R-ALL. Cl. 10.
701,144. HI-HOSE. Cl. 39.
701,145. MAQUILLAGE ELECTRIQUE. Cl. 44.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

56,849. HIAWATHA BRAND. Cl. 46. 10-23-06. The M. A. Gedney Pickling Co. M. A. Gedney Company, Shaska, Minn. Amended to appear:

HIAWATHA BRAND

57,000. GEDNEY. Cl. 46. 10-30-06. The M. A. Gedney Pickling Co. M. A. Gedney Company, Chaska, Minn. Amended to appear:

GEDNEY

206,947. LAB-ARC. Cl. 21. 12-15-25. Cooper Hewitt Electric Company. General Electric Company, New York, N.Y. Amended: In the statement, column 1, line 10 through column 2, line 1, the description of goods is deleted and *electric lamps* is inserted, and the drawing is amended to appear:

LAB-ARC

261,800. GS GIRL SCOUTS AND DESIGN. Cl. 21. 9-24-29. Girl Scouts. Girl Scouts of the United States of America, New York, N.Y. Amended to appear:

GIRL GS SCOUTS

333,585. MAENSON. Cl. 39. 3-24-36. Joseph May & Sons (Leeds) Limited. Maenson Clothes Limited, Leeds, England. Amended: In the certificate, lines 3 and 17, in the heading, signature and in the statement, column 1, line 1, after "Limited", *now by change of name Maenson Clothes Limited* is inserted.

421,496. FORMICA. Cl. 12. 6-4-46. The Formica Insulation Company. Formica Corporation, Cincinnati, Ohio. Amended to appear:

FORMICA

423,264. ORTHO. Cl. 6. 8-27-46. California Spray-Chemical Corporation. Chevron Chemical Company, San Francisco, Calif. Amended: In the statement, column 2, lines 1 and 2, "No claim is made to the words 'Scientific Pest Control' apart from the mark as shown." is deleted, and the drawing is amended to appear:

ORTHO

526,232. MAERAIN. Cl. 39. 6–13–50. Joseph May & Sons (Leeds) Limited. Maenson Clothes Limited, Leeds, England. Amended: In the certificate, lines 5 and 15, in the heading, signature and in the statement, column 1, line 1, after "Limited" , *now by change of name Maenson Clothes Limited* is inserted.

692,521. JESTERS AND DESIGN. Cl. 46. 2–2–60. Rockwood Chocolate Co., Inc., Brooklyn, N.Y. Corrected: In the statement, column 1, line 1, "New York" should be deleted and *Delaware* should be inserted.

704,499. POZIDRIV. Cl. 13. 9–20–60. Noma Lites, Inc., assignee of American Screw Company. Phillips Screw Company, Natick, Mass. Amended to appear:

POZIDRIV

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Abbott Tresses, Inc., d.b.a. Abbott Tresses, Pittsburgh, Pa. 814,093, pub. 6–14–66. Cl. 40.
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Acme Poultry and Egg Co., d.b.a. Acme Poultry Co., Seattle, Wash. 814,134, pub. 6–14–66. Cl. 46.
Acme Poultry and Egg Co., d.b.a. Acme Poultry Co., Seattle, Wash. 814,135, pub. 6–14–66. Cl. 46.
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Admiral Shoe Corp., d.b.a. Mutual Shoe Sales Co., Manchester, N.H. 814,083, pub. 6–14–66. Cl. 39.
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Associated Dry Goods Corp., New York, N.Y. 814,084, pub. 5–10–66. Cl. 39.
Atchison Electromatic, Inc., Atchison, Kans. 813,959, pub. 6–14–66. Cl. 26.
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Babcock & Wilcox Co., The, New York, N.Y. 813,989, pub. 6–14–66. Cl. 34.
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Block Drug Co., Inc., Jersey City, N.J. 814,162, pub. 6–14–66. Cl. 51.

Blossom County Foods, Inc., Buchanan, Mich. 701,070, canc. Cl. 46.
Blue Bell, Inc., Greensboro, N.C. 814,077, pub. 6–14–66. Cl. 39.
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Boulanger, Joseph M., d.b.a. Roll-O-Ball of America, South Weymouth, Mass. 813,901, pub. 6–14–66. Cl. 22.
Boulevard Electronics, Inc., Chicago, Ill. 814,111, pub. 6–14–66. Cl. 44.
Bowers Printing Ink Co., Chicago, Ill. 425,694, ren. 8–30–66. Cl. 11.
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Bristol Wire Co., South Bend, Ind. 813,870, pub. 6–14–66. Cl. 21.
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Burler Mfg. Co., Kansas City, Mo. 813,802, pub. 6–14–66. Cl. 12.
Burnley, B. J., Inc., from B. J. Burnley, Elkins Park, Pa. 700,717, canc. Cl. 1.
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Camper, Clay, Co., Clay, W. Va. 813,849, pub. 6–14–66. Cl. 19.
Candles of Florida, Inc., Hialeah, Fla. 813,833, pub. 6–14–66. Cl. 15.
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Carpenter, L. E., & Co., Wharton, N.J. 814,154, pub. 6–14–66. Cl. 50.
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Continental Oil Co., Ponca City, Okla. 813,876, pub. 6–14–66. Cl. 21.
Continental Oil Co., Ponca City, Okla. 813,877, pub. 6–14–66. Cl. 21.
Cook Machinery Co., Inc., Dallas, Tex. 813,911, pub. 6–14–66. Cl. 23.
Coopchik-Forrect, Inc., New York, N.Y. 814,053, pub. 3–29–66. Cl. 39.
Cooper Hewitt Electric Co. General Electric Co., New York, N.Y. 206,947. Am. 7(d). Cl. 21.
Crescent Metal Products, Inc., Cleveland, Ohio. 813,971, pub. 6–14–66. Cl. 31.
Crete, Charles A., d.b.a. Pharmaceutical Associates, San Francisco, Calif. 813,841, pub. 6–14–66. Cl. 18.
Crestwood Enterprises, Salt Lake City, Utah, from J & M Enterprises, Inc., Milwaukie, Oreg. 813,852, pub. 5–24–66. Cl. 21.
Crompton & Knowles Corp., Worcester, Mass. 813,735, pub. 6–14–66. Multiple Class (Classes 2, 12, and 13).
Crystal, David, Inc., New York, N.Y. 814,089, pub. 6–14–66. Cl. 39.
Current, Inc., Colorado Springs, Colo. 814,933, pub. 6–14–66. Cl. 37.
Curtis 1000 Inc., St. Paul, Minn. 814,030, pub. 6–14–66. Cl. 37.
Custom Controls, Inc., Odessa, Tex. 700,937, canc. Cl. 26.
Cutler-Hammer, Inc.: *See*—
Roessler & Hasslacher Chemical Co., The.
Cutting Pike Investment Corp., d.b.a. Hammond Equipment Co. and The Hecalite, Hammond, La. 813,780, pub. 6–14–66. Cl. 10.
Daman, Dorothea A., d.b.a. Daman Industries, East Brady, Pa. 813,988, pub. 6–14–66. Cl. 34.
Daman Industries: *See*—
Daman, Dorothea A.
Dan River Mills, Inc.: *See*—
Riverside & Dan River Cotton Mills, Inc.
Dante Productions, Inc., from B. N. Kirkendall, Rochester, N.Y. 813,892, pub. 6–14–66. Cl. 22.
Daryl Dress Co., St. Louis, Mo. 701,005, canc. Cl. 39.
Deft, Inc., Torrance, Calif. 813,836, pub. 3–22–66. Cl. 16.
Dehner, Chas. V., Co., Inc., North Kansas City, Mo. 700,733, canc. Cl. 1.
Delamere Co., Inc., New York, N.Y. 813,962, pub. 6–14–66. Multiple Class (Classes 28, 29, and 40).
Derse Products Inc., Pasadena, Calif. 701,111, canc. Cl. 51.
Deville, R., S.A., Bauge, Maine-et-Loire, France. 813,907, pub. 6–14–66. Cl. 23.
Deville, R., S.A., Bauge, Maine-et-Loire, France. 813,908, pub. 6–14–66. Cl. 23.
Direction, Inc., Minneapolis, Minn. 814,200, pub. 6–14–66. Cl. 107.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 814,038, pub. 6–14–66. Cl. 37.
Dixon, Joseph, Crucible Co., The: *See*—
American Crayon Co., The.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 814,037, pub. 6–14–66. Cl. 37.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 814,040, pub. 6–14–66. Cl. 37.
Dixson, Inc., Grand Junction, Colo. 813,958, pub. 6–14–66. Cl. 26.
Dollar, Robert, Co., The, San Francisco, Calif. 700,871, canc. Cl. 21.
Dollar, Robert, Co., The, San Francisco, Calif. 700,872, canc. Cl. 12.
Domestic Engineering Co., Chicago, Ill. 700,990, canc. Cl. 38.
Doppelt, Charles, & Co., Inc., Chicago, Ill. 813,738, pub. 6–14–66. Cl. 3.

Dorsey Co., The, Los Angeles, Calif. 814,079, pub. 6–14–66. Cl. 39.
Doughboy Industries, Inc., New Richmond, Wis. 813,798, pub. 6–14–66. Multiple Class (Classes 12 and 22).
Doughboy Industries, Inc., New Richmond, Wis. 813,810, pub. 6–14–66. Multiple Class (Classes 12 and 22).
Douglas Fir Plywood Association, Tacoma, Wash. 700,781, canc. Cl. 12.
Douglas Motors Corp., Milwaukee, Wis. 813,932, pub. 6–14–66. Cl. 23.
Drive-In Theatre Mfg. Co., Inc., Edwardsville, Kans. 813,991, pub. 6–14–66. Cl. 34.
Duncan, Donald F., Inc., Chicago, Ill. 700,880, canc. Cl. 22.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 706,387, canc. Cl. 43
Durkee-Atwood Co., d.b.a. Permatite Mfg. Co., Minneapolis, Minn. 813,787, pub. 6–14–66. Cl. 12.
Durkee-Atwood Co., d.b.a. Permatite Mfg. Co., Minneapolis, Minn. 813,788, pub. 6–14–66. Cl. 12.
Eastern Cyclone Industries, Inc., Clifton, N.J. 813,980, pub. 6–14–66. Cl. 31.
Educational Development Corp., Palo Alto, Calif. 814,048, pub. 6–14–66. Cl. 38.
Erka-Werke Fritz Klehn G.m.b.H., Trossingen/Wurttemberg, Germany. 813,772, pub. 6–14–66. Cl. 8.
Electrical Testing Laboratories, Inc., New York, N.Y. 699,175, canc. Cl. A.
Electro Coil Corp., Erie, Pa. 700,740, canc. Cl. 1.
Electro-Tec Corp., Ormond Beach, Fla. 813,857, pub. 6–14–66. Cl. 21.
Engelhard Hanovia Lamps: *See*—
Engelhard Hanovia of Canada Ltd.
Engelhard Hanovia of Canada Ltd., d.b.a. Engelhard Hanovia Lamps, Toronto, Ontario, Canada. 813,940, pub. 6–14–66. Cl. 24.
Enro Shirt Co., Inc., The, Louisville, Ky. 701,025, canc. Cl. 39.
Eurocosmesi S.p.A., Milan, Italy. 814,139, pub. 6–14–66. Cl. 51.
FMC Corp., San Jose, Calif. 814,001, pub. 6–14–66. Cl. 34.
Fairfield Publishing Co., Chicago, Ill. 700,996, canc. Cl. 38.
Farnsworth Publishing Co., Inc., New York, N.Y. 700,992, canc. Cl. 38.
Farrah, John, & Harrogate Toffee, Ltd., Harrogate, England. 210,992, ren. 8–30–66. Cl. 46.
Federal Sign and Signal Corp., Blue Island, Ill. 814,194, pub. 6–14–66. Cl. 103.
Federated Department Stores, Inc., Brooklyn, N.Y. 814,075, pub. 6–14–66. Cl. 39.
Felt Products Mfg. Co., Skokie, Ill. 813,828, pub. 6–14–66. Cl. 15.
Fields, Tom, Ltd., Northvale, N.J. 814,164, pub. 6–14–66. Cl. 51.
Fillmore Citrus Fruit Association, Fillmore, Calif., to Saticoy Lemon Association, Saticoy, Calif. 218,072, ren. 8–30–66. Cl. 46.
Fisher-Pierce Co., Inc., The, Rockland, Mass. 813,844, pub. 6–14–66. Cl. 19.
Fishman, Louis, & Co., Inc., d.b.a. Bearcat Tire Co., Chicago, Ill. 814,017, pub. 6–14–66. Cl. 35.
Fisons Pharmaceuticals Ltd.: *See*—
Bauer & Co.
Flanders Filters, Inc., Riverhead, N.Y. 813,976, pub. 6–14–66. Cl. 31.
Fleming and Fite: *See*—
Mimx Corp.
Fletcher, H. E., Co., West Chelmsford, Mass. 814,003, pub. 6–14–66. Cl. 34.
Flexoplate, Inc., Chicago, Ill. 814,153, pub. 6–14–66. Cl. 50.
Fluid Dynamics, Inc., New York, N.Y. 813,821, pub. 6–14–66. Cl. 13.
Foremost Dairies, Inc., San Francisco, Calif. 814,139, pub. 6–14–66. Cl. 46.
Foretell, Inc., Houston, Tex. 813,769, pub. 6–14–66. Multiple Class (Classes 6, 16, 18, and 52).
Formica Corp.: *See*—
Formica Insulation Co., The.
Formica Insulation Co., The. Formica Corp., Cincinnati, Ohio. 421,496. Am. 7(d). Cl. 12.
Fort Wayne Truck Parts & Equipment, Inc., Fort Wayne, Ind. 813,919, pub. 3–15–66. Cl. 23.
Fougera, E., & Co., Inc., Hicksville, N.Y. 700,856, canc. Cl. 18.
Four Star Candy Co., Inc., Newark, N.J. 814,121, pub. 6–14–66. Cl. 46.
Frank, J. P., Chemical Corp., Brooklyn, N.Y. 700,741, canc. Cl. 1.
Franklin Gno Corp., West Palm Beach, Fla. 813,950, pub. 6–14–66. Cl. 26.
Frederick Post Co., The, Des Plaines, Ill. 426,127, ren. 8–30–66. Cl. 26.
Fredricks Industries, Los Angeles, Calif. 813,793, pub. 6–14–66. Cl. 12.
Freeport Sulphur Co.: *See*—
Moore & Munger.
Frick Co., Waynesboro, Pa. 814,002, pub. 6–14–66. Cl. 34.
Fuller Brush Co., The, East Hartford, Conn. 814,163, pub. 6–14–66. Cl. 51.
Fun Things, Inc., Culver City, Calif. 813,902, pub. 6–14–66. Cl. 22.
Galvanized Ware Manufacturers Council, Cleveland, Ohio. 701,135, canc. Cl. A.
Gedney, M. A., Pickling Co., The. M. A. Gedney Co., Chaska, Minn. 56,849. Am. 7(d). Cl. 46.
Gedney, M. A., Pickling Co., The. M. A. Gedney Co., Chaska, Minn. 57,000. Am. 7(d). Cl. 46.
Gedney, M. A., Co.: *See*—
Gedney, M. A., Pickling Co., The.
Geigy Chemical Corp., Ardsley, N.Y. 700,849, canc. Cl. 18.
Geigy Chemical Corp., Ardsley, N.Y. 700,848, canc. Cl. 18.
General Electric Co.: *See*—
Cooper Hewitt Electric Co.
General Electric Co., Schenectady, N.Y. 813,724, pub. 6–14–66. Cl. 1.
General Foods Corp., White Plains, N.Y. 814,117, pub. 6–14–66. Cl. 46.
General Mills, Inc., Minneapolis, Minn. 814,113, pub. 6–14–66. Cl. 46.
General Mills, Inc., Minneapolis, Minn. 814,114, pub. 6–14–66. Cl. 46.
General Motors Corp., Detroit, Mich. 216,070, ren. 8–30–66. Cl. 19.
General Motors Corp., Detroit, Mich. 813,974, pub. 6–14–66. Cl. 31.
General Sportcraft Co., Ltd., Bergenfield, N.J. 700,886, canc. Cl. 22.
General Time Corp., New York, N.Y. 700,942, canc. Cl. 27.
General Time Corp., New York, N.Y. 700,943, canc. Cl. 27.
General Time Corp., New York, N.Y. 700,946, canc. Cl. 27.
General Time Corp., New York, N.Y. 700,947, canc. Cl. 27.
General Time Corp., New York, N.Y. 700,948, canc. Cl. 27.
General Time Corp., New York, N.Y. 700,950, canc. Cl. 27.
General Time Corp., New York, N.Y. 700,955, canc. Cl. 27.
General Time Corp., New York, N.Y. 700,957, canc. Cl. 27.
General Tire & Rubber Co., The, Akron, Ohio. 813,898, pub. 6–14–66. Cl. 22.
Georgia Cushion & Wrapper Co., Woodland, Ga. 701,103, canc. Cl. 50.
Ghost Tonic Corp., Lake Charles, La. 814,160, pub. 6–14–66. Cl. 51.
Giddings & Lewis Machine Tool Co., Fond Du Lac, Wis. 813,939, pub. 6–14–66. Cl. 23.
Gilbert Orcel, Paris, France. 814,085, pub. 6–14–66. Cl. 39.
Gille Associates, Inc., Detroit, Mich. 700,991, canc. Cl. 38.
Girl Scouts, Girl Scouts of the United States of America, New York, N.Y. 261,800. Am. 8–30–66. Cl. 21.
Girl Scouts of the United States of America: *See*—
Girl Scouts.
Golden State Distributors, Inc., Santa Monica, Calif. 813,887, pub. 6–14–66. Cl. 22.
Goldin, Arthur, Inc., Rego Park, N.Y. 814,080, pub. 6–14–66. Cl. 39.
Goldin, Arthur, Inc., Rego Park, N.Y. 814,081, pub. 6–14–66. Cl. 39.
Graebner, John V., Menomonee Falls, Wis. 813,893, pub. 6–14–66. Cl. 22.
Gray Co., Inc., Minneapolis, Minn. 814,176, pub. 6–14–66. Multiple Class (Classes 100 and 103).
Great Western Development Co., Seattle, Wash. 813,906, pub. 6–14–66. Cl. 23.
Greberman, A. J., & Son, Inc., Philadelphia, Pa. 814,096, pub. 3–16–66. Cl. 42.
Grinnell Corp., Providence, R.I. 813,824, pub. 6–14–66. Cl. 13.
Haas Bros., to Frank L. Walker Co., Inc., d.b.a. Trupak Finer Foods Co., San Francisco, Calif. 425,788, ren. 8–30–66. Cl. 46.
Halferty, Peter F., Aberdeen, Wash., to Alaska Packers Association, San Francisco, Calif. 58,829, ren. 8–30–66. Cl. 46.
Hammel, Riglander & Co., to Hammel, Riglander & Co. Inc., New York, N.Y. 220,416, ren. 8–30–66. Cl. 33.
Hammel, Riglander & Co., Inc.: *See*—
Hammel, Riglander & Co.
Hammond Equipment Co.: *See*—
Cutting Pike Investent Corp.
Hansella-Werke Albert Henkel A.G., Viersen, Rhineland, Germany. 700,917, canc. Cl. 23.
Harden Farms, Inc., Salinas, Calif. 814,143, pub. 6–14–66. Cl. 46.
Hardtmuth, L. & C., Inc., Bloomsbury, N.J. 814,022, pub. 6–14–66. Cl. 37.
Hardwick Stove Co., Cleveland, Tenn. 813,812, pub. 6–14–66. Multiple Class (Classes 13, 21, and 34).
Hardy, L., Co., to L. Hardy Co., Worcester, Mass. 56,070, ren. 8–30–66. Cl. 23.
Harvest Queen Mill & Elevator Co., Dallas, Tex. 814,122, pub. 6–14–66. Cl. 46.
Hauser & Reisfeld, Inc., New York, N.Y. 701,039, canc. Cl. 39.
Head Hunter Beauty Salon, Inc., The, d.b.a. Head Hunter Coiffures, Miami Beach, Fla. 814,157, pub. 6–14–66. Cl. 51.
Head Hunter Coiffures: *See*—
Head Hunter Beauty Salon, Inc., The.
Headstart Co.: *See*—
Touster, Irwin.
Hearst Corp., The: *See*—
Albany Evening Union Co.
Hecalite, The: *See*—
Cutting Pike Investment Corp.
Helmlich Bros., Inc., New York, N.Y. 813,921, pub. 6–14–66. Cl. 23.
Helmlich Bros., Inc., New York, N.Y. 813,922, pub. 6–14–66. Cl. 23.
Helmlich Bros., Inc., New York, N.Y. 813,923, pub. 6–14–66. Cl. 23.
Helmlich Bros., Inc., New York, N.Y. 813,924, pub. 6–14–66. Cl. 23.
Hendon Construction Co., Little Ferry, N.J. 813,809, pub. 6–14–66. Cl. 12.
Hendrick, Robert P., Lawton, Okla. 813,803, pub. 6–14–66. Cl. 12.
Hermanos, Benegas, y Cia. Ltda., S.A.I. y C., Buenos Aires, Argentina. 814,148, pub. 6–14–66. Cl. 47.

Herrling, Robert F., d.b.a. Iroquois Mfg. Co., Lake Forest, Ill. 813,863, pub. 6–14–66. Cl. 21.
Hershey Chocolate Corp.: *See*— Hershey, Milton S.
Hershey, Milton S., Derry Church, to Hershey Chocolate Corp., Hershey, Pa. 54,041 ren. 8–30–66. Cl. 46.
Hick Mfg. Co., Detroit, Mich. 813,813, pub. 6–14–66. Cl. 13.
Hickey-Freeman Co.: *See*— Hickey-Freeman Co., Inc.
Hickey-Freeman Co., Inc., from Hickey-Freeman Co., Rochester, N.Y. 814,054, pub. 6–14–66. Cl. 39.
Hickory House Motel Enterprises, Inc. d.b.a. Hickory House Motor Inns, Poplar Bluff, Mo. 814,179, pub. 6–14–66. Cl. 100.
Hickory House Motor Inns: *See*— Hickory House Motel Enterprises, Inc.
Hitachi Ltd., Chiyoda-ku, Tokyo, Japan. 813,868, pub. 6–14–66. Cl. 21.
Hodges Research & Development Co., New York, N.Y. 814,094, pub. 6–14–66. Cl. 42.
Hodges Research & Development Co., New York, N.Y. 814,101, pub. 6–14–66. Cl. 42.
Hoffmann-La Roche Inc., Nutley, N.J. 813,843, pub. 6–14–66. Cl. 18.
Holt, Lowell, Securities Co., Chicago, Ill. 814,050, pub. 6–14–66. Cl. 38.
Holden Trading Stamp Co., Detroit, Mich. 701,126, canc. Cl. 101.
Homasote Co., Trenton, N.J. 813,800, pub. 6–14–66. Cl. 12.
Hood Chemical Co., Inc., New York, N.Y., to Texize Chemicals, Inc., Greenville, S.C. 426,818, ren. 8–30–66. Cl. 52.
Hotwatt, Inc., Danvers, Mass. 813,869, pub. 6–14–66. Cl. 21.
Hub Cleaners of Baltimore, Inc., d.b.a. Leatherite Cleaners and Dyers, Baltimore, Md. 814,195, pub. 6–14–66. Cl. 103.
Hudnut, Richard, Morris Plains, N.J. 701,113, canc Cl. 51.
Hudnut, Richard, Morris Plains, N.J. 814,158, pub. 6–14–66. Cl. 51.
Hudson, H. D., Mfg. Co., Chicago, Ill. 813,883, pub. 6–14–66. Cl. 22.
Hydro-Thoma Ltd., Charlton Kings, Cheltenham, England. 813,937, pub. 6–14–66. Cl. 23.
Hy-Way Heat Systems, Inc., Youngstown, Ohio. 814,004, pub. 6–14–66. Cl. 34.
Ideal Toy Corp., Hollis, N.Y. 813,886, pub. 6–14–66. Cl. 22.
Imperial Chemical Industries Ltd., Millbank, London, England. 813,754, pub. 6–14–66. Cl. 6.
Imperial Outfitters to Large Men, Inc., New York, N.Y. 814,061, pub. 6–14–66. Cl. 39.
Independent Scrap Iron & Metal Corp., Brooklyn, N.Y. 813,825, pub. 6–14–66. Cl. 14.
Industrial Products Co., Inc., Timonium, Md. 813,969, pub. 3–23–65. Cl. 31.
Industrial Products Co., Inc., Timonium, Md. 813,970, pub. 3–23–65. Cl. 31.
Inter City Fish Supply Co. Inc., d.b.a. Intercity Fish Co., Inc., New York, N.Y. 814,145, pub. 6–14–66. Cl. 46
Intercity Fish Co., Inc.: *See*— Inter City Fish Supply Co. Inc.
International Minerals & Chemical Corp., Skokie, Ill. 813,779, pub. 6–14–66. Cl. 10.
International Order of the Golden Rule Inc., Springfield, Ill. 814,187, pub. 6–14–66. Cl. 101.
International Pipe and Ceramics Corp., Los Angeles, Calif. 813,804, pub. 6–14–66. Cl. 12.
International Pipe and Ceramics Corp., Los Angeles, Calif. 813,805, pub. 6–14–66. Cl. 12.
International Road Seal, Inc., Omaha, Nebr. 813,913, pub. 6–14–66. Cl. 23.
Iroquois Mfg. Co.: *See*— Herrling, Robert F.
Irresistible, Inc., to The Nestle-Le Mur Co., New York, N.Y. 424,225, ren. 8–30–66. Cl. 51.
Irwin, Neisler & Co., Decatur, Ill. 700,857, canc. Cl. 18.
Irwin, Neisler & Co., Decatur, Ill. 700,858, canc. Cl. 18.
Irwin, Neisler & Co., Decatur, Ill. 700,859, canc. Cl. 18.
Isaly Dairy Co., The, Youngstown, Ohio. 814,123, pub. 6–14–66. Cl. 46.
Isenberg, Kurt, d.b.a. Kay's, Washington, D.C. 814,112, pub. 6–14–66. Cl. 46.
J & M Enterprises, Inc.: *See*— Crestwood Enterprises.
Jantzen Inc.: *See*— Jantzen Knitting Mills.
Jantzen Knitting Mills, to Jantzen Inc., Portland, Oreg. 421,924, ren. 8–30–66. Cl. 39.
Jennings, Earle, and Associates Inc., Seattle, Wash. 813,910, pub. 6–14–66. Cl. 23.
John, B. P., Furniture Corp., Portland, Oreg. 700,969, canc. Cl. 32.
Johnson & Johnson, New Brunswick, N.J. 813,782, pub. 6–14–66. Multiple Class (Classes 11 and 37).
Jomeno Mfg. Co., Santa Monica, Calif. 814,028, pub. 6–14–66. Cl. 37.
Jones, E. D., Corp., Pittsfield, Mass. 700,909, canc. Cl. 23.
Kamehameha Garment Co., Ltd., Honolulu, Hawaii. 814,065, pub. 6–14–66. Cl. 39.
Kanner, Joseph, Hat Co., Inc., South Norwalk, Conn. 701,009, canc. Cl. 39.
Kay's: *See*— Isenberg, Kurt.
Keen-Eye Co., Inc., Butler, Wis. 700,897, canc. Cl. 22.
Kendall Refining Co., Bradford, Pa. 813,834, pub. 6–14–66. Cl. 15.
Kerr Chemicals, Inc., Des Plaines, Ill. 701,138, canc. Cl. 10.
Kimberly-Clark Corp., Neenah, Wis. 814,031, pub. 6–14–66. Cl. 37.
Kimberly-Clark Corp., Neenah, Wis. 814,034, pub. 6–14–66. Cl. 37.
Kingseal Co., Inc., San Antonio, Tex. 700,737, canc. Cl. 1.
Kirkendall, Barrett N.: *See*— Dante Production, Inc.
Kleer-Site Corp., Newark, N.J. 814,172, pub. 6–14–66. Cl. 52.
Kleinert, I. B., Rubber Co., New York, N.Y. 814,212. Cl. 39.
Kline Brothers Co., New York, N.Y. 814,074, pub. 6–14–66. Cl. 39.
Klopman Mills, Inc., Rockleigh, N.J. 814,097, pub. 10–26–65. Cl. 42.
Kollar Kap Corp., Champaign, Ill. 813,796, pub. 6–14–66. Cl. 12.
Kuhnke, H., Elektrotechnische Fabrik, Kiel, Germany. 813,856, pub. 6–14–66. Multiple Class (Classes 21 and 23).
Kuhlman Studios: *See*— Kuhlman, William A.
Kuhlman, William A., d.b.a. Kuhlman Studios, Toledo, Ohio. 814,045, pub. 6–14–66. Cl. 38.
Kureha Spinning Co. Ltd., Higashi-ku, Osaka, Japan. 814,099, pub. 6–14–66. Cl. 42.
Labatt, John, Ltd., London, Ontario, Canada. 813,760, pub. 6–14–66. Cl. 6.
Lane Ltd., New York, N.Y. 814,203. Cl. 17.
Lanificio di Maratea S.p.A., Maratea, Potenza, Italy. 701,044, canc. Cl. 42.
Lanificio di Maratea S.p.A., Maratea, Potenza, Italy. 701,045, canc. Cl. 42.
Lanificio di Maratea S.p.A., Maratea, Potenza, Italy. 701,054, canc. Cl. 43.
Lanificio di Maratea S.p.A., Maratea, Potenza, Italy. 701,055, canc. Cl. 43.
Lanston Monotype Machine Co., Philadelphia, Pa., to United States Banknote Corp., New York, N.Y. 56,963, ren. 8–30–66. Cl. 23.
Laverne International Ltd., New York, N.Y. 813,851, pub. 1–18–66. Multiple Class (Classes 20, 32, and 42).
Leatherite Cleaners and Dyers: *See*— Hub Cleaners of Baltimore, Inc.
Lea-Wayne Knitting Mills, Inc., Morristown, Tenn. 701,144, canc. Cl. 39.
Lehman Bros. Corp., Jersey City, N.J. 425,768, ren. 8–30–66. Cl. 16.
Lehman Bros. Corp., Jersey City, N.J. 425,769, ren. 8–30–66. Cl. 16.
Les Parfums De Dana, Inc.: *See*— Consolidated Cosmetics.
Lever Brothers Co., New York, N.Y. 814,144, pub. 6–14–66. Cl. 46.
Levine, Rubin, & Co., Inc., New York, N.Y. 814,095, pub. 12–7–65. Cl. 42.
Lewel Mfg. Co., Inc., New York, N.Y. 814,078, pub. 10–26–65. Cl. 39.
Liberatore, Vincent E., West Seneca, N.Y. 813,807, pub. 6–14–66. Cl. 12.
Liquid Veneer Corp.: *See*— Buffalo Specialty Co.
Lodi Fab Industries: *See*— Baybars, Fred L.
Logan Mfg. Co., The, Glendale, Calif. 813,822, pub. 6–14–66. Cl. 13.
Lorain Products Corp., Lorain, Ohio. 813,859, pub. 6–14–66. Cl. 21.
Los Angeles Nut House, d.b.a. California Peanut Co., Los Angeles, Calif. 814,146, pub. 6–14–66. Cl. 46.
Lovable Co., The, Atlanta, Ga. 814,072, pub. 6–14–66. Cl. 39.
Lowe, Joe, Co.: *See*— Popsicle Corp. of The United States, The. Lowe, Joe, Corp.
Lowe, Joe, Corp., New York, N.Y., to Consolidated Foods Corp., d.b.a. Joe Lowe Co., Englewood, N.J. 424,916, ren. 8–30–66. Cl. 23.
Lowell Wrench Co.: *See*— Trimont Mfg. Co. Inc.
Lub-O-Seal Co., Inc., Houston, Tex. 813,831, pub. 6–14–66. Cl. 15.
Lucas, George A., & Sons, Delano, Calif. 814,118, pub. 6–14–66. Cl. 46.
Lufkin Rule Co., The, Saginaw, Mich. 700,941, canc. Cl. 26.
Lunsford, Joseph C., Portland, Oreg. 422,062, ren. 8–30–66. Cl. 46.
Lusterock International, Inc., Houston, Tex. 813,783, pub. 3–8–66. Cl. 12.
Mac's Super Gloss Co., to Mac's Super Gloss Co., Inc., Los Angeles, Calif. 425,262, ren. 8–30–66. Cl. 16.
Mac's Super Gloss Co., Inc.: *See*— Mac's Super Gloss Co.
Maenson Clothes Ltd.: *See*— May, Joseph, & Sons (Leeds) Ltd.
Maine Ventures, Inc., d.b.a. Veribest Systems Co., Auburn, Maine. 814,029, pub. 6–14–66. Cl. 37.
Maison de Wyndham, Atlanta, Ga. 701,114, canc. Cl. 51.
Maison de Wyndham, Atlanta, Ga. 701,115, canc. Cl. 51.
Malco Products Inc., Akron, Ohio. 813,740, pub. 6–14–66. Cl. 4.
Malco Products Inc., Akron, Ohio. 813,749, pub. 6–14–66. Cl. 6.
Malco Products Inc., Akron, Ohio. 813,827, pub. 6–14–66. Cl. 15.
Malco Products, Inc., Akron, Ohio. 814,165, pub. 6–14–66. Cl. 52.
Manhattan Coffee Co., from Star Coffee, Co., St. Louis, Mo. 814,128, pub. 6–14–66. Cl. 46.
Marketing Agents, Inc., San Francisco, Calif. 813,756, pub. 6–14–66. Cl. 6.
Marlenn Products Co., Inc., Baltimore, Md. 813,774, pub. 6–14–66. Cl. 9.

Martin, J. D., to Martin Ranch, Fresno, Calif. 221,599, ren. 8–30–66. Cl. 46.
Martin Ranch: *See*— Martin, J. D.
Marvel Engineering Co., Chicago, Ill. 813,979, pub. 6–14–66. Cl. 31.
Master Molders, Inc., Clarksville, Tex. 813,850, pub. 6–14–66. Cl. 19.
Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka, Japan. 814,109, pub. 4–20–65. Cl. 44.
Mattel, Inc., Hawthorne, Calif. 813,733, pub. 6–14–66. Cl. 2.
Mattel, Inc., Hawthorne, Calif. 813,945, pub. 6–14–66. Cl. 26.
Mattel, Inc., Hawthorne, Calif. 814,020, pub. 6–14–66. Cl. 36.
Mattel, Inc., Hawthorne, Calif. 814,067, pub. 6–14–66. Cl. 39.
Mattel, Inc., Hawthorne, Calif. 814,091, pub. 6–14–66. Cl. 40.
Maxwell Co., Chicago, Ill. 814,210. Cl. 37.
May, Joseph, & Sons (Leeds) Ltd. Maenson Clothes Ltd., Leeds, England. 333,585. Am. 7(d). Cl. 39.
May, Joseph, & Sons (Leeds) Ltd. Maenson Clothes Ltd., Leeds, England. 526,232. Am. 7(d). Cl. 39.
McCrory Corp., New York, N.Y. 813,864, pub. 6–14–66. Cl. 21.
McGraw-Edison Co., Elgin, Ill. 813,855, pub. 6–14–66. Cl. 21.
McKee, D. R., & Sons, Dallas, Tex. 813,790, pub. 6–14–66. Cl. 12.
McNeil Corp., Akron, Ohio. 813,936, pub. 6–14–66. Cl. 23.
McPherson, Eugene L., d.b.a. McPherson Thermographers, Sunman, Ind. 814,051, pub. 6–14–66. Cl. 38.
McPherson Thermographers: *See*— McPherson, Eugene L.
Meal Caddy, Inc., Secaucus, N.J. 813,734, pub. 6–14–66. Cl. 2.
Mega, Inc., Milford, Conn. 813,914, pub. 6–14–66. Cl. 23.
Mennen Co., The, Morristown, N.J. 814,168, pub. 6–14–66. Cl. 52.
Merck & Co., Inc.: *See*— Sharp & Dohme, Inc.
Meyer, Wm. W., & Sons, Inc., Skokie, Ill. 813,975, pub. 6–14–66. Cl. 31.
Michaud, Myrtle L., d.b.a. Towlet Products Co., Minneapolis, Minn. 701,051, canc. Cl. 42.
Micro-Lite, Inc., Norton, Kans. 813,781, pub. 6–14–66. Cl. 10.
Miles Glass Co., Inc., Silver Spring, Md. 814,191, pub. 6–14–66. Cl. 103.
Mimx Corp., from Fleming and Fite, Glendale, Calif. 700,724, canc. Cl. 1.
Minneapolis-Moline, Inc., Hopkins, Minn. 813,920, pub. 6–7–66. Cl. 23.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 813,731, pub. 6–14–66. Cl. 2.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 813,732, pub. 6–14–66. Cl. 2.
Mint, Louis, and James G. Quinn, Jr., Oakland, Calif. 701,097, canc. Cl. 48.
Mobley, Edward, Co., The: *See*— Mobley, Edward L., Jr.
Mobley, Edward L., Jr., d.b.a. The Edward Mobley Co., Wadsworth, Ohio. 813,894, pub. 6–7–66. Cl. 22.
Modern Dairy Farms, No. 1, Inc., Fort Madison, Iowa. 814,178, pub. 6–14–66. Cl. 100.
Molassine Co., Ld., The, to The Molassine Co. Ltd., London, England. 55,827, ren. 8–30–66. Cl. 46.
Molassine Co. Ltd., The: *See*— Molassine Co., Ld., The.
Molyspeed Corp., Clifton, N.J. 700,809, canc. Cl. 15.
Monarch Garment Corp., New York, N.Y. 701,037, canc. Cl. 39.
Monroe Chemical Co.: *See*— Monroe Drug Co.
Monroe Drug Co., to Monroe Chemical Co., Quincy, Ill. 211,479, ren. 8–30–66. Cl. 6.
Monroe Industries, Inc., Wichita, Kans. 813,983, pub. 6–14–66. Cl. 32.
Moore & Munger, to Freeport Sulphur Co., New York, N.Y. 423,247, ren. 8–30–66. Cl. 1.
Morten Milling Co., to Burrus Mills, Inc., Dallas, Tex. 221,548, ren. 8–30–66. Cl. 46.
Moser Paper Co., Chicago, Ill. 813,764, pub. 6–14–66. Cl. 6.
Multiple Products Inc., New York, N.Y. 813,900, pub. 6–14–66. Cl. 22.
Murine Co., Inc., The, Chicago, Ill. 814,175, pub. 6–14–66. Cl. 52.
Musical Trademarks, Inc., New York, N.Y. 701,125, canc. Cl. 101.
Mutual Shoe Sales Co.: *See*— Admiral Shoe Corp.
My Double Co., Inc., Stamford, Conn. 814,155, pub. 6–14–66. Cl. 50.
N.V. Verenigde Nederlandse Kleermakerijen Gebr. Iberlings, The Hague, Netherlands. 701,022, canc. Cl. 39.
Nachfolger, E. Leybold's, Cologne Bayental, Germany. 813,909, pub. 6–14–66. Cl. 23.
Na-Churs Plant Food Co., Marion, Ohio. 813,776, pub. 6–14–66. Cl. 10.
Nalco Chemical Co., Chicago, Ill. 813,978, pub. 6–14–66. Cl. 31.
National Blank Book Co., Holyoke, Mass. 814,036, pub. 6–14–66. Cl. 37.
National Electronic Filter Co., Inc., Pittsburgh, Pa. 813,853, pub. 6–14–66. Cl. 21.
National Hosiery Mills, Inc., Indianapolis, Ind., to U.S. Industries, Inc., New York, N.Y. 422,776, ren. 8–30–66. Cl. 39.
National Paint Distributors, Inc., Chicago, Ill. 813,966, pub. 6–14–66. Cl. 29.
National Trailways Bus System, Uninc. Assn., Washington, D.C. 814,185, pub. 6–7–66. Multiple Class (Classes 100 and 105).
National Trailways Bus System, Uninc. Assn., Washington, D.C. 814,184, pub. 5–31–66. Cl. 100.
National Trailways Bus System, Uninc. Assn., Washington, D.C. 814,198, pub. 5–31–66. Cl. 105.
Nederlandsche Fotografische Industrie N.V., Soest, Netherlands. 813,757, pub. 6–14–66. Multiple Class (Classes 6 and 26).
Nederlandsche Fotografische Industrie N.V., Soest, Netherlands. 813,758, pub. 6–14–66. Multiple Class (Classes 6 and 26).
Nee, P. J., Co., Rockville, Md. 813,987, pub. 6–14–66. Cl. 32.
Nee & McNulty, Inc., Tulsa, Okla. 814,035, pub. 6–14–66. Cl. 37.
Nestle-Le Mur Co., The: *See*— Irresistible, Inc.
Newaygo Engineering Co., Newaygo, Mich. 813,938, pub. 6–14–66. Cl. 23.
New York Toy Corp., New York, N.Y. 813,888, pub. 6–14–66. Cl. 22.
Niagara Blower Co., New York, N.Y. 813,750, pub. 6–14–66. Cl. 6.
Niagara Blower Co., New York, N.Y. 813,990, pub. 6–14–66. Cl. 34.
Nicholas International Ltd.: *See*— Associated Chemicals Ltd.
Nippon Toki Kabushiki Kaisha (Noritake Co., Ltd.), Nishi-ku, Nagoya, Japan. 813,967, pub. 6–14–66. Cl. 30.
Noma Lites, Inc., from American Screw Co., Phillips Screw Co., Natick, Mass. 704,499. Am. 7(d). Cl. 13.
Nutrient Savers Inc., Aberdeen, S. Dak. 814,208. Cl. 23.
Oakland Corp., The, Troy, Mich. 813,948, pub. 6–14–66. Cl. 26.
Oneida Ltd., Oneida, N.Y. 700,959, canc. Cl. 28.
Orcon Corp., Livermore, Calif. 813,746, pub. 6–14–66. Cl. 5.
Osborne Photographic Laboratories, Inc., Cincinnati, Ohio. 814,182, pub. 6–14–66. Cl. 100.
Ostermeier, Donald E., d.b.a. Apex Engineering Co., Naperville, Ill. 814,174, pub. 6–14–66. Cl. 52.
Otis Engineering Corp., Dallas, Tex. 813,814, pub. 6–14–66. Cl. 13.
Otis Engineering Corp., Dallas, Tex. 813,815, pub. 6–14–66. Cl. 13.
Otis Engineering Corp., Dallas, Tex. 813,927, pub. 6–14–66. Cl. 23.
Panjiris Weldment Co., The, St. Louis, Mo. 813,904, pub. 6–14–66. Multiple Class (Classes 23 and 34).
Park Avenue Imports, Inc., Chicago, Ill. 814,063, pub. 6–14–66. Cl. 39.
Parker Brothers, Inc., Salem, Mass. 813,881, pub. 6–14–66. Cl. 22.
Parrott & Co., San Francisco, Calif. 425,638, ren. 8–30–66. Cl. 46.
Pasadena Specialty Co.: *See*— Seltzer, Ira E.
Pelindo Inc., Detroit, Mich. 814,161, pub. 6–14–66. Cl. 51.
Peltz, A., & Sons, Inc., New York, N.Y. 814,131, pub. 6–14–66. Cl. 46.
Penn Card and Paper Co.: *See*— Penn Card & Paper Co. Inc.
Penn Card & Paper Co. Inc., d.b.a. Penn Card & Paper Co., Inc., Penn Card and Paper Co., Inc., and Penn Card and Paper Co., Philadelphia, Pa. 814,024, pub. 6–14–66. Cl. 37.
Pepperidge Farm Inc., Norwalk, Conn. 701,078, canc. Cl. 46.
Pepperidge Farm Inc., Norwalk, Conn. 701,079, canc. Cl. 46.
Permatite Mfg. Co.: *See*— Durkee-Atwood Co.
Perrine Battery Corp.: *See*— Perrine Quality Products Corp.
Perrine Quality Products Corp., to Perrine Battery Corp., Waltham, Mass. 422,141, ren. 8–30–66. Cl. 21.
Peyron, Antoine F., Paris, France. 701,145, canc. Cl. 44.
Pfizer, Chas., & Co., Inc., Brooklyn, N.Y. 700,770, canc. Cl. 10.
Pharmaceutical Associates: *See*— Crete, Charles A.
Phi Sigma Tau, Berea, Ohio. 814,046, pub. 6–7–66. Cl. 38.
Philadelphia Toboggan Co., Philadelphia, Pa. 218,405, ren. 8–30–66. Cl. 22.
Phillips Screw Co.: *See*— Noma Lites, Inc.
Pillsbury Co., The, Minneapolis, Minn. 814,127, pub. 6–14–66. Cl. 46.
Pinaud, Ed., Inc.: *See*— Pinaud, Inc.
Pinaud, Inc., to Ed Pinaud, Inc., New York, N.Y. 221,036, ren. 8–30–66. Cl. 52.
Plaque Craft, Inc., Baltimore, Md. 701,102, canc. Cl. 50.
Plastex Protective Products, Inc., Clifton, N.J. 701,008, canc. Cl. 39.
Playskool Mfg. Co., Chicago, Ill. 814,056, pub. 6–14–66. Cl. 39.
Plymouth Cordage Co., Plymouth, Mass. 813,778, pub. 6–14–66. Cl. 10.
Pol-Air, Inc., Morgan City, La. 700,964, canc. Cl. 31.
Policy-Matic Corp. of America, Atlanta, Ga. 700,900, canc. Cl. 23.
Polk Pools' Products, Inc., South Miami, Fla. 700,796, canc. Cl. 13.
Polsky, Nathan, Rockville Centre, N.Y. 814,049, pub. 6–14–66. Cl. 38.
Poole Silver Co., Inc., Taunton, Mass. 813,964, pub. 6–14–66. Cl. 28.
Popsicle Corp. of The United States, The, to Consolidated Foods Corp., d.b.a. Joe Lowe Co., Englewood, N.J. 219,744, ren. 8–30–66. Cl. 46.
Porce-Cote Corp., Uniondale, N.Y. 700,790, canc. Cl. 12.
Power, Paul J., Ballsbridge, Dublin, Ireland. 813,847, pub. 6–14–66. Cl. 19.

Pozzolan Products Co., Inc., Chicago, Ill. 814,181, pub. 6–14–66. Cl. 100.
Pratt & Lambert-Inc., Buffalo, N.Y. 813,838, pub. 6–14–66. Cl. 16.
Prestape, Inc., New York, N.Y. 814,039, pub. 6–14–66. Cl. 37.
Procter & Gamble Co., The, Cincinnati, Ohio. 814,166, pub. 6–14–66. Cl. 52.
Profit for You, Inc., Orange, Calif. 814,188, pub. 6–14–66. Cl. 101.
Prusha Specialties, Inc., Berea, Ohio. 813,770, pub. 6–14–66. Cl. 6.
Putman Publishing Co., Chicago, Ill. 700,993, canc. Cl. 38.
"Q" Yellow Stamp Co., Inc., Montgomery, Ala. 814,186, pub. 6–14–66. Cl. 101.
Quality Bakers of America Cooperative, Inc., New York, N.Y. 814,126, pub. 6–14–66. Cl. 46.
Queen City Cutlery Co., to Queen Cutlery Co., Titusville, Pa. 424,480, ren. 8–30–66. Cl. 23.
Queen Cutlery Co.: *See*—
Queen City Cutlery Co.
Quik-Klip Co.: *See*—
Rumpel, Donald D., and Del O. Rumpel.
Radiator Specialty Co., to Radiator Specialty Co., Charlotte, N.C. 220,740, ren. 8–30–66. Cl. 6.
Radio Shack Corp., Boston, Mass. 813,866, pub. 6–14–66. Cl. 21.
Ramsey Taufek H., d.b.a. West Coast Sales, Campbell, Calif. 814,023, pub. 6–14–66. Cl. 37.
Ramsey, Taufek H., d.b.a. West Coast Sales, Campbell, Calif. 814,027, pub. 6–14–66. Cl. 37.
Reardon Co., The, St. Louis County, Mo. 700,814, canc. Cl. 16.
Reeve Electronics, Inc., Chicago, Ill. 813,854, pub. 12–21–65. Cl. 21.
Reliance Rope Attachment Co. Ltd., The, Cardiff, Wales. 813,823, pub. 6–14–66. Cl. 13.
Revco D.C. Inc., Cleveland, Ohio. 813,752, pub. 6–14–66. Multiple Class (Classes 6, 18, 23, 44, 51, and 52).
Revco D.S. Inc., Cleveland, Ohio. 813,753, pub. 6–14–66. Multiple Class (Classes 6, 18, 23, 44, 51, and 52).
Rhodia Inc., New York, N.Y. 814,076, pub. 4–5–66. Cl. 39.
Richardson, Howe, Scale Co., Clifton, N.J. 813,949, pub. 6–14–66. Cl. 26.
Rig-A-Lite Co. of Texas, Inc., The, Houston, Tex. 813,874, pub. 6–14–66. Cl. 21.
Riverside & Dan River Cotton Mills, Inc., to Dan River Mills, Inc., Danville, Va. 419,238, ren. 8–30–66. Cl. 42.
Riverside & Dan River Cotton Mills, Inc., to Dan River Mills, Inc., Danville, Va. 420,302, ren. 8–30–66. Cl. 42.
Riverside & Dan River Cotton Mills, Inc., to Dan River Mills, Inc., Danville, Va. 420,303, ren. 8–30–66. Cl. 42.
Riverside Clay Co., Pell City, Ala. 813,797, pub. 4–26–66. Cl. 12.
Robertson, H. H., Co., Pittsburgh, Pa. 814,006, pub. 6–14–66. Cl. 34.
Robertson Photo-Mechanix, Inc., Des Plaines, Ill. 813,946, pub. 6–14–66. Cl. 26.
Robinson-Houchin, Inc., Columbus, Ohio. 813,955, pub. 6–14–66. Cl. 26.
Rockwell-Standard Corp., Pittsburgh, Pa. 813,973, pub. 6–14–66. Cl. 31.
Rockwood Chocolate Co., Inc., Brooklyn, N.Y. 692,521, cor. Cl. 46.
Rodi & Wienenberger Aktiengesellschaft, Pforzheim, Germany. 813,963, pub. 6–14–66. Cl. 28.
Rodi & Wienenberger Aktiengesellschaft, Pforzheim, Germany. 814,026, pub. 6–14–66. Cl. 37.
Roessler & Hasslacher Chemical Co., The, New York, N.Y., to Cutler-Hammer, Inc., Milwaukee, Wis. 56,594, ren. 8–30–66. Cl. 6.
Rogers Peet Co., New York, N.Y. 814,064, pub. 6–14–66. Cl. 39.
Rogg, Hans, Munich, Germany. 814,066, pub. 6–14–66. Cl. 39.
Rolawn, Inc., South River, N.J. 700,718, canc. Cl. 1.
Rooney, Marie, Ruidoso, N. Mex. 814,147, pub. 6–14–66. Cl. 46.
Ross Builders Supplies, Inc.: *See*—
Wickes Corp.; The.
Ross, Colin Forbes, & Co. Ltd., Glasgow, Scotland. 701,100. canc. Cl. 49.
Royal Appliance Mfg. Co., Cleveland, Ohio. 813,871, pub. 6–14–66. Cl. 21.
Royal Appliance Mfg. Co., Cleveland, Ohio. 813,872, pub. 6–14–66. Cl. 21.
Royal Appliance Mfg. Co., Cleveland, Ohio. 813,873, pub. 6–14–66. Cl. 21.
Rubberset Co., East Newark, N.J. 813,965, pub. 6–8–65. Cl. 29.
Ruesch, Ferd., Maschinenfabrik: *See*—
Reusch, Ferdinand.
Ruesch, Ferdinand, d.b.a. Ferd. Ruesch Maschinenfabrik, St. Gall, Switzerland. 813,912, pub. 6–14–66. Cl. 23.
Rumpel, Del O.: *See*—
Rumpel, Donald D., and Del O. Rumpel.
Rumpel, Donald D., and Del O. Rumpel, d.b.a. Quik-Klip Co., Nampa, Idaho. 814,206. Cl. 21.
SW Industries, Inc., Newton Upper Falls, Mass. 813,899, pub. 6–14–66. Cl. 22.
Safety Enterprises, Inc., Atlanta, Ga. 814,205. Cl. 19.
St. John & Co., Chicago, Ill. 813,730, pub. 6–14–66. Cl. 2.
St. Thomas, Inc., Gloversville, N.Y. 813,739, pub. 6–14–66. Cl. 3.
Sandy, Hal, Inc.: *See*—
Sandy, Inc.
Sandy, Inc., from Hal Sandy, Inc., Kansas City, Mo. 814,150, pub. 6–14–66. Cl. 50.
Sankyo Co. Ltd., Chuo-ku, Tokyo, Japan. 813,748, pub. 6–14–66. Cl. 6.
Saticoy Lemon Association: *See*—
Fillmore Citrus Fruit Association.
Schachter & Salles, Inc., New York, N.Y. 814,082, pub. 6–14–66. Cl. 39.
Schaltbau G.m.b.H., Munich, Germany. 813,865, pub. 6–14–66. Cl. 21.
Schmid's, Joe: *See*—
Schmid, Jos., Co.
Schmid, Jos., Co., d.b.a. Joe Schmid's, Beaver Dam, Wis. 814,115, pub. 6–14–66. Cl. 46.
Schramm Fiberglass Products, Inc., Chicago, Ill. 813,725, pub. 6–14–66. Multiple Class (Classes 1 and 12).
Schutt Mfg. Co., Litchfield, Ill. 813,885, pub. 6–14–66. Cl. 22.
Scientific Data Systems, Inc., Santa Monica, Calif. 813,943, pub. 6–14–66. Cl. 26.
Sealife Products Co., Inc., Amagansett, N.Y. 813,777, pub. 6–14–66. Cl. 10.
Sears, Roebuck and Co., Chicago, Ill. 814,011, pub. 6–14–66. Cl. 34.
Seeburg Corp., The: *See*—
White, H. H., Co., The.
Selfix, Inc., Chicago, Ill. 813,918, pub. 6–14–66. Cl. 23.
Seltzer, Ira R., d.b.a. Pasadena Specialty Co., Los Angeles, Calif. 813,917, pub. 6–14–66. Cl. 23.
Separa, C. M., & Co.: *See*—
Separa, Ted.
Separa, Ted, d.b.a. C. M. Separa & Co., Ferndale, Mich. 814,152, pub. 6–14–66. Cl. 50.
Sesom Knitting Mills, Inc., New York, N.Y. 814,102, pub. 6–14–66. Cl. 42.
Shakertown Corp., Cleveland, Ohio. 813,784, pub. 3–15–66. Cl. 12.
Shakespeare Co., Kalamazoo, Mich. 700,882, canc. Cl. 22.
Shamban, W. S., & Co., West Los Angeles, Calif. 814,014, pub. 6–14–66. Cl. 35.
Sharp & Dohme, Inc., Philadelphia, Pa., to Merck & Co., Inc., Rahway, N.J. 423,016, ren. 8–30–66. Cl. 18.
Sherman Underwear Mills, Inc., New York, N.Y. 814,058, pub. 6–14–66. Cl. 39.
Shivell, Kirk, New York, N.Y. 814,005, pub. 6–14–66. Cl. 34.
Silvertone Undergarment Co., Inc., New York, N.Y. 814,211. Cl. 39.
Sinfonia Foundation, Inc., Murray, Ky. 814,180, pub. 6–14–66. Cl. 100.
Sinskey, Sigmund, d.b.a. Armisyl Products, Baltimore, Md. 700,822 canc. Cl. 18.
Skeen, J. Andrew, d.b.a. Skeenies of West Virginia, Charleston, W. Va. 814,125, pub. 6–14–66. Cl. 46.
Skeenies of West Virginia: *See*—
Skeen, J. Andrew.
Sloane, W. & J., Inc., New York, N.Y. 813,984, pub. 6–14–66. Cl. 32.
Sloane, W. & J., Inc., New York, N.Y. 813,999, pub. 6–14–66. Cl. 34.
Smith, E. Errett, Inc., New York, N.Y. 813,897, pub. 6–14–66. Cl. 22.
Smith, G. E., Inc., Pittsburgh, Pa. 813,747, pub. 6–14–66. Cl. 5.
Snyder, W. H., and Sons Inc., Windsor, Pa. 814,204. Cl. 17.
Sociedade Lisbonense de Produtos Alimentares, S.A.R.L., Lisbon, Portugal. 814,149, pub. 6–14–66. Cl. 49.
Societe d'Etudes et de Fabrication de Materiel Electronique S.E.F.M.E., Clichy (Seine), France. 813,942, pub. 6–14–66. Cl. 26.
Solvex Corp., Louisville, Ky. 814,106, pub. 6–14–66. Cl. 43.
Somerset Knitting Mills, Inc., Philadelphia, Pa. 814,088, pub. 6–14–66. Cl. 39.
Sonneborn Building Products, Inc., Des Plaines, Ill. 813,811, pub. 6–14–66. Cl. 12.
Sotto, Melvyn, New York, N.Y. 701,028, canc. Cl. 39.
Southland Co., The, Yazoo City, Miss. 813,826, pub. 6–14–66. Cl. 15.
Spalding, A. G., & Bros., New York, N.Y., to A. G. Spalding & Bros. Inc., Chicopee, Mass. 56,737, ren. 8–30–66. Cl. 22.
Spalding A. G., & Bros., New York, N.Y., to A. G. Spalding & Bros. Inc., Chicopee, Mass. 56,738, ren. 8–30–66. Cl. 22.
Spalding, A. G., & Bros. Inc.: *See*—
Spalding, A. G., & Bros.
Spiegel Brothers Corp., The, New York, N.Y. 700,918, canc. Cl. 23.
Spiratone, Inc., from Spiratone, Inc., Flushing, N.Y. 813,953, pub. 6–14–66. Cl. 26.
Spiratone, Inc., from Spiratone, Inc., Flushing, N.Y. 813,954, pub. 6–14–66. Cl. 26.
Spray Engineering Co., Burlington, Mass. 813,818, pub. 6–14–66. Cl. 13.
Springer Publishing Co., Inc., New York, N.Y. 814,042, pub. 12–14–65. Cl. 38.
Stahl-Urban Co., Brookhaven, Miss. 814,060, pub. 6–14–66. Cl. 39.
Staley, A. E., Mfg. Co., Decatur, Ill. 219,693, ren. 8–30–66. Cl. 6.
Staley Milling Co., North Kansas City, Mo., to Textron, Inc., Kansas City, Mo. 421,003, ren. 8–30–66. Cl. 46.
Standard Brands Inc., d.b.a. Clinton Corn Processing Co., New York, N.Y. 814,132, pub. 6–14–66. Cl. 46.
Standard Oil Co. of California, San Francisco, Calif. 813,972, pub. 6–14–66. Cl. 31.
Standard Products Co., The, Cleveland, Ohio. 813,785, pub. 6–14–66. Multiple Class (Classes 12, 19, and 35).
Stanislas Tesznер, Paris, France. 813,860, pub. 6–14–66. Cl. 21.

Stanley, John T., to John T. Stanley Co., Inc., New York, N.Y. 57,901, ren. 8–30–66. Cl. 52.
Stanley, John T., Co., Inc.: *See*—
Stanley, John T.
Star Coffee Co.: *See*—
Manhattan Coffee Co.
Sta-Wave, Inc., Eugene, Oreg. 701,110, canc. Cl. 51.
Stem, Joseph S., Chicago, Ill. 422,563, ren. 8–30–66. Cl. 18.
Sternco Industries, Inc., Allendale, N.J. 813,736, pub. 6–14–66. Cl. 3.
Stewart Concrete and Material Co., St. Louis, Mo. 813,792, pub. 6–14–66. Cl. 12.
Stewart-Warner Corp., Chicago, Ill. 813,832, pub. 6–14–66. Cl. 15.
Stieber Rollkupplung K.G., Heidelberg-Pfaffengrund, Germany. 813,905, pub. 6–14–66. Cl. 23.
Stokely-Van Camp Inc.: *See*—
Capital City Products Co., The.
Stoody Co., Whittier, Calif. 813,993, pub. 6–14–66. Cl. 34.
Stowe-Woodward, Inc., Newton Upper Falls, Mass. 813,895, pub. 6–14–66. Cl. 22.
Stran-Steel Corp., Houston, Tex. 813,789, pub. 6–14–66. Cl. 12.
Strouse, A. Frank, d.b.a. Care Laboratories, Norristown, Pa. 813,759, pub. 6–14–66. Cl. 6.
Structural Clay Products Research Foundation, Geneva, Ill. 700,899, canc. Cl. 23.
Sunbeam Corp., Chicago, Ill. 813,961, pub. 6–14–66. Cl. 27.
Sunbeam Lighting Co., Los Angeles, Calif. 813,858, pub. 6–14–66. Cl. 21.
Sunny Mountain Orange Co., Riverside, to L. V. W. Brown Estate, Highgrove, Calif. 220,496, ren. 8–30–66. Cl. 46.
Superior Bands, Inc., Anderson, S.C. 814,013, pub. 6–14–66. Cl. 35.
Superior's Brand Meats Inc., Massillon, Ohio. 814,129, pub. 6–14–66. Cl. 46.
Superior's Brand Meats Inc., Massillon, Ohio. 814,130, pub. 6–14–66. Cl. 46.
Supradur Mfg. Corp., Wind Gap, Pa. 813,791, pub. 6–14–66. Cl. 12.
Supreme-Air Mfg. Co., Inc., Los Angeles, Calif. 813,996, pub. 6–14–66. Cl. 34.
Supreme-Aire Mfg. Co., Inc., Los Angeles, Calif. 813,997, pub. 6–14–66. Cl. 34.
Supreme Wine Co., Inc., Boston, Mass. 701,093, canc. Cl. 47.
Surety Oil Corp., Springfield, Ohio. 700,763, canc. Cl. 6.
Sylvester's Welding, Avoca, Tex. 813,930, pub. 6–14–66. Cl. 23.
Tab Mfg. Co., Mount Vernon, N.Y. 814,012, pub. 4–26–66. Cl. 35.
Takahashi, C. T., & Co., Inc., Seattle, Wash. 700,768, canc. Cl. 7.
Talbott, Inc., New York, N.Y. 701,030, canc. Cl. 39.
Tanita Farms: *See*—
Tanita Farms, Inc.
Tanita Farms, Inc., d.b.a. Tanita Farms, Glendale, Ariz. 814,133, pub. 6–14–66. Cl. 46.
Taylor, William E., Hopkins, Minn. 813,878, pub. 6–14–66. Cl. 21.
Taylor & Art, Inc., Oakland, Calif. 700,784, canc. Cl. 12.
Taylor & Sledd, Inc.: *See*—
Taylor, Henry P., Jr.
Taylor, Henry P., Jr., to Taylor & Sledd, Inc., Richmond, Va. 220,939, ren. 8–30–66. Cl. 46.
Tennessee Products & Chemical Corp., Nashville, Tenn. 700,758, canc. Cl. 6.
Texan Tool Mfg. Co., Santa Fe Springs, Calif. 813,925, pub. 6–14–66. Cl. 23
Texize Chemicals, Inc.: *See*—
Hood Chemical Co., Inc.
Textron, Inc.: *See*—
Stanley Milling Co.
Theodorsen, Olav T., to Bulldog A/S, Oslo, Norway. 217,122, ren. 8–30–66. Cl. 12.
Thompson Industries Co., Inc., Los Angeles, Calif. 813,799, pub. 6–14–66. Cl. 12.
Thorobred Co., Inc., Waynesville, Ohio. 814,124, pub. 6–14–66. Cl. 46.
Tops Mfg. Co., Inc., Mount Vernon, N.Y. 813,819, pub. 6–14–66. Cl. 13.
Touster, Irwin, d.b.a. Headstart Co., New York, N.Y. 814,086, pub. 6–14–66. Cl. 39.
Towlet Products Co.: *See*—
Michaud, Myrtle L.
Town and Country Shoes, Sedalia, to Town & Country Shoes, Inc., St. Louis, Mo. 423,553, ren. 8–30–66. Cl. 3.
Town & Country Shoes, Inc.: *See*—
Town and Country Shoes.
Trade Unlimited, Inc., Flushing, N.Y. 813,879, pub. 6–14–66. Cl. 21.
Transogram Co., Inc., New York, N.Y. 700,878, canc. Cl. 22.
Transportation Associates Inc., Riverhead, N.Y. 814,196, pub. 6–14–66. Cl. 105.
Tremix Co., Inc., Binghamton, N.Y. 813,926, pub. 6–14–66. Cl. 23.
Triangle Refineries, Inc., Houston, Tex. 700,810, canc. Cl. 15.
Trimont Mfg. Co. Inc., Boston, to Lowell Wrench Co., Worcester, Mass. 210,584, ren. 8–30–66. Cl. 23.
Trostel, Albert, & Sons Co., Milwaukee, Wis. 700,726, canc. Cl. 1.
Trostel, Albert, & Sons Co., Milwaukee, Wis. 700,728, canc. Cl. 1.
Trostel, Albert, & Sons Co., Milwaukee, Wis. 700,730, canc. Cl. 1.
Trostel, Albert, & Sons Co., Milwaukee, Wis. 700,731, canc. Cl. 1.
Truckstell Mfg. Co., Cleveland, Ohio. 700,861, canc. Cl. 19.
Truett Laboratories, Dallas, Tex. 813,765, pub. 6–14–66. Cl. 6.
Trupak Finer Foods Co.: *See*—
Haas Bros.
Turner, Grover B., Co., Inc., Indianapolis, Ind. 701,057, canc. Cl. 43.
Tuscarora Electric Mfg. Co., Inc., Tunkhannock, Pa. 814,000, pub. 6–14–66. Cl. 34.
U.S. Industries, Inc.: *See*—
National Hosiery Mills, Inc.
U.S. News & World Report, Inc.: *See*—
United States News Publishing Corp.
Udylite Corp., The: *See*—
Udylite Process Co.
Udylite Process Co., Kokomo, Ind., to The Udylite Corp., Warren, Mich. 219,266, ren. 8–30–66. Cl. 6.
Union Carbide and Carbon Corp., to Union Carbide Corp., New York, N.Y. 422,459, ren. 8–30–66. Cl. 34.
Union Carbide and Carbon Corp., to Union Carbide Corp., New York, N.Y. 424,160, ren. 8–30–66. Cl. 6.
Union Carbide Corp.: *See*—
Union Carbide and Carbon Corp.
Union Fork and Hoe Co., The, Columbus, Ohio. 813,933, pub. 6–14–66. Cl. 23.
United Products Corp., Kansas City, Mo. 813,737, pub. 6–14–66. Cl. 3.
United Silver & Cutlery Co., Los Angeles, Calif. 700,797, canc. Cl. 18.
United Silver & Cutlery Co., Los Angeles, Calif. 700,905, canc. Cl. 23.
United States Banknote Corp.: *See*—
Lanston Monotype Machine Co.
United States News Publishing Corp., to U.S. News & World Report, Inc., Washington, D.C. 423,565, ren. 8–30–66. Cl. 38.
United States Plywood Corp., New York, N.Y. 813,794, pub. 6–14–66. Cl. 12.
United States Plywood Corp., New York, N.Y. 813,795, pub. 6–14–66. Cl. 12.
United States Rubber Co., New York, N.Y. 814,016, pub. 6–14–66. Cl. 35.
United States Rubber Co., New York, N.Y. 814,018, pub. 6–14–66. Cl. 35.
United States Rubber Co., New York, N.Y. 814,070, pub. 6–14–66. Cl. 39.
Unitek Corp., Monrovia, Calif. 813,995, pub. 6–14–66. Cl. 34.
Upjohn Co., The, Kalamazoo, Mich. 700,824, canc. Cl. 18.
Vail Associates, Ltd., Vail, Colo. 814,043, pub. 6–14–66. Cl. 38.
Vail Associates, Ltd., Vail, Colo. 814,044, pub. 6–14–66. Cl. 38.
Valeron Corp., The, Detroit, Mich. 813,928, pub. 6–14–66. Cl. 23.
Valley Fruit Distributors, d.b.a. Valley Fruit Distributors, Inc., Victor, Calif. 701,083, canc. Cl. 46.
Valley Fruit Distributors, Inc.: *See*—
Valley Fruit Distributors.
Valtronic Corp., The, Bronx, N.Y. 813,808, pub. 6–14–66. Cl. 12.
Ventura Citrus Association, to Ventura Coastal Corp., Ventura, Calif. 213,061, ren. 8–30–66. Cl. 46.
Ventura Citrus Association, to Ventura Coastal Corp., Ventura, Calif. 213,062, ren. 8–30–66. Cl. 46.
Ventura Citrus Association, to Ventura Coastal Corp., Ventura, Calif. 213,063, ren. 8–30–66. Cl. 46.
Ventura Citrus Association, to Ventura Coastal Corp., Ventura, Calif. 215,499, ren. 8–30–66. Cl. 46.
Ventura Citrus Association, to Ventura Coastal Corp., Ventura, Calif. 217,374, ren. 8–30–66. Cl. 46.
Ventura Coastal Corp.: *See*—
Ventura Citrus Association.
Veribest Systems Co.: *See*—
Maine Ventures, Inc.
Vibromatic Mfg. Co., Inc., Exton, Pa. 813,934, pub. 6–14–66. Cl. 23.
Vick Chemical Co., New York, N.Y. 700,830, canc. Cl. 18.
Vick Chemical Co., New York, N.Y. 700,831, canc. Cl. 18.
Von Platen, Magnus Hubert Boglslav, Malmo, Sweden. 813,944, pub. 6–14–66. Cl. 26.
WEC, Inc., Seattle, Wash. 700,771, canc. Cl. 10.
WEC, Inc., Seattle, Wash. 700,772, canc. Cl. 10.
Wabash Magnetics, Inc., Wabash, Ind. 813,861, pub. 6–14–66. Cl. 21.
Wade, Wenger, Servicemaster Co., Downers Grove, Ill. 814,193, pub. 6–14–66. Cl. 103.
Waldman, Joseph, & Sons: *See*—
Allied Products Corp.
Waldorf Paper Products Co., St. Paul, Minn. 813,728, pub. 6–14–66. Cl. 2.
Walker, Frank L., Co., Inc.: *See*—
Haas Brothers.
Wallace & Co., Brooklyn, N.Y. 701,092, canc. Cl. 46.
Wallach's Inc., Long Island City, N.Y. 814,213. Cl. 39.
Warren Products Ltd., Flushing, N.Y. 813,915, pub. 6–14–66. Cl. 23.
Wasco Products, Inc., Cambridge, Mass. 700,775, canc. Cl. 12.
Water Refining Co., Inc., Middletown, Ohio. 813,968, pub. 6–14–66. Cl. 31.
Water Refining Co., Inc., Middletown, Ohio. 814,190, pub. 6–14–66. Cl. 103.
Waters Associates, Inc., Framingham, Mass. 813,763, pub. 6–14–66. Cl. 6.
Waumbec Mills Inc., New York, N.Y. 814,098, pub. 6–14–66. Cl. 42.
Weld Tooling Corp., Pittsburgh, Pa. 814,009, pub. 6–14–66. Cl. 34.
Wells Lamont Corp., Chicago, Ill. 814,057, pub. 6–14–66. Cl. 39.

West Coast Sales: *See*—
Ramsey, Taufek H.
Western-Hoegee Co., Los Angeles, Calif. 813,773, pub. 6–14–66. Multiple Class (Classes 9, 22, and 39).
Westinghouse Electric Corp., Columbus, Ohio. 813,981, pub. 6–14–66. Cl. 31.
Weyerhaeuser Co., Tacoma, Wash. 813,775, pub. 6–14–66. Cl. 10.
Weyerhaeuser Co., Tacoma, Wash. 813,835, pub. 6–14–66. Cl. 16.
Weyerhaeuser Co., Tacoma, Wash. 813,903, pub. 6–14–66. Cl. 23.
Weyerhaeuser Co., Tacoma, Wash. 813,982, pub. 6–14–66. Cl. 32.
Weyerhaeuser Co., Tacoma, Wash. 814,177, pub. 6–14–66. Cl. 100.
Whirlpool Corp., Benton Harbor, Mich. 813,992, pub. 6–14–66. Cl. 34.
White, H. N., Co., The, Cleveland, Ohio, to The Seeburg Corp., Chicago, Ill. 217,580, ren. 8–30–66. Cl. 36.
White Stores, Inc., Wichita Falls, Tex. 813,830, pub. 6–14–66. Cl. 15.
Wickes Corp., The, Saginaw, Mich., from Ross Builders Supplies, Inc., Greenville, S.C. 814,209. Cl. 34.
Wilcolator Co., The, Elizabeth, N.J. 813,952, pub. 6–14–66. Cl. 26.
Wilkinson Sword Ltd., London, England. 813,916, pub. 6–14–66. Cl. 23.
Wilson, Jewell, Co., Inc., Dallas, Tex. 701,076, canc. Cl. 46.
Wolverine Porcelain Enameling Co., Detroit, Mich. 813,837, pub. 6–14–66. Cl. 16.
Wood Treating Chemicals Co., St. Louis, Mo. 813,762, pub. 6–14–66. Cl. 6.
Woolrich Woolen Mills, Woolrich, Pa. 814,068, pub. 4–12–66. Cl. 39.
Young, Marie A., Toledo, Ohio. 813,890, pub. 6–14–66. Cl. 22.
Zayre Corp., Natick, Mass. 814,087, pub. 6–14–66. Cl. 39.
Zenith Radio Corp., Chicago, Ill. 814,110, pub. 6–14–66. Cl. 44.

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